UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Analytical results and sample locality map of rock samples from the Hayfork 30' x 1° quadrangle (northwest quarter of the Redding 1° x 2° quadrangle), Humboldt and Trinity Counties, California

By

Jerry R. Hassemer *, Miles L. Silberman *, and Roy T. Hopkins *

Open File Report 92-210

*U.S. Geological Survey, Mail Stop 973, Box 25046, Denver, CO, 80225-0046

1992

TABLE OF CONTENTS

STUDIES RELATED TO CUSMAP 1

INTRODUCTION 1
General Geology of the Redding 1° x 2° Quadrangle 3
Topography 7

METHODS OF STUDY 7
Sample Media 7
Sample Collection 8
Sample Preparation 8
Sample Analysis 8
Emission spectrography methods 9
Six-step semiquantitative spectrography 9
Automated scanning micro-photometer semiquantitative spectrography 9
Quantitative spectrography 10
Analysts 10
Atomic absorption spectroscopy methods 10
Gold (Au) 10
Gold (Au), Tellurium (Te), and Thallium (Tl) 11
. . . . . . .Tellurium.(Te) 11
Arsenic (As), Antimony (Sb), and Zinc (Zn) 11
Arsenic (As), Antimony (Sb), and Zinc (Zn) 11
Mercury (Hg) 11
Mercury (Hg) 11
Potassium (K) 12
Tungsten (W) 12
Analysts 12
X-ray fluorescence spectroscopy methods 12
Wavelength-dispersive X-ray fluorescence spectroscopy . . . 13
Energy-dispersive X-ray fluorescence spectroscopy 13
Analysts 13
Major and minor oxides requiring individual methods 13
Carbonate carbon 13
Ferrous iron 13
Moisture (H_2O-) 14
Essential water (H_2O+) 14
Analysts 14
Inductively coupled plasma-atomic emission spectroscopy method . 14
40-element ICP 14
10-element ICP 14
3-element ICP 15
Analysts 15
Instrumental neutron activation analysis methods 15
Analysts 15
Fire assay method 16
Analysts 16
. ROCK.ANALYSIS STORAGE SYSTEM. 20

DESCRIPTION OF DATA TABLES 17
Tables 7-15 17
Significance of "L" and "<" 17
Formatting and Significant Figures 18
Table 16 19

REFERENCES CITED 20

ILLUSTRATIONS

Figure 1. Index maps showing the location of, physiographic provinces in, and component quadrangles of the Redding 1° x 2° quadrangle; and, a generalized geologic map of the Redding 1° x 2° quadrangle showing geologic terranes 2

Figure 2. Areas excluded by design from systematic geochemical coverage in the Redding 1° x 2° quadrangle 4

Plate 1. Locality map of rock samples from the Hayfork 30′ x 1° quadrangle, Humboldt and Trinity Counties, California . . . . in pocket

TABLES

Table 1. Hayfork quadrangle Wilderness, Primative, and Roadless Area reports having geochemical data. 5

Table 2. Limits of determination for the six-step semi-quantitative emission spectrographic analysis of rocks 25

Table 3. Determination limits in semi-quantitative emission spectrography for 64 elements using an automated scanning photometer 26

Table 4. Limits of determination for rocks analyzed for trace elements by atomic absorption spectroscopy methods, fire assay methods, and other miscellaneous methods. 27

Table 5. Limits of determination for rocks analyzed for major, minor, and trace elements by X-ray fluorescence methods and for rocks analyzed for major and minor oxides requiring individual determinations. 28

Table 6. Determination limits in a rock of granitic composition analyzed by inductively coupled plasma-atomic emission spectrometry for 40 elements using an acid digestion 29

Table 7. Empirical detection limits for an instrumental neutron activation analysis for 28 elements 30

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California 31

Table 9. Results of direct-reader semiquantative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California 47

Table 10. Results of analyses by atomic absorption spectroscopy and by other miscellaneous chemical methods of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California . . 48

Table 11. Results of analyses for major, minor, and trace elements by X-ray fluorescence spectroscopy and analyses for major and minor oxides requiring individual determinations of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California . . 54

Table 12. Results of inductively coupled plasma-atomic emission spectroscopy analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California 56

Table 13. Results from a commercial laboratory of inductively coupled plasma-atomic emission spectroscopy analyses of selected rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California 61

Table 14. Results of induced neutron activation analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. 63

Table 15. Results of fire assay analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California . . 66

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California 67

STUDIES RELATED TO CUSMAP

This report presents the results of a lithogeochemical survey of the Hayfork 30′ x 1° quadrangle (northwest quarter of the Redding 1° x 2° quadrangle), California. Geochemical samples were collected as one of several multidisciplinary studies associated with the Conterminous United States Mineral Appraisal Program (CUSMAP). The data contained in this report are also available in digital format as U.S. Geological Survey Open-File Report 92-210B.

INTRODUCTION

From 1983 to 1988, the U.S. Geological Survey conducted a reconnaissance geochemical survey of the Redding 1° x 2° quadrangle which is currently undergoing geological, geophysical, geochemical, and mineral resource assessment studies as part of the CUSMAP program. The Redding 1° x 2° (1:250,000 scale) quadrangle is also covered by four 30′ x 1° (1:100,000 scale) quadrangles: Hayfork, Garberville, Redding, and Red Bluff (see figure 1).

Geochemical sampling of stream sediments, the principal media for the geochemical survey in the Redding 1° x 2° quadrangle, was organized and conducted at the 1:100,000 scale. The geochemical data obtained from the Redding 1° x 2° quadrangle is being released as a series of summaries covering the four component 1:100,000 quadrangles. Stream-sediment data for the Hayfork quadrangle was summarized by Smith and others (1990). Stream-sediment data for the Garberville quadrangle was summarized by Smith and others (1991). Interpretative reports on various aspects of the stream-sediment geochemistry (for example, Silberman and others, 1991) have been prepared and others are in preparation.

Rock samples were collected to augment the stream-sediment survey, generally to investigate specific objectives such as the geochemical characterization of major lithologies and the determination of metal associations in the various types of mineral deposits that occur in the area. Rock sampling was not intended to be a systematic coverage of the survey area. This report summarizes data for those rock samples collected from the Hayfork quadrangle. Interpretative reports on various aspects of the lithogeochemistry, on gold deposits, for example (Danielson and Silberman, 1988; Silberman and Danielson, 1991), have been prepared and others are in preparation.

The Hayfork quadrangle is approximately 50 km west of Redding, California. Major access is by Highway 299 extending west from Redding. Highway 299 intersects Highway 101 just north of Eureka, California, approximately 4 km west of the Hayfork quadrangle. Highway 299, Highway 3, and several good quality secondary and gravel roads access the eastern and northern part of the quadrangle. The southwestern part is remote, but can be accessed from the south from Highway 36 by a few gravel roads and jeep trails. Numerous gravel, logging and mine/prospect roads exist in the quadrangle, but many are closed access. Some areas are accessible only by primative pack trails or by rafting the major streams, including the Mad, Van Duzen, and Trinity Rivers.

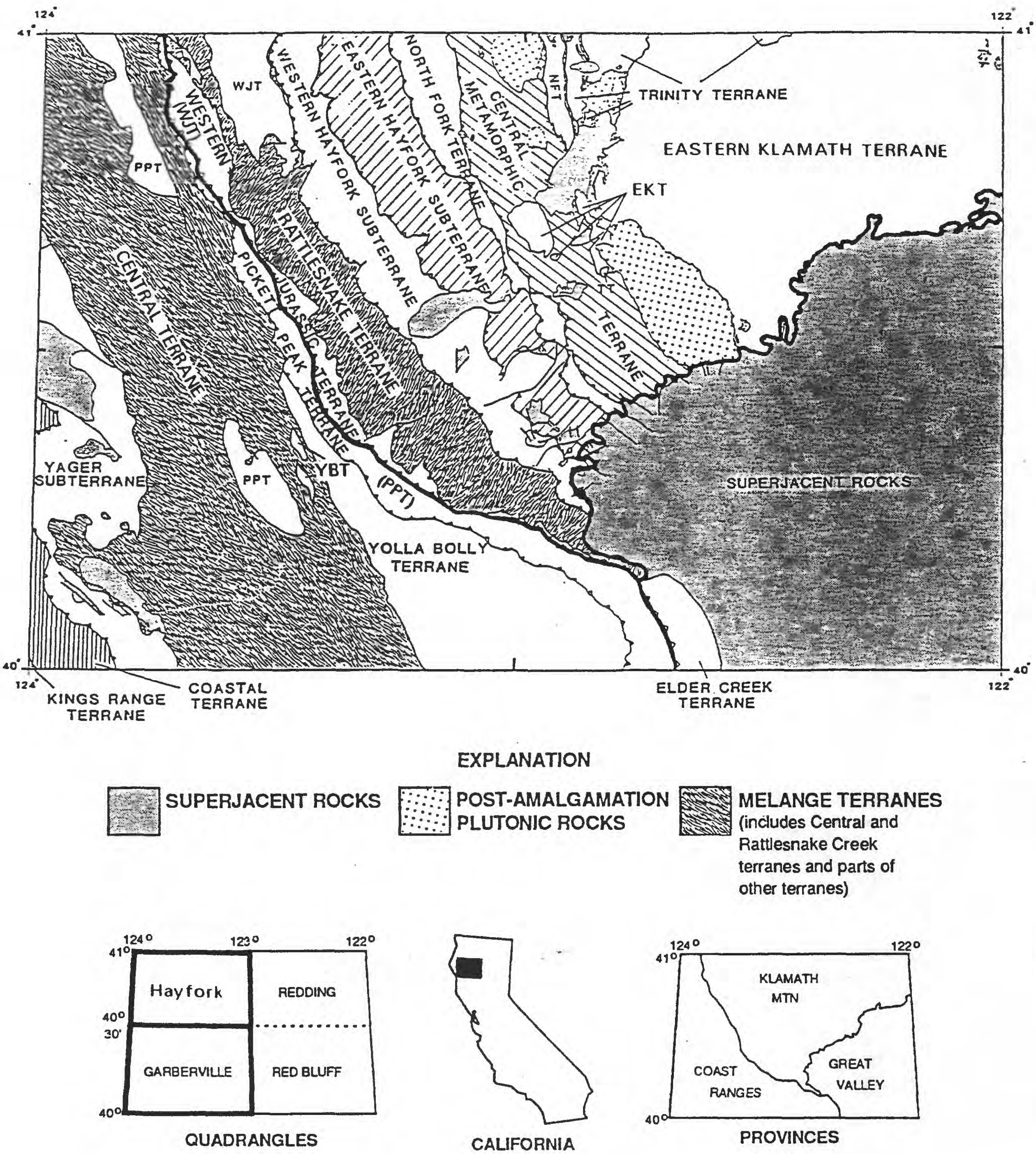

Figure 1. Index maps showing the location of, physiographic provinces in, and component quadrangles of the Redding 1° x 2° quadrangle; and, a generalized geologic map of the Redding 1° x 2° quadrangle showing geologic terranes (modified from Fraticelli and others, 1987).

At the time of this writing, much of Northern California, including most of the Redding 1° x 2° quadrangle, is economically depressed due to a decline in the lumbering industry because of lower demand from the housing industry and pressure by environmental groups to preserve woodlands, old growth forests, and potential habitat areas of wildlife perceived to be threatened species, most notably, possible habitat areas of the Northern Spotted Owl. Mining in the Hayfork quadrangle is largely inactive and is under even greater environmental pressure to preserve both woodlands and wetlands, and to maintain purity of surface and ground water. Only small scale and recreational placer mining for gold and platinum group minerals is taking place.

Silberman and Danielson (1991) estimated that a minimum of 2.1 million ounces of gold were taken from lode deposits in the Redding 1° x 2° quadrangle. Only about 10% of that production came from the Hayfork quadrangle. Small amounts of Cu have been produced from massive sulfide deposits and from Cu-sulfides in veins and disseminations in serpentinite and diorite (Eric, 1948). Only very minor production of Mn from a few Mn-rich chert deposits and Cr from sparse, small podiform chromite deposits have been recorded from the Hayfork quadrangle (Davis, 1957; Rice, 1957).

Timber companies control considerable tracts of land in the Hayfork quadrangle. Some areas of the quadrangle were not sampled because it was not possible to obtain access to land controlled by some of the companies. Additionally, the region was experiencing aggressive marijuana cultivation. Some areas were not sampled because of the latter problem. Wilderness areas, Indian reservations and State Park lands were also not systematically sampled during this survey (see figure 2). Data for USGS geochemical samples collected in wilderness areas in earlier studies include information for stream-sediment, panned-concentrate, and rock samples collected at a much higher density than in the Redding CUSMAP survey. Table 1 lists the areas that lie in the Hayfork quadrangle and the reports that present geochemical data.

General Geology of the Redding 1° x 2° Quadrangle

The geology of the Redding 1° x 2° quadrangle is described here in some detail as a framework for the summaries of the geochemistry of the four component 1:100,000 quadrangles. Figure 1 is a generalized geologic map of the Redding quadrangle showing the outlines of these four 1:100,000 quadrangles. The quadrangle contains parts of three physiographic provinces; the Coast Ranges, the Klamath Mountains, and the Great Valley. The Coast Ranges and the Klamath Mountains provinces are part of the complex of accreted terranes that form the western margin of North America from Alaska to Mexico (Coney and others, 1980).

The Klamath Mountains province consists of a series of lithotectonic units or belts of rock that form thrust plates in a generally eastward dipping sequence (Irwin, 1981). These "terranes" as they are now referred to and their structural and tectonic evolution have been described by Irwin (1981; 1985). They consist of island-arc volcanic and sedimentary rocks and oceanic crust and upper mantle rocks (now ophiolites) that formed during Ordovician through Jurassic time.

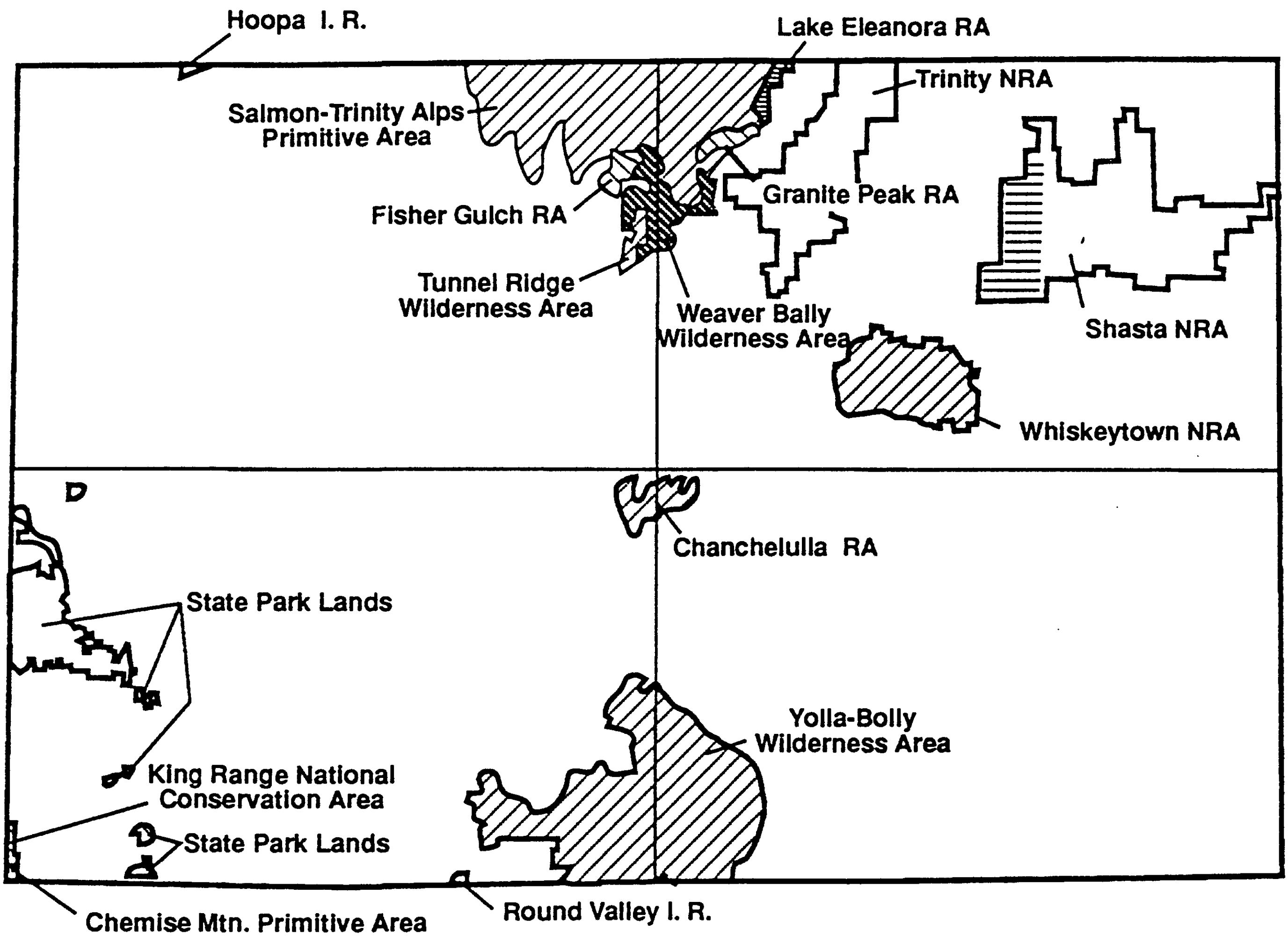

Figure 2. Areas excluded by design from systematic geochemical coverage in the Redding 1° x 2° quadrangle. Areas include proposed Wilderness Areas (Wilderness, Primitive, Roadless, and Instant Study Areas), National Recreation Areas, State Parks, and Indian Reservations. Areas of earlier U.S.G.S. studies having geochemical data for stream sediment and rock samples are indicated by diagonal line patterns. Boundaries of various wilderness areas are not legal boundaries, but rather areas of geochemical coverage. Reports having geochemical data for areas lying within the Hayfork quadrangle are listed in Table 1. Boundaries are diagrammatic, and have been simplified.

Table 1. Hayfork quadrangle Wilderness, Primative, and Roadless Area reports having geochemical data.

Salmon-Trinity Alps and adjacent areas

Hotz, P.E., Greene, R.C., Close, T.J., and Evans, R.K., 1982, Mineral resources of proposed additions to the Salmon-Trinity Alps Primative Area, California: U.S. Geological Survey Bulletin 1514, 54 p.

Hotz, P.E., Thurber, H.K., Marks, L.Y., and Evans, R.K., 1972, Mineral resources of the Salmon-Trinity Alps Primative Area, California, *with a section on* An aeromagnetic survey and interpretation *by* Andrew Griscom: U.S. Geological Survey Bulletin 1371-B, 267 p.

Huber D.F., Nelson, S.C., Cather, E.E., and Ritchey, J.L., 1983, Mineral resource potential of the Fisher Gulch Roadless Area, Trinity County, California: U.S. Geological Survey Open File Report 83-483, 10 p.

Blake, Jr, M.C., and Peters, J.J., 1983, Mineral resource potential of the Weaver Bally Roadless Area, Trinity County, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1657A, scale 1:48,000.

Diggles, M.F., and Kennedy, G.L., 1986, Geological and geochemical-anomaly map of the Tunnel Ridge Wilderness Study Area, Kalamath Mountains, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1810B, scale 1:24,000.

Diggles, M.F., Kennedy, G.L., Detra, D.E., and Sharkey, J.D., 1986, Geochemical data for samples of rock, stream sediment, and nonmagnetic heavy-mineral concentrates from the Tunnel Ridge Wilderness Study Area, Kalamath Mountains, California: U.S. Geological Survey Open-File Report 84-887, 79 p.

Chanchelulla area

Huber D.F., Nelson, S.C., Fraticelli, L.A., and Stebbins, S.A., 1983, Mineral resource potential map of the Chanchelulla Roadless Area, Trinity County, California: U.S. Geological Survey Open File Report 83-506, 13 p.

The Eastern Klamath Terrane (fig. 1), the nucleus of the province to which the other terranes were joined, was formed during long standing volcanic-arc activity that extended from the Devonian through the Jurassic (Irwin, 1981). This Eastern Klamath Terrane was built on Ordovician oceanic crust and upper mantle, now represented by the Trinity Terrane. Along the western edge of the Eastern Klamath Terrane, the Central Metamorphic Terrane (fig. 1) developed during Devonian subduction beneath the Trinity Terrane. Subsequently, during middle to late Jurassic time, the Northfork, Hayfork, Rattlesnake Creek, and Western Jurassic Terranes were then amalgamated and(or) accreted to the combined Eastern Klamath and Central Metamorphic Terranes by successive subduction events (Irwin, 1981; 1985).

Granitic plutons occur in all of the terranes of the Klamath Mountains Province and can be subdivided into belts that generally follow the trends of the individual terranes. Some plutons were emplaced before the host terranes were attached to an adjacent terrane and are hence "pre-amalgamation." Most of these are parts of ophiolites or are co-magmatic with the volcanic rock sequences that formed in island arcs. Other plutons were emplaced subsequent to amalgamation as they are significantly younger than the rocks of their host terranes, or they can be seen to cross cut terrane boundaries (Irwin, 1985). Both groups of plutons are associated with mineral deposits in the region.

The terrane boundaries are thrust faults, many of which commonly contain serpentinized ultramafic bodies. Most of the serpentinites are parts of ophiolites which were deformed during terrane amalgamation and(or) accretion. Deformation led to dismemberment, remobilization, and emplacement of the serpentinites along the regional terrane boundaries and other thrust faults. The serpentinites are strongly magnetic and their subsurface extent is well delineated on aeromagnetic maps (Griscom, 1991, in press).

The Coast Ranges Province is dominantly composed of the Franciscan complex (fig. 1), consisting of several terranes of intensely deformed and dismembered oceanic turbidites, sandstones, mudstones, shales, greenstones, cherts, and serpentinite bodies (Bailey and others, 1964). The Franciscan terranes were thrust under the terranes of the Klamath Mountains Province by subduction events in the Cretaceous (Irwin, 1981). The boundary between the two provinces is the South Fork Mountain Fault. A regionally extensive blueschist sequence, the South Fork Mountain schist developed along the footwall of the fault (Picket Peak Terrane of fig. 1).

Most of the terranes of the Coast Ranges Province and the Klamath Mountains Province contain similar lithologies. A few, such as the Rattlesnake Creek Terrane and the Central Metamorphic Terrane are unique. The former is largely dismembered ophiolite, the latter is a complex of mafic and felsic gneisses and schists. Some terranes such as the Northfork and Eastern Hayfork Terranes of the Klamath Mountains Province and the Central Terrane of the Coast Ranges Province are melanges or contain a significant melange component. The melanges are chaotic mixtures of varied oceanic or island-arc lithologies in a shaley matrix.

Perhaps the most significant differences between the Klamath Mountains Province and the Coast Ranges Province are the lack of granitic intrusions in the Franciscan rocks, and the occurrence within Franciscan melanges of blueschist

facies exotic blocks. No granitic bodies of significant size have been mapped in the Franciscan complex rocks in the Redding quadrangle, although some magnetic anomalies along the trend of the South Fork Mountain Schist (Picket Peak Terrane of fig. 1) may be indicative of subsurface granitic bodies (Griscom, 1991, in press).

Superjacent rocks that overlie the amalgamated terranes include the Great Valley Sequence sedimentary rocks of Cretaceous age, and other sedimentary and volcanic rocks of Cretaceous and Tertiary age. Most of these occur in the Great Valley Physiographic Province (fig. 1).

The lithological assemblages in the Provinces and terranes are described by Irwin (1977; 1981). The plutonic rocks and their relationship to their host rocks and to the overall tectonic evolution are described by Irwin (1985). Irwin (1985) also includes a summary of radiometric ages of plutonic rocks in the Klamath Mountains. Individual formations in the terranes, including plutons are described by Fraticelli and others (1987), from which the generalized geologic map was modified (fig. 1).

Nearly two-thirds of the 4,600 square kilometers of the Hayfork quadrangle, the eastern part, is composed of terranes of the Klamath Mountains Province (fig 1). The remaining third, the western part, is underlain by Franciscan-complex terranes of the Coast Ranges Province (Blake and others, 1985), mostly Central Terrane rocks (fig 1). Both parts have small patches of superjacent rocks (Fraticelli and others, 1987).

Topography

The Hayfork quadrangle is rugged and heavily wooded, with a topography of high relief and steep slopes. The maximum elevation of 2,723 meters (8,933 ft) is in the northeast corner in the Salmon-Trinity Alps Wilderness Area at Mt Hilton (plate 1). Minimum elevation occurs on the northwestern border of the quadrangle, near Blue Lake (plate 1), at about 130 meters (430 ft).

METHODS OF STUDY

Sample Media

Analyses of unaltered or unmineralized rock samples provide background geochemical data for individual rock units. On the other hand, analyses of altered or mineralized rocks, where present, may provide useful geochemical information about the major- and trace-element assemblages associated with a mineralizing system.

Sample Collection

Rock samples were collected from outcrops, mines and prospect pits, and as float in the vicinity of the plotted site location (Plate 1). Samples were collected from unaltered, altered, and mineralized rocks.

Samples collected for lithologic background characterization purposes were usually composited as chips from an area of one or more m^2 from outcrop judged as representative of that rock unit. These samples were generally located on 1:100,000 or 1:250,000 scale compilation maps, with a site location error ± 5 seconds. Mineralized and altered areas commonly had several samples at a single site. For example, samples taken at a mine might include samples of ore, various cross-cutting veins, selveges, and wallrock both adjacent to a vein, and some meters distant. These samples were generally plotted on 1:24,000, 1:25,000, or 1:62,500 scale field maps with a site location error of ± 2 second.

Samples were collected by D. Bloom, J. Danielson, V.S. Gillerman, B. King, D.A. Miller, and M.L. Silberman.

Sample Preparation

Rock samples were crushed and then pulverized to minus 0.15 mm with ceramic plates.

Sample Analysis

Two principal methods were used for the analysis of the rock samples, a semiquantitative spectrographic method which experience has shown to be very useful for the rapid, inexpensive acquisition of element data, and, atomic absorption spectroscopy analyses for selected trace elements.

Other methods of analysis were used on selected rock samples to obtain data for other elements, or to compare methods, or to obtain better sensitivity, greater accuracy, or better precision. The various analytical methods are summarized in the following sections and the analytical results for the Hayfork quadrangle are presented in Tables 8 through 15.

Because analyses in this report were made over the time span of 1983-1990, changes and modifications to analytical procedures occurred. For current (as of mid-1990) procedures in use by the U.S.G.S., the reader is referred to a report edited by Arbogast (1990) which also includes useful information on potential analytical and safety problems.

Emission spectrography methods

All rock samples were analyzed for 31 elements using a six-step semiquantitative, direct-current arc emission spectrographic method (Grimes and Marranzino, 1968; Golightly and others, 1987; both are modifications of Meyers and others, 1961). Direct-current arc spectrographic procedures were also used for the samples semiquantitatively analyzed using an automated scanning micro-photometer and for the samples analyzed by fire assay methods.

In the direct-current arc emission spectrographic method, a small amount of powdered sample (5-15 mg) and buffer mix are placed into the cup-shaped end of a thin graphite rod that is used as an electrode. A second graphite rod is used as counter electrode. The application of direct current across the two electrodes causes an arc that volatizes the sample. Atoms of elements excited in the electric arc emit characteristic quantitized light, the intensity of which is dependent on the concentrations of elements present. The light is passed through diffraction gratings to create spectra that are captured on photographic film. The spectral lines are read visually or with a spectrophotometer.

Six-step semiquantitative spectrography-- 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. Thus results are reported in six intervals per order of magnitude. 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 (calcium, iron, magnesium, phosphorous, sodium, and titanium) are given in weight percent; all others are given in parts per million (micrograms/gram). Analytical data for samples from the Hayfork 1:100,000 quadrangle are listed in Table 8.

During the time period in which the samples were being analyzed, minor modifications were made, resulting in the addition of 4 elements and in minor changes in the lower determination limits for 5 other elements. Therefore, some of the rock samples were analyzed for 31 elements and some for 35 elements (with differing lower limits of determination). The 31/35 elements analyzed and their lower limits of determination are listed in table 2. Parentheses were used to show the old lower limits of determination.

Automated scanning micro-photometer semiquantitative spectrography-- Results for Table 9 were obtained through the use of an automated scanning micro-photometer that reads 260 spectral lines for calibration and 400 spectral lines for the semi-quantitative determination of 64 elements. For common silicate rock types (granite, basalt, and so forth) that are unmineralized and are homogenous after sample preparation, relative error is in the range of 10 to 30 percent; overall, relative error is in the range of -33 to +50 percent. Approximate determination

limits are given in table 3, variations to these limits may be established by instrumental conditions at the time of analysis, spectral interferences, or other factors.

Quantitative spectrography-- Quantitative spectrographic results are obtained through the rigorous calibration of standards and the careful matching of matrices of standards and samples. Relative standard deviation is in the range of 5 to 20 percent. The fire assay procedure as a whole is discussed in a later section.

Analysts-- Spectrographic analyses for the Hayfork quadrangle were performed by B.M. Adrian, S.E. Cooley, W.B. Crandell, D.E. Detra, A.F. Dorrzapf, Jr., M.S. Erickson, R.T. Hopkins, and C.J. Skeen.

Atomic absorption spectroscopy methods

Atomic absorption spectroscopy (Aruscavage and Crock, 1987) was used to analyze several trace elements of interest, including As, Au, Hg, Sb, Te, Tl, and Zn. A few samples were analyzed for K and W. Although W was analyzed by visible absorption spectrophotometry rather than atomic absorption spectrophotometry, the method is included here for convenience. During the time period in which the samples were being analyzed, changes were made in some of the methods, but comparability of results has not been found to be a problem. A summary of the methods and the determination limits is given in Table 4. Analytical data for samples from the Hayfork 1:100,000 quadrangle are listed in Table 10.

Atomic absorption spectroscopy (AAS) is based on the property of atoms in their ground state to strongly absorb incident light at specific wavelengths. The amount of absorbance is directly proportional to the amount of the element present. Electronic discharge tubes produce light of the requisite wavelength, the sample is introduced into the light beam as free atoms, and the resulting decrease in energy in the light beam is measured by a photoelectric tube. Because some atoms are excited by the photon impact, a light modulation system corrects for energy released as excited atoms return to their ground state.

Gold (Au)-- About half of the Au determinations were performed using the method of Thompson and others (1968) or minor variations of that method (O'Leary and Meier, 1986; Wilson and others, 1987). In this procedure, 10 grams of sample are dissolved in an acid solution of HBr and Br_2. The gold is extracted into an organic solvent (methyl isobutyl ketone, MIBK) which is aspirated into a flame (flame atomic absorption spectroscopy, FAAS) wherein the gold is disassociated into free atoms. About half of the samples were analyzed by the method of Hubert and Chao (1985), described next, but the smaller sample size led to the return to the method of Thompson and others. Precision is the range of 5- to 20-percent relative standard deviation (RSD).

Gold (Au), Tellurium (Te), and Thallium (Tl)-- Most Te and all Tl determinations were done using the two-step extraction method of Hubert and Chao (1985). In this procedure 4 grams of sample are digested in an acid solution of HF, HCl, and HNO_3 The solution is taken to dryness, and the residue is redissolved in HBr and BR_2. After the solution is diluted, Au and Tl are extracted into MIBK, then determined by FAAS. In the second step, excess MIBK is removed, the acid strength of the solution is increased, then Te is extracted into MIBK and determined by FAAS. Precision is in the range of 5- to 15- percent RSD.

Tellurium (Te)-- A few Te samples were analyzed by the method of Chao and others (1978) wherein 2½-gram samples are digested in $HBr-Br_2$, then treated with ascorbic acid. Te is extracted into MIBK, and determined by FAAS. Precision is the range of 2- to 15- percent RSD.

Arsenic (As), Antimony (Sb), and Zinc (Zn)-- These elements were first determined by FAAS, but were later determined by inductively coupled plasma-atomic emission spectrometry (ICP-AES), a methodology described in a later section. The sample digestion procedure, however, remained unchanged; more importantly, the digestion procedure is partial. Hence, the change in instrumentation is not regarded as significant. The digestion is near "total", however, for these elements when they are present in sulfide, carbonate, and most secondary iron-rich (gossan) minerals. Thus, for the purpose of exploration geochemistry, the procedure is suitable for detecting most anomalous occurrences of these elements.

In determinations by AAS (O'Leary and Viets, 1986), a 1-gram sample is digested in an acid solution of HCl and H_2O_2, then treated with an ascorbic acid-potassium iodide solution. The metals are extracted into a solution of Aliquat 336 (tricaprylylmethylammonium chloride) and MIBK (methyl isobutyl ketone), and determined by FAAS. Precision is the range of 2- to 10- percent RSD.

Arsenic (As), Antimony (Sb), and Zinc (Zn)-- In determinations by ICP-AES (Crock and others, 1987), 0.15-gram samples are digested, then analyzed without further treatment. Precision is the range of 2- to 15- percent RSD.

Mercury (Hg)-- Mercury was determined by two different cold-vapor AAS procedures. The first procedure was an undocumented modification of Vaughn and McCarthy (1964) and McNerney and others (1972). A 0.1-gram sample is heated, releasing mercury as a gas. The mercury vapor that is released is absorbed by a gold collector placed in the gas stream, while potential interferents pass through the system. The gold collector is then heated by resitivity, the released mercury gas passes through a quartz cell on an AA spectrophometer, and the amount of absorbance is measured. Precision is estimated to be in the range of 10- to 15- percent RSD (O'Leary, written commun., 1991).

Mercury (Hg)-- Later samples were analyzed by the method of Kennedy and Crock

(1987), a modification of Koirtyohann and Khalil (1976). A 0.1-gram sample is digested in a solution of HNO_3 and $Na_2Cr_2O_7$. The mercury is reduced to its free state by the addition of $SnCl_2$, partitioned by passing air through the solution, and measured by passing the mercury vapor-air mixture through a cell on a AA spectrophometer. Precision is the range of 5- to 15- percent RSD.

Potassium (K)-- 20 samples were analyzed for potassium by FAAS (O'Leary and Meier, 1986). A 0.2- gram sample was digested in an acid solution of HF, and the solution was taken to dryness. The residue was redissolved in an acid solution of HCl and H_3BO_3; the solution was diluted to the appropriate level, then aspirated into a flame. Precision is the range of 1- to 5- percent RSD.

Tungsten (W)-- 20 samples were analyzed for tungsten by a spectrophotometric method (Welsch, 1983) wherein tungsten forms a colored complex that absorbs peak amounts of visible light at specific wavelengths. The amount of absorbance is directly proportional to the amount of tungsten present. One gram of sample is dissolved in an acid solution of HF and HNO_3, and the solution is taken to dryness. The sample is redissolved in HCl. $SnCl_2$ is added to prevent Mo interferences; dithiol, to complex the tungsten. The tungsten complex is extracted into an organic solvent (heptane), then placed into a spectrophotometer where the amount of absorbance is measured. Precision is the range of 2- to 15- percent RSD.

Analysts-- B.M. Anderson, P.J. Aruscavage, J.G. Crock, M.W. Doughten, R.J. Fairfield, T. Floyd, C.A. Gent, P.L. Hageman, T.F. Harms, D.B. Hatfield, D.M. Hopkins, S.R. Jaunarajs, K.R. Kennedy, J. Lane, L.S. Laudon, J.G. Layne, B.J. Libby, T.M. McCollom, R.T. Moore, R.M. O'Leary, T.A. Roemer, J.D. Sharkey, L. Sherlock, C.D. Taylor, F.W. Tippitt, E.P. Welsch, and S.A. Wilson.

X-ray fluorescence spectroscopy methods

Selected samples were analyzed for major, minor, and trace elements by X-ray fluorescence (XRF) spectroscopy (Taggart and others, 1987; Johnson and King, 1987). In this procedure, samples are irradiated by a high-energy X-ray source. The energy absorbed by an element present in the sample is released as X-ray quanta, X-rays with a narrow energy bandwidth that are characteristic to that element. A dispersion system sorts the X-rays, either by wavelength or by energy, and detectors, selected by their efficiency at specific X-ray energy levels, measure the intensity. A number of corrections are computer calculated. Correction equations may be based on instrumentation, sample matrices, analytical objectives, or other factors. Analytical data for samples from the Hayfork 1:100,000 quadrangle are listed in Table 11.

Wavelength-dispersive X-ray fluorescence spectroscopy-- Wavelength-dispersive X-ray fluorescence spectroscopy (Taggart and others, 1987) was chosen for the analysis of major and minor elements. In this method, X-rays emitted by an excited element impinge on a crystal which is used to diffract the incident X-rays over a wide angular range. Detectors are placed at the proper angular location to receive only the characteristic X-rays of the element being analyzed. Relative standard deviation is in the range of 0.5 to 5 percent within the calibration range (Table 5).

Energy-dispersive X-ray fluorescence spectroscopy-- Energy-dispersive X-ray fluorescence spectroscopy (Johnson and King, 1987) was chosen for the analysis of trace elements. In this method, X-rays emitted by an excited element are converted into electronic signals whose amplitudes are proportional to the energies of the incident X-rays. The signals are sorted by amplitude using a multi-channel analyzer. A selected range of amplitudes is subdivided into 1024 intervals, and the number of impulses (intensity) occurring within a region of interest is counted. To reduce background for trace element analyses, a secondary target, placed in front of the sample, is irradiated first. This secondary target becomes a mono-energetic X-ray source of excitation radiation for the sample. For Ba, La, and Ce, the secondary target was gadolinium; for Rb, Sr, Y, Zr, and Nb, silver; for Ni, Cu, and Zn, germanium; and for Cr, iron. Relative error for most of the concentration range (Table 5) is ± 5 percent.

Analysts-- A.J. Bartel, J.R. Evans, R.G. Johnson, E.C. Robb. D.F. Siems, K.C. lStewart, and J.E. Taggart, Jr.

Major and minor oxides requiring individual methods

Those major and minor constituents that can not be determined by X-ray fluorescence methods require individual analytical procedures (all are described in Jackson and others, 1987). Because the data for these methods are almost invariably used with the data obtained from XRF analyses, data for the limits of determination are included on Table 5, and the results are included on Table 11.

Carbonate carbon-- Carbonate carbon, reported as percent (%) CO_2, was determined by using an automated coulimetric titrator. Samples were digested in 2M $HClO_4$, the CO_2 evolved was collected in a coulimetric cell where the CO_2 gas is converted into a titratable acid by absorbance into monoethanolamine. Relative standard deviation (RSD) ranges from 0.5 to 35 percent (B. Arbogast, written commun., 1991).

Ferrous iron-- Ferrous iron, reported as percent (%) FeO, was determined by boiling the sample in a mixture of HF and H_2SO_4 in a platinum crucible. The sample, still in the crucible, is immersed in a solution of H_3BO_3, H_3PO_4 and

H_2SO_4. The resulting solution is titrated with a solution of $K_2Cr_2O_7$ using an automated potentiometric titrator. Although the presence of sulfides and some other matrices can seriously effect the validity of results, most unaltered rocks will yield good accuracy and precision, with a RSD of about 0.5 percent.

Moisture (H_2O-)-- Moisture (nonessential water, H_2O-), reported as percent (%) H_2O, is determined gravimetrically by weight loss after heating at 110°C.

Essential water (H_2O+)-- Essential water (bound water, H_2O+), reported as percent (%) H_2O, is determined by the difference of total water and moisture. Total water is determined coulometrically by a Karl Fisher titration of the evolved water obtained when the sample is fused at 900-950°C with lead oxide and lead chromate. A recent modification to the method is the addition of calcium carbonate to the flux. RSD ranges from 2 to 4 percent.

Analysts-- E.L. Brandt, J.H. Christie, E.E. Engleman, J.R. Gillison, L.L. Jackson, J.S. Kane, M.G. Kavulak, N. Rait, and S. Roof.

Inductively coupled plasma-atomic emission spectroscopy method

Some samples were analyzed by inductively coupled plasma-atomic emission spectrometry methods (ICP-AES; ICP) (Lichte and others, 1987). The elements to be analyzed are taken into solution following an acid digestion of the sample. The solution is aspirated into a high-temperature argon plasma created by the application of high-input radio-frequency power. Photomultiplier tubes, set for specific wavelengths, measure the relaxation-energy photons emitted by excited atoms. A computer, using calibration information including spectral-interference corrections, calculates the results.

40-element ICP-- Selected rock samples were analyzed for 40 elements using ICP-AES (Crock and others, 1983; Lichte and others, 1987). Samples are digested in an acid solution of HF, HCl, HNO_3, and $HClO_4$, taken to dryness. The salts are redissolved in a solution of aqua regia (HNO_3 and HCl), then diluted. Lutetium is used as an internal standard. Nearly 300 spectral interference corrections are used in the calculation of the results. Precision is ± 10 percent relative standard deviation. Typical determination limits in a rock of granitic composition are presented in Table 6. Analytical results are presented in Table 12.

10-element ICP-- Some samples were submitted to a commercial laboratory for ICP analysis. This laboratory, whose precise method is confidential, uses a strongly oxidizing acidic solution to dissolve the sample. The 10 analyzed elements are extracted into an organic liquid prior to aspiration. Precision is probably in

the same order of magnitude as the procedure described above. Data from this laboratory are presented in Table 13.

3-element ICP-- A change in analytical procedure resulted in some trace elements being analyzed by ICP instead of other instrumental methods. This was described in an earlier section and summarized on Table 4. The procedure is repeated here for the convenience of the reader. In determinations of arsenic (As), antimony (Sb), and zinc (Zn) by ICP-AES (Crock and others, 1987), 0.15-gram samples are digested in an acid solution of HCl and H_2O_2, then analyzed without further treatment. Precision is the range of 2- to 15- percent RSD. Analytical results were included with the data in Table 10.

Analysts-- P.H.Briggs, D.L. Fey, L.R. Layman, A.H. Love, and J.M. Motooka

Instrumental neutron activation analysis methods

Selected samples were submitted for instrumental neutron activation analysis (INAA) for 28 elements. In this procedure (Baedecker and McKown, 1987), samples are irradiated in a reactor to induce thermal-neutron nuclear reactions that create radioactive nuclides. The activity of a radionuclide is directly proportional to the amount of the parent element in the sample. Radiation produced by the decay of the radionuclide is measured by a high-resolution gamma-ray spectrometer. Samples are counted a minimum 5 or 6 times over a 60-day decay period using a 4,096-channel Ge detector and a 2,048-channel low-energy photon detector. Mathematical corrections are made for such factors as fission product interference, spectral interferences, neutron flux variations, and so forth. Data reduction and corrections are done using a computer.

Both the accuracy and precision of elemental determinations are variable. Accuracy is highly dependent on the composition of the sample and precision of the analysis depends on the INAA methodology chosen. An indication of the accuracy of a determination is given by the coefficient of variation (CV) which is given in the data tables for each determination. The coefficient of variation value is based on a one-sigma counting statistic error and is a measure of the signal-to-background ratio. The INAA "long count" has higher precision than the "short count" because of the greater number of duplicate determinations. Empirical limits of determination for the long and short count are given in table 7. An alternative method of establishing limits of determination is based on consideration of accuracy and uses a 10 percent counting statistic error to establish elemental concentrations; these limits are also given in table 7. INAA data for Hayfork samples are presented in Table 14.

Analysts-- J.R. Budahn, R.J. Knight, D.M. McKown, and R.B. Vaughn

Fire assay method

A fire assay procedure (Adrian and Carlson, 1990; Cooley and others, 1976) was used to separate the precious metals, Au, Pd, Pt, Rh, Ru, and Ir, prior to determination. Os was not determined due to potential loss during the sample fusion steps. Limits of determination are presented on Table 4, analytical results on Table 15.

In this procedure, a 15-gram sample is mixed with a predetermined flux that is based on the composition of the sample. The flux consists of lead oxide, sodium carbonate, silica, borax, graphite, and, if needed, potassium nitrate. A silver collector is added. The sample is fused at 870 °C. whereby the rock constituents, with the silica, combine to form a molten slag. The lead oxide is reduced to elemental lead which alloys with the precious metals in the sample and the collector metal. Upon cooling in a mold, the lead, as a result of gravity settling, forms a button in the bottom of a glassy slag. The lead button is retrieved, placed into a bone ash cup (a cupel), and heated to 800 °C. The lead reacts with oxygen in the air to form lead oxide which is absorbed into the cupel, leaving behind the collecter and the accumulated precious metals.

The metals were determined by a modified semi-quantitative direct-current arc emission spectrographic method. The principles of six-step spectrography was described in an earlier section. Here, precision is increased by arcing in an argon-oxygen atmosphere, and by the addition of silver oxide to the material to be arced thereby more closely matching the matrices of the samples to the standards. Relative standard deviation ranges from 30 to 50 percent.

Analysts-- B.M. Adrian and R.R. Carlson

ROCK ANALYSIS STORAGE SYSTEM

Upon completion of all analytical work, the analytical results were entered into a computer-based file system called Rock Analysis Storage System (RASS). Data bases in this system contain both descriptive geological information and analytical data. Data for a single sample may be in more than one data base. Any or all of the information may be retrieved and converted to a binary form (STATPAC) for manipulation, computerized statistical analysis, or publication (VanTrump and Miesch, 1977). This report, however, contains data files that have been modified for presentation purposes and thus the information they contain is not identical to that residing in the RASS data bases.

DESCRIPTION OF DATA TABLES

Because a high percentage of the samples came from mineralized sources, and because rock samples of the same type, even when not altered or mineralized, frequently came from different geologic terranes, statistical summaries of the data tables were not performed. Latitude and longitude in degrees, minutes and seconds, sample locations keyed to Plate 1, and simplified rock names are provided for all tables. Additional information on rock type, latitude and longitude in decimal degrees, and terrane source are provided for the reader in Table 16.

Tables 7-15

Tables 7-12 list the results of the various analyses. For the tables, the data are arranged so that column 1 contains numbers which correspond to the numbers shown on the site location map (plate 1). Column 2 contains the sample labels which are the unique identifiers for that sample. Column 3 ("rock type") contains the simplified name of the major (by volume) rock type present in the sample. For example, a sample of a quartz vein that also included a cross-cutting epidote vein and selvages of wall rock would be listed as "quartz". Additional descriptive information on sample rock types is given in table 16.

Column 4 and 5 contain the latitude and longitude in degrees, minutes and seconds.

The remaining columns contain chemical data relating to the sample. A letter "N" in the tables indicates that a given element was looked for but not detected (see the following section) at or below the lower limit of determination, the value following the "N". A letter "L" in the tables indicates that a given element was looked for and was detected, but occurred at an arbitrary and variable amount (see the following section) below the lower limit of determination, the value following the "L". If an element was known only to be neither at nor above a method- or sample- established 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, the letter "G" was entered in the tables in front of the upper limit of determination. "Greater than" symbols (>) are used in Table 14 with coefficient of variation data. If an element was not determined due to insufficient sample material or simply not analyzed for in a sample, dashes (-) were entered in the tables in place of a value.

Significance of "L" and "<"

The concept of less than as implied in the "<" symbol should be clear to most readers: if an analyzed amount neither meets nor exceeds a given cut-off value, then it must be below that cut-off value. For most circumstances involving unmineralized rocks, a "<" has an implicit equivalency of an "N" (discussed in following paragraph) and a knowledge of crustal abundance levels for various rock types can provide "probable" or "most likely" values for a given element. However, altered and mineralized rocks are less amenable to such

assumptions. Of more importance is the fact that much of the "<" data has been generated through computer manipulations. Being extremely literal, computer outputs can, for example, label a value of 0.999 as "< 1.0". In chemical terminology, there is no bias as to how close to (or far from) the limit of determination a "<" datum represents. Interpretative bias should be made using reasonable geologic inferences.

The "N" and "L" concept came into being as a result of the exploration geochemist's desire to obtain maximum information from an analysis, especially when using earlier generations of analytical instrumentation or when using methods wherein the detection limits were relatively high for elements of interest. An example is six-step emission spectrography wherein the limit of determination for gold (see table 2) is four orders of magnitude above gold's normal abundance level in rocks. Further, it was known that frequently one analyst could visually identify the spectral line for an element that another analyst could not. Also noted was the fact that the same analysts could have different levels of discriminatory powers depending on the instrumentation used, environmental conditions, sample matrices, and other factors. For the exploration geochemist, however, the important point was: If certain elements, such as gold, could be identified as being present in a sample, the sample was highly anomalous regardless of the fact that a quantifying number could not be assigned. An "L" value pushes the boundaries of an analytical method, but has no numerical value assigned to it.

The "N" and "L" concept has the implication of any "L" being close to the cut-off value and any "N" being considerably farther away. But, in combined tables such as those in this report involving a number of analysts, equipment, and a time span of several years, making such an assumption could lead to erroneous interpretations.

An "L" should not be assumed to have the value of a hypothetical next lower report interval.

Care should be used when using this type of data.

Formatting and Significant Figures

Because of the formatting used in the computer programs that produced the tables, some of the elements listed in these tables carry one or more nonsignificant digits to the right of the significant digits. The analysts did not determine (nor report) these elements to the accuracy suggested by the extra zeros now listed. Additionally, many of the data were produced as computer-manipulated machine readouts that were subsequently imported directly into the RASS data bases. These data frequently maintained an internal maximum number of figures which were held to prevent rounding errors during the manipulations.

Even with methods that are considered high-precision and high-accuracy procedures, no more than 3 significant figures should be assumed.

Table 16

The data columns in Table 16 describes the rock samples, lists the terrane of origin and stratigraphic unit of origin. For a complete description of the stratigraphic units, the reader is referred to the geologic map of the Redding quadrangle by Fraticelli and others (1987). The table also lists the mining district, mine, and major commodity produced when applicable. Additional information includes the principal analytical laboratory number and the map type on which the sample was originally located. Latitude and longitude are given in both degrees, minutes, and seconds, and in decimal degrees.

Commonly used abbreviations are given in the descriptive column labeled "comments". These abbreviations are summarized in the following paragraph. Whether the abbreviation represents a noun or adjective (for example, "Arg" for argillite and argillaceous) should be readily recognizable in context. A semicolon was used to separate rock types in those samples that consisted of more than one rock type. Commas were used to separate items relating to the rock type preceding. Hyphens indicate that the word or abbreviation is considered an essential part of the rock name. The "rock type" column always contained the name of the major (by volume) rock type present in the sample. In all cases the rock descriptions are field descriptions and not the result of chemical analyses or thin-section petrographic analyses.

Color abbreviations include: blk (black)and grn (green); mineral and rock abbreviations include: and (andesite, andesitic), arg (argillite, argillic, argillaceous), cal (calcite, calcitic), carb (carbonate, carbonatized), carbon (carbonaceous), chl (chlorite, chloritic), cong (conglomerate), cpy (chalcopyrite), ep (epidote, epidotized), hem (hematite, hematitic), hb (hornblende), lim (limonite, limonitic), mus (muscovite), ol (olivine), ox (oxide, oxidized), po (pyrrhotite), px (pyroxene), py (pyrite, pyritic); qtz (quartz, quartzose), serp (serpentinite, serpentinized), sil (silicate, siliceous), ss (sandstone), sul (sulfides); other abbreviations include: alt (altered), brec (breccia, brecciated), coat (coating, coated), and volc (volcanoclastic).

REFERENCES CITED

Adrian, B.A. and Carlson, R.R., 1990, A method for semiquantitative spectrographic analysis of fire assay dore beads for the platinum group elements and gold, in Zientek, M.L., and Page, N.J., Consultancy services in platinum-group mineral exploration for the Directorate of Mineral Resources (Indonesia): U.S. Geological Survey Open File Report 90-527, p. 196-202

Arbogast, B.F.,ed, 1990, Quality assurance manual for the Branch of Geochemistry: U.S. Geological Survey Open-File Report 90-668, 184 p.

Aruscavage, P.J., and Crock, J.G., 1987, Atomic absorption methods in Baedecker,P.A., ed., Methods for geochemical analysis: U.S. Geological Survey Bulletin 1770, p. C1-C6.

Baedecker, P.A., and McKown, D.M., 1987, Instrumental neutron activation analysis of geochemical samples in Baedecker,P.A., ed., Methods for geochemical analysis: U.S. Geological Survey Bulletin 1770, p. H1-H14.

Bailey, E.H., Irwin, W.P., and Jones, D.L., 1964, Franciscan and related rocks, and their significance in the geology of western California: California Division of Mines and Geology Bulletin 183, 177 p.

Blake, Jr, M.C., Jayko, A.S., McLaughlin, R.J., 1985, Tectonostratigraphic terranes of the Northern Coast Ranges, California and Oregon, in Howell, D.G., ed., Tectonostratigraphic terranes of the Circum-Pacific region: Circum-Pacific Council for Energy and Mineral Resources, Earth Science Series v. 1, p. 159-171.

Blake, Jr, M.C., and Peters, J.J., 1983, Mineral resource potential of the Weaver Bally Roadless Area, Trinity County, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1657A, scale 1:48,000.

Chao, T. T., Sanzolone, R. F., and Hubert, A. E., 1978, Flame and flameless atomic-absorption determination of tellurium in geological materials: Analytica Chimica Acta, v. 96, p. 251-257.

Coney, P.J., Jones, D.L., and Monger, J.W.H., 1980, Cordilleran suspect terranes: Nature, v. 288, p. 329-333.

Cooley, E.F. Curry, K.J., and Carlson, R.R., 1976, Analysis for the platinum group metals by fire-assay emission spectrography: Applied Spectroscopy, v. 30, p. 52-56.

Crock, J.G., Briggs, P.H., Jackson, L.L., and Lichte, F.E., 1987, Analytical methods for the analysis of stream sediments and rocks from wilderness areas: U.S. Geological Survey Open-File Report 87-84, 35 p.

Crock, J.G., Lichte, F.E., and Briggs, P.H., 1983, Determination of elements in National Bureau of Standards Geological Reference Materials SRM278 Obsidian and SRM668 Basalt by Inductively Coupled Argon Plasma-Atomic Emission Spectrometry: Geostandards Newsletter, no. 7, p. 335-340.

Danielson, J., and Silberman, M.L., 1988, Geologic setting and characteristics of gold-bearing quartz veins in the southern Klamath Mountains, California: Bicentennial Gold '88, extended abstracts, poster program, v. 1, p. 311-315.

Davis, F.F., 1957, Manganese, in Wright, L.A., ed., Mineral commodities of California: California Division of Mines and Geology, Bulletin 176, p. 325-339.

Diggles, M.F., and Kennedy, G.L., 1986, Geological and geochemical-anomaly map of the Tunnel Ridge Wilderness Study Area, Kalamath Mountains, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-1810B, scale 1:24,000.

Diggles, M.F., Kennedy, G.L., Detra, D.E., and Sharkey, J.D., 1986, Geochemical data for samples of rock, stream sediment, and nonmagnetic heavy-mineral concentrates from the Tunnel Ridge Wilderness Study Area, Kalamath Mountains, California: U.S. Geological Survey Open-File Report 84-887, 79p.

Eric, J.H., 1948, Tabulation of copper deposits of California: California Division of Mines and Geology, Bulletin 144, part 3, p. 197-387.

Fraticelli, L.A., Albers, J.P., Irwin, W.P., and Blake, M.C., Jr., 1987, Geologic map of the Redding 1° x 2° quadrangle, Shasta, Tehama, Humboldt, and Trinity Counties, California: U.S. Geological Survey Open-File Report 87-257, scale 1:250,000 (accompanying text, 18 p).

Golightly, D.W., Dorrzapf, Jr, A.F., Mays, R.E., Fries, T.L., and Conklin, N.M., 1987, Analysis of geologic materials by direct-current arc emission spectrography and spectrometry in Baedecker,P.A., ed., Methods for geochemical analysis: U.S. Geological Survey Bulletin 1770, p. A1 - A13.

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

Griscom, Andrew, 1991, Aeromagnetic and Bouguer gravity map of the Redding 1° x 2° quadrangle, California: U.S. Geological Survey Open-File Report 91- (in preparation).

Hotz, P.E., Greene, R.C., Close, T.J., and Evans, R.K., 1982, Mineral resources of proposed additions to the Salmon-Trinity Alps Primative Area, California: U.S. Geological Survey Bulletin 1514, 54 p.

Hotz, P.E., Thurber, H.K., Marks, L.Y., and Evans, R.K., 1972, Mineral resources of the Salmon-Trinity Alps Primative Area, California, *with a section on* An aeromagnetic survey and interpretation *by* Andrew Griscom: U.S. Geological Survey Bulletin 1371-B, 267 p.

Huber D.F., Nelson, S.C., Cather, E.E., and Ritchey, J.L., 1983, Mineral resource potential of the Fisher Gulch Roadless Area, Trinity County, California: U.S. Geological Survey Open File Report 83-483, 10 p.

Huber D.F., Nelson, S.C., Fraticelli, L.A., and Stebbins, S.A., 1983, Mineral resource potential map of the Chanchelulla Roadless Area, Trinity County, California: U.S. Geological Survey Open File Report 83-506, 13 p.

Hubert, A. E., and Chao, T. T., 1985, Determination of gold, indium, tellurium, and thallium in the same digestion of geologic materials by atomic-absorption spectroscopy and two-step solvent extraction, Talanta, v. 32, p. 383-387.

Irwin, W.P., 1977, Review of Paleozoic rocks of the Klamath Mountains, in Stewart, J.H., Stevens, C.H., and Fritsche, A.E., eds., Paleozoic paleogeography of the western United States, Pacific Coast Paleogeography Symposium 1: Society of Economic Paleontologists and Mineralogists, Los Angeles, California, p. 441-454.

______ 1981, Tectonic accretion of the Klamath Mountains, in Ernst, W.G., ed., The geotectonic development of California: Englewood Cliffs, New Jersey, Prentice-Hall, p. 29-49.

______ 1985, Age and tectonics of plutonic belts in accreted terranes of the Klamath Mountains, California and Oregon, in Howell, D.G., ed., Tectonostratigraphic terranes of the Circum-Pacific region: Circum-Pacific Council for Energy and Mineral Resources, Earth Science Series v. 1, p. 187-199.

Jackson, L.L., Brown, F.W., and Neil, S.T., 1987, Major and minor elements requiring individual determination, classical whole rock analysis, and rapid rock analysis in Baedecker,P.A., ed., Methods for geochemical analysis: U.S. Geological Survey Bulletin 1770, p. G1-G23.

Johnson, R.G., and King, B.-S.L., 1987, Energy-dispersive X-ray fluorescence spectrometry in Baedecker,P.A., ed., Methods for geochemical analysis: U.S. Geological Survey Bulletin 1770, p. F1-F5.

Kennedy, K.R., and Crock, J.G., 1987, Determination of mercury in geological materials by continuous-flow, cold-vapor, atomic absorption spectrophotometry: Analytical Letters, V.20, p. 899-908.

Koirtyohann, S. R., and Khalil, Moheb, 1976, Variables in the determination of mercury by cold vapor atomic absorption: Analytical Chemistry, 48, p. 136-139.

Lichte, F.E., Golightly, D.W., and Lamothe, P.J., 1987, Inductively coupled plasma-atomic emission spectrometry in Baedecker,P.A., ed., Methods for geochemical analysis: U.S. Geological Survey Bulletin 1770, p. B1-B10.

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

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.

Myers, A. T., Havens, R. G., and Dunton, P. J., 1961, A spectrochemical method for the semiquantitative analyses of rocks, minerals, and ores: U.S. Geological Survey Bulletin 1084-I, p. 1207-1229.

O'Leary, R.M., and Meier, A.L., 1986, Analytical methods used in geochemical exploration, 1984: U.S. Geological Survey Circular 948, 48 p.

O'Leary, R.M., and Viets, J.G., 1986, Determination of antimony, arsenic, bismuth, cadmium, copper, lead, molybdenum, silver, and zinc in geologic materials by atomic absorption spectrometry using a hydrochloric acid-hydrogen peroxide digestion: Atomic Spectroscopy, 7, p. 4-8.

Rice, S.J., 1957, Chromite, in Wright, L.A., ed., Mineral commodities of California: California Division of Mines and Geology, Bulletin 176, p. 121-130.

Silberman, M.L., and Danielson, J., 1991, Geologic setting, characteristics, and geochemistry of gold-bearing quartz veins in the southern Klamath Mountains in the Redding 1° x 2° quadrangle, California: U.S. Geological Survey Open File Report 91-595, 27 p.

Silberman, M.L., Hassemer, J.R, and Smith, S.M., 1991, Regional geochemical signatures of lode Au and Cu deposits in the western half of the Redding 1 by 2 degree quadrangle, northern California [abs.]: Association of Exploration Geochemists, 15th International Geochemical Exploration Symposium Abstracts with Program, p. 39.

Smith, S.M., Silberman, M.L., O'Leary, R.M., and Erickson, M.S., 1990, Analytical results and sample locality map of stream-sediment and panned-concentrate samples from the Hayfork 1:100,000 quadrangle (northwest quarter of the Redding, California 1:250,000 quadrangle), Trinity and Humboldt Counties, California: U.S. Geological Survey Open File Report 90-491, 46p.

Smith, S.M., Silberman, M.L., O'Leary, R.M., and Hopkins, R.T., 1991, Analytical results and sample locality map of stream-sediment and panned-concentrate samples from the Garberville 1:100,000 quadrangle (southwest quarter of the Redding, California 1:250,000 quadrangle), Humboldt, Trinity, Shasta, Tehama, and Mendocino Counties, California: U.S. Geological Survey Open-File Report 91-271, 86 p.

Taggart, Jr, J.E., Lindsay, J.R., Scott, B.A., Vivit, D.V., Bartel, A.J., and Stewart, K.C., 1987, Analysis of geologic materials by wavelength-dispersive X-ray fluorescence spectrometry in Baedecker,P.A., ed., Methods for geochemical analysis: U.S. Geological Survey Bulletin 1770, p. E1-E19.

Thompson, C.E., Nakagawa, H.M., and Van Sickle, G.H., 1968, Rapid analysis for gold in geologic materials, in Geological Survey Research 1968: U.S. Geological Survey Professional Paper 600-B, p. B130-B132.

VanTrump, George, Jr., and Miesch, A.T., 1977, The U.S. Geological Survey RASS-STATPAC system for management and statistical reduction of geochemical data: Computers and Geosciences, v. 3, p. 475-488.

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

Welsch, E. P., 1983, A rapid geochemical spectrophotometric determination of tungsten with dithiol: Talanta, v. 30, p.876-878.

Wilson, S.A., Kane, J.S., Crock, J.G. and Hatfield D.B., 1987, Chemical methods of separation for optical emission, atomic absorption spectrometry, and colorimetry in Baedecker,P.A., ed., Methods for geochemical analysis: U.S. Geological Survey Bulletin 1770, p. D1-D14.

Table 2. Limits of determination for the six-step semi-quantitative emission spectrographic analysis of rocks, based on a 10-mg sample. [Older limits in parentheses]

Elements	Lower determination limit	Upper determination limit
	Percent	
Calcium (Ca)	0.05	20
Iron (Fe)	0.05	20
Magnesium (Mg)	0.02	10
Sodium (Na)	(--) 0.2	(--) 5
Phosphorous (P)	(--) 0.2	(--) 10
Titanium (Ti)	0.002	1
	Parts per million	
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) 10	2,000
Chromium (Cr)	10	5,000
Copper (Cu)	5	20,000
Gallium (Ga)	(--) 5	(--) 500
Germanium (Ge)	(--) 10	(--) 100
Lanthanum (La)	(20) 50	1,000
Manganese (Mn)	10	5,000
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) 20	10,000
Yttrium (Y)	10	2,000
Zinc (Zn)	200	10,000
Zirconium (Zr)	10	1,000
Thorium (Th)	100	2,000

Table 3. Determination limits in semi-quantitative emission spectrography for 64 elements using an automated scanning photometer. Values are approximate and depend on parameters and correction factors established during analysis. [Parts per million]

Element	Lower limit	Element	Lower limit
Silver (Ag)	0.1	Sodium (Na)	20
Aluminum (Al)	460	Niobium (Nb)	7
Arsenic (As)	100	Neodymium (Nd)	30
Gold (Au)	7	Nickel (Ni)	1
Boron (B)	3	Osmium (Os)	15
Barium (Ba)	1	Phosphorous (P)	680
Beryllium (Be)	1	Lead (Pb)	7
Bismuth (Bi)	10	Palladium (Pd)	1
Calcium (Ca)	10	Praesodymium (Pr)	100
Cadmium (Cd)	30	Platinium (Pt)	2
Cerium (Ce)	40	Rhenium (Re)	10
Cobalt (Co)	1	Rhodium (Rh)	2
Chromium (Cr)	1	Ruthenium (Ru)	2
Copper (Cu)	1	Antimony (Sb)	70
Dysprosium (Dy)	20	Scandium (Sc)	1
Erbium (Er)	5	Silicon (Si)	50
Europium (Eu)	2	Samarium (Sm)	10
Iron (Fe)	70	Tin (Sn)	5
Gallium (Ga)	1	Strontium (Sr)	1
Gadolinium (Gd)	30	Tantalum (Ta)	320
Germanium (Ge)	5	Terbium (Tb)	30
Hafnium (Hf)	15	Thorium (Th)	50
Holmium (Ho)	7	Titanium (Ti)	30
Indium (In)	10	Thallium (Tl)	10
Iridium (Ir)	15	Thulium (Tm)	5
Potassium (K)	680	Uranium (U)	220
Lanthanum (La)	10	Vanadium (V)	1
Lithium (Li)	70	Tungsten (W)	15
Lutetium (Lu)	15	Yttrium (Y)	1
Magnesium (Mg)	20	Ytterbium (Yb)	0.2
Manganese (Mn)	1	Zinc (Zn)	10
Molybdenum (Mo)	1	Zirconium (Zr)	3

Table 4. Limits of determination for rocks analyzed for trace elements by atomic absorption spectroscopy methods, fire assay methods, and other miscellaneous methods.

[AA = atomic absorption spectroscopy; ICP = inductively coupled plasma-atomic emission spectroscopy; SP = spectrophotometry; FA = fire assay; SS = semi-quantitative emission spectrography; older limits in parentheses]

Element or constituent determined	Method	Determination limit (micrograms/ gram or ppm)	Reference
Gold (Au)	AA	0.05	Thompson and others, 1968.
Gold (Au)	AA	0.05	Hubert and Chao, 1985.
Thallium (Th)	AA	0.05	
Tellurium (Te)	AA	0.05	
Tellurium (Te)	AA	0.05	Chao and others, 1978.
Mercury (Hg)	AA	0.02	<u>Modification</u> <u>of</u> McNerney and others, 1972, <u>and</u> Vaughn and McCarthy, 1964.
Mercury (Hg)	AA	0.02	Kennedy and Crock, 1987, <u>Modification of</u> Koirtyohann and Kahlil, 1976.
Arsenic (As)	AA	(5) 10	O'Leary and Viets, 1986.
Antimony (Sb)	AA	2	
Zinc (Zn)	AA	5	
Arsenic (As)	ICP	10	Crock and others, 1987.
Antimony (Sb)	ICP	2	
Zinc (Zn)	ICP	5	
Potassium (K)	AA	5	O'Leary and Meier, 1986.
Tungsten (W)	SP	1.0 (0.5)	Welsch, 1983.
Gold (Au)	FA-SS	0.001	Adrian and Carlson, 1990, <u>Modification of</u> Cooley and others, 1976.
Palladium (Pd)	FA-SS	0.001	
Platinum (Pt)	FA-SS	0.005	
Rhodium (Rh)	FA-SS	0.002	
Ruthenium (Ru)	FA-SS	0.200	
Iridium (Ir)	FA-SS	0.050	

Table 5. Limits of determination for rocks analyzed for major, minor, and trace elements by X-ray fluorescence methods and for rocks analyzed for major and minor oxides requiring individual determinations. [older determination limits in parentheses]

Wavelength dispersive x-ray fluorescence [values in percent]

Major and minor oxides	Lower determination limit		Upper determination limit
Al_2O_3	0.10		28.0
CaO	0.02	(0.05)	60.0
Fe_2O_3 (total Fe)	0.04		28.0
K_2O	0.02	(0.05)	30.0
MgO	0.10	(0.15)	60.0
MnO	0.01	(0.02)	15.0
Na_2O	0.15	(0.20)	30.0
P_2O_5	0.05		50.0
SiO_2	0.10		99.0
TiO_2	0.02		10.0

Energy dispersive x-ray fluorescence [values in parts per million]

Trace elements	Lower determination limit	Upper determination limit
Barium (Ba)	(5) 10	(4,000) 4,700
Cerium (Ce)	(5) 10	500
Chromium (Cr)	20	(4,000) 4,200
Copper (Cu)	(2) 10	1,000
Lanthanum (La)	(5) 10	(500) 1,300
Niobium (Nb)	10	500
Nickel (Ni)	(2) 10	3,000
Rubidium (Rb)	(2) 10	2,000
Strontium (Sr)	(2) 10	2,000
Yttrium (Y)	(2) 10	(500) 200
Zinc (Zn)	(2) 10	(1,000) 1,300
Zirconium (Zr)	(5) 10	2,000

Major and minor oxides [values in percent]

Constituent	Lower determination limit	Upper determination limit
CO_2	0.01	(--) 50
FeO	0.01	--
H_2O+	0.05 (0.01)	--
H_2O-	0.05 (0.01)	--

Table 6. Determination limits in a rock of granitic composition analyzed by inductively coupled plasma-atomic emission spectrometry for 40 elements using an acid digestion. [Older determination limits in parentheses]

Element	Lower limit	Element	Lower limit
Percent			
Aluminum (Al)	0.005 (0.05)	Magnesium (Mg)	0.05
Calcium (Ca)	0.005 (0.05)	Sodium (Na)	0.005 (0.1)
Iron (Fe)	0.005 (0.05)	Phosphorous (P)	0.005 (0.01)
Potassium (K)	0.05 (0.01)	Titatium (Ti)	0.005 (0.01)
Parts per million			
Silver (Ag)	2		
Arsenic (As)	10		
Gold (Au)	8		
Barium (Ba)	1		
Beryllium (Be)	1		
Bismuth (Bi)	10		
Cadmium (Cd)	2		
Cerium (Ce)	4		
Cobalt (Co)	1		
Chromium (Cr)	1		
Copper (Cu)	1		
Europium (Eu)	2		
Gallium (Ga)	4		
Holmium (Ho)	4		
Lanthanum (La)	2		
Lithium (Li)	2		
Manganese (Mn)	4 (10)		
Molybdenum (Mo)	2		
Niobium (Nb)	4		
Neodymium (Nd)	4 (20)		
Nickel (Ni)	2		
Lead (Pb)	4		
Scandium (Sc)	2		
Tin (Sn)	10 (4)		
Strontium (Sr)	2		
Tantalum (Ta)	40		
Thorium (Th)	4		
Uranium (U)	100		
Vanadium (V)	2		
Yttrium (Y)	2		
Ytterbium (Yb)	1		
Zinc (Zn)	2 (4)		

Table 7. Empirical detection limits for an instrumental neutron activation analysis for 28 elements. Values are approximate and depend on parameters established during the course of the analysis. [Parts per million; old values in parentheses]

Element	"Long count"	"Short count"		Approximate 10 % error	
Arsenic (As)	0.1	0.4	(1)	1.7	(1.12)
Gold (Au)	0.0005	0.001	(0.005)	0.0059	(0.0050)
Barium (Ba)	4.3	9.6	(100)	74.4	(73.0)
Cerium (Ce)	0.2	1.6	(0.5)	3.9	(2.3)
Cobalt (Co)	0.02	0.03	(0.2)	0.27	(0.13)
Chromium (Cr)	0.2	0.3	(0.5)	3.6	(2.7)
Cesium (Cs)	0.01	0.03	(0.1)	0.19	(0.26)
Europium (Eu)	0.008	0.012	(0.04)	0.10	(0.10)
Iron (Fe)	20.0	25.0	(50)	310	(402)
Hafnium (Hf)	0.02	0.035	(0.1)	0.31	(0.18)
Lanthanum (La)	0.02	0.015	(0.02)	0.47	(0.43)
Lutetium (Lu)	0.002	0.004	(0.01)	0.04	(0.03)
Sodium (Na)	3.1	20.0	(10)	80	(125)
Neodymium (Nd)	0.45	2.4	(2)	14.1	(10.0)
Nickel (Ni)	2.5	4.2	(50)	36.1	(22.0)
Rubidium (Rb)	0.65	1.0	(5)	12.7	(12.0)
Antimony (Sb)	0.035	0.008	(0.1)	0.80	(0.21)
Scandium (Sc)	0.0015	0.0024	(0.01)	0.025	(0.07)
Samarium (Sm)	0.002	0.05	(0.5)	0.057	(0.07)
Strontium (Sr)	8.1	14.4	(50)	113	(98)
Tantalum (Ta)	0.002	0.02	(0.02)	0.04	(0.30)
Terbium (Tb)	0.006	0.01	(0.05)	0.08	(0.25)
Thorium (Th)	0.015	0.024	(0.1)	0.24	(0.11)
Uranium (U)	0.02	0.1	(0.5)	0.45	(0.58)
Tungsten (W)	0.2	0.85	(0.1)	3.1	(1.12)
Ytterbium (Yb)	0.02	0.04	(0.1)	0.34	(0.15)
Zinc (Zn)	0.5	1.0	(1)	7.6	(2.20)
Zirconium (Zr)	4.5	14.0	(200)	88.6	(126)

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. Page 1 - part a.

Site	Sample	Rock type	Latitude	Longitude	Ca %	Fe %	Mg %	Na %	P %	Ti %
1	83RR017	Serpentinite	403543	1230021	L 0.05	15.00	10.00	-	-	N 0.002
2	84R009A	Gneiss	404418	1230249	10.00	20.00	10.00	-	-	G 1
3	84R010A	Argillite	404607	1230748	0.07	1.50	0.50	-	-	0.100
3	84R010B	Quartz	404607	1230748	L 0.05	0.05	0.02	-	-	0.005
5	84R011A	Andesite	404508	1230939	10.00	10.00	10.00	-	-	1.000
6	84R012A	Breccia	404431	1231307	1.50	7.00	2.00	-	-	0.700
7	84R013A	Quartzite	404422	1231448	L 0.05	1.00	0.50	-	-	0.150
7	84R013B	Limestone	404422	1231448	G 20	0.50	1.00	-	-	0.050
9	84R014A	Limestone	404710	1232037	G 20	0.50	10.00	-	-	0.050
9	84R014B	Chert	404710	1232037	10.00	2.00	1.50	-	-	0.150
11	84R015A	Diorite	404713	1232516	7.00	15.00	7.00	-	-	0.500
12	84R016A	Diorite	404853	1232844	7.00	7.00	7.00	-	-	0.200
13	84R017A	Graywacke	405212	1233148	2.00	5.00	2.00	-	-	0.500
13	84R017B	Quartz	405212	1233148	G 20	0.50	0.30	-	-	0.020
15	84R018A	Graywacke	405314	1233453	2.00	5.00	2.00	-	-	0.500
16	84R019A	Argillite	405422	1234221	0.10	10.00	3.00	-	-	0.500
17	84R033A	Serpentinite	403044	1231338	L 0.05	10.00	G 10	-	-	0.002
17	84R033B	Chert	403044	1231338	20.00	10.00	7.00	-	-	0.200
19	84R034A	Andesite	403341	1230613	7.00	7.00	5.00	-	-	0.300
20	84R035A	Basalt	403541	1230057	10.00	15.00	5.00	-	-	1.000
21	85RB050A	Vein	403202	1230757	15.00	1.50	0.70	-	-	0.300
21	85RB050B	Shale	403202	1230757	0.70	1.50	0.50	-	-	0.200
21	85RB050C	Quartz	403202	1230757	3.00	0.70	0.30	-	-	0.050
21	85RB050D	Shale	403202	1230757	3.00	3.00	1.50	-	-	0.500
25	85RB051A	Quartz	403203	1230758	L 0.05	0.15	0.03	-	-	0.015
25	85RB051B	Shale	403203	1230758	2.00	3.00	3.00	-	-	0.700
27	85RS001	Schist	405055	1230748	7.00	15.00	7.00	-	-	G 1
28	85RS002A	Quartz	405039	1230730	7.00	5.00	2.00	-	-	0.700
28	85RS002B	Gneiss	405039	1230730	5.00	10.00	7.00	-	-	G 1
28	85RS002C	Gneiss	405039	1230730	5.00	10.00	7.00	-	-	1.000
28	85RS002D	Quartz	405039	1230730	1.00	1.00	0.10	-	-	0.070
32	85RS003A	Gneiss	405037	1230721	5.00	15.00	2.00	-	-	G 1
32	85RS003B	Quartz	405037	1230721	0.10	3.00	0.15	-	-	0.100
34	85RS004A	Quartz	405046	1230720	2.00	3.00	0.70	-	-	0.700
34	85RS004A2	Schist	405046	1230720	7.00	20.00	7.00	-	-	G 1
34	85RS004AA	Schist	405046	1230720	5.00	15.00	5.00	-	-	1.000
34	85RS004B	Gneiss	405046	1230720	5.00	20.00	2.00	-	-	1.000
34	85RS004C	Quartz	405046	1230720	3.00	1.50	0.50	-	-	0.150
34	85RS004D	Gneiss	405046	1230720	5.00	20.00	3.00	-	-	1.000
34	85RS004E	Quartz	405046	1230720	3.00	1.50	0.30	-	-	0.150
34	85RS004F	Quartz	405046	1230720	2.00	2.00	0.50	-	-	0.200
34	85RS004G	Gneiss	405046	1230720	5.00	20.00	3.00	-	-	G 1
34	85RS004H	Quartz	405046	1230720	0.20	1.00	0.07	-	-	0.050
44	85RS005	Sandstone	404923	1230726	5.00	15.00	5.00	-	-	1.000
45	85RS006	Argillite	404844	1230716	0.07	3.00	1.00	-	-	0.200
46	85RS008A	Gneiss	405207	1230146	7.00	15.00	7.00	-	-	1.000
46	85RS008B	Aplite	405207	1230146	0.70	1.00	0.30	-	-	0.100
46	85RS008C	Aplite	405207	1230146	0.20	1.50	0.30	-	-	0.030
49	85RS009A	Gneiss	405101	1230239	7.00	15.00	5.00	-	-	1.000
49	85RS009B	Dike	405101	1230239	0.15	0.50	0.15	-	-	0.020
49	85RS009C	Quartz	405101	1230239	0.15	2.00	1.00	-	-	0.100
52	85RS010	Gneiss	404716	1230309	7.00	10.00	5.00	-	-	1.000
53	85RS011A	Gneiss	404938	1230625	5.00	15.00	5.00	-	-	G 1
53	85RS011B	Quartz	404938	1230625	3.00	3.00	0.50	-	-	0.300
53	85RS011C	Pegmatite	404938	1230625	L 0.05	1.50	0.02	-	-	0.010
53	85RS011D	Granodiorite	404938	1230625	1.00	2.00	0.50	-	-	0.150
57	85RS012A	Quartz	404922	1230653	0.05	1.50	0.15	-	-	0.150
57	85RS012B	Gneiss	404922	1230653	5.00	15.00	5.00	-	-	G 1
57	85RS012C	Gneiss	404922	1230653	5.00	20.00	7.00	-	-	G 1
57	85RS012D	Quartz	404922	1230653	0.05	1.50	0.05	-	-	0.030

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p1-b).

Site	Sample	Ag Ppm	As Ppm	Au Ppm	B Ppm	Ba Ppm	Be Ppm	Bi Ppm	Cd Ppm	Co Ppm	Cr Ppm
1	83RR017	N 0.5	N 200	N 10	20	N 20	N 1	N 10	N 20	100	2000
2	84R009A	N 0.5	N 200	N 10	L 10	N 20	N 1	N 10	N 20	70	150
3	84R010A	N 0.5	N 200	N 10	20	300	1	N 10	N 20	20	15
3	84R010B	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	L 5	L 10
5	84R011A	N 0.5	N 200	N 10	20	200	N 1	N 10	N 20	50	200
6	84R012A	N 0.5	N 200	N 10	30	1000	N 1	N 10	N 20	30	20
7	84R013A	N 0.5	N 200	N 10	20	700	N 1	N 10	N 20	N 5	50
7	84R013B	N 0.5	N 200	N 10	N 10	N 20	N 1	N 10	N 20	N 5	N 10
9	84R014A	N 0.5	N 200	N 10	N 10	N 20	N 1	N 10	N 20	N 5	N 10
9	84R014B	N 0.5	N 200	N 10	L 10	1500	L 1	N 10	N 20	N 5	20
11	84R015A	N 0.5	N 200	N 10	70	1000	1	N 10	N 20	50	30
12	84R016A	N 0.5	N 200	N 10	70	50	N 1	N 10	N 20	30	500
13	84R017A	N 0.5	N 200	N 10	70	1000	1	N 10	N 20	20	150
13	84R017B	N 0.5	N 200	N 10	L 10	150	N 1	N 10	N 20	N 5	L 10
15	84R018A	N 0.5	N 200	N 10	100	1500	1	N 10	N 20	20	100
16	84R019A	0.7	N 200	N 10	200	1500	1	N 10	N 20	20	100
17	84R033A	N 0.5	N 200	N 10	20	N 20	N 1	N 10	N 20	150	5000
17	84R033B	N 0.5	N 200	N 10	50	L 20	N 1	N 10	N 20	50	500
19	84R034A	N 0.5	N 200	N 10	L 10	1000	N 1	N 10	N 20	30	100
20	84R035A	N 0.5	N 200	N 10	100	100	N 1	N 10	N 20	50	500
21	85RB050A	N 0.5	1000	N 10	20	300	1	N 10	N 20	10	30
21	85RB050B	N 0.5	N 200	N 10	70	500	1.5	N 10	N 20	7	30
21	85RB050C	0.5	N 200	N 10	10	50	N 1	N 10	N 20	L 5	30
21	85RB050D	N 0.5	N 200	N 10	30	300	L 1	N 10	N 20	20	200
25	85RB051A	0.5	N 200	N 10	10	L 20	N 1	N 10	N 20	N 5	L 10
25	85RB051B	N 0.5	N 200	N 10	L 10	500	L 1	N 10	N 20	30	200
27	85RS001	N 0.5	N 200	N 10	L 10	N 20	N 1	N 10	N 20	30	50
28	85RS002A	7	300	N 10	20	100	L 1	15	N 20	15	300
28	85RS002B	L 0.5	N 200	N 10	50	300	1	N 10	N 20	30	300
28	85RS002C	N 0.5	N 200	N 10	L 10	N 20	L 1	N 10	N 20	30	15
28	85RS002D	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	L 5	20
32	85RS003A	N 0.5	N 200	N 10	10	L 20	L 1	N 10	N 20	30	10
32	85RS003B	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	10	15
34	85RS004A	N 0.5	N 200	N 10	10	L 20	N 1	N 10	N 20	10	20
34	85RS004A2	N 0.5	N 200	N 10	15	20	N 1	N 10	N 20	50	50
34	85RS004AA	N 0.5	N 200	N 10	10	100	N 1	N 10	N 20	50	30
34	85RS004B	N 0.5	N 200	N 10	15	50	L 1	N 10	N 20	30	10
34	85RS004C	0.7	700	N 10	10	30	N 1	N 10	N 20	5	20
34	85RS004D	N 0.5	N 200	N 10	10	70	L 1	N 10	N 20	50	15
34	85RS004E	30	500	70	20	50	N 1	10	N 20	5	15
34	85RS004F	5	N 200	30	20	100	N 1	N 10	N 20	7	20
34	85RS004G	0.7	N 200	N 10	15	200	L 1	N 10	N 20	50	15
34	85RS004H	100	N 200	500	10	20	N 1	50	N 20	L 5	200
44	85RS005	N 0.5	N 200	N 10	200	L 20	N 1	N 10	N 20	50	50
45	85RS006	N 0.5	N 200	N 10	70	1500	1	N 10	N 20	5	150
46	85RS008A	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	50	15
46	85RS008B	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	7	15
46	85RS008C	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	5	200
49	85RS009A	N 0.5	N 200	N 10	100	N 20	N 1	N 10	N 20	50	10
49	85RS009B	N 0.5	N 200	N 10	20	500	1.5	N 10	N 20	N 5	70
49	85RS009C	N 0.5	N 200	N 10	G 2000	150	N 1	N 10	N 20	5	10
52	85RS010	N 0.5	N 200	N 10	20	N 20	N 1	N 10	N 20	50	200
53	85RS011A	N 0.5	N 200	N 10	10	L 20	N 1	N 10	N 20	30	100
53	85RS011B	N 0.5	N 200	N 10	100	N 20	N 1	N 10	N 20	5	15
53	85RS011C	N 0.5	N 200	N 10	15	20	N 1	N 10	N 20	N 5	10
53	85RS011D	N 0.5	N 200	N 10	50	1000	1	N 10	N 20	N 5	10
57	85RS012A	10	3000	10	L 10	N 20	N 1	N 10	N 20	L 5	10
57	85RS012B	N 0.5	N 200	N 10	L 10	L 20	N 1	N 10	N 20	100	100
57	85RS012C	N 0.5	N 200	N 10	10	L 20	N 1	N 10	N 20	100	50
57	85RS012D	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	N 5	L 10

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p1-c).

Site	Sample	Cu Ppm	Ga Ppm	Ge Ppm	La Ppm	Mn Ppm	Mo Ppm	Nb Ppm	Ni Ppm	Pb Ppm	Sb Ppm
1	83RR017	15	-	-	50	1000	N 5	L 20	2000	L 10	N 100
2	84R009A	100	-	-	N 20	2000	N 5	N 20	50	N 10	N 100
3	84R010A	100	-	-	N 20	5000	N 5	N 20	20	N 10	N 100
3	84R010B	5	-	-	N 20	20	L 5	N 20	5	L 10	N 100
5	84R011A	100	-	-	N 20	1000	N 5	N 20	30	N 10	N 100
6	84R012A	100	-	-	N 20	1000	N 5	N 20	20	L 10	N 100
7	84R013A	50	-	-	N 20	100	N 5	N 20	7	N 10	N 100
7	84R013B	L 5	-	-	N 20	150	N 5	N 20	5	N 10	N 100
9	84R014A	L 5	-	-	N 20	500	N 5	N 20	5	N 10	N 100
9	84R014B	30	-	-	N 20	1000	N 5	N 20	20	N 10	N 100
11	84R015A	100	-	-	N 20	2000	L 5	N 20	15	N 10	N 100
12	84R016A	50	-	-	N 20	1000	N 5	N 20	70	N 10	N 100
13	84R017A	50	-	-	N 20	500	N 5	N 20	70	10	N 100
13	84R017B	15	-	-	50	G 5000	N 5	N 20	5	L 10	N 100
15	84R018A	70	-	-	N 20	500	N 5	N 20	50	10	N 100
16	84R019A	70	-	-	N 20	1000	5	N 20	50	50	N 100
17	84R033A	10	-	-	N 20	700	N 5	N 20	G 5000	N 10	N 100
17	84R033B	100	-	-	N 20	1000	N 5	N 20	100	N 10	N 100
19	84R034A	150	-	-	N 20	1500	N 5	N 20	50	15	N 100
20	84R035A	100	-	-	N 20	1000	N 5	N 20	200	N 10	N 100
21	85RB050A	30	-	-	20	2000	N 5	N 20	20	N 10	N 100
21	85RB050B	70	-	-	20	500	N 5	N 20	20	30	N 100
21	85RB050C	5	-	-	L 20	700	N 5	N 20	10	N 10	N 100
21	85RB050D	50	-	-	20	1000	N 5	N 20	100	15	N 100
25	85RB051A	N 5	-	-	N 20	15	N 5	N 20	5	30	N 100
25	85RB051B	50	-	-	20	1000	N 5	N 20	150	20	N 100
27	85RS001	70	-	-	N 20	3000	N 5	N 20	50	N 10	N 100
28	85RS002A	5	-	-	N 20	1000	5	N 20	50	150	N 100
28	85RS002B	50	-	-	N 20	1500	L 5	N 20	100	L 10	N 100
28	85RS002C	70	-	-	N 20	150	L 5	N 20	100	N 10	N 100
28	85RS002D	10	-	-	N 20	2000	15	N 20	7	N 10	N 100
32	85RS003A	70	-	-	N 20	150	N 5	N 20	30	N 10	N 100
32	85RS003B	15	-	-	N 20	500	10	N 20	10	N 10	N 100
34	85RS004A	20	-	-	N 20	2000	L 5	N 20	15	N 10	N 100
34	85RS004A2	100	-	-	N 20	5000	L 5	N 20	70	N 10	N 100
34	85RS004AA	200	-	-	N 20	2000	N 5	L 20	50	N 10	N 100
34	85RS004B	70	-	-	N 20	500	N 5	N 20	50	N 10	N 100
34	85RS004C	15	-	-	N 20	2000	15	N 20	10	N 10	N 100
34	85RS004D	70	-	-	N 20	300	L 5	N 20	30	N 10	N 100
34	85RS004E	15	-	-	N 20	300	N 5	N 20	10	100	N 100
34	85RS004F	15	-	-	N 20	1500	L 5	N 20	15	20	N 100
34	85RS004G	100	-	-	N 20	100	N 5	N 20	30	10	N 100
34	85RS004H	5	-	-	N 20	2000	L 5	N 20	7	1000	N 100
44	85RS005	100	-	-	N 20	500	L 5	N 20	70	N 10	N 100
45	85RS006	20	-	-	N 20	1500	N 5	N 20	50	N 10	N 100
46	85RS008A	70	-	-	N 20	100	L 5	N 20	100	N 10	N 100
46	85RS008B	30	-	-	N 20	150	L 5	N 20	15	N 10	N 100
46	85RS008C	10	-	-	N 20	2000	5	N 20	10	N 10	N 100
49	85RS009A	5	-	-	N 20	1500	L 5	N 20	100	N 10	N 100
49	85RS009B	L 5	-	-	N 20	700	5	N 20	5	N 10	N 100
49	85RS009C	10	-	-	N 20	300	L 5	N 20	15	N 10	N 100
52	85RS010	50	-	-	N 20	2000	N 5	N 20	70	N 10	N 100
53	85RS011A	70	-	-	N 20	2000	L 5	N 20	30	N 10	N 100
53	85RS011B	10	-	-	N 20	500	L 5	N 20	10	N 10	N 100
53	85RS011C	15	-	-	N 20	100	L 5	N 20	7	N 10	N 100
53	85RS011D	50	-	-	N 20	1000	L 5	N 20	7	10	N 100
57	85RS012A	10	-	-	N 20	70	L 5	N 20	7	20	N 100
57	85RS012B	70	-	-	N 20	2000	L 5	N 20	50	N 10	N 100
57	85RS012C	70	-	-	N 20	3000	L 5	N 20	30	N 10	N 100
57	85RS012D	5	-	-	N 20	100	L 5	N 20	7	N 10	N 100

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p1-d).

Site	Sample	Sc Ppm	Sn Ppm	Sr Ppm	Th Ppm	V Ppm	W Ppm	Y Ppm	Zn Ppm	Zr Ppm
1	83RR017	5	N 10	N 100	N 100	20	N 50	N 10	L 200	N 10
2	84R009A	30	N 10	150	N 100	500	N 50	50	N 200	70
3	84R010A	5	N 10	L 100	N 100	30	N 50	N 10	N 200	20
3	84R010B	N 5	N 10	N 100	N 100	L 10	N 50	N 10	N 200	N 10
5	84R011A	30	N 10	500	N 100	200	N 50	30	N 200	100
6	84R012A	15	N 10	150	N 100	150	N 50	20	N 200	100
7	84R013A	5	N 10	N 100	N 100	30	L 50	N 10	N 200	50
7	84R013B	N 5	N 10	700	N 100	L 10	N 50	N 10	N 200	N 10
9	84R014A	N 5	N 10	200	N 100	L 10	N 50	N 10	N 200	N 10
9	84R014B	7	N 10	200	N 100	50	N 50	10	N 200	20
11	84R015A	30	N 10	1000	N 100	300	N 50	20	N 200	50
12	84R016A	30	N 10	150	N 100	100	N 50	15	N 200	10
13	84R017A	15	N 10	200	N 100	150	N 50	15	N 200	150
13	84R017B	15	N 10	G 5000	N 100	L 10	N 50	100	N 200	N 10
15	84R018A	15	N 10	200	N 100	150	N 50	20	N 200	150
16	84R019A	20	N 10	150	N 100	200	N 50	50	N 200	100
17	84R033A	5	20	N 100	N 100	20	N 50	N 10	N 200	N 10
17	84R033B	30	N 10	150	N 100	200	N 50	10	N 200	L 10
19	84R034A	20	N 10	300	N 100	200	N 50	20	N 200	100
20	84R035A	50	N 10	L 100	N 100	500	N 50	50	N 200	100
21	85RB050A	5	N 10	1000	N 100	70	N 50	20	N 200	50
21	85RB050B	7	N 10	N 100	N 100	70	N 50	15	N 200	100
21	85RB050C	L 5	N 10	150	N 100	20	N 50	N 10	N 200	L 10
21	85RB050D	10	N 10	200	N 100	100	N 50	20	N 200	70
25	85RB051A	N 5	N 10	N 100	N 100	L 10	N 50	N 10	N 200	L 10
25	85RB051B	15	N 10	200	N 100	100	N 50	20	L 200	100
27	85RS001	30	N 10	200	N 100	300	N 50	50	N 200	50
28	85RS002A	20	N 10	300	N 100	100	N 50	20	L 200	20
28	85RS002B	30	N 10	150	N 100	300	N 50	30	L 200	50
28	85RS002C	30	N 10	150	N 100	300	N 50	50	L 200	50
28	85RS002D	5	N 10	L 100	N 100	20	N 50	N 10	N 200	N 10
32	85RS003A	50	N 10	200	N 100	500	N 50	50	L 200	100
32	85RS003B	5	N 10	N 100	N 100	70	N 50	N 10	N 200	L 10
34	85RS004A	15	N 10	200	N 100	100	N 50	15	L 200	50
34	85RS004A2	70	N 10	150	N 100	700	N 50	70	300	100
34	85RS004AA	50	N 10	100	N 100	500	N 50	50	200	100
34	85RS004B	30	N 10	200	N 100	500	N 50	50	200	50
34	85RS004C	10	N 10	150	N 100	50	N 50	15	N 200	20
34	85RS004D	50	N 10	150	N 100	300	N 50	50	200	70
34	85RS004E	7	N 10	L 100	N 100	50	N 50	10	200	10
34	85RS004F	10	N 10	L 100	N 100	70	N 50	10	L 200	20
34	85RS004G	50	N 10	150	N 100	300	N 50	70	L 200	100
34	85RS004H	L 5	N 10	L 100	N 100	50	N 50	N 10	1000	N 10
44	85RS005	50	N 10	150	N 100	300	N 50	30	200	50
45	85RS006	10	N 10	N 100	N 100	100	N 50	10	L 200	70
46	85RS008A	50	N 10	150	N 100	300	N 50	50	L 200	100
46	85RS008B	5	N 10	100	N 100	30	N 50	N 10	N 200	N 10
46	85RS008C	L 5	N 10	L 100	N 100	20	N 50	N 10	N 200	N 10
49	85RS009A	30	N 10	150	N 100	200	N 50	50	N 200	50
49	85RS009B	L 5	N 10	100	N 100	L 10	N 50	15	N 200	50
49	85RS009C	5	N 10	150	N 100	100	N 50	N 10	N 200	10
52	85RS010	30	N 10	L 100	N 100	300	N 50	30	N 200	50
53	85RS011A	50	N 10	L 100	N 100	500	N 50	50	N 200	100
53	85RS011B	10	N 10	100	N 100	200	N 50	10	N 200	20
53	85RS011C	N 5	N 10	L 100	N 100	15	N 50	N 10	N 200	N 10
53	85RS011D	5	N 10	500	N 100	20	N 50	N 10	N 200	50
57	85RS012A	L 5	N 10	N 100	N 100	20	N 50	N 10	L 200	N 10
57	85RS012B	70	N 10	150	N 100	500	N 50	50	N 200	100
57	85RS012C	100	N 10	150	N 100	500	N 50	50	N 200	100
57	85RS012D	N 5	N 10	N 100	N 100	20	L 50	N 10	N 200	N 10

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p2-a).

Site	Sample	Rock type	Latitude	Longitude	Ca %	Fe %	Mg %	Na %	P %	Ti %
61	85RS013	Dike	405210	1230130	0.70	1.00	0.70	-	-	0.200
62	85RS018A	Gneiss	404552	1230255	5.00	20.00	5.00	-	-	G 1
62	85RS018B	Quartz	404552	1230255	1.00	2.00	0.70	-	-	0.200
62	85RS018C	Quartz	404552	1230255	0.10	1.00	L 0.02	-	-	0.100
65	85RS019A	Gneiss	405241	1230044	7.00	20.00	7.00	-	-	G 1
65	85RS019B	Vein	405241	1230044	2.00	5.00	1.00	-	-	0.300
67	85RS020	Dacite	405246	1230040	0.70	2.00	0.70	-	-	0.200
68	85RS021A	Quartz	405246	1230024	3.00	2.00	0.50	-	-	0.100
68	85RS021B	Quartz	405246	1230024	0.20	1.00	0.15	-	-	0.020
68	85RS021C	Gneiss	405246	1230024	5.00	10.00	2.00	-	-	0.500
68	85RS021D	Gneiss	405246	1230024	2.00	10.00	2.00	-	-	0.300
68	85RS021E	Gneiss	405246	1230024	7.00	10.00	3.00	-	-	0.500
68	85RS021F	Gneiss	405246	1230024	5.00	15.00	5.00	-	-	1.000
74	86RS001A	Argillite	404353	1231611	L 0.05	1.00	0.50	-	-	0.200
74	86RS001B	Argillite	404353	1231611	3.00	5.00	10.00	-	-	0.070
74	86RS001C	Basalt	404353	1231611	0.70	5.00	0.50	-	-	1.000
77	86RS002	Argillite	404348	1231634	20.00	0.70	0.50	-	-	0.030
78	86RS003	Mixed	404409	1231350	2.00	2.00	1.50	-	-	0.300
79	86RS004A	Pyroxenite	404411	1231158	7.00	2.00	10.00	-	-	0.050
79	86RS004B	Pyroxenite	404411	1231158	7.00	3.00	7.00	-	-	0.070
79	86RS004C	Pyroxenite	404411	1231158	5.00	1.50	7.00	-	-	0.020
79	86RS004D	Graywacke	404411	1231158	5.00	5.00	5.00	-	-	0.200
83	86RS005	Gabbro	404424	1231154	5.00	3.00	5.00	-	-	0.300
84	86RS006	Pyroxenite	404414	1231206	5.00	5.00	7.00	-	-	0.050
85	86RS007	Serpentinite	404512	1230320	3.00	7.00	2.00	-	-	1.000
86	86RS008	Schist	404433	1230257	3.00	10.00	2.00	-	-	1.000
87	86RS009	Schist	404407	1230038	3.00	7.00	3.00	-	-	1.000
34	86RS030A	Schist	405046	1230720	7.00	20.00	7.00	-	-	G 1
34	86RS030B	Quartz	405046	1230720	0.10	3.00	1.50	-	-	0.500
34	86RS030C	Quartz	405046	1230720	0.30	0.70	1.00	-	-	0.200
34	86RS030D	Greenstone	405046	1230720	0.70	15.00	7.00	-	-	G 1
34	86RS030E	Quartz	405046	1230720	0.05	0.50	0.50	-	-	0.100
34	86RS030F	Greenstone	405046	1230720	7.00	15.00	7.00	-	-	G 1
34	86RS030G	Quartz	405046	1230720	0.20	5.00	2.00	-	-	0.300
34	86RS030H	Quartz	405046	1230720	5.00	2.00	0.50	-	-	0.500
96	86RS031A	Quartz	404957	1230620	1.00	1.00	0.20	-	-	0.070
96	86RS031B	Quartz	404957	1230620	0.05	0.70	0.20	-	-	0.150
96	86RS031C	Greenstone	404957	1230620	2.00	20.00	5.00	-	-	G 1
96	86RS031D	Pegmatite	404957	1230620	0.20	0.50	1.00	-	-	0.100
28	86RS032A	Quartz	405039	1230730	3.00	2.00	0.70	-	-	0.150
28	86RS032B	Quartz	405039	1230730	20.00	3.00	0.10	-	-	0.200
28	86RS032C	Quartz	405039	1230730	10.00	3.00	0.70	-	-	0.300
28	86RS032D	Graywacke	405039	1230730	10.00	20.00	7.00	-	-	G 1
28	86RS032E	Graywacke	405039	1230730	5.00	15.00	5.00	-	-	G 1
105	86RS033A	Quartz	404957	1230607	0.05	0.20	0.10	-	-	0.100
106	A1R101	Siltstone	403101	1230513	2.00	3.00	1.50	-	-	0.500
107	A1R102A	Siltstone	403050	1230553	5.00	15.00	2.00	-	-	G 1
107	A1R102B	Limestone	403050	1230553	20.00	1.00	0.50	-	-	0.300
109	A2R101	Andesite	403222	1230804	0.05	5.00	2.00	-	-	0.700
110	A2R102A	Sandstone	403041	1230836	G 20	3.00	2.00	-	-	0.200
110	A2R102B	Sandstone	403041	1230836	5.00	10.00	5.00	-	-	0.300
112	A2R103	Siltstone	403043	1230903	3.00	5.00	2.00	-	-	0.500
113	A3R001	Chert	403647	1232058	0.07	3.00	0.70	0.2	N 0.2	0.300
114	A3R002	Greenstone	403706	1232001	5.00	10.00	3.00	3.0	N 0.2	0.300
115	A3R003	Gabbro	403608	1231658	10.00	10.00	3.00	2.0	N 0.2	0.500
116	A4R001	Chert	403738	1232311	0.10	2.00	0.70	N 0.2	N 0.2	0.150
117	A4R002	Phyllite	403446	1232809	0.30	5.00	1.50	2.0	N 0.2	0.500
118	A4R003	Graywacke	403407	1232623	0.20	5.00	1.50	2.0	L 0.2	0.500
119	A4R004	Conglomerate	403310	1232722	0.30	5.00	1.50	2.0	L 0.2	0.500
120	A4R005	Phyllite	403231	1232724	0.20	5.00	1.50	2.0	L 0.2	0.500

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p2-b).

Site	Sample	Ag Ppm	As Ppm	Au Ppm	B Ppm	Ba Ppm	Be Ppm	Bi Ppm	Cd Ppm	Co Ppm	Cr Ppm
61	85RS013	N 0.5	N 200	N 10	20	500	1	N 10	N 20	L 5	10
62	85RS018A	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	100	100
62	85RS018B	N 0.5	N 200	N 10	20	N 20	N 1	N 10	N 20	10	15
62	85RS018C	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	L 5	20
65	85RS019A	N 0.5	N 200	N 10	L 10	N 20	N 1	N 10	N 20	100	150
65	85RS019B	N 0.5	N 200	N 10	10	N 20	N 1	N 10	N 20	20	20
67	85RS020	N 0.5	N 200	N 10	15	700	1	N 10	N 20	L 5	L 10
68	85RS021A	N 0.5	N 200	N 10	L 10	N 20	N 1	N 10	N 20	5	20
68	85RS021B	N 0.5	N 200	N 10	L 10	N 20	N 1	N 10	N 20	L 5	20
68	85RS021C	N 0.5	N 200	N 10	50	500	N 1	N 10	N 20	20	L 10
68	85RS021D	N 0.5	N 200	N 10	50	500	L 1	N 10	N 20	20	L 10
68	85RS021E	N 0.5	N 200	N 10	L 10	N 20	L 1	N 10	N 20	20	100
68	85RS021F	N 0.5	N 200	N 10	L 10	N 20	L 1	N 10	N 20	50	100
74	86RS001A	L 0.5	N 200	N 10	50	1500	1	N 10	N 20	7	20
74	86RS001B	N 0.5	N 200	N 10	L 10	300	L 1	N 10	N 20	70	2000
74	86RS001C	L 0.5	N 200	N 10	10	700	1.5	N 10	N 20	7	10
77	86RS002	N 0.5	N 200	N 10	50	70	N 1	N 10	N 20	5	L 10
78	86RS003	N 0.5	N 200	N 10	700	700	L 1	N 10	N 20	15	100
79	86RS004A	N 0.5	N 200	N 10	20	N 20	N 1	N 10	N 20	50	700
79	86RS004B	N 0.5	N 200	N 10	15	N 20	N 1	N 10	N 20	70	1500
79	86RS004C	N 0.5	N 200	N 10	30	N 20	N 1	N 10	N 20	50	1500
79	86RS004D	N 0.5	N 200	N 10	N 10	500	N 1	N 10	N 20	30	500
83	86RS005	N 0.5	N 200	N 10	N 10	100	N 1	N 10	N 20	70	200
84	86RS006	0.7	N 200	N 10	50	N 20	N 1	N 10	N 20	100	500
85	86RS007	N 0.5	N 200	N 10	L 10	N 20	N 1	N 10	N 20	50	100
86	86RS008	N 0.5	N 200	N 10	N 10	N 20	N 1	N 10	N 20	50	150
87	86RS009	N 0.5	N 200	N 10	L 10	N 20	N 1	N 10	N 20	30	50
34	86RS030A	N 0.5	N 200	N 10	15	20	N 1	N 10	N 20	50	100
34	86RS030B	N 0.5	N 200	N 10	10	100	N 1	N 10	N 20	10	150
34	86RS030C	N 0.5	N 200	N 10	20	150	N 1	N 10	N 20	5	70
34	86RS030D	1.5	N 200	N 10	15	500	N 1	N 10	N 20	30	500
34	86RS030E	N 0.5	N 200	N 10	10	100	N 1	N 10	N 20	L 5	50
34	86RS030F	N 0.5	N 200	N 10	L 10	100	N 1	N 10	N 20	50	700
34	86RS030G	N 0.5	N 200	N 10	15	150	N 1	N 10	N 20	10	150
34	86RS030H	2	L 200	L 10	15	100	N 1	N 10	N 20	5	L 10
96	86RS031A	0.5	N 200	N 10	15	100	L 1	N 10	N 20	L 5	10
96	86RS031B	0.5	N 200	N 10	15	150	N 1	N 10	N 20	5	10
96	86RS031C	0.5	N 200	N 10	20	500	L 1	N 10	N 20	50	150
96	86RS031D	N 0.5	N 200	N 10	100	1000	1.5	N 10	N 20	L 5	10
28	86RS032A	10	N 200	L 10	15	200	N 1	15	N 20	7	70
28	86RS032B	15	700	L 10	10	100	N 1	50	N 20	10	10
28	86RS032C	10	N 200	N 10	10	100	N 1	15	N 20	15	15
28	86RS032D	N 0.5	N 200	N 10	20	200	N 1	N 10	N 20	70	100
28	86RS032E	0.5	N 200	N 10	20	150	L 1	N 10	N 20	30	100
105	86RS033A	N 0.5	N 200	N 10	L 10	L 20	N 1	N 10	N 20	L 5	L 10
106	A1R101	N 0.5	N 200	N 10	100	500	1.5	N 10	N 20	15	70
107	A1R102A	0.7	L 200	N 10	50	150	1	N 10	N 20	30	70
107	A1R102B	N 0.5	N 200	N 10	30	150	1	N 10	N 20	5	20
109	A2R101	N 0.5	N 200	N 10	50	1000	1	N 10	N 20	20	500
110	A2R102A	N 0.5	N 200	N 10	20	100	L 1	N 10	N 20	30	200
110	A2R102B	N 0.5	N 200	N 10	20	100	N 1	N 10	N 20	30	200
112	A2R103	N 0.5	N 200	N 10	20	500	1	N 10	N 20	20	150
113	A3R001	N 0.5	N 200	N 10	15	2000	L 1	N 10	N 20	N 10	50
114	A3R002	N 0.5	N 200	N 10	20	500	L 1	N 10	N 20	70	50
115	A3R003	N 0.5	N 200	N 10	L 10	700	N 1	N 10	N 20	70	50
116	A4R001	N 0.5	N 200	N 10	20	1500	L 1	N 10	N 20	N 10	20
117	A4R002	N 0.5	N 200	N 10	30	1000	1.5	N 10	N 20	20	200
118	A4R003	N 0.5	N 200	N 10	30	1000	L 1	N 10	N 20	20	200
119	A4R004	N 0.5	N 200	N 10	30	1000	L 1	N 10	N 20	20	150
120	A4R005	N 0.5	N 200	N 10	50	1000	L 1	N 10	N 20	20	200

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p2-c).

Site	Sample	Cu Ppm	Ga Ppm	Ge Ppm	La Ppm	Mn Ppm	Mo Ppm	Nb Ppm	Ni Ppm	Pb Ppm	Sb Ppm
61	85RS013	5	-	-	L 20	500	N 5	N 20	10	10	N 100
62	85RS018A	100	-	-	N 20	2000	L 5	N 20	50	N 10	N 100
62	85RS018B	50	-	-	N 20	300	5	N 20	20	N 10	N 100
62	85RS018C	7	-	-	N 20	100	5	N 20	10	N 10	N 100
65	85RS019A	50	-	-	N 20	3000	L 5	N 20	70	N 10	N 100
65	85RS019B	70	-	-	N 20	500	L 5	N 20	20	N 10	N 100
67	85RS020	5	-	-	L 20	700	N 5	N 20	7	N 10	N 100
68	85RS021A	15	-	-	N 20	700	20	N 20	10	N 10	N 100
68	85RS021B	7	-	-	N 20	150	10	N 20	10	N 10	N 100
68	85RS021C	30	-	-	N 20	1000	L 5	N 20	5	10	N 100
68	85RS021D	15	-	-	N 20	1000	N 5	N 20	7	L 10	N 100
68	85RS021E	50	-	-	N 20	2000	5	N 20	30	L 10	N 100
68	85RS021F	30	-	-	N 20	2000	L 5	N 20	50	N 10	N 100
74	86RS001A	30	-	-	N 20	300	L 5	N 20	10	N 10	N 100
74	86RS001B	100	-	-	N 20	2000	N 5	N 20	1500	N 10	N 100
74	86RS001C	100	-	-	50	1500	N 5	L 20	10	15	N 100
77	86RS002	7	-	-	N 20	2000	N 5	N 20	10	20	N 100
78	86RS003	50	-	-	L 20	500	N 5	N 20	70	L 10	N 100
79	86RS004A	50	-	-	N 20	500	N 5	N 20	200	N 10	N 100
79	86RS004B	10	-	-	N 20	500	N 5	N 20	200	N 10	N 100
79	86RS004C	L 5	-	-	N 20	700	N 5	N 20	200	N 10	N 100
79	86RS004D	50	-	-	N 20	1500	N 5	N 20	70	L 10	N 100
83	86RS005	200	-	-	N 20	1000	L 5	N 20	100	N 10	N 100
84	86RS006	700	-	-	N 20	1000	L 5	N 20	500	N 10	N 100
85	86RS007	100	-	-	N 20	1000	N 5	N 20	70	N 10	N 100
86	86RS008	15	-	-	N 20	1000	N 5	N 20	70	N 10	N 100
87	86RS009	30	-	-	N 20	1500	N 5	N 20	50	N 10	N 100
34	86RS030A	100	-	-	N 20	5000	L 5	N 20	50	N 10	N 100
34	86RS030B	L 5	-	-	N 20	1000	N 5	N 20	15	N 10	N 100
34	86RS030C	L 5	-	-	N 20	300	N 5	N 20	10	N 10	N 100
34	86RS030D	150	-	-	N 20	5000	N 5	N 20	100	50	N 100
34	86RS030E	L 5	-	-	N 20	500	N 5	N 20	7	20	N 100
34	86RS030F	100	-	-	N 20	5000	L 5	N 20	100	N 10	N 100
34	86RS030G	20	-	-	N 20	700	N 5	N 20	15	L 10	N 100
34	86RS030H	30	-	-	N 20	700	L 5	N 20	7	L 10	N 100
96	86RS031A	5	-	-	N 20	500	L 5	N 20	10	10	N 100
96	86RS031B	10	-	-	N 20	500	L 5	N 20	7	15	N 100
96	86RS031C	200	-	-	N 20	5000	L 5	N 20	70	10	N 100
96	86RS031D	7	-	-	N 20	500	N 5	N 20	7	L 10	N 100
28	86RS032A	70	-	-	N 20	500	7	N 20	10	100	N 100
28	86RS032B	100	-	-	N 20	1000	30	N 20	10	500	N 100
28	86RS032C	50	-	-	N 20	3000	N 5	N 20	10	200	N 100
28	86RS032D	100	-	-	N 20	5000	L 5	N 20	70	N 10	N 100
28	86RS032E	70	-	-	N 20	5000	20	N 20	50	10	N 100
105	86RS033A	L 5	-	-	N 20	100	N 5	N 20	5	L 10	N 100
106	A1R101	150	-	-	L 20	3000	5	L 20	50	10	N 100
107	A1R102A	100	-	-	100	1500	5	20	70	L 10	N 100
107	A1R102B	10	-	-	N 20	1500	L 5	N 20	20	10	N 100
109	A2R101	100	-	-	N 20	2000	N 5	N 20	150	L 10	N 100
110	A2R102A	150	-	-	N 20	1000	L 5	N 20	50	N 10	N 100
110	A2R102B	100	-	-	N 20	1000	L 5	N 20	100	N 10	N 100
112	A2R103	70	-	-	N 20	700	N 5	N 20	50	L 10	N 100
113	A3R001	50	5	N 10	L 50	150	N 5	L 20	30	10	N 100
114	A3R002	300	30	N 10	N 50	1500	N 5	N 20	30	10	N 100
115	A3R003	50	50	N 10	N 50	2000	N 5	N 20	30	L 10	N 100
116	A4R001	30	5	N 10	N 50	150	N 5	N 20	15	L 10	N 100
117	A4R002	30	15	N 10	L 50	300	N 5	N 20	70	10	N 100
118	A4R003	30	15	N 10	N 50	700	N 5	L 20	70	15	N 100
119	A4R004	30	10	N 10	N 50	700	N 5	L 20	70	15	N 100
120	A4R005	30	15	N 10	L 50	700	N 5	L 20	70	20	N 100

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p2-d).

Site	Sample	Sc Ppm	Sn Ppm	Sr Ppm	Th Ppm	V Ppm	W Ppm	Y Ppm	Zn Ppm	Zr Ppm
61	85RS013	7	N 10	300	N 100	50	N 50	15	N 200	100
62	85RS018A	50	N 10	200	N 100	300	N 50	70	N 200	100
62	85RS018B	7	N 10	150	N 100	100	L 50	N 10	N 200	N 10
62	85RS018C	N 5	N 10	L 100	N 100	L 10	L 50	N 10	N 200	N 10
65	85RS019A	100	N 10	100	N 100	500	N 50	50	N 200	100
65	85RS019B	15	N 10	N 100	N 100	150	N 50	10	N 200	20
67	85RS020	5	N 10	200	N 100	30	N 50	10	N 200	150
68	85RS021A	7	N 10	L 100	N 100	50	L 50	N 10	N 200	L 10
68	85RS021B	N 5	N 10	N 100	N 100	10	L 50	N 10	N 200	N 10
68	85RS021C	20	N 10	200	N 100	150	N 50	20	L 200	100
68	85RS021D	10	N 10	200	N 100	100	N 50	20	L 200	100
68	85RS021E	20	N 10	150	N 100	200	N 50	30	L 200	50
68	85RS021F	30	N 10	100	N 100	300	N 50	50	L 200	100
74	86RS001A	10	N 10	100	N 100	50	N 50	10	N 200	70
74	86RS001B	7	N 10	N 100	N 100	70	N 50	L 10	N 200	N 10
74	86RS001C	20	N 10	200	N 100	100	N 50	50	N 200	100
77	86RS002	L 5	N 10	1000	N 100	10	N 50	10	N 200	10
78	86RS003	20	N 10	200	N 100	150	N 50	15	N 200	100
79	86RS004A	50	N 10	L 100	N 100	150	N 50	N 10	N 200	N 10
79	86RS004B	50	N 10	L 100	N 100	100	N 50	N 10	N 200	N 10
79	86RS004C	20	N 10	100	N 100	30	N 50	N 10	N 200	N 10
79	86RS004D	30	N 10	500	N 100	200	N 50	15	N 200	30
83	86RS005	70	N 10	300	N 100	500	N 50	10	N 200	N 10
84	86RS006	50	N 10	100	N 100	70	N 50	L 10	N 200	N 10
85	86RS007	30	N 10	100	N 100	300	N 50	50	N 200	50
86	86RS008	30	N 10	150	N 100	500	N 50	50	N 200	70
87	86RS009	30	N 10	100	N 100	300	N 50	50	N 200	70
34	86RS030A	50	N 10	200	N 100	700	N 50	70	200	100
34	86RS030B	15	N 10	L 100	N 100	100	L 50	20	N 200	50
34	86RS030C	7	N 10	L 100	N 100	100	L 50	L 10	N 200	L 10
34	86RS030D	50	N 10	L 100	N 100	500	N 50	50	200	100
34	86RS030E	5	N 10	L 100	N 100	70	L 50	L 10	N 200	N 10
34	86RS030F	70	N 10	200	N 100	500	N 50	50	L 200	100
34	86RS030G	15	N 10	N 100	N 100	150	N 50	10	L 200	30
34	86RS030H	10	N 10	L 100	N 100	150	N 50	15	L 200	30
96	86RS031A	5	N 10	L 100	N 100	70	L 50	N 10	N 200	N 10
96	86RS031B	5	N 10	N 100	N 100	100	L 50	N 10	L 200	N 10
96	86RS031C	70	N 10	100	N 100	700	L 50	50	L 200	100
96	86RS031D	5	N 10	L 100	N 100	150	L 50	N 10	N 200	100
28	86RS032A	10	N 10	N 100	N 100	100	N 50	N 10	200	N 10
28	86RS032B	15	N 10	200	N 100	150	N 50	50	L 200	30
28	86RS032C	20	N 10	300	N 100	150	N 50	50	L 200	50
28	86RS032D	100	N 10	200	N 100	500	N 50	100	L 200	100
28	86RS032E	50	N 10	200	N 100	500	N 50	50	L 200	100
105	86RS033A	L 5	N 10	N 100	N 100	20	L 50	N 10	N 200	N 10
106	A1R101	15	N 10	200	N 100	100	N 50	20	N 200	100
107	A1R102A	15	N 10	300	N 100	150	N 50	30	L 200	100
107	A1R102B	5	N 10	1000	N 100	30	N 50	10	N 200	100
109	A2R101	15	N 10	150	N 100	100	N 50	50	N 200	100
110	A2R102A	20	N 10	300	N 100	100	N 50	15	N 200	30
110	A2R102B	20	N 10	300	N 100	150	N 50	20	N 200	50
112	A2R103	15	N 10	500	N 100	150	L 50	20	N 200	100
113	A3R001	7	N 10	N 100	N 100	150	N 20	15	N 200	70
114	A3R002	30	N 10	700	N 100	300	N 20	20	L 200	30
115	A3R003	30	N 10	1000	N 100	500	N 20	15	N 200	30
116	A4R001	5	N 10	N 100	N 100	100	N 20	10	N 200	70
117	A4R002	10	N 10	200	N 100	200	N 20	20	N 200	300
118	A4R003	10	N 10	L 100	N 100	200	N 20	20	N 200	300
119	A4R004	10	N 10	L 100	N 100	150	N 20	20	L 200	300
120	A4R005	7	N 10	L 100	N 100	200	N 20	15	N 200	300

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p3-a).

Site	Sample	Rock type	Latitude	Longitude	Ca %	Fe %	Mg %	Na %	P %	Ti %
121	A7R101	Basalt	403540	1234515	0.05	20.00	0.50	-	-	0.100
121	A7R102	Basalt	403540	1234515	0.10	2.00	0.50	-	-	0.150
123	B1R001	Graywacke	404110	1230644	0.70	7.00	1.50	1.5	N 0.2	1.000
124	B1R002	Serpentinite	404044	1230616	L 0.05	7.00	10.00	L 0.2	N 0.2	L 0.002
125	B1R003	Graywacke	404146	1230633	1.50	7.00	2.00	2.0	0.3	G 1
126	B1R005	Graywacke	403738	1230412	5.00	7.00	3.00	5.0	L 0.2	1.000
127	B2R001	Argillite	403644	1230928	0.70	5.00	2.00	3.0	N 0.2	0.500
128	B2R002	Graywacke	403915	1230934	10.00	7.00	5.00	2.0	N 0.2	0.500
129	B2R003	Graywacke	403938	1230903	7.00	5.00	7.00	2.0	N 0.2	0.500
130	B2R004	Graywacke	404019	1230836	10.00	5.00	7.00	3.0	N 0.2	0.500
131	B2R005	Breccia	403727	1230948	10.00	7.00	7.00	2.0	N 0.2	0.500
132	B2R006	Argillite	403728	1231156	0.10	5.00	1.00	1.5	L 0.2	0.500
133	B2R007	Graywacke	404019	1231503	5.00	7.00	7.00	3.0	L 0.2	0.700
134	B2R008	Breccia	403913	1231526	0.70	3.00	1.00	3.0	N 0.2	0.200
135	B2R009	Argillite	403817	1230841	0.07	1.50	0.70	0.5	N 0.2	0.200
136	B2R010	Graywacke	403959	1231054	7.00	7.00	7.00	2.0	N 0.2	0.300
137	B2R101	Schist	404024	1230819	5.00	7.00	2.00	-	-	0.300
138	B3R001	Argillite	404401	1231529	0.10	2.00	1.50	-	-	0.700
139	B3R002	Chert	404215	1231325	0.05	1.00	0.50	-	-	0.100
140	B3R003	Chert	404334	1231612	0.07	1.00	0.70	-	-	0.100
141	B3R004	Limestone	404311	1231638	20.00	0.15	0.70	0.2	N 0.2	0.007
142	B3R005	Graywacke	404132	1231310	7.00	7.00	3.00	2.0	N 0.2	0.700
143	B3R006	Siltstone	404225	1231736	15.00	3.00	1.00	1.5	N 0.2	0.300
144	B3R007	Diorite	404250	1232028	10.00	7.00	3.00	2.0	N 0.2	0.500
145	B4R001	Diabase	403926	1232524	2.00	10.00	2.00	3.0	N 0.2	1.000
146	B4R002	Diabase	403936	1232718	5.00	7.00	2.00	3.0	L 0.2	1.000
147	B6R001	Greywacke	404145	1234334	5.00	5.00	2.00	-	-	0.500
148	B6R002	Greywacke	404141	1234434	2.00	5.00	2.00	-	-	0.700
149	B6R003A	Greywacke	404217	1234232	0.15	5.00	5.00	-	-	0.700
149	B6R003B	Tuff	404217	1234232	5.00	10.00	10.00	-	-	G 1
151	B6R004	Greywacke	404306	1234155	0.20	3.00	2.00	-	-	1.000
152	B6R005	Conglomerate	404341	1234154	0.70	5.00	3.00	-	-	1.000
153	B7R101	Chert	403925	1234523	5.00	15.00	2.00	-	-	G 1
154	C1R001NA	Diabase	404724	1230735	3.00	7.00	7.00	3.0	N 0.2	0.500
154	C1R001NB	Chert	404724	1230735	0.07	2.00	0.70	0.5	N 0.2	0.300
156	C1R101	Gneiss	405126	1230109	7.00	15.00	3.00	-	-	G 1
156	C1R102	Quartz	405126	1230109	3.00	3.00	1.00	-	-	0.500
156	C1R103	Aplite	405126	1230109	0.50	0.50	0.15	-	-	0.020
159	C1R104	Quartz	405208	1230024	0.30	0.30	0.10	-	-	0.015
159	C1R105	Schist	405208	1230024	5.00	20.00	0.50	-	-	1.000
159	C1R106	Schist	405208	1230024	5.00	10.00	0.20	-	-	1.000
162	C1R108	Quartz	405218	1230031	5.00	5.00	0.20	-	-	1.000
163	C2R001	Chert	405343	1230853	L 0.05	2.00	0.70	L 0.2	N 0.2	0.300
164	C2R002	Greenstone	405047	1230818	7.00	10.00	3.00	1.5	N 0.2	1.000
165	C2R003	Graywacke	405008	1230802	5.00	7.00	5.00	2.0	N 0.2	1.000
166	C2R004A	Tonalite	404814	1230727	0.10	2.00	0.50	2.0	N 0.2	0.070
166	C2R004B	Chert	404814	1230727	0.50	5.00	0.70	1.5	0.3	0.500
168	C3R001	Graywacke	404637	1231617	0.10	5.00	0.70	1.5	N 0.2	0.500
169	C6R001	Greywacke	404558	1234059	1.50	5.00	5.00	-	-	G 1
170	C6R002	Greywacke	404554	1234142	3.00	5.00	7.00	-	-	1.000
171	C6R003	Greywacke	404502	1234139	3.00	5.00	5.00	-	-	1.000
172	C6R004A	Tonalite	404852	1234131	10.00	0.30	2.00	-	-	0.070
172	C6R004B	Serpentinite	404852	1234131	L 0.05	5.00	G 10	-	-	0.003
172	C6R004C	Diabase	404852	1234131	5.00	15.00	10.00	-	-	G 1
175	C6R005	Schist	405021	1234303	0.30	7.00	1.50	2.0	L 0.2	0.500
176	C6R006	Hornblendite	404914	1234123	10.00	15.00	5.00	2.0	N 0.2	0.700
177	C6R007	Greenstone	404930	1234153	2.00	10.00	3.00	3.0	L 0.2	0.700
178	C6R008	Schist	404728	1234103	0.70	5.00	1.50	2.0	L 0.2	0.500
179	C6R009	Serpentinite	405135	1234309	2.00	10.00	10.00	L 0.2	N 0.2	0.010
180	C6R010	Greywacke	405231	1234521	1.00	7.00	1.50	2.0	L 0.2	0.500

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p3-b).

Site	Sample	Ag Ppm	As Ppm	Au Ppm	B Ppm	Ba Ppm	Be Ppm	Bi Ppm	Cd Ppm	Co Ppm	Cr Ppm
121	A7R101	N 0.5	N 200	N 10	70	1500	1	N 10	N 20	30	20
121	A7R102	N 0.5	N 200	N 10	50	1500	1	N 10	N 20	10	50
123	B1R001	N 0.5	N 200	N 10	70	1000	1.5	N 10	N 20	20	100
124	B1R002	N 0.5	N 200	N 10	70	N 20	N 1	N 10	N 20	100	2000
125	B1R003	N 0.5	N 200	N 10	100	700	1	N 10	N 20	30	200
126	B1R005	N 0.5	N 200	N 10	N 10	300	N 1	N 10	N 20	70	500
127	B2R001	N 0.5	N 200	N 10	20	700	L 1	N 10	N 20	20	150
128	B2R002	7	N 200	N 10	L 10	70	N 1	N 10	N 20	50	300
129	B2R003	N 0.5	N 200	N 10	20	200	N 1	N 10	N 20	70	500
130	B2R004	N 0.5	N 200	N 10	10	200	N 1	N 10	N 20	50	700
131	B2R005	N 0.5	N 200	N 10	10	300	N 1	N 10	N 20	50	700
132	B2R006	L 0.5	N 200	N 10	50	1000	1	N 10	N 20	10	100
133	B2R007	N 0.5	N 200	N 10	15	1000	N 1	N 10	N 20	70	700
134	B2R008	N 0.5	N 200	N 10	15	1500	1	N 10	N 20	N 10	L 10
135	B2R009	N 0.5	N 200	N 10	50	2000	1	N 10	N 20	N 10	30
136	B2R010	N 0.5	N 200	N 10	10	150	N 1	N 10	N 20	70	1500
137	B2R101	N 0.5	N 200	N 10	30	150	L 1	N 10	N 20	30	150
138	B3R001	0.5	N 200	N 10	150	1000	1.5	N 10	N 20	20	100
139	B3R002	N 0.5	N 200	N 10	50	700	L 1	N 10	N 20	L 5	30
140	B3R003	N 0.5	N 200	N 10	70	700	1	N 10	N 20	15	20
141	B3R004	N 0.5	N 200	N 10	N 10	N 20	N 1	N 10	N 20	N 10	30
142	B3R005	N 0.5	N 200	N 10	L 10	200	N 1	N 10	N 20	70	200
143	B3R006	N 0.5	N 200	N 10	70	150	L 1	N 10	N 20	L 10	70
144	B3R007	N 0.5	N 200	N 10	20	300	L 1	N 10	N 20	50	50
145	B4R001	N 0.5	N 200	N 10	N 10	70	N 1	N 10	N 20	50	N 10
146	B4R002	N 0.5	N 200	N 10	50	150	1	N 10	N 20	50	200
147	B6R001	N 0.5	N 200	N 10	50	300	1	N 10	N 20	20	150
148	B6R002	N 0.5	N 200	N 10	50	300	1	N 10	N 20	20	150
149	B6R003A	N 0.5	N 200	N 10	50	200	1	N 10	N 20	20	200
149	B6R003B	N 0.5	N 200	N 10	30	200	1	N 10	N 20	50	100
151	B6R004	N 0.5	N 200	N 10	50	300	1	N 10	N 20	15	200
152	B6R005	N 0.5	N 200	N 10	50	200	1	N 10	N 20	15	300
153	B7R101	N 0.5	N 200	N 10	50	200	L 1	N 10	N 20	50	100
154	C1R001NA	N 0.5	N 200	N 10	15	300	N 1	N 10	N 20	70	700
154	C1R001NB	N 0.5	N 200	N 10	15	500	1	N 10	N 20	10	30
156	C1R101	N 0.5	N 200	N 10	100	L 20	N 1	N 10	N 20	50	100
156	C1R102	30	N 200	N 10	15	L 20	N 1	30	N 20	20	100
156	C1R103	N 0.5	N 200	N 10	20	700	1.5	N 10	N 20	N 5	L 10
159	C1R104	L 0.5	N 200	N 10	15	L 20	N 1	N 10	N 20	N 5	L 10
159	C1R105	N 0.5	N 200	N 10	30	20	N 1	N 10	N 20	50	150
159	C1R106	N 0.5	N 200	N 10	20	20	N 1	N 10	N 20	20	100
162	C1R108	N 0.5	N 200	N 10	20	20	N 1	N 10	N 20	20	100
163	C2R001	N 0.5	N 200	N 10	20	1000	1	N 10	N 20	N 10	15
164	C2R002	N 0.5	N 200	N 10	N 10	L 20	N 1	N 10	N 20	70	300
165	C2R003	N 0.5	N 200	N 10	20	500	N 1	N 10	N 20	50	200
166	C2R004A	N 0.5	N 200	N 10	70	5000	1.5	N 10	N 20	N 10	L 10
166	C2R004B	2	N 200	N 10	150	1500	1.5	N 10	N 20	N 10	100
168	C3R001	N 0.5	N 200	N 10	30	500	1	N 10	N 20	10	30
169	C6R001	N 0.5	N 200	N 10	100	500	1	N 10	N 20	30	300
170	C6R002	N 0.5	N 200	N 10	50	200	1	N 10	N 20	20	200
171	C6R003	N 0.5	N 200	N 10	70	500	1	N 10	N 20	20	500
172	C6R004A	N 0.5	N 200	N 10	15	300	L 1	N 10	N 20	N 5	L 10
172	C6R004B	N 0.5	N 200	N 10	70	N 20	N 1	N 10	N 20	70	1500
172	C6R004C	N 0.5	N 200	N 10	30	30	N 1	N 10	N 20	50	500
175	C6R005	N 0.5	N 200	N 10	30	500	L 1	N 10	N 20	20	150
176	C6R006	N 0.5	N 200	N 10	N 10	100	N 1	N 10	N 20	70	150
177	C6R007	N 0.5	N 200	N 10	L 10	500	L 1	N 10	N 20	70	150
178	C6R008	2	N 200	N 10	50	500	L 1	N 10	N 20	L 10	150
179	C6R009	5	N 200	N 10	N 10	N 20	N 1	N 10	N 20	150	1500
180	C6R010	N 0.5	N 200	N 10	30	700	L 1	N 10	N 20	30	150

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p3-c).

Site	Sample	Cu Ppm	Ga Ppm	Ge Ppm	La Ppm	Mn Ppm	Mo Ppm	Nb Ppm	Ni Ppm	Pb Ppm	Sb Ppm
121	A7R101	100	-	-	N 20	G 5000	N 5	N 20	200	N 10	N 100
121	A7R102	30	-	-	N 20	G 5000	N 5	N 20	100	N 10	N 100
123	B1R001	50	50	N 10	L 50	1000	N 5	L 20	30	30	N 100
124	B1R002	10	5	N 10	N 50	1000	N 5	N 20	3000	N 10	N 100
125	B1R003	50	70	N 10	50	3000	N 5	20	70	30	N 100
126	B1R005	50	70	N 10	N 50	1500	N 5	L 20	70	15	N 100
127	B2R001	50	50	N 10	N 50	1000	N 5	N 20	30	20	N 100
128	B2R002	50	30	N 10	N 50	1000	N 5	N 20	100	10	N 100
129	B2R003	50	50	N 10	N 50	1000	N 5	N 20	150	10	N 100
130	B2R004	30	50	N 10	N 50	1000	N 5	N 20	150	L 10	N 100
131	B2R005	70	50	N 10	N 50	1500	N 5	N 20	100	10	N 100
132	B2R006	50	30	N 10	L 50	700	20	N 20	30	15	N 100
133	B2R007	100	50	N 10	L 50	1500	N 5	N 20	150	10	N 100
134	B2R008	5	70	N 10	L 50	2000	N 5	L 20	100	30	N 100
135	B2R009	50	20	N 10	N 50	500	N 5	N 20	20	10	N 100
136	B2R010	50	50	N 10	N 50	1000	N 5	N 20	150	L 10	N 100
137	B2R101	50	-	-	N 20	1000	N 5	N 20	100	N 10	N 100
138	B3R001	100	-	-	30	300	L 5	N 20	70	15	N 100
139	B3R002	20	-	-	30	500	L 5	N 20	20	N 10	N 100
140	B3R003	20	-	-	30	700	L 5	N 20	50	L 10	N 100
141	B3R004	7	N 5	N 10	N 50	200	N 5	N 20	L 5	N 10	N 100
142	B3R005	150	50	N 10	N 50	1500	N 5	N 20	150	N 10	N 100
143	B3R006	20	30	N 10	L 50	1500	N 5	N 20	20	50	N 100
144	B3R007	150	70	N 10	N 50	1500	N 5	N 20	20	15	N 100
145	B4R001	100	70	N 10	N 50	1500	N 5	N 20	10	L 10	N 100
146	B4R002	30	70	N 10	L 50	1000	N 5	L 20	100	L 10	N 100
147	B6R001	50	-	-	70	700	L 5	N 20	70	15	N 100
148	B6R002	30	-	-	30	700	L 5	N 20	70	10	N 100
149	B6R003A	30	-	-	N 20	700	L 5	N 20	100	10	N 100
149	B6R003B	70	-	-	N 20	1500	L 5	20	70	N 10	N 100
151	B6R004	20	-	-	30	500	L 5	N 20	70	10	N 100
152	B6R005	20	-	-	N 20	500	L 5	N 20	100	20	N 100
153	B7R101	70	-	-	N 20	1500	N 5	N 20	50	N 10	N 100
154	C1R001NA	50	70	N 10	N 50	1500	N 5	N 20	200	10	N 100
154	C1R001NB	30	L 5	N 10	N 50	1500	N 5	N 20	30	10	N 100
156	C1R101	70	-	-	N 20	1500	N 5	N 20	30	N 10	N 100
156	C1R102	7	-	-	N 20	1000	7	N 20	30	200	N 100
156	C1R103	L 5	-	-	N 20	1000	N 5	N 20	L 5	L 10	N 100
159	C1R104	10	-	-	N 20	70	L 5	N 20	5	L 10	N 100
159	C1R105	100	-	-	N 20	3000	N 5	N 20	100	N 10	N 100
159	C1R106	150	-	-	N 20	2000	L 5	N 20	50	N 10	N 100
162	C1R108	30	-	-	N 20	1000	L 5	N 20	50	N 10	N 100
163	C2R001	30	L 5	N 10	N 50	500	N 5	N 20	20	10	N 100
164	C2R002	50	15	N 10	N 50	1500	N 5	N 20	70	L 10	N 100
165	C2R003	70	20	N 10	N 50	1000	N 5	N 20	100	10	N 100
166	C2R004A	30	15	N 10	N 50	500	N 5	N 20	15	20	N 100
166	C2R004B	150	20	N 10	L 50	100	10	L 20	15	30	N 100
168	C3R001	30	15	N 10	L 50	300	N 5	L 20	30	50	N 100
169	C6R001	30	-	-	30	700	L 5	L 20	100	20	N 100
170	C6R002	30	-	-	N 20	700	L 5	N 20	100	15	N 100
171	C6R003	30	-	-	30	500	L 5	N 20	150	15	N 100
172	C6R004A	L 5	-	-	N 20	100	L 5	N 20	50	N 10	N 100
172	C6R004B	20	-	-	N 20	500	L 5	N 20	3000	N 10	N 100
172	C6R004C	200	-	-	N 20	2000	L 5	N 20	200	N 10	N 100
175	C6R005	30	30	N 10	N 50	1000	N 5	N 20	100	20	N 100
176	C6R006	5	50	N 10	N 50	1500	N 5	N 20	100	L 10	N 100
177	C6R007	70	70	N 10	N 50	2000	N 5	N 20	70	10	N 100
178	C6R008	30	30	N 10	L 50	700	N 5	N 20	70	20	N 100
179	C6R009	G 20000	15	N 10	N 50	1000	N 5	N 20	1500	N 10	N 100
180	C6R010	200	30	N 10	L 50	1000	N 5	N 20	70	30	N 100

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p3-d).

Site	Sample	Sc Ppm	Sn Ppm	Sr Ppm	Th Ppm	V Ppm	W Ppm	Y Ppm	Zn Ppm	Zr Ppm
121	A7R101	5	N 10	N 100	N 100	150	L 50	20	L 200	30
121	A7R102	7	N 10	100	N 100	30	L 50	15	N 200	50
123	B1R001	10	N 10	L 100	N 100	200	N 20	15	N 200	300
124	B1R002	7	N 10	N 100	N 100	20	N 20	N 10	N 200	N 10
125	B1R003	15	N 10	150	N 100	150	N 20	30	N 200	200
126	B1R005	20	N 10	200	N 100	200	N 20	20	N 200	50
127	B2R001	20	N 10	150	N 100	200	N 20	20	L 200	70
128	B2R002	50	N 10	500	N 100	200	N 20	20	N 200	70
129	B2R003	30	N 10	700	N 100	300	N 20	20	N 200	70
130	B2R004	50	N 10	700	N 100	200	N 20	20	N 200	70
131	B2R005	50	N 10	1000	N 100	200	N 20	20	N 200	100
132	B2R006	15	N 10	N 100	N 100	150	N 20	20	N 200	200
133	B2R007	50	N 10	700	N 100	300	N 20	20	N 200	100
134	B2R008	5	N 10	500	N 100	50	N 20	15	L 200	150
135	B2R009	7	N 10	N 100	N 100	100	N 20	10	N 200	100
136	B2R010	30	N 10	500	N 100	200	N 20	20	N 200	100
137	B2R101	20	N 10	500	N 100	150	N 50	15	N 200	50
138	B3R001	15	N 10	100	N 100	100	N 50	20	L 200	150
139	B3R002	5	N 10	100	N 100	50	N 50	N 10	L 200	100
140	B3R003	7	N 10	L 100	N 100	50	N 50	10	L 200	100
141	B3R004	N 5	N 10	N 100	N 100	30	N 20	10	N 200	10
142	B3R005	30	N 10	200	N 100	200	N 20	20	N 200	70
143	B3R006	7	N 10	700	N 100	100	N 20	20	N 200	200
144	B3R007	30	N 10	1000	N 100	300	N 20	20	N 200	50
145	B4R001	30	N 10	N 100	N 100	700	N 20	30	N 200	100
146	B4R002	30	N 10	300	N 100	200	N 20	30	N 200	150
147	B6R001	20	N 10	1000	N 100	150	N 50	20	L 200	100
148	B6R002	20	N 10	100	N 100	150	N 50	20	L 200	150
149	B6R003A	20	N 10	100	N 100	100	N 50	15	L 200	100
149	B6R003B	50	N 10	150	N 100	200	N 50	50	L 200	200
151	B6R004	15	N 10	100	N 100	100	N 50	15	L 200	200
152	B6R005	15	N 10	100	N 100	200	N 50	15	L 200	100
153	B7R101	50	N 10	N 100	N 100	500	N 50	50	N 200	100
154	C1R001NA	20	N 10	700	N 100	200	N 20	20	N 200	100
154	C1R001NB	5	N 10	N 100	N 100	50	N 20	15	N 200	70
156	C1R101	50	N 10	N 100	N 100	500	N 50	50	N 200	100
156	C1R102	15	N 10	100	N 100	200	L 50	15	N 200	30
156	C1R103	L 5	N 10	200	N 100	L 10	L 50	10	N 200	30
159	C1R104	N 5	N 10	L 100	N 100	20	L 50	N 10	N 200	10
159	C1R105	50	N 10	100	N 100	500	L 50	30	N 200	50
159	C1R106	30	N 10	150	N 100	500	N 50	20	N 200	50
162	C1R108	20	N 10	200	N 100	200	N 50	15	N 200	20
163	C2R001	5	N 10	N 100	N 100	70	N 20	10	N 200	70
164	C2R002	50	N 10	200	N 100	500	N 20	50	N 200	100
165	C2R003	20	N 10	1000	N 100	300	N 20	20	N 200	150
166	C2R004A	N 5	N 10	N 100	N 100	15	N 20	N 10	N 200	70
166	C2R004B	10	N 10	N 100	N 100	300	N 20	30	N 200	70
168	C3R001	7	N 10	N 100	N 100	70	N 20	15	N 200	300
169	C6R001	30	N 10	150	N 100	150	N 50	20	L 200	150
170	C6R002	20	N 10	200	N 100	150	N 50	15	L 200	100
171	C6R003	20	N 10	150	N 100	150	N 50	20	L 200	150
172	C6R004A	L 5	N 10	2000	N 100	15	N 50	N 10	L 200	50
172	C6R004B	10	N 10	L 100	N 100	50	N 50	N 10	L 200	N 10
172	C6R004C	70	N 10	L 100	N 100	150	N 50	50	L 200	100
175	C6R005	15	N 10	N 100	N 100	200	N 20	15	L 200	150
176	C6R006	70	N 10	500	N 100	500	N 20	20	L 200	L 10
177	C6R007	30	N 10	300	N 100	500	N 20	30	N 200	70
178	C6R008	10	N 10	200	N 100	200	N 20	20	N 200	150
179	C6R009	5	N 10	N 100	N 100	20	N 20	N 10	N 200	N 10
180	C6R010	10	N 10	N 100	N 100	150	N 20	20	N 200	70

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p4-a).

Site	Sample	Rock type	Latitude	Longitude	Ca %	Fe %	Mg %	Na %	P %	Ti %
179	C6R101	Pyroxenite	405135	1234309	3.00	7.00	10.00	-	-	0.300
179	C6R102	Serpentinite	405135	1234309	0.15	7.00	G 10	-	-	0.010
183	D2R002	Chert	405511	1230855	0.05	10.00	0.70	1.0	L 0.2	0.200
184	D2R003	Tuff	405439	1230857	5.00	15.00	5.00	2.0	L 0.2	G 1
185	D7R101	Sandstone	405402	1234656	0.30	5.00	1.00	-	-	0.200
187	HY-1	Argillite	403301	1230510	0.05	5	0.7	0.7	0.2	0.3
187	HY-2	Quartz	403301	1230510	L 0.05	1	0.15	N 0.2	N 0.2	0.07
187	HY-3	Diorite	403301	1230510	0.7	3	1	3	L 0.2	0.2
190	HY-4	Argillite	403117	1230653	0.15	3	1	2	L 0.2	0.3
191	HY-5	Chert	403150	1230647	L 0.05	0.7	0.07	N 0.2	N 0.2	0.05
192	HY-6	Breccia	403222	1230635	0.15	7	0.3	N 0.2	0.2	0.07
193	HY-7	Quartz	403237	1230616	0.05	1	0.5	L 0.2	N 0.2	0.07
194	HY-8	Chert	403053	1230649	0.05	2	0.7	0.2	N 0.2	0.2
195	HY-9	Chert	403025	1230636	15	3	0.2	N 0.2	L 0.2	0.07
196	PM 1	Gabbro	405715	1231335	0.7	7	2	3	N 0.2	0.3
197	PM 10A	Diorite	405546	1231314	7	5	3	2	N 0.2	0.5
197	PM 10B	Diabase	405546	1231314	3	5	3	3	N 0.2	0.3
197	PM 10C	Gabbro	405546	1231314	3	3	3	1.5	L 0.2	0.2
200	PM 11	Gabbro	405600	1231316	3	5	2	2	N 0.2	0.5
201	PM 12	Porphyry	405611	1231318	1.5	3	1.5	2	L 0.2	0.3
202	PM 13	Gabbro	405620	1231309	3	5	5	2	N 0.2	0.5
203	PM 14	Gabbro	405701	1231239	7	5	5	1.5	N 0.2	0.3
196	PM 2	Gouge	405715	1231335	0.3	10	0.7	2	N 0.2	0.3
196	PM 3	Quartz	405715	1231335	0.1	5	0.2	N 0.2	N 0.2	0.05
206	PM 4	Quartz	405730	1231344	0.05	7	0.7	0.3	N 0.2	0.15
207	PM 5	Tuff	405750	1231421	3	5	3	2	N 0.2	0.5
208	PM 6	Quartz	405743	1231404	15	3	3	0.2	N 0.2	0.03
209	PM 8	Gabbro	405709	1231303	3	5	2	5	N 0.2	0.5
210	PM 9	Gabbro	405632	1231312	3	5	3	2	L 0.2	0.7
210	PM 9A	Gabbro	405632	1231312	3	5	3	2	L 0.2	0.5
212	PP 4B	Gabbro	404602	1230752	7	5	3	1	N 0.2	0.5
212	PP-G1	Quartz	404602	1230752	10	7	1.5	1.5	L 0.2	0.3
212	PP-G2	Amphibolite	404602	1230752	7	3	1.5	1.5	0.2	0.2
212	PP-G3	Quartz	404602	1230752	10	3	0.7	1	N 0.2	0.1
212	PP-JL	Amphibolite	404602	1230752	0.15	3	1	1	N 0.2	0.3
212	PP-JL-2	Graywacke	404602	1230752	7	5	2	2	N 0.2	0.3
218	SWC-1	Argillite	405522	1232533	0.1	5	0.7	0.7	N 0.2	0.15
219	SWC-2	Chert	405519	1232533	0.15	1.5	0.7	1	N 0.2	0.3
220	SWC-3	Porphyry	405205	1232033	15	3	1.5	1.5	N 0.2	0.2
220	SWC-4	Quartz	405205	1232033	0.3	2	1	1	0.2	0.5
220	SWC-5	Quartz	405205	1232033	0.3	2	1	1	N 0.2	0.2
223	SBR-1	Quartz	404132	1231249	3	3	2	2	N 0.2	0.2
224	SBR-2	Argillite	404316	1231546	5	7	1	1	N 0.2	0.3
225	SBR-3	Granodiorite	404314	1231547	3	5	2	1.5	N 0.2	0.3

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p4-b).

Site	Sample	Ag Ppm	As Ppm	Au Ppm	B Ppm	Ba Ppm	Be Ppm	Bi Ppm	Cd Ppm	Co Ppm	Cr Ppm
179	C6R101	N 0.5	N 200	N 10	30	30	L 1	N 10	N 20	50	2000
179	C6R102	N 0.5	N 200	N 10	50	L 20	N 1	N 10	N 20	30	2000
183	D2R002	N 0.5	N 200	N 10	20	1500	L 1	N 10	N 20	10	150
184	D2R003	N 0.5	N 200	N 10	N 10	200	L 1	N 10	N 20	100	1000
185	D7R101	N 0.5	N 200	N 10	30	200	1	N 10	N 20	10	70
187	HY-1	2	N 200	N 10	50	1000	1.5	N 10	N 20	15	150
187	HY-2	1.5	N 200	N 10	20	500	L 1	N 10	N 20	N 10	15
187	HY-3	N 0.5	N 200	N 10	30	700	1.5	N 10	N 20	15	20
190	HY-4	L 0.5	N 200	N 10	20	700	2	N 10	N 20	15	70
191	HY-5	N 0.5	N 200	N 10	L 10	700	N 1	N 10	N 20	N 10	15
192	HY-6	N 0.5	N 200	N 10	N 10	700	L 1	N 10	N 20	L 10	20
193	HY-7	L 0.5	N 200	N 10	15	1500	1	N 10	N 20	N 10	10
194	HY-8	N 0.5	N 200	N 10	50	1000	1.5	N 10	N 20	N 10	70
195	HY-9	N 0.5	500	N 10	30	1000	L 1	N 10	N 20	N 10	15
196	PM 1	N 0.5	N 200	N 10	N 10	L 20	L 1	N 10	N 20	20	30
197	PM 10A	N 0.5	N 200	N 10	15	50	N 1	N 10	N 20	30	150
197	PM 10B	N 0.5	N 200	N 10	10	20	N 1	N 10	N 20	30	200
197	PM 10C	N 0.5	N 200	N 10	10	500	1	N 10	N 20	20	500
200	PM 11	N 0.5	N 200	N 10	10	30	L 1	N 10	N 20	30	20
201	PM 12	N 0.5	N 200	N 10	30	700	1	N 10	N 20	20	150
202	PM 13	N 0.5	N 200	N 10	N 10	700	L 1	N 10	N 20	50	1000
203	PM 14	N 0.5	N 200	N 10	L 10	L 20	N 1	N 10	N 20	50	500
196	PM 2	1.5	N 200	N 10	N 10	50	N 1	N 10	N 20	20	50
196	PM 3	2	N 200	N 10	N 10	20	L 1	10	N 20	15	10
206	PM 4	5	N 200	N 10	L 10	200	N 1	N 10	N 20	20	10
207	PM 5	N 0.5	N 200	N 10	L 10	30	N 1	N 10	N 20	50	70
208	PM 6	N 0.5	N 200	N 10	N 10	50	N 1	N 10	N 20	15	100
209	PM 8	N 0.5	N 200	N 10	N 10	20	N 1	N 10	N 20	30	70
210	PM 9	N 0.5	N 200	N 10	15	500	L 1	N 10	N 20	50	700
210	PM 9A	N 0.5	N 200	N 10	N 10	300	L 1	N 10	N 20	50	700
212	PP 4B	N 0.5	N 200	N 10	N 10	300	N 1	N 10	N 20	50	100
212	PP-G1	N 0.5	N 200	N 10	G 2000	100	2	N 10	N 20	20	L 10
212	PP-G2	N 0.5	N 200	N 10	30	500	L 1	N 10	N 20	15	L 10
212	PP-G3	N 0.5	N 200	N 10	2000	100	5	N 10	N 20	L 10	L 10
212	PP-JL	N 0.5	N 200	N 10	150	3000	1.5	N 10	N 20	20	70
212	PP-JL-2	N 0.5	N 200	N 10	L 10	300	L 1	N 10	N 20	50	300
218	SWC-1	N 0.5	N 200	N 10	50	1500	1.5	N 10	N 20	N 10	50
219	SWC-2	0.7	N 200	N 10	50	2000	1.5	N 10	N 20	L 10	70
220	SWC-3	N 0.5	N 200	N 10	30	700	1	N 10	N 20	20	50
220	SWC-4	N 0.5	N 200	N 10	100	1500	2	N 10	N 20	10	70
220	SWC-5	N 0.5	N 200	N 10	30	3000	1.5	N 10	N 20	15	50
223	SBR-1	N 0.5	N 200	N 10	L 10	700	1.5	N 10	N 20	20	100
224	SBR-2	N 0.5	N 200	N 10	N 10	700	L 1	N 10	N 20	20	50
225	SBR-3	N 0.5	N 200	N 10	20	700	2	N 10	N 20	70	150

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p4-c).

Site	Sample	Cu Ppm	Ga Ppm	Ge Ppm	La Ppm	Mn Ppm	Mo Ppm	Nb Ppm	Ni Ppm	Pb Ppm	Sb Ppm
179	C6R101	30	-	-	N 20	2000	N 5	N 20	2000	L 10	N 100
179	C6R102	50	-	-	N 20	1000	N 5	N 20	2000	N 10	N 100
183	D2R002	100	20	N 10	N 50	500	15	N 20	70	20	N 100
184	D2R003	100	50	N 10	L 50	1000	N 5	20	300	10	N 100
185	D7R101	10	-	-	N 20	700	N 5	N 20	70	N 10	N 100
187	HY-1	100	50	N 10	L 50	150	20	L 20	50	30	N 100
187	HY-2	20	L 5	N 10	N 50	150	15	N 20	7	70	N 100
187	HY-3	20	20	N 10	N 50	700	N 5	N 20	20	10	N 100
190	HY-4	50	20	N 10	L 50	500	N 5	L 20	50	20	N 100
191	HY-5	20	N 5	N 10	N 50	1000	N 5	N 20	7	L 10	N 100
192	HY-6	20	15	N 10	N 50	500	N 5	L 20	30	15	N 100
193	HY-7	50	L 5	N 10	N 50	300	N 5	N 20	15	15	N 100
194	HY-8	30	10	N 10	L 50	300	N 5	L 20	15	15	N 100
195	HY-9	20	L 5	N 10	N 50	2000	N 5	N 20	15	20	N 100
196	PM 1	150	30	N 10	N 50	700	N 5	N 20	20	10	N 100
197	PM 10A	50	20	N 10	N 50	1500	N 5	N 20	50	L 10	N 100
197	PM 10B	50	30	N 10	N 50	1000	N 5	N 20	50	L 10	N 100
197	PM 10C	50	20	N 10	L 50	1000	N 5	N 20	70	15	N 100
200	PM 11	50	20	N 10	N 50	1000	N 5	N 20	30	L 10	N 100
201	PM 12	20	30	N 10	L 50	700	N 5	N 20	30	20	N 100
202	PM 13	70	30	N 10	L 50	1000	N 5	L 20	150	L 10	N 100
203	PM 14	50	20	N 10	N 50	1000	N 5	N 20	70	L 10	N 100
196	PM 2	1000	30	N 10	N 50	200	20	N 20	7	20	N 100
196	PM 3	200	L 5	N 10	N 50	300	50	N 20	7	20	N 100
206	PM 4	700	10	N 10	N 50	300	N 5	N 20	10	15	N 100
207	PM 5	50	30	N 10	N 50	700	N 5	N 20	30	10	N 100
208	PM 6	5	L 5	N 10	L 50	2000	N 5	N 20	30	15	N 100
209	PM 8	20	20	N 10	N 50	700	N 5	N 20	50	L 10	N 100
210	PM 9	50	30	N 10	L 50	1000	N 5	L 20	150	15	N 100
210	PM 9A	50	30	N 10	L 50	1000	N 5	L 20	150	15	N 100
212	PP 4B	L 5	15	N 10	N 50	1000	N 5	N 20	20	10	N 100
212	PP-G1	70	30	N 10	N 50	5000	N 5	N 20	5	15	N 100
212	PP-G2	15	30	N 10	N 50	1500	N 5	N 20	5	15	N 100
212	PP-G3	20	20	N 10	N 50	G 5000	N 5	N 20	L 5	10	N 100
212	PP-JL	50	20	N 10	L 50	1000	N 5	L 20	50	10	N 100
212	PP-JL-2	50	20	N 10	L 50	1000	N 5	N 20	70	15	N 100
218	SWC-1	30	20	N 10	L 50	500	7	L 20	5	20	N 100
219	SWC-2	30	30	N 10	L 50	150	20	L 20	10	50	N 100
220	SWC-3	30	50	N 10	L 50	700	N 5	N 20	7	10	N 100
220	SWC-4	30	30	N 10	L 50	700	10	20	30	50	N 100
220	SWC-5	50	30	N 10	L 50	2000	N 5	L 20	30	30	N 100
223	SBR-1	50	30	N 10	L 50	1000	N 5	L 20	20	20	N 100
224	SBR-2	700	20	N 10	N 50	1500	N 5	L 20	30	10	N 100
225	SBR-3	100	30	N 10	50	700	10	L 20	70	30	N 100

Table 8. Results of six-step semiquantitative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued (p4-d).

Site	Sample	Sc Ppm	Sn Ppm	Sr Ppm	Th Ppm	V Ppm	W Ppm	Y Ppm	Zn Ppm	Zr Ppm
179	C6R101	20	N 10	200	N 100	150	N 50	10	N 200	50
179	C6R102	7	N 10	N 100	N 100	15	N 50	N 10	N 200	N 10
183	D2R002	10	N 10	N 100	N 100	100	N 20	20	L 200	100
184	D2R003	30	N 10	500	N 100	150	N 20	30	N 200	200
185	D7R101	7	N 10	100	N 100	70	L 50	50	N 200	100
187	HY-1	15	N 10	N 100	N 100	300	N 20	30	200	100
187	HY-2	L 5	N 10	N 100	N 100	70	N 20	L 10	N 200	50
187	HY-3	10	N 10	500	N 100	100	N 20	15	N 200	70
190	HY-4	10	N 10	200	N 100	100	N 20	30	L 200	100
191	HY-5	L 5	N 10	N 100	N 100	50	N 20	L 10	N 200	30
192	HY-6	5	N 10	N 100	N 100	100	N 20	30	L 200	70
193	HY-7	5	N 10	N 100	N 100	50	N 20	L 10	N 200	50
194	HY-8	10	N 10	N 100	N 100	70	N 20	15	N 200	100
195	HY-9	7	N 10	150	N 100	70	N 20	30	N 200	20
196	PM 1	20	N 10	N 100	N 100	150	N 20	20	N 200	50
197	PM 10A	30	N 10	300	N 100	150	N 20	30	N 200	70
197	PM 10B	30	N 10	150	N 100	150	N 20	20	N 200	50
197	PM 10C	15	N 10	500	N 100	100	N 20	15	L 200	50
200	PM 11	30	N 10	200	N 100	200	N 20	30	L 200	70
201	PM 12	7	N 10	500	N 100	100	N 20	15	N 200	150
202	PM 13	30	N 10	500	N 100	200	N 20	30	N 200	70
203	PM 14	30	N 10	150	N 100	200	N 20	20	N 200	N 10
196	PM 2	15	N 10	N 100	N 100	150	N 20	15	N 200	70
196	PM 3	L 5	N 10	N 100	N 100	70	N 20	15	N 200	10
206	PM 4	7	N 10	N 100	N 100	100	N 20	15	700	30
207	PM 5	30	N 10	200	N 100	200	N 20	30	N 200	100
208	PM 6	10	N 10	300	N 100	50	N 20	20	N 200	N 10
209	PM 8	30	N 10	150	N 100	150	N 20	20	N 200	70
210	PM 9	20	N 10	500	N 100	150	N 20	20	N 200	150
210	PM 9A	20	N 10	500	N 100	150	N 20	20	L 200	150
212	PP 4B	50	N 10	700	N 100	300	N 20	20	N 200	15
212	PP-G1	15	N 10	200	N 100	150	N 20	70	L 200	30
212	PP-G2	15	N 10	700	N 100	150	N 20	30	N 200	70
212	PP-G3	10	N 10	200	N 100	100	N 20	70	L 200	70
212	PP-JL	15	N 10	N 100	N 100	100	N 20	20	N 200	150
212	PP-JL-2	30	N 10	500	N 100	200	N 20	20	N 200	100
218	SWC-1	10	N 10	N 100	N 100	150	N 20	20	N 200	70
219	SWC-2	15	N 10	N 100	N 100	300	N 20	20	N 200	100
220	SWC-3	15	N 10	200	N 100	150	N 20	20	N 200	70
220	SWC-4	15	N 10	N 100	N 100	150	N 20	30	L 200	150
220	SWC-5	10	N 10	L 100	N 100	100	N 20	20	N 200	150
223	SBR-1	20	N 10	700	N 100	150	N 20	20	L 200	100
224	SBR-2	10	N 10	200	N 100	150	N 20	20	N 200	70
225	SBR-3	20	N 10	500	N 100	150	N 20	70	N 200	150

Table 9. Results of direct-reader semiquantative emission spectrographic analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California.

Site	Sample	Rock type	Latitude	Longitude	Al %	Ca %	Fe %	K %	Mg %	Na %	P %
11	84R015A	Diorite	404713	1232516	29	17	10	G 10	6.4	G 6.8	< 0.07
12	84R016A	Diorite	404853	1232844	17	21	7.4	0.74	16	G 6.8	< 0.07
96	86RS034A	Tonalite	404957	1230620	24	5.4	2.8	4.8	0.88	G 6.8	0.13

Site	Sample	Si %	Ti %	Ag ppm	As ppm	Au ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Cd ppm
11	84R015A	G 34	0.52	< 0.10	< 100	< 6.8	49	740	< 1	< 10	< 32
12	84R016A	G 34	0.38	0.55	< 100	< 6.8	31	58	< 1	< 10	< 32
96	86RS034A	G 34	0.23	0.38	< 100	< 6.8	45	2100	2.4	< 10	< 32

Site	Sample	Ce ppm	Co ppm	Cr ppm	Cu ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Gd ppm	Ge ppm
11	84R015A	130	38	64	110	< 22	< 4.6	< 2.2	44	< 32	< 4.6
12	84R016A	< 43	42	940	92	< 22	< 4.6	< 2.2	17	< 32	< 4.6
96	86RS034A	< 43	5	1.9	99	< 22	< 4.6	< 2.2	43	< 32	< 4.6

Site	Sample	Hf ppm	Ho ppm	In ppm	Ir ppm	La ppm	Li ppm	Lu ppm	Mn ppm	Mo ppm	Nb ppm
11	84R015A	< 150	< 6.8	< 10	< 15	53	< 68	< 15	4600	8.3	14
12	84R016A	< 150	< 6.8	< 10	< 15	< 10	< 68	< 15	3800	5.9	7.9
96	86RS034A	< 150	< 6.8	< 10	< 15	30	< 68	< 15	1200	3.8	15

Site	Sample	Nd ppm	Ni ppm	Os ppm	Pb ppm	Pd ppm	Pr ppm	Pt ppm	Re ppm	Rh ppm	Ru ppm
11	84R015A	< 150	34	< 15	30	< 1	< 100	< 2.2	< 10	< 2.2	< 2.2
12	84R016A	< 68	210	< 15	< 6.8	< 1	< 100	< 2.2	< 10	< 2.2	< 2.2
96	86RS034A	< 32	19	< 15	28	< 1	< 100	< 2.2	< 10	< 2.2	< 2.2

Site	Sample	Sb ppm	Sc ppm	Sm ppm	Sn ppm	Sr ppm	Ta ppm	Tb ppm	Th ppm	Tl ppm	Tm ppm
11	84R015A	< 68	26	< 10	< 4.6	1200	< 320	< 32	< 100	< 10	< 4.6
12	84R016A	< 68	42	< 10	11	130	< 320	< 32	< 46	< 10	< 4.6
96	86RS034A	< 68	4.3	< 10	5.9	780	< 320	< 32	< 46	< 10	< 4.6

Site	Sample	U ppm	V ppm	W ppm	Y ppm	Yb ppm	Zn ppm	Zr ppm
11	84R015A	< 220	250	< 15	17	3.7	170	51
12	84R016A	< 220	190	< 15	11	2.4	130	31
96	86RS034A	< 460	39	< 15	11	1.7	110	58

Table 10. Results of analyses by atomic absorption spectroscopy and by other miscellaneous chemical methods of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (page1 partA)

Site	Sample	Rock type	Latitude	Longitude	K %	As ppm	Au ppm	Hg ppm	Sb ppm
1	83RR017	Serpentinite	403543	1230021	-	N 5	N 0.05	0.16	N 2
2	84R009A	Gneiss	404418	1230249	-	N 10	N 0.05	0.02	N 2
3	84R010A	Argillite	404607	1230748	-	N 10	0.05	0.02	N 2
3	84R010B	Quartz	404607	1230748	-	N 10	N 0.05	0.02	N 2
5	84R011A	Andesite	404508	1230939	-	N 10	N 0.05	0.02	N 2
6	84R012A	Breccia	404431	1231307	-	N 10	N 0.05	0.02	N 2
7	84R013A	Quartzite	404422	1231448	-	N 10	N 0.05	0.02	N 2
7	84R013B	Limestone	404422	1231448	-	10	N 0.05	0.02	N 2
9	84R014A	Limestone	404710	1232037	-	N 10	N 0.05	0.02	N 2
9	84R014B	Chert	404710	1232037	-	N 10	N 0.05	0.02	N 2
11	84R015A	Diorite	404713	1232516	-	N 10	N 0.05	0.02	N 2
12	84R016A	Diorite	404853	1232844	-	N 10	N 0.05	0.02	N 2
13	84R017A	Graywacke	405212	1233148	-	N 10	N 0.05	0.12	N 2
13	84R017B	Quartz	405212	1233148	-	N 10	N 0.05	N 0.02	N 2
15	84R018A	Graywacke	405314	1233453	-	N 10	N 0.05	N 0.02	N 2
16	84R019A	Argillite	405422	1234221	-	N 10	N 0.05	0.22	N 2
17	84R033A	Serpentinite	403044	1231338	-	N 10	0.05	0.06	N 2
17	84R033B	Chert	403044	1231338	-	N 10	N 0.05	N 0.02	N 2
19	84R034A	Andesite	403341	1230613	-	N 10	0.05	N 0.02	N 2
20	84R035A	Basalt	403541	1230057	-	N 10	0.05	N 0.02	N 2
21	85RB050A	Vein	403202	1230757	-	570	0.80	0.02	N 2
21	85RB050B	Shale	403202	1230757	-	50	0.10	0.14	32
21	85RB050C	Quartz	403202	1230757	-	240	0.25	0.02	N 2
21	85RB050D	Shale	403202	1230757	-	N 10	N 0.05	0.02	N 2
25	85RB051A	Quartz	403203	1230758	-	190	22.00	0.06	N 2
25	85RB051B	Shale	403203	1230758	-	N 10	N 0.05	0.02	N 2
34	85RS004A2	Schist	405046	1230720	0.46	N 10	N 0.05	0.26	N 2
34	85RS004AA	Schist	405046	1230720	0.66	N 10	N 0.05	0.10	N 2
61	85RS013	Dike	405210	1230130	-	N 10	N 0.05	0.04	N 2
74	86RS001A	Argillite	404353	1231611	-	N 10	N 0.05	0.50	6
74	86RS001B	Argillite	404353	1231611	-	10	N 0.05	0.22	N 2
74	86RS001C	Basalt	404353	1231611	-	N 10	N 0.05	0.45	N 2
77	86RS002	Argillite	404348	1231634	-	N 10	N 0.05	0.22	N 2
78	86RS003	Mixed	404409	1231350	-	N 10	N 0.05	0.50	N 2
79	86RS004A	Pyroxenite	404411	1231158	-	N 10	N 0.05	0.20	N 2
79	86RS004B	Pyroxenite	404411	1231158	-	N 10	N 0.05	0.14	N 2
79	86RS004C	Pyroxenite	404411	1231158	-	N 10	N 0.05	0.04	N 2
79	86RS004D	Graywacke	404411	1231158	-	N 10	N 0.05	0.04	N 2
83	86RS005	Gabbro	404424	1231154	-	20	N 0.05	0.08	N 2
84	86RS006	Pyroxenite	404414	1231206	-	N 10	N 0.05	0.08	N 2
85	86RS007	Serpentinite	404512	1230320	-	N 10	N 0.05	0.10	N 2
86	86RS008	Schist	404433	1230257	-	N 10	N 0.05	0.14	N 2
87	86RS009	Schist	404407	1230038	-	N 10	N 0.05	0.10	N 2
34	86RS030A	Schist	405046	1230720	0.16	N 10	N 0.05	0.38	N 2
34	86RS030B	Quartz	405046	1230720	0.18	N 10	N 0.05	0.04	N 2
34	86RS030C	Quartz	405046	1230720	0.30	N 10	N 0.05	L 0.02	N 2
34	86RS030D	Greenstone	405046	1230720	1.40	10	3.00	0.54	N 2
34	86RS030E	Quartz	405046	1230720	0.26	N 10	11.50	0.14	N 2
34	86RS030F	Greenstone	405046	1230720	0.60	N 10	N 0.05	0.14	N 2
34	86RS030G	Quartz	405046	1230720	0.46	N 10	0.05	0.08	N 2
34	86RS030H	Quartz	405046	1230720	0.42	30	16.20	0.32	N 2
96	86RS031A	Quartz	404957	1230620	0.45	N 10	10.70	0.40	N 2
96	86RS031B	Quartz	404957	1230620	0.20	N 10	1.00	0.04	N 2
96	86RS031C	Greenstone	404957	1230620	1.20	30	1.20	0.14	N 2
96	86RS031D	Pegmatite	404957	1230620	3.60	N 10	0.20	0.08	N 2
28	86RS032A	Quartz	405039	1230730	0.53	N 10	42.00	0.46	N 2
28	86RS032B	Quartz	405039	1230730	0.09	500	50.00	0.16	N 2
28	86RS032C	Quartz	405039	1230730	0.19	20	2.00	0.14	N 2
28	86RS032D	Graywacke	405039	1230730	0.41	N 10	0.05	0.10	N 2
28	86RS032E	Graywacke	405039	1230730	0.60	N 10	0.55	0.04	N 2

Table 10. Results of analyses by atomic absorption spectroscopy and by other miscellaneous chemical methods of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. --continued (page1 partB)

Site	Sample	Te ppm	Tl ppm	W ppm	Zn ppm
1	83RR017	-	-	-	50
2	84R009A	N 0.05	-	-	20
3	84R010A	0.20	-	-	15
3	84R010B	N 0.05	-	-	N 5
5	84R011A	N 0.05	-	-	5
6	84R012A	N 0.05	-	-	50
7	84R013A	N 0.05	-	-	N 5
7	84R013B	N 0.05	-	-	10
9	84R014A	N 0.05	-	-	N 5
9	84R014B	N 0.05	-	-	5
11	84R015A	N 0.05	-	-	45
12	84R016A	N 0.05	-	-	15
13	84R017A	N 0.05	-	-	60
13	84R017B	N 0.05	-	-	15
15	84R018A	N 0.05	-	-	45
16	84R019A	N 0.05	-	-	75
17	84R033A	N 0.05	-	-	15
17	84R033B	N 0.05	-	-	25
19	84R034A	N 0.05	-	-	35
20	84R035A	N 0.05	-	-	65
21	85RB050A	0.10	0.25	-	35
21	85RB050B	0.15	0.35	-	50
21	85RB050C	N 0.05	0.10	-	5
21	85RB050D	N 0.05	0.30	-	70
25	85RB051A	0.95	L 0.10	-	5
25	85RB051B	0.35	0.25	-	110
34	85RS004A2	N 0.05	0.20	1.0	115
34	85RS004AA	N 0.05	0.20	4.0	135
61	85RS013	N 0.05	0.30	-	50
74	86RS001A	N 0.05	0.30	-	60
74	86RS001B	0.10	0.05	-	5
74	86RS001C	0.10	0.25	-	70
77	86RS002	N 0.05	0.10	-	10
78	86RS003	N 0.05	0.15	-	50
79	86RS004A	N 0.05	N 0.05	-	10
79	86RS004B	N 0.05	N 0.05	-	5
79	86RS004C	N 0.05	N 0.05	-	5
79	86RS004D	N 0.05	0.05	-	15
83	86RS005	N 0.05	L 0.05	-	10
84	86RS006	0.05	N 0.05	-	30
85	86RS007	N 0.05	N 0.05	-	25
86	86RS008	N 0.05	N 0.05	-	10
87	86RS009	N 0.05	N 0.05	-	20
34	86RS030A	N 0.05	N 0.05	0.5	50
34	86RS030B	N 0.05	N 0.05	9.5	20
34	86RS030C	N 0.05	0.05	2.0	5
34	86RS030D	0.05	0.20	6.5	95
34	86RS030E	N 0.05	0.05	1.5	5
34	86RS030F	N 0.05	0.05	2.5	60
34	86RS030G	N 0.05	0.05	3.0	25
34	86RS030H	0.20	0.15	3.5	40
96	86RS031A	0.30	0.05	1.5	10
96	86RS031B	0.20	0.05	5.0	15
96	86RS031C	0.35	0.20	34.0	70
96	86RS031D	N 0.05	0.40	1.5	N 5
28	86RS032A	1.10	0.20	0.5	200
28	86RS032B	1.40	0.20	5.5	125
28	86RS032C	0.40	0.20	3.0	95
28	86RS032D	N 0.05	0.05	2.0	50
28	86RS032E	0.40	0.15	8.0	85

Table 10. Results of analyses by atomic absorption spectroscopy and by other miscellaneous chemical methods of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. --continued (page2 partA)

Site	Sample	Rock type	Latitude	Longitude	K %	As ppm	Au ppm	Hg ppm	Sb ppm
105	86RS033A	Quartz	404957	1230607	0.03	N 10	N 0.10	L 0.02	N 2
106	A1R101	Siltstone	403101	1230513	-	L 10	N 0.05	0.46	12
107	A1R102A	Siltstone	403050	1230553	-	260	0.15	5.70	8
107	A1R102B	Limestone	403050	1230553	-	10	0.05	0.40	4
109	A2R101	Andesite	403222	1230804	-	N 10	N 0.05	0.12	N 2
110	A2R102A	Sandstone	403041	1230836	-	N 10	0.05	0.26	N 2
110	A2R102B	Sandstone	403041	1230836	-	N 10	N 0.05	0.60	N 2
112	A2R103	Siltstone	403043	1230903	-	N 10	N 0.05	0.20	N 2
113	A3R001	Chert	403647	1232058	-	L 10	N 0.05	0.04	N 2
114	A3R002	Greenstone	403706	1232001	-	L 10	N 0.05	0.02	N 2
115	A3R003	Gabbro	403608	1231658	-	L 10	N 0.05	N 0.02	N 2
116	A4R001	Chert	403738	1232311	-	L 10	N 0.05	0.06	N 2
117	A4R002	Phyllite	403446	1232809	-	10	N 0.05	0.08	N 2
118	A4R003	Graywacke	403407	1232623	-	10	N 0.05	0.08	N 2
119	A4R004	Conglomerate	403310	1232722	-	L 10	N 0.05	0.06	N 2
120	A4R005	Phyllite	403231	1232724	-	10	N 0.05	0.12	N 2
121	A7R101	Basalt	403540	1234515	-	N 10	0.05	0.70	N 2
121	A7R102	Basalt	403540	1234515	-	N 10	0.25	1.00	N 2
123	B1R001	Graywacke	404110	1230644	-	L 10	N 0.05	0.02	N 2
124	B1R002	Serpentinite	404044	1230616	-	N 10	N 0.05	0.02	N 2
125	B1R003	Graywacke	404146	1230633	-	N 10	N 0.05	N 0.02	N 2
126	B1R005	Graywacke	403738	1230412	-	L 10	N 0.05	N 0.02	N 2
127	B2R001	Argillite	403644	1230928	-	L 10	N 0.05	N 0.02	N 2
128	B2R002	Graywacke	403915	1230934	-	L 10	N 0.05	0.06	N 2
129	B2R003	Graywacke	403938	1230903	-	L 10	N 0.05	0.02	N 2
130	B2R004	Graywacke	404019	1230836	-	L 10	N 0.05	0.02	N 2
131	B2R005	Breccia	403727	1230948	-	L 10	N 0.05	0.02	N 2
132	B2R006	Argillite	403728	1231156	-	N 10	N 0.05	0.04	N 2
133	B2R007	Graywacke	404019	1231503	-	L 10	N 0.05	0.02	N 2
134	B2R008	Breccia	403913	1231526	-	L 10	N 0.05	0.06	N 2
135	B2R009	Argillite	403817	1230841	-	L 10	N 0.05	0.08	N 2
136	B2R010	Graywacke	403959	1231054	-	L 10	N 0.05	N 0.02	N 2
137	B2R101	Schist	404024	1230819	-	N 10	N 0.05	0.30	N 2
138	B3R001	Argillite	404401	1231529	-	10	N 0.05	0.02	N 2
139	B3R002	Chert	404215	1231325	-	L 10	N 0.05	0.02	N 2
140	B3R003	Chert	404334	1231612	-	L 10	N 0.05	0.02	N 2
141	B3R004	Limestone	404311	1231638	-	L 10	N 0.05	0.02	N 2
142	B3R005	Graywacke	404132	1231310	-	L 10	N 0.05	0.02	N 2
143	B3R006	Siltstone	404225	1231736	-	L 10	N 0.05	0.02	N 2
144	B3R007	Diorite	404250	1232028	-	L 10	N 0.05	N 0.02	N 2
145	B4R001	Diabase	403926	1232524	-	L 10	N 0.05	N 0.02	N 2
146	B4R002	Diabase	403936	1232718	-	L 10	N 0.05	N 0.02	N 2
147	B6R001	Greywacke	404145	1234334	-	L 10	N 0.05	0.04	2
148	B6R002	Greywacke	404141	1234434	-	L 10	N 0.05	0.04	N 2
149	B6R003A	Greywacke	404217	1234232	-	L 10	N 0.05	0.34	N 2
149	B6R003B	Tuff	404217	1234232	-	N 10	N 0.05	0.04	N 2
151	B6R004	Greywacke	404306	1234155	-	N 10	N 0.05	0.12	N 2
152	B6R005	Conglomerate	404341	1234154	-	10	N 0.05	0.14	N 2
153	B7R101	Chert	403925	1234523	-	N 10	N 0.05	1.40	N 2
154	C1R001NA	Diabase	404724	1230735	-	L 10	N 0.05	N 0.02	N 2
154	C1R001NB	Chert	404724	1230735	-	L 10	N 0.05	0.02	N 2
156	C1R101	Gneiss	405126	1230109	-	N 10	N 0.05	2.10	N 2
156	C1R102	Quartz	405126	1230109	-	N 10	6.00	0.40	N 2
156	C1R103	Aplite	405126	1230109	-	N 10	N 0.05	0.80	N 2
159	C1R104	Quartz	405208	1230024	-	N 10	0.15	0.50	N 2
159	C1R105	Schist	405208	1230024	-	N 10	N 0.05	0.20	N 2
159	C1R106	Schist	405208	1230024	-	N 10	N 0.05	0.30	N 2
162	C1R108	Quartz	405218	1230031	-	N 10	0.25	2.00	N 2
163	C2R001	Chert	405343	1230853	-	L 10	N 0.05	0.02	N 2
164	C2R002	Greenstone	405047	1230818	-	10	N 0.05	0.02	N 2

Table 10. Results of analyses by atomic absorption spectroscopy and by other miscellaneous chemical methods of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. --continued (page2 partB)

Site	Sample	Te ppm	Tl ppm	W ppm	Zn ppm
105	86RS033A	N 0.05	N 0.05	0.5	N 5
106	A1R101	N 0.05	0.30	-	85
107	A1R102A	L 0.05	0.05	-	120
107	A1R102B	N 0.05	0.05	-	15
109	A2R101	N 0.05	0.10	-	100
110	A2R102A	N 0.05	N 0.05	-	25
110	A2R102B	N 0.05	N 0.05	-	60
112	A2R103	N 0.05	0.10	-	80
113	A3R001	L 0.05	0.35	-	30
114	A3R002	N 0.05	L 0.05	-	70
115	A3R003	N 0.05	N 0.05	-	20
116	A4R001	N 0.05	0.20	-	20
117	A4R002	N 0.05	0.45	-	80
118	A4R003	N 0.05	0.30	-	90
119	A4R004	N 0.05	0.25	-	80
120	A4R005	N 0.05	0.30	-	80
121	A7R101	N 0.05	0.05	-	140
121	A7R102	0.05	0.10	-	35
123	B1R001	N 0.05	0.40	-	50
124	B1R002	N 0.05	N 0.05	-	10
125	B1R003	L 0.05	0.40	-	125
126	B1R005	N 0.05	L 0.05	-	90
127	B2R001	N 0.05	0.15	-	100
128	B2R002	N 0.05	N 0.05	-	20
129	B2R003	N 0.05	0.10	-	20
130	B2R004	N 0.05	L 0.05	-	20
131	B2R005	N 0.05	0.10	-	50
132	B2R006	0.05	0.30	-	70
133	B2R007	N 0.05	0.10	-	90
134	B2R008	N 0.05	0.60	-	110
135	B2R009	N 0.05	0.35	-	40
136	B2R010	N 0.05	N 0.05	-	20
137	B2R101	N 0.05	N 0.05	-	30
138	B3R001	N 0.05	0.35	-	95
139	B3R002	N 0.05	0.20	-	30
140	B3R003	N 0.05	0.15	-	40
141	B3R004	N 0.05	N 0.05	-	40
142	B3R005	N 0.05	N 0.05	-	40
143	B3R006	N 0.05	0.25	-	50
144	B3R007	N 0.05	L 0.05	-	40
145	B4R001	N 0.05	L 0.05	-	100
146	B4R002	N 0.05	0.10	-	70
147	B6R001	N 0.05	0.20	-	55
148	B6R002	N 0.05	0.20	-	55
149	B6R003A	N 0.05	0.10	-	60
149	B6R003B	N 0.05	0.10	-	95
151	B6R004	N 0.05	0.15	-	60
152	B6R005	N 0.05	0.10	-	65
153	B7R101	N 0.05	N 0.05	-	110
154	C1R001NA	N 0.05	0.10	-	60
154	C1R001NB	0.05	0.20	-	30
156	C1R101	N 0.05	N 0.05	-	10
156	C1R102	8.20	N 0.05	-	5
156	C1R103	N 0.05	0.20	-	35
159	C1R104	0.05	N 0.05	-	L 5
159	C1R105	N 0.05	N 0.05	-	30
159	C1R106	0.05	N 0.05	-	10
162	C1R108	0.25	N 0.05	-	5
163	C2R001	N 0.05	0.25	-	30
164	C2R002	N 0.05	N 0.05	-	40

Table 10. Results of analyses by atomic absorption spectroscopy and by other miscellaneous chemical methods of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. --continued (page3 partA)

Site	Sample	Rock type	Latitude	Longitude	K %	As ppm	Au ppm	Hg ppm	Sb ppm
165	C2R003	Graywacke	405008	1230802	-	L 10	N 0.05	0.02	N 2
166	C2R004A	Tonalite	404814	1230727	-	10	N 0.05	0.08	N 2
166	C2R004B	Chert	404814	1230727	-	30	N 0.05	0.44	2
168	C3R001	Graywacke	404637	1231617	-	L 10	N 0.05	0.02	N 2
169	C6R001	Greywacke	404558	1234059	-	L 10	N 0.05	0.08	N 2
170	C6R002	Greywacke	404554	1234142	-	L 10	N 0.05	0.06	N 2
171	C6R003	Greywacke	404502	1234139	-	L 10	N 0.05	0.06	N 2
172	C6R004A	Tonalite	404852	1234131	-	N 10	N 0.05	0.02	N 2
172	C6R004B	Serpentinite	404852	1234131	-	L 10	N 0.05	0.06	N 2
172	C6R004C	Diabase	404852	1234131	-	L 10	N 0.05	0.06	N 2
175	C6R005	Schist	405021	1234303	-	10	N 0.05	0.12	N 2
176	C6R006	Hornblendite	404914	1234123	-	N 10	N 0.05	N 0.02	N 2
177	C6R007	Greenstone	404930	1234153	-	20	N 0.05	0.02	N 2
178	C6R008	Schist	404728	1234103	-	10	N 0.05	0.08	N 2
179	C6R009	Serpentinite	405135	1234309	-	N 10	N 0.05	0.38	N 2
180	C6R010	Greywacke	405231	1234521	-	20	N 0.05	0.14	N 2
179	C6R101	Pyroxenite	405135	1234309	-	N 10	N 0.05	0.20	N 2
179	C6R102	Serpentinite	405135	1234309	-	N 10	N 0.05	0.50	N 2
183	D2R002	Chert	405511	1230855	-	L 10	N 0.05	0.20	N 2
184	D2R003	Tuff	405439	1230857	-	N 10	N 0.05	0.02	N 2
185	D7R101	Sandstone	405402	1234656	-	N 10	-	0.20	N 2
11	84R015A	Diorite	404713	1232516	-	1.2	< 0.1	< 0.02	-
12	84R016A	Diorite	404853	1232844	-	0.7	< 0.1	< 0.02	-
96	86RS034A	Tonalite	404957	1230620	-	0.7	< 0.1	< 0.02	-
187	HY-1	Argillite	403301	1230510	-	-	< 0.05	0.16	-
187	HY-2	Quartz	403301	1230510	-	-	< 0.05	0.28	-
187	HY-3	Diorite	403301	1230510	-	-	< 0.05	N 0.02	-
190	HY-4	Argillite	403117	1230653	-	-	< 0.05	0.04	-
191	HY-5	Chert	403150	1230647	-	-	< 0.05	N 0.02	-
192	HY-6	Breccia	403222	1230635	-	-	< 0.05	0.02	-
193	HY-7	Quartz	403237	1230616	-	-	< 0.05	0.02	-
194	HY-8	Chert	403053	1230649	-	-	< 0.05	0.06	-
195	HY-9	Chert	403025	1230636	-	-	< 0.05	N 0.2	-
196	PM 1	Gabbro	405715	1231335	-	-	N 0.05	N 0.02	-
197	PM 10A	Diorite	405546	1231314	-	-	N 0.05	N 0.02	-
197	PM 10B	Diabase	405546	1231314	-	-	N 0.05	N 0.02	-
197	PM 10C	Gabbro	405546	1231314	-	-	N 0.05	N 0.02	-
200	PM 11	Gabbro	405600	1231316	-	-	N 0.05	N 0.02	-
201	PM 12	Porphyry	405611	1231318	-	-	N 0.05	0.02	-
202	PM 13	Gabbro	405620	1231309	-	-	N 0.05	0.48	-
203	PM 14	Gabbro	405701	1231239	-	-	N 0.05	0.04	-
196	PM 2	Gouge	405715	1231335	-	-	0.40	0.14	-
196	PM 3	Quartz	405715	1231335	-	-	0.85	0.14	-
206	PM 4	Quartz	405730	1231344	-	-	0.25	2.20	-
207	PM 5	Tuff	405750	1231421	-	-	N 0.05	N 0.02	-
208	PM 6	Quartz	405743	1231404	-	-	N 0.05	N 0.02	-
209	PM 8	Gabbro	405709	1231303	-	-	N 0.05	N 0.02	-
210	PM 9	Gabbro	405632	1231312	-	-	N 0.05	N 0.02	-
210	PM 9A	Gabbro	405632	1231312	-	-	N 0.05	0.04	-
212	PP 4B	Gabbro	404602	1230752	-	-	N 0.05	N 0.02	-
212	PP-G1	Quartz	404602	1230752	-	-	N 0.05	0.02	-
212	PP-G2	Amphibolite	404602	1230752	-	-	N 0.05	0.02	-
212	PP-G3	Quartz	404602	1230752	-	-	N 0.05	N 0.02	-
212	PP-JL	Amphibolite	404602	1230752	-	-	N 0.05	N 0.02	-
212	PP-JL-2	Graywacke	404602	1230752	-	-	N 0.05	N 0.02	-
218	SWC-1	Argillite	405522	1232533	-	-	< 0.05	0.06	-
219	SWC-2	Chert	405519	1232533	-	-	< 0.05	0.04	-
220	SWC-3	Porphyry	405205	1232033	-	-	< 0.05	0.08	-
220	SWC-4	Quartz	405205	1232033	-	-	< 0.05	0.04	-
220	SWC-5	Quartz	405205	1232033	-	-	< 0.05	0.02	-
223	SBR-1	Quartz	404132	1231249	-	-	< 0.05	0.12	-
224	SBR-2	Argillite	404316	1231546	-	-	< 0.05	0.24	-
225	SBR-3	Granodiorite	404314	1231547	-	-	< 0.05	0.04	-

Table 10. Results of analyses by atomic absorption spectroscopy and by other miscellaneous chemical methods of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. --continued (page3 partB)

Site	Sample	Te ppm	Tl ppm	W ppm	Zn ppm
165	C2R003	N 0.05	0.10	-	40
166	C2R004A	N 0.05	0.90	-	30
166	C2R004B	N 0.05	1.20	-	70
168	C3R001	N 0.05	0.40	-	40
169	C6R001	N 0.05	0.15	-	80
170	C6R002	N 0.05	0.10	-	70
171	C6R003	N 0.05	0.10	-	65
172	C6R004A	N 0.05	N 0.05	-	L 5
172	C6R004B	N 0.05	0.05	-	10
172	C6R004C	N 0.05	N 0.05	-	50
175	C6R005	N 0.05	0.30	-	50
176	C6R006	N 0.05	N 0.05	-	20
177	C6R007	N 0.05	N 0.05	-	90
178	C6R008	N 0.05	0.30	-	70
179	C6R009	0.10	N 0.05	-	20
180	C6R010	N 0.05	0.30	-	110
179	C6R101	N 0.05	0.05	-	20
179	C6R102	N 0.05	N 0.05	-	15
183	D2R002	N 0.05	0.35	-	110
184	D2R003	N 0.05	N 0.05	-	60
185	D7R101	N 0.05	0.10	-	50
11	84R015A	< 0.01	0.14	-	-
12	84R016A	< 0.01	0.03	-	-
96	86RS034A	< 0.01	0.47	-	-
187	HY-1	0.10	0.25	-	-
187	HY-2	0.10	< 0.05	-	-
187	HY-3	< 0.05	< 0.05	-	-
190	HY-4	0.10	< 0.05	-	-
191	HY-5	0.05	< 0.05	-	-
192	HY-6	0.15	< 0.05	-	-
193	HY-7	0.10	< 0.05	-	-
194	HY-8	0.05	0.35	-	-
195	HY-9	0.05	0.10	-	-
196	PM 1	0.25	N 0.05	-	-
197	PM 10A	N 0.05	N 0.05	-	-
197	PM 10B	N 0.05	N 0.05	-	-
197	PM 10C	N 0.05	0.15	-	-
200	PM 11	N 0.05	N 0.05	-	-
201	PM 12	N 0.05	0.05	-	-
202	PM 13	N 0.05	0.05	-	-
203	PM 14	N 0.05	N 0.05	-	-
196	PM 2	1.60	0.20	-	-
196	PM 3	2.10	N 0.05	-	-
206	PM 4	2.60	0.05	-	-
207	PM 5	N 0.05	0.05	-	-
208	PM 6	N 0.05	N 0.05	-	-
209	PM 8	N 0.05	N 0.05	-	-
210	PM 9	N 0.05	0.05	-	-
210	PM 9A	N 0.05	0.05	-	-
212	PP 4B	N 0.05	N 0.05	-	-
212	PP-G1	0.05	N 0.05	-	-
212	PP-G2	0.05	0.15	-	-
212	PP-G3	0.05	N 0.05	-	-
212	PP-JL	0.05	0.40	-	-
212	PP-JL-2	N 0.05	N 0.05	-	-
218	SWC-1	0.05	0.55	-	-
219	SWC-2	0.10	0.35	-	-
220	SWC-3	< 0.05	0.20	-	-
220	SWC-4	0.10	0.05	-	-
220	SWC-5	0.30	0.25	-	-
223	SBR-1	0.10	0.30	-	-
224	SBR-2	0.15	0.30	-	-
225	SBR-3	0.10	0.05	-	-

Table 11. Results of analyses for major, minor, and trace elements by X-ray fluorescence spectroscopy and analyses for major and minor oxides requiring individual determinations of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (Fe_TO_3 = total iron calculated as Fe_2O_3)(page 1, parts a,b)

Site	Sample	Rock type	Latitude	Longitude	Al_2O_3 %	CO_2 %	CaO %	FeO %	FE_TO_3 %
11	84R015A	Diorite	404713	1232516	17.30	0.02	8.81	6.47	10.20
12	84R016A	Diorite	404853	1232844	10.80	0.02	11.80	5.19	7.02
49	85RS009A	Gneiss	405101	1230239	13.80	0.01	9.26	6.96	11.70
52	85RS010	Gneiss	404716	1230309	13.60	0.01	10.20	7.48	12.30
62	85RS018A	Gneiss	404552	1230255	13.60	< 0.01	11.30	11.20	16.80
65	85RS019A	Gneiss	405241	1230044	13.30	< 0.01	11.00	9.08	14.40
21	85RB050B	Shale	403202	1230757	6.89	1.18	1.43	1.47	3.11
21	85RB050D	Shale	403202	1230757	10.50	6.02	7.52	4.73	6.43
25	85RB051B	Shale	403203	1230758	12.30	2.52	4.53	4.75	9.08
86	86RS008	Schist	404433	1230257	13.40	< 0.01	13.90	6.01	13.30
87	86RS009	Schist	404407	1230038	12.80	0.17	11.10	7.91	14.10
186	86RS034A	Tonalite	404957	1230620	15.30	< 0.01	2.03	0.71	2.12
138	B3R001	Argillite	404401	1231529	9.93	< 0.01	0.28	0.99	2.96
139	B3R002	Chert	404215	1231325	3.98	< 0.01	0.08	0.32	1.38
140	B3R003	Chert	404334	1231612	4.45	< 0.01	0.15	1.22	2.03
147	B6R001	Greywacke	404145	1234334	13.40	2.30	4.00	2.90	4.26
148	B6R002	Greywacke	404141	1234434	14.40	0.02	2.12	2.50	4.94
149	B6R003A	Greywacke	404217	1234232	13.00	0.10	0.45	3.50	5.08
151	B6R004	Greywacke	404306	1234155	13.60	0.10	0.42	3.60	4.81
152	B6R005	Conglomerate	404341	1234154	12.90	0.48	1.36	4.40	6.67
169	C6R001	Greywacke	404558	1234059	14.10	0.17	1.78	4.10	6.55
170	C6R002	Greywacke	404554	1234142	14.40	0.79	3.87	4.10	6.20
171	C6R003	Greywacke	404502	1234139	13.50	0.16	3.81	3.40	6.09

Site	Sample	H_2O+ %	H_2O- %	K_2O %	MgO %	MnO %	Na_2O %	P_2O_5 %	SiO_2 %	TiO_2 %	Ba ppm
11	84R015A	2.81	0.29	1.70	4.24	0.18	2.93	0.32	51.1	0.73	-
12	84R016A	2.45	0.15	0.38	10.50	0.15	2.32	0.05	54.4	0.37	-
49	85RS009A	2.47	0.09	0.11	7.17	0.18	3.32	0.13	51.4	1.52	-
52	85RS010	2.17	0.41	0.16	7.34	0.20	2.95	0.14	49.6	1.78	-
62	85RS018A	2.07	0.18	0.17	7.06	0.26	2.73	0.15	44.4	2.82	-
65	85RS019A	1.87	0.15	0.05	6.88	0.23	2.46	0.16	49.0	2.01	-
21	85RB050B	1.38	0.10	1.77	1.21	0.05	0.54	0.06	80.7	0.35	624
21	85RB050D	3.17	0.14	1.50	4.52	0.18	1.33	0.18	57.5	1.05	580
25	85RB051B	3.50	0.23	1.43	7.26	0.24	2.51	0.29	53.4	1.85	677
86	86RS008	1.89	0.13	0.22	5.33	0.21	1.32	0.16	49.5	1.92	-
87	86RS009	2.03	0.09	0.27	5.93	0.23	2.30	0.21	50.1	2.20	-
186	86RS034A	1.38	0.20	2.74	0.57	0.12	3.48	0.10	71.1	0.15	-
138	B3R001	1.19	0.06	2.40	1.50	0.04	1.13	< 0.05	78.1	0.48	1750
139	B3R002	0.99	0.25	0.95	0.44	0.04	0.43	< 0.05	90.9	0.17	995
140	B3R003	0.86	0.13	1.00	0.87	0.06	0.50	0.07	89.1	0.23	979
147	B6R001	2.43	0.33	1.68	2.00	0.07	3.52	0.12	65.5	0.57	339
148	B6R002	2.55	0.47	2.06	2.11	0.06	3.32	0.14	66.8	0.60	426
149	B6R003A	2.67	0.42	0.89	3.89	0.09	4.17	0.15	68.8	0.57	226
151	B6R004	2.32	0.22	1.41	2.14	0.07	4.08	0.15	70.2	0.61	429
152	B6R005	3.32	0.22	0.72	4.18	0.15	3.33	0.19	65.8	0.66	234
169	C6R001	3.41	0.36	1.48	3.38	0.10	3.20	0.15	64.6	0.65	447
170	C6R002	3.30	0.49	1.30	4.18	0.10	3.30	0.17	61.6	0.69	285
171	C6R003	3.39	0.60	1.22	4.25	0.08	2.56	0.16	63.7	0.71	659

Table 11. Results of analyses for major, minor, and trace elements by X-ray fluorescence spectroscopy and analyses for major and minor oxides requiring individual determinations of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California -- continued (p1-c).

Site	Sample	Ce ppm	Cr ppm	Cu ppm	La ppm	Nb ppm	Ni ppm	Rb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
11	84R015A	-	-	-	-	< 10	-	51	705	21	-	64
12	84R016A	-	-	-	-	< 10	-	3	69	13	-	41
49	85RS009A	-	-	-	-	< 10	-	< 2	106	36	-	85
52	85RS010	-	-	-	-	< 10	-	< 2	123	40	-	106
62	85RS018A	-	-	-	-	< 10	-	3	112	63	-	174
65	85RS019A	-	-	-	-	< 10	-	< 2	95	46	-	114
21	85RB050B	33	40	68	18	12	18	60	53	17	70	91
21	85RB050D	39	229	47	20	15	133	46	192	22	93	114
25	85RB051B	55	295	66	26	33	149	38	187	33	159	188
86	86RS008	-	-	-	-	< 10	-	11	169	49	-	120
87	86RS009	-	-	-	-	< 10	-	5	108	50	-	133
186	86RS034A	-	-	-	-	12	-	75	437	9	-	70
138	B3R001	37	67	124	7	16	44	85	82	22	119	115
139	B3R002	24	< 20	29	7	< 10	11	28	36	9	41	55
140	B3R003	25	< 20	24	10	< 10	23	29	21	11	44	69
147	B6R001	31	85	24	15	11	41	60	346	19	81	125
148	B6R002	32	131	22	17	13	44	58	90	18	78	147
149	B6R003A	41	214	29	20	14	77	29	57	20	78	109
151	B6R004	43	126	20	28	11	41	55	100	16	76	178
152	B6R005	60	350	34	23	< 10	80	20	105	21	88	132
169	C6R001	41	220	40	12	15	97	46	102	20	102	144
170	C6R002	36	238	31	20	< 10	97	36	140	17	93	116
171	C6R003	30	304	28	25	< 10	109	36	95	20	78	131

Table 12. Results of inductively coupled plasma-atomic emission spectroscopy analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (page1)

Site	Sample	Rock type	Latitude	Longitude	Al %	Ca %	Fe %	K %	Mg %	Na %
187	HY-1	Argillite	403301	1230510	5.00	0.08	5.30	2.20	0.51	0.190
187	HY-2	Quartz	403301	1230510	1.10	0.02	1.20	0.52	0.10	0.020
187	HY-3	Diorite	403301	1230510	8.60	1.10	3.40	1.90	1.10	1.900
190	HY-4	Argillite	403117	1230653	5.00	0.21	3.70	0.83	1.30	1.900
191	HY-5	Chert	403150	1230647	0.45	0.04	0.58	0.18	0.05	0.020
192	HY-6	Breccia	403222	1230635	1.10	0.20	9.10	0.12	0.35	0.006
193	HY-7	Quartz	403237	1230616	1.40	0.05	1.10	0.73	0.44	0.050
194	HY-8	Chert	403053	1230649	3.40	0.04	2.00	1.40	0.43	0.080
195	HY-9	Chert	403025	1230636	0.88	8.00	2.10	0.32	0.13	0.009
196	PM 1	Gabbro	405715	1231335	7.40	1.20	10.00	0.08	3.30	2.200
197	PM 10A	Diorite	405546	1231314	8.10	3.30	6.80	0.35	3.60	2.300
197	PM 10B	Diabase	405546	1231314	8.50	5.30	7.20	0.06	4.30	3.500
197	PM 10C	Gabbro	405546	1231314	7.10	6.10	7.60	1.50	7.60	1.400
200	PM 11	Gabbro	405600	1231316	8.50	5.30	8.10	0.40	3.60	3.100
201	PM 12	Porphyry	405611	1231318	8.20	1.90	2.70	1.50	1.40	3.000
202	PM 13	Gabbro	405620	1231309	7.60	5.10	7.20	1.10	7.00	2.200
203	PM 14	Gabbro	405701	1231239	8.50	8.60	7.60	0.11	5.50	1.300
196	PM 2	Gouge	405715	1231335	4.30	0.26	17.00	0.37	0.69	1.600
196	PM 3	Quartz	405715	1231335	0.52	0.07	6.00	0.10	0.10	0.050
206	PM 4	Quartz	405730	1231344	1.50	0.04	8.20	0.41	0.76	0.120
207	PM 5	Tuff	405750	1231421	9.30	5.90	7.10	0.13	3.70	3.600
208	PM 6	Quartz	405743	1231404	0.53	22.00	4.80	0.26	4.50	0.050
209	PM 8	Gabbro	405709	1231303	8.40	4.90	7.00	0.15	4.50	3.600
210	PM 9	Gabbro	405632	1231312	7.80	5.00	6.60	1.20	5.00	2.400
210	PM 9A	Gabbro	405632	1231312	7.80	4.50	6.30	1.60	4.60	3.000
212	PP 4B	Gabbro	404602	1230752	9.40	9.00	7.90	0.83	5.80	1.600
212	PP-G1	Quartz	404602	1230752	9.50	9.00	9.10	0.20	2.10	1.800
212	PP-G2	Amphibolite	404602	1230752	10.00	7.70	5.90	1.10	1.90	1.800
212	PP-G3	Quartz	404602	1230752	6.70	9.10	4.90	0.23	0.98	0.770
212	PP-JL	Amphibolite	404602	1230752	5.30	0.24	2.90	1.80	1.20	1.000
212	PP-JL-2	Graywacke	404602	1230752	9.30	8.20	5.80	0.85	3.80	2.600
218	SWC-1	Argillite	405522	1232533	2.80	0.21	1.70	1.30	0.66	0.370
219	SWC-2	Chert	405519	1232533	8.60	5.20	5.70	1.90	2.80	2.200
220	SWC-3	Porphyry	405205	1232033	8.60	5.20	5.70	1.90	2.80	2.200
220	SWC-4	Quartz	405205	1232033	2.80	5.60	7.90	0.43	1.20	0.830
220	SWC-5	Quartz	405205	1232033	8.10	3.90	5.70	1.10	1.60	1.200
223	SBR-1	Quartz	404132	1231249	4.50	0.16	8.20	2.20	0.74	0.280
224	SBR-2	Argillite	404316	1231546	5.90	0.20	1.90	3.20	0.57	0.730
225	SBR-3	Granodiorite	404314	1231547	11.00	10.00	3.50	1.60	1.20	1.300

Table 12. Results of inductively coupled plasma-atomic emission spectroscopy analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (page2)

Site	Sample	P %	Ti %	Ag ppm	As ppm	Au ppm	Ba ppm	Be ppm	Bi ppm	Cd ppm	Ce ppm
187	HY-1	0.12	0.230	< 2	40	< 8	980	2	< 10	< 2	36
187	HY-2	0.02	0.030	< 2	< 10	< 8	240	< 1	< 10	< 2	17
187	HY-3	0.09	0.280	< 2	< 10	< 8	690	< 1	< 10	< 2	20
190	HY-4	0.08	0.380	< 2	< 10	< 8	520	1	< 10	< 2	44
191	HY-5	0.01	0.030	< 2	< 10	< 8	330	< 1	< 10	< 2	< 4
192	HY-6	0.16	0.070	< 2	< 10	< 8	300	< 1	< 10	< 2	15
193	HY-7	0.02	0.070	< 2	< 10	< 8	930	< 1	< 10	< 2	12
194	HY-8	0.02	0.170	< 2	< 10	< 8	670	< 1	< 10	< 2	24
195	HY-9	0.09	0.040	< 2	320	< 8	850	< 1	< 10	< 2	6
196	PM 1	0.05	0.680	< 2	< 10	< 8	13	< 1	< 10	< 2	7
197	PM 10A	0.05	0.750	< 2	< 10	< 8	45	< 1	< 10	< 2	6
197	PM 10B	0.05	0.640	< 2	< 10	< 8	34	< 1	< 10	< 2	5
197	PM 10C	0.14	0.630	< 2	< 10	< 8	490	< 1	< 10	< 2	29
200	PM 11	0.06	0.860	< 2	< 10	< 8	50	< 1	< 10	< 2	6
201	PM 12	0.07	0.270	< 2	< 10	< 8	510	1	< 10	< 2	22
202	PM 13	0.13	0.740	< 2	< 10	< 8	300	< 1	< 10	< 2	28
203	PM 14	< 0.005	0.600	< 2	< 10	< 8	17	< 1	< 10	< 2	< 4
196	PM 2	0.04	0.570	< 2	10	< 8	43	< 1	< 10	< 2	4
196	PM 3	0.02	0.020	< 2	< 10	< 8	24	< 1	< 10	< 2	< 4
206	PM 4	0.04	0.100	5	50	< 8	110	< 1	< 10	3	< 4
207	PM 5	0.05	0.670	< 2	< 10	< 8	45	< 1	< 10	< 2	5
208	PM 6	< 0.005	0.008	< 2	< 10	< 8	56	< 1	< 10	< 2	10
209	PM 8	0.05	0.660	< 2	< 10	< 8	36	< 1	< 10	< 2	6
210	PM 9	0.16	0.700	< 2	< 10	< 8	350	1	< 10	< 2	36
210	PM 9A	0.16	0.700	< 2	< 10	< 8	250	< 1	< 10	< 2	39
212	PP 4B	0.01	0.740	< 2	< 10	< 8	290	< 1	< 10	< 2	8
212	PP-G1	0.23	0.550	< 2	20	< 8	77	2	< 10	< 2	24
212	PP-G2	0.25	0.420	< 2	< 10	< 8	430	< 1	< 10	< 2	29
212	PP-G3	0.08	0.140	< 2	< 10	< 8	110	5	< 10	< 2	10
212	PP-JL	0.02	0.290	< 2	< 10	< 8	3500	2	< 10	< 2	46
212	PP-JL-2	0.1	0.510	< 2	< 10	< 8	340	< 1	< 10	< 2	30
218	SWC-1	0.02	0.190	< 2	< 10	< 8	1900	1	< 10	< 2	39
219	SWC-2	0.11	0.510	< 2	< 10	< 8	630	1	< 10	< 2	31
220	SWC-3	0.11	0.520	< 2	< 10	< 8	630	1	< 10	< 2	33
220	SWC-4	0.07	0.520	< 2	< 10	< 8	520	< 1	< 10	< 2	21
220	SWC-5	0.04	0.280	< 2	10	< 8	62	2	< 10	< 2	110
223	SBR-1	0.03	0.140	< 2	20	< 8	1600	1	< 10	< 2	39
224	SBR-2	0.02	0.270	< 2	50	< 8	73	1	< 10	< 2	40
225	SBR-3	0.08	0.440	< 2	< 10	< 8	630	1	< 10	< 2	20

Table 12. Results of inductively coupled plasma-atomic emission spectroscopy analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (page3)

Site	Sample	Co ppm	Cr ppm	Cu ppm	Eu ppm	Ga ppm	Ho ppm	La ppm	Li ppm	Mn ppm	Mo ppm
187	HY-1	9	120	89	< 2	13	< 4	24	4	92	16
187	HY-2	2	22	21	< 2	< 4	< 4	9	5	53	11
187	HY-3	13	33	24	< 2	18	< 4	11	17	640	< 2
190	HY-4	12	95	81	< 2	12	< 4	25	18	350	< 2
191	HY-5	2	18	26	< 2	< 4	< 4	4	4	730	< 2
192	HY-6	6	32	20	< 2	6	< 4	11	14	450	< 2
193	HY-7	4	24	140	< 2	5	< 4	5	10	210	< 2
194	HY-8	3	48	58	< 2	10	< 4	14	12	180	2
195	HY-9	4	20	15	< 2	< 4	< 4	7	26	2200	< 2
196	PM 1	26	19	150	< 2	16	< 4	5	9	880	< 2
197	PM 10A	39	45	74	< 2	15	< 4	5	9	790	< 2
197	PM 10B	44	220	72	< 2	15	< 4	5	4	1300	< 2
197	PM 10C	60	610	90	< 2	18	< 4	19	9	1400	< 2
200	PM 11	42	21	74	< 2	18	< 4	7	4	1400	< 2
201	PM 12	13	81	19	< 2	18	< 4	14	9	540	< 2
202	PM 13	53	580	120	2	17	< 4	18	10	1200	< 2
203	PM 14	49	510	88	< 2	14	< 4	2	5	1300	< 2
196	PM 2	27	31	1100	< 2	13	< 4	3	8	230	19
196	PM 3	15	11	250	< 2	< 4	< 4	< 2	27	140	35
206	PM 4	21	4	770	< 2	< 4	< 4	< 2	7	290	5
207	PM 5	40	100	110	< 2	16	< 4	5	4	1300	< 2
208	PM 6	11	46	3	< 2	4	< 4	7	3	4000	< 2
209	PM 8	44	69	10	< 2	14	< 4	6	7	980	< 2
210	PM 9	43	320	62	< 2	18	< 4	23	9	1200	< 2
210	PM 9A	41	400	74	< 2	19	< 4	25	5	1300	< 2
212	PP 4B	46	96	< 1	< 2	16	< 4	6	18	1100	< 2
212	PP-G1	15	2	68	< 2	20	< 4	14	26	4800	< 2
212	PP-G2	12	3	8	< 2	19	< 4	17	18	1600	< 2
212	PP-G3	7	4	12	< 2	15	< 4	7	28	6700	< 2
212	PP-JL	15	70	65	< 2	16	< 4	24	28	930	< 2
212	PP-JL-2	33	260	82	< 2	20	< 4	18	8	1100	< 2
218	SWC-1	13	36	24	< 2	9	< 4	13	13	1300	< 2
219	SWC-2	28	120	80	< 2	18	< 4	20	23	1100	< 2
220	SWC-3	28	120	80	< 2	18	< 4	21	23	1100	< 2
220	SWC-4	22	45	750	< 2	9	< 4	14	7	1500	< 2
220	SWC-5	50	130	150	< 2	20	< 4	46	29	730	7
223	SBR-1	7	53	55	< 2	12	< 4	20	16	420	12
224	SBR-2	4	75	41	< 2	15	< 4	23	15	100	18
225	SBR-3	9	27	43	< 2	23	< 4	15	26	700	< 2

Table 12. Results of inductively coupled plasma-atomic emission spectroscopy analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (page4)

Site	Sample	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sn ppm	Sr ppm	Ta ppm	Th ppm	U ppm
187	HY-1	6	24	56	9	9	< 10	28	< 40	7	< 100
187	HY-2	< 4	11	8	110	3	< 10	8	< 40	< 4	< 100
187	HY-3	4	14	23	< 4	10	< 10	510	< 40	< 4	< 100
190	HY-4	10	26	66	6	12	< 10	130	< 40	6	< 100
191	HY-5	< 4	4	7	< 4	< 2	< 10	8	< 40	< 4	< 100
192	HY-6	5	14	33	< 4	2	< 10	31	< 40	< 4	< 100
193	HY-7	< 4	5	18	4	4	< 10	16	< 40	< 4	< 100
194	HY-8	7	12	14	7	10	< 10	22	< 40	5	< 100
195	HY-9	< 4	9	11	6	4	< 10	69	< 40	< 4	< 100
196	PM 1	5	11	23	< 4	28	< 10	63	< 40	< 4	< 100
197	PM 10A	5	11	39	< 4	35	< 10	140	< 40	< 4	< 100
197	PM 10B	5	11	66	< 4	40	< 10	150	< 40	< 4	< 100
197	PM 10C	7	25	300	< 4	29	< 10	650	< 40	4	< 100
200	PM 11	6	14	29	< 4	38	< 10	150	< 40	< 4	< 100
201	PM 12	4	16	32	6	8	< 10	650	< 40	5	< 100
202	PM 13	9	26	210	< 4	31	< 10	350	< 40	< 4	< 100
203	PM 14	6	6	140	< 4	47	< 10	130	< 40	< 4	< 100
196	PM 2	< 4	4	8	< 4	15	< 10	29	< 40	< 4	< 100
196	PM 3	< 4	< 4	8	18	2	< 10	15	< 40	< 4	< 100
206	PM 4	< 4	< 4	9	< 4	5	< 10	8	< 40	< 4	< 100
207	PM 5	4	12	55	< 4	38	< 10	250	< 40	< 4	< 100
208	PM 6	< 4	16	31	< 4	11	< 10	340	< 40	< 4	< 100
209	PM 8	5	13	59	< 4	38	< 10	140	< 40	< 4	< 100
210	PM 9	8	28	170	< 4	24	< 10	550	< 40	6	< 100
210	PM 9A	8	30	150	< 4	23	< 10	290	< 40	5	< 100
212	PP 4B	6	15	21	< 4	64	< 10	510	< 40	< 4	< 100
212	PP-G1	7	23	< 2	< 4	20	< 10	170	< 40	< 4	< 100
212	PP-G2	6	21	3	< 4	15	< 10	720	< 40	< 4	< 100
212	PP-G3	< 4	8	3	< 4	8	< 10	120	< 40	< 4	< 100
212	PP-JL	9	20	39	10	16	< 10	85	< 40	7	< 100
212	PP-JL-2	11	24	54	< 4	40	< 10	520	< 40	< 4	< 100
218	SWC-1	7	13	28	6	9	< 10	49	< 40	5	< 100
219	SWC-2	6	24	23	< 4	27	< 10	480	< 40	7	< 100
220	SWC-3	6	25	23	< 4	27	< 10	480	< 40	6	< 100
220	SWC-4	9	15	32	< 4	8	< 10	110	< 40	< 4	< 100
220	SWC-5	5	44	82	10	21	< 10	310	< 40	16	< 100
223	SBR-1	4	20	9	5	10	< 10	38	< 40	9	< 100
224	SBR-2	8	21	13	14	14	< 10	60	< 40	6	< 100
225	SBR-3	7	17	6	< 4	13	< 10	140	< 40	< 4	< 100

Table 12. Results of inductively coupled plasma-atomic emission spectroscopy analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (page5)

Site	Sample	V ppm	Y ppm	Yb ppm	Zn ppm
187	HY-1	310	12	1	180
187	HY-2	40	< 2	< 1	39
187	HY-3	97	7	< 1	81
190	HY-4	120	18	2	110
191	HY-5	29	2	< 1	11
192	HY-6	91	13	1	67
193	HY-7	31	3	< 1	19
194	HY-8	50	8	1	32
195	HY-9	38	16	1	40
196	PM 1	250	11	2	27
197	PM 10A	280	21	3	61
197	PM 10B	250	19	3	52
197	PM 10C	240	14	2	80
200	PM 11	310	26	4	110
201	PM 12	79	8	1	53
202	PM 13	250	17	2	71
203	PM 14	410	9	2	49
196	PM 2	200	3	< 1	6
196	PM 3	55	2	< 1	3
206	PM 4	59	4	< 1	470
207	PM 5	260	21	3	48
208	PM 6	32	11	1	36
209	PM 8	270	21	3	24
210	PM 9	220	15	2	71
210	PM 9A	220	14	2	72
212	PP 4B	530	16	2	65
212	PP-G1	150	68	9	98
212	PP-G2	100	29	4	91
212	PP-G3	58	53	8	88
212	PP-JL	78	13	2	77
212	PP-JL-2	280	17	2	70
218	SWC-1	48	6	< 1	43
219	SWC-2	210	17	2	77
220	SWC-3	210	17	2	77
220	SWC-4	110	10	1	84
220	SWC-5	180	27	3	110
223	SBR-1	100	10	1	48
224	SBR-2	230	12	2	90
225	SBR-3	170	13	2	36

Table 13. Results from a commercial laboratory of inductively coupled plasma-atomic emission spectroscopy analyses of selected rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (p1)

Site	Sample	Rock type	Latitude	Longitude	Ag ppm	As ppm	Au ppm	Cu ppm
27	85RS001	Schist	405055	1230748	0.0496	8.637	0.0387	44.970
28	85RS002A	Quartz	405039	1230730	8.7040	872.400	12.2200	7.685
28	85RS002B	Gneiss	405039	1230730	0.1881	77.510	0.0387	29.180
28	85RS002C	Gneiss	405039	1230730	0.0684	1.694	0.0062	100.000
28	85RS002D	Quartz	405039	1230730	<0.049	1.274	0.0083	9.952
32	85RS003A	Gneiss	405037	1230721	<0.046	1.658	0.0328	47.450
32	85RS003B	Quartz	405037	1230721	0.0690	2.857	0.0339	9.291
34	85RS004A	Quartz	405046	1230720	0.5231	8.444	2.0580	23.480
34	85RS004B	Gneiss	405046	1230720	0.0776	3.623	0.0939	51.260
34	85RS004C	Quartz	405046	1230720	1.0880	703.600	3.5930	7.364
34	85RS004D	Gneiss	405046	1230720	0.1687	19.840	0.3299	46.520
34	85RS004E	Quartz	405046	1230720	22.5900	657.600	86.2600	20.950
34	85RS004F	Quartz	405046	1230720	6.2360	36.960	23.8100	16.920
34	85RS004G	Gneiss	405046	1230720	0.9061	69.410	2.3680	84.900
34	85RS004H	Quartz	405046	1230720	199.0000	21.360	454.0000	46.140
44	85RS005	Sandstone	404923	1230726	0.2218	4.551	0.3984	111.300
45	85RS006	Argillite	404844	1230716	0.1455	3.111	0.1730	44.210
46	85RS008A	Gneiss	405207	1230146	<0.048	1.626	0.0546	28.920
46	85RS008B	Aplite	405207	1230146	0.0550	3.048	0.0128	33.550
46	85RS008C	Aplite	405207	1230146	0.0521	3.004	0.0194	19.010
49	85RS009A	Gneiss	405101	1230239	0.0559	1.851	0.0110	2.395
49	85RS009B	Dike	405101	1230239	<0.049	2.596	0.0102	2.589
49	85RS009C	Quartz	405101	1230239	0.0503	1.542	0.0331	6.089
52	85RS010	Gneiss	404716	1230309	<0.050	1.729	0.0041	26.750
53	85RS011A	Gneiss	404938	1230625	0.0517	4.412	0.0102	46.720
53	85RS011B	Quartz	404938	1230625	0.1100	5.803	0.2978	5.335
53	85RS011C	Pegmatite	404938	1230625	0.8064	2.824	0.0401	19.550
53	85RS011D	Granodiorite	404938	1230625	0.1137	10.360	0.1003	44.400
57	85RS012A	Quartz	404922	1230653	26.8300	3126.000	76.2700	11.680
57	85RS012B	Gneiss	404922	1230653	0.1102	11.950	0.0658	61.400
57	85RS012C	Gneiss	404922	1230653	0.2029	13.040	0.0234	57.720
57	85RS012D	Quartz	404922	1230653	0.3443	55.060	0.2507	6.348
62	85RS018A	Gneiss	404552	1230255	<0.049	5.543	<0.001	109.600
62	85RS018B	Quartz	404552	1230255	<0.050	<1.00	0.0027	74.330
62	85RS018C	Quartz	404552	1230255	<0.048	<0.963	<0.001	8.716
65	85RS019A	Gneiss	405241	1230044	<0.047	<0.945	0.0025	21.860
65	85RS019B	Vein	405241	1230044	<0.047	1.009	0.0067	86.330
67	85RS020	Dacite	405246	1230040	<0.046	<0.923	<0.001	3.142
68	85RS021A	Quartz	405246	1230024	0.2482	7.906	0.0779	17.250
68	85RS021B	Quartz	405246	1230024	0.1275	2.382	0.1877	7.765
68	85RS021C	Gneiss	405246	1230024	0.1084	10.030	0.3186	9.505
68	85RS021D	Gneiss	405246	1230024	<0.049	<0.993	0.0473	12.770
68	85RS021E	Gneiss	405246	1230024	<0.050	2.321	<0.001	15.880
68	85RS021F	Gneiss	405246	1230024	<0.049	<0.981	<0.001	12.350

Table 13. Results from a commercial laboratory of inductively coupled plasma-atomic emission spectroscopy analyses of selected rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. --continued (p2).

Site	Sample	Hg ppm	Mo ppm	Pb ppm	Sb ppm	Tl ppm
27	85RS001	<0.476	<0.476	1.6960	<0.953	<0.953
28	85RS002A	<0.494	2.4480	225.8000	<0.989	<0.989
28	85RS002B	<0.502	<0.502	8.8080	<1.00	<1.00
28	85RS002C	0.5730	1.0610	1.7180	<0.971	<0.971
28	85RS002D	<0.426	3.0950	1.4860	<0.993	<0.993
32	85RS003A	<0.464	0.7001	1.5020	<0.928	<0.928
32	85RS003B	<0.466	4.0440	0.9793	<0.933	<0.933
34	85RS004A	<0.482	1.6620	4.2230	<0.964	<0.964
34	85RS004B	<0.497	<0.497	2.7540	<0.995	<0.995
34	85RS004C	<0.497	6.9490	12.4700	<0.994	<0.994
34	85RS004D	0.7542	0.8604	3.7620	<0.997	<0.997
34	85RS004E	1.7550	1.5840	167.3000	<0.989	<0.989
34	85RS004F	0.5535	1.7480	71.9700	<0.968	<0.968
34	85RS004G	2.0380	0.9196	19.2700	<1.00	<1.00
34	85RS004H	14.9000	1.1690	2305.0000	4.114	<1.00
44	85RS005	<0.487	0.9625	5.8200	<0.974	<0.974
45	85RS006	<0.476	1.3160	6.6760	<0.953	<0.953
46	85RS008A	<0.486	<0.486	1.0650	<0.973	2.961
46	85RS008B	<0.496	0.8426	1.2780	<0.993	1.655
46	85RS008C	<0.503	1.4940	<1.000	<1.00	<1.00
49	85RS009A	<0.477	<0.477	1.1240	<0.955	<0.955
49	85RS009B	<0.490	1.0920	3.8740	<0.981	<0.981
49	85RS009C	1.1680	1.4780	1.4800	<1.00	<1.00
52	85RS010	0.8791	<0.506	1.3970	<1.01	<1.01
53	85RS011A	0.9793	0.5554	1.1420	<1.00	<1.00
53	85RS011B	0.8652	1.7390	1.9890	<0.937	1.707
53	85RS011C	<0.495	2.1550	<0.990	<0.990	2.277
53	85RS011D	0.8470	1.3300	5.7980	<0.978	1.368
57	85RS012A	1.0130	1.9410	60.3900	1.291	<1.00
57	85RS012B	<0.479	<0.479	<0.959	<0.959	<0.959
57	85RS012C	0.8558	0.8045	<0.958	<0.958	2.041
57	85RS012D	0.5567	2.6490	1.9350	<0.971	<0.971
62	85RS018A	0.9651	1.7320	<0.993	<0.993	<0.993
62	85RS018B	<0.500	2.7960	1.3180	<1.00	<1.00
62	85RS018C	0.9205	4.0030	<0.963	<0.963	<0.963
65	85RS019A	<0.472	1.6240	<0.945	<0.945	<0.945
65	85RS019B	<0.478	2.2740	1.5450	<0.957	<0.957
67	85RS020	<0.461	2.0780	4.2900	<0.923	<0.923
68	85RS021A	0.6490	10.6200	1.7780	<0.927	1.607
68	85RS021B	0.7811	4.6450	2.2470	1.085	<0.944
68	85RS021C	0.8072	2.1310	8.4910	<0.956	<0.956
68	85RS021D	0.7425	1.6110	3.3450	<0.993	<0.993
68	85RS021E	<0.500	2.7680	2.2080	1.654	1.433
68	85RS021F	0.6210	1.3290	2.0340	<0.981	<0.981

Table 14. Results of induced neutron activation analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (page1)

Site	Sample	Rock type	Latitude	Longitude	Fe %	CV/Fe %	Na %	CV/Na %	As ppm	CV/As %
11	84R015A	Diorite	404713	1232516	8.59	1	2.59	1	0	-
12	84R016A	Diorite	404853	1232844	5.21	-	1.94	1	0	-
49	85RS009A	Gneiss	405101	1230239	8.16	1	-	-	0	-
52	85RS010	Gneiss	404716	1230309	8.58	1	-	-	0	-
62	85RS018A	Gneiss	404552	1230255	12.00	1	1.94	1	0	-
65	85RS019A	Gneiss	405241	1230044	10.20	1	-	-	0	-
86	86RS008	Schist	404433	1230257	9.47	1	-	-	1.88	21
87	86RS009	Schist	404407	1230038	9.91	1	-	-	0	-
96	86RS034A	Tonalite	404957	1230620	1.46	1	2.70	1	1	25
147	B6R001	Greywacke	404145	1234334	2.91	1	2.73	1	4.84	3
148	B6R002	Greywacke	404141	1234434	3.22	1	2.60	1	4.95	6
149	B6R003A	Greywacke	404217	1234232	3.34	1	3.22	1	6.98	1
151	B6R004	Greywacke	404306	1234155	3.26	1	3.16	1	3.11	7
152	B6R005	Conglomerate	404341	1234154	4.46	1	2.60	1	10.30	3
169	C6R001	Greywacke	404558	1234059	4.46	1	2.53	1	10.90	5
170	C6R002	Greywacke	404554	1234142	4.05	1	2.57	1	7.88	4
171	C6R003	Greywacke	404502	1234139	4.12	1	2.01	1	6.84	5

Site	Sample	Ba ppm	CV/Ba %	Ce ppm	CV/Ce %	Co ppm	CV/Co %	Cr ppm	CV/Cr %
11	84R015A	747.0	5	49.40	3	33.5	2	20.1	4
12	84R016A	61.0	17	4.20	10	36.5	1	632.0	2
49	85RS009A	23.0	18	8.03	5	40.0	2	232.0	6
52	85RS010	40.1	8	12.90	8	40.7	2	191.0	4
62	85RS018A	41.0	16	17.80	3	50.8	2	94.7	1
65	85RS019A	32.2	3	11.00	3	44.2	2	118.0	1
86	86RS008	29.5	2	12.80	3	40.2	2	210.0	3
87	86RS009	18.0	1	14.50	2	42.0	2	107.0	5
96	86RS034A	1100.0	1	28.20	3	2.1	1	1.3	16
147	B6R001	337.0	2	36.20	1	11.7	1	86.9	6
148	B6R002	409.0	2	37.80	3	11.1	1	105.0	7
149	B6R003A	226.0	1	32.30	2	12.2	1	136.0	6
151	B6R004	422.0	1	38.50	1	12.3	1	97.5	7
152	B6R005	246.0	1	51.30	3	17.9	1	251.0	8
169	C6R001	470.0	2	35.90	3	16.3	1	181.0	7
170	C6R002	266.0	2	35.40	2	16.5	1	194.0	4
171	C6R003	676.0	2	36.90	3	15.9	1	283.0	6

Site	Sample	Cs ppm	CV/Cs %	Eu ppm	CV/Eu %	Hf ppm	CV/Hf %	La ppm	CV/La %	Lu ppm	CV/Lu %
11	84R015A	1.87	5	1.850	2	2.04	2	26.00	1	0.332	1
12	84R016A	< 1	-	0.469	7	0.84	8	2.10	4	0.212	4
49	85RS009A	0.19	20	1.270	3	2.41	1	2.23	3	0.510	6
52	85RS010	0.13	22	1.450	3	3.08	3	3.45	2	0.577	3
62	85RS018A	0.18	18	2.280	4	5.08	1	5.77	2	0.979	7
65	85RS019A	0.12	22	1.620	1	3.35	1	3.08	5	0.689	2
86	86RS008	0.43	23	1.580	1	3.32	1	3.90	2	0.665	2
87	86RS009	0.21	18	1.700	1	3.54	7	4.02	3	0.763	6
96	86RS034A	0.93	4	0.647	3	1.78	2	14.30	1	0.127	5
147	B6R001	1.80	2	0.857	1	3.40	2	18.70	1	0.268	1
148	B6R002	2.09	1	0.912	1	3.96	1	19.10	2	0.273	3
149	B6R003A	1.22	5	0.607	4	2.75	2	15.00	1	0.213	3
151	B6R004	1.50	1	0.857	1	4.29	1	19.40	1	0.247	5
152	B6R005	1.01	4	1.110	3	3.53	1	26.20	1	0.301	2
169	C6R001	2.02	3	0.822	1	3.66	3	16.80	1	0.273	4
170	C6R002	1.90	1	0.933	1	3.20	3	16.90	1	0.269	3
171	C6R003	1.69	4	1.040	2	3.70	3	18.80	1	0.274	3

Table 14. Results of induced neutron activation analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued. (page2)

Site	Sample	Nd ppm	CV/Nd %	Ni ppm	CV/Ni %	Rb ppm	CV/Rb %	Sb ppm	CV/Sb %	Sc ppm	CV/Sc %
11	84R015A	25.20	3	-	-	48.4	3	0.338	14	34.1	-
12	84R016A	-	-	-	-	6.3	19	0.170	26	52.4	1
49	85RS009A	8.32	2	75.8	8	< 1	-	1.240	4	42.6	3
52	85RS010	11.00	2	84.5	6	3.4	22	0.160	24	42.4	3
62	85RS018A	16.40	2	60.3	11	< 1	-	0.250	22	52.3	4
65	85RS019A	11.30	5	61.6	12	< 1	-	-	-	47.1	3
86	86RS008	10.90	2	67.2	13	5.2	22	1.120	5	42.8	4
87	86RS009	11.50	5	44.3	14	8.6	16	0.439	13	44.2	3
96	86RS034A	10.70	5	-	-	62.4	1	0.142	3	2.9	1
147	B6R001	15.40	4	35.7	7	< 1	-	0.579	3	12.0	1
148	B6R002	15.40	4	30.4	9	60.4	1	0.647	4	12.6	1
149	B6R003A	12.40	3	71.2	4	< 1	-	0.507	2	12.1	1
151	B6R004	15.90	3	43.4	7	50.9	5	0.387	6	11.5	1
152	B6R005	19.20	1	78.3	4	27.2	3	0.959	4	17.2	1
169	C6R001	15.40	1	80.8	3	47.6	3	0.796	2	15.0	1
170	C6R002	15.80	4	81.3	9	42.8	6	0.716	3	16.2	1
171	C6R003	18.30	3	105.0	3	40.6	2	0.797	9	16.2	1

Site	Sample	Sm ppm	CV/Sm %	Sr ppm	CV/Sr %	Ta ppm	CV/Ta %	Tb ppm	CV/Tb %	Th ppm	CV/Th %
11	84R015A	6.43	3	-	-	0.233	8	0.746	4	3.69	1
12	84R016A	1.40	1	-	-	< 0.078	-	0.294	9	< 0.05	-
49	85RS009A	3.30	1	120.0	13	0.083	2	0.923	7	0.12	16
52	85RS010	4.19	1	95.0	20	0.189	3	1.030	2	0.16	13
62	85RS018A	5.98	1	66.0	18	0.224	5	1.630	2	0.28	13
65	85RS019A	4.41	1	65.0	20	0.108	5	1.270	3	0.07	25
86	86RS008	4.33	2	141.0	13	0.175	5	1.130	4	0.18	1
87	86RS009	4.94	1	74.0	21	0.165	1	1.380	3	0.21	12
96	86RS034A	2.42	3	-	-	0.449	2	0.247	5	2.43	1
147	B6R001	3.40	1	328.0	1	0.554	1	0.491	1	5.32	2
148	B6R002	3.44	1	65.2	14	0.613	2	0.477	1	5.72	1
149	B6R003A	2.69	1	< 30	-	0.536	1	0.351	1	4.24	1
151	B6R004	3.23	1	79.7	10	0.655	2	0.375	3	6.16	1
152	B6R005	4.11	2	96.0	11	0.602	2	0.588	1	7.23	2
169	C6R001	3.55	1	75.0	19	0.662	1	0.520	2	5.54	1
170	C6R002	3.58	1	162.0	3	0.580	3	0.534	3	4.89	1
171	C6R003	3.98	1	53.0	15	0.603	4	0.572	1	5.00	2

Site	Sample	U ppm	CV/U %	W ppm	CV/W %	Yb ppm	CV/Yb %	Zn ppm	CV/Zn %
11	84R015A	1.29	8	3.31	22	2.170	3	112.0	5
12	84R016A	< 0.05	-	4.94	23	1.330	4	-	-
49	85RS009A	< 0.05	-	3.12	24	3.420	2	-	-
52	85RS010	< 0.05	-	3.04	24	4.340	2	-	-
62	85RS018A	0.13	20	0	-	6.420	4	99.6	6
65	85RS019A	< 0.05	-	0	-	4.580	4	-	-
86	86RS008	0.24	17	0	-	4.570	5	76.3	6
87	86RS009	< 0.05	-	0	-	5.250	5	-	-
96	86RS034A	1.10	3	1.27	> 30	0.814	2	57.9	2
147	B6R001	1.78	2	1.48	27	1.820	2	74.0	5
148	B6R002	1.99	5	0	-	1.770	1	74.7	6
149	B6R003A	1.41	1	1.6	23	1.420	4	61.3	5
151	B6R004	1.91	1	0	-	1.550	1	75.9	5
152	B6R005	1.94	5	1.41	27	2.030	3	79.8	5
169	C6R001	1.93	4	0	-	1.810	2	84.3	5
170	C6R002	1.70	1	2.73	29	1.800	1	83.1	5
171	C6R003	1.76	3	3.00	28	1.790	1	82.6	5

Table 14. Results of induced neutron activation analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued. (page3)

Site	Sample	Zr ppm	CV/Zr %	Au ppb	CV/Au %
11	84R015A	140.0	20	0.341	61
12	84R016A	-	-	0	-
49	85RS009A	136.0	13	4.280	60
52	85RS010	140.0	18	45.500	6
62	85RS018A	232.0	13	2.710	60
65	85RS019A	230.0	15	0.015	61
86	86RS008	180.0	15	0.255	61
87	86RS009	200.0	19	0	-
96	86RS034A	55.6	12	0.086	61
147	B6R001	103.0	10	5.740	7
148	B6R002	144.0	4	11.000	5
149	B6R003A	95.3	6	10.800	5
151	B6R004	140.0	3	2.960	60
152	B6R005	136.0	8	8.520	7
169	C6R001	134.0	5	5.180	60
170	C6R002	108.0	7	7.380	9
171	C6R003	153.0	6	2.470	60

Table 15. Results of fire assay analyses of rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California.

Site	Sample	Rock type	Latitude	Longitude	Au ppm	Pt ppm	Pd ppm
1	83RR017	Serpentinite	403543	1230021	0.003	0.015	0.010
2	84R009A	Gneiss	404418	1230249	L 0.001	N 0.005	N 0.001
6	84R012A	Breccia	404431	1231307	0.001	N 0.005	N 0.001
11	84R015A	Diorite	404713	1232516	0.001	N 0.005	N 0.001
12	84R016A	Diorite	404853	1232844	N 0.001	N 0.005	N 0.001
17	84R033A	Serpentinite	403044	1231338	0.010	0.010	L 0.002
74	86RS001A	Argillite	404353	1231611	0.007	N 0.005	0.002
74	86RS001B	Argillite	404353	1231611	L 0.001	N 0.005	0.002
74	86RS001C	Basalt	404353	1231611	0.002	N 0.005	N 0.001
77	86RS002	Argillite	404348	1231634	0.003	N 0.005	N 0.001
78	86RS003	Mixed	404409	1231350	0.002	N 0.005	N 0.001
79	86RS004A	Pyroxenite	404411	1231158	N 0.001	N 0.005	0.003
79	86RS004B	Pyroxenite	404411	1231158	0.005	0.005	0.007
79	86RS004C	Pyroxenite	404411	1231158	0.050	N 0.005	0.002
79	86RS004D	Graywacke	404411	1231158	0.010	N 0.005	0.010
83	86RS005	Gabbro	404424	1231154	0.015	0.020	0.020
84	86RS006	Pyroxenite	404414	1231206	0.005	N 0.005	L 0.001
85	86RS007	Serpentinite	404512	1230320	0.005	N 0.005	N 0.001
86	86RS008	Schist	404433	1230257	0.015	N 0.005	0.002
87	86RS009	Schist	404407	1230038	0.007	N 0.005	0.002

Site	Sample	Rh ppm	Ru ppm	Ir ppm
1	83RR017	0.005	N 0.2	N 0.05
2	84R009A	N 0.002	N 0.2	N 0.05
6	84R012A	N 0.002	N 0.2	N 0.05
11	84R015A	N 0.002	N 0.2	N 0.05
12	84R016A	N 0.002	N 0.2	N 0.05
17	84R033A	N 0.004	N 0.4	N 0.10
74	86RS001A	N 0.002	N 0.2	N 0.05
74	86RS001B	N 0.002	N 0.2	N 0.05
74	86RS001C	N 0.002	N 0.2	N 0.05
77	86RS002	N 0.002	N 0.2	N 0.05
78	86RS003	N 0.002	N 0.2	N 0.05
79	86RS004A	N 0.002	N 0.2	N 0.05
79	86RS004B	N 0.002	N 0.2	N 0.05
79	86RS004C	N 0.002	N 0.2	N 0.05
79	86RS004D	N 0.002	N 0.2	N 0.05
83	86RS005	N 0.002	N 0.2	N 0.05
84	86RS006	N 0.002	N 0.2	N 0.05
85	86RS007	N 0.002	N 0.2	N 0.05
86	86RS008	N 0.002	N 0.2	N 0.05
87	86RS009	N 0.002	N 0.2	N 0.05

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California. (page1 partA)

Site	Sample	Latitude	Longitude	Terrane	Unit	Rock type	comment
1	83RR017	403543	1230021	EHST	hm	Serpentinite	
2	84R009A	404418	1230249	CMT	cms	Gneiss	Amphibole-, serp
3	84R010A	404607	1230748	EHST	hhvc	Argillite	Blk, py
3	84R010B	404607	1230748	EHST	hhvc	Quartz	Vein-, sheared
5	84R011A	404508	1230939	WHST	hhb	Andesite	Meta-
6	84R012A	404431	1231307	EHST	hm	Breccia	Meta-basalt
7	84R013A	404422	1231448	EHST	hm	Quartzite	Micaceous
7	84R013B	404422	1231448	EHST	hm	Limestone	Coarse grained
9	84R014A	404710	1232037	EHST	ls	Limestone	Brecciated
9	84R014B	404710	1232037	EHST	ls	Chert	Brec, FeOx
11	84R015A	404713	1232516	WHST	him	Diorite	Qtz-, py; Qtz-Epi vein
12	84R016A	404853	1232844	RCT	rcp	Diorite	Qtz-, chl, py
13	84R017A	405212	1233148	WJrT	wJg	Graywacke	Qtz vein
13	84R017B	405212	1233148	WJrT	wJg	Quartz	Vein-, brec
15	84R018A	405314	1233453	WJrT	wJg	Graywacke	Fine grained, lim
16	84R019A	405422	1234221	WJrT	wJg	Argillite	Blk, FeOx, py
17	84R033A	403044	1231338	RCT	rcsp	Serpentinite	
17	84R033B	403044	1231338	RCT	rcsp	Chert	Meta-
19	84R034A	403341	1230613	WHST	hhb	Andesite	Meta-
20	84R035A	403541	1230057	NFT	nf	Basalt	Pillow, chl; Qtz vein
21	85RB050A	403202	1230757	EHST	hhvc	Vein	Qtz-Cal-; Py shale
21	85RB050B	403202	1230757	EHST	hhvc	Shale	Carbon, py
21	85RB050C	403202	1230757	EHST	hhvc	Quartz	Vein-; Py gouge
21	85RB050D	403202	1230757	EHST	hhvc	Shale	Grn gray, py; Qtz vein
25	85RB051A	403203	1230758	EHST	hhvc	Quartz	Vein-, py
25	85RB051B	403203	1230758	EHST	hhvc	Shale	Blue gray,sil,py
27	85RS001	405055	1230748	CMT	cms	Schist	Mica-Amph; Qtz vein
28	85RS002A	405039	1230730	CMT	cms	Quartz	Vein-
28	85RS002B	405039	1230730	CMT	cms	Gneiss	Siliceous
28	85RS002C	405039	1230730	CMT	cms	Gneiss	Hem; Qtz vein
28	85RS002D	405039	1230730	CMT	cms	Quartz	Vein-, blue gray
32	85RS003A	405037	1230721	CMT	cms	Gneiss	Brec, epi, chl
32	85RS003B	405037	1230721	CMT	cms	Quartz	Vein-, lim
34	85RS004A	405046	1230720	CMT	cms	Quartz	Vein-, py
34	85RS004A2	405046	1230720	CMT	cms	Schist	Hb-, chl, py
34	85RS004AA	405046	1230720	CMT	cms	Schist	Hb-, chl, py
34	85RS004B	405046	1230720	CMT	cms	Gneiss	Py
34	85RS004C	405046	1230720	CMT	cms	Quartz	Vein-; gneiss inclusions
34	85RS004D	405046	1230720	CMT	cms	Gneiss	
34	85RS004E	405046	1230720	CMT	cms	Quartz	Vein-
34	85RS004F	405046	1230720	CMT	cms	Quartz	Vein-, hem
34	85RS004G	405046	1230720	CMT	cms	Gneiss	Qtz stockwork
34	85RS004H	405046	1230720	CMT	cms	Quartz	Vein-
44	85RS005	404923	1230726	CMT	cms	Sandstone	Meta-, py
45	85RS006	404844	1230716	NFT	nf	Argillite	Sil, brec
46	85RS008A	405207	1230146	CMT	cms	Gneiss	Bio-Hb-; Pegmatite vein
46	85RS008B	405207	1230146	CMT	cms	Aplite	Pegmatite veinlet
46	85RS008C	405207	1230146	CMT	cms	Aplite	Pegmatite, qtz rich
49	85RS009A	405101	1230239	CMT	cms	Gneiss	Hb-Bio-
49	85RS009B	405101	1230239	CMT	cms	Dike	Felsic, py
49	85RS009C	405101	1230239	CMT	cms	Quartz	Vein-, hem, lim
52	85RS010	404716	1230309	CMT	cms	Gneiss	Hb-, sil
53	85RS011A	404938	1230625	CMT	cms	Gneiss	Hb-, chl
53	85RS011B	404938	1230625	CMT	cms	Quartz	Vein-; Rock frag, chl
53	85RS011C	404938	1230625	CMT	cms	Pegmatite	Vein, qtz-k-feld-mus, lim
53	85RS011D	404938	1230625	CMT	cms	Granodiorite	Bio-
57	85RS012A	404922	1230653	CMT	cms	Quartz	Vein-, lim, hem
57	85RS012B	404922	1230653	CMT	cms	Gneiss	Brec; Qtz vein
57	85RS012C	404922	1230653	CMT	cms	Gneiss	Brec; Qtz vein
57	85RS012D	404922	1230653	CMT	cms	Quartz	Vein-, lim

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued.(page1B)

Site	Sample	Mine/prospect area	District	Lab No	Map type
1	83RR017			EMZ859	Compilation
2	84R009A			EPG556	Compilation
3	84R010A			EPG557	Compilation
3	84R010B			EPG558	Compilation
5	84R011A			EPG559	Compilation
6	84R012A			EPG560	Compilation
7	84R013A			EPG561	Compilation
7	84R013B			EPG562	Compilation
9	84R014A			EPG563	Compilation
9	84R014B			EPG564	Compilation
11	84R015A			EPG565	Compilation
12	84R016A			EPG566	Compilation
13	84R017A			EPG567	Compilation
13	84R017B			EPG568	Compilation
15	84R018A			EPG569	Compilation
16	84R019A			EPG570	Compilation
17	84R033A			EPG585	Compilation
17	84R033B			EPG586	Compilation
19	84R034A			EPG587	Compilation
20	84R035A			EPG588	Compilation
21	85RB050A	Kelly (Au)	Hayfork	EQK703	Field
21	85RB050B	Kelly (Au)	Hayfork	EQK704	Field
21	85RB050C	Kelly (Au)	Hayfork	EQK705	Field
21	85RB050D	Kelly (Au)	Hayfork	EQK706	Field
25	85RB051A	Kelly (Au)	Hayfork	EQK707	Field
25	85RB051B	Kelly (Au)	Hayfork	EQK708	Field
27	85RS001			EQJ866	Field
28	85RS002A	Lone Jack (Au)	Canyon Creek/East Fork	EQJ867	Field
28	85RS002B	Lone Jack (Au)	Canyon Creek/East Fork	EQJ868	Field
28	85RS002C	Lone Jack (Au)	Canyon Creek/East Fork	EQJ869	Field
28	85RS002D	Lone Jack (Au)	Canyon Creek/East Fork	EQJ870	Field
32	85RS003A			EQJ871	Field
32	85RS003B			EQJ872	Field
34	85RS004A	Enterprise (Au)	Canyon Creek/East Fork	EQJ873	Field
34	85RS004A2	Enterprise (Au)	Canyon Creek/East Fork	ERF586	Field
34	85RS004AA	Enterprise (Au)	Canyon Creek/East Fork	ERF587	Field
34	85RS004B	Enterprise (Au)	Canyon Creek/East Fork	EQJ874	Field
34	85RS004C	Enterprise (Au)	Canyon Creek/East Fork	EQJ875	Field
34	85RS004D	Enterprise (Au)	Canyon Creek/East Fork	EQJ876	Field
34	85RS004E	Enterprise (Au)	Canyon Creek/East Fork	EQJ877	Field
34	85RS004F	Enterprise (Au)	Canyon Creek/East Fork	EQJ878	Field
34	85RS004G	Enterprise (Au)	Canyon Creek/East Fork	EQJ879	Field
34	85RS004H	Enterprise (Au)	Canyon Creek/East Fork	EQJ880	Field
44	85RS005			EQJ881	Field
45	85RS006			EQJ882	Field
46	85RS008A			EQJ883	Field
46	85RS008B			EQJ884	Field
46	85RS008C			EQJ885	Field
49	85RS009A			EQJ886	Field
49	85RS009B			EQJ887	Field
49	85RS009C			EQJ888	Field
52	85RS010			EQJ889	Field
53	85RS011A	Barney Gulch (Au)	Canyon Creek/East Fork	EQJ890	Compilation
53	85RS011B	Barney Gulch (Au)	Canyon Creek/East Fork	EQJ891	Compilation
53	85RS011C	Barney Gulch (Au)	Canyon Creek/East Fork	EQJ892	Compilation
53	85RS011D	Barney Gulch (Au)	Canyon Creek/East Fork	EQJ893	Compilation
57	85RS012A	Ozark (Au)	Hayfork	EQJ894	Field
57	85RS012B	Ozark (Au)	Hayfork	EQJ895	Field
57	85RS012C	Ozark (Au)	Hayfork	EQJ896	Field
57	85RS012D	Ozark (Au)	Hayfork	EQJ897	Field

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued.(page2A)

Site	Sample	Latitude	Longitude	Terrane	Unit	Rock type	comment
61	85RS013	405210	1230130	CMT	cms	Dike	Felsic, py
62	85RS018A	404552	1230255	CMT	cms	Gneiss	Hb-, py
62	85RS018B	404552	1230255	CMT	cms	Quartz	Vein-
62	85RS018C	404552	1230255	CMT	cms	Quartz	Vein-, FeOx
65	85RS019A	405241	1230044	CMT	cms	Gneiss	Hb-Feld-, Qtz vein
65	85RS019B	405241	1230044	CMT	cms	Vein	Qtz-Feld-
67	85RS020	405246	1230040	CMT	cms	Dacite	Bio-, dike; Qtz vein
68	85RS021A	405246	1230024	CMT	cms	Quartz	Vein-; Gneiss, sil
68	85RS021B	405246	1230024	CMT	cms	Quartz	Vein-, gray
68	85RS021C	405246	1230024	CMT	cms	Gneiss	Chl, sil
68	85RS021D	405246	1230024	CMT	cms	Gneiss	Chl, sil
68	85RS021E	405246	1230024	CMT	cms	Gneiss	Chl; Qtz vein
68	85RS021F	405246	1230024	CMT	cms	Gneiss	Amphibolite-
74	86RS001A	404353	1231611	EHST	hm	Argillite	Blk
74	86RS001B	404353	1231611	EHST	hm	Argillite	Carbon
74	86RS001C	404353	1231611	EHST	hm	Basalt	Meta-, FeOx
77	86RS002	404348	1231634	EHST	hm	Argillite	Carbon; Qtz vein
78	86RS003	404409	1231350	EHST	hm	Mixed	Arg;Serp;Bas;Ss
79	86RS004A	404411	1231158	WHST	hhb	Pyroxenite	Py
79	86RS004B	404411	1231158	WHST	hhb	Pyroxenite	Fine grained
79	86RS004C	404411	1231158	WHST	hhb	Pyroxenite	Serp
79	86RS004D	404411	1231158	WHST	hhb	Graywacke	
83	86RS005	404424	1231154	WHST	hhb	Gabbro	Arg, oxidized
84	86RS006	404414	1231206	WHST	hsp	Pyroxenite	
85	86RS007	404512	1230320	CMT	cms	Serpentinite	Py
86	86RS008	404433	1230257	CMT	cms	Schist	Hb-
87	86RS009	404407	1230038	CMT	cms	Schist	Hb-
34	86RS030A	405046	1230720	CMT	cms	Schist	Brec
34	86RS030B	405046	1230720	CMT	cms	Quartz	Vein-, vuggy, Mn stain
34	86RS030C	405046	1230720	CMT	cms	Quartz	Vein-, vuggy
34	86RS030D	405046	1230720	CMT	cms	Greenstone	Brec
34	86RS030E	405046	1230720	CMT	cms	Quartz	Vein-
34	86RS030F	405046	1230720	CMT	cms	Greenstone	Brec
34	86RS030G	405046	1230720	CMT	cms	Quartz	Vein-, vuggy, lim
34	86RS030H	405046	1230720	CMT	cms	Quartz	Vein-, banded, hem
96	86RS031A	404957	1230620	CMT	cms	Quartz	Vein-, brec, lim
96	86RS031B	404957	1230620	CMT	cms	Quartz	Vein-, lim
96	86RS031C	404957	1230620	CMT	cms	Greenstone	Sheared
96	86RS031D	404957	1230620	CMT	cms	Pegmatite	Vein, qtz-mus
28	86RS032A	405039	1230730	CMT	cms	Quartz	Vein-, chl
28	86RS032B	405039	1230730	CMT	cms	Quartz	Vein-, hem
28	86RS032C	405039	1230730	CMT	cms	Quartz	Vein-, hem, sul
28	86RS032D	405039	1230730	CMT	cms	Graywacke	Blk, py
28	86RS032E	405039	1230730	CMT	cms	Graywacke	Blk, py; Qtz vein
105	86RS033A	404957	1230607	CMT	cms	Quartz	Vein-, blue blk, py
106	A1R101	403101	1230513	EHST	hhvc	Siltstone	Py
107	A1R102A	403050	1230553	EHST	hhvc	Siltstone	FeOx
107	A1R102B	403050	1230553	EHST	hhvc	Limestone	Qtz vein
109	A2R101	403222	1230804	EHST	hhvc	Andesite	Meta-
110	A2R102A	403041	1230836	WHST	hhb	Sandstone	Qtz vein
110	A2R102B	403041	1230836	WHST	hhb	Sandstone	
112	A2R103	403043	1230903	WHST	hhb	Siltstone	
113	A3R001	403647	1232058	RCT	rcv	Chert	Blk; Arg
114	A3R002	403706	1232001	WHST	hhb	Greenstone	
115	A3R003	403608	1231658	WHST	him	Gabbro	Px-
116	A4R001	403738	1232311	RCT	rcv	Chert	Blk
117	A4R002	403446	1232809	WJrT	wjg	Phyllite	
118	A4R003	403407	1232623	WJrT	wjg	Graywacke	Meta-
119	A4R004	403310	1232722	WJrT	wjg	Conglomerate	
120	A4R005	403231	1232724	WJrT	wjg	Phyllite	

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued.(page2B)

Site	Sample	Mine/prospect area	District	Lab No	Map type
61	85RS013			EQE577	Field
62	85RS018A			EQJ898	Field
62	85RS018B			EQJ899	Field
62	85RS018C			EQJ900	Field
65	85RS019A			EQJ901	Field
65	85RS019B			EQJ902	Field
67	85RS020			EQJ903	Field
68	85RS021A	Chloride (Au)	Canyon Creek/East Fork	EQJ904	Field
68	85RS021B	Chloride (Au)	Canyon Creek/East Fork	EQJ905	Field
68	85RS021C	Chloride (Au)	Canyon Creek/East Fork	EQJ906	Field
68	85RS021D	Chloride (Au)	Canyon Creek/East Fork	EQJ907	Field
68	85RS021E	Chloride (Au)	Canyon Creek/East Fork	EQJ908	Field
68	85RS021F	Chloride (Au)	Canyon Creek/East Fork	EQJ909	Field
74	86RS001A			EQT957	Compilation
74	86RS001B			EQT958	Compilation
74	86RS001C			EQT959	Compilation
77	86RS002			EQT960	Compilation
78	86RS003			EQT961	Compilation
79	86RS004A			EQT962	Compilation
79	86RS004B			EQT963	Compilation
79	86RS004C			EQT970	Compilation
79	86RS004D			EQT971	Compilation
83	86RS005			EQT964	Compilation
84	86RS006			EQT965	Compilation
85	86RS007			EQT966	Compilation
86	86RS008			EQT967	Compilation
87	86RS009			EQT968	Compilation
34	86RS030A	Enterprise (Au)	Canyon Creek/East Fork	ERF588	Field
34	86RS030B	Enterprise (Au)	Canyon Creek/East Fork	ERF589	Field
34	86RS030C	Enterprise (Au)	Canyon Creek/East Fork	ERF590	Field
34	86RS030D	Enterprise (Au)	Canyon Creek/East Fork	ERF591	Field
34	86RS030E	Enterprise (Au)	Canyon Creek/East Fork	ERF592	Field
34	86RS030F	Enterprise (Au)	Canyon Creek/East Fork	ERF593	Field
34	86RS030G	Enterprise (Au)	Canyon Creek/East Fork	ERF594	Field
34	86RS030H	Enterprise (Au)	Canyon Creek/East Fork	ERF595	Field
96	86RS031A	Barney Gulch (Au)	Canyon Creek/East Fork	ERF601	Compilation
96	86RS031B	Barney Gulch (Au)	Canyon Creek/East Fork	ERF602	Compilation
96	86RS031C	Barney Gulch (Au)	Canyon Creek/East Fork	ERF603	Compilation
96	86RS031D	Barney Gulch (Au)	Canyon Creek/East Fork	ERF604	Compilation
28	86RS032A	Lone Jack (Au)	Canyon Creek/East Fork	ERF596	Field
28	86RS032B	Lone Jack (Au)	Canyon Creek/East Fork	ERF597	Field
28	86RS032C	Lone Jack (Au)	Canyon Creek/East Fork	ERF598	Field
28	86RS032D	Lone Jack (Au)	Canyon Creek/East Fork	ERF599	Field
28	86RS032E	Lone Jack (Au)	Canyon Creek/East Fork	ERF600	Field
105	86RS033A			ERF605	Compilation
106	A1R101	Scorpion (Au)	Hayfork	EQJ910	Field
107	A1R102A	Scorpion (Au)	Hayfork	EQJ911	Field
107	A1R102B	Scorpion (Au)	Hayfork	EQJ912	Field
109	A2R101			EQJ913	Field
110	A2R102A	Farmer (Au)	Hayfork	EQJ914	Field
110	A2R102B	Farmer (Au)	Hayfork	EQJ915	Field
112	A2R103			EQJ916	Field
113	A3R001			ESD114	Compilation
114	A3R002			ESD115	Compilation
115	A3R003			ESD116	Compilation
116	A4R001			ESD109	Compilation
117	A4R002			ESD110	Compilation
118	A4R003			ESD111	Compilation
119	A4R004			ESD112	Compilation
120	A4R005			ESD113	Compilation

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued.(page3A)

Site	Sample	Latitude	Longitude	Terrane	Unit	Rock type	comment
121	A7R101	403540	1234515	CT	ctmm	Basalt	Pillow; Qtz vein
121	A7R102	403540	1234515	CT	ctmm	Basalt	Pillow, Mn stain
123	B1R001	404110	1230644	WHST	hhvc	Graywacke	
124	B1R002	404044	1230616	EHST	hhvc	Serpentinite	Massive
125	B1R003	404146	1230633	EHST	hm	Graywacke	Meta-
126	B1R005	403738	1230412	EHST	hm	Graywacke	
127	B2R001	403644	1230928	EHST	hm	Argillite	
128	B2R002	403915	1230934	WHST	hhb	Graywacke	Volcanoclastic
129	B2R003	403938	1230903	WHST	hhb	Graywacke	Andesitic
130	B2R004	404019	1230836	WHST	hhvc	Graywacke	Meta-
131	B2R005	403727	1230948	EHST	hm	Breccia	Volcanoclastic
132	B2R006	403728	1231156	EHST	hm	Argillite	Silty
133	B2R007	404019	1231503	WHST	hhb	Graywacke	Volcanoclastic
134	B2R008	403913	1231526	WHST	hhb	Breccia	Volcanoclastic
135	B2R009	403817	1230841	WHST	hhvc	Argillite	Sil
136	B2R010	403959	1231054	EHST	hm	Graywacke	Volcanoclastic
137	B2R101	404024	1230819	WHST	hhb	Schist	Qtz-Feld-; Qtz veins
138	B3R001	404401	1231529	EHST	hm	Argillite	Slaty
139	B3R002	404215	1231325	WHST	hhvc	Chert	Blk; Arg
140	B3R003	404334	1231612	EHST	hm	Chert	Blk; Arg
141	B3R004	404311	1231638	EHST	hm	Limestone	
142	B3R005	404132	1231310	EHST	hm	Graywacke	Fine grained
143	B3R006	404225	1231736	WHST	hhvc	Siltstone	
144	B3R007	404250	1232028	WHST	him	Diorite	Hb-Px-
145	B4R001	403926	1232524	RCT	rcv	Diabase	Dike
146	B4R002	403936	1232718	RCT	rcv	Diabase	Dike
147	B6R001	404145	1234334	CT	ctss	Greywacke	
148	B6R002	404141	1234434	CT	ctss	Greywacke	
149	B6R003A	404217	1234232	CT	ctss	Greywacke	Meta-
149	B6R003B	404217	1234232	CT	ctss	Tuff	Chl
151	B6R004	404306	1234155	CT	ctss	Greywacke	
152	B6R005	404341	1234154	CT	ctss	Conglomerate	
153	B7R101	403925	1234523	CT	ctss	Chert	
154	C1R001NA	404724	1230735	NFT	nf	Diabase	Hb-Px-
154	C1R001NB	404724	1230735	NFT	nf	Chert	Blk; Arg
156	C1R101	405126	1230109	CMT	cms	Gneiss	
156	C1R102	405126	1230109	CMT	cms	Quartz	Vein-
156	C1R103	405126	1230109	CMT	cms	Aplite	
159	C1R104	405208	1230024	CMT	cms	Quartz	Vein-
159	C1R105	405208	1230024	CMT	cms	Schist	Hb-
159	C1R106	405208	1230024	CMT	cms	Schist	Qtz veining
162	C1R108	405218	1230031	CMT	cms	Quartz	Vein-; mylonite
163	C2R001	405343	1230853	NFT	nf	Chert	Bleached
164	C2R002	405047	1230818	NFT	nf	Greenstone	Foliated
165	C2R003	405008	1230802	NFT	nf	Graywacke	Andesitic
166	C2R004A	404814	1230727	NFT	nf	Tonalite	Dike
166	C2R004B	404814	1230727	NFT	nf	Chert	Meta-; Arg
168	C3R001	404637	1231617	EHST	hm	Graywacke	
169	C6R001	404558	1234059	PPT	sfm	Greywacke	
170	C6R002	404554	1234142	CT	ctss	Greywacke	
171	C6R003	404502	1234139	CT	ctss	Greywacke	
172	C6R004A	404852	1234131	WJrT	wjsp	Tonalite	
172	C6R004B	404852	1234131	WJrT	wjsp	Serpentinite	Massive
172	C6R004C	404852	1234131	WJrT	wjsp	Diabase	
175	C6R005	405021	1234303	PPT	sfm	Schist	Qtz-Mica-
176	C6R006	404914	1234123	WJrT	wjd	Hornblendite	
177	C6R007	404930	1234153	WJrT	wjgr	Greenstone	Massive
178	C6R008	404728	1234103	PPT	sfm	Schist	Qtz-Mica-
179	C6R009	405135	1234309	WJrT	wjsp	Serpentinite	Cuprous
180	C6R010	405231	1234521	CT	ctss	Greywacke	

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued.(page3B)

Site	Sample	Mine/prospect area	District	Lab No	Map type
121	A7R101			EQJ917	Compilation
121	A7R102			EQJ918	Field
123	B1R001			ESD117	Compilation
124	B1R002			ESD088	Compilation
125	B1R003			ESD089	Compilation
126	B1R005			ESD091	Compilation
127	B2R001			ESD092	Compilation
128	B2R002			ESD093	Compilation
129	B2R003			ESD094	Compilation
130	B2R004			ESD095	Compilation
131	B2R005			ESD096	Compilation
132	B2R006			ESD133	Compilation
133	B2R007			ESD098	Compilation
134	B2R008			ESD099	Compilation
135	B2R009			ESD100	Compilation
136	B2R010			ESD101	Compilation
137	B2R101			EQJ919	Compilation
138	B3R001			ERU262	Compilation
139	B3R002			ERU263	Compilation
140	B3R003			ERU264	Compilation
141	B3R004			ESD103	Compilation
142	B3R005			ESD104	Compilation
143	B3R006			ESD105	Compilation
144	B3R007			ESD106	Compilation
145	B4R001			ESD107	Compilation
146	B4R002			ESD108	Compilation
147	B6R001			ERU250	Compilation
148	B6R002			ERU251	Compilation
149	B6R003A			ERU252	Compilation
149	B6R003B			ERU253	Compilation
151	B6R004			ERU254	Compilation
152	B6R005			ERU255	Compilation
153	B7R101			EQJ920	Field
154	C1R001NA			ESD102	Compilation
154	C1R001NB			ESD118	Compilation
156	C1R101			EQJ921	Field
156	C1R102			EQJ922	Field
156	C1R103			EQJ923	Field
159	C1R104			EQJ924	Field
159	C1R105			EQJ925	Field
159	C1R106			EQJ926	Field
162	C1R108			EQJ927	Field
163	C2R001			ESD119	Compilation
164	C2R002			ESD120	Compilation
165	C2R003			ESD121	Compilation
166	C2R004A			ESD122	Compilation
166	C2R004B			ESD123	Compilation
168	C3R001			ESD124	Compilation
169	C6R001			ERU256	Compilation
170	C6R002			ERU257	Compilation
171	C6R003			ERU258	Compilation
172	C6R004A			ERU259	Compilation
172	C6R004B			ERU260	Compilation
172	C6R004C			ERU261	Compilation
175	C6R005			ESD125	Compilation
176	C6R006			ESD126	Compilation
177	C6R007			ESD127	Compilation
178	C6R008			ESD128	Compilation
179	C6R009	Horse Mtn (Cu)	Horse Mtn	ESD129	Field
180	C6R010			ESD130	Compilation

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued.(page4A)

Site	Sample	Latitude	Longitude	Terrane	Unit	Rock type	comment
179	C6R101	405135	1234309	WJrT	wjsp	Pyroxenite	Serp
179	C6R102	405135	1234309	WJrT	wjsp	Serpentinite	Azurite stain
183	D2R002	405511	1230855	NFT	nf	Chert	Meta-
184	D2R003	405439	1230857	NFT	nf	Tuff	Meta-, grn
185	D7R101	405402	1234656	CT	ctss	Sandstone	
11	84R015A	404713	1232516	WHST	him	Diorite	Qtz-, py; Qtz-Ep vein
12	84R016A	404853	1232844	RCT	rcp	Diorite	Qtz-, py, chl
96	86RS034A	404957	1230620	CMT	cms	Tonalite	Bio-qtz-feld-
187	HY-1	403301	1230510	WHST	hhb	Argillite	Slaty, sul
187	HY-2	403301	1230510	WHST	hhb	Quartz	Graphitic, sul
187	HY-3	403301	1230510	WHST	hhb	Diorite	Qtz-Hb-
190	HY-4	403117	1230653	WHST	hhvc	Argillite	Siliceous
191	HY-5	403150	1230647	EHST ???	hm	Chert	Brec, sul
192	HY-6	403222	1230635	WHST	hhvc	Breccia	Hem, sul
193	HY-7	403237	1230616	WHST	hhvc	Quartz	Blue
194	HY-8	403053	1230649	EHST	hhvc	Chert	Brec, sul
195	HY-9	403025	1230636	EHST	hhvc	Chert	Brec, sul
196	PM 1	405715	1231335	NFT	nf	Gabbro	Hb-Px-, sul
197	PM 10A	405546	1231314	NFT	nf	Diorite	Px-
197	PM 10B	405546	1231314	NFT	nf	Diabase	
197	PM 10C	405546	1231314	NFT	nf	Gabbro	Px-Hb-
200	PM 11	405600	1231316	NFT	nf	Gabbro	Micro-
201	PM 12	405611	1231318	NFT	nf	Porphyry	Qtz-feld-
202	PM 13	405620	1231309	NFT	nf	Gabbro	
203	PM 14	405701	1231239	NFT	nfgb	Gabbro	Hb-Px-, sul
196	PM 2	405715	1231335	NFT	nf	Gouge	Felsic, sul
196	PM 3	405715	1231335	NFT	nf	Quartz	Vein-, sul
206	PM 4	405730	1231344	NFT	nf	Quartz	Vein-, sul
207	PM 5	405750	1231421	NFT	nf	Tuff	Crystal, sul
208	PM 6	405743	1231404	NFT	nf	Quartz	Sul
209	PM 8	405709	1231303	NFT	nfgb	Gabbro	Micro-, sul
210	PM 9	405632	1231312	NFT	nf	Gabbro	Ol-Px-Hb-
210	PM 9A	405632	1231312	NFT	nf	Gabbro	Ol-Px-Hb-
212	PP 4B	404602	1230752	WHST	hhb	Gabbro	Hb-
212	PP-G1	404602	1230752	WHST	hhb	Quartz	Vein-, sul
212	PP-G2	404602	1230752	WHST	hhb	Amphibolite	
212	PP-G3	404602	1230752	WHST	hhb	Quartz	Vein-, sul
212	PP-JL	404602	1230752	WHST	hhb	Amphibolite	
212	PP-JL-2	404602	1230752	WHST	hhb	Graywacke	Volcanoclastic
218	SWC-1	405522	1232533	EHST	hm	Argillite	Sul
219	SWC-2	405519	1232533	EHST	hm	Chert	Pink-green, sul
220	SWC-3	405205	1232033	EHST	hm	Porphyry	Mafic, Bio-Feld
220	SWC-4	405205	1232033	EHST	hm	Quartz	Vein-, grn, sul
220	SWC-5	405205	1232033	EHST	hm	Quartz	Vein-, blue, sul
223	SBR-1	404132	1231249	EHST	hm	Quartz	Vein-, milky, sul; Arg
224	SBR-2	404316	1231546	WHST	hhb	Argillite	Carbonaceous, sul
225	SBR-3	404314	1231547	WHST	hhb	Granodiorite	Bio-Hb-, sul

Table 16. Field description of rock samples, terrane data, and other miscellaneous information for rock samples from the Hayfork 1:100,000 quadrangle, Humboldt and Trinity Counties, California --continued.(page4B)

Site	Sample	Mine/prospect area	District	Lab No	Map type
179	C6R101	Horse Mtn (Cu)	Horse Mtn	EQJ928	Field
179	C6R102	Horse Mtn (Cu)	Horse Mtn	EQJ929	Field
183	D2R002			ESD131	Compilation
184	D2R003			ESD132	Compilation
185	D7R101			EQJ930	Field
11	84R015A			D277340	Compilation
12	84R016A			D277341	Compilation
96	86RS034A			D277339	Compilation
187	HY-1			D323766	Compilation
187	HY-2			D323767	Compilation
187	HY-3			D323768	Compilation
190	HY-4			D323769	Compilation
191	HY-5			D323770	Compilation
192	HY-6			D323771	Compilation
193	HY-7			D323772	Compilation
194	HY-8			D323773	Compilation
195	HY-9			D323774	Compilation
196	PM 1			D322277	Compilation
197	PM 10A			D322267	Compilation
197	PM 10B			D322274	Compilation
197	PM 10C			D322273	Compilation
200	PM 11			D322272	Compilation
201	PM 12			D322270	Compilation
202	PM 13			D322275	Compilation
203	PM 14			D322276	Compilation
196	PM 2			D322279	Compilation
196	PM 3			D322264	Compilation
206	PM 4			D322269	Compilation
207	PM 5			D322268	Compilation
208	PM 6			D322266	Compilation
209	PM 8			D322265	Compilation
210	PM 9			D322263	Compilation
210	PM 9A			D322271	Compilation
212	PP 4B			D322242	Compilation
212	PP-G1			D322245	Compilation
212	PP-G2			D322246	Compilation
212	PP-G3			D322244	Compilation
212	PP-JL			D322243	Compilation
212	PP-JL-2			D322241	Compilation
218	SWC-1			D323758	Compilation
219	SWC-2			D323759	Compilation
220	SWC-3			D323760	Compilation
220	SWC-4			D323761	Compilation
220	SWC-5			D323762	Compilation
223	SBR-1			D323763	Compilation
224	SBR-2			D323764	Compilation
225	SBR-3			D323765	Compilation

ORDER NUMBER: ________________ PAGE _____ OF _____

DATE: ____________________

REPORT TITLE, AUTHOR & CONTENTS	# OF COPIES/TYPE
92-210-A ANALYTICAL RESULTS AND SAMPLE LOCALITY MAP OF ROCK SAMPLES FROM THE HAYFORK 30' BY 1° QUADRANGLE, (NORTHWEST QUARTER OF THE REDDING 1° BY 2° QUADRANGLE), HUMBOLDT AND TRINITY COUNTIES, CALIFORNIA AUTHOR: HASSEMER, JERRY R., ET AL. CONTENTS: 78 PAGES 1 PLATE 36"X28"	SILVER ORIGINALS SILVER NEGATIVE DUPE DIAZO DUPLICATES
	SILVER ORIGINALS SILVER NEGATIVE DUPE DIAZO DUPLICATES
	SILVER ORIGINALS SILVER NEGATIVE DUPES DIAZO DUPLICATES