UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Analytical results and sample locality map for stream-sediment and panned-concentrate samples from the Fandango and Morey Wilderness Study Areas (NV-060-190 and NV-060-191), Nye County, Nevada

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STUDIES RELATED TO WILDERNESS

Bureau of Land Management Wilderness Study Areas

The Federal Land Policy and Management Act (Public Law 94-579, October 21, 1976) requires the U.S. Geological Survey and the U.S. Bureau of Mines to conduct mineral surveys on certain areas to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and Congress. This report presents the results of a geochemical survey of the Morey and Fandango Wilderness Study Areas, Nye County, Nevada.

INTRODUCTION

In June and July of 1984, a reconnaissance geochemical survey of the Fandango and Morey Wilderness Study Areas (NV-060-190; NV-060-191), Nye County, Nevada, was conducted. This report includes the analytical results of the survey, as well as a description of the sampling and analytical procedures used.

The conterminous Fandango and Morey Wilderness Study Areas comprise approximately 61,000 acres in north-central Nye County, Nevada, and lie approximately 100 km NE of Tonopah, Nevada (fig. 1 and plate 1). The Bureau of Land Management requested surveys of a total of 46,300 acres in the two wilderness study areas. The following discussion pertains to the 46,300-acre area. Access to the area is provided by well-maintained secondary roads north of U.S. Highway 6, from a point approximately 115 km east of Tonopah (near Palisade Mesa).

The study areas lie within the north-trending Hot Creek Range which is composed of Tertiary volcanic rocks and Paleozoic carbonate rocks. The study areas are underlain by Tertiary pyroclastic rocks that are at least 2,100 m thick (Kleinhampl and Ziony, 1984) and a complex series of imbricately-thrust Paleozoic carbonate units (D. John, U.S. Geological Survey, in prep.). In addition, the study areas lie near the western margin of the projection of the Williams Ridge-Hot Creek Valley caldron complex (Ekren and others, 1973).

The study areas are characterized by deeply-incised valleys developed in a generally rugged terrain with a topographic relief of approximately 1,500 m. Areas of higher elevation in the study area are forested by evergreen and aspen trees. Streams are generally intermittent, and most were dry at the time of sampling. The climate is arid to semi-arid.

METHODS OF STUDY

Sample Collection

Samples were collected at 98 sites, many of which were outside the of the boundaries of the Wilderness Study Areas (plate 1.) However, at least a portion of the drainage basin represented by the sample site generally extended into the the study areas. The sample density was about one site per 2.2 km^2; however, some drainage basins ranged up to 10 km^2. At nearly all of the sites, a stream-sediment sample and a heavy-mineral-concencetrate were collected. When the stream was flowing, a portion of the stream-sediment sample was panned on-site for use in the heavy-mineral concentrate. In general, most samples were panned at another location where water was available. Ninety-eight stream-sediment samples and 94 panned-concentrate samples were analyzed.

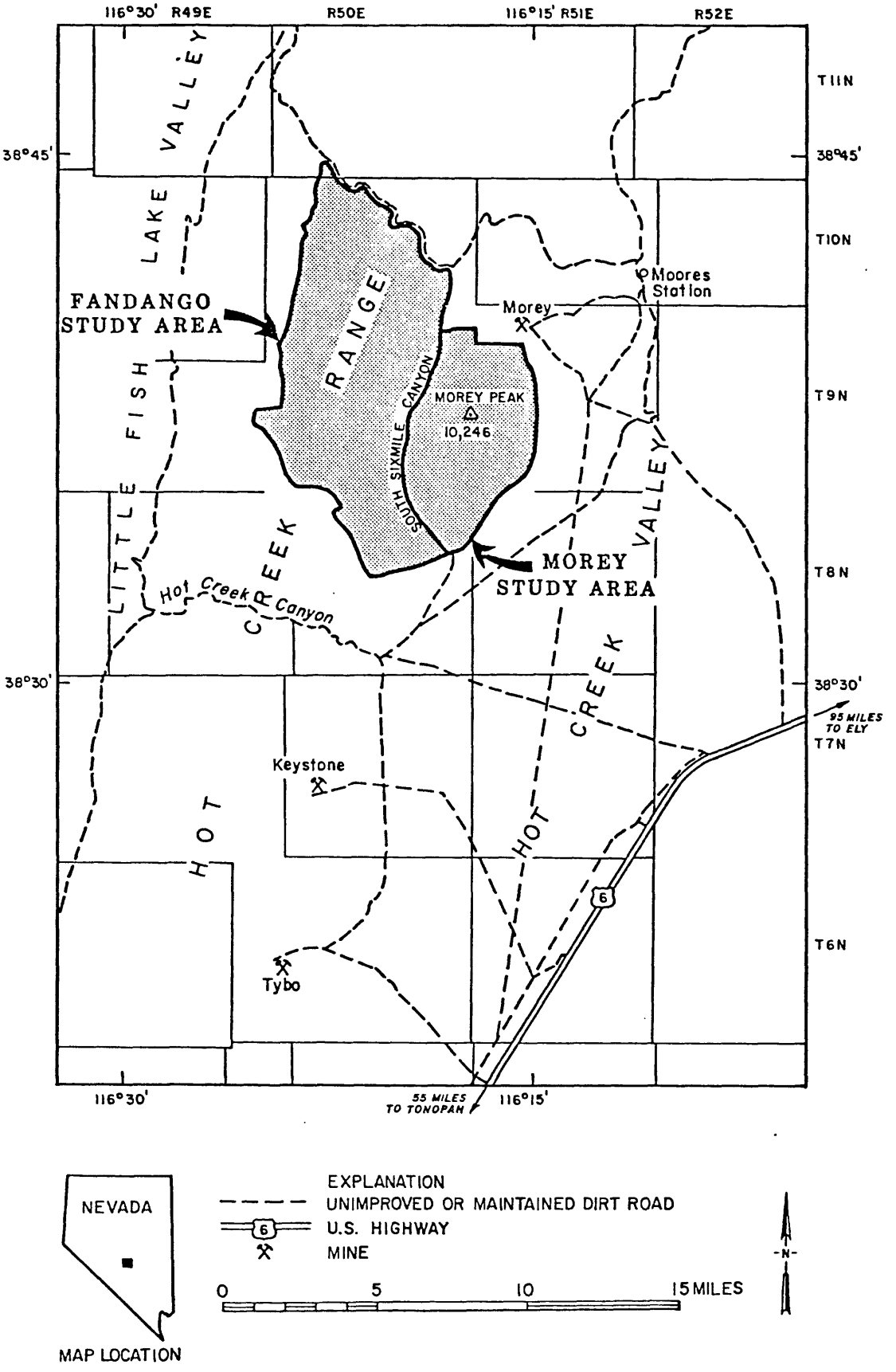

Figure 1.--Index map of the Fandango and Morey study areas, Nye County, Nevada.

Stream-sediment samples

Geochemical analyses of stream-sediment samples reflect the chemistry of the rocks in the drainage basin upstream from the sample site. The geochemical signature of the sample includes the contribution of elements adsorbed from the water, as well as mechanically-eroded and transported particulate rock or mineral material. Information of this variety is useful in identifying those basins which contain concentrations of elements that may be related to mineral deposits.

The stream-sediment samples consisted of active alluvium collected primarily from first-order (unbranched) and second-order (below the junction of two first-order) streams as shown on U.S. Geological Survey topographic maps (scale = 1:24,000). Each sample was composited from several localities within an area that might extend 5 m up or downstream.

Heavy-mineral-concentrate samples

Material for the heavy-mineral concentrate was collected from the active alluvium as described for the stream-sediment sample. Each bulk sample was passed through a 2.0-mm screen to remove coarse material. The sediment passing through the screen was panned until most of the quartz, feldspar, organic material, and clay-sized material was removed. The samples were air dried.

Sample Preparation

The stream-sediment samples were sieved at the collection site through a 10-mesh (2-mm) screen and the minus 10-mesh (2-mm) material was retained. The samples were air dried and sieved to -60 mesh (0.25 mm) using stainless steel sieves. The portion of the sediment passing through the sieve was saved for analysis.

After panning the sediment, bromoform was used to separate and remove the remaining quartz and feldspar from the heavy-mineral concentrate. The heavy minerals (specific gravity 2.8) were separated into three fractions using a large electromagnet (in this case a modified Frantz Isodynamic Separator). The most magnetic material (largely magnetite) was discarded. The second fraction (largely ferromagnesian silicates and iron oxides) was saved for archival storage. The third fraction (the least magnetic material including nonmagnetic minerals, zircon, sphene, etc.) was divided into two portions using a Jones splitter. One split was hand ground for spectrographic analysis; the other split was saved for mineralogical analysis.

The magnetic separates discussed are the same separates that would be produced by removing the magnetite with a hand magnet and then using a Frantz Isodynamic Separator set at a slope of 15° and a tilt of 10° with a current of 0.1 ampere to remove the ilmenite, and a current of 1.0 ampere to split the remainder of the sample into magnetic and nonmagnetic fractions.

Sample Analysis

Spectrographic method

Stream-sediment and heavy-mineral-concentrate samples were analyzed for 31 elements using a semiquantitative, direct-current arc emission spectrographic method (Grimes and Marranzino, 1968). Spectrographic results were obtained by visual comparison of spectra derived from the sample against spectra obtained from standards made from pure metal oxides and carbonates. Standard

concentrations are geometrically spaced over any given order of magnitude of concentration as follows: 100, 50, 20, 10, and so forth. Samples whose concentrations are estimated to fall between those values are assigned values of 70, 30, 15, and so forth. The precision of the analytical method is approximately plus or minus one reporting interval at the 83 percent confidence level and plus or minus two reporting intervals at the 96 percent confidence level (Motooka and Grimes, 1976). Values determined for the major elements (iron, magnesium, calcium, and titanium) are given in weight percent; all others are given in parts per million (micorgrams/gram) (table 1).

Chemical methods

The stream-sediment samples were analyzed by atomic absorption spectrometry for the determination of five elements (As, Bi, Cd, Sb, and Zn) that have high limits of determination by the spectrographic method. The chemical methods used are summarized in table 2.

ROCK ANALYSIS STORAGE SYSTEM

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

RESULTS

Analytical results for stream-sediment samples are listed in table 3 and the results for concentrate samples in table 4. Sample numbers listed in tables 3 and 4 correspond to sample site numbers on the sample locality map (plate 1). Geologic and geochemical interpretations of these data will be presented at a later time.

REFERENCES CITED

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Viets, J. G., 1978, Determination of silver, bismuth, cadmium, copper, lead, and zinc in geologic materials by atomic absorption spectrometry with tricaprylylmethylammonium chloride: Analytical Chemistry, v. 50, p. 1097-1101.

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

[The spectrographic limits of determination for heavy-mineral-concentrate samples are two reporting units higher than the limits given for stream sediments due to the necessity of using a 5-mg sample]

Elements	Lower determination limit	Upper determination limit
	Percent	
Iron (Fe)	0.05	20
Magnesium (Mg)	0.02	10
Calcium (Ca)	0.05	20
Titanium (Ti)	0.002	1
	Parts per million	
Manganese (Mn)	10	5,000
Silver (Ag)	0.5	5,000
Arsenic (As)	200	10,000
Gold (Au)	10	500
Boron (B)	10	2,000
Barium (Ba)	20	5,000
Beryllium (Be)	1	1,000
Bismuth (Bi)	10	1,000
Cadmium (Cd)	20	500
Cobalt (Co)	5	2,000
Chromium (Cr)	10	5,000
Copper (Cu)	5	20,000
Lanthanum (La)	20	1,000
Molybdenum (Mo)	5	2,000
Niobium (Nb)	20	2,000
Nickel (Ni)	5	5,000
Lead (Pb)	10	20,000
Antimony (Sb)	100	10,000
Scandium (Sc)	5	100
Tin (Sn)	10	1,000
Strontium (Sr)	100	5,000
Vanadium (V)	10	10,000
Tungsten (W)	50	10,000
Yttrium (Y)	10	2,000
Zinc (Zn)	200	10,000
Zirconium (Zr)	10	1,000
Thorium (Th)	100	2,000

Table 2.--Chemical methods used for analysis of stream-sediment samples
(modified from Viets, 1978)

Constituent determined	Analytical method	Determination limit micrograms/ gram or ppm
Sb	AA	2
As	AA	5
Bi	AA	1
Cd	AA	0.1
Zn	AA	5

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA

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

Sample	Latitude	Longtude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s	Be-ppm s
TFS27A02	38 39 25	116 23 40	1.5	.5	1.0	.15	700	N	N	N	50	1,000	2.0
TFS27A04	38 39 30	116 24 0	3.0	.5	1.5	.30	700	N	N	N	30	1,500	2.0
TFS27A10	38 37 30	116 25 20	3.0	.7	1.5	.20	700	N	N	N	50	1,000	2.0
TFS27B01	38 43 27	116 18 21	5.0	1.5	3.0	.20	700	<.5	N	N	100	1,500	1.0
TFS27B03	38 44 54	116 16 38	5.0	1.5	2.0	.30	1,000	.5	N	N	100	2,000	2.0
TFS27B07	38 40 8	116 18 21	5.0	1.0	1.5	.30	1,000	N	N	N	50	1,500	3.0
TFS27B09	38 38 11	116 18 45	3.0	.7	.5	.30	700	N	N	N	200	1,000	2.0
TFS27B11	38 38 15	116 19 27	5.0	1.0	2.0	.30	1,500	N	N	N	50	1,500	3.0
TFS27B13	38 42 20	116 20 25	2.0	2.0	7.0	.20	700	N	N	N	50	700	2.0
TFS27B15	38 39 40	116 15 32	3.0	.7	.7	.30	2,000	N	N	N	100	1,000	2.0
TFS27C03	38 34 5	116 18 35	3.0	1.0	3.0	.20	1,000	N	N	N	100	1,000	2.0
TFS27C04	38 34 10	116 18 20	3.0	.7	.7	.30	1,000	N	N	N	50	1,000	2.0
TFS27C06	38 35 5	116 19 15	2.0	.7	15.0	.20	700	N	N	N	50	1,000	1.5
TFS27C07	38 35 5	116 19 30	3.0	.7	2.0	.30	1,000	N	N	N	50	1,500	2.0
TFS27C12	38 37 25	116 20 25	3.0	.7	2.0	.30	1,000	N	N	N	30	1,500	1.5
TFS27C14	38 36 20	116 19 35	3.0	.2	.5	.20	1,000	N	N	N	50	700	2.0
TFS27C15	38 35 45	116 16 5	3.0	1.5	5.0	.30	1,000	.5	N	N	100	1,500	5.0
TFS27C18	38 33 55	116 21 20	2.0	.7	7.0	.20	700	N	N	N	50	1,000	1.5
TFS27C30	38 34 35	116 16 45	5.0	1.0	2.0	.30	700	N	N	N	70	1,000	2.0
TFS27C32	38 39 0	116 21 55	3.0	5.0	7.0	.15	700	N	N	N	100	500	1.5
TFS27C38	38 35 1	116 16 2	7.0	.7	1.0	.50	1,000	N	N	N	20	1,500	2.0
TFS27D01	38 36 55	116 24 12	5.0	.5	2.0	.50	1,000	N	N	N	30	1,000	1.5
TFS27D02	38 36 52	116 24 18	10.0	.5	1.5	1.00	1,500	N	N	N	20	1,000	2.0
TFS27D03	38 37 19	116 24 55	5.0	.5	2.0	.50	1,000	N	N	N	30	1,500	2.0
TFS27D04	38 32 18	116 25 56	2.0	1.5	5.0	.15	700	N	N	N	100	1,000	2.0
TFS27D06	38 32 43	116 26 36	2.0	2.0	3.0	.15	1,000	.5	N	N	50	1,000	2.0
TFS27D08	38 32 56	116 26 45	2.0	.7	1.5	.30	1,000	N	N	N	50	1,000	1.5
TFS27D10	38 33 21	116 26 50	5.0	.3	1.0	.30	1,000	N	N	N	30	1,000	2.0
TFS28A02	38 39 18	116 14 49	3.0	.5	.7	.20	700	N	N	N	70	700	2.0
TFS28A14	38 41 58	116 12 32	3.0	1.0	1.5	.15	1,000	N	N	N	70	1,500	2.0
TFS28A16	38 42 24	116 12 54	1.5	.7	1.0	.15	700	N	N	N	50	700	2.0
TFS28A18	38 41 17	116 14 47	3.0	1.0	2.0	.20	1,000	N	N	N	70	1,500	2.0
TFS28A19	38 43 48	116 11 52	2.0	.7	1.5	.15	700	N	N	N	30	1,000	2.0
TFS28A20	38 44 53	116 12 25	3.0	2.0	2.0	.20	1,000	N	N	N	70	1,000	2.0
TFS28A30	38 37 56	116 14 26	3.0	.7	1.5	.30	700	N	N	N	70	1,000	1.5
TFS28A32	38 37 38	116 14 22	5.0	1.0	1.0	.50	1,000	N	N	N	100	1,500	1.5
TFS28A34	38 38 52	116 14 46	3.0	.5	2.0	.30	700	N	N	N	100	1,000	2.0
TFS28A36	38 38 14	116 13 58	5.0	.7	1.0	.30	700	N	N	N	100	1,000	2.0
TFS28D02	38 36 54	116 14 52	5.0	.7	.7	.30	700	N	N	N	70	1,000	2.0
TFS28D04	38 37 27	116 13 42	3.0	1.5	1.5	.30	1,000	N	N	N	100	1,000	2.0
TGS27A06	38 39 38	116 22 28	7.0	.7	1.0	.50	1,500	1.0	N	N	30	1,000	1.5
TGS27A07	38 40 10	116 23 50	2.0	.7	1.0	.20	1,000	N	N	N	70	1,000	3.0
TGS27B17	38 39 30	116 22 12	3.0	.7	1.5	.20	700	N	N	N	50	1,000	2.0
TGS27B19	38 39 24	116 22 15	2.0	1.0	5.0	.50	1,000	N	N	N	10	1,500	<1.0
TNS01504	38 44 26	116 22 12	2.0	5.0	7.0	.20	1,000	N	N	N	70	5,000	3.0

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm aa	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa
TFS27A02	500	50	N	15	N	200	N	5	20	.1	N	N
TFS27A04	700	100	N	50	N	300	N	5	50	.1	1	N
TFS27A10	500	70	N	20	N	150	N	5	35	.1	N	N
TFS27B01	500	150	N	20	N	700	N	10	45	.1	N	N
TFS27B03	500	150	N	30	N	150	N	20	80	.7	N	N
TFS27B07	500	70	N	50	N	300	N	<5	50	.1	N	N
TFS27B09	200	150	N	30	N	500	N	25	80	.2	1	<2
TFS27B11	500	100	N	50	N	700	N	5	80	.2	N	<2
TFS27B13	300	100	N	30	N	200	N	20	80	.4	N	4
TFS27B15	200	70	N	20	N	300	N	30	120	.7	1	<2
TFS27C03	300	100	N	30	N	150	N	15	55	.2	N	<2
TFS27C04	300	100	N	30	N	700	N	10	60	.2	N	N
TFS27C06	700	70	N	20	N	300	N	10	40	.1	1	N
TFS27C07	500	70	N	20	N	200	N	<5	50	.1	N	<2
TFS27C12	500	70	N	30	N	1,000	N	N	35	.1	N	2
TFS27C14	200	100	N	15	N	1,000	N	10	55	.1	N	<2
TFS27C15	700	150	N	20	N	200	N	10	90	.3	N	<2
TFS27C18	500	70	N	20	N	200	N	N	30	N	N	<2
TFS27C30	500	150	N	20	N	300	N	10	60	N	<1	N
TFS27C32	200	70	N	20	N	150	N	20	50	.1	N	2
TFS27C38	500	200	N	20	N	200	N	5	85	.1	1	N
TFS27D01	500	150	N	50	N	1,000	N	N	60	.1	N	<2
TFS27D02	500	300	N	30	300	1,000	N	N	1,500	<.1	1	<2
TFS27D03	700	200	N	20	N	700	N	N	60	N	N	<2
TFS27D04	200	100	N	30	N	200	N	740	55	.2	N	4
TFS27D06	200	70	N	20	N	200	N	800	45	.1	N	18
TFS27D08	300	100	N	30	N	300	N	40	45	.1	1	3
TFS27D10	300	150	N	30	N	500	N	5	100	N	N	N
TFS28A02	200	100	N	20	N	>1,000	N	45	100	.4	N	2
TFS28A14	500	100	N	30	N	200	N	<5	50	N	N	<2
TFS28A16	300	70	N	20	N	200	N	5	60	.1	N	<2
TFS28A18	500	100	N	30	N	300	N	<5	25	.2	N	N
TFS28A19	500	100	N	15	N	150	N	10	75	.2	N	<2
TFS28A20	300	100	N	20	N	500	N	10	45	.7	N	3
TFS28A30	300	100	N	20	N	300	N	10	75	.2	N	<2
TFS28A32	300	150	N	30	N	500	N	5	70	.1	N	<2
TFS28A34	300	100	N	20	N	200	N	<5	50	.2	N	N
TFS28A36	300	150	N	20	N	200	N	5	70	.1	N	<2
TFS28D02	300	100	N	20	N	300	N	5	65	.1	N	N
TFS28D04	300	100	N	20	N	300	N	10	75	.1	N	N
TGS27A06	500	200	N	30	200	300	N	<5	180	N	N	<2
TGS27A07	500	70	N	20	N	500	N	5	30	N	<1	<2
TGS27B17	700	70	N	20	N	200	N	5	25	N	N	2
TGS27B19	1,000	70	N	20	N	200	N	5	35	N	<1	<2
TNS01504	500	100	N	20	N	200	N	10	50	.4	1	2

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s
TFS27A02	N	N	5	10	<5	70	N	N	<5	30	N	5	N
TFS27A04	N	N	7	15	7	500	N	<20	<5	30	N	7	N
TFS27A10	N	N	7	10	<5	100	N	<20	<5	30	N	5	N
TFS27B01	N	N	10	50	30	20	5	N	20	20	N	7	N
TFS27B03	N	N	15	70	50	100	10	N	30	30	N	15	N
TFS27B07	N	N	7	20	7	70	N	20	<5	50	N	10	N
TFS27B09	N	N	7	30	15	70	7	<20	7	30	N	7	N
TFS27B11	N	N	7	20	10	150	N	<20	5	50	N	10	N
TFS27B13	N	N	7	30	15	100	N	N	15	30	N	10	N
TFS27B15	N	N	7	20	10	50	N	N	<5	50	N	7	N
TFS27C03	N	N	10	20	20	70	N	<20	7	50	N	7	N
TFS27C04	N	N	10	15	20	100	N	20	5	50	N	7	N
TFS27C06	N	N	7	10	5	70	N	<20	<5	30	N	7	N
TFS27C07	N	N	7	15	<5	100	N	N	<5	50	N	7	N
TFS27C12	N	N	7	10	<5	500	N	N	<5	30	N	10	N
TFS27C14	N	N	7	15	<5	50	N	N	<5	20	N	7	N
TFS27C15	N	N	10	15	10	100	N	N	7	100	N	10	N
TFS27C18	N	N	5	10	5	70	N	N	<5	30	N	7	N
TFS27C30	N	N	10	20	10	100	N	N	5	50	N	10	N
TFS27C32	N	N	10	30	15	50	N	N	10	30	N	10	N
TFS27C38	N	N	15	20	7	150	N	N	<5	30	N	10	N
TFS27D01	N	N	7	30	5	500	N	N	<5	30	N	10	N
TFS27D02	N	N	20	30	<5	500	N	20	5	30	N	15	N
TFS27D03	N	N	10	30	<5	500	N	<20	<5	50	N	7	N
TFS27D04	N	N	7	20	15	100	N	N	10	50	N	7	N
TFS27D06	N	N	7	20	10	100	N	N	7	30	N	5	N
TFS27D08	N	N	7	20	10	70	N	20	5	30	N	7	N
TFS27D10	N	N	10	20	<5	200	N	N	<5	20	N	7	N
TFS28A02	N	N	7	10	5	70	N	N	<5	30	N	10	N
TFS28A14	N	N	7	50	20	150	N	N	7	50	N	10	N
TFS28A16	N	N	7	20	10	50	N	N	5	20	N	7	N
TFS28A18	N	N	10	30	10	100	N	N	5	50	N	10	N
TFS28A19	N	N	7	20	5	70	N	N	5	20	N	10	N
TFS28A20	N	N	15	30	15	100	7	N	20	30	N	10	N
TFS28A30	N	N	7	20	10	70	N	<20	<5	30	N	10	N
TFS28A32	N	N	10	20	10	100	N	<20	<5	30	N	10	N
TFS28A34	N	N	10	15	7	100	N	N	<5	20	N	7	N
TFS28A36	N	N	10	15	10	70	N	N	5	30	N	10	N
TFS28D02	N	N	10	15	7	150	N	N	7	30	N	10	N
TFS28D04	N	N	10	30	20	100	N	N	7	100	N	10	N
TGS27A06	N	N	15	50	5	200	N	<20	5	50	N	10	N
TGS27A07	N	N	7	20	10	70	N	<20	5	30	N	7	N
TGS27B17	N	N	7	20	10	100	N	N	5	30	N	7	N
TGS27B19	N	N	7	20	<5	200	N	N	<5	50	N	10	N
TNS01504	N	N	7	30	10	100	5	N	20	50	N	7	N

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Latitude	Longtude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s	Be-ppm s
TNS01512	38 43 18	116 20 10	1.5	10.0	15.0	.15	1,000	N	N	N	70	>5,000	1.5
TNS01513	38 43 20	116 20 14	2.0	7.0	10.0	.20	1,000	N	N	N	100	1,500	3.0
TNS01514	38 40 54	116 21 15	2.0	.5	1.5	.20	1,000	N	N	N	100	1,500	5.0
TNS01515	38 41 12	116 21 38	3.0	.7	2.0	.30	1,000	N	N	N	100	2,000	3.0
TNS01518	38 42 33	116 19 12	1.5	5.0	7.0	.15	1,000	N	N	N	100	1,500	3.0
TNS01531	38 38 18	116 18 39	5.0	1.0	10.0	.30	700	N	N	N	150	1,500	2.0
TNS01532	38 38 25	116 18 35	5.0	.7	1.0	.50	1,000	N	N	N	200	1,500	5.0
TNS01533	38 38 8	116 19 5	3.0	.5	1.5	.30	1,500	N	N	N	30	2,000	5.0
TNS01534	38 37 10	116 19 20	3.0	.7	1.0	.30	1,000	N	N	N	200	1,500	5.0
TNS01535	38 36 35	116 19 20	5.0	.7	1.5	.50	1,000	N	N	N	200	1,500	3.0
TNS01536	38 37 0	116 21 45	2.0	.5	1.5	.20	1,000	N	N	N	70	2,000	3.0
TNS01537	38 36 25	116 20 45	3.0	.5	1.5	.20	1,000	N	N	N	70	2,000	3.0
TNS01538	38 36 10	116 19 50	2.0	.5	1.0	.20	1,000	N	N	N	70	2,000	3.0
TNS01542	38 34 5	116 20 35	5.0	1.0	1.5	.30	1,500	N	N	N	100	2,000	3.0
TNS01543	38 34 5	116 20 43	3.0	.7	3.0	.20	1,000	N	N	N	50	2,000	3.0
TNS01544	38 32 10	116 21 5	3.0	1.0	2.0	.30	1,500	.7	N	N	100	1,500	5.0
TNS01548	38 39 23	116 15 16	2.0	.5	1.0	.30	1,500	N	N	N	200	1,000	3.0
TNS01574	38 41 54	116 18 57	2.0	10.0	15.0	.15	1,000	N	N	N	50	700	2.0
TNS01582	38 40 27	116 16 37	3.0	2.0	7.0	.30	2,000	N	N	N	150	1,500	5.0
TNS01596	38 42 20	116 20 20	2.0	3.0	5.0	.50	1,000	N	N	N	50	1,000	3.0
TNS01619	38 32 35	116 21 15	2.0	1.5	5.0	.20	700	N	N	N	100	1,500	2.0
TSS27A01	38 38 45	116 25 27	10.0	1.0	3.0	1.00	5,000	N	N	N	10	1,500	<1.0
TSS27A03	38 39 20	116 23 45	5.0	.7	2.0	.50	1,500	N	N	N	50	1,000	2.0
TSS27A05	38 40 45	116 23 50	2.0	.5	.5	.20	500	N	N	N	150	1,000	1.5
TSS27A09	38 42 45	116 22 48	2.0	1.0	1.0	.30	500	N	N	N	50	1,000	1.0
TSS27A10	38 43 5	116 22 45	2.0	5.0	7.0	.15	700	N	N	N	70	700	1.0
TSS27A11	38 43 22	116 22 30	2.0	5.0	7.0	.15	700	N	N	N	100	1,500	1.5
TSS27A12	38 43 50	116 22 48	2.0	7.0	10.0	.15	700	N	N	N	70	3,000	1.0
TSS27B02	38 43 52	116 18 2	1.5	.3	1.0	.10	300	N	N	N	70	1,500	1.0
TSS27B04	38 43 3	116 18 17	1.0	10.0	10.0	.07	500	N	N	N	30	300	1.0
TSS27B05	38 43 24	116 16 35	2.0	5.0	5.0	.15	500	N	N	N	30	700	1.5
TSS27B06	38 41 32	116 18 3	3.0	5.0	7.0	.20	1,000	N	N	N	50	700	2.0
TSS27B08	38 39 5	116 18 37	2.0	.5	1.5	.20	1,000	N	N	N	30	700	2.0
TSS27B10	38 38 12	116 19 33	3.0	.5	1.0	.20	1,000	N	N	N	30	1,000	3.0
TSS27B12	38 42 7	116 19 50	2.0	5.0	7.0	.15	700	N	N	N	70	300	2.0
TSS27C05	38 34 40	116 19 0	3.0	.7	.7	.20	1,000	N	N	N	100	1,000	2.0
TSS27C09	38 35 35	116 19 25	3.0	.7	1.5	.30	1,000	N	N	N	100	1,000	2.0
TSS27C10	38 35 35	116 19 45	3.0	1.0	1.0	.20	1,500	N	N	N	30	2,000	2.0
TSS27C11	38 37 25	116 20 30	3.0	.5	1.0	.15	1,000	N	N	N	20	1,000	2.0
TSS27C13	38 36 38	116 19 52	1.5	.5	1.0	.15	700	N	N	N	30	700	2.0
TSS27C16	38 35 45	116 15 55	3.0	1.0	1.0	.30	1,000	.5	N	N	50	1,000	5.0
TSS27C17	38 33 5	116 19 45	2.0	.5	10.0	.20	700	N	N	N	15	1,000	1.0
TSS27C19	38 35 15	116 21 55	5.0	1.0	1.5	.30	1,000	N	N	N	30	1,500	1.5
TSS27C20	38 35 25	116 22 5	3.0	.5	1.5	.20	1,000	N	N	N	20	1,000	2.0
TSS27C21	38 35 30	116 22 30	5.0	.7	1.5	.50	1,000	N	N	N	20	1,000	1.5

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s
TNS01512	N	N	10	70	15	30	N	N	20	50	N	7	N
TNS01513	N	N	5	50	7	300	N	N	15	50	N	7	N
TNS01514	N	N	7	15	7	70	N	<20	<5	30	N	7	N
TNS01515	N	N	7	20	5	200	N	<20	<5	50	N	7	N
TNS01518	N	N	5	50	10	150	N	N	10	50	N	5	N
TNS01531	N	N	10	20	7	50	N	N	<5	30	N	7	N
TNS01532	N	N	7	20	7	70	N	<20	<5	70	N	7	N
TNS01533	N	N	5	10	<5	>1,000	N	N	N	50	N	5	N
TNS01534	N	N	5	70	7	50	N	20	<5	50	N	5	N
TNS01535	N	N	7	15	<5	50	N	30	<5	30	N	7	N
TNS01536	N	N	5	15	5	300	N	N	<5	30	N	5	N
TNS01537	N	N	5	15	5	100	N	N	<5	30	N	5	N
TNS01538	N	N	5	10	5	50	N	<20	<5	30	N	<5	N
TNS01542	N	N	7	30	10	500	N	N	5	50	N	7	N
TNS01543	N	N	5	15	5	100	N	<20	<5	30	N	5	N
TNS01544	N	N	10	20	7	70	N	<20	5	50	N	7	N
TNS01548	N	N	5	15	5	30	N	N	<5	30	N	5	N
TNS01574	N	N	10	70	20	20	20	N	N	70	N	5	N
TNS01582	N	N	7	50	15	50	N	<20	5	70	N	10	N
TNS01596	N	N	5	30	7	150	5	N	10	50	N	7	N
TNS01619	N	N	7	50	10	100	N	N	10	30	N	5	N
TSS27A01	N	N	30	70	7	500	N	N	10	50	N	20	N
TSS27A03	N	N	10	20	7	200	10	20	10	50	N	10	N
TSS27A05	N	N	7	50	20	50	N	N	10	30	N	5	N
TSS27A09	N	N	7	15	5	200	N	N	5	30	N	7	N
TSS27A10	N	N	7	50	10	30	N	N	7	30	N	5	N
TSS27A11	N	N	7	50	15	30	N	N	7	30	N	5	N
TSS27A12	N	N	7	50	15	50	N	N	10	30	N	7	N
TSS27B02	N	N	5	15	15	70	N	N	5	<10	N	5	N
TSS27B04	N	N	5	30	10	<20	15	N	10	20	N	<5	N
TSS27B05	N	N	5	30	10	30	N	N	5	30	N	5	N
TSS27B06	N	N	7	15	7	70	N	N	<5	50	N	5	N
TSS27B08	N	N	7	<10	10	200	N	N	<5	20	N	7	N
TSS27B10	N	N	7	10	10	200	N	N	<5	30	N	7	N
TSS27B12	N	N	10	50	20	50	5	N	15	30	N	7	N
TSS27C05	N	N	7	15	10	100	N	<20	<5	50	N	10	N
TSS27C09	N	N	10	10	5	70	N	<20	5	30	N	10	N
TSS27C10	N	N	7	20	5	70	N	20	7	100	N	7	N
TSS27C11	N	N	5	<10	N	500	N	N	<5	20	N	5	N
TSS27C13	N	N	5	15	5	70	N	N	<5	30	N	5	N
TSS27C16	N	N	10	15	15	70	N	N	5	100	N	10	N
TSS27C17	N	N	7	<10	<5	20	N	N	<5	30	N	5	N
TSS27C19	N	N	10	20	10	100	N	<20	7	70	N	10	N
TSS27C20	N	N	7	10	5	200	N	N	<5	50	N	7	N
TSS27C21	N	N	10	20	5	500	N	N	<5	30	N	10	N

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm aa	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa
TNS01512	300	100	N	10	N	70	N	15	85	.1	N	<2
TNS01513	500	70	N	20	N	700	N	15	65	N	N	4
TNS01514	500	50	N	20	N	500	N	N	45	N	1	<2
TNS01515	700	70	N	30	N	200	N	N	40	.1	N	N
TNS01518	700	70	N	20	N	100	N	15	35	N	N	4
TNS01531	700	100	N	20	N	200	N	5	55	N	N	N
TNS01532	300	100	N	20	N	200	N	5	50	N	N	<2
TNS01533	700	50	N	50	N	>1,000	300	N	40	N	N	<2
TNS01534	300	70	N	20	N	500	N	10	55	N	<1	<2
TNS01535	500	100	N	20	N	300	N	10	60	N	1	N
TNS01536	500	50	N	20	N	1,000	N	N	30	N	N	N
TNS01537	500	50	N	15	N	700	N	N	30	N	N	N
TNS01538	500	50	N	20	N	500	N	N	30	N	<1	N
TNS01542	500	70	N	30	N	700	N	N	60	.1	1	<2
TNS01543	700	50	N	20	N	300	N	N	35	N	N	N
TNS01544	500	70	N	20	N	150	N	N	40	.1	1	<2
TNS01548	200	50	N	20	N	200	N	40	55	.1	1	2
TNS01574	200	70	N	20	N	70	N	20	55	.5	N	7
TNS01582	300	100	N	30	N	300	N	10	55	.2	N	N
TNS01596	300	70	N	20	N	500	N	15	70	.3	N	3
TNS01619	300	100	N	20	N	200	N	25	50	.1	1	5
TSS27A01	1,000	500	N	30	200	300	N	5	220	N	N	N
TSS27A03	500	200	N	30	N	500	N	<5	95	N	N	N
TSS27A05	200	150	N	15	N	100	N	10	60	N	N	4
TSS27A09	300	70	N	30	N	700	N	5	35	N	<1	N
TSS27A10	200	70	N	20	N	150	N	10	25	N	N	N
TSS27A11	200	70	N	15	N	100	N	5	25	N	N	N
TSS27A12	200	100	N	15	N	70	N	10	50	N	N	N
TSS27B02	500	100	N	15	N	200	N	<5	70	.1	N	N
TSS27B04	150	30	N	10	N	50	N	N	45	.1	<1	N
TSS27B05	200	70	N	20	N	100	N	N	25	.1	N	N
TSS27B06	200	70	N	20	N	300	N	N	50	.1	N	N
TSS27B08	300	50	N	20	N	150	N	N	25	N	N	N
TSS27B10	500	70	N	20	N	500	N	10	110	.3	N	N
TSS27B12	200	70	N	20	N	150	N	N	35	.2	N	<2
TSS27C05	200	100	N	30	N	200	N	N	25	.1	N	<2
TSS27C09	500	100	N	20	N	300	N	N	35	.1	N	2
TSS27C10	500	70	N	30	N	300	N	10	45	.1	1	<2
TSS27C11	500	50	N	30	N	300	N	10	50	.2	N	<2
TSS27C13	300	50	N	20	N	200	N	20	45	.4	<1	7
TSS27C16	500	150	N	20	N	500	N	5	40	.2	N	<2
TSS27C17	700	70	N	20	N	500	N	5	1,200	.1	<1	<2
TSS27C19	500	100	N	30	N	300	N	10	35	.1	N	2
TSS27C20	500	70	N	20	N	700	N	10	40	.3	<1	2
TSS27C21	500	100	N	50	N	>1,000	N	20	35	.3	N	8

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Latitude	Longtude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s	Be-ppm s
TSS27C22	38 35 35	116 22 30	5.0	.7	1.5	.30	1,000	N	N	N	20	1,000	1.5
TSS27C31	38 34 15	116 16 55	5.0	1.0	3.0	.30	1,000	N	N	N	50	1,500	1.5
TSS27D05	38 32 1	116 24 33	3.0	1.5	5.0	.20	700	N	N	N	100	1,500	2.0
TSS27D07	38 31 28	116 27 22	5.0	.5	2.0	.50	1,000	5.0	N	N	30	1,500	2.0
TSS27D09	38 31 31	116 27 20	3.0	.7	1.0	.20	1,000	N	N	N	70	1,000	2.0
TSS28A01	38 39 16	116 14 50	2.0	.3	.5	.20	700	N	N	N	70	500	1.5
TSS28A15	38 42 28	116 12 51	2.0	.7	1.5	.15	700	N	N	N	50	700	2.0
TSS28A17	38 41 22	116 14 45	3.0	1.0	2.0	.20	1,000	N	N	N	70	1,000	2.0

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s
TSS27C22	N	N	7	15	<5	700	N	N	<5	30	N	7	N
TSS27C31	N	N	10	15	10	70	5	<20	5	50	N	10	N
TSS27D05	N	N	7	20	7	50	N	N	7	30	N	7	N
TSS27D07	N	N	10	20	<5	300	10	N	7	30	N	10	N
TSS27D09	N	N	10	20	20	70	N	<20	5	50	N	10	N
TSS28A01	N	N	5	10	<5	50	N	N	<5	15	N	5	N
TSS28A15	N	N	7	15	10	70	N	N	5	30	N	10	N
TSS28A17	N	N	7	15	10	100	N	N	5	30	N	10	N

TABLE 3.--SPECTROGRAPHIC AND CHEMICAL ANALYSES OF -60 MESH (0.25 MM) STREAM-SEDIMENT SAMPLES FROM THE MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm aa	Zn-ppm aa	Cd-ppm aa	Bi-ppm aa	Sb-ppm aa
TSS27C22	500	100	N	50	N	1,000	N	5	30	N	N	N
TSS27C31	500	150	N	20	N	700	N	10	50	N	N	<2
TSS27D05	200	70	N	20	N	300	N	35	50	.2	N	N
TSS27D07	500	150	N	30	N	500	N	10	60	N	N	N
TSS27D09	500	100	N	20	N	300	N	10	45	N	N	<2
TSS28A01	200	70	N	15	N	150	N	10	85	N	<1	N
TSS28A15	300	100	N	20	N	200	N	10	35	.1	<1	2
TSS28A17	500	100	N	30	N	200	N	15	55	.1	N	3

TABLE 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA

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

Sample	Latitude	Longtude	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
TFC27A02	38 39 25	116 23 40	5.0	.50	.5	>2.00	5,000	N	N	N	100	>10,000
TFC27A04	38 41 34	116 30 0	1.0	.20	.2	1.00	500	N	N	N	20	>10,000
TFC27A10	38 37 30	116 25 20	5.0	2.00	2.0	>2.00	2,000	N	N	N	50	7,000
TFC27B01	38 43 27	116 18 21	1.5	1.00	3.0	.70	700	N	N	N	100	>10,000
TFC27B03	38 44 54	116 16 38	.5	.50	1.0	.10	300	N	N	N	<20	>10,000
TFC27B07	38 40 8	116 18 21	3.0	.50	.5	1.00	2,000	N	N	N	20	2,000
TFC27B09	38 38 11	116 18 45	3.0	.20	.5	>2.00	700	N	N	N	70	>10,000
TFC27B11	38 38 15	116 19 27	2.0	.30	1.0	>2.00	1,500	N	N	N	20	3,000
TFC27B13	38 42 20	116 20 25	1.0	3.00	5.0	.50	700	N	N	N	20	>10,000
TFC27B15	38 39 40	116 15 32	10.0	.70	.7	>2.00	5,000	N	N	N	150	2,000
TFC27C03	38 34 5	116 18 35	1.5	.15	20.0	>2.00	500	N	N	N	50	>10,000
TFC27C04	38 34 10	116 18 20	3.0	.50	1.0	>2.00	1,000	N	N	N	50	10,000
TFC27C06	38 35 5	116 19 15	.5	.05	1.0	>2.00	200	N	N	N	<20	>10,000
TFC27C07	38 35 5	116 19 30	1.0	.20	1.0	1.50	700	N	N	N	50	3,000
TFC27C12	38 37 25	116 20 25	.5	.15	.2	.50	500	N	N	N	<20	1,000
TFC27C14	38 36 20	116 19 35	1.0	.10	.5	>2.00	500	N	N	N	70	10,000
TFC27C15	38 35 45	116 16 5	2.0	.30	1.0	>2.00	1,000	N	N	N	70	>10,000
TFC27C18	38 33 55	116 21 20	2.0	.50	1.0	>2.00	1,000	N	N	N	70	>10,000
TFC27C30	38 34 35	116 16 45	5.0	.70	2.0	>2.00	1,500	N	N	N	70	10,000
TFC27C32	38 39 0	116 21 55	1.5	10.00	10.0	1.50	500	5	1,500	N	50	10,000
TFC27C38	38 35 1	116 16 2	3.0	.50	1.0	1.00	1,000	N	N	N	50	2,000
TFC27D01	38 36 55	116 24 12	1.0	.20	.7	1.00	700	N	N	N	20	1,000
TFC27D02	38 36 52	116 24 18	.5	.05	.7	.50	300	N	N	N	20	1,500
TFC27D03	38 37 19	116 24 55	1.5	.20	1.0	2.00	1,500	N	N	N	20	1,500
TFC27D04	38 32 18	116 25 56	1.5	.30	1.0	2.00	700	N	N	N	50	>10,000
TFC27D06	38 32 46	116 26 36	1.0	.30	.5	.70	1,500	N	N	N	<20	>10,000
TFC27D08	38 32 56	116 26 45	.5	.07	.7	>2.00	700	N	N	N	20	>10,000
TFC27D10	38 33 21	116 26 50	.3	.05	1.0	.50	1,000	N	N	N	20	>10,000
TFC28A02	38 39 18	116 14 49	.3	.10	.5	.10	150	7	N	N	30	10,000
TFC28A14	38 41 58	116 12 32	.5	.15	5.0	.10	200	N	N	N	20	>10,000
TFC28A16	38 42 24	116 12 54	.7	.50	2.0	>2.00	500	N	N	N	30	5,000
TFC28A19	38 43 48	116 11 52	.2	.15	1.0	.07	200	N	N	N	20	5,000
TFC28A20	38 44 53	116 12 25	.7	2.00	5.0	.50	500	N	N	N	30	>10,000
TFC28A32	38 37 38	116 14 22	1.0	.10	.2	>2.00	200	N	N	N	30	>10,000
TFC28A36	38 38 14	116 13 58	.7	.15	.2	.50	200	N	N	N	20	>10,000
TFC28D04	38 37 27	116 13 42	1.0	<.10	.3	.50	200	N	N	N	N	15,000
TGC27A06	38 39 38	116 22 28	.5	N	<.1	.15	300	N	N	N	N	>10,000
TGC27A07	38 40 10	116 23 50	2.0	.20	1.0	>2.00	1,000	N	N	N	100	>10,000
TGC27B17	38 39 30	116 22 12	5.0	1.00	.5	5.00	5,000	N	N	N	<50	3,000
TGC27B19	38 39 24	116 22 15	1.0	.20	.7	1.00	1,000	N	N	N	20	1,500
TNC01504	38 44 26	116 22 12	.5	1.00	1.0	.07	100	N	N	N	<20	>10,000
TNC01512	38 43 18	116 20 10	.5	1.50	2.0	.05	500	N	N	N	<20	>10,000
TNC01513	38 43 20	116 20 14	.5	2.00	2.0	.20	70	N	N	N	<20	>10,000
TNC01514	38 40 54	116 21 15	1.0	.10	.2	.50	300	N	N	N	20	>10,000
TNC01515	38 41 12	116 21 38	1.5	.50	1.0	>2.00	500	N	N	N	20	>10,000

TABLF 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--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
TFC27A02	10	N	N	15	N	N	2,000	N	70	<10	50
TFC27A04	10	100	N	N	N	N	700	N	N	<10	N
TFC27A10	5	N	N	15	N	N	2,000	N	100	<10	N
TFC27B01	N	N	N	N	300	N	100	N	N	N	100
TFC27B03	N	N	N	N	N	N	150	N	N	<10	N
TFC27B07	10	N	N	20	N	N	300	N	N	20	50
TFC27B09	3	N	N	N	N	N	100	N	150	10	70
TFC27B11	5	N	N	N	N	N	500	N	N	20	N
TFC27B13	5	N	N	N	N	N	150	N	N	10	500
TFC27B15	7	20	N	15	N	10	2,000	10	100	10	1,500
TFC27C03	3	N	N	N	N	N	1,000	N	200	N	100
TFC27C04	10	N	N	N	N	N	1,000	N	150	<10	500
TFC27C06	N	N	N	N	N	N	150	N	100	N	N
TFC27C07	5	N	N	10	N	N	700	N	N	10	N
TFC27C12	10	N	N	10	N	N	500	N	N	<10	N
TFC27C14	10	N	N	N	N	N	200	N	<50	<10	200
TFC27C15	20	N	N	N	N	15	1,000	N	N	<10	500
TFC27C18	7	N	N	N	N	N	700	N	150	N	200
TFC27C30	5	N	N	10	N	N	1,500	N	N	<10	100
TFC27C32	<2	N	N	N	N	N	300	N	N	N	500
TFC27C38	10	N	N	N	N	N	100	N	N	N	100
TFC27D01	15	N	N	N	N	10	500	N	N	10	N
TFC27D02	10	N	N	N	N	N	700	N	N	10	N
TFC27D03	10	N	N	N	N	N	700	N	N	10	N
TFC27D04	<2	N	N	N	N	N	150	N	<50	N	50
TFC27D06	N	N	N	N	N	N	300	N	N	N	100
TFC27D08	5	N	N	N	N	N	150	N	50	10	N
TFC27D10	7	N	N	N	N	N	200	N	N	10	N
TFC28A02	5	N	N	N	N	N	N	N	N	10	2,000
TFC28A14	5	N	N	N	N	<10	150	N	N	<10	N
TFC28A16	7	N	N	N	N	10	200	N	<50	<10	N
TFC28A19	7	N	N	N	N	N	N	N	N	10	N
TFC28A20	5	N	N	N	N	N	150	N	N	<10	700
TFC28A32	7	N	N	N	N	N	100	N	N	10	500
TFC28A36	5	N	N	N	N	N	N	N	N	10	100
TFC28D04	7	N	N	N	N	N	N	N	N	20	N
TGC27A06	2	300	N	N	N	N	150	N	N	N	N
TGC27A07	7	N	N	N	N	N	700	N	50	<10	N
TGC27B17	20	N	N	<20	N	N	5,000	N	100	20	N
TGC27B19	10	N	N	N	N	N	2,000	N	N	20	N
TNC01504	N	N	N	N	N	N	200	N	N	N	N
TNC01512	N	N	N	<10	N	N	N	N	N	20	N
TNC01513	2	N	N	N	N	N	100	N	N	20	N
TNC01514	7	N	N	N	N	N	1,500	N	N	20	N
TNC01515	5	N	N	10	N	N	1,500	N	N	30	N

TABLE 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--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
TFC27A02	N	150	N	<200	150	N	1,000	N	>2,000	200
TFC27A04	N	100	2,000	<200	100	N	1,000	N	>2,000	500
TFC27A10	N	100	N	500	200	N	1,000	N	>2,000	500
TFC27B01	N	10	N	5,000	100	N	200	N	>2,000	N
TFC27B03	N	N	N	3,000	20	N	50	N	>2,000	N
TFC27B07	N	150	N	N	150	N	1,000	N	>2,000	700
TFC27B09	N	50	N	2,000	150	N	500	N	>2,000	N
TFC27B11	N	150	N	N	100	N	1,000	N	>2,000	500
TFC27B13	N	70	150	N	150	N	700	N	>2,000	500
TFC27B15	N	50	N	500	200	N	700	N	>2,000	200
TFC27C03	N	30	N	1,000	100	N	500	N	>2,000	<200
TFC27C04	N	70	70	500	150	N	1,500	N	>2,000	300
TFC27C06	N	<10	N	5,000	50	N	100	N	>2,000	N
TFC27C07	N	150	N	N	70	N	1,000	N	>2,000	300
TFC27C12	N	100	N	N	30	N	1,000	N	>2,000	700
TFC27C14	N	150	N	N	70	N	1,000	N	>2,000	500
TFC27C15	N	70	N	1,500	200	N	1,000	2,000	>2,000	<200
TFC27C18	N	70	N	700	150	N	1,000	N	>2,000	200
TFC27C30	N	70	N	700	500	N	700	N	>2,000	1,500
TFC27C32	N	15	N	500	100	N	200	N	>2,000	N
TFC27C38	N	10	N	700	100	N	100	N	>2,000	N
TFC27D01	N	150	N	N	150	N	1,000	N	>2,000	300
TFC27D02	N	70	N	500	20	N	500	N	>2,000	200
TFC27D03	N	100	200	500	150	N	700	N	>2,000	<200
TFC27D04	N	10	N	5,000	70	N	150	N	>2,000	N
TFC27D06	3,000	<10	N	1,500	20	N	150	N	>2,000	N
TFC27D08	N	100	N	500	70	N	700	N	>2,000	200
TFC27D10	N	100	N	N	50	N	1,000	N	>2,000	200
TFC28A02	N	100	N	N	30	N	1,000	N	>2,000	200
TFC28A14	N	70	N	500	50	N	1,000	N	>2,000	<200
TFC28A16	N	100	N	N	70	N	1,000	N	>2,000	300
TFC28A19	N	70	N	500	20	N	700	N	>2,000	<200
TFC28A20	N	50	700	1,000	70	N	500	N	>2,000	<200
TFC28A32	N	100	N	N	70	N	1,000	N	>2,000	<200
TFC28A36	N	100	N	N	50	N	1,000	N	>2,000	N
TFC28D04	N	100	N	<500	50	N	1,500	N	>5,000	N
TGC27A06	500	N	700	500	20	N	150	N	>2,000	N
TGC27A07	N	70	500	500	150	N	1,000	N	>2,000	<200
TGC27B17	N	N	1,500	N	300	N	1,500	N	>5,000	1,500
TGC27B19	N	>200	N	N	150	N	1,000	N	>2,000	500
TNC01504	N	N	N	1,000	20	N	30	N	>2,000	N
TNC01512	N	N	N	2,000	30	N	N	N	1,000	N
TNC01513	N	<10	N	500	20	N	500	N	>2,000	N
TNC01514	N	50	N	N	30	N	1,000	N	>2,000	200
TNC01515	N	50	30	N	70	N	1,000	N	>2,000	<200

TABLE 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Latitude	Longtude	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
TNC01518	38 42 33	116 19 12	2.0	10.00	7.0	.70	500	N	N	N	20	>10,000
TNC01531	38 38 18	116 18 39	5.0	.15	.5	>2.00	300	N	N	N	70	>10,000
TNC01532	38 38 25	116 18 35	10.0	.50	.3	>2.00	500	N	N	N	50	>10,000
TNC01533	38 38 8	116 19 5	.7	.05	.5	1.00	200	N	N	N	20	500
TNC01534	38 37 10	116 19 20	5.0	.20	.5	>2.00	500	N	N	N	50	>10,000
TNC01535	38 36 35	116 19 20	3.0	.50	.3	>2.00	300	N	N	N	50	>10,000
TNC01536	38 37 0	116 21 45	1.5	.20	.5	.20	700	N	N	N	20	10,000
TNC01537	38 36 25	116 20 45	1.5	.20	.5	2.00	300	N	N	N	20	10,000
TNC01538	38 36 10	116 19 50	5.0	.70	1.0	>2.00	1,000	N	N	N	70	3,000
TNC01542	38 34 5	116 20 35	1.5	.15	.5	1.50	700	N	N	N	20	5,000
TNC01543	38 34 5	116 20 43	2.0	.15	.5	>2.00	1,500	N	N	N	30	1,500
TNC01544	38 32 10	116 21 5	7.0	.70	2.0	>5.00	N	N	N	N	150	1,500
TNC01548	38 39 23	116 15 16	5.0	.15	2.0	>2.00	1,000	N	N	N	70	>10,000
TNC01574	38 41 54	116 18 57	2.0	1.50	7.0	.50	700	N	N	N	50	>10,000
TNC01582	38 40 27	116 16 37	3.0	1.50	2.0	>2.00	700	10	700	N	20	5,000
TNC01596	38 42 20	116 20 20	.7	.70	1.0	.50	150	N	N	N	20	>10,000
TNC01619	38 32 35	116 21 40	1.0	1.50	10.0	1.50	200	N	N	N	50	>10,000
TSC27A01	38 38 45	116 25 27	.5	.10	1.5	.20	500	N	N	N	20	2,000
TSC27A03	38 39 20	116 23 45	.7	.10	.5	.50	500	N	N	N	20	2,000
TSC27A05	38 40 45	116 23 50	1.0	.05	.2	.20	300	N	N	N	N	>10,000
TSC27A09	38 42 40	116 22 48	1.5	.50	.5	.70	500	N	N	N	<20	>10,000
TSC27A10	38 43 5	116 22 45	.2	.20	1.0	.05	70	N	N	N	<20	>10,000
TSC27A11	38 43 22	116 22 30	1.0	1.00	2.0	.07	300	N	N	N	100	>10,000
TSC27A12	38 43 50	116 22 40	.7	.10	.2	.07	150	N	N	N	20	>10,000
TSC27B02	38 43 52	116 18 2	2.0	.10	1.0	.50	1,000	N	N	N	70	>10,000
TSC27B04	38 43 3	116 18 17	1.0	5.00	10.0	.20	500	N	N	N	150	>10,000
TSC27B05	38 43 24	116 16 35	1.0	5.00	5.0	.50	1,000	N	N	N	50	>10,000
TSC27B06	38 41 32	116 18 3	1.0	7.00	3.0	.20	2,000	N	N	N	20	5,000
TSC27B08	38 39 5	116 18 37	1.0	.20	1.0	1.00	1,500	N	N	N	30	5,000
TSC27B10	38 38 12	116 19 33	.5	<.05	.3	.20	300	N	N	N	<20	1,500
TSC27B12	38 42 7	116 19 50	5.0	15.00	10.0	.50	1,000	N	N	N	70	2,000
TSC27C05	38 34 40	116 19 0	1.5	.20	5.0	>2.00	1,000	N	N	N	50	>10,000
TSC27C09	38 35 35	116 19 25	1.0	.15	2.0	>2.00	500	N	N	N	50	>10,000
TSC27C10	38 35 35	116 19 45	7.0	2.00	2.0	>5.00	3,000	N	N	N	100	7,000
TSC27C11	38 37 25	116 20 30	2.0	.30	.2	1.50	1,500	N	N	N	20	3,000
TSC27C13	38 36 38	116 19 52	1.0	.20	.3	2.00	700	N	N	N	30	2,000
TSC27C16	38 35 45	116 15 55	10.0	.50	15.0	>2.00	10,000	15	2,000	N	100	2,000
TSC27C17	38 33 5	116 19 45	1.0	.20	1.0	>2.00	700	N	N	N	50	10,000
TSC27C19	38 35 15	116 21 55	1.0	.15	.2	2.00	500	N	N	N	<20	10,000
TSC27C20	38 35 25	116 22 5	1.5	.10	.2	1.00	1,000	N	N	N	20	1,500
TSC27C21	38 35 30	116 22 30	.2	N	.2	1.00	200	N	N	N	20	2,000
TSC27C22	38 35 35	116 22 30	.5	<.05	.5	.50	500	N	N	N	<20	700
TSC27C31	38 34 15	116 16 55	5.0	.50	20.0	>2.00	1,500	N	N	N	100	1,000
TSC27D05	38 32 1	116 24 33	1.5	1.00	1.0	2.00	500	N	N	N	20	>10,000
TSC27D07	38 31 28	116 27 22	1.0	.05	1.0	1.00	1,000	N	N	N	<20	>10,000

TABLE 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--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
TNC01518	N	N	N	<10	N	15	>2,000	10	N	20	100
TNC01531	2	N	N	15	N	<10	1,000	N	N	20	30
TNC01532	3	N	N	20	N	20	1,000	15	N	15	100
TNC01533	N	N	N	<10	N	N	1,000	N	N	20	N
TNC01534	3	N	N	15	N	<10	500	20	100	N	200
TNC01535	3	N	N	10	N	N	2,000	10	100	15	50
TNC01536	10	N	N	N	N	N	>2,000	N	N	30	N
TNC01537	5	N	N	<10	N	15	2,000	N	N	20	N
TNC01538	5	N	N	10	N	N	2,000	<10	N	15	100
TNC01542	2	N	N	N	N	N	300	N	N	20	100
TNC01543	3	N	N	N	N	N	700	N	N	30	N
TNC01544	5	50	100	20	50	20	700	20	150	20	100
TNC01548	2	N	N	10	150	<10	500	N	70	20	50
TNC01574	N	N	N	<10	N	<10	200	30	N	50	1,500
TNC01582	2	200	N	15	N	N	500	N	<50	15	2,000
TNC01596	5	N	N	N	N	N	300	N	N	30	100
TNC01619	<2	N	N	<10	N	<10	300	N	N	15	20
TSC27A01	3	N	N	N	N	N	500	N	N	N	N
TSC27A03	7	N	N	N	N	N	500	N	N	N	N
TSC27A05	N	N	N	N	N	<10	<50	N	N	<10	N
TSC27A09	7	N	N	N	N	N	2,000	N	N	<10	300
TSC27A10	N	N	N	N	N	N	N	N	N	N	N
TSC27A11	<2	N	N	N	N	15	<50	N	N	20	50
TSC27A12	N	N	N	N	N	<10	N	N	N	N	N
TSC27B02	N	N	N	N	100	10	200	N	N	10	N
TSC27B04	N	N	N	N	20	N	150	20	N	10	200
TSC27B05	5	N	N	N	N	N	200	N	N	20	1,500
TSC27B06	5	N	N	N	N	N	300	N	N	10	2,000
TSC27B08	3	1,000	N	N	N	N	2,000	N	N	20	N
TSC27B10	3	N	N	N	N	N	150	N	N	20	N
TSC27B12	<2	N	N	N	N	10	200	<10	N	30	150
TSC27C05	7	N	N	N	N	N	1,500	N	150	<10	100
TSC27C09	5	N	N	N	N	N	500	N	200	N	70
TSC27C10	7	50	100	20	50	20	2,000	20	300	20	50
TSC27C11	5	N	N	N	N	N	2,000	N	N	<10	N
TSC27C13	7	N	N	N	N	15	200	N	N	<10	N
TSC27C16	70	N	N	20	N	50	2,000	20	70	N	20,000
TSC27C17	5	N	N	N	N	N	150	N	N	<10	N
TSC27C19	3	N	N	N	N	N	200	N	N	<10	N
TSC27C20	10	N	N	N	N	N	1,000	N	N	<10	N
TSC27C21	5	N	N	10	N	N	200	N	N	<10	N
TSC27C22	7	N	N	N	N	N	300	N	N	10	N
TSC27C31	5	N	N	N	N	N	1,500	N	50	N	300
TSC27D05	<2	N	N	N	N	N	100	N	50	<10	50
TSC27D07	<2	N	N	N	N	N	500	N	<50	N	50

TABLE 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--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
TNC01518	N	N	N	N	70	N	300	N	>2,000	N
TNC01531	N	N	N	2,000	150	N	500	N	>2,000	700
TNC01532	N	N	N	500	150	N	1,000	N	>2,000	N
TNC01533	N	50	N	N	20	N	1,500	N	>2,000	<200
TNC01534	N	<10	700	<200	150	N	700	N	>2,000	N
TNC01535	N	N	300	3,000	100	N	700	N	>2,000	<200
TNC01536	N	50	500	N	50	N	1,000	N	>2,000	200
TNC01537	N	70	N	N	70	N	1,000	N	>2,000	<200
TNC01538	N	70	N	N	100	N	1,000	N	>2,000	N
TNC01542	N	20	N	N	30	N	1,000	N	>2,000	N
TNC01543	N	<10	N	N	70	N	1,500	N	>2,000	N
TNC01544	500	20	50	500	200	N	300	N	>5,000	500
TNC01548	N	N	N	2,000	150	N	1,000	N	>2,000	N
TNC01574	1,000	N	N	500	1,000	N	200	5,000	>2,000	N
TNC01582	N	<10	N	N	100	N	700	N	>2,000	N
TNC01596	300	20	N	N	100	N	1,000	N	>2,000	<200
TNC01619	3,000	<10	N	500	100	N	700	N	>2,000	N
TSC27A01	N	15	200	1,000	20	N	200	N	>2,000	<200
TSC27A03	N	30	N	700	20	N	300	N	>2,000	N
TSC27A05	N	N	N	1,000	30	N	70	N	>2,000	N
TSC27A09	N	50	N	500	70	N	1,000	N	>2,000	300
TSC27A10	N	N	N	2,000	20	N	20	N	2,000	N
TSC27A11	N	N	N	2,000	150	N	70	N	2,000	N
TSC27A12	N	N	100	1,000	20	N	<20	N	700	N
TSC27B02	N	N	N	>10,000	100	N	100	N	>2,000	N
TSC27B04	700	N	N	500	30	N	150	N	>2,000	N
TSC27B05	N	50	N	<200	100	<100	700	N	>2,000	<200
TSC27B06	N	50	N	N	70	N	700	N	>2,000	300
TSC27B08	N	150	N	N	100	N	1,000	N	>2,000	700
TSC27B10	N	150	N	N	20	N	1,000	N	>2,000	300
TSC27B12	N	20	N	500	100	N	200	N	>2,000	N
TSC27C05	N	70	N	<200	150	N	1,000	N	>2,000	200
TSC27C09	N	50	N	2,000	150	N	500	N	>2,000	<200
TSC27C10	500	30	50	500	300	N	500	N	>1,000	500
TSC27C11	N	70	N	N	100	N	700	N	>2,000	500
TSC27C13	N	100	N	N	70	N	1,000	N	>2,000	500
TSC27C16	N	30	500	1,500	150	N	500	1,500	>2,000	<200
TSC27C17	N	70	N	500	70	N	1,000	N	>2,000	<200
TSC27C19	N	200	N	N	100	N	1,000	N	>2,000	200
TSC27C20	N	200	300	N	100	N	1,000	N	>2,000	1,000
TSC27C21	N	150	N	N	50	N	1,000	N	>2,000	<200
TSC27C22	N	70	N	N	50	N	1,000	N	>2,000	300
TSC27C31	N	30	N	1,000	150	N	500	N	>2,000	N
TSC27D05	N	10	N	3,000	50	N	150	N	>2,000	N
TSC27D07	N	30	N	5,000	20	N	300	N	>2,000	N

TABLE 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Latitude	Longtude	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
TSC27D09	38 31 31	116 27 20	.7	.10	.7	>2.00	300	N	N	N	20	>10,000
TSC28A01	38 39 16	116 14 50	.5	.15	2.0	.70	150	N	N	N	100	>10,000
TSC28A15	38 42 28	116 12 51	.7	.15	2.0	.20	500	N	N	N	20	>10,000
TSC28A17	38 44 12	116 14 45	.3	.10	1.0	.20	200	N	N	N	<50	>10,000

TABLE 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--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
TSC27D09	5	N	N	N	N	N	200	N	100	N	<20
TSC28A01	3	N	N	N	N	20	N	N	N	10	300
TSC28A15	5	N	N	N	N	15	150	N	N	<10	N
TSC28A17	N	N	N	N	N	N	100	N	N	N	50

TABLE 4.--SPECTROGRAPHIC ANALYSES OF THE NONMAGNETIC FRACTION OF HEAVY-MINERAL CONCENTRATES FROM STREAM-SEDIMENT SAMPLES, MOREY AND FANDANGO WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--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
TSC27D09	N	30	N	500	70	N	300	N	>2,000	N
TSC28A01	N	100	N	1,000	50	N	1,000	N	>2,000	N
TSC28A15	N	50	N	3,000	50	N	700	N	>2,000	<200
TSC28A17	N	15	N	5,000	<20	N	200	N	>2,000	N