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**Analytical results and sample locality map for stream-sediment
and panned-concentrate samples from the Palisade Mesa and
The Wall Wilderness Study Areas (NV-060-142/162 and NV-060-163),
Nye County, Nevada**

By

D. F. Siems, J. D. Sharkey,
and R. E. Tucker

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

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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 Palisade Mesa and The Wall Wilderness Study Areas, Nye County, Nevada.

INTRODUCTION

In July and August of 1984 a reconnaissance geochemical survey was conducted to provide input into the assessment of the mineral potential of the Palisade Mesa (NV-060-0142/162) and The Wall (NV-060-163) Wilderness Study Areas, Nye County, Nevada. The conterminous parts of Palisade Mesa and The Wall Study Areas that are considered by BLM to be preliminarily suitable for wilderness comprise 66,110 and 30,320 acres, respectively. The center of the two study areas lies approximately 110 km ENE of Tonopah, Nevada, in eastern Nye County (Plate 1). Access to vicinity of the study areas is provided by U.S. 6 on the western and northern edges of the study areas and by Nevada 25 on the southern edge. The study areas referred to throughout this report only refer to the preliminarily suitable acres mentioned above.

The bedrock geology of the study areas has been described in detail by Snyder and others (1972) and Ekren and others (1972). A relatively flat-lying sequence of ash-flow tuffs of Tertiary age and Quaternary-age basalt flows underlies most of the study area. This sequence is interpreted to be up to 1,500-m thick. High-angle normal faults are common in the study area, with the greatest displacements along range fronts.

The topographic relief in the study areas is about 800 m. The study areas consist of large, dissected mesas with relatively flat tops, surrounded by steep escarpments. The higher parts of these mesas locally support scattered groves of desert cedar and juniper trees. The climate is arid to semiarid.

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METHODS OF STUDY

Sample Collection

Samples were collected at 106 sites (plate 1). At all of the sites, a stream sediment and a heavy-mineral (panned) concentrate were collected. In addition, multiple samples were taken at eight areas to assess variability in sampling and analysis; in these areas two nearby localities were sampled (samples have suffixes "CD" and "SD"), and a split taken of one ("SD") to yield a replicate (with suffix "XD"). In all, 116 stream-sediment samples and 114 panned-concentrate samples were analyzed from the 106 sites, giving an

average sampling density of approximately one sample per 4.0 km². However, some drainage basins were as large as 10 km².

Stream-sediment samples

Concentrations of the elements determined by the chemical analysis of the stream sediments represent the contribution of physically transported material (rock and mineral) along with elements adsorbed from the aqueous environment by the sediments. Information on the distribution and concentrations of elements in the stream sediments is useful in identifying those basins 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 USGS topographic maps (scale = 1:24,000). The streams were generally dry at the time of sampling. Each sample was composited from several localities within the general sampling site as plotted on the map.

Heavy-mineral-concentrate samples

Heavy-mineral-concentrate samples were panned from the same active alluvium as the stream-sediment samples. Each bulk sample was passed through a 2.0-mm screen to remove coarse material. The samples were then bagged and transported to a site with available water for panning. 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 then air dried.

Sample Preparation

The stream-sediment samples were sieved at the collection site through a 2.0-mm screen and the minus 2.0-mm material was retained. The samples were air dried and sieved to minus 0.25 mm using stainless steel sieves. The portion of the sediment passing through the sieve was split and a representative fraction 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 modified Frantz Isodynamic Separator. The most magnetic material, largely magnetite, was discarded. The second fraction, largely ferromagnesian silicates and iron oxides, was saved for analysis/archival storage. The third fraction, the least magnetic material including nonmagnetic minerals, zircon, sphene, etc., was divided into two splits 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 0.6 amp.

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) (table 3). Spectrographic results were obtained by visual comparison of spectra derived from the sample against spectra obtained from standards made from pure oxides and carbonates. Standard concentrations are geometrically spaced over any given order of magnitude of concentration as follows: 100, 50, 20, 10, and so forth. Samples whose concentrations are estimated to fall between those values are assigned values of 70, 30, 15, and so forth. The precision of the analytical method is approximately plus or minus one reporting interval at the 83 percent confidence level and plus or minus two reporting intervals at the 96 percent confidence level (Motooka and Grimes, 1976). Values determined for the major elements (iron, magnesium, calcium, and titanium) are given in weight percent; all others are given in parts per million (micrograms/gram) (table 1).

Chemical methods

The wet chemical method used on samples from the Palisade Mesa and The Wall Wilderness Study Areas is that of Viets and others (1984). These wet chemical analyses were performed only on the stream-sediment samples. The limits of determination in parts per million (ppm) are: Sb = 2, As = 10, Bi = 1, Cd = 0.1, and Zn = 5.

ROCK ANALYSIS STORAGE SYSTEM

Upon completion of all analytical work, the analytical results were entered into a computer-based file called Rock Analysis Storage System (RASS). This data base contains both descriptive geological information and analytical data. Any or all of this information may be retrieved and converted to a binary form (STATPAC) for computerized statistical analysis or publication (VanTrump and Miesch, 1976).

DESCRIPTION OF DATA TABLES

Tables 2-3 list the analyses for the samples of stream sediment and heavy-mineral concentrate. For the two tables, the data are arranged so that column 1 contains the USGS-assigned sample numbers. These numbers correspond to the numbers shown on the site location maps (plate 1). Columns in which the element headings show the letter "s" below the element symbol are emission spectrographic analyses; "aa" indicates atomic absorption analyses. A letter "N" in the tables indicates that a given element was looked for but not detected at the lower limit of determination shown for that element in table 1. If an element was observed but was below the lowest reporting value, a "less than" symbol (<) was entered in the tables in front of the lower limit of determination. If an element was observed but was above the highest reporting value, a "greater than" symbol (>) was entered in the tables in front of the upper limit of determination. Because of the formatting used in the computer program that produced tables 2 and 3, some of the elements listed in these tables (Fe, Mg, Ca, Ti, Ag, and Be) carry one or more nonsignificant

digits to the right of the significant digits. The analysts did not determine these elements to the accuracy suggested by the extra zeros. Many elements analyzed are not included in the data tables because there were no detectable levels for these elements in any sample. The elements, As, Au, Cd, Sn, W, and Th are omitted from Table 2; As, Au, Bi, Cd, Mo, W, and Zn are omitted from Table 3.

REFERENCES CITED

- Ekren, E. B., Hinrichs, E. N., and Dixon, G. L., 1972, Geologic map of The Wall quadrangle, Nye County, Nevada: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-719 (scale 1:48,000).
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- Motooka, J. M., and Grimes, D. J., 1976, Analytical precision of one-sixth order semiquantitative spectrographic analyses: U.S. Geological Survey Circular 738, 25 p.
- Snyder, R. P., Ekren, E. B., and Dixon, G. L., 1972, Geologic map of the Lunar Crater quadrangle, Nye County, Nevada: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-700 (scale 1:48,000).
- VanTrump, George, Jr., and Miesch, A. T., 1976, The U.S. Geological Survey RASS-STATPAC system for management and statistical reduction of geochemical data: Computers and Geosciences, v. 3, p. 475-488.
- Viets, John G., O'Leary, Richard M., and Clark, J. Robert, 1984, Determination of arsenic, antimony, bismuth, cadmium, copper, lead, molybdenum, silver, and zinc in geologic materials by atomic absorption spectrometry: Analyst, v. 109, p. 1589-1592.

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

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL 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	Longitude	Fe-pct. S	Mg-pct. S	Ca-pct. S	Ti-pct. S	Mn-ppm S	Ag-ppm S	B-ppm S	Ba-ppm S	Be-ppm S
LC01S	38 27 14	116 7 55	5	.7	1.5	.30	1,000	N	20	500	1.0
LC02S	38 26 34	116 7 46	7	.5	1.0	.30	1,000	N	30	700	1.0
LC03S	38 25 47	116 7 43	5	.7	1.0	.20	1,000	N	50	1,000	2.0
LC04S	38 24 48	116 8 10	7	.7	1.5	.20	1,000	N	30	1,000	1.0
LC05S	38 24 47	116 8 8	3	.7	1.0	.20	700	N	30	1,000	1.0
LC06S	38 23 43	116 5 5	5	2.0	1.0	.30	1,000	N	50	700	1.0
LC07S	38 23 45	116 5 8	5	3.0	1.5	.20	1,000	N	20	700	1.0
LC08S	38 15 0	116 4 27	7	2.0	1.5	.30	1,500	N	30	1,000	1.0
LC09S	38 18 44	116 3 39	5	2.0	2.0	.30	1,000	N	30	1,000	1.0
LC10S	38 17 7	116 2 35	7	1.0	1.0	.20	1,000	N	20	700	2.0
LC11S	38 17 57	116 1 6	10	1.0	1.0	.30	1,000	N	20	500	1.5
LC12S	38 23 27	116 11 22	3	.7	1.0	.15	700	N	30	1,000	2.0
LC13S	38 25 54	116 10 0	7	1.0	1.5	.30	1,000	N	20	700	1.5
LC14S	38 26 27	116 9 34	5	1.0	1.5	.30	1,500	N	30	1,000	2.0
LC15S	38 27 43	116 8 59	5	1.0	1.5	.20	1,000	N	20	1,000	1.5
LC16SSD	38 27 27	116 9 20	7	1.0	1.0	.20	1,000	N	20	500	1.5
LC17SSD	38 27 26	116 9 19	5	1.0	2.0	.20	1,000	N	20	1,000	1.0
LC17SXD	38 27 26	116 9 19	5	1.0	1.0	.30	1,000	N	30	700	1.5
LC18S	38 24 7	116 7 14	7	2.0	1.5	.70	1,000	N	20	700	1.5
LC19S	38 22 9	116 5 33	10	2.0	1.0	.50	1,000	N	30	700	1.0
LC20S	38 21 15	116 6 26	10	1.5	1.5	.50	1,500	N	10	500	<1.0
LC21S	38 20 43	116 7 3	5	1.0	1.0	.20	1,000	N	20	1,000	1.0
LC22S	38 20 52	116 7 48	5	1.5	1.5	.20	1,000	N	20	700	1.0
LC23S	38 22 1	116 3 55	5	2.0	1.5	.50	1,500	N	20	700	1.0
LC24S	38 21 35	116 5 37	7	1.5	1.5	.30	1,000	N	50	500	1.0
LC25S	38 21 33	116 3 36	5	2.0	1.0	.30	1,000	N	30	700	1.0
LC26S	38 21 17	116 3 10	7	2.0	2.0	.50	1,000	N	20	700	1.0
LC27S	38 19 58	116 3 14	5	1.5	1.5	.30	1,000	N	30	700	1.0
LC28SCD	38 20 0	116 3 13	10	1.5	1.5	.50	1,500	N	10	300	1.0
LC29SSD	38 20 2	116 3 14	15	1.0	1.0	.50	1,500	N	N	500	<1.0
LC29SXD	38 20 2	116 3 14	15	1.5	3.0	.70	2,000	N	10	700	<1.0
LC30S	38 20 10	116 2 24	10	1.5	1.5	.50	1,500	N	30	700	1.0
LC31S	38 20 23	116 2 27	5	1.5	1.5	.20	700	N	50	1,000	1.0
LC32S	38 18 3	116 4 23	7	1.5	1.5	.50	1,000	N	50	1,000	2.0
LC33S	38 18 29	116 3 54	10	1.0	1.0	.70	1,000	N	20	500	1.5
LC34S	38 15 17	116 4 35	3	1.0	1.0	.20	1,000	N	70	700	3.0
LC35S	38 15 17	116 4 34	3	1.0	1.0	.20	1,000	N	50	700	2.0
LC36S	38 14 47	116 3 48	7	1.5	1.0	.30	1,000	N	30	1,000	1.5
LC37S	38 16 6	116 3 27	5	1.5	1.0	.30	1,000	N	50	1,000	1.5
LC38S	38 16 45	116 3 17	7	2.0	1.0	.50	1,500	N	20	700	1.0
LC39S	38 16 17	116 1 36	7	1.5	1.5	.30	1,000	N	50	1,000	1.5
LC40S	38 15 44	116 2 3	10	1.0	1.0	.50	1,500	N	10	500	1.5
LC41S	38 16 20	116 2 23	10	1.5	2.0	.50	1,500	N	10	500	1.0
LC42SSD	38 16 10	116 2 20	20	1.0	.7	1.00	2,000	N	N	300	N
LC43SSD	38 16 10	116 2 21	10	1.0	1.0	.50	1,500	N	15	700	<1.0

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Co-ppm S	Cr-ppm S	Cu-ppm S	La-ppm S	Mo-ppm S	Nb-ppm S	Ni-ppm S	Pb-ppm S	Sc-ppm S	Sr-ppm S
LC01S	15	30	5	50	N	N	<5	30	7	500
LC02S	20	30	5	500	N	N	5	20	10	500
LC03S	10	20	15	200	N	<20	7	30	10	500
LC04S	7	30	5	50	N	N	5	20	10	700
LC05S	7	15	5	50	N	N	<5	20	7	500
LC06S	30	70	20	30	N	N	100	30	10	500
LC07S	30	100	15	50	N	N	100	30	10	500
LC08S	50	100	30	50	N	20	100	30	15	500
LC09S	30	70	20	100	N	<20	50	30	15	700
LC10S	20	20	7	50	N	N	5	20	10	500
LC11S	30	50	5	100	N	N	5	20	7	500
LC12S	5	10	<5	30	N	N	<5	50	7	500
LC13S	15	30	<5	100	N	N	5	30	7	500
LC14S	30	50	10	70	N	<20	7	50	10	500
LC15S	10	30	5	150	N	N	5	50	10	500
LC16SCD	15	30	5	200	N	N	5	30	10	500
LC17SSD	10	50	<5	50	N	N	<5	50	10	500
LC17SXD	10	30	<5	200	N	N	5	20	10	500
LC18S	30	70	30	70	N	30	50	30	15	700
LC19S	20	70	30	100	N	20	70	30	10	500
LC20S	50	50	5	100	N	N	5	20	15	500
LC21S	20	20	10	50	N	N	5	30	10	700
LC22S	15	20	7	100	N	N	<5	30	10	700
LC23S	30	100	20	50	N	<20	70	50	15	500
LC24S	20	70	20	70	N	20	50	30	15	500
LC25S	30	100	20	70	N	<20	70	30	10	500
LC26S	30	100	20	50	N	<20	70	20	15	500
LC27S	15	70	15	50	N	<20	10	30	10	500
LC28SCD	20	30	<5	50	N	N	7	20	15	500
LC29SSD	50	70	<5	70	N	N	7	15	10	300
LC29SXD	70	50	5	70	N	N	10	20	15	700
LC30S	30	30	7	100	N	<20	7	20	20	500
LC31S	15	70	20	100	N	<20	50	30	10	500
LC32S	20	20	7	300	N	20	7	30	10	700
LC33S	50	30	7	70	N	20	7	20	15	500
LC34S	10	30	15	50	N	20	10	50	7	300
LC35S	7	20	15	50	N	N	7	30	10	500
LC36S	15	20	7	30	N	N	5	20	10	500
LC37S	10	20	10	50	N	20	5	30	10	500
LC38S	30	30	5	100	N	20	7	30	15	500
LC39S	20	20	7	70	N	N	5	30	15	700
LC40S	30	30	5	50	N	N	5	15	15	500
LC41S	20	30	5	30	N	N	<5	20	15	700
LC42SCD	50	100	5	70	N	N	10	10	10	300
LC43SSD	30	30	<5	50	N	N	5	20	15	500

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	V-ppm S	Y-ppm S	Zn-ppm S	Zr-ppm S	As-ppm aa	Zn-ppm aa	Cd-ppm aa	Sb-ppm aa	Bi-ppm aa
LC01S	200	15	N	150	N	85	N	N	N
LC02S	300	20	<200	200	N	130	.1	N	N
LC03S	100	30	N	200	N	55	N	N	N
LC04S	100	20	N	300	N	50	N	N	N
LC05S	100	15	N	150	N	65	.1	N	N
LC06S	150	15	N	200	N	45	.2	N	N
LC07S	150	15	N	200	N	45	N	N	N
LC08S	150	20	N	200	N	50	.2	N	N
LC09S	150	20	N	500	N	40	N	N	N
LC10S	300	20	200	200	N	70	N	N	N
LC11S	300	20	300	300	N	50	N	N	N
LC12S	70	20	N	500	N	35	N	N	N
LC13S	300	20	N	100	N	95	N	N	N
LC14S	150	20	N	200	N	40	N	N	N
LC15S	200	20	N	200	N	40	N	N	N
LC16SCD	200	20	N	300	N	70	N	N	N
LC17SSD	200	20	N	300	N	40	N	N	N
LC17SXD	300	15	N	200	N	45	N	N	N
LC18S	200	20	N	300	N	55	.1	N	N
LC19S	150	20	N	200	N	50	N	N	N
LC20S	500	30	500	300	N	100	N	N	N
LC21S	200	20	N	200	N	40	N	N	N
LC22S	150	20	N	200	N	35	.1	N	N
LC23S	150	30	N	300	N	55	N	N	N
LC24S	150	20	N	200	N	50	.2	N	N
LC25S	100	20	N	200	N	60	N	N	N
LC26S	150	20	N	200	N	55	N	N	N
LC27S	100	20	N	200	N	55	N	N	N
LC28SCD	300	30	500	200	N	35	.1	N	N
LC29SSD	700	30	1,000	300	N	50	N	N	N
LC29SXD	700	30	1,000	300	N	55	N	N	N
LC30S	300	30	300	500	N	30	.1	N	N
LC31S	100	30	N	150	N	40	N	N	N
LC32S	150	30	N	300	N	45	N	N	N
LC33S	300	30	300	500	N	85	N	N	N
LC34S	70	20	N	200	N	45	.1	N	N
LC35S	100	20	N	150	N	55	.1	N	N
LC36S	200	20	<200	200	N	55	N	N	N
LC37S	100	20	N	300	<10	35	N	N	N
LC38S	200	30	300	300	N	60	N	N	N
LC39S	200	30	N	300	N	45	.1	N	N
LC40S	300	30	500	300	N	100	N	N	N
LC41S	500	20	300	500	N	80	N	N	N
LC42SCD	1,000	20	1,000	300	N	210	N	N	N
LC43SSD	500	30	500	500	N	200	N	N	N

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Latitude	Longitude	Fe-pct. S	Mg-pct. S	Ca-pct. S	Ti-pct. S	Mn-ppm S	Ag-ppm S	B-ppm S	Ba-ppm S	Be-ppm S
LC433XD	38 16 10	116 2 21	20	1.0	1.0	.70	1,500	N	10	500	<1.0
LC44S	38 28 11	116 8 19	3	.5	1.0	.20	700	N	20	1,000	1.0
LC45S	38 22 58	116 8 16	15	1.0	1.0	.50	1,500	N	20	1,000	1.0
LC46S	38 22 42	116 7 33	15	1.5	2.0	.70	2,000	N	10	1,000	1.0
LC47S	38 16 34	116 4 45	5	1.5	1.5	.30	1,000	N	50	700	1.0
LC48S	38 17 18	116 4 16	10	1.5	1.0	.70	1,000	N	15	500	1.0
LC49SCD	38 17 18	116 4 13	7	1.5	1.5	.30	1,000	N	30	700	1.5
LC50SSD	38 16 57	116 4 15	7	1.5	1.0	.30	1,000	N	30	700	1.5
LC50SX	38 16 57	116 4 15	7	1.5	1.0	.70	1,500	N	30	700	1.0
LC51S	38 14 8	116 1 20	10	1.0	1.5	.50	1,500	N	20	700	1.5
LC52S	38 13 32	116 2 24	3	1.0	1.5	.15	1,000	N	30	1,000	1.0
LC53S	38 31 1	116 5 23	5	.7	1.0	.20	1,000	N	30	1,000	1.5
LC54S	38 13 13	116 5 21	15	1.5	1.0	.50	1,500	N	N	700	<1.0
LC55S	38 13 2	116 6 7	10	1.5	1.5	.50	1,500	N	20	700	1.0
LC56S	38 12 42	116 6 30	7	1.5	1.5	.30	1,000	N	30	1,000	1.0
LC57S	38 21 33	116 9 7	10	.7	.7	1.00	1,500	N	15	700	1.0
LC58S	38 21 24	116 9 8	10	1.5	1.5	.50	1,000	N	20	500	1.0
LC59S	38 19 14	116 7 55	5	1.5	1.5	.20	1,000	N	20	1,000	1.0
LC60S	38 19 2	116 7 58	5	1.5	1.5	.20	1,000	N	30	700	1.0
LC61S	38 19 2	116 7 48	7	1.0	1.5	.50	1,000	N	20	1,000	1.0
LC62S	38 17 33	116 7 10	7	1.5	2.0	.30	1,000	N	20	700	1.0
LC63S	38 17 8	116 5 49	7	.7	.7	.70	1,500	N	30	700	1.5
LC64S	38 16 27	116 7 14	5	1.0	1.0	.20	1,500	N	50	700	1.5
LC66S	38 18 19	116 0 10	3	1.0	1.5	.20	700	N	20	1,000	1.0
LC67SCD	38 17 56	116 0 10	3	1.0	1.5	.15	500	N	30	1,000	2.0
LC68SSD	38 17 56	116 0 10	5	1.0	1.5	.20	1,000	N	30	1,000	2.0
LC68X	38 17 56	116 0 10	3	1.0	1.5	.20	700	N	20	700	1.0
TW101S	38 21 42	116 0 54	7	1.5	1.0	.50	1,000	N	50	500	1.0
TW102S	38 20 46	116 1 18	7	2.0	1.0	.30	1,000	N	50	700	1.0
TW103S	38 21 5	116 0 4	5	1.0	1.5	.20	1,000	N	50	700	1.0
TW104S	38 21 14	115 58 12	2	.7	1.0	.15	700	N	50	1,000	1.5
TW105S	38 21 12	115 58 11	5	.7	1.5	.20	1,000	N	30	1,000	1.0
TW106S	38 21 0	115 58 18	5	.7	1.0	.30	1,000	N	50	700	1.0
TW107S	38 20 42	115 58 48	5	.7	1.0	.30	1,000	N	50	700	1.0
TW108S	38 22 52	115 56 5	2	.7	1.0	.15	1,000	N	30	1,000	1.0
TW109S	38 22 17	115 56 25	5	1.0	2.0	.20	1,000	N	20	1,500	1.0
TW110S	38 22 18	115 59 45	3	1.0	1.0	.15	700	N	50	1,000	1.5
TW111S	38 22 37	115 59 25	5	1.0	1.0	.20	1,000	N	50	700	2.0
TW112S	38 56 58	115 58 22	5	1.0	1.5	.20	1,000	N	30	1,000	1.0
TW113SCD	38 23 10	115 58 33	3	1.0	1.5	.20	700	N	30	1,000	2.0
TW114SSD	38 23 9	115 58 33	2	1.0	1.0	.15	700	N	50	700	2.0
TW114SX	38 23 9	115 58 33	5	1.0	1.5	.20	1,000	N	50	1,000	2.0
TW115S	38 19 47	115 58 3	5	.7	1.0	.15	1,000	N	20	700	1.0
TW116S	38 19 46	115 58 0	5	1.5	1.5	.20	1,000	N	30	1,000	1.5
TW117S	38 19 42	115 58 4	3	1.0	1.0	.20	700	N	50	700	2.0

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Co-ppm S	Cr-ppm S	Cu-ppm S	La-ppm S	Mn-ppm S	Nb-ppm S	Ni-ppm S	Pb-ppm S	Sc-ppm S	Sr-ppm S
LC43XD	50	70	<5	200	N	N	5	15	10	300
LC44S	10	10	<5	50	N	N	<5	20	7	500
LC45S	15	30	5	200	N	N	<5	20	15	500
LC46S	15	50	5	500	N	N	5	50	10	500
LC47S	15	15	<5	50	N	<20	5	20	20	700
LC48S	30	15	5	70	N	<20	5	20	15	500
LC49SCD	15	20	7	70	N	N	5	30	10	700
LC50SSD	20	20	5	70	N	<20	5	20	15	500
LC50SXD	20	20	5	50	N	<20	5	20	15	500
LC51S	20	50	5	70	N	<20	<5	30	15	500
LC52S	7	20	<5	70	N	N	<5	30	10	500
LC53S	7	15	5	100	N	N	<5	20	10	500
LC54S	30	50	<5	70	N	N	<5	20	10	500
LC55S	30	20	<5	500	N	<20	<5	20	20	500
LC55S	20	20	7	100	N	<20	5	30	15	500
LC57S	30	20	<5	100	N	20	<5	20	10	300
LC58S	50	30	10	100	N	<20	5	20	15	500
LC59S	10	15	5	30	N	N	5	30	15	700
LC60S	20	20	10	50	N	N	7	30	15	500
LC61S	10	30	5	150	N	N	<5	30	10	500
LC62S	20	20	7	100	N	N	5	20	10	700
LC63S	20	30	5	200	N	<20	5	50	15	300
LC64S	10	15	5	50	N	<20	<5	50	10	500
LC66S	7	10	<5	30	N	N	<5	30	7	500
LC67SCD	5	20	<5	70	N	N	<5	15	7	500
LC68SSD	10	15	5	70	N	N	<5	30	10	500
LC68SXD	7	15	<5	50	N	N	<5	30	7	700
TW101S	30	50	20	200	N	<20	70	20	10	300
TW102S	30	100	20	30	N	20	100	30	10	500
TW103S	10	20	10	70	N	N	<5	50	7	500
TW104S	5	15	5	50	N	N	5	20	7	500
TW105S	7	20	<5	50	N	N	5	20	10	700
TW106S	10	20	5	100	N	N	5	20	10	300
TW107S	10	20	5	150	N	<20	7	30	10	500
TW108S	5	30	<5	200	N	N	<5	20	7	500
TW109S	5	50	<5	100	N	N	<5	70	5	1,000
TW110S	7	20	5	50	N	N	5	30	7	500
TW111S	10	30	15	70	N	20	7	30	10	300
TW112S	7	30	7	100	N	<20	5	50	10	500
TW113SCD	7	20	5	50	N	<20	5	20	7	500
TW114SSD	7	20	7	50	N	<20	5	30	7	500
TW114SXD	7	20	5	100	N	<20	5	50	7	500
TW115S	7	15	<5	30	N	N	5	20	7	500
TW116S	10	20	5	70	N	<20	5	50	7	500
TW117S	10	20	7	150	N	<20	7	20	10	500

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	V-ppm S	Y-ppm S	Zn-ppm S	Zr-ppm S	As-ppm aa	Zn-ppm aa	Cd-ppm aa	Sb-ppm aa	Bi-ppm aa
LC43SXD	500	30	700	200	N	200	N	N	N
LC44S	100	20	N	200	N	65	N	N	N
LC45S	200	30	300	500	<10	80	N	N	N
LC46S	200	50	500	500	N	55	N	N	N
LC47S	100	20	N	200	N	35	.1	N	N
LC48S	300	20	500	100	N	180	.1	N	N
LC49SCD	100	30	N	300	N	30	N	N	N
LC50SSD	150	20	200	300	N	60	N	N	N
LC50SXD	200	20	200	200	N	55	N	N	N
LC51S	300	30	300	300	N	150	N	N	N
LC52S	100	30	N	700	N	40	N	N	N
LC53S	100	20	N	200	N	70	.1	N	N
LC54S	500	20	500	300	N	200	N	N	N
LC55S	500	50	500	500	N	200	.1	N	N
LC56S	200	30	200	300	N	130	N	N	N
LC57S	200	30	700	1,000	N	230	N	N	N
LC58S	300	30	300	700	N	65	N	N	N
LC59S	150	20	N	200	N	35	N	N	N
LC60S	100	30	N	200	N	35	N	N	N
LC61S	200	20	200	200	N	80	N	N	N
LC62S	200	20	N	200	N	30	N	N	N
LC63S	200	30	300	300	N	190	N	N	N
LC64S	150	20	N	300	N	50	N	N	N
LC66S	100	20	N	200	N	50	N	N	N
LC67SCD	50	15	N	100	N	15	N	N	N
LC68SSD	100	20	N	200	10	25	N	N	N
LC68SXD	100	15	N	100	N	25	N	N	N
TH101S	200	30	N	300	N	75	N	N	N
TH102S	150	20	N	150	N	60	.1	N	N
TH103S	150	20	N	500	N	70	N	N	N
TH104S	70	15	N	100	N	30	.1	N	N
TH105S	150	20	N	300	N	80	N	N	N
TH106S	150	20	N	300	N	55	N	N	N
TH107S	150	30	200	300	N	85	.1	N	N
TH108S	50	20	N	200	N	20	N	N	N
TH109S	100	20	N	150	N	35	N	N	N
TH110S	70	20	N	100	N	30	N	N	N
TH111S	100	30	N	200	N	50	.1	N	N
TH112S	70	20	N	200	N	30	N	N	N
TH113SCD	70	20	N	300	N	25	N	N	N
TH114SSD	70	30	N	200	N	30	N	N	N
TH114SXD	70	20	N	300	N	30	N	N	N
TH115S	70	15	N	70	N	30	N	N	N
TH116S	100	20	N	200	N	35	N	N	N
TH117S	70	20	N	200	N	35	N	N	N

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Latitude	Longitude	Fe-pct. S	Mg-pct. S	Ca-pct. S	Ti-pct. S	Mn-ppm S	Ag-ppm S	B-ppm S	Ba-ppm S	Be-ppm S
TW118S	38 19 26	115 58 37	10	1.0	1.0	1.00	1,500	N	15	500	<1.0
TW119S	38 19 32	115 59 9	3	1.0	1.5	.15	700	N	30	1,000	2.0
TW120SCD	38 19 31	115 59 4	10	.7	.7	.70	2,000	N	15	500	<1.0
TW121SSD	38 19 23	115 59 3	10	1.0	.7	1.00	1,500	N	20	500	1.0
TW121SXD	38 19 23	115 59 3	10	1.0	.7	.50	1,500	N	15	500	1.0
TW122S	38 24 47	115 52 40	5	1.0	1.5	.20	1,000	N	30	700	1.5
TW123S	38 24 38	115 52 53	5	1.0	1.0	.20	2,000	N	50	1,000	1.5
TW124S	38 24 14	115 51 52	5	1.5	2.0	.20	700	N	100	1,000	1.5
TW125S	38 23 40	115 53 57	5	1.5	1.5	.20	700	N	70	1,500	1.0
TW126S	38 19 43	115 55 8	2	1.0	1.5	.15	700	N	20	1,500	1.5
TW127S	38 19 20	115 55 3	5	1.5	2.0	.20	1,000	N	10	1,500	N
TW128S	38 20 3	115 54 8	5	.7	1.0	.15	500	N	50	1,000	2.0
TW129S	38 19 17	115 54 13	7	1.0	1.5	.20	1,000	N	30	700	1.5
TW130S	38 18 32	115 58 34	5	1.0	1.5	.20	700	N	30	1,000	1.5
TW131S	38 18 43	115 57 25	5	1.0	1.5	.30	500	N	50	1,000	1.0
TW132S	38 19 25	115 56 4	5	1.0	1.5	.30	700	N	30	1,500	1.0
TW133S	38 18 37	115 56 34	5	1.0	1.5	.30	700	N	20	1,500	1.0
TW134SCD	38 18 34	115 56 37	3	.7	1.5	.20	700	N	30	1,000	2.0
TW135SSD	38 18 33	115 56 39	3	.7	1.0	.15	700	N	20	700	1.5
TW135SXD	38 18 33	115 56 39	5	1.0	1.5	.15	500	N	30	1,000	1.5
TW136S	38 18 27	115 57 9	2	.7	1.0	.20	500	N	50	1,000	2.0
TW137S	38 17 49	115 57 59	3	1.0	1.5	.15	500	N	30	1,000	1.0
TW138S	38 17 36	115 59 39	3	1.0	1.0	.15	700	N	50	700	1.0

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Co-ppm S	Cr-ppm S	Cu-ppm S	La-ppm S	Mo-ppm S	Nb-ppm S	Ni-ppm S	Pb-ppm S	Sc-ppm S	Sr-ppm S
TW118S	50	50	<5	200	N	N	7	20	15	500
TW119S	7	15	5	50	N	N	<5	50	7	700
TW120SCD	30	30	<5	200	N	N	<5	15	10	300
TW121SSD	50	70	7	70	N	20	7	20	10	300
TW121SXD	30	50	5	200	N	20	5	20	10	500
TW122S	20	30	7	50	N	N	5	30	10	500
TW123S	30	20	10	50	5	N	30	30	5	500
TW124S	7	30	15	50	N	<20	7	50	7	500
TW125S	10	50	15	70	N	N	7	50	7	500
TW126S	5	20	<5	50	N	N	5	50	7	700
TW127S	7	50	5	150	N	N	<5	50	10	1,000
TW128S	5	15	<5	50	N	N	5	30	7	500
TW129S	10	20	<5	200	N	N	<5	20	10	500
TW130S	7	20	5	70	N	N	5	30	10	700
TW131S	10	30	<5	50	N	N	5	20	7	500
TW132S	5	30	<5	50	N	N	<5	30	5	700
TW133S	5	20	<5	150	N	N	<5	30	10	500
TW134SCD	10	30	<5	50	N	N	7	20	7	500
TW135SSD	7	30	<5	100	N	N	7	20	7	500
TW135SXD	7	20	<5	100	N	N	5	20	7	700
TW136S	7	20	<5	100	N	N	5	20	7	500
TW137S	5	50	<5	100	N	N	<5	30	5	500
TW138S	5	10	<5	70	N	N	5	30	7	500

TABLE 2. ANALYTICAL DATA FOR STREAM-SEDIMENT SAMPLES FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	V-ppm S	Y-ppm S	Zn-ppm S	Zr-ppm S	As-ppm aa	Zn-ppm aa	Cd-ppm aa	Sb-ppm aa	Pb-ppm aa
TW118S	300	20	500	500	N	200	N	N	N
TW119S	70	15	N	150	N	30	N	N	N
TW120SCD	500	50	500	500	N	240	N	N	N
TW121SSD	500	20	1,000	500	N	230	N	N	N
TW121SYD	300	20	500	500	N	220	.1	N	N
TW122S	100	20	N	300	N	30	N	N	N
TW123S	70	20	N	150	50	45	N	4	N
TW124S	70	15	N	150	10	45	.1	6	N
TW125S	100	20	N	200	<10	30	.1	N	N
TW126S	70	20	N	100	N	20	N	N	N
TW127S	100	20	N	150	N	40	N	2	N
TW128S	50	20	N	100	N	25	N	N	N
TW129S	150	20	<200	200	N	110	N	N	N
TW130S	100	20	N	500	N	35	N	N	N
TW131S	150	20	N	300	N	30	N	N	N
TW132S	70	15	N	300	N	35	N	N	N
TW133S	100	30	N	150	N	30	N	N	N
TW134SCD	150	20	<200	200	N	35	N	N	N
TW135SSD	70	15	N	150	N	35	N	N	N
TW135SYD	100	15	N	150	N	25	N	N	N
TW136S	70	20	N	300	N	20	N	N	N
TW137S	70	10	N	300	N	20	N	N	N
TW138S	70	20	N	200	N	30	N	N	N

TABLE 3. ANALYTICAL DATA FOR NONMAGNETIC HEAVY-MINERAL CONCENTRATE SAMPLES FROM STREAM SEDIMENTS FROM THE PALISADE
 HESA AND THE WALL 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	Longitude	Fe-pct.	Mg-pct.	Ca-pct.	Ti-pct.	Mn-ppm	Ag-ppm	B-ppm	Ba-ppm	Be-ppm	Co-ppm	Cr-ppm
			S	S	S	S	S	S	S	S	S	S	S
LC01	38 27 14	116 7 55	.2	.07	3	.50	200	N	<20	1,500	3	N	<20
LC02	38 26 34	116 7 46	.7	.10	3	.20	300	N	<20	3,000	7	N	<20
LC03	38 25 47	116 7 43	.7	.07	3	1.00	300	N	<20	2,000	5	N	<20
LC04	38 24 48	116 8 10	.7	.20	3	>2.00	500	N	30	1,000	5	N	<20
LC05	38 24 47	116 8 8	.5	.15	3	1.00	300	N	<20	2,000	5	N	<20
LC06	38 23 43	116 5 5	.5	.20	5	.70	300	N	20	1,000	5	N	<20
LC07	38 23 45	116 5 8	.5	.15	5	.30	300	N	20	1,500	5	N	<20
LC08	38 15 0	116 4 27	.5	.15	15	.15	1,000	N	<20	1,000	5	N	<20
LC09	38 18 44	116 3 39	.7	.30	10	1.00	700	N	30	1,000	5	N	<20
LC10	38 17 7	116 2 35	.3	.05	2	.30	200	N	<20	1,500	3	N	<20
LC11	38 17 57	116 1 6	.5	.10	3	.70	300	N	<20	1,000	7	N	<20
LC12	38 23 27	116 11 22	.7	.30	7	.50	700	N	<20	1,500	10	N	20
LC13	38 25 54	116 10 0	.3	.05	3	.15	200	N	<20	1,000	5	N	<20
LC14	38 26 27	116 9 34	.3	.10	3	.50	200	N	<20	700	5	N	<20
LC15	38 27 43	116 8 59	.5	.10	2	1.00	300	N	20	2,000	5	N	<20
LC16CD	38 27 27	116 9 20	.5	.07	2	.50	200	N	<20	700	5	N	<20
LC17SD	38 27 26	116 9 19	.5	.15	3	1.00	300	N	<20	1,500	3	N	<20
LC17XD	38 27 26	116 9 18	.5	.10	3	1.00	500	N	<20	1,000	5	N	<20
LC18	38 24 7	116 7 14	.5	.30	3	>2.00	300	7	20	2,000	3	N	50
LC19	38 22 9	116 5 33	.5	.30	7	.30	500	N	20	1,000	5	N	<20
LC20	38 21 15	116 6 26	.3	.05	5	.05	200	N	<20	1,000	5	N	<20
LC21	38 20 43	116 7 3	.5	.10	5	.50	300	N	<20	70	5	N	<20
LC22	38 20 52	116 7 48	.3	.10	5	.30	300	N	<20	1,000	5	N	<20
LC23	38 22 1	116 3 55	.7	.30	30	.10	2,000	N	<20	500	2	N	<20
LC24	38 21 35	116 5 37	.7	.30	30	.15	1,500	N	<20	500	2	N	<20
LC25	38 21 33	116 3 36	1.0	.30	15	.30	1,000	N	<20	2,000	3	N	20
LC26	38 21 17	116 3 10	.5	.15	20	.30	1,500	N	<20	500	3	N	<20
LC27	38 19 58	116 3 14	.7	.50	7	1.50	500	N	20	1,500	3	N	20
LC28CD	38 20 0	116 2 13	.5	.15	7	.20	300	N	<20	3,000	5	N	<20
LC29SD	38 20 2	116 3 14	.5	.10	5	.15	200	N	<20	2,000	5	N	<20
LC29XD	38 20 2	116 2 13	.5	.10	5	.10	200	N	<20	1,500	5	N	<20
LC30	38 20 10	116 2 24	.3	.07	5	.07	300	N	<20	5,000	5	N	<20
LC31	38 20 23	116 2 27	.5	.20	10	.50	700	N	20	1,000	5	N	<20
LC32	38 18 3	116 4 23	.7	.30	3	1.00	300	N	20	1,500	5	N	20
LC33	38 18 29	116 3 54	.7	.10	5	.50	500	N	<20	1,000	5	N	<20
LC34	38 15 17	116 4 35	3.0	.50	5	2.00	3,000	N	<20	7,000	5	N	50
LC35	38 15 17	116 4 34	1.0	.70	15	2.00	1,000	N	20	1,000	2	N	100
LC36	38 14 47	116 3 48	.5	.10	7	.20	500	N	<20	700	5	N	<20
LC37	38 16 6	116 3 27	.7	.20	7	.50	500	N	20	700	5	N	<20
LC38	38 16 45	116 3 17	.5	.10	5	.20	300	N	<20	1,000	5	N	<20
LC39	38 16 17	116 1 36	.3	.05	3	.20	200	N	<20	700	5	N	<20
LC40	38 15 44	116 2 3	.3	.05	7	.10	500	N	<20	2,000	5	N	<20
LC41	38 16 20	116 2 23	.3	.07	7	.05	500	N	<20	500	3	N	<20
LC42CD	38 16 10	116 2 20	.5	.10	5	.15	300	N	<20	10,000	5	N	<20
LC43SD	38 16 10	116 2 21	.3	.05	5	.03	300	N	<20	5,000	5	N	<20

TABLE 3. ANALYTICAL DATA FOR NONMAGNETIC HEAVY-MINERAL CONCENTRATE SAMPLES FROM STREAM SEDIMENTS FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Cu-ppm S	La-ppm S	Nb-ppm S	Ni-ppm S	Pb-ppm S	Sb-ppm S	Sc-ppm S	Sn-ppm S	Si-ppm S	V-ppm S	Y-ppm S	Zr-ppm S	Th-ppm S
LC01	N	N	N	N	N	N	50	70	1,000	20	300	>2,000	200
LC02	N	150	N	N	N	N	10	N	1,000	<20	70	>2,000	N
LC03	N	150	N	N	N	N	50	N	1,000	50	500	>2,000	N
LC04	N	200	<50	N	N	N	50	N	1,000	100	500	>2,000	N
LC05	N	70	N	N	N	N	N	N	1,000	30	150	>2,000	N
LC06	N	150	N	N	N	N	10	N	1,000	20	150	>2,000	N
LC07	N	200	N	N	N	N	N	N	1,000	<20	100	>2,000	N
LC08	N	700	N	N	N	N	N	N	2,000	<20	200	>2,000	N
LC09	N	500	N	N	N	N	20	N	2,000	30	300	>2,000	N
LC10	N	70	N	N	N	N	20	N	1,000	<20	200	>2,000	N
LC11	N	100	N	N	N	N	20	N	2,000	20	200	>2,000	N
LC12	N	200	N	N	N	N	30	N	1,000	50	500	>2,000	N
LC13	N	50	N	N	N	N	20	N	1,000	<20	200	>2,000	N
LC14	N	50	N	N	N	N	30	N	1,000	20	300	>2,000	N
LC15	N	100	N	N	N	N	30	50	1,000	20	300	>2,000	N
LC16CD	N	<50	N	N	N	N	50	N	500	30	300	>2,000	<200
LC17SD	N	70	N	N	N	N	50	N	700	70	300	>2,000	N
LC17XD	N	<50	N	N	N	N	50	N	1,000	50	500	>2,000	N
LC18	10	50	100	N	N	N	30	N	700	150	200	>2,000	N
LC19	N	300	N	N	N	N	N	N	2,000	<20	100	>2,000	N
LC20	N	150	N	N	N	N	N	N	2,000	<20	50	>2,000	N
LC21	N	150	N	N	N	N	N	N	1,500	20	100	>2,000	N
LC22	N	150	N	N	N	N	N	N	1,500	20	100	>2,000	N
LC23	N	2,000	N	N	N	N	20	N	2,000	<20	300	>2,000	N
LC24	10	2,000	N	N	N	N	20	N	2,000	<20	300	>2,000	N
LC25	N	500	N	N	N	N	10	N	1,500	20	200	>2,000	N
LC26	N	1,000	N	N	N	N	N	N	2,000	<20	300	>2,000	N
LC27	N	200	<50	N	N	N	30	N	1,500	50	300	>2,000	N
LC28CD	N	200	N	N	N	N	N	N	2,000	<20	100	>2,000	N
LC29SD	N	50	N	N	N	N	N	N	2,000	<20	30	>2,000	N
LC29XD	N	70	N	N	N	N	N	N	1,500	<20	30	>2,000	N
LC30	N	150	N	N	N	N	10	N	2,000	<20	150	>2,000	N
LC31	N	500	N	N	N	N	N	N	2,000	<20	200	>2,000	N
LC32	N	150	N	N	N	N	20	N	1,000	20	200	>2,000	N
LC33	N	200	N	N	N	N	10	N	2,000	<20	150	>2,000	N
LC34	10	700	100	N	N	N	100	N	500	150	500	>2,000	N
LC35	N	700	150	N	N	200	50	N	1,500	100	700	>2,000	N
LC36	N	300	N	N	N	N	20	N	1,000	20	200	>2,000	N
LC37	N	300	N	N	N	N	10	N	1,500	20	150	>2,000	N
LC38	N	70	N	N	N	N	<10	N	1,000	<20	100	>2,000	N
LC39	N	100	N	N	N	N	N	N	1,500	<20	50	>2,000	N
LC40	N	200	N	N	N	N	N	N	1,500	<20	100	>2,000	N
LC41	N	300	N	N	N	N	15	N	2,000	<20	200	>2,000	N
LC42CD	N	150	N	N	N	N	15	N	2,000	<20	200	>2,000	N
LC43SD	N	150	N	N	N	N	N	N	2,000	<20	70	>2,000	1,000

TABLE 3. ANALYTICAL DATA FOR NONRADIOACTIVE HEAVY-MINERAL CONCENTRATE SAMPLES FROM STREAM SEDIMENTS FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Latitude	Longitude	Fe-pct. S	Mg-pct. S	Ca-pct. S	Ti-pct. S	Mn-ppm S	Ag-ppm S	B-ppm S	Ba-ppm S	Be-ppm S	Co-ppm S	Cr-ppm S
LC43XD	38 16 10	116 2 21	.5	.10	5	.20	300	N	<20	3,000	5	N	<20
LC44	38 28 11	116 8 19	.7	.20	3	1.50	500	N	<20	1,500	5	N	20
LC45	38 22 58	116 8 16	.5	.15	3	.50	200	N	<20	2,000	5	N	<20
LC46	38 22 42	116 7 33	.3	.15	2	.30	200	N	<20	2,000	5	N	<20
LC47	38 16 34	116 4 45	.5	.10	5	.30	300	N	<20	1,500	5	N	<20
LC48	38 17 18	116 4 16	.5	.15	5	.15	200	N	<20	1,000	5	N	<20
LC49CD	38 17 18	116 4 13	.5	.10	5	.50	300	N	<20	1,000	5	N	<20
LC50SD	38 16 57	116 4 15	.7	.20	5	1.50	300	N	20	1,000	5	N	20
LC50XD	38 16 57	116 4 15	.7	.20	5	1.50	300	N	20	1,000	5	N	20
LC51	38 14 8	116 1 20	.3	.05	5	.10	200	N	<20	5,000	7	N	<20
LC52	38 13 32	116 2 24	.3	.10	2	.20	200	N	<20	700	5	N	<20
LC53	38 31 1	116 5 23	.5	.15	7	.70	700	N	20	>10,000	5	N	<20
LC54	38 13 13	116 5 21	.2	.05	5	.05	200	N	<20	>10,000	5	N	<20
LC55	38 13 2	116 6 7	.5	.10	5	.70	500	N	<20	10,000	5	N	<20
LC56	38 13 13	116 6 30	.3	.10	5	.30	300	N	<20	2,000	5	N	<20
LC57	38 21 33	116 9 7	.3	.07	2	.20	200	N	20	5,000	5	N	<20
LC58	38 21 24	116 9 8	.3	.10	5	.10	300	N	<20	2,000	5	N	<20
LC59	38 19 14	116 7 55	.7	.50	10	.50	700	N	<20	2,000	3	N	20
LC60	38 19 2	116 7 58	.5	.30	7	.20	300	N	20	1,500	5	N	30
LC61	38 19 2	116 7 48	.5	.10	3	.30	300	N	<20	1,500	5	N	<20
LC62	38 17 33	116 7 10	.5	.20	7	.50	700	N	<20	1,500	3	N	20
LC63	38 17 8	116 5 49	.5	.15	2	.70	300	N	20	1,500	5	N	<20
LC64	38 16 27	116 7 14	.3	.15	3	.70	700	N	<20	1,500	5	N	<20
LC65	38 8 55	116 0 46	.2	.10	7	1.50	500	N	<20	2,000	5	N	<20
LC66	38 18 19	116 0 10	.5	.10	5	.30	500	N	<20	>10,000	3	N	<20
LC67CD	38 17 56	116 0 10	.7	.50	7	1.50	500	N	20	3,000	5	N	20
LC685SD	38 17 56	116 0 10	.7	1.50	5	1.50	500	N	20	10,000	7	N	20
LC68XD	38 17 56	116 0 10	.5	.20	3	1.50	300	N	50	7,000	5	N	20
TW101	38 21 42	116 0 54	2.0	1.50	5	1.50	1,000	N	20	1,000	3	10	100
TW102	38 20 46	116 1 18	2.0	1.50	7	1.50	1,000	N	<20	1,000	3	10	100
TW103	38 21 5	116 0 4	5.0	3.00	5	2.00	3,000	N	20	3,000	2	20	100
TW104	38 21 14	115 58 12	2.0	2.00	10	>2.00	1,500	N	70	1,500	5	15	200
TW105	38 21 12	115 58 11	.5	.20	2	.70	300	N	30	1,500	3	N	20
TW106	38 21 0	115 58 18	1.0	.50	3	1.50	700	N	30	1,500	5	N	20
TW107	38 20 42	115 58 48	5.0	2.00	3	2.00	2,000	N	20	>10,000	5	15	150
TW108	38 22 52	115 56 5	7.0	7.00	15	>2.00	5,000	N	<20	5,000	2	20	200
TW109	38 22 17	115 56 25	1.5	.70	7	1.50	700	N	20	1,000	3	10	50
TW110	38 22 18	115 59 45	10.0	10.00	5	>2.00	>10,000	N	20	2,000	2	50	200
TW111	38 22 37	115 59 25	7.0	7.00	15	>2.00	5,000	N	20	700	5	50	300
TW112	38 56 58	115 58 22	10.0	7.00	10	>2.00	5,000	N	20	3,000	2	50	700
TW113CD	38 23 10	115 58 33	10.0	10.00	10	>2.00	5,000	N	20	1,000	3	50	300
TW114SD	38 23 9	115 58 33	7.0	7.00	7	>2.00	5,000	N	100	700	3	50	150
TW114XD	38 23 9	115 58 33	10.0	7.00	10	>2.00	5,000	N	50	5,000	5	50	500
TW115	38 19 47	115 58 3	1.5	.50	3	1.00	500	N	50	1,500	3	N	50
TW116	38 19 46	115 58 0	7.0	7.00	3	2.00	5,000	N	50	1,500	3	30	200

TABLE 3. ANALYTICAL DATA FOR NONMAGNETIC HEAVY-MINERAL CONCENTRATE SAMPLES FROM STREAM SEDIMENTS FROM THE PALISADE MESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Latitude	Longitude	Fe-pct. S	Mg-pct. S	Ca-pct. S	Tl-pct. S	Mn-ppt S	Ag-ppt S	B-ppt S	Ba-ppt S	Be-ppt S	Co-ppt S	Cr-ppt S
TW117	38 19 42	115 58 4	10.0	10.00	5	>2.00	5,000	N	50	1,500	2	50	200
TW118	38 19 26	115 58 37	5.0	5.00	7	2.00	2,000	N	<20	10,000	2	20	100
TW119	38 19 32	115 59 9	20.0	10.00	7	>2.00	10,000	N	20	1,500	3	70	200
TW120CD	38 19 31	115 59 4	2.0	1.50	3	1.50	1,500	N	20	7,000	2	10	100
TW121SD	38 19 23	115 59 3	.5	.20	3	.20	300	N	20	3,000	5	N	<20
TW121XD	38 19 23	115 59 3	3.0	1.50	3	1.50	1,500	N	<20	3,000	5	10	100
TW122	38 24 47	115 52 40	7.0	7.00	10	>2.00	5,000	N	70	>10,000	2	30	300
TW123	38 24 38	115 52 53	1.0	.30	2	1.00	500	N	<20	>10,000	2	N	70
TW124	38 24 14	115 51 52	7.0	5.00	10	2.00	1,500	N	500	1,000	3	20	300
TW125	38 23 40	115 53 57	1.0	.30	2	.70	1,000	N	<20	>10,000	2	N	50
TW126	38 19 43	115 55 8	10.0	7.00	7	>2.00	5,000	N	20	>10,000	3	30	500
TW127	38 19 20	115 55 3	10.0	7.00	7	>2.00	5,000	N	50	5,000	3	70	200
TW128	38 20 3	115 54 8	10.0	10.00	7	>2.00	5,000	N	50	700	2	50	300
TW129	38 19 17	115 54 13	1.0	.50	3	1.00	500	N	20	7,000	3	N	50
TW130	38 18 32	115 58 34	3.0	2.00	5	>2.00	2,000	N	50	1,000	7	20	200
TW131	38 18 43	115 57 25	10.0	7.00	7	>2.00	3,000	N	20	3,000	2	50	500
TW132	38 19 25	115 56 4	.7	.70	3	1.00	300	N	20	10,000	3	N	20
TW133	38 18 37	115 56 34	10.0	10.00	7	>2.00	5,000	10	150	3,000	2	70	300
TW134CD	38 18 34	115 56 37	10.0	7.00	7	>2.00	3,000	N	20	5,000	<2	50	700
TW135SD	38 18 33	115 56 39	7.0	7.00	5	>2.00	3,000	N	50	3,000	2	50	300
TW135XD	38 18 33	115 56 39	10.0	7.00	7	>2.00	5,000	N	30	3,000	2	50	500
TW136	38 18 27	115 57 9	7.0	5.00	7	>2.00	2,000	N	50	1,500	5	20	300
TW137	38 17 49	115 57 59	10.0	10.00	10	>2.00	3,000	N	50	1,500	<2	50	1,000
TW138	38 17 36	115 59 39	10.0	10.00	5	2.00	7,000	N	<20	>10,000	3	50	200

TABLE 3. ANALYTICAL DATA FOR NONMAGNETIC HEAVY-MINERAL CONCENTRATE SAMPLES FROM STREAM SEDIMENTS FROM THE PALISADE
HESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Cu-ppm S	La-ppm S	Nb-ppm S	Ni-ppm S	Pb-ppm S	Sb-ppm S	Sc-ppm S	Sn-ppm S	Si-ppm S	V-ppm S	Y-ppm S	Zr-ppm S	Th-ppm S
LC43XD	N	150	N	N	N	N	15	N	1,500	<20	150	>2,000	N
LC44	N	150	70	N	N	N	30	N	1,000	50	200	>2,000	N
LC45	N	70	N	N	N	N	20	N	1,500	30	300	>2,000	N
LC46	N	100	N	N	<20	N	10	N	1,000	<20	150	>2,000	N
LC47	N	150	N	N	N	N	N	N	2,000	<20	150	>2,000	500
LC48	N	50	N	N	20	N	N	N	500	<20	300	>2,000	N
LC49CD	N	100	N	N	N	N	10	N	1,500	<20	150	>2,000	N
LC50SD	N	150	<50	N	N	N	30	N	1,000	50	300	>2,000	N
LC50XD	N	150	70	N	N	N	30	N	1,000	50	300	>2,000	N
LC51	N	100	N	N	N	N	N	N	1,500	<20	100	>2,000	N
LC52	N	<50	N	N	N	N	30	N	700	20	300	>2,000	200
LC53	N	500	N	N	N	N	30	N	1,000	50	300	>2,000	N
LC54	N	100	N	N	N	N	N	N	2,000	<20	50	>2,000	N
LC55	N	200	N	N	N	N	10	N	1,500	20	200	>2,000	N
LC56	N	200	N	N	N	N	20	N	1,000	<20	300	>2,000	N
LC57	N	70	N	N	N	N	N	N	1,000	<20	700	>2,000	N
LC58	N	100	N	N	N	N	10	N	2,000	<20	100	>2,000	N
LC59	N	500	N	N	N	N	20	N	1,500	50	300	>2,000	N
LC60	N	200	N	N	20	N	N	N	2,000	50	30	>2,000	N
LC61	N	100	N	N	N	N	20	N	1,000	20	200	>2,000	N
LC62	N	300	N	N	N	N	15	N	1,500	200	200	>2,000	N
LC63	N	200	N	N	N	N	20	N	1,000	20	150	>2,000	N
LC64	N	150	N	N	N	N	15	N	1,000	20	200	>2,000	N
LC65	N	200	N	N	N	N	150	N	2,000	100	1,000	>2,000	200
LC66	N	300	N	N	N	N	15	N	1,000	20	200	>2,000	N
LC67CD	N	200	N	N	N	N	50	N	1,500	100	500	>2,000	N
LC685SD	N	150	N	N	N	N	70	N	1,000	70	700	>2,000	N
LC68XD	N	100	N	N	N	N	50	N	1,500	50	300	>2,000	N
TW101	N	300	150	50	N	N	20	N	1,000	100	300	>2,000	N
TW102	N	300	<50	20	N	N	10	N	1,500	50	150	>2,000	N
TW103	N	1,000	50	N	N	N	70	N	700	150	300	>2,000	N
TW104	N	1,000	100	N	N	N	70	N	1,000	200	500	>2,000	N
TW105	N	150	N	N	N	N	20	N	1,000	30	200	>2,000	N
TW106	N	300	N	N	N	N	70	N	1,000	100	500	>2,000	N
TW107	50	1,000	50	N	N	N	100	N	700	150	300	>2,000	N
TW108	N	2,000	N	N	100	N	200	N	1,500	200	300	>2,000	N
TW109	N	300	N	N	N	N	70	N	700	100	500	>2,000	200
TW110	<10	1,500	70	50	20	N	200	N	500	500	500	>2,000	N
TW111	N	2,000	100	50	30	N	200	500	1,500	200	700	>2,000	N
TW112	N	2,000	100	50	70	N	>200	N	700	300	500	>2,000	N
TW113CD	<10	1,500	100	30	20	N	200	N	1,000	300	500	>2,000	N
TW114SD	<10	1,000	100	50	50	N	200	N	700	500	300	>2,000	N
TW114XD	N	1,000	100	30	100	N	200	100	1,000	300	500	>2,000	N
TW115	N	200	N	N	N	N	30	N	700	70	200	>2,000	N
TW116	N	2,000	70	20	N	N	200	N	700	200	500	>2,000	N

TABLE 3. ANALYTICAL DATA FOR NONMAGNETIC HEAVY-MINERAL CONCENTRATE SAMPLES FROM STREAM SEDIMENTS FROM THE PALISADE
HESA AND THE WALL WILDERNESS STUDY AREAS, NYE COUNTY, NEVADA--Continued

Sample	Cu-ppm S	La-ppm S	Nb-ppm S	Ni-ppm S	Pb-ppm S	Sb-ppm S	Sc-ppm S	Sn-ppm S	Sr-ppm S	V-ppm S	Y-ppm S	Zr-ppm S	Th-ppm S
TW117	N	>2,000	70	20	N	N	>200	N	200	300	500	>2,000	N
TW118	N	700	50	N	N	N	50	N	1,000	200	200	>2,000	N
TW119	10	700	50	30	100	N	200	N	500	500	300	>2,000	N
TW120CD	N	700	50	N	N	N	50	N	700	150	300	>2,000	N
TW121SD	N	100	N	N	N	N	20	N	1,000	20	200	>2,000	N
TW121XD	N	1,000	N	N	N	N	50	N	1,000	100	300	>2,000	N
TW122	N	1,000	70	50	N	2,000	150	<20	1,000	300	500	>2,000	N
TW123	<10	500	N	N	50	3,000	15	N	3,000	500	150	>2,000	N
TW124	N	1,000	50	70	N	N	50	N	1,500	300	200	>2,000	N
TW125	N	200	N	N	20	3,000	10	N	2,000	30	150	>2,000	N
TW126	N	1,000	100	50	20	N	150	N	700	300	500	>2,000	N
TW127	<10	2,000	70	70	30	700	>200	N	500	500	500	>2,000	N
TW128	<10	1,500	100	50	N	N	200	N	500	300	300	>2,000	N
TW129	N	200	N	N	N	N	20	N	1,000	50	200	>2,000	N
TW130	N	1,000	50	N	N	N	200	N	500	300	500	>2,000	N
TW131	N	1,500	100	50	N	N	150	N	700	500	500	>2,000	N
TW132	N	200	50	N	N	N	30	N	1,000	50	200	>2,000	N
TW133	70	2,000	70	70	70	N	>200	50	300	500	300	>2,000	N
TW134CD	N	2,000	100	70	20	N	200	N	200	300	500	>2,000	N
TW135SD	N	1,000	70	50	20	N	100	N	500	300	300	>2,000	N
TW135XD	N	1,000	100	70	N	N	150	N	700	500	300	>2,000	N
TW136	N	1,000	70	N	20	N	150	20	1,000	300	500	>2,000	N
TW137	<10	2,000	150	100	N	300	200	N	500	300	500	>2,000	N
TW138	<10	700	<50	20	50	N	150	N	500	300	200	>2,000	N