UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Geochemical Data for the Crossman Peak Wilderness Study Area, Mohave County, Arizona

By

Thomas D. Light, Barbara Chazin, and David E. Detra

Open-File Report 83-581
1983

CONTENTS

ILLUSTRATIONS

TABLES

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 mineral survey of the Crossman Peak Wilderness Study Area (5-7B), Mohave County, Arizona.

INTRODUCTION

The U.S. Geological Survey and the U.S. Bureau of Mines conducted field investigations to evaluate the mineral resource potential of the Crossman Peak Wilderness Study Area (WSA) from 1979 to 1982. Field studies included geologic mapping, geochemical sampling, geophysical surveys, and a survey of known mines, prospects, and mineralized zones (Light and others, 1983). This report presents a brief description of the procedure used in collecting and analyzing the geochemical samples and a list of the analytical results.

The Crossman Peak WSA is in western Arizona 3 mi (4 km) east of Lake Havasu City, Ariz., and 45 mi (72.4 km) southwest of Kingman, Ariz. The WSA boundary circumscribes approximately 38,000 acres (15,500 hectares) in the topographically rugged center and flanking foothills of the Mohave Mountains, sometimes called the Chemehuevi Mountains. The Mohave Mountains form a northwest-trending range adjacent to Lake Havasu (elevation 448 ft (137 m)) on the Colorado River. Both the Mohave Mountains and the WSA are dominated by Crossman Peak, which attains an elevation of 5148 ft (1544 m). The area is accessible from the north and west on numerous jeep trails that intersect either Interstate 40, Arizona State Highway 95, or some residential streets of Lake Havasu City, Ariz. (fig. 1). From the south, southeast, and northeast access to the area is on jeep trails that intersect the unimproved Dutch Flat Road, which skirts the south flank of the mountains.

GEOLOGIC SETTING

The Mohave Mountains, and the Crossman Peak WSA, lie in the Sonoran Desert section of the Basin and Range geologic province. Rocks in the WSA are dominantly Precambrian metamorphic and igneous rocks intruded by Precambrian and Tertiary igneous dikes (fig. 2). Mineralized veins within the Precambrian gneisses probably are Mesozoic and may be related to Cretaceous granitoid rocks such as occur in and adjacent to the study area. A dense swarm of northeast-dipping Tertiary mafic to silicic dikes intrudes the Precambrian gneiss throughout the WSA north of the Crossman Peak fault. The dike swarm accounts for about 20 percent of the rock volume (Nakata, 1982), and represents a series of major intrusive events.

The Crossman Peak WSA lies within a terrane characterized by major low-angle normal faults of Tertiary age, commonly called detachment faults (Carr and others, 1980; Davis and others, 1980; Carr, 1981; Rehrig and Reynolds, 1980; Reynolds, 1981; Frost, 1982). Structural analysis indicates that the main mass of the high Mohave Mountains, including most of the WSA, (Crossman plate of Howard and others, 1982) was tilted along with the volcanic

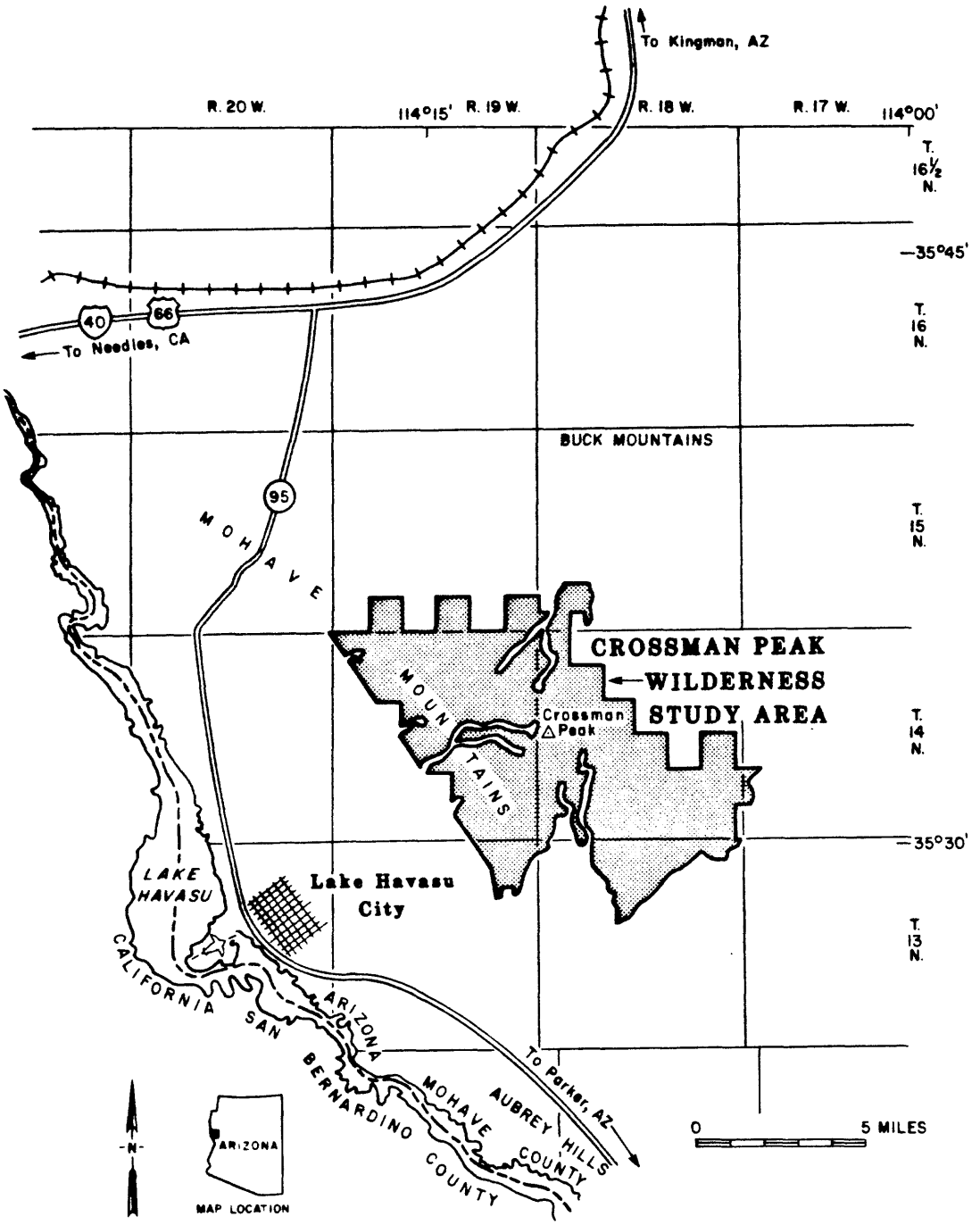

Figure 1.--Crossman Peak Wilderness Study area, Mohave County, Arizona.

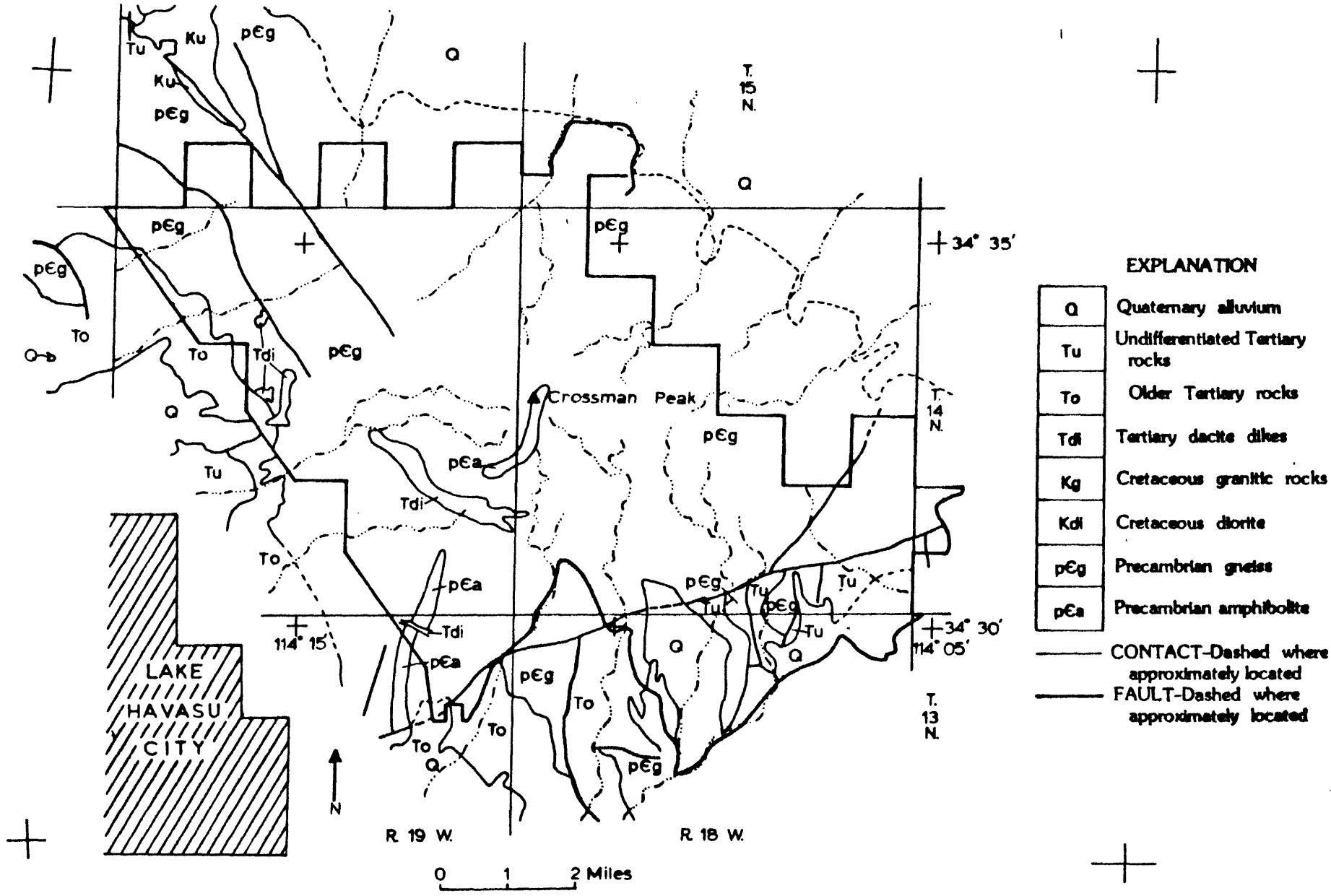

Figure 2.--Generalized geologic map of the Crossman Peak Wilderness Study Area (after Howard and others, 1982).

and sedimentary rocks. The evidence for tilting of the Crossman plate implies that pre-Tertiary features, including mineralized structures, are exposed in an oblique cross section that represents progressively greater crustal depths from southwest to northeast (Howard and others, 1982).

Gold, silver, and tungsten have been mined from quartz veins and faults at several localities within the WSA and inferred resources have been calculated for several deposits (Light and McDonnell, 1983). A preliminary interpretation of alteration and the distribution of selected base and precious metals in the Crossman Peak WSA suggests that the mineralization is all part of a large hydrothermal system related to a buried porphyry-type intrusion (Light, Marsh, and Raines, 1982).

METHODS

Sampling and sample-preparation methods

Geochemical rock and stream-sediment sampling was carried out by the U.S. Geological Survey during portions of 1981 and 1982. Access to the area was achieved by helicopter, 4-wheel drive, and foot traverses. Figure 3 illustrates the localities for samples collected in and around the Crossman Peak Wilderness Study Area.

Rock samples

Rock samples were collected from most of the altered and mineralized areas throughout the WSA to define the geochemical signature of the hydrothermal system. For the purpose of comparison, some rock samples were collected from areas which were not obviously altered or mineralized. A total of 87 rock samples was collected from locations throughout the study area. All rock samples were crushed and pulverized to minus 150 mesh (0.10 mm) before being analyzed.

Stream-sediment samples

Composite stream-sediment samples were collected from the active portion of intermittent drainages at 130 sites. These samples were sieved to minus 30 mesh (0.59 mm), and pulverized to minus 150 mesh (0.10 mm). Panned concentrates of stream sediments were also collected at 84 of the sites, and were further concentrated by liquid separation in bromoform (specific gravity 2.85). The magnetic fraction of these heavy-mineral concentrates was removed by magnetic separation on a Frantz Isodynamic Separator and the nonmagnetic fraction was analyzed.

Analytical methods

All rock samples and both the sieved stream-sediment samples and the nonmagnetic fraction of the heavy-mineral concentrates were analyzed for 31 elements by a D.C. arc six-step semiquantitative optical emission spectrographic method (Grimes and Marranzino, 1968). The elements analyzed and their lower limits of determination are listed in table 1. Some rock samples were also analyzed by atomic-absorption spectrophotometry techniques for antimony, arsenic, bismuth, cadmium, and zinc using a modification of Viets (1978), for mercury using a modification of Vaughn and McCarthy (1964) and McNerney and others (1972), and for gold (Ward and others, 1969).

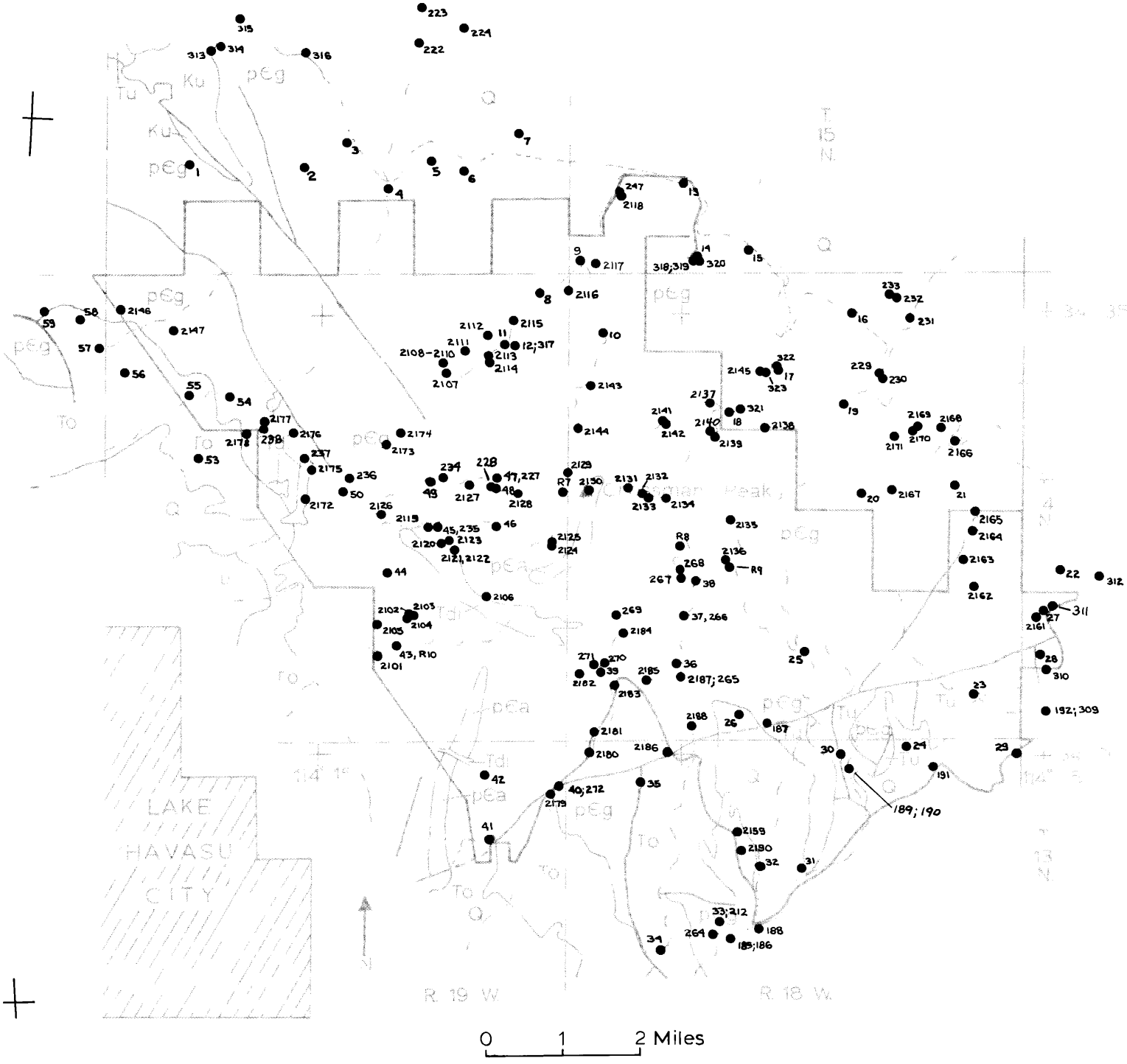

Figure 3.--Map showing sample localities for the Crossman Peak Wilderness Study Area, Arizona.

Table 1.--Lower limits of determination for elements analyzed by D.C. arc spectrographic method.

Element	Lower Limits of Determination	
	rocks and sediments	concentrates
Fe	0.05%	0.1%
Mg	0.02	0.05
Ca	0.05	0.1
Ti	0.002	0.005
Mn	10 ppm	20 ppm
Ag	0.5	1
As	200	500
Au	10	20
B	10	20
Ba	20	50
Be	1	2
Bi	10	20
Cd	20	50
Co	5	10
Cr	10	20
Cu	5	10
La	20	50
Mo	5	10
Nb	20	50
Ni	5	10
Pb	10	20
Sb	100	200
Sc	5	10
Sn	10	20
Sr	100	200
Th	100	200
V	10	20
W	50	100
Y	10	20
Zn	200	500
Zr	10	20

ANALYTICAL DATA

Analytical data for samples from the Crossman Peak WSA were entered into the USGS Rock Analysis Storage System (RASS). Analytical data for sieved sediments and for panned concentrate samples are listed in tables 2 and 3, respectively. The analytical data for rock samples are listed in table 4, and a brief description of rock samples is given in table 5. Abbreviations used on the element columns are as follows:

pct - percent

ppm - parts per million

s - semiquantitative emission spectrographic analyses

aa - atomic-absorption analyses

N - not detected

-- - no data available

< - detected but below lower limit of determination (value listed)

> - above upper limit of determination (value listed)

Table 2.--Analytical data for sieved sediment samples

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
2165	34 32 45	114 5 0	15	2.0	7.00	>1.0	5,000	N	N	N	30	2,000
2166	34 33 30	114 6 15	15	5.0	7.00	>1.0	3,000	N	N	N	20	3,000
CP001	34 36 33	114 16 46	7	1.5	5.00	1.0	1,500	N	N	N	10	1,500
CP002	34 36 35	114 15 18	10	2.0	5.00	.7	1,500	N	N	N	10	1,000
CP003	34 35 50	114 14 38	10	2.0	7.00	1.0	1,500	N	N	N	20	700
CP004	34 36 23	114 14 4	10	2.0	3.00	.7	1,000	N	N	N	15	1,000
CP005	34 36 31	114 13 26	15	1.5	5.00	>1.0	3,000	N	N	N	15	1,000
CP006	34 36 34	114 13 4	20	2.0	7.00	>1.0	3,000	N	N	N	15	1,000
CP007	34 36 59	114 12 15	10	2.0	7.00	1.0	1,500	N	N	N	15	1,000
CP008	34 35 13	114 11 57	10	2.0	5.00	1.0	2,000	N	N	N	15	700
CP009	34 35 34	114 11 57	10	2.0	7.00	1.0	1,500	N	N	N	10	1,000
CP010	34 34 44	114 11 6	5	2.0	2.00	.5	700	N	N	N	15	1,000
CP011	34 34 38	114 12 30	5	2.0	1.50	.5	1,000	N	N	N	15	1,000
CP012	34 34 39	114 12 21	7	1.5	1.50	1.0	1,500	N	N	N	20	1,500
CP013	34 36 30	114 10 2	5	1.5	2.00	.5	700	N	N	N	20	1,000
CP014	34 35 36	114 9 52	7	2.0	2.00	.7	1,000	N	N	N	15	1,000
CP015	34 35 41	114 9 39	5	2.0	2.00	.5	700	N	N	N	20	1,000
CP016	34 34 58	114 7 47	3	1.5	1.00	.3	700	N	N	N	10	700
CP017	34 34 17	114 8 44	5	1.5	2.00	.5	1,000	N	N	N	10	1,500
CP018	34 33 49	114 9 24	5	1.5	2.00	.7	1,000	N	N	N	10	1,500
CP019	34 33 54	114 7 48	5	1.5	2.00	.5	1,000	N	N	N	15	1,500
CP020	34 32 52	114 7 31	20	1.5	1.50	>1.0	3,000	N	N	N	20	500
CP021	34 33 6	114 6 26	7	1.5	2.00	.7	1,000	N	N	N	10	1,000
CP022	34 32 12	114 4 40	5	.5	.07	.3	700	N	N	N	10	1,500
CP023	34 30 34	114 5 40	5	1.5	2.00	.3	500	N	N	N	15	1,000
CP024	34 30 0	114 6 56	7	1.5	2.00	.7	1,000	<.5	N	N	10	1,000
CP025	34 31 9	114 8 21	7	2.0	2.00	1.0	1,000	<.5	N	N	15	1,000
CP026	34 30 29	114 9 19	15	1.5	1.50	>1.0	2,000	N	N	N	20	700
CP027	34 31 40	114 6 0	10	1.5	2.00	1.0	3,000	N	N	N	15	500
CP028	34 31 10	114 4 58	7	1.5	2.00	.7	1,000	N	N	N	10	1,000
CP029	34 30 0	114 5 20	7	1.5	5.00	1.0	1,000	N	N	N	10	1,500
CP030	34 29 55	114 7 51	10	2.0	3.00	.3	1,000	N	N	N	10	1,000
CP031	34 28 39	114 8 24	7	2.0	2.00	.3	700	N	N	N	15	1,000
CP033	34 28 7	114 9 30	15	2.0	1.50	>1.0	3,000	N	N	N	20	700
CP034	34 27 44	114 10 20	7	2.0	1.50	1.0	1,000	N	N	N	20	1,000
CP035	34 29 43	114 10 36	5	2.0	1.50	.5	700	N	N	N	15	1,000
CP036	34 31 0	114 10 7	5	2.0	2.00	.5	1,000	N	N	N	15	1,000
CP037	34 31 34	114 9 58	3	1.5	2.00	.3	500	N	N	N	15	1,000
CP038	34 31 55	114 9 50	5	2.0	2.00	.5	1,000	N	N	N	15	1,500
CP039	34 30 53	114 11 4	5	1.5	2.00	.3	700	N	N	N	15	1,500
CP040	34 29 39	114 11 45	7	2.0	5.00	.7	1,000	N	N	N	20	1,500
CP041	34 29 0	114 12 40	5	2.0	5.00	.5	700	N	N	N	20	1,000
CP042	34 29 45	114 12 48	3	1.5	3.00	.5	700	N	N	N	15	700
CP043	34 31 13	114 13 57	7	1.5	3.00	.5	1,000	N	N	N	15	1,500
CP044	34 32 5	114 14 10	7	1.5	3.00	.5	1,000	N	N	N	20	1,500

Table 2.--Analytical data for sieved sediment samples

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
2165	N	N	N	20	200	50	200	N	30	50	50
2166	N	N	N	50	500	70	200	N	20	100	10
CP001	2.0	N	N	20	100	50	100	N	20	50	30
CP002	2.0	N	N	20	100	50	100	N	N	50	50
CP003	1.5	N	N	30	200	70	100	N	20	100	50
CP004	2.0	N	N	20	100	50	100	N	20	70	30
CP005	1.5	N	N	50	200	70	150	N	30	70	20
CP006	1.5	N	N	70	200	100	150	N	20	70	30
CP007	1.5	N	N	30	100	70	100	N	<20	70	30
CP008	1.0	N	N	30	100	100	50	N	<20	70	50
CP009	1.5	N	N	50	100	70	150	N	<20	70	50
CP010	1.5	N	N	30	150	50	50	N	<20	50	20
CP011	1.5	N	N	20	100	50	50	N	<20	30	30
CP012	1.0	N	N	30	100	70	50	N	20	50	30
CP013	1.5	N	N	20	100	50	70	N	<20	50	30
CP014	1.5	N	N	30	150	50	70	N	<20	70	50
CP015	1.0	N	N	20	150	50	50	N	<20	70	30
CP016	1.0	N	N	15	70	20	30	N	<20	30	20
CP017	2.0	N	N	20	150	50	70	N	<20	30	30
CP018	1.5	N	N	20	100	50	100	N	<20	50	50
CP019	1.5	<10	N	20	70	30	70	N	<20	30	20
CP020	1.0	N	N	50	300	70	200	N	50	50	20
CP021	2.0	N	N	20	150	50	100	N	20	50	20
CP022	1.0	N	N	10	50	50	30	N	N	20	70
CP023	2.0	N	N	15	70	30	70	N	<20	50	15
CP024	2.0	N	N	20	150	30	100	N	20	50	10
CP025	1.5	N	N	30	150	70	100	N	<20	50	20
CP026	1.0	N	N	30	200	70	100	N	50	70	20
CP027	1.0	N	N	30	150	70	200	N	50	50	20
CP028	1.5	N	N	20	300	50	100	N	<20	50	15
CP029	1.5	N	N	15	70	30	200	N	<20	30	15
CP030	1.0	N	N	20	150	30	70	N	N	50	15
CP031	1.5	N	N	30	150	50	70	N	<20	70	20
CP033	1.0	N	N	50	70	100	100	N	30	50	20
CP034	1.5	N	N	30	300	70	70	N	20	50	30
CP035	1.5	N	N	20	150	30	70	N	<20	30	20
CP036	1.5	N	N	20	50	50	70	N	<20	70	20
CP037	2.0	N	N	15	100	20	50	N	<20	20	30
CP038	2.0	N	N	20	150	50	100	N	20	70	20
CP039	2.0	N	N	15	150	30	70	N	20	20	20
CP040	2.0	N	N	30	100	70	100	N	20	50	20
CP041	2.0	N	N	30	150	50	100	N	N	50	20
CP042	2.0	N	N	20	70	50	150	N	<20	30	15
CP043	2.0	N	N	20	100	50	100	N	20	50	50
CP044	2.0	N	N	15	70	50	100	N	20	50	50

Table 2.__Analytical data for sieved sediment samples

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
2165	N	--	N	300	150	N	150	<200	--	N
2166	N	--	N	500	300	N	100	N	--	N
CP001	N	20	N	200	150	N	100	N	500	N
CP002	N	20	N	200	100	N	50	N	300	N
CP003	N	20	N	300	150	N	50	N	300	N
CP004	N	20	N	500	100	N	50	N	300	N
CP005	N	30	N	300	150	N	100	<200	300	N
CP006	N	70	N	500	150	N	100	N	300	N
CP007	N	70	N	500	100	N	100	N	300	N
CP008	N	70	N	200	150	N	70	<200	300	N
CP009	N	30	N	500	150	N	100	N	500	N
CP010	N	15	N	300	100	N	30	N	200	N
CP011	N	20	N	150	100	N	50	N	200	N
CP012	N	20	N	150	150	N	50	N	200	N
CP013	N	15	N	200	70	N	30	N	200	N
CP014	N	20	N	200	100	N	50	N	300	N
CP015	N	15	N	200	100	N	30	N	200	N
CP016	N	15	N	150	70	N	20	N	150	N
CP017	N	20	N	200	100	N	30	N	200	N
CP018	N	20	N	200	150	N	50	N	200	N
CP019	N	15	N	200	70	N	30	N	300	N
CP020	N	20	N	150	300	N	100	300	300	N
CP021	N	20	N	300	100	N	50	<200	200	N
CP022	N	15	N	<100	100	N	10	<200	100	N
CP023	N	15	N	200	70	N	30	N	500	N
CP024	N	30	N	200	70	N	50	N	700	N
CP025	N	20	N	200	70	N	50	N	150	N
CP026	N	20	N	200	200	N	70	N	>1,000	N
CP027	N	50	N	200	150	N	100	N	700	N
CP028	N	30	N	200	100	N	50	N	1,000	N
CP029	N	50	N	300	150	N	100	N	300	N
CP030	N	20	N	200	200	N	30	N	300	N
CP031	N	15	N	200	100	N	50	N	300	N
CP033	N	30	N	200	150	50	100	200	300	N
CP034	N	20	N	200	100	N	50	N	200	N
CP035	N	15	N	200	100	N	50	N	300	N
CP036	N	15	N	200	100	N	30	N	300	N
CP037	N	10	N	200	70	N	30	N	200	N
CP038	N	15	N	200	100	N	50	N	500	N
CP039	N	15	N	200	70	N	30	N	300	N
CP040	N	20	N	200	150	N	50	N	200	N
CP041	N	15	N	200	100	N	50	N	200	N
CP042	N	15	N	150	100	N	50	N	500	N
CP043	N	15	N	200	100	N	50	N	200	N
CP044	N	15	N	200	100	N	50	N	500	N

Table 2.--Analytical data for sieved sediment samples--continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
CP045	34 32 35	114 13 24	7	1.5	2.00	.5	1,500	N	N	N	20	1,000
CP046	34 32 35	114 12 36	5	2.0	2.00	.3	700	N	N	N	20	1,000
CP047	34 33 8	114 12 36	7	2.0	3.00	1.0	1,000	N	N	N	20	1,000
CP048	34 33 2	114 12 37	5	1.5	2.00	.5	1,000	N	N	N	15	1,000
CP049	34 33 4	114 13 31	7	1.5	1.50	.5	1,000	N	N	N	15	1,000
CP050	34 32 55	114 14 40	7	1.5	2.00	.5	1,000	N	N	N	15	1,500
CP051	34 25 33	114 12 10	7	1.0	3.00	.7	1,000	N	N	N	15	1,500
CP052	34 26 18	114 11 48	7	1.0	2.00	.7	700	N	N	N	20	1,000
CP053	34 33 18	114 16 36	7	1.5	2.00	.5	1,500	N	N	N	15	1,500
CP054	34 34 1	114 16 15	5	1.5	1.50	.5	700	N	N	N	15	1,500
CP055	34 34 5	114 16 45	5	1.5	1.50	.3	700	N	N	N	10	1,000
CP056	34 34 17	114 17 39	7	1.5	2.00	.7	1,000	N	N	N	15	1,000
CP057	34 34 34	114 17 59	7	1.5	1.50	.5	1,000	N	N	N	15	1,000
CP058	34 34 54	114 18 14	7	1.5	2.00	.5	1,000	N	N	N	15	1,500
CP059	34 35 0	114 18 46	7	.7	1.50	.7	1,000	N	N	N	15	2,000
CP2101	34 31 10	114 14 10	5	1.0	2.00	.7	1,000	<.5	N	N	10	700
CP2102	34 31 35	114 13 50	5	1.0	2.00	.7	1,000	N	N	N	10	1,500
CP2103	34 31 35	114 13 45	5	1.0	2.00	.7	1,000	N	N	N	10	1,000
CP2105	34 31 30	114 14 10	5	1.0	2.00	.5	1,000	N	N	N	10	1,000
CP2106	34 31 45	114 12 50	5	1.0	1.00	.5	1,000	<.5	N	N	10	1,000
CP2113	34 34 30	114 12 45	5	2.0	1.00	.5	1,000	<.5	N	N	10	700
CP2114	34 34 25	114 12 45	5	2.0	1.00	.5	1,000	N	N	N	10	500
CP2116	34 35 15	114 11 40	5	2.0	1.00	.5	1,000	N	N	N	10	300
CP2117	34 35 30	114 11 20	5	2.0	2.00	.7	1,000	<.5	N	N	10	300
CP2118	34 36 20	114 10 50	5	2.0	2.00	.5	700	N	N	N	10	300
CP2124	34 32 20	114 11 55	5	2.0	2.00	.5	700	N	N	N	10	200
CP2125	34 32 25	114 11 55	5	2.0	2.00	.5	700	N	N	N	10	200
CP2127	34 33 5	114 12 55	5	2.0	2.00	1.0	700	N	N	N	10	100
CP2138	34 33 40	114 9 0	5	1.0	1.00	.3	700	N	N	N	10	1,000
CP2139	34 33 35	114 9 40	5	1.0	1.00	.5	700	N	N	N	20	700
CP2140	34 33 40	114 9 40	5	1.0	1.00	.5	700	N	N	N	10	700
CP2141	34 34 10	114 10 15	7	2.0	1.00	1.0	2,000	N	N	N	15	500
CP2142	34 33 45	114 10 20	5	1.0	1.00	.5	700	N	N	N	10	700
CP2143	34 33 45	114 11 20	7	1.0	1.00	1.0	1,000	N	N	N	10	500
CP2144	34 33 40	114 11 30	7	1.0	1.00	.5	1,000	N	N	N	10	500
CP2145	34 34 15	114 9 30	5	1.0	1.00	.5	700	N	N	N	10	700
CP2146	34 35 0	114 7 40	5	1.0	1.00	.3	700	N	N	N	10	700
CP185	34 27 58	114 9 29	10	2.0	7.00	1.0	3,000	N	N	N	50	1,500
CP186	34 27 58	114 9 21	7	2.0	10.00	1.0	2,000	N	N	N	50	1,000
CP187	34 30 22	114 8 53	5	2.0	5.00	.5	2,000	N	N	N	50	500
CP188	34 28 2	114 8 53	7	2.0	5.00	>1.0	2,000	N	N	N	50	1,000
CP189	34 29 43	114 7 41	10	5.0	10.00	>1.0	3,000	N	N	N	70	1,000
CP190	34 29 43	114 7 43	15	5.0	10.00	>1.0	5,000	N	N	N	100	700
CP191	34 29 50	114 7 43	7	3.0	3.00	.5	1,500	N	N	N	20	700
CP192	34 30 28	114 4 52	10	5.0	5.00	.7	1,500	N	N	N	20	500

Table 2.--Analytical data for sieved sediment 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
CP045	2.0	N	N	20	150	50	150	N	20	50	30
CP046	2.0	N	N	20	100	50	70	N	20	50	30
CP047	1.5	N	N	30	150	70	70	N	<20	50	50
CP048	2.0	N	N	15	100	50	100	N	<20	30	50
CP049	2.0	N	N	20	100	50	100	N	<20	30	30
CP050	2.0	N	N	20	100	50	150	N	<20	20	20
CP051	1.0	N	N	15	100	50	50	N	<20	30	30
CP052	2.0	N	N	20	100	50	50	N	20	20	20
CP053	2.0	N	N	15	100	30	70	N	<20	20	30
CP054	2.0	N	N	20	70	30	100	N	<20	30	20
CP055	2.0	N	N	15	150	20	50	N	<20	30	20
CP056	2.0	N	N	15	70	30	100	N	<20	30	30
CP057	2.0	N	N	15	70	20	100	N	<20	20	20
CP058	2.0	N	N	15	70	30	100	N	<20	20	30
CP059	2.0	N	N	15	70	30	70	N	20	15	20
CP2101	1.0	N	N	20	100	15	100	N	<20	50	70
CP2102	1.0	N	N	20	70	20	500	N	<20	30	70
CP2103	1.0	N	N	20	100	15	200	N	<20	70	70
CP2105	1.0	N	N	20	70	15	100	N	<20	50	50
CP2106	1.0	N	N	20	70	15	100	N	<20	30	30
CP2113	1.0	N	N	20	150	15	70	N	<20	70	20
CP2114	1.0	N	N	20	100	15	70	N	<20	70	20
CP2116	1.0	N	N	20	100	15	50	N	N	100	20
CP2117	1.0	N	N	30	100	20	100	N	<20	100	30
CP2118	1.0	N	N	20	70	20	50	N	N	70	30
CP2124	1.0	N	N	30	200	20	100	N	<20	100	30
CP2125	1.0	N	N	30	200	20	50	N	<20	100	20
CP2127	<1.0	N	N	20	100	15	70	N	<20	70	150
CP2138	2.0	N	N	15	200	15	50	N	N	70	10
CP2139	2.0	N	N	15	200	15	50	N	N	70	10
CP2140	1.0	N	N	15	200	20	50	N	N	70	20
CP2141	1.0	N	N	50	300	20	100	N	N	70	20
CP2142	1.0	N	N	20	200	15	70	N	N	70	20
CP2143	1.0	N	N	30	200	20	50	N	N	70	20
CP2144	1.0	N	N	30	150	20	50	N	N	70	100
CP2145	1.0	N	N	20	100	15	50	N	N	70	20
CP2146	2.0	N	N	15	70	15	50	N	N	30	50
CP185	<5.0	N	N	20	150	150	200	5	20	50	70
CP186	<5.0	N	N	20	150	100	200	N	<20	50	50
CP187	N	N	N	15	200	70	200	N	<20	50	50
CP188	<5.0	N	N	15	100	50	200	15	20	50	50
CP189	<5.0	N	N	50	200	150	200	50	20	100	100
CP190	<5.0	N	N	30	200	200	300	10	20	70	70
CP191	N	N	N	15	150	70	200	N	<20	30	70
CP192	N	N	N	20	200	70	500	N	N	50	50

Table 2.--Analytical data for sieved 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
CP045	N	20	N	150	100	N	70	N	300	N
CP046	N	15	N	200	100	N	50	N	200	N
CP047	N	20	N	200	100	N	30	N	200	N
CP048	N	20	N	200	100	150	30	N	300	N
CP049	N	20	N	200	100	N	50	N	300	N
CP050	N	20	N	200	150	N	50	<200	200	N
CP051	N	15	N	500	100	N	30	N	700	N
CP052	N	10	N	300	100	N	30	N	300	N
CP053	N	15	N	200	70	N	50	N	200	N
CP054	N	15	N	200	70	N	50	N	200	N
CP055	N	15	N	200	70	N	30	N	300	N
CP056	N	15	N	200	70	N	50	N	300	N
CP057	N	10	N	200	70	N	50	N	300	N
CP058	N	15	N	200	50	N	50	N	300	N
CP059	N	20	N	150	70	N	150	N	5	N
CP2101	N	10	N	200	100	N	70	<200	300	N
CP2102	N	10	N	200	100	N	70	<200	500	N
CP2103	N	15	N	300	100	N	50	<200	500	N
CP2105	N	10	N	300	50	N	30	<200	200	N
CP2106	N	10	N	300	100	N	50	<200	500	N
CP2113	N	20	N	300	100	N	50	<200	200	N
CP2114	N	20	N	300	100	N	50	<200	200	N
CP2116	N	15	N	200	100	N	30	<200	200	N
CP2117	N	20	N	500	100	N	70	<200	200	N
CP2118	N	15	N	500	100	N	50	<200	200	N
CP2124	<100	15	N	500	100	N	50	<200	200	N
CP2125	<100	15	N	200	100	N	50	<200	200	N
CP2127	<100	15	N	200	100	N	70	<200	200	N
CP2138	N	15	N	200	100	N	30	<200	200	N
CP2139	N	20	N	200	100	N	50	<200	300	N
CP2140	N	15	N	200	100	N	50	<200	300	N
CP2141	N	20	N	200	200	N	70	<200	200	N
CP2142	N	20	N	200	100	N	50	<200	200	N
CP2143	N	15	N	200	100	N	50	<200	200	N
CP2144	N	20	N	200	100	N	50	<200	200	N
CP2145	N	15	N	200	100	N	30	<200	300	N
CP2146	N	15	N	200	50	N	50	<200	300	N
CP185	N	--	N	500	200	N	100	<200	--	N
CP186	N	--	N	500	200	N	100	200	--	N
CP187	N	--	N	200	100	N	50	200	--	N
CP188	N	--	N	300	200	N	100	200	--	N
CP189	N	--	N	1,000	200	N	100	200	--	N
CP190	N	--	N	700	300	N	150	200	--	N
CP191	N	--	N	200	100	N	70	<200	--	N
CP192	N	--	N	500	150	<50	50	N	--	N

Table 2.--Analytical data for sieved sediment samples--continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
CP222	34 37 59	114 13 39	10	2.0	10.00	1.0	3,000	N	N	N	50	700
CP223	34 38 29	114 13 36	10	2.0	5.00	>1.0	5,000	N	N	N	30	700
CP224	34 38 11	114 12 53	5	1.5	5.00	1.0	2,000	N	N	N	20	1,000
CP227	34 33 9	114 12 35	5	2.0	2.00	.7	3,000	N	N	N	20	500
CP228	34 33 3	114 12 38	5	2.0	2.00	.7	3,000	N	N	N	30	700
CP229	34 34 17	114 7 12	5	1.5	3.00	.7	2,000	N	N	N	50	500
CP230	34 34 13	114 7 11	7	1.5	5.00	.5	2,000	N	N	N	30	700
CP231	34 34 52	114 6 54	5	1.5	3.00	.5	1,000	N	N	N	20	1,000
CP232	34 35 4	114 7 2	5	1.5	5.00	>1.0	1,500	N	N	N	50	1,000
CP233	34 35 7	114 7 6	5	1.0	5.00	.3	1,000	N	N	N	30	1,000
CP234	34 33 7	114 13 18	7	2.0	5.00	.7	1,500	N	N	N	20	700
CP235	34 32 34	114 13 22	5	1.0	2.00	.3	1,500	N	N	N	20	700
CP236	34 33 3	114 14 33	5	2.0	5.00	.5	1,500	N	N	N	50	700
CP237	34 33 21	114 15 15	5	2.0	3.00	.7	1,500	.5	N	N	50	1,000
CP238	34 33 40	114 15 47	7	2.0	5.00	.5	3,000	N	N	N	20	1,000
CP247	34 36 22	114 10 53	5	1.0	5.00	.5	2,000	N	N	N	20	1,500
CP264	34 27 57	114 9 32	7	2.0	5.00	1.0	2,000	N	N	N	50	1,000
CP265	34 31 1	114 10 8	5	1.5	5.00	.3	2,000	N	N	N	50	700
CP266	34 31 35	114 9 57	5	2.0	5.00	.7	2,000	N	N	N	50	1,000
CP267	34 31 57	114 9 59	7	3.0	5.00	.7	2,000	N	N	N	50	1,500
CP268	34 32 1	114 9 58	7	2.0	5.00	.5	1,500	N	N	N	50	1,500
CP269	34 31 34	114 10 53	10	10.0	7.00	1.0	3,000	N	N	N	30	1,000
CP270	34 30 58	114 11 8	7	5.0	10.00	.7	2,000	N	N	N	50	500
CP271	34 30 57	114 11 11	5	3.0	5.00	.5	2,000	N	N	N	50	1,000
CP272	34 29 38	114 11 46	7	1.5	5.00	.7	1,500	N	N	N	50	500
CP309	34 30 28	114 4 52	7	1.5	3.00	1.0	1,500	1.0	N	N	20	700
CP310	34 30 59	114 4 48	10	5.0	10.00	1.0	2,000	.5	N	N	20	700
CP311	34 31 43	114 4 49	3	2.0	2.00	.2	1,000	1.0	N	N	10	700
CP312	34 32 7	114 4 5	7	3.0	7.00	.7	2,000	.5	N	N	15	1,500
CP313	34 37 56	114 16 30	5	1.5	5.00	.7	1,500	.7	N	N	20	1,500
CP314	34 37 59	114 16 25	5	1.5	5.00	.7	1,500	1.0	N	N	70	700
CP315	34 38 18	114 16 6	7	1.0	7.00	.7	1,500	3.0	N	N	30	2,000
CP316	34 37 54	114 15 16	7	1.5	3.00	1.0	2,000	2.0	N	N	30	2,000
CP317	34 34 41	114 12 22	7	1.5	3.00	1.0	2,000	N	N	N	20	500
CP318	34 35 35	114 9 56	7	2.0	3.00	1.0	1,500	N	N	N	30	700
CP319	34 35 36	114 9 57	7	2.0	5.00	1.0	2,000	N	N	N	20	500
CP320	34 35 35	114 9 53	7	2.0	7.00	1.0	2,000	N	N	N	30	1,000
CP321	34 33 52	114 9 15	5	2.0	3.00	.7	1,500	N	N	N	20	700
CP322	34 34 17	114 8 55	7	2.0	3.00	1.0	2,000	N	N	N	20	700
CP323	34 34 20	114 8 46	3	1.5	5.00	.5	1,000	N	N	N	30	1,000

Table 2.--Analytical data for sieved sediment 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
CP222	N	N	N	30	200	200	150	N	<20	100	100
CP223	N	N	N	20	150	100	100	N	20	50	20
CP224	<5.0	N	N	15	100	30	100	N	20	30	30
CP227	N	N	N	20	150	50	100	N	<20	50	70
CP228	N	N	N	30	100	50	100	N	N	50	100
CP229	<5.0	N	N	15	150	30	100	5	<20	50	20
CP230	<5.0	N	N	15	150	30	70	<5	N	50	20
CP231	<5.0	N	N	15	100	20	150	N	N	70	20
CP232	<5.0	N	N	15	150	30	50	N	<20	50	15
CP233	<5.0	N	N	10	70	20	70	10	N	20	50
CP234	<5.0	N	N	15	150	50	50	20	N	30	30
CP235	5.0	N	N	10	100	30	150	N	N	20	50
CP236	<5.0	N	N	20	150	50	50	N	N	30	50
CP237	5.0	N	N	15	100	70	100	10	N	30	50
CP238	<5.0	N	N	15	200	100	100	15	N	30	70
CP247	N	N	N	15	150	50	100	N	N	50	30
CP264	<5.0	N	N	15	150	200	200	7	20	50	30
CP265	<5.0	N	N	15	100	100	100	10	N	50	100
CP266	<5.0	N	N	20	150	100	100	N	<20	70	100
CP267	<5.0	N	N	15	150	50	100	5	<20	70	20
CP268	<5.0	N	N	15	200	50	300	7	N	50	70
CP269	N	N	N	30	700	150	50	7	N	100	10
CP270	N	N	N	20	500	100	100	N	<20	70	20
CP271	N	N	N	20	300	50	50	<5	<20	50	50
CP272	<5.0	N	N	20	100	100	50	7	<20	30	30
CP309	N	N	N	15	50	30	1,000	5	<20	30	70
CP310	N	N	N	30	200	50	100	N	<20	50	20
CP311	<5.0	N	N	15	100	20	100	N	N	30	70
CP312	<5.0	N	N	20	150	70	150	N	N	50	50
CP313	N	N	N	15	100	50	200	N	<20	20	100
CP314	N	N	N	15	150	100	200	N	<20	50	200
CP315	<5.0	N	N	20	100	150	200	N	<20	50	70
CP316	N	N	N	50	150	70	150	N	<20	50	50
CP317	N	N	N	20	150	50	100	N	<20	30	50
CP318	N	N	N	20	200	50	100	N	20	70	70
CP319	N	N	N	30	300	50	70	N	<20	70	50
CP320	N	N	N	20	150	30	70	10	<20	50	50
CP321	N	N	N	20	150	30	70	7	<20	70	70
CP322	N	N	N	20	200	50	100	N	N	50	30
CP323	<5.0	N	N	10	100	30	100	N	<20	50	20

Table 2.__Analytical data for sieved 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
CP222	N	--	N	500	200	N	50	N	--	N
CP223	N	--	N	200	150	N	100	N	--	N
CP224	N	--	N	700	70	N	70	N	--	N
CP227	N	--	N	200	150	N	70	200	--	N
CP228	N	--	N	200	100	N	50	<200	--	N
CP229	N	--	N	500	100	N	50	200	--	N
CP230	N	--	N	300	150	N	50	N	--	N
CP231	N	--	N	300	100	N	30	N	--	N
CP232	N	--	N	300	100	N	30	N	--	N
CP233	N	--	N	200	100	N	15	N	--	N
CP234	N	--	N	200	100	N	30	N	--	N
CP235	N	--	N	100	100	N	100	N	--	N
CP236	N	--	N	300	150	N	50	200	--	N
CP237	N	--	N	200	100	N	50	<200	--	N
CP238	N	--	N	200	100	N	70	<200	--	N
CP247	N	--	N	300	100	N	70	N	--	N
CP264	N	--	N	500	200	N	100	<200	--	N
CP265	N	--	30	200	200	N	70	<200	--	N
CP266	N	--	N	300	200	N	50	<200	--	N
CP267	N	--	N	200	200	N	50	N	--	N
CP268	N	--	N	200	200	N	50	N	--	N
CP269	N	--	N	300	500	N	20	N	--	N
CP270	N	--	N	200	200	N	30	N	--	N
CP271	N	--	50	200	200	N	30	N	--	N
CP272	N	--	N	100	150	N	50	N	--	N
CP309	N	--	N	200	200	N	100	N	--	<100
CP310	N	--	N	500	200	N	70	<200	--	N
CP311	N	--	N	300	100	N	30	N	--	N
CP312	N	--	N	300	150	N	70	N	--	N
CP313	N	--	N	700	200	N	50	N	--	N
CP314	N	--	N	700	150	N	30	N	--	N
CP315	N	--	N	500	100	N	50	N	--	N
CP316	N	--	N	500	150	N	100	N	--	N
CP317	N	--	N	200	150	N	50	N	--	N
CP318	N	--	N	300	200	N	50	N	--	N
CP319	N	--	N	500	200	N	70	N	--	N
CP320	N	--	N	300	200	N	50	N	--	N
CP321	N	--	N	500	150	N	50	N	--	N
CP322	N	--	N	500	150	N	50	N	--	N
CP323	N	--	N	300	70	N	30	N	--	N

Table 3.__Analytical data for panned concentrate samples

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
2165C	34 32 45	114 5 0	.7	.5	20.0	2.0	1,000	N	N	N	20	200
2166C	34 33 30	114 6 15	.5	.7	20.0	>2.0	700	N	N	N	30	200
CP001C	34 36 33	114 16 46	3.0	1.5	20.0	1.5	1,000	N	N	N	20	>10,000
CP002C	34 36 35	114 15 18	2.0	2.0	15.0	1.5	700	N	N	N	20	2,000
CP003C	34 36 50	114 14 38	2.0	2.0	15.0	>2.0	700	N	N	N	30	>10,000
CP004C	34 36 23	114 14 4	2.0	1.5	15.0	2.0	700	N	N	N	30	2,000
CP005C	34 36 41	114 13 26	3.0	5.0	15.0	2.0	1,000	N	N	N	30	1,500
CP006C	34 36 34	114 13 4	3.0	5.0	10.0	1.5	700	N	N	N	20	1,000
CP007C	34 36 59	114 12 15	5.0	3.0	10.0	2.0	1,000	N	N	N	20	1,000
CP008C	34 35 13	114 11 57	5.0	7.0	15.0	2.0	1,000	N	N	N	30	700
CP009C	34 35 34	114 11 22	3.0	3.0	15.0	1.0	700	N	N	N	20	700
CP010C	34 34 44	114 11 6	3.0	3.0	10.0	2.0	700	N	N	N	20	500
CP011C	34 34 38	114 12 30	3.0	5.0	15.0	2.0	700	N	N	N	20	1,000
CP012C	34 34 39	114 12 21	3.0	2.0	20.0	2.0	700	3	N	N	20	500
CP013C	34 36 30	114 10 2	3.0	2.0	10.0	>2.0	700	N	N	N	50	1,000
CP014C	34 35 36	114 9 52	3.0	5.0	15.0	>2.0	1,000	N	N	N	<20	500
CP015C	34 35 41	114 9 39	2.0	2.0	10.0	>2.0	700	N	N	N	20	700
CP016C	34 34 58	114 7 47	2.0	2.0	10.0	>2.0	700	N	N	N	<20	700
CP017C	34 34 17	114 8 44	3.0	5.0	15.0	>2.0	1,000	N	N	N	<20	200
CP018C	34 33 49	114 9 24	3.0	5.0	10.0	2.0	1,000	N	N	N	20	500
CP019C	34 33 54	114 7 48	2.0	3.0	10.0	>2.0	700	N	N	N	<20	300
CP020C	34 32 52	114 7 31	5.0	3.0	10.0	>2.0	1,000	N	N	N	<20	500
CP021C	34 33 6	114 6 26	2.0	3.0	15.0	>2.0	1,000	N	N	N	<20	700
CP022C	34 32 12	114 4 40	1.5	.3	20.0	>2.0	700	N	N	N	<20	200
CP023C	34 30 34	114 5 40	5.0	3.0	10.0	1.5	1,000	N	N	N	30	500
CP024C	34 30 0	114 6 56	3.0	2.0	10.0	1.5	700	N	N	N	20	500
CP025C	34 31 9	114 8 21	3.0	2.0	10.0	2.0	700	N	N	N	20	1,000
CP026C	34 30 29	114 9 19	5.0	5.0	10.0	2.0	1,000	N	N	N	20	500
CP027C	34 31 40	114 6 0	3.0	3.0	1.5	2.0	1,000	N	N	N	<20	300
CP028C	34 31 10	114 4 58	3.0	2.0	10.0	1.0	700	N	N	N	30	300
CP029C	34 30 0	114 5 20	3.0	2.0	10.0	>2.0	700	N	N	N	20	700
CP030C	34 29 55	114 7 51	5.0	2.0	10.0	>2.0	700	N	N	N	20	700
CP031C	34 28 29	114 8 24	3.0	2.0	15.0	>2.0	700	N	N	N	30	2,000
CP032C	34 28 42	114 8 58	5.0	5.0	15.0	2.0	1,000	N	N	N	30	1,000
CP033C	34 28 7	114 9 30	5.0	5.0	15.0	1.5	1,500	N	N	N	<20	700
CP034C	34 27 44	114 10 20	5.0	7.0	15.0	2.0	1,000	N	N	N	20	300
CP035C	34 29 43	114 10 36	7.0	7.0	15.0	2.0	1,000	N	N	N	20	300
CP036C	34 31 0	114 10 7	3.0	7.0	15.0	2.0	1,000	N	N	N	<20	200
CP037C	34 31 34	114 9 58	7.0	7.0	20.0	2.0	700	N	N	N	20	500
CP038C	34 31 55	114 9 50	5.0	3.0	15.0	2.0	700	50	N	100	30	700
CP039C	34 30 53	114 11 4	7.0	3.0	10.0	2.0	1,000	N	N	N	30	1,000
CP040C	34 29 39	114 11 45	5.0	2.0	15.0	>2.0	700	N	N	N	20	500
CP041C	34 29 0	114 12 40	3.0	5.0	10.0	2.0	700	N	N	N	20	700
CP042C	34 29 45	114 12 48	5.0	2.0	10.0	>2.0	700	N	N	N	20	2,000
CP043C	34 31 13	114 13 57	2.0	1.5	15.0	2.0	700	N	N	N	30	1,000

Table 3.__Analytical data for panned concentrate samples

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
2165C	N	N	N	N	100	N	500	N	N	10	N
2166C	N	N	N	N	200	N	500	<10	100	15	150
CP001C	3	N	N	20	200	30	500	N	70	50	100
CP002C	3	N	N	20	500	50	500	N	100	70	50
CP003C	1	N	N	20	700	50	500	N	100	100	100
CP004C	7	N	N	20	500	50	500	N	70	70	50
CP005C	<2	N	N	30	2,000	70	1,000	15	100	100	500
CP006C	2	N	N	30	2,000	30	700	N	50	100	50
CP007C	3	N	N	30	700	50	500	N	50	70	50
CP008C	2	N	N	30	2,000	30	700	N	100	300	200
CP009C	<2	N	N	20	700	30	500	N	50	100	20
CP010C	2	N	N	20	700	100	300	N	50	100	1,000
CP011C	2	N	N	30	2,000	100	500	100	50	150	2,000
CP012C	2	N	N	20	1,000	100	700	2,000	100	70	30,000
CP013C	2	N	N	20	700	100	300	100	150	70	1,000
CP014C	<2	50	N	30	1,000	70	500	10	100	100	100
CP015C	2	N	N	15	500	100	200	10	200	50	70
CP016C	2	N	N	20	500	70	200	10	150	50	50
CP017C	<2	N	N	30	2,000	100	200	<10	200	100	100
CP018C	2	N	N	30	1,000	100	300	N	100	100	70
CP019C	<2	20	N	15	700	30	200	N	70	70	150
CP020C	2	N	N	20	500	30	700	N	150	70	100
CP021C	2	N	N	15	700	30	200	N	100	50	20
CP022C	<2	N	N	N	70	50	300	N	100	<10	20
CP023C	3	N	N	15	300	50	200	N	70	70	30
CP024C	3	N	N	20	300	20	300	10	50	50	50
CP025C	3	N	N	20	300	30	200	N	70	30	50
CP026C	<2	N	N	30	1,000	30	100	N	70	70	20
CP027C	2	N	N	20	700	30	300	N	100	50	30
CP028C	2	N	N	20	200	50	300	N	50	50	30
CP029C	3	N	N	20	200	50	300	10	150	30	150
CP030C	2	N	N	20	500	50	1,000	N	150	50	70
CP031C	2	N	N	20	500	50	500	15	200	50	100
CP032C	2	N	N	30	1,000	30	300	N	70	70	20
CP033C	<2	N	N	50	2,000	50	200	N	50	100	30
CP034C	2	N	N	50	2,000	50	300	N	50	100	30
CP035C	<2	N	N	50	1,500	50	500	N	100	100	50
CP036C	<2	N	N	50	2,000	100	300	70	70	100	2,000
CP037C	<2	N	N	50	2,000	50	300	N	<50	100	70
CP038C	2	N	N	30	1,000	150	300	N	100	70	500
CP039C	5	N	N	30	500	70	200	N	50	70	100
CP040C	5	N	N	20	500	50	500	N	150	50	50
CP041C	2	N	N	20	700	30	500	N	70	100	30
CP042C	3	N	N	30	200	100	2,000	10	100	30	100
CP043C	3	N	N	10	200	20	300	10	100	20	200

Table 3.--Analytical data for panned concentrate samples

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
2165C	N	--	N	N	50	N	1,000	N	--	N
2166C	N	--	N	N	150	200	1,000	N	--	N
CP001C	N	30	N	1,000	100	N	500	N	>2,000	300
CP002C	N	20	N	700	100	N	300	N	>2,000	N
CP003C	N	20	N	700	200	N	300	N	>2,000	<200
CP004C	N	20	N	700	150	N	500	N	>2,000	<200
CP005C	N	50	20	700	200	700	500	N	>2,000	1,000
CP006C	N	30	20	500	150	300	300	N	>2,000	500
CP007C	N	20	N	1,000	200	N	200	N	>2,000	500
CP008C	N	50	30	500	200	200	200	N	>2,000	500
CP009C	N	30	<20	1,000	150	N	500	N	>2,000	N
CP010C	N	30	N	500	200	300	200	N	>2,000	<200
CP011C	N	50	30	500	200	200	300	N	>2,000	1,000
CP012C	N	50	50	700	200	1,500	500	N	>2,000	1,000
CP013C	N	30	20	700	200	100	200	N	>2,000	N
CP014C	N	50	<20	700	200	500	200	N	>2,000	<200
CP015C	N	30	30	700	200	N	300	N	>2,000	<200
CP016C	N	20	30	700	150	N	300	N	>2,000	N
CP017C	N	50	30	1,000	100	N	700	N	>2,000	200
CP018C	N	50	20	500	100	300	200	N	>2,000	500
CP019C	N	50	20	500	100	<100	1,000	N	>2,000	200
CP020C	N	50	<20	300	100	150	500	N	>2,000	1,000
CP021C	N	50	N	200	100	N	700	N	>2,000	N
CP022C	N	30	20	200	100	N	1,000	N	>2,000	N
CP023C	N	20	N	500	100	N	200	N	>2,000	N
CP024C	N	20	N	500	100	100	200	N	>2,000	200
CP025C	N	20	N	500	100	N	200	N	>2,000	<200
CP026C	N	50	N	500	100	200	150	N	>2,000	N
CP027C	N	50	N	500	100	N	300	N	1,000	<200
CP028C	N	20	N	500	100	200	200	N	>2,000	<200
CP029C	N	50	150	700	150	N	1,000	N	>2,000	200
CP030C	N	30	20	700	150	300	500	N	>2,000	300
CP031C	N	50	50	1,000	150	N	500	N	>2,000	300
CP032C	N	50	20	500	150	N	200	N	>2,000	<200
CP033C	N	70	30	500	200	N	150	N	>2,000	N
CP034C	N	50	30	500	200	<100	200	N	>2,000	200
CP035C	N	150	20	500	150	150	200	N	>2,000	200
CP036C	N	70	20	500	300	200	150	N	>2,000	<200
CP037C	N	150	20	500	200	100	150	N	>2,000	<200
CP038C	N	30	N	500	150	200	200	N	>2,000	<200
CP039C	N	50	N	500	200	N	150	N	>2,000	N
CP040C	N	50	N	500	200	N	300	N	>2,000	<200
CP041C	N	30	N	300	150	N	200	N	>2,000	N
CP042C	N	50	N	300	100	300	500	N	>2,000	1,000
CP043C	N	70	20	500	100	N	500	N	>2,000	500

Table 3.--Analytical data for panned concentrate samples--continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
CP044C	34 32 5	114 14 10	3.0	2.0	15.0	2.0	700	N	N	N	<20	10,000
CP045C	34 32 35	114 13 24	3.0	2.0	15.0	1.5	1,000	N	N	N	<20	1,500
CP046C	34 32 35	114 12 36	5.0	5.0	10.0	1.0	1,000	N	N	N	<20	>10,000
CP047C	34 33 8	114 12 36	3.0	3.0	15.0	2.0	1,000	N	N	N	20	5,000
CP048C	34 33 2	114 12 37	2.0	1.5	10.0	2.0	500	N	N	N	30	1,000
CP049C	34 33 4	114 13 31	3.0	3.0	15.0	1.5	500	700	N	>1,000	20	>10,000
CP050C	34 32 55	114 14 40	2.0	1.5	7.0	1.5	300	N	N	N	<20	>10,000
CP051C	34 25 33	114 12 10	2.0	2.0	10.0	>2.0	700	N	N	N	30	5,000
CP052C	34 26 18	114 11 48	5.0	5.0	15.0	2.0	700	N	N	N	20	700
CP053C	34 33 18	114 16 36	5.0	3.0	10.0	1.5	1,000	N	N	N	20	2,000
CP054C	34 34 1	114 16 15	5.0	3.0	10.0	1.5	700	N	N	N	20	7,000
CP055C	34 34 5	114 16 45	5.0	3.0	15.0	2.0	700	N	N	N	20	10,000
CP056C	34 34 17	114 17 39	5.0	3.0	20.0	.7	1,000	N	N	N	<20	1,000
CP057C	34 34 34	114 17 59	3.0	3.0	20.0	2.0	700	N	N	N	30	1,500
CP058C	34 34 54	114 18 14	3.0	2.0	15.0	2.0	1,000	N	N	N	20	1,000
CP059C	34 35 0	114 18 46	3.0	2.0	30.0	>2.0	700	N	N	N	20	10,000
CP2138C	34 33 40	114 9 0	.5	1.0	30.0	>2.0	1,000	N	N	N	20	1,000
CP2139C	34 33 35	114 9 40	.5	1.5	30.0	>2.0	1,000	N	N	N	20	500
CP2140C	34 33 40	114 9 40	.5	1.5	30.0	>2.0	1,000	N	N	N	30	300
CP2141C	34 34 10	114 10 15	.7	2.0	20.0	>2.0	700	N	N	N	30	500
CP2142C	34 33 45	114 10 20	.7	1.0	15.0	>2.0	500	N	N	N	20	500
CP2143C	34 33 45	114 11 20	.5	.7	15.0	>2.0	500	N	N	N	30	300
CP2144C	34 33 40	114 11 30	.7	1.5	15.0	>2.0	500	5	N	N	20	700
CP2145C	34 34 15	114 9 30	.7	1.0	15.0	>2.0	300	2	N	N	20	1,000
CP2146C	34 35 0	114 7 40	.2	1.0	30.0	1.5	700	N	N	N	<20	300
CP2101C	34 31 10	114 14 10	1.0	.5	30.0	2.0	1,000	70	N	N	50	>10,000
CP2102C	34 31 35	114 13 50	.2	.2	50.0	1.0	500	N	N	N	20	>10,000
CP2103C	34 31 35	114 13 45	.2	.3	30.0	1.0	700	N	N	N	20	>10,000
CP2104C	34 31 33	114 13 49	.7	.7	50.0	1.5	1,000	N	N	N	70	>10,000
CP2105C	34 31 30	114 14 10	1.0	1.0	30.0	>2.0	1,500	N	N	N	70	>10,000
CP2106C	34 31 45	114 12 50	1.0	.5	50.0	2.0	1,500	N	N	N	20	3,000
CP2113C	34 34 30	114 12 45	2.0	1.5	15.0	>2.0	500	7	N	N	30	2,000
CP2114C	34 34 25	114 12 45	1.0	.7	30.0	2.0	700	N	N	N	30	10,000
CP2116C	34 35 15	114 11 40	3.0	1.5	20.0	>2.0	700	20	N	N	50	1,500
CP2117C	34 35 30	114 11 20	1.0	.7	30.0	2.0	700	N	N	N	30	2,000
CP2118C	34 36 20	114 10 50	.7	.5	50.0	>2.0	700	N	N	N	30	1,000
CP2124C	34 32 20	114 11 55	1.0	1.0	30.0	>2.0	1,000	5	N	N	30	2,000
CP2125C	34 32 25	114 11 55	1.0	1.0	20.0	>2.0	1,000	10	N	N	30	1,000
CP2137C	34 33 5	114 12 55	3.0	1.0	20.0	>2.0	1,000	N	N	N	50	1,500

Table 3.--Analytical data for panned concentrate 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
CP044C	2	N	N	20	700	700	1,000	20	100	50	1,500
CP045C	5	N	N	30	150	30	700	30	100	50	300
CP046C	5	N	N	30	700	50	300	20	70	100	300
CP047C	3	N	N	30	700	70	200	N	50	100	3,000
CP048C	5	N	N	20	300	50	300	N	70	50	3,000
CP049C	2	N	N	20	700	50	300	30	70	70	2,000
CP050C	3	N	N	15	300	50	500	30	50	50	100
CP051C	2	N	N	15	300	30	200	10	100	30	50
CP052C	<2	N	N	30	1,000	50	500	N	70	100	100
CP053C	5	N	N	30	700	70	700	N	50	100	100
CP054C	5	N	N	30	1,000	50	300	N	100	100	50
CP055C	5	50	N	30	700	50	300	N	100	100	100
CP056C	3	N	N	30	700	50	300	N	N	100	200
CP057C	3	200	N	30	1,000	50	300	N	50	100	100
CP058C	3	N	N	15	500	30	300	N	70	50	70
CP059C	3	N	N	20	700	30	300	10	100	70	100
CP2138C	N	N	N	<10	150	30	300	10	70	10	100
CP2139C	N	150	N	10	200	20	300	20	70	15	100
CP2140C	N	N	N	<10	300	30	200	<10	<50	10	200
CP2141C	N	500	N	10	700	50	500	100	50	20	500
CP2142C	N	100	N	N	200	10	100	10	50	10	500
CP2143C	N	20	N	N	200	10	150	10	50	15	700
CP2144C	N	150	N	<10	150	20	150	50	70	15	50,000
CP2145C	N	2,000	N	<10	100	<10	150	15	50	15	300
CP2146C	N	N	N	N	150	N	500	<10	N	10	100
CP2101C	N	N	N	10	100	200	500	15	N	15	30,000
CP2102C	N	N	N	N	50	N	300	N	<50	N	2,000
CP2103C	N	<20	N	N	70	N	500	N	N	10	300
CP2104C	N	N	N	N	100	<10	500	N	N	10	7,000
CP2105C	N	N	N	10	200	<10	700	N	N	15	500
CP2106C	N	N	N	10	70	<10	700	N	N	10	300
CP2113C	N	N	N	10	300	70	500	100	50	20	7,000
CP2114C	N	N	N	10	100	10	700	150	50	10	7,000
CP2116C	10	N	N	10	700	15	700	10	70	30	300
CP2117C	N	70	N	N	70	15	1,000	N	50	15	200
CP2118C	N	N	N	N	100	N	2,000	N	70	10	70
CP2124C	N	N	N	10	200	10	1,500	1,000	100	20	30,000
CP2125C	N	N	N	10	200	15	500	100	70	20	50,000
CP2137C	N	N	N	15	500	20	500	N	70	30	1,000

Table 3.--Analytical data for panned concentrate 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
CP044C	N	70	100	200	150	N	1,500	N	>2,000	500
CP045C	N	30	20	200	150	300	1,000	N	>2,000	3,000
CP046C	N	30	20	N	150	500	500	N	>2,000	700
CP047C	N	50	N	500	100	200	200	N	>2,000	N
CP048C	N	20	N	500	100	300	200	N	>2,000	200
CP049C	N	30	N	1,000	100	700	500	N	>2,000	2,000
CP050C	N	15	N	1,000	100	500	300	N	>2,000	1,000
CP051C	N	30	30	1,500	150	N	200	N	>2,000	<200
CP052C	N	50	30	700	200	N	200	N	>2,000	1,000
CP053C	N	50	N	500	200	N	300	N	2,000	700
CP054C	N	50	30	500	200	N	100	N	2,000	N
CP055C	N	50	100	700	200	N	150	N	>2,000	N
CP056C	N	50	N	700	100	200	500	N	>2,000	<200
CP057C	N	50	20	700	150	N	500	N	>2,000	<200
CP058C	N	30	N	700	100	N	500	N	>2,000	N
CP059C	N	50	50	1,000	150	150	1,000	N	>2,000	<200
CP2138C	N	--	30	500	100	100	5,000	N	--	N
CP2139C	N	--	20	500	70	500	3,000	N	--	300
CP2140C	N	--	50	500	100	200	2,000	N	--	<200
CP2141C	N	--	30	500	150	1,000	1,500	N	--	N
CP2142C	N	--	20	200	150	1,000	1,000	N	--	N
CP2143C	N	--	20	200	150	700	1,000	N	--	N
CP2144C	N	--	<20	200	150	1,000	1,500	N	--	N
CP2145C	N	--	<20	200	100	2,000	700	N	--	N
CP2146C	N	--	N	200	100	<100	5,000	N	--	200
CP2101C	500	--	30	N	200	N	3,000	2,000	--	300
CP2102C	N	--	N	3,000	300	N	1,000	N	--	N
CP2103C	N	--	N	5,000	70	N	3,000	N	--	<200
CP2104C	N	--	N	7,000	500	N	3,000	N	--	N
CP2105C	N	--	N	3,000	100	N	5,000	N	--	200
CP2106C	N	--	N	N	100	N	>5,000	N	--	N
CP2113C	N	--	N	200	300	200	700	N	--	N
CP2114C	N	--	N	200	100	2,000	3,000	700	--	<200
CP2116C	N	--	N	200	700	500	500	N	--	N
CP2117C	N	--	N	5,000	200	2,000	500	N	--	N
CP2118C	N	--	N	5,000	200	<100	700	N	--	N
CP2124C	N	--	70	N	1,000	500	>5,000	N	--	1,000
CP2125C	N	--	N	200	200	>20,000	1,500	N	--	<200
CP2137C	N	--	N	200	500	150	700	N	--	N

Table 4.--Analytical data for rock samples

Sample	Latitude	Longitude	Fe-pct.s	Mg-pct.s	Ca-pct.s	Ti-pct.s	Mn-ppms	Ag-ppms	As-ppms	Au-ppms	B-ppms
CP0[illegible]7R	34 32 54	114 11 41	10.0	.15	.10	.030	700	100.0	1,500	100	50
CP0[illegible]7RA	34 32 56	114 11 38	1.5	.20	.20	.070	200	50.0	N	N	30
CP0[illegible]7RB	34 32 56	114 11 38	5.0	.05	<.05	.050	20	5.0	300	N	20
CP0[illegible]7RC	34 32 56	114 11 38	7.0	.10	<.05	.200	100	70.0	1,000	70	30
CP0[illegible]7RD	34 32 58	114 11 36	15.0	.50	.20	.200	300	50.0	700	150	50
CP0[illegible]8R	34 32 16	114 10 3	5.0	2.00	15.00	.020	5,000	3.0	N	N	<10
CP0[illegible]8RA	34 32 16	114 10 3	.3	.05	.20	.015	70	10.0	N	N	10
CP0[illegible]8RB	34 32 19	114 10 2	.5	.10	.70	.005	100	2.0	N	N	<10
CP0[illegible]9R	34 32 13	114 9 29	3.0	.50	.50	.100	300	2.0	N	N	10
CP0[illegible]9RA	34 32 13	114 9 29	7.0	.50	.70	.300	150	1.0	N	N	15
CP0[illegible]9RB	34 32 16	114 9 27	7.0	.10	.20	.500	50	<.5	N	N	10
CP0[illegible]9RC	34 32 16	114 9 27	7.0	.15	.70	.500	100	N	N	N	20
CP0[illegible]9RD	34 32 16	114 9 27	7.0	.30	.20	.700	100	N	N	N	20
CP0110R	34 31 11	114 14 2	7.0	2.00	.50	.700	>5,000	70.0	N	N	30
CP0110RA	34 31 11	114 14 2	7.0	1.00	.30	.500	1,000	5.0	N	N	100
CP0110RB	34 31 11	114 14 2	.7	.15	.50	.200	700	N	N	N	15
CP0111R	34 34 44	114 17 6	7.0	<.02	.05	.005	70	20.0	N	50	20
CP0111RA	34 34 44	114 17 6	.5	.50	.30	.002	3,000	3.0	N	N	15
CP0111RB	34 34 48	114 17 3	2.0	1.00	.10	.100	1,500	7.0	N	N	20
CP0111RC	34 34 46	114 17 3	3.0	.30	20.00	.150	>5,000	50.0	2,000	N	200
CP[illegible]9RD	34 32 16	114 9 27	7.0	.30	.20	.700	100	N	N	N	20
CP2172R1	34 32 25	114 15 15	10.0	5.00	10.00	>1.000	5,000	N	N	N	10
CP2172R2	34 32 25	114 15 15	1.5	.50	5.00	.150	300	N	N	N	20
CP2173R	34 33 30	114 13 55	7.0	7.00	15.00	1.000	>5,000	N	N	N	10
CP2174R	34 33 35	114 14 10	10.0	2.00	10.00	>1.000	>5,000	N	N	N	20
CP2175R	34 13 15	114 15 10	1.0	.30	2.00	.100	500	N	N	N	20
CP2176R	34 13 40	114 15 25	10.0	1.00	3.00	>1.000	5,000	N	N	N	10
CP2177R1	34 33 45	114 15 45	5.0	1.50	7.00	.200	3,000	N	N	N	20
CP2177R2	34 33 45	114 15 45	.7	.30	.20	.070	300	N	N	N	10
CP2178R	34 33 40	114 16 0	7.0	1.50	.70	1.000	1,000	N	N	N	20
CP2179R	34 29 35	114 11 50	10.0	1.50	3.00	>1.000	700	N	N	N	15
CP2180R	34 29 55	114 11 20	5.0	1.00	.20	.500	1,500	N	N	N	20
CP2181R	34 31 0	114 11 10	.7	.20	1.00	.070	200	N	N	N	10
CP2182R	34 30 55	114 12 0	5.0	1.00	2.00	.500	1,500	N	N	N	20
CP2183R	34 30 45	114 11 0	5.0	1.00	2.00	.500	1,000	N	N	N	20
CP2184R	34 31 25	114 10 50	1.5	.30	1.50	.050	1,500	N	N	N	30
CP2185R	34 30 50	114 10 35	10.0	10.00	20.00	1.000	>5,000	N	N	N	500
CP2186R	34 30 5	114 10 10	10.0	5.00	15.00	>1.000	>5,000	N	N	N	20
CP2187R	34 30 55	114 10 5	5.0	1.00	2.00	.300	1,500	N	N	N	20
CP2188R	34 30 20	114 9 55	7.0	3.00	1.50	.700	2,000	N	N	N	30
CP2189R	34 29 10	114 9 15	15.0	2.00	3.00	>1.000	2,000	N	N	N	30
CP2190R	34 29 0	114 9 20	10.0	2.00	5.00	>1.000	3,000	N	N	N	30
CP2191R	34 28 35	114 9 30	20.0	2.00	7.00	>1.000	5,000	N	N	N	30
CP2106R	34 31 45	114 12 50	3.0	.50	3.00	.500	700	N	N	N	20
CP2107R	34 34 20	114 13 15	5.0	.30	.10	.150	150	50.0	N	N	20
CP2108R	34 34 25	114 13 15	20.0	10.00	20.00	>1.000	>5,000	.7	N	N	20

Table 4.__Analytical data for rock samples

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
CP007R	150	N	N	N	5	50	700	20	10	N
CP007RA	200	<5	N	500	10	N	3,000	70	N	N
CP007RB	100	N	N	N	15	N	50	50	N	N
CP007RC	200	N	N	N	N	10	150	70	7	N
CP007RD	100	N	N	N	10	70	500	50	N	N
CP008R	50	N	N	70	5	30	300	50	5	<20
CP008RA	30	N	N	300	N	10	15	50	N	N
CP008RB	20	N	N	150	N	10	15	50	N	<20
CP009R	150	N	N	N	50	30	15,000	N	N	N
CP009RA	500	N	10	N	70	70	300	N	N	N
CP009RB	70	N	N	N	150	50	50	N	N	N
CP009RC	500	N	N	N	15	30	30	N	N	N
CP010R	1,500	5	N	150	150	150	20,000	70	5	<20
CP010RA	1,000	5	N	50	20	10	5,000	70	N	20
CP010RB	500	5	N	N	N	N	30	70	N	<20
CP011R	50	N	100	N	N	N	100	50	50	N
CP011RA	30	10	N	20	10	N	1,000	300	N	N
CP011RB	500	7	N	N	N	N	15,000	200	N	<20
CP011RC	>5,000	15	N	N	30	10	500	100	500	N
CP009RD	500	N	N	N	15	10	50	50	N	<20
CP2172R1	300	N	N	N	50	30	50	100	N	<20
CP2172R2	500	N	N	N	N	10	5	70	N	N
CP2173R	300	N	N	N	100	1,500	30	50	N	N
CP2174R	700	N	N	N	30	100	150	150	N	20
CP2175R	100	<5	N	N	N	20	<5	100	N	<20
CP2176R	1,000	<5	N	N	10	10	100	200	N	30
CP2177R1	1,000	5	N	N	10	70	10	300	N	<20
CP2177R2	500	<5	N	N	5	N	<5	500	N	N
CP2178R	2,000	N	N	N	N	20	7	200	N	30
CP2179R	200	5	N	N	15	20	5	500	N	50
CP2180R	5,000	N	N	N	N	20	10	200	N	20
CP2181R	500	N	N	N	N	N	N	100	5	N
CP2182R	2,000	N	N	N	5	N	7	300	N	<20
CP2183R	2,000	N	N	N	5	10	7	300	N	<20
CP2184R	1,500	N	N	N	N	10	5	200	N	N
CP2185R	1,000	N	N	N	100	2,000	300	50	N	N
CP2186R	2,000	N	N	N	70	150	200	100	N	N
CP2187R	1,000	N	N	N	N	10	5	200	N	<20
CP2188R	700	<5	N	N	20	200	10	200	N	<20
CP2189R	2,000	<5	N	N	20	50	50	300	N	30
CP2190R	5,000	<5	N	N	20	50	30	200	N	30
CP2191R	5,000	N	N	N	20	50	30	200	N	20
CP2106R	1,500	N	N	N	N	10	5	200	N	20
CP2107R	200	N	<10	N	15	30	5,000	100	5	N
CP2103R	100	N	N	N	70	700	200	50	N	<20

Table 4.--Analytical data for rock samples

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
CP007R	7	7,000	N	--	N	N	50	N	10	1,500
CP007RA	10	3,000	N	--	N	N	10	N	15	>10,000
CP007RB	10	1,000	N	--	N	N	<10	N	N	700
CP007RC	5	5,000	N	--	N	N	50	100	30	300
CP007RD	30	3,000	N	--	N	N	70	N	10	2,000
CP008R	10	1,500	N	--	N	200	100	700	30	700
CP008RA	N	5,000	N	--	N	N	50	300	N	1,500
CP008RB	N	2,000	N	--	N	N	10	1,000	N	1,000
CP009R	20	50	N	--	N	N	50	N	20	N
CP009RA	20	50	N	--	N	200	100	N	10	N
CP009RB	20	10	N	--	N	N	50	N	10	N
CP009RC	10	150	N	--	N	100	100	N	10	N
CP010R	70	5,000	N	--	N	100	150	N	50	>10,000
CP010RA	20	300	N	--	N	N	70	N	70	>10,000
CP010RB	N	50	N	--	N	100	<10	N	15	200
CP011R	N	10,000	N	--	N	N	<10	N	15	200
CP011RA	15	200	N	--	N	N	<10	N	100	>10,000
CP011RB	N	150	N	--	N	N	30	N	50	>10,000
CP011RC	20	10,000	N	--	N	5,000	200	50	20	300
CP009RD	7	N	N	--	N	100	50	N	10	N
CP2172R1	15	N	N	--	N	300	700	N	100	N
CP2172R2	N	50	N	--	N	500	50	N	10	N
CP2173R	200	10	N	--	N	700	500	N	30	N
CP2174R	20	20	N	--	N	500	150	N	100	N
CP2175R	N	150	N	--	N	N	20	N	70	N
CP2176R	N	100	N	--	N	100	15	N	100	N
CP2177R1	30	20	N	--	N	100	50	N	70	<200
CP2177R2	N	70	N	--	N	N	50	N	50	N
CP2178R	N	100	N	--	N	100	30	N	200	N
CP2179R	5	N	N	--	N	200	200	N	200	N
CP2180R	N	10	N	--	N	N	20	N	150	N
CP2181R	N	200	N	--	N	N	20	N	10	N
CP2182R	5	20	N	--	N	100	15	N	100	N
CP2183R	5	10	N	--	N	100	20	N	50	N
CP2184R	N	70	N	--	N	N	20	N	200	N
CP2185R	200	N	N	--	N	500	500	N	150	<200
CP2186R	30	10	N	--	N	700	700	N	70	300
CP2187R	5	70	N	--	N	100	20	N	100	<200
CP2188R	30	100	N	--	N	300	150	N	100	N
CP2189R	15	100	N	--	N	500	300	N	200	200
CP2190R	15	100	N	--	N	500	200	N	150	200
CP2191R	15	70	N	--	N	700	200	N	150	300
CP2106R	5	70	N	--	N	300	70	N	30	N
CP2107R	30	10,000	N	--	N	N	300	N	15	N
CP2108R	150	200	N	--	N	1,000	200	N	30	<200

Table 4.__Analytical data for rock samples

Sample	Zr-ppm s	Th-ppm s	Au-ppm aa	Hg-ppm inst	As-ppm aa	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa
CP007R	--	N	--	--	--	--	--	--	--
CP007RA	--	N	--	--	--	--	--	--	--
CP007RB	--	N	--	--	--	--	--	--	--
CP007RC	--	N	--	--	--	--	--	--	--
CP007RD	--	N	--	--	--	--	--	--	--
CP008R	--	N	--	--	--	--	--	--	--
CP008RA	--	N	--	--	--	--	--	--	--
CP008RB	--	N	--	--	--	--	--	--	--
CP009R	--	N	--	--	--	--	--	--	--
CP009RA	--	N	--	--	--	--	--	--	--
CP009RB	--	N	--	--	--	--	--	--	--
CP009RC	--	N	--	--	--	--	--	--	--
CP010R	--	N	--	--	--	--	--	--	--
CP010RA	--	N	--	--	--	--	--	--	--
CP010RB	--	N	--	--	--	--	--	--	--
CP011R	--	N	--	--	--	--	--	--	--
CP011RA	--	N	--	--	--	--	--	--	--
CP011RB	--	N	--	--	--	--	--	--	--
CP011RC	--	N	--	--	--	--	--	--	--
CP009RD	--	N	--	--	--	--	--	--	--
CP2172R1	--	N	N	<.02	N	35	N	N	N
CP2172R2	--	N	N	N	N	5	N	N	N
CP2173R	--	N	N	<.02	N	15	N	N	N
CP2174R	--	N	N	<.02	N	50	N	2	N
CP2175R	--	N	N	<.02	N	20	N	<2	N
CP2176R	--	N	N	<.02	N	170	.1	N	N
CP2177R1	--	N	N	<.02	N	110	.2	<2	N
CP2177R2	--	<100	N	<.02	N	5	N	N	N
CP2178R	--	N	N	<.02	N	45	N	N	N
CP2179R	--	N	N	.02	N	20	N	N	N
CP2180R	--	N	N	.04	<10	130	N	2	N
CP2181R	--	N	N	.04	N	5	N	N	N
CP2182R	--	N	N	.02	N	100	N	N	N
CP2183R	--	N	N	.02	N	30	N	N	N
CP2184R	--	N	<.05	.02	N	10	N	N	N
CP2185R	--	N	N	.04	N	30	.1	N	N
CP2186R	--	N	N	.06	N	100	.1	<2	N
CP2187R	--	N	N	<.02	N	70	N	N	N
CP2188R	--	N	N	<.02	N	50	N	2	N
CP2189R	--	N	N	<.02	<10	120	N	<2	N
CP2190R	--	N	N	<.02	N	90	N	N	N
CP2191R	--	N	N	.02	N	110	.1	N	N
CP2106R	--	N	N	.02	N	10	N	N	N
CP2107R	--	N	11.50	.02	<10	60	.4	N	2
CP2108R	--	N	<.05	.02	N	40	N	N	N

Table 4.__Analytical data for rock samples--continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s
CP2109R	34 34 25	114 13 15	2.0	.50	.70	.050	1,500	.5	N	N	30
CP2110R	34 34 25	114 13 15	10.0	7.00	20.00	>1.000	2,000	N	N	N	20
CP2111R	34 34 30	114 13 0	.7	.70	1.00	.070	150	N	N	N	100
CP2112R	34 34 45	114 12 45	1.5	.10	.05	.020	50	30.0	N	N	20
CP2113R	34 34 30	114 12 45	7.0	1.00	2.00	.500	2,000	3.0	N	N	20
CP2115R	34 34 50	114 12 20	.2	.10	1.00	.015	70	N	N	N	10
CP2116R	34 36 20	114 10 50	7.0	3.00	7.00	.500	2,000	N	N	N	15
CP2119R	34 32 35	114 13 30	10.0	1.00	5.00	.700	3,000	N	N	N	20
CP2120R	34 32 25	114 13 20	5.0	1.00	3.00	.500	2,000	N	N	N	30
CP2121R	34 32 20	114 13 10	2.0	.70	1.00	.300	300	N	N	N	20
CP2122R	34 32 20	114 13 10	5.0	1.50	3.00	1.000	2,000	N	N	N	20
CP2123R	34 32 25	114 13 10	10.0	10.00	20.00	>1.000	5,000	<.5	N	N	20
CP2124R	34 32 20	114 11 55	5.0	.70	5.00	.700	1,000	N	N	N	15
CP2125R	34 32 25	114 11 55	5.0	1.50	7.00	1.000	1,500	N	N	N	15
CP2126R	34 32 45	114 14 10	1.5	.20	.50	.200	300	N	N	N	20
CP2127R	34 33 5	114 12 55	7.0	1.00	1.00	.500	2,000	N	N	N	20
CP2128R	34 33 0	114 12 20	5.0	1.50	.70	.300	1,500	N	N	N	15
CP2129R	34 33 5	114 11 40	7.0	.50	.70	.500	1,000	N	N	N	20
CP2130R	34 32 55	114 11 20	20.0	10.00	20.00	>1.000	>5,000	N	N	N	10
CP2131R	34 33 0	114 10 50	15.0	7.00	15.00	>1.000	5,000	N	N	N	30
CP2132R	34 32 55	114 10 35	.7	.10	.50	.050	100	N	N	N	20
CP2133R	34 32 55	114 10 30	.3	.20	.50	.070	100	N	N	N	50
CP2134R	34 32 50	114 10 15	.2	.10	1.00	.030	70	N	N	N	50
CP2135R	34 32 35	114 9 25	7.0	2.00	1.00	.700	1,000	N	N	N	10
CP2136R	34 32 15	114 9 25	5.0	.10	.30	.300	50	.5	N	N	10
CP2139R	34 33 35	114 9 40	7.0	2.00	1.00	1.000	1,000	N	N	N	30
CP2142R	34 33 45	114 10 20	7.0	.70	.50	.500	1,000	N	N	N	20
CP2144R	34 33 40	114 11 30	3.0	.30	.30	.300	700	N	N	N	20
CP2145R	34 34 15	114 9 30	5.0	1.00	5.00	.500	500	N	N	N	50
CP2146R	34 35 0	114 17 40	.2	.10	1.50	.007	70	N	N	N	15
CP2147R1	34 34 50	114 16 35	10.0	.02	.10	.005	15	5.0	N	N	20
CP2147R2	34 34 50	114 16 35	1.0	.50	.15	.100	300	10.0	N	N	15
CP2161R	34 31 35	114 5 5	.2	.10	1.00	.030	100	N	N	N	10
CP2162R	34 31 55	114 6 0	10.0	7.00	1.00	>1.000	3,000	N	N	N	20
CP2163R	34 32 15	114 6 10	3.0	.70	7.00	.700	500	N	N	N	15
CP2164R	34 32 35	114 5 30	10.0	7.00	10.00	>1.000	2,000	N	N	N	20
CP2166R	34 33 30	114 6 15	5.0	1.00	5.00	.500	700	N	N	N	30
CP2167R	34 33 30	114 7 10	10.0	10.00	10.00	>1.000	2,000	N	N	N	30
CP2168R	34 33 40	114 6 30	2.0	.30	.70	.300	500	N	N	N	30
CP2169R	34 33 40	114 6 45	10.0	10.00	15.00	.500	2,000	N	N	N	30
CP2170R	34 33 40	114 6 50	2.0	.50	1.00	.200	500	N	N	N	10
CP2171R	34 33 30	114 7 5	1.5	.30	1.00	.150	200	N	N	N	10

Table 4.__Analytical data for rock 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
CP2109R	300	N	N	N	5	20	20	100	N	70
CP2110R	500	N	N	N	50	700	100	100	N	<20
CP2111R	1,000	<5	N	N	N	20	5	100	N	N
CP2112R	150	N	15	N	20	20	1,000	100	70	N
CP2113R	500	5	N	N	10	10	500	200	N	20
CP2115R	200	N	N	N	N	N	5	100	N	N
CP2118R	300	N	N	N	20	N	10	50	N	N
CP2119R	500	7	N	N	15	70	10	200	N	30
CP2120R	1,000	<5	N	N	10	30	7	200	N	20
CP2121R	1,000	N	N	N	5	30	<5	100	N	N
CP2122R	2,000	5	N	N	10	30	<5	200	N	20
CP2123R	1,000	N	N	N	70	700	200	100	N	20
CP2124R	2,000	N	N	N	10	50	N	150	<5	<20
CP2125R	2,000	N	N	N	15	50	N	200	N	20
CP2126R	1,000	7	N	N	N	N	5	500	N	30
CP2127R	2,000	N	N	N	5	50	10	300	15	20
CP2128R	2,000	<5	N	N	N	10	50	500	N	20
CP2129R	2,000	N	N	N	N	10	10	200	N	<20
CP2130R	200	N	N	N	200	700	30	50	N	N
CP2131R	700	N	N	N	150	1,500	150	50	N	N
CP2132R	700	N	N	N	N	30	<5	300	N	N
CP2133R	500	N	N	N	N	10	7	100	N	N
CP2134R	300	N	N	N	N	10	N	50	N	N
CP2135R	1,000	N	N	N	15	150	10	200	N	20
CP2136R	200	N	N	N	15	30	<5	70	N	<20
CP2139R	500	N	N	N	20	200	<5	200	N	<20
CP2142R	1,000	N	N	N	N	20	5	300	N	20
CP2144R	700	5	N	N	N	10	N	500	N	30
CP2145R	1,500	5	N	N	10	100	7	100	N	N
CP2146R	500	10	N	N	N	10	N	100	N	<20
CP2147R1	50	N	20	N	5	10	20	50	7	N
CP2147R2	700	N	N	N	N	N	10	200	N	<20
CP2161R	500	N	N	N	5	N	N	150	N	N
CP2162R	2,000	N	N	N	30	500	7	1,000	N	20
CP2163R	50	N	N	N	5	N	N	150	N	20
CP2164R	700	N	N	N	70	70	70	200	N	<20
CP2166R	1,000	<5	N	N	10	30	7	100	N	<20
CP2167R	700	N	N	N	70	700	200	200	N	20
CP2168R	2,000	5	N	N	N	N	15	200	N	N
CP2169R	2,000	N	N	N	100	700	150	50	N	N
CP2170R	2,000	N	N	N	5	10	5	200	N	N
CP2171R	3,000	N	N	N	5	10	10	100	N	N

Table 4.--Analytical data for rock 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
CP2109R	10	300	N	--	N	100	20	N	70	N
CP2110R	70	70	N	--	N	2,000	200	N	50	N
CP2111R	10	100	N	--	N	700	30	N	10	N
CP2112R	20	15,000	N	--	N	N	200	N	70	N
CP2113R	10	1,500	N	--	N	N	20	N	100	1,000
CP2115R	N	200	N	--	N	N	10	N	N	N
CP2118R	7	100	N	--	N	200	100	N	50	N
CP2119R	10	150	N	--	N	300	70	N	300	N
CP2120R	15	200	N	--	N	1,500	100	N	50	N
CP2121R	5	70	N	--	N	500	70	N	10	N
CP2122R	10	100	N	--	N	1,000	100	N	30	N
CP2123R	200	70	N	--	N	2,000	300	N	50	<200
CP2124R	20	150	N	--	N	700	100	N	30	N
CP2125R	20	150	N	--	N	1,000	100	N	30	N
CP2126R	5	70	N	--	N	100	10	N	30	N
CP2127R	10	100	N	--	N	200	15	N	50	N
CP2128R	20	150	N	--	N	100	15	N	70	<200
CP2129R	5	30	N	--	N	100	10	N	50	N
CP2130R	150	N	N	--	N	1,000	500	N	70	<200
CP2131R	300	10	N	--	N	2,000	700	N	70	200
CP2132R	5	50	N	--	N	100	20	N	300	N
CP2133R	5	50	N	--	N	N	20	N	20	N
CP2134R	5	10	N	--	N	100	15	N	20	N
CP2135R	20	50	N	--	N	200	100	N	50	N
CP2136R	5	N	N	--	N	100	20	N	N	N
CP2139R	20	100	N	--	N	300	150	N	70	N
CP2142R	7	20	N	--	N	100	15	N	70	N
CP2144R	5	70	N	--	N	100	20	N	50	N
CP2145R	20	50	N	--	N	3,000	70	N	15	N
CP2146R	5	150	N	--	N	100	15	N	100	N
CP2147R1	5	500	N	--	N	N	100	N	N	<200
CP2147R2	N	200	N	--	N	N	30	N	50	N
CP2161R	5	70	N	--	N	N	20	N	20	N
CP2162R	100	150	N	--	N	N	200	N	>2,000	N
CP2163R	7	N	N	--	N	700	50	N	200	N
CP2164R	50	20	N	--	N	1,000	300	N	100	N
CP2166R	15	100	N	--	N	1,500	100	N	15	N
CP2167R	200	N	N	--	N	2,000	300	N	70	<200
CP2168R	10	30	N	--	N	500	20	N	10	N
CP2169R	300	N	N	--	N	300	300	N	20	N
CP2170R	5	50	N	--	N	100	50	N	15	N
CP2171R	10	20	N	--	N	500	30	N	N	N

Table 4.__Analytical data for rock samples--continued

Sample	Zr-ppm s	Th-ppm s	Au-ppm aa	Hg-ppm inst	As-ppm aa	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa
CP2109R	--	N	N	.02	N	5	N	N	N
CP2110R	--	N	N	N	N	55	N	2	N
CP2111R	--	N	N	.04	N	5	N	N	N
CP2112R	--	N	.95	<.02	N	20	1.7	3	2
CP2113R	--	N	<.05	<.02	<10	420	2.3	N	1
CP2115R	--	N	N	<.02	N	<5	N	N	N
CP2116R	--	N	N	.06	N	80	N	<2	N
CP2119R	--	N	N	.04	N	45	N	<2	N
CP2120R	--	N	N	.02	N	30	N	<2	N
CP2121R	--	N	N	.08	N	10	N	N	N
CP2122R	--	N	N	.02	N	40	N	N	N
CP2123R	--	N	N	.02	N	45	N	N	N
CP2124R	--	N	N	.04	N	25	N	2	N
CP2125R	--	N	N	<.02	N	30	N	N	1
CP2126R	--	N	N	<.02	N	300	N	N	N
CP2127R	--	N	N	.12	N	25	N	N	N
CP2128R	--	N	N	.04	N	70	N	N	N
CP2129R	--	N	N	.04	N	60	<.1	<2	N
CP2130R	--	N	N	<.02	N	25	N	N	N
CP2131R	--	N	N	.02	N	15	N	N	N
CP2132R	--	N	N	.02	N	N	N	N	N
CP2133R	--	N	N	.02	N	N	N	N	N
CP2134R	--	N	N	.04	N	N	N	N	N
CP2135R	--	N	N	.04	N	50	N	N	N
CP2136R	--	N	N	<.02	N	N	N	2	N
CP2139R	--	N	N	<.02	N	25	N	2	N
CP2142R	--	N	N	.02	N	40	N	N	N
CP2144R	--	N	N	<.02	N	10	N	N	N
CP2145R	--	N	N	<.02	N	30	N	N	N
CP2146R	--	N	N	.06	N	N	N	N	N
CP2147R1	--	N	3.50	<.02	N	70	.1	40	N
CP2147R2	--	N	2.00	.04	N	45	.1	N	N
CP2161R	--	N	<.05	<.02	N	N	N	2	N
CP2162R	--	200	N	.02	N	100	N	<2	N
CP2163R	--	N	N	<.02	N	10	N	N	N
CP2164R	--	N	N	.02	N	50	N	N	N
CP2166R	--	N	N	<.02	N	35	N	2	N
CP2167R	--	N	N	<.02	N	150	N	N	N
CP2168R	--	N	N	<.02	N	20	N	N	N
CP2169R	--	N	N	<.02	N	10	N	N	N
CP2170R	--	N	N	<.02	N	5	N	<2	N
CP2171R	--	N	N	<.02	N	<5	N	4	N

Table 5.--Descriptive data for rock samples, Crossman Peak WSA

Sample number	Rock type	Alteration	Remarks
CP007R	Granitic gneiss	Propylitic	Pyrite
CP007RA	Quartz vein	Sericitic	Pyrite, galena, sphalerite, chalcopyrite
CP007RB	do.	do.	Pyrite
CP007RC	do.	do.	Abundant limonitic staining
CP007RD	do.	Argillic(?)	Do.
CP008R	do.	do.	Do.
CP008RA	do.	Sericitic	Galena, sphalerite, limonite
CP008RB	do.	do.	
CP009R	do.	Argillic	
CP009RA	Granitic gneiss	do.	Abundant limonitic staining
CP009RB	do.	do.	Pyrite, abundant limonitic staining
CP009RC	do.	do.	Abundant limonitic staining
CP009RD	do.	do.	Do.
CP010R	Diabase	Propylitic	Do.
CP010RA	Granitic gneiss	do.	
CP010RB	Dacite	None	
CP011R	Quartz vein	Propylitic	Hematite
CP011RA	do.	do.	Wulfenite, limonite, copper staining
CP011RB	do.		Galena, limonite
CP011RC	do.	do.	Abundant copper staining
CP2106R	Rhyolite	None	
CP2107R	Quartz vein	Propylitic	Pyrite, galena, malachite, azurite, hematite, limonite
CP2108R	Amphibolite gneiss	do.	
CP2109R	Granitic gneiss	do.	
CP2110R	Diorite(?)	do.	
CP2111R	Granitic gneiss	do.	Pegmatite zone in gneiss
CP2112R	Quartz vein	do.	Pyrite, galena, hematite, limonite
CP2113R	Garnetiferous gneiss	do.	
CP2115R	Granitic gneiss	do.	Pegmatitic zone in gneiss
CP2118R	do.	do.	
CP2119R	do.	do.	
CP2120R	Dacite	None	
CP2121R	Granitic gneiss	Propylitic	
CP2122R	Dacite	None	
CP2123R	Diabase	None	
CP2124R	Granitic gneiss	Propylitic	
CP2125R	Dacite	None	
CP2126R	Rhyolite	do.	
CP2127R	Granitic gneiss	Propylitic	
CP2128R	do.	do.	
CP2129R	do.	Argillic(?)	White mica and clay alteration
CP2130R	Diorite	None	
CP2131R	Amphibolite gneiss	Propylitic	
CP2132R	Granitic gneiss	do.	Pegmatitic zone with hematite pseudomorphs after pyrite
CP2133R	do.	Argillic(?)	Micaceous pegmatite

Table 5.--Descriptive data for rock samples, Crossman Peak WSA--Continued

Sample number	Rock type	Alteration	Remarks
CP2134R	do.	do.	Pegmatitic zone
CP2135R	do.	do.	
CP2136R	do.	do.	Pyrite, hematite, limonite
CP2139R	do.	Propylitic	
CP2142R	do.	do.	
CP2144R	Rhyolite	None	
CP2145R	Granitic gneiss	Propylitic	
CP2146R	do.	do.	Pegmatitic zone
CP2147R1	Quartz vein	do.	Abundant hematite
CP2147R2	do.	do.	Abundant limonite boxworks
CP2161R	Granitic gneiss	Propylitic	
CP2162R	do.	do.	
CP2163R	do.	do.	Abundant epidote
CP2164R	do.	do.	
CP2166R	do.	do.	
CP2167R	Diabase	do.	
CP2168R	Granitic gneiss	do.	
CP2169R	Amphibolite gneiss	do.	
CP2170R	Granitic gneiss	do.	
CP2171R	do.	do.	
CP2172R1	Amphibolite gneiss	do.	
CP2172R2	Granitic gneiss	do.	Abundant epidote
CP2173R	Amphibolite gneiss	do.	
CP2174R	Granitic gneiss	do.	
CP2175R	do.	do.	Pegmatitic zone
CP2176R	do.	do.	
CP2177R1	do.	do.	
CP2177R2	do.	do.	Pegmatitic zone
CP2178R	Amphibolite gneiss	do.	Abundant limonitic staining
CP2179R	Granite	None	
CP2180R	Granitic gneiss	Propylitic	Abundant epidote
CP2181R	do.	Propylitic(?)	
CP2182R	do.	Propylitic	
CP2183R	do.	do.	
CP2184R	do.	do.	
CP2185R	Amphibolite gneiss	None	
CP2186R	do.	do.	
CP2187R	Granitic gneiss	Propylitic	
CP2188R	do.	do.	Highly weathered
CP2189R	Granite		Do.
CP2190R	do.		
CP2191R	do.		

REFERENCES CITED

Carr, W. J., 1981, Tectonic history of the Vidal-Parker region, California and Arizona, in Tectonic framework of the Mojave and Sonoran Deserts, California and Arizona: U.S. Geological Survey Open-File Report 81-503, p. 18-20.

Carr, W. J., Dickey, D. D., and Quinlivan, W. D., 1980, Geologic map of the Vidal NW, Vidal Junction, and parts of the Savahia Peak SW and Savahia Peak quadrangles, San Bernardino County, California: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-1126.

Davis, G. A., Anderson, J. L., Frost, E. G., and Shackelford, T. J., 1980, Mylonitization and detachment faulting in the Whipple-Buckskin Rawhide Mountains terrane, southeastern California and western Arizona, in Cordilleran metamorphic core complexes: Geological Society of America Memoir 153, p. 79-130.

Frost, E. G., 1982, Structural style of detachment faulting in the Whipple Mountains, California, and Buckskin Mountains, Arizona: Arizona Geological Society Digest, v. 13, p. 25-29.

Grimes, D. J., and Marranzino, A. P., 1968, Direct-current arc and alternating current spark emission spectrographic field methods for the semiquantitative analysis of geologic materials: U.S. Geological Survey Circular 591, 6 p.

Howard, K. A., Goodge, J. W., and John, B. E., 1982, Detached crystalline rocks of the Mohave, Buck, and Bill Williams Mountains, western Arizona, in Frost, E. G., and Martin, D. L., 1982, Mesozoic-Cenozoic tectonic evolution of the Colorado River region, California, Arizona, and Nevada: San Diego, Cordilleran Publishers, p. 377-392.

Light, T. D., Marsh, S. P., and Raines, G. L., 1982, Mineralization in the Crossman Peak Area, Mohave Mountains, Arizona: Geological Society of America Abstracts with Programs, v. 14, no. 4, p. 180-181.

Light, T. D., and McDonnel, J. R., Jr., 1983, Mineral investigation of the Crossman Peak Wilderness Study Area, Mohave County, Arizona: U.S. Bureau of Mines Open-File Report, in press.

Light, T. D., Pike, J. E., Howard, K. A., McDonnell, J. R., Jr., Simpson, R. W., Raines, G. L., Knox, R. D., Wilshire, H. G., and Pernokas, M. A., 1983, Mineral resource potential of the Crossman Peak Wilderness Study Area, Mohave County, Arizona: U.S. Geological Survey Miscellaneous Field Studies Map, scale 1:48,000, in press.

McNerney, J. J., Buseck, P. R., and Hanson, R. C., 1972, Mercury detection by means of thin gold films: Science, v. 178, p. 611-612.

Nakata, J. K., 1982, Preliminary report on diking events in the Mohave Mountains, Arizona, in Frost, E. G., and Martin, D. L., 1982, Mesozoic-Cenozoic tectonic evolution of the Colorado River region, California, Arizona, and Nevada: San Diego, Cordilleran Publishers, p. 85-90.

Rehrig, W. A., and Reynolds, S. J., 1980, Geologic and geochronologic reconnaissance of a northwest-trending zone of metamorphic core complexes in southern and western Arizona, in Cordilleran metamorphic core complexes: Geological Society of America Memoir 153, p. 131-158.

Reynolds, S. J., 1981, Geologic framework of west-central Arizona: Arizona Geological Society Digest, v. 12, p. 1-16.

Vaughn, W. W., and McCarthy, J. H., Jr., 1964, An instrumental technique for the determination of submicrogram concentrations of mercury in soils, rocks, and gas, in Geological Survey Research: U.S. Geological Survey Professional Paper 501-D, p. D123-D127.

Viets, J. G., 1978, Determination of silver, bismuth, cadmium, copper, lead, and zinc in geological materials by atomic-absorption spectrometry with tricaprylylmethylammonium chloride: Analytical Chemistry, v. 50, no. 8, p. 1097-1101.

Ward, F. N., Nakagawa, H. M., Harms, T. F., and VanSickle, G. H., 1969, Atomic-absorption methods of analysis useful in geochemical exploration: U.S. Geological Survey Bulletin 1289, 45 p.