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# Analytical results and sample locality map for stream-sediment and panned-concentrate samples from The Pinnacles Addition to the River of No Return Wilderness, Valley County, Idaho

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

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## STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral values if any, that may be present. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of The Pinnacles Addition to the River of No Return Wilderness in the Payette National Forest, Valley County, Idaho. The area was established as a wilderness by Public Law 96-312, July 23, 1980.

## INTRODUCTION

In July, 1983 the U.S. Geological Survey conducted a reconnaissance geochemical survey of The Pinnacles Addition to the River of No Return Wilderness, Valley County, Idaho.

The Pinnacles Addition comprises about 44 $mi^2$ (114 $km^2$) in the north-central part of Valley County, Idaho, and lies about 55 mi (89 km) east of McCall, Idaho (see figure 1). Access to the study area is provided by secondary roads from McCall or Cascade; both towns are on Idaho Route 55.

Tertiary rhyolite tuffs and latite tuffs of the Challis Volcanics cover a little over half of The Pinnacles Addition in roughly a six-mile wide band cutting across the addition from southeast to northwest. Northeast and southwest of the Challis Volcanics lie the Precambrian Hoodoo Quartzite and the Precambrian Yellowjacket Formation. The Hoodoo Quartzite is mainly clean, white quartzite. The Yellowjacket consists of metamorphosed argillite, siltite, limestone, and volcanic rocks. Cretaceous granites of the Idaho batholith intrude the Precambrian units mainly on the southwestern side of the band of Challis Volcanics.

Mines that have been major producers of several commodities are within a few miles of The Pinnacles Addition. The commodities include tungsten, antimony, gold, silver, mercury, and base metals.

The Pinnacles Addition is an area of rugged, glaciated mountains characterized by rushing mountain streams that issue from glacial tarns. Elevation ranges from 9273 ft (2826 m) at the summit of The Pinnacles to about 5600 ft (1707 m) along Big Creek at the northern end of the addition.

Geology and ore deposits of The Pinnacles Addition and vicinity are summarized by Leonard and others (in preparation).

Samples were collected by G. A. Nowlan, S. C. Rose, and G. P. Pudlik. Analyses were by B. M. Adrian, J. D. Sharkey, T. A. Roemer, and K. A. Romine.

## METHODS OF STUDY

### Sample Media

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

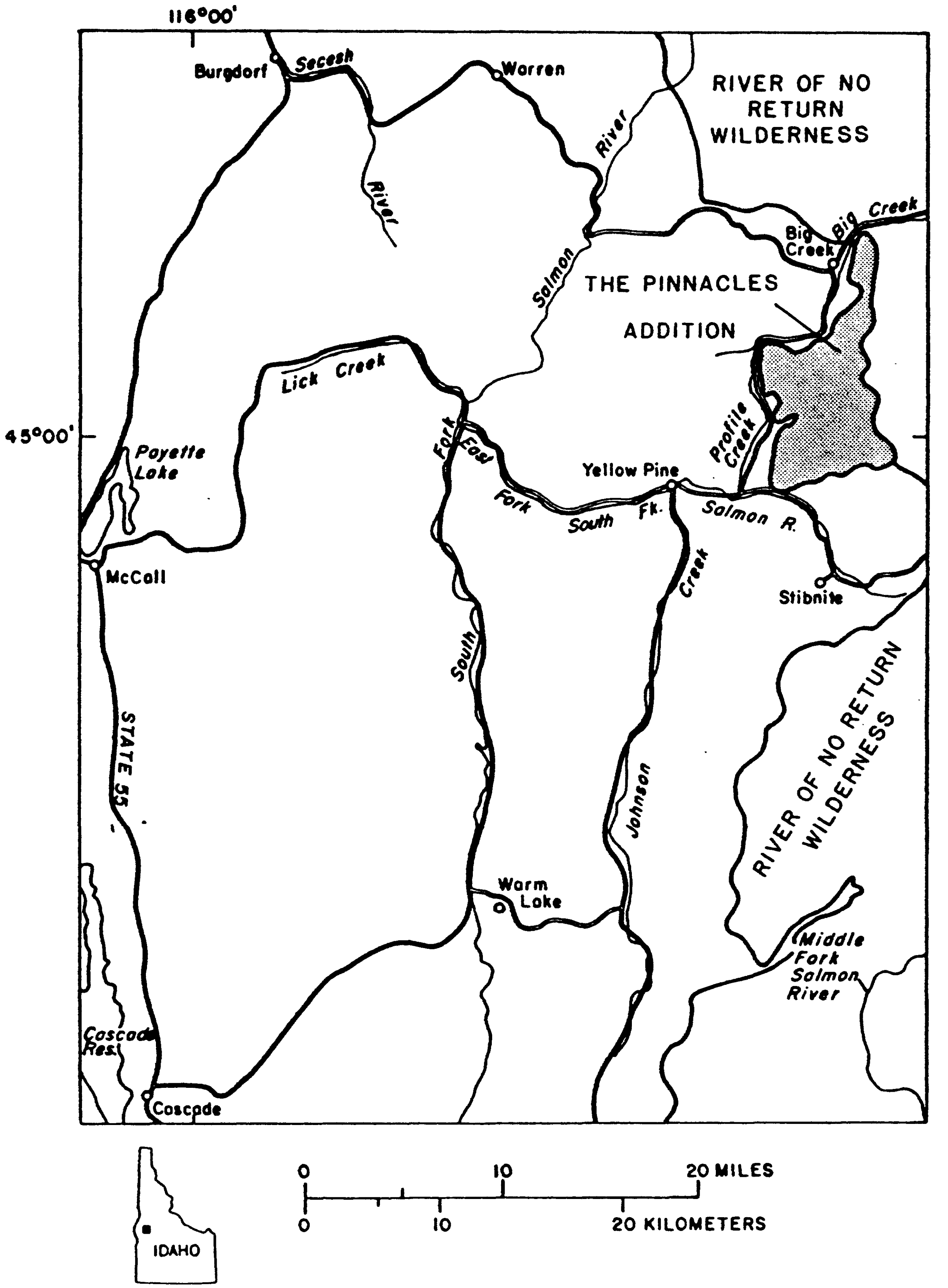


Figure 1. Index map, The Pinnacles Addition to the River of No Return Wilderness, Valley County, Idaho.

## Sample Collection

Samples were collected at 84 sites (plate 1). At all of the sites, a stream-sediment sample was collected; at most of the sites two panned-concentrate samples were collected. The two panned-concentrate samples will be referred to as the heavy-mineral-concentrate sample and the raw panned-concentrate sample. Sampling density was about 1 sample site per square mile.

### Stream-sediment samples

The stream-sediment samples consisted of grab samples 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).

### Heavy-mineral-concentrate samples

Heavy-mineral-concentrate samples were collected from the same active alluvium as the stream-sediment samples. Each bulk sample was screened with a 2.0-mm (10-mesh) screen to remove the coarse material. The less than 2.0-mm fraction was panned until most of the quartz, feldspar, organic material, and clay-sized material were removed.

### Raw panned-concentrate samples

A heaping 16-inch pan of unscreened alluvium was panned until about 10 g remained.

## Sample Preparation

The stream-sediment samples were oven dried at less than 60°C, then sieved using 80-mesh (0.17-mm) stainless-steel sieves. The portion of the sediment passing through the sieve was saved for analysis.

After oven drying at less than 60°C, bromoform (specific gravity 2.8) was used to remove the remaining quartz and feldspar from the heavy-mineral-concentrate samples that had been panned in the field. The resultant heavy mineral sample was separated into three fractions using a large electromagnet (in this case a modified Frantz Isodynamic Separator). The most magnetic material, primarily magnetite, was not analyzed. The second fraction, largely ferromagnesian silicates and iron oxides, was saved for analysis/archival storage. The third fraction (the least magnetic material including the nonmagnetic ore minerals, zircon, sphene, etc.) was split using a Jones splitter. One split was hand-ground for spectrographic analysis; the other split was saved for mineralogical analysis. These magnetic separates are the same separates that would be produced by using a Frantz Isodynamic Separator set at a slope of 15° and a tilt of 10° with a current of 0.1 ampere to remove the magnetite and ilmenite, and a current of 1.0 ampere to split the remainder of the sample into paramagnetic and nonmagnetic fractions.

The raw panned-concentrate samples were dried at less than 60°C and then were analyzed for gold without further preparation.

## Sample Analysis

### Spectrographic method

The 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). The elements analyzed and their lower limits of determination are listed in table 1. Spectrographic results were obtained by visual comparison of spectra derived from the sample against spectra obtained from standards 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 (Ca, Fe, Mg, and Ti) are given in weight percent; all others are given in parts per million (micrograms/gram).

### Other Methods

Other methods of analysis used on samples from The Pinnacles Addition are summarized in table 2.

Analytical results are listed in tables 3, 4, and 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 3-5 list the analyses for the samples of stream sediment, heavy-mineral concentrate, and raw panned concentrate, respectively. For the three tables, the data are arranged so that column 1 contains the USGS-assigned sample identifications. The numeric portions of the identifications correspond to the numbers shown on the site location map (plate 1). Some elements (As, Cd, Sb, and Zn) were analyzed both by emission spectrography and atomic absorption; atomic-absorption results for those elements are denoted by the letter "a" following the element heading. A letter "N" in tables 3 and 4 indicates that a given element was looked for but not detected at the lower limit of determination shown for that element in tables 1 and 2. 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 3 and 4, some of the elements listed in these tables (Ca, Fe, Mg, Ti, Ag, and U) 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.

The lower limit of determination for Au by atomic absorption is 0.05 ppm, based on a 10-g sample (table 2). Because the sample weight for raw panned concentrates is variable in this study, the lower limit of determination is variable when reported in terms of ppm (table 5). However, the Au method used for this study will detect 0.5 µg of Au, as reflected in table 5 by the last column (Au per pan, µg). The reported amount of Au in table 5 for samples IG2026 and IG3091 is adjusted to compensate for the fact that either more or less than one pan of alluvium was panned.

The spectrographic determinations for Au, Bi, Cd, Sb, Sn, and W in stream-sediment samples and for Sb in heavy-mineral-concentrate samples were all below the lower limits of determinations shown in table 1; consequently, the columns for these elements have been deleted from tables 3 and 4, respectively.

Latitudes and longitudes listed in tables 3-5 are based on 1:24,000-scale U.S. Geological Survey topographic maps of the Big Creek, Edwardsburg, Profile Gap, Stibnite, and Yellow Pine quadrangles. The listed coordinates may not conform precisely to the plotted locations in plate 1.

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**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 based on a 5-mg sample, and are therefore two reporting intervals higher than the limits given for rocks and stream sediments]

| Elements | Lower determination limit | Upper determination limit |
|---|---|---|
| | Percent | |
| Iron (Fe) | 0.05 | 20 |
| Magnesium (Mg) | .02 | 10 |
| Calcium (Ca) | .05 | 20 |
| Titanium (Ti) | .002 | 1 |
| | Parts per million | |
| Manganese (Mn) | 10 | 5,000 |
| Silver (Ag) | 0.5 | 5,000 |
| Arsenic (As) | 200 | 10,000 |
| Gold (Au) | 10 | 500 |
| Boron (B) | 10 | 2,000 |
| Barium (Ba) | 20 | 5,000 |
| Beryllium (Be) | 1 | 1,000 |
| Bismuth (Bi) | 10 | 1,000 |
| Cadmium (Cd) | 20 | 500 |
| Cobalt (Co) | 5 | 2,000 |
| Chromium (Cr) | 10 | 5,000 |
| Copper (Cu) | 5 | 20,000 |
| Lanthanum (La) | 20 | 1,000 |
| Molybdenum (Mo) | 5 | 2,000 |
| Niobium (Nb) | 20 | 2,000 |
| Nickel (Ni) | 5 | 5,000 |
| Lead (Pb) | 10 | 20,000 |
| Antimony (Sb) | 100 | 10,000 |
| Scandium (Sc) | 5 | 100 |
| Tin (Sn) | 10 | 1,000 |
| Strontium (Sr) | 100 | 5,000 |
| Vanadium (V) | 10 | 10,000 |
| Tungsten (W) | 50 | 10,000 |
| Yttrium (Y) | 10 | 2,000 |
| Zinc (Zn) | 200 | 10,000 |
| Zirconium (Zr) | 10 | 1,000 |
| Thorium (Th) | 100 | 2,000 |

**Table 2.--Lower limits of determination for methods other than the spectrographic method**

[AA = atomic absorption; I = instrumental; SI = specific ion; and F = fluorometry]

| Element or constituent determined | Sample Type | Method | Determination limit (ppm) | Reference |
|---|---|---|---|---|
| Gold (Au) | Raw panned concentrate | AA | 0.05* | Thompson and others, 1968. |
| Mercury (Hg) | Sediments | I | 0.02 | Modification of McNerney and others, 1972, and Vaughn, and McCarthy, 1964. |
| Arsenic (As) | " | AA | 10 | Modification of Viets, 1978. |
| Antimony (Sb) | " | AA | 2 | |
| Zinc (Zn) | " | AA | 5 | |
| Cadmium (Cd) | " | AA | 0.1 | |
| Fluorine (F) | " | SI | 100 | Hopkins, 1977. |
| Uranium (U) | " | F | 0.05 | Modification of Centanni and others, 1956. |

*Based on a 10-g sample

Table 3.--Analyses of stream-sediment samples, The Pinnacles Addition, River of No Return Wilderness, Idaho

[ N, NOT DETECTED; <, DETECTED BUT BELOW THE LIMIT OF DETERMINATION SHOWN; >, DETERMINED TO BE GREATER THAN THE VALUE SHOWN.]

| SAMPLE | Latitude | Longitude | Ca | Fe | Mg | Ti | Ag | As | As-a | B | Ba | Be | Cd-a | Co | Cr | Cu | F | Hg | La |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IA2026 | 45 2 51 | 115 22 2 | .5 | .5 | .10 | .07 | N | N | N | 10 | 200 | 5 | .2 | N | <10 | 5 | 300 | .14 | 70 |
| IA2027 | 45 2 48 | 115 22 9 | .3 | 2.0 | .50 | .30 | N | N | 20 | 50 | 500 | 7 | N | 5 | 10 | 15 | 400 | .08 | 100 |
| IA2028 | 45 2 49 | 115 22 10 | .3 | 1.0 | .15 | .20 | N | N | 60 | 30 | 300 | 7 | .1 | <5 | <10 | 7 | 400 | .04 | 100 |
| IA2029 | 45 5 12 | 115 18 20 | .7 | 2.0 | .70 | .30 | .5 | N | 20 | 50 | 700 | 5 | N | 7 | 50 | 20 | 600 | .06 | 100 |
| IA2030 | 45 6 1 | 115 19 24 | 1.0 | 5.0 | 1.50 | .50 | N | N | 30 | 300 | 700 | 3 | N | 15 | 100 | 30 | 300 | .16 | 50 |
| IA2031 | 44 59 21 | 115 17 41 | .5 | 1.5 | .30 | .20 | <.5 | N | 20 | 30 | 700 | 3 | N | <5 | 10 | 10 | 300 | .06 | 100 |
| IA2032 | 44 59 23 | 115 17 47 | .7 | 2.0 | .50 | .70 | N | N | 30 | 50 | 500 | 3 | .1 | 7 | 50 | 15 | 200 | .06 | 70 |
| IA2033 | 44 59 28 | 115 18 16 | 1.5 | 3.0 | 2.00 | .50 | N | N | 20 | 150 | 500 | 5 | N | 10 | 50 | 20 | 500 | .04 | 70 |
| IA2034 | 44 59 45 | 115 18 43 | 2.0 | 2.0 | 2.00 | .30 | N | N | 50 | 100 | 300 | 5 | .1 | 10 | 50 | 15 | 500 | .04 | 50 |
| IA2035 | 44 59 45 | 115 18 38 | 1.0 | 2.0 | .70 | .30 | N | N | 10 | 50 | 500 | 5 | N | 5 | 15 | 10 | 300 | .16 | 50 |
| IA2036 | 44 59 47 | 115 18 40 | .7 | 2.0 | .50 | .50 | N | N | 10 | 50 | 500 | 3 | .2 | 7 | 20 | 15 | 400 | .12 | 50 |
| IA2037 | 44 59 45 | 115 19 1 | .5 | 2.0 | .50 | .30 | N | N | 10 | 20 | 700 | 5 | .1 | 5 | 10 | 10 | 300 | .06 | 70 |
| IA2038 | 44 59 9 | 115 21 2 | 1.0 | 3.0 | 1.00 | .50 | N | N | 30 | 100 | 500 | 7 | N | 10 | 50 | 30 | 400 | .06 | 70 |
| IA2039 | 44 59 9 | 115 21 13 | 1.5 | 2.0 | 1.50 | .50 | N | N | 50 | 100 | 200 | 3 | N | 7 | 70 | 20 | 700 | .08 | N |
| IA2040 | 44 59 5 | 115 21 11 | 1.0 | 5.0 | 2.00 | .70 | N | N | 40 | 100 | 300 | 3 | N | 10 | 70 | 50 | 500 | .04 | 100 |
| IA2041 | 44 58 50 | 115 21 36 | 1.0 | 3.0 | 1.00 | .30 | N | N | 50 | 150 | 300 | 5 | N | 10 | 70 | 50 | 400 | <.02 | 70 |
| IA2042 | 44 58 41 | 115 21 57 | 1.0 | 7.0 | 1.50 | .50 | N | N | 20 | 70 | 500 | 5 | N | 15 | 70 | 70 | 300 | .02 | 200 |
| IA2043 | 44 58 31 | 115 22 13 | .7 | 3.0 | .50 | .50 | N | N | 70 | 70 | 200 | 3 | N | 7 | 50 | 30 | 400 | .04 | 70 |
| IA2044 | 44 58 36 | 115 21 55 | 1.0 | 3.0 | .70 | .50 | N | N | 20 | 20 | 300 | 5 | .1 | 10 | 70 | 50 | 500 | .04 | 70 |
| IA2045 | 44 58 34 | 115 22 4 | 1.0 | 5.0 | 1.50 | .50 | N | N | 80 | 100 | 500 | 7 | .1 | 10 | 70 | 50 | 400 | .04 | 150 |
| IA2046 | 44 58 16 | 115 22 32 | .7 | 3.0 | .50 | .50 | N | N | 50 | 100 | 300 | 5 | N | 10 | 50 | 70 | 500 | .04 | 70 |
| IA2047 | 44 57 39 | 115 19 46 | 1.5 | 2.0 | 2.00 | .50 | N | N | 40 | 100 | 300 | 3 | N | 10 | 70 | 30 | 500 | .04 | 100 |
| IA2048 | 44 57 38 | 115 19 45 | .5 | 3.0 | .70 | .50 | N | N | 30 | 200 | 700 | 5 | N | 15 | 70 | 50 | 300 | .06 | 300 |
| IA2049 | 44 57 19 | 115 20 25 | 1.5 | 5.0 | 1.00 | 1.00 | N | N | 50 | 70 | 500 | 3 | N | 15 | 50 | 20 | 600 | .04 | 200 |
| IA2050 | 44 57 16 | 115 20 21 | 1.5 | 5.0 | 2.00 | .50 | N | N | 30 | 200 | 500 | 3 | N | 15 | 70 | 30 | 300 | .04 | 200 |
| IA2058 | 44 57 39 | 115 17 7 | 2.0 | 5.0 | 5.00 | 1.00 | N | N | 40 | 200 | 300 | 2 | N | 15 | 70 | 30 | 300 | .08 | <20 |
| IA2059 | 44 57 53 | 115 16 53 | .5 | 3.0 | .30 | .30 | .5 | N | 30 | 20 | 1,000 | 7 | N | <5 | 15 | 15 | 300 | .04 | 150 |
| IA2060 | 44 57 53 | 115 16 55 | .5 | 1.0 | .20 | .20 | N | N | 50 | 30 | 500 | 7 | .1 | N | 10 | 7 | 300 | .06 | 100 |
| IA3041 | 45 2 19 | 115 18 53 | .7 | 1.5 | .30 | .30 | N | N | 10 | 50 | 500 | 3 | .2 | N | 15 | 20 | 300 | .04 | 100 |
| IA3042 | 45 2 16 | 115 18 56 | .5 | 2.0 | .15 | .30 | N | N | 100 | 20 | 500 | 5 | .3 | N | <10 | 20 | 500 | .04 | 100 |
| IA3043 | 45 2 57 | 115 19 22 | .5 | 1.0 | .15 | .20 | N | N | 70 | 30 | 500 | 3 | .2 | N | 10 | 20 | 400 | .04 | 150 |
| IA3044 | 45 2 49 | 115 19 29 | .7 | 2.0 | .50 | .30 | N | N | 90 | 50 | 1,000 | 3 | .2 | <5 | 10 | 15 | 300 | .04 | 70 |
| IA3045 | 45 2 52 | 115 19 22 | .5 | 2.0 | .20 | .30 | N | N | 100 | 30 | 700 | 5 | .6 | <5 | 10 | 20 | 500 | .04 | 150 |
| IA3046 | 45 3 15 | 115 19 31 | .7 | .7 | .10 | .10 | N | N | N | 50 | 300 | 5 | .2 | N | <10 | 7 | 300 | .10 | 150 |
| IA3047 | 45 3 47 | 115 19 14 | .5 | 5.0 | .70 | .70 | N | N | 30 | 50 | 1,000 | 5 | N | 10 | 70 | 20 | 600 | .04 | 100 |
| IA3048 | 45 3 42 | 115 19 19 | .5 | 2.0 | .30 | .50 | N | N | 50 | 30 | 700 | 7 | .1 | 5 | 10 | 30 | 300 | .04 | 150 |
| IA3049 | 44 57 20 | 115 21 54 | 1.5 | 5.0 | 1.00 | 1.00 | N | N | 80 | 150 | 300 | 5 | N | 15 | 70 | 30 | 500 | .04 | 100 |
| IA3050 | 44 57 41 | 115 23 11 | 1.5 | 7.0 | 2.00 | .50 | N | N | 60 | 70 | 500 | 5 | N | 15 | 100 | 50 | 400 | .02 | 100 |
| IA3051 | 44 57 38 | 115 23 45 | 1.0 | 5.0 | .50 | 1.00 | N | N | 60 | 100 | 300 | 5 | .1 | 10 | 150 | 30 | 400 | .06 | 300 |
| IA3052 | 44 57 41 | 115 24 21 | 1.0 | 7.0 | .70 | 1.00 | N | N | 40 | 100 | 700 | 5 | .1 | 15 | 200 | 20 | 400 | .04 | 200 |

Table 3.--Analyses of stream-sediment samples, The Pinnacles Addition, River of No Return Wilderness, Idaho--CONTINUED

| SAMPLE | Mn | Mo | Nb | Ni | Pb | Sb-a | Sc | Sr | Th | U | V | Y | Zn | Zn-a | Zr |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IA2026 | 1,000 | N | N | 7 | 10 | N | <5 | N | N | 32.00 | 20 | 30 | N | 55 | 150 |
| IA2027 | 1,000 | N | N | 15 | 30 | N | 7 | <100 | N | 10.00 | 30 | 50 | N | 70 | 200 |
| IA2028 | 700 | N | <20 | 7 | 30 | N | 5 | <100 | N | 15.00 | 20 | 50 | N | 70 | 200 |
| IA2029 | 1,000 | N | N | 15 | 30 | 2 | 10 | 200 | N | 11.00 | 70 | 70 | N | 70 | 300 |
| IA2030 | 1,000 | N | <20 | 20 | 20 | <2 | 15 | 200 | N | 9.00 | 100 | 20 | N | 45 | 300 |
| IA2031 | 300 | N | N | 5 | 30 | <2 | 5 | 200 | N | 16.00 | 30 | 50 | N | 45 | 300 |
| IA2032 | 500 | N | <20 | 10 | 20 | N | 15 | 200 | N | 5.80 | 100 | 30 | N | 65 | 300 |
| IA2033 | 500 | N | N | 30 | 15 | N | 5 | 200 | N | 3.50 | 50 | 30 | N | 25 | 200 |
| IA2034 | 700 | N | N | 20 | <10 | N | 5 | 200 | N | 1.90 | 50 | 20 | N | 30 | 200 |
| IA2035 | 700 | N | N | 15 | 15 | <2 | 5 | 200 | N | 11.00 | 50 | 30 | N | 40 | 200 |
| IA2036 | 700 | N | N | 10 | 30 | N | 10 | 200 | N | 5.50 | 70 | 20 | N | 60 | 200 |
| IA2037 | 700 | N | N | 10 | 20 | N | 7 | 200 | N | 10.00 | 50 | 50 | N | 70 | 300 |
| IA2038 | 1,000 | N | N | 20 | 20 | N | 10 | 200 | N | 20.00 | 50 | 50 | N | 10 | 300 |
| IA2039 | 300 | N | N | 20 | <10 | N | 7 | 150 | N | 6.40 | 50 | 15 | N | 20 | 100 |
| IA2040 | 500 | N | <20 | 50 | 10 | N | 10 | <100 | N | 5.00 | 70 | 50 | N | 10 | 200 |
| IA2041 | 1,000 | N | N | 50 | <10 | N | 10 | <100 | N | 3.50 | 70 | 50 | N | 30 | 200 |
| IA2042 | 1,000 | N | <20 | 50 | 15 | N | 20 | 200 | N | 6.10 | 70 | 70 | N | 15 | 300 |
| IA2043 | 700 | N | <20 | 50 | <10 | N | 10 | <100 | N | 9.30 | 70 | 50 | N | 50 | 300 |
| IA2044 | 1,000 | N | <20 | 20 | 15 | N | 10 | 200 | N | 17.00 | 70 | 50 | N | 70 | 100 |
| IA2045 | 1,000 | N | <20 | 30 | 20 | <2 | 10 | 150 | N | 14.00 | 70 | 70 | N | 40 | 300 |
| IA2046 | 1,000 | N | 30 | 20 | 10 | <2 | 10 | 150 | N | 7.40 | 70 | 50 | N | 25 | 300 |
| IA2047 | 700 | N | N | 30 | 10 | N | 10 | 150 | N | 3.80 | 70 | 30 | N | 30 | 300 |
| IA2048 | 1,000 | N | 20 | 50 | 20 | N | 10 | 200 | <100 | 11.00 | 70 | 100 | N | 60 | 300 |
| IA2049 | 700 | N | <20 | 30 | 15 | N | 20 | 300 | N | 6.90 | 100 | 50 | N | 40 | 500 |
| IA2050 | 1,000 | N | 20 | 50 | 15 | N | 20 | 200 | N | 5.90 | 70 | 50 | N | 25 | 300 |
| IA2058 | 1,000 | N | <20 | 50 | <10 | <2 | 15 | 150 | N | 1.80 | 100 | 20 | N | 20 | 300 |
| IA2059 | 1,000 | N | <20 | 7 | 50 | <2 | 7 | 200 | N | 23.00 | 30 | 50 | N | 30 | 300 |
| IA2060 | 500 | N | N | 7 | 15 | <2 | 5 | <100 | N | 19.00 | 20 | 50 | N | 35 | 200 |
| IA3041 | 1,000 | N | N | 15 | 30 | <2 | 7 | <100 | N | 14.00 | 50 | 30 | N | 100 | 200 |
| IA3042 | 1,500 | N | N | 15 | 50 | <2 | 5 | <100 | N | 3.60 | 30 | 30 | N | 130 | 300 |
| IA3043 | 700 | N | N | 5 | 20 | <2 | 7 | 150 | N | 17.00 | 20 | 70 | N | 70 | 200 |
| IA3044 | 500 | N | N | 7 | 20 | N | 7 | <100 | N | 8.30 | 30 | 30 | N | 55 | 200 |
| IA3045 | 1,000 | <5 | N | 7 | 30 | N | 7 | <100 | N | 17.00 | 50 | 50 | N | 100 | 200 |
| IA3046 | 700 | N | N | 15 | 15 | N | 5 | <100 | N | 34.00 | 30 | 50 | N | 55 | 100 |
| IA3047 | 1,000 | <5 | <20 | 30 | 30 | N | 10 | 300 | N | 5.20 | 70 | 50 | N | 55 | 500 |
| IA3048 | 1,000 | <5 | <20 | 20 | 20 | N | 7 | 150 | N | 17.00 | 30 | 70 | N | 25 | 300 |
| IA3049 | 1,000 | N | 20 | 20 | 10 | <2 | 20 | 300 | N | 6.70 | 100 | 50 | N | 40 | 500 |
| IA3050 | 700 | N | <20 | 30 | 20 | <2 | 15 | 200 | N | 8.20 | 100 | 50 | N | 25 | 300 |
| IA3051 | 700 | N | 30 | 30 | <10 | <2 | 15 | <100 | N | 7.10 | 200 | 70 | N | 30 | 300 |
| IA3052 | 1,000 | N | 30 | 70 | 20 | <2 | 20 | 150 | N | 3.40 | 200 | 100 | N | 25 | 300 |

Table 3.--Analyses of stream-sediment samples, The Pinnacles Addition, River of No Return Wilderness, Idaho--CONTINUED

| SAMPLE | Latitude | Longitude | Ca | Fe | Mg | Ti | Ag | As | As-a | B | Ba | Be | Cd-a | Co | Cr | Cu | F | Hg | La |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IA3053 | 44 59 8 | 115 24 44 | 1.0 | 7.0 | 1.50 | .70 | N | N | 30 | 50 | 700 | 5 | .1 | 20 | 100 | 30 | 400 | .02 | 300 |
| IA3054 | 45 1 20 | 115 17 26 | .7 | 2.0 | .50 | .50 | N | N | 10 | 50 | 700 | 3 | .2 | 5 | 20 | 15 | 200 | .06 | 50 |
| IA3055 | 45 0 37 | 115 18 2 | 1.0 | 2.0 | .50 | .50 | N | N | 10 | 50 | 500 | 3 | .2 | 7 | 30 | 20 | 200 | .10 | 150 |
| IA3056 | 45 0 40 | 115 17 55 | 1.0 | 5.0 | .70 | .70 | N | N | 60 | 50 | 1,000 | 3 | .1 | 10 | 50 | 20 | 200 | .02 | 70 |
| IA3057 | 45 0 43 | 115 18 25 | .7 | 1.5 | .20 | .30 | N | N | N | 30 | 500 | 3 | .4 | N | 10 | 15 | 300 | .06 | 70 |
| IA3058 | 45 0 19 | 115 18 58 | .5 | 2.0 | .30 | .50 | <.5 | N | 10 | 50 | 1,000 | 7 | .2 | 5 | 20 | 10 | 300 | .02 | 200 |
| IA3059 | 45 0 18 | 115 18 52 | 1.0 | 3.0 | .50 | .70 | N | N | 10 | 50 | 1,000 | 3 | .1 | 5 | 30 | 15 | 300 | .04 | 70 |
| IA3060 | 44 59 34 | 115 19 47 | 2.0 | 3.0 | 7.00 | .50 | N | N | 20 | 100 | 500 | 5 | .1 | 10 | 50 | 10 | 400 | .02 | <20 |
| IA3061 | 45 0 45 | 115 20 8 | 1.0 | 2.0 | .50 | .50 | N | N | 20 | 50 | 500 | 7 | .3 | N | 20 | 15 | 200 | .04 | 70 |
| IA3062 | 45 0 40 | 115 20 7 | 1.0 | 1.0 | .70 | .20 | N | N | 10 | 70 | 200 | 10 | .7 | N | 20 | 15 | 200 | .12 | 70 |
| IA3063 | 45 0 17 | 115 19 59 | 1.0 | 2.0 | .70 | .50 | N | N | 60 | 100 | 300 | 7 | .1 | 7 | 50 | 15 | 400 | .06 | 50 |
| IA3064 | 44 59 55 | 115 20 1 | 2.0 | 5.0 | 7.00 | .50 | N | N | <10 | 70 | 500 | 3 | .1 | 15 | 50 | 20 | 500 | .02 | 50 |
| IA3065 | 44 59 57 | 115 19 57 | 1.0 | .7 | .30 | .10 | N | N | <10 | 30 | 200 | 3 | .2 | N | 10 | 7 | 200 | .06 | 50 |
| IA3066 | 44 59 34 | 115 19 33 | 1.5 | 5.0 | 5.00 | .50 | N | N | 20 | 150 | 500 | 10 | .2 | 10 | 70 | 50 | 800 | .04 | 100 |
| IA3067 | 45 0 14 | 115 24 4 | 1.0 | 7.0 | 1.50 | 1.00 | N | N | 10 | 50 | 300 | 5 | .1 | 15 | 100 | 100 | 500 | .02 | 150 |
| IA3068 | 45 1 0 | 115 21 52 | .5 | 3.0 | .50 | .30 | <.5 | N | N | 50 | 700 | 7 | .1 | 5 | 10 | 20 | 300 | .02 | 100 |
| IA3069 | 45 0 30 | 115 22 18 | 2.0 | 5.0 | 10.00 | .70 | N | N | 30 | 100 | 700 | 3 | .1 | 15 | 50 | 50 | 600 | .02 | 50 |
| IA3070 | 45 0 19 | 115 22 43 | 1.5 | 1.0 | 1.00 | .30 | N | N | <10 | 100 | 200 | 3 | .3 | N | 20 | 30 | 400 | .10 | 50 |
| IA3071 | 45 0 17 | 115 22 58 | 1.0 | 3.0 | 1.00 | .50 | N | N | 20 | 200 | 500 | 5 | .1 | 10 | 100 | 50 | 800 | .06 | 70 |
| IA3072 | 45 0 54 | 115 23 29 | 1.0 | 3.0 | 2.00 | .50 | N | N | 10 | 100 | 500 | 5 | .2 | 10 | 50 | 20 | 700 | .02 | 50 |
| IA3073 | 45 1 12 | 115 23 35 | 1.5 | 1.0 | 2.00 | .30 | .5 | N | 90 | 50 | 200 | 3 | 1.5 | N | 20 | 15 | 700 | .02 | 50 |
| IA3074 | 45 1 39 | 115 23 57 | 1.5 | 2.0 | 3.00 | .50 | N | N | 30 | 70 | 500 | 3 | .7 | 5 | 20 | 30 | 500 | .04 | 100 |
| IA3075 | 45 1 37 | 115 24 12 | .7 | 1.0 | .50 | .30 | 1.0 | N | 10 | 50 | 200 | 3 | .6 | N | 20 | 50 | 300 | .10 | 100 |
| IA3076 | 45 1 50 | 115 24 29 | 1.5 | 3.0 | 1.00 | .50 | N | N | 60 | 30 | 300 | 5 | .4 | 10 | 50 | 70 | 500 | .04 | 100 |
| IA3077 | 45 2 12 | 115 24 27 | 1.5 | 5.0 | 5.00 | .50 | .5 | N | 40 | 100 | 1,000 | 3 | .1 | 10 | 70 | 30 | 500 | .02 | 50 |
| IA3078 | 45 2 30 | 115 25 17 | 1.0 | 3.0 | 1.00 | .50 | N | N | 30 | 50 | 300 | 5 | .6 | 10 | 100 | 30 | 400 | .06 | 50 |
| IA3079 | 45 3 2 | 115 24 17 | .3 | 3.0 | .70 | .50 | 1.5 | 500 | 100 | 50 | 1,000 | 5 | .2 | 10 | 100 | 30 | 400 | .02 | 100 |
| IA3080 | 45 3 57 | 115 24 3 | .5 | 3.0 | .20 | .50 | N | N | 40 | 50 | 500 | 10 | .2 | 5 | 10 | 15 | 300 | .06 | 100 |
| IA3081 | 45 3 46 | 115 25 2 | 1.0 | 2.0 | .50 | .50 | .5 | N | 30 | 30 | 1,000 | 5 | .2 | 7 | 30 | 20 | 200 | .02 | 50 |
| IA3082 | 45 4 19 | 115 24 23 | 1.0 | 1.5 | .15 | .20 | <.5 | N | 20 | 50 | 300 | 10 | .7 | N | 15 | 15 | 400 | .06 | 70 |
| IA3083 | 45 4 15 | 115 23 17 | .3 | 1.5 | .15 | .30 | N | N | 10 | 20 | 500 | 7 | .1 | <5 | 15 | 7 | 500 | .04 | 70 |
| IA3084 | 45 4 17 | 115 23 23 | .5 | 2.0 | .20 | .50 | <.5 | N | 20 | 70 | 1,000 | 5 | .1 | 7 | 20 | 15 | 400 | .02 | 70 |
| IA3085 | 45 4 8 | 115 21 50 | .3 | 2.0 | .15 | .50 | N | N | <10 | 20 | 1,000 | 5 | N | 5 | 10 | 10 | 300 | .02 | 100 |
| IA3086 | 45 4 11 | 115 21 51 | .5 | 2.0 | .20 | .50 | <.5 | N | 20 | 50 | 1,000 | 5 | .1 | 7 | 30 | 15 | 300 | .04 | 50 |
| IA3087 | 45 4 44 | 115 20 4 | .5 | 3.0 | .30 | .50 | <.5 | N | <10 | 30 | 1,000 | 5 | .1 | 7 | 20 | 20 | 400 | .04 | 150 |
| IA3088 | 45 4 42 | 115 20 58 | .7 | 3.0 | .50 | .50 | .5 | N | 20 | 30 | 1,000 | 5 | .2 | 10 | 50 | 30 | 500 | .04 | 100 |
| IA3089 | 45 7 6 | 115 19 1 | .5 | 1.0 | .20 | .50 | N | N | 10 | 200 | 300 | 1 | .1 | N | 20 | 7 | 200 | .04 | <20 |
| IA3090 | 45 7 5 | 115 19 9 | .7 | 5.0 | .70 | 1.00 | N | N | <10 | 200 | 700 | 2 | N | 15 | 50 | 15 | 300 | .04 | 50 |
| IA3091 | 45 8 18 | 115 19 8 | 1.5 | 5.0 | 1.00 | .70 | N | N | 10 | 70 | 500 | 3 | .1 | 15 | 50 | 50 | 400 | .04 | <20 |
| IA3092 | 45 5 23 | 115 19 34 | .7 | .7 | .15 | .03 | N | N | N | 20 | 100 | 3 | .2 | N | 15 | 20 | 500 | .10 | <20 |
| IA3093 | 45 8 31 | 115 18 55 | 2.0 | 2.0 | 5.00 | .30 | N | N | <10 | 70 | 500 | 5 | .1 | 7 | 30 | 30 | 700 | .08 | N |
| IA3094 | 45 7 42 | 115 19 31 | 1.0 | 7.0 | 2.00 | .70 | N | N | 30 | 200 | 300 | 3 | .1 | 15 | 100 | 50 | 500 | <.02 | 100 |
| IA3095 | 45 8 35 | 115 18 35 | 1.0 | 3.0 | .70 | .50 | <.5 | N | 30 | 100 | 1,000 | 5 | .1 | 10 | 50 | 15 | 500 | .06 | 70 |
| IA3096 | 45 9 3 | 115 17 53 | 1.0 | 5.0 | .70 | 1.00 | N | N | 30 | 100 | 300 | 3 | .3 | 15 | 70 | 70 | 300 | .04 | 70 |

Table 3.--Analyses of stream-sediment samples, The Pinnacles Addition, River of No Return Wilderness, Idaho--CONTINUED

| SAMPLE | Mn | Mo | Nb | Ni | Pb | Sb-a | Sc | Sr | Th | U | V | Y | Zn | Zn-a | Zr |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IA3053 | 1,000 | N | 30 | 50 | 15 | <2 | 15 | 200 | N | 2.30 | 100 | 70 | N | 45 | 500 |
| IA3054 | 1,000 | N | N | 20 | 15 | <2 | 7 | 200 | N | 7.60 | 70 | 30 | N | 70 | 300 |
| IA3055 | 1,000 | N | N | 10 | 30 | N | 10 | 200 | N | 5.00 | 70 | 50 | N | 50 | 300 |
| IA3056 | 700 | N | N | 15 | 30 | N | 15 | 200 | N | 7.10 | 100 | 50 | N | 65 | 300 |
| IA3057 | 1,000 | N | N | 10 | 20 | N | 5 | <100 | N | 2.30 | 30 | 20 | N | 100 | 200 |
| IA3058 | 1,000 | N | N | 15 | 30 | N | 10 | 150 | N | 12.00 | 50 | 70 | N | 90 | 200 |
| IA3059 | 1,000 | N | <20 | 15 | 30 | N | 10 | 200 | N | 5.60 | 70 | 50 | N | 60 | 300 |
| IA3060 | 1,000 | N | <20 | 30 | 20 | N | 10 | 200 | N | 6.40 | 70 | 20 | N | 25 | 300 |
| IA3061 | 500 | N | N | 10 | 30 | <2 | 10 | 150 | N | 8.60 | 70 | 30 | N | 70 | 200 |
| IA3062 | 2,000 | N | N | 10 | 15 | N | 5 | <100 | N | 61.00 | 30 | 50 | N | 50 | 300 |
| IA3063 | 300 | N | <20 | 20 | <10 | N | 7 | 150 | N | 31.00 | 50 | 50 | N | 30 | 100 |
| IA3064 | 1,000 | N | <20 | 30 | 20 | N | 10 | 200 | N | 1.40 | 70 | 50 | N | 15 | 200 |
| IA3065 | 300 | N | N | 10 | 10 | N | <5 | N | N | 38.00 | 20 | 30 | N | 40 | 50 |
| IA3066 | 1,000 | N | N | 30 | 50 | N | 10 | 150 | N | 2.10 | 70 | 50 | N | 35 | 150 |
| IA3067 | 1,000 | <5 | 50 | 50 | 20 | N | 20 | 150 | N | 3.70 | 100 | 50 | N | 35 | 500 |
| IA3068 | 1,000 | N | 20 | 7 | 70 | N | 10 | 150 | N | 15.00 | 20 | 70 | N | 15 | 200 |
| IA3069 | 1,000 | <5 | <20 | 50 | 20 | N | 15 | 200 | N | .91 | 70 | 50 | N | 40 | 200 |
| IA3070 | 500 | N | N | 20 | 10 | N | 7 | <100 | N | 1.20 | 30 | 70 | N | 40 | 100 |
| IA3071 | 500 | N | N | 30 | 15 | N | 10 | <100 | N | 9.10 | 70 | 50 | N | 70 | 200 |
| IA3072 | 1,000 | N | N | 30 | 70 | N | 7 | 150 | N | 1.10 | 50 | 15 | <200 | 60 | 100 |
| IA3073 | 700 | N | N | 10 | 50 | <2 | 5 | <100 | N | 12.00 | 30 | 20 | 200 | 260 | 200 |
| IA3074 | 700 | N | N | 15 | 300 | <2 | 5 | 200 | N | 10.00 | 50 | 20 | 300 | 220 | 200 |
| IA3075 | 1,000 | N | N | 15 | 20 | N | 5 | <100 | N | 16.00 | 50 | 50 | N | 100 | 150 |
| IA3076 | 700 | <5 | <20 | 20 | 20 | N | 10 | <100 | N | 16.00 | 70 | 70 | N | 110 | 300 |
| IA3077 | 500 | N | <20 | 20 | 100 | N | 10 | 200 | N | 1.90 | 70 | 20 | <200 | 45 | 300 |
| IA3078 | 1,500 | N | N | 20 | 50 | N | 10 | <100 | N | 12.00 | 100 | 30 | N | 130 | 200 |
| IA3079 | 1,000 | N | <20 | 20 | 100 | N | 7 | 200 | N | 4.00 | 50 | 30 | <200 | 45 | 300 |
| IA3080 | 1,000 | N | N | 10 | 15 | <2 | 7 | <100 | N | 6.20 | 50 | 50 | N | 140 | 200 |
| IA3081 | 1,000 | <5 | <20 | 10 | 50 | N | 5 | 300 | N | 10.00 | 50 | 20 | <200 | 50 | 300 |
| IA3082 | 1,000 | N | N | 15 | 20 | N | 5 | 150 | N | 38.00 | 50 | 50 | N | 120 | 50 |
| IA3083 | 500 | N | N | 10 | 10 | N | 5 | <100 | N | 4.80 | 30 | 30 | N | 15 | 300 |
| IA3084 | 1,000 | <5 | N | 15 | 50 | N | 5 | 300 | N | 10.00 | 50 | 50 | <200 | 30 | 200 |
| IA3085 | 700 | <5 | 20 | 5 | 30 | N | 7 | 200 | N | 6.40 | 30 | 30 | N | 10 | 300 |
| IA3086 | 700 | <5 | <20 | 15 | 50 | <2 | 7 | 300 | N | 6.60 | 70 | 20 | <200 | 35 | 150 |
| IA3087 | 1,000 | <5 | <20 | 10 | 50 | N | 10 | 200 | N | 17.00 | 50 | 50 | N | 15 | 200 |
| IA3088 | 1,000 | N | N | 15 | 50 | <2 | 20 | 300 | N | 8.30 | 70 | 50 | N | 90 | 200 |
| IA3089 | 500 | N | N | 7 | N | <2 | 5 | N | N | 3.80 | 70 | 15 | N | 35 | 150 |
| IA3090 | 700 | N | <20 | 15 | 15 | N | 10 | 150 | N | 2.70 | 100 | 30 | N | 25 | 200 |
| IA3091 | 1,500 | N | N | 20 | 10 | N | 10 | 150 | N | 1.30 | 100 | 20 | N | 120 | 200 |
| IA3092 | 300 | N | N | 10 | <10 | N | 5 | N | N | 10.00 | 20 | 10 | N | 80 | 20 |
| IA3093 | 1,000 | N | N | 15 | N | <2 | 10 | <100 | N | 2.40 | 70 | 20 | N | 55 | 150 |
| IA3094 | 1,000 | N | 20 | 50 | 30 | <2 | 20 | 200 | N | .91 | 100 | 70 | <200 | 110 | 200 |
| IA3095 | 700 | N | <20 | 15 | 30 | <2 | 10 | 200 | N | 15.00 | 70 | 50 | N | 35 | 200 |
| IA3096 | 2,000 | N | N | 20 | 30 | <2 | 15 | 150 | N | 2.50 | 150 | 50 | <200 | 120 | 200 |

Table 4.--Analyses of heavy-mineral-concentrate samples, The Pinnacles Addition, River of No Return Wilderness, Idaho

[ N, NOT DETECTED; <, DETECTED BUT BELOW THE LIMIT OF DETERMINATION SHOWN; >, DETERMINED TO BE GREATER THAN THE VALUE SHOWN.]

| SAMPLE | Latitude | Longitude | Ca | Fe | Mg | Ti | Ag | As | Au | B | Ba | Be | Bi | Cd | Co | Cr | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IH2026 | 45 2 51 | 115 22 2 | 3.0 | 3.0 | .50 | >2.0 | N | N | N | 70 | 500 | 5 | N | N | 10 | 200 | 30 |
| IH2027 | 45 2 48 | 115 22 9 | 1.0 | 3.0 | 1.00 | >2.0 | N | N | N | 70 | 700 | 5 | N | N | 20 | 200 | 20 |
| IH2028 | 45 2 49 | 115 22 10 | 1.0 | 1.5 | .15 | >2.0 | 100 | N | 500 | 50 | 200 | 2 | N | N | 10 | 50 | 15 |
| IH2029 | 45 5 12 | 115 18 20 | 5.0 | 3.0 | 2.00 | >2.0 | 10 | N | N | 200 | 500 | 3 | 700 | N | 10 | 150 | 15 |
| IH2030 | 45 6 1 | 115 19 24 | 10.0 | 2.0 | 10.00 | >2.0 | N | N | N | 2,000 | 10,000 | 2 | N | N | 30 | 100 | 10 |
| IH2031 | 44 59 21 | 115 17 41 | 3.0 | 3.0 | 1.00 | >2.0 | 50 | N | 200 | 100 | 500 | 5 | N | N | 20 | 200 | 15 |
| IH2032 | 44 59 23 | 115 17 47 | 5.0 | 2.0 | 1.00 | >2.0 | N | N | N | 70 | 200 | 3 | N | N | 20 | 200 | 30 |
| IH2033 | 44 59 28 | 115 18 16 | 15.0 | 5.0 | 10.00 | 2.0 | N | N | N | 1,000 | 100 | 3 | N | N | 15 | 100 | <10 |
| IH2034 | 44 59 45 | 115 18 43 | 20.0 | 5.0 | 15.00 | 2.0 | N | N | N | 500 | N | 2 | 50 | N | 20 | 70 | N |
| IH2035 | 44 59 45 | 115 18 38 | 20.0 | 5.0 | 15.00 | >2.0 | N | N | N | 700 | 1,000 | 5 | N | N | 50 | 100 | 15 |
| IH2036 | 44 59 47 | 115 18 40 | 7.0 | 5.0 | 2.00 | >2.0 | 7 | N | N | 500 | 500 | 3 | N | N | 30 | 200 | 20 |
| IH2037 | 44 59 45 | 115 19 1 | 7.0 | 3.0 | 1.00 | >2.0 | N | N | N | 50 | 300 | 5 | N | N | 15 | 200 | 30 |
| IH2038 | 44 59 9 | 115 21 2 | 20.0 | 5.0 | 15.00 | 2.0 | N | N | N | 500 | 100 | 3 | N | N | 20 | 70 | 30 |
| IH2040 | 44 59 5 | 115 21 11 | 20.0 | 5.0 | 10.00 | >2.0 | N | N | N | 700 | 500 | 3 | N | N | 15 | 150 | N |
| IH2041 | 44 58 50 | 115 21 36 | 20.0 | 7.0 | 15.00 | 2.0 | N | N | N | 2,000 | 100 | 2 | N | N | 20 | 100 | 10 |
| IH2042 | 44 58 41 | 115 21 57 | 20.0 | 3.0 | 10.00 | >2.0 | N | N | N | 500 | 200 | 3 | N | N | 10 | 100 | 15 |
| IH2043 | 44 58 31 | 115 22 13 | 20.0 | 3.0 | 2.00 | >2.0 | 5 | N | N | 1,000 | 300 | 5 | N | N | 10 | 150 | 20 |
| IH2045 | 44 58 34 | 115 22 4 | 20.0 | 7.0 | 15.00 | 2.0 | N | N | N | 700 | 300 | 3 | N | N | 20 | 50 | 100 |
| IH2046 | 44 58 16 | 115 22 32 | 10.0 | 3.0 | 1.50 | >2.0 | N | N | N | 200 | 200 | 5 | N | N | 15 | 200 | 30 |
| IH2047 | 44 57 39 | 115 19 46 | 30.0 | 3.0 | 15.00 | 2.0 | N | N | N | 500 | N | 2 | N | N | 10 | 50 | N |
| IH2048 | 44 57 38 | 115 19 45 | 5.0 | 2.0 | 1.00 | >2.0 | N | N | 20 | 5,000 | 700 | 5 | N | N | 20 | 50 | 20 |
| IH2049 | 44 57 19 | 115 20 25 | 20.0 | 1.0 | .50 | >2.0 | N | N | N | 100 | 300 | 2 | N | N | 15 | 20 | 10 |
| IH2050 | 44 57 16 | 115 20 21 | 20.0 | 3.0 | 10.00 | >2.0 | N | N | N | 2,000 | 70 | 2 | N | N | 50 | 50 | 10 |
| IH2058 | 44 57 39 | 115 17 7 | 20.0 | 7.0 | 15.00 | 2.0 | N | N | N | 500 | 70 | <2 | N | N | 20 | 50 | 30 |
| IH2059 | 44 57 53 | 115 16 53 | 10.0 | 10.0 | 1.00 | >2.0 | 30 | N | 100 | 100 | 500 | 5 | N | N | 15 | 50 | 100 |
| IH2060 | 44 57 53 | 115 16 55 | 5.0 | 10.0 | 2.00 | >2.0 | N | N | N | 1,000 | 700 | 3 | N | N | 30 | 70 | 50 |
| IH3041 | 45 2 19 | 115 18 53 | .5 | 10.0 | .70 | >2.0 | N | N | N | 50 | 700 | 7 | N | N | 15 | 150 | 30 |
| IH3042 | 45 2 16 | 115 18 56 | 1.0 | 10.0 | .30 | >2.0 | N | N | N | 20 | 2,000 | 5 | N | N | 30 | 50 | 50 |
| IH3043 | 45 2 57 | 115 19 22 | 5.0 | 10.0 | .70 | >2.0 | N | N | N | 20 | 1,000 | 7 | 1,000 | N | 15 | 200 | 100 |
| IH3044 | 45 2 49 | 115 19 29 | 3.0 | 10.0 | 2.00 | >2.0 | 15 | N | 30 | 70 | 500 | 5 | N | N | 20 | 100 | 20 |
| IH3045 | 45 2 52 | 115 19 22 | 5.0 | 10.0 | .50 | >2.0 | 7 | N | N | 20 | 300 | 5 | N | 50 | 15 | 70 | 100 |
| IH3046 | 45 3 15 | 115 19 31 | 3.0 | 10.0 | 2.00 | >2.0 | N | N | N | 20 | 500 | 7 | N | N | 20 | 200 | 30 |
| IH3047 | 45 3 47 | 115 19 14 | 5.0 | 15.0 | .70 | >2.0 | N | N | N | 50 | 700 | 7 | N | N | 50 | 500 | 50 |
| IH3048 | 45 3 42 | 115 19 19 | 5.0 | 7.0 | 1.00 | >2.0 | N | N | N | 20 | 300 | 5 | N | N | 15 | 300 | 20 |
| IH3049 | 44 57 20 | 115 21 54 | 20.0 | 3.0 | 10.00 | >2.0 | N | N | N | 2,000 | 100 | 5 | N | N | 15 | 50 | 15 |
| IH3050 | 44 57 41 | 115 23 11 | 20.0 | 7.0 | 15.00 | 2.0 | N | N | N | 700 | 100 | 5 | N | N | 30 | 100 | 10 |
| IH3051 | 44 57 38 | 115 23 45 | 20.0 | 3.0 | .70 | >2.0 | N | N | N | 700 | 200 | 3 | N | N | 15 | 300 | 30 |
| IH3052 | 44 57 41 | 115 24 21 | 7.0 | 3.0 | .50 | >2.0 | N | N | N | 150 | 300 | 2 | N | N | 20 | 500 | 50 |
| IH3053 | 44 59 8 | 115 24 44 | 10.0 | 5.0 | 7.00 | >2.0 | N | N | N | 200 | 100 | 3 | N | N | 20 | 100 | 20 |
| IH3054 | 45 1 20 | 115 17 25 | 5.0 | 5.0 | .50 | >2.0 | N | N | N | 150 | 300 | 7 | N | N | 15 | 500 | 100 |

Table 4.--Analyses of heavy-mineral-concentrate samples, The Pinnacles Addition, River of No Return Wilderness, Idaho--CONTINUED

| SAMPLE | La | Mn | Mo | Nb | Ni | Pb | Sc | Sn | Sr | Th | V | W | Y | Zn | Zr |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IH2026 | 500 | 500 | 100 | 100 | 10 | 1,000 | 100 | N | N | N | 200 | N | 500 | N | >2,000 |
| IH2027 | 700 | 700 | 70 | 300 | 15 | 500 | 100 | 20 | N | N | 200 | N | 200 | N | >2,000 |
| IH2028 | 2,000 | 200 | <10 | 200 | 20 | 50 | 50 | 50 | N | 200 | 200 | N | 1,000 | N | >2,000 |
| IH2029 | 300 | 1,000 | <10 | 50 | 20 | 100 | 20 | N | N | N | 200 | 100 | 300 | N | >2,000 |
| IH2030 | 200 | 700 | <10 | 100 | 15 | N | N | <20 | 300 | N | 150 | 3,000 | 200 | N | >2,000 |
| IH2031 | 1,000 | 1,000 | N | 150 | 15 | 70 | 50 | N | <200 | N | 200 | N | 500 | N | >2,000 |
| IH2032 | 700 | 700 | N | 200 | 10 | 50 | 150 | 200 | <200 | N | 500 | <100 | 150 | N | >2,000 |
| IH2033 | 700 | 1,500 | <10 | 200 | 30 | N | N | N | N | N | 100 | 500 | 150 | N | >2,000 |
| IH2034 | 700 | 2,000 | 20 | 200 | 20 | N | N | N | N | <200 | 100 | 2,000 | 150 | N | >2,000 |
| IH2035 | 700 | 3,000 | 10 | 150 | 50 | N | <10 | N | <200 | N | 100 | 1,500 | 150 | N | >2,000 |
| | | | | | | | | | | | | | | | |
| IH2036 | 1,000 | 2,000 | 150 | 300 | 20 | 3,000 | 50 | N | 300 | N | 200 | 1,000 | 150 | N | >2,000 |
| IH2037 | 500 | 700 | 10 | 100 | 10 | 100 | 100 | N | N | N | 300 | N | 200 | N | >2,000 |
| IH2038 | 1,000 | 3,000 | 30 | 200 | 20 | N | N | N | N | 200 | 100 | 5,000 | 150 | N | >2,000 |
| IH2040 | 500 | 1,500 | <10 | 100 | 50 | N | N | N | N | N | 150 | 1,500 | 100 | N | >2,000 |
| IH2041 | 1,500 | 3,000 | 10 | 100 | 30 | N | N | N | N | 500 | 100 | 2,000 | 300 | N | >2,000 |
| IH2042 | 2,000 | 2,000 | 30 | 300 | 20 | N | N | <20 | N | 300 | 150 | 5,000 | 500 | N | >2,000 |
| IH2043 | 1,500 | 2,000 | 10 | 500 | 20 | N | <10 | 50 | N | 300 | 200 | 1,500 | 700 | N | >2,000 |
| IH2045 | 1,000 | 2,000 | 30 | 100 | 20 | N | N | N | N | 300 | 100 | 10,000 | 300 | N | >2,000 |
| IH2046 | 2,000 | 1,500 | 10 | 500 | 15 | N | <10 | 30 | N | 200 | 300 | 150 | 1,000 | N | >2,000 |
| IH2047 | 2,000 | 1,000 | N | 100 | 20 | N | N | N | N | 300 | 150 | 1,000 | 300 | N | >2,000 |
| | | | | | | | | | | | | | | | |
| IH2048 | >2,000 | 1,000 | N | 500 | 30 | 20 | 50 | 30 | N | 5,000 | 150 | N | 2,000 | N | >2,000 |
| IH2049 | 2,000 | 700 | N | <50 | 10 | N | <10 | N | <200 | 200 | 200 | N | 1,000 | N | >2,000 |
| IH2050 | >2,000 | 2,000 | <10 | 50 | 30 | 20 | 50 | N | N | 3,000 | 100 | 500 | 2,000 | N | >2,000 |
| IH2058 | 500 | 2,000 | N | 50 | 50 | N | N | N | N | N | 100 | 100 | 70 | N | 2,000 |
| IH2059 | 2,000 | 1,000 | <10 | 200 | 15 | 100 | 20 | 300 | 300 | 200 | 100 | 100 | 1,000 | N | >2,000 |
| IH2060 | 1,500 | 2,000 | <10 | 300 | 30 | 70 | 50 | 50 | N | 200 | 100 | 100 | 500 | N | >2,000 |
| IH3041 | 700 | 500 | 10 | 200 | 20 | 70 | 50 | N | N | N | 100 | N | 300 | N | >2,000 |
| IH3042 | 1,000 | 1,000 | 10 | 100 | 15 | 150 | 70 | N | N | <200 | 150 | N | 500 | N | >2,000 |
| IH3043 | 2,000 | 700 | 10 | 300 | 15 | 200 | 50 | >2,000 | N | 200 | 150 | 200 | 700 | N | >2,000 |
| IH3044 | 700 | 3,000 | N | 100 | 30 | 70 | 70 | <20 | <200 | N | 150 | N | 200 | N | >2,000 |
| | | | | | | | | | | | | | | | |
| IH3045 | 1,500 | 1,000 | 20 | 150 | 10 | 1,000 | 30 | 50 | N | N | 100 | N | 500 | 1,000 | >2,000 |
| IH3046 | 1,500 | 1,500 | 10 | 500 | 150 | 300 | 50 | 50 | N | 200 | 100 | <100 | 300 | N | >2,000 |
| IH3047 | 2,000 | 1,500 | 10 | 200 | 50 | 200 | 30 | N | <200 | <200 | 200 | N | 200 | N | >2,000 |
| IH3048 | 1,000 | 1,500 | 10 | 200 | 20 | 100 | 100 | 500 | N | N | 200 | N | 500 | N | >2,000 |
| IH3049 | 1,000 | 2,000 | N | 200 | 20 | N | N | N | <200 | <200 | 200 | N | 500 | N | >2,000 |
| IH3050 | 700 | 3,000 | N | 300 | 30 | N | N | N | N | N | 100 | 300 | 200 | N | 2,000 |
| IH3051 | >2,000 | 1,500 | <10 | 300 | 20 | N | 30 | 20 | N | 700 | 500 | N | 1,000 | N | >2,000 |
| IH3052 | >2,000 | 1,000 | 10 | 200 | 50 | 20 | 20 | 20 | N | 200 | 500 | N | 700 | N | >2,000 |
| IH3053 | >2,000 | 3,000 | N | 300 | 20 | 20 | 30 | N | N | 1,000 | 200 | 100 | 1,000 | N | >2,000 |
| IH3054 | 700 | 1,000 | N | 100 | N | 150 | 150 | 20 | <200 | N | 500 | <100 | 200 | N | >2,000 |

Table 4.--Analyses of heavy-mineral-concentrate samples, The Pinnacles Addition, River of No Return Wilderness, Idaho--CONTINUED

| SAMPLE | Latitude | Longitude | Ca | Fe | Mg | Ti | Ag | As | Au | B | Ba | Be | Bi | Cd | Co | Cr | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IH3055 | 45 0 37 | 115 18 2 | 7.0 | 5.0 | .50 | >2.0 | N | N | N | 100 | 300 | 3 | N | N | 10 | 200 | 50 |
| IH3056 | 45 0 40 | 115 17 55 | 10.0 | 3.0 | .70 | >2.0 | N | N | N | 100 | 200 | 5 | N | N | 15 | 300 | 70 |
| IH3057 | 45 0 43 | 115 18 25 | 3.0 | 7.0 | .70 | >2.0 | N | N | N | 50 | 500 | 5 | N | N | 20 | 500 | 70 |
| IH3058 | 45 0 19 | 115 18 58 | 5.0 | 10.0 | 1.00 | >2.0 | 100 | N | 1,000 | 70 | 300 | 3 | N | N | 30 | 200 | 70 |
| IH3059 | 45 0 18 | 115 18 52 | 5.0 | 5.0 | .50 | >2.0 | N | N | N | 30 | 300 | 5 | N | N | 15 | 300 | 70 |
| IH3060 | 44 59 34 | 115 19 47 | 20.0 | 7.0 | 20.00 | 2.0 | N | N | N | 500 | N | 3 | N | N | 20 | 70 | 15 |
| IH3061 | 45 0 45 | 115 20 8 | 20.0 | 5.0 | 15.00 | >2.0 | N | N | N | 500 | 70 | 5 | N | N | 10 | 100 | 20 |
| IH3062 | 45 0 40 | 115 20 7 | 20.0 | 5.0 | 20.00 | >2.0 | N | N | N | 500 | N | 7 | N | N | 10 | 50 | 10 |
| IH3064 | 44 59 55 | 115 20 1 | 15.0 | 7.0 | 20.00 | 1.0 | N | N | N | 200 | N | 2 | N | N | 20 | 50 | N |
| IH3065 | 44 59 57 | 115 19 57 | 15.0 | 10.0 | 20.00 | >2.0 | N | N | N | 500 | N | 5 | N | N | 10 | 100 | 15 |
| IH3067 | 45 0 14 | 115 24 4 | 20.0 | 5.0 | 1.50 | >2.0 | N | N | N | 500 | 200 | 3 | N | N | 20 | 200 | 30 |
| IH3068 | 45 1 0 | 115 21 52 | 20.0 | 10.0 | 10.00 | >2.0 | N | N | 20 | 150 | 200 | 5 | N | N | 15 | 100 | 30 |
| IH3069 | 45 0 30 | 115 22 18 | 20.0 | 10.0 | 15.00 | 1.0 | N | N | N | 700 | 300 | 5 | N | N | 150 | 50 | 50 |
| IH3070 | 45 0 19 | 115 22 43 | 30.0 | 10.0 | 15.00 | 1.0 | N | N | N | 300 | 150 | 5 | N | N | 20 | 70 | N |
| IH3071 | 45 0 17 | 115 22 58 | 20.0 | 7.0 | 15.00 | 2.0 | N | N | N | 1,000 | 100 | 7 | N | N | 15 | 70 | 10 |
| IH3073 | 45 1 12 | 115 23 35 | 30.0 | 5.0 | 15.00 | 1.5 | N | N | N | 100 | 70 | 3 | N | N | 20 | 50 | 15 |
| IH3074 | 45 1 39 | 115 23 57 | 30.0 | 5.0 | 15.00 | >2.0 | N | N | N | 100 | N | <2 | N | N | 15 | 50 | <10 |
| IH3075 | 45 1 37 | 115 24 12 | 10.0 | 1.5 | 5.00 | >2.0 | N | N | N | 1,000 | 150 | 5 | N | N | 15 | 300 | <10 |
| IH3076 | 45 1 50 | 115 24 29 | 30.0 | 7.0 | 15.00 | 2.0 | N | N | N | 50 | N | 2 | N | N | 15 | 50 | 100 |
| IH3077 | 45 2 12 | 115 24 27 | 30.0 | 7.0 | 15.00 | >2.0 | N | N | N | 300 | 200 | 3 | N | N | 15 | 100 | 20 |
| IH3078 | 45 2 30 | 115 25 17 | 20.0 | 5.0 | 15.00 | 1.0 | N | N | N | 100 | N | 3 | N | N | 15 | 200 | 10 |
| IH3079 | 45 3 2 | 115 24 17 | 15.0 | 3.0 | .50 | >2.0 | 30 | 5,000 | N | 70 | 200 | 2 | N | N | 15 | 70 | 50 |
| IH3080 | 45 3 57 | 115 24 3 | 20.0 | 10.0 | .50 | >2.0 | 7 | N | N | 200 | 500 | 30 | N | N | 20 | 50 | 30 |
| IH3081 | 45 3 46 | 115 25 2 | 5.0 | 3.0 | 1.50 | >2.0 | N | N | N | 150 | 200 | 500 | N | N | 15 | 1,000 | 10 |
| IH3082 | 45 4 19 | 115 24 23 | 10.0 | 5.0 | 1.50 | >2.0 | N | N | N | 100 | 700 | 5 | N | N | 15 | 500 | 20 |
| IH3083 | 45 4 15 | 115 23 17 | 5.0 | 10.0 | .50 | >2.0 | N | N | N | 50 | 500 | 7 | N | N | 30 | 100 | 30 |
| IH3084 | 45 4 17 | 115 23 23 | 10.0 | 7.0 | .30 | >2.0 | N | N | N | 100 | 5,000 | 3 | N | N | 30 | 200 | 30 |
| IH3085 | 45 4 8 | 115 21 50 | 3.0 | 2.0 | .15 | >2.0 | 15 | N | 20 | 20 | 100 | 2 | N | N | <10 | 70 | 70 |
| IH3086 | 45 4 11 | 115 21 51 | 10.0 | 3.0 | 1.00 | >2.0 | N | N | N | 200 | 500 | 3 | N | N | 15 | 200 | 20 |
| IH3087 | 45 4 44 | 115 20 4 | 5.0 | 5.0 | 1.00 | >2.0 | N | N | N | 70 | 500 | 10 | N | N | 20 | 500 | 30 |
| IH3088 | 45 4 42 | 115 20 58 | 5.0 | 7.0 | 2.00 | >2.0 | N | N | N | 70 | 300 | 5 | N | N | 20 | 300 | 20 |
| IH3089 | 45 7 6 | 115 19 1 | 20.0 | 5.0 | 1.00 | >2.0 | N | N | N | 5,000 | 10,000 | 2 | 100 | N | 30 | 100 | 20 |
| IH3090 | 45 7 5 | 115 19 9 | 10.0 | 3.0 | 1.50 | >2.0 | N | N | N | 2,000 | 10,000 | 7 | N | N | 70 | 100 | 50 |
| IH3091 | 45 8 18 | 115 19 8 | 20.0 | 5.0 | 15.00 | 1.5 | N | N | N | 500 | <50 | <2 | N | N | 15 | 70 | 10 |
| IH3092 | 45 5 23 | 115 19 34 | 7.0 | 10.0 | 1.00 | >2.0 | N | N | N | 2,000 | 500 | 10 | N | N | 20 | 300 | 30 |
| IH3093 | 45 8 31 | 115 18 55 | 20.0 | 5.0 | 15.00 | 1.0 | N | N | N | 500 | 150 | 5 | N | N | 15 | 50 | <10 |
| IH3094 | 45 7 42 | 115 19 31 | 5.0 | 5.0 | 5.00 | >2.0 | N | N | N | 1,500 | 300 | 7 | N | N | 15 | 500 | 15 |
| IH3095 | 45 8 35 | 115 18 35 | 10.0 | 1.5 | 2.00 | >2.0 | 5 | N | N | 500 | 3,000 | 5 | N | N | 30 | 70 | 50 |

Table 4.--Analyses of heavy-mineral-concentrate samples, The Pinnacles Addition, River of No Return Wilderness, Idaho--CONTINUED

| SAMPLE | La | Mn | Mo | Nb | Ni | Pb | Sc | Sn | Sr | Th | V | W | Y | Zn | Zr |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IH3055 | 700 | 1,500 | N | 150 | 10 | 50 | 150 | N | 500 | N | 500 | N | 150 | N | >2,000 |
| IH3056 | 700 | 1,000 | N | 150 | 10 | 70 | 150 | N | 300 | N | 500 | N | 200 | N | >2,000 |
| IH3057 | 500 | 1,000 | N | 300 | 20 | 150 | 150 | <20 | N | N | 500 | 100 | 200 | N | >2,000 |
| IH3058 | 700 | 1,500 | 150 | 100 | 20 | 1,000 | 100 | N | N | N | 150 | <100 | 300 | N | >2,000 |
| IH3059 | 700 | 1,500 | N | 200 | 20 | 100 | 150 | <20 | 300 | N | 500 | <100 | 200 | N | >2,000 |
| IH3060 | 500 | 2,000 | N | 200 | 50 | N | N | N | N | N | 100 | 150 | 100 | N | 2,000 |
| IH3061 | 150 | 5,000 | N | 150 | 15 | N | <10 | N | N | N | 150 | N | 100 | N | >2,000 |
| IH3062 | 200 | 5,000 | N | 500 | 20 | N | N | N | N | N | 100 | 300 | 100 | N | >2,000 |
| IH3064 | 100 | 1,500 | N | 150 | 30 | N | N | N | N | N | 100 | N | 100 | N | 1,000 |
| IH3065 | 500 | 5,000 | N | 1,000 | 20 | N | N | N | N | <200 | 200 | N | 1,000 | N | >2,000 |
| IH3067 | >2,000 | 2,000 | <10 | 200 | 20 | 20 | 30 | 20 | N | 500 | 500 | 300 | 1,000 | N | >2,000 |
| IH3068 | 200 | 3,000 | 20 | 2,000 | 20 | 150 | 20 | <20 | N | N | 200 | 100 | 300 | N | >2,000 |
| IH3069 | 100 | 2,000 | N | 50 | 50 | N | N | N | N | N | 150 | 100 | 50 | N | 1,000 |
| IH3070 | 100 | 2,000 | N | 50 | 30 | N | <10 | N | <200 | N | 150 | N | 20 | N | 500 |
| IH3071 | 500 | 3,000 | N | 200 | 30 | N | N | N | N | N | 150 | 200 | 200 | N | 2,000 |
| IH3073 | 700 | 2,000 | N | 100 | 30 | 20 | N | N | <200 | N | 100 | 500 | 70 | N | 2,000 |
| IH3074 | 2,000 | 1,500 | N | 300 | 15 | 700 | <10 | N | N | 500 | 150 | 200 | 200 | N | 1,000 |
| IH3075 | 700 | 1,000 | 10 | 700 | 15 | N | 10 | 30 | N | N | 700 | 300 | 300 | N | >2,000 |
| IH3076 | 500 | 2,000 | <10 | 200 | 20 | N | N | N | N | N | 100 | 500 | 200 | N | 2,000 |
| IH3077 | 1,000 | 1,500 | N | 300 | 20 | 100 | 10 | N | <200 | 200 | 150 | 500 | 200 | N | >2,000 |
| IH3078 | 100 | 5,000 | N | <50 | 30 | N | N | N | N | N | 150 | 300 | 30 | N | 2,000 |
| IH3079 | >2,000 | 1,000 | 20 | 200 | 15 | 20,000 | 20 | <20 | 500 | 300 | 200 | N | 1,000 | N | >2,000 |
| IH3080 | >2,000 | 1,500 | N | 300 | 20 | 700 | 30 | <20 | 500 | 500 | 200 | 100 | 1,000 | N | >2,000 |
| IH3081 | 1,500 | 5,000 | N | 200 | 30 | 50 | 150 | 150 | <200 | 200 | 150 | 200 | 1,000 | N | >2,000 |
| IH3082 | 700 | 1,500 | <10 | 200 | 30 | 300 | 30 | <20 | 500 | N | 200 | 200 | 700 | N | >2,000 |
| IH3083 | >2,000 | 1,000 | N | 150 | 50 | 100 | 50 | N | N | 500 | 100 | N | 1,000 | N | >2,000 |
| IH3084 | >2,000 | 2,000 | N | 150 | 20 | 70 | 30 | <20 | 300 | 200 | 150 | 100 | 1,000 | N | >2,000 |
| IH3085 | 1,500 | 200 | N | 200 | 15 | 50 | 100 | 150 | N | N | 500 | <100 | 500 | N | >2,000 |
| IH3086 | >2,000 | 2,000 | N | 150 | 20 | 70 | 20 | 50 | 300 | 300 | 150 | 100 | 1,000 | N | >2,000 |
| IH3087 | 2,000 | 2,000 | 30 | 100 | 30 | 2,000 | 100 | 1,000 | 300 | N | 200 | 150 | 500 | N | >2,000 |
| IH3088 | 1,000 | 2,000 | 70 | 100 | 50 | 100 | 30 | <20 | 500 | N | 300 | N | 300 | N | >2,000 |
| IH3089 | 700 | 1,000 | N | 100 | 30 | 200 | N | N | 1,000 | N | 200 | 150 | 200 | N | >2,000 |
| IH3090 | 2,000 | 1,000 | N | 200 | 20 | 50 | <10 | 200 | 500 | 200 | 200 | 150 | 700 | N | >2,000 |
| IH3091 | N | 2,000 | N | <50 | 30 | N | N | N | N | N | 100 | 200 | 30 | N | 200 |
| IH3092 | 1,500 | 1,500 | N | 70 | 70 | 50 | <10 | N | <200 | 1,000 | 200 | N | 200 | N | >2,000 |
| IH3093 | N | 2,000 | N | N | 30 | N | N | N | N | N | 100 | N | 20 | N | 500 |
| IH3094 | 700 | 2,000 | N | 100 | 50 | 20 | N | N | <200 | N | 150 | 2,000 | 200 | N | >2,000 |
| IH3095 | >2,000 | 1,000 | N | 200 | 15 | 1,000 | 30 | 500 | N | 500 | 150 | 500 | 700 | N | >2,000 |

**TABLE 5. Gold in raw panned-concentrate samples, The Pinnacles Addition, River of No Return Wilderness, Idaho**

| Sample | Latitude | Longitude | Number of pans | Weight of concentrate (g) | Au in concentrate (ppm) | Au per pan (μg) |
|---|---|---|---|---|---|---|
| I62026 | 45 02 51 | 115 22 02 | 1 3/4 | 3.08 | 2.8 | 4.9 |
| I62027 | 45 02 48 | 115 22 09 | 1 | 3.59 | .10 | .36 |
| I62028 | 45 02 49 | 115 22 10 | 1 | 3.19 | 22 | 70 |
| IG2029 | 45 05 12 | 115 18 20 | 1 | 5.43 | <.092 | <.50 |
| IG2030 | 45 06 01 | 115 19 24 | 1 | 5.19 | <.096 | <.50 |
| IG2031 | 44 59 21 | 115 17 41 | 1 | 5.94 | .10 | .59 |
| IG2032 | 44 59 23 | 115 17 47 | 1 | 4.37 | .40 | 1.7 |
| IG2033 | 44 59 28 | 115 18 16 | 1 | 4.83 | .050 | .24 |
| IG2034 | 44 59 45 | 115 18 43 | 1 | 8.84 | N(.057) | N(.50) |
| IG2035 | 44 59 45 | 115 18 38 | 1 | 3.87 | 2.5 | 9.7 |
| IG2036 | 44 59 47 | 115 18 40 | 1 | 5.70 | 2.2 | 13 |
| IG2037 | 44 59 45 | 115 19 01 | 1 | 8.36 | 1.0 | 8.4 |
| IG2038 | 44 59 09 | 115 21 02 | 1 | 6.72 | 3.9 | 26 |
| IG2039 | 44 59 09 | 115 21 13 | 1 | 7.04 | .050 | .35 |
| IG2040 | 44 59 05 | 115 21 11 | 1 | 7.53 | 20 | 150 |
| IG2041 | 44 58 50 | 115 21 36 | 1 | 4.92 | .10 | .49 |
| IG2042 | 44 58 41 | 115 21 57 | 1 | 5.79 | .050 | .29 |
| IG2043 | 44 58 31 | 115 22 13 | 1 | 10.27 | N(.049) | N(.50) |
| IG2045 | 44 58 34 | 115 22 04 | 1 | 9.68 | 50 | 480 |
| IG2046 | 44 58 16 | 115 22 32 | 1 | 9.29 | N(.054) | N(.50) |
| IG2047 | 44 57 39 | 115 19 46 | 1 | 5.52 | N(.091) | N(.50) |
| IG2048 | 44 57 38 | 115 19 45 | 1 | 5.42 | 2.3 | 12 |
| IG2049 | 44 57 19 | 115 20 25 | 1 | 8.26 | .35 | 2.9 |
| IG2050 | 44 57 16 | 115 20 21 | 1 | 6.58 | 7.2 | 47 |
| IG2058 | 44 57 39 | 115 17 07 | 1 | 5.40 | N(.093) | N(.50) |
| IG2059 | 44 57 53 | 115 16 53 | 1 | 4.55 | .95 | 4.3 |
| IG2060 | 44 57 53 | 115 16 55 | 1 | 3.30 | 1.8 | 5.9 |
| IG3041 | 45 02 19 | 115 18 53 | 1 | 6.43 | <.078 | <.50 |
| IG3042 | 45 02 16 | 115 18 56 | 1 | 9.02 | N(.055) | N(.50) |
| IG3043 | 45 02 57 | 115 19 22 | 1 | 10.18 | N(.049) | N(.50) |
| IG3044 | 45 02 49 | 115 19 29 | 1 | 8.14 | .85 | 6.9 |
| IG3045 | 45 02 52 | 115 19 22 | 1 | 6.20 | N(.081) | N(.50) |
| IG3046 | 45 03 15 | 115 19 31 | 1 | 4.11 | 4.8 | 20 |
| IG3047 | 45 03 47 | 115 19 14 | 1 | 10.01 | N(.050) | N(.50) |
| IG3048 | 45 03 42 | 115 19 19 | 1 | 5.43 | N(.092) | N(.50) |
| IG3049 | 44 57 20 | 115 21 54 | 1 | 10.76 | <.047 | <.50 |
| IG3050 | 44 57 41 | 115 23 11 | 1 | 24.73 | 2.5 | 62 |
| IG3051 | 44 57 38 | 115 23 45 | 1 | 10.46 | N(.048) | N(.50) |
| IG3052 | 44 57 41 | 115 24 21 | 1 | 24.27 | .10 | 2.4 |
| IG3053 | 44 59 08 | 115 24 44 | 1 | 8.33 | N(.060) | N(.50) |
| IG3054 | 45 01 20 | 115 17 26 | 1 | 4.47 | N(.11) | N(.50) |
| IG3055 | 45 00 37 | 115 18 02 | 1 | 4.54 | N(.11) | N(.50) |
| IG3056 | 45 00 40 | 115 17 55 | 1 | 6.22 | .050 | .31 |
| IG3057 | 45 00 43 | 115 18 25 | 1 | 3.33 | .060 | .20 |
| IG3058 | 45 00 19 | 115 18 58 | 1 | 4.49 | <.11 | <.50 |
| IG3059 | 45 00 18 | 115 18 52 | 1 | 5.08 | N(.098) | N(.50) |
| IG3060 | 44 59 34 | 115 19 47 | 1 | 9.37 | N(.053) | N(.50) |
| IG3061 | 45 00 45 | 115 20 08 | 1 | 2.99 | N(.17) | N(.50) |
| IG3062 | 45 00 40 | 115 20 07 | 1 | 6.01 | N(.083) | N(.50) |
| IG3064 | 44 59 55 | 115 20 01 | 1 | 9.84 | N(.051) | N(.50) |
| IG3065 | 44 59 57 | 115 19 57 | 1 | 3.54 | N(.14) | N(.50) |
| IG3067 | 45 00 14 | 115 24 04 | 1 | 9.77 | N(.051) | N(.50) |
| IG3068 | 45 01 00 | 115 21 52 | 1 | 7.75 | 3.1 | 24 |
| IG3069 | 45 00 30 | 115 22 18 | 1 | 7.77 | <.064 | <.50 |
| IG3071 | 45 00 17 | 115 22 58 | 1 | 8.09 | N(.062) | N(.50) |
| IG3073 | 45 01 12 | 115 23 35 | 1 | 7.36 | 1.5 | 11 |
| IG3074 | 45 01 39 | 115 23 57 | 1 | 4.81 | <.10 | <.50 |
| IG3075 | 45 01 37 | 115 24 12 | 1 | 5.30 | N(.094) | N(.50) |
| IG3076 | 45 01 50 | 115 24 29 | 1 | 3.52 | .090 | .32 |
| IG3077 | 45 02 12 | 115 24 27 | 1 | 10.14 | 13 | 130 |
| IG3078 | 45 02 30 | 115 25 17 | 1 | 9.61 | .25 | 2.4 |
| IG3079 | 45 03 02 | 115 24 17 | 1 | 8.89 | 1.5 | 13 |
| IG3080 | 45 03 57 | 115 24 03 | 1 | 3.56 | .15 | .53 |
| IG3081 | 45 03 46 | 115 25 02 | 1 | 6.27 | .060 | .38 |
| IG3082 | 45 04 19 | 115 24 23 | 1 | 5.00 | 1.6 | 8.0 |
| IG3083 | 45 04 15 | 115 23 17 | 1 | 11.87 | .25 | 3.0 |
| IG3084 | 45 04 17 | 115 23 23 | 1 | 12.47 | 1.8 | 22 |
| IG3085 | 45 04 08 | 115 21 50 | 1 | 3.84 | 6.0 | 23 |
| IG3086 | 45 04 11 | 115 21 51 | 1 | 3.30 | 1.5 | 5.0 |
| IG3087 | 45 04 44 | 115 20 04 | 1 | 4.78 | <.10 | <.50 |
| IG3088 | 45 04 42 | 115 20 58 | 1 | 4.03 | .050 | .20 |
| IG3089 | 45 07 06 | 115 19 01 | 1 | 11.22 | N(.045) | N(.50) |
| IG3090 | 45 07 05 | 115 19 09 | 1 | 18.08 | .40 | 7.2 |
| IG3091 | 45 08 18 | 115 19 08 | 1/2 | 11.30 | N(.044) | N(1.0) |
| IG3092 | 45 05 23 | 115 19 34 | 1 | 9.33 | N(.054) | N(.50) |
| IG3093 | 45 08 31 | 115 18 55 | 1 | 9.32 | N(.054) | N(.50) |