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# TESTING FOR DOWNWARD VEIN EXTENSIONS OF GOLD-SILVER MINERALIZATION IN THE WOLF CREEK-FAIRBANKS CREEK DIVIDE AREA, FAIRBANKS DISTRICT, ALASKA

by Robert S. Warfield

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UNITED STATES DEPARTMENT OF THE INTERIOR
Walter J. Hickel, Secretary

BUREAU OF MINES
John F. O'Leary, Director

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# TESTING FOR DOWNWARD VEIN EXTENSIONS OF GOLD-SILVER MINERALIZATION IN THE WOLF CREEK-FAIRBANKS CREEK DIVIDE AREA FAIRBANKS DISTRICT, ALASKA

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## INTRODUCTION AND SUMMARY

During the summer field season of 1967, the Bureau of Mines core-drilled two holes on the Keystone properties near the Fairbanks Creek-Wolf Creek divide in the Pedro Dome-Cleary Summit area; this location is about 20 miles N. E. of Fairbanks, (figure 1). The purpose of the drilling was to test at depth the continuity of gold, silver, and base metal (mainly lead and antimony) mineralization that has recently been mined by opencut and relatively shallow underground methods. The two holes were drilled vertically to depths of 716.6 feet and 690 feet. Assays of samples from each hole established that gold, silver, and base metal mineralization is present at depth, although grade was fairly low.

## GEOLOGY

The geology of the Fairbanks district is described in a number of publications, the most recent of which is an open-file report[2/] by the

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1/ Mining engineer, Alaska Office of Mineral Resources, Bureau of Mines, Juneau, Alaska.

2/ Forbes, R.B., H.D. Pilkington, and Daniel B. Hawkins, Gold Gradients and Anomalies in the Pedro Dome-Cleary Summit Area, Fairbanks District, Alaska. Geological Survey open-file report, August 30, 1968. 43 pp.

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Work on manuscript completed

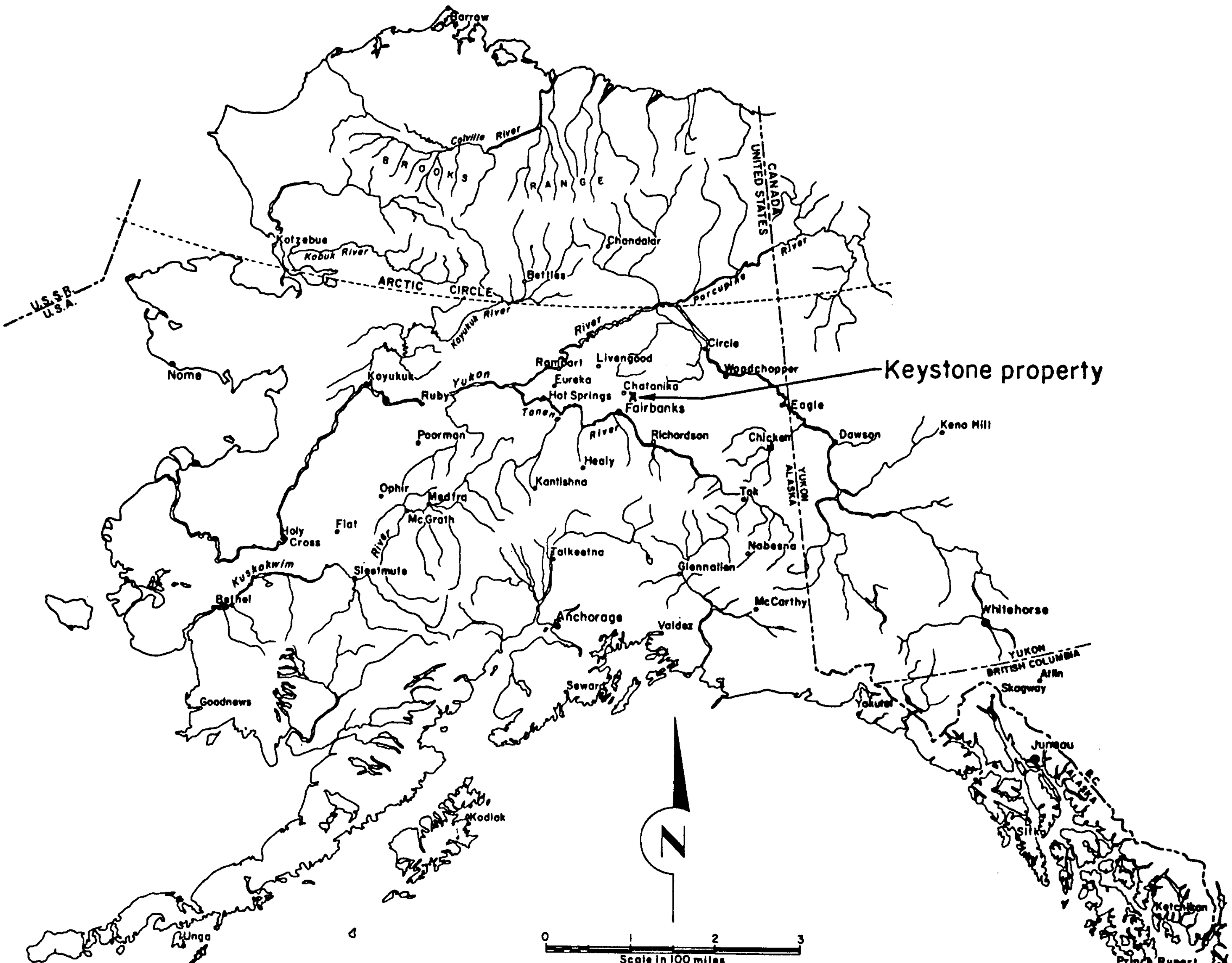

FIGURE I.- Index map of Alaska

U. S. Geological Survey that describes heavy metal (gold) investigations in the Pedro Dome-Cleary Summit area. Another comprehensive publication is, "Geological Survey Bulletin 849-B." 3/ The very brief geologic description presented herein is summarized mainly from these publications.

The Keystone properties, as is most of the Fairbanks district, are underlain by Precambrian metamorphic rocks that are known as the Birch Creek Schist. The schists have been intruded by small quartz diorite and quartz monzonite plutons in the Pedro Dome-Cleary Summit area. Metalliferrous deposits occur in both the metamorphic and intrusive rocks, and four distinct phases of mineralization have been recognized. Phase 1 is characterized by barren quartz veins. Phase 2 consists of quartz arsenopyrite-pyrite gold veins which cut both the schists and altered quartz monzonite intrusives. Most of the high-grade lodes of the district are of the phase 3 type, and characteristically contain quartz-stibnite-gold ± arsenopyrite and sulfosalts. The Kawalita and Jamesonite veins of the Keystone properties belong to the phase 3 type mineralization. The host rocks are typically quartz mica schist or micaceous quartzite. The phase 4 type of mineralization consists of quartz and stibnite, with little or no gold.

The Pedro Dome-Cleary Summit-Fairbanks Creek area, within which the Keystone properties lie, is coincident with an anticline. The recent work of Forbes, Pilkington, and Hawkins 3/ indicates that, "the anticlinal structure may be confined to rocks composing the upper plate of

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3/ Hill, James M., "Lode Deposits of the Fairbanks District, Alaska." Geological Survey Bull 849-B, 1933, 163 pp.

4/ Work Cited in Footnote 2.

a thrust which overrides an older basement complex of higher-grade and more complexly deformed rocks. Mineralization appears to be rare to absent in the rocks of the older complex." The anticlinal structure is intricately cut by a double series of closely spaced faults, some of which are of considerable magnitude. The main fractures trend easterly and the less conspicuous faults strike nearly north.

Measured angles of foliation in the drill holes, and on the surface in the near vicinity of the drill holes, range from horizontal to 60°; the more flat foliation is the most common. The Kawalita and Jamesonite veins strike about S 20° E, and dip 45° S with no apparent relationship to host rock foliation. These foliations, dip, and strike measurements are within a range common to this part of the district.

## MINING HISTORY

A historical resume of mining and development is geven for only that part of the Keystone properties adjacent to the core-drilled area. This includes mining of the Homestake, Kawalita, and Jamesonite veins. Other past lode mining on the Keystone properties and in the Fairbanks district has been well documented.[5]

The principal development of the Homestake mine is a southward directed crosscut tunnel, about 800 feet in length and about 1500 feet of east and west drifts, turned on the Homestake vein about 350 feet from the crosscut portal. These workings, driven prior to 1931, reportedly pro-

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5/ Work cited in footnote 3.

duced about $60,000.00 of $20.67 per fine oz of gold from development and stopes on the narrow vein. The vein is described as extremely rich in spots, but was never worked below tunnel level because of a heavy inflow of water. [U.S.G.S. Bull. 849-B, pp 101-102] The Homestake portal is now, 1969, caved and the workings inaccessible.

In 1963, following several years of surface work and minor underground work which produced some gold from the Kawalita vein, Keystone Mines Inc. applied for and received an OME (Office of Mineral Exploration) loan to further explore the prospect. Under the OME contract, an inclined shaft was extended from the previously driven 50-foot level to the 147-foot level. Water and heavy ground were encountered a short distance below the 50-foot level, which became increasingly troublesome as the work progressed. This condition caused some of the drift on the 147-foot level to be driven in the footwall with occasional probes to examine and sample the vein, and ultimately caused stoppage of the exploration in late 1965. The workings now, 1969, are flooded and inaccessible.

During the term of the OME contract, and on into 1966, productive mining was carried on from the surface by underhand stoping methods, and from the 50-foot level upward. A small amount of ore from the OME work also was milled.

In the late fall of 1966, surface exploration of the Jamesonite vein, to the east of the Kawalita workings, exposed lead-antimony-silver ore (principally jamesonite) in a vein ranging in width from 2 feet to 6 feet, and averaging about 4 feet. Approximately 400 feet of strike length was stripped and readied for opencut mining, and some additional strike length was indicated by surface evidence. Subsequently, some ore was opencut mined, handsorted, and at least one shipment made to the Selby, California smelter. Still later flotation, grinding, and classification equipment were added to the old Cleary stamp mill, and at least one small shipment of concentrates was made. Only a very small amount of mining was done on the Jamesonite vein during 1968.

## BUREAU OF MINES WORK

Core drilling on the Keystone properties consisted of two vertically drilled holes, the purpose of which was to test continuity to depth of the Jamesonite and Kawalita veins. Hopefully, proof of continuity would provide the necessary incentive for private enterprise to re-open and extend the Homestake crosscut to intersections with the Jamesonite and Kawalita veins. Thus, low-level drainage and a haulageway would be established.

Hole 1, drilled to a depth of 714 feet, was located about 350 feet south of the Jamesonite vein opencut, and was designed to intersect the vein at about 420 feet of hole depth. Hole 2, located 420 feet south of the Kawalita shaft, was designed to intersect the Kawalita vein at about 520 feet; this hole had a total length of 690 feet. Figure 2 shows the locations of the drill holes, mine workings, and other surface features. Figures 3 and 4, sections through each drill hole, show some assays and adjacent mine workings.

Assays of samples from each hole established that gold, silver, and base metal mineralization are present at several intervals in each hole, although grade was fairly low. The assay data from either hole does not clearly indicate intersections with the Jamesonite or Kawalita veins. Several possible reasons for this follow:

1. Dip of the veins steepened to an angle where the holes were not deep enough to obtain an intersection.

2. Assay values decreased with depth.

3. Due to poor core and sludge recovery, the veins were not clearly recognizable, either from assay data or visual logging.

4. The drill holes may have intersected relatively barren zones of each vein. From previous mining experience, each vein is known to contain relatively barren zones.

Drill hole 1 intersected an apparently major fault at about 680 feet of hole depth. From 682 feet to 692 feet, no core was recovered and the material recovered on either side of this interval was a soft clayey gouge. Since this was the only intersection of the fault, no estimate of its attitude is possible.

All core was logged at the drilling site by Dr. H. Dean Pilkington, Associate Professor, Dept. of Geology, University of Alaska, who was working under a University contract from the U. S. Geological Survey on a heavy metals program which included detailed geologic mapping and sampling of parts of the Fairbanks lode gold belt. Upon completion of the drilling, all cores and sludges were shipped to the Bureau of Mines laboratory in Juneau, where the cores were re-logged and sampled. Only minor changes and additions were made to the original logs. The core sampling method consisted of placing the entire core into a given sample, except a very small representative segment which was split; half of the split was placed in the sample, the other half retained in a skeleton core representation of the drill hole on file in the Bureau's Juneau core library. At the time of re-logging and sampling, all cores were black-lamped; no fluorescent minerals were detected, except occasional calcite and fluorescent grease used in the drilling process. Cores were also tested with a Geiger counter, but no radioactivity above background was detected. The samples were prepared for assay in a normal manner, except that two pulps were made for selected footages of each drill hole. The second pulp was prepared at the request of Dr. Pilkington and was returned to Fairbanks, where gold analysis of each sample was made by the atomic absorption method.

The Bureau of Mines laboratory in Juneau fire assayed for gold and silver core samples for all of hole 2, and a number of selected samples from hole 1. Some sludge samples were fire assayed for gold and silver, especially drill hole intervals where core recovery was poor. In addition, base metal assays by wet chemical methods were made on a number of selected samples. Selection of samples for base metal assay was based on the drill-hole logs and, in some instances, on a subjective spectroscopic estimate made by the Bureau's petrographer. A combined table of drill logs and assays (both fire and atomic absorption gold) is presented in the appendix.

Core recovery was poor and drilling conditions difficult throughout large intervals of hole 1. At least some of the poor core recovery, and perhaps a large part, were attributable to mechanical problems with the wire-line drilling equipment used. Prior to drilling hole 2, certain additions were made to the wire-line equipment which solved most of the mechanical problems. This, coupled with somewhat better drilling conditions, led to relatively good core recovery throughout hole 2.

Sludges were collected for all hole footages from which there was a sludge return. Collection was in a sluicebox-like container, 12 feet long by 12 inches wide by 12 inches deep, set at a very flat grade to permit quiescent settlement of drill cuttings before overflow of the clarified water at the outlet end of the box. Upon completion of a drilling run, a system of gradual decantation of the sludge box was used until the thickened sludge sample was collected directly through the bottom of the box into a washtub. The washtub containing the sample was transferred to a large low-sided baking pan for air drying. Each sludge collection coincided with a core run, except occasionally, when very short core runs were made several sludges were combined.

In each hole, after only a few feet of drilling, circulation was either totally lost or markedly reduced. A number of systems were tried in attempts to regain circulation. These included circulation of a bentonite mud solution, batch additions of thick bentonite mud, additions of sawdust, additions of grain bran, and additions of detergent. But circulation apparently was never totally regained, and probably did not average more than 50 percent return. For this reason, and also because some classification and disproportionate loss of heavy materials undoubtedly occured during ascent of the cuttings in the drill hole, sludge samples were not representative. Assays of sludge samples are considered no more than indicative, and no attempt was made to correlate sludge assays with core assays.

Drilling was accomplished under a contract which specified the use of wire-line drilling equipment. All drilling, with the exception of the lower 88 feet of hole 1, was BX (1 5/8" core): the lower 88 feet of hole was AX (1 1/8" core). Hole 1 was collared June 30, 1967 and completed August 12. Hole 2 was collared August 21 and completed September 5.

The drill used by the contractor was gasoline engine driven, skid mounted, and had a hydraulic swivel-head with 2-foot feed capacity. The spindle bore of the head was of sufficient diameter to pass BX wire-line drill rods, so that the inner tube of the wire-line core barrel could be inserted and retrieved directly through the head of the machine. A separate air-cooled, gasoline engine driven, wire-line hoist was used for retrieving the inner tube of the core barrel. A timber tripod, with clearance enough for pulling 20-foot lengths of drill rods, was erected over each hole. All drilling water was truck-hauled to the drill sites. The pump used for fluid circulation in the drill holes was of the Moyno type, and was air-cooled, gasoline engine driven.

Table 1. - Drill logs assays, Diamond-drill hole 1. - Keystone property

**Core**

| Description depth, feet From | Description depth, feet To | Description | Sample interval depth, feet From | Sample interval depth, feet To | Core recovery Feet | Core recovery Percent | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 3.0 | No samples | | | | | | | | | | | | |
| 3.0 | 9.0 | Quartz mica schist which contains incipient garnet. Foliation inclined 30° crenulated in plane of foliation, small amount of vein quartz. | 3.0 | 9.0 | 4.9 | 82 | | 0.005 | Tr | | | | | |
| 9.0 | 10.8 | Upper 0.4 foot segregation quartz, lower part banded light and dark quartz mica schist. | 9.0 | | 2.1 | 54 | | Nil | Nil | | | | | |
| 10.8 | 12.9 | Banded light and dark quartz mica schist with recumbent fold in a quartz rich layer, lower part is spotted schist. | | 12.9 | | | | | | | | | | |
| 12.9 | 19.2 | Banded light and dark quartz mica schist with some segregation quartz. | 12.9 | 19.2 | 5.8 | 92 | | Nil | Nil | | | | | |
| 19.2 | 27.4 | Banded light and dark quartz mica schist with considerable iron stain along fractures. Thin gray phyllitic bands. | 19.2 | 27.4 | 7.6 | 93 | | | | | | | | |
| 27.4 | 31.8 | Light gray quartz mica schist, foliation inclined 15°. | 27.4 | 38.3 | 7.4 | 68 | | | | | | | | |
| 31.8 | 45.3 | Light gray-green quartz mica schist, considerable iron stain along fractures. | 38.3 | 45.3 | 3.5 | 50 | | | | | | | | |
| 45.3 | 55.5 | Dark gray quartz mica schist, much more biotite and/or chlorite. Some dark phyllitic layers. | 45.3 | 55.5 | 7.0 | 68 | | | | | | | | |
| 55.5 | 64.5 | Same with strong iron staining, leached out pyrite cube indentations noted at 58.0 feet, minor segregation quartz and feldspar lower 0.5 feet. | 55.5 | 64.5 | 8.7 | 97 | | Nil | Nil | | | | | |
| 64.5 | 69.9 | Upper 0.8 feet segregation quartz and feldspar. The rest is light-gray quartz mica schist. | 64.5 | 72.4 | 7.9 | 100 | | | | | | | | |
| 69.9 | 78.3 | Light gray quartz mica schist with horizontal foliation. | 72.4 | | 6.3 | 78 | | | | | | | | |
| 78.3 | 80.5 | Banded light and dark gray schist with foliation inclined 30°. | | 80.5 | | | | | | | | | | |
| 80.5 | 87.7 | Same with minor segregation quartz, thin carbonaceous bands at 87 feet. | 80.5 | 87.7 | 7.2 | 100 | | Nil | Nil | | | | | |
| 87.7 | 92.4 | Banded light and dark gray schist with foliation inclined 10°, iron-stained fractures. | 87.7 | 95.0 | 7.3 | 100 | | | | | | | | |
| 92.4 | 102.7 | Light gray quartz mica schist. | 95.0 | | | | | | | | | | | |
| 102.7 | 103.4 | Same with some dark phyllitic bands and graphitic bands. | | | 8.5 | 98 | | | | | | | | |
| 103.4 | 103.7 | Light gray quartz mica schist with graphitic bands. | | 103.7 | | | | | | | | | | |
| 103.7 | 123.6 | Light gray quartz mica schist. | 103.7 | 109.2 | 5.5 | 100 | | | | | | | | |
| 123.6 | 126.7 | Banded light and dark gray quartz mica schist. Dark bands contain porphyroblasts of chlorite or biotite. | 109.2 | 115.7 | 6.5 | 100 | | | | | | | | |
| | | | 115.7 | 126.7 | 10.8 | 98 | | | | | | | | |
| 126.7 | 135.5 | Same with minor segregation quartz. | 126.7 | 135.5 | 8.8 | 100 | - | Nil | Nil | | | | | |
| 135.5 | 142.9 | Same for upper part. The lower 0.3 feet consists of bleached, silcified, iron-stained quartz mica schist typical of that found adjacent to veins in the district. | 135.5 | 142.9 | 1.6 | 22 | .0015 | Nil | Nil | | | | | |
| 142.9 | 144.8 | Soft altered, iron-stained schist. | 142.9 | | 2.2 | 69 | - | Nil | Nil | | | | | |
| 144.8 | 146.1 | Strongly fractured, iron-stained quartz mica schist. | | 146.1 | | | | | | | | | | |
| 146.1 | 158.5 | Banded light and dark-gray quartz mica schist with horizontal foliation. | 146.1 | 154.4 | 7.0 | 84 | | | | | | | | |
| 158.5 | 160.5 | Silvery-gray, altered quartz mica schist. | 154.4 | | | | | | | | | | | |
| 160.5 | 161.9 | Same with iron staining. | | | 4.2 | 44 | | | | | | | | |
| 161.9 | 163.9 | Soft clayey altered quartz mica schist. | | 163.9 | | | | | | | | | | |
| 163.9 | 165.9 | Same with minor Sb oxide along foliation. | 163.9 | 165.9 | 1.6 | 80 | | | | | Trace | | | |
| 165.9 | 175.6 | Light-gray quartz mica schist | 165.9 | 175.6 | 3.2 | 33 | | | | | | | | |
| 175.6 | 183.9 | Same with iron staining and minor As oxide at 178.3 feet. | 175.6 | 183.9 | 8.1 | 98 | | Nil | Nil | | | | | |
| 183.9 | 190.5 | Light-gray quartz mica schist with iron staining, abundant fractures and strong iron staining lower 1.2 feet. | 183.9 | 190.5 | 6.6 | 100 | 0.015 | 0.01 | Nil | | | | | |

**Sludge**

| Sample interval depth, feet From | Sample interval depth, feet To | Dry weight grams | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|

Table 1. - Drill logs and ys, Diamond-drill hole 1. - Keystone property—cont.

| Core | | | | | | | | | | | | | | | Sludge | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Description Depth, feet From | Description Depth, feet To | Description | Sample interval Depth, feet From | Sample interval Depth, feet To | Core recovery Feet | Core recovery Percent | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic | Sample interval Depth, feet From | Sample interval Depth, feet To | Dry weight grams | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic |
| 190.5 | 193.7 | Light gray quartz mica schist, abundant fractures and strong iron stains, minor amounts of Sb oxide. | 190.5 | 193.7 | 3.2 | 100 | .0039 | 0.0075 | 0.04 | | | | | | | | | | | | | | | | |
| 193.7 | 197.9 | Same | 193.7 | 197.9 | 4.2 | 100 | <.0039 | Nil | 0.02 | | | | | | | | | | | | | | | | |
| 197.9 | 200.5 | Same to 200.1 where have 0.1 feet of vein quartz with 0.4 feet of sheared and brecciated schist in the footwall. | 197.9 | | | | | | | | | | | | | | | | | | | | | | |
| 200.5 | 201.7 | Light gray silicified quartz mica schist which contains about 5 percent disseminated sulfides, mostly pyrite. | | 201.7 | 3.4 | 90 | <.0039 | Nil | Nil | | | | | | | | | | | | | | | | |
| 201.7 | 211.6 | Medium gray schist with less than 5 percent sulfide. | 201.7 | 206.7 | 3.9 | 77 | <.0039 | Nil | 0.08 | | | | | | | | | | | | | | | | |
| | | | 206.7 | 211.6 | 3.8 | 77 | <.0039 | 0.005 | 0.01 | | | | | | | | | | | | | | | | |
| 211.6 | 212.7 | Same with less than 1 percent sulfide. | 211.6 | | 4.0 | 100 | <.0039 | Nil | Nil | | | | | | | | | | | | | | | | |
| 212.7 | 215.6 | Silicified quartz mica schist with 1-2 percent sulfides, both pyrite and arsenopyrite. | | 215.6 | | | | | | | | | | | | | | | | | | | | | |
| 215.6 | 217.9 | Same | 215.6 | 217.9 | 1.9 | 83 | <.0039 | Nil | Nil | | | | | | | | | | | | | | | | |
| 217.9 | 223.9 | Gray quartz mica schist with minor disseminated sulfide. | 217.9 | 223.9 | 6.0 | 100 | .029 | 0.02 | Nil | | | | | 1,000 | | | | | | | | | | | |
| 223.9 | 225.7 | Same | 223.9 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 4.9 | 96 | <.0039 | 0.03 | Nil | | | | | | | | | | | | | | | | |
| 225.7 | 229.0 | Intercalated schist and quartzite layers. | | 229.0 | | | | | | | | | | 500 | | | | | | | | | | | |
| 229.0 | 230.8 | Same | 229.0 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 4.3 | 96 | <.0039 | Nil | Nil | | | | | | | | | | | | | | | | |
| 230.8 | 233.5 | Light gray quartz mica schist, no visible sulfides. | | 233.5 | | | | | | | | | | | | | | | | | | | | | |
| 233.5 | 237.5 | Same | | | 3.9 | 98 | | | | | | | | | | | | | | | | | | | |
| 237.5 | 245.7 | Dark Gray schist with minor disseminated sulfide | | | 8.0 | 98 | | | | | | | | | | | | | | | | | | | |
| 245.7 | 251.5 | Same | 245.7 | 251.5 | 5.8 | 100 | .0184 | 0.01 | Nil | | | | | | | | | | | | | | | | |
| 251.5 | 252.1 | Quartz vein with pyrite and arsenopyrite. | 251.5 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 2.2 | 88 | .0039 | 0.015 | 0.02 | | | | | 380 | | | | | | | | | | | |
| 252.1 | 254.0 | Altered and silicified schist. | | 254.0 | | | | | | | | | | | | | | | | | | | | | |
| 254.0 | 260.0 | Gray quartz mica schist with shear zones at 257.3 and 259.0 feet which contain minor sulfides. | 254.0 | 260.0 | 5.9 | 98 | .0039 | 0.02 | 0.04 | | | | | 260 | | | | | | | | | | | |
| 260.0 | 267.7 | Core badly broken, the lower portion is silicified and has 1-2 percent disseminated sulfides. | 260.0 | 267.7 | 2.0 | 26 | .011 | 0.007 | 0.06 | | | | | | | | | | | | | | | | |
| 267.7 | 269.2 | Sheared and silicified material from within a vein containing 1-2 percent pyrite and arsenopyrite. | 267.7 | | | | | | | | | | | | | | | | | | | | | | |
| 269.2 | 271.1 | Vein Breccia with sulfides. | | | 3.8 | 73 | .0129 | 0.01 | Trace | | | | | | | | | | | | | | | | |
| 271.1 | 272.9 | Sheared and silicified zone with same sulfides, becomes very clayey in lower part. | | 272.9 | | | | | | | | | | | | | | | | | | | | | |
| 272.9 | 273.9 | No core or sludge. | | | 0.0 | 0.0 | | | | | | | | | | | | | | | | | | | |
| 273.9 | 274.5 | Sheared and silicified rock with about 1 percent sulfide. | 273.9 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 2.8 | 46 | .0055 | Nil | 0.02 | | | | | | | | | | | | | | | | |
| 274.5 | 280.0 | Gray-green quartz mica schist with very minor sulfides along the foliation. | | 280.0 | | | | | | | | | | | | | | | | | | | | | |
| 280.0 | 285.5 | Same | 280.0 | 285.5 | 5.0 | 91 | .0146 | 0.008 | Nil | | | | | | | | | | | | | | | | |
| 285.5 | 291.7 | Same with considerable pyrite at 288.1 and 288.8 feet. | 285.5 | 291.7 | 6.1 | 98 | .0039 | Trace | Nil | | | | | | | | | | | | | | | | |
| 291.7 | 300.8 | Same with increasing mica in thin bands. | 291.7 | 300.8 | 8.4 | 92 | .0039 | Trace | Trace | | | | | | | | | | | | | | | | |
| 300.8 | 304.1 | Same, minor pyrite in 1/4 inch quartz stringer at 303.5 feet. | 300.8 | | | | | | | | | | | | | | | | | | | | | | |
| 304.1 | 309.2 | Silvery gray phyllitic schist. | | | | | | | | | | | | | | | | | | | | | | | |
| 309.2 | 310.7 | Alternating bands of light and dark gray quartz mica schist. | | 310.7 | | | | | | | | | | | | | | | | | | | | | |
| 310.7 | 311.6 | No core. | - | - | 0.0 | 0.0 | | | | | | | | | | | | | | | | | | | |
| 311.6 | 312.7 | Light gray quartz mica schist. | 311.6 | | | | | | | | | | | | | | | | | | | | | | |
| 312.7 | 319.7 | Iron-stained, soft, clayey, altered schist, 1/4 inch graphitic band parallel to schistosity t 315.5 feet. | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 7.9 | 85 | | | | | | | | | | | | | | | | | | | |
| 319.7 | 320.9 | Light gray quartz mica schist | | 320.9 | | | | | | | | | | | | | | | | | | | | | |
| 320.9 | 324.5 | Same with very minor, very fine-grained micro crystals of stibnite in open spaces. | 320.9 | 324.5 | 2.8 | 78 | | Nil | Nil | | | | | | | | | | | | | | | | |

Table 1. - [illegible] logs and assays, Diamond-drill hole 1. - Keystone property [illegible]t.

| Core: Description Depth, feet From | Core: Description Depth, feet To | Description | Core: Sample interval Depth, feet From | Core: Sample interval Depth, feet To | Core recovery Feet | Core recovery Percent | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic | Sludge: Sample interval Depth, feet From | Sludge: Sample interval Depth, feet To | Dry weight grams | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 324.5 | 330.1 | Same with foliation inclined about 10 degrees. Small vein filled with calcite and a gray sulfide at 328.0 feet. | 324.5 | 330.1 | 5.5 | 98 | | Nil | Nil | | | | | | | | | | | | | | | | |
| 330.1 | 337.0 | Silvery gray micaceous layers intercalated with quartzite. | 330.1 | 337.0 | 3.1 | 45 | | | | | | | | | | | | | | | | | | | |
| 337.0 | 339.4 | Gray quartz mica schist, minor pyrite and stibnite. | 337.0 | | | | | | | | | | | | 339.4 | 343.5 | 2,118 | | Nil | Nil | | | | | |
| | | | | | 4.5 | 69 | | Nil | Nil | | | | | | | | | | | | | | | | |
| 339.4 | 343.5 | Same, considerable vein quartz and pyrite. | | 343.5 | | | | | | | | | | | | | | | | | | | | | |
| 343.5 | | Silicified quartz mica schist with disseminated sulfides in the upper 1.0 ft. | 343.5 | 344.5 | 1.0 | 100 | - | 0.005 | Nil | | | | | | | | | | | | | | | | |
| | 348.4 | | 344.5 | | | | - | | | | | | | | | | | | | | | | | | |
| | | | | | 6.3 | 96 | | 0.005 | Nil | | | | | | | | | | | | | | | | |
| 348.4 | 351.1 | Same with minor disseminated sulfides throughout. | | 351.1 | | | | | | | | | | | | | | | | | | | | | |
| 351.1 | | Same | 351.1 | 356.1 | 2.9 | 58 | .0023 | Nil | Trace | | | | | | | | | | | | | | | | |
| | 361.1 | | 356.1 | 361.1 | 2.9 | 58 | .0012 | Nil | Nil | | | | | | | | | | | | | | | | |
| 361.1 | 365.3 | Light gray quartz mica schist with no observed sulfides. | 361.1 | 365.3 | 3.8 | 90 | .0012 | Nil | Nil | | | | | | | | | | | | | | | | |
| 365.3 | 369.5 | Schist with segregation masses of quartz with sulfides concentrated along the selvages, up to 1 percent. | 365.3 | 369.5 | 4.2 | 100 | .0023 | 0.002 | Nil | <0.01 | 0.02 | 0.10 | | | | | | | | | | | | | |
| 369.5 | 375.1 | Same with minor quartz vein cutting the flat-lying foliation. | 369.5 | 375.1 | 5.6 | 100 | .0012 | 0.008 | 0.02 | | | | | | | | | | | | | | | | |
| 375.1 | 377.4 | Schist with segregation masses of quartz | 375.1 | 377.4 | 1.3 | 57 | - | Nil | 0.13 | | | | | | | | | | | | | | | | |
| 377.4 | 381.5 | Silvery gray phyllitic schist, foliation inclined at 20 degrees. | 377.4 | | | | | | | | | | | | 377.4 | | | | | | | | | | |
| | | | | | 4.3 | 74 | | Nil | 0.06 | | | | | | | | 937 | | 0.005 | Trace | | | | | |
| 381.5 | 383.2 | Black "graphitic" schist with disseminated sulfides. | | 383.2 | | | | | | | | | | | | 383.2 | | | | | | | | | |
| 383.2 | 388.1 | Gray-green micaceous quartzite with minor disseminated sulfides, longtitudinal calcite stringer fluoresced red. | 383.2 | 388.1 | 4.9 | 100 | - | Nil | Nil | | | | | | 383.2 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 487 | | Nil | 0.1 | | | | | |
| 388.1 | 390.5 | Same | 388.1 | 390.5 | 0.4 | 17 | - | Nil | Nil | | | | | | | 390.5 | | | | | | | | | |
| 390.5 | 393.5 | Light gray quartz mica schist with one mass of segregation quartz and pyrite along its selvages. | 390.5 | 393.5 | 2.5 | 83 | - | Nil | 0.10 | | | | | | | | | | | | | | | | |
| 393.5 | 400.7 | Same | 393.5 | 400.7 | 0.5 | 07 | - | 0.008 | 0.04 | | | | | | 393.5 | 400.7 | 4,481 | | 0.01 | Trace | | | | | |
| 400.7 | 403.6 | Same with foliation inclined at 20 degrees and containing some disseminated pyrite. | 400.7 | | | | | | | | | | | | 400.7 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 1,491 | | 0.01 | Trace | | | | | |
| 403.6 | 406.5 | Same, but no sulfides. | | | 6.1 | 62 | | | | | | | | | | 406.5 | | | | | | | | | |
| 406.5 | 410.6 | Gray silicified schist with 1-2 percent disseminated sulfides. | | 410.6 | | | | | | | | | | | | | | | | | | | | | |
| 410.6 | 413.3 | Sheared and altered schist with minor sulfides. | 410.6 | | | | | | | | | | | | 410.6 | 413.3 | | 0.004 | 0.02 | 0.99 | 0.05 | 0.19 | 0.13 | Nil | |
| | | | | 413.3 | 1.8 | 67 | | | | | | | | | | | | | | | | | | | |
| 413.3 | 415.5 | Schist with 1.0 foot quartz vein, considerable disseminated sulfides--mostly pyrite. | 413.3 | 415.5 | 1.3 | 59 | | 0.01 | Trace | | | | | | 413.3 | 415.5 | | 0.003 | 0.02 | 0.85 | 0.12 | 0.17 | 0.15 | Nil | |
| 415.5 | 417.4 | Sheared and altered schist, but more silicified and about 3 percent sulfides only one nubbin core recovered--not sampled. | 415.5 | 417.4 | 0.2 | 11 | | | | | | | | | 415.5 | 417.4 | | 0.003 | 0.015 | 0.75 | 0.05 | 0.15 | 0.11 | Nil | |
| 417.4 | 420.0 | No core. | 417.4 | 420.0 | 0.0 | 0.0 | | | | | | | | | 417.4 | 420.0 | | 0.002 | 0.01 | 0.56 | 0.07 | 0.15 | | | |
| 420.0 | 421.6 | Gray quartz mica schist with small vein of quartz pyrite. | 420.0 | | | | | | | | | | | | 420.0 | 421.6 | | 0.003 | 0.01 | 0.58 | 0.07 | 0.17 | | | |
| | | | | | 3.2 | 56 | | 0.01 | 0.42 | 0.14 | 0.12 | | | 10,800 | | | | | | | | | | | |
| 421.6 | 425.7 | Gray quartz mica schist with considerable disseminated pyrite, minor lead antimony sulfides. | | 425.7 | | | | | | | | | | | 421.6 | 425.7 | | 0.002 | 0.01 | 0.31 | 0.03 | 0.15 | | | |
| 425.7 | 428.3 | Same | 425.7 | 428.3 | 1.9 | 73 | | 0.06 | 0.68 | 0.58 | 1.58 | | | 30,000 | 425.7 | 428.3 | | 0.001 | 0.02 | 0.50 | 0.15 | 0.18 | 0.20 | Nil | |
| 428.3 | 429.8 | Gray quartz mica schist with very minor sulfides, foliation nearly horizontal. | 428.3 | 429.8 | 1.2 | 80 | | 0.008 | 0.08 | <0.01 | 0.02 | 0.2 | Nil | | 428.3 | 429.8 | | 0.001 | 0.02 | 0.61 | 0.15 | 0.17 | 0.16 | Nil | |
| 429.8 | 440.0 | Gray quartz mica schist with very minor sulfides. | 429.8 | 444.0 | 7.7 | 54 | | | | | | | | | 429.8 | 433.0 | 5,686 | | 0.005 | 0.28 | <0.01 | 0.09 | 0.12 | Nil | |
| 444.0 | 451.4 | Gray quartz mica schist with no observable sulfides, 0.5 feet quartz vein at 445 feet--minor pyrite in quartz vein. | 444.0 | 451.4 | 3.2 | 43 | | Nil | 0.18 | | | | | | 433.0 | 435.3 | 2,096 | | 0.01 | 0.17 | <0.01 | 0.10 | | | |
| | | | | | | | | | | | | | | | 440.7 | 444.0 | 2,902 | | 0.01 | 0.13 | <0.01 | 0.06 | | | |

| Description Depth, feet From | Description Depth, feet To | Description | Core: Sample interval Depth, feet From | Core: Sample interval Depth, feet To | Core recovery Feet | Core recovery Percent | Core: Atomic absorption Ounces per ton Gold | Core: Fire assay Ounces per ton Gold | Core: Fire assay Ounces per ton Silver | Core: Percent Lead | Core: Percent Antimony | Core: Percent Zinc | Core: Percent Copper | Core: p.p.m. Arsenic | Sludge: Sample interval Depth, feet From | Sludge: Sample interval Depth, feet To | Sludge: Dry weight grams | Sludge: Atomic absorption Ounces per ton Gold | Sludge: Fire assay Ounces per ton Gold | Sludge: Fire assay Ounces per ton Silver | Sludge: Percent Lead | Sludge: Percent Antimony | Sludge: Percent Zinc | Sludge: Percent Copper | Sludge: p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 451.4 | 457.2 | Gray quartz mica schist, minor sulfides at 456 feet. | 451.4 | 457.2 | 3.8 | 66 | | | | | | | | | 444.0 | 451.4 | 3482 | | Nil | Nil | | | | | |
| 457.2 | 460.3 | Same with vein quartz at 458.2 feet, fairly heavy pyrite mineralization 457.2-458.5 feet. | 457.2 | 460.3 | 2.2 | 71 | | Nil | Nil | | | | | | 451.4 | 455.0 | 3056 | | Nil | Nil | | | | | |
| 460.3 | 464.6 | Same, minor pyrite. | 460.3 | | 8.6 | 97 | | 0.005 | Nil | <0.01 | 0.03 | | | | | | | | | | | | | | |
| 464.6 | 469.2 | Silvery gray to black altered schist with disseminated pyrite, very minor lead-antimony sulfides at 469 feet. | | 469.2 | | | | | | | | | | | | | | | | | | | | | |
| 469.2 | 480.0 | Gray quartz mica schist with minor segregation quartz, 0.1 foot heavy sulfide mineralization at 475 feet--pyrite and lead-antimony sulfides. | 469.2 | 480.0 | 5.5 | 51 | | Nil | Nil | <0.01 | 0.03 | | | | 474.0 | 480.0 | 4037 | | 0.01 | Nil | | | | | |
| 480.0 | 489.3 | Same | 480.0 | 489.3 | 2.7 | 29 | | Nil | Nil | | | | | | 480.0 | 489.3 | 7250 | | Nil | Nil | | | | | |
| 489.3 | 493.0 | Same | 489.3 | | | | | | | | | | | | | | | | | | | | | | |
| 493.0 | 504.3 | Gray quartz mica schist with minor disseminated sulfides. | | | 18.1 | 82 | | | | | | | | | 499.3 | 504.3 | 1345 | | 0.01 | Trace | | | | | |
| 504.3 | 511.3 | Greenish gray calcium-magnesian schist with minor disseminated sulfides. | | 511.3 | | | | | | | | | | | | | | | | | | | | | |
| 511.3 | 515.5 | Greenish gray calcium-magnesian schist, minor quartz pyrite veins. | 511.3 | 515.5 | 4.2 | 100 | | Nil | 0.02 | | | | | | | | | | | | | | | | |
| 515.5 | 520.0 | Greenish gray c alcium magnesian schist, no observed sulfides. | 515.5 | | | | | | | | | | | | | | | | | | | | | | |
| 520.0 | 525.7 | Greenish gray calcium magnesian schist with minor disseminated sulfides, 1/2 inch calcite stringer with heavy pyrite and minor lead antimony sulfides at 523.8 feet. | | 525.7 | 9.7 | 95 | | 0.008 | Trace | <0.01 | 0.03 | | | | | | | | | | | | | | |
| 525.7 | 530.6 | Greenish gray calcium-magnesian schist, no observed sulfides. | 525.7 | 530.6 | 4.9 | 100 | | 0.005 | 0.10 | Nil | 0.01 | | | 260 | | | | | | | | | | | |
| 530.6 | 539.6 | Greenish gray calcium-magnesian schist with more and larger quartz veins, numerous calcite veins and stringers, very minor disseminated pyrite. | 530.6 | 539.6 | 9.0 | 100 | | 0.003 | Trace | <0.01 | 0.02 | 0.12 | Nil | | | | | | | | | | | | |
| 539.6 | 542.9 | Gray quartz mica schist with 1-3 percent disseminated sulfide. | 539.6 | | 4.5 | 100 | | 0.1225 | 1.38 | 0.28 | 1.73 | | | 26,000 | | | | | | | | | | | |
| 542.9 | 544.1 | Silvery gray, altered quartz mica schist with disseminated sulfide--some Pb-Sb | | 544.1 | | | | | | | | | | | | | | | | | | | | | |
| 544.1 | 547.7 | Same | 544.1 | 547.7 | 3.6 | 100 | | 0.208 | 0.11 | <0.01 | 1.44 | 0.10 | Nil | | | | | | | | | | | | |
| 547.7 | 558.5 | Gray green calcium-magnesian rock, foliation inclined 60 degrees at 555 feet. | 547.7 | 558.5 | 10.7 | 99 | | | | | | | | | | | | | | | | | | | |
| 558.5 | 559.5 | Same | 558.5 | | | | | | | | | | | | | | | | | | | | | | |
| 559.5 | 562.8 | Gray clayey altered mass. | | | 7.3 | 79 | | | | | | | | | 558.5 | 562.8 | 2398 | | 0.10 | 0.06 | Nil | 1.11 | | | |
| 562.8 | 567.7 | Altered gray quartz mica schist. | | 567.7 | | | | | | | | | | | | | | | | | | | | | |
| 567.7 | 574.0 | Same | 567.7 | 574.0 | 6.3 | 100 | | | | | | | | | | | | | | | | | | | |
| 574.0 | 576.8 | Same | 574.0 | 576.8 | 1.4 | 50 | - | Nil | Nil | | | | | | | | | | | | | | | | |
| 576.8 | 578.9 | Silicified schist with minor pyrite. | 576.8 | 578.9 | 2.1 | 100 | - | Nil | 0.08 | Nil | 0.14 | 0.12 | | | | | | | | | | | | | |
| 578.9 | 580.8 | Same to 579.1 feet. The next 1.1 foot contains sphalerite, Pb-Sb sulfides and pyrite along the foliation and the lower part is clayey. | 578.9 | 580.8 | 1.8 | 95 | .0020 | 0.040 | 1.78 | 3.87 | 1.71 | 2.54 | Nil | 5,200 | | | | | | | | | | | |
| 580.8 | 583.5 | Same to 582.0. The lower 1.5 foot is vein quartz with pyrite and arsenopyrite. | 580.8 | 583.5 | 2.7 | 100 | .0026 | 0.020 | 1.10 | 1.31 | 0.54 | 0.66 | Nil | 10,800 | | | | | | | | | | | |
| 583.5 | 584.5 | Vein material--mostly quartz with heavy pyrite and Pb-Sb sulfides. | 583.5 | 584.5 | 1.0 | 100 | .0026 | 0.050 | 2.00 | 3.80 | 1.72 | 3.03 | Nil | 5,400 | | | | | | | | | | | |
| 584.5 | 587.3 | Gray green silicified schist with minor pyrite. | 584.5 | 587.3 | 2.8 | 100 | .0006 | Nil | 0.19 | Nil | 0.12 | 0.04 | | | | | | | | | | | | | |
| 587.3 | 591.0 | Same to 588.5. The lower part is vein quartz with pyrite, sphalerite and galena. | 587.3 | 591.0 | 1.4 | 38 | .0006 | 0.010 | Trace | Nil | 0.11 | 0.22 | | | 587.3 | 591.0 | 1593 | | 0.085 | 0.68 | 0.73 | 0.70 | 1.46 | Nil | |
| 591.0 | 592.7 | Gray quartz mica schist with disseminated pyrite. | 591.0 | 592.7 | 0.9 | 53 | .0324 | 0.085 | Nil | | | | | 11,000 | 591.0 | 592.7 | 386 | | 0.095 | 0.30 | 0.38 | 0.59 | 0.91 | Nil | |
| 592.7 | 595.3 | Same with minor disseminated pyrite and very minor Pb-Sb sulfides. | 592.7 | 595.3 | 0.9 | 35 | .0020 | 0.050 | Nil | Trace | 0.80 | 0.04 | Nil | 12,000 | 592.7 | 593.2 | 1083 | | 0.09 | Trace | 0.06 | 1.26 | 0.41 | Nil | |
| 595.3 | 598.4 | Altered gray clayey quartz mica schist. | 595.3 | 598.4 | 2.8 | 90 | - | 0.014 | Nil | | | | | | 593.2 | 595.3 | 1475 | | 0.07 | 0.03 | <0.01 | 0.55 | 0.03 | Nil | |
| 598.4 | 603.0 | Same | 598.4 | 603.0 | 3.6 | 78 | - | Nil | 0.06 | | | | | | 595.3 | 598.4 | 804 | | 0.10 | Trace | <0.01 | 1.28 | | Nil | |
| 603.0 | 604.0 | Gray quartz mica schist, fairly heavy sulfide mineralization--pyrite, arsenopyrite and Pb-Sb. | 603.0 | 604.0 | 1.0 | 100 | .0038 | 0.118 | 0.12 | Nil | 1.25 | | | 32,000 | 603.0 | 608.5 | 4871 | | 0.07 | Trace | <0.01 | 0.24 | 0.14 | Nil | |

**Core**

| Description Depth, feet From | To | Description | Sample interval Depth, feet From | To | Core recovery Feet | Percent | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Silver | Percent Lead | Antimony | Zinc | Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 604.0 | 608.5 | Gray quartz mica schist with very minor pyrite. | 604.0 | 608.5 | 1.2 | 27 | | Nil | Nil | <0.01 | 0.02 | 0.04 | Nil | |
| 608.5 | 616.5 | Gray quartz mica schist, minor pyrite, minor stibnite. | 608.5 | 616.5 | 4.6 | 57 | | Nil | Nil | <0.01 | 0.02 | 0.03 | Nil | |
| 616.5 | 622.9 | Gray micaceous quartzite with disseminated pyrite, 620.0-620.4 ft. quartz segregation with minor pyrite, very minor sphalerite at 621 ft. | 616.5 | 622.9 | 6.4 | 100 | | 0.005 | 0.02 | | | 0.09 | | |
| 622.9 | 628.2 | Gray micaceous quartzite with disseminated pyrite, 0.2 ft. quartz vein at 628.0 ft. Vein contains minor sulfides--stibnite and pyrite. | 622.9 | 628.2 | 1.8 | 34 | | Nil | 0.04 | <0.01 | 0.05 | | | |
| 628.2 | 634.3 | Gray green spotted calcium-magnesian schist, 0.2 ft. quartz vein at 630.5 ft. | 628.2 | 634.3 | 3.4 | 56 | | 0.01 | Trace | | | | | |
| 634.3 | 643.9 | Gray quartz mica schist, minor disseminated pyrite 637.6-640.0 ft. | 634.3 | 643.9 | 2.9 | 30 | | | | | | | | |
| 643.9 | 649.6 | Silvery gray altered quartz mica schist with minor disseminated pyrite. | 643.9 | | | | | | | | | | | |
| 649.6 | 653.4 | Gray quartz mica schist, minor pyrite. | | 653.4 | 1.6 | 17 | | | | | | | | |
| 653.4 | 657.3 | Same | 653.4 | 657.3 | 3.9 | 100 | | | | | | | | |
| 657.3 | 661.7 | Same, 0.1 ft. of fairly heavy pyrite in quartz. | 657.3 | 661.7 | 0.5 | 11 | | 0.01 | 0.22 | | | | | |
| 661.7 | 667.1 | Gray quartz mica schist somewhat spotted with what appeared to be chlorite porphyroblast, minor pyrite. | 661.7 | 667.1 | 5.4 | 100 | | | | | | | | |
| 667.1 | 675.0 | Same | 667.1 | 675.0 | 4.5 | 57 | | | | | | | | |
| 675.0 | 677.8 | Same, no observed sulfides. | 675.0 | 677.8 | 1.9 | 68 | | | | | | | | |
| 677.8 | 682.6 | Gray green altered zone, some silicification and minor disseminated sulfides, some soft gouge material. | 677.8 | 682.6 | 0.9 | 19 | | 0.27 | 0.04 | <0.01 | 0.02 | 0.01 | | |
| 682.6 | 692.5 | Fault | 682.6 | 692.5 | 0.0 | 0.0 | | | | | | | | |
| 692.5 | 698.5 | Soft gray clayey gouge zone with minor disseminated sulfides. | 692.5 | 698.5 | 3.1 | 52 | | | | | | | | |
| 698.5 | 699.5 | No core. | 698.5 | 699.5 | 0.0 | 0.0 | | | | | | | | |
| 699.5 | 708.2 | Gray quartz mica schist, minor pyrite, foliation inclined at 60° 705.0-708.2 ft. | 699.5 | 708.2 | 3.7 | 65 | | Nil | 0.02 | <0.01 | 0.02 | 0.03 | Nil | |
| 708.2 | 708.7 | Heavy pyrite in quartz. | 708.2 | 708.7 | 0.5 | 100 | | 0.1125 | 0.10 | Nil | 0.03 | | | 600 |
| 708.7 | 713.0 | Gray quartz mica schist, minor pyrite, foliation horizontal | 708.7 | 713.0 | 4.0 | 93 | | 0.005 | Trace | <0.01 | 0.02 | 0.04 | Nil | |
| 713.0 | 716.6 | Same, no observed pyrite 715.0-716.6. | 713.0 | 716.6 | 3.1 | 86 | | Nil | 0.05 | <0.01 | 0.02 | 0.08 | Nil | |

**Sludge**

| Sample interval Depth, feet From | To | Dry weight grams | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Silver | Percent Lead | Antimony | Zinc | Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|
| 608.5 | 612.7 | 5593 | | 0.05 | Trace | <0.01 | 0.93 | 0.20 | Nil | |
| 612.7 | 616.5 | 3590 | | 0.04 | 0.24 | 0.03 | 0.18 | | | >8,000 |
| 616.5 | 618.0 | 4452 | | 0.10 | 0.32 | 0.02 | 1.27 | 0.19 | Nil | >8,000 |
| 618.0 | 622.9 | 4812 | | 0.08 | 0.40 | 0.03 | 0.28 | 0.40 | Nil | >8,000 |
| 622.9 | 628.2 | 2627 | | 0.05 | 0.36 | 0.03 | 0.16 | 0.34 | Nil | >8,000 |
| 628.2 | 634.3 | 964 | | 0.03 | Trace | 0.02 | 0.06 | 0.12 | Nil | |
| 634.3 | 637.6 | 1400 | | 0.015 | Trace | | | | | |
| 637.6 | 640.0 | 1001 | | 0.01 | Trace | | | | | |
| 640.0 | 643.9 | 2072 | | Nil | Trace | | | | | |
| 643.9 | 649.6 | 2165 | | 0.005 | 0.04 | | | | | |
| 649.6 | 653.4 | 2989 | | 0.01 | 0.02 | | | | | |
| 657.3 | 661.7 | 1699 | | 0.01 | 0.03 | | | | | |
| 677.8 | 682.6 | 2570 | | 0.05 | Trace | | | | | |
| 682.6 | 688.5 | 3378 | | 0.01 | Trace | | | | | |
| 688.5 | 692.5 | 1067 | | 0.01 | Trace | | | | | |
| 698.5 | 699.5 | 7599 | | 0.01 | Trace | | | | | |
| 699.5 | 705.0 | 13617 | | 0.02 | Trace | 0.02 | 0.06 | | | |

| Description Depth, feet From | Description Depth, feet To | Description | Core: Sample interval Depth, feet From | Core: Sample interval Depth, feet To | Core recovery Feet | Core recovery Percent | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic | Sludge: Sample interval Depth, feet From | Sludge: Sample interval Depth, feet To | Dry weight grams | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Iron stained, weathered quartz mica | 0 | 8.0 | 2.9 | 36 | | Nil | 0.13 | | | | | | | | | | | | | | | | |
| | | schist with horizontal folliation. | 8.0 | 15.5 | 2.2 | 29 | | Nil | 0.12 | | | | | | | | | | | | | | | | |
| | 24.1 | | 15.5 | 24.1 | 3.2 | 27 | | Nil | 0.13 | | | | | | | | | | | | | | | | |
| 24.1 | | Same but foliation inclined about 10°. | 24.1 | 32.9 | 8.3 | 94 | | 0.005 | 0.14 | | | | | | | | | | | | | | | | |
| | 36.1 | | 32.9 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 4.9 | 98 | | 0.005 | 0.14 | | | | | | | | | | | | | | | | |
| 36.1 | | Same with segregated quartz at 39.4 ft. | | 37.9 | | | | | | | | | | | | | | | | | | | | | |
| | 43.0 | and foliation inclined about 5°. | 37.9 | | | | | | | | | | | | | | | | | | | | | | |
| 43.0 | | Gray quartz mica schist with foliation | | | | | | | | | | | | | | | | | | | | | | | |
| | | contorted near segregated masses of | | | 10.1 | 100 | | Nil | 0.09 | | | | | | | | | | | | | | | | |
| | | quartz at 44.6 ft. and 46.1 ft. Strong | | | | | | | | | | | | | | | | | | | | | | | |
| | | slip folds occur in the contorted | | | | | | | | | | | | | | | | | | | | | | | |
| | 48.0 | foliation. | | 48.0 | | | | | | | | | | | | | | | | | | | | | |
| 48.0 | 50.5 | Silver gray micaceous quartzite | 48.0 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 7.0 | 93 | | Trace | 0.11 | | | | | | | | | | | | | | | | |
| 50.5 | | Same with minor manganese stain along | | 55.5 | | | | | | | | | | | | | | | | | | | | | |
| | 64.5 | some fractures. | 55.5 | 64.5 | 4.7 | 52 | | 0.0025 | 0.08 | | | | | | 59.2 | 64.5 | 1925 | | Nil | 0.11 | | | | | |
| 64.5 | | Iron stained gray quartz mica schist with | 64.5 | | | | | | | | | | | | | | | | | | | | | | |
| | | minor segregation quartz masses. | | | 9.4 | 100 | | Nil | 0.10 | | | | | | | | | | | | | | | | |
| | 73.9 | | | 73.9 | | | | | | | | | | | | | | | | | | | | | |
| 73.9 | | Micaceous quartzite with considerable | 73.9 | | | | | | | | | | | | 73.9 | | | | | | | | | | |
| | | iron staining; small vein of quartz | | | 1.2 | 57 | .0020 | 0.005 | 0.10 | | | | | | | | 2540 | | 0.02 | 0.02 | | | | | |
| | 76.0 | at 74.5 ft. | | 76.0 | | | | | | | | | | | | 76.0 | | | | | | | | | |
| 76.0 | | Vein quartz, 0.1 ft., at 76.0 ft. with | 76.0 | | | | | | | | | | | | | | | | | | | | | | |
| | | minor sulfides and some Arsenic oxide. | | | 3.5 | 100 | .0007 | Nil | 0.06 | | | | | | | | | | | | | | | | |
| | 79.5 | | | 79.5 | | | | | | | | | | | | | | | | | | | | | |
| 79.5 | 80.5 | Gray quartz mica schist | 79.5 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 5.7 | 100 | .0007 | Nil | 0.10 | | | | | 260 | | | | | | | | | | | |
| 80.5 | | Same with intercalated quartzite layers. | | 85.2 | | | | | | | | | | | | | | | | | | | | | |
| | 91.3 | | 85.2 | 91.3 | 4.9 | 80 | - | 0.0025 | 0.08 | | | | | | | | | | | | | | | | |
| 91.3 | 99.7 | Same with moderate iron stain. | 91.3 | | | | | | | | | | | | | | | | | | | | | | |
| 99.7 | | Altered silvery gray quartz mica schist. | | 100.2 | 8.9 | 100 | | 0.005 | 0.12 | | | | | | | | | | | | | | | | |
| | | At 101.8 ft., the rock is olive green | 100.2 | | | | | | | | | | | | | | | | | | | | | | |
| | 101.8 | altered and has foliation inclined 30°. | | | 6.5 | 93 | | 0.005 | 0.08 | | | | | | | | | | | | | | | | |
| 101.8 | | Gray quartz mica schist with minor cross- | | 107.2 | | | | | | | | | | | | | | | | | | | | | |
| | 111.9 | cutting quartz veins. | 107.2 | 111.9 | 4.7 | 100 | .0027 | 0.020 | 0.16 | | | | | 7,000 | | | | | | | | | | | |
| 111.9 | | Same with minor sulfide along minute | 111.9 | | | | | | | | | | | | | | | | | | | | | | |
| | 115.1 | veins and along foliation. | | | 5.6 | 100 | - | Trace | 0.08 | | | | | | | | | | | | | | | | |
| 115.1 | 117.5 | Same with stronger hydrothermal altera- | | 117.5 | | | | | | | | | | | | | | | | | | | | | |
| | | tion. | | | | | | | | | | | | | | | | | | | | | | | |
| 117.5 | 120.5 | Same with minor green spots of chlorite. | 117.5 | 120.5 | 3.0 | 100 | - | Nil | 0.12 | | | | | | | | | | | | | | | | |
| 120.5 | 121.7 | Silicified and mineralized quartz mica | 120.5 | | | | | | | | | | | | | | | | | | | | | | |
| | | schist. | | | 4.1 | 100 | - | 0.005 | 0.07 | | | | | | | | | | | | | | | | |
| 121.7 | 124.6 | Quartz mica schist. | | 124.6 | | | | | | | | | | | | | | | | | | | | | |
| 124.6 | 129.0 | Gray quartz mica schist. | 124.6 | 129.0 | 4.4 | 100 | - | Nil | 0.08 | | | | | | | | | | | | | | | | |
| 129.0 | 131.4 | Same with some disseminated pyrite. | 129.0 | 131.4 | 2.4 | 100 | - | 0.0025 | 0.09 | | | | | | | | | | | | | | | | |
| 131.4 | | Gray quartz mica schist with pyrite sul- | 131.4 | | | | | | | | | | | | | | | | | | | | | | |
| | | fides in quartz noted at 133.7 ft., | | | 8.6 | 100 | | Nil | 0.10 | | | | | 15 | | | | | | | | | | | |
| | 140.0 | 135.2 ft., and 136.3 ft. | | 140.0 | | | | | | | | | | | | | | | | | | | | | |
| 140.0 | | Gray quartz mica schist with thin inter- | 140.0 | | | | | | | | | | | | | | | | | | | | | | |
| | | calated bands of dark phyllitic material. | | | | | | | | | | | | | | | | | | | | | | | |
| | | Foliation nearly horizontal. One thin | | | 10.0 | 100 | | Nil | 0.08 | | | | | | | | | | | | | | | | |
| | | quartz band about 0.4 ft. long parallel | | | | | | | | | | | | | | | | | | | | | | | |
| | 150.0 | to axis contains minor pyrite. | | 150.0 | | | | | | | | | | | | | | | | | | | | | |
| 150.0 | | Same with minor segregation quartz. | 150.0 | 153.3 | 3.3 | 100 | .0032 | Nil | 0.08 | | | | | | | | | | | | | | | | |
| | | | 153.3 | 163.3 | 4.0 | 40 | .0008 | 0.010 | 0.14 | | | | | | 153.3 | 163.3 | 6945 | | 0.018 | 0.06 | | | | | |
| | 165.0 | | 163.3 | 165.0 | 0.8 | 47 | - | 0.020 | 0.12 | | | | | 200 | 163.3 | | | | | | | | | | |
| 165.0 | | Same with fairly heavy pyrite noted at | 165.0 | 170.5 | 5.5 | 100 | - | Nil | 0.09 | | | | | | | 170.5 | 3057 | | 0.008 | 0.10 | | | | | |
| | 174.0 | 166 ft. | 170.5 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 4.5 | 100 | - | 0.005 | 0.16 | | | | | | | | | | | | | | | | |
| 174.0 | | Encountered a small fault filled by vein | | 175.0 | | | | | | | | | | | | | | | | | | | | | |
| | | of quartz and pyrite. The footwall is | 175.0 | | | | | | | | | | | | 175.0 | | | | | | | | | | |
| | | altered and silicified with minor dis- | | | 2.6 | 100 | - | Nil | 0.11 | | | | | | | | | | | | | | | | |
| | 175.5 | seminated pyrite. | | | | | | | | | | | | | | | 1499 | | 0.02 | 0.14 | | | | | |
| 175.5 | 177.6 | Gray quartz mica schist. | | 177.6 | | | | | | | | | | | | | | | | | | | | | |
| 177.6 | | Gray micaceous quartzite with 1-2 per- | 177.6 | 182.2 | 2.0 | 44 | - | 0.010 | 0.12 | | | | | | | 182.2 | | | | | | | | | |
| | 185.0 | cent of disseminated sulfides. | 182.2 | 185.0 | 0.6 | 21 | - | 0.030 | 0.12 | | | | | 8,000 | 182.2 | | | | | | | | | | |
| 185.0 | | The upper 1.0 foot consists of dark gray | 185.0 | 186.0 | 1.0 | 100 | .0023 | 0.14 | 0.61 | 0.16 | 0.09 | | | 20,000 | | | | | | | | | | | |
| | 188.9 | clayey gouge with 3-5 percent sulfides. | 186.0 | 188.9 | 1.7 | 59 | - | Nil | 0.16 | | | | | | | 188.9 | 3164 | | 0.03 | 0.24 | 0.21 | 1.02 | 0.20 | | |

| Description Depth, feet From | To | Description |
|---|---|---|
| 188.9 | 189.3 | Vein quartz with pyrite and arsenopyrite. |
| 189.3 | 190.5 | Sheared altered quartz mica schist. |
| 190.5 | 191.6 | Gray quartz mica schist with minor segregation quartz. |
| 191.6 | 192.5 | Vein quartz with pyrite and sphalerite. |
| 192.5 | 193.2 | Gray quartz mica schist. |
| 193.2 | 193.4 | Vein quartz with pyrite and arsenopyrite. |
| 193.4 | 198.1 | Gray mica schist. |
| 198.1 | 198.9 | Same with the foliation inclined about 45 degrees. |
| 198.9 | 203.9 | Same with minor segregation quartz. |
| 203.9 | 209.0 | Same with small quartz vein at 204.8 ft. |
| 209.0 | 214.0 | Gray quartz mica schist. |
| 214.0 | 218.7 | Same with small quartz-pyrite vein at 217.0 ft. |
| 218.7 | 223.2 | Same with a band of segregation quartz at 220.6 ft. which has a minor amount of pyrite concentrated along the selvages. |
| 223.2 | 228.0 | Gray quartz mica schist. |
| 228.0 | 232.9 | Same with minor sulfides. |
| 232.9 | 237.9 | Same with bands of more micaceous schist which have a dark gray color. |
| 237.9 | 242.7 | Same with what appears to be incipient garnets. Pyrite on selvages. |
| 242.7 | 247.5 | Same but the foliation is inclined 10-15° and highly contorted. The middle portion contains 5-10 percent pyrite along the foliation. At 247.1 feet there is a thin quartz-pyrite vein. |
| 247.5 | 252.5 | Same with 3-5 percent sulfides. |
| 252.5 | 257.5 | Same with a vein of pyrite at 253.3 ft., a 0.2 ft. vein of pyrite, stibnite and sphalerite at 255.5, and a 0.2 ft. vein of sulfides at 257.3 ft. There are also disseminated sulfides throughout the interval. |
| 257.5 | 262.6 | The upper 0.2 feet is a vein of quartz pyrite, sphalerite with minute needles of stibnite in open spaces. Pyrite and antimony sulfides occur as disseminations throughout the interval. |
| 262.6 | 265.6 | Same with less sulfides. |
| 265.6 | 266.3 | Vein quartz with pyrite, arsenopyrite, sphalerite, and chalcopyrite. |
| 266.3 | 270.1 | Gray green chlorite schist. |
| 270.1 | 275.0 | Gray green quartz mica schist with scattered stringers of quartz-pyrite, some disseminated pyrite, and minor lead-antimony sulfide and sphalerite. |
| 275.0 | 280.0 | Same with concentrations of sulfides along the foliations at 275.1, 276.2, and 278.0 feet. There is also a 0.2 ft. vein of quartz with minor sulfides. |
| 280.0 | 284.5 | Same but sulfides show less concentration into discrete layers. |
| 284.5 | 289.4 | Same with stibnite at 287.1 ft. and pyrite at 288.1 ft. |
| 289.4 | 294.4 | Same with sulfides along the foliation throughout the interval. |
| 294.4 | 299.2 | Same with a quartz-sulfide vein at 294.7 ft. and sulfide concentrations along the foliation at intervals throughout. |
| 299.2 | 299.4 | Piece of core with fairly heavy PB sulfide that had been left in hole and recovered next run. The piece was considerably reduced in diameter which will probably reduce the grade of the sample. |

Core

| Sample interval Depth, feet From | To | Core recovery Feet | Core recovery Percent | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 188.9 | 190.5 | 0.9 | 56 | .0007 | 0.020 | 0.12 | | | | | 3,000 |
| 190.5 | 193.4 | 2.9 | 100 | .0067 | 0.045 | 0.17 | | | | | 2,000 |
| 193.4 | 196.7 | 2.7 | 82 | – | 0.010 | 0.16 | | | | | |
| 196.7 | 203.9 | 7.1 | 99 | – | 0.0075 | 0.12 | | | | | |
| 203.9 | 214.0 | 10.1 | 100 | | 0.010 | 0.09 | | | | | |
| 214.0 | 223.2 | 9.2 | 100 | | 0.020 | 0.05 | | | | | 2,700 |
| 223.2 | 232.9 | 9.7 | 100 | | 0.0075 | 0.06 | | | | | |
| 232.9 | 237.9 | 5.0 | 100 | .0020 | 0.030 | 0.02 | | | | | 2,700 |
| 237.9 | 242.7 | 4.8 | 100 | – | 0.0025 | 0.04 | | | | | |
| 242.7 | 247.5 | 4.8 | 100 | – | 0.005 | 0.16 | | | | | |
| 247.5 | 252.5 | 5.0 | 100 | – | 0.010 | 0.15 | Nil | 0.03 | 0.02 | | |
| 252.5 | 255.5 | 3.0 | 100 | – | 0.010 | 0.13 | Nil | 0.03 | 0.04 | | |
| 255.5 | 257.8 | 2.3 | 100 | .0013 | 0.015 | 1.69 | 1.93 | 1.58 | 0.84 | | |
| 257.8 | 262.6 | 4.8 | 100 | – | 0.0075 | 1.07 | 0.35 | 0.23 | 0.86 | | |
| 262.6 | 265.6 | 3.0 | 100 | .0020 | Nil | 0.28 | 0.05 | 0.09 | 0.54 | | |
| 265.6 | 266.3 | 0.7 | 100 | – | Trace | 0.36 | Nil | 0.03 | 0.35 | | |
| 266.3 | 270.1 | 3.8 | 100 | – | Nil | 0.12 | 0.01 | 0.03 | 0.08 | | |
| 270.1 | 275.0 | 4.9 | 100 | .0007 | Nil | 0.30 | Nil | 0.03 | 0.28 | | |
| 275.0 | 280.0 | 5.0 | 100 | – | 0.010 | 0.16 | Nil | 0.07 | 0.18 | | |
| 280.0 | 284.5 | 4.5 | 100 | – | Trace | 0.14 | | | 0.09 | Nil | |
| 284.5 | 287.9 | 3.4 | 100 | – | Trace | 0.17 | Nil | 0.05 | | | |
| 287.9 | 292.3 | 4.4 | 100 | – | 0.005 | 0.27 | 0.27 | 0.21 | 0.31 | | |
| 292.3 | 294.4 | 2.1 | 100 | .0007 | Nil | 0.68 | 0.15 | 0.12 | 0.64 | | |
| 294.4 | 299.4 | 5.0 | 100 | .0007 | 0.0075 | 0.27 | 0.56 | 0.28 | 0.24 | | |

Sludge

| Sample interval Depth, feet From | To | Dry weight grams | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|
| 193.2 | 196.7 | 2965 | | 0.072 | 0.18 | | | | | |
| 196.7 | 203.9 | 5788 | | 0.058 | 0.04 | | | | | |

| Core: Description Depth, feet From | To | Description | Sample interval Depth, feet From | To | Core recovery Feet | Percent | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Silver | Percent Lead | Antimony | Zinc | Copper | p.p.m. Arsenic | Sludge: Sample interval Depth, feet From | To | Dry weight grams | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Silver | Percent Lead | Antimony | Zinc | Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 299.4 | | Same but less sulfide concentration along the foliation. | 299.4 | | 4.3 | 100 | - | Nil | 0.05 | | 0.02 | 0.08 | | | | | | | | | | | | | |
| | 303.7 | | | 303.7 | | | | | | | | | | | | | | | | | | | | | |
| 303.7 | 307.7 | Gray micaceous quartzite with 1-2 percent dissemination sulfides with occasional pyrite bands on foliation. | | | | | | | | | | | | | | | | | | | | | | | |
| 307.7 | | Same with less than 1 percent sulfide, occasional pyrite bands on foliation. | 303.7 | | 9.0 | 100 | | Nil | 0.05 | | | | | | | | | | | | | | | | |
| | 312.7 | | | 312.7 | | | | | | | | | | | | | | | | | | | | | |
| 312.7 | | Gray micaceous quartzite with less than | 312.7 | 321.3 | 8.6 | 100 | | Nil | Nil | | | | | | | | | | | | | | | | |
| | | 1 percent sulfide. | 321.3 | 330.9 | 9.6 | 100 | | 0.005 | Nil | | | | | | 326.2 | 330.9 | 1768 | | 0.045 | 0.14 | 0.22 | 0.58 | 0.08 | | |
| | | | 330.9 | 340.2 | 9.3 | 100 | | Trace | Trace | | | | | | | | | | | | | | | | |
| | | | 340.2 | | | | | | | | | | | | | | | | | | | | | | |
| | 340.7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 340.7 | 345.0 | Gray micaceous quartzite with a mass of segregation quartz at 344.7 ft. | | | 9.2 | 100 | | Trace | 0.02 | | | | | | | | | | | | | | | | |
| 345.0 | 349.4 | Same with segregation quartz at 345.7 and 347.6 ft. | | 349.4 | | | | | | | | | | | | | | | | | | | | | |
| 349.4 | 354.3 | Gray micaceous quartzite with minor sulfides at 350.7 and 352.6. | 349.4 | | 9.7 | 100 | | 0.0025 | 0.12 | | | | | | | | | | | | | | | | |
| 354.3 | 359.1 | Same with minor sulfides in quartz segregation at 355.0 ft. | | 359.1 | | | | | | | | | | | | | | | | | | | | | |
| 359.1 | 366.0 | Same with a 1/4 inch band of sphalerite, pyrite, and antimony-lead sulfide at 359.4 ft.; there is a 1/4 inch pyrite band at 364.2 ft. | 359.1 | 366.0 | 6.6 | 96 | | Nil | 0.21 | Nil | 0.07 | 0.08 | | | | | | | | | | | | | |
| 366.0 | 366.8 | Silicified and contains a quartz-pyrite vein as well as disseminated sulfides. | 366.0 | | | | | | | | | | | | | | | | | | | | | | |
| 366.8 | 367.0 | Quartz-pyrite and arsenopyrite vein material. | | | 5.6 | 100 | < .0038 | 0.005 | 0.13 | Nil | 0.03 | 0.03 | | | | | | | | | | | | | |
| 367.0 | 371.5 | Soft clayey alteration. | | | | | | | | | | | | | | | | | | | | | | | |
| 371.5 | 371.6 | Quartz-pyrite and arsenopyrite vein material again. | | 371.6 | | | | | | | | | | | | | | | | | | | | | |
| 371.6 | | Gray quartz mica schist with minor pyrite, | 371.6 | 376.5 | 4.9 | 100 | < .0038 | 0.0025 | 0.16 | Trace | 0.05 | 0.05 | | | | | | | | | | | | | |
| | | sphalerite and lead-antimony sulfide parallel to the foliation. | 376.5 | | 4.5 | 100 | <.0038 | 0.0025 | 0.36 | Trace | 0.06 | 0.15 | | | | | | | | | | | | | |
| | 381.0 | | | 381.0 | | | | | | | | | | | | | | | | | | | | | |
| 381.0 | | Same but with very minor sulfides. | 381.0 | 385.2 | 4.2 | 100 | .0073 | 0.005 | 0.12 | | | | | | | | | | | | | | | | |
| | 392.0 | | 385.2 | 392.0 | 6.8 | 100 | .0146 | 0.015 | 0.07 | Nil | | 0.08 | | | | | | | | | | | | | |
| 392.0 | 392.6 | Shear zone with disseminated sulfides. | 392.0 | | | | | | | | | | | | | | | | | | | | | | |
| 392.6 | | Sheared clayey quartz mica schist with | | 393.8 | 1.8 | 100 | | 0.115 | 0.04 | Nil | | 0.03 | | 12,000 | | | | | | | | | | | |
| | 396.0 | minor pyrite. | 393.8 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 7.2 | 100 | | 0.0025 | 0.01 | Nil | | 0.04 | | | | | | | | | | | | | |
| 396.0 | | Banded light and dark gray quartz mica | | 401.0 | | | | | | | | | | | | | | | | | | | | | |
| | | schist. | 401.0 | | | | | | | | | | | | | | | | | | | | | | |
| | 409.7 | | | | 9.2 | 100 | | 0.005 | 0.08 | 0.17 | | 0.05 | | | | | | | | | | | | | |
| 409.7 | | Silver gray altered schist. | | 410.2 | | | | | | | | | | | | | | | | | | | | | |
| | 411.3 | | 410.2 | 411.3 | 0.7 | 64 | <.0038 | Nil | 0.20 | | | 0.19 | | | 410.2 | | | | | | | | | | |
| 411.3 | 412.6 | Small quartz vein. | 411.3 | | | | | | | | | | | | | | | | | | | | | | |
| 412.6 | 414.6 | Silicified schist. | | | 4.0 | 91 | .033 | 0.0325 | 0.18 | | | | | 11,600 | | | 7646 | | 0.075 | 0.54 | 0.53 | 1.36 | 0.22 | | |
| 414.6 | 415.7 | Sulfide vein with 5-10 percent sulfides. | | 415.7 | | | | | | | | | | | | | | | | | | | | | |
| 415.7 | | Banded light and dark gray quartz mica | 415.7 | 420.2 | 4.5 | 100 | .0101 | 0.010 | 0.06 | | | | | | | 420.2 | | | | | | | | | |
| | | schist. | 420.2 | 430.0 | 9.8 | 100 | | 0.005 | 0.07 | | | | | | | | | | | | | | | | |
| | | | 430.0 | 440.0 | 6.4 | 64 | | 0.0025 | 0.03 | | | | | | 430.0 | 440.0 | 3841 | | 0.032 | 0.08 | 0.05 | 0.29 | | | |
| | | | 440.0 | | | | | | | | | | | | | | | | | | | | | | |
| | 441.4 | | | | 5.0 | 100 | | 0.014 | 0.58 | | | | | | | | | | | | | | | | |
| 441.4 | 442.2 | Have a 0.8 ft. quartz-pyrite and arsenopyrite vein. | | | | | | | | | | | | | | | | | | | | | | | |
| 442.2 | 445.0 | Banded light and dark gray quartz mica schist. | | 445.0 | | | | | | | | | | | | | | | | | | | | | |
| 445.0 | 451.0 | Gray quartz mica schist. | 445.0 | 451.0 | 6.0 | 100 | | Nil | 0.06 | | | | | | | | | | | | | | | | |
| 451.0 | 459.5 | Same with considerable carbonate at 453.2 ft. | 451.0 | 459.5 | 8.5 | 100 | | Nil | 0.02 | | | | | | | | | | | | | | | | |
| 459.5 | 465.5 | Same with minor pyrite. | 459.5 | 465.5 | 5.6 | 93 | | 0.005 | 0.02 | | | | | | | | | | | | | | | | |
| 465.5 | 475.2 | Banded light gray quartz mica schist with fairly heavy pyrite at 466.0 ft. and minor pyrite elsewhere. | 465.5 | 475.2 | 9.7 | 100 | | 0.005 | 0.01 | | | | | | | | | | | | | | | | |
| 475.2 | 479.8 | Same with nearly horizontal foliation | 475.2 | 479.8 | 4.6 | 100 | | Trace | 0.12 | | | | | | | | | | | | | | | | |
| 479.8 | 489.8 | Same with minor arsenopyrite and/or pyrite at 482 ft. | 479.8 | 489.8 | 10.0 | 100 | | 0.005 | 0.13 | | | | | | | | | | | | | | | | |
| [illegible].8 | | Same with minor pyrite. | 489.8 | 495.0 | 5.2 | 100 | | Nil | 0.14 | | | | | | | | | | | | | | | | |
| | 499.5 | | 495.0 | 499.5 | 4.5 | 100 | <.0038 | Nil | 0.13 | | | | | | | | | | | | | | | | |

| Description Depth, feet From | Description Depth, feet To | Description | Core: Sample interval Depth, feet From | Core: Sample interval Depth, feet To | Core recovery Feet | Core recovery Percent | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic | Sludge: Sample interval Depth, feet From | Sludge: Sample interval Depth, feet To | Dry weight grams | Atomic absorption Ounces per ton Gold | Fire assay Ounces per ton Gold | Fire assay Ounces per ton Silver | Percent Lead | Percent Antimony | Percent Zinc | Percent Copper | p.p.m. Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 499.5 | | Same with small concentrations of stib- | 499.5 | 504.1 | 4.6 | 100 | <.0038 | 0.005 | 0.06 | | | | | | | | | | | | | | | | |
| | | nite and minor pyrite in a small vein | 504.1 | 508.7 | 4.6 | 100 | .0073 | 0.005 | 0.18 | | 0.04 | | | | | | | | | | | | | | |
| | | at 506.2 ft. | 508.7 | 518.7 | 10.0 | 100 | .0038 | 0.005 | 0.12 | | | | | | | | | | | | | | | | |
| | 520.3 | | 518.7 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 4.3 | 81 | | 0.010 | 0.09 | | | | | | | | | | | | | | | | |
| 520.3 | | Gray green calc-magnesian schist. A shear | | 524.0 | | | | | | | | | | | | | | | | | | | | | |
| | | zone separates this zone from the one | 524.0 | 534.0 | 10.0 | 100 | | Nil | 0.12 | | | | | | | | | | | | | | | | |
| | | above. | 534.0 | 543.7 | 9.7 | 100 | | Nil | 0.09 | | | | | | | | | | | | | | | | |
| | | | 543.7 | 553.7 | 10.0 | 100 | <.0038 | Nil | 0.08 | | | | | | | | | | | | | | | | |
| | 559.0 | | 553.7 | 559.0 | 5.3 | 100 | <.0038 | Nil | 0.08 | | | | | | | | | | | | | | | | |
| 559.0 | | Gray quartz mica schist with crosscutting | 559.0 | 561.6 | 2.6 | 100 | .0111 | 0.008 | 0.13 | Nil | 0.04 | 0.42 | | | | | | | | | | | | | |
| | | quartz pyrite veins and sulfides dissemi- | 561.6 | 563.5 | 1.9 | 100 | .175 | 0.1425 | 0.02 | 0.17 | 0.08 | 0.09 | | 16,000 | | | | | | | | | | | |
| | | nated along the foliation. The sulfides | 563.5 | 565.9 | 2.4 | 100 | .0038 | 0.005 | 0.95 | 0.29 | 0.13 | 1.23 | 0.02 | | | | | | | | | | | | |
| | | decrease downward. This is possibly the | 565.9 | | | | | | | | | | | | | | | | | | | | | | |
| | | Kawalita vein. | | | 3.6 | 100 | .0963 | 0.0825 | 0.15 | Nil | 0.04 | 0.06 | | 5,000 | | | | | | | | | | | |
| | 569.5 | | | 569.5 | | | | | | | | | | | | | | | | | | | | | |
| 569.5 | | Green calc-magnesian schist. | 569.5 | 572.5 | 3.0 | 100 | .0184 | 0.02 | 0.06 | | | | | 2,400 | | | | | | | | | | | |
| | | | 572.5 | 581.8 | 9.3 | 100 | <.0038 | Nil | 0.07 | | | | | | | | | | | | | | | | |
| | | | 581.8 | 585.4 | 3.6 | 100 | | 0.0025 | 0.04 | | | | | | | | | | | | | | | | |
| | | | 585.4 | 595.4 | 9.7 | 97 | | 0.005 | 0.03 | | | | | | | | | | | | | | | | |
| | 603.5 | | 595.4 | 603.5 | 7.9 | 98 | | 0.006 | 0.04 | | | | | | | | | | | | | | | | |
| 603.5 | | Upper part is the same. The lower part | 603.5 | | | | | | | | | | | | 603.5 | | | | | | | | | | |
| | | is altered with quartz-pyrite and minor | | | 4.8 | 69 | | 0.005 | 0.02 | Nil | 0.03 | 0.02 | | | | | 758 | | 0.042 | 0.02 | 0.08 | 0.49 | 0.11 | | |
| | 610.5 | stibnite. | | 610.5 | | | | | | | | | | | | 610.5 | | | | | | | | | |
| 610.5 | | Altered calc-magnesian schist with con- | 610.5 | 617.3 | 6.2 | 91 | <.0038 | Nil | 0.01 | | | | | | | | | | | | | | | | |
| | 620.0 | siderable segregation quartz. | 617.5 | 620.0 | 2.7 | 100 | <.0038 | 0.006 | 0.08 | | | | | | | | | | | | | | | | |
| 620.0 | | Sheared and altered rock with 5-10 per- | 620.0 | | | | | | | | | | | | 620.0 | | | | | | | | | | |
| | | cent sulfides, sphalerite predominant, | | | | | | | | | | | | | | | | | | | | | | | |
| | | to 623.3 ft, then 0.2 ft. of gray quartz | | | 3.7 | 97 | <.0038 | 0.005 | Nil | Nil | 0.06 | 1.20 | | | | | 845 | | 0.032 | 0.35 | 0.07 | | | | |
| | | mica schist with quartz-pyrite veins. The | | | | | | | | | | | | | | | | | | | | | | | |
| | 623.8 | bottom 0.3 ft. is soft clayey gouge. | | 623.8 | | | | | | | | | | | | | | | | | | | | | |
| 623.8 | | Gray quartz mica schist with minor sul- | 623.8 | 628.0 | 4.2 | 100 | .0111 | 0.01 | 0.02 | Nil | 0.03 | 0.03 | | | | | | | | | | | | | |
| | | fides. The lower 0.3 ft. is soft clayey | 628.0 | 632.1 | 3.0 | 73 | .0266 | 0.024 | 0.04 | | | | | 3,600 | | 632.1 | | | | | | | | | |
| | 632.1 | altered rock. | | | | | | | | | | | | | | | | | | | | | | | |
| 632.1 | | Gray quartz mica schist with minor dis- | 632.1 | 637.8 | 5.3 | 93 | | 0.03 | Nil | Nil | 0.05 | 0.04 | | 5.800 | | | | | | | | | | | |
| | 642.7 | seminated sulfides. | 637.8 | 642.7 | 2.3 | 47 | | 0.28 | 0.36 | Nil | 0.10 | 0.01 | | 11,600 | 637.8 | 642.7 | 275 | | 0.045 | 0.34 | 0.10 | | 0.06 | | |
| 642.7 | 648.0 | Same with some porphroblasts of chlorite. | 642.7 | 648.0 | 4.3 | 81 | | 0.022 | Nil | Nil | 0.31 | 0.02 | | 14,400 | 642.7 | 648.0 | 1482 | | 0.062 | 0.35 | 0.06 | | Nil | | |
| 648.0 | | Dense gray silicified quartz mica schist | 648.0 | | | | | | | | | | | | 648.0 | | | | | | | | | | |
| | | with disseminated pyrite. The bottom | | | 2.0 | 39 | | 0.045 | 0.16 | Nil | 0.03 | 0.07 | | 5,700 | | | 909 | | 0.052 | 0.34 | 0.07 | | 0.19 | | |
| | 653.1 | 0.4 ft. is soft clayey gouge. | | 653.1 | | | | | | | | | | | | 653.1 | | | | | | | | | |
| 653.1 | | Same schistose rock with shear zone in | 653.1 | | | | | | | | | | | | | | | | | | | | | | |
| | | the lower 0.2 ft. with disseminated | | | 3.2 | 94 | | 0.038 | 0.01 | Nil | 0.03 | 0.05 | | 1,500 | | | | | | | | | | | |
| | 656.5 | sulfides. | | 656.5 | | | | | | | | | | | | | | | | | | | | | |
| 656.5 | | Gray quartz mica schist with minor dis- | 656.5 | | | | | | | | | | | | | | | | | | | | | | |
| | 660.5 | seminated iron sulfides. | | | 8.9 | 99 | | 0.01 | 0.04 | | | | | | | | | | | | | | | | |
| 660.5 | 665.5 | Gray quartz mica schist. | | 665.5 | | | | | | | | | | | | | | | | | | | | | |
| 665.5 | 670.5 | Same with minor chalcopyrite and pyrite. | 665.5 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 9.6 | 100 | | 0.002 | 0.06 | | | | | | | | | | | | | | | | |
| 670.5 | | Gray green calc-magnesian schist. | | 675.1 | | | | | | | | | | | | | | | | | | | | | |
| | 681.6 | | 675.1 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 9.9 | 100 | | 0.005 | Nil | | | | | | | | | | | | | | | | |
| 681.6 | | Gray quartz mica schist. | | 685.0 | | | | | | | | | | | | | | | | | | | | | |
| | 690.0 | | 685.0 | 690.0 | 3.0 | 60 | | Nil | 0.04 | | | | | | | | | | | | | | | | |