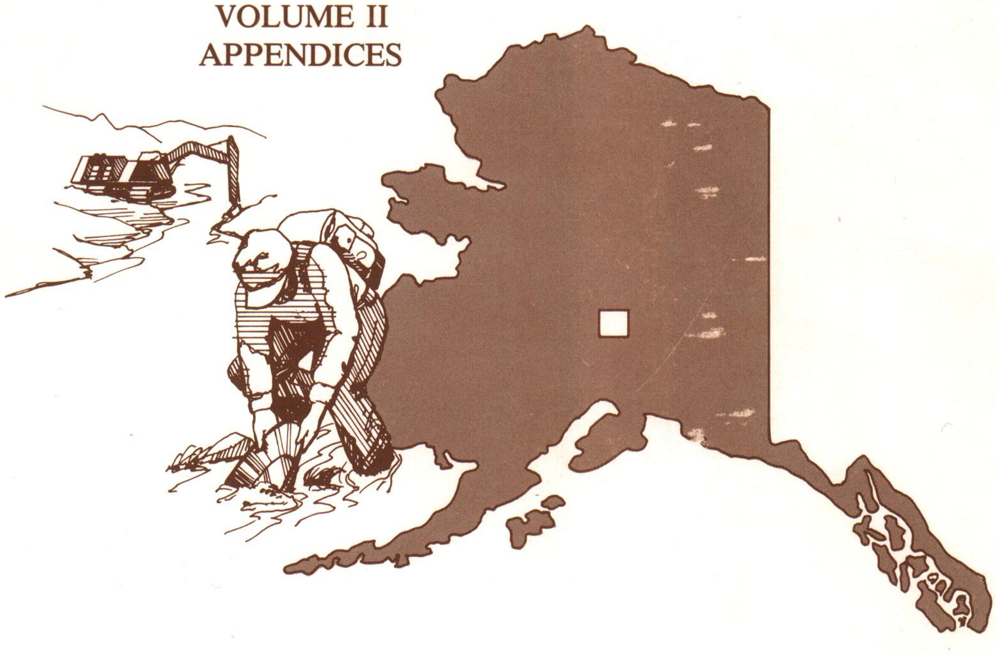
1983 Mineral Resource Studies

Kantishna Hills and Dunkle Mine Areas Denali National Park and Preserve, Alaska

VOLUME II
APPENDICES



Prepared for Bureau of Mines Contract #S0134031

Salisbury & Dietz, Inc.

U.S. DEPARTMENT OF THE INTERIOR · BUREAU OF MINES

APPENDIX A

PLACER

By Jeffrey H. Levell

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

PLACER

MINE MONITORING

Twenty-one separate mining operations were monitored during the 1983 season. Mine locations are shown on plates 3 and 7. The primary purpose of mine monitoring was to determine the grade of gold in the mined placer deposits. It also allowed us to observe the character of the surficial deposits, distribution and character of the recovered gold, and the mining methods and technology being utilized. The results represent the recoverable gold from deposits currently being mined. These large samples, usually hundreds to thousands of cubic yards, tend to offset deposit irregularities, average the high and low gold concentrations that affect smaller samples, and therefore give reliable data for estimation of the grade of the placer deposits.

Details on the observations made and work accomplished at each mine site can be found in the following section "Placer Mine Operations Reports".

The active mine cuts were mapped and the volume of mined gravel measured at 12 operations. In two other examinations, in which a backhoe was utilized to feed the washing plant, a bucket count was kept to determine the volume of gravel mined. At two small operations the volume of gravel mined per hour was used to determine the volume of a sample. If the volume of excavated gravel was not physically measured, an estimate of the gravel mined was made and the operator's reported gold recovery was used to estimate the grade of the deposit. In three instances the operations were not at a mining stage and the value of the deposit was not determined.

After determining the volume of gravel mined and weighing the recovered placer gold, the grade of gold in the ground was determined in oz/cy. Usually, the gold was recovered at the miner's camp utilizing his facilities; in a few cases the concentrates were processed at the field laboratory at Kantishna.

In order to place a value on the placer gold extracted from a mine, the following factors must be considered:

1) Fineness - The proportion of gold in a natural alloy, expressed in parts per thousand. Placer gold is not 100% pure and contains varying proportions of silver, copper, and other substances.

2) Spot price - Gold is openly bid for on the market and spot price is this report is the price buyers are willing to pay for it as quoted on the New York COMEX.

3) Size of gold particles.

   a) "Jewelry" gold - Gold over 1/16 in. in size including larger nuggets. Because of its size the gold can be worked naturally into a jewelry design.

   b) Nuggets - Nugget gold refers to gold over 1/4 in. in size in this report. This gold usually brings even higher prices because of its intrinsic value and greater marketability.

A wide range of gold particle size is present. Commonly, a large percentage of the gold recovered was coarse "jewelry" grade gold. An allowance must be made for the worth of "jewelry" gold because it brings higher prices on the market regardless of its fineness. An average of the selling price obtained for different sizes and character of jewelry gold was obtained from the miners during the course of the field season. If the percentage of each size fraction were known a formula was applied to determine an adjustment factor. The factor can be multiplied by the price of gold to determine a realistic value for the contained placer gold in each deposit. Gold grains measuring 1/16 tc 1/4-in. were found to return up to 1.5 times spot price, regardless of their fineness. For evaluation this size fraction was considered to be worth spot price. Nugget gold (greater than 1/4 in.) was found to be worth from 1.5 to 2.0 times the spot price for gold and was considered to be 1.5 times its spot value. Fine gold (less than 1/16 in.) was valued by multiplying the weight of the placer gold recovered by fineness figures quoted by the operator, who in most cases has had the fine gold smelter assayed. Therefore, the following formula was used:

[weight percent fine placer gold (less than 1/16 in.] x [gold fineness] x [spot price of gold]	=	Value A fraction
[weight percent jewelry gold (1/16 to 1/4 in.)] x [spot price of gold]	=	Value B fraction
[weight percent nugget gold (greater than 1/4 in.)] x [1.5 x spot price of gold]	=	Value C fraction
100%		Total Value

Total Value/100%	=	Value of Gold
Gold Value/Spot Price	=	Price Adjustment Factor

Overall the value of all placer gold extracted and sold from the Kantishna District will conservatively average 0.83 times the spot price of gold.

Of the mining operations observed, the placer gold grades of the deposits ranged from 0.005 to 0.062 oz/cy and averaged 0.022 oz/cy. Gold content ranged from 0.004 to 0.045 oz/cy and averaged 0.016 oz/cy.

Two values were obtained for the gold content in the placer ground at three of the smaller operations. A value was calculated for the total volume of gravel present in the deposit and another value for the smaller volume of gravel actually mined and processed through the mine plant.

Production information for other deposits mined prior to the 1983 examination, was obtained by reviewing actual production records made available by the operator, or from operator's knowledge about the area.

Identifiable mine cuts excavated prior to the 1983 season were measured whenever possible to help evaluate the actual grade of the deposit.

Table K-3 shows pertinent production data from placer mining operations observed in 1983.

Table K-3 - Kantishna Mining District placer mine monitoring summary

Mine Location Number	A Placer Gold (oz)	B Fineness (.000)	C A • B (oz)	D Gravel Volume Mined (cy)	Placer Gold Grade (A/D) (oz/cy)	Gold Grade (C/D) (oz/cy)	Fine Gold (Wt. %)	Jewelry Gold (Wt. %)	Nugget Gold (Wt. %)	Adj. Factor*
1	41.00	0.700	28.700	3300	0.012	0.009	73	?	27	0.92
2	3.10	0.800	2.480	100	0.031	0.025	18	30	52	1.22
3	0.21	0.800	0.168	40	0.005	0.004	100			0.80
4A	312.00	0.710	221.520	5000	0.062	0.044	?	?	?	
4B	364.86	0.710	259.051	14000	0.026	0.019	72	15	13	0.86
4C	210.64	0.710	149.554	25000	0.008	0.006	?	?	?	
5	65.46	0.700	45.822	2200	0.030	0.021	51	19	30	1.00
6	354.30	0.680	240.924	13000	0.027	0.019	86	11	3	0.74
7	110.70	0.700	77.490	2400	0.046	0.032	87	7	6	0.77
8	173.60	0.800	138.880	9400	0.018	0.015	60	34	6	0.91
9	41.87	0.800	33.496	2300	0.018	0.015	71	29	?	0.86
10	106.35	0.700	74.445	2800	0.038	0.027	85	15	?	0.75
11	12.79	0.777	9.938	220	0.058	0.045	65	35	?	0.86
12	126.78	0.750	95.085	5500	0.023	0.017	65	35	?	0.84
13	47.90	0.760	36.404	2100	0.023	0.017	85	15	?	0.80
14	1.50	0.760	1.140	60	0.025	0.019	100	?		0.76
15	0.10	0.760	0.076	2	0.050	0.038	1	99	?	1.00
16	200.00	0.760	152.000	14000	0.014	0.011	50	50	?	0.88
17	350.00	0.780	273.000	15000	0.023	0.018	?	?	?	
TOTAL	2523.16		1840.17	116422						
AVERAGE		0.729			0.022	0.016				0.83

* [weight % fine-grain gold (less than 1/16 in.)] x [gold fineness] x [spot price of gold] = Value A fraction

[weight % jewelry gold (1/16 in. to 1/4 in.)] x [spot price of gold] = Value B fraction

[weight % nugget gold (greater than 1/4 in.)] x [1.5 x spot price of gold] = Value C fraction

100% = Total Value

Total Value/100% = Value of Gold

Gold Value/Spot Price = Price Adjustment Factor

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 1, Yellow Creek, NW Sec. 3, T16S, R17W

DEPOSIT DESCRIPTION: Coarse, subangular to subrounded alluvium an average of 5-ft deep. Bedrock schist and marble bedrock are mined to an average of 6-in. deep. The relatively narrow drainage was being mined at the juncture of Yellow and Ruby Creeks adjacent to a mine cut made in 1982 by the present operators. The creek is from 30- to 80-ft wide and the stream gradient averaged 4 to 5 degrees.

Gold is concentrated in the lower 2 to 3 ft of gravels and into bedrock. The gold is usually very rough and often crystalline and dendritic or wiry and quartz bearing nuggets are also common.

MINING EQUIPMENT: Two D-8 Cat® dozers, Cat® 955 loader, 60 cy/hr. capacity shaker screen and sluice plant (stationary), 10-in. pump and collapsible hose, 45 KW generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Two (living) trailers, one camper, two 4x4 pickups, one pickup, two-ton flatbed truck, welding equipment, fuel tanks.

MINING AND CLEANUP PROCESSING METHOD: Washing plant is set up downstream and ramped from above for feeding pay gravels with the loader. Dozer pushes pay gravels up to 400 ft downstream to loader. Other dozer removes and levels tailings. Creek is dammed above for washing water and settling ponds constructed below plant. The plant has a 4 ft x 20 ft long sluice which utilizes expanded metal riffling above a rubber matting for capturing gold.

The concentrates are screened to minus 4 mesh and hand picked. The remaining concentrate is run over a Carter shaking table. Some of this final concentrate is hand picked, the rest is sent to the smelter.

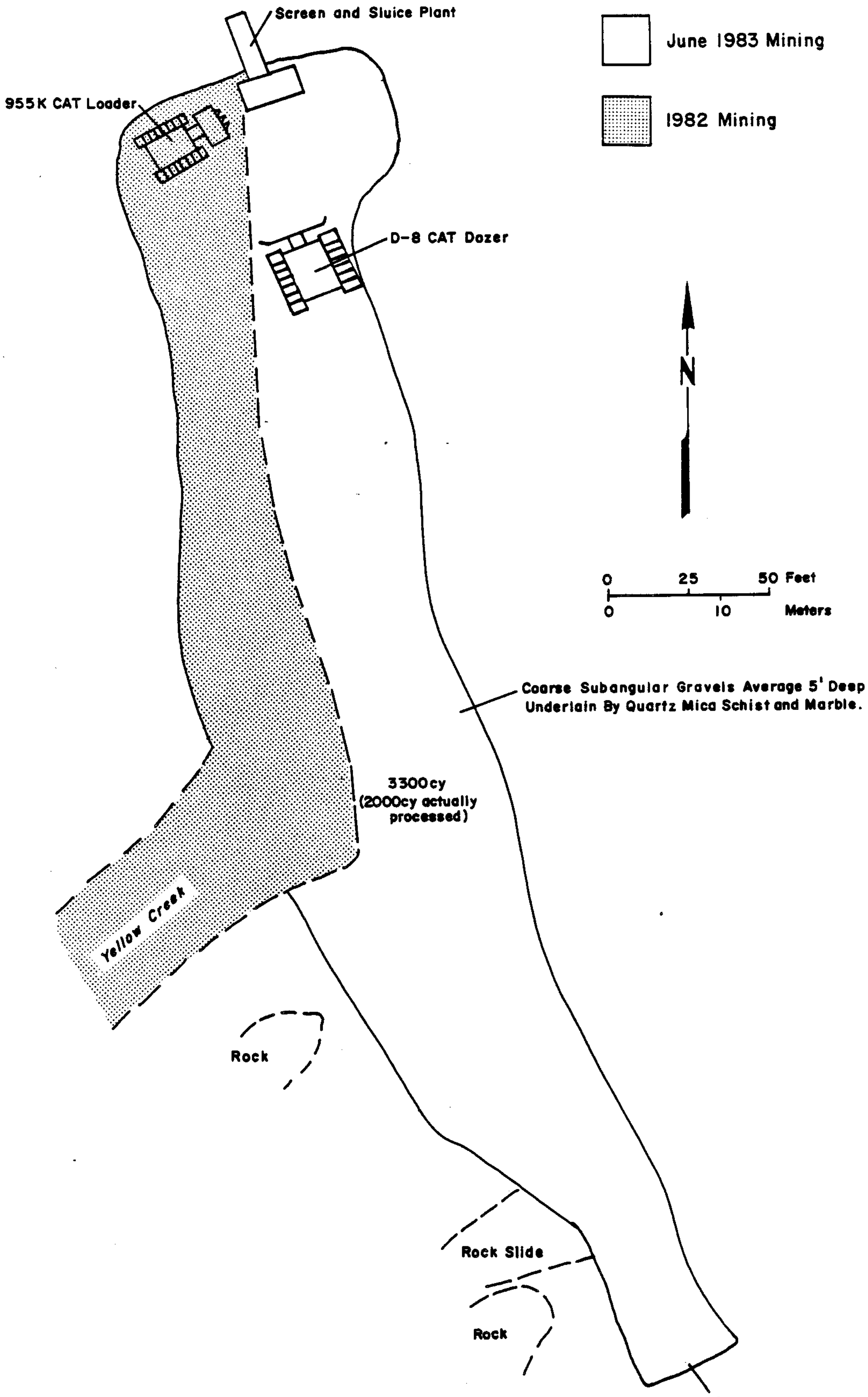
WORK ACCOMPLISHED: The cut was mapped and a total volume of material moved was calculated at 3,300 cy. Only the lower 3 ft of gravel and bedrock were actually mined. Total volume of material actually mined was approximately 2,000 cy. The cleanup was processed in camp. After 11 oz of very coarse gold were separated, the rest of the concentrate was taken to Anchorage for smelting. A total of 41 oz of placer gold was recovered. The placer gold grade of the gravels is 0.012 oz/cy or 0.02 oz/cy for the gravel actually mined. Gold content based on 700 fine is 0.009 oz Au/cy or 0.014 oz Au/cy for the gravel actually mined. Eleven ounces of the gold were very rough nuggets, often crystalline jewelry grade material.

$$
\begin{array}{lll}
27\% & @\ \$600 = & \$16200 \\
\underline{73\%} & @\ \$280 = & \underline{\$20440} \\
100\% & & \$36640/100 = 366.4/400 = 0.92 \text{ factor}
\end{array}
$$

A factor of 0.92 can be multiplied by the spot price of gold to determine the approximate value of placer gold produced in the area.

REMARKS: Coarse nugget gold was very rough and often crystalline or dendritic gold of remarkable quality. This gold is especially valuable and can be sold for over $1,000/oz at the present world price for gold. The value of the coarse gold enhances the value of the mined ground considerably.

At least 1/2 mile of 20- to 30-ft-wide virgin gravels of a similar nature are present upstream and test very well according to the miners and a small pan test by the author. Several areas of considerable size are left on the sides of present cuts on Yellow Creek. These can probably be mined by small scale hydraulic or dredge methods.



Mine Location 1 - Yellow Creek Placer
N.E. Sec. 3, T. 16 S., R. 17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 2, Eureka Creek, SE Sec. 13, T16S, R18W

DEPOSIT DESCRIPTION: Shallow stream deposits 50- to 75-ft wide. Approximately 80% of the lower creek has been mined several times over although the owner reports he will mine it again. A few areas of virgin gravels still remain on the sides of the drainage and a narrow gorge approximately 1/2 mile upstream from the mouth is up to 25-ft wide and contains mostly virgin gravels (some handworked) from 2- to 5-ft deep. Gravels are coarse, subangular with up to 2% large boulders. Stream gradient is at or below 5 degrees. Gravels near the mouth contain mostly local gravels but also contain some glacial clasts indicating glacier from Moose Creek at one time filled the mouth.

Present mine cut on the steep sidebanks of the drainage approximately 15 ft above present stream level. A 3- to 5-ft-deep perched gravel deposit on bedrock was uncovered by the dozer. This is in turn overlain by a variable thickness of soil and colluvium. Alluvial material is evident on the steep side hills all along the length of the claims; steep reefs of brittle schist bedrock underlie the perched gravels.

A flat terrace over 100 ft above the mouth of the stream on both sides of the drainage is underlain by gold-bearing alluvial material. This alluvium is both of glacial and local origin. Test pitting by the owner indicates good gold values.

Fifty-two percent of the gold recovered from the recent mine cut was over 1/4 in. in size and fairly rough, although some of the larger pieces were well worn and rounded. Another 30% of the gold was over 1/16 in. in size. Abundant pyrite, galena, and magnetite in the concentrates.

MINING EQUIPMENT: Medium capacity stationary shaker screen and sluice plant, Cat® D-8 bulldozer, D-4 dozer, 955K Cat® loader, PH® 1 1/2 cy bucket excavator, 6-in. pump and collapsible hose, 75 KW ONAN® generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: 4x4 one-ton fuel truck, 4x4 Blazer, large boom truck, three living trailers, three wood buildings, welding equipment.

MINING AND CLEANUP PROCESSING METHOD: Two men work 12 hr/d with the help of four children. Washing plant is setup above creek level and fed with bucket. Dozer is used to excavate and push pay gravels to the plant. Small dozer is used to remove and level tailings. Sump is constructed above for wash water and settling pond constructed below plant.

WORK ACCOMPLISHED: The author monitored a cut that was made into the steep hillside to uncover the source of alluvial float. A mixture of bedrock, alluvium, and mostly colluvial material was excavated and run through the washing plant. A bucket count was made as mining progressed and using a swell factor approximately 100 cy of bank run material were washed through the plant in 3 hr.

The sluice was cleaned and all material was screened to minus 1 mesh and run over mini-sluice. Mini-sluice concentrates were hand picked. Rest of concentrate was screened to 1/16 in. and hand picked material below 1/16 in. was run over the Deister table and spiral wheel and tailings were amalgamated. Total placer gold weighed was 3.1 oz. Placer gold grade of the deposit is 0.031 oz/cy. At 800 fine the gold content is 0.025 oz Au/cy.

1.613	oz were over 1/4 in. in size	(52%)
0.93	oz were over 1/16 in. in size	(30%)
0.46	oz were under 1/16 in.	(18%)

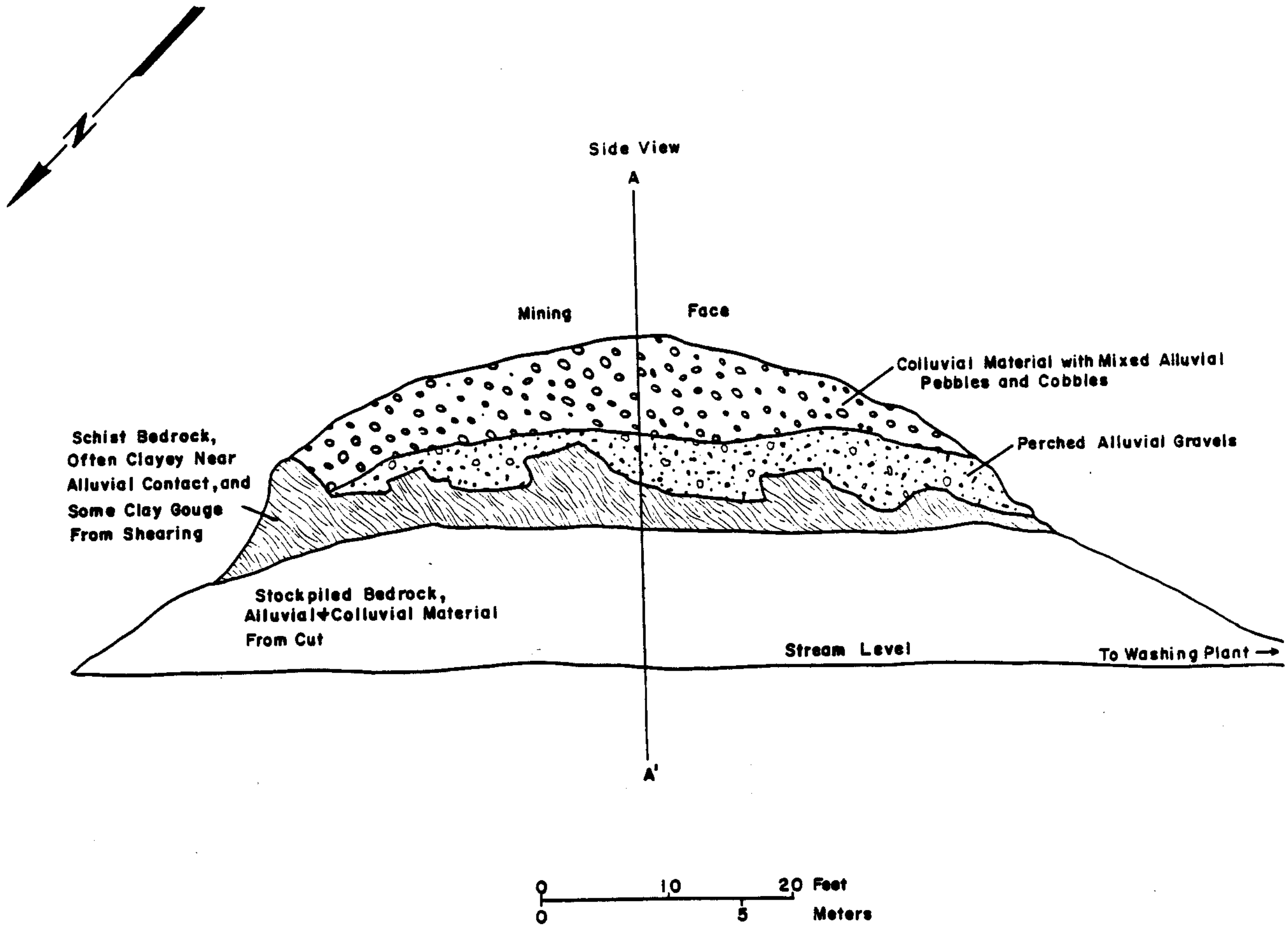
52% @ \$600 = \$31200
30% @ \$400 = \$12000
18% @ \$320 = \$ 5760
\$48960/100 = 489.6/400 = 1.22 factor

A factor of 1.22 can be multiplied by the spot price of gold to determine the approximate value of placer gold produced in the area.

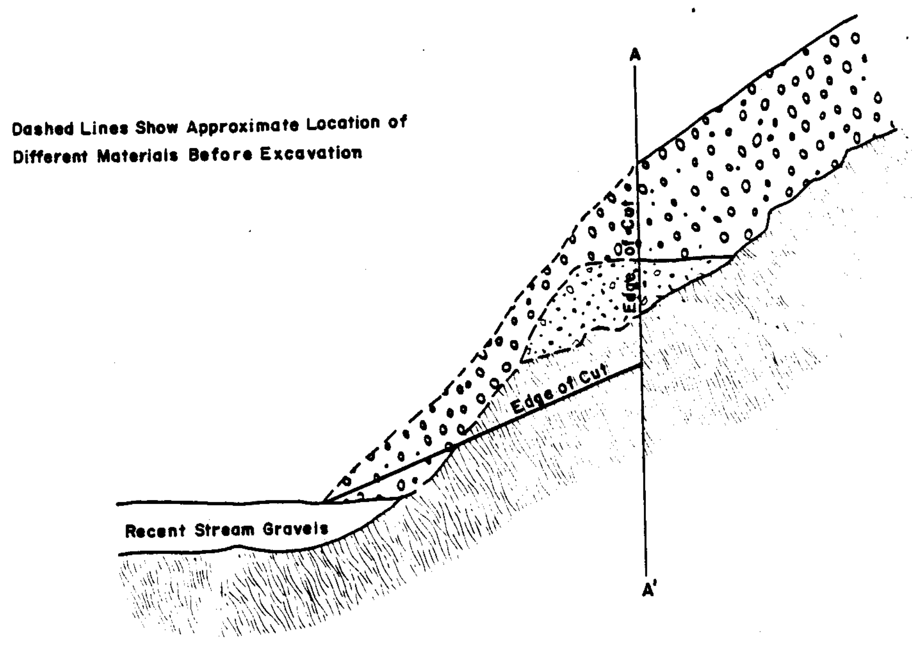
REMARKS: Subsequent test of material on the large terrace above the stream indicates gravels of economic grade are present. The owner was planning to build a road to that area for next season's (1984) mining.

The plant was moved to the mouth of the gulch upstream to mine virgin gravels at that location. The results are unknown at this time. A small scale hydraulic monitor and sluice operation were being prepared to mine the perched terrace gravels described above.

The owner also plans on mining sidepay areas left behind by previous mining using small scale methods. The areas that have been mined (tailings) still show good tests by panning and occasional nuggets are panned from previously worked gravels.



Cross Section Sketch Mine Location 2



Sketch of Mine Location 2
S.E.Sec.13, T.16 S., R.18 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 3, Spruce Creek, NW Sec. 16, T16S, R16W

DEPOSIT DESCRIPTION: Subangular to subrounded gravels, 3- to 15-ft deep overlie a schist bedrock. The present stream is incised into a large alluvial fan which overlies glacial outwash deposits from Moose Creek. The gravels are commonly overlain by 1 to 6 ft of silty overburden.

Narrow mine cuts near the present stream channel indicate pay-streaks have developed and probably reconcentrated fan and/or glacial gold. Two fairly large cuts were observed in wide areas where the stream gradient had flattened considerably.

Present mining was on a test basis on the margin of a former cut near the mouth of the stream. Gravel being mined was 3- to 5-ft deep overlying a fissile mica schist. Gold recovered is bright and flaky and concentrated on and into the bedrock surface. Most gold is under 16 mesh in size.

MINING EQUIPMENT: JD® 890 1 3/8 cy bucket excavator, Cat® D-6 bulldozer, Case® 450B front end loader, 10-in. pump and flexible hose, 50 cy/hr capacity shaker screen and sluice plant (tire mounted).

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Large living trailer, one-ton service truck, welding equipment, two 4x4 pickups.

MINING AND CLEANUP PROCESSING METHOD: Two men are working the property. The ground is stripped of overburden. Plant is setup and leveled and fed by bucket. The Cat® can be used to push gravels to the bucket if needed. Loader used to remove tailings.

WORK ACCOMPLISHED: The author measured a 40 cy test cut. The sluice concentrate was taken to the lab and processed over the Deister table and spiral concentrating wheel. Tailings were amalgamated. Total placer gold recovered weighed 0.21 ozs. The placer gold grade of the deposit is 0.005 oz/cy. According to the owner the gold is approximately 800 fine. The contained gold in the cut is 0.004 oz/cy.

100% @ $320 = 32000/100 = 320/400 = 0.8 factor

A factor of 0.8 can be multiplied by the spot price of gold to determine an approximate value of placer gold produced in the area.

REMARKS: The miners continued to excavate small mine cuts near the same area. Subsequent visits indicated gold recovery was about the same. A private consultant tested several pit samples in the area. Some holes were over 18 ft and bedrock had not been hit. A report showing his results will also be used in this study and is forthcoming.

A pit excavated by the author upstream from the test area indicates gold is accumulated on and into bedrock. A 2-ft section on bedrock contained 0.011 oz/cy of gold. The hole was 9-ft deep and total value of the gravel was 0.005 oz Au/cy.

PROPERTY: Location 4, Friday Creek, SE Sec. 11, T16S, R18W

DEPOSIT DESCRIPTION: Forty- to sixty-ft-deep bench paralleling Friday Creek. A cut averaging 50-ft wide and 40-ft deep on the side of the bench was observed. The lower 10 to 15 ft of the cut consists of coarse, well sorted glaciofluvial bench gravel from an upper Moose Creek bench. These bench gravels are in turn overlain by coarse, largely unsorted subangular to subrounded gravels derived from Friday Creek. This material is probably from an alluvial fan. The whole deposit is underlain by a false clay and/or silt and pebble bedrock of glacial origin. Upstream, the gravels are underlain by a steeply dipping weathered schist and greenstone bedrock. The bench lies at the mouth of Friday Creek Canyon where the creek emerges from the steep narrow canyon into the broad, flat-lying Moose Creek drainage. A bench-fan complex of similar nature is present on the other side of Friday Creek.

The best values have come from just above the false bedrock although appreciable gold was recovered from the Friday Creek gravels. Approximately 30% of the gold is rough, often rudely crystalline nuggets which usually contain attached quartz. A nugget weighing 3.25 oz was recovered this year and several nuggets are in the 1/2 to 1 oz range. The gold is often dendritic or wirey. Most gold shows very little rounding or wear. Concentrates contain galena, magnetite, pyrite, scheelite, with occasional stibnite. Most of the gold has moderate iron stain coatings.

Present cut is immediately adjacent to the large area that was mined last year which contained gravels of a similar nature and geometry. A small area within last years cut was also mined this year.

Another cut was made downstream but at a lower stratigraphic horizon on the bench. Gravels in this cut were of the same composition and geometry but the underlying glaciofluvial gravels are representative of a lower Moose Creek bench than that mined above. These bench gravels are correlative with a large bench on Moose Creek exposed downstream from the present cut.

Overburden is 1- to 6-ft deep and partially frozen.

MINING EQUIPMENT: Cat® 235 2 cy bucket excavator, Cat® D-7 dozer, Cat® D-8H bulldozer, tire mounted 100 cy/hr capacity shaker screen-sluice plant, two Deutz 6-in. pumps, several hundred feet of aluminum pipe.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: 206 Cessna aircraft, welding trucks, three 4x4 pickups, 6,000 gal capacity fuel tanks, three large trailer vans, three large mobile homes, one small trailer, two school buses, cleanup equipment - 24-in. Sweco vibrating screen, 12-in. Knelson bowl hydrostatic centrifugal concentrator, 48-in. spiral concentrating wheel, cement mixer/amalgam tumbler, retort.

MINING METHOD: Wash water was pumped from Moose Creek, and settling ponds constructed below mine site. The washing plant is pushed ahead of the bucket excavator. Dozers are used to strip overburden and level tailings. All tailings are directed into a previous cut as mining progresses upstream. Dozers are also used to push pay gravel to the excavator if needed. Up to 120 cy/hr were being mined.

Four men work two 12-hour shifts per day. Another catskinner prepares ground for mining, and levels tailings. One man is employed to process cleanups totally on site. The owner and another man perform support and expediting functions. Several other family members perform camp and logistical tasks.

WORK ACCOMPLISHED: The author monitored mining and cleanup activities on three different mine cuts in 1983. Last years cut and three 1983 cuts were mapped and volumes of gravel mined were measured.

Last years cut measured approximately 120,000 cy of material. A look at production records showed 2700.66 oz of gold recovered. Another 112 oz of gold were amalgamated this year from last years cleanup tailings and more amalgamating remained to be done at the close of the study season. The operator has stated that in the last mining season he averaged over $500/oz for all of the gold mined because of the premium prices he received for jewelry gold regardless of its purity. The last three seasons he has averaged the spot price for gold. Because of this it could be assumed that the gold is 1000 fine, which is probably conservative. Placer gold grade is approximately 0.023 oz/cy. At 710 fine the contained gold is 0.017 oz/cy.

The small area left behind in the above cut was mined this year and contained approximately 5,000 cy of material. Three hundred twelve ounces of gold were recovered. Placer gold grade is 0.062. Using 710 fine, contained gold is 0.044 oz Au/cy.

Approximately 14,000 cy of gravel were mined from the large bench cut. Fine gold recovered (below 14 mesh) weighed 264.34 oz. Jewelry grade gold between 14 and 4 mesh in size weighed 55.79 oz. Gold nuggets over 1/4 in. in size weighed 44.73 oz. Total gold recovered was 364.86 oz. Placer gold grade for this deposit is 0.026 oz/cy. Contained gold grade at 710 fine is 0.019 oz Au/cy.

72% @ $284 = 20448
15% @ $400 = 6000
13% @ $600 = 7800
34248/100 - 342.48/400 = 0.86 factor

A factor of 0.86 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

Approximately 25,000 cy were mined from the lower bench cut and 210.64 oz of gold were recovered. The placer gold grade of the deposit is approximately 0.008 oz/cy. At 710 fine the contained gold grade is 0.006 oz Au/cy.

Total material mined this year and last is 164,000 cy and total gold recovered to date is 3,700.16 oz.

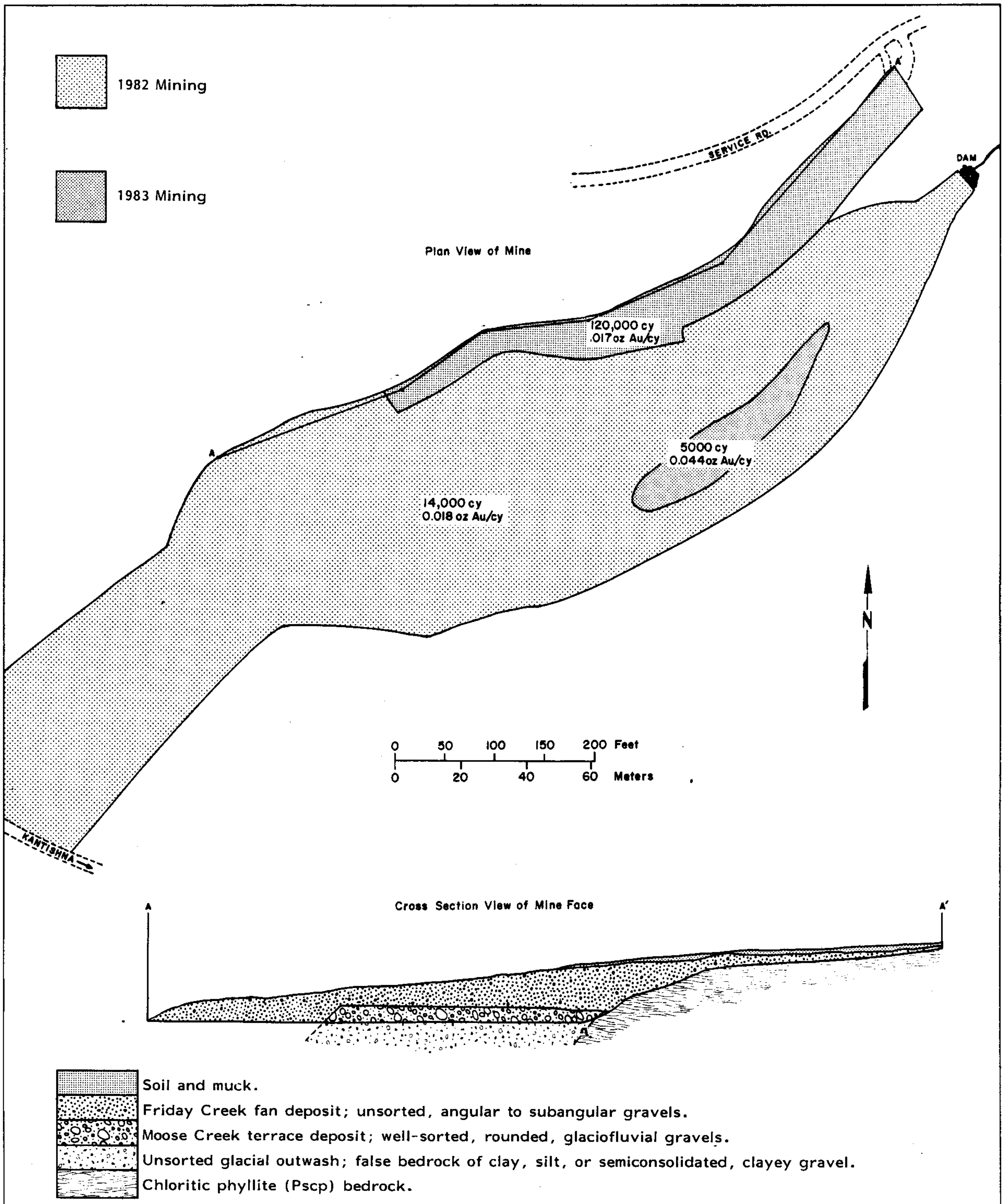
Average placer gold grade of all the material mined is 0.022 oz/cy. The average contained gold grade is 0.016 oz Au/cy.

Two channel samples were taken of the two different gravel types in the bench. The Friday Creek test yielded little gold although bedrock was not reached. An 18-ft sample in glaciofluvial material in the left limit bench contained 0.01 oz Au/cy and contained a 4-ft interval that contained 0.038 oz/cy.

REMARKS: A breakdown of prices obtained for jewelry gold:

14 mesh - $10 under spot price
12-8 mesh - spot to $50 over spot price
8-4 mesh - $100 over spot price
4 mesh and above - $1000/oz

A substantial volume of physically minable material is still available to mining on the benches. The area downstream from present mining to Moose Creek also represents an excellent prospect for mining.



Mine Location 4 — Friday Creek Placer Mine

S.E. Section 11, T. 16 S., R. 18 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 5, Yellow Creek, NW Sec. 3, T16S, R17W

DEPOSIT DESCRIPTION: Coarse subangular gravels an average of 40- to 50-ft wide and 7- to 10-ft deep. Gravels contain less than 10% boulders on bedrock. Bedrock is generally flat-lying schist with occasional low reef of marble. Stream gradient is relatively steep - just over 5%. In most areas observed the gravels continue under side slope colluvium and are not mined due to amount of overburden that would have to be removed.

Coarse gold is concentrated just above and into the bedrock. The gold is very rough and often rudely to perfectly crystalline. Most of the gold is heavily Mn or Fe stained and larger pieces commonly contain abundant quartz. Concentrates contain abundant galena, magnetite, pyrite with occasional stibnite and hematite. Several pieces of gold recovered to date are in the 1/2-oz range and one nugget weighed 3/4 oz. Nineteen percent of gold from present cut was from 1/16 to 1/4 in. in size. Another 30% are above 1/4-in. nuggets.

The present mining areas show evidence of being handworked by "old timers". A 1/2-mile section of creek downstream is much steeper and narrower and also shows evidence of handworking.

MINING EQUIPMENT: 40 cy/hr shaker screen and sluice plant, Case® 1150B bulldozer, Case® 350 loader, 4-in. pump and collapsible hose, generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: School bus, camper, two 4x4 pickups, welding equipment, cabin, fuel tanks. A road was built over 1 mile to gain access to mine site.

MINING AND CLEANUP PROCESSING METHOD: Most upper gravel to within a foot or two of bedrock is scraped downstream. The plant is built on skids and pay gravels are pushed downstream with dozer and loaded with loader in short sets. The plant is moved up as each set is completed. A sump is built upstream and settling pond below.

Cleanups are made when box becomes loaded and screened and handpicked to 16 mesh. The rest of concentrates are run over a mini-sluice and gold removed.

WORK ACCOMPLISHED: A 250-ft-long cut was mapped by the author and total volume of gravel calculated at 2,200 cy. Only the lower 2 ft of gravel and bedrock were actually mined. Material run through the plant was approximately 550 cy. Approximately 28 hr were spent mining this section and 65.46 oz of placer gold was produced. The placer gold grade of the deposit is 0.03 oz/cy or 0.119 oz/cy for the material actually mined. Contained gold grades are 0.03 oz Au/cy and 0.083 oz Au/cy, respectively using 700 fine.

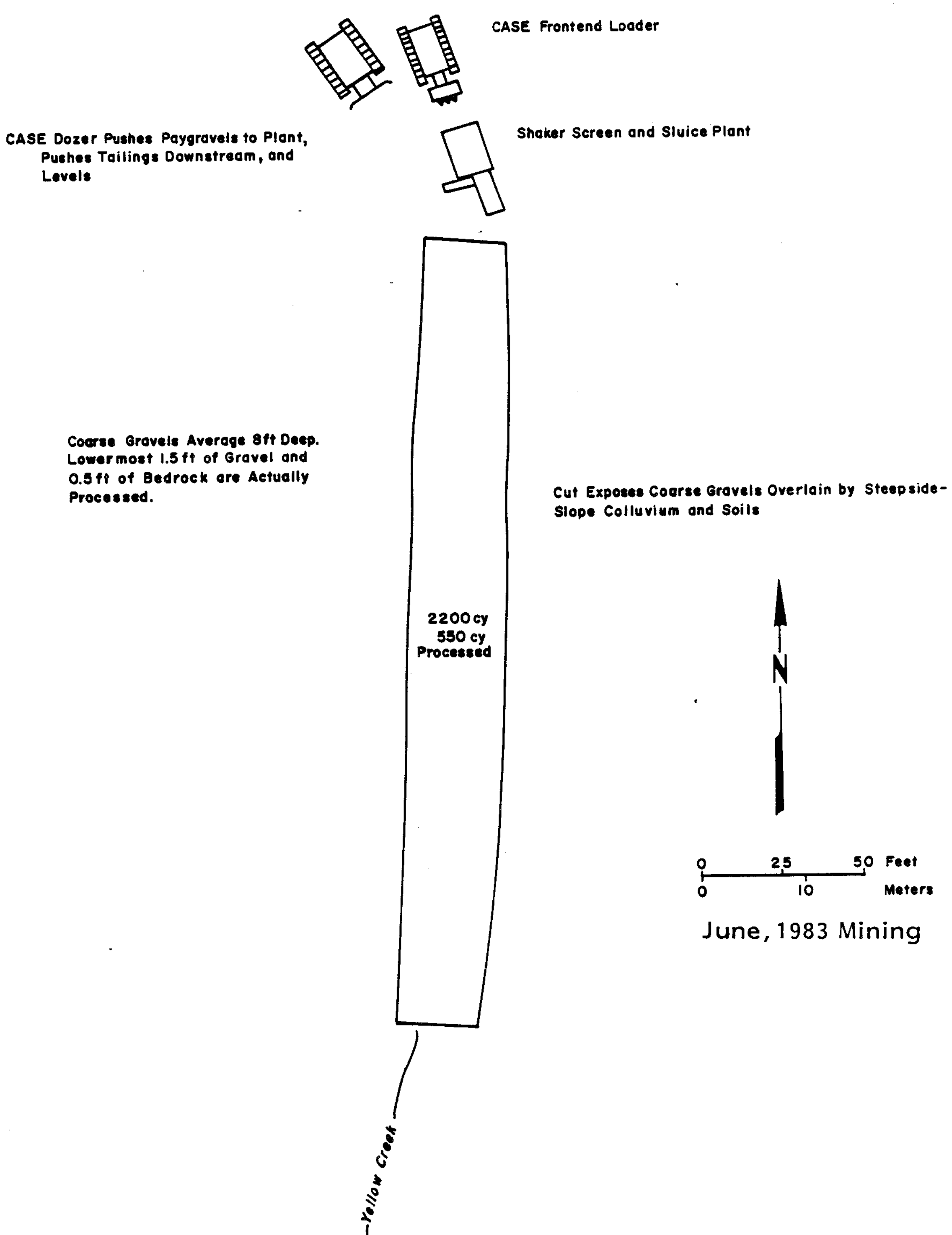
The gold recovered was sieved to 16 mesh and handpicked. The minus 16 mesh material was processed over the Deister table and spiral wheel concentrator and tailings amalgamated. Just over 30% of the gold was over 1/4 in. nuggets, and 19% was over 1/16 in. in size. This fraction of the gold was very rough and often remarkably coarsely crystalline leaves and wires and is sold by the owner at well over twice the spot price for gold.

$$\begin{aligned} 51\% \;@\; \$280 &= 14280 \\ 19\% \;@\; \$400 &= 7600 \\ 30\% \;@\; \$600 &= \underline{18000} \\ & \ 39880/100 = 398.8/400 = 1.0 \text{ factor} \end{aligned}$$

A factor of 1.0 can be multiplied by the spot price for gold to determine an approximate value for placer gold produced in the area.

REMARKS: One-half mile of narrow, steep alluvium is present downstream and is probably very rich grade. Several areas upstream of similar character to presently mined gravels reportedly test very well. A lack of water precluded mining this year.

Subsequent mining of similar gravels adjacent to the present mine cut resulted in similar production.



Mine Location 5 - Yellow Creek Mining
N.W. Sec. 3, T. 16 S., R. 17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 6, Lower Caribou Creek, SE Sec. 24, T14S, R18W

DEPOSIT DESCRIPTION: Four to seven feet of coarse, rounded to subrounded gravels on relatively flat-lying weathered, clayey schist. Occasional low reefs of harder bedrock. Gravels near edge of drainage partially frozen. Stream gradient 1% to 2%.

Area being mined is wide flat-lying deposit 100- to 200-ft wide by 1,000-ft long. Gold does not appear to be concentrated on bedrock and only 6 in. or so of bedrock are being mined. One to two feet of gravel above bedrock is iron stained and slightly tight.

Gold is very fine and flaky but occasional rough to slightly rounded quartz-bearing nugget was recovered. Slight to moderate Fe and Mn stain on gold. Abundant garnets in concentrate.

Shallow bench deposits above cliffs on drainage nearby also carry significant gold. These gravels are identical to those being mined in the creek bottom and are extensions of the Lee Bench upstream which the present operator also holds lease on.

A cut made in 1975 exposed gravels in the Lee Bench. The gravels were 4- to 10-ft deep and showed moderate sorting. Most of the gravel is stained a reddish brown and is subangular to subrounded. The gravels are underlain by a quartz-mica schist. Two- to three-percent boulders up to 3-ft across are randomly distributed throughout the gravel. Another exposure of the gravel approximately 1/2 mile downstream shows 10- to 15-ft-deep gravel underlain by Tertiary quartz-rich sediments. Pits nearby show a blue (glacial?) clay on top of the spoils piles indicating a possible lake sediment may be present in places. Most exposures however show 5 to 10 in. of gravels overlying bedrock cliffs, 50 to 70 ft above the present valley floor. The bedrock at the mine cut slopes gently towards the present stream drainage and could possibly keep that slope. If so the muck and gravels on the Lee Bench may not be exceptionally deep.

MINING EQUIPMENT: 100 cy/hr capacity, rubber-tire mounted shaker screen-sluice plant, Cat® 235 2 cy bucket excavator, Cat® D8H dozer, Deutz diesel 6-in. pump, several hundred feet aluminum pipe.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Cessna 206 aircraft, fuel tanks, two service trucks, welding equipment, two mobile homes, four living trailers, two truck trailer vans, landing strip for fixed wing access.

Cleanup equipment - screens, mini-sluice, 48-in. spiral concentrating wheel, amalgam tumbler.

MINING AND CLEANUP PROCESSING METHOD: Washing plant is pushed ahead of the excavator as mining progresses. Tailings are directed into the previous cut. Dozer is employed to prepare ground and removal and leveling of tailings. The wash water is pumped out of river upstream and settling ponds are constructed downstream in previous cut.

Four men are employed to work two 12 hour shifts. The owner and another man perform support functions and expediting. Wives and other family members process cleanups and perform camp functions.

The concentrates are screened to 1/4 in. and handpicked. Under 1/4 in. is run over spiral wheel and reconcentrated, then screened to minus 6, minus 10, minus 12, minus 20 and sent over wheel again to remove all gold. The tails are amalgamated.

WORK ACCOMPLISHED: The present cut was mapped by the author and a volume of gravel calculated at 13,000 cy. Total placer gold weighed from the processing was 354.3 oz, resulting in a placer gold grade of 0.027 oz/cy. Gold content at 680 fine is 0.019 oz Au/cy. Over 86% of the placer gold was minus 20 mesh in size. Eleven percent is jewelry grade overlay gold and 3% of the placer gold is over 1/4 in. in size. The overlay gold can probably be sold at an average of the world market price so is considered here to be 1000 fine. The plus 1/4 in. gold can be sold at between spot price for gold and $1000/oz depending on the character, and is considered here to be 1500 fine or 1.5 times its weight. The rest of the gold is 680 fine according to the operator. The following is a breakdown of the recovered gold.

$$
\begin{array}{rl}
86\% \text{ @ } \$272 = & 23392 \\
11\% \text{ @ } \$400 = & 4400 \\
3\% \text{ @ } \$600 = & \underline{1800} \\
 & 29592/100 = 295.9/400 = 0.74 \text{ factor}
\end{array}
$$

A factor of 0.74 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

Majority of gold over 1/4 in. was flat and rounded but a few very rough, quartz bearing nuggets were observed indicating some possible veins nearby. One quartz-filled shear zone was observed in the present mine cut.

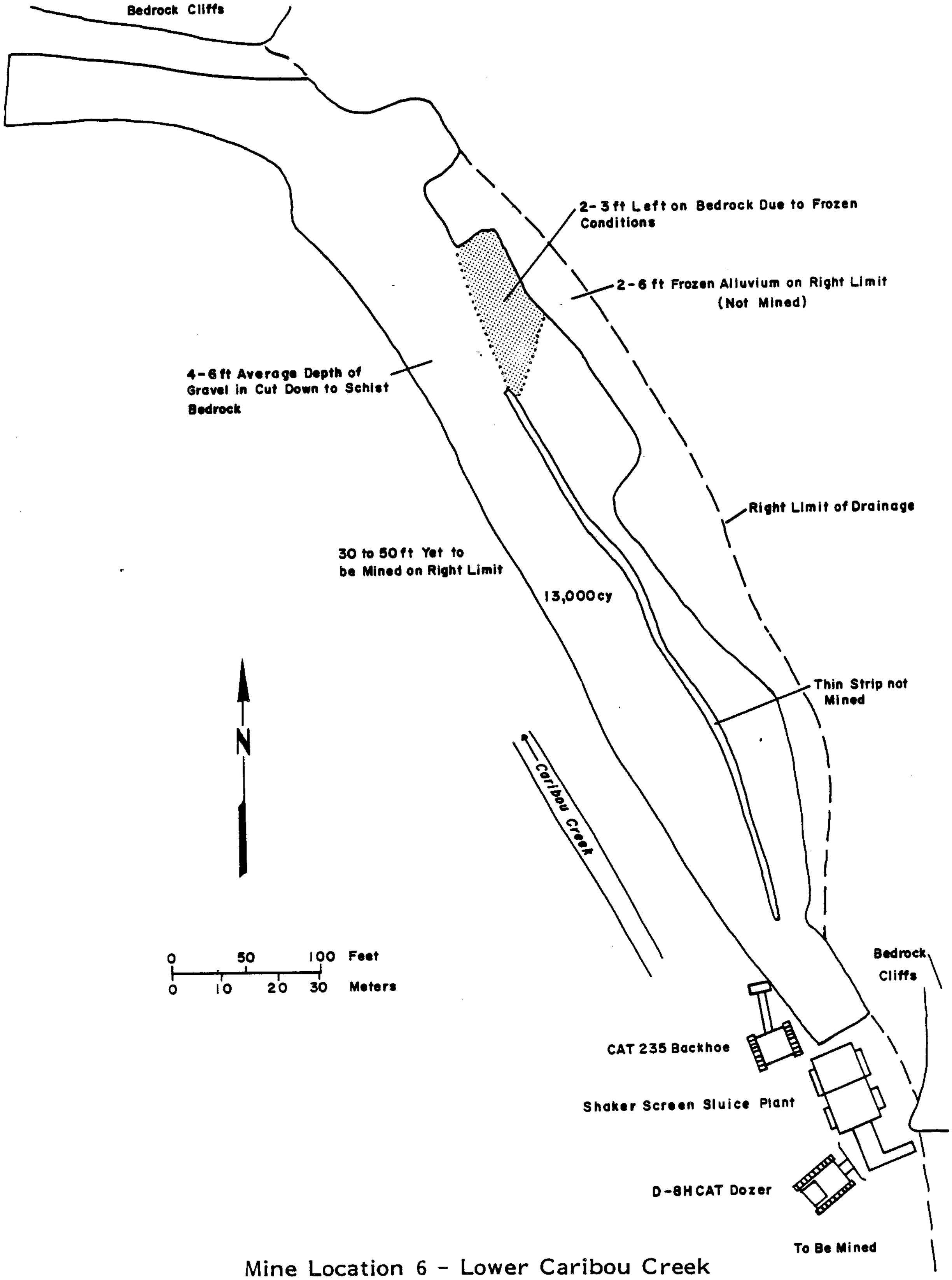
A portion of the Lee Bench was mined by another operator in 1975. The operator's records showed that 70.5 oz of fine gold was recovered from the mine cut. The author measured the cut and approximately 2,700 cy of coarse gravel was mined after removing 2 to 3 ft of frozen muck and tundra. The placer gold grade is 0.026 oz/cy. At 700 fine the contained gold grade is approximately 0.019 oz Au/cy.

REMARKS: Several areas of physically minable ground are available to mining up and downstream. Testing upstream near the present campsite with a small portable floating dredge indicates good values for mining next season.

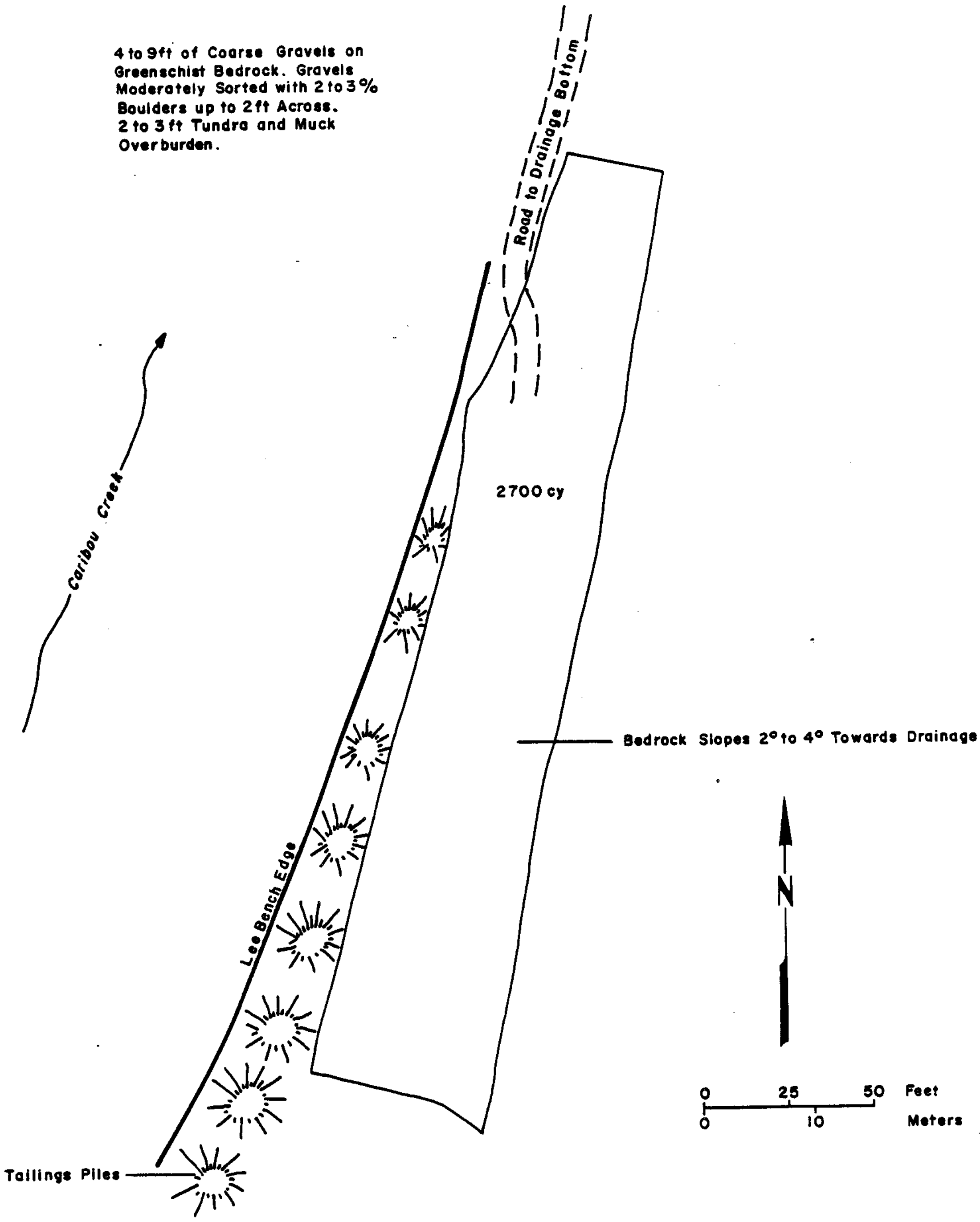
Subsequent mining after this examination produced better gold values as mining progressed away from the drainage sides. Over 1000 oz had been produced by 8/30/83.

The Lee Bench is available to mining in the future and extensions of the bench near the present mine site were tested by panning by the author. Good colors showed up in random pan sampling of recent test cuts. The bench deposits extend from where Caribou Creek emerges from the Kantishna Hills to over 5 miles downstream to the Bearpaw River. A huge amount of gravels could be present on the bench and would represent several years of large scale mining activity. Other operators in the district have also expressed an interest in mining the bench gravels.

The operator anticipates several more seasons of mining the present stream channel gravels and would like to test the present bench gravels in more detail.



Mine Location 6 - Lower Caribou Creek
S.E. Sec. 24, T. 14 S., R. 18 W.



Mine Location 6 A - Lee Bench, 1975 Mining
S.W. Sec. 6, T. 15 S., R. 17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 7, Middle Caribou Creek, NW Sec. 7, T15S, R17W

DEPOSIT DESCRIPTION: Coarse, subrounded gravels 2- to 5-ft deep on drainage edge and up to 9-ft deep towards the center. Flat-lying area up to 150 ft across and over 600 ft long, located on a large meander of the creek was stripped and prepared for mining. Gravels lie on a clayey, weathered schist bedrock. The bottom 2 to 3 ft are iron-stained and slightly tight. Gold appears to be fairly well distributed throughout the gravels but concentrated near bedrock. An average of 6 in. of bedrock is also mined.

Gold is very flaky and over 87% of the gold produced from the present cut was under minus 14 mesh size. Very few nuggets are found and most are well worn. All the gold is moderately to heavily tarnished with Mn or Fe oxides.

Thirty- to fifty-foot-high bedrock cliffs rim the stream bottom and are capped by subrounded gravels over 5-ft deep. These bench gravels are correlative with the Lee Bench deposit a mile downstream.

MINING EQUIPMENT: Medium sized trommel and sluice plant (50-100 cy/hr). HD44 Allis Chalmers® dozer, Drott® 1/4 cy bucket excavator, 6-in. pump and several hundred feet of aluminum pipe.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Two 4x4' service trucks, welding equipment, school bus, two 3-wheelers, small living trailer, small trailer van for cleanups, large trailer van for parts and supplies, fuel tanks, pickup truck, mini-sluice, 48-in. spiral concentrating wheel.

MINING AND CLEANUP PROCESSING METHOD: Two men mine an average of 10 hr/d. The washing plant is mounted on skids and moved ahead of bucket as mining progresses upstream. Dozer is used to strip thin veneer of overburden and to remove and level tailings. Settling pond is excavated below mine workings.

Cleanups are screened, run over a mini-sluice, demagnetized and run over a spiral concentrating wheel for final separation of the gold.

Approximately 20% of the area mined had been handworked in "earlier" days.

WORK ACCOMPLISHED: The present mine cut was measured by the author and approximately 2,400 cy of material were mined. Fifty-eight hours mining time was spent on the cut. 110.7 oz were recovered from the cleanup. Placer gold grade of the deposit is 0.046 oz/cy. Contained gold grade at 700 fine is 0.032 oz Au/cy.

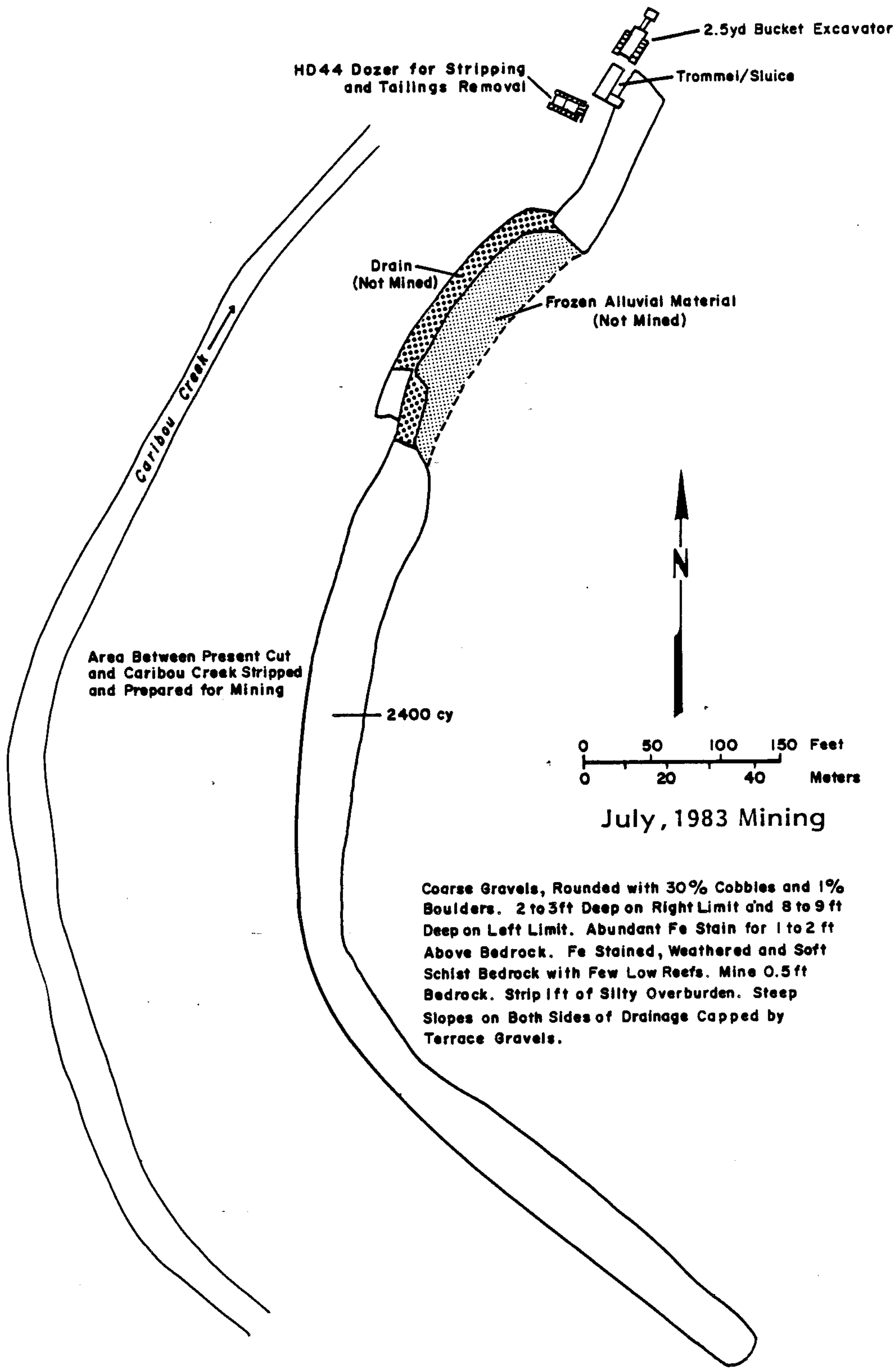
95.65 oz (87%) were below minus 14 mesh size, 7.62 oz were between 14 and 10 in mesh size and 7.0 oz were plus 10 mesh. The 14.62 oz of jewelry grade gold will be considered to be 1000 fine as the proportion of nuggets was not recorded. The 95.65 oz of fine gold is 700 fine according to the operator.

$$
\begin{array}{l}
87\% \ @ \ \$280 = 24360 \\
13\% \ @ \ \$400 = \underline{\ \ 5200\ } \\
\qquad\qquad\qquad\quad 29560/100 = 295.6/400 = 0.74 \text{ factor}
\end{array}
$$

A factor of 0.74 can be multiplied by the spot price of gold to determine the approximate value of placer gold produced in the area.

The operator's production was approximately 1.9 oz/hr at the time of this examination. As mining progressed across the point bar of the stream the tenor increased considerably and the operator states that he was mining over 2.5 oz/hr.

REMARKS: The first half of the mining season was spent hauling equipment and camp facilities to Caribou Creek, preparing a permanent base camp and preparing the mine site. Similar creek bottom deposits are located up and downstream from the mine site and several mining seasons are anticipated on the middle section of Caribou Creek by the operator.



Mine Location 7 - Middle Caribou Creek
N.W.Sec.7,T.15 S.,R.17 W.

PLACER MINE OPEATIONS REPORT

PROPERTY: Location 8, East Fork Glen Creek, NW Sec. 6, T16S, R16W

DEPOSIT DESCRIPTION: Relatively flat-lying deposit of gravel 100- to 200-ft across and over 1/2-mile long. Gravels are coarse, subangular and average 4- to 5-ft deep. The gravels are mined to a weathered clayey schist bedrock with occasional low reefs of harder rock. Occasionally a thin layer of glacial(?) clay is present on top of bedrock. Shallow troughs below low reefs are commonly overlain by iron stained rich pockets of gravel.

Approximately 40% of the gold recovered is coarse jewelry grade gold plus 14 mesh. The gold is rough showing little sign of wear and often contains quartz and shows crystalline dendritic and wire structures. Most of the gold is slightly to moderately stained with Mn or Fe. Concentrates contained abundant galena, magnetite, pyrite, with stibnite, scheelite, and occasional rhodonite.

MINING EQUIPMENT: 100 cy/hr shaker screen and sluice plant (tire mounted), GM Terex® dozer, Koehring® 2 cy bucket excavator, Deutz® diesel 6-in. pump with collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Six-wheel fuel truck, two 4x4 service trucks, welding equipment, Case® 350B loader/backhoe (test pitting), log cabin, camp generator, 40-ft truck trailer parts van, large Quonset hut. Large wood frame building. Landing strip for fixed wing access.

MINING AND CLEANUP PROCESSING METHOD: Shaker plant is pushed ahead of bucket as mining progresses upstream. Tailings are directed into last cut. Dozer is used to strip thin veneer of overburden and to level tailings. Sump pond excavated upstream for wash water and settling ponds below.

Four men are employed to mine 24 hr/d in two 12 hr shifts. Two men are employed to test pit ahead of mining and to test the rest of Glen Creek holdings. The owner performs support functions for the mining operation.

WORK ACCOMPLISHED The present mine cut was measured by the author and a volume of gravel calculated at 9,400 cy. The concentrate was screened into several splits to minus 20 mesh screen. Each split was run over a Carter shaker table and the concentrate handpicked. The minus 20 material was run over a spiral concentrating wheel.

173.6 oz of placer gold were recovered for a placer gold grade of 0.018 oz Au/cy. Contained gold grade at 800 fine is 0.015 oz Au/cy. Approximately 40% of the gold recovered was jewelry grade gold over 14 screen in size. Eleven oz were over 1/4 in. in size and one nugget weighed 0.8 oz.

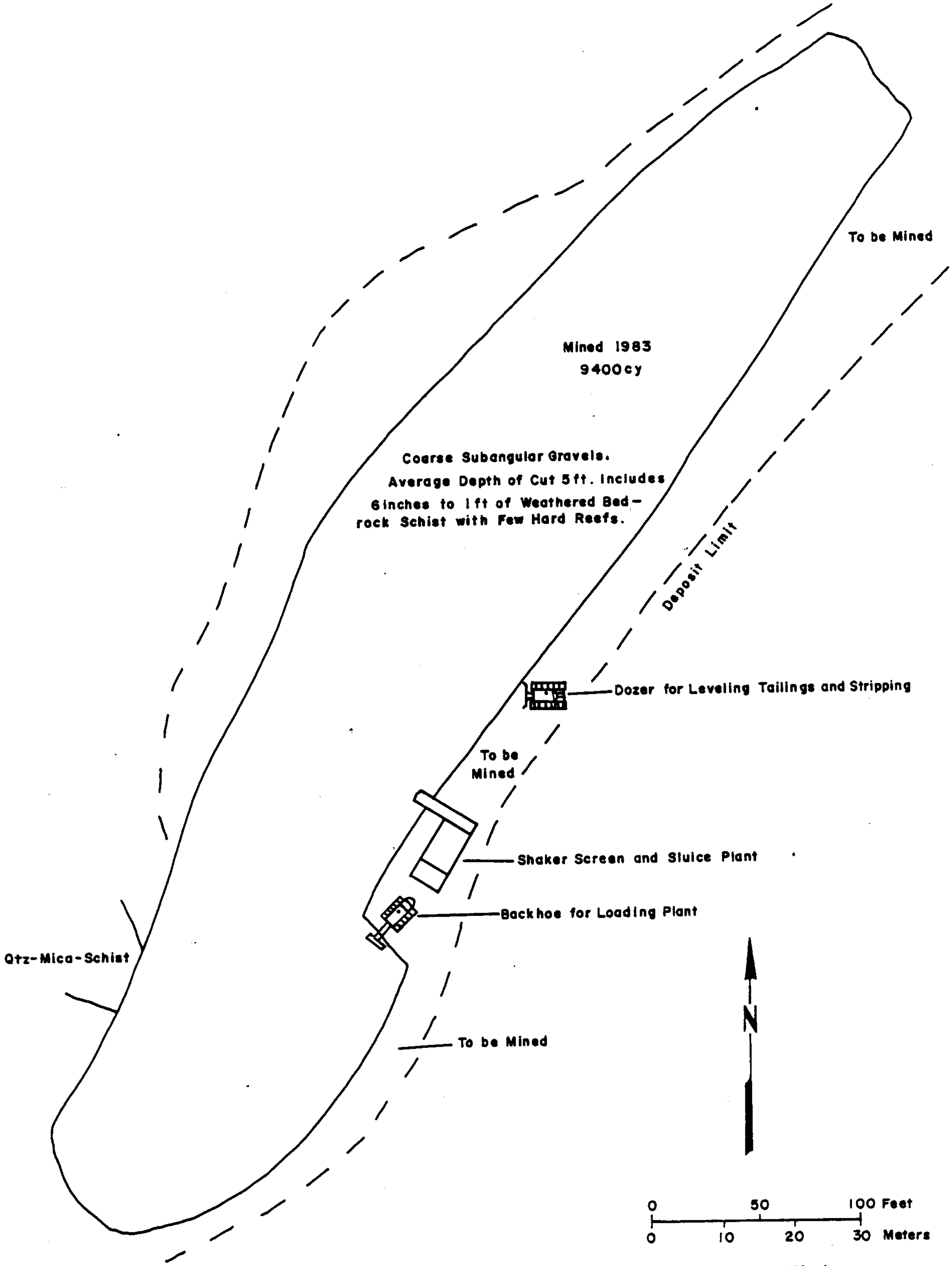
60% @ \$320 = 19200
34% @ \$400 = 13600
6% @ \$600 = 3600

$$\overline{36400}/100 = 364/400 = 0.91 \text{ factor}$$

A factor of 0.91 can be multiplied times the spot price of gold to determine the approximate value of placer gold produced in the area.

REMARKS: A consulting geologist was employed to test pit the Glen Creek stream and bench gravels. Initial test results for the area just mined agree very well with production results. All pit results for upper Glen Creek will be forthcoming. Initial pit testing on the bench deposit on West Fork indicates approximately 1.5 million cy may be present with average values of 0.002 oz/cy.

Gold tenor of gravels mined subsequent to the cut studied was reportedly higher. The mining was done over an area of old hand workings and in an area where test pitting had indicated low values could be expected. The low test pit values were probably due to nugget effect. A 1.5 and 0.75 oz nugget have been recovered in subsequent cleanups.



July, 1983 Mining

Mine Location 8 - East Fork Glen Creek Mining
N.W.Sec.6, T.16 S., R.16 W.

PLACER MINE OPEARTIONS REPORT

PROPERTY: Location 9, Upper Glen Creek at W. and E. Fork Juncture, SW Sec. 6, T16S, R16W

DEPOSIT DESCRIPTION: A deep accumulation of coarse gravels is present at the juncture of west and east forks of Glen Creek. A previous cut exposes 20 to 35 ft of gravel. The immediate area of the "basin" is over 200,000 sq ft. If the gravels average 25-ft deep, approximately 160,000 cy of material is present. Pay gravels being pushed to the plant from one area of the cut were being excavated from over 20 ft down and bedrock had not been exposed.

A glacial(?) clay is occasionally exposed in parts of the old cut and up to 2 ft of iron stained gravel was usually present above that horizon. The gravels are moderately sorted to unsorted and contain up to 1% large boulders. Virgin gravels over 15-ft deep are present up and down stream from the immediate vicinity of the cleared basin deposit.

Bedrock exposed on the sides of the existing cuts dip steeply into the basin. The bedrock is a deeply weathered clayey schist and in many places appears to be badly sheared. The shears are full of a blue clayey gouge and often contain pockets of ground up vein(?) quartz.

Gold is typically very rough, often rudely crystalline and commonly the larger pieces contain attached quartz. Most gold is slightly to heavily stained with Mn and Fe oxides. The gold is apparently distributed throughout the depth of the gravels, as bedrock had not been reached, and each time mining ceased, new nuggets could be picked from the sluice box. Concentrates contain abundant magnetite, galena, and pyrite with stibnite, scheelite, and occasional rhodonite. A few nuggets in the 1/2 oz size range were found and nuggets over 1 oz in size have commonly been recovered in the past.

MINING EQUIPMENT: Stationary shaker screen and sluice plant (150 cy/hr capacity), portable conveyor belt 30 x 3 ft wide, Insley® 3 cy bucket excavator, D-6 Cat® dozer, Cat® 3.5 cy loader, 75 KW generator, 6-in. pump with collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Cat® road grader, two 4x4 vehicles, six-wheel fuel truck, welding equipment, large shop building, two large living trailers, two cabins, cleanup shack and equipment, fuel tanks, large landing strip for fixed wing access.

MINING AND CLEANUP PROCESSING METHOD: Dozer pushes pay gravels over 200 ft to bucket which in turn feeds the conveyor belt. Over 150 cy/hr can be processed. Front end loader removes tailings and distributes downstream. Sump is excavated upstream for mine wash water and settling pond downstream.

Four men operate the mine. The fourth man services and monitors the sluice plant and other equipment.

WORK ACCOMPLISHED: The basin area prepared for mining was mapped and studied by the author. A bucket count was kept as mining progressed and a volume of gravel mined was calculated at approximately 2,300 cy. The sluice was cleaned out and processing of the cleanup yielded 41.87 oz of placer gold, 12.32 oz of which were plus 10 mesh in size. All of the gold was not recovered from the fine fraction and it is estimated that another 2 or 3 oz will be recovered later. Placer gold grade of the deposit is 0.018 oz/cy. Contained gold grade using a fineness of 800 is 0.015 oz Au/cy. When bedrock is reached the tenor of the deposit should increase as the gold should be concentrated there.

The 12.32 oz of jewelry gold is conservatively considered here to be 1000 fine as the average price received from sales will probably be over the spot price for gold.

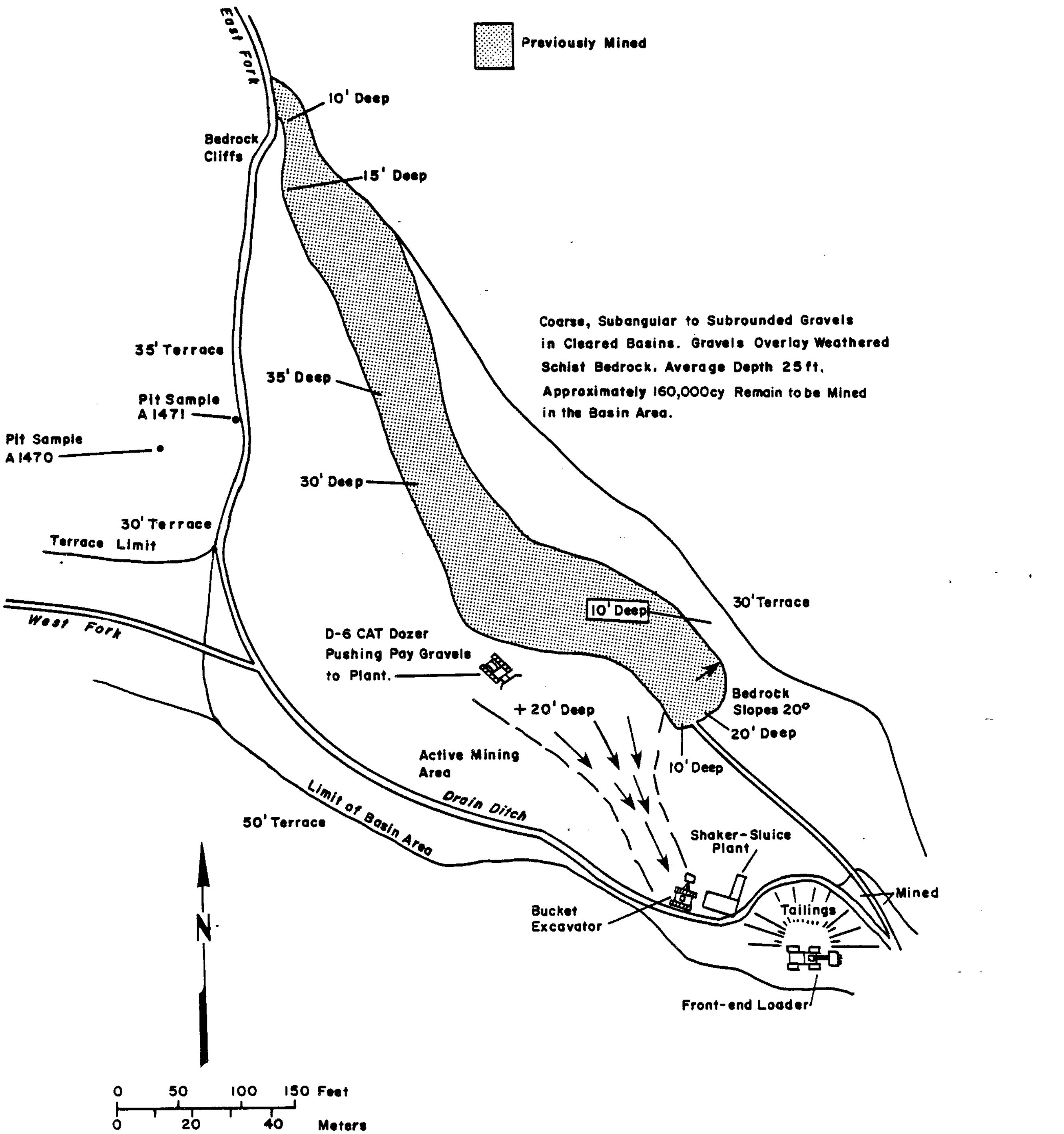
The other 29.55 oz recovered is reportedly 800 fine by the miners. Fineness tests run on gold from the west fork pit testing was over 800 fine.

$$\begin{array}{l} 71\% \text{ @ } \$320 = 22720 \\ 29\% \text{ @ } \$400 = \underline{11600} \\ \qquad\qquad\qquad\quad 34320/100 = 343.2/400 = 0.86 \text{ factor} \end{array}$$

A factor of 0.86 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

REMARKS: Several areas of rich shallow gravels remain to be mined on the upper Glen Creek holdings. In the past, smaller scale mining methods of rich pay zones have resulted in very lucrative payoffs and an unusual amount of coarse gold, with nuggets over 1 oz common.

A consulting geologist is test pitting all the Glen Creek stream and bench gravels. The results of which will be made available to this study. A substantial bench deposit is present on the property and tests so far have indicated an average value of 0.002 oz/cy for an estimated 1.5 million cy of material. The bench contains an average of 25 ft of coarse unsorted alluvial and colluvial gravels.



Mine Location 9 - Upper Glen Creek Mining
S.W.Sec.6,T.16 S.,R.16 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 10, Middle Caribou Creek, NW Sec. 7, T15S, R17W

DEPOSIT DESCRIPTION: Two hundred- to three hundred-ft-wide, relatively flat-lying gravel bar being mined. The cut mapped is on the very outside corner of the present stream meander. Gravels in the cut are 2- to 6-ft deep, becoming deeper towards the center of the drainage. Subsequent mining exposed gravels averaging 6- to 8-ft deep. Gravels are subrounded to rounded, loose and coarse except for lower 1 to 2 ft which are usually iron stained and fairly tight. Gravels lie on weathered clayey schist bedrock with occasional layers of harder, less weathered quartz mica schist. An occasional clayey gouge-shear zone with ground up vein quartz was observed in the bedrock. Gravels are virtually frost free although an occasional small patch is present.

The stream gradient is between 1% and 2% and virgin deposits in the vicinity alternate between relatively narrow (20 to 50 ft) canyon deposits to broad flat-lying bars similar to the one being mined. Most of the middle Caribou is lined by bedrock cliffs which are in turn overlain by gravel deposits 5- to 10-ft deep.

An average of 85% of the gold is less than minus 14 mesh in size and very flaky. Approximately 1/2 of the gold plus 14 mesh is also thin and flaky. Three dimensional gold is well rounded and contains very little quartz. Most nuggets are small - being in the 1/4- to 1/2-in. range but subsequent mining recovered 1 1/2 and 3/4 oz well worn nuggets. All gold is moderately to heavily tarnished with Mn and Fe oxides. Gold appears to be distributed throughout the gravel but concentrated on or near bedrock. Concentrates contain abundant garnet and magnetite.

MINING EQUIPMENT: Portable, 100 cy/hr, all hydraulic operated shaker screen and sluice plant - designed and built by the owner, Allis Chalmers® and Fiat Allis® dozers, Drott-Proclain® 2 cy bucket excavator, 6-in. Deutz® centrifugal pump, several hundred feet of aluminum pipe (Deutz® motors in washing plant, excavator and pump with a spare - all interchangeable).

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Large leveled permanent campsite, airstrip for fixed wing traffic, 206 Cessna aircraft, 4x4 truck, articulating rubber tired Nodwell for freighting across tundra, school bus, 40-ft truck-trailer van, 20-ft truck-trailer van, cleanup accessories - 48-in. spiral concentrating wheel - mini-sluice, 4-wheeler vehicle, fuel tanks.

MINING AND CLEANUP PROCESSING METHOD: Two men mine one shift for 10 to 12 hr/d. Dozer strips thin veneer of vegetation and soil. Cut started on left limit and dug well into bedrock for good drainage. Parallel cuts are made to the first cut with all tailings directed into prior cuts. Washing plant is pushed ahead of excavator as mining progresses upstream. Tailings are leveled with dozer. Mine water pumped out of Caribou Creek and settling ponds are prepared downstream prior to mining. Three to six inches of bedrock are mined depending on the hardness of the rock.

Cleanups are screened, run over mini-sluice, demagnetized, and final gold separation made on the spiral concentrating wheel.

WORK ACCOMPLISHED: The first cut was mapped by the author and a volume of 2,800 cy of excavated material measured. Processing of the cleanup recovered 106.35 oz of mostly fine flaky gold. Fifteen percent of the gold was plus 14 mesh size jewelry gold (15.95 oz). The gold averages 700 fine according to the owner. Placer gold grade of the deposit is 0.038 oz/cy. Contained gold grade is 0.027 oz Au/cy.

The 15.95 oz of jewelry grade gold will be sold on an average over the spot price for gold and is conservatively considered here to be 1000 fine.

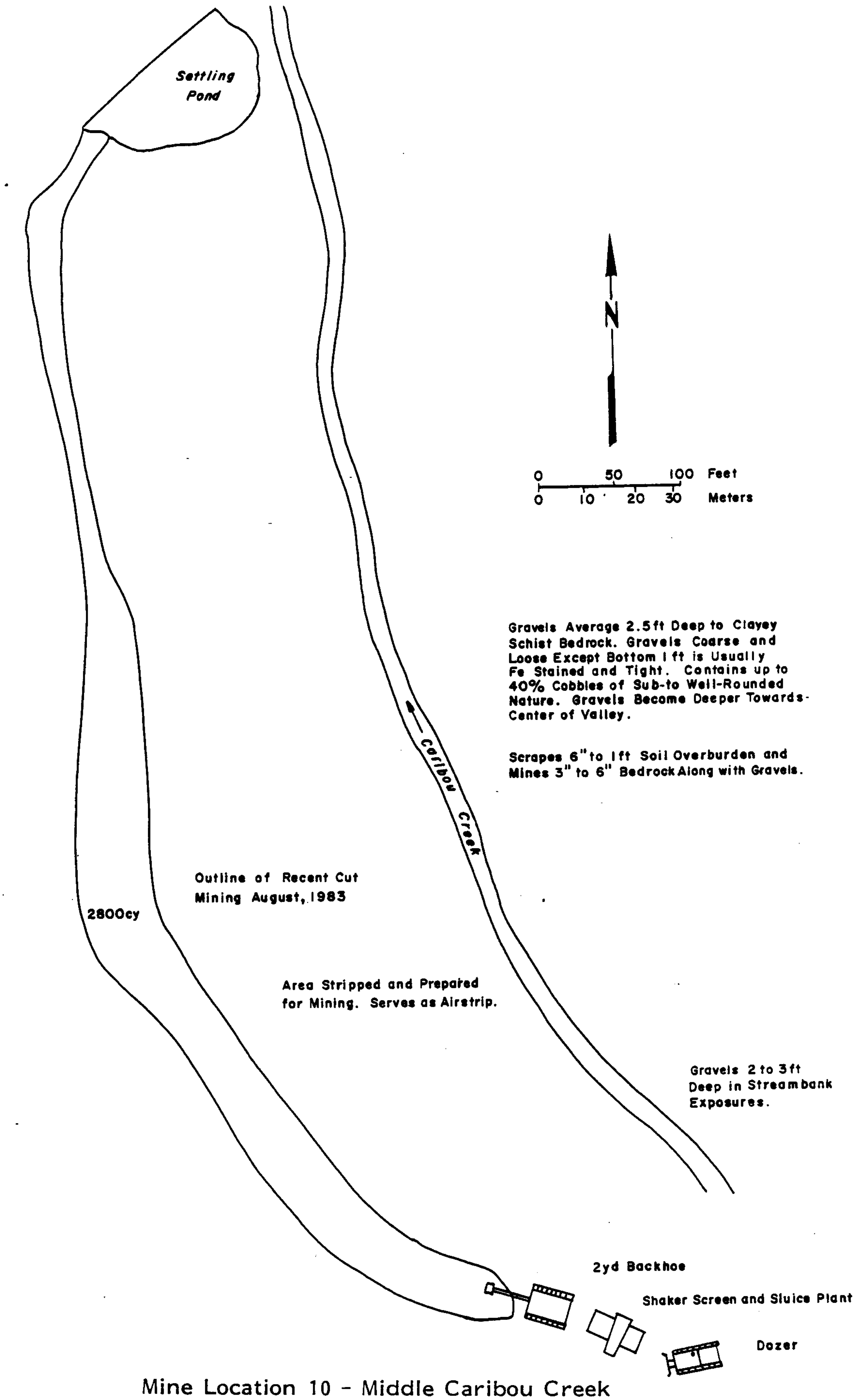
$$
\begin{array}{l}
85\% \ @ \ \$280 = 23800 \\
15\% \ @ \ \$400 = \underline{\ \ 6000\ } \\
\qquad\qquad\qquad\ \ 29800/100 = 298/400 = 0.75 \text{ factor}
\end{array}
$$

A factor of 0.75 can be multiplied by the spot price of gold to determine an approximate value of the placer gold produced in the area.

Approximately 70 hr were spent mining the cut studied and resulted in over 1.5 oz Au/hr of mining. The next cleanup produced over 2.1 oz/hr of operation according to the owner. The last cleanup produced 235 oz Au at over 2.5 oz/hr. The tenor of the deposit increased as mining approached the middle of the point bar deposit.

REMARKS: The owner has established an efficient and comfortable permanent camp and anticipates several more seasons of mining. The mine operation is very efficient and one in which most large-scale mining in the district has been patterned after. The washing plant is virtually problem-free and a model in engineering. This and previous plants built by the owner are in fact models for most of the other mine plants in the district.

It is anticipated that the narrow canyon deposits on the property, which are impractical to mine with the larger scale equipment, will be mined by similar but smaller-scale methods. Bench deposits overlying bedrock cliffs that border the drainage are largely unprospected and present a considerable resource. These benches are correlative with the Lee Bench deposits and probably contain economic concentrations of gold.



Mine Location 10 - Middle Caribou Creek
N.W.Sec.7,T.15 S.,R.17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 11, Eureka Creek, SE Sec. 12, T16S, R18W

DEPOSIT DESCRIPTION: Shallow gravel, 5- to 6-ft deep was being mined in a 30- to 100-ft-wide area on the stream bottom. Gravels are very coarse, subangular to angular with 5% boulders up to 3-ft across. Gravels are underlain by relatively hard quartz mica schist. Evidence of handworkings is common in the area. Unmined alluvium commonly continues underneath steep side slope overburden.

Gold recovered is rough to slightly worn and often rudely crystalline. Dendritic textures are common. Approximately 25% of the gold is slightly stained with Fe and Mn oxides. Concentrates contain abundant garnet and magnetite with galena, scheelite, stibnite and some cassiterite.

MINING EQUIPMENT: Hopper-grizzly-sluice washing plant (stationary) 955K Cat® front end loader, Evans® 6-in. pump with several hundred feet collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: 4x4 pickup, welding equipment. Approximately 1 mile of road built up stream bottom to property.

MINING AND CLEANUP PROCESSING METHOD: Gravels are excavated with loader and transported to a stationary plant. As much bedrock as practical is also mined. Plant is constructed of old truck bed hopper set at a fairly steep angle with spray bars mounted above to wash material over rail grizzly and into the head of a 25 ft x 30 in. sluice box. Oversize and tailings are periodically removed with the loader.

Sluice concentrates are run over a mini-sluice and further concentrated by hand panning. All tailings are put back into sluice box.

Two men (father and son) work the deposit on a daily basis.

WORK ACCOMPLISHED: The cut was mapped by the author and a volume of 220 cy calculated. The sluice was cleaned out and rough processed on site. Concentrates were screened, demagnetized and concentrated on the spiral concentrating wheel in the lab. Tails were amalgamated. Total placer gold recovered weighed 12.79 oz. Thirty-five percent or 4.43 oz of gold was plus 12 mesh size jewelry grade. This portion of the gold is considered conservatively to be 1000 fine. The remaining 8.36 oz of gold will assay approximately 777 fine according to the owner. Placer gold grade of the deposit is 0.058 oz/cy. Contained gold grade is 0.045 oz Au/cy.

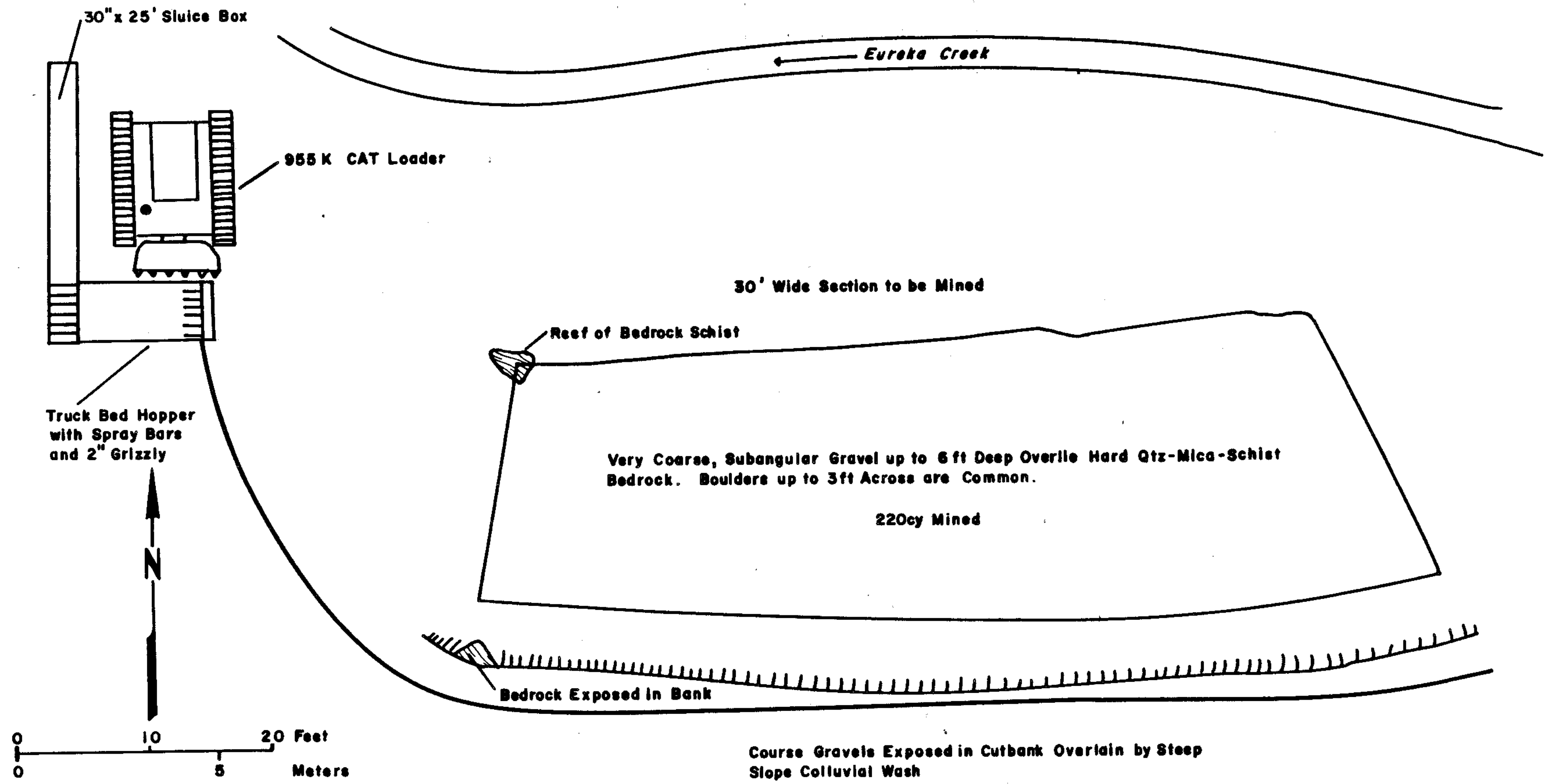
65% @ \$311 = 20215
35% @ \$400 = 14000
34215/100 = 342.15/400 = 0.86 factor

A factor of 0.86 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

The owner anticipates averaging the world price for gold on all the gold recovered.

REMARKS: Both father and son anticipate several mining seasons on the deposit. They own several patented claims in the district and have a permanent summer home in Kantishna.

Subsequent mining recovered a 3.33 oz nugget. The nugget was fairly well rounded, covered with abundant black oxide stain and contained no visible quartz. This is the largest nugget recovered in the district this season. The next biggest being 3.25 oz recovered from Friday Creek. The nugget was recovered from coarse alluvial and colluvial material excavated from under steep sidehill slope wash. Most of Eureka Creek is lined by similar, buried gravels of this nature.



August, 1983 Mining

Mine Location 11 - Eureka Creek Mining
S.E.Sec.12,T.16 S.,R.18 W.

PROPERTY: Location 12, Glacier Creek (Lower Canyon), SW Sec. 19, T1S, R17W

DEPOSIT DESCRIPTION: Deposit lies just above mouth of the lower canyon, where the creek emerges on to a broad flat-lying valley. Stream gradient averages 3%. Gravels are coarse, subangular to subrounded and moderately sorted with less than 1% large boulders over 3 ft in size. The gravels overlie a weathered clayey schist. A few shear zones are exposed in the bedrock. These contain clayey gouge and lenses of shattered vein(?) quartz. The bedrock undulates slightly creating low reefs and shallow troughs. Gravels are relatively deep ranging from 4 to 13 ft. Area being mined is 100- to 150-ft across and is bordered by bedrock cliffs. The low cliffs are overlain by bench gravels 4- to 8-ft deep.

Gold recovered was bright to slightly stained, rough and rudely crystalline to slightly worn. Thirty-five percent of the gold is plus 12 mesh and considered jewelry quality. Garnet and magnetite common in the concentrates.

MINING EQUIPMENT: 100 cy/hr shaker screen-sluice plant, Cat® D8H dozer, Cat® D-7 dozer, Cat® front-end loader (5 cy?), Cat® 235 2 cy bucket excavator, Deutz® 8 x 6 in. pump, several hundred feet of aluminum pipe and collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Go-Tract® fuel vehicle 4x4 service truck, welding equipment, motorcycle, 4-wheeler, fuel tanks, truck-trailer van for material and supplies, several wood frame cabins, airstrip, cleanup equipment - spiral concentrating wheel, 12-in. Knelson bowl hydrostatic centrifugal concentrator.

MINING AND CLEANUP PROCESSING METHOD: Ground stripped of thin veneer of overburden. Cut is started on left limit. Mining progresses with parallel cuts. The plant is pushed upstream ahead of excavator and tailings are directed into previous mine cut. and leveled with dozer. Small sump constructed upstream. Settling ponds excavated downstream.

Mining is done in two 12 hr shifts, 24 hr/d.

WORK ACCOMPLISHED: The cut was mapped by the author and a measured volume of 5,500 cy of material calculated. Processing of the cleanup recovered 126.78 oz placer gold. The placer gold grade of the deposit is 0.023 oz/cy. Contained gold grade at 750 fine is 0.017 oz Au/cy. Approximately 35% or 44.37 oz of the gold is coarse jewelry grade gold and is considered here to be at least 1000 fine. Gold fineness averages 750 according to owner.

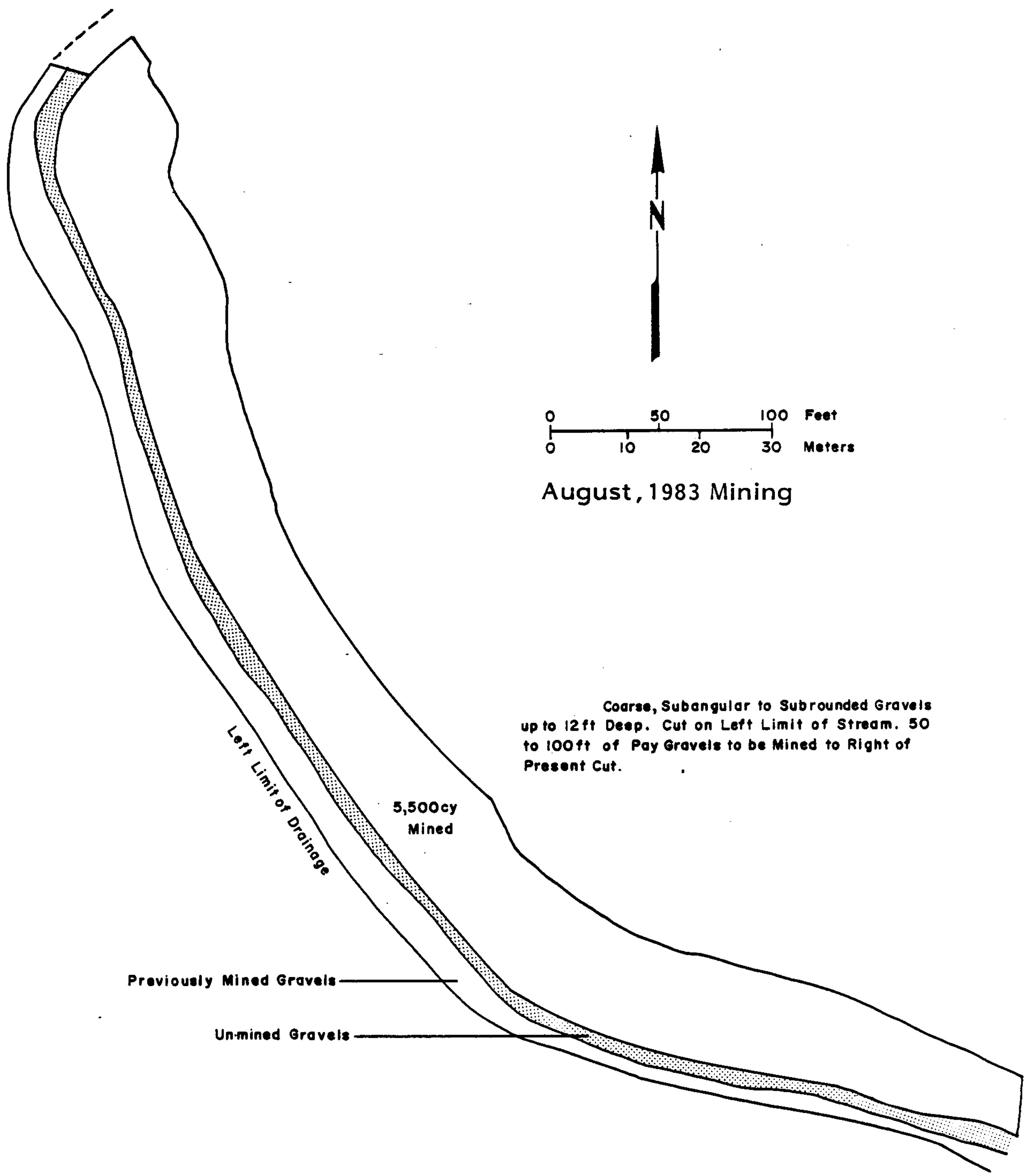
65% @ \$300 = 19500
35% @ \$400 = 14000
33500/100 = 335/400 = 0.84 factor

A factor of 0.84 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

Eighty-four hours were spent mining the cut resulting in 1.5 oz Au/hr operation.

REMARKS: At least eight men were involved with this family oriented, 24 hr/d operation. Wives and other family members are living in camp and perform support functions. Several high bench deposits are present on the claims and mining of the bench adjacent to the previous cut was undertaken after the above deposit was mined. Results were reportedly not as high grade but satisfactory. The stream bottom deposit tenor increased as they mined away from the valley sides.

Mining the stream and bench deposits is planned for next season. The owner of the claims has been mining the higher bench deposits since 1965 using small scale methods with reportedly very rich production of coarse gold. Large nuggets are common.



Mine Location 12 - Glacier Creek
S.W.Sec.19,T.1 S.,R.17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 13, Glacier Creek (lower), NW Sec. 19, T15S, R17W

DEPOSIT DESCRIPTION: Four- to six-foot deep, subrounded, reddish-brown stained, loose gravels overlie an oxidized, iron-stained, clay-rich Tertiary gravel. Gravels are fairly well sorted and contain few boulders. Mine area is approximately 1/2 mile downstream from the narrow canyon mouth where Glacier Creek emerges onto the present broad, flat-lying valley floor. Stream gradient is less than 2%. The deposit is 200- to 300-ft wide at the present mining area and becomes progressively wider downstream. The valley bottom is bordered by large gravel capped benches up to 50- to 75-ft high.

Mine cuts downstream expose similar gravels up to 10-ft deep. Prospect trenching on the bench gravels expose 4 to 8 ft of gravels very similar to the present stream gravels.

Gold recovered from recent mining is very bright flake gold 85% of which will pass through a 12 mesh. Less than 1% of the gold observed was over 1/2-in. across. Most gold is well worn but a few pieces show remnant crystal, wire or dendritic textures and a few pieces contained attached quartz. Concentrates contained abundant garnet and magnetite.

Gold obtained from panning and churn drilling the bench gravels is more three dimensional and rough.

A dragline operated between the present cut and the canyon mouth in the early 1940's. The huge area mined has been leveled and an airstrip built on top. Virgin gravels 20- to 50-ft wide are present on the side of this old mining area.

MINING EQUIPMENT: Medium capacity shaker screen-sluice plant (tire mounted), H1500 Insley® bucket excavator, D8H Cat® dozer, Deutz® 8 in. x 6 in. pump with collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Two 4x4 service trucks, 5,000 gals fuel storage, three 3-wheelers, eight wood frame buidings for personnel and equipment, large truck-trailer van, welding equipment, cleanup equipment-screening-sluice box, spiral concentrating wheel.

2,000 ft airstrip to be lengthened to 3,000 ft next year.

MINING AND CLEANUP PROCESSING METHOD: Nine men perform mining, maintenance and support functions on this 24 hr/day operation. The mine area is stripped of 1 to 2 ft of overburden. The present plant was designed to push ahead of the excavator as mining progressed. A structural problem prohibited this form of operation at the time of this examination. A large cut was excavated and pay gravels were stockpiled. The windrowed material was then fed into washing plant which was transported behind the excavator. Tailings are directed into previous cut and leveled with dozer. Wash water is pumped out of creek and settling ponds are constructed below the mine cut.

Cleanups are screened and run over a mini-sluice, final separation of gold is made using a spiral concentrating wheel, all tailings will be heap leached.

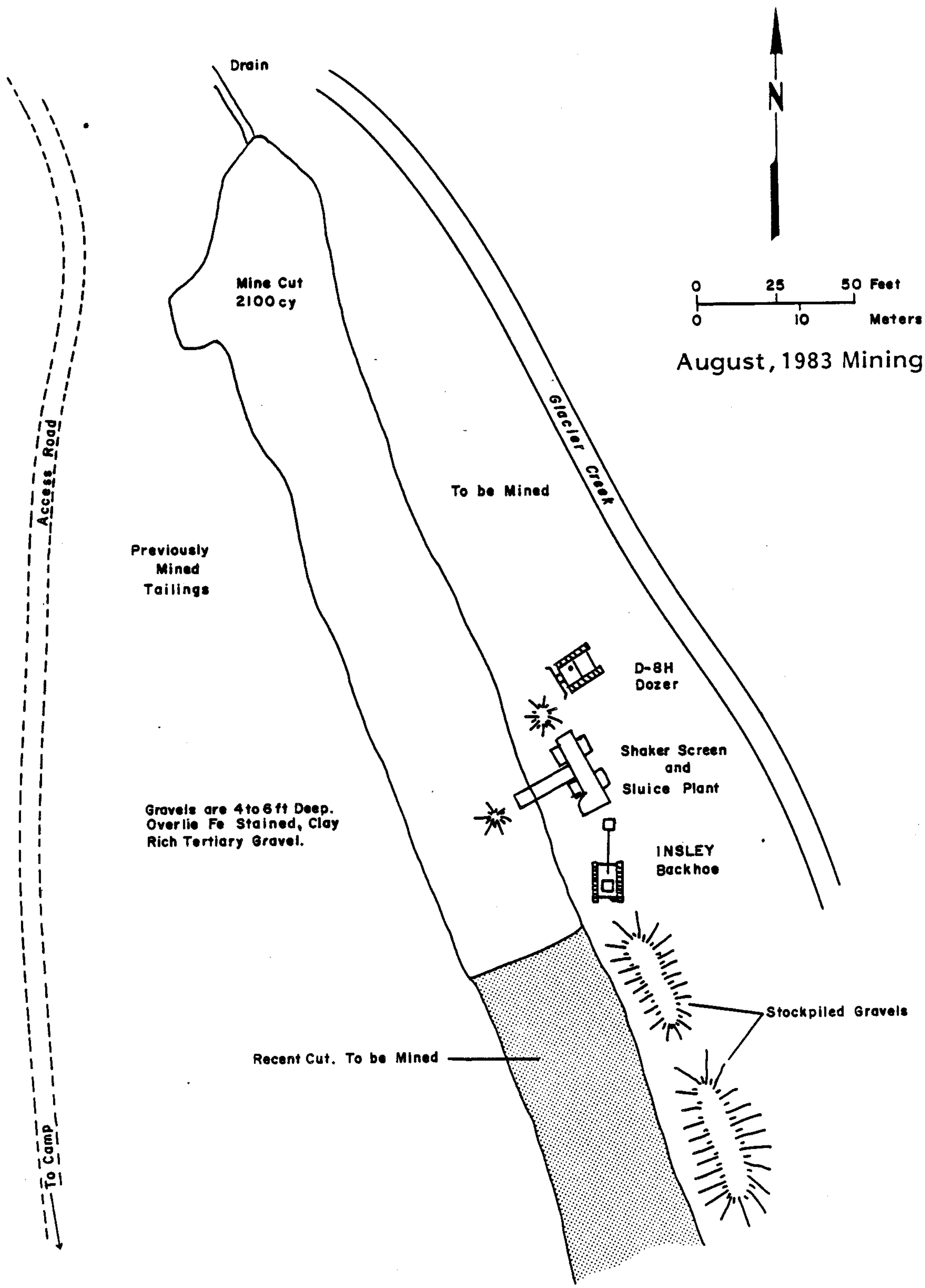
WORK ACCOMPLISHED: The cut was measured by the author and approximately 2,100 cy of material was mined. Processing of the cleanup recovered 47.9 oz of placer gold. Placer gold grade of the deposit is 0.023 oz/cy. Using a fineness of 760 the contained gold is 0.017 oz Au/cy. Fifteen percent or 7.2 oz was coarse jewelry grade gold and is considered to be 1000 fine. Assays of previously mined gold are between 740 and 780 and the other 40.7 oz of fine placer gold calculated at 760 equals 30.9 oz.

85% @ \$304 = 25840
15% @ \$400 = 6000
31840/100 = 318.4/400 = 0.8 factor

A factor of 0.8 can be multiplied by the spot price of gold to determine an approximate value of the placer gold mined.

REMARKS: Approximately 2 miles of stream bottom gravels of a similar nature have yet to be mined downstream. Tests by the owner are reportedly good. The Glacier Creek bench gravels have been tested by the owner, the results of which are better than the gravels presently being mined. A large area has been stripped of muck in preparaton for mining later this season. Several more seasons are anticipated by the owner to mine the present stream and bench gravels.

One of the men with the help of his son operates a small shaker-screen sluice plant similar to the large plant that can process 20 cy/hr. This plant is mining side-pay areas left behind by previous large scale mining. See Location 14 report for results. This plant is averaging approximately 1/2 oz of gold per hour of operation.



Mine Location 13 - Lower Glacier Creek
N.W. Sec. 19, T. 15 S., R. 17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 14, Lower Glacier Creek, SW Sec. 19, T15S, R17W

DEPOSIT DESCRIPTION: Shallow (3 to 4 ft), coarse gravels on edge of old tailings area. The area was worked with a dragline in the early 1940's and is located below the mouth of the Glacier Creek Canyon where the stream gradient flattens considerably. Twenty- to fifty-ft-wide virgin gravels remain on side of old tailings. Gravels are underlain by a weathered, clayey to brittle schist bedrock. The deposit is over 200-ft wide at the canyon mouth and very flat (1 to 2%) stream gradient.

Gold observed in the sluice box was rough to slightly worn and nuggety. A few pieces of 1/4 in. in size were observed. Garnets and magnetite were also observed.

MINING EQUIPMENT: Small shaker screen-sluice plant (20 cy/hr capacity), small 1/8 cy (?) hydraulic backhoe mounted on track mounted bombardier, 2-in. centrifugal pump with collapsible hose, Cat® diesel generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: The operator utilizes the claimowners tools and service vehicles for the most part.

MINING AND CLEANUP PROCESSING METHOD: The sluice plant is mounted on wheels so maneuverability is very good. It is then moved into position with the bombardier and leveled, and then loaded with the backhoe. Oversize tailings are directed into a prior cut. When observed, the plant was mining mine sidepay left behind by a dragline operation.

The plant is a small shaker screen which screens to 1 1/4 in. Oversize material transported on a conveyor belt and over the cutbank. The plant is set up with a 3/8-in. punch plate on the upper end of the sluice to create an undercurrent effect. Astroturf below expanded metal with a nugget trap is utilized to recover gold.

Three to four hours are spent mining, the rest of the day is spent setting up, on maintenance and cleanup of the mined concentrate. Cleanup is accomplished by screening and running over a mine sluice-demagnetizing and panning or spiral wheel concentrating the final concentrate.

WORK ACCOMPLISHED: The operation was monitored periodically over a weeks time while monitoring two large scale operations on either side of the mine-site. A cleanup was made after a 3 hr mine shift. A little over 1.5 oz of placer gold was recovered for a placer gold grade of 0.025 oz/cy. Using an average of 20 cy/hr and a 760 fine figure, the contained gold grade of the ground was calculated at approximately 0.019 oz Au/cy.

Because the percentage of jewelry gold is not known, a factor of at least 0.76 can be multiplied by the spot price of gold to determine the approximate value of placer gold produced in the area.

REMARKS: The washing plant is uniquely adapted to work small mine side pay areas too small for the larger plants to attempt mining economically. The operator would like to get a small dozer and backhoe to improve maneuverability and mining efficiency. The plant would also prove useful in mining narrow gulch or canyon deposits present in the district.

Before cleanup the operator stated he had been averaging 2 oz per 4 hr mine shift which compared very well with the 1.5 oz recovered from 3 hr of mining.

The man is helped periodically by his son. The plant was engineered and built by the operators and utilizes the same principles as the large scale washing plants in the area.

PROPERTY: Location 15, Upper Glacier Creek, NE Sec. 30, T15S, R17W

DEPOSIT DESCRIPTION: Shallow and generally narrow bedrock walled creek alluvial and colluvial deposits. Gravel is 2 to 6 ft to bedrock and ranges from 25- to 100-ft across. The wider areas usually include shallow stream bottom benches immediately adjacent to stream. Gravels are coarse and angular to subangular and subrounded and usually up to 1% large boulders.

Gold is coarse and rough and often crystalline. Concentrates contain abundant galena and garnets with magnetite. Only 1% of gold recovered is under minus 16 mesh. The gold is usually in the 0.05 to 0.25 oz range and 1/4- to 1/2-oz nuggets are common. A 4.5-oz nugget was recovered last year.

MINING EQUIPMENT: Four-inch floating suction dredge, hydraulic backhoe (1/8 cy?)

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Cushman® trackster, large track vehicle, fuel storage, tool shed, cabin. Cleanup accessories.

MINING AND CLEANUP PROCESSING METHOD: Suction dredge is floated in creek and hose from dredge sucks alluvial material off bedrock. Most stripping or removal of overlying material and large boulders is done by hand or with comalongs.

WORK ACCOMPLISHED: The area being mined was visited when the operator was gone to observe mining method and the deposit geology. The operator ran a test prior to the examination. Approximately 2 cy of material was run through the dredge and just over 0.1 oz of gold recovered. One of the nuggets recovered weighed 0.5 g. Because most of the gold recovered by the operator is very coarse jewelry grade gold he at least averages the world price for gold. The placer gold grade is 0.05 oz/cy. The contained gold grade is 0.038 oz Au/cy. A factor of 1.0 can be multiplied by the spot price of gold to determine an approximate value for placer gold mined in the area, as only 1% of the gold is below jewelry size.

REMARKS: These claims have been worked by the owner in much the same manner with similar results for nearly 20 yr. At the present rate of mining, at least 30 more years are anticipated by the owner. The gold is very coarse and several nuggets above the 1-oz range have been obtained. One nugget recovered weighed over 4 1/2 oz. A small to medium sized operation could probably be supported on the creek.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 16, Juncture of 22 Gulch and Glacier Creek, N 1/2 Sec. 32, T15S, R17W

DEPOSIT DESCRIPTION: Three to six feet of coarse, subangular to subrounded gravel on quartz mica schist bedrock. The present cut is located at the juncture of Glacier Creek and 22 Gulch and both gravels were mined. Glacier Creek is over 80-ft wide at this location and relatively shallow gradient (less than 5 degrees). Part of the cut had been hand mined extensively in the past as evidenced by large piles of hand stacked rocks.

The gold recoverd was variable in appearance and texture. Much of the gold was rudely to coarsely crystalline, dendritic and wire in nature. Some nuggets were very gnarly and most showed little wear or worn edges. After bedrock had been scraped in some localities, the rock could be hand picked for visible nuggets. Bedrock hardness is variable and areas which are harder and more brittle due to quartz content usually tend to concentrate larger amounts of nugget gold. Many of the nuggets recovered are in the 1/4- to 1/2-oz range. Abundant garnets, galena with stibnite and occasional tourmaline in concentrates.

In most areas along the stream, alluvial material continues underneath steep side slope scree and soil cover.

MINING EQUIPMENT: 110B Case® dozer, 350 Case® loader, 40 cy/hr shaker screen sluice plant, 4-in. pump with collapsible hose, generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Renovated school bus, truck camper, welding equipment, two 4x4 trucks. A road was built from Yellow Creek down the Glacier drainage to the mine site (2 miles).

MINING AND CLEANUP PROCESSING METHOD: Most of the upper gravel and large boulders are scraped off and is not mined. Usually the lowermost 1 or 2 ft of alluvium and an average of 1 ft of bedrock is mined.

The dozer pushes pay material up to 50 ft to the plant and is loaded by the loader into the plant. The plant is skidded upstream as mining progresses.

Three men work the deposit 10 to 12 hr/d and move 20 to 40 cy/hr through the plant.

WORK ACCOMPLISHED: As the end of the mining season was drawing to a close, it was decided not to map a specific cut and perform a cleanup of the concentrates as it would consume valuable mining time. The gravels were observed and coarse placer gold (jewelry) picked from the concentrates to date weighed over 100 oz. It is estimated that at least that amount of finer placer gold remained in the concentrate. The cut was estimated to contain approximately 14,000 cy, 3,400 of which was actually mined. If 200 oz of placer gold are recovered the cut would contain 0.014 oz/cy of placer gold. The material actually mined would have a placer gold grade of 0.059 oz/cy. Using a fineness of 760 the contained gold grade is 0.011 oz Au/cy or 0.045 for material processed.

50% @ \$304 = 15200
50% @ \$400 = <u>20000</u>
35200/100 = 352/400 = 0.86 factor

A very conservative factor (much of the gold is sold at over two times the spot price) of 0.88 can be multiplied by the spot price of gold to determine an approximate value for placer gold recovered in the area.

REMARKS: Glacier Creek narrows to 10- or 20-ft wide in a few places but ranges from 50- to 250-ft wide for over 2 miles of the stream length. Several areas show signs of handworking in the past and old reports indicate the "earlier" miners mined rich, coarse-gold pay-streaks. Very good production results were obtained by mining previously hand mined areas at the present mine site. This is probably a good indication that similar results can be expected from future mining on Glacier Creek.

Approximately half of the gravels on 22 Gulch were mined by hand methods in the early days. Extensive piles of hand stacked rocks are evident today. This creek is unclaimed but probably represents a very high grade placer resource. Sidepay areas and low bench deposits would probably support a small to medium sized mining operation.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 17, Friday Creek, SE Sec. 11, T16S, R18W

DEPOSIT DESCRIPTION: Unsorted alluvial and colluvial mixture alluvial fan(?). Mining right limit of stream into hillside. Bedrock schist slopes into hill. Deposit located at the head end of alluvial fan where Friday Creek emerges from narrow canyon. The slope of hill rises rather quickly and the gravels on right limit of cut are over 30-ft deep. Bedrock is exposed uphill 200 ft from edge of cut and gravels could extend into the hill up to 150 ft.

The material above bedrock contained significantly less gold than that mined on and into bedrock but appeared to still be economic. Once bedrock was reached, gold production went up considerably. The gold is typically very rough and often rudely crystalline showing dendritic and wire-like textures and often contains considerable quartz. Several large nuggets were observed including a 2.75, 1.25, and two 1-oz nuggets. Gold found on bedrock is usually iron stained and shows little sign of wear. Abundant galena along with magnetite, pyrite, garnet and some scheelite is found in the concentrate.

Gravels usually covered by 4 to 8 ft of overburden with 25% cobbles subangular to rounded and 1% boulders up to 4-ft across. Bench-fan(?) deposits of a similar nature extend upstream over 700 ft to the narrow canyon mouth.

MINING EQUIPMENT: Two D-8 Cat® dozers, 955 Cat® loader, 60 cy/hr shaker screen-sluice plant (stationary), 10-in. pump and collapsible hose, 45 KW generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Two trailers, one camper, two 4x4 pickups, one pickup, two ton truck, welding equipment, fuel tanks, cleanup accessories.

MINING AND CLEANUP PROCESSING METHOD: The washing plant was set on a steep slope and a ramp built to feed hopper. D-8 used to strip overburden and push pay gravel to loader which in turn feeds plant. Tailings are pushed downstream from plant and contoured. Dam constructed on stream for wash water. Settling pond constructed below.

Cleanups are sieved to minus 4 mesh and hand picked. Remaining concentrate is run over Carter shaking table and most of the coarse gold is hand picked from this new concentrate.

Two to three men worked the deposit 10 to 12 hr/d.

WORK ACCOMPLISHED: Several visits were made to the property as mining progressed and the geology was observed. Two hundred and fifty hr had been spent mining the cut. At 60 cy/hr production approximately 15,000 cy of material had been mined. Over 350 oz were estimated from cleanups to date (a large portion of the concentrates will be processed for gold later in the winter). The placer gold grade is estimated to be 0.023 oz/cy. Using a 780 fine figure the contained gold grade is 0.018 oz Au/cy. Approximately 50% of the gold is considered to be jewelry grade. Many pieces over 1/2 oz in size will obtain a price of 1000 to 1500 dollars/oz for "character" gold. The operators reported that they will probably average the world price for the total amount of gold recovered. Because percentage of size fractions is not known, a factor was not calculated.

REMARKS: A few more seasons of mining are anticipated on this deposit. The deposit would not have been apparent unless mining was undertaken under the slope wash exposing the gravels. Several areas upstream from this cut are probably underlain by similar deposits.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 18, Upper Caribou, SE Sec. 18, T15S, R16W

DEPOSIT DESCRIPTION: Three to five feet of coarse, angular to subangular and subrounded material. The deposit is immediately upstream from the last dragline tailings. The drainage at this point is up to 300-ft wide and relatively flat. The gravel was being mined to a 6-in. sandy layer above a clayey weathered mica schist bedrock. The bedrock was cut several times by shears which contained mostly clayey gouge and small pods of crushed quartz containing some pyrite.

Gold observed in the sluice box was rough and one piece showed dendritic texture with attached quartz. Abundant garnets were observed in the concentrate.

MINING EQUIPMENT: Cat® 235 two cy bucket excavator, Cat® D-7 dozer, Cat® D7H dozer, tire mounted 100 cy/hr capacity shaker screen sluice plant, two Deutz® diesel 6-in. pumps, several hundred feet of aluminum pipe.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: 206 Cessna aircraft, welding truck, three large mobile homes, one small trailer, two school buses, three large truck trailer vans.

Cleanup equipment - Sweco 24-in. vibrating screens, 12-in. Knelson bowl hydrostatic centrifugal concentrator, 48-in. spiral concentrating wheel, cement mixer/amalgam tumbler, mercury retort, 6,000 gal capacity fuel tanks.

Approximately 6 miles of road was constructed in July to freight all equipment to mine site. An airstrip was leveled for fixed wing access and a large camp site was prepared near the mine site.

MINING AND CLEANUP PROCESSING METHOD: A sump was excavated for mine wash water. Several acres of relatively flat alluvial deposit was stripped of a thin veneer of soil cover. The plant is pushed ahead of the bucket as mining progresses upstream. Approximately 40-ft-wide cuts are made and tailings are directed into the previous cut. Mine water is directed into previously excavated settling ponds.

Mining is accomplished on a 24-hr basis. Four men mine two 12 hr shifts. Another man is employed to process all cleanups completely on site. One catskinner to prepare ground and level tailings. The owner and one other man perform support functions. Several other family members perform camp logistics.

WORK ACCOMPLISHED: The mining had just begun at the time of the author's visit. The previous two weeks had been spent freighting all equipment and the camp to the mine site and preparing ground for mining. A look at the sluice box showed rough gold was being recovered. Tenor of the deposit could not be estimated. One piece of coarse (1/2 in. x 1 in.) gold showing rough dendritic texture with attached quartz was observed. Production subsequent to this visit was reportedly satisfactory.

REMARKS: The operator anticipates several seasons of mining on the upper Caribou drainage. Several bench deposits 20- to 50-ft above the creek level have never been tested and represent a substantial gold resource.

PROPERTY: Location 19, Rainy Creek, SW Sec. 14, T16S, R17W

DEPOSIT DESCRIPTION: Up to 15-ft deep unsorted alluvial and colluvial gravels. Deposit is up to 200-ft wide by 1,000-ft long. Stream gradient is less than 5% and the deposit is located at the mouth of Rainy Creek Canyon where the stream emerges onto a broad, open fan deposit. Gravels being mined are at the head end of the alluvial fan.

MINING EQUIPMENT: 1.25 cy bucket excavator, D-6 Cat® dozer, medium sized shaker screen-sluice plant, 6-in. pump, generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Large tractor truck, 4x4 pickup and camper, four cabins, flatbed truck trailer, large trailer van, welding equipment, camp generator.

MINING AND CLEANUP PROCESSING METHOD: Area was cleared of brush and thin veneer of soil. A drainage ditch was excavated to bedrock schist. A cut will be made moving the washing plant ahead of the bucket excavator. Several men and their families were involved in the operation.

WORK ACCOMPLISHED: The area had been stripped and prepared for mining at the time of the author's visit and no mining had been accomplished at that point.

REMARKS: Upstream from the mine site, the stream becomes fairly narrow and shallow until the head of the drainage where 30- to 50-ft minable widths are present and the gravel is relatively shallow. Some handworking from "earlier" days are evident in the upper canyon. A small area was mined downstream from the present site where the present stream drainage is incised into the huge alluvial fan. Results of that mining are unknown.

Table A-1 - Composition (Fineness) of Placer Gold Collected from Pit and Cable Tool Samples, Kantishna Study Area

Drainage	Sample #	Composition	
		Gold	Silver + Base
Moose	A1452	763	237
Moose	A1453	779	221
Moose	A1454	775	225
Eureka Fan	A1457	746	254
Eureka	A1458	744	256
Moose/Friday Terrace	A1459	911	89
Friday	A1460	769	231
Spruce	A1466	790	210
Upper Glen	A1467	808	192
Glen Terrace	A1471	907	93
Lower Glen	A1473	786	214
Moose Terrace/ Rainy	A1474	850	150
Eldorado	A1476	835	165
Moose Terrace	CDH-2 (A1477)	709	291
Moose Terrace	CDH-3	889	111
Glacier Terrace	CDH-10 (A1478)	872	128
Glacier Terrace	CDH-11-16	752	248
Moose Terrace	CDH-17	915	85

Table A-1a - Composition and Gold/Silver Ratios of Placer Gold Collected from the Kantishna/Dunkle Mine Study Areas (Compiled by Robert B. Hoekzema, U. S. Bureau of Mines, Anchorage)

Stream (Kantishna Area)	Sample #	Composition			Au/Ag	Au/ Au+Ag
		Au	Ag	Base		
Banjo Dump	A3032	635	81	284	7.8	887
Bearpaw River	A0989	759	111	130	6.8	872
Bearpaw River	A1406	623	88	289	7.1	876
Caribou Creek (Upper)	A3048	654	115	231	5.7	850
Caribou Creek (Lower)	A1402	660	178	162	3.7	788
Crevice Creek	A0978	631	149	220	4.2	809
Crevice Creek	A0980	613	30	357	20.4	953
Eldorado Creek	A3022	787	74	139	10.6	914
Eldorado Creek	A3056	829	40	131	20.7	954
Eldorado Creek Tributary	A3052	952	48		19.8	952
Little Moose Cr.	A3026	579	351	70	1.6	623
Little Moose Cr.	A3027	537	280	183	1.9	657
Moose Creek	A3058	713	112	175	6.4	864
Moose Creek	A3069	738	86	176	8.6	896
Moose Creek	A3094	717	283		2.5	717
Moose Creek	A0958	760	32	208	23.8	960
Moose Creek	A0961	630	370		1.7	630
Moose Creek	A0962	724	30	246	24.1	960
Myrtle Creek	A3072	614	50	336	12.3	925
Myrtle Creek	A3077	735	108	157	6.8	872
Myrtle Creek	A3084	827	11	162	75.2	987
Myrtle Creek	A3085	768	232		3.3	768
Rainy Creek	A3043	743	48	209	15.5	939
Rock Creek Trib.	A0995	831	169		4.9	831
Rock Creek	A1400	801	153	46	5.2	840
Stampede Creek	A3029	532	322	146	1.7	623

Table A-1a - Composition and Gold/Silver Ratios of Placer Gold Collected from the Kantishna/Dunkle Mine Study Areas

Stream (Dunkle Area)	Sample #	Composition			Au/Ag	Au/ Au+Ag
		Au	Ag	Base		
Bull River	A1418	706	130	164	5.4	844
Colorado Creek	A2424	640	166	194	3.9	794
Colorado Creek	A2429	626	170	204	3.7	786
Costello Creek	A1417	670	151	149	4.4	816
Costello Creek	A2431	496	17	487	29.2	967

BACKHOE PITTING AND SAMPLING PROCEDURES

Pits were excavated in 1-ft vertical intervals using a John Deere® 450-D, track mounted backhoe which had a 13-ft reach. As each vertical foot of material was excavated, a representative 4 x 3 ft bucket full of material was sampled. Each bucket was heaped in order to closely approximate an original volume of bank alluvium. Sampling was limited to relatively shallow deposits by the reach capacity of the backhoe. The heavy minerals and gold in the sample were concentrated by a small, portable Denver Gold Saver® trommel/sluice washing plant capable of processing approximately 1 cy of material hourly. The washing plant was run by a 3.5 hp Honda engine. Wash water was supplied to the plant from a 3.5 hp 150 gpm Honda centrifugal pump via 1.5-in. polypipe.

Material from the backhoe was placed onto and washed through a 2-in. screened hopper. Oversize material was discarded manually while undersize (less than 2 in.) material flowed into a 3/16-in. screened trommel and was washed continuously by a spray bar. The undersize (less than 3/16 in.) material flowed through a laterally agitated 2 ft x 1 ft riffle sluice section. Tailings from this primary sluice flowed over an extended 10 ft x 1 ft sluice containing 1-in. transverse riffles overlying a Nomad® indoor-outdoor carpet. The extended sluice was utilized as a safeguard to trap gold not collected in the primary riffles. As the season progressed, only the upper 2 ft of the extended sluice was utilized as the primary riffles effectively trapped the gold.

At 4-ft vertical intervals or at significant changes in the characteristics of the deposit being sampled, the wash plant was shut down and concentrates from the primary riffles were screened. Material larger than 10 mesh was inspected for nuggets. Material smaller than 10 mesh was carefully hand-panned in a large wash tub. Gold colors were counted, described and recorded. The concentrate was saved for further processing. By sampling in set intervals or at definitive breaks, the distribution and concentration of the gold could be recorded. Concentration from the extended sluice section was processed in the same manner at the conclusion of the hole.

Larger excavation equipment, belonging to miners in the area, was used for collecting some samples. In these instances, a large single sample was excavated and piled next to the washing plant. A representative 1 cy sample was taken from the pile and processed through the washing plant.

Free gold was extracted from concentrates from the pit sample in the field laboratory. Coarse gold (greater than 30 mesh) was removed manually. The remaining gold in the concentrate was then amalgamated with mercury in a rock tumbler for a minimum of 2 hr. The amalgam was removed from the concentrate using a spiral wheel concentrator, and digested in a nitric acid solution to dissolve the mercury. The yielded gold was washed with distilled water and then heated to remove any excess mercury. Then both hand-picked and amalgamated gold was weighed to determine the total gold in the sample.

The fineness of selected gold samples from each drainage was determined by Silver Valley Labs in Osburn, Idaho. Approximately half of the sample concentrates were analyzed using an optical emission spectrograph to determine the content of 31 elements. The remaining samples were assayed for selected elements to test the possibility of other potentially economically concentrated metals. Table A-2 summarizes pit sampling results.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001450	Lower Moose Creek	3,481, 590	343,340	SW 13 T16S R18W	*800	0.001	0 - 4'	Coarse glaciofluvial gravels. Very fine gold in sample. One 24 cu ft sample contained 34.9 mg of gold.	Hit water at 3 ft in hole, sampling stopped at 4 ft due to cave. Bedrock was not reached, inconclusive results. Fair sample location.
A001451	Lower Moose Creek	3,482, 636	341,962	SW13 T16S R18W	*763	0.0002	1-10.5'	Poorly-sorted, coarse, glaciofluvial gravel. Very fine gold. One 60 cu ft sample contained 21.2 mg of gold.	Sample taken adjacent to large mine cuts. Stopped at blue clay false bedrock. Fair sample location although pay-streaks are common in this area.
A001452	Lower Moose Creek	3,482 937	341,668	SE14 T16S R18W	763	0.009	0-8'	Poorly sorted coarse glaciofluvial gravel. Hit large tight boulders at 6' which could not be excavated - abandoned hole. Very fine flaky gold increased considerably near bottom of hole. Two samples with a total volume of 54 cu ft contained 82.9 mg of gold.	Boulders at bottom of hole and increasing gold content at bottom of hole at indicate it was abandoned relatively close to bedrock. Inconclusive test. Fair sample location.
A001453	Lower Moose Creek	3,488 309	337,844	SW11 T16S R18W	779	0.0016	0-6'	Loose sandy glaciofluvial gravel. Hit permafrost at 6' and abandoned hole before hitting bedrock. Very fine flaky gold. Two samples with a total volume of 36 cu ft contained 84.5 mg of gold.	Inconclusive test because bedrock not reached. Fair sample location.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001454	Lower Moose Creek	3,487 150	338,822	SW11 T16S R18W	775	0.017 (incl. 1/4" nugget)	0-6'	Fine soil overburden (no sample)	Deep overburden at sample pit not characteristic of area and was not used to calculate concentration Good sample location. A mining operation nearby is recovering 30% nuggets from a similar deposit and first concentration value is considered representative.
						0.014 (w/o nugget)	6-9.5'	Sandy glaciofluvial gravel to iron stained quartz sand false bed-rock. Gold coarse and rough. Two samples total volume of 36 cu ft, contained 946.1 mg gold.	
A001455	Eureka Creek	3,489 032	354,844	SW8 T16S R17W	*744	0.0007	0-1'	Soil (no sample)	Sample probably from old tailings near cabin site and results are inconclusive Poor sample location
							1-5'	Disturbed colluvium contained manmade articles and petroleum contamination includes 1' of bedrock. 30 cu ft sample contained 33.4 mg of gold.	
A001456	Eureka Creek	3,489 153	354,685	NW8 T16S R17W	*746	0.0088	0-1.5'	Coarse, subangular alluvial and colluvial fan gravel. Fine gold.	Sample from nose of alluvial fan above Eureka Creek. Fan heads near Banjo Mine. Fan possibly 30-40' deep. Fair sample location.
							1.5-2.5'	Schist bedrock. One sample with a volume of 12 cu ft contained 161.6 mg of gold.	
A001457	Eureka Creek	3,489 311	354,442	NW8 T16S R17W	746	0.0048	0-3'	Colluvium (no sample).	Sample from top of fan, approximately 70' above A001456. Bedrock not reached because of backhoe limitation.
							3-13.5'	Coarse, subangular alluvial and colluvial fan gravel. gold. Includes 8mm wire. Three samples total volume of 72 cu ft contained 573.5 mg of gold.	

TABLE A-2- KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001458	Eureka Creek	3,488 530	353,068	NW8 T16S R17W	744	0.0027	0-2' 2-12.5'	Soil and tundra overburden (no sample) Coarse colluvial and alluvial gravel. Fine to coarse gold. Three samples with a total volume of 66 cu ft contained 277.8 mg of gold.	Sample from low bench adjacent to stream bottom tailings. Bedrock not reached and results are probably low. Fair sample location.
A001459	Friday Creek	3,487 560	340,120	SE11 T16S R18W	911	0.0117	0-2' 2-18'	Tundra and soil overburden (no sample) Sandy glaciofluvial gravel Very fine to coarse colors. Four samples with a total volume of 2.6 cu ft contained 37.2 mg of gold.	Sample from buried Moose Creek terrace gravels adjacent to recent mine cut. Hand dug channel sample from vertical bank exposure. Did not reach bedrock. Good sample location.
A001460	Friday Creek	3,487 880	340,350	SE11 T16S R18W	769	0.0013	0-2' 3-18'	Tundra and soil overburden Coarse, unsorted, subangular colluvial and alluvial fan gravels. Fine gold. Four samples with a total volume of 2.4 cu ft contained 4.0 mg of gold.	Hand dug channel sample from vertical mine cut in fan gravel. Bedrock was not reached. Poor sample location.
A001461	Lower Moose Creek	3,484 233	340,806	NE14 T16S R18W	*763	0.0012	0-8' 3-10.5'	Tundra and silty muck overburden (no sample) Loose sandy, unsorted glacio-fluvial gravel. Very fine to fine gold. Two samples with a total volume of 60 cu ft contained 118.1 mg of gold.	Reached limit of backhoe before reaching bedrock inconclusive results. Fair sample location.
A001462	Upper Spruce Creek	3,489 583	391,063	NW9 T16S R16W	*790	0.0001	0-3' 3-7'	Soil and sandy muck (no sample) Sandy, subrounded gravels water in hole at 3' and ice at 7'. One sample with a volume of 24 cu ft contained 4.7 mg of gold.	Bedrock was not reached and sample is inconclusive as values should be concentrated there. Fair sample location.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001463	Upper Spruce Creek	3,489 634	391,245	NW9 T16S R16W	*790	0.0005	0-1' 1-11.5'	Soil (no sample) Loose, fine, sandy gravel Very few fine colors. 63 cu ft sample contained 4.7 mg of gold.	Reached limit of backhoe before hitting bedrock. Inconclusive sample as values historically on bedrock. Probably close as big boulders occur at bottom of hole. Fair sample location.
A001464	Upper Spruce Creek	3,488 359 359	389,976	NW9 T16S R16W	*790	0.00008	0-3' 3-11'	Tundra and muck (no sample) Subangular colluvial and alluvial gravel of local origin with 10% rounded glacial clasts. Very few colors. One sample with a volume of 36 cu ft contained 4.1 mg of gold.	Sample from saddle between Glen and Spruce Creeks proved existence of old channel between the two creeks. Poor fine sample location.
A001465	Upper Spruce Creek	3,487 998	389,787	SW9 T16S R16W	*790	0.0002	0-1' 1-13'	Tundra and muck (no sample) Mostly wellrounded clasts of glacial origin on blue clay outwash bedrock. Lower section of gravel contained large amounts of clay. Very few fine to coarse colors. Three samples with a total volume of 72 cu ft contained 17.2 mg of gold.	Sample near A001464. Apparently reworked glacio till/terrace gravels. Poor sample location.
A001466	Lower Spruce Creek	3,485 662	390,289	SW9 T16S R16W	790	0.0051	1-8.5' 8.5-9'	Coarse subangular to sub-rounded gravel. Fine to coarse gold concentrated near bedrock. Decomposed clayey schist bedrock. Three samples with a total volume of 90 cu ft contained 808.2 mg of gold.	Good sample location. Gold is very bright and flaky. Probably contains reworked glacial gold.

TABLE A-2- KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001467	West Fork Glen Creek	3,493 526	377,233	NE1 T16S	808	0.0127	0-1' 1-4'	Soil (no sample) Coarse subangular to subrounded gravels. Fine to coarse gold colors. One sample with a volume of 13.2 cu ft contained 238.8 mg of gold.	Good sample location.
A001468	West Fork Glen Creek	3,493 593	377,242	NE1 T16S R17W	*808	0.0043	0-1' 1-5'	Soil (no sample) Coarse subangular and subrounded gravels to decomposed schist bedrock Large boulders on bedrock. One sample with a volume of 26.4 cu ft contained 163.8 mg of gold.	Good sample location. Taken 200' upstream from recent mining cut.
A001469	West Fork Glen Creek	3,493 508	377,211	NE1 T16S R17W	*808	0.0199	0-3' 3-4'	Coarse subangular to subrounded gravel with large boulders at bedrock. Fine to coarse gold colors. Bedrock schist with pyrite bearing quartz vein. Fine to coarse gold colors. One sample with a volume of 26.4 cu ft contained 747.9 mg of gold.	Good sample location. Taken 100' from A001468.
A001470	Upper Glen Creek	3,492 906	379,023	SW6 T16S R16W	*907	0.0027	0-5'	Coarse, unsorted, subangular colluvial and alluvial gravel. One sample with a volume of 26.4 cu ft contained 93.2 mg of gold.	Sample taken from top five feet of 30' deep bench above main creek. Poor sample location.
A001471	Upper Glen Creek	3,492 866	379,168	SW6 T16S R16W	907	0.0093	20- 27'	Coarse unsorted, subangular alluvial gravels with 10% boulders. Fine to coarse gold colors and one 3/16" nugget. One sample with volume of 26.4 cu ft contained 311.4 mg of gold.	Sapmle from bottom of same bench as sample A001470. Seven feet sample taken above but not on bedrock. Fair sample location.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001472	Lower Glen Creek	3,483 178	384,520	NW17 T16S R16W	*786	0.0063	0-8.5'	Coarse subangular to subrounded gravel. Fine to coarse colors and one 1/4" nugget.	Fair sample location.
							8.5-9.5'	Decomposed schist bedrock fine to coarse colors. Three samples with a total volume of 54 cu ft contained 601.7 mg of gold.	
A001473	Lower Glen Creek	3,483 462	384,617	NW17 T16S R16W	786	0.0228	0-.5'	Soil (no sample)	Fair sample location. 200' upstream from A001472.
							.5-5.5'	Coarse sandy, subangular to subrounded gravels fine to coarse gold colors.	
							5.5'-6'	Hard schist bedrock. Two samples with a total volume of 36 cu ft contained 1373.8 mg of gold.	
A001474	Upper Moose Creek	3,478 301	368,748	NW23 T16S R17W	850	0.0013	0-1'	Soil (no sample)	Sample taken at mouth of Rainey Creek from bench adjacent to Moose Creek. Taken 10' from R.P. samples A003045 and A003046. Fair sample location.
							1-23'	Coarse, well sorted, well rounded glaciofluvial gravel. Fine gold colors.	
							23-24'	Schist bedrock. Few fine colors. Three samples with a total volume of 138 cu ft contained 238.6 mg of gold.	
A001475	Rainy Creek	3,480, 841	371,029	SW14 T16S R17W	*800	0.0004	0-12'	Subangular to subrounded sandy gravel. Some clasts of glacial till ? origin. Few fine colors. Three samples with a total volume of 72 cu ft contained 27.4 mg of gold.	Appears to be slightly reworked glacial till and local gravels in fan complex. Poor sample location.

TABLE A-2- KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001476	Lower Eldorado	3,481, 581	343,340	NW23 T16S R18W	835	0.0077	0-4.5'	Subangular to subrounded gravel of local origin with FeOx stain.	Good sample location.
							4.5-7.5'	Rounded glaciofluvial gravel fine to coarse colors.	
							7.5-8.0'	Blue clay outwash material False bedrock. Two samples with a total volume of 48 cu ft contained 509.8 mg of gold.	
A001476	Lower Eldorado Creek	3,481 589	343,340	NW23 T16S R18W	835	0.0116	0-2.5'	Subangular to subrounded gravel (no sample)	Good sample location. Taken adjacent to above sample to determine if gold is concentrated at contact of different gravels.
							2.5-5'	Subangular to subrounded gravel with fine to coarse gold. One 1/4" nugget.	
							5-7.5'	Rounded, coarse glaciofluvial gravel. Fine to coarse gold colors. Three samples with a total volume of 24 cu ft contained 363.7 mg of gold.	

* Fineness value is that of another pit sample from same drainage.

** Sample locations described as to their relative ability to concentrate gold:

Good: Good location for gold to concentrate. Probably paystreak sample and gold concentration is probably above value of gravels in immediate area.

Fair: Fair area for gold to concentrate. Concentration probably representative of value of gravels in immediate area.

Poor: Poor location for gold to accumulate and concentration may understate value of gravels in immediate area.

FIELD LOG -- PIT SAMPLING

Sample # A001450

Project Kantishna

Claim Ashbrook Homesite - Moose Creek

Bucket Size 6 cubic feet

Coordinates N 3481570
E 343375

Line

Hole 1

Elevation 1650

20' from Moose Cr. @ xing -
on RL Moose Cr.

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/20/83	1:00 PM	0	4	4	Loose coarse gravel - few small colors from surface
					glaciofluvial material
					Stop @ 4' - hole caving water @ 3'

Overburden 0 ft.

Gravel 4 ft.

Bedrock 0 ft.

Water Level @ 3 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001451

Project Kantishna

Claim Moose Creek 1

Bucket Size 6 cubic feet

Coordinates N 3482610
E 342250

Line

Hole 2

Elevation 1680

Below Eldorado Creek
approx. 50' south of road on N-5
prospect and drain ditch

Date	Time	Sample From	Sample To	No. of Buckets	Trench on virgin ground. Scraped by Sonny Kragnes of surface muck. Never mined however. Area to north 50' has all been mined in last 5 yrs Remarks
6/22/83	Beg. 11:30 AM	0	4	4	Poorly sorted med. to coarse gravel, approx. 12 colors,
					small - 2 mg
	1:00 PM	4	8	4	Poorly sorted med. to coarse gravel, approx. 25 colors -
					5 mg
	1:40 PM	8	10.5	2	Poorly sorted med. to coarse gravel, approx. 20 colors,
					few boulders
	2:20 PM	Finish			Stopped @ blue clay-false bedrock
					*NOTE: All cons. added to one sample

Overburden 0 ft.

Gravel 10.5 ft.

Bedrock 10.5 ft. blue clay

Water Level @ 8 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001452

Project Kantishna

Line

Claim L-57 Moose Creek

Hole 3

Bucket Size 6 cubic feet

Elevation 1680

Coordinates N 3482950 E 341700

Approx. 80' south of south side line of MC#2

Approx. 2' tundra and soil already scraped off

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/22/83	Start 4:30	0	4	4	Coarse sand, gravel, boulder, dark gray clay @ 1 1/2'
					tight, coarse gravel @ 3' - 10 small colors - 1 mg
	5:20	4	8	5	Gets few big boulders @ 6" and becomes tighter. Some
					sluff from above, water rose 1/2', approx. 75 colors - 35 mg

Overburden 0 ft. Already scraped

Gravel 8+ ft.

J. Levell

Bedrock ? ft.

Water Level @ 2 1/2 ft.

Probably close to bedrock because large boulders evident near bedrock in trench 200' away

FIELD LOG -- PIT SAMPLING

Sample # A001453

Project Kantishna

Claim Approx. 200' NE Chinook #4

Bucket Size 6 cubic feet

Coordinates N 3488450
E 337800

Line

Hole #4

Elevation 1550

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/24/83	11:50 AM	0	4	4	Loose sandy gravel w/5% of up to 1.5' across boulders
					approx. 100 fine colors - 3 up to 2 mms across
		4	6	2	Loose sandy gravel - boulders the same. Hit water 5'
					hit ice @ 6', approx 50 fine colors - 2 up to 3 mm across
	Finish 3:30				
		0	6		Sluice - lots of blacks (magnetite) 5 colors

Overburden 1 ft. Scraped off

Gravel 6 ft.

Bedrock ? ft.

Water Level @ 5 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001454

Project Kantishna

Claim Chinook 3 or Alder 6

Bucket Size 6 cubic feet

Coordinates N 3487360
E 338770

Line

Hole #5

Elevation 1560

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/24/83		0	6		No sample, fine sand and clay
6/25/83	11:00 AM	6	8.5	4	Stopped at red sand/false bedrock, approx 300, approx. 50 over 3 mm across, one round flat flake 1mm x 6 mm
6/25/83	1:00 PM	8.5	9.5	2	Red sand and some sand and gravel from above, 150 colors, 25 approx. above 3 ml, 1 nugget 1/8" across
6/25/83		6	9.5		Sluice sample, lots of black sand and lots of very fine colors

Overburden 6 ft. fine soil

Gravel 3.5 ft.

Bedrock 9.5 ft.

Water Level @ - ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001455

Project Kantishna

Claim Eureka Creek 6

Bucket Size 6 cubic feet

Coordinates N 3484040
E 354900

Line

Hole #6

Elevation 2350

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/27/83	4:15 PM	0	1		No sample
	4:15 PM	1	5	5	3 ft colluvium, 1 ft bedrock, colluvium disturbed
					heavy diesel contamination approx 10 coarse colors
	Sluice	2	5	5	100 fine colors, one 1/8" flake

Overburden 1 ft.

Gravel 4 ft.

Bedrock 4 ft.

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001456

Project Kantishna

Claim Eureka Creek 6 (Eureka Creek)

Bucket Size 6 cubic feet

Coordinates N 3484120
E 354575

Line

Hole #7

Elevation 2400

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/28/83	12:30	0	2.5	2	Hit bedrock @ 1.5 ft, dug 1 ft into bedrock
					70 fine colors
	Sluice	0	2.5	2	70 very fine colors

Overburden 0 ft.

Gravel 2.5 ft.

Bedrock 2.5 ft.

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001457

Project Kantishna

Claim Eureka Creek 6

Bucket Size 6 cubic feet

Coordinates N 3484240
E 354380

Line

Hole #8

Elevation 2430

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/29/83		0	3		Overburden, colluvium
	12:30 PM	3	7	4	30 very fine colors
	2:00 PM	7	10.5	4	8 mm wire, 30 coarse, 100 fine, 100 very fine
	4:00 PM	10.5	13.5	4	17 coarse, 200 fine, 300 very fine
	Sluice	3	13.5	12	1 fine, 100 very fine

Overburden 3 ft.

Gravel 10.5 ft.

Bedrock - ft. never hit

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001458

Project Kantishna

Claim Eureka Creek 5

Bucket Size 6 cubic feet

Coordinates N 3483720
E 353460

Line

Hole #9

Elevation 2300

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/30/83		0	2		Overburden, no sample
	12:00noon	2	6	4	2 fine, 65 very fine
	1:35 PM	6	9.5	4	20 fine, 200 very fine
	2:30 PM	9.5	12.5	3	4 coarse, 25 fine, +100 very fine
	Sluice	2	12.5	11	20 very fine colors

Overburden 2 ft.

Gravel 10.5 ft.

Bedrock - ft. didn't hit

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001459

Project Kantishna

Claim Friday Discovery

Bucket Size ______ cubic feet 1 pan/vert. ft

Coordinates N 3487560
E 340120

Line ______

~~Hole~~ Bank Channel 10

Elevation 1680

From blue glaciofluvial gravels on left limit terrace

Date	Time	Sample From	Sample To	No. of ~~Buckets~~ Pans	Remarks
~~7/1/83~~	~~12:00~~	~~0~~	~~2~~		~~No sample - OB~~
		2	6	4	20% rounded cobbles, few boulders up to 4' across
					1 fine, 14 very fine
		6	10	4	Same - no boulders, 1 fine, 6 very fine
		10	14	4	Same - no boulders, 2 coarse, 1 fine, 8 very fine
		14	18	4	Fe stnd, pea gravel in bottom 2 ft, should be near
					false bedrock as active cut across stream channel
					has similar material above false bedrock
	Tails sluice	~~2~~	~~18~~		~~11 very fine~~

Overburden 2 ft.

Gravel 16 ft.

Bedrock ? ft.

Water Level @ 16 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001460

Project Kantishna

Claim Friday Discovery

Bucket Size ______ cubic feet 1 pan/vert. ft

Coordinates N 3487880
E 340350

Line ______

~~Hole~~ Bank Channel 11

Elevation 1710

Date	Time	Sample From	Sample To	No. of Buckets	Remarks: Subangular Friday Creek fan gravels from rt. limit terrace above present, active mine cut, few boulders up to 2 ft across.
7/1/83	2:00	0	3	0	Dirt - no sample
	A	3	7	4	Subangular gravels, 14 very fine
	B	7	11	4	Subangular, 10 very fine colors
	C	11	15	4	Subangular, 14 very fine colors
	D	15	18	3	Bedrock present in near vicinity and should have
					been close to or near it in bottom foot of sample
					1 fine, 16 very fine

Overburden 3 ft.

Gravel 15 ft.

Bedrock 0 ft.

Water Level @ 0 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001461

Project Kantishna

Claim Liberty Moose Creek

Bucket Size 6 cubic feet

Coordinates N 3484230
E 340810
240' S5OE from CP-4

Line

Hole 12

Elevation 1500

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/2/83	11:30	0	3	5	No sample - muck and sandy overburden
	12:30	3	7	5	Loose sandy gravel with very rounded cobbles of glacio-
					fluvial origin. Rock types vary widely. 10% boulders
					up to 3' across. 1 coarse, 6 fine, 200+ very fine
	2:00	7	10.5	5	2 coarse, 40 fine, +200 very fine much black sands
					50% + 1 1/2", 20% + 3/16, 20% fine sand
	Sluice sample	3	10.5	15	75 very fine colors

Overburden 3 ft.

Gravel 7.5 ft.

Bedrock ? ft.

Water Level @ - ft.

W. Srock

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001462

Project Kantishna

Line

Claim Spruce

Hole 13

Bucket Size 6 cubic feet

Elevation 2550

Coordinates N 3490100
E 391300

Near rt. limit of valley - 10' west of road

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/6/83	10:30 AM	0	3	-	Soil and sandy muck - no sample
		3	7	4	Loose sandy alluvium - small cobbles. Water @ 3'. Hole
					blocked at 7' on something hard - possibly ice? But also
					ran into big boulders and a 4" clayey gravel layer. 20 very
					fine colors
					20 very fine colors in tailings sluice

Overburden 3 ft.

Gravel 4+ ft.

Bedrock ? ft.

Water Level @ 3 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001464

Project Kantishna

Line

Claim Spruce

Hole 14

Bucket Size 6 cubic feet

Elevation 2550

Coordinates N 3490200
E 391500
Approx. 150' east of #13

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/6/83	3:00 PM	0	1		Soil
		1	5	4	Very loose sandy gravel - 8" silty clay layer @ 3.5', 20 very fine colors, lots coarse magnetite
		5	9	4	10 very fine colors, hit water @ 8 ft, abundant coarse magnetite
		9	11.5	2.5	Coarser, 5% boulders up to 2' across. Quit hole because bucket can't go deeper. 10 very fine colors, 1 fine

Overburden 1 ft.

Gravel 10.5+ ft.

Bedrock - ft.

Water Level @ 8 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001464

Project Kantishna

Claim Spruce Creek #5

Bucket Size 6 cubic feet

Coordinates N 3488200
E 390200
Bench above S5

Line

Hole #15

Elevation 2480

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/8/83		0	3		Overburden - no sample
		3	7	4	10% 1 1/2"+, 10% 1 1/2"-3/16", high clay content,
					1, 2 mm color 90% of cobbles are angular schist, 10%
					rounded of various lithologies
		7	11	4	Hit bedrock @ 10', 20% 1.5"+, 25% 1.5"-3/16",
					1 fine, 6 very fine. Much black sand, 90% of cobbles
					are subangular schist, 10% rounded of varying lithologies
		11	12	1	Bedrock decomposed schist, no colors
		Tailings Sluice Sample			
		3	12	9	No colors

Overburden 3 ft.

Gravel 8 ft.

Bedrock 12 ft.

Water Level @ ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001465

Project Kantishna

Claim Spruce Creek 5

Bucket Size 6 cubic feet

Coordinates N 3487600
E 390150
Bench above S5

Line ______

Hole #16

Elevation 2470

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/8/83		0	1		Overburden no sample
		1	A 5	4	Well rounded cobbles, 20% 1.5"+, 20% 1.5"-3/16",
					3 fine colors, 10 very fine
		5	B 9	4	Well rounded cobbles of various lithologies, 25% 1.5"+,
					25% 1.5"=3/16", little clay, 1 coarse, 4 fine, 1+ very fine
		9	C 13	4	Stopped @ blue clay, high clay, 1 fine, 10 very fine
		Tailing Sluice Sample			
		1	13	12	

Overburden 1 ft.

Gravel 12 ft.

Bedrock 13? ft.

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001466

Project Kantishna

Claim Spruce 4

Bucket Size 6 cubic feet

Coordinates N 3485450
E 390350

Line

Hole 17

Elevation 2350

Date	Time	Sample From		Sample To	No. of Buckets	Near Ashbrook's cut from 1982. Bedrock near surface 100' away Remarks
7/9/83		0	A	4	4	30% 1.5", 30% 1.5"-3/16", some clay, water @ 2.3'
						approx. 100 fine, +100 very fine, high magnetite
		4	B	7	6	3 coarse, 100 fine, 100+ very fine, much magnetite
						sloughing of hole
					10	Sluice sample of 7 ft
7/10/83						Widened hole to go deeper
7/11/83		7	C	9	5	Hit bedrock @ 8.5' - orange clayey schists, big
						boulders on bed rock, 7 very coarse, 15 coarse, +100 fine,
						+150 very fine.
		9	D	9.5	4	Tried to go deeper, but made little headway and started
						pulling out slough, but bedrock and big boulders in
						each bucket, 5 very coarse (one up to 4mms), 25 coarse,
						100 fine, +150 very fine
					8	Sluice sample of last 2.5'
						Showed lots of gold, but had a washout accident during
						sample D. Should not include sample D or sluice in calculations.

Overburden 0 ft. scraped off last year probably close to a ft deep originally

Gravel 8.5 ft.

Bedrock 8.5 ft.

Water Level @ 2 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001467

Project Kantishna

Claim Gold King 8

Bucket Size 1.2 cubic feet

Coordinates N 3493400
E 377500

Line

Hole #18

Elevation 2800

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/12/83		0	1		Overburden
		1	4	11	Hit bedrock @ 3 ft. 6 coarse, + 50 fine, 50 very fine
					25% 1.5", 25% 3/16"-1.5"

Overburden 1 ft.

Gravel 3 ft.

Bedrock 3 ft.

Water Level @ 3 ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001468

Project Kantishna

Claim Gold King 8

Bucket Size 1.2 cubic feet

Coordinates N 3493450
E 377500

Line

Hole 19

Elevation 2800

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/13/83		0	1		Overburden
		1	5	22	Hit bedrock @ 4', 6 coarse, +25 fine, +100 very fine, less black sands than #18. Bedrock is decomposed schist (buff colored) 30% +1.5", 30% 3/16=1.5", many large boulders @ bedrock

Overburden 1 ft.

Gravel 3 ft.

Bedrock 4 ft.

Water Level @ ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001469

Project Kantishna

Claim Gold King 8

Bucket Size 1.2 cubic feet

Coordinates N 3493400
E 377450

Line

Hole #20

Elevation 2800

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/13/83		0	4	22	Hit bedrock @ 3 ft, sample site situated on a bedrock depression w/pyrite rich vein material showing @ bottom. Much bedrock in sample. Large boulders near bedrock. Much pyrite in sample 10 coarse, +100 fine, +100 very fine

Overburden 0 ft.

Gravel 3 ft.

Bedrock 4 ft.

Water Level @ ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001470

Project Kantishna

Claim Glen Creek 6

Bucket Size 1.2 cubic feet bank run

Coordinates N 3492400
E 379250

Line

Hole #21

Elevation 2700

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/14/83		/	/	22	6 coarse, 75 fine, +100 very fine schist float, angular
					to subangular and subrounded gravel
		Tailings sluice			Sample from 30' bench. Top 5' below grass roots 3 1/2
					yd bucket struck - 1 yd run through gold saver. 10%
					boulders up to 1' across. Rest is fairly fine
					w/another 10% cobbles. Most rocks have hard clay glueing
					pebbles to sides

Overburden 1 ft.

Gravel 5 ft.

Bedrock None ft.

Water Level @ ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001471

Project Kantishna

Line

Claim Gold King 5

Hole #22

Bucket Size 1.2 cubic feet bank run

Elevation 2660

Coordinates N 3492400
E 379300

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/14/83		Random loader bucket from bench			~~One 3/16" nugget, 6 coarse, 50 fine, +75 very fine~~
					10% large boulders, 15% +1.5", 25% 3/16-1.5"
					Sample from lower 7' on bottom of 30' bench near
					weathered schist bedrock. 10% cobbles up to 1 ft across,
					1% boulders up to 4 ft across. Imbricate structure normal
					to East Fork of Glen Creek. 1 yd sample run from
					3 1/2 yd struck bucket.

Overburden - ft.

Gravel 7 ft. vertical

J. Levell

Bedrock 2 ft. below sample

Water Level @ - ft.

FIELD LOG -- PIT SAMPLING

Sample # A001472

Project Kantishna

Claim Glen Creek (lower)

Bucket Size 6 cubic feet

Coordinates N 3483300
E 384300 Glen Creek

Line

Hole #25

Elevation 2240

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/17/83		0	3.5	3	1 coarse (3/8"x1/2"), 1 fine, +100 very fine, hit clay
					and vegetable material @ 3', 40% + 1.5", 30% 3/16"-1.5".
					Possible tailings
		3.5	8.0	4	4 fine, +200 very fine, stopped 6" above bedrock
		8.0	9.5	2	Decomposed schist bedrock and material just above
					bedrock, 10 coarse, 20 fine, approx. 70 very fine.
		Tailings sluice			
		0	9.5	9	No color

Overburden 0 ft.

Gravel 8.5 ft.

Bedrock 8.5 ft.

Water Level @ 0 ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001473

Project Kantishna | Line

Claim Glen Creek | Hole #24

Bucket Size 6 cubic feet | Elevation 2240

Coordinates N 3483500
E 384850 Lower Glen Creek

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/18/83		0	.5		No sample overburden
		0.5	4.5	4	Well washed gravel 20% 1.5"+, 40% 3/16"-1.5", 5 coarse,
					+20 fine, +100 very fine, hit water @ 4.0 ft.
		4.5	6	2	12 coarse, approx. 100 fine, +100 very fine, hit
					bedrock @ 5.5' hard to dig, semi-decomposed schist
		Sluice sample			
		0.5	5	5	

Overburden 0 ft.

Gravel 5.5 ft.

Bedrock 5.5 ft.

Water Level @ 4 ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001474

Project Kantishna

Claim Liberty Moose Creek

Bucket Size 6 cubic feet

Coordinates N 3478100
E 368800

Mouth of Rainy Creek on Moose Creek Bench

Line

Hole #25

Elevation 1890

Date	Time	Sample From		To	No. of Buckets	Remarks
7/21/83		0		1		Overburden, no sample
		1	A	5	4	65% +1.5", 15% 3/16"-1.5", well-rounded cobbles of various lithologies, 1 coarse, 5 fine, approx. 20 very fine
		5	B	9	4	35% + 1.5", 40% 3/16"-1.5", approx. 20 very fine, well-rounded cobbles of various lithologies
		9	C	13	4	Approx. 20 very fine
		13	D	17	4	Well washed 30% +1.5", 30% 3/16-1.5", 10 fine, +75 very fine, many very fine, non-mag black sands
		17	E	21	4	Well sorted, well washed 30% +1.5", 30% 3/16"-1.5", 1 coarse, 15 fine, +50 very fine, many very fine non-mag black sands
		21	F	24	3	Some clay, hit bedrock @ 23', 10 fine, +50 very fine
		Sluice Sample				
		1		24	23	Moose Creek gravels.

Overburden 1 ft.

Gravel 22 ft.

Bedrock 1 ft.

Water Level @ 0 ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001475

Project Kantishna

Line

Claim Rainy Creek-Bench adjacent to creek

Hole #26

Bucket Size 6 cubic feet

Elevation 2080

Coordinates N 3480650
E 370850 Rainy Creek

Date	Time	Sample From		Sample To	No. of Buckets	Remarks
7/22/83		0	A	4	4	Subangular to subrounded, 35% 1.5", 30% 3/16-1.5", some
						clay, schist material, 15 fines, +50 very fine
		4	B	8	4	Well washed sandy material 10% +1.5", 30% 3/16-1.5"
						10 very fine
		8	C	12	4	Did not hit bedrock, 5 very fine
		Sluice sample				
		0		12	12	No color

Overburden 0 ft.

Gravel 12 ft.

Bedrock - ft. didn't hit

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A 001476

Project Kantishna

Claim

Bucket Size 6 cubic feet

Coordinates N 3479850
E 339450 Eldorado

Line

Hole #27 & #28

Elevation 1700

Date	Time	Sample From		Sample To	No. of Buckets	Remarks
7/23/83		0	A	4	4	50% 1.5"+, 25% 3/16-1.5", subangular to subrounded
						schist a few erratics, very Fe ox stained, little black
						sand, 3 coarse, 12 fine, 30 very fine
		4	B	8	4	Hit blue gravel @ 4.5', blue gravel has 25% of+1.5",
						30% 3/16-1.5", hit bedrock (blue clay @ 7.5') 10 coarse,
						+100 fine, +100 very fine
		Sluice Sample 0		8	8	2 very fine

TEST #28
Subsequent test taken to determine if values from B interval were concentrated at interface between Fe ox stained gravels and blue clay bearing gravels

Date	Time	Sample From		Sample To	No. of Buckets	Remarks
		2.5	C	5.5	2	1-1/4" coarse, 1 coarse, 12 fine, +25 very fine
						Fe ox stained gravels and 6" blue clay bearing gravels.
		5.5	D	6.5	1	Contact between stained gravels and blue clay gravels
						dips, so sample contains both. 4 coarse, 12 fine,
						+50 very fine
		6.5	E	7.5	1	Blue clay rich gravels, glacial origin, granite cobbles,
						1 coarse, 1 fine, many sulfides

Overburden 0 ft.

Gravel 7.5 ft.

Bedrock 7.5 ft.

Water Level @ ft.

W. Srock

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 6, Lower Caribou Creek, SE Sec. 24, T14S, R18W

DEPOSIT DESCRIPTION: Four to seven feet of coarse, rounded to subrounded gravels on relatively flat-lying weathered, clayey schist. Occasional low reefs of harder bedrock. Gravels near edge of drainage partially frozen. Stream gradient 1% to 2%.

Area being mined is wide flat-lying deposit 100- to 200-ft wide by 1,000-ft long. Gold does not appear to be concentrated on bedrock and only 6 in. or so of bedrock are being mined. One to two feet of gravel above bedrock is iron stained and slightly tight.

Gold is very fine and flaky but occasional rough to slightly rounded quartz-bearing nugget was recovered. Slight to moderate Fe and Mn stain on gold. Abundant garnets in concentrate.

Shallow bench deposits above cliffs on drainage nearby also carry significant gold. These gravels are identical to those being mined in the creek bottom and are extensions of the Lee Bench upstream which the present operator also holds lease on.

A cut made in 1975 exposed gravels in the Lee Bench. The gravels were 4- to 10-ft deep and showed moderate sorting. Most of the gravel is stained a reddish brown and is subangular to subrounded. The gravels are underlain by a quartz-mica schist. Two- to three-percent boulders up to 3-ft across are randomly distributed throughout the gravel. Another exposure of the gravel approximately 1/2 mile downstream shows 10- to 15-ft-deep gravel underlain by Tertiary quartz-rich sediments. Pits nearby show a blue (glacial?) clay on top of the spoils piles indicating a possible lake sediment may be present in places. Most exposures however show 5 to 10 in. of gravels overlying bedrock cliffs, 50 to 70 ft above the present valley floor. The bedrock at the mine cut slopes gently towards the present stream drainage and could possibly keep that slope. If so the muck and gravels on the Lee Bench may not be exceptionally deep.

MINING EQUIPMENT: 100 cy/hr capacity, rubber-tire mounted shaker screen-sluice plant, Cat® 235 2 cy bucket excavator, Cat® D8H dozer, Deutz diesel 6-in. pump, several hundred feet aluminum pipe.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Cessna 206 aircraft, fuel tanks, two service trucks, welding equipment, two mobile homes, four living trailers, two truck trailer vans, landing strip for fixed wing access.

Cleanup equipment - screens, mini-sluice, 48-in. spiral concentrating wheel, amalgam tumbler.

MINING AND CLEANUP PROCESSING METHOD: Washing plant is pushed ahead of the excavator as mining progresses. Tailings are directed into the previous cut. Dozer is employed to prepare ground and removal and leveling of tailings. The wash water is pumped out of river upstream and settling ponds are constructed downstream in previous cut.

Four men are employed to work two 12 hour shifts. The owner and another man perform support functions and expediting. Wives and other family members process cleanups and perform camp functions.

The concentrates are screened to 1/4 in. and handpicked. Under 1/4 in. is run over spiral wheel and reconcentrated, then screened to minus 6, minus 10, minus 12, minus 20 and sent over wheel again to remove all gold. The tails are amalgamated.

WORK ACCOMPLISHED: The present cut was mapped by the author and a volume of gravel calculated at 13,000 cy. Total placer gold weighed from the processing was 354.3 oz, resulting in a placer gold grade of 0.027 oz/cy. Gold content at 680 fine is 0.019 oz Au/cy. Over 86% of the placer gold was minus 20 mesh in size. Eleven percent is jewelry grade overlay gold and 3% of the placer gold is over 1/4 in. in size. The overlay gold can probably be sold at an average of the world market price so is considered here to be 1000 fine. The plus 1/4 in. gold can be sold at between spot price for gold and $1000/oz depending on the character, and is considered here to be 1500 fine or 1.5 times its weight. The rest of the gold is 680 fine according to the operator. The following is a breakdown of the recovered gold.

86% @ $272 = 23392
11% @ $400 = 4400
3% @ $600 = 1800
29592/100 = 295.9/400 = 0.74 factor

A factor of 0.74 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

Majority of gold over 1/4 in. was flat and rounded but a few very rough, quartz bearing nuggets were observed indicating some possible veins nearby. One quartz-filled shear zone was observed in the present mine cut.

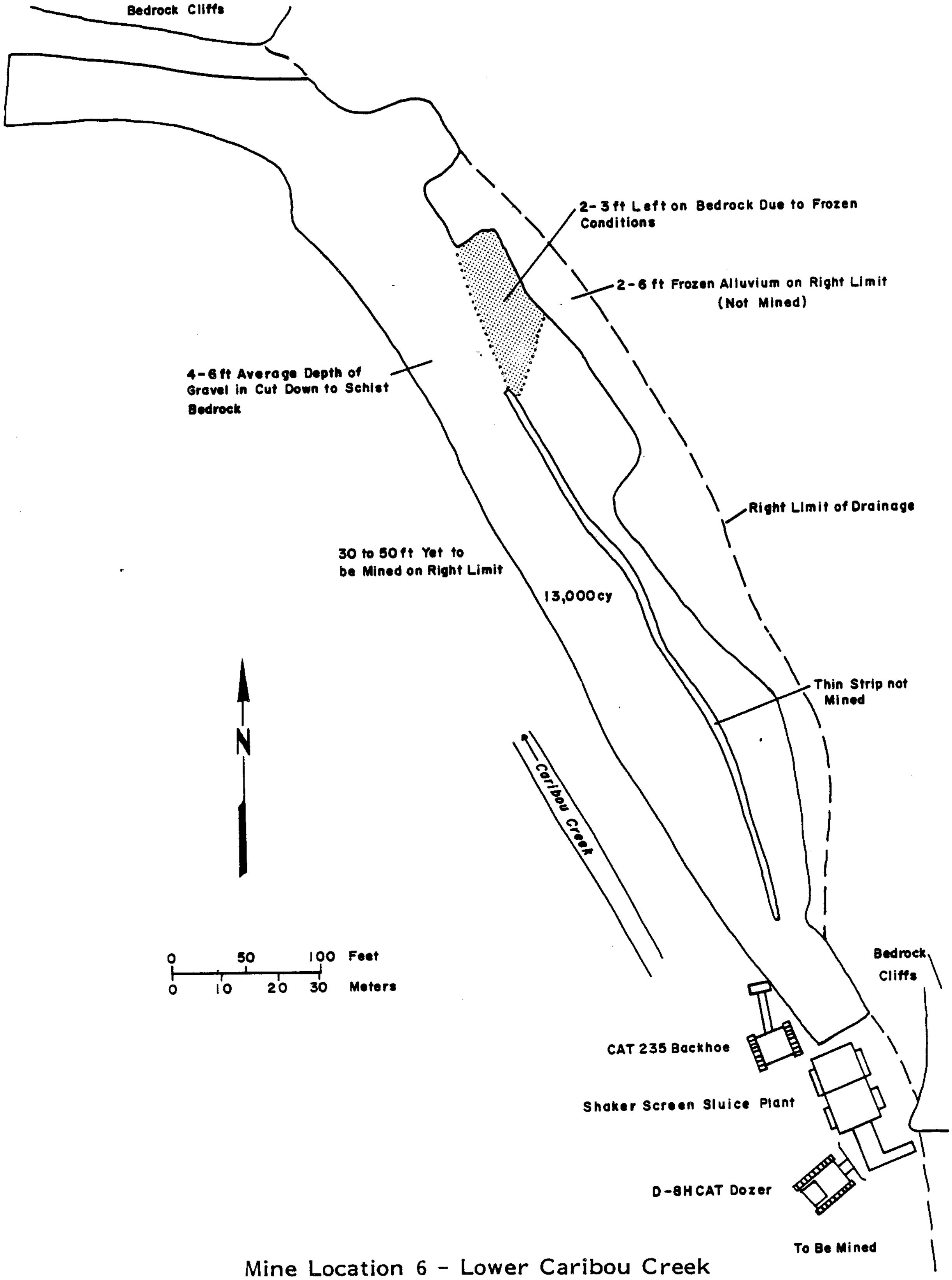
A portion of the Lee Bench was mined by another operator in 1975. The operator's records showed that 70.5 oz of fine gold was recovered from the mine cut. The author measured the cut and approximately 2,700 cy of coarse gravel was mined after removing 2 to 3 ft of frozen muck and tundra. The placer gold grade is 0.026 oz/cy. At 700 fine the contained gold grade is approximately 0.019 oz Au/cy.

REMARKS: Several areas of physically minable ground are available to mining up and downstream. Testing upstream near the present campsite with a small portable floating dredge indicates good values for mining next season.

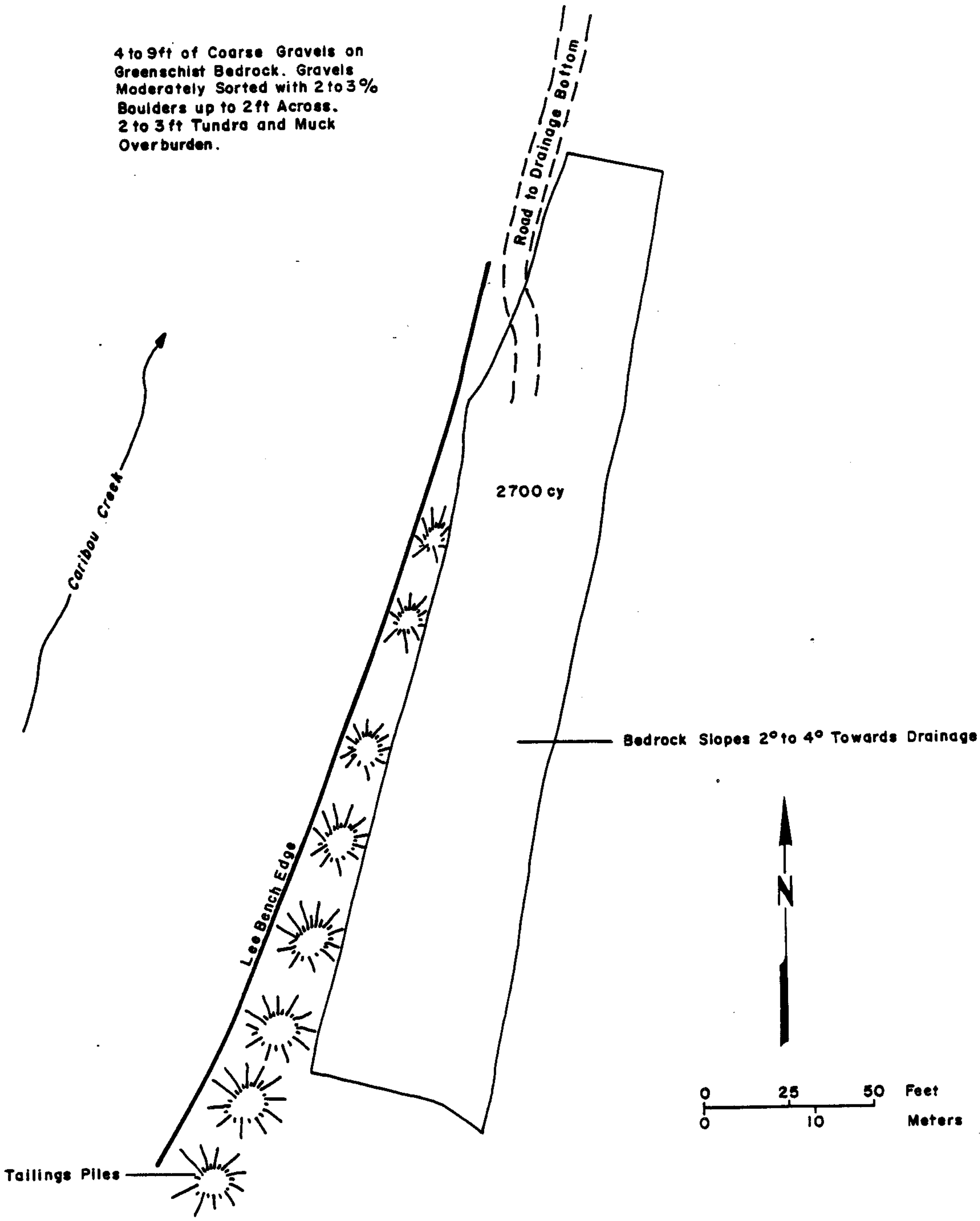
Subsequent mining after this examination produced better gold values as mining progressed away from the drainage sides. Over 1000 oz had been produced by 8/30/83.

The Lee Bench is available to mining in the future and extensions of the bench near the present mine site were tested by panning by the author. Good colors showed up in random pan sampling of recent test cuts. The bench deposits extend from where Caribou Creek emerges from the Kantishna Hills to over 5 miles downstream to the Bearpaw River. A huge amount of gravels could be present on the bench and would represent several years of large scale mining activity. Other operators in the district have also expressed an interest in mining the bench gravels.

The operator anticipates several more seasons of mining the present stream channel gravels and would like to test the present bench gravels in more detail.



Mine Location 6 - Lower Caribou Creek
S.E. Sec.24, T.14 S.,R.18 W.



Mine Location 6 A - Lee Bench, 1975 Mining
S.W. Sec. 6, T. 15 S., R. 17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 7, Middle Caribou Creek, NW Sec. 7, T15S, R17W

DEPOSIT DESCRIPTION: Coarse, subrounded gravels 2- to 5-ft deep on drainage edge and up to 9-ft deep towards the center. Flat-lying area up to 150 ft across and over 600 ft long, located on a large meander of the creek was stripped and prepared for mining. Gravels lie on a clayey, weathered schist bedrock. The bottom 2 to 3 ft are iron-stained and slightly tight. Gold appears to be fairly well distributed throughout the gravels but concentrated near bedrock. An average of 6 in. of bedrock is also mined.

Gold is very flaky and over 87% of the gold produced from the present cut was under minus 14 mesh size. Very few nuggets are found and most are well worn. All the gold is moderately to heavily tarnished with Mn or Fe oxides.

Thirty- to fifty-foot-high bedrock cliffs rim the stream bottom and are capped by subrounded gravels over 5-ft deep. These bench gravels are correlative with the Lee Bench deposit a mile downstream.

MINING EQUIPMENT: Medium sized trommel and sluice plant (50-100 cy/hr). HD44 Allis Chalmers® dozer, Drott® 1/4 cy bucket excavator, 6-in. pump and several hundred feet of aluminum pipe.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Two 4x4' service trucks, welding equipment, school bus, two 3-wheelers, small living trailer, small trailer van for cleanups, large trailer van for parts and supplies, fuel tanks, pickup truck, mini-sluice, 48-in. spiral concentrating wheel.

MINING AND CLEANUP PROCESSING METHOD: Two men mine an average of 10 hr/d. The washing plant is mounted on skids and moved ahead of bucket as mining progresses upstream. Dozer is used to strip thin veneer of overburden and to remove and level tailings. Settling pond is excavated below mine workings.

Cleanups are screened, run over a mini-sluice, demagnetized and run over a spiral concentrating wheel for final separation of the gold.

Approximately 20% of the area mined had been handworked in "earlier" days.

WORK ACCOMPLISHED: The present mine cut was measured by the author and approximately 2,400 cy of material were mined. Fifty-eight hours mining time was spent on the cut. 110.7 oz were recovered from the cleanup. Placer gold grade of the deposit is 0.046 oz/cy. Contained gold grade at 700 fine is 0.032 oz Au/cy.

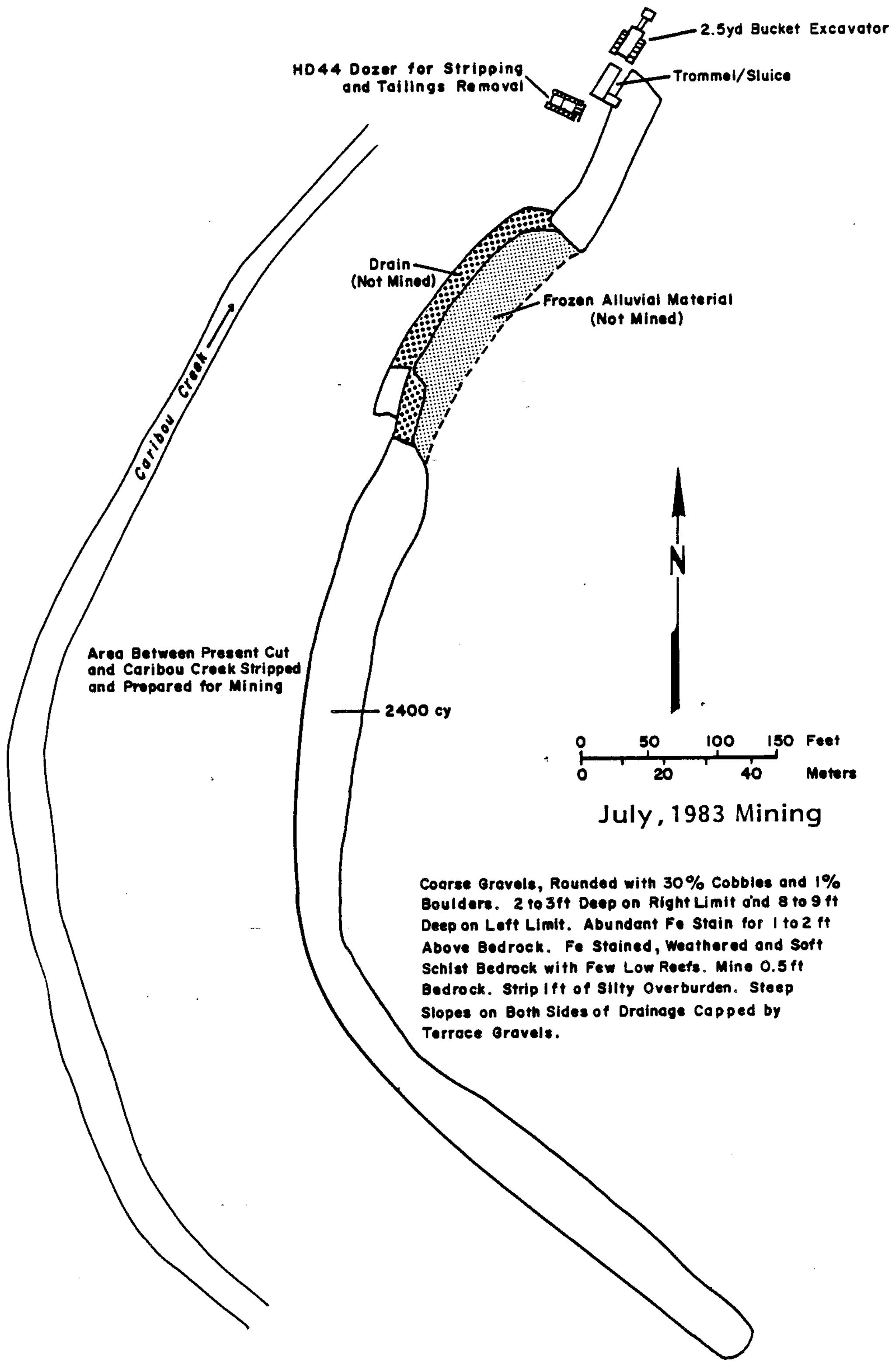
95.65 oz (87%) were below minus 14 mesh size, 7.62 oz were between 14 and 10 in mesh size and 7.0 oz were plus 10 mesh. The 14.62 oz of jewelry grade gold will be considered to be 1000 fine as the proportion of nuggets was not recorded. The 95.65 oz of fine gold is 700 fine according to the operator.

$$
\begin{aligned}
87\% \ @ \ \$280 &= 24360 \\
13\% \ @ \ \$400 &= \underline{\ \ 5200} \\
& \ \ \ \overline{29560}/100 = 295.6/400 = 0.74 \text{ factor}
\end{aligned}
$$

A factor of 0.74 can be multiplied by the spot price of gold to determine the approximate value of placer gold produced in the area.

The operator's production was approximately 1.9 oz/hr at the time of this examination. As mining progressed across the point bar of the stream the tenor increased considerably and the operator states that he was mining over 2.5 oz/hr.

REMARKS: The first half of the mining season was spent hauling equipment and camp facilities to Caribou Creek, preparing a permanent base camp and preparing the mine site. Similar creek bottom deposits are located up and downstream from the mine site and several mining seasons are anticipated on the middle section of Caribou Creek by the operator.



Mine Location 7 - Middle Caribou Creek
N.W.Sec.7,T.15 S.,R.17 W.

PLACER MINE OPEATIONS REPORT

PROPERTY: Location 8, East Fork Glen Creek, NW Sec. 6, T16S, R16W

DEPOSIT DESCRIPTION: Relatively flat-lying deposit of gravel 100- to 200-ft across and over 1/2-mile long. Gravels are coarse, subangular and average 4- to 5-ft deep. The gravels are mined to a weathered clayey schist bedrock with occasional low reefs of harder rock. Occasionally a thin layer of glacial(?) clay is present on top of bedrock. Shallow troughs below low reefs are commonly overlain by iron stained rich pockets of gravel.

Approximately 40% of the gold recovered is coarse jewelry grade gold plus 14 mesh. The gold is rough showing little sign of wear and often contains quartz and shows crystalline dendritic and wire structures. Most of the gold is slightly to moderately stained with Mn or Fe. Concentrates contained abundant galena, magnetite, pyrite, with stibnite, scheelite, and occasional rhodonite.

MINING EQUIPMENT: 100 cy/hr shaker screen and sluice plant (tire mounted), GM Terex® dozer, Koehring® 2 cy bucket excavator, Deutz® diesel 6-in. pump with collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Six-wheel fuel truck, two 4x4 service trucks, welding equipment, Case® 350B loader/backhoe (test pitting), log cabin, camp generator, 40-ft truck trailer parts van, large Quonset hut. Large wood frame building. Landing strip for fixed wing access.

MINING AND CLEANUP PROCESSING METHOD: Shaker plant is pushed ahead of bucket as mining progresses upstream. Tailings are directed into last cut. Dozer is used to strip thin veneer of overburden and to level tailings. Sump pond excavated upstream for wash water and settling ponds below.

Four men are employed to mine 24 hr/d in two 12 hr shifts. Two men are employed to test pit ahead of mining and to test the rest of Glen Creek holdings. The owner performs support functions for the mining operation.

WORK ACCOMPLISHED The present mine cut was measured by the author and a volume of gravel calculated at 9,400 cy. The concentrate was screened into several splits to minus 20 mesh screen. Each split was run over a Carter shaker table and the concentrate handpicked. The minus 20 material was run over a spiral concentrating wheel.

173.6 oz of placer gold were recovered for a placer gold grade of 0.018 oz Au/cy. Contained gold grade at 800 fine is 0.015 oz Au/cy. Approximately 40% of the gold recovered was jewelry grade gold over 14 screen in size. Eleven oz were over 1/4 in. in size and one nugget weighed 0.8 oz.

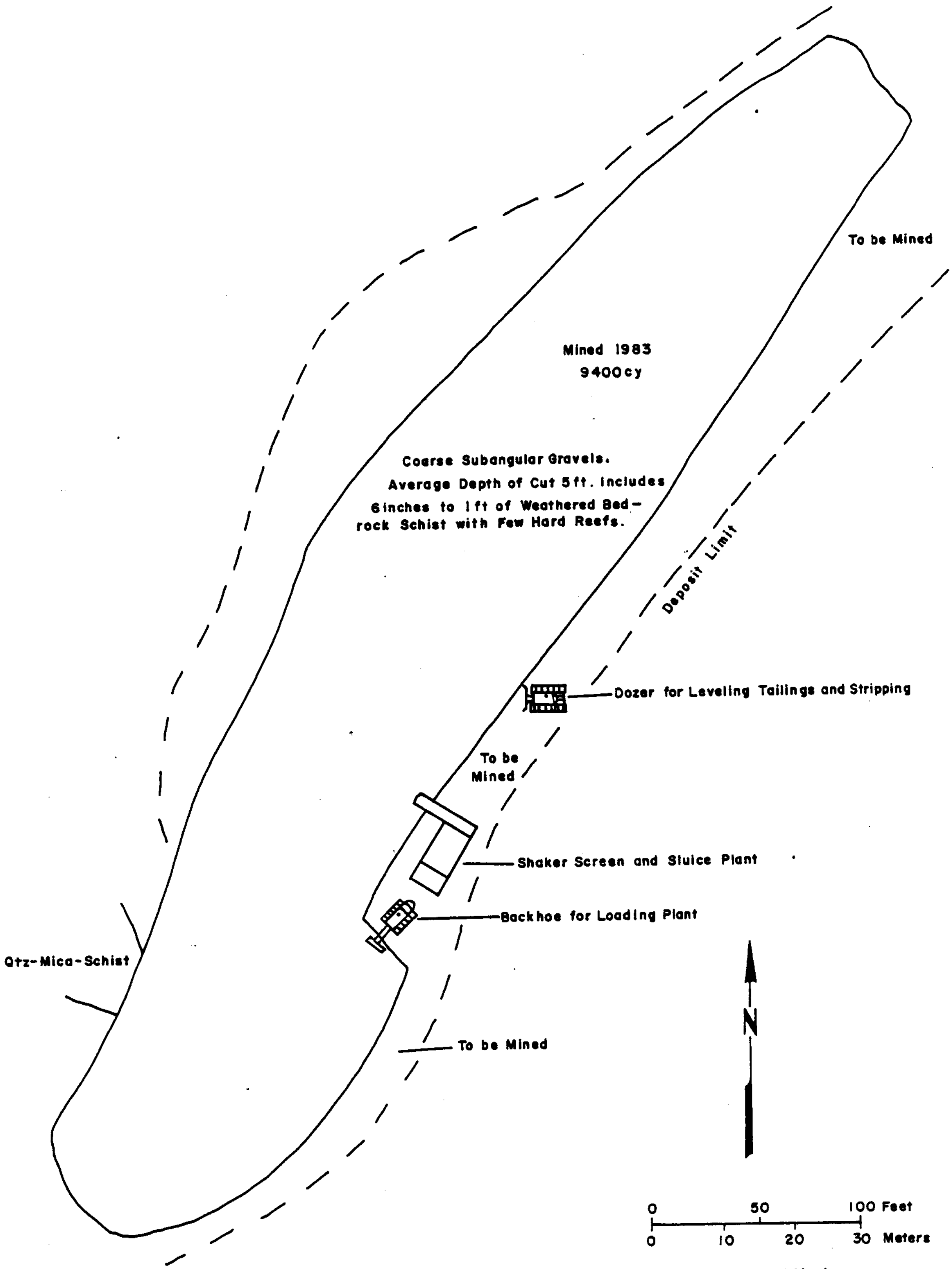
60% @ \$320 = 19200
34% @ \$400 = 13600
6% @ \$600 = 3600

$$\overline{36400}/100 = 364/400 = 0.91 \text{ factor}$$

A factor of 0.91 can be multiplied times the spot price of gold to determine the approximate value of placer gold produced in the area.

REMARKS: A consulting geologist was employed to test pit the Glen Creek stream and bench gravels. Initial test results for the area just mined agree very well with production results. All pit results for upper Glen Creek will be forthcoming. Initial pit testing on the bench deposit on West Fork indicates approximately 1.5 million cy may be present with average values of 0.002 oz/cy.

Gold tenor of gravels mined subsequent to the cut studied was reportedly higher. The mining was done over an area of old hand workings and in an area where test pitting had indicated low values could be expected. The low test pit values were probably due to nugget effect. A 1.5 and 0.75 oz nugget have been recovered in subsequent cleanups.



July, 1983 Mining

Mine Location 8 - East Fork Glen Creek Mining
N.W.Sec.6, T.16 S., R.16 W.

PLACER MINE OPEARTIONS REPORT

PROPERTY: Location 9, Upper Glen Creek at W. and E. Fork Juncture, SW Sec. 6, T16S, R16W

DEPOSIT DESCRIPTION: A deep accumulation of coarse gravels is present at the juncture of west and east forks of Glen Creek. A previous cut exposes 20 to 35 ft of gravel. The immediate area of the "basin" is over 200,000 sq ft. If the gravels average 25-ft deep, approximately 160,000 cy of material is present. Pay gravels being pushed to the plant from one area of the cut were being excavated from over 20 ft down and bedrock had not been exposed.

A glacial(?) clay is occasionally exposed in parts of the old cut and up to 2 ft of iron stained gravel was usually present above that horizon. The gravels are moderately sorted to unsorted and contain up to 1% large boulders. Virgin gravels over 15-ft deep are present up and down stream from the immediate vicinity of the cleared basin deposit.

Bedrock exposed on the sides of the existing cuts dip steeply into the basin. The bedrock is a deeply weathered clayey schist and in many places appears to be badly sheared. The shears are full of a blue clayey gouge and often contain pockets of ground up vein(?) quartz.

Gold is typically very rough, often rudely crystalline and commonly the larger pieces contain attached quartz. Most gold is slightly to heavily stained with Mn and Fe oxides. The gold is apparently distributed throughout the depth of the gravels, as bedrock had not been reached, and each time mining ceased, new nuggets could be picked from the sluice box. Concentrates contain abundant magnetite, galena, and pyrite with stibnite, scheelite, and occasional rhodonite. A few nuggets in the 1/2 oz size range were found and nuggets over 1 oz in size have commonly been recovered in the past.

MINING EQUIPMENT: Stationary shaker screen and sluice plant (150 cy/hr capacity), portable conveyor belt 30 x 3 ft wide, Insley® 3 cy bucket excavator, D-6 Cat® dozer, Cat® 3.5 cy loader, 75 KW generator, 6-in. pump with collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Cat® road grader, two 4x4 vehicles, six-wheel fuel truck, welding equipment, large shop building, two large living trailers, two cabins, cleanup shack and equipment, fuel tanks, large landing strip for fixed wing access.

MINING AND CLEANUP PROCESSING METHOD: Dozer pushes pay gravels over 200 ft to bucket which in turn feeds the conveyor belt. Over 150 cy/hr can be processed. Front end loader removes tailings and distributes downstream. Sump is excavated upstream for mine wash water and settling pond downstream.

Four men operate the mine. The fourth man services and monitors the sluice plant and other equipment.

WORK ACCOMPLISHED: The basin area prepared for mining was mapped and studied by the author. A bucket count was kept as mining progressed and a volume of gravel mined was calculated at approximately 2,300 cy. The sluice was cleaned out and processing of the cleanup yielded 41.87 oz of placer gold, 12.32 oz of which were plus 10 mesh in size. All of the gold was not recovered from the fine fraction and it is estimated that another 2 or 3 oz will be recovered later. Placer gold grade of the deposit is 0.018 oz/cy. Contained gold grade using a fineness of 800 is 0.015 oz Au/cy. When bedrock is reached the tenor of the deposit should increase as the gold should be concentrated there.

The 12.32 oz of jewelry gold is conservatively considered here to be 1000 fine as the average price received from sales will probably be over the spot price for gold.

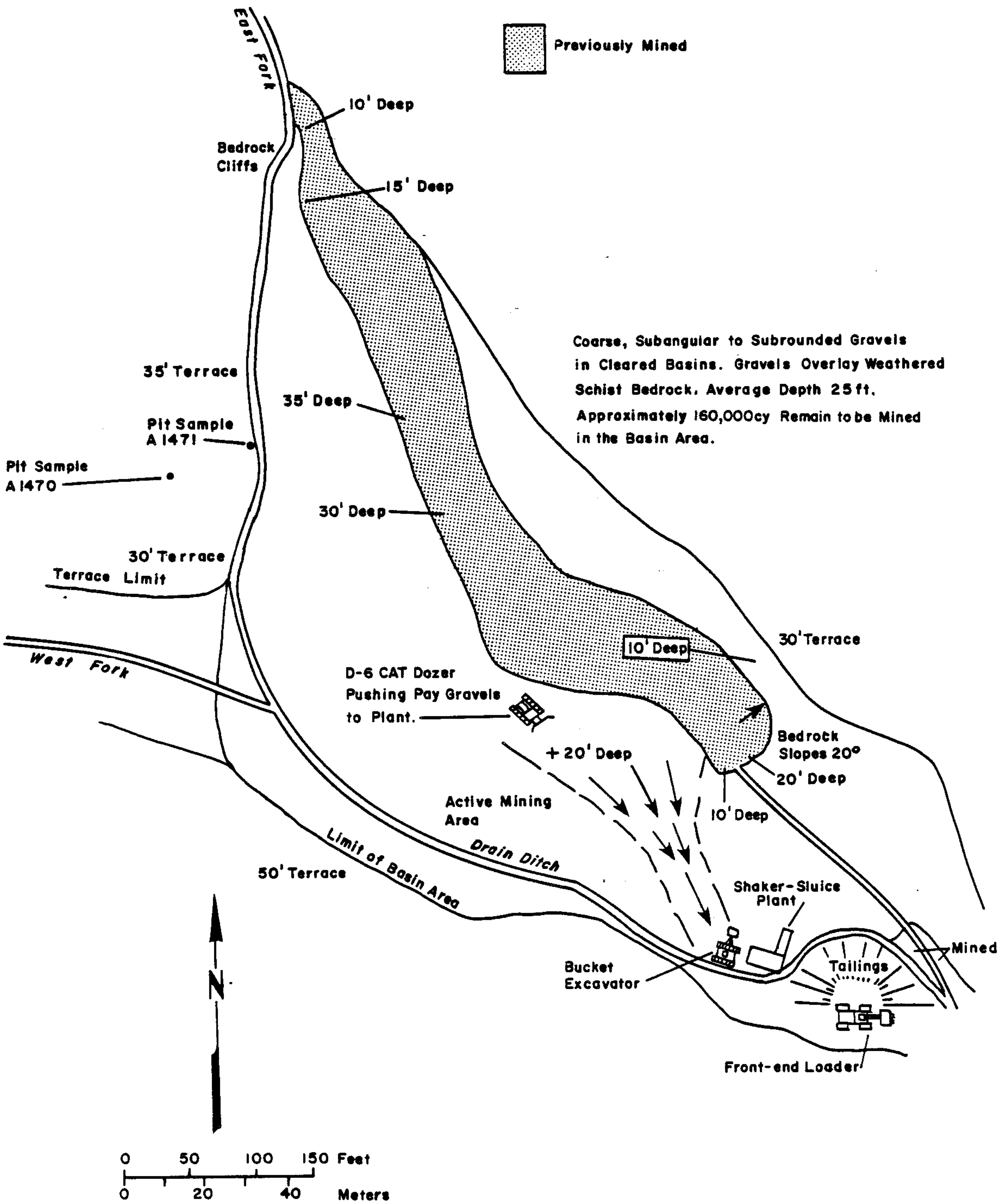
The other 29.55 oz recovered is reportedly 800 fine by the miners. Fineness tests run on gold from the west fork pit testing was over 800 fine.

$$
\begin{array}{l}
71\% \ @ \ \$320 = 22720 \\
29\% \ @ \ \$400 = \underline{11600} \\
\qquad\qquad\qquad\quad 34320/100 = 343.2/400 = 0.86 \text{ factor}
\end{array}
$$

A factor of 0.86 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

REMARKS: Several areas of rich shallow gravels remain to be mined on the upper Glen Creek holdings. In the past, smaller scale mining methods of rich pay zones have resulted in very lucrative payoffs and an unusual amount of coarse gold, with nuggets over 1 oz common.

A consulting geologist is test pitting all the Glen Creek stream and bench gravels. The results of which will be made available to this study. A substantial bench deposit is present on the property and tests so far have indicated an average value of 0.002 oz/cy for an estimated 1.5 million cy of material. The bench contains an average of 25 ft of coarse unsorted alluvial and colluvial gravels.



Mine Location 9 - Upper Glen Creek Mining
S.W.Sec.6, T.16 S., R.16 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 10, Middle Caribou Creek, NW Sec. 7, T15S, R17W

DEPOSIT DESCRIPTION: Two hundred- to three hundred-ft-wide, relatively flat-lying gravel bar being mined. The cut mapped is on the very outside corner of the present stream meander. Gravels in the cut are 2- to 6-ft deep, becoming deeper towards the center of the drainage. Subsequent mining exposed gravels averaging 6- to 8-ft deep. Gravels are subrounded to rounded, loose and coarse except for lower 1 to 2 ft which are usually iron stained and fairly tight. Gravels lie on weathered clayey schist bedrock with occasional layers of harder, less weathered quartz mica schist. An occasional clayey gouge-shear zone with ground up vein quartz was observed in the bedrock. Gravels are virtually frost free although an occasional small patch is present.

The stream gradient is between 1% and 2% and virgin deposits in the vicinity alternate between relatively narrow (20 to 50 ft) canyon deposits to broad flat-lying bars similar to the one being mined. Most of the middle Caribou is lined by bedrock cliffs which are in turn overlain by gravel deposits 5- to 10-ft deep.

An average of 85% of the gold is less than minus 14 mesh in size and very flaky. Approximately 1/2 of the gold plus 14 mesh is also thin and flaky. Three dimensional gold is well rounded and contains very little quartz. Most nuggets are small - being in the 1/4- to 1/2-in. range but subsequent mining recovered 1 1/2 and 3/4 oz well worn nuggets. All gold is moderately to heavily tarnished with Mn and Fe oxides. Gold appears to be distributed throughout the gravel but concentrated on or near bedrock. Concentrates contain abundant garnet and magnetite.

MINING EQUIPMENT: Portable, 100 cy/hr, all hydraulic operated shaker screen and sluice plant - designed and built by the owner, Allis Chalmers® and Fiat Allis® dozers, Drott-Proclain® 2 cy bucket excavator, 6-in. Deutz® centrifugal pump, several hundred feet of aluminum pipe (Deutz® motors in washing plant, excavator and pump with a spare - all interchangeable).

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Large leveled permanent campsite, airstrip for fixed wing traffic, 206 Cessna aircraft, 4x4 truck, articulating rubber tired Nodwell for freighting across tundra, school bus, 40-ft truck-trailer van, 20-ft truck-trailer van, cleanup accessories - 48-in. spiral concentrating wheel - mini-sluice, 4-wheeler vehicle, fuel tanks.

MINING AND CLEANUP PROCESSING METHOD: Two men mine one shift for 10 to 12 hr/d. Dozer strips thin veneer of vegetation and soil. Cut started on left limit and dug well into bedrock for good drainage. Parallel cuts are made to the first cut with all tailings directed into prior cuts. Washing plant is pushed ahead of excavator as mining progresses upstream. Tailings are leveled with dozer. Mine water pumped out of Caribou Creek and settling ponds are prepared downstream prior to mining. Three to six inches of bedrock are mined depending on the hardness of the rock.

Cleanups are screened, run over mini-sluice, demagnetized, and final gold separation made on the spiral concentrating wheel.

WORK ACCOMPLISHED: The first cut was mapped by the author and a volume of 2,800 cy of excavated material measured. Processing of the cleanup recovered 106.35 oz of mostly fine flaky gold. Fifteen percent of the gold was plus 14 mesh size jewelry gold (15.95 oz). The gold averages 700 fine according to the owner. Placer gold grade of the deposit is 0.038 oz/cy. Contained gold grade is 0.027 oz Au/cy.

The 15.95 oz of jewelry grade gold will be sold on an average over the spot price for gold and is conservatively considered here to be 1000 fine.

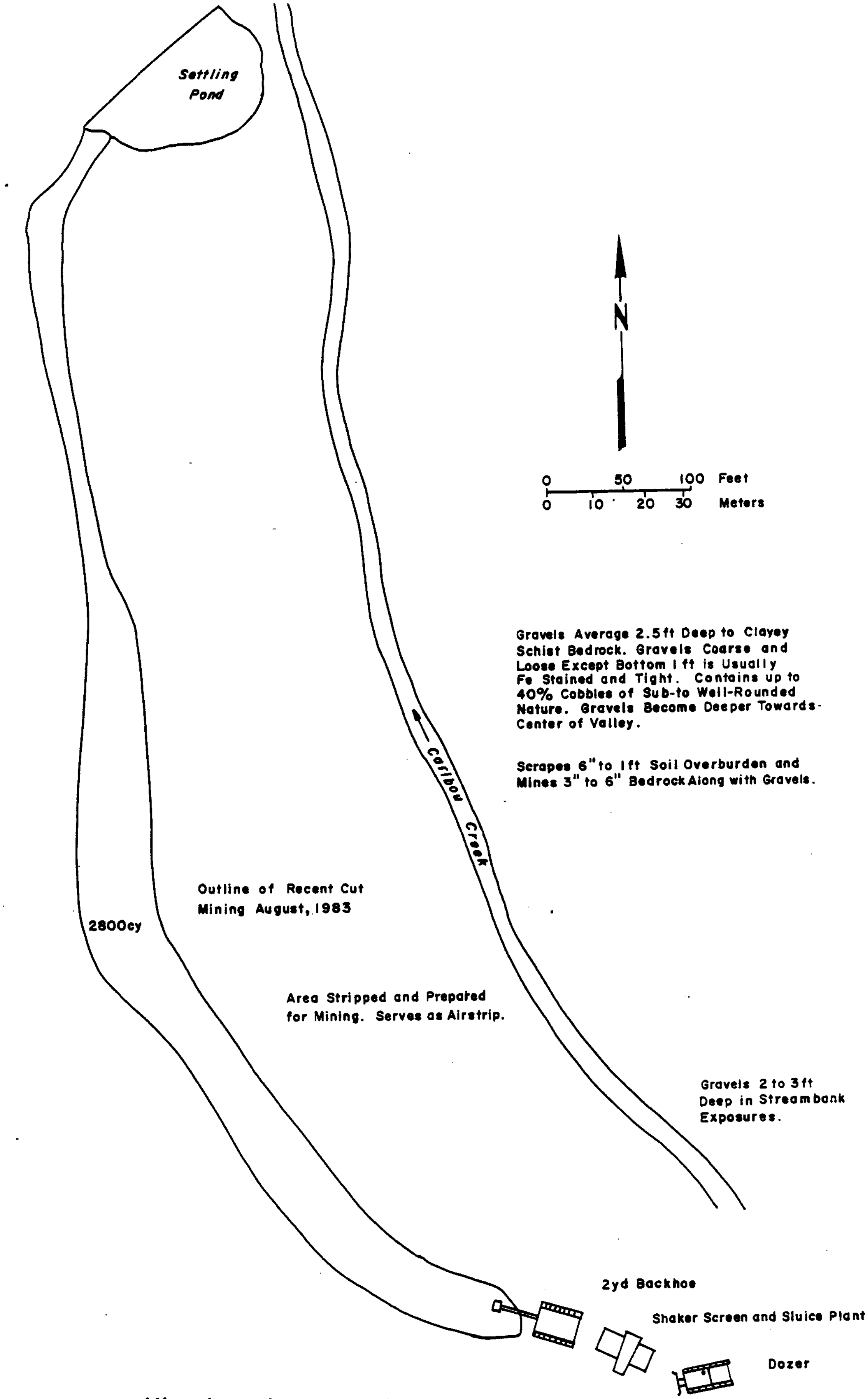
$$
\begin{array}{l}
85\% \ @ \ \$280 = 23800 \\
15\% \ @ \ \$400 = \underline{\ \ 6000\ \ } \\
\qquad\qquad\qquad\quad 29800/100 = 298/400 = 0.75 \text{ factor}
\end{array}
$$

A factor of 0.75 can be multiplied by the spot price of gold to determine an approximate value of the placer gold produced in the area.

Approximately 70 hr were spent mining the cut studied and resulted in over 1.5 oz Au/hr of mining. The next cleanup produced over 2.1 oz/hr of operation according to the owner. The last cleanup produced 235 oz Au at over 2.5 oz/hr. The tenor of the deposit increased as mining approached the middle of the point bar deposit.

REMARKS: The owner has established an efficient and comfortable permanent camp and anticipates several more seasons of mining. The mine operation is very efficient and one in which most large-scale mining in the district has been patterned after. The washing plant is virtually problem-free and a model in engineering. This and previous plants built by the owner are in fact models for most of the other mine plants in the district.

It is anticipated that the narrow canyon deposits on the property, which are impractical to mine with the larger scale equipment, will be mined by similar but smaller-scale methods. Bench deposits overlying bedrock cliffs that border the drainage are largely unprospected and present a considerable resource. These benches are correlative with the Lee Bench deposits and probably contain economic concentrations of gold.



Mine Location 10 - Middle Caribou Creek
N.W.Sec.7,T.15 S.,R.17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 11, Eureka Creek, SE Sec. 12, T16S, R18W

DEPOSIT DESCRIPTION: Shallow gravel, 5- to 6-ft deep was being mined in a 30- to 100-ft-wide area on the stream bottom. Gravels are very coarse, subangular to angular with 5% boulders up to 3-ft across. Gravels are underlain by relatively hard quartz mica schist. Evidence of handworkings is common in the area. Unmined alluvium commonly continues underneath steep side slope overburden.

Gold recovered is rough to slightly worn and often rudely crystalline. Dendritic textures are common. Approximately 25% of the gold is slightly stained with Fe and Mn oxides. Concentrates contain abundant garnet and magnetite with galena, scheelite, stibnite and some cassiterite.

MINING EQUIPMENT: Hopper-grizzly-sluice washing plant (stationary) 955K Cat® front end loader, Evans® 6-in. pump with several hundred feet collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: 4x4 pickup, welding equipment. Approximately 1 mile of road built up stream bottom to property.

MINING AND CLEANUP PROCESSING METHOD: Gravels are excavated with loader and transported to a stationary plant. As much bedrock as practical is also mined. Plant is constructed of old truck bed hopper set at a fairly steep angle with spray bars mounted above to wash material over rail grizzly and into the head of a 25 ft x 30 in. sluice box. Oversize and tailings are periodically removed with the loader.

Sluice concentrates are run over a mini-sluice and further concentrated by hand panning. All tailings are put back into sluice box.

Two men (father and son) work the deposit on a daily basis.

WORK ACCOMPLISHED: The cut was mapped by the author and a volume of 220 cy calculated. The sluice was cleaned out and rough processed on site. Concentrates were screened, demagnetized and concentrated on the spiral concentrating wheel in the lab. Tails were amalgamated. Total placer gold recovered weighed 12.79 oz. Thirty-five percent or 4.43 oz of gold was plus 12 mesh size jewelry grade. This portion of the gold is considered conservatively to be 1000 fine. The remaining 8.36 oz of gold will assay approximately 777 fine according to the owner. Placer gold grade of the deposit is 0.058 oz/cy. Contained gold grade is 0.045 oz Au/cy.

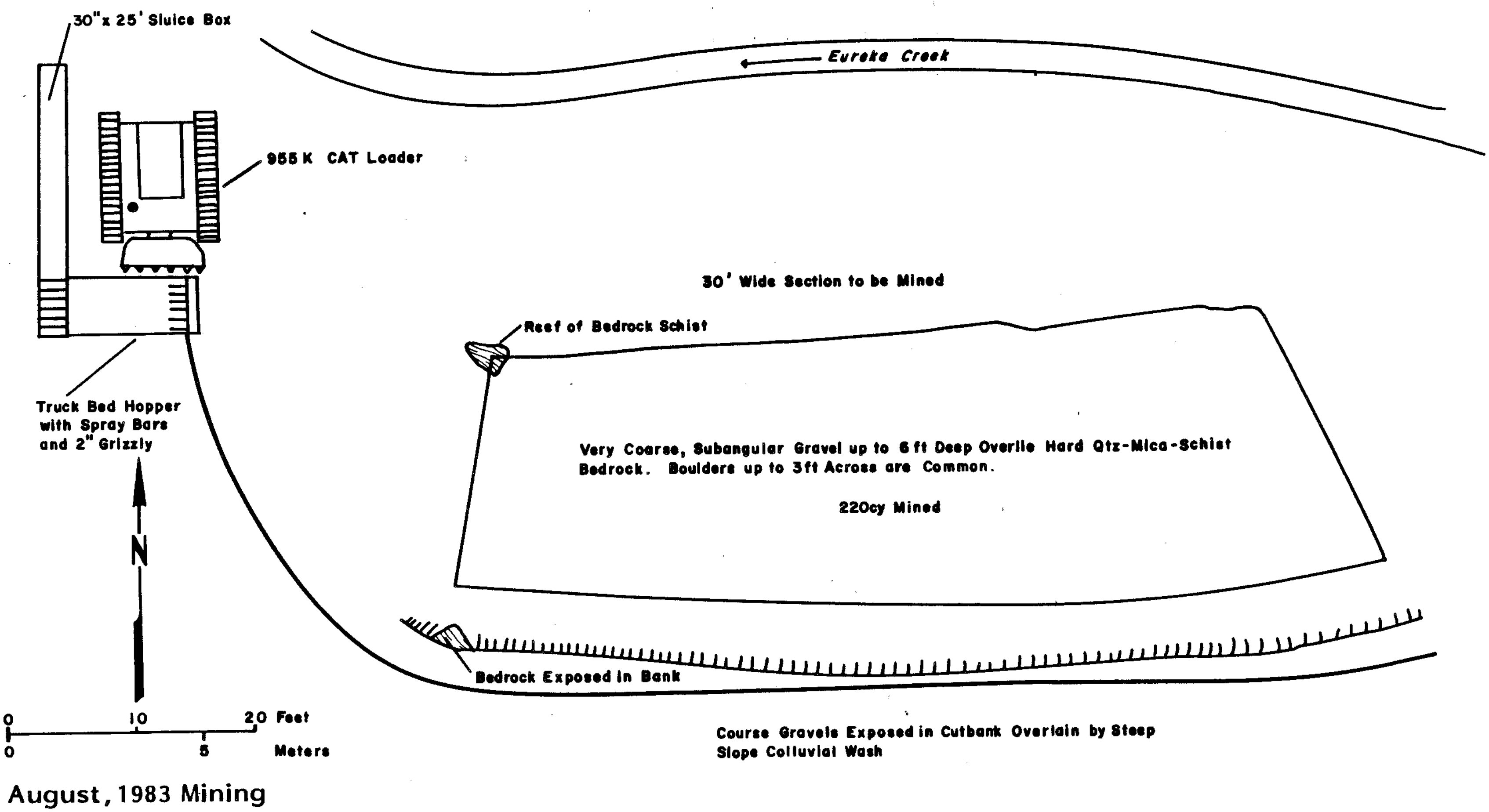
65% @ \$311 = 20215
35% @ \$400 = 14000
34215/100 = 342.15/400 = 0.86 factor

A factor of 0.86 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

The owner anticipates averaging the world price for gold on all the gold recovered.

REMARKS: Both father and son anticipate several mining seasons on the deposit. They own several patented claims in the district and have a permanent summer home in Kantishna.

Subsequent mining recovered a 3.33 oz nugget. The nugget was fairly well rounded, covered with abundant black oxide stain and contained no visible quartz. This is the largest nugget recovered in the district this season. The next biggest being 3.25 oz recovered from Friday Creek. The nugget was recovered from coarse alluvial and colluvial material excavated from under steep sidehill slope wash. Most of Eureka Creek is lined by similar, buried gravels of this nature.



Mine Location 11 - Eureka Creek Mining
S.E.Sec.12,T.16 S.,R.18 W.

PROPERTY: Location 12, Glacier Creek (Lower Canyon), SW Sec. 19, T1S, R17W

DEPOSIT DESCRIPTION: Deposit lies just above mouth of the lower canyon, where the creek emerges on to a broad flat-lying valley. Stream gradient averages 3%. Gravels are coarse, subangular to subrounded and moderately sorted with less than 1% large boulders over 3 ft in size. The gravels overlie a weathered clayey schist. A few shear zones are exposed in the bedrock. These contain clayey gouge and lenses of shattered vein(?) quartz. The bedrock undulates slightly creating low reefs and shallow troughs. Gravels are relatively deep ranging from 4 to 13 ft. Area being mined is 100- to 150-ft across and is bordered by bedrock cliffs. The low cliffs are overlain by bench gravels 4- to 8-ft deep.

Gold recovered was bright to slightly stained, rough and rudely crystalline to slightly worn. Thirty-five percent of the gold is plus 12 mesh and considered jewelry quality. Garnet and magnetite common in the concentrates.

MINING EQUIPMENT: 100 cy/hr shaker screen-sluice plant, Cat® D8H dozer, Cat® D-7 dozer, Cat® front-end loader (5 cy?), Cat® 235 2 cy bucket excavator, Deutz® 8 x 6 in. pump, several hundred feet of aluminum pipe and collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Go-Tract® fuel vehicle 4x4 service truck, welding equipment, motorcycle, 4-wheeler, fuel tanks, truck-trailer van for material and supplies, several wood frame cabins, airstrip, cleanup equipment - spiral concentrating wheel, 12-in. Knelson bowl hydrostatic centrifugal concentrator.

MINING AND CLEANUP PROCESSING METHOD: Ground stripped of thin veneer of overburden. Cut is started on left limit. Mining progresses with parallel cuts. The plant is pushed upstream ahead of excavator and tailings are directed into previous mine cut. and leveled with dozer. Small sump constructed upstream. Settling ponds excavated downstream.

Mining is done in two 12 hr shifts, 24 hr/d.

WORK ACCOMPLISHED: The cut was mapped by the author and a measured volume of 5,500 cy of material calculated. Processing of the cleanup recovered 126.78 oz placer gold. The placer gold grade of the deposit is 0.023 oz/cy. Contained gold grade at 750 fine is 0.017 oz Au/cy. Approximately 35% or 44.37 oz of the gold is coarse jewelry grade gold and is considered here to be at least 1000 fine. Gold fineness averages 750 according to owner.

65% @ $300 = 19500
35% @ $400 = 14000

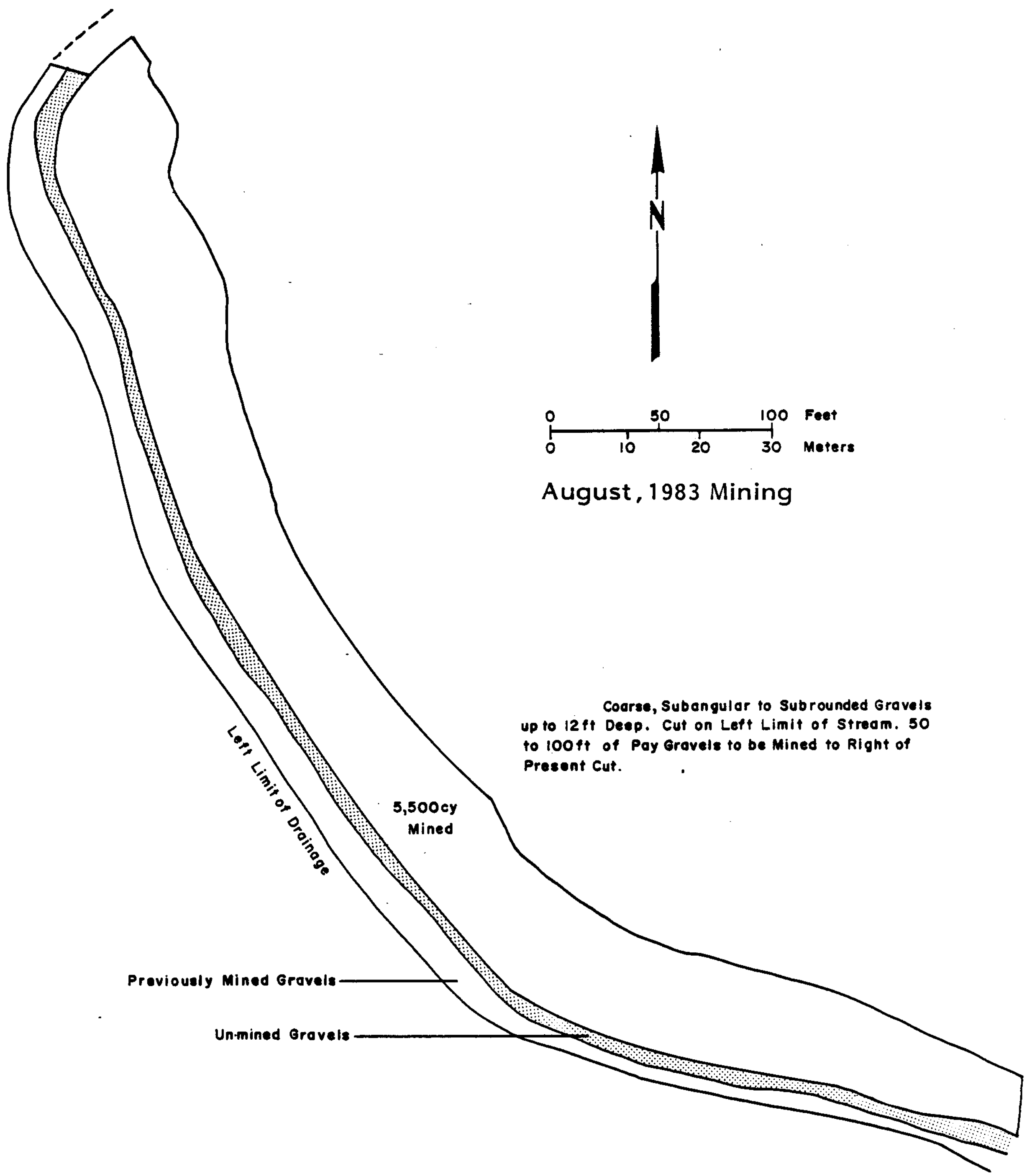
$\overline{33500}/100$ = 335/400 = 0.84 factor

A factor of 0.84 can be multiplied by the spot price of gold to determine an approximate value for placer gold produced in the area.

Eighty-four hours were spent mining the cut resulting in 1.5 oz Au/hr operation.

REMARKS: At least eight men were involved with this family oriented, 24 hr/d operation. Wives and other family members are living in camp and perform support functions. Several high bench deposits are present on the claims and mining of the bench adjacent to the previous cut was undertaken after the above deposit was mined. Results were reportedly not as high grade but satisfactory. The stream bottom deposit tenor increased as they mined away from the valley sides.

Mining the stream and bench deposits is planned for next season. The owner of the claims has been mining the higher bench deposits since 1965 using small scale methods with reportedly very rich production of coarse gold. Large nuggets are common.



Mine Location 12 - Glacier Creek
S.W.Sec.19,T.1 S.,R.17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 13, Glacier Creek (lower), NW Sec. 19, T15S, R17W

DEPOSIT DESCRIPTION: Four- to six-foot deep, subrounded, reddish-brown stained, loose gravels overlie an oxidized, iron-stained, clay-rich Tertiary gravel. Gravels are fairly well sorted and contain few boulders. Mine area is approximately 1/2 mile downstream from the narrow canyon mouth where Glacier Creek emerges onto the present broad, flat-lying valley floor. Stream gradient is less than 2%. The deposit is 200- to 300-ft wide at the present mining area and becomes progressively wider downstream. The valley bottom is bordered by large gravel capped benches up to 50- to 75-ft high.

Mine cuts downstream expose similar gravels up to 10-ft deep. Prospect trenching on the bench gravels expose 4 to 8 ft of gravels very similar to the present stream gravels.

Gold recovered from recent mining is very bright flake gold 85% of which will pass through a 12 mesh. Less than 1% of the gold observed was over 1/2-in. across. Most gold is well worn but a few pieces show remnant crystal, wire or dendritic textures and a few pieces contained attached quartz. Concentrates contained abundant garnet and magnetite.

Gold obtained from panning and churn drilling the bench gravels is more three dimensional and rough.

A dragline operated between the present cut and the canyon mouth in the early 1940's. The huge area mined has been leveled and an airstrip built on top. Virgin gravels 20- to 50-ft wide are present on the side of this old mining area.

MINING EQUIPMENT: Medium capacity shaker screen-sluice plant (tire mounted), H1500 Insley® bucket excavator, D8H Cat® dozer, Deutz® 8 in. x 6 in. pump with collapsible hose.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Two 4x4 service trucks, 5,000 gals fuel storage, three 3-wheelers, eight wood frame buidings for personnel and equipment, large truck-trailer van, welding equipment, cleanup equipment-screening-sluice box, spiral concentrating wheel.

2,000 ft airstrip to be lengthened to 3,000 ft next year.

MINING AND CLEANUP PROCESSING METHOD: Nine men perform mining, maintenance and support functions on this 24 hr/day operation. The mine area is stripped of 1 to 2 ft of overburden. The present plant was designed to push ahead of the excavator as mining progressed. A structural problem prohibited this form of operation at the time of this examination. A large cut was excavated and pay gravels were stockpiled. The windrowed material was then fed into washing plant which was transported behind the excavator. Tailings are directed into previous cut and leveled with dozer. Wash water is pumped out of creek and settling ponds are constructed below the mine cut.

Cleanups are screened and run over a mini-sluice, final separation of gold is made using a spiral concentrating wheel, all tailings will be heap leached.

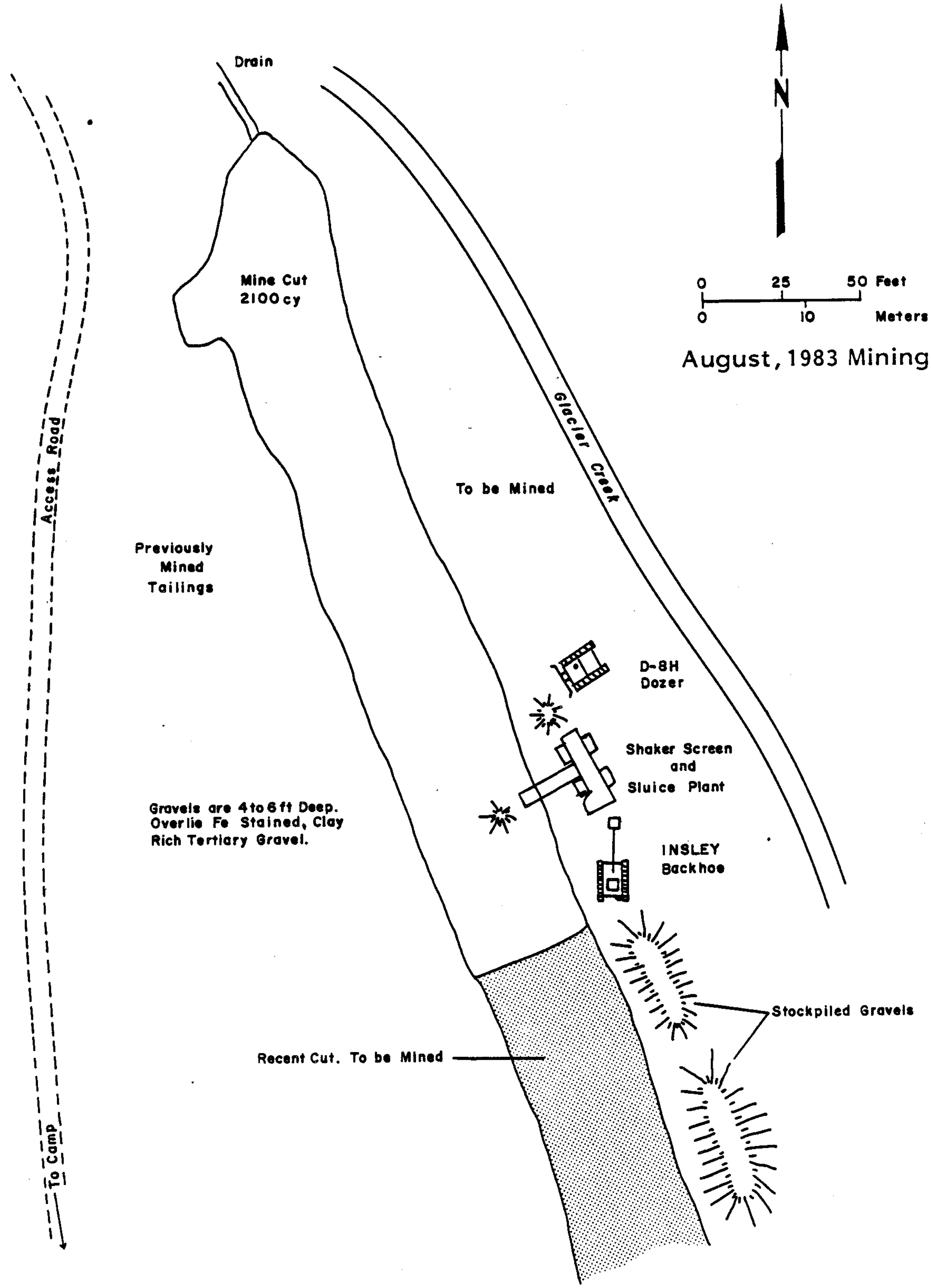
WORK ACCOMPLISHED: The cut was measured by the author and approximately 2,100 cy of material was mined. Processing of the cleanup recovered 47.9 oz of placer gold. Placer gold grade of the deposit is 0.023 oz/cy. Using a fineness of 760 the contained gold is 0.017 oz Au/cy. Fifteen percent or 7.2 oz was coarse jewelry grade gold and is considered to be 1000 fine. Assays of previously mined gold are between 740 and 780 and the other 40.7 oz of fine placer gold calculated at 760 equals 30.9 oz.

$$\begin{array}{l} 85\% \ @ \ \$304 = 25840 \\ 15\% \ @ \ \$400 = \underline{\ 6000} \\ \qquad\qquad\qquad\quad 31840/100 = 318.4/400 = 0.8 \text{ factor} \end{array}$$

A factor of 0.8 can be multiplied by the spot price of gold to determine an approximate value of the placer gold mined.

REMARKS: Approximately 2 miles of stream bottom gravels of a similar nature have yet to be mined downstream. Tests by the owner are reportedly good. The Glacier Creek bench gravels have been tested by the owner, the results of which are better than the gravels presently being mined. A large area has been stripped of muck in preparaton for mining later this season. Several more seasons are anticipated by the owner to mine the present stream and bench gravels.

One of the men with the help of his son operates a small shaker-screen sluice plant similar to the large plant that can process 20 cy/hr. This plant is mining side-pay areas left behind by previous large scale mining. See Location 14 report for results. This plant is averaging approximately 1/2 oz of gold per hour of operation.



Mine Location 13 - Lower Glacier Creek
N.W.Sec.19, T.15 S., R.17 W.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 14, Lower Glacier Creek, SW Sec. 19, T15S, R17W

DEPOSIT DESCRIPTION: Shallow (3 to 4 ft), coarse gravels on edge of old tailings area. The area was worked with a dragline in the early 1940's and is located below the mouth of the Glacier Creek Canyon where the stream gradient flattens considerably. Twenty- to fifty-ft-wide virgin gravels remain on side of old tailings. Gravels are underlain by a weathered, clayey to brittle schist bedrock. The deposit is over 200-ft wide at the canyon mouth and very flat (1 to 2%) stream gradient.

Gold observed in the sluice box was rough to slightly worn and nuggety. A few pieces of 1/4 in. in size were observed. Garnets and magnetite were also observed.

MINING EQUIPMENT: Small shaker screen-sluice plant (20 cy/hr capacity), small 1/8 cy (?) hydraulic backhoe mounted on track mounted bombardier, 2-in. centrifugal pump with collapsible hose, Cat® diesel generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: The operator utilizes the claimowners tools and service vehicles for the most part.

MINING AND CLEANUP PROCESSING METHOD: The sluice plant is mounted on wheels so maneuverability is very good. It is then moved into position with the bombardier and leveled, and then loaded with the backhoe. Oversize tailings are directed into a prior cut. When observed, the plant was mining mine sidepay left behind by a dragline operation.

The plant is a small shaker screen which screens to 1 1/4 in. Oversize material transported on a conveyor belt and over the cutbank. The plant is set up with a 3/8-in. punch plate on the upper end of the sluice to create an undercurrent effect. Astroturf below expanded metal with a nugget trap is utilized to recover gold.

Three to four hours are spent mining, the rest of the day is spent setting up, on maintenance and cleanup of the mined concentrate. Cleanup is accomplished by screening and running over a mine sluice-demagnetizing and panning or spiral wheel concentrating the final concentrate.

WORK ACCOMPLISHED: The operation was monitored periodically over a weeks time while monitoring two large scale operations on either side of the mine-site. A cleanup was made after a 3 hr mine shift. A little over 1.5 oz of placer gold was recovered for a placer gold grade of 0.025 oz/cy. Using an average of 20 cy/hr and a 760 fine figure, the contained gold grade of the ground was calculated at approximately 0.019 oz Au/cy.

Because the percentage of jewelry gold is not known, a factor of at least 0.76 can be multiplied by the spot price of gold to determine the approximate value of placer gold produced in the area.

REMARKS: The washing plant is uniquely adapted to work small mine side pay areas too small for the larger plants to attempt mining economically. The operator would like to get a small dozer and backhoe to improve maneuverability and mining efficiency. The plant would also prove useful in mining narrow gulch or canyon deposits present in the district.

Before cleanup the operator stated he had been averaging 2 oz per 4 hr mine shift which compared very well with the 1.5 oz recovered from 3 hr of mining.

The man is helped periodically by his son. The plant was engineered and built by the operators and utilizes the same principles as the large scale washing plants in the area.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 15, Upper Glacier Creek, NE Sec. 30, T15S, R17W

DEPOSIT DESCRIPTION: Shallow and generally narrow bedrock walled creek alluvial and colluvial deposits. Gravel is 2 to 6 ft to bedrock and ranges from 25- to 100-ft across. The wider areas usually include shallow stream bottom benches immediately adjacent to stream. Gravels are coarse and angular to subangular and subrounded and usually up to 1% large boulders.

Gold is coarse and rough and often crystalline. Concentrates contain abundant galena and garnets with magnetite. Only 1% of gold recovered is under minus 16 mesh. The gold is usually in the 0.05 to 0.25 oz range and 1/4- to 1/2-oz nuggets are common. A 4.5-oz nugget was recovered last year.

MINING EQUIPMENT: Four-inch floating suction dredge, hydraulic backhoe (1/8 cy?)

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Cushman® trackster, large track vehicle, fuel storage, tool shed, cabin. Cleanup accessories.

MINING AND CLEANUP PROCESSING METHOD: Suction dredge is floated in creek and hose from dredge sucks alluvial material off bedrock. Most stripping or removal of overlying material and large boulders is done by hand or with comalongs.

WORK ACCOMPLISHED: The area being mined was visited when the operator was gone to observe mining method and the deposit geology. The operator ran a test prior to the examination. Approximately 2 cy of material was run through the dredge and just over 0.1 oz of gold recovered. One of the nuggets recovered weighed 0.5 g. Because most of the gold recovered by the operator is very coarse jewelry grade gold he at least averages the world price for gold. The placer gold grade is 0.05 oz/cy. The contained gold grade is 0.038 oz Au/cy. A factor of 1.0 can be multiplied by the spot price of gold to determine an approximate value for placer gold mined in the area, as only 1% of the gold is below jewelry size.

REMARKS: These claims have been worked by the owner in much the same manner with similar results for nearly 20 yr. At the present rate of mining, at least 30 more years are anticipated by the owner. The gold is very coarse and several nuggets above the 1-oz range have been obtained. One nugget recovered weighed over 4 1/2 oz. A small to medium sized operation could probably be supported on the creek.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 16, Juncture of 22 Gulch and Glacier Creek, N 1/2 Sec. 32, T15S, R17W

DEPOSIT DESCRIPTION: Three to six feet of coarse, subangular to subrounded gravel on quartz mica schist bedrock. The present cut is located at the juncture of Glacier Creek and 22 Gulch and both gravels were mined. Glacier Creek is over 80-ft wide at this location and relatively shallow gradient (less than 5 degrees). Part of the cut had been hand mined extensively in the past as evidenced by large piles of hand stacked rocks.

The gold recoverd was variable in appearance and texture. Much of the gold was rudely to coarsely crystalline, dendritic and wire in nature. Some nuggets were very gnarly and most showed little wear or worn edges. After bedrock had been scraped in some localities, the rock could be hand picked for visible nuggets. Bedrock hardness is variable and areas which are harder and more brittle due to quartz content usually tend to concentrate larger amounts of nugget gold. Many of the nuggets recovered are in the 1/4- to 1/2-oz range. Abundant garnets, galena with stibnite and occasional tourmaline in concentrates.

In most areas along the stream, alluvial material continues underneath steep side slope scree and soil cover.

MINING EQUIPMENT: 110B Case® dozer, 350 Case® loader, 40 cy/hr shaker screen sluice plant, 4-in. pump with collapsible hose, generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Renovated school bus, truck camper, welding equipment, two 4x4 trucks. A road was built from Yellow Creek down the Glacier drainage to the mine site (2 miles).

MINING AND CLEANUP PROCESSING METHOD: Most of the upper gravel and large boulders are scraped off and is not mined. Usually the lowermost 1 or 2 ft of alluvium and an average of 1 ft of bedrock is mined.

The dozer pushes pay material up to 50 ft to the plant and is loaded by the loader into the plant. The plant is skidded upstream as mining progresses.

Three men work the deposit 10 to 12 hr/d and move 20 to 40 cy/hr through the plant.

WORK ACCOMPLISHED: As the end of the mining season was drawing to a close, it was decided not to map a specific cut and perform a cleanup of the concentrates as it would consume valuable mining time. The gravels were observed and coarse placer gold (jewelry) picked from the concentrates to date weighed over 100 oz. It is estimated that at least that amount of finer placer gold remained in the concentrate. The cut was estimated to contain approximately 14,000 cy, 3,400 of which was actually mined. If 200 oz of placer gold are recovered the cut would contain 0.014 oz/cy of placer gold. The material actually mined would have a placer gold grade of 0.059 oz/cy. Using a fineness of 760 the contained gold grade is 0.011 oz Au/cy or 0.045 for material processed.

50% @ \$304 = 15200
50% @ \$400 = 20000
35200/100 = 352/400 = 0.86 factor

A very conservative factor (much of the gold is sold at over two times the spot price) of 0.88 can be multiplied by the spot price of gold to determine an approximate value for placer gold recovered in the area.

REMARKS: Glacier Creek narrows to 10- or 20-ft wide in a few places but ranges from 50- to 250-ft wide for over 2 miles of the stream length. Several areas show signs of handworking in the past and old reports indicate the "earlier" miners mined rich, coarse-gold pay-streaks. Very good production results were obtained by mining previously hand mined areas at the present mine site. This is probably a good indication that similar results can be expected from future mining on Glacier Creek.

Approximately half of the gravels on 22 Gulch were mined by hand methods in the early days. Extensive piles of hand stacked rocks are evident today. This creek is unclaimed but probably represents a very high grade placer resource. Sidepay areas and low bench deposits would probably support a small to medium sized mining operation.

PLACER MINE OPERATIONS REPORT

PROPERTY: Location 17, Friday Creek, SE Sec. 11, T16S, R18W

DEPOSIT DESCRIPTION: Unsorted alluvial and colluvial mixture alluvial fan(?). Mining right limit of stream into hillside. Bedrock schist slopes into hill. Deposit located at the head end of alluvial fan where Friday Creek emerges from narrow canyon. The slope of hill rises rather quickly and the gravels on right limit of cut are over 30-ft deep. Bedrock is exposed uphill 200 ft from edge of cut and gravels could extend into the hill up to 150 ft.

The material above bedrock contained significantly less gold than that mined on and into bedrock but appeared to still be economic. Once bedrock was reached, gold production went up considerably. The gold is typically very rough and often rudely crystalline showing dendritic and wire-like textures and often contains considerable quartz. Several large nuggets were observed including a 2.75, 1.25, and two 1-oz nuggets. Gold found on bedrock is usually iron stained and shows little sign of wear. Abundant galena along with magnetite, pyrite, garnet and some scheelite is found in the concentrate.

Gravels usually covered by 4 to 8 ft of overburden with 25% cobbles subangular to rounded and 1% boulders up to 4-ft across. Bench-fan(?) deposits of a similar nature extend upstream over 700 ft to the narrow canyon mouth.

MINING EQUIPMENT: Two D-8 Cat® dozers, 955 Cat® loader, 60 cy/hr shaker screen-sluice plant (stationary), 10-in. pump and collapsible hose, 45 KW generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Two trailers, one camper, two 4x4 pickups, one pickup, two ton truck, welding equipment, fuel tanks, cleanup accessories.

MINING AND CLEANUP PROCESSING METHOD: The washing plant was set on a steep slope and a ramp built to feed hopper. D-8 used to strip overburden and push pay gravel to loader which in turn feeds plant. Tailings are pushed downstream from plant and contoured. Dam constructed on stream for wash water. Settling pond constructed below.

Cleanups are sieved to minus 4 mesh and hand picked. Remaining concentrate is run over Carter shaking table and most of the coarse gold is hand picked from this new concentrate.

Two to three men worked the deposit 10 to 12 hr/d.

WORK ACCOMPLISHED: Several visits were made to the property as mining progressed and the geology was observed. Two hundred and fifty hr had been spent mining the cut. At 60 cy/hr production approximately 15,000 cy of material had been mined. Over 350 oz were estimated from cleanups to date (a large portion of the concentrates will be processed for gold later in the winter). The placer gold grade is estimated to be 0.023 oz/cy. Using a 780 fine figure the contained gold grade is 0.018 oz Au/cy. Approximately 50% of the gold is considered to be jewelry grade. Many pieces over 1/2 oz in size will obtain a price of 1000 to 1500 dollars/oz for "character" gold. The operators reported that they will probably average the world price for the total amount of gold recovered. Because percentage of size fractions is not known, a factor was not calculated.

REMARKS: A few more seasons of mining are anticipated on this deposit. The deposit would not have been apparent unless mining was undertaken under the slope wash exposing the gravels. Several areas upstream from this cut are probably underlain by similar deposits.

PROPERTY: Location 18, Upper Caribou, SE Sec. 18, T15S, R16W

DEPOSIT DESCRIPTION: Three to five feet of coarse, angular to subangular and subrounded material. The deposit is immediately upstream from the last dragline tailings. The drainage at this point is up to 300-ft wide and relatively flat. The gravel was being mined to a 6-in. sandy layer above a clayey weathered mica schist bedrock. The bedrock was cut several times by shears which contained mostly clayey gouge and small pods of crushed quartz containing some pyrite.

Gold observed in the sluice box was rough and one piece showed dendritic texture with attached quartz. Abundant garnets were observed in the concentrate.

MINING EQUIPMENT: Cat® 235 two cy bucket excavator, Cat® D-7 dozer, Cat® D7H dozer, tire mounted 100 cy/hr capacity shaker screen sluice plant, two Deutz® diesel 6-in. pumps, several hundred feet of aluminum pipe.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: 206 Cessna aircraft, welding truck, three large mobile homes, one small trailer, two school buses, three large truck trailer vans.

Cleanup equipment - Sweco 24-in. vibrating screens, 12-in. Knelson bowl hydrostatic centrifugal concentrator, 48-in. spiral concentrating wheel, cement mixer/amalgam tumbler, mercury retort, 6,000 gal capacity fuel tanks.

Approximately 6 miles of road was constructed in July to freight all equipment to mine site. An airstrip was leveled for fixed wing access and a large camp site was prepared near the mine site.

MINING AND CLEANUP PROCESSING METHOD: A sump was excavated for mine wash water. Several acres of relatively flat alluvial deposit was stripped of a thin veneer of soil cover. The plant is pushed ahead of the bucket as mining progresses upstream. Approximately 40-ft-wide cuts are made and tailings are directed into the previous cut. Mine water is directed into previously excavated settling ponds.

Mining is accomplished on a 24-hr basis. Four men mine two 12 hr shifts. Another man is employed to process all cleanups completely on site. One catskinner to prepare ground and level tailings. The owner and one other man perform support functions. Several other family members perform camp logistics.

WORK ACCOMPLISHED: The mining had just begun at the time of the author's visit. The previous two weeks had been spent freighting all equipment and the camp to the mine site and preparing ground for mining. A look at the sluice box showed rough gold was being recovered. Tenor of the deposit could not be estimated. One piece of coarse (1/2 in. x 1 in.) gold showing rough dendritic texture with attached quartz was observed. Production subsequent to this visit was reportedly satisfactory.

REMARKS: The operator anticipates several seasons of mining on the upper Caribou drainage. Several bench deposits 20- to 50-ft above the creek level have never been tested and represent a substantial gold resource.

PROPERTY: Location 19, Rainy Creek, SW Sec. 14, T16S, R17W

DEPOSIT DESCRIPTION: Up to 15-ft deep unsorted alluvial and colluvial gravels. Deposit is up to 200-ft wide by 1,000-ft long. Stream gradient is less than 5% and the deposit is located at the mouth of Rainy Creek Canyon where the stream emerges onto a broad, open fan deposit. Gravels being mined are at the head end of the alluvial fan.

MINING EQUIPMENT: 1.25 cy bucket excavator, D-6 Cat® dozer, medium sized shaker screen-sluice plant, 6-in. pump, generator.

ACCESSORY EQUIPMENT OR IMPROVEMENTS ON GROUND: Large tractor truck, 4x4 pickup and camper, four cabins, flatbed truck trailer, large trailer van, welding equipment, camp generator.

MINING AND CLEANUP PROCESSING METHOD: Area was cleared of brush and thin veneer of soil. A drainage ditch was excavated to bedrock schist. A cut will be made moving the washing plant ahead of the bucket excavator. Several men and their families were involved in the operation.

WORK ACCOMPLISHED: The area had been stripped and prepared for mining at the time of the author's visit and no mining had been accomplished at that point.

REMARKS: Upstream from the mine site, the stream becomes fairly narrow and shallow until the head of the drainage where 30- to 50-ft minable widths are present and the gravel is relatively shallow. Some handworking from "earlier" days are evident in the upper canyon. A small area was mined downstream from the present site where the present stream drainage is incised into the huge alluvial fan. Results of that mining are unknown.

Table A-1 - Composition (Fineness) of Placer Gold Collected from Pit and Cable Tool Samples, Kantishna Study Area

Drainage	Sample #	Composition	
		Gold	Silver + Base
Moose	A1452	763	237
Moose	A1453	779	221
Moose	A1454	775	225
Eureka Fan	A1457	746	254
Eureka	A1458	744	256
Moose/Friday Terrace	A1459	911	89
Friday	A1460	769	231
Spruce	A1466	790	210
Upper Glen	A1467	808	192
Glen Terrace	A1471	907	93
Lower Glen	A1473	786	214
Moose Terrace/ Rainy	A1474	850	150
Eldorado	A1476	835	165
Moose Terrace	CDH-2 (A1477)	709	291
Moose Terrace	CDH-3	889	111
Glacier Terrace	CDH-10 (A1478)	872	128
Glacier Terrace	CDH-11-16	752	248
Moose Terrace	CDH-17	915	85

Table A-1a - Composition and Gold/Silver Ratios of Placer Gold Collected from the Kantishna/Dunkle Mine Study Areas (Compiled by Robert B. Hoekzema, U. S. Bureau of Mines, Anchorage)

Stream (Kantishna Area)	Sample #	Composition			Au/Ag	Au/ Au+Ag
		Au	Ag	Base		
Banjo Dump	A3032	635	81	284	7.8	887
Bearpaw River	A0989	759	111	130	6.8	872
Bearpaw River	A1406	623	88	289	7.1	876
Caribou Creek (Upper)	A3048	654	115	231	5.7	850
Caribou Creek (Lower)	A1402	660	178	162	3.7	788
Crevice Creek	A0978	631	149	220	4.2	809
Crevice Creek	A0980	613	30	357	20.4	953
Eldorado Creek	A3022	787	74	139	10.6	914
Eldorado Creek	A3056	829	40	131	20.7	954
Eldorado Creek Tributary	A3052	952	48		19.8	952
Little Moose Cr.	A3026	579	351	70	1.6	623
Little Moose Cr.	A3027	537	280	183	1.9	657
Moose Creek	A3058	713	112	175	6.4	864
Moose Creek	A3069	738	86	176	8.6	896
Moose Creek	A3094	717	283		2.5	717
Moose Creek	A0958	760	32	208	23.8	960
Moose Creek	A0961	630	370		1.7	630
Moose Creek	A0962	724	30	246	24.1	960
Myrtle Creek	A3072	614	50	336	12.3	925
Myrtle Creek	A3077	735	108	157	6.8	872
Myrtle Creek	A3084	827	11	162	75.2	987
Myrtle Creek	A3085	768	232		3.3	768
Rainy Creek	A3043	743	48	209	15.5	939
Rock Creek Trib.	A0995	831	169		4.9	831
Rock Creek	A1400	801	153	46	5.2	840
Stampede Creek	A3029	532	322	146	1.7	623

Table A-1a - Composition and Gold/Silver Ratios of Placer Gold Collected from the Kantishna/Dunkle Mine Study Areas

Stream (Dunkle Area)	Sample #	Composition Au	Ag	Base	Au/Ag	Au/ Au+Ag
Bull River	A1418	706	130	164	5.4	844
Colorado Creek	A2424	640	166	194	3.9	794
Colorado Creek	A2429	626	170	204	3.7	786
Costello Creek	A1417	670	151	149	4.4	816
Costello Creek	A2431	496	17	487	29.2	967

BACKHOE PITTING AND SAMPLING PROCEDURES

Pits were excavated in 1-ft vertical intervals using a John Deere® 450-D, track mounted backhoe which had a 13-ft reach. As each vertical foot of material was excavated, a representative 4 x 3 ft bucket full of material was sampled. Each bucket was heaped in order to closely approximate an original volume of bank alluvium. Sampling was limited to relatively shallow deposits by the reach capacity of the backhoe. The heavy minerals and gold in the sample were concentrated by a small, portable Denver Gold Saver® trommel/sluice washing plant capable of processing approximately 1 cy of material hourly. The washing plant was run by a 3.5 hp Honda engine. Wash water was supplied to the plant from a 3.5 hp 150 gpm Honda centrifugal pump via 1.5-in. polypipe.

Material from the backhoe was placed onto and washed through a 2-in. screened hopper. Oversize material was discarded manually while undersize (less than 2 in.) material flowed into a 3/16-in. screened trommel and was washed continuously by a spray bar. The undersize (less than 3/16 in.) material flowed through a laterally agitated 2 ft x 1 ft riffle sluice section. Tailings from this primary sluice flowed over an extended 10 ft x 1 ft sluice containing 1-in. transverse riffles overlying a Nomad® indoor-outdoor carpet. The extended sluice was utilized as a safeguard to trap gold not collected in the primary riffles. As the season progressed, only the upper 2 ft of the extended sluice was utilized as the primary riffles effectively trapped the gold.

At 4-ft vertical intervals or at significant changes in the characteristics of the deposit being sampled, the wash plant was shut down and concentrates from the primary riffles were screened. Material larger than 10 mesh was inspected for nuggets. Material smaller than 10 mesh was carefully hand-panned in a large wash tub. Gold colors were counted, described and recorded. The concentrate was saved for further processing. By sampling in set intervals or at definitive breaks, the distribution and concentration of the gold could be recorded. Concentration from the extended sluice section was processed in the same manner at the conclusion of the hole.

Larger excavation equipment, belonging to miners in the area, was used for collecting some samples. In these instances, a large single sample was excavated and piled next to the washing plant. A representative 1 cy sample was taken from the pile and processed through the washing plant.

Free gold was extracted from concentrates from the pit sample in the field laboratory. Coarse gold (greater than 30 mesh) was removed manually. The remaining gold in the concentrate was then amalgamated with mercury in a rock tumbler for a minimum of 2 hr. The amalgam was removed from the concentrate using a spiral wheel concentrator, and digested in a nitric acid solution to dissolve the mercury. The yielded gold was washed with distilled water and then heated to remove any excess mercury. Then both hand-picked and amalgamated gold was weighed to determine the total gold in the sample.

The fineness of selected gold samples from each drainage was determined by Silver Valley Labs in Osburn, Idaho. Approximately half of the sample concentrates were analyzed using an optical emission spectrograph to determine the content of 31 elements. The remaining samples were assayed for selected elements to test the possibility of other potentially economically concentrated metals. Table A-2 summarizes pit sampling results.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001450	Lower Moose Creek	3,481, 590	343,340	SW 13 T16S R18W	*800	0.001	0 - 4'	Coarse glaciofluvial gravels. Very fine gold in sample. One 24 cu ft sample contained 34.9 mg of gold.	Hit water at 3 ft in hole, sampling stopped at 4 ft due to cave. Bedrock was not reached, inconclusive results. Fair sample location.
A001451	Lower Moose Creek	3,482, 636	341,962	SW13 T16S R18W	*763	0.0002	1-10.5'	Poorly-sorted, coarse, glaciofluvial gravel. Very fine gold. One 60 cu ft sample contained 21.2 mg of gold.	Sample taken adjacent to large mine cuts. Stopped at blue clay false bedrock. Fair sample location although pay-streaks are common in this area.
A001452	Lower Moose Creek	3,482 937	341,668	SE14 T16S R18W	763	0.009	0-8'	Poorly sorted coarse glaciofluvial gravel. Hit large tight boulders at 6' which could not be excavated - abandoned hole. Very fine flaky gold increased considerably near bottom of hole. Two samples with a total volume of 54 cu ft contained 82.9 mg of gold.	Boulders at bottom of hole and increasing gold content at bottom of hole at indicate it was abandoned relatively close to bedrock. Inconclusive test. Fair sample location.
A001453	Lower Moose Creek	3,488 309	337,844	SW11 T16S R18W	779	0.0016	0-6'	Loose sandy glaciofluvial gravel. Hit permafrost at 6' and abandoned hole before hitting bedrock. Very fine flaky gold. Two samples with a total volume of 36 cu ft contained 84.5 mg of gold.	Inconclusive test because bedrock not reached. Fair sample location.

TABLE A-2- KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001454	Lower Moose Creek	3,487 150	338,822	SW11 T16S R18W	775	0.017 (incl. 1/4" nugget) 0.014 (w/o nugget)	0-6' 6-9.5'	Fine soil overburden (no sample) Sandy glaciofluvial gravel to iron stained quartz sand false bed-rock. Gold coarse and rough. Two samples total volume of 36 cu ft, contained 946.1 mg gold.	Deep overburden at sample pit not characteristic of area and was not used to calculate concentration Good sample location. A mining operation nearby is recovering 30% nuggets from a similar deposit and first concentration value is considered representative.
A001455	Eureka Creek	3,489 032	354,844	SW8 T16S R17W	*744	0.0007	0-1' 1-5'	Soil (no sample) Disturbed colluvium contained manmade articles and petroleum contamination includes 1' of bedrock. 30 cu ft sample contained 33.4 mg of gold.	Sample probably from old tailings near cabin site and results are inconclusive Poor sample location
A001456	Eureka Creek	3,489 153	354,685	NW8 T16S R17W	*746	0.0088	0-1.5' 1.5-2.5'	Coarse, subangular alluvial and colluvial fan gravel. Fine gold. Schist bedrock. One sample with a volume of 12 cu ft contained 161.6 mg of gold.	Sample from nose of alluvial fan above Eureka Creek. Fan heads near Banjo Mine. Fan possibly 30-40' deep. Fair sample location.
A001457	Eureka Creek	3,489 311	354,442	NW8 T16S R17W	746	0.0048	0-3' 3-13.5'	Colluvium (no sample). Coarse, subangular alluvial and colluvial fan gravel. gold. Includes 8mm wire. Three samples total volume of 72 cu ft contained 573.5 mg of gold.	Sample from top of fan, approximately 70' above A001456. Bedrock not reached because of backhoe limitation.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001458	Eureka Creek	3,488 530	353,068	NW8 T16S R17W	744	0.0027	0-2' 2-12.5'	Soil and tundra over-burden (no sample) Coarse colluvial and alluvial gravel. Fine to coarse gold. Three samples with a total volume of 66 cu ft contained 277.8 mg of gold.	Sample from low bench adjacent to stream bottom tailings. Bedrock not reached and results are probably low. Fair sample location.
A001459	Friday Creek	3,487 560	340,120	SE11 T16S R18W	911	0.0117	0-2' 2-18'	Tundra and soil overburden (no sample) Sandy glaciofluvial gravel Very fine to coarse colors. Four samples with a total volume of 2.6 cu ft contained 37.2 mg of gold.	Sample from buried Moose Creek terrace gravels adjacent to recent mine cut. Hand dug channel sample from vertical bank exposure. Did not reach bedrock. Good sample location.
A001460	Friday Creek	3,487 880	340,350	SE11 T16S R18W	769	0.0013	0-2' 3-18'	Tundra and soil overburden Coarse, unsorted, sub-angular colluvial and alluvial fan gravels. Fine gold. Four samples with a total volume of 2.4 cu ft contained 4.0 mg of gold.	Hand dug channel sample from vertical mine cut in fan gravel. Bedrock was not reached. Poor sample location.
A001461	Lower Moose Creek	3,484 233	340,806	NE14 T16S R18W	*763	0.0012	0-8' 3-10.5'	Tundra and silty muck overburden (no sample) Loose sandy, unsorted glacio-fluvial gravel. Very fine to fine gold. Two samples with a total volume of 60 cu ft contained 118.1 mg of gold.	Reached limit of backhoe before reaching bedrock inconclusive results. Fair sample location.
A001462	Upper Spruce Creek	3,489 583	391,063	NW9 T16S R16W	*790	0.0001	0-3' 3-7'	Soil and sandy muck (no sample) Sandy, subrounded gravels water in hole at 3' and ice at 7'. One sample with a volume of 24 cu ft contained 4.7 mg of gold.	Bedrock was not reached and sample is inconclusive as values should be concentrated there. Fair sample location.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001463	Upper Spruce Creek	3,489 634	391,245	NW9 T16S R16W	*790	0.0005	0-1' 1-11.5'	Soil (no sample) Loose, fine, sandy gravel Very few fine colors. 63 cu ft sample contained 4.7 mg of gold.	Reached limit of backhoe before hitting bedrock. Inconclusive sample as values historically on bedrock. Probably close as big boulders occur at bottom of hole. Fair sample location.
A001464	Upper Spruce Creek	3,488 359 359	389,976	NW9 T16S R16W	*790	0.00008	0-3' 3-11'	Tundra and muck (no sample) Subangular colluvial and alluvial gravel of local origin with 10% rounded glacial clasts. Very few colors. One sample with a volume of 36 cu ft contained 4.1 mg of gold.	Sample from saddle between Glen and Spruce Creeks proved existence of old channel between the two creeks. Poor fine sample location.
A001465	Upper Spruce Creek	3,487 998	389,787	SW9 T16S R16W	*790	0.0002	0-1' 1-13'	Tundra and muck (no sample) Mostly wellrounded clasts of glacial origin on blue clay outwash bedrock. Lower section of gravel contained large amounts of clay. Very few fine to coarse colors. Three samples with a total volume of 72 cu ft contained 17.2 mg of gold.	Sample near A001464. Apparently reworked glacio till/terrace gravels. Poor sample location.
A001466	Lower Spruce Creek	3,485 662	390,289	SW9 T16S R16W	790	0.0051	1-8.5' 8.5-9'	Coarse subangular to subrounded gravel. Fine to coarse gold concentrated near bedrock. Decomposed clayey schist bedrock. Three samples with a total volume of 90 cu ft contained 808.2 mg of gold.	Good sample location. Gold is very bright and flaky. Probably contains reworked glacial gold.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001467	West Fork Glen Creek	3,493 526	377,233	NE1 T16S	808	0.0127	0-1'	Soil (no sample)	Good sample location.
							1-4'	Coarse subangular to subrounded gravels. Fine to coarse gold colors. One sample with a volume of 13.2 cu ft contained 238.8 mg of gold.	
A001468	West Fork Glen Creek	3,493 593	377,242	NE1 T16S R17W	*808	0.0043	0-1'	Soil (no sample)	Good sample location. Taken 200' upstream from recent mining cut.
							1-5'	Coarse subangular and subrounded gravels to decomposed schist bedrock Large boulders on bedrock. One sample with a volume of 26.4 cu ft contained 163.8 mg of gold.	
A001469	West Fork Glen Creek	3,493 508	377,211	NE1 T16S R17W	*808	0.0199	0-3'	Coarse subangular to subrounded gravel with large boulders at bedrock. Fine to coarse gold colors.	Good sample location. Taken 100' from A001468.
							3-4'	Bedrock schist with pyrite bearing quartz vein. Fine to coarse gold colors. One sample with a volume of 26.4 cu ft contained 747.9 mg of gold.	
A001470	Upper Glen Creek	3,492 906	379,023	SW6 T16S R16W	*907	0.0027	0-5'	Coarse, unsorted, subangular colluvial and alluvial gravel. One sample with a volume of 26.4 cu ft contained 93.2 mg of gold.	Sample taken from top five feet of 30' deep bench above main creek. Poor sample location.
A001471	Upper Glen Creek	3,492 866	379,168	SW6 T16S R16W	907	0.0093	20- 27'	Coarse unsorted, subangular alluvial gravels with 10% boulders. Fine to coarse gold colors and one 3/16" nugget. One sample with volume of 26.4 cu ft contained 311.4 mg of gold.	Sapmle from bottom of same bench as sample A001470. Seven feet sample taken above but not on bedrock. Fair sample location.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001472	Lower Glen Creek	3,483 178	384,520	NW17 T16S R16W	*786	0.0063	0-8.5'	Coarse subangular to subrounded gravel. Fine to coarse colors and one 1/4" nugget.	Fair sample location.
							8.5-9.5'	Decomposed schist bedrock fine to coarse colors. Three samples with a total volume of 54 cu ft contained 601.7 mg of gold.	
A001473	Lower Glen Creek	3,483 462	384,617	NW17 T16S R16W	786	0.0228	0-.5'	Soil (no sample)	Fair sample location. 200' upstream from A001472.
							.5-5.5'	Coarse sandy, subangular to subrounded gravels fine to coarse gold colors.	
							5.5'-6'	Hard schist bedrock. Two samples with a total volume of 36 cu ft contained 1373.8 mg of gold.	
A001474	Upper Moose Creek	3,478 301	368,748	NW23 T16S R17W	850	0.0013	0-1'	Soil (no sample)	Sample taken at mouth of Rainey Creek from bench adjacent to Moose Creek. Taken 10' from R.P. samples A003045 and A003046. Fair sample location.
							1-23'	Coarse, well sorted, well rounded glaciofluvial gravel. Fine gold colors.	
							23-24'	Schist bedrock. Few fine colors. Three samples with a total volume of 138 cu ft contained 238.6 mg of gold.	
A001475	Rainy Creek	3,480, 841	371,029	SW14 T16S R17W	*800	0.0004	0-12'	Subangular to subrounded sandy gravel. Some clasts of glacial till ? origin. Few fine colors. Three samples with a total volume of 72 cu ft contained 27.4 mg of gold.	Appears to be slightly reworked glacial till and local gravels in fan complex. Poor sample location.

TABLE A-2 - KANTISHNA DISTRICT PLACER GOLD PIT SAMPLING RESULTS

Sample #	Drainage	Grid Coordinates N	Grid Coordinates E	Location	Gold Fineness	Concentration oz/cubic yard	Sample Interval	Sample Description	Remarks
A001476	Lower Eldorado	3,481, 581	343,340	NW23 T16S R18W	835	0.0077	0-4.5'	Subangular to subrounded gravel of local origin with FeOx stain.	Good sample location.
							4.5-7.5'	Rounded glaciofluvial gravel fine to coarse colors.	
							7.5-8.0'	Blue clay outwash material False bedrock. Two samples with a total volume of 48 cu ft contained 509.8 mg of gold.	
A001476	Lower Eldorado Creek	3,481 589	343,340	NW23 T16S R18W	835	0.0116	0-2.5'	Subangular to subrounded gravel (no sample)	Good sample location. Taken adjacent to above sample to determine if gold is concentrated at contact of different gravels.
							2.5-5'	Subangular to subrounded gravel with fine to coarse gold. One 1/4" nugget.	
							5-7.5'	Rounded, coarse glaciofluvial gravel. Fine to coarse gold colors. Three samples with a total volume of 24 cu ft contained 363.7 mg of gold.	

* Fineness value is that of another pit sample from same drainage.

** Sample locations described as to their relative ability to concentrate gold:

Good: Good location for gold to concentrate. Probably paystreak sample and gold concentration is probably above value of gravels in immediate area.

Fair: Fair area for gold to concentrate. Concentration probably representative of value of gravels in immediate area.

Poor: Poor location for gold to accumulate and concentration may understate value of gravels in immediate area.

FIELD LOG -- PIT SAMPLING

Sample # A001450

Project Kantishna

Claim Ashbrook Homesite - Moose Creek

Bucket Size 6 cubic feet

Coordinates N 3481570
E 343375

20' from Moose Cr. @ xing - on RL Moose Cr.

Line

Hole 1

Elevation 1650

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/20/83	1:00 PM	0	4	4	Loose coarse gravel - few small colors from surface
					glaciofluvial material
					Stop @ 4' - hole caving water @ 3'

Overburden 0 ft.

Gravel 4 ft.

Bedrock 0 ft.

Water Level @ 3 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001451

Project Kantishna

Claim Moose Creek 1

Bucket Size 6 cubic feet

Coordinates N 3482610
E 342250

Line

Hole 2

Elevation 1680

Below Eldorado Creek
approx. 50' south of road on N-5
prospect and drain ditch

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
					Trench on virgin ground. Scraped by Sonny Kragnes of surface muck. Never mined however. Area to north 50' has all been mined in last 5 yrs
6/22/83	Beg. 11:30 AM	0	4	4	Poorly sorted med. to coarse gravel, approx. 12 colors,
					small - 2 mg
	1:00 PM	4	8	4	Poorly sorted med. to coarse gravel, approx. 25 colors -
					5 mg
	1:40 PM	8	10.5	2	Poorly sorted med. to coarse gravel, approx. 20 colors,
					few boulders
	2:20 PM	Finish			Stopped @ blue clay-false bedrock
					*NOTE: All cons. added to one sample

Overburden 0 ft.

Gravel 10.5 ft.

Bedrock 10.5 ft. blue clay

Water Level @ 8 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001452

Project: Kantishna　　　　Line:

Claim: L-57 Moose Creek　　　　Hole: 3

Bucket Size: 6 cubic feet　　　　Elevation: 1680

Coordinates: N 3482950 E 341700　　　　Approx. 80' south of south side line of MC#2

Approx. 2' tundra and soil already scraped off

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/22/83	Start 4:30	0	4	4	Coarse sand, gravel, boulder, dark gray clay @ 1 1/2'
					tight, coarse gravel @ 3' - 10 small colors - 1 mg
	5:20	4	8	5	Gets few big boulders @ 6" and becomes tighter. Some
					sluff from above, water rose 1/2', approx. 75 colors - 35 mg

Overburden 0 ft. Already scraped

Gravel 8+ ft.

Bedrock ? ft.

Water Level @ 2 1/2 ft.

J. Levell

Probably close to bedrock because large boulders evident near bedrock in trench 200' away

FIELD LOG -- PIT SAMPLING

Sample # A001453

Project Kantishna

Claim Approx. 200' NE Chinook #4

Bucket Size 6 cubic feet

Coordinates N 3488450
E 337800

Line

Hole #4

Elevation 1550

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/24/83	11:50 AM	0	4	4	Loose sandy gravel w/5% of up to 1.5' across boulders
					approx. 100 fine colors - 3 up to 2 mms across
		4	6	2	Loose sandy gravel - boulders the same. Hit water 5'
					hit ice @ 6', approx 50 fine colors - 2 up to 3 mm across
	Finish 3:30				
		0	6		Sluice - lots of blacks (magnetite) 5 colors

Overburden 1 ft. Scraped off

Gravel 6 ft.

Bedrock ? ft.

Water Level @ 5 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001454

Project Kantishna

Claim Chinook 3 or Alder 6

Bucket Size 6 cubic feet

Coordinates N 3487360
E 338770

Line

Hole #5

Elevation 1560

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/24/83		0	6		No sample, fine sand and clay
6/25/83	11:00 AM	6	8.5	4	Stopped at red sand/false bedrock, approx 300, approx. 50 over 3 mm across, one round flat flake 1mm x 6 mm
6/25/83	1:00 PM	8.5	9.5	2	Red sand and some sand and gravel from above, 150 colors, 25 approx. above 3 ml, 1 nugget 1/8" across
6/25/83		6	9.5		Sluice sample, lots of black sand and lots of very fine colors

Overburden 6 ft. fine soil

Gravel 3.5 ft.

Bedrock 9.5 ft.

Water Level @ - ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001455

Project Kantishna

Claim Eureka Creek 6

Bucket Size 6 cubic feet

Coordinates N 3484040
E 354900

Line

Hole #6

Elevation 2350

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/27/83	4:15 PM	0	1		No sample
	4:15 PM	1	5	5	3 ft colluvium, 1 ft bedrock, colluvium disturbed
					heavy diesel contamination approx 10 coarse colors
	Sluice	2	5	5	100 fine colors, one 1/8" flake

Overburden 1 ft.

Gravel 4 ft.

Bedrock 4 ft.

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001456

Project Kantishna

Claim Eureka Creek 6 (Eureka Creek)

Bucket Size 6 cubic feet

Coordinates N 3484120
E 354575

Line

Hole #7

Elevation 2400

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/28/83	12:30	0	2.5	2	Hit bedrock @ 1.5 ft, dug 1 ft into bedrock
					70 fine colors
	Sluice	0	2.5	2	70 very fine colors

Overburden 0 ft.

Gravel 2.5 ft.

Bedrock 2.5 ft.

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001457

Project Kantishna

Claim Eureka Creek 6

Bucket Size 6 cubic feet

Coordinates N 3484240
E 354380

Line

Hole #8

Elevation 2430

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/29/83		0	3		Overburden, colluvium
	12:30 PM	3	7	4	30 very fine colors
	2:00 PM	7	10.5	4	8 mm wire, 30 coarse, 100 fine, 100 very fine
	4:00 PM	10.5	13.5	4	17 coarse, 200 fine, 300 very fine
	Sluice	3	13.5	12	1 fine, 100 very fine

Overburden 3 ft.

Gravel 10.5 ft.

Bedrock - ft. never hit

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001458

Project Kantishna

Claim Eureka Creek 5

Bucket Size 6 cubic feet

Coordinates N 3483720
E 353460

Line

Hole #9

Elevation 2300

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
6/30/83		0	2		Overburden, no sample
	12:00noon	2	6	4	2 fine, 65 very fine
	1:35 PM	6	9.5	4	20 fine, 200 very fine
	2:30 PM	9.5	12.5	3	4 coarse, 25 fine, +100 very fine
	Sluice	2	12.5	11	20 very fine colors

Overburden 2 ft.

Gravel 10.5 ft.

Bedrock - ft. didn't hit

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001459

Project Kantishna

Claim Friday Discovery

Bucket Size ______ cubic feet 1 pan/vert. ft

Coordinates N 3487560
E 340120

Line ______

~~Hole~~ Bank Channel 10

Elevation 1680

Date	Time	Sample From	Sample To	No. of ~~Buckets~~ Pans	From blue glaciofluvial gravels on left limit terrace Remarks
7/1/83	12:00	0	2		~~No sample - OB~~
		2	6	4	20% rounded cobbles, few boulders up to 4' across
					1 fine, 14 very fine
		6	10	4	Same - no boulders, 1 fine, 6 very fine
		10	14	4	Same - no boulders, 2 coarse, 1 fine, 8 very fine
		14	18	4	Fe stnd, pea gravel in bottom 2 ft, should be near
					false bedrock as active cut across stream channel
					has similar material above false bedrock
	Tails sluice	2	18		~~11 very fine~~

Overburden 2 ft.

Gravel 16 ft.

Bedrock ? ft.

Water Level @ 16 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001460

Project Kantishna

Claim Friday Discovery

Bucket Size ______ cubic feet 1 pan/vert. ft

Coordinates N 3487880
E 340350

Line ______

~~Hole~~ Bank Channel 11

Elevation 1710

Date	Time	Sample From	Sample To	No. of Buckets	Remarks: Subangular Friday Creek fan gravels from rt. limit terrace above present, active mine cut, few boulders up to 2 ft across.
7/1/83	2:00	0	3	0	Dirt - no sample
	A	3	7	4	Subangular gravels, 14 very fine
	B	7	11	4	Subangular, 10 very fine colors
	C	11	15	4	Subangular, 14 very fine colors
	D	15	18	3	Bedrock present in near vicinity and should have
					been close to or near it in bottom foot of sample
					1 fine, 16 very fine

Overburden 3 ft.

Gravel 15 ft.

Bedrock 0 ft.

Water Level @ 0 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001461

Project Kantishna

Claim Liberty Moose Creek

Bucket Size 6 cubic feet

Coordinates N 3484230
E 340810
240' S50E from CP-4

Line

Hole 12

Elevation 1500

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/2/83	11:30	0	3	5	No sample - muck and sandy overburden
	12:30	3	7	5	Loose sandy gravel with very rounded cobbles of glacio-
					fluvial origin. Rock types vary widely. 10% boulders
					up to 3' across. 1 coarse, 6 fine, 200+ very fine
	2:00	7	10.5	5	2 coarse, 40 fine, +200 very fine much black sands
					50% + 1 1/2", 20% + 3/16, 20% fine sand
	Sluice sample	3	10.5	15	75 very fine colors

Overburden 3 ft.

Gravel 7.5 ft.

Bedrock ? ft.

Water Level @ - ft.

W. Srock

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001462

Project Kantishna

Claim Spruce

Bucket Size 6 cubic feet

Coordinates N 3490100
E 391300
Near rt. limit of valley - 10' west of road

Line

Hole 13

Elevation 2550

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/6/83	10:30 AM	0	3	-	Soil and sandy muck - no sample
		3	7	4	Loose sandy alluvium - small cobbles. Water @ 3'. Hole blocked at 7' on something hard - possibly ice? But also ran into big boulders and a 4" clayey gravel layer. 20 very fine colors
					20 very fine colors in tailings sluice

Overburden 3 ft.

Gravel 4+ ft.

Bedrock ? ft.

Water Level @ 3 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001464

Project Kantishna

Line

Claim Spruce

Hole 14

Bucket Size 6 cubic feet

Elevation 2550

Coordinates N 3490200
E 391500
Approx. 150' east of #13

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/6/83	3:00 PM	0	1		Soil
		1	5	4	Very loose sandy gravel - 8" silty clay layer @
					3.5', 20 very fine colors, lots coarse magnetite
		5	9	4	10 very fine colors, hit water @ 8 ft, abundant
					coarse magnetite
		9	11.5	2.5	Coarser, 5% boulders up to 2' across. Quit hole because
					bucket can't go deeper. 10 very fine colors, 1 fine

Overburden 1 ft.

Gravel 10.5+ ft.

Bedrock - ft.

Water Level @ 8 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001464

Project Kantishna

Claim Spruce Creek #5

Bucket Size 6 cubic feet

Coordinates N 3488200
E 390200
Bench above S5

Line

Hole #15

Elevation 2480

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/8/83		0	3		Overburden - no sample
		3	7	4	10% 1 1/2"+, 10% 1 1/2"-3/16", high clay content,
					1, 2 mm color 90% of cobbles are angular schist, 10%
					rounded of various lithologies
		7	11	4	Hit bedrock @ 10', 20% 1.5"+, 25% 1.5"-3/16",
					1 fine, 6 very fine. Much black sand, 90% of cobbles
					are subangular schist, 10% rounded of varying lithologies
		11	12	1	Bedrock decomposed schist, no colors
		Tailings Sluice Sample			
		3	12	9	No colors

Overburden 3 ft.

Gravel 8 ft.

Bedrock 12 ft.

Water Level @ ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001465

Project Kantishna

Claim Spruce Creek 5

Bucket Size 6 cubic feet

Coordinates N 3487600
E 390150
Bench above S5

Line

Hole #16

Elevation 2470

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/8/83		0	1		Overburden no sample
		1 A	5	4	Well rounded cobbles, 20% 1.5"+, 20% 1.5"-3/16",
					3 fine colors, 10 very fine
		5 B	9	4	Well rounded cobbles of various lithologies, 25% 1.5"+,
					25% 1.5"=3/16"; little clay, 1 coarse, 4 fine, 1+ very fine
		9 C	13	4	Stopped @ blue clay, high clay, 1 fine, 10 very fine
		Tailing Sluice Sample			
		1	13	12	

Overburden 1 ft.

Gravel 12 ft.

Bedrock 13? ft.

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001466

Project Kantishna

Claim Spruce 4

Bucket Size 6 cubic feet

Coordinates N 3485450
E 390350

Line

Hole 17

Elevation 2350

Date	Time	Sample From		To	No. of Buckets	Near Ashbrook's cut from 1982. Bedrock near surface 100' away Remarks
7/9/83		0	A	4	4	30% 1.5", 30% 1.5"-3/16", some clay, water @ 2.3'
						approx. 100 fine, +100 very fine, high magnetite
		4	B	7	6	3 coarse, 100 fine, 100+ very fine, much magnetite
						sloughing of hole
					10	Sluice sample of 7 ft
7/10/83						Widened hole to go deeper
7/11/83		7	C	9	5	Hit bedrock @ 8.5' - orange clayey schists, big
						boulders on bed rock, 7 very coarse, 15 coarse, +100 fine,
						+150 very fine.
		9	D	9.5	4	Tried to go deeper, but made little headway and started
						pulling out slough, but bedrock and big boulders in
						each bucket, 5 very coarse (one up to 4mms), 25 coarse,
						100 fine, +150 very fine
					8	Sluice sample of last 2.5'
						Showed lots of gold, but had a washout accident during
						sample D. Should not include sample D or sluice in calculations.

Overburden 0 ft. scraped off last year probably close to a ft deep originally

Gravel 8.5 ft.

Bedrock 8.5 ft.

Water Level @ 2 ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001467

Project Kantishna

Claim Gold King 8

Bucket Size 1.2 cubic feet

Coordinates N 3493400
E 377500

Line

Hole #18

Elevation 2800

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/12/83		0	1		Overburden
		1	4	11	Hit bedrock @ 3 ft. 6 coarse, + 50 fine, 50 very fine
					25% 1.5", 25% 3/16"-1.5"

Overburden 1 ft.

Gravel 3 ft.

Bedrock 3 ft.

Water Level @ 3 ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001468

Project Kantishna

Claim Gold King 8

Bucket Size 1.2 cubic feet

Coordinates N 3493450
E 377500

Line

Hole 19

Elevation 2800

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/13/83		0	1		Overburden
		1	5	22	Hit bedrock @ 4', 6 coarse, +25 fine, +100 very fine, less black sands than #18. Bedrock is decomposed schist (buff colored) 30% +1.5", 30% 3/16=1.5", many large boulders @ bedrock

Overburden 1 ft.

Gravel 3 ft.

Bedrock 4 ft.

Water Level @ ____ ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001469

Project Kantishna

Claim Gold King 8

Bucket Size 1.2 cubic feet

Coordinates N 3493400
E 377450

Line

Hole #20

Elevation 2800

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/13/83		0	4	22	Hit bedrock @ 3 ft, sample site situated on a bedrock depression w/pyrite rich vein material showing @ bottom. Much bedrock in sample. Large boulders near bedrock. Much pyrite in sample 10 coarse, +100 fine, +100 very fine

Overburden 0 ft.

Gravel 3 ft.

Bedrock 4 ft.

Water Level @ ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001470

Project Kantishna

Claim Glen Creek 6

Bucket Size 1.2 cubic feet bank run

Coordinates N 3492400
E 379250

Line

Hole #21

Elevation 2700

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/14/83		/	/	22	6 coarse, 75 fine, +100 very fine schist float, angular
					to subangular and subrounded gravel
		Tailings sluice			Sample from 30' bench. Top 5' below grass roots 3 1/2
					yd bucket struck - 1 yd run through gold saver. 10%
					boulders up to 1' across. Rest is fairly fine
					w/another 10% cobbles. Most rocks have hard clay glueing
					pebbles to sides

Overburden 1 ft.

Gravel 5 ft.

Bedrock None ft.

Water Level @ ____ ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001471

Project Kantishna

Claim Gold King 5

Bucket Size 1.2 cubic feet bank run

Coordinates N 3492400

E 379300

Line

Hole #22

Elevation 2660

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/14/83		Random loader bucket from bench			~~One 3/16" nugget, 6 coarse, 50 fine, +75 very fine~~
					10% large boulders, 15% +1.5", 25% 3/16-1.5"
					Sample from lower 7' on bottom of 30' bench near
					weathered schist bedrock. 10% cobbles up to 1 ft across,
					1% boulders up to 4 ft across. Imbricate structure normal
					to East Fork of Glen Creek. 1 yd sample run from
					3 1/2 yd struck bucket.

Overburden - ft.

Gravel 7 ft. vertical

Bedrock 2 ft. below sample

Water Level @ - ft.

J. Levell

FIELD LOG -- PIT SAMPLING

Sample # A001472

Project Kantishna

Claim Glen Creek (lower)

Bucket Size 6 cubic feet

Coordinates N 3483300
E 384300 Glen Creek

Line

Hole #25

Elevation 2240

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/17/83		0	3.5	3	1 coarse (3/8"x1/2"), 1 fine, +100 very fine, hit clay
					and vegetable material @ 3', 40% + 1.5", 30% 3/16"-1.5".
					Possible tailings
		3.5	8.0	4	4 fine, +200 very fine, stopped 6" above bedrock
		8.0	9.5	2	Decomposed schist bedrock and material just above
					bedrock, 10 coarse, 20 fine, approx. 70 very fine.
		Tailings sluice			
		0	9.5	9	No color

Overburden 0 ft.

Gravel 8.5 ft.

Bedrock 8.5 ft.

Water Level @ 0 ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001473

Project Kantishna

Claim Glen Creek

Bucket Size 6 cubic feet

Coordinates N 3483500
E 384850 Lower Glen Creek

Line

Hole #24

Elevation 2240

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/18/83		0	.5		No sample overburden
		0.5	4.5	4	Well washed gravel 20% 1.5"+, 40% 3/16"-1.5", 5 coarse,
					+20 fine, +100 very fine, hit water @ 4.0 ft.
		4.5	6	2	12 coarse, approx. 100 fine, +100 very fine, hit
					bedrock @ 5.5' hard to dig, semi-decomposed schist
		Sluice sample			
		0.5	5	5	

Overburden 0 ft.

Gravel 5.5 ft.

Bedrock 5.5 ft.

Water Level @ 4 ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001474

Project Kantishna

Claim Liberty Moose Creek

Bucket Size 6 cubic feet

Coordinates N 3478100
E 368800

Mouth of Rainy Creek on Moose Creek Bench

Line ____

Hole #25

Elevation 1890

Date	Time	Sample From	Sample To	No. of Buckets	Remarks
7/21/83		0	1		Overburden, no sample
		1 A	5	4	65% +1.5", 15% 3/16"-1.5", well-rounded cobbles of various lithologies, 1 coarse, 5 fine, approx. 20 very fine
		5 B	9	4	35% + 1.5", 40% 3/16"-1.5", approx. 20 very fine, well-rounded cobbles of various lithologies
		9 C	13	4	Approx. 20 very fine
		13 D	17	4	Well washed 30% +1.5", 30% 3/16-1.5", 10 fine, +75 very fine, many very fine, non-mag black sands
		17 E	21	4	Well sorted, well washed 30% +1.5", 30% 3/16"-1.5", 1 coarse, 15 fine, +50 very fine, many very fine non-mag black sands
		21 F	24	3	Some clay, hit bedrock @ 23', 10 fine, +50 very fine
		Sluice Sample			
		1	24	23	Moose Creek gravels.

Overburden 1 ft.

Gravel 22 ft.

Bedrock 1 ft.

Water Level @ 0 ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A001475

Project Kantishna

Line

Claim Rainy Creek-Bench adjacent to creek

Hole #26

Bucket Size 6 cubic feet

Elevation 2080

Coordinates N 3480650
E 370850 Rainy Creek

Date	Time	Sample From		Sample To	No. of Buckets	Remarks
7/22/83		0	A	4	4	Subangular to subrounded, 35% 1.5", 30% 3/16-1.5", some
						clay, schist material, 15 fines, +50 very fine
		4	B	8	4	Well washed sandy material 10% +1.5", 30% 3/16-1.5"
						10 very fine
		8	C	12	4	Did not hit bedrock, 5 very fine
		Sluice sample				
		0		12	12	No color

Overburden 0 ft.

Gravel 12 ft.

Bedrock - ft. didn't hit

Water Level @ - ft.

W. Srock

FIELD LOG -- PIT SAMPLING

Sample # A 001476

Project Kantishna

Claim

Bucket Size 6 cubic feet

Coordinates N 3479850
E 339450 Eldorado

Line

Hole #27 & #28

Elevation 1700

Date	Time	Sample From	To	No. of Buckets	Remarks
7/23/83		0 A	4	4	~~50% 1.5"+, 25% 3/16-1.5", subangular to subrounded~~ schist a few erratics, very Fe ox stained, little black sand, 3 coarse, 12 fine, 30 very fine
		4 B	8	4	Hit blue gravel @ 4.5', blue gravel has 25% of+1.5", 30% 3/16-1.5", hit bedrock (blue clay @ 7.5') 10 coarse, +100 fine, +100 very fine
		Sluice Sample 0	8	8	2 very fine

TEST #28
Subsequent test taken to determine if values from B interval were concentrated at interface between Fe ox stained gravels and blue clay bearing gravels

		2.5 C	5.5	2	1-1/4" coarse, 1 coarse, 12 fine, +25 very fine Fe ox stained gravels and 6" blue clay bearing gravels.
		5.5 D	6.5	1	Contact between stained gravels and blue clay gravels dips, so sample contains both. 4 coarse, 12 fine, +50 very fine
		6.5 E	7.5	1	Blue clay rich gravels, glacial origin, ~~granite~~ cobbles, 1 coarse, 1 fine, many sulfides

Overburden 0 ft.

Gravel 7.5 ft.

Bedrock 7.5 ft.

Water Level @ ft.

W. Srock

A total of 1.9 acres containing 1.7 million cy of gravel have already been mined and are considered to have low resource potential because relatively efficient mining methods were used to mine the deposits and most gold was probably recovered.

Thirty-seven acres containing 1.8 million cy of alluvial fan deposits have an undetermined potential. Some of these fans are deposited from drainages known to contain placer gold and a fan deposit of similar nature was actively mined on Friday Creek (Locations 4 and 17) this season. Approximately 600,000 cy are covered by mining claims.

Glacier Creek

Approximately 148 acres containing 1.6 million cy of stream deposits and 428 acres with 4.9 million cy of terrace deposits in the upper 7 miles of the drainage have high resource potential based on current mine production and the cable tool sampling results. Approximately 1.4 million cy of the stream deposits and 1.3 million cy of the terrace alluvium are overlain by placer claims.

Approximately 435 acres containing 5.6 million cy of stream deposits and 430 acres containing 4.9 million cy of terrace deposits in the lower Glacier drainage have undetermined placer resource potential and sampling is recommended. Although these deposits have not been tested, they are analogous to the deposits with high resource potential upstream and may contain similar placer gold deposits.

Approximately 24 acres with 230,000 cy of placer mining tailings have low resource potential because most of the tailings are the product of relatively sophisticated recovery methods and most gold was probably recovered.

Yellow Creek

Four acres consisting of 35,000 cy of stream deposits are present which have high placer resource potential. Approximately 30,000 cy are covered by mining claims.

Three acres consisting of 24,000 cy of tailings have undetermined resource potential. Although these deposits were not tested, only the lower few feet of gravel were processed and significant amounts of fine gold may still be present.

Glen Creek

Approximately 52 acres containing 730,000 cy of stream deposits in Glen Creek have high placer gold resource potential based on sampling and mine monitoring results. All of these deposits are overlain by mining claims.

Terrace deposits in the upper reaches of the drainage contain approximately 2.6 million cy of gravel which cover an area of 66 acres. The terraces are considered to have moderate placer resource potential based on sampling results. Approximately 75% or 1.9 million yards of the bench gravels are overlain by mining claims. Testing results of the bench gravels showed them to contain grades of below 0.002 to 0.009 oz Au/cy and additional testing may delineate minable reserves. Forty-eight acres containing 590,00 cy of placer mine tailings have undetermined resource potential. The tailings were not tested and similar deposits on other streams in the district have been remined. Testing may delineate minable grades.

Lower Moose

Approximately 310 acres containing 5.0 million cy of recent floodplain deposits occur between the townsite of Kantishna and reconnaissance sample location A961 below the lower canyon. Approximately 629 acres containing 10.1 million cy of terrace deposits occur between Kantishna and reconnaissance sample A962. All of these deposits have high placer resource potential to support placer mining operations based on the sampling results and current and past mining production. Approximately 230 acres and 3.7 million cy of terrace and floodplain deposits are covered by mining claims.

Approximately 655 acres containing 10.6 million cy of recent floodplain deposits and 4600 acres containing 110 million cy of geologically similar terrace and suspected terrace gravel deposits occur between the above deposits and the study area boundary downstream. An estimated average width of 4,500 ft was multiplied by a length of 44,000 ft to arrive at an area figure used in volume calculations for the terrace deposits. The deposits have an undetermined potential. Further reconnaissance is strongly recommended as their favorable location downstream from and similar character to known auriferous gravels suggest that they could contain a substantial gold resource.

Approximately 400 acres of recent floodplain and terrace deposits from Kantishna to the lower canyon area are believed to be underlain by semiconsolidated unsorted glacial outwash deposits. Total depth of these gravels is unknown although a few tests reportedly went to depths of 100 ft without hitting bedrock. Possible preglacial concentrations of placer gold may be concealed beneath the outwash deposits. If this is the case, a deep dredge operation may be feasible. Using an estimated average depth of 50 ft, approximately 32.3 million cy of material with undetermined placer resource potential may be present. Approximately 170 acres containing 13.7 million cy are covered by claims.

Seventy-three acres with 1.2 million cy of recently mined tailings are present near Kantishna. The tailings are considered to have low placer resource potential because the plants used to mine the original deposits contained relatively sophisticated recovery methods and are believed to have recovered most of the gold.

Friday Creek

Four acres with 20,000 cy of stream deposits in the upper drainage have high resource potential for small-scale mining, based on the current and past production. These deposits are under claim and are currently supporting an active mining operation.

Approximately 20 acres containing 1.6 million cy of the fan/terrace are currently under claim and have high resource potential based on present production and sampling results. This deposit should support a large-scale mining operation similar to the one present.

Approximately 30 acres containing 470,000 cy of Moose Creek floodplain gravels are present on the lower section of the stream. These gravels are covered by mining claims and have high resource potential based on present production and sampling results. The recent large-scale mining produced 0.008 oz Au/cy from a similar deposit. Samples obtained from cable tool sampling and pitting contained from 0.003 to 0.017 oz Au/cy.

Approximately 8 acres containing 150,000 cy of tailings have low resource potential because the majority are the product of relatively sophisticated mining methods in which most of the fine gold was probably recovered.

Eureka Creek

Seventeen acres containing 140,000 cy of recent stream gravels have high resource potential based on current production and past production history. The deposits are covered by mining claims. Approximately 30,000 cy of this gravel are located on lower Eureka Creek in the vicinity of the two mines described above and could contain similar values.

Another 110,000 cy in the upper drainage are considered to have high potential. The two pits tested were inconclusive because bedrock was not reached in one and disturbed gravel was tested in the other. However, the unmined gravel is similar to large areas already mined and also similar to deposits presently being mined in the lower canyon indicating a high probability that minable grades also exist on this portion of the drainage.

Twenty-four acres and 315,000 cy of terrace gravels near the mouth of the stream also have high resource potential based on current production and encouraging test results obtained by the current operator. Approximately 250,000 cy of this material are covered by mining claims and will probably be mined in the near future by small and medium scale methods.

The alluvial fan in the upper drainage covers 48 acres and contains approximately 775,000 cy of gravel. This deposit has moderate resource potential based on sampling results and further sampling is recommended. Approximately 195,000 cy of this deposit are overlain by mining claims.

Seventeen acres containing approximately 140,000 cy of recent mine tailings have an undetermined resource potential. Eureka Creek has been mined in places several times over and testing by operators has shown encouraging gold recovery from tailings in some places. Because much of the mining in the past was accomplished by unsophisticated methods, fine gold was probably not recovered.

Eldorado Creek

Approximately 300,000 cy with 46 acres of recent stream alluvium have high resource potential based on recent sampling.

The limited gravels in Slate Creek have low placer resource potential. Gravel deposits on Eldorado Creek above its juncture with Slate Creek have not been tested and have undetermined potential.

One acre with 12,000 cy of recent placer tailings were not tested and have undetermined resource potential.

Spruce Creek

Approximately 78 acres of recent stream alluvium with 1.2 million cy of gravel are present on the drainage. Because of the discontinuous nature of paystreaks in the deposit and sporadic location of past mining only half of the deposits are considered to have high resource potential. The other half has moderate resource potential. Approximately 1 million cy of the recent stream alluvium is presently overlain by mining claims. Another 8 acres containing 100,000 cy of tailings and 61 acres containing 1.2 million cy of bench gravels between Glen and Spruce Creeks have a low resource potential based on sampling results.

All of the tailings are under claim and approximately 7 acres containing 135,000 cy of the bench gravels are covered by claims.

Rainy Creek

Approximately 3 acres containing 15,000 cy of material in the upper drainage have high resource potential based on sample A3043 and evidence of hand worked deposits. This deposit may be able to support a small-scale, mechanized operation. Approximately 5,000 cy of this material are covered by claims.

Another 32 acres with 690,000 cy of recent stream gravels and 25 acres with 320,000 cy of bench gravels are overlain by claims and have undetermined resource potential because very few samples were obtained. Previous and current mining activities indicate minable reserves may be present.

Willow Creek

Forty acres containing 250,000 cy of recent alluvium have low placer gold resource potential based upon sampling results. If Willow Creek had contained gold-bearing deposits they were probably scoured out by glacial ice.

Upper Moose

Approximately 684 acres containing 12.8 million cy of floodplain deposits are present in the Upper Moose Creek drainage. Although sampling results meet one of the criteria for a high resource potential classification, the deposits are considered to have moderate resource potential for the following reason. Sampling results showed encouraging gold values. However, the samples were taken from favorable locations for gold concentrations and may not be representative of the average gold content to be expected in the deposits. This is demonstrated when the disparity between the 1981 mining operation results and the high sample result obtained prior to mining are compared. The samples taken during this study from the extensive volume of materials indicate that high enough grades may be present to support a large-scale mining operation. However, more comprehensive and sophisticated study would be required to categorize any of the alluvium as reserves. Another 55.6 million cy of deep outwash gravels may exist with an undetermined resource potential. Approximately 10.2 million cy of the floodplain alluvium are covered by mining claims.

Approximately 1476 acres containing 39.5 million cy of terrace gravels have an undetermined resource potential. Approximately 15% or 5.9 million cy of the terrace gravels are covered by mining claims. Although largely unprospected, sampling indicates the deposits are auriferous. One anomalous sample (A1474) showed encouraging amounts of fine gold are present. The gravels are similar to those in the active stream channel. Cable tool sampling is recommended to further explore the terrace deposits. Reserves cannot be determined with the existing information.

A total of 820 acres with 40.3 million cy of fan gravels have undetermined resource potential. They could contain favorable amounts of gold as they were deposited by known auriferous streams such as Glen Creek. These extensive fan gravel deposits were not tested during this study but have been prospected by local miners with reportedly encouraging results (oral communication with Dan Ashbrook, 1983). Approximately 57 acres with 2.3 million cy are covered by claims on Rainy, Glen, Spruce, and Willow Creeks.

Determination of Mine Life of Deposits Currently Under Mining Claim

If an annual rate of production can be determined for mining operations in a district, then the mine life (years of operation) for claims with known inferred reserves and resources can be made.

Gold-bearing deposits with high resource potential which are covered by mining claims are shown on table K-4 as Inferred Reserves. Gold-bearing deposits which underlie placer claims and have moderate or undetermined resource potential are also shown on the table collectively as Resources. Further testing is required to delineate reserves from those deposits with moderate or undetermined potential.

The present yearly, fully-operational production rate was estimated to be 800,000 cy. To determine the potential mine life, this figure was divided into the amount of Inferred Reserves and the sum of Inferred Reserves and Resoures to arrive at a respective minimum and maximum mine life for the placer deposits which are currently covered by mining claims. These figures are shown on table K-4.

An estimate of the volume of deep outwash deposits on Moose Creek is shown separately on table K-5. Because large dredge equipment required to mine a deposit of this type is not present in the district, and they are hypothetical deposits, they are not included in the mine life calculations.

Table A-6 - Kantishna Regional Placer Resource Summary

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Bear Creek Mt. McKinley B2/B3 Quads. T15-16S, R18W	The upper portions of Bear Creek occupy steep narrow colluvial filled valleys with little accumulation of alluvium. Average gradients are about 500 ft/mi. The middle portion of Bear Creek occupies a wider alluvial filled valley having a gradient of about 100 ft/mi. Bedrock appears to be deep along much of the drainage.	No workings were identified on upper Bear Creek.	Five placer samples (A003088-92) were collected from the upper portions of Bear Creek. One contained no detectable gold. The other four contained from a trace to 0.0004 oz gold/cy. Upper Bear Creek has low potential for commercial placer mining. The remainder of Bear Creek has undetermined placer potential.

Compiled by Robert B. Hoekzema, U. S. Bureau of Mines

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Bearpaw River (above Caribou Creek) Mt. McKinley C2, D2 Quads, T13-14S, R16-17W	The Bearpaw River drains a large drainage basin and occupies steep, narrow tributary valleys and an occasionally wider main valley containing significant alluvial deposits. The average gradient is about 120 ft/mile.	Evidence of minor prospecting is present. No evidence of mining is present.	Nine 0.1 cy placer samples (A000964-968, A00986-987, A001000, A001403) recovered from 0 to 0.0004 oz gold/cy. One sample (A000989) contained 0.0021 oz gold/cy. An extensive gravel resource occurs on the Bearpaw River but little evidence of valuable placer gold mineralization was found. Low placer resource potential.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Canyon Creek, main fork Mt. McKinley C1-C2 Quads, T14S, R15-16W	Canyon Creek occupies narrow bedrock walled canyons alternating with broader alluvial filled sections. The average gradient is about 75 ft/mile.	Evidence of placer prospecting or mining was not identified.	Eleven 0.1 cy samples (A003037, A000973-977, A000981-985) contained from a trace to 0.0005 oz gold/cy. One sample (A000981) recovered anomalous quantities of coarse (0.4 inch) scheelite. Available data suggest that Canyon Creek has low resource potential for placer mining.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Caribou Creek, Unnamed Northern Tributary Mt. McKinley C2 Quad T15S, R17W	This tributary occupies a steep but relatively wide valley along much of its length prior to entering a very steep narrow bedrock walled canyon just prior to its junction with Caribou Creek. The average gradient is about 300 ft/mile.	A few very small prospect pits occur. No evidence of mining were located.	Two 0.1 cy samples (A001412, 1413) recovered a trace and 0.0003 oz gold/cy respectively. An estimated 700,000 cy of recent alluvial gravels occur in this valley above the lower canyon. However, no evidence of significant gold values exists. Low placer resource potential.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Canyon Creek, North Fork Mt. McKinley C1-C2 Quads T14S, R15-16W	The North Fork of Canyon Creek occupies steep narrow bedrock canyons with alternating wider sections containing large quantities of alluvial gravels. The average gradient is about 200 ft/mile but is highly variable. The upper portions drain sulfide bearing schist and graphitic phyllite.	Minor prospecting activity is indicated by the presence of several small trenches and pits and cut timbers near the junction of the two main forks of the creek. No recorded production.	Four 0.1 cy samples (A003031, A003034-3036) contained from 0.0001-0.0006 oz gold/cy. One sample (A003030) contained no detectable gold. Low resource potential for supporting a placer mining industry.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Clearwater Fork Mt. McKinley C1-C2, D2 Quads T13-16S, R14-16W	The Clearwater Fork of the Toklat River drains a large area, much of which lies outside the study area. Bedrock is exposed along some sections of the stream but most of it occupies a broad alluvium filled valley with terraces of Tertiary gravels exposed along one or both sides. The average gradient is about 70 ft/mile.	The Clearwater Fork has been prospected in the past. Old prospect pits and trenches still exist but no evidence of significant mining was identified during this study. No reported production.	Three samples (A003041, A003086-87) from small unnamed tributaries to the Clearwater Fork contained from a trace to 0.0005 oz gold/cy. One sample collected from Clearwater Fork (A003040) below Moonlight Creek contained 0.0004 oz gold/cy. Capps, 1919, reports that numerous coarse colors were found on the benches of Clearwater Fork. Additional evaluation is necessary due to the large area drained and extensive gravels associated with the Clearwater Fork. Undetermined placer potential.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Crevice Creek Mt. McKinley C2 Quad T15S, R16-17W	Crevice Creek occupies a very steep narrow bedrock walled valley with an average gradient of greater than 500 ft/mi. Gold is reported to be relatively coarse.	Evidence of hand mining is present along much of the creek below sample A000979. Estimated production is 500-750 ounces. A production of 660 ounces of gold and 57 ounces of silver was reported in 1946 and 1947 from First Chance Creek. This may be an earlier name for Crevice Creek.	Three 0.1 cy samples (A000978-980) recovered from 0.0018 to 0.1249 oz gold/cy. A 0.011 ounce nugget was recovered in sample A000979. Approximately 100,000 cy of recent alluvial gravels are estimated to occur in Crevice Creek. About 1/3 have been previously mined. High potential for small scale commercial placer mining and suction dredging.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Flat Creek Mt. McKinley C-2/C-3 Quads. T14-15S, R18W	Upper Flat Creek occupies a steep narrow valley with bedrock walls and has a gradient of 300-400 ft/mi. The stream gravels consist in part of alluvial sediments. Alluvial bench (Tertiary in part ?) gravels also occur along much of the drainage. Below the Glacier Creek Road the gradient of Flat Creek decreases to 100-150 ft/mi and the valley widens.	Little evidence of prospecting or mining activity is present. No reported production.	A sample (A003094) of recent alluvial gravels contained 0.0036 oz gold/cy. A sample (A003093) of the bench gravels contained trace amounts of gold though the gold in the sample was not weighed. Because of the anomalous sample results and proximity to known placer producers (Moose Creek, Glacier Creek) Flat Creek has moderate potential for placer gold production. Additional evaluation is highly recommended.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Last Chance Creek Mt. McKinley C2 Quad T15S, R17W	Last Chance Creek occupies a steep narrow bedrock walled colluvial filled valley. The gradient is approximately 500 ft/mile.	Evidence of mining occurs near sample location A001408. Minor prospecting has occurred near the mouth of the creek. Recorded production is 665 ounces.	Three 0.1 cy samples (A001407-1409) recovered from 0.0003 to 0.0006 oz gold/cy. Sample locations were generally poor due to high water and may not reflect values present in the creek. Additional sampling may be warranted since previous mining occurred. Most of the creek is too steep for gravel accumulation. A 1500 ft partially mined section located near sample location A001408 contains about 50,000 cy. An additional 50,000 occurs near the mouth of the creek. Undetermined placer potential.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Little Moose Creek Mt. McKinley C1, D1 Quads. T13S, R15W	The upper 3 miles of Little Moose Creek mostly occupies a narrow (50-200 ft wide) bedrock walled valley having a gradient of about 200 ft/mile. Bedrock is reported (Capps, 1919) to range from 8-10 ft deep though some portions appear to be shallower. Capps, 1919 also reports that the gold is coarse and of low fineness. Small native silver nuggets were found in cleanups by early miners. The lower 1 1/2 miles to the junction with the Clearwater Fork occupies a wider valley containing considerable gravel and has an average gradient of 150 ft/mile.	Sections of Little Moose were worked using booming techniques and by hand mostly between 1906 and 1942. Several cabins and tailings attest to a moderate level of mining activity. Minor prospecting has occurred more recently. Reported production is 1948 ounces gold.	Three placer samples collected from upper Little Moose Creek (A003025-27) contained from 0.0058-0.0597 oz gold/cy. One sample (A003024) contained 0.0002 oz gold/cy and another (A003028) from lower Little Moose Creek contained no detectable gold. Greater than 500,000 cy of gravel are estimated to occupy the upper 3-mile section of the creek. These deposits have high potential for small to medium sized placer operations. Significant quantities (>750,000 cy) of gravels are estimated to occur in the lower 1 1/2 mile section of Little Moose Creek. These gravels are unevaluated due to greater depth to bedrock. However, surface indications of a valuable placer resource are lacking.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Beauty Creek Mt. McKinley C2 Quad T14S, R17W	Beauty Creek occupies a relatively wide valley narrowing to a bedrock walled canyon about 1/2 mile above its junction with the Bearpaw River. The average gradient is about 125 ft/mile.	Evidence of prospecting and/or mining was not found. No reported production.	One 0.1 cy placer sample (A000999) recovered a trace of gold. This drainage was not walked as were most of the others. Undetermined placer potential.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Moonlight Creek Mt. McKinley C1/C2 Quads. T14-15S, R15-16W	Upper Moonlight Creek occupies relatively steep narrow bedrock walled canyons alternating with short, less steep sections containing alluvial deposits. A wider valley containing large volumes of alluvium has developed along its lower portions. The average stream gradient is about 200 ft/mile.	Evidence of significant prospecting or mining was not seen. A few small hand dug pits were tentatively identified. No recorded production.	Two placer samples (A003038, 39) contained trace amounts of gold. One pan concentrate (A003017) from a tributary draining Keevy Peak rocks contained anomalous gold. Moonlight Creek has undetermined potential.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Myrtle Creek Mt. McKinley C2 Quad T15S, R15-16W	The tributary draining Spruce Peak occupies a broad colluvial filled valley with a gradient of 125 ft/mile. Bedrock is not exposed. The tributary draining Kankone Peak occupies a narrow, bedrock walled valley having a gradient of 200 ft/mile. Sections up to 500 ft wide contain alluvial deposits with bedrock estimated to average less than 5 ft deep. The main valley of Myrtle Creek has well developed terraces 20-30 ft or more high consisting of Tertiary gravels locally overlain by up to 10 ft of coarser Quaternary alluvial deposits. Much of the stream occupies bedrock walled canyons with limited alluvial deposits. The average gradient of the main stream is about 110 ft/mile.	The Spruce Peak tributary has been mined about 1 mile east of Spruce Peak. Evidence of prospecting was found in a few other locations. No recorded production. Estimated production 50-100 oz gold.	Ten 0.1 cy samples (A003073-3076, 3078-3083) contained from a trace to 0.0005 oz gold/cy. Four samples (A003072, 3077, 3084, 3085) contained from 0.0011 to 0.0121 oz gold/cy. An estimated 40,000 cy of gravel occur in the upper portion of the Spruce Peak tributary and an additional 200,000 cy of gravel occur on the tributary draining Kankone Peak. These sections have moderate resource potential for supporting a small to medium placer operation. Bench deposits along Myrtle Creek, especially those exposed between the above mentioned tributaries deserve additional evaluation due to the anomalous gold found in sample A003077 collected at the interface between exposed Tertiary and Quaternary gravels. Additional gravel deposits remain unevaluated.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Rock Creek Mt. McKinley C2 Quad T14-15S, R16-17-W	Rock Creek drains a large basin and occupies steep narrow tributary valleys with intermittent relatively wide alluvial filled sections along the main stream. The average gradient is about 130 ft/mile.	Some evidence of prospecting was identified. No evidence of mining was found.	Seventeen samples (A003061-65, A000969-971, A000991-998, A001400) were collected on Rock Creek. Of these, thirteen contained trace or less amounts of gold. Two contained 0.0001 gold/cy. One sample (A000995) collected from an unnamed eastern tributary contained 0.0012 oz gold/cy and a second (A001400) collected near the mouth of Rock Creek contained 0.0018 oz gold/cy. These two areas may deserve additional evaluation. However, the majority of Rock Creek has low placer resource potential.

Table A-6 - Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Snowshoe Creek Mt. McKinley C2 Quad T15S, R17W	Snowshoe Creek occupies a narrow colluvial filled bedrock walled valley with an average gradient of over 600 ft/mile.	Evidence of prospecting activity exists near the mouth of the creek. No reported production.	One 0.1 cy sample (A001410) recovered a trace of gold. The placer resource potential remains unevaluated. However, a limited volume of alluvial gravels exists in the drainage.

Table A-6 -Kantishna Regional Placer Resource Summary - Continued

Drainage/Location	Summary of Mineralization	Workings and Production	Sample data and resource assessment
Stampede Creek Mt. McKinley, C1/D1 Quads. T13S, R14-15W.	Stampede Creek occupies a narrow valley (50-200 ft wide) for most of its 3 mi length. The gradient averages about 200 ft/mi. Bedrock is shallow (<6 ft) along most of the upper section of the stream but is likely considerably deeper near its junction with the Clearwater Fork of the Toklat River. Gold tends to be relatively rough, fine-grained, and of very low fineness.	Sections of Stampede Creek above the Stampede Mine were worked by hand methods in the 1940's. Lower Stampede Creek has been disturbed by heavy equipment for construction purposes. Portions have been mined. Reported production is 183 ounces.	Two placer samples (A003029, A001414) contained 0.2925 and 0.0418 oz gold/cy. Two samples from tributaries contained 0.0003 and 0.0013 oz gold/cy. An estimated 15,000 cy of gravel occurs on Stampede Creek above the mine. This section may have relatively coarse gold but will be difficult to mine due to boulders and narrow stream width. A larger volume of gravel, 200,000 cy, occurs below the mine where conditions are suitable for mining using heavy equipment. An alluvial fan occurs where Stampede Creek joins the Clearwater Fork of the Toklat River. Additional evaluation of this potential resource is warranted as it is estimated to contain in excess of 500,000 cy of gravel. Stampede Creek has high potential for supporting a small to medium sized placer operation.

Table A-7

CHEMICAL ANALYSIS OF PAN CON.-PL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)	CS (PPM)
A001450	343340.	3481590.	13 73	-.9	-.80	-.9	10.0	300.0	-.9	-.9	.5	-.9	-.8	100.0	1000.0	-.8
A001451	341962.	3482639.	13 71	8.6	.27	-.9	-.9	740.0	-.9	1.0	-.8	.4	-.9	40.0	455.0	-.9
A001452	341668.	3482937.	13 73	10.0	-.80	500.0	-.9	1000.0	-.9	-.9	.1	-.9	-.8	150.0	1500.0	-.8
A001453	337844.	3488309.	13 73	2.0	-.80	-.9	-.9	300.0	-.9	-.9	.7	-.9	-.8	50.0	10000.0	-.8
A001454	338613.	3487477.	13 71	6.6	3.00	130.0	-.9	90.0	-.9	-.9	-.8	-.9	260.0	15.0	140.0	25.0
A001455	354844.	3489032.	13 73	15.0	-.80	500.0	-.9	100.0	-.9	-.9	.1	-.9	-.8	500.0	20.0	-.8
A001456	354685.	3489153.	13 73	20.0	-.80	-.9	500.0	300.0	-.9	-.9	.7	-.9	-.8	30.0	200.0	-.8
A001457	354442.	3489311.	13 71	65.0	2.00	310.0	10.0	200.0	-.9	2.0	-.8	1.0	170.0	20.0	265.0	15.0
A001458	353068.	3488530.	13 71	11.0	1.30	455.0	-.9	650.0	-.9	2.0	-.8	.8	160.0	25.0	350.0	10.0
A001459	340120.	3487560.	13 73	-.9	-.80	-.9	50.0	1000.0	-.9	-.9	.5	-.9	-.8	5.0	200.0	-.8
A001460	340350.	3487880.	13 71	22.0	.50	75.0	15.0	190.0	-.9	-.9	-.8	.4	160.0	45.0	230.0	10.0
A001461	340806.	3484233.	13 73	-.9	-.80	-.9	-.9	300.0	-.9	-.9	.7	-.9	-.8	30.0	1000.0	-.8
A001462	391063.	3489583.	13 73	-.9	-.80	-.9	-.9	500.0	-.9	-.9	.2	-.9	-.8	70.0	200.0	-.8
A001463	391245.	3489634.	13 73	3.0	-.80	-.9	-.9	300.0	-.9	-.9	.2	-.9	-.8	50.0	200.0	-.8
A001464	389976.	3488359.	13 71	-.9	.03	-.9	20.0	190.0	-.9	-.9	-.8	-.9	120.0	25.0	190.0	10.0
A001465	389787.	3487998.	13 73	2.0	-.80	-.9	-.9	300.0	-.9	-.9	.5	-.9	-.8	20.0	100.0	-.8
A001466	390289.	3485662.	13 71	-.9	.42	15.0	10.0	90.0	-.9	1.0	-.8	-.9	120.0	35.0	90.0	20.0
A001467	377233.	3493526.	13 73	50.0	-.80	500.0	-.9	500.0	-.9	-.9	1.0	-.9	-.8	200.0	300.0	-.8
A001468	377242.	3493593.	13 71	16.0	1.20	900.0	80.0	710.0	-.9	-.9	-.8	-.9	280.0	50.0	195.0	20.0
A001469	377211.	3493508.	13 73	7.0	-.80	10000.0	1500.0	50.0	-.9	-.9	.1	200.0	-.8	70.0	10.0	-.8
A001470	379023.	3492906.	13 73	1.0	-.80	1500.0	500.0	500.0	-.9	-.9	.2	-.9	-.8	50.0	300.0	-.8
A001471	379168.	3492866.	13 71	10.0	.18	160.0	95.0	270.0	-.9	-.9	-.8	1.0	100.0	35.0	245.0	10.0
A001472	384520.	3483178.	13 73	-.9	-.80	-.9	-.9	300.0	-.9	-.9	.2	-.9	-.8	70.0	200.0	-.8
A001473	384617.	3483462.	13 71	.4	2.70	55.0	35.0	130.0	-.9	-.9	-.8	-.9	100.0	45.0	145.0	20.0
A001474	368748.	3478301.	13 71	.4	1.70	30.0	30.0	180.0	-.9	-.9	-.8	-.9	320.0	25.0	245.0	20.0
A001475	371029.	3480841.	13 71	-.9	.22	120.0	25.0	130.0	-.9	-.9	-.8	.6	80.0	35.0	115.0	20.0
A001476	343340.	3481589.	13 71	32.0	1.10	1150.0	25.0	640.0	10.0	5.0	-.8	.8	120.0	70.0	210.0	10.0
A001477	338181.	3488467.	13 71	4.4	.02	990.0	25.0	350.0	-.9	-.9	-.8	3.0	40.0	35.0	115.0	-.9
A001478	347527.	3510424.	13 71	-.9	.24	70.0	20.0	120.0	-.9	-.9	-.8	-.9	50.0	10.0	125.0	-.9

Table A-7

CHEMICAL ANALYSIS OF PAN CON.-PL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CU (PPM)	FE (%)	GA (PPM)	GE (PPM)	HG (%)	LA (PPM)	MG (PPM)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)
A001450	150.0	20.0	20.0	-.9	-.8	20.0	3.00	1500.0	10.0	20.0	150.0	70.0	-.8	-.8	-.9	70.0	100.0
A001451	55.0	39.3	-.9	-.8	80.0	-.9	-.80	4650.0	-.9	-.9	75.0	260.0	-.9	-.9	110.0	-.9	-.9
A001452	100.0	20.0	70.0	-.9	-.8	-.9	0.50	1000.0	20.0	30.0	150.0	300.0	-.8	-.8	500.0	30.0	500.0
A001453	200.0	20.0	50.0	-.9	-.8	20.0	2.00	2000.0	20.0	30.0	100.0	150.0	-.8	-.8	-.9	50.0	100.0
A001454	15.0	40.0	7.0	-.8	45.0	80.0	-.80	5450.0	-.9	230.0	25.0	280.0	.1	.1	12.0	45.0	910.0
A001455	150.0	20.0	15.0	-.9	-.8	-.9	0.15	500.0	10.0	-.9	500.0	2000.0	-.8	-.8	300.0	-.9	-.9
A001456	100.0	15.0	20.0	-.9	-.8	20.0	1.00	5000.0	5.0	30.0	150.0	1000.0	-.8	-.8	-.9	70.0	20.0
A001457	45.0	27.3	7.0	-.8	25.0	45.0	-.80	5850.0	-.9	130.0	45.0	920.0	-.9	-.9	34.0	50.0	6.0
A001458	25.0	24.4	8.0	-.8	30.0	35.0	-.80	5550.0	-.9	120.0	50.0	2900.0	-.9	-.9	44.0	50.0	-.9
A001459	30.0	10.0	15.0	-.9	-.8	30.0	1.50	2000.0	2.0	20.0	50.0	100.0	-.8	-.8	-.9	20.0	10.0
A001460	55.0	24.9	9.0	-.8	20.0	60.0	-.80	5650.0	-.9	100.0	70.0	1600.0	-.9	-.9	24.0	60.0	-.9
A001461	70.0	20.0	20.0	-.9	-.8	20.0	2.00	3000.0	15.0	30.0	100.0	15.0	-.8	-.8	-.9	70.0	100.0
A001462	30.0	20.0	100.0	-.9	-.8	-.9	0.30	500.0	30.0	20.0	200.0	10.0	-.8	-.8	-.9	15.0	700.0
A001463	50.0	20.0	70.0	-.9	-.8	-.9	0.50	1000.0	20.0	20.0	100.0	310.0	-.8	-.8	-.9	30.0	500.0
A001464	40.0	30.2	10.0	-.8	18.0	50.0	-.80	6650.0	-.9	140.0	145.0	20.0	-.9	-.9	-.9	30.0	18.0
A001465	50.0	20.0	50.0	-.9	-.8	-.9	0.20	3000.0	20.0	50.0	50.0	500.0	-.8	-.8	-.9	30.0	70.0
A001466	15.0	59.1	14.0	-.8	40.0	20.0	-.80	2450.0	-.9	90.0	65.0	15.0	-.9	-.9	4.0	10.0	1100.0
A001467	100.0	20.0	70.0	-.9	-.8	-.9	1.00	2000.0	30.0	20.0	150.0	1000.0	-.8	-.8	100.0	15.0	2000.0
A001468	55.0	43.9	10.0	-.8	-.9	100.0	-.80	2500.0	-.9	90.0	170.0	3400.0	-.9	-.9	105.0	25.0	15000.0
A001469	200.0	20.0	30.0	-.9	-.8	-.9	0.20	200.0	20.0	20.0	20.0	10000.0	-.8	-.8	5000.0	-.9	10000.0
A001470	50.0	20.0	70.0	-.9	-.8	-.9	0.50	2000.0	30.0	20.0	100.0	500.0	-.8	-.8	500.0	20.0	10000.0
A001471	55.0	37.7	11.0	-.8	18.0	35.0	-.80	2050.0	-.9	40.0	120.0	510.0	-.9	-.9	90.0	15.0	17500.0
A001472	200.0	20.0	70.0	-.9	-.8	-.9	0.50	1500.0	30.0	20.0	150.0	70.0	-.8	-.8	-.9	20.0	500.0
A001473	40.0	47.8	15.0	-.8	25.0	30.0	-.80	2300.0	-.9	20.0	115.0	25.0	-.9	-.9	18.0	15.0	4650.0
A001474	30.0	35.9	12.0	-.8	4.7	140.0	-.80	4950.0	-.9	120.0	60.0	20.0	-.9	-.9	12.0	35.0	1100.0
A001475	45.0	44.7	13.0	-.8	1.5	25.0	-.80	3650.0	-.9	60.0	85.0	145.0	-.9	-.9	48.0	25.0	1450.0
A001476	65.0	24.5	10.0	-.8	1.9	20.0	-.80	2750.0	-.9	40.0	65.0	7650.0	-.9	-.9	430.0	25.0	1850.0
A001477	170.0	15.8	8.0	-.8	4.8	30.0	-.80	2300.0	-.9	85.0	115.0	445.0	-.9	-.9	40.0	-.9	8.0
A001478	35.0	8.4	4.0	-.8	5.7	25.0	-.80	4050.0	12.0	25.0	20.0	140.0	-.9	-.9	75.0	35.0	22.0

Table A-7

CHEMICAL ANALYSIS OF PAN CON.-PL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	SR (PPM)	TA (PPM)	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A001450	-.9	-.8	-.800	-.8	-.9	300.0	-.9	200.0	-.9	700.0
A001451	-.8	-.9	-.900	-.9	-.9	630.0	2650.0	-.9	150.0	-.9
A001452	-.9	-.8	-.800	-.8	-.9	300.0	300.0	30.0	-.9	700.0
A001453	-.9	-.8	-.800	-.8	-.9	300.0	-.9	50.0	-.9	700.0
A001454	-.8	40.0	-.900	-.9	.2	980.0	95.0	40.0	50.0	800.0
A001455	-.9	-.8	-.800	-.8	-.9	20.0	50.0	-.9	300.0	500.0
A001456	-.9	-.8	-.800	-.8	-.9	200.0	150.0	70.0	-.9	1000.0
A001457	-.8	10.0	-.900	-.9	.2	455.0	550.0	70.0	120.0	760.0
A001458	-.8	-.9	-.900	-.9	.1	280.0	3600.0	100.0	145.0	680.0
A001459	100.0	-.8	-.800	-.8	-.9	100.0	-.9	20.0	-.9	300.0
A001460	-.8	-.9	-.900	-.9	.1	245.0	75.0	95.0	110.0	350.0
A001461	-.9	-.8	-.800	-.8	-.9	500.0	100.0	50.0	-.9	1000.0
A001462	-.9	-.8	-.800	-.8	-.9	300.0	-.9	50.0	-.9	700.0
A001463	-.9	-.8	-.800	-.8	-.9	200.0	-.9	70.0	-.9	700.0
A001464	-.8	10.0	-.900	-.9	.1	320.0	6.0	60.0	60.0	920.0
A001465	-.9	-.8	-.800	-.8	10000.0	200.0	-.9	50.0	-.9	500.0
A001466	-.8	60.0	-.900	-.9	.5	460.0	28.0	15.0	35.0	400.0
A001467	-.9	-.8	-.800	-.8	5000.0	300.0	-.9	150.0	-.9	100.0
A001468	-.8	60.0	.190	-.9	-.9	255.0	120.0	110.0	115.0	460.0
A001469	-.9	-.8	-.800	-.8	2000.0	20.0	-.9	10.0	10000.0	200.0
A001470	-.9	-.8	-.800	-.8	5000.0	200.0	-.9	30.0	2000.0	300.0
A001471	-.8	20.0	.085	-.9	15000.0	285.0	275.0	40.0	170.0	400.0
A001472	-.9	-.8	-.800	-.8	5000.0	300.0	-.9	20.0	500.0	500.0
A001473	-.8	80.0	.060	-.9	13000.0	340.0	15.0	30.0	65.0	440.0
A001474	-.8	60.0	.040	-.9	68000.0	540.0	150.0	55.0	90.0	600.0
A001475	-.8	60.0	.065	-.9	24000.0	285.0	17.0	50.0	155.0	730.0
A001476	-.8	40.0	1.600	-.9	19000.0	165.0	810.0	35.0	165.0	400.0
A001477	-.8	185.0	.080	-.9	11000.0	80.0	4.0	-.9	465.0	180.0
A001478	-.8	-.9	.025	-.9	11000.0	105.0	4.0	50.0	75.0	145.0

Table A-7a

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AU (C/Y)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)
A000958	332200.	3496500.	14 71	.4	.18	.008	110.0	-.9	1250.0	-.9	-.9	-.9	-.9	60.0	10.0	125.0
A000959	331950.	3496150.	14 73	1.0	-.80	.015	300.0	20.0	500.0	-.9	-.9	1.0	-.9	-.8	70.0	700.0
A000960	330750.	3502750.	14 73	-.9	-.80	-.900	-.9	200.0	700.0	2.0	-.9	2.0	-.9	-.8	15.0	500.0
A000961	330600.	3502750.	14 71	1.5	.04	.009	150.0	-.9	480.0	-.9	-.9	-.9	.2	160.0	25.0	620.0
A000962	331950.	3497050.	14 71	-.9	-.90	.017	-.9	-.9	270.0	-.9	-.9	-.9	-.9	140.0	15.0	425.0
A000963	342800.	3482250.	14 73	-.9	-.80	.074	-.9	300.0	700.0	-.9	-.9	1.5	-.9	-.8	20.0	500.0
A000964	398700.	3554800.	14 73	-.9	-.80	-.900	-.9	50.0	500.0	-.9	-.9	3.0	-.9	-.8	15.0	100.0
A000965	397400.	3556900.	14 73	-.9	-.80	-.900	-.9	200.0	300.0	-.9	-.9	5.0	-.9	-.8	20.0	100.0
A000966	396100.	3554900.	14 73	-.9	-.80	-.900	-.9	50.0	300.0	-.9	-.9	3.0	-.9	-.8	20.0	100.0
A000967	392000.	3555800.	14 71	-.9	-.90	-.900	10.0	-.9	180.0	-.9	-.9	-.9	-.9	60.0	10.0	85.0
A000968	389300.	3554700.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	5.0	-.9	-.8	15.0	100.0
A000969	383600.	3537000.	14 73	-.9	-.80	-.900	-.9	200.0	500.0	-.9	-.9	2.0	-.9	-.8	10.0	70.0
A000970	372900.	3536200.	14 71	30.0	25.00	-.900	55.0	-.9	190.0	-.9	-.9	-.9	-.9	80.0	10.0	75.0
A000971	372200.	3535200.	14 73	-.9	-.80	-.900	-.9	200.0	1000.0	-.9	-.9	1.5	-.9	-.8	15.0	100.0
A000973	402100.	3523800.	14 73	5.0	-.80	-.900	-.9	200.0	2000.0	-.9	-.9	1.0	-.9	-.8	100.0	150.0
A000974	404100.	3528200.	14 73	1.0	-.80	-.900	-.9	200.0	700.0	-.9	-.9	2.0	-.9	-.8	30.0	100.0
A000975	403700.	3529200.	14 73	-.9	-.80	-.900	-.9	100.0	300.0	-.9	-.9	3.0	-.9	-.8	5.0	100.0
A000976	407300.	3533350.	14 73	-.9	-.80	-.900	-.9	20.0	300.0	-.9	-.9	3.0	-.9	-.8	15.0	100.0
A000977	413300.	3538000.	14 71	.8	.99	-.900	25.0	-.9	230.0	-.9	-.9	-.9	.4	20.0	15.0	70.0
A000978	380000.	3507800.	14 73	5.0	-.80	.002	-.9	200.0	500.0	-.9	-.9	1.0	-.9	-.8	15.0	300.0
A000979	380550.	3508000.	14 73	30.0	-.80	.022	200.0	100.0	500.0	-.9	-.9	.7	-.9	-.8	20.0	70.0
A000980	374100.	3510300.	14 71	1.7	5.70	.002	90.0	-.9	380.0	-.9	-.9	-.9	-.9	60.0	20.0	75.0
A000981	408700.	3538400.	14 73	5.0	-.80	-.900	-.9	20.0	150.0	-.9	-.9	5.0	-.9	-.8	50.0	70.0
A000982	411100.	3540500.	14 73	-.9	-.80	-.900	-.9	100.0	300.0	-.9	-.9	3.0	-.9	-.8	20.0	100.0
A000983	403850.	3535300.	14 73	-.9	-.80	-.900	-.9	150.0	500.0	-.9	-.9	5.0	-.9	-.8	20.0	100.0
A000984	412900.	3538700.	14 71	7.6	.08	-.900	150.0	25.0	190.0	-.9	-.9	-.9	.6	160.0	15.0	80.0
A000985	419200.	3539000.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	7.0	-.9	-.8	20.0	100.0
A000986	372200.	3559200.	14 73	-.9	-.80	-.900	-.9	70.0	300.0	-.9	-.9	7.0	-.9	-.8	20.0	150.0
A000987	365200.	3557100.	14 71	-.9	-.90	-.900	-.9	-.9	100.0	-.9	-.9	-.9	-.9	100.0	10.0	70.0
A000989	358500.	3554600.	14 73	-.9	-.80	.002	-.9	100.0	200.0	-.9	-.9	7.0	-.9	-.8	20.0	150.0
A000990	343600.	3480100.	14 73	5.0	-.80	-.900	700.0	700.0	1000.0	-.9	-.9	1.0	-.9	-.8	20.0	100.0
A000991	366500.	3525050.	14 73	-.9	-.80	-.900	-.9	100.0	1000.0	-.9	-.9	3.0	-.9	-.8	5.0	100.0
A000992	359800.	3527350.	14 73	-.9	-.80	-.900	-.9	100.0	300.0	-.9	-.9	3.0	-.9	-.8	15.0	100.0
A000993	359400.	3527100.	14 73	-.9	-.80	-.900	-.9	50.0	200.0	-.9	-.9	5.0	-.9	-.8	10.0	100.0
A000994	358500.	3534800.	14 73	-.9	-.80	-.900	-.9	150.0	200.0	-.9	-.9	5.0	-.9	-.8	15.0	70.0
A000995	359050.	3535200.	14 73	-.9	-.80	.001	-.9	50.0	200.0	-.9	-.9	7.0	-.9	-.8	15.0	150.0
A000996	358000.	3536200.	14 73	-.9	-.80	-.900	-.9	20.0	200.0	-.9	-.9	5.0	-.9	-.8	20.0	70.0
A000997	356700.	3540000.	14 73	-.9	-.80	-.900	-.9	-.9	200.0	-.9	-.9	5.0	-.9	-.8	10.0	70.0
A000998	356750.	3539650.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	5.0	-.9	-.8	15.0	100.0
A000999	355800.	3550750.	14 73	-.9	-.80	-.900	-.9	20.0	300.0	-.9	-.9	10.0	-.9	-.8	20.0	100.0
A001000	353600.	3551200.	14 73	-.9	.14	-.900	-.9	-.9	200.0	-.9	-.9	5.0	-.9	-.8	10.0	100.0
A001400	350450.	3550250.	14 73	-.9	.28	.002	-.9	-.9	200.0	-.9	-.9	5.0	-.9	-.8	10.0	100.0
A001401	345550.	3550300.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	3.0	-.9	-.8	70.0	100.0
A001402	344700.	3550000.	14 73	.6	13.50	.026	-.9	-.9	100.0	-.9	-.9	5.0	-.9	-.8	15.0	150.0
A001403	345000.	3550450.	14 73	-.9	-.80	-.900	-.9	50.0	200.0	-.9	-.9	5.0	-.9	-.8	15.0	100.0
A001404	346200.	3541500.	14 73	-.9	-.80	.305	-.9	100.0	150.0	-.9	-.9	7.0	-.9	-.8	20.0	150.0
A001405	344650.	3547400.	14 73	-.9	-.80	.006	-.9	50.0	100.0	-.9	-.9	5.0	-.9	-.8	15.0	100.0
A001406	344500.	3550500.	14 73	-.9	-.80	.003	-.9	50.0	50.0	-.9	-.9	3.0	-.9	-.8	20.0	100.0
A001407	374150.	3503150.	14 73	-.9	-.80	.001	-.9	100.0	500.0	-.9	-.9	1.0	-.9	-.8	20.0	300.0
A001408	371800.	3506200.	14 73	2.0	-.80	-.900	-.9	150.0	500.0	-.9	-.9	2.0	-.9	-.8	30.0	300.0
A001409	368100.	3510800.	14 73	1.4	3.80	-.900	-.9	-.9	300.0	-.9	-.9	7.0	-.9	-.8	20.0	200.0

Table A-7a

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CS (PPM)	CU (PPM)	FE (%)	GA (PPM)	GE (PPM)	LA (%)	MG (PPM)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)
A000958	-.9	30.0	6.9	12.0	-.8	20.0	-.80	1500.0	-.9	25.0	35.0	10.0	-.9	-.9	10.0	20.0	7.0
A000959	-.8	70.0	20.0	30.0	-.9	30.0	2.00	5000.0	10.0	20.0	70.0	50.0	-.8	-.8	100.0	50.0	70.0
A000960	-.8	50.0	10.0	20.0	-.9	100.0	2.00	5000.0	5.0	20.0	50.0	20.0	-.8	-.8	100.0	30.0	-.9
A000961	10.0	20.0	33.3	8.0	-.8	70.0	-.80	7150.0	-.9	95.0	45.0	25.0	-.9	-.9	13.0	60.0	245.0
A000962	10.0	15.0	23.0	10.0	-.8	50.0	-.80	5400.0	-.9	70.0	30.0	10.0	-.9	-.9	15.0	44.0	135.0
A000963	-.8	30.0	20.0	20.0	-.9	100.0	3.00	5000.0	10.0	20.0	50.0	20.0	-.8	-.8	-.9	50.0	30.0
A000964	-.8	15.0	15.0	20.0	-.9	-.9	1.00	5000.0	7.0	20.0	20.0	10.0	-.8	-.8	-.9	50.0	-.9
A000965	-.8	15.0	20.0	30.0	-.9	30.0	1.50	7000.0	10.0	20.0	20.0	10.0	-.8	-.8	-.9	70.0	-.9
A000966	-.8	15.0	20.0	20.0	-.9	30.0	1.50	10000.0	5.0	20.0	20.0	-.9	-.8	-.8	-.9	70.0	200.0
A000967	-.9	15.0	18.9	8.0	-.8	35.0	-.80	7900.0	-.9	35.0	10.0	-.9	-.9	-.9	2.0	90.0	95.0
A000968	-.8	15.0	20.0	30.0	20.0	20.0	2.00	10000.0	7.0	20.0	5.0	-.9	-.8	-.8	-.9	70.0	200.0
A000969	-.8	20.0	15.0	20.0	20.0	20.0	1.00	10000.0	7.0	30.0	20.0	30.0	-.8	-.8	-.9	70.0	30.0
A000970	-.9	15.0	18.1	8.0	-.8	40.0	-.80	14000.0	-.9	40.0	15.0	90.0	-.9	-.9	9.0	120.0	20.0
A000971	-.8	30.0	15.0	20.0	-.9	20.0	1.00	10000.0	5.0	20.0	50.0	20.0	-.8	-.8	-.9	50.0	-.9
A000973	-.8	70.0	15.0	20.0	-.9	30.0	1.00	5000.0	5.0	20.0	100.0	200.0	-.8	-.8	-.9	30.0	-.9
A000974	-.8	100.0	20.0	30.0	-.9	30.0	1.50	7000.0	7.0	20.0	70.0	100.0	-.8	-.8	-.9	50.0	-.9
A000975	-.8	20.0	15.0	10.0	20.0	30.0	1.00	10000.0	7.0	20.0	10.0	10.0	-.8	-.8	-.9	70.0	-.9
A000976	-.8	20.0	15.0	10.0	-.9	30.0	.70	10000.0	7.0	20.0	20.0	10.0	-.8	-.8	-.9	70.0	10.0
A000977	-.9	35.0	14.0	8.0	-.8	25.0	-.80	8150.0	-.9	15.0	25.0	15.0	-.9	-.9	18.0	90.0	30.0
A000978	-.8	30.0	15.0	20.0	-.9	30.0	1.50	5000.0	5.0	20.0	50.0	20.0	-.8	-.8	100.0	20.0	-.9
A000979	-.8	50.0	10.0	20.0	-.9	20.0	1.00	700.0	2.0	30.0	50.0	2000.0	-.8	-.8	-.9	10.0	-.9
A000980	-.9	35.0	13.0	12.0	-.8	25.0	-.80	4100.0	-.9	35.0	50.0	50.0	-.9	-.9	24.0	45.0	-.9
A000981	-.8	20.0	20.0	20.0	-.9	30.0	1.50	10000.0	10.0	30.0	50.0	150.0	-.8	-.8	-.9	70.0	-.9
A000982	-.8	15.0	20.0	20.0	-.9	30.0	1.50	10000.0	7.0	20.0	50.0	30.0	-.8	-.8	-.9	70.0	-.9
A000983	-.8	15.0	15.0	10.0	20.0	20.0	2.00	10000.0	10.0	20.0	20.0	10.0	-.8	-.8	-.9	70.0	-.9
A000984	-.9	25.0	19.0	8.0	-.8	40.0	-.80	8950.0	-.9	25.0	25.0	470.0	-.9	-.9	24.0	100.0	16.0
A000985	-.8	20.0	20.0	20.0	20.0	20.0	2.00	10000.0	15.0	20.0	20.0	20.0	-.8	-.8	-.9	70.0	150.0
A000986	-.8	7.0	20.0	20.0	20.0	20.0	3.00	10000.0	15.0	30.0	5.0	10.0	-.8	-.8	-.9	70.0	-.9
A000987	-.9	10.0	20.0	8.0	-.8	40.0	-.80	9150.0	-.9	20.0	10.0	5.0	-.9	-.9	-.9	110.0	85.0
A000989	-.8	10.0	20.0	20.0	20.0	20.0	3.00	10000.0	20.0	30.0	5.0	10.0	-.8	-.8	-.9	70.0	30.0
A000990	-.8	30.0	10.0	30.0	-.9	30.0	1.50	3000.0	5.0	30.0	70.0	300.0	-.8	-.8	300.0	30.0	-.9
A000991	-.8	30.0	10.0	20.0	-.9	20.0	3.00	10000.0	5.0	20.0	30.0	50.0	-.8	-.8	-.9	50.0	-.9
A000992	-.8	20.0	20.0	15.0	20.0	20.0	1.00	10000.0	10.0	30.0	20.0	10.0	-.8	-.8	-.9	70.0	-.9
A000993	-.8	10.0	20.0	15.0	-.9	20.0	2.00	7000.0	10.0	20.0	5.0	15.0	-.8	-.8	-.9	70.0	-.9
A000994	-.8	15.0	20.0	15.0	20.0	20.0	2.00	10000.0	10.0	20.0	10.0	-.9	-.8	-.8	-.9	70.0	10.0
A000995	-.8	15.0	20.0	20.0	20.0	20.0	2.00	10000.0	15.0	30.0	10.0	-.9	-.8	-.8	-.9	100.0	50.0
A000996	-.8	7.0	15.0	20.0	-.9	20.0	1.00	7000.0	10.0	20.0	15.0	-.9	-.8	-.8	-.9	70.0	-.9
A000997	-.8	7.0	20.0	20.0	-.9	20.0	1.50	7000.0	10.0	20.0	5.0	-.9	-.8	-.8	-.9	70.0	50.0
A000998	-.8	15.0	20.0	20.0	20.0	20.0	1.50	10000.0	15.0	20.0	10.0	-.9	-.8	-.8	-.9	70.0	-.9
A000999	-.8	15.0	20.0	30.0	20.0	20.0	3.00	10000.0	20.0	30.0	20.0	-.9	-.8	-.8	-.9	100.0	-.9
A001000	-.8	7.0	20.0	30.0	-.9	20.0	2.00	10000.0	15.0	50.0	5.0	-.9	-.8	-.8	-.9	70.0	100.0
A001400	-.8	10.0	20.0	30.0	20.0	20.0	1.50	10000.0	15.0	30.0	10.0	10.0	-.8	-.8	-.9	70.0	30.0
A001401	-.8	20.0	15.0	15.0	-.9	20.0	1.00	10000.0	10.0	30.0	10.0	10.0	-.8	-.8	-.9	70.0	-.9
A001402	-.8	15.0	20.0	20.0	20.0	20.0	1.50	10000.0	15.0	30.0	5.0	10.0	-.8	-.8	-.9	70.0	30.0
A001403	-.8	15.0	20.0	20.0	20.0	20.0	1.50	10000.0	15.0	20.0	10.0	-.9	-.8	-.8	-.9	70.0	-.9
A001404	-.8	20.0	20.0	30.0	20.0	20.0	1.50	10000.0	20.0	30.0	10.0	-.9	-.8	-.8	-.9	100.0	-.9
A001405	-.8	20.0	15.0	20.0	-.9	-.9	1.00	10000.0	10.0	20.0	20.0	-.9	-.8	-.8	-.9	50.0	-.9
A001406	-.8	15.0	20.0	20.0	20.0	20.0	1.00	10000.0	15.0	50.0	5.0	-.9	-.8	-.8	-.9	70.0	20.0
A001407	-.8	50.0	10.0	20.0	-.9	50.0	1.00	3000.0	3.0	30.0	50.0	10.0	-.8	-.8	-.9	30.0	-.9
A001408	-.8	70.0	20.0	20.0	-.9	50.0	2.00	7000.0	10.0	30.0	50.0	50.0	-.8	-.8	-.9	50.0	-.9
A001409	-.8	50.0	20.0	50.0	-.9	20.0	3.00	10000.0	15.0	30.0	50.0	30.0	-.8	-.8	-.9	50.0	-.9

Table A-7a

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	SR (PPM)	TA (PPM)	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A000958	-.8	-.9	-.900	-.9	10000.0	160.0	5.0	25.0	70.0	220.0
A000959	100.0	-.8	-.800	-.8	10000.0	200.0	50.0	70.0	-.9	500.0
A000960	200.0	-.8	-.800	-.8	10000.0	150.0	-.9	50.0	200.0	300.0
A000961	-.8	-.9	.080	-.9	69000.0	610.0	44.0	60.0	85.0	580.0
A000962	-.8	-.9	-.900	-.9	-.9	465.0	50.0	50.0	70.0	450.0
A000963	200.0	-.8	-.800	-.8	10000.0	200.0	70.0	50.0	300.0	200.0
A000964	-.9	-.8	-.800	-.8	7000.0	70.0	-.9	100.0	-.9	500.0
A000965	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	150.0	-.9	500.0
A000966	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	150.0	-.9	200.0
A000967	-.8	-.9	.020	-.9	12000.0	45.0	6.0	150.0	30.0	240.0
A000968	-.9	-.8	-.800	-.8	10000.0	50.0	50.0	200.0	200.0	300.0
A000969	-.9	-.8	-.800	-.8	10000.0	70.0	50.0	150.0	-.9	500.0
A000970	-.8	-.9	.070	-.9	15000.0	55.0	55.0	190.0	35.0	340.0
A000971	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	-.9	200.0
A000973	100.0	-.8	-.800	-.8	10000.0	100.0	-.9	50.0	-.9	500.0
A000974	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	200.0	150.0
A000975	-.9	-.8	-.800	-.8	7000.0	50.0	-.9	200.0	-.9	700.0
A000976	-.9	-.8	-.800	-.8	10000.0	70.0	100.0	200.0	200.0	200.0
A000977	-.8	-.9	.130	-.9	9300.0	55.0	185.0	150.0	35.0	220.0
A000978	100.0	-.8	-.800	-.8	10000.0	100.0	-.9	50.0	200.0	300.0
A000979	-.9	-.8	-.800	-.8	7000.0	100.0	50.0	50.0	200.0	150.0
A000980	-.8	-.9	.085	-.9	11000.0	120.0	65.0	90.0	60.0	190.0
A000981	100.0	-.8	-.800	-.8	7000.0	50.0	1000.0	200.0	300.0	300.0
A000982	-.9	-.8	-.800	-.8	7000.0	50.0	50.0	150.0	300.0	500.0
A000983	-.9	-.8	-.800	-.8	10000.0	50.0	50.0	200.0	200.0	700.0
A000984	-.8	-.9	.075	-.9	11000.0	40.0	17850.0	170.0	50.0	220.0
A000985	-.9	-.8	-.800	-.8	10000.0	70.0	200.0	200.0	200.0	300.0
A000986	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	200.0	200.0	300.0
A000987	-.8	-.9	.014	-.9	7800.0	50.0	7.0	180.0	20.0	250.0
A000989	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	200.0	200.0	300.0
A000990	100.0	-.8	-.800	-.8	10000.0	100.0	150.0	70.0	500.0	700.0
A000991	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	700.0
A000992	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	200.0	-.9	300.0
A000993	-.9	-.8	-.800	-.8	5000.0	70.0	50.0	150.0	-.9	200.0
A000994	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	150.0	-.9	1000.0
A000995	-.9	-.8	-.800	-.8	10000.0	70.0	50.0	200.0	-.9	700.0
A000996	-.9	-.8	-.800	-.8	7000.0	50.0	-.9	150.0	-.9	200.0
A000997	-.9	-.8	-.800	-.8	7000.0	50.0	-.9	150.0	-.9	500.0
A000998	-.9	-.8	-.800	-.8	7000.0	50.0	-.9	150.0	-.9	500.0
A000999	-.9	-.8	-.800	-.8	7000.0	70.0	-.9	200.0	-.9	100.0
A001000	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	500.0
A001400	-.9	-.8	-.800	-.8	5000.0	50.0	-.9	150.0	-.9	300.0
A001401	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	300.0
A001402	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	200.0	-.9	300.0
A001403	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	200.0
A001404	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	150.0	-.9	300.0
A001405	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	200.0
A001406	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	200.0	-.9	500.0
A001407	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	50.0	-.9	700.0
A001408	-.9	-.8	-.800	-.8	10000.0	150.0	-.9	100.0	-.9	150.0
A001409	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	100.0	-.9	150.0

Table A-7a

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AU (C/Y)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)
A001410	365500.	3511400.	14 73	.6	9.90	-.900	-.9	-.9	200.0	-.9	-.9	7.0	-.9	-.8	20.0	150.0
A001411	364450.	3512000.	14 73	8.2	7.40	.019	1000.0	-.9	300.0	-.9	-.9	5.0	-.9	-.8	50.0	200.0
A001412	370500.	3517600.	14 73	-.9	.99	-.900	-.9	200.0	2000.0	-.9	-.9	.5	-.9	-.8	10.0	100.0
A001413	364700.	3512700.	14 73	-.9	7.20	-.900	-.9	100.0	700.0	-.9	-.9	2.0	-.9	-.8	5.0	100.0
A001414	437500.	3559950.	14 73	6.2	5.50	.042	-.9	100.0	700.0	-.9	-.9	1.0	-.9	-.8	10.0	50.0
A001415	437600.	3559800.	14 73	1.3	8.40	-.900	-.9	100.0	1500.0	-.9	-.9	.5	-.9	-.8	30.0	70.0
A001416	441100.	3558800.	14 73	5.2	17.90	.001	500.0	-.9	10000.0	-.9	-.9	1.0	-.9	-.8	300.0	10.0
A003020	342600.	3481750.	14 73	1.0	-.80	.001	-.9	10.0	70.0	-.9	-.9	.1	-.9	-.8	5.0	150.0
A003021	345700.	3489000.	14 71	3680.0	.06	.009	8500.0	-.9	140.0	-.9	6.0	-.9	520.0	-.9	5.0	10.0
A003022	340900.	3480300.	14 71	-.9	-.90	.016	4650.0	-.9	530.0	-.9	140.0	-.9	10.0	-.9	150.0	150.0
A003023	354800.	3490700.	14 71	320.0	128.00	.006	870.0	25.0	390.0	-.9	-.9	-.9	1.0	20.0	10.0	80.0
A003024	425300.	3560150.	14 73	-.9	-.80	-.900	-.9	20.0	150.0	-.9	-.9	.3	-.9	-.8	20.0	20.0
A003025	425500.	3559800.	14 73	-.9	-.80	.006	-.9	-.9	100.0	-.9	-.9	.1	-.9	-.8	5.0	10.0
A003026	429200.	3563000.	14 71	1.7	1.40	.060	80.0	-.9	300.0	-.9	-.9	-.9	-.9	100.0	80.0	30.0
A003027	431300.	3568950.	14 73	-.9	-.80	.007	-.9	15.0	50.0	-.9	-.9	.5	-.9	-.8	20.0	50.0
A003028	435400.	3572000.	14 73	-.9	-.80	-.900	-.9	20.0	100.0	-.9	-.9	1.0	-.9	-.8	20.0	50.0
A003029	446000.	3564600.	14 71	13.0	250.00	.293	510.0	35.0	2150.0	-.9	2.0	-.9	1.0	380.0	55.0	30.0
A003030	403700.	3544100.	14 73	-.9	-.80	-.900	-.9	15.0	100.0	-.9	-.9	.2	-.9	-.8	5.0	30.0
A003031	412500.	3546700.	14 71	.2	.66	.001	20.0	-.9	280.0	-.9	2.0	-.9	-.9	80.0	20.0	30.0
A003032	354650.	3491650.	14 73	1500.0	-.80	.164	3000.0	30.0	100.0	-.9	-.9	.1	-.9	-.8	10.0	50.0
A003033	335800.	3494400.	14 73	50.0	-.80	.001	-.9	20.0	70.0	-.9	-.9	.2	-.9	-.8	20.0	300.0
A003034	416950.	3551700.	14 73	-.9	-.80	-.900	500.0	20.0	70.0	-.9	-.9	1.0	-.9	-.8	20.0	50.0
A003035	417250.	3547950.	14 73	-.9	-.80	-.900	-.9	10.0	20.0	-.9	-.9	.5	-.9	-.8	15.0	15.0
A003036	420300.	3548350.	14 71	1.3	2.00	-.900	110.0	-.9	340.0	-.9	-.9	-.9	-.9	40.0	20.0	25.0
A003037	424900.	3542250.	14 71	.4	.55	-.900	105.0	-.9	130.0	-.9	-.9	-.9	-.9	100.0	30.0	30.0
A003038	418400.	3527800.	14 73	-.9	-.80	-.900	-.9	-.9	10.0	-.9	-.9	-.9	-.9	-.8	-.9	-.9
A003039	433600.	3533500.	14 71	1.7	.11	-.900	180.0	-.9	430.0	-.9	3.0	-.9	-.9	-.9	110.0	20.0
A003040	438300.	3536350.	14 73	.6	1.30	-.900	50.0	60.0	340.0	-.9	-.9	-.9	-.9	170.0	50.0	135.0
A003041	438400.	3545250.	14 73	-.9	-.80	.001	-.9	10.0	1500.0	-.9	-.9	.3	-.9	-.8	20.0	20.0
A003042	367850.	3488000.	14 71	5.0	-.80	-.900	-.9	200.0	700.0	-.9	-.9	.3	-.9	-.8	20.0	150.0
A003043	370250.	3483200.	14 71	9.6	3.60	.010	80.0	90.0	440.0	-.9	-.9	-.9	.6	60.0	20.0	40.0
A003044	373000.	3480500.	14 71	.4	1.20	-.900	10.0	-.9	340.0	-.9	-.9	-.9	-.9	-.9	10.0	20.0
A003045	371150.	3478250.	14 71	1.1	.82	.007	25.0	55.0	480.0	-.9	2.0	-.9	.2	60.0	20.0	105.0
A003046	371150.	3478250.	14 73	-.9	-.80	.003	-.9	10.0	50.0	-.9	-.9	.1	-.9	-.8	20.0	300.0
A003047	395150.	3517550.	14 73	15.0	-.80	.001	-.9	50.0	150.0	-.9	-.9	.2	-.9	-.8	20.0	200.0
A003048	393200.	3515500.	14 73	-.9	-.80	.008	-.9	70.0	150.0	-.9	-.9	.3	-.9	-.8	50.0	200.0
A003049	389300.	3513600.	14 71	32.0	.74	.001	670.0	-.9	840.0	-.9	-.9	-.9	-.9	120.0	30.0	75.0
A003050	389400.	3512950.	14 73	10.0	-.80	-.900	-.9	20.0	700.0	-.9	-.9	.1	-.9	-.8	20.0	150.0
A003051	333700.	3469000.	14 71	3.4	3.50	-.900	12500.0	80.0	450.0	-.9	3.0	-.9	.8	120.0	60.0	95.0
A003052	334450.	3472100.	14 73	-.9	-.80	.002	-.9	70.0	500.0	-.9	-.9	.1	-.9	-.8	-.9	30.0
A003053	334550.	3474350.	14 73	1.0	-.80	.018	200.0	50.0	150.0	-.9	-.9	.1	-.9	-.8	20.0	300.0
A003054	334300.	3472350.	14 73	10.0	-.80	.001	500.0	50.0	1500.0	-.9	-.9	.1	-.9	-.8	5.0	100.0
A003055	334400.	3474000.	14 73	50.0	-.80	-.900	-.9	30.0	200.0	-.9	-.9	.2	-.9	-.8	20.0	200.0
A003056	334575.	3474200.	14 73	70.0	-.80	.018	2000.0	200.0	700.0	-.9	-.9	.7	-.9	-.8	30.0	150.0
A003057	335350.	3475200.	14 71	-.9	20.00	.071	-.9	-.9	-.9	-.9	-.9	-.9	.6	-.9	30.0	940.0
A003058	331500.	3496100.	14 71	3.9	.43	-.900	2200.0	-.9	520.0	-.9	2.0	-.9	-.9	120.0	25.0	380.0
A003059	394750.	3493300.	14 73	-.9	-.80	-.900	-.9	-.9	150.0	-.9	-.9	.3	-.9	-.8	7.0	70.0
A003060	392800.	3486250.	14 71	-.9	.08	-.900	10.0	-.9	290.0	-.9	-.9	-.9	-.9	80.0	15.0	65.0
A003061	389800.	3526000.	14 73	-.9	-.80	-.900	-.9	-.9	10.0	-.9	-.9	.2	-.9	-.8	-.9	10.0
A003062	384850.	3524850.	14 73	-.9	-.80	-.900	-.9	10.0	50.0	-.9	-.9	.7	-.9	-.8	5.0	30.0
A003063	384500.	3524450.	14 73	-.9	-.80	-.900	-.9	20.0	150.0	-.9	-.9	.5	-.9	-.8	5.0	20.0

Table A-7a

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CS (PPM)	CU (PPM)	FE (%)	GA (PPM)	GE (PPM)	LA (%)	MG (PPM)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)
A001410	-.8	50.0	20.0	20.0	-.9	20.0	2.00	10000.0	10.0	30.0	10.0	70.0	-.8	-.8	-.9	70.0	-.9
A001411	-.8	70.0	20.0	30.0	-.9	20.0	1.50	10000.0	15.0	20.0	50.0	70.0	-.8	-.8	700.0	70.0	-.9
A001412	-.8	70.0	7.0	50.0	-.9	100.0	3.00	2000.0	2.0	30.0	50.0	50.0	-.8	-.8	-.9	20.0	-.9
A001413	-.8	20.0	10.0	20.0	-.9	20.0	2.00	7000.0	2.0	30.0	30.0	10.0	-.8	-.8	-.9	30.0	-.9
A001414	-.8	30.0	7.0	10.0	-.9	50.0	2.00	5000.0	-.9	30.0	30.0	20.0	-.8	-.8	100.0	20.0	-.9
A001415	-.8	50.0	5.0	30.0	-.9	50.0	1.00	1500.0	-.9	20.0	50.0	200.0	-.8	-.8	7000.0	10.0	-.9
A001416	-.8	1000.0	20.0	50.0	-.9	100.0	1.00	700.0	30.0	30.0	500.0	2000.0	-.8	-.8	300.0	-.9	-.9
A003020	-.8	20.0	7.0	-.9	-.9	-.9	0.20	500.0	-.9	-.9	20.0	200.0	-.8	-.8	-.9	10.0	10.0
A003021	-.9	3500.0	6.1	4.0	-.8	-.9	-.80	260.0	-.9	-.9	15.0	473000.0	-.9	-.9	4700.0	-.9	16.0
A003022	10.0	380.0	27.3	-.9	-.8	-.9	-.80	2650.0	-.9	-.9	170.0	-.9	-.9	-.9	1750.0	-.9	510.0
A003023	-.9	35.0	9.6	8.0	-.8	10.0	-.80	4150.0	-.9	10.0	30.0	530.0	-.9	-.9	55.0	35.0	6.0
A003024	-.8	50.0	10.0	-.9	-.9	-.9	.10	5000.0	-.9	-.9	30.0	70.0	-.8	-.8	-.9	30.0	-.9
A003025	-.8	7.0	5.0	-.9	-.9	-.9	.15	1000.0	-.9	-.9	20.0	-.9	-.8	-.8	-.9	10.0	-.9
A003026	10.0	30.0	16.8	6.0	-.8	35.0	-.80	12000.0	-.9	-.9	65.0	30.0	-.9	-.9	14.0	90.0	-.9
A003027	-.8	10.0	10.0	-.9	-.9	-.9	.20	5000.0	-.9	-.9	30.0	20.0	-.8	-.8	-.9	30.0	10.0
A003028	-.8	15.0	10.0	-.9	-.9	-.9	.50	5000.0	-.9	-.9	30.0	20.0	-.8	-.8	-.9	50.0	-.9
A003029	10.0	155.0	16.2	7.0	-.8	110.0	-.80	5800.0	-.9	50.0	115.0	110.0	-.9	-.9	2900.0	30.0	660.0
A003030	-.8	5.0	7.0	-.9	-.9	-.9	.20	1500.0	-.9	-.9	5.0	20.0	-.8	-.8	-.9	20.0	-.9
A003031	-.9	20.0	17.4	5.0	-.8	40.0	-.80	10000.0	-.9	10.0	40.0	25.0	-.9	-.9	6.0	100.0	22.0
A003032	-.8	700.0	10.0	-.9	-.9	20.0	.20	500.0	-.9	30.0	15.0	2000.0	-.8	-.8	500.0	15.0	20.0
A003033	-.8	100.0	15.0	-.9	-.9	-.9	.10	2000.0	2.0	30.0	20.0	1500.0	-.8	-.8	-.9	20.0	70.0
A003034	-.8	10.0	15.0	-.9	-.9	-.9	.50	5000.0	-.9	20.0	15.0	-.9	-.8	-.8	-.9	70.0	-.9
A003035	-.8	5.0	7.0	-.9	-.9	-.9	.20	2000.0	-.9	-.9	20.0	-.9	-.8	-.8	-.9	20.0	-.9
A003036	-.9	40.0	13.2	8.0	-.8	20.0	-.80	11500.0	-.9	-.9	45.0	50.0	-.9	-.9	32.0	60.0	7.0
A003037	-.9	40.0	17.6	4.0	-.8	40.0	-.80	9800.0	-.9	10.0	50.0	35.0	-.9	-.9	20.0	95.0	16.0
A003038	-.8	2.0	2.0	-.9	-.9	-.9	0.03	300.0	-.9	-.9	-.9	-.9	-.8	-.8	-.9	-.9	-.9
A003039	10.0	145.0	29.5	6.0	-.8	10.0	-.80	8250.0	-.9	-.9	200.0	145.0	-.9	-.9	9.0	45.0	-.9
A003040	10.0	60.0	28.6	5.0	-.8	70.0	-.80	12000.0	-.9	60.0	130.0	75.0	-.9	-.9	5.0	70.0	13.0
A003041	-.8	70.0	10.0	-.9	-.9	50.0	.50	3000.0	-.9	-.9	50.0	30.0	-.8	-.8	-.9	15.0	-.9
A003042	-.8	30.0	15.0	10.0	-.9	100.0	1.50	2000.0	2.0	20.0	70.0	70.0	-.8	-.8	-.9	20.0	300.0
A003043	-.9	40.0	8.2	11.0	-.8	40.0	-.80	2100.0	-.9	-.9	55.0	330.0	-.9	-.9	34.0	25.0	175.0
A003044	-.9	20.0	5.9	10.0	-.8	20.0	-.80	3850.0	-.9	-.9	35.0	35.0	-.9	-.9	6.0	30.0	3.0
A003045	-.9	30.0	15.4	11.0	-.8	30.0	-.80	4700.0	-.9	40.0	60.0	170.0	-.9	-.9	22.0	25.0	46.0
A003046	-.8	10.0	15.0	-.9	-.9	-.9	.50	500.0	-.9	20.0	30.0	20.0	-.8	-.8	-.9	10.0	300.0
A003047	-.8	30.0	20.0	15.0	-.9	-.9	.30	1000.0	-.9	20.0	50.0	500.0	-.8	-.8	-.9	15.0	-.9
A003048	-.8	20.0	15.0	10.0	-.9	-.9	.30	1000.0	-.9	-.9	50.0	20.0	-.8	-.8	-.9	30.0	30.0
A003049	10.0	45.0	21.0	9.0	-.8	30.0	-.80	5150.0	-.9	20.0	60.0	1300.0	-.9	-.9	36.0	60.0	100.0
A003050	-.8	30.0	5.0	15.0	-.9	20.0	.50	500.0	-.9	-.9	50.0	300.0	-.8	-.8	-.9	10.0	-.9
A003051	10.0	110.0	22.8	8.0	-.8	30.0	-.80	2400.0	-.9	40.0	115.0	370.0	-.9	-.9	3800.0	20.0	195.0
A003052	-.8	10.0	2.0	-.9	-.9	20.0	.05	300.0	-.9	-.9	20.0	-.9	-.8	-.8	-.9	-.9	-.9
A003053	-.8	50.0	7.0	-.9	-.9	-.9	.20	500.0	-.9	-.9	50.0	100.0	-.8	-.8	200.0	-.9	300.0
A003054	-.8	20.0	5.0	-.9	-.9	-.9	.30	1000.0	-.9	-.9	20.0	100.0	-.8	-.8	200.0	-.9	500.0
A003055	-.8	30.0	10.0	10.0	-.9	20.0	.50	1500.0	-.9	-.9	30.0	10000.0	-.8	-.8	1000.0	20.0	10.0
A003056	-.8	100.0	15.0	15.0	-.9	20.0	.50	1500.0	2.0	20.0	100.0	10000.0	-.8	-.8	2000.0	20.0	150.0
A003057	-.9	50.0	-.9	-.9	-.8	-.9	-.80	-.9	-.9	-.9	85.0	200.0	-.9	-.9	370.0	-.9	-.9
A003058	20.0	50.0	32.9	7.0	-.8	65.0	-.80	5500.0	-.9	120.0	60.0	200.0	-.9	-.9	60.0	55.0	640.0
A003059	-.8	10.0	10.0	10.0	-.9	-.9	.50	5000.0	-.9	-.9	30.0	70.0	-.8	-.8	-.9	30.0	-.9
A003060	-.9	20.0	13.7	12.0	-.8	25.0	-.90	7500.0	-.9	20.0	40.0	5.0	-.9	-.9	-.9	45.0	6.0
A003061	-.8	7.0	5.0	-.9	-.9	-.9	.07	2000.0	-.9	-.9	5.0	10.0	-.8	-.8	-.9	30.0	-.9
A003062	-.8	10.0	10.0	-.9	-.9	-.9	.30	5000.0	-.9	-.9	10.0	10.0	-.8	-.8	-.9	50.0	-.9
A003063	-.8	15.0	7.0	-.9	-.9	-.9	.50	5000.0	-.9	-.9	15.0	10.0	-.8	-.8	-.9	30.0	20.0

Table A-7a CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	SR (PPM)	TA (PPM)	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A001410	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	150.0	-.9	100.0
A001411	-.9	-.8	-.800	-.8	10000.0	150.0	50.0	200.0	-.9	300.0
A001412	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	50.0	-.9	500.0
A001413	-.9	-.8	-.800	-.8	10000.0	70.0	500.0	100.0	-.9	700.0
A001414	-.9	-.8	-.800	-.8	10000.0	50.0	2000.0	50.0	-.9	200.0
A001415	-.9	-.8	-.800	-.8	10000.0	50.0	200.0	20.0	-.9	150.0
A001416	100.0	-.8	-.800	-.8	5000.0	20.0	3000.0	100.0	-.9	150.0
A003020	-.9	-.8	-.800	-.8	5000.0	30.0	50.0	-.9	-.9	150.0
A003021	-.8	-.9	-.900	-.9	1600.0	15.0	60.0	10.0	57000.0	50.0
A003022	-.8	-.9	-.900	-.9	-.9	145.0	-.9	-.9	-.9	-.9
A003023	-.8	-.9	.055	-.9	30000.0	180.0	1950.0	55.0	170.0	240.0
A003024	-.9	-.8	-.800	-.8	5000.0	20.0	-.9	50.0	-.9	500.0
A003025	-.9	-.8	-.800	-.8	3000.0	10.0	-.9	-.9	-.9	200.0
A003026	-.8	40.0	.045	-.9	11000.0	50.0	240.0	140.0	75.0	150.0
A003027	-.9	-.8	-.800	-.8	3000.0	15.0	-.9	50.0	-.9	30.0
A003028	-.9	-.8	-.800	-.8	7000.0	20.0	-.9	50.0	-.9	100.0
A003029	-.8	40.0	.065	-.9	26000.0	90.0	17500.0	120.0	155.0	440.0
A003030	-.9	-.8	-.800	-.8	2000.0	15.0	50.0	30.0	-.9	50.0
A003031	-.8	60.0	.050	-.9	17000.0	50.0	375.0	170.0	95.0	340.0
A003032	-.9	-.8	-.800	-.8	10000.0	70.0	2000.0	20.0	300.0	500.0
A003033	-.9	-.8	-.800	-.8	10000.0	200.0	-.9	10.0	200.0	500.0
A003034	-.9	-.8	-.800	-.8	7000.0	30.0	-.9	100.0	-.9	150.0
A003035	-.9	-.8	-.800	-.8	2000.0	20.0	50.0	50.0	-.9	200.0
A003036	-.8	20.0	.075	-.9	8900.0	65.0	265.0	100.0	75.0	180.0
A003037	-.8	-.9	.095	20.0	12000.0	45.0	420.0	180.0	65.0	270.0
A003038	-.9	-.8	-.800	-.8	700.0	10.0	-.9	-.9	-.9	-.9
A003039	-.8	60.0	.200	-.9	9700.0	85.0	90.0	75.0	85.0	170.0
A003040	-.8	80.0	.110	-.9	29000.0	240.0	50.0	110.0	95.0	600.0
A003041	-.9	-.8	-.800	-.8	5000.0	20.0	-.9	30.0	-.9	100.0
A003042	-.9	-.8	-.800	-.8	10000.0	70.0	100.0	30.0	-.9	200.0
A003043	-.8	-.9	.080	-.9	9300.0	90.0	19.0	45.0	100.0	230.0
A003044	-.8	-.9	.020	-.9	7500.0	95.0	8.0	35.0	75.0	210.0
A003045	-.8	20.0	.170	-.9	20000.0	230.0	7.0	35.0	90.0	240.0
A003046	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	-.9	-.9	300.0
A003047	-.9	-.8	-.800	-.8	7000.0	100.0	-.9	20.0	-.9	100.0
A003048	-.9	-.8	-.800	-.8	5000.0	100.0	-.9	70.0	-.9	100.0
A003049	-.8	20.0	.095	20.0	13000.0	180.0	85.0	110.0	115.0	380.0
A003050	-.9	-.8	-.800	-.8	5000.0	50.0	-.9	20.0	-.9	200.0
A003051	-.8	20.0	.400	-.9	16000.0	195.0	3100.0	35.0	280.0	880.0
A003052	-.9	-.8	-.800	-.8	2000.0	15.0	70.0	-.9	-.9	30.0
A003053	-.9	-.8	-.800	-.8	5000.0	70.0	100.0	10.0	-.9	100.0
A003054	-.9	-.8	-.800	-.8	2000.0	10.0	70.0	-.9	-.9	70.0
A003055	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	30.0	200.0	200.0
A003056	-.9	-.8	-.800	-.8	10000.0	100.0	300.0	20.0	200.0	500.0
A003057	-.8	-.9	.045	-.9	-.9	-.9	-.9	-.9	250.0	-.9
A003058	-.8	120.0	.190	-.9	96000.0	790.0	165.0	40.0	130.0	480.0
A003059	-.9	-.8	-.800	-.8	5000.0	70.0	-.9	30.0	-.9	100.0
A003060	-.8	40.0	.019	-.9	12000.0	160.0	6.0	65.0	70.0	320.0
A003061	-.9	-.8	-.800	-.8	5000.0	10.0	-.9	50.0	-.9	100.0
A003062	-.9	-.8	-.800	-.8	7000.0	20.0	-.9	70.0	-.9	300.0
A003063	-.9	-.8	-.800	-.8	5000.0	20.0	-.9	50.0	-.9	300.0

Table A-7a

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AU (C/Y)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)
A003064	382750.	3526400.	14 73	-.9	-.80	-.900	-.9	20.0	150.0	-.9	-.9	1.0	-.9	-.8	10.0	30.0
A003065	373800.	3524750.	14 71	.2	-.90	-.900	100.0	-.9	300.0	-.9	-.9	-.9	-.9	80.0	15.0	20.0
A003066	379400.	3492600.	14 71	2.4	-.90	-.900	130.0	55.0	490.0	-.9	-.9	-.9	-.9	20.0	20.0	60.0
A003067	328800.	3467200.	14 73	-.9	-.80	-.900	2000.0	100.0	150.0	-.9	-.9	.1	-.9	-.8	20.0	20.0
A003068	333800.	3474300.	14 73	1.0	-.80	-.900	200.0	50.0	300.0	-.9	-.9	.2	-.9	-.8	10.0	200.0
A003069	374750.	3477700.	14 73	-.9	-.80	.003	-.9	-.9	20.0	-.9	-.9	.1	-.9	-.8	30.0	500.0
A003070	371600.	3477450.	14 73	-.9	-.80	.006	-.9	-.9	200.0	-.9	-.9	.1	-.9	-.8	20.0	300.0
A003071	370650.	3477600.	14 71	-.9	-.90	.005	75.0	-.9	240.0	-.9	-.9	-.9	-.9	200.0	15.0	205.0
A003072	392250.	3501450.	14 73	1.0	-.80	.002	-.9	150.0	500.0	-.9	-.9	.3	-.9	-.8	20.0	150.0
A003073	395350.	3502800.	14 73	5.0	-.80	-.900	-.9	100.0	200.0	-.9	-.9	2.0	-.9	-.8	20.0	100.0
A003074	397000.	3500850.	14 71	.8	.22	-.900	110.0	30.0	380.0	2.0	-.9	-.9	.4	120.0	20.0	95.0
A003075	399750.	3499750.	14 73	-.9	-.80	-.900	-.9	200.0	700.0	-.9	-.9	1.5	-.9	-.8	20.0	300.0
A003076	404600.	3502500.	14 73	-.9	-.80	-.900	-.9	500.0	300.0	-.9	-.9	1.0	-.9	-.8	30.0	200.0
A003077	404600.	3502500.	14 71	.8	.25	.005	35.0	-.9	170.0	-.9	-.9	-.9	-.9	60.0	25.0	270.0
A003078	404600.	3502500.	14 73	-.9	-.80	-.900	-.9	500.0	300.0	-.9	-.9	.5	-.9	-.8	20.0	150.0
A003079	404600.	3502500.	14 71	.4	.42	-.900	60.0	25.0	270.0	-.9	-.9	-.9	.2	40.0	15.0	75.0
A003080	405400.	3502700.	14 73	-.9	-.80	-.900	-.9	100.0	300.0	-.9	-.9	1.0	-.9	-.8	20.0	100.0
A003081	408450.	3504250.	14 73	2.0	-.80	-.900	-.9	200.0	500.0	-.9	-.9	1.0	-.9	-.8	15.0	200.0
A003082	402500.	3509200.	14 73	-.9	-.80	-.900	-.9	700.0	300.0	-.9	-.9	1.5	-.9	-.8	10.0	100.0
A003083	402800.	3509800.	14 71	.6	-.90	.001	75.0	75.0	330.0	-.9	-.9	-.9	.2	80.0	45.0	385.0
A003084	405800.	3506350.	14 73	-.9	-.80	.012	-.9	200.0	300.0	-.9	-.9	1.5	-.9	-.8	30.0	1000.0
A003085	411000.	3504800.	14 71	-.9	-.90	.001	25.0	-.9	240.0	-.9	-.9	-.9	-.9	-.9	25.0	220.0
A003086	419200.	3510700.	14 73	-.9	-.80	-.900	-.9	200.0	300.0	-.9	-.9	1.5	-.9	-.8	50.0	150.0
A003087	422650.	3515500.	14 73	-.9	-.80	-.900	-.9	50.0	700.0	-.9	-.9	2.0	-.9	-.8	30.0	100.0
A003088	317400.	3474850.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	2.0	-.9	-.8	10.0	500.0
A003089	316900.	3475800.	14 73	-.9	-.80	-.900	-.9	500.0	700.0	-.9	-.9	2.0	-.9	-.8	20.0	200.0
A003090	317000.	3481000.	14 71	.2	5.50	-.900	180.0	-.9	150.0	-.9	-.9	-.9	.6	-.9	10.0	75.0
A003091	322200.	3483200.	14 73	-.9	-.80	-.900	-.9	70.0	300.0	-.9	-.9	1.5	-.9	-.8	10.0	100.0
A003092	327000.	3481100.	14 73	-.9	-.80	-.900	-.9	200.0	200.0	-.9	-.9	1.5	-.9	-.8	10.0	150.0
A003093	337500.	3488300.	14 73	7.0	-.80	.019	-.9	70.0	500.0	-.9	-.9	1.0	-.9	-.8	70.0	1000.0
A003094	336900.	3489800.	14 71	1.2	.05	.001	500.0	-.9	470.0	-.9	-.9	-.9	-.9	120.0	15.0	100.0
A003095	335250.	3476150.	14 73	10.0	-.80	-.900	-.9	70.0	700.0	-.9	-.9	.2	-.9	-.8	15.0	200.0
A003096	335250.	3476150.	14 71	8.3	8.00	-.900	190.0	35.0	430.0	-.9	1.0	-.9	2.0	80.0	15.0	55.0
A003097	340350.	3496800.	14 73	-.9	-.80	-.900	-.9	200.0	200.0	-.9	-.9	1.0	-.9	-.8	5.0	70.0
A003098	342900.	3503000.	14 73	-.9	-.80	-.900	-.9	10.0	100.0	-.9	-.9	5.0	-.9	-.8	20.0	100.0
A003099	342850.	3503850.	14 71	1.0	113.00	.004	20.0	-.9	140.0	-.9	-.9	-.9	1.0	20.0	10.0	65.0
A003100	332200.	3496500.	14 73	-.9	-.80	.001	-.9	200.0	700.0	-.9	-.9	1.5	-.9	-.8	15.0	200.0

Table A-7a

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CS (PPM)	CU (PPM)	FE (%)	GA (PPM)	GE (PPM)	LA (%)	MG (PPM)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)
A003064	-.8	20.0	10.0	10.0	-.9	-.9	.70	5000.0	-.9	-.9	15.0	20.0	-.8	-.8	-.9	50.0	-.9
A003065	-.9	25.0	14.6	7.0	-.8	40.0	-.80	12000.0	-.9	40.0	30.0	50.0	-.9	-.9	4.0	100.0	5.0
A003066	-.9	45.0	13.0	14.0	-.8	25.0	-.80	1400.0	-.9	10.0	65.0	35.0	-.9	-.9	18.0	15.0	460.0
A003067	-.8	70.0	5.0	-.9	-.9	20.0	.10	500.0	-.9	20.0	70.0	30.0	-.8	-.8	1500.0	-.9	-.9
A003068	-.8	20.0	5.0	10.0	-.9	20.0	.50	700.0	-.9	-.9	50.0	100.0	-.8	-.8	100.0	10.0	-.9
A003069	-.8	20.0	20.0	15.0	-.9	-.9	1.00	500.0	2.0	20.0	50.0	10.0	-.8	-.8	-.9	10.0	200.0
A003070	-.8	15.0	10.0	15.0	-.9	-.9	1.50	700.0	-.9	-.9	30.0	150.0	-.8	-.8	-.9	10.0	10.0
A003071	20.0	25.0	21.1	8.0	-.8	95.0	-.80	4950.0	-.9	160.0	35.0	25.0	-.9	-.9	290.0	55.0	400.0
A003072	-.8	30.0	7.0	15.0	-.9	200.0	1.00	1000.0	2.0	20.0	70.0	150.0	-.8	-.8	-.9	15.0	2000.0
A003073	-.8	15.0	10.0	15.0	-.9	50.0	1.50	7000.0	5.0	20.0	50.0	300.0	-.8	-.8	-.9	50.0	150.0
A003074	-.9	40.0	9.9	10.0	-.8	25.0	-.80	4050.0	-.9	25.0	40.0	30.0	-.9	-.9	24.0	45.0	165.0
A003075	-.8	30.0	15.0	20.0	-.9	20.0	1.50	5000.0	10.0	20.0	70.0	70.0	-.8	-.8	-.9	50.0	150.0
A003076	-.8	15.0	20.0	20.0	-.9	-.9	.50	5000.0	15.0	-.9	70.0	50.0	-.8	-.8	-.9	30.0	500.0
A003077	10.0	30.0	38.2	14.0	-.8	25.0	-.80	5000.0	-.9	10.0	50.0	15.0	-.9	-.9	18.0	30.0	275.0
A003078	-.8	30.0	15.0	10.0	-.9	-.9	.50	5000.0	10.0	20.0	70.0	70.0	-.8	-.8	-.9	30.0	30.0
A003079	-.9	45.0	15.9	10.0	-.8	30.0	-.80	6450.0	-.9	35.0	40.0	20.0	-.9	-.9	16.0	50.0	80.0
A003080	-.8	30.0	15.0	10.0	-.9	-.9	1.00	5000.0	5.0	20.0	50.0	10.0	-.8	-.8	-.9	30.0	20.0
A003081	-.8	20.0	10.0	15.0	-.9	-.9	1.50	5000.0	2.0	20.0	50.0	20.0	-.8	-.8	-.9	30.0	-.9
A003082	-.8	30.0	7.0	10.0	-.9	20.0	1.50	7000.0	-.9	20.0	50.0	10.0	-.8	-.8	-.9	50.0	-.9
A003083	-.9	50.0	14.5	12.0	-.8	30.0	-.80	4650.0	-.9	30.0	70.0	55.0	-.9	-.9	17.0	40.0	415.0
A003084	-.8	50.0	20.0	20.0	-.9	-.9	1.00	5000.0	10.0	20.0	70.0	100.0	-.8	-.8	-.9	30.0	500.0
A003085	10.0	40.0	22.8	12.0	-.8	25.0	-.80	6100.0	-.9	-.9	45.0	15.0	-.9	-.9	6.0	45.0	14.0
A003086	-.8	70.0	20.0	30.0	-.9	-.9	1.00	5000.0	15.0	20.0	50.0	10.0	-.8	-.8	-.9	50.0	20.0
A003087	-.8	50.0	20.0	20.0	-.9	-.9	.70	7000.0	10.0	20.0	50.0	100.0	-.8	-.8	-.9	50.0	20.0
A003088	-.8	10.0	7.0	15.0	-.9	20.0	1.50	3000.0	2.0	20.0	30.0	10.0	-.8	-.8	-.9	50.0	-.9
A003089	-.8	20.0	10.0	20.0	-.9	20.0	3.00	7000.0	2.0	20.0	50.0	30.0	-.8	-.8	-.9	50.0	-.9
A003090	-.9	15.0	16.9	12.0	-.8	15.0	-.80	10500.0	-.9	35.0	15.0	5.0	-.9	-.9	11.0	100.0	13.0
A003091	-.8	7.0	7.0	15.0	-.9	-.9	1.50	5000.0	2.0	20.0	20.0	10.0	-.8	-.8	-.9	30.0	-.9
A003092	-.8	10.0	10.0	20.0	-.9	-.9	1.00	5000.0	2.0	20.0	20.0	10.0	-.8	-.8	-.9	50.0	70.0
A003093	-.8	50.0	20.0	50.0	-.9	20.0	2.00	2000.0	15.0	30.0	50.0	200.0	-.8	-.8	-.9	30.0	200.0
A003094	10.0	40.0	17.3	12.0	-.8	50.0	-.80	4500.0	-.9	60.0	30.0	130.0	-.9	-.9	85.0	40.0	55.0
A003095	-.8	30.0	10.0	20.0	-.9	20.0	1.00	1500.0	5.0	-.9	50.0	3000.0	-.8	-.8	-.9	20.0	700.0
A003096	-.9	70.0	7.9	16.0	-.8	30.0	-.80	1750.0	-.9	15.0	45.0	1100.0	-.9	-.9	115.0	25.0	225.0
A003097	-.8	10.0	7.0	20.0	-.9	20.0	1.50	7000.0	2.0	20.0	20.0	15.0	-.8	-.8	-.9	30.0	-.9
A003098	-.8	20.0	15.0	30.0	-.9	20.0	1.00	7000.0	10.0	20.0	20.0	10.0	-.8	-.8	-.9	70.0	-.9
A003099	-.9	20.0	13.4	10.0	-.8	25.0	-.80	10000.0	-.9	30.0	15.0	10.0	-.9	-.9	8.0	100.0	-.9
A003100	-.8	50.0	15.0	20.0	-.9	50.0	3.00	3000.0	5.0	30.0	30.0	30.0	-.8	-.8	-.9	50.0	30.0

Table A-7a

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	SR (PPM)	TA (PPM)	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A003064	-.9	-.8	-.800	-.8	10000.0	30.0	-.9	50.0	-.9	500.0
A003065	-.8	20.0	.040	-.9	14000.0	50.0	11.0	200.0	55.0	360.0
A003066	-.8	40.0	.075	-.9	6900.0	140.0	4.0	30.0	170.0	240.0
A003067	-.9	-.8	-.800	-.8	3000.0	30.0	200.0	-.9	-.9	300.0
A003068	-.9	-.8	-.800	-.8	5000.0	70.0	-.9	10.0	200.0	200.0
A003069	-.9	-.8	-.800	-.8	10000.0	150.0	-.9	-.9	-.9	100.0
A003070	-.9	-.8	-.800	-.8	7000.0	70.0	-.9	-.9	-.9	50.0
A003071	-.8	100.0	.130	20.0	110000.0	820.0	13.0	35.0	90.0	480.0
A003072	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	50.0	-.9	150.0
A003073	100.0	-.8	-.800	-.8	7000.0	50.0	100.0	70.0	-.9	300.0
A003074	-.8	-.9	.270	-.9	8900.0	-.9	9.0	65.0	110.0	180.0
A003075	100.0	-.8	-.800	-.8	10000.0	100.0	-.9	100.0	200.0	150.0
A003076	-.9	-.8	-.800	-.8	5000.0	150.0	-.9	70.0	300.0	100.0
A003077	-.8	60.0	.070	-.9	11000.0	-.9	19.0	50.0	60.0	260.0
A003078	-.9	-.8	-.800	-.8	7000.0	100.0	-.9	70.0	200.0	200.0
A003079	-.8	-.9	.080	-.9	14000.0	-.9	12.0	75.0	80.0	310.0
A003080	-.9	-.8	-.800	-.8	7000.0	100.0	-.9	70.0	200.0	200.0
A003081	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	50.0	-.9	200.0
A003082	100.0	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	-.9	300.0
A003083	-.8	-.9	.240	-.9	14000.0	-.9	65.0	50.0	90.0	150.0
A003084	-.9	-.8	-.800	-.8	7000.0	100.0	-.9	100.0	200.0	50.0
A003085	-.8	-.9	.045	-.9	11000.0	-.9	4.0	60.0	65.0	280.0
A003086	-.9	-.8	-.800	-.8	5000.0	100.0	-.9	100.0	200.0	200.0
A003087	-.9	-.8	-.800	-.8	7000.0	150.0	-.9	100.0	-.9	150.0
A003088	100.0	-.8	-.800	-.8	10000.0	100.0	-.9	70.0	-.9	150.0
A003089	100.0	-.8	-.800	-.8	7000.0	100.0	-.9	70.0	-.9	200.0
A003090	-.8	-.9	.050	-.9	16000.0	-.9	60.0	150.0	50.0	170.0
A003091	100.0	-.8	-.800	-.8	7000.0	70.0	-.9	70.0	-.9	150.0
A003092	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	-.9	200.0
A003093	-.9	-.8	-.800	-.8	10000.0	200.0	50.0	30.0	-.9	300.0
A003094	-.8	-.9	.045	-.9	42000.0	-.9	12.0	60.0	110.0	210.0
A003095	-.9	-.8	-.800	-.8	5000.0	100.0	50.0	20.0	300.0	100.0
A003096	-.8	-.9	.040	-.9	11000.0	-.9	65.0	30.0	220.0	160.0
A003097	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	-.9	300.0
A003098	-.9	-.8	-.800	-.8	10000.0	150.0	-.9	150.0	-.9	150.0
A003099	-.8	-.9	.040	-.9	14000.0	-.9	210.0	160.0	45.0	180.0
A003100	200.0	-.8	-.800	-.8	10000.0	200.0	-.9	50.0	200.0	300.0

Table A-7b

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV	IT CODE	AG (PPM)	AU (PPM)	AU (C/Y)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)	CS (PPM)
A002424	593600.	3383200.	14	73	7.0	-.80	.0078	10000.0	50.0	1500.0	-.9	70.0	1.5	-.9	-.8	500.0	7000.0	-.8
A002427	575600.	3369800.	14	73	-.9	-.80	.0006	-.9	30.0	1000.0	-.9	-.9	2.0	-.9	-.8	20.0	7000.0	-.8
A002428	573400.	3375900.	14	71	-.9	.12	-.8000	70.0	-.8	-.8	-.8	-.9	-.8	-.8	-.8	-.8	-.8	-.8
A002429	573400.	3375850.	14	71	5.9	3.40	.0047	420.0	50.0	1100.0	-.9	30.0	-.8	-.9	20.0	20.0	2500.0	-.9
A002430	573250.	3374750.	14	73	-.9	-.80	.0007	-.9	100.0	2000.0	-.9	-.9	5.0	-.9	-.8	20.0	5000.0	-.8
A002431	582850.	3374600.	14	71	.8	1.30	.0029	1300.0	60.0	1500.0	3.0	4.0	-.8	.2	40.0	30.0	4250.0	-.9
A002489	598600.	3374000.	14	71	.6	.44	.0010	230.0	-.9	540.0	-.9	3.0	-.8	.4	20.0	65.0	24000.0	-.9

Table A-7b

CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CU (PPM)	FE (%)	GA (PPM)	LA (PPM)	MG (%)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)	SR (PPM)	TA (PPM)
A002424	200.0	10.0	30.0	20.0	1.00	1000.0	5.0	-.9	200.0	500.0	-.8	-.8	300.0	20.0	-.9	100.0	-.8
A002427	30.0	5.0	15.0	-.9	1.50	1000.0	-.9	-.9	100.0	50.0	-.8	-.8	-.9	10.0	-.9	200.0	-.8
A002428	55.0	-.8	-.8	-.8	-.80	-.8	-.9	-.8	-.8	-.9	-.8	-.8	4.0	-.8	-.9	-.8	-.8
A002429	70.0	6.1	14.0	10.0	-.80	1450.0	-.9	-.9	65.0	20.0	-.9	-.9	4.0	25.0	12.0	-.8	-.9
A002430	50.0	7.0	20.0	20.0	2.00	1000.0	2.0	-.9	70.0	70.0	-.8	-.8	-.9	20.0	-.9	300.0	-.8
A002431	70.0	9.2	14.0	10.0	-.80	3050.0	-.9	10.0	75.0	80.0	-.9	-.9	18.0	30.0	26.0	-.8	-.9
A002489	65.0	13.5	10.0	-.9	-.80	-.9	-.9	10.0	230.0	50.0	-.9	-.9	9.0	30.0	265.0	-.8	180.0

Table A-7b

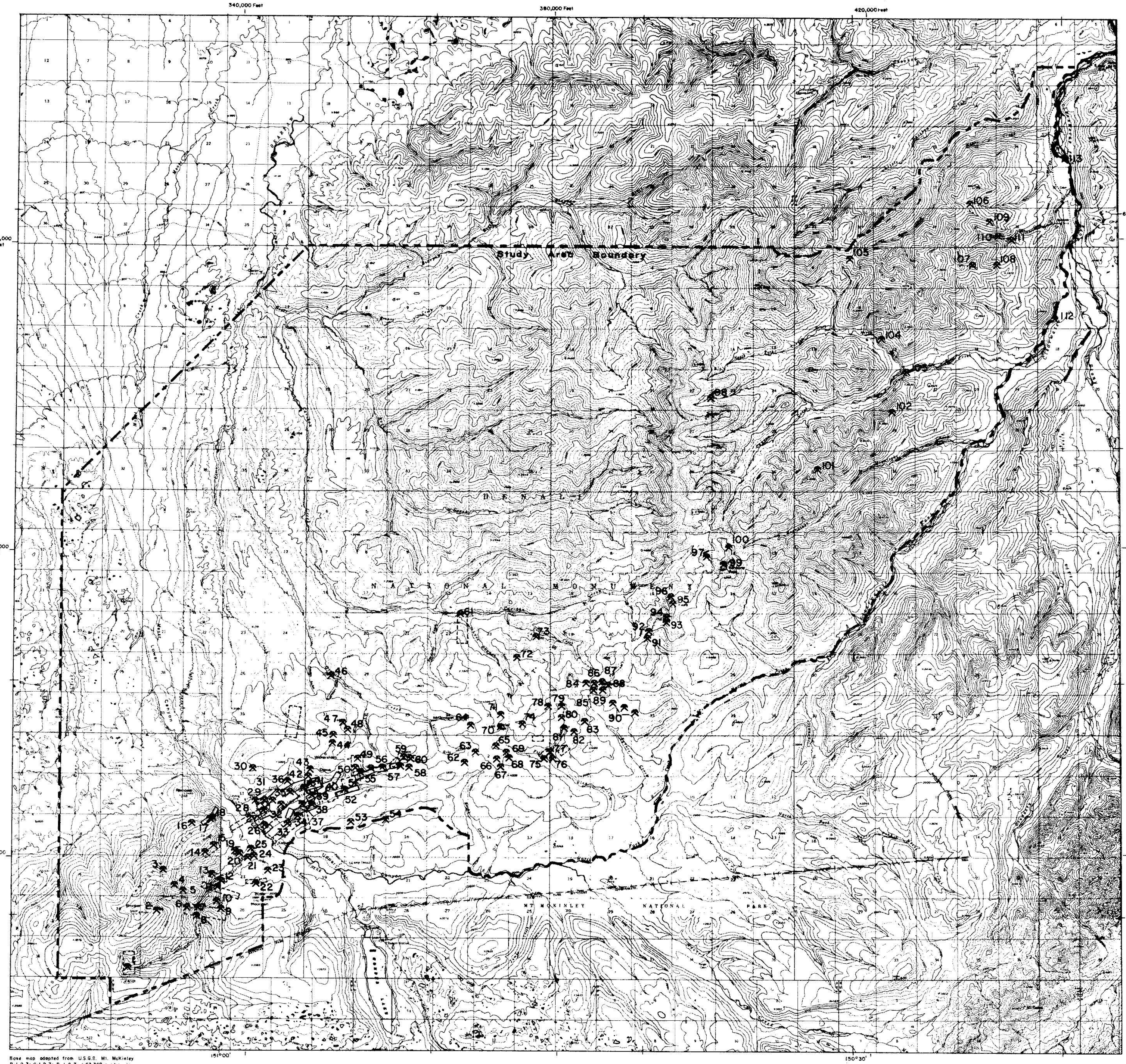
CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	WT (GRAMS)	Y (PPM)	ZN (PPM)	ZR (PPM)
A002424	-.800	-.8	5000.0	100.0	150.0	96.14	30.0	500.0	200.0
A002427	-.800	-.8	7000.0	100.0	-.9	106.54	-.9	200.0	50.0
A002428	-.800	-.8	-.8	-.8	3.0	-.80	-.8	130.0	-.8
A002429	6.400	-.9	6000.0	-.9	100.0	118.61	15.0	135.0	190.0
A002430	-.800	-.8	7000.0	150.0	-.9	87.60	20.0	200.0	100.0
A002431	.190	-.9	10000.0	-.9	6.0	105.09	20.0	285.0	280.0
A002489	1.000	-.9	18000.0	-.9	9.0	95.25	30.0	280.0	280.0

APPENDIX B

OCCURRENCE REPORT FORMS



Base map adapted from U.S.G.S. Mt. McKinley B-1,2,3; C-1,2,3; D-1,2,3 1:63,360 quadrangles.
Work performed for the U.S. Bureau of Mines under contract number S0134031
Prime contractor: Salisbury & Dietz, Inc.
Technical subcontractors: C.C. Hawley and Associates, Inc. and WGM Inc.

Scale: 0 1 2 3 4 Miles; 0 1 2 3 4 5 6 Kilometers

Contour interval 100 feet

LEGEND

- Patented lode claims
- Unpatented lode claims
- Mines, prospects, and occurrences

LIST OF MINES, PROSPECTS, AND OCCURRENCES

Map Number	Name	Development*	Geol. Type**
1	Slate Creek Mine	M	AQ
2	Brooker Mountain Prospect	P	AQ
3	Unnamed Prospect	P	SV-AQ
4	Unnamed Prospect	P	AQ
5	Unnamed Prospect	P	SV
6	Unnamed Prospect	P	SV
7	Bunnell (Neversweat) Prospect	P+	SV
8	Upper Bunnell Prospect	P	SV
9	Unnamed Occurrence	O	OT
10	Arizona Claims	P	OT
11	Eagles Den Prospect	P	AQ
12	Unnamed Occurrence	O	OT
13	Eldorado No. 3 Claim	P	AQ
14	Alpha Prospect	P+	SV
15	Alpha Ridge Prospect	P	SV
16	Unnamed Prospect	P	SV
17	Whistler Prospect	P	SV
18	Bright Light	P	SV
19	Iron Dome Skarn	O	OT
20	Unnamed Occurrence	O	SV
21	Unnamed Occurrence	O	SS
22	Lucky Tuesday Prospect	P	AQ
23	Unnamed Occurrence	O	OT
24	Unnamed Occurrence	O	SV
25	Unnamed Occurrence	O	SV
26	Lucky Strike	P	SV
27	Galena Mine	M	SV
28	Red Top Mine (with Silver King extension)	M	SV
29	Dalton Group, includes:		
	Star Prospect	P	SV
	Friday Prospect	P	SV
	Martha Q Prospect	P	SV
	Polly Wonder Prospect	P	SV
30	Friday Rim Prospect	P	SV
31	Francis Prospect and Little Maud Prospect	P	SV
32	Silver Pick Prospect (with Darling extension)	P	SV
33	Eureka Stibnite (Pick Claims)	P+	AQ
34	White Hawk Prospect	P	SV
35	Little Annie (and Little Annie 2)	M	SV
36	Gold Eagle Prospect and Gold Dollar Mine	M	SV
37	Water Level Claim	P	SV
38	Sulphide Claim	P	GV
39	Pennsylvania-Keystone Claims	P	GV
40	Gold King	P	SV
41	East Gold King-Pittsburg Claims	P	SV
42	Unnamed Occurrence	P	SV
43	Unnamed Prospect	P	SV
44	Florence Lode	P	SV
45	Unnamed Prospect	P	SV
46	Unnamed Occurrence	O	SV
47	Upper-Bogart Prospect	P	SV
48	Bogart Prospect	P	SV
49	Unnamed Prospect	P	SV
50	Banjo Mine	M	GV
51	Jupiter-Mars Claims	P+	GV
52	Silver King-Merry Widow Claims	P	SV
53	Unnamed Occurrence	O	SV
54	Unnamed Occurrence	O	SV
55	Chloride Prospect	P	SV
56	Waterloo Prospect	P	SV
57	Saddle Prospect	P	SV
58	Wieler or Parky Prospect	P+	SV
59	Unnamed Occurrence	O	SV
60	Grizzly No. 2 Claim	P	SV
61	Last Chance Mine (Caribou Lode)	M	AQ
62	Unnamed Prospect	P	SV
63	Unnamed Prospect	P	SV
64	McGonnigill	P+	GV
65	Pension Claim	P	SV
66	Unnamed Prospect	P	AQ
67	Unnamed Prospect	P	SV
68	Unnamed Prospect	P	AQ
69	Arkansas Claim	P	SV
70	Glenn Prospect	P	SV
71	Unnamed Occurrence	O	SV
72	Unnamed Occurrence	P	SV
73	Home Lode Prospect	P	AQ
74	Glenn Ridge I or Skoona Prospect	P	GV
75	Wieler Antimony Prospect	P	AQ
76	Unnamed Occurrence	O	OT
77	Lloyd Prospect	P	SS
78	Humbolt Prospect	P	SV
79	Unnamed Prospect	P	SS
80	Unnamed Occurrence	P	SS
81	Unnamed Prospect	P	SV
82	Unnamed Occurrence	O	SS
83	Rainy Creek Ridge I and Rainy Creek Ridge II	O	SV
84	Ridgetop or Spruce Creek I Prospect	P	SV
85	Lena and Silver Wire Prospects	P	SV
86	Unnamed Prospect	P	SS
87	Mammoth Claim or Lucky Jim Prospect	P	GV
88	Unnamed Occurrence	O	GV
89	Unnamed Prospect	P	GV
90	Unnamed Occurrence	O	SV
91	Unnamed Occurrence	O	SS
92	Unnamed Occurrence	O	SV
93	Unnamed Occurrence	O	SV
94	Unnamed Occurrence	O	AQ
95	Unnamed Prospect	P	SV
96	Unnamed Occurrence	O	SS
97	Unnamed Occurrence	O	SV
98	Canyon Creek Occurrence	O	SS
99	Unnamed Occurrence	O	SS
100	Unnamed Occurrence	O	SV
101	Unnamed Occurrence	O	SV
102	Moonlight Stibnite Occurrence	O	AQ
103	Bloom Prospect	P	SS
104	Unnamed Occurrence	O	OT
105	Red Dirt Occurrence	O	SS
106	Nessie Deposit	M	AQ
107	Unnamed Occurrence	O	AQ
108	Unnamed Occurrence	O	SV
109	Upper-Ridge Claims	P	AQ
110	Unnamed Prospect	P	AQ
111	Stampede Mine (includes Glory Hole, Surface, Emil Winze, Mooney, and Kobuk ore bodies)	M	AQ
112	Unnamed Occurrence	O	SV
113	Clearwater Barite	O	OT

*Explanation of Development Symbols

- M Mine with sustained production
- P+ Prospect with minor production
- P Prospect with pits, trenches, or underground workings
- O Occurrence with no development

*Explanation of Geologic Type Symbols

- SV Silver-bearing quartz-sulfide vein, commonly with gold values or metal-bearing vein with unknown precious-metal values
- GV Gold-bearing quartz-sulfide vein, commonly with silver values
- AQ Antimony-quartz vein
- SS Stratabound sulfide deposit
- OT Other deposit types

KANTISHNA HILLS STUDY AREA

MINES, PROSPECTS, OCCURRENCES, AND LODE MINING CLAIMS

Figure B-1

OCCURRENCE REPORT FORM

NAME Slate Creek Mine

Study Area Kantishna Hills

Occurrence No. 1

Location: Head of Slate Creek (345600N, 324830E)

Occurrence Type Massive stibnite quartz

Examining Geologist TKH

Ownership: 4 unpatented lode claims belonging to John Millhouse

Date(s) of Examination June 30, 1983

General Geology: Birch Creek quartzite (pЄsq), pyritic near vein.

Mineralization: Massive stibnite-quartz with minor pyrite, boulangerite, cerrantite, and arsenopyrite. Millhouse says the vein averaged 8-10 in. in width.

Structure: Vein not seen in place in this examination, Bundtzen says mineralization trends N50^{o}E, dips 82^{o}SE. Millhouse says open pit was following vein when it turned to SE. USBM drilling (Ebbley and Wright) indicated at least some stibnite persisted to a depth of 70 ft. Millhouse indicates about half of this has been mined.

Development and Production: Bundtzen (1981) estimates at least 657 tons of ore mined in four periods 1916, 1942-49, 1970-71, and 1979. These shipments averaged 45% Sb for a production of about 800,000 lbs. Sb. Millhouse shipped approximately 20 tons of ore from tailings piles in 1983.

Remarks: First two periods of production were underground; last two were from open pits.

Analyses: See attached table.

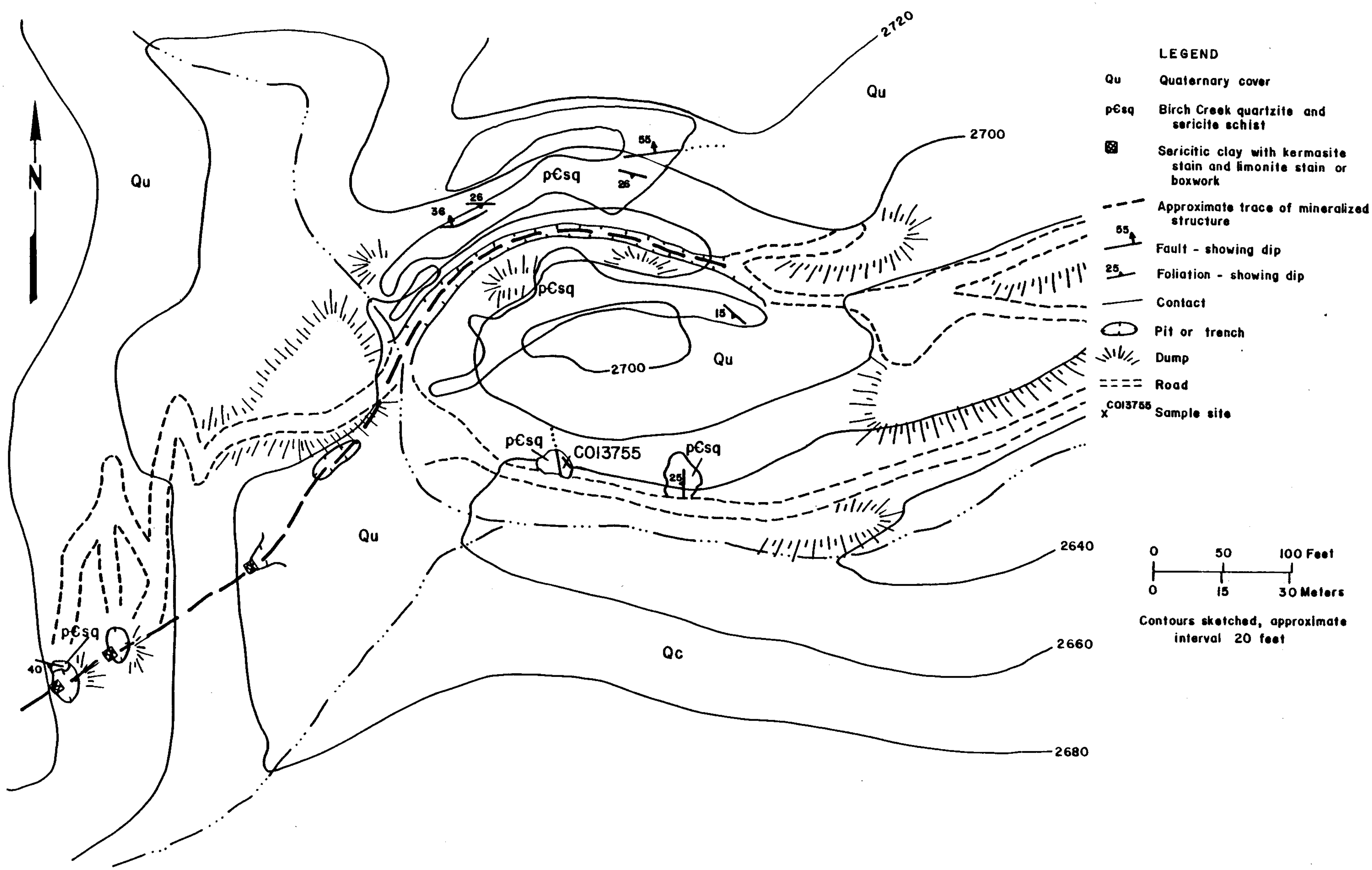
References: Ebbley and Wright, 1948, p. 20-28.
Bundtzen, 1981, p. 128-130, 141, 198-211, 229.

Slate Creek Mine

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	15 ppm	15 ppm	40 ppm	0.8 ppm	ND	ND	5 ppm	6 ppm	ND	ND	3 ppm	ND	Sample CO13701. Wall rock sample.
	ND	ND	ND	ND	ND	ND	59.5%	4 ppm	ND	ND	ND	ND	Sample CO13704. Wall rock sample.
	0.016%	ND	0.006%	ND	.005 oz/tn	ND	38.5%	4 ppm	.028%	ND	ND	ND	SampleCO13706. Wall rock sample.
	30 ppm	ND	105 ppm	ND	0.07 ppm	ND	0.14 ppm	3 ppm	23.2%	ND	--	--	Sample CO13738. Grab from creek above mine.
	0.006%	ND	0.006%	0.4 ppm	ND	ND	60.6%	3 ppm	55 ppm	ND	--	--	Sample CO13739.
	0.012%	ND	0.014%	1.0 ppm	ND	ND	61%	ND	0.18%	ND	--	--	Sample CO13740. Sample from former jig con.
*	0.008%	0.16%	0.019%	0.16 oz/tn	tr	ND	17.14%	75 ppm	0.001%	0.007%	0.2 ppm	0.3 ppm	Average chip sample, are in open cut.
*	0.005%	0.07%	0.019%	0.06 oz/tn	tr	28 ppm	23.0%	75 ppm	2.80%	0.008%	1.4 ppm	4.0 ppm	Grab sample from open pit.
*	0.006%	0.045%	0.024%	0.04 oz/tn	0.01 oz/tn	ND	19.0%	75 ppm	3.19%	0.005%	0.6 ppm	3.3 ppm	Average chip sample of schist on dump.
*	0.029%	0.36%	0.036%	0.14 oz.tn	tr	--	25.9%	75 ppm	0.3%	0.007%	0.2 ppm	0.7 ppm	Chip sample from exposed stibnite vein.
*	0.005%	0.07%	0.002%	0.04 oz/tn	tr	41 ppm	40.8%	75 ppm	0.15%	0.004%	0.2 ppm	0.3 ppm	Grab sample from open cut.
*	0.002%	0.006%	0.001%	tr	tr	6 ppm	12.0%	--	--	--	--	--	Chip sample from exposed sulfide vein in open cut.
*	0.008%	0.006%	0.035%	0.09 oz/tn	tr	306 ppm	32.6%	75 ppm	1.46%	0.005%	0.6 ppm	1.3 ppm	Grab sample from dump.

* Bundtzen, 1981.



Occurrence No. 1 - Slate Creek Mine

OCCURRENCE REPORT FORM

NAME Brooker Mountain Prospect

Study Area Kantishna Hills

Occurrence No. 2

Location: Brooker Mountain (3473250N, 328430E)

Occurrence Type Quartz-stibnite vein

Examining Geologist TKH

Ownership: No current claims.

Date(s) of Examination July 6, 1983

General Geology: Float in area is Birch Creek quartzite (p€sq). Some pieces are pyritic.

Mineralization: Trench float: limonite gossan and stibiconite stained quartz, rare quartz pieces have several percent stibnite.

Structure: No outcrop in area, both trench and streak of stibiconite stained quartz in bottom are oriented N62^{O}E.

Development and Production: Development consists of a shallow, 65 ft. long bulldozer trench; there is no recorded production.

Remarks: Enough logs for a small cabin (now rotted) and a small box stove were found on the site. Logs must have been brought in from a considerable distance as there is no timber anywhere near the site.

Analyses: See attached table.

References: Bundtzen, 1981, p. 198, 211.

Brooker Mountain Prospect

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.079%	3.0%	0.28%	4900 ppm	1.6 ppm	2 ppm	1.55%	ND	1.3%	ND	--	--	Sample C013746. Grab of limonite and stibiconite stained quartz with a few percent stibnite.
*	.019%	1.18%	0.16%	tr	12.1 oz/tn	51%	0.63%	--	0.4%	0.236%	2.2 ppm	11.3%	Grab sample of weathered gossan.

* Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 3

Location: Ridge between Brooker Mountain and Alpha Ridge (3477450N, 329900E)

Occurrence Type Quartz-antimony-silver(?) vein

Examining Geologist TKH

Ownership: No current claims.

Date(s) of Examination July 6, 1983

General Geology: Birch Creek schist, felsite and quartzite (p€sq, p€f).

Mineralization: Stibnite, tourmaline and possible traces of pyrargerite in quartz-ankerite gangue.

Structure: Mineralization not seen in place, trenches trend N39°E.

Development and Production: Two sloughed trenches 40 and 90 ft. long, both shallow; no known production.

Remarks: In approximate location of Bundtzen's (1981) Occurrence No. 8, but does not tally with his description.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag ppm	Au ppm	Sb %	As %
C013743	.03	10.5	.905	275	1.1	9.15	.245
C013744	.02	.041	.016	1.20	0.03	.030	.0081

References:

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Location: Ridge near Reinhart Creek (347690N, 330700E)

Ownership: No current claims.

Occurrence No. 4

Occurrence Type Quartz, stibnite, base metal vein

Examining Geologist TKH

Date(s) of Examination July 6, 1983

General Geology: Feldspar-quartz-mica schist of the Birch Creek schist.

Mineralization: Quartz vein with stibnite, sphalerite and traces of galena and pyrite. Maximum 50% stibnite.

Structure: Vein not seen in place. Float pattern suggests that it strikes roughly east-west and dips south.

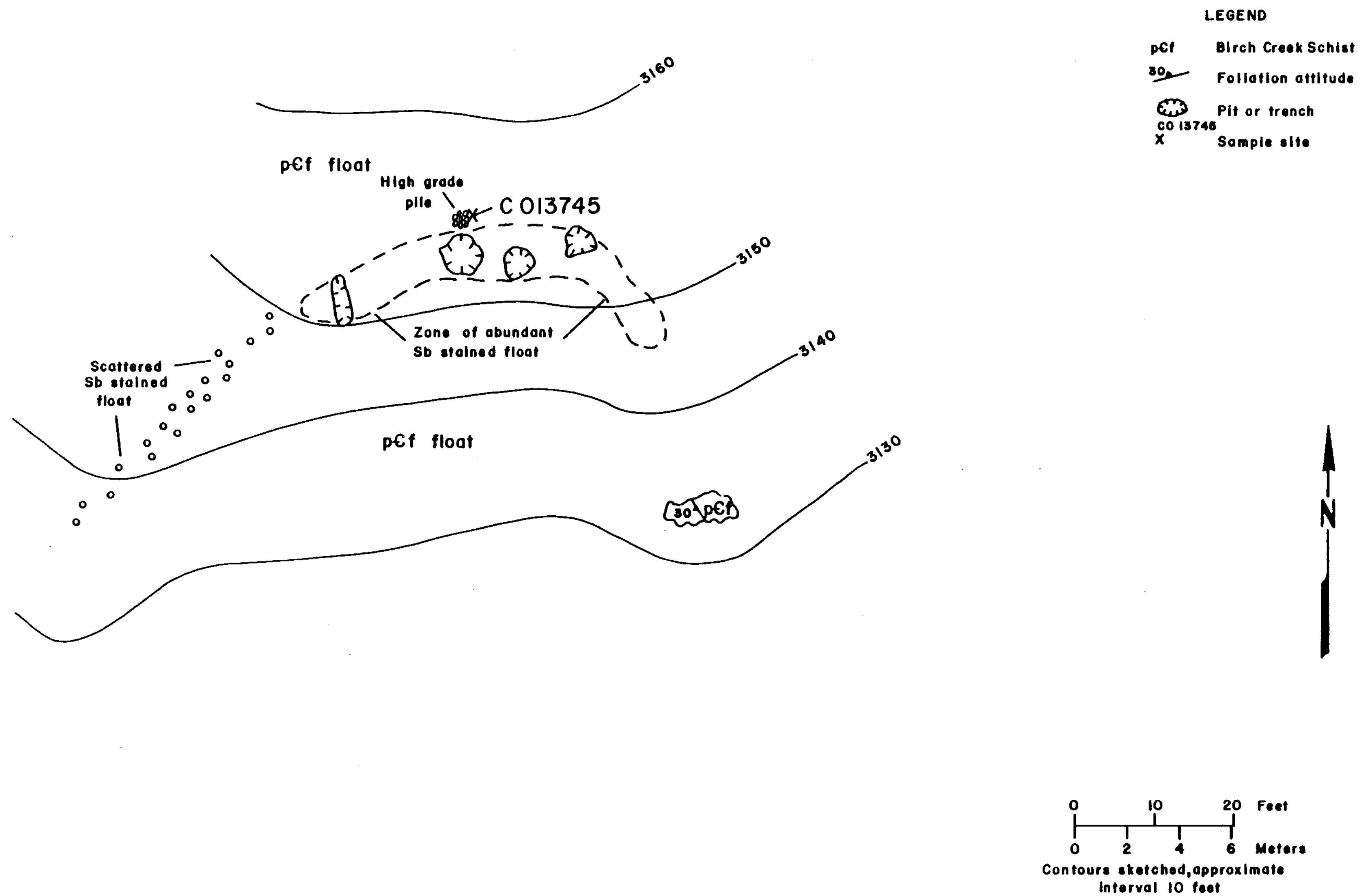
Development and Production: Four small, shallow pits. No known production.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C013745	.365	8.40	3.75	144	.05	ND	45	3	18	high grade for sulfides from pit near trench

References:



Occurrence No. 4 - Unnamed

OCCURRENCE REPORT FORM

NAME Unreported Prospect

Study Area Kantishna Hills

Occurrence No. 5

Location: Ridge north of Reinhart Creek (3466000N, 332850E)

Occurrence Type Silver-bearing vein

Examining Geologist TKH

Ownership: No current claims.

Date(s) of Examination July 8, 1983

General Geology: Quartz-mica schist and feldspar-quartz-mica schist units of the Birch Creek Schist.

Mineralization: Gossan and iron stain with traces of malachite; west trench had a few pieces of gray sulfide (tetrahedrite).

Structure: Located near major northeast-striking thrust fault in the Birch Creek schist sequence; dip unknown but apparently to the northwest.

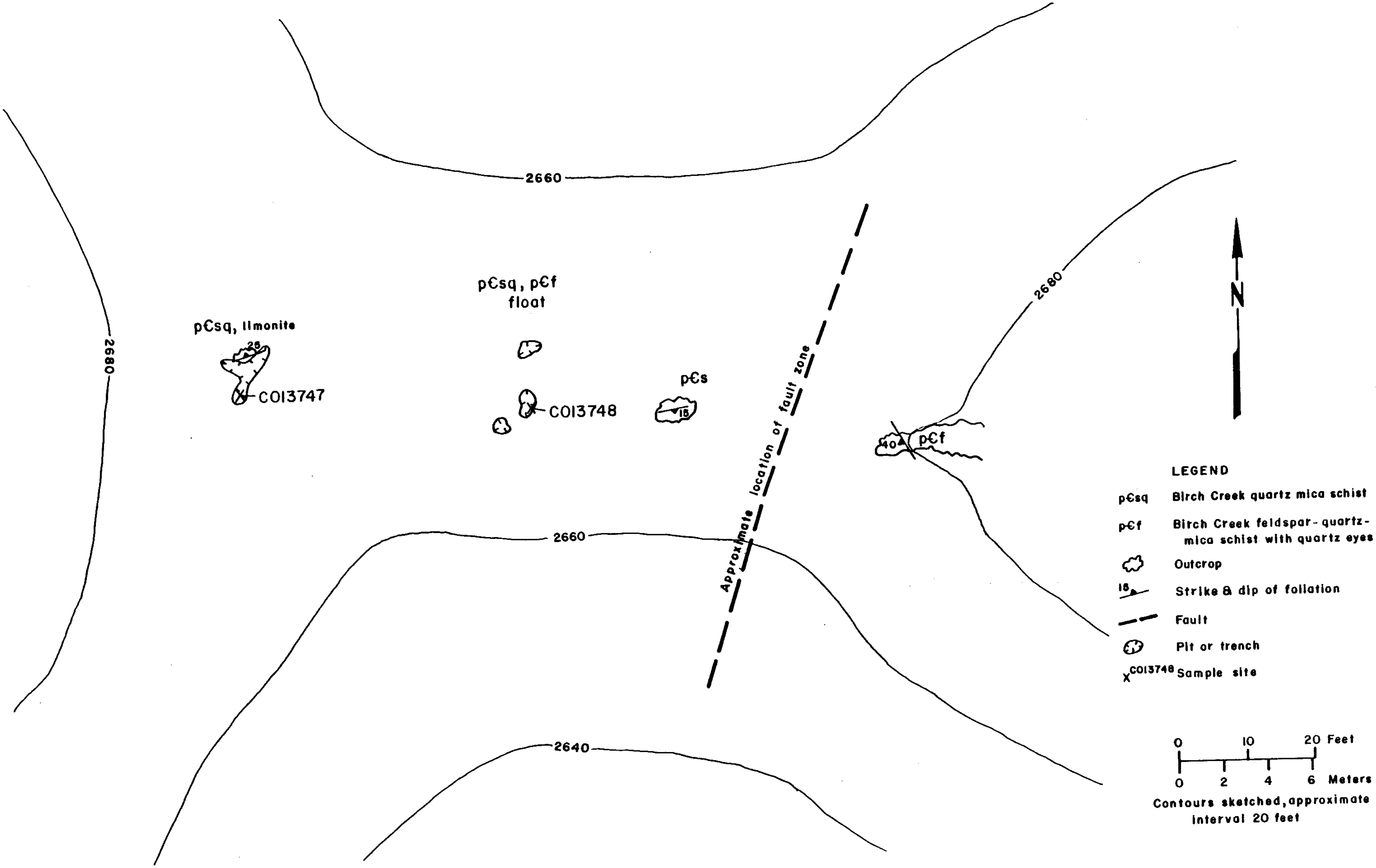
Development and Production: Trench and shallow pits; no known production.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C013747	1.25	4.450	33.00	5.16	ND	ND	2.450	ND	.009	high grade form sulfides from west trench
C013748	0.01	0.004	2.95	7.20	ND	ND	0.094	ND	.010	limonite & gossan from eastern pit

References:



Occurrence No. 5 - Unnamed Prospect

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 6

Location: South side of Reinhart Creek 900 ft. SW of its junction with Eldorado Creek (3473080N, 332760E)

Occurrence Type Quartz-sulfide vein

Examining Geologist JMK

Ownership: No current claims.

Date(s) of Examination July 21, 1983

General Geology: Bedrock in vicinity consists of interbedded chloritic phyllites and calcareous schist cut by a quartz feldspar porphyry dike. The contact between phyllites and a porphyry body is 50 ft. to the southeast. Porphyry rubble is found on the prospect dump.

Mineralization: Gossaneous quartz float contains up to 20% sulfides and includes stibnite, jamesonite, galena, pyrite, and sphalerite.

Structure: No mineralization found in place.

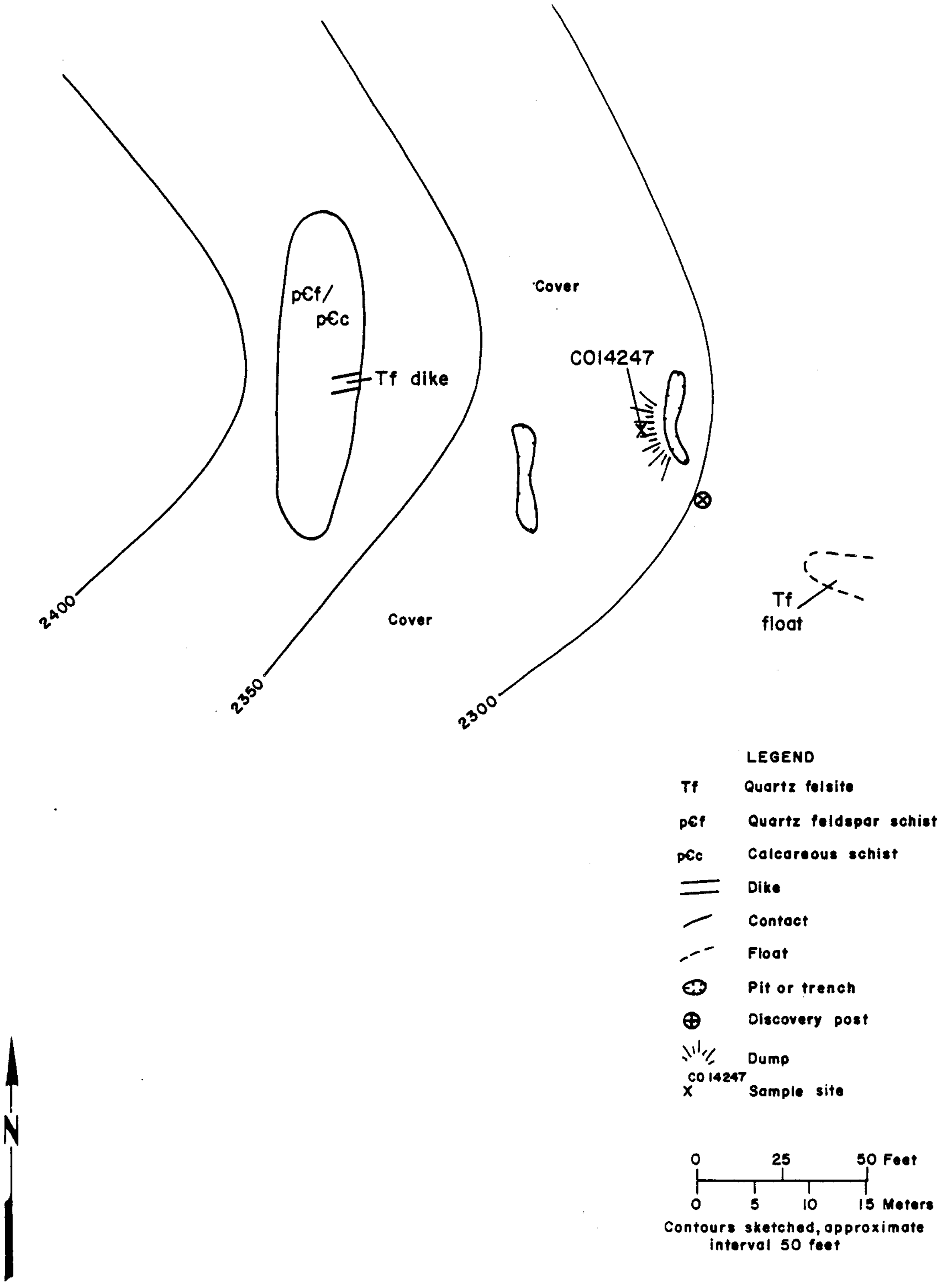
Development and Production: Development: two 10 ft. long sloughed open cuts. No production.

Remarks: Mineralization cannot be traced due to lack of exposure in area.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014247	50	75	195	1.8	ND	ND	55	3	25

References:



Occurrence No. 6 - Unnamed prospect

OCCURRENCE REPORT FORM

NAME Bunnell Mine (Neversweat) (Bonnell)

Study Area Kantishna Hills

Occurrence No. 7

Location: Eldorado Creek (3473420N, 334310E)

Occurrence Type Polymetallic precious-metal-bearing quartz, calcite vein

Examining Geologist TKH, JMK

Ownership: Covered by Comstock 1-8 unpatented lode claims controlled by Jim Fuksa.

Date(s) of Examination July 8, 1983

General Geology: Granitic intrusive and porphyry and inclusions of quartz muscovite schist.

Mineralization: Galena, tetrahedrite, stibnite, sphalerite, and minor chalcopyrite, boulangerite, jamesonite and scheelite in quartz, feldspar, carbonate veins.

Structure: Complexly faulted vein(s) trends E-W to N70^{o}E, dips $50-75^{o}$ SE; vein is up to five feet thick, but not exposed on surface so horizontal and vertical extent can not be determined.

Development and Production: Five adits with 200 ft. of vertical relief; three were completely caved, one partially caved, and one was accessible in 1983. A shipment of lead-silver ore was believed to have been made from this deposit in 1955.

Remarks: Unusual for its igneous association, not found in the other deposits of the Kantishna District.

Analyses: See attached table.

References: Wells (1933), Saunders (1964), Morrison (1964), Seraphim (1960), Bundtzen and others (1976), Bundtzen (1981), Hawley (1976).

Bunnell Mine (Neversweat) (Bonnell)

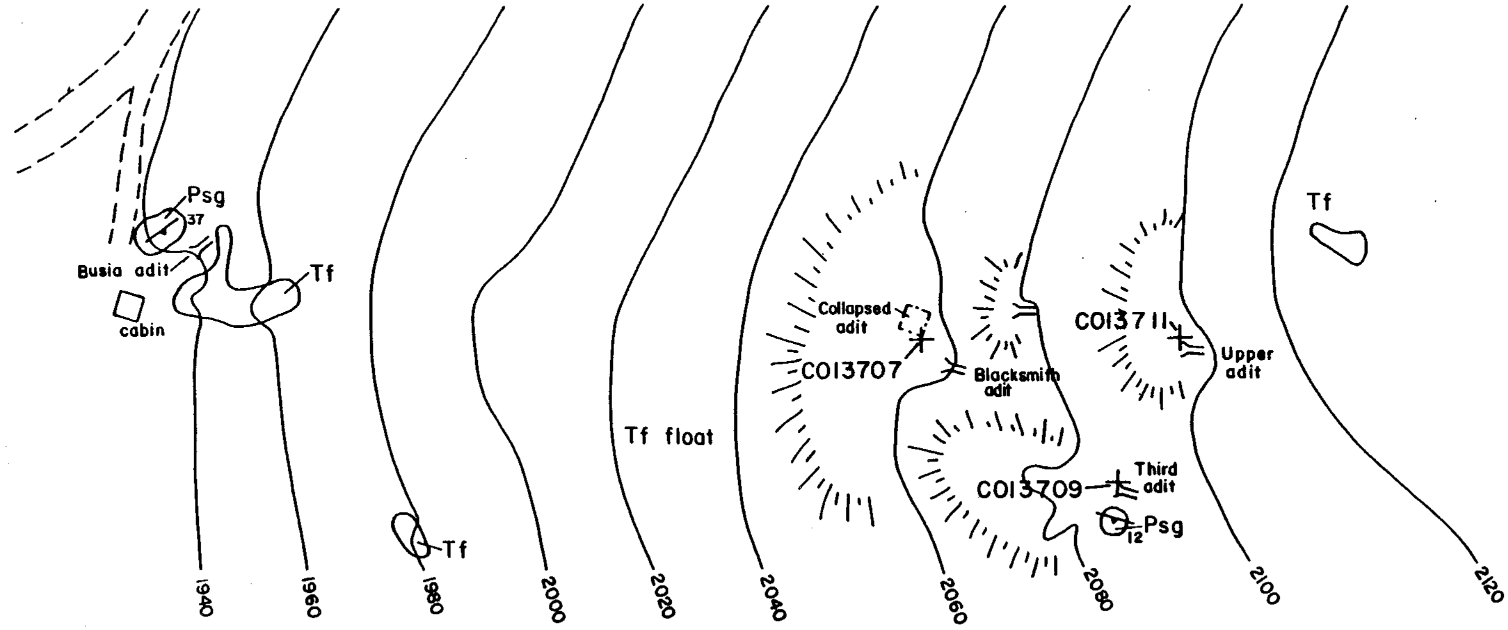
Salisbury & Dietz, Inc. study results:

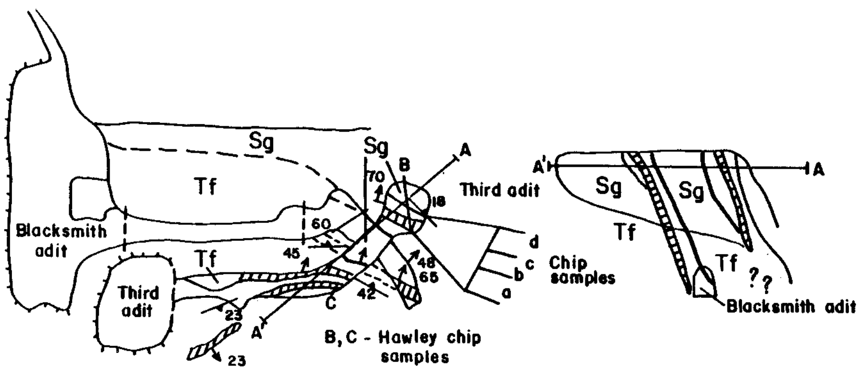
	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.145%	13%	17%	18.6 oz/tn	.059 oz/tn	--	.64%	5 ppm	.295%	.0001%	ND	ND	Sample CO13707. Multi-element and mineral character sample.
	.105%	17%	13.5%	23.8 oz/tn	.029 oz/tn	ND	2%	3 ppm	.225%	.00021%	ND	ND	Sample CO13709. Multi-element and mineral character sample.
	.0005%	.115%	.048%	2 ppm	.78 ppm	ND	.0475%	ND	2.05%	ND	ND	ND	Sample CO13711. Multi-element and mineral character sample.
*	.918%	10.3%	4.8%	19.2 oz/tn	tr	65 ppm	.60%	<75 ppm	.086%	.0002%	2.3 ppm	0.5 ppm	Channel samples across 26 in. of sulfide vein in third adit. (See map)
*	.030%	20.3%	15.2%	37.9 oz/tn	tr	34 ppm	1.23%	<75 ppm	.058%	.0002%	2.4 ppm	0.5 ppm	
*	.050%	10.0%	5.1%	22.7 oz/tn	tr	86 ppm	1.57%	<75 ppm	.085%	.0001%	3.5 ppm	1.3 ppm	
*	.060%	0.84%	34.0%	8.2 oz/tn	tr	26 ppm	0.60%	<75 ppm	.109%	.0003%	3.5 ppm	0.3 ppm	
**	--	--	--	11.9 oz/tn	tr	--	--	--	--	--	--	--	Grab samples.
***	--	--	--	11.1 oz/tn	0.04 oz/tn	--	--	--	--	--	--	--	Grab samples.
***	--	--	--	44.96oz/tn	0.04 oz/tn	--	--	--	--	--	--	--	Grab samples.
****	--	--	--	17.2 oz/tn	tr	--	--	--	--	--	--	--	Grab sample, eight in. vein, Neversweat, 30% sulfide.
****	--	--	--	32.72oz/tn	0.02 oz/tn	--	--	--	--	--	--	--	Sulfide, (third adit) 50% sulfide in porphyry.
****	--	--	--	tr	tr	--	--	--	--	--	--	--	3 ft. channel, footwall of vein, 6 ft. channel.
****	--	--	--	0.64 oz/tn	0.04 oz/tn	--	--	--	--	--	--	--	Neversweat tunnel, (third adit) 25% sulfide grab from caved cut
****	--	--	--	14.04oz/tn	tr	--	--	--	--	--	--	--	Across Eldorado Creek from Neversweat.
*****	--	55.0%	--	74.0 oz/tn	0.48 oz/tn	--	--	--	--	--	--	--	"Sample of ore" (Wells, 1933, p. 376).
******	3.5%	27.2%	--	35.05oz/tn	0.04 oz/tn	--	5.45%	--	0.02%	--	--	--	Grab sample from float.
******	0.06%	16.0%	7.04%	15.39oz/tn	0.02 oz/tn	--	0.51%	--	0.11%	--	--	--	Grab sample from float.
******	0.10%	8.3%	9.10%	22.43oz/tn	0.02 oz/tn	--	11.51%	--	0.02%	--	--	--	Grab sample, shipping ore.
******	0.05%	4.3%	24.20%	2.47oz/tn	0.02 oz/tn	--	0.94%	--	0.16%	--	--	--	Grab sample, zinc-ore pile.
******	0.03%	2.2%	1.45%	0.76oz/tn	0.24 oz/tn	--	1.01%	--	3.91%	--	--	--	Grab sample, jamesonite-stibnite pile.
******	0.21%	32.9%	5.15%	14.48oz/tn	0.01 oz/tn	--	3.97%	--	0.11%	--	--	--	Sample from face of pit.

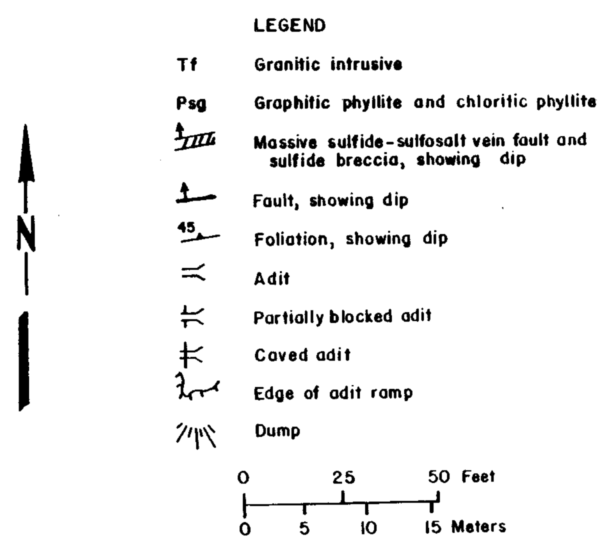
Bunnell Mine (Neversweat) (Bonnell) Continued

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
*******	0.054%	2.00%	18.5%	13.5 oz/tn	--	--	0.265%	--	--	--	--	--	2 foot chip (A on Bundtzen map)
*******	0.007%	2.85%	10.0%	3.24oz/tn	tr	--	0.067%	--	--	--	--	--	3 foot chip (B on Bundtzen map)

* Bundtzen and others, 1976, with additional data from Bundtzen, 1981.
** Saunders, 1964.
*** Morrison, 1964.
**** Seraphim, 1960.
***** Wells, 1933.
****** U. S. Bureau Mines, 1959, unpub.
******* Hawley, 1976.







Assays of chip samples

	oz/ton		%			
	Au	Ag	Cu	Pb	Zn	Sb
a	tr	19.2	.02	10.3	4.8	.60
b	tr	37.9	.05	20.3	15.2	1.23
c	tr	22.7	.05	10.0	5.1	1.57
d	tr	8.2	.06	0.8	34.0	.40

Occurrence No. 7 - Bunnell Mine

OCCURRENCE REPORT FORM

NAME Upper Bunnell (Comstock No. 7 claim)

Study Area Kantishna Hills

Occurrence No. 8

Location: Eldorado Creek 1300 ft. south of Reinhart Creek (3473450N, 333800E)

Occurrence Type Fissure vein

Examining Geologist JMK

Ownership: Jim Fuksa

Date(s) of Examination July 12, 1983

General Geology: Quartz porphyry, limonite stained with disseminated pyrite.

Mineralization: Fractured, limonite stained zone two feet wide exposed on south side of creek. Massive and stringer stibnite. Disseminated pyrite. Minor boulangerite and sphalerite.

Structure: Fractured zone trends N65^{o}W and dips steeply.

Development and Production: None.

Remarks: Poorly exposed, strike and dip difficult to determine.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Bi ppm	Ag ppm	Au ppm	Mo ppm	Sb %	W ppm	As %	Remarks
C014259	.010	0.46	2	0.11	ND	ND	.305	ND	.034	Select grab

References: Bundtzen, 1981, p. 198.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 9

Location: Just east of Bunnell Mine (3474250N, 336550E)

Occurrence Type Quartz vein

Examining Geologist CJM

Ownership: No claims.

Date(s) of Examination July 7, 1983

General Geology: Ultramafic or basalt dike(?) and Birch Creek Schist.

Mineralization: Pyrite and arsenopyrite in vein outcrop and in float, chalcopyrite, tetrahedrite(?), azurite, and malachite. Gangue minerals are quartz, calcite, and siderite.

Structure: Exposure is poor however, the vein is apparently at the contact of the dike with the schist and strikes N35°E with a vertical dip. The length is unknown but two feet are exposed.

Development and Production: None.

Remarks: Weak mineralization in outcrop but float discovery is encouraging.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C012603	.830	.077	.110	40.1	.005	6	.910	3	.065	outcrop
C012604	ND	.002	.006	.023	.020	ND	.042	ND	.485	float

References:

OCCURRENCE REPORT FORM

NAME Arizona Claims

Study Area Kantishna Hills

Occurrence No. 10

Location: Eldorado Creek near junction of Reinhart Creek. (3475700N, 337250E)

Occurrence Type

Ownership: Likely included within Bunnell claim group owned by Jim Fuksa.

Examining Geologist Bundtzen

Date(s) of Examination

General Geology: Host rock consists of a quartzose muscovite-chlorite schist.

Mineralization: Limonitic gossan zone trends N20-50°E. Poorly defined.

Structure:

Development and Production: None reported.

Remarks:

Analyses:

Sample	Cu	Pb	Zn	Ag oz/tn	Au	Mo	Sb	W	As
Bundtzen	tr	tr	tr	0.3	tr	tr	--	--	--
Bundtzen	tr	tr	tr	0.3	tr	tr	--	--	--

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Eagle's Den (Possibly Eldorado)

Study Area Kantishna Hills

Occurrence No. 11

Location: SE slope Eldorado Creek (3475800N, 335750E main (upper) show) (3476100N, 336600E lower extension)

Occurrence Type Quartz vein, stibnite

Examining Geologist CDH

Ownership: Jim Fuksa owns unpatented claims. There is confusion as to names and locations.

Date(s) of Examination July 7-8, 1983

General Geology: Birch Creek quartz-feldspar-mica schist. The gangue quartz is both massive and brecciated with open-space euhedral quartz filling.

Mineralization: Stibnite in quartz. Massive, coarse-grained.

Structure: Apparently a major normal fault with at least 20 ft. thickness of quartz at the upper show. Stibnite occurs near the footwall over a width of 3-5 ft. in a series of lenses and fracture planes which often overlap and pinch and swell from 1-12 in. The vein has an approximate attitude of N60^{o}W, 55^{o}NE.

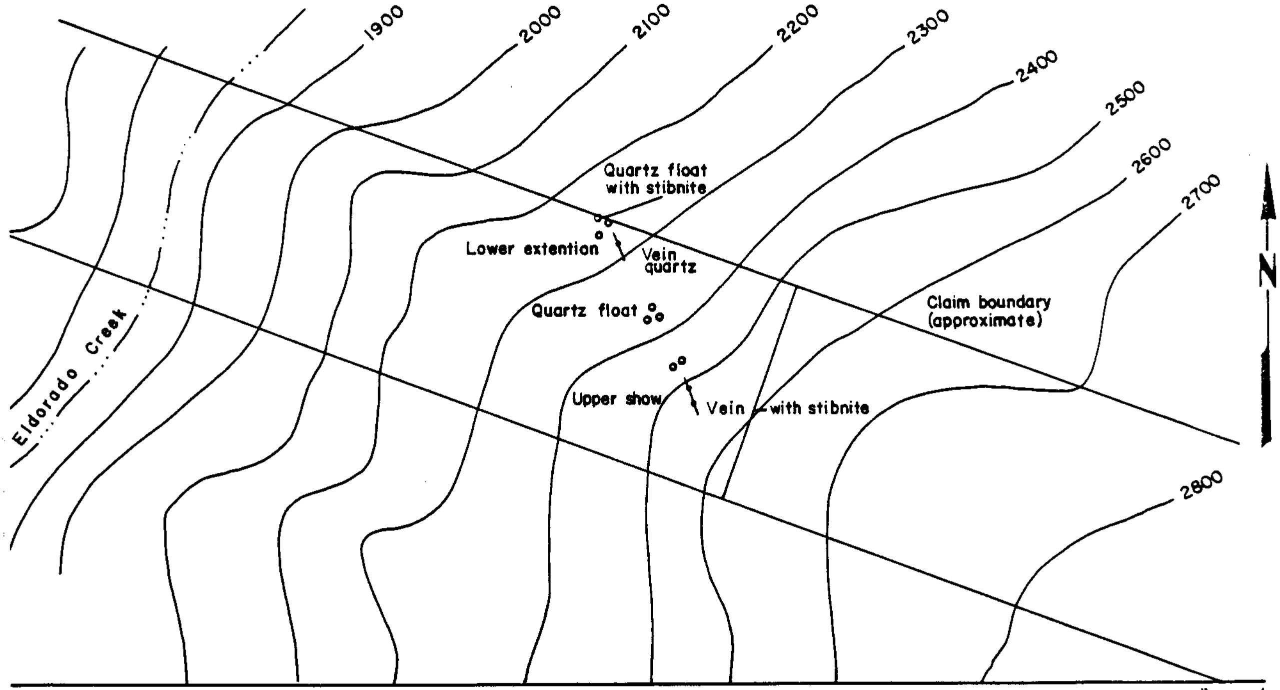
Development and Production: Upper show was possibly blasted; vein not completely exposed. No further exploration has been done along strike and there was no production.

Remarks: An outcrop of similar vein quartz and breccia about 400 ft. NW along strike with stibnite in float and the presence of a major fault structure suggests that this could be significant antimony deposit. Mineralization appears to coincide with late movement on an older fault.

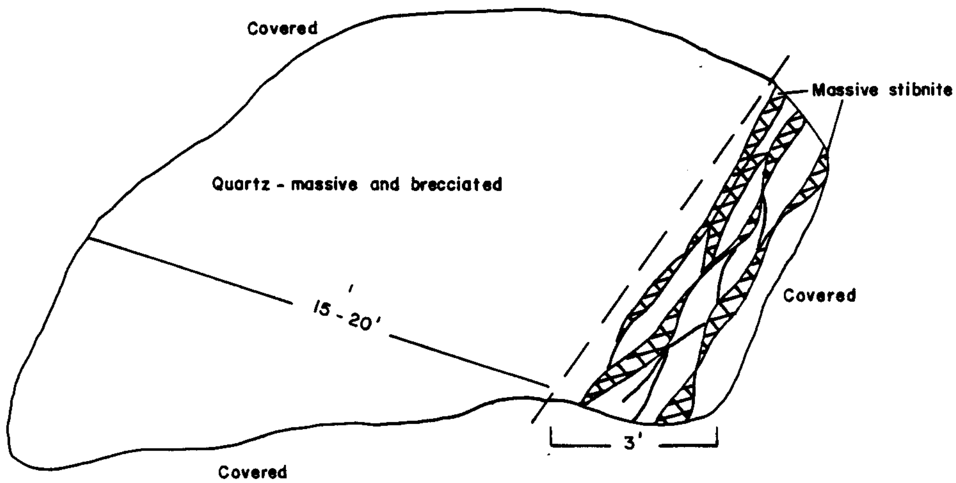
Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C012601	0.014	ND	ND	2.76	ND	ND	44.3	ND	0.015	
C012602	ND	ND	ND	0.2	0.011	ND	11.4	ND	0.066	Sb float
Bundtzen	--	--	--	1.74	--	--	28.5	150	--	

References: Bundtzen, 1981.
Hawley, 1976.



Sketch of upper showing
Cross section looking SE



Bundtzen sample

Occurrence No. 11 - Eagles Den

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 12

Location: Eldorado Creek
(3476900N, 336830E)

Occurrence Type Disseminated

Examining Geologist CDH

Ownership: No claims.

Date(s) of Examination July 9, 1983

General Geology: Quartz porphyry intrusive. Slightly altered with disseminated pyrite and arsenopyrite also with occasional veinlets of massive pyrite. Very similar to Bunnell type intrusion.

Mineralization: Disseminated pyrite and arsenopyrite.

Structure: Fractured. This is a lone outcrop with no other rock types exposed nearby.

Development and Production: None.

Remarks: Has good potential for Bunnell-type ore bodies associated with this exposure. A geochemical soil sampling grid is recommended.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb %	W ppm	As ppm	Remarks
C012606	15	230	570	3.6	.02	ND	.017	ND	95	grab of host rock

References:

OCCURRENCE REPORT FORM

NAME Eldorado #3 Claim

Study Area Kantishna Hills

Occurrence No. 13

Location: Eldorado Creek (3477400N, 336200E)

Occurrence Type Quartz-stibnite vein

Examining Geologist CDH

Ownership: Unpatented claims held by Jim Fuksa.

Date(s) of Examination July 8, 1983

General Geology: Micaceous marble in Spruce Creek Sequence.

Mineralization: Stibnite, kermesite, and pyrite in quartz, and in silicified brecciated marble.

Structure: Appears to be small fault; there is much slumping over exposure so true attitude, width, and extent could not be determined.

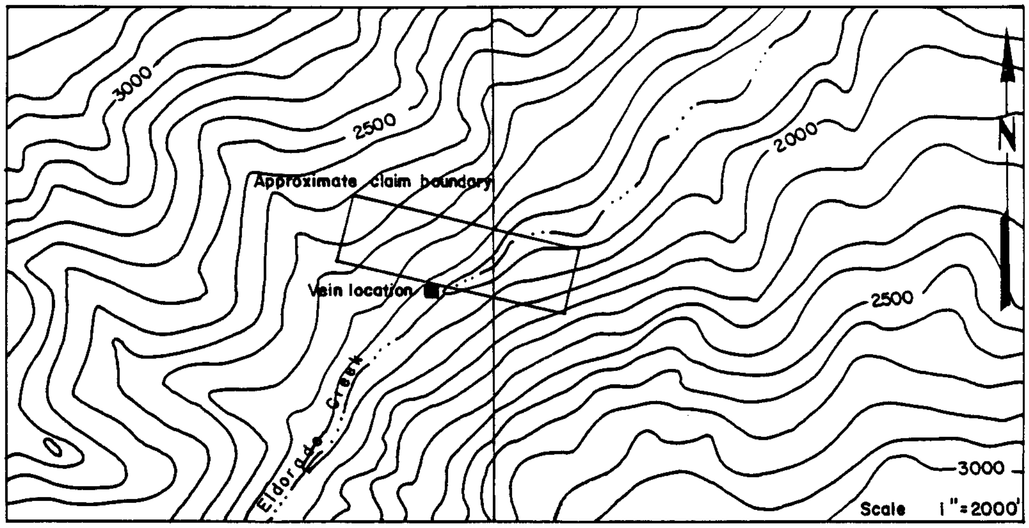
Development and Production: None.

Remarks: Appears to have limited potential for a significant mineral deposit; however, a little trenching could be revealing. Some confusion exists as to whether the show is on Eldorado claims or Eagle's Den claims.

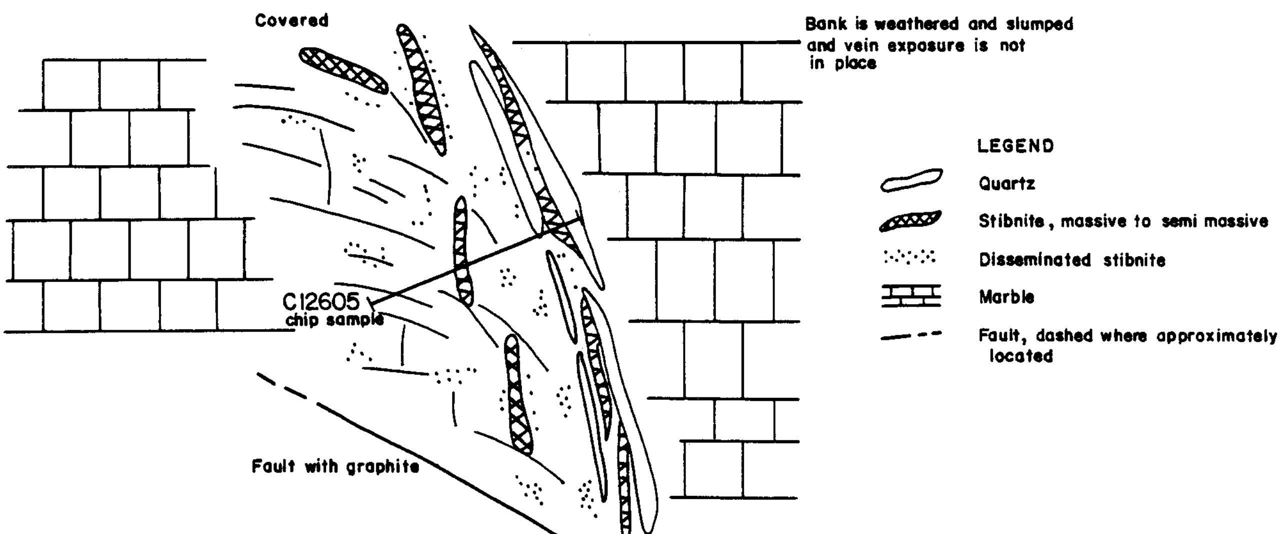
Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo	Sb %	W	As %	Remarks
C012605	ND	ND	.004	.30	.005	ND	3.2	ND	.015	2' chip of vein
Bundtzen	.002	.003	.001	.81	ND	--	14.1	--	--	

References: Bundtzen, 1981.



Topography from U.S.G.S.



Sketch of prospect looking northwest

Occurrence No. 13 - Eldorado no. 3

OCCURRENCE REPORT FORM

NAME Alpha Prospect

Study Area Kantishna Hills

Occurrence No. 14

Location: Alpha Ridge (348075N, 334800E)

Occurrence Type Quartz, siderite, galena vein

Examining Geologist JMK

Ownership: Virginia City 1 and 2 unpatented claims owned by Jim Fuksa.

Date(s) of Examination July 5-6, 1983

General Geology: NW striking, SW dipping Birch Creek quartz-feldspar schists with minor interbedded quartzites.

Mineralization: A total of three veins 1.6-9.8 ft. thick exposed for 327 ft. along strike. Mineralogy: galena, jamesonite, stibnite, sphalerite, pyrite, and arsenopyrite. Minor tetrahedrite and boulangerite. High siderite content. (Bundtzen, 1981)

Structure: N70^{o}E vein orientation (Bundtzen, 1981). The Alpha Ridge claim, 1700 ft. to the NE may be an extension of this mineralized zone.

Development and Production: A caved adit, 20 x 150 ft. open cut, bunk house and tool shop. An overgrown bulldozer trail leads up to the property from Eldorado Creek. Production: 25 tons. In 1921, 10 tons of ore assayed 200 oz/ton Ag (Bundtzen, 1981, p. 199 and Plate 3).

Remarks: The open cut is sloughed and no mineralization was found in place.

Analyses: See attached table.

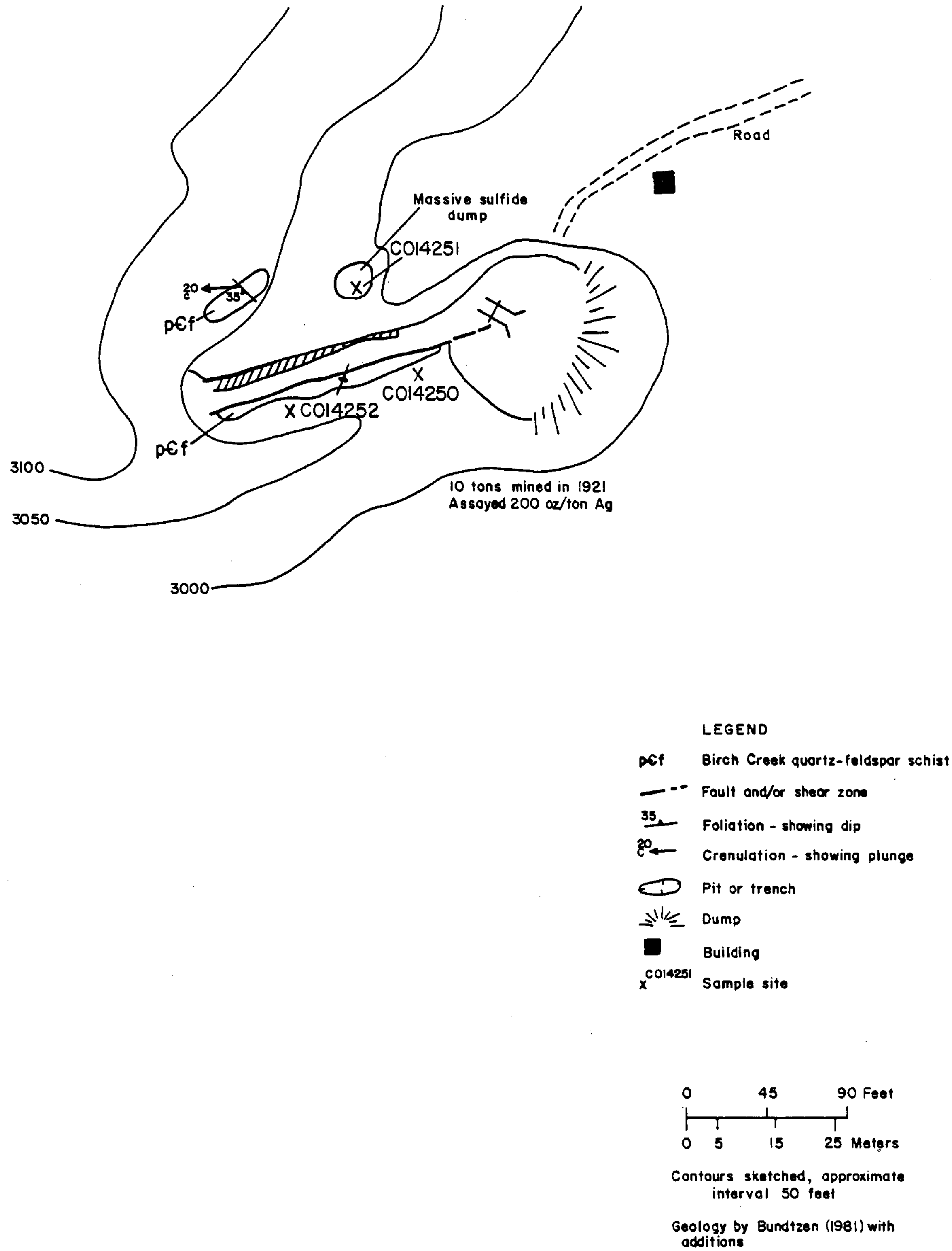
References: Wells, 1933, p. 375.
Davis, 1922, p. 131.
Bundtzen, 1976, 1981.
Hawley, 1977.
Seraphim, 1960.

Alpha Prospect

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	1.65%	7.85%	6.95%	1640 ppm	0.13 ppm	ND	4.35%	6 ppm	0.44%	.0156%	--	--	Sample C014250. Select dump sample.
	1.80%	6.20%	2.00%	163.9 ppm	0.025ppm	ND	5.50%	ND	0.88%	.009%	--	--	Sample C014251. Select dump sample.
	.002%	.008%	.015%	.05 ppm	4.400ppm	4 ppm	.011%	4 ppm	0.004%	ND	--	--	Sample C014252. Select dump sample.
*	.10%	2.02%	5.88%	17.50 oz/tn	tr	18 ppm	1.22%	75 ppm	0.90%	.004%	2.8 ppm	0.5 ppm	Grab samples from caved trenching.
*	.40%	15.40%	1.05%	20.20 oz/tn	tr	5 ppm	9.30%	75 ppm	2.65%	.001%	3.2 ppm	0.6 ppm	
*	.54%	18.70%	2.89%	83.82 oz/tn	tr	4 ppm	8.52%	75 ppm	0.54%	.006%	11.0 ppm	1.5 ppm	
*	.57%	8.65%	2.75%	62.70 oz/tn	tr	ND	4.36%	ND	ND	.003%	20.0 ppm	3.0 ppm	

* Bundtzen, 1976, 1981.



Occurrence No. 14 - Alpha Mine

OCCURRENCE REPORT FORM

NAME Alpha Ridge Prospect

Study Area Kantishna Hills

Occurrence No. 15

Location: Alpha Ridge, 3000 ft. NE of Alpha Mine (3481650N, 336500E)

Occurrence Type Fault zone with quartz

Examining Geologist CDH

Ownership: No claims.

Date(s) of Examination July 5-6, 1983

General Geology: Birch Creek quartz-feldspar-mica schist with minor quartzite and graphitic schist interbeds.

Mineralization: Pyrite in quartz and wall rock.

Structure: Possible fault zone in saddle about 25 ft. wide with quartz on NW side. Very poor exposure; no mineralization other than pyrite and iron oxides was seen and no definite structures were defined. Possible N60°E strike.

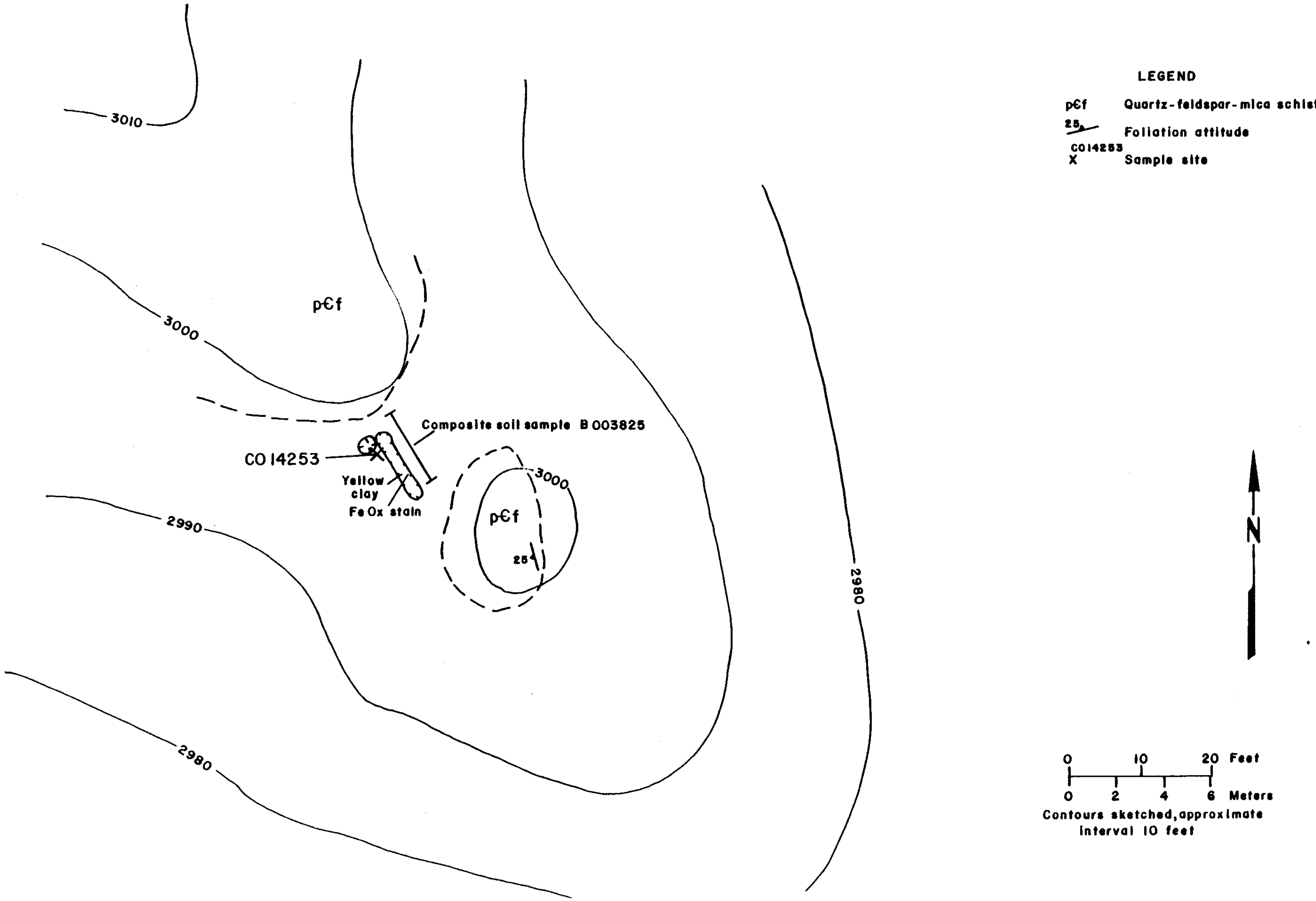
Development and Production: Several small shallow slumped trenches. No production.

Remarks: Possible extension of Alpha prospect structure; needs exploration, especially to SE towards Alpha prospect.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm	Remarks
C014253	10	15	20	.6	.24	ND	18	ND	480	rock sample
B003825	100	20	400	1.2	.09	ND	130	3	2700	soil sample
Bundtzen	.004%	.001%	.033%	tr	tr	41	--	--	--	
Hawley	--	--	--	8.4	1.2	--	--	--	--	rock sample

References: Bundtzen, 1981.
Hawley, 1976.



Occurrence No. 15 - Alpha Ridge

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Location: Northwest Flank Alpha Ridge (33250E, 3484750N)

Ownership: No current claims.

Occurrence No. 16

Occurrence Type Disseminated sulfide

Examining Geologist RH, SF

Date(s) of Examination July 29, 1983

General Geology: Northeast pits are hosted in a heavily hematite stained metafelsite ($p\epsilon_{fq}$). Southeast pits occur in interbedded garnet-chlorite-quartz graphitic schists and quartzite. A ferricrete unit is exposed in a nearby ravine. Mineralization is best developed in the quartzite unit.

Mineralization: Disseminated pyrite with minor galena and possible tetrahedrite. Small amounts of malachite. Disseminated graphite in southwest pits. Mineraliation not identified in northeast pits.

Structure: Foliation varies from N10^{o}W to N35^{o}E in general area of the prospect. Dips are to the west at 40-50^{o}. Mineralization appears to be associated with shear zone which caused significant brecciation of the host rocks.

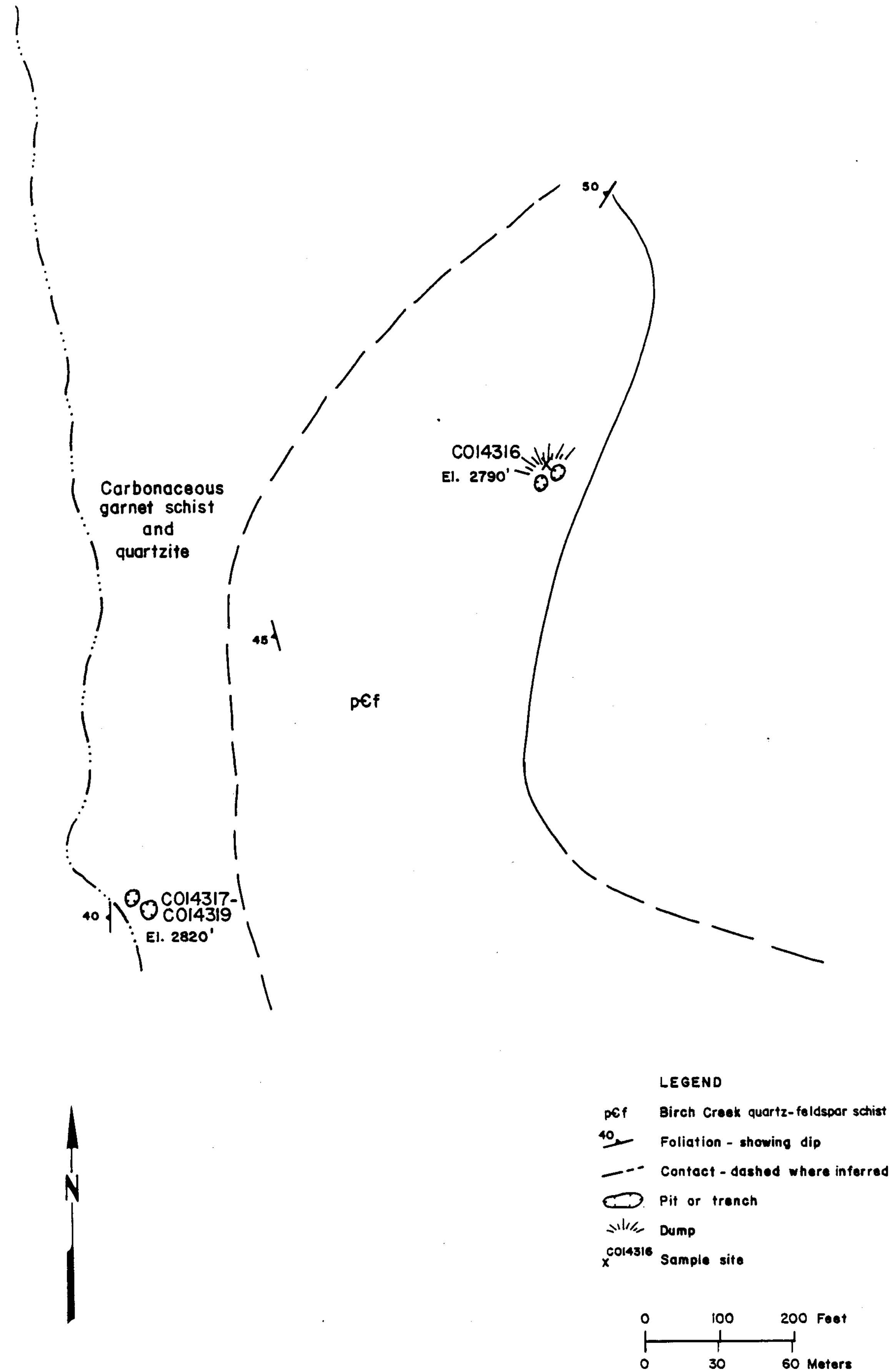
Development and Production: No production. Two prospect pits located in a small ravine near a small pile of logs at an elevation of approximately 2,820 ft. (See attached figure.) Two additional prospect pits occur 800 ft. northeast of the first.

Remarks: A kill zone is located approximately 1200 ft. north of the southwest prospect pits 150 ft. lower in elevation.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb ppm	W ppm	As %
C014317	.048	ND	ND	ND	ND	105	ND	8	ND
C014318	.175	.002	.039	ND	ND	16	ND	6	.004

References:



Occurrence No. 16 - Unnamed prospect

OCCURRENCE REPORT FORM

NAME Whistler Claim (patented M.S. 1704)

Study Area Kantishna Hills

Occurrence No. 17

Location: East end Alpha Ridge (3489200N, 335800E)

Occurrence Type Quartz-silver vein

Examining Geologist JMK

Ownership: Patented claims: Mineral Survey No. 1704; owner Kantishna Mines Ltd. (Leo Mark Anthony, President)

Date(s) of Examination July 2, 1983

General Geology: Birch Creek micaceous schistose quartzite wallrocks.

Mineralization: No significant mineralization found on this claim.

Structure:

Development and Production: One small trench in rubble near east end of claim.

Remarks: Lies adjacent to Bright Light claim. See Occurrence No. 18 for description.

Analyses:

References: Hawley, 1977.
Moffitt, 1933.

OCCURRENCE REPORT FORM

NAME Bright Light Claim (patented MS1704)

Study Area Kantishna Hills

Occurrence No. 18

Location: East end Alpha Ridge (3489200N, 335800E)

Occurrence Type ~~Quartz-silver vein~~

Examining Geologist JMK

Ownership: Patented claims: Mineral Survey No. 1704. Owner: Kantishna Mines Ltd. Leo Mark Anthony, President.

Date(s) of Examination July 8, 1983

General Geology: Birch Creek micaceous-schistose quartzite wall rocks.

Mineralization: Trench and dump float: limonite-stained quartz vein float with 1-2% finely disseminated pyrite cubes. Minor arsenopyrite and trace sphalerite. Tan-colored carbonate vein gangue float.

Structure: No outcrop of mineralization located but trend of open cuts indicate a N45°E trend of mineralized zone.

Development and Production: Development consists of a 6 x 15 ft. trench four feet deep, one 20 ft. long trench, and a short collapsed adit. No known production.

Remarks: The upper trench (see attached map) contains no exposed mineralization. The lower trench and adit are sloughed in. The small size of the adit dump indicates the adit is quite short.

Analyses: See attached table.

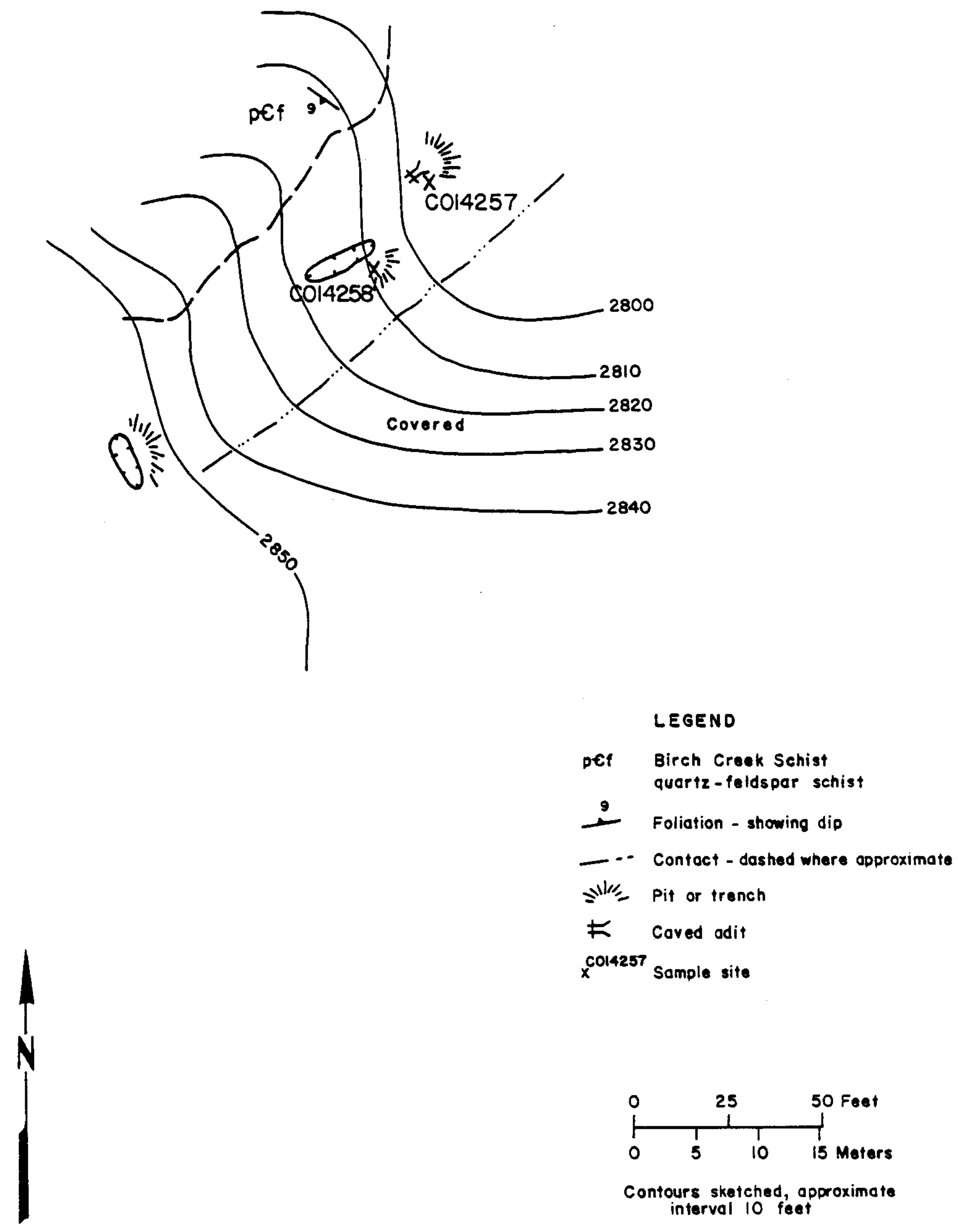
References: Hawley, 1977.
Moffitt, 1933.

Bright Light Claim (patented M.S. 1704)

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.055%	.480%	.140%	85 ppm	1.1 ppm	ND	.505%	ND	.520%	1 ppm	--	--	Sample C014257
	.052%	.260%	.145%	255 ppm	2.6 ppm	ND	.092%	ND	1.90%	2ppm	--	--	Sample C014258
*	--	12.0%	.195%	14 ppm	0.04ppm	--	--	--	--	--	--	--	Grab samples.
*	--	0.38%	.265%	3.21 ppm	0.07ppm	--	--	--	--	--	--	--	Grab samples.
*	--	0.5%	.355%	2.19 ppm	0.05ppm	--	.130%	--	--	--	--	--	Grab samples.

* Hawley, 1977.



Occurrence No. 18 - Whistler and Bright Light claims area

OCCURRENCE REPORT FORM

NAME Iron Dome Skarn

Study Area Kantishna Hills

Occurrence No. 19

Location: Iron Dome, Eldorado Creek (3481400N, 339100E)

Occurrence Type Disseminated sulfides in skarn.

Examining Geologist CDH

Ownership: No claims.

Date(s) of Examination July 5-6, 1983

General Geology: Host rocks are banded marbles with minor phyllite and quartzite. The marble shows varying degrees of skarn development possibly related to original SiO_2 content in the sediments. Banding (1-8 in. thick) seems to be caused by color, grain size, and quartz content differences. Numerous quartz-calcite-feldspar veinlets crosscut host rocks.

Mineralization: Spotty, disseminated pyrite, chalcopyrite, and pyrrhotite. Skarn gangue minerals consist of garnet, clinozoisite, idocrase, microcline and locally serpentine.

Structure: Skarn development apparently overprints regional metamorphism. A small basic intrusive located near the lower contact of the skarn section does not seem to affect skarn development. The skarn seems to be strata-bound as non-tactized marbles have been located both above and below the Iron Dome skarn. Sulfides occur in spotty concentrations and in disseminations in siliceous beds and phyllitic units.

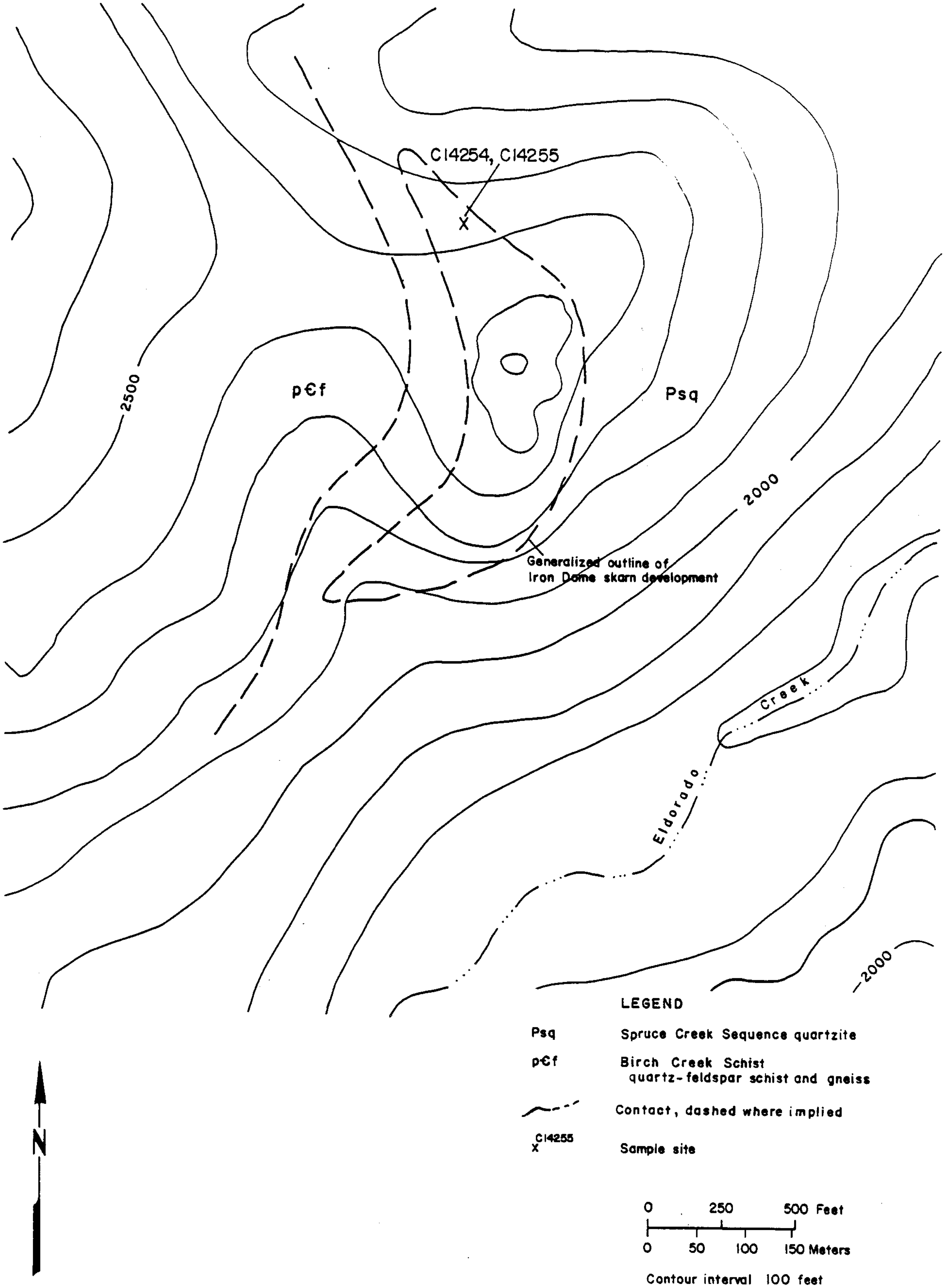
Development and Production: None.

Remarks: Outcrop exposure is good. Economic potential for the Iron Dome skarn is limited. Mineral concentrations are far below ore grade and size and the skarn itself is discontinuous and unpredictable.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014254	270	25	245	0.2	ND	ND	8	ND	30
C014255	200	ND	20	ND	ND	ND	4	ND	ND
Bundtzen	.044%	.004%	.008%	.01	ND	--	--	<75	--

References: Bundtzen, 1981.



Occurrence No. 19 - Iron Dome Skarn

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 20

Occurrence Type Quartz vein

Examining Geologist JMK

Date(s) of Examination June 29, 1983

Location: Exposed on S. Canyon wall in Eldorado Creek narrow 3/4 mi. above its junction with Moose Creek. (3480000N, 340500E)

Ownership: None. No claims.

General Geology: Gently-dipping Spruce Creek gray quartzites.

Mineralization: Average 3-ft.-wide quartz vein with a 3/4-in.-wide vuggy calcite vein on its east margin. Mineralogy: pyrite, arsenopyrite, siderite, galena, sphalerite. Contains wall rock breccia fragments. Small parallel quartz veinlets cut quartzite wall rocks.

Structure: Vein trends N17^{o}E, dips 75^{o}E.

Development and Production: None.

Remarks: Approximately 20 ft. vertical height and 10 ft. exposed strike length.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C014246	.002	.027	.09	7.2ppm	.34ppm	2	.002	6	.25	chip 3' wide qz. vn
C014305	.002	.028	.945	.04	.042	ND	.060	ND	.69	rock chip
C014306	ND	.018	.260	.04	.028	ND	.060	ND	.32	rock chip

References: Bundtzen, 1981, p. 200 and 214.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 21

Location: Eldorado Creek
(3480500N, 340400E)

Occurrence Type Strata-bound sulfides

Examining Geologist CDH

Ownership: No lode claims.

Date(s) of Examination July 19, 1983

General Geology: Spruce Creek calcareous quartz-muscovite schists.

Mineralization: Massive to semi-massive pyrite.

Structure: Several strata-bound lenses of semi-massive to massive pyrite from 1-18 in. thick and up to possibly 50 ft. long.

Development and Production: None.

Remarks: Very small occurrence of massive sulfides but has interesting connotations.

Analyses: Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As
Sample	%	%	%	oz/tn	oz/tn	ppm	ppm	ppm	%
C012610	.004	.004	ND	ND	.005	ND	ND	3	.027

References:

OCCURRENCE REPORT FORM

NAME Lucky Tuesday Prospect

Study Area Kantishna Hills

Occurrence No. 22

Location: Busia Mountain (3461260N, 336720E)

Occurrence Type Stibnite quartz vein

Examining Geologist TKH

Ownership: Two unpatented claims (Lucky Tuesday 1 and 2) held by Jim Fuksa.

Date(s) of Examination July 11, 1983

General Geology: Slightly reddish weathering quartz sericite schist of the Birch Creek schist.

Mineralization: Massive stibnite and quartz-stibnite seen in float.

Structure: Trench is slumped; vein not seen in place.

Development and Production: Slumped shallow trenches; no known production.

Remarks:

Analyses: See attached table.

References: Bundtzen, 1981.
Bundtzen and others, 1976.

Lucky Tuesday Prospect

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.004%	ND	.09%	.18 oz/tn	.006 oz/tn	ND	54.2%	ND	.018%	ND	--	--	Sample C013752. Consists of high grade. Collected from pile near pit.
*	.006%	.31%	.01%	.21 oz/tn	.07 oz/tn	39 ppm	46.5%	--	.23%	.001%	--	3.3 ppm	Grab of high grade from pit.

* Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 23

Location: (3477700N, 342380E)

Occurrence Type Shear zone with quartz vein

Examining Geologist CDH

Ownership: No claims.

Date(s) of Examination July 13, 1983

General Geology: Birch Creek Schist.

Mineralization: Pyritic wall rocks and quartz-pyrite vein.

Structure: Possible thrust zone.

Development and Production: None.

Remarks: Red and white precipitate heavily stains the creek beneath this area down to Moose Creek.
Await sample results.

Analyses:

References:

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 24

Location: Mouth of Eldorado Creek (3481100N, 340750E)

Occurrence Type Quartz-breccia vein

Examining Geologist CDH

Ownership: No lode claims.

Date(s) of Examination July 14, 1983

General Geology: Spruce Creek quartzite. General attitude: N49°W, 20°SW.

Mineralization: Pyrite and galena in quartz and brecciated quartzite.

Structure: Vein occurs at or near crest of Kantishna anticline which trends N40°E in this area. The vein trends N25°E and no dip was obtainable but appears steep. The vein is at least three feet wide but is covered by overburden. Strike extensions not traceable due to overburden.

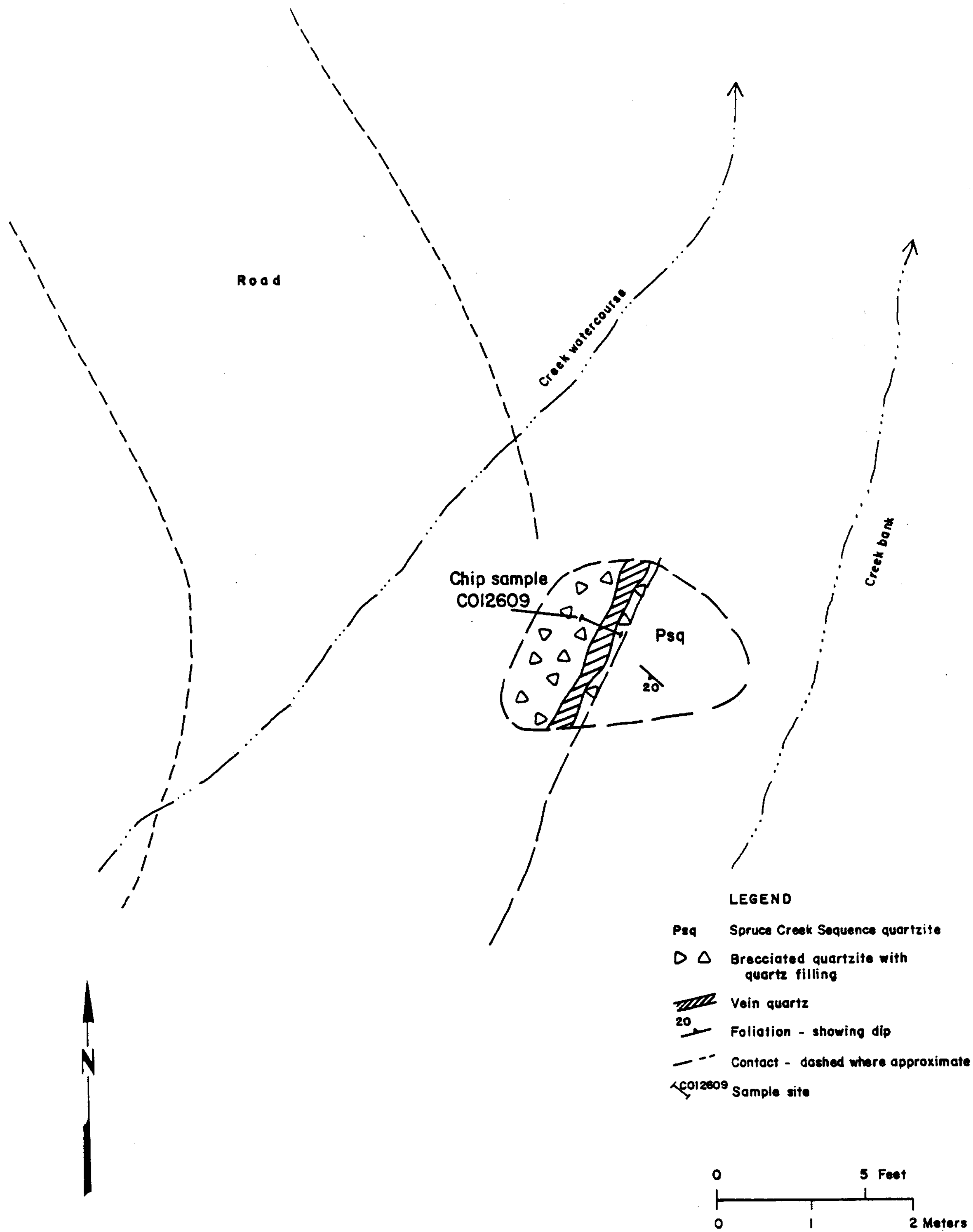
Development and Production: None. New occurrence. Vein outcrops in the road in creek bottom.

Remarks: Low grade mineralization at exposure.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C012609	.002	.235	.11	.16	.01	ND	.028	ND	.465	1.5 ft. chip on SE wall of vein

References:



Occurrence No. 24 - Unnamed prospect

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 25

Location: Eldorado Creek near Iron Dome (3482100N, 340850E)

Occurrence Type Quartz vein

Examining Geologist Bundtzen

Ownership:

Date(s) of Examination

General Geology: Marble host rock of the Spruce Creek Sequence.

Mineralization: Quartz gangue contains pyrite, sphalerite and minor marcasite. Disseminated arsenopyrite present in wall rock.

Structure: Mineralization strikes N70°E and dips 10°SE.

Development and Production: None recorded.

Remarks: Unexplored occurrence.

Analyses: Bundtzen (1981) reports three samples with 0.02-0.1 oz/ton Ag, minor amounts of Cu, Pb, Mo and Sb, and up to 0.32% Zn.

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Lucky Strike

Study Area Kantishna Hills

Occurrence No. 26

Location: NW¼ Sec. 13, T16S, R18W
Western end of Quigley Ridge
(3485250N, 343025E

Occurrence Type Quartz vein with sulfides and Ag/

Examining Geologist CJM

Ownership: Patented claim held by
Kantishna Mines Ltd.
(Leo Mark Anthony, President)

Date(s) of Examination June 1983

General Geology: Spruce Creek Sequence metafelsite.

Mineralization: Quartz veins with sulfides

Structure: Two veins trending NE, dipping steeply south.

Development and Production: Short adit and several open cuts now all collapsed. Two veins reportedly exposed about 100 ft. apart. Veins are apparently about six and eight feet wide.

Remarks:

Analyses: Davis reports the following assays:

Vein exposed by adit:	0.04 oz/tn Au and 6.4 oz/tn Ag
	0.05 oz/tn Au and 10 oz/tn Ag
Vein exposed in trenches:	0.04 oz/tn Au and 1.4 oz/tn Ag

References: Davis, 1922.
Bundtzen, 1981.
Wells, 1933.

OCCURRENCE REPORT FORM

NAME Galena Mine

Study Area Kantishna Hills

Occurrence No. 27

Location: West end of Quigley Ridge
SE¼, Sec. 11, T16S, R18W
(3485930N, 342020E)

Ownership: Estate of Charles McGonagal

Occurrence Type Silver bearing, sulfide-quartz vein

Examining Geologist CJM

Date(s) of Examination July 1983

General Geology: Vein cuts Spruce Creek metafelsite.

Mineralization: Quartz-siderite vein with galena, arsenopyrite, pyrite, sphalerite, tetrahedrite.

Structure: Vein approximately six feet thick trends N45^{O}E, dips 65^{O}SE. Fault gouge occurs with vein.

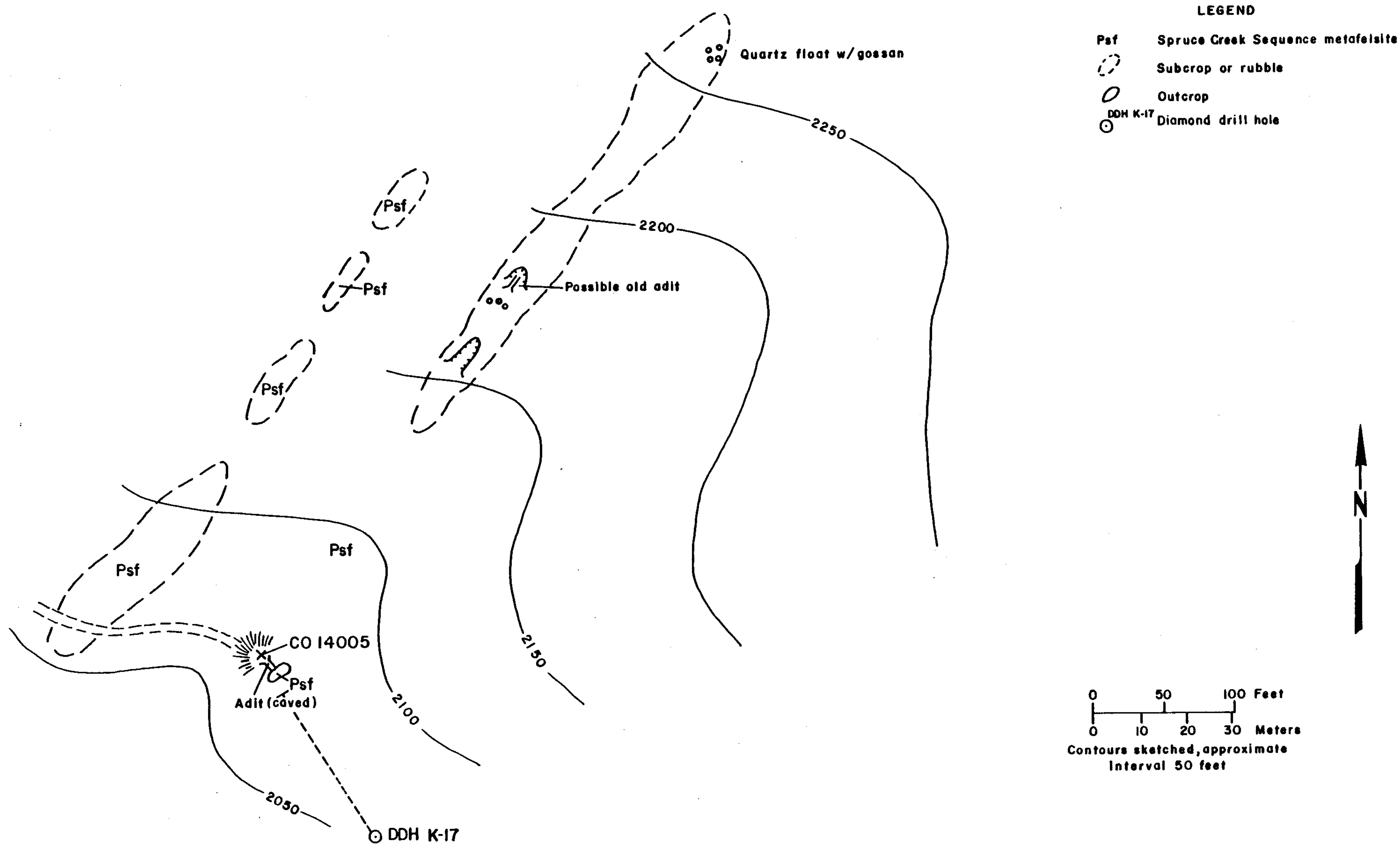
Development and Production: Approximately 100 tons of high-grade silver ore shipped prior to 1922. Underground workings, now caved, consisted of 30 ft. crosscut and 30 ft. drift. Open cuts exposed quartz vein about 300 ft. northeast of adit.

Remarks: This vein may be an extension of the Silver Pick/Little Maud veins. Diamond core drilling completed on this property for this study.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As ppm	Remarks
C014005	.370	3.3	5.5	45.4	.07	ND	.19	3	.835	
Capps	--	--	--	131	--	--	--	--	--	Galena sample

References: Bundtzen, 1981.
Wells, 1933.
Davis, 1922.
Capps, 1919.



Occurrence No. 27-Galena prospect

OCCURRENCE REPORT FORM

NAME Red Top Mine

Study Area Kantishna Hills

Occurrence No. 28

Location: West End of Quigley Ridge, Sec. 11, T16S, R18W. (3487244N, 341170E)

Occurrence Type Silver/gold quartz-sulfide vein

Ownership: Kantishna Mines, Ltd. (Leo Mark Anthony)

Examining Geologist FGK, CJM

Date(s) of Examination July 1983

General Geology: Vein cuts metafelsite, graphitic phyllite, and calcareous rocks of the Spruce Creek Sequence.

Mineralization: Galena, sphalerite, arsenopyrite, tetrahedrite, polybasite, pyrargyrite, pyrite in a quartz and siderite gangue.

Structure: Vein is 3-20 ft. thick, trends N70-80^{O}E and dips steeply. Crosscutting fracture systems reportedly localized high grade ore.

Development and Production: Developed by approximately 300 ft. of adit (now caved) with several stopes and several surface trenches. Produced 182 tons averaging 237 oz/ton Ag and 1.1 oz/ton Au.

Remarks: Geophysical surveys and diamond core drilling done for this study.

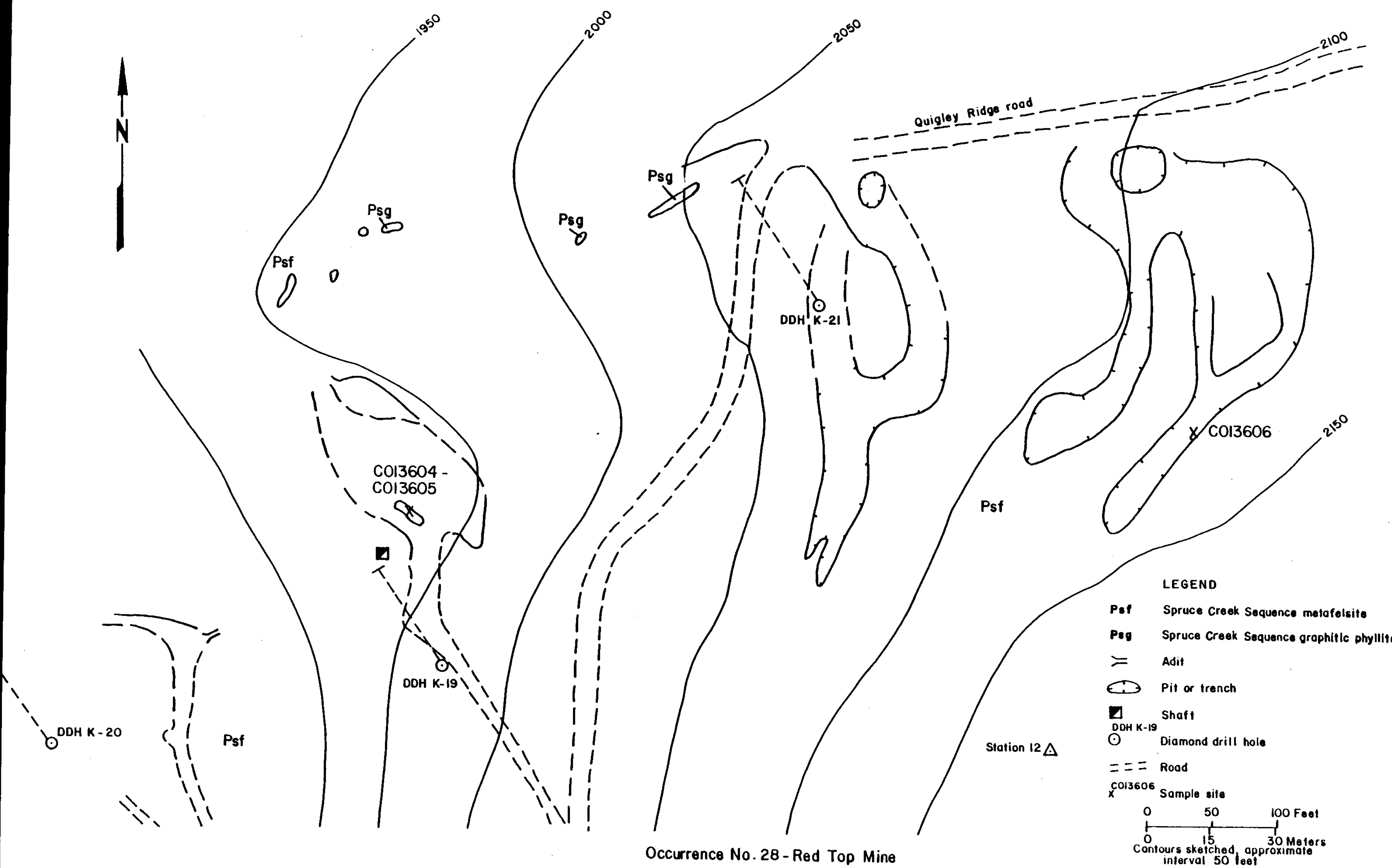
Analyses: See attached table.
Davis reports values from 45 underground samples ranging from trace to approximately 2 oz/ton Au and tr to 1000 oz/ton Ag.

References: Davis, 1922.
Bundtzen, 1981.
Wells, 1933.
Seraphim, 1962.

Red Top Mine

Salisbury & Dietz, Inc. study results:

Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
.004%	.006%	.120%	.08 oz/tn	.026 oz/tn	ND	.0432%	ND	.600%	ND	--	--	Sample C013604.
.004%	ND	.110%	ND	.013 oz/tn	ND	3.20%	7 ppm	.560%	ND	--	--	Sample C013605.
ND	.001%	.006%	ND	16 ppm	ND	.017%	8 ppm	.285%	ND	--	--	Sample C013606.



Occurrence No. 28 - Red Top Mine

OCCURRENCE REPORT FORM

NAME Star/Friday/Martha Q./Polly Wonder Prospects

Study Area Kantishna Hills

Occurrence No. 29

Location: SW¼, Sec. 12, T16S, R18W
NW side of Quigley Ridge
(3487040N, 342390E)

Occurrence Type Quartz sulfide vein with Ag

Examining Geologist CJM

Ownership: Star/Friday - Maurice Butler; Polly Wonder - Kantishna Mines 2/3 and Maurice Butler 1/3; Martha Q. - Kantishna Mines Ltd.

Date(s) of Examination July 1983

General Geology: Spruce Creek Sequence metafelsite.

Mineralization: Quartz with sulfides.

Structure: Quartz veins trend NE and NW.

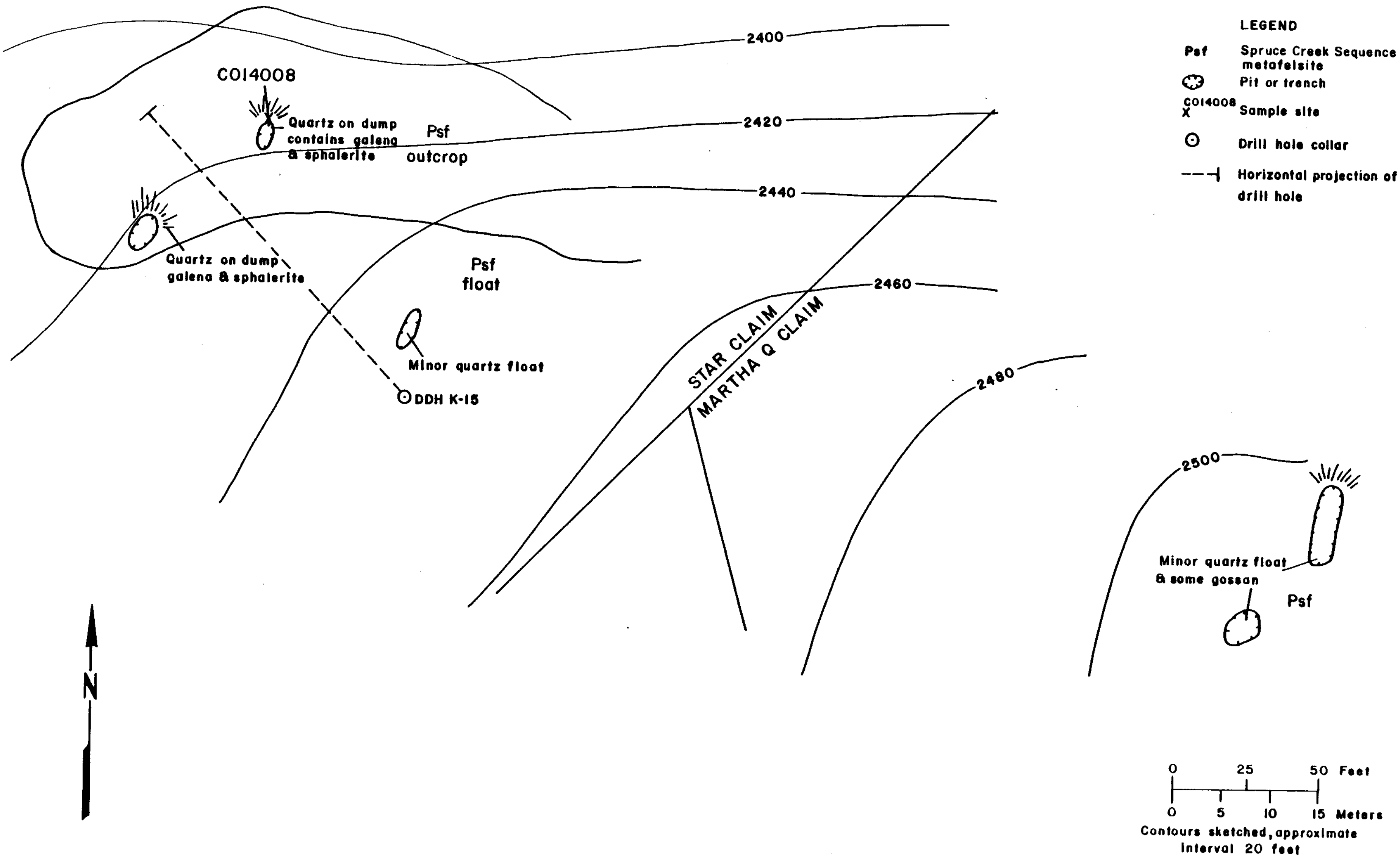
Development and Production: Polly Wonder - open cut, now caved, exposed quartz vein seven feet wide. Friday - open cuts exposed mineralized quartz float, no vein found in place. Star - open cut in SW corner of claim exposed 6 in. quartz vein with galena, sphalerite. Martha Q. - open cut exposed 6 in. quartz/galena vein, several tons shipped.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As ppm	Remarks
C014008	15	14.8	9.35	10.36	.004	ND	.071	4	540	Star
	--	--	--	60	--	--	--	--	--	Star literature
	--	--	--	284	.08	--	--	--	--	Martha Q literature

References: Davis, 1922.
Wells, 1933.
Bundtzen, 1981.



Occurrence No. 29 - Star prospect/Martha Q. prospect

OCCURRENCE REPORT FORM

NAME Friday Rim Prospect

Study Area Kantishna Hills

Occurrence No. 30

Location: North side of Friday Creek (3492150N, 340800E)

Occurrence Type Quartz-siderite vein

Examining Geologist CM, CH

Ownership:

Date(s) of Examination August 1983

General Geology: Birch Creek quartzite host rock.

Mineralization: Quartz-siderite containing minor pyrite.

Structure:

Development and Production: Small prospect pit, caved.

Remarks:

Analyses: Bundtzen and others (1976) report one sample containing 0.05 oz/ton Ag and small amounts of Pb and Zn.

References: Bundtzen and others, 1976.

OCCURRENCE REPORT FORM

NAME Little Maud/Francis Prospect

Study Area Kantishna Hills

Location: SW¼, Sec. 12, T16S, R18W, Quigley Ridge (3487250N, 343840E)

Ownership: Patented claim held by Kantishna Mines Ltd. (Leo Mark Anthony, President)

Occurrence No. 31

Occurrence Type Quartz vein with gold

Examining Geologist CJM

Date(s) of Examination June 1983

General Geology: Veins cut metafelsite schist of the Spruce Creek Sequence with some interlayered graphitic phyllite.

Mineralization: Quartz vein with gold and silver. Probably the same vein on both claims (Little Maud and Francis).

Structure: The vein strikes about N55^{o}E and dips steeply southeast.

Development and Production: No recorded production. Large dozer cuts expose the vein at several locations. A reported 70 ft. adit on the Francis claim was not found. A 190 ft. adit on the Little Maud claim is inaccessible but reportedly cuts three veins on the Little Maud and adjacent Silver Pick properties.

Remarks: Seraphim (1962) did extensive sampling on these claims. Diamond drilling performed for this study: holes K-5 and K-6.

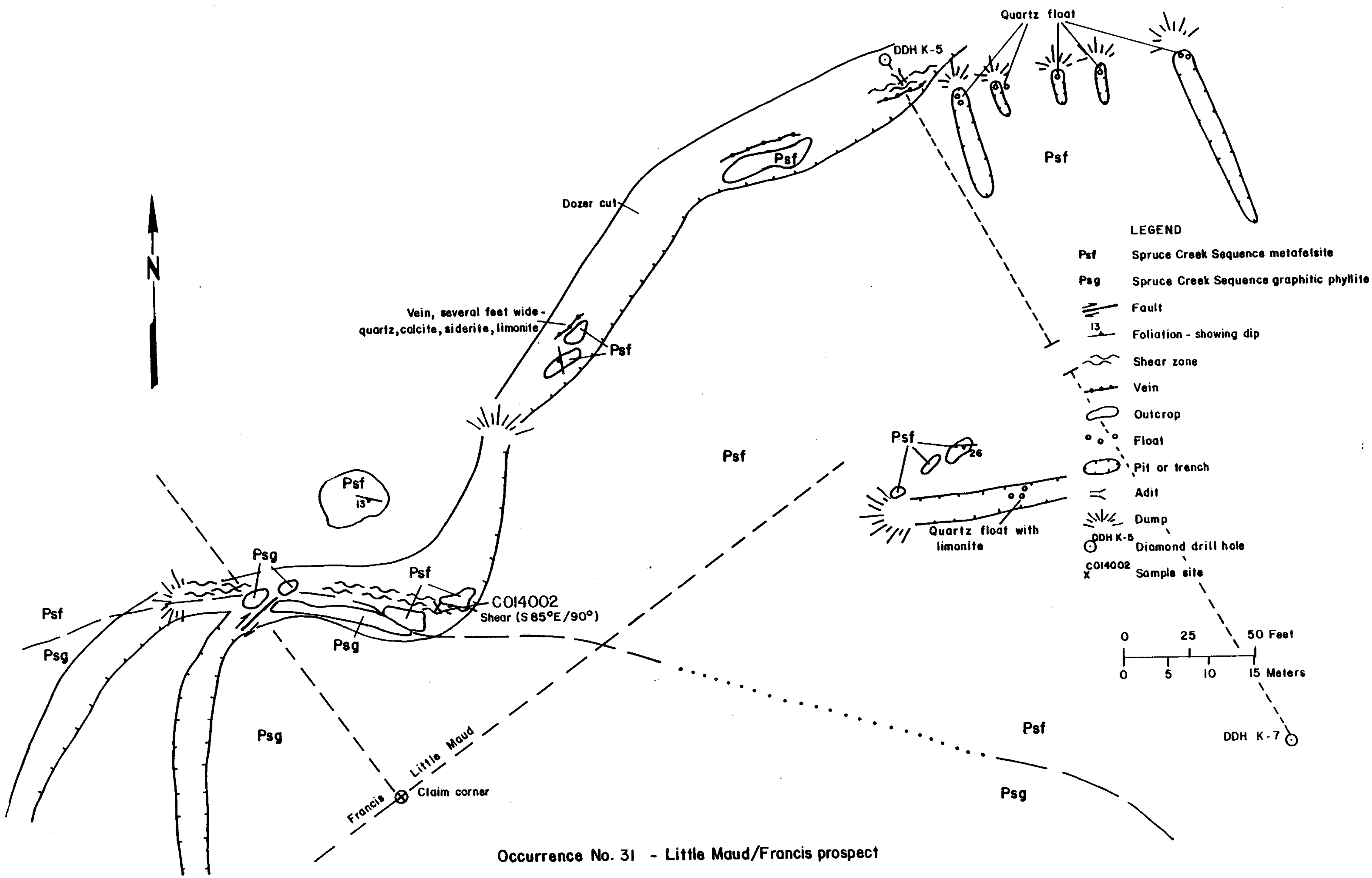
Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As %
C014002	25	35	3950	2.4	.12	2	96	7	.125

Also see analyses of drill core and soil samples from Quigley Ridge grid. Seraphim (1962) did extensive sampling of veins.

References:

Bundtzen, 1981.
Davis, 1922.
Wells, 1933.
Seraphim, 1962.



Occurrence No. 31 - Little Maud/Francis prospect

OCCURRENCE REPORT FORM

NAME Silver Pick Prospect

Study Area Kantishna Hills

Occurrence No. 32

Location: West end of Quigley Ridge
SW¼ Sec. 12, T16S, R18W
(3487260N, 344210E)

Ownership: Kantishna Mines Ltd.
(Leo Mark Anthony, President)

Occurrence Type Quartz-calcite veins with Au and Ag

Examining Geologist CJM

Date(s) of Examination June 1983

General Geology: Veins cut metafelsite of the Spruce Creek Sequence with some interlayered graphitic phyllite.

Mineralization: Two veins, one possibly extends for 1500 ft. along strike. Galena-sphalerite-arsenopyrite-tetrahedrite in siderite-quartz gangue (Bundtzen, 1981). Veins locally contain large calcite lenses.

Structure: The veins are subparallel to the axis of the Quigley Ridge Anticline. They are poorly exposed now but reportedly strike N35°E, and N65°E, and dip 61° NW and 67°SE, respectively (Bundtzen, 1981). Fault gouge occurs in several places in the trenches.

Development and Production: No recorded production. Developed by extensive trenching and a 188 ft. cross cut adit which was driven from the Little Maud claim (now caved).

Remarks: Diamond drill holes K-5 and K-6 were drilled from Little Maud claim under the Silver Pick claim. Soil samples were collected along several lines in this area. DDH K-7 was drilled on the Silver Pick claim.

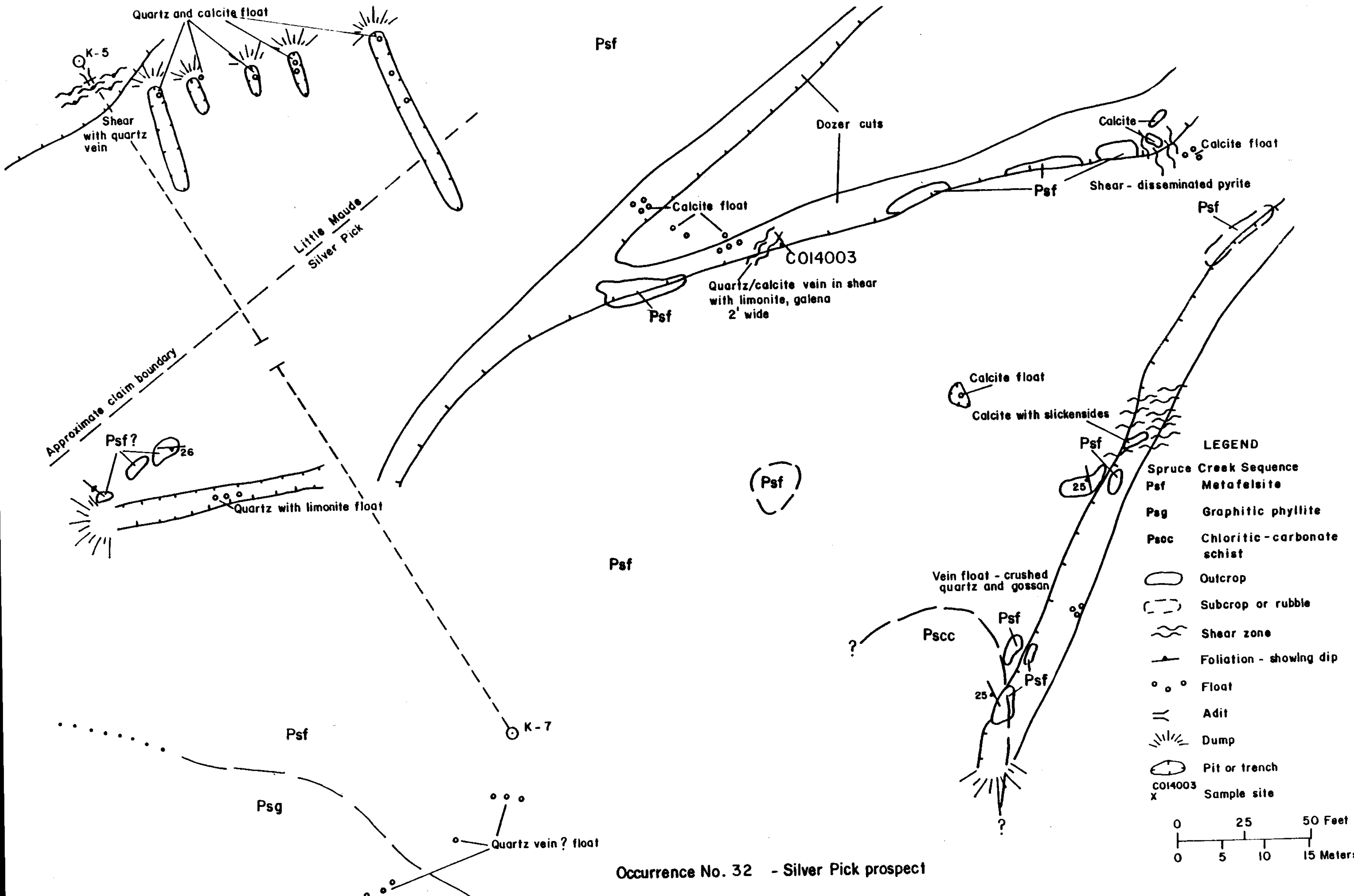
Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C014003	0.14	3.05	7.65	25.1	.015	ND	0.1	6	.690	rock sample

Also see analyses of core from above holes and soil sampling. Assays reported in below reports indicate that mineralization was rather erratic. Gold values range from trace to one ounce, and silver from trace to 100 ounces per ton.

References:

Bundtzen, 1981.
Seraphim, 1962.
Capps, 1919.
Wells, 1933.
Davis, 1922.
Moffitt, 1933.



Occurrence No. 32 - Silver Pick prospect

OCCURRENCE REPORT FORM

NAME Eureka Stibnite (Pick Claims)

Study Area Kantishna Hills

Occurrence No. 33

Location: Eureka Creek

Occurrence Type Quartz-stibnite vein

Examining Geologist CDH, JMK

Ownership: George Baily

Date(s) of Examination July 30, 1983

General Geology: Birch Creek schist composed of quartzite with ankeritic interbeds, quartz chlorite muscovite schist and graphitic interbeds.

Mineralization: Stibnite in quartz. Minor pyrite, arsenopyrite, and stibiconite.

Structure: Quartz vein in fault or shear zone. Small high-grade stringer veins were found in wall rocks up to 50 ft. away from main vein. Vein strikes approximately N40^{o}W.

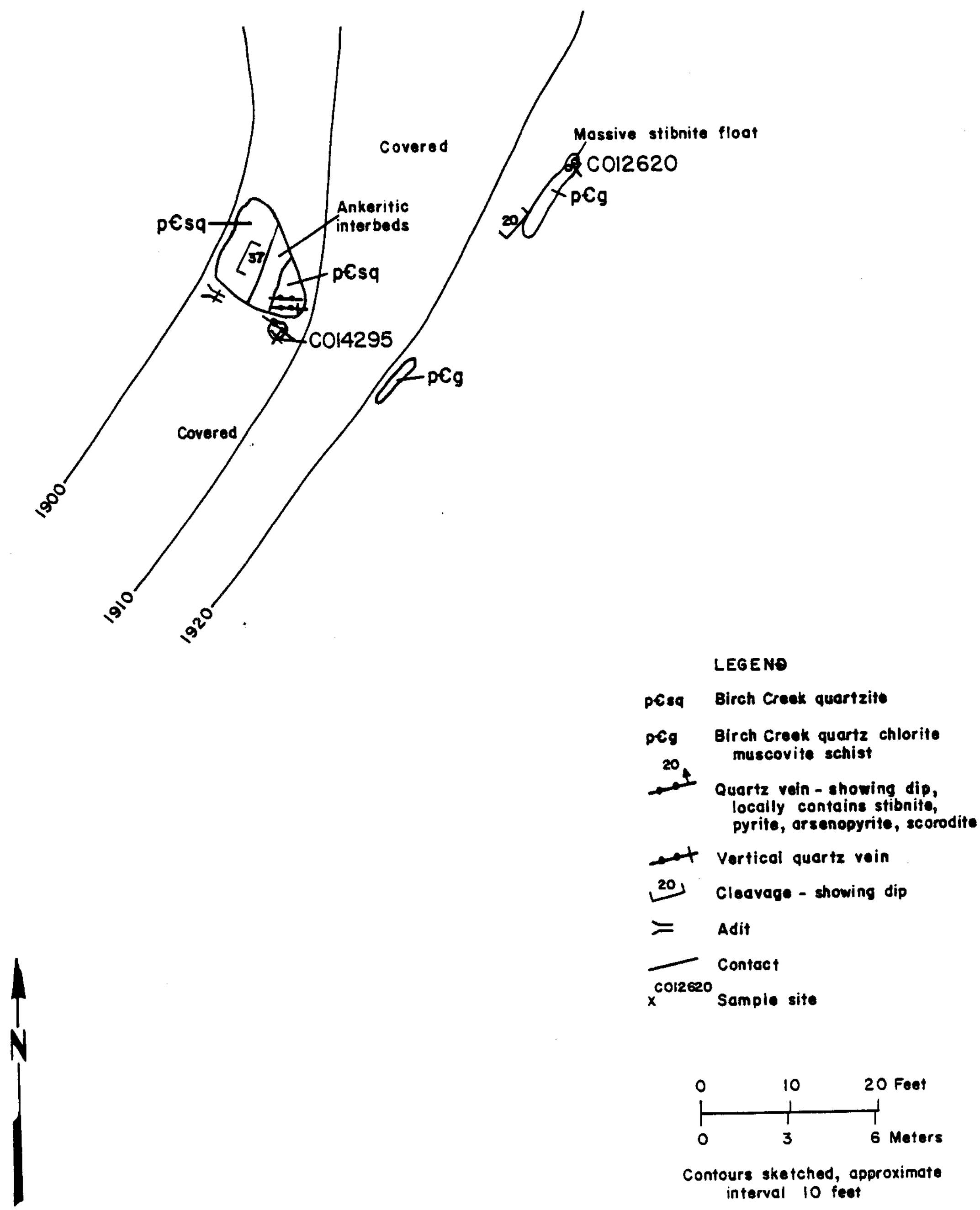
Development and Production: Adit (caved) with unknown amount of workings. Production of 50 tons in 1915; 12 tons 62% Sb in 1970; later approximately 50 tons (personal conversation with Dan Ashbrook).

Remarks: Deserves exploration. Good potential for small high-grade antimony producer.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Bi ppm	Remarks
C014295	.004	.210	.004	.160	.120	ND	.150	ND	.400	ND	3" wide qz.vn.
C012620	ND	ND	ND	.56	.027	ND	51.0	9	.039	4	Massive Sb float
Bundtzen	.009	.0274	.012	.91	.047	--	51.5	--	--	--	
Hawley	.003	1.05	2.95	.25	--	--	0.17	--	--	--	

References:
Bundtzen, 1976, 1981.
Hawley, 1977.
Ashbrook, 1983.



Occurrence No. 33 - Eureka stibnite prospect

OCCURRENCE REPORT FORM

NAME White Hawk Prospect

Study Area Kantishna Hills

Occurrence No. 34

Location: Eureka Creek (3485900N, 345600E)

Occurrence Type Pb, Au, Ag vein

Examining Geologist CDH

Ownership: Patented claim controlled by Kantishna Mines.

Date(s) of Examination August 1, 1983

General Geology: Float on dumps is Spruce Creek felsite. No outcrop exists in pits or surrounding area. Vegetation and overburden cover land surface.

Mineralization: Seen on dumps of pits only: massive sphalerite, galena, and pyrite, with tetrahedrite, and stibnite. Malachite, azurite, hematite, goethite staining.

Structure: Previous reports quote several northeast trending veins to 3-ft.-thick with 500 ft. of traced strike length. Bundtzen (1981) calls it one of the larger vein systems in the region.

Development and Production: Several caved pits and workings. No recorded production.

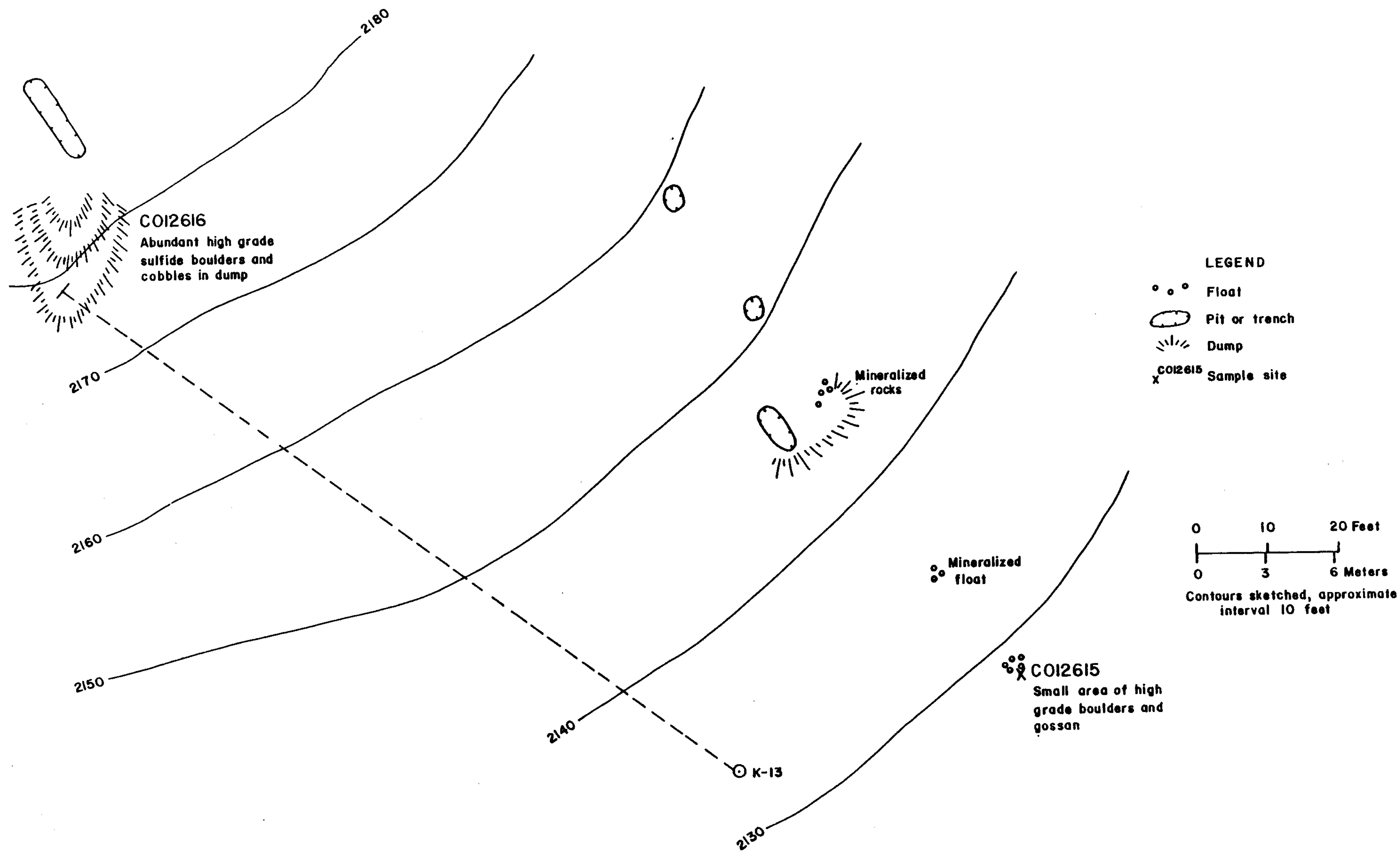
Remarks: In Spruce Creek felsite sequence near contact with Birch Creek schist. Good strike length and vein thickness reported. Deserves exploration. Could be good property for small operator.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
CO12615	.054	11.00	32.5	4.30	.009	--	5.45	--	.530
CO12616	.340	24.50	12.0	11.60	.015	--	11.00	3	.930
Seraphim	.080	16.97	--	4.88	.02	--	--	--	--

References:

Bundtzen, 1981.
Seraphim, 1960.
Davis, 1922.



Occurrence No.34 - White Hawk claim

OCCURRENCE REPORT FORM

NAME Little Annie/Little Annie #2

Study Area Kantishna Hills

Occurrence No. 35

Location: North slope of Quigley Ridge, NE¼ Sec. 12, T16S, R18W (3480850N, 345850E)

Ownership: Kantishna Mines Ltd. (Leo Mark Anthony, President)

Occurrence Type Quartz vein/sulfide vein

Examining Geologist CJM

Date(s) of Examination June 16-17, 1983

General Geology: The two veins cut metafelsite and graphitic phyllite of the Spruce Creek Sequence.

Mineralization: Two veins have been worked: (1) quartz vein up to 32 ft. wide, carries gold and silver, (2) sulfide vein, primarily galena with sphalerite and tetrahedrite. Gangue minerals, where present, are siderite or calcite. Good silver values and some gold.

Structure: The veins are described by Wells (1933) as fissure veins. They crosscut the foliation of the metamorphic rocks. The quartz vein strikes N59°E and dips about 65°S. The sulfide vein strikes N10°E and dips about 65-70°S.

Development and Production: Approximately 700 tons of lead-silver ore were shipped from the sulfide vein. The ore averaged 25% Pb, with 0.16 oz/ton Au, and 150 oz/ton Ag. The quartz vein was developed by five surface trenches and a drift 510 ft. long with 11 crosscuts. Numerous dozer cuts on Little Annie #2 claim.

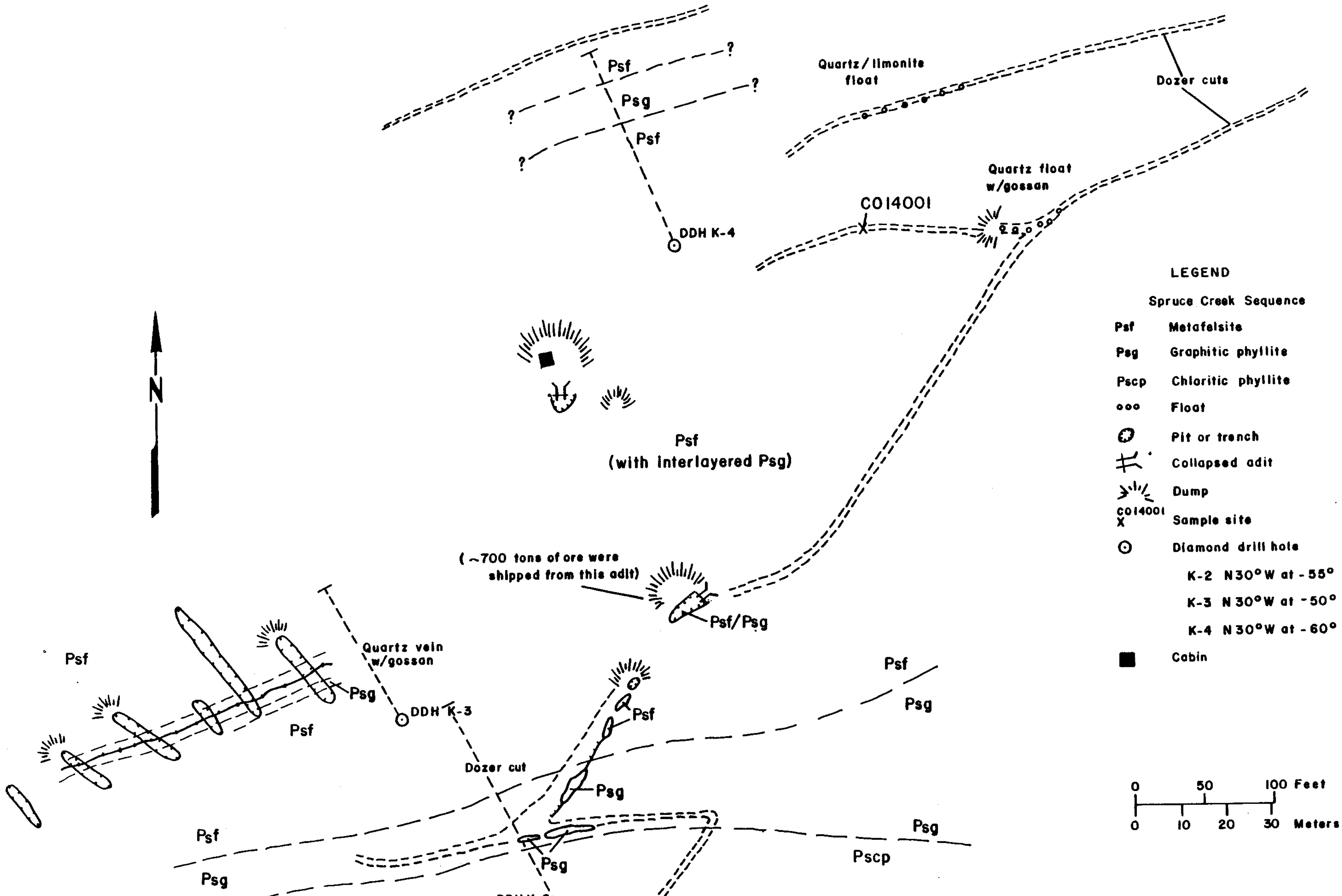
Remarks: One of the few mines in the district with recorded production. Detailed description of property in below references. Three diamond drill holes were drilled on this area for this study (K-2, K-3 and K-4).

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag ppm	Au ppm	Mo ppm	Sb %	W ppm	As %
C014001	.008	ND	1.100	.4	.21	ND	.0018	3	1.05

References:

Wells, F. G., 1933.
Moffitt, F. H., 1933.
Davis, J. A., 1922.
Bundtzen, T. K., 1981.
Seraphim, R. H., 1962.
Capps, 1919.



Occurrence No.35 - Little Annie Workings

OCCURRENCE REPORT FORM

NAME Gold Dollar Mine and Gold Eagle

Study Area Kantishna Hills

Location: NE¼ Sec. 12, T16S, R18W
North side of Quigley Ridge
(3475100N, 336600E)

Ownership: Kantishna Mines, Ltd.
(Leo Mark Anthony, President)

Occurrence No. 36

Occurrence Type Sulfide vein with Au and Ag

Examining Geologist FGK

Date(s) of Examination June 1983

General Geology: Spruce Creek Sequence metafelsite and graphitic phyllite.

Mineralization: Quartz vein containing galena, sphalerite, tetrahedrite, and pyrite with gold and silver.

Structure: Vein occurs in a major shear zone trending N65-70°E, dipping steeply. Vein reported as 3-4 ft. wide at surface, narrowing with depth.

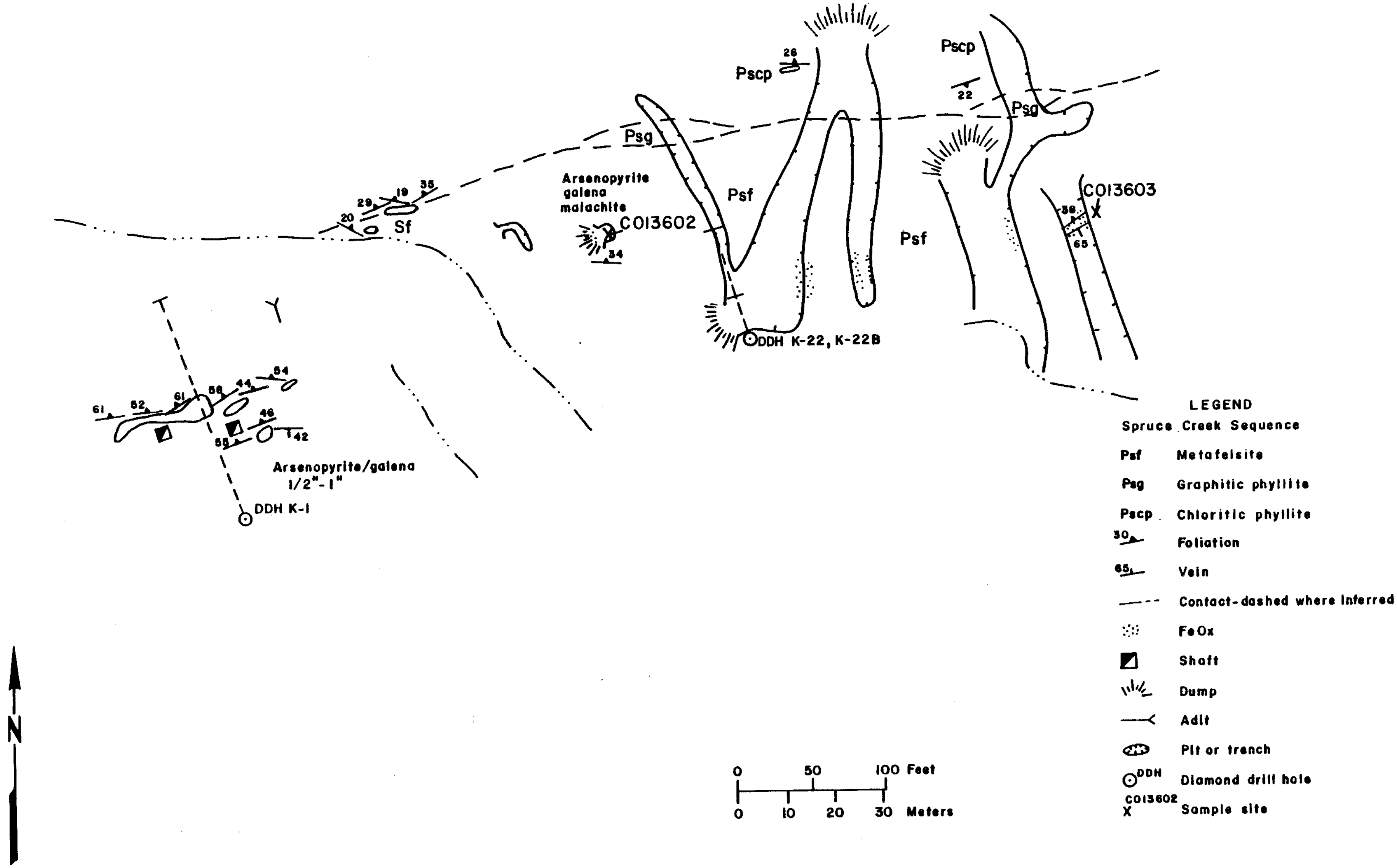
Development and Production: Numerous trenches, an adit, and two shafts. Approximately 600 tons shipped, reportedly carrying up to 152 oz/ton Ag and 0.18 oz/ton Au.

Remarks: Diamond drill holes (K-1, K-22 and K-22B) drilled for this study did not intersect vein.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C013602	0.11	5.	.225	30.9	.110	ND	.13	ND	2.05
C013603	ND	.0115	.006	.003	ND	ND	.0008	5	.026

References: Capps, 1919.
Moffitt, 1933.
Davis, 1922.
Bundtzen, 1981.
Wells, 1933.



Occurrence No. 36 - Gold Dollar/Gold Eagle prospects

OCCURRENCE REPORT FORM

NAME Water Level Claim

Study Area Kantishna Hills

Occurrence No. 37

Location: Eureka Creek, SE¼ Sec. 12, T16S, R18W (3486300N, 346850E)

Occurrence Type Vein

Examining Geologist CDH

Ownership: Patented claim held by Kantishna Mines Ltd. (Leo Mark Anthony, President)

Date(s) of Examination August 2-3, 1983

General Geology: Birch Creek schist by geologic projection.

Mineralization: Galena float found on claim shows boulangerite.

Structure: No workings were located due to extensive slope movement and abundant vegetation. Davis (1922) describes the deposit as "a vein three feet in width carrying galena". Seraphim (1961) failed to find the showing.

Development and Production: A cut at the eastern end of the claim.

Remarks: Proper evaluation of this prospect would require a geochemical soil grid, trenching, detailed prospecting and possible geophysics. High assay values in silver are interesting.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C012619	0.01	0.815	0.008	49.2	.008	ND	.720	3	.130	float
Davis	--	--	--	30-40	--	--	--	--	--	
Seraphim	0.24	1.24	--	76.68	.02	--	--	--	--	float

References: Davis, 1922.
Seraphim, 1961.

OCCURRENCE REPORT FORM

NAME Sulphide Claim

Study Area Kantishna Hills

Occurrence No. 38

Location: Eureka Creek (3488450N, 346900E)

Occurrence Type Quartz vein

Examining Geologist CDH

Ownership: Patented claim held by Kantishna Mining Company

Date(s) of Examination August 3, 1983

General Geology: No outcrop in trench or nearby. However geologic projection places this prospect in the Birch Creek schist.

Mineralization: Pyrite and arsenopyrite in quartz. Free gold in crushed quartz reported by Davis (1922).

Structure: Eight inch quartz vein with unknown structure or attitude. Trench is completely slumped and overgrown.

Development and Production: One trench. No known production.

Remarks: Lack of exposure prevented proper evaluation.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
CO12618	ND	.071	.039	ND	.0002	ND	.038	9	.054	
Seraphim	--	--	--	.22	.06	--	--	--	--	float
Hawley	--	--	--	.08	.10	--	--	--	--	float

References:

Davis, 1922.
Seraphim, 1961.
Hawley, 1977.

OCCURRENCE REPORT FORM

NAME ~~Keystone-Pennsylvania Claims (patent~~ed M.S. No. 1702)

Study Area Kantishna Hills

Occurrence No. 39

Location: Iron Gulch 1.5 mi. above Eureka Creek (3488400N, 348900E)

Occurrence Type Quartz galena vein

Ownership: Morris Butler

Examining Geologist JMK

Date(s) of Examination June 22, 1983 ~~August 4-7, 1983~~

General Geology: Quartz eye-bearing metafelsite and chloritic phyllite. Cleavage: N80^{o}E, 30^{o}S.

Mineralization: Quartz vein(s) and breccia zones 4-10 ft. thick traced intermittently for 550 ft. along strike. Mineralogy: quartz, calcite, dolomite, pyrite, galena, arsenopyrite, sphalerite, chalcopyrite, scorodite, jamesonite(?). Massive galena occurs locally. The majority of sulfides were found on the dump of a caved adit on the west side of Iron Gulch. (See attached map)

Structure: The vein(s) trend N45^{o}E and dip approximately 85^{o}S.

Development and Production: Development: Several trenches along the surface trend and a caved adit near the bottom of Iron Gulch. (See attached map)

Remarks: Three core holes (K-8, K-9, and K-10) were drilled on the property. All intercepted vein quartz. Hole K-9 intercepted a four foot thick quartz vein containing 0.294 oz/ton Au and 0.276 oz/ton Ag. (See appendix D). Surface samples contained traces of gold and up to 0.20 oz/ton Ag.

Analyses: See attached table.

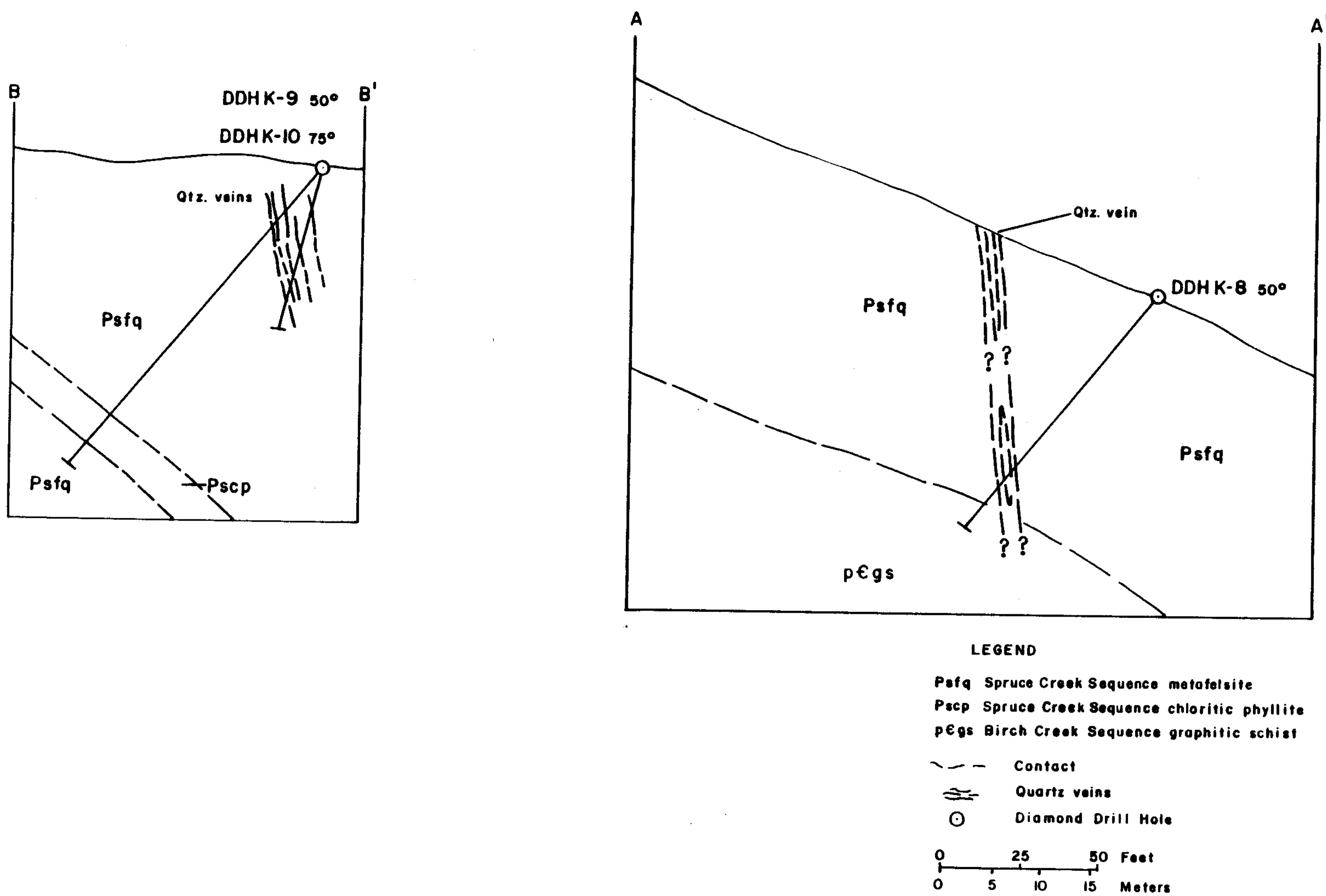
References: Davis, 1922, p. 53-55.
Capps, 1919, p. 102.
Wells, 1933, p. 370.
Bundtzen, 1981, p. 202.
Hawley, 1977.

Keystone-Pennsylvania Claims (patented M.S. No. 1702)

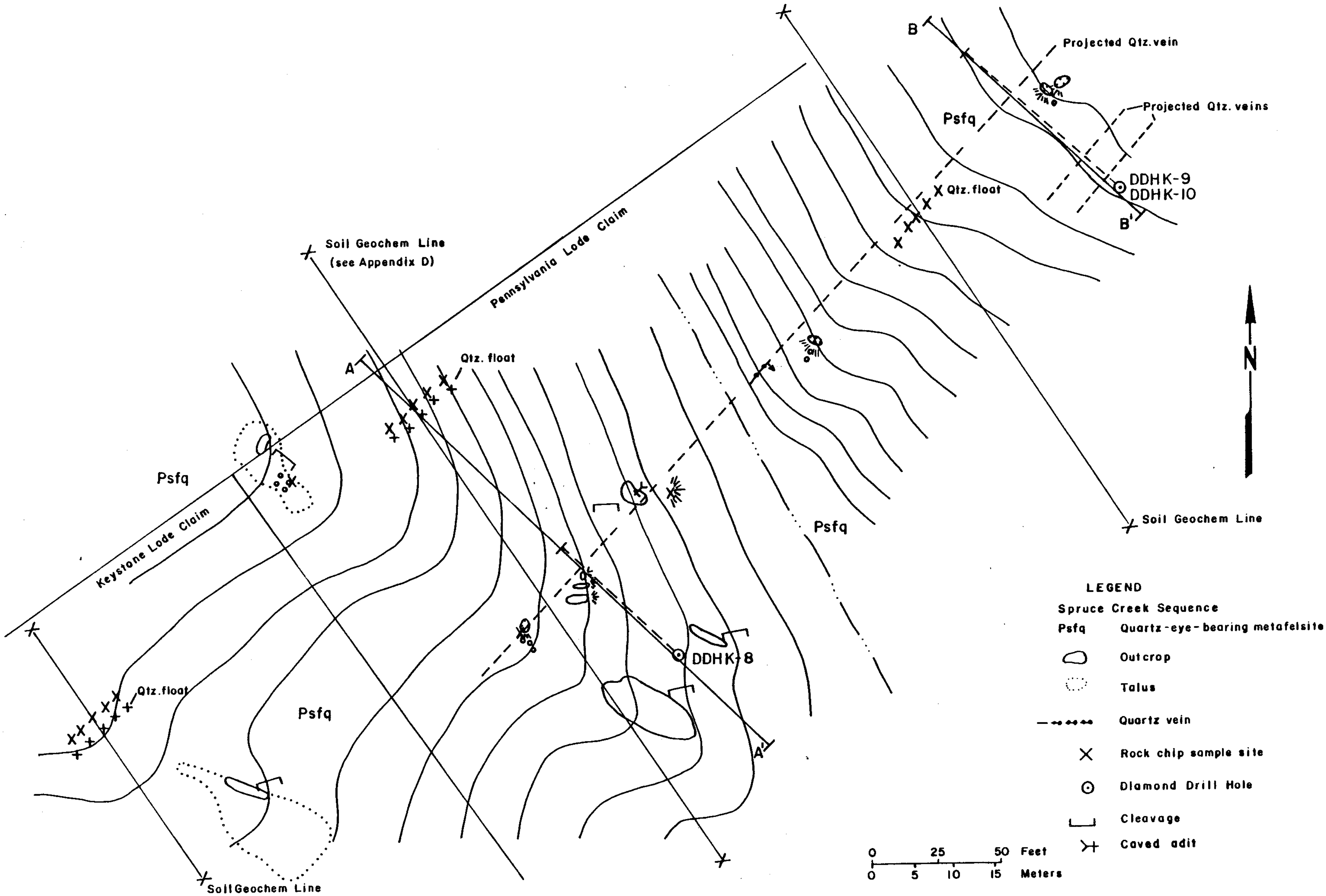
Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.001%	.001%	.001%	.2 ppm	.16 ppm	ND	4 ppm	4 ppm	.0395%	ND	--	--	Sample C014242
	.001%	.010%	.002%	1.1 ppm	.04 ppm	ND	6 ppm	4 ppm	.2150%	ND	--	--	Sample C014243
	.255%	8.55%	.230%	58.5 oz/tn	.028 oz/tn	ND	.25ppm	ND	.5350%	3 ppm	--	--	Sample C014244
*	.100%	.030%	.110%	.11 oz/tn	tr	--	.01%	400 ppm	.0400%	--	--	--	1.4 ft. channel sample; iron-stained quartz.
*	.520%	2.22%	6.00%	43.14 oz/tn	.02 oz/tn	--	.18%	100 ppm	.420%	--	--	--	Sulfide-rich grab sample.
*	.26%	3.60%	4.89%	3.60 oz/tn	tr	--	.01%	100 ppm	.140%	--	--	--	Steel galena, pyrite, arsenopyrite(?) and tetrahedrite
*	--	--	--	1.60 oz/tn	--	--	--	--	--	--	--	--	Channel across 18 in. of vein near old shaft.
*	--	--	--	0.20 oz/tn	0.86 oz/tn	--	--	--	--	--	--	--	Soil of gossan on
*	.008%	.027%	.040%	0.35 oz/tn	0.12 pz/tn	--	--	--	--	--	--	--	Pennsylvania claim.

* Bundtzen, 1981.



Occurrence No. 39- Cross Section of Drill Holes - Pennsylvania - Keystone Patented Lode Claims



Occurrence No. 39 - Pennsylvania - Keystone Patented Lode Claims

OCCURRENCE REPORT FORM

NAME Gold King (East Gold King and Blue Bell)

Study Area Kantishna Hills

Location: NW¼, Sec. 7, T16S, R17W, east end of Quigley Ridge.

Ownership: Patented claims held by Guy Erwin.

Occurrence No. 40

Occurrence Type Quartz vein

Examining Geologist CJM

Date(s) of Examination July 1983

General Geology: Vein cuts metafelsite of Spruce Creek Sequence.

Mineralization: Quartz vein (4-6 ft. wide) contains arsenopyrite, sphalerite and galena.

Structure: Vein strikes N80^{o}E and dips steeply to vertically.

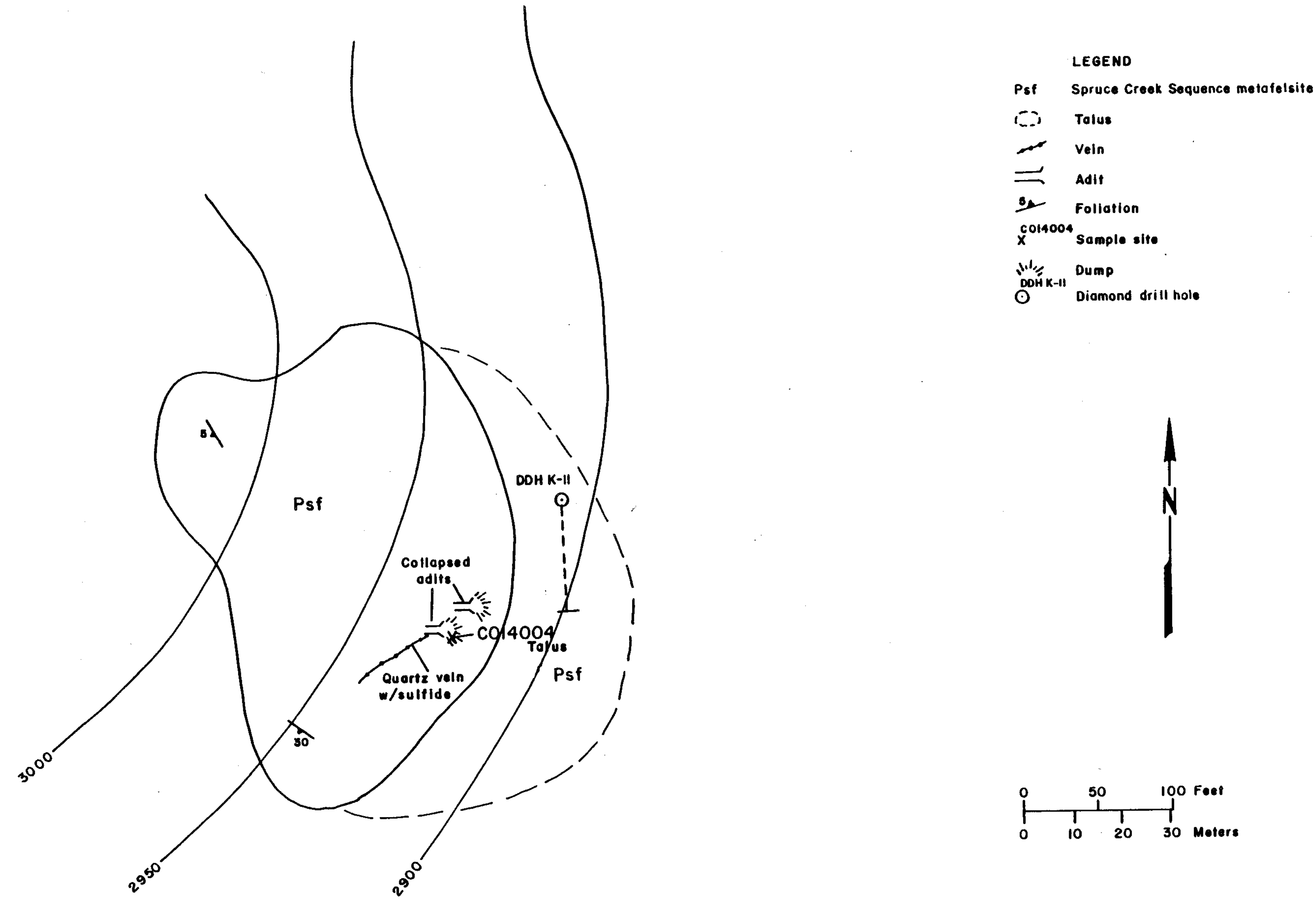
Development and Production: Two short adits on Gold King claim. Series of trenches, now overgrown, reportedly traced vein through Gold King East claim. Several trenches (now caved) apparently exposed a parallel vein on the Bluebell claim, north of the East Gold King.

Remarks: DDH K-11 drilled to intersect vein on Gold King claim.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb ppm	W ppm	As ppm
C014004	350	90	.120	7.88	.19	8	305	9	810

References:
Davis, 1922.
Bundtzen, 1981.
Capps, 1919.



Occurrence No. 40 - Gold King prospect

OCCURRENCE REPORT FORM

NAME Pittsburg/East Gold King

Study Area Kantishna Hills

Occurrence No. 41

Location: Sec.7, T165, R17W

Occurrence Type Qtz Vein with Au

Examining Geologist CJM/JK

Ownership: Guy Erwin

Date(s) of Examination July, 1983

General Geology:

Quartz vein intruding metafelsite of Spruce Creek Sequence

Mineralization:

Reported free gold in quartz

Structure:

Pittsburg vein reportedly trends N75° E.

Development and Production:

Davis (1922) reports a quartz vein 6 or 7 ft. wide containing some sulfides and calcite on the Pittsburg claim. Only quartz float was found during this study. Several collapsed prospect pits.

Remarks:

Pittsburg vein is probably extension of Pennsylvania vein. East Gold King claim is located on probable extension of Gold King vein (see Occ. Rpt. #40)

Analyses:

References:

Wells (1933) p. 370

Davis (1922) p. 53

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 42

Location: Southwest side of Wickersham Dome (3491550N, 348350E)

Occurrence Type Quartz vein

Examining Geologist JMK

Ownership: Unknown

Date(s) of Examination July 20, 1983

General Geology: Quartz veins and veinlets cut quartz feldspar schist and lie adjacent to altered and fresh diabasic dikes or sills. Greenstone outcrops 170 ft. to the north.

Mineralization: Limonite stained quartz veining within silicified quartz-feldspar wall rocks. Sulfides: finely disseminated pyrite and arsenopyrite, minor siderite. Fresh and altered diabasic dikes or sills up to 2 ft. thick occur in the vicinity and contain disseminated pyrite (see attached figure).

Structure: Surface workings follow a N20^{o}E quartz vein intermittently exposed for 70 ft. along strike.

Development and Production: Development: four open cuts, the largest is 30 ft. long.

Remarks: Bundtzen (1981) remarks that this prospect lies near the Blue Bell Prospect. Mineralization is low grade and has a short strike length. May be a NE extension of Occurrence No. 43 which is located 480 ft. to the SW.

Analyses: See attached table.

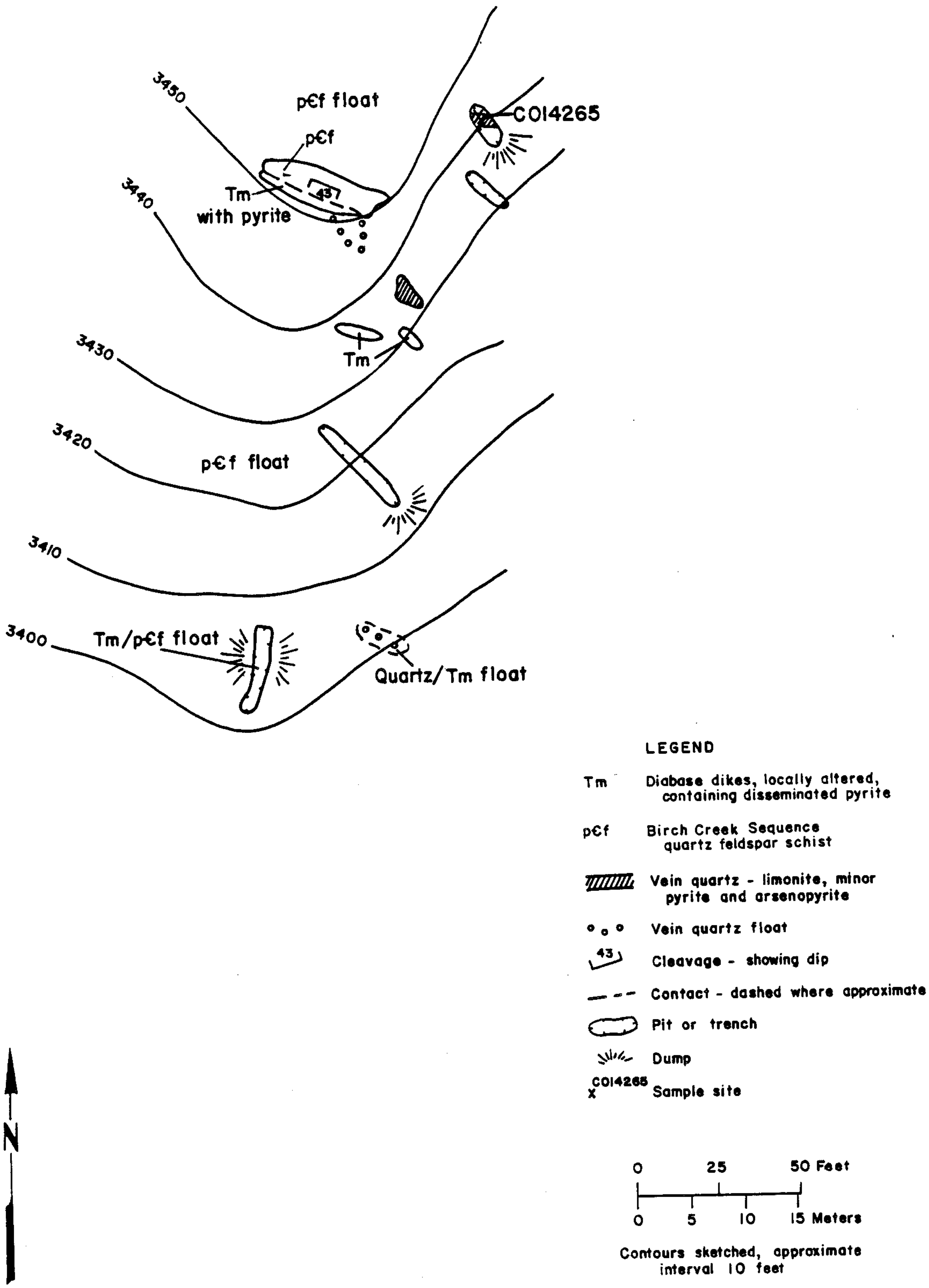
References: Bundtzen, 1981, p. 203, 219.

Unnamed Prospect

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	ND	10 ppm	10 ppm	0.4 ppm	ND	ND	4 ppm	3 ppm	.010%	ND	--	--	Sample C014265. Quartz vein select grab.
*	.005%	.17%	.005%	.14 oz/tn	ND	9 ppm	.01%	75 ppm	.035%	.009%	1.3 ppm	3.5 ppm	Grab sample from pit, low-grade mineralization.
*	tr	.03%	.020%	.22 oz/tn	tr	ND	ND	75 ppm	.028%	.046%	0.8 ppm	2.0 ppm	
*	.006%	.01%	.016%	.04 oz/tn	ND	35 ppm	.002%	75 ppm	.029%	.051%	1.1 ppm	2.9 ppm	

* Bundtzen, 1981, p. 219.



Occurrence No. 42 - Unnamed prospect

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Location: South side Wickersham Dome (3490400N, 348000E)

Ownership: Unknown.

Occurrence No. 43

Occurrence Type Quartz vein

Examining Geologist JMK

Date(s) of Examination July 20, 1983

General Geology: Quartz feldspar schist.

Mineralization: Limonite-stained vein quartz float. Sulfides: minor finely disseminated pyrite and arsenopyrite.

Structure: Prospect pits lie along a N20^{o}E trend.

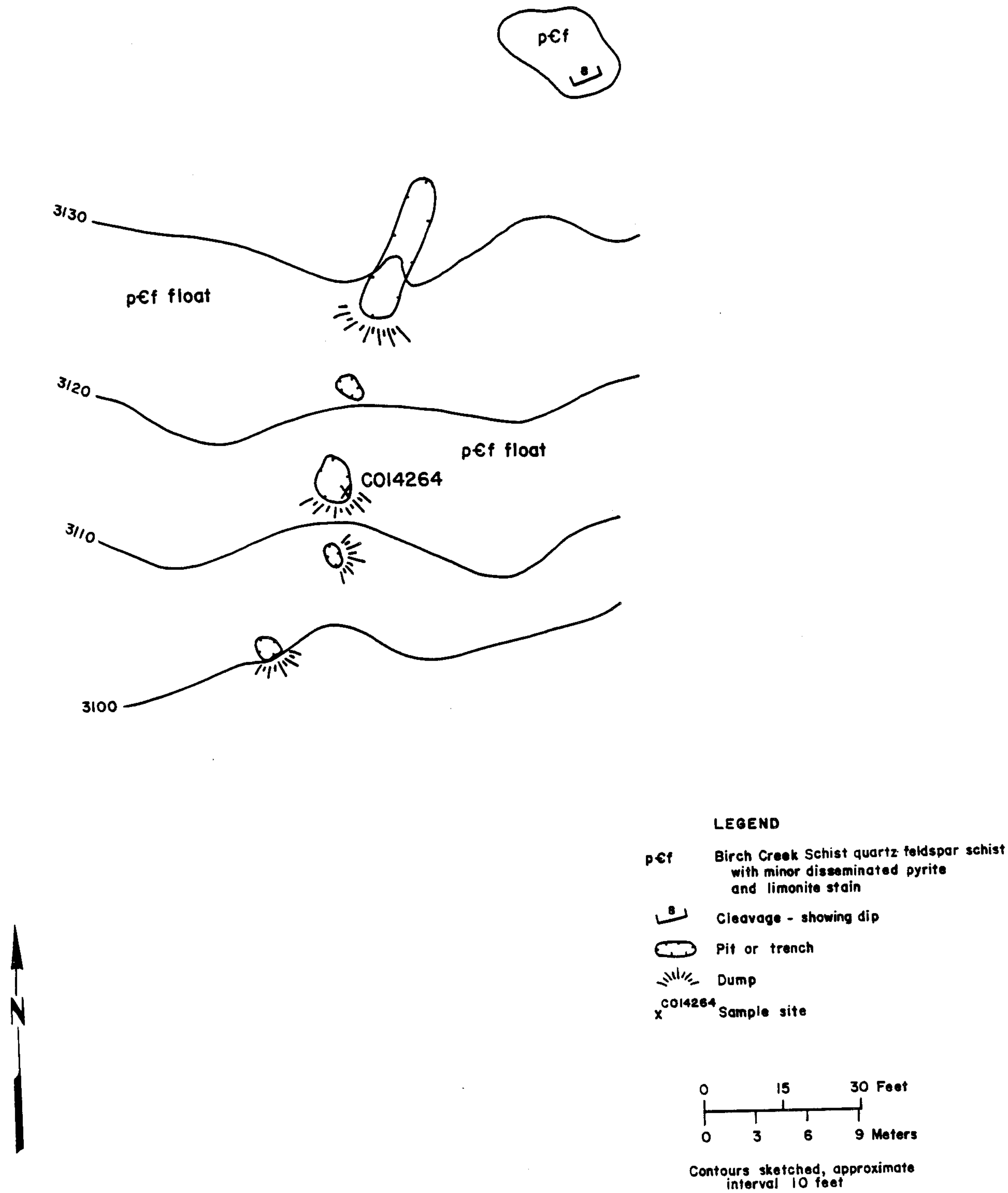
Development and Production: Development: A 5 x 25 ft. trench and three small pits.

Remarks: Very little mineralization; may be a southern extension of occurrence No. 38 which is 480 ft. to the northeast.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm	Remarks
C014264	40	45	70	1.6	.04	ND	6	3	670	select grab dump

References:



Occurrence No. 43- Unnamed prospect

OCCURRENCE REPORT FORM

NAME Florence Lode

Study Area Kantishna Hills

Occurrence No. 44

Location: 2500 feet northeast of Wickersham Dome (3494530N, 351350E)

Occurrence Type Quartz galena vein

Examining Geologist JMK

Ownership: No current claims.

Date(s) of Examination July 28, 1983

General Geology: Birch Creek micaceous quartzite. Greenstone float in the area.

Mineralization: Limonite-stained-vein-quartz float exposed intermittently for 170 ft. along strike. Mineralogy: massive and stringer galena, cerrusite(?), stibnite, tetrahedrite(?), malachite, and siderite.

Structure: Float traces indicate an approximate N45^{O}E trend for the mineralization.

Development and Production: A caved shaft, numerous bulldozer cuts, and trenches. No production.

Remarks: No mineralization observed in place.

Analyses: See attached table.

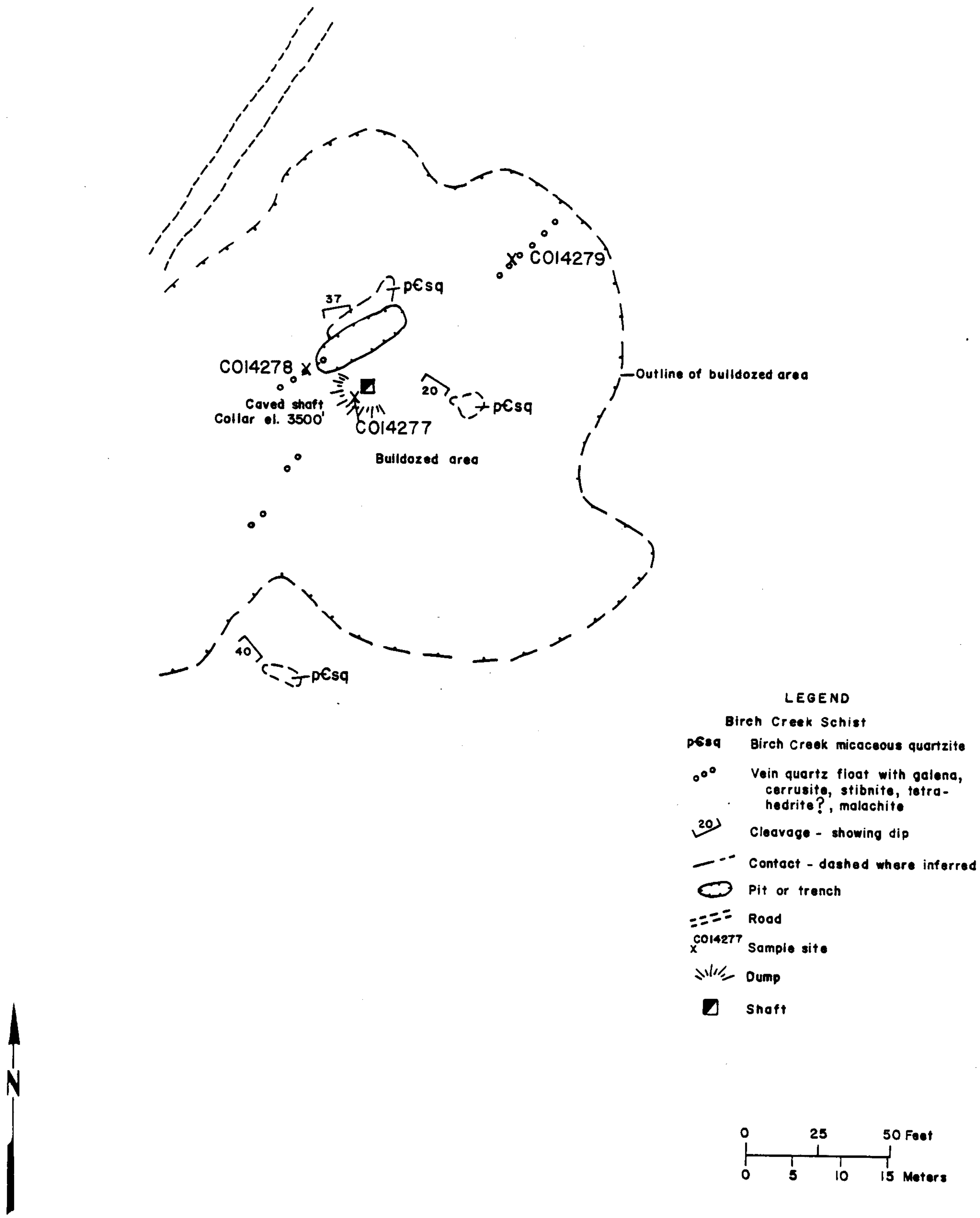
References:
Bundtzen, 1981, p. 203, 219.
U. S. Bureau of Mines, 1959.
Wells, 1933, Plate 28, p. 371.

Florence Lode

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	1.15%	49.5%	4.0%	35.8 oz/tn	ND	ND	2.4%	4 ppm	.035%	5 ppm	--	--	Sample CO14277. Select grab dump.
	.059%	5.5 %	ND	2.3 oz/tn	ND	ND	.625%	3 ppm	.030%	3 ppm	--	--	Sample CO14278. Select grab dump.
	.033%	2.95%	.295%	0.89 oz/tn	ND	ND	.595%	3 ppm	.026%	1 ppm	--	--	Sample CO14279. Select grab dump.
*	1.50%	4.55%	1.25%	39.4 oz/tn	ND	ND	2.35%	75 ppm	.076%	.003 %	2.7 ppm	1.8 ppm	Grab sample of copper-rich galena ore.
*	1.40%	46.3%	1.10%	29.1 oz/tn	tr	15 ppm	2.87%	--	--	--	--	--	Grab sample, galena ore.
*	1.58%	70.0%	1.49%	54.42oz/tn	tr	ND	3.10%	--	--	--	--	--	

* Bundtzen, p. 219.



Occurrence No. 44 - Flourence Lode

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 45

Location: 3300 ft. northeast of Wickersham Dome (3495150N, 351800E)

Occurrence Type Quartz galena vein

Examining Geologist JMK

Ownership: ?

Date(s) of Examination July 28, 1983

General Geology: Birch Creek quartz feldspar schist and quartzite.

Mineralization: A 10 x 80 ft. limonite-stained vein quartz float zone. Mineralogy: minor pyrite, stibnite, stibiconite, galena.

Structure: Trend of quartz float N75^{o}E.

Development and Production: Several trenches in colluvium. No production.

Remarks: No mineralization seen in outcrop. Could be Bundtzen's No. 40 (1981, p. 203).

Analyses: See attached table.

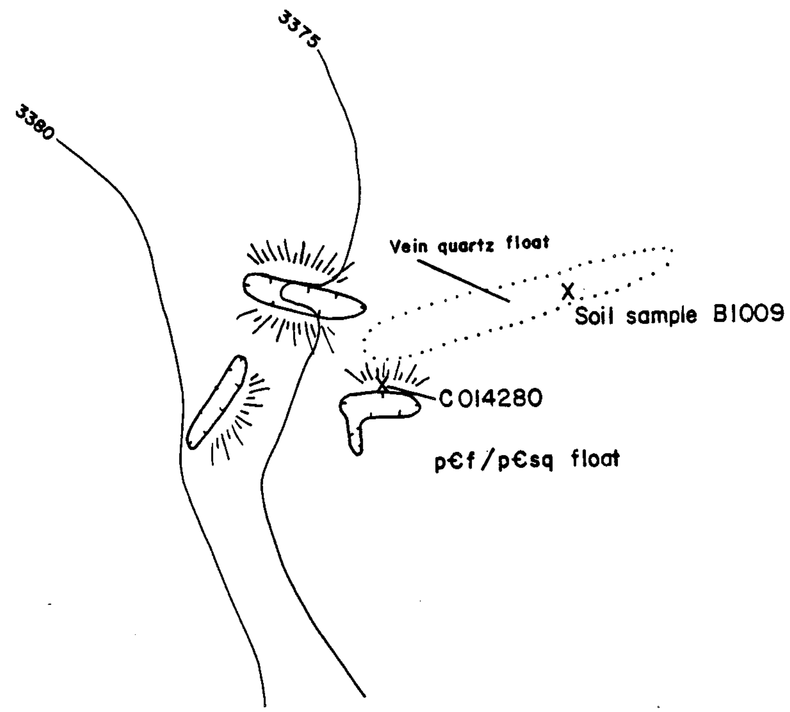
References: Bundtzen and others, 1976.
Bundtzen, 1981, p. 203.

Unnamed Prospect

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.033%	.078%	.130%	ND	ND	ND	.007%	3 ppm	.125%	ND	--	--	Sample C014280. Dump select grab.
	.004%	.190%	.100%	2.7 ppm	.12 ppm	ND	.011%	ND	.350%	ND	--	--	Sample B1009. Soil sample stained zone.
*	.003%	.020%	.040%	tr	tr	75 ppm	.049%	74 ppm	.370%	.002%	ND	0.8 ppm	Arsenopyrite vein poorly exposed.

* Bundtzen, 1976.



LEGEND

p€f	Birch Creek Schist quartz feldspar schist
p€sq	Birch Creek Schist micaceous quartzite
	Contact - dashed where inferred
	Pit or trench
	Dump
C014280 x	Sample site

N

0 25 50 Feet

0 5 10 15 Meters

Contours sketched, approximate interval 5 feet

Occurrence No. 45 - Unnamed prospect

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 46

Location: (3504100N, 350750E)

Occurrence Type Ag-sulfide-quartz vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination June 23, 1983

General Geology: Blastoporphyritic metafelsite (Psf) of the Spruce Creek Sequence.

Mineralization: Poorly exposed trend. Sheared, altered, and mineralized zone. Sheared and altered metafelsite locally contains abundant pyrite. Metafelsite as well as minor vein quartz extensively stained orange-red due to the weathering and leaching of the sulfides. Goethite, limonite, and jarosite impart a red color to the soil as well.

Structure: Poor exposure; the trend can only be approximated to be northwesterly.

Development and Production: None recorded.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014408	20	35	35	0.8	ND	ND	6	5	285

References:

OCCURRENCE REPORT FORM

NAME Upper Bosart Vein

Study Area Kantishna Hills

Occurrence No. 47

Location: 1.1 mi NE of Wickersham Dome (349740N, 352720E)

Occurrence Type Quartz galena vein

Examining Geologist JMK

Ownership: ?

Date(s) of Examination July 29, 1983

General Geology: Birch Creek quartz feldspar schist and micaceous quartzite.

Mineralization: Vein quartz dump float containing massive and stringer galena, tetrahedrite, malachite, and cerrusite(?).

Structure: No strike or dip could be determined for the mineralized zone.

Development and Production: Four trenches in colluvium. No production.

Remarks: Sulfides found only on dump of one trench. No mineralization found in outcrop.

Analyses: See attached table.

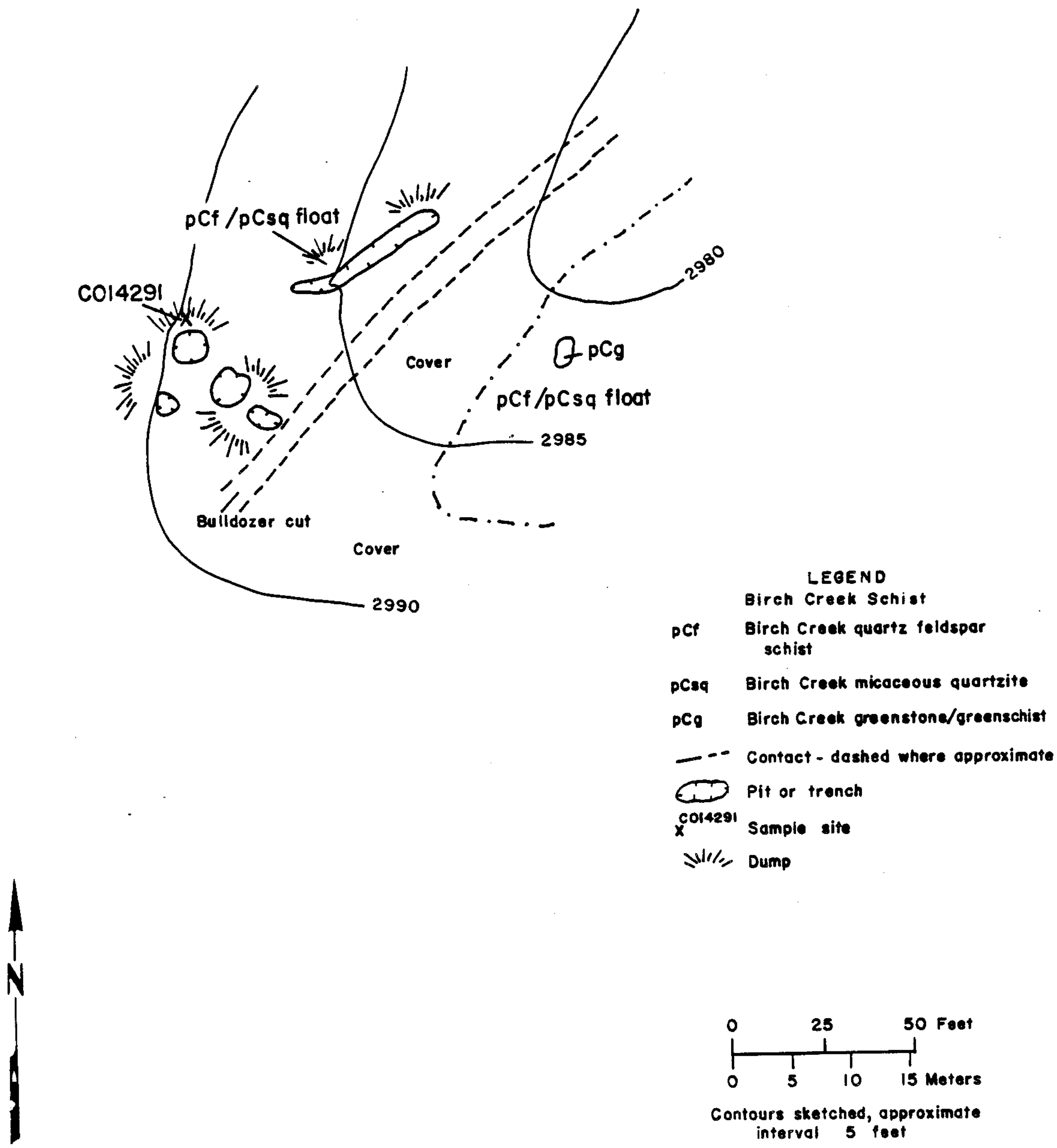
References: Bundtzen, 1981, p. 203, 220.
Hawley, 1977.

Upper Bosart Vein

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.365%	32.0%	18.0%	23.6 oz/tn	ND	ND	.830%	4 ppm	.020%	ND	--	--	Sample C014291. Select high grade dump.
*	.880%	32.8%	20.4%	26.4 oz/tn	tr	1 ppm	1.36%	75 ppm	.027%	.009%	1.3 ppm	1.8 ppm	Grab sample, high-grade galena
**	.046%	2.75%	1.15%	1.47 oz/tn	ND	ND	0.35%	--	--	--	--	--	Sulfide grab sample.

* Bundtzen, 1981.
** Hawley, 1977.



Occurrence No. 47 - Upper Bosart prospect

OCCURRENCE REPORT FORM

NAME Bosart Prospect

Study Area Kantishna Hills

Location: 1.2 mi. northeast of Wickersham Dome (3497240N, 353700E)

Ownership: Arley Taylor

Occurrence No. 48

Occurrence Type Quartz, galena vein

Examining Geologist JMK

Date(s) of Examination July 29, 1983

General Geology: Interbedded Birch Creek quartz feldspar schist and micaceous quartzite. Greenstone locally observed within the sequence.

Mineralization: A 0.5 ft. wide quartz vein(s) are intermittently exposed over a 50 ft. strike length. Mineralogy: massive and stringer galena, tetrahedrite(?), cerrusite(?), arsenopyrite, pyrite, chalcopyrite, sphalerite.

Structure: The vein(s) trend N50^{o}E, dip 70-80^{o} NW and may be offset by cross faults.

Development and Production: Development consists of a 190 ft. long open cut. Production: 30 tons hand sorted ore shipped in 1980, 0.328 oz/ton Au, 78.22 oz/ton Ag. Estimation 75 tons milling ore on dump at that time (Mark Anthony, 1983).

Remarks: A Hartz-type jig was set up on the property in 1980 and an unknown amount of concentrates produced.

Analyses: See attached table.

References: Wells, 1933, p. 371-372.
Bundtzen, 1981, p. 203, 220.
Hawley, 1977.
Mark Anthony, L., personal comm., July 1983.

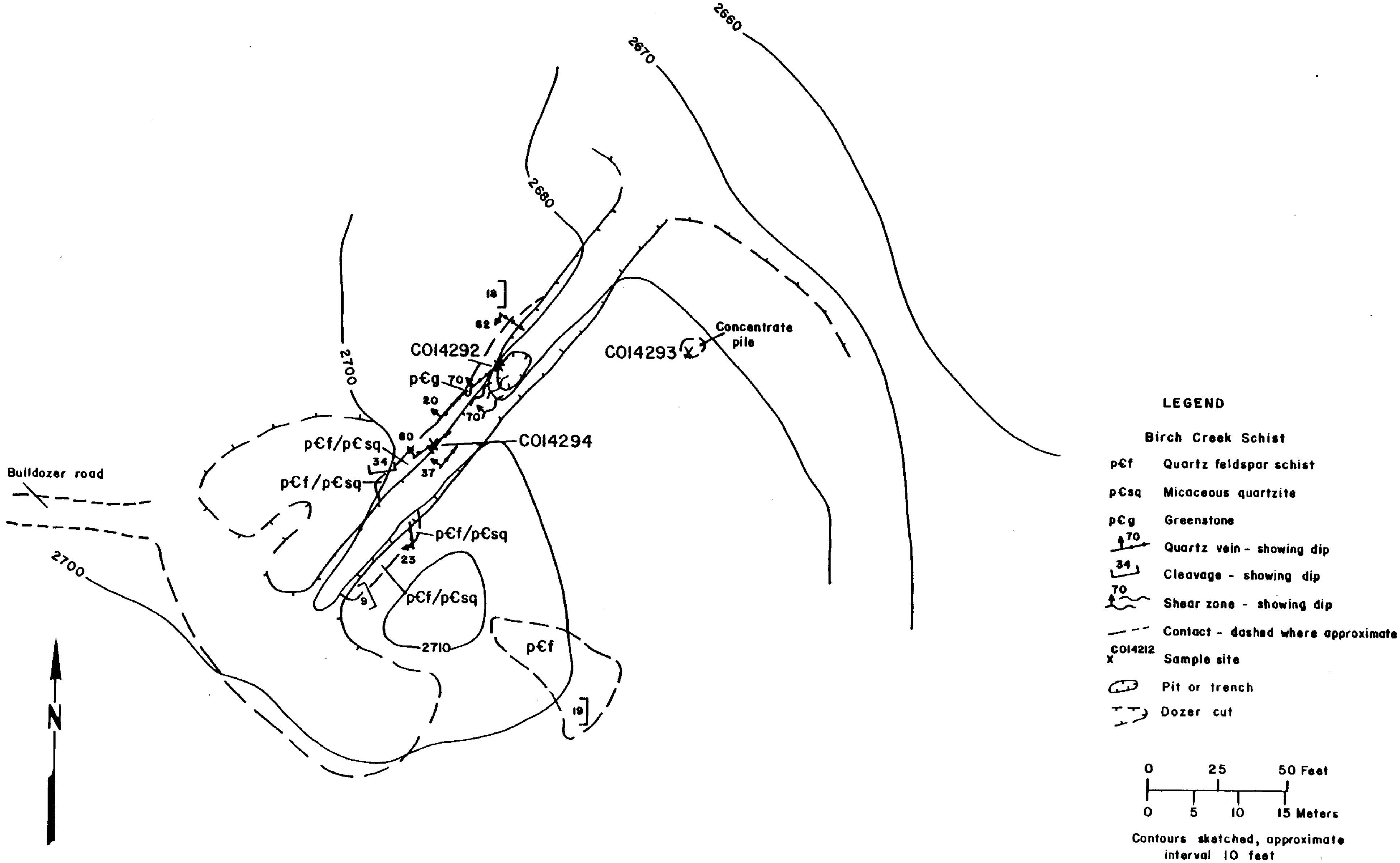
Bosart Prospect

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	3.10 ppm	23.5 ppm	6.90 ppm	95.0 ppm	.012 ppm	ND	7.25 ppm	3 ppm	.310 ppm	9 ppm	--	--	Sample C014292. Bosart prospect.
	.145 ppm	3.95 ppm	5.45 ppm	12.6 ppm	ND	ND	.425 ppm	22 ppm	.145 ppm	ND	--	--	Sample C014293. Conc. pile.
	.585 ppm	11.5 ppm	.795 ppm	55.3 ppm	.016 ppm	ND	4.05 ppm	ND	.640 ppm	8 ppm	--	--	Sample C014294. High grade.
*	.340%	76.0%	1.56%	71.7 oz/tn	tr	ND	0.94%	75 ppm	.023%	.001%	0.5 ppm	1.3 ppm	Massive galena.
*	6.66%	24.5%	0.38%	223.3oz/tn	.02 oz/tn	40 ppm	1.54%	75 ppm	.510%	.008%	1.0 ppm	1.0 ppm	Massive galena ore.
**	.100%	5.0%	8.63%	44.1 oz/tn	tr	--	0.54%	--	--	--	--	--	Galena ore contains 32 ppm Hg.

* Bundtzen, 1981.

** Hawley, 1977.



Occurrence No. 48 - Bosart prospect

OCCURRENCE REPORT FORM

NAME Unnamed Prospect (Tugboat Annie Claim)

Study Area Kantishna Hills

Occurrence No. 49

Location: Wickersham Dome, 500 ft. north of the Banjo Mine (3493450N, 354180E)

Occurrence Type Quartz vein

Examining Geologist JMK

Ownership: Kantishna Mines and Red Top Mining Company

Date(s) of Examination July 28, 1983

General Geology: Birch Creek quartz feldspar schist and greenstone.

Mineralization: A 25 x 160 ft. zone of vein quartz float. Mineralogy: limonite, pyrite, stibnite, chalcopyrite, tetrahedrite, malachite. Sulfides total 1-2%.

Structure: No vein quartz was found in outcrop. The long direction of the float zone trends N85^{o}W.

Development and Production: Four small trenches in colluvium. No production.

Remarks: Bundtzen (1981) has a prospect shown in this area but gives it no number. Rock samples of the quartz float were collected and soil samples taken along its strike length.

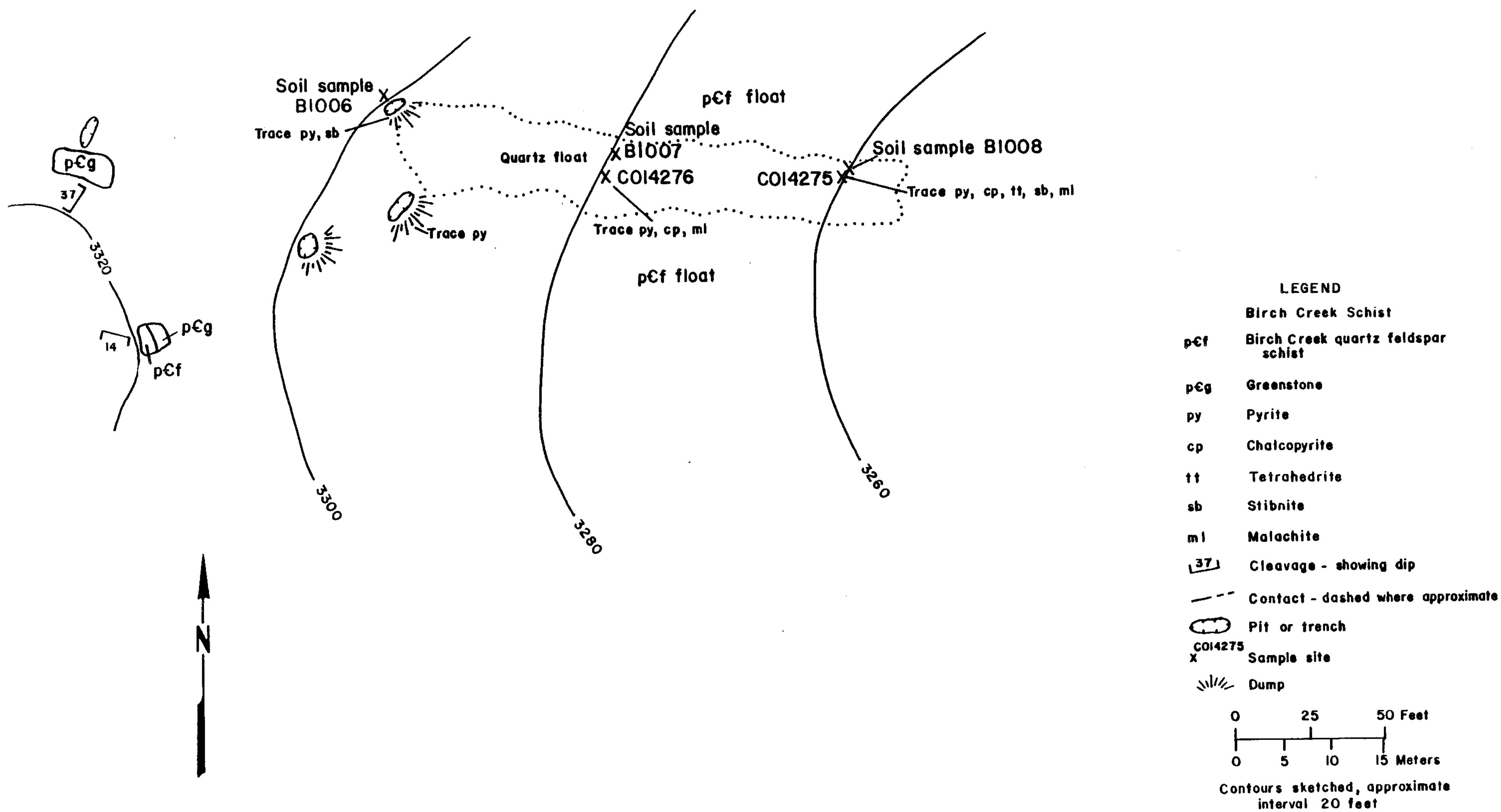
Analyses: See attached table.

References: Bundtzen, 1981.

Unreported Occurrence (Tugboat Annie Claim)

Salisbury & Dietz, Inc. study results:

Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
.019%	.067%	.055%	<.001 oz/tn	<.001 oz/tn	ND	.024%	--	.004%	--	--	--	Sample C014275. Select grab quartz float.
.021%	.040%	.048%	<.001 oz/tn	<.001 oz/tn	ND	.003%	--	ND	--	--	--	Sample C014276. Select grab quartz float.
45 ppm	45 ppm	100 ppm	0.5 ppm	0.5 ppm	--	9 ppm	--	ND	--	--	--	Sample B1006. Soil.
185 ppm	405 ppm	185 ppm	0.8 ppm	ND	--	75 ppm	--	25 ppm	--	--	--	Sample B1007. Soil.
175 ppm	215 ppm	340 ppm	0.4 ppm	ND	--	38 ppm	--	70 ppm	--	--	--	Sample B1008. Soil.



Occurrence No. 49 - Unnamed prospect

OCCURRENCE REPORT FORM

NAME Banjo Mine, Hardrock and Tugboat Annie Claims

Study Area Kantishna Hills

Occurrence No. 50

Location: Head of Lucky Gulch 1.5 mi. above mouth of Eureka Creek (3491980N, 354880E)

Occurrence Type Quartz gold veins

Ownership: Kantishna Mines and Red Top Mining Company

Examining Geologist JMK

Date(s) of Examination June 16 and 23, 1983

General Geology: Quartz-eye bearing metafelsite and graphitic schist.

Mineralization: Limonite stained quartz vein(s) of undetermined thickness containing arsenopyrite, pyrite, galena, malachite, scheelite.

Structure: Northeast trending quartz vein system 1-3.3 ft. wide (Bundtzen, p. 202, plate 3).

Development and Production: Development: 1700 ft. of inaccessible underground workings on three levels, aerial tramway and a 24 ton/day mill. Milling consisted of concentrating tables and flotation cells.

Remarks: The underground workings are presently caved, but a vein exposed intermittently on the surface was sampled along with some dumps and mill tailings.

Analyses: See attached table.

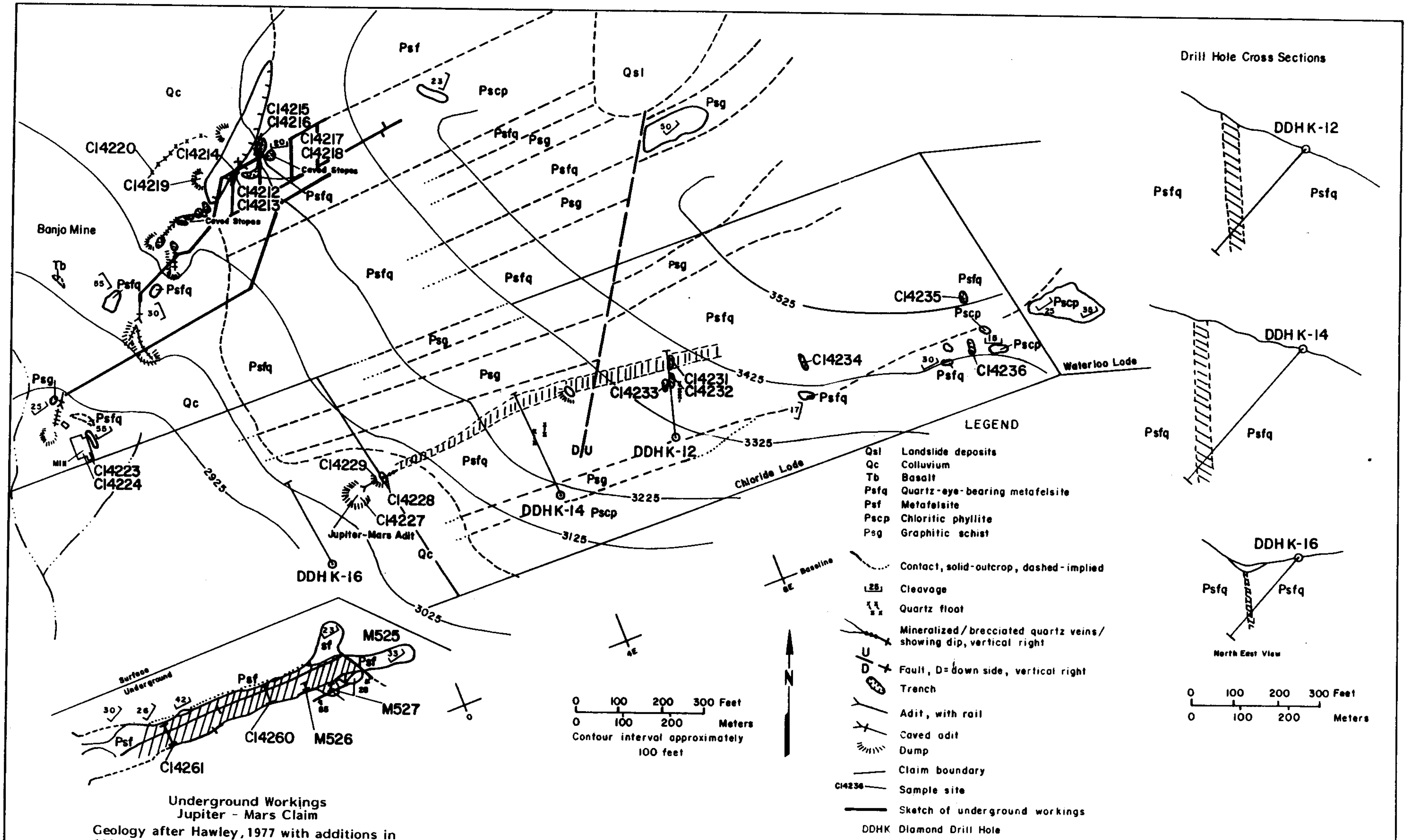
References:
Wells, 1933, p. 371.
Bundtzen, 1976, p. 157, 1981, p. 202, 219.
Hawley, 1977.

Banjo Mine, Hardrock and Tugboat Annie Claims

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.004%	.030%	.004%	.21 oz/tn	.72 oz/tn	2 ppm	32 ppm	4 ppm	.785%	2 ppm	--	--	Sample C014212. Quartz vein breccia.
	.006%	.078%	.011%	.40 oz/tn	.37 oz/tn	ND	34 ppm	3 ppm	.345%	ND	--	--	Sample C014213. Quartz vein.
	40 ppm	65 ppm	.0145%	1.1 ppm	.8 ppm	ND	14 ppm	5 ppm	.480%	ND	--	--	Sample C014214. Metafelsite wall rock.
	.018%	.500%	.025%	3.04 oz/tn	.061 oz/tn	ND	220 ppm	660 ppm	.180%	ND	--	--	Sample C014215. Quartz vein.
	.008%	1.30%	.765%	2.09 oz/tn	.210 oz/tn	ND	55 ppm	140 ppm	.080%	ND	--	--	Sample C014216. Quartz vein.
	75 ppm	25 ppm	.100%	0.22 oz/tn	.032 oz/tn	ND	22 ppm	7 ppm	.125%	ND	--	--	Sample C014217. Graphitic schist wall rock.
	10 ppm	15 ppm	40 ppm	.2 ppm	.11 ppm	ND	--	7 ppm	.072%	ND	--	--	Sample C014218. Metafelsite.
	.002%	.092%	.028%	.410 oz/tn	.480 oz/tn	ND	15 ppm	105 ppm	.215%	ND	--	--	Sample C014219. Quartz vein.
	.004%	1.10%	.275%	1.15 oz/tn	.013 oz/tn	ND	42 ppm	95 ppm	.022%	ND	--	--	Sample C014220. Quartz float with GN.
	65 ppm	.077%	.017%	2.64 oz/tn	.076 oz/tn	ND	85 ppm	9 ppm	.195%	ND	--	--	Sample C014223. Mill tailings Banjo.
	80 ppm	.330%	.063%	4.82 oz/tn	6.13 oz/tn	ND	60 ppm	315 ppm	.320%	3 ppm	--	--	Sample C014224. Shaker table cons.
*	.015%	.013%	.002%	0.03 oz/tn	0.044oz/tn	6 ppm	12 ppm	--	14.2%	ND	2.1 ppm	1.0 ppm	Grab sample from dump.
**	--	--	--	0.52 oz/tn	0.46 oz/tn	--	--	--	--	--	--	--	Average grade of 13,656 tons of ore.
***	ND	.245%	.075%	2.94 oz/tn	0.058oz/tn	--	ND	--	--	--	--	--	Grab sample; tailings.

* Bundtzen, 1981.
** Bundtzen and others, 1976.
*** Hawley, 1977.



Occurrence No. 50 Banjo Mine, Jupiter-Mars, Chloride Lode, and Waterloo Claims Area-Kantishna Hills Study Area

Topography after Hawley, 1977
Geology by T.K. Hinderman, and J.M. Kurtak

OCCURRENCE REPORT FORM

NAME Jupiter-Mars (Damon & Pythias) (Patented claim MS 361)

Study Area Kantishna Hills

Occurrence No. 51

Location: East side Lucky Gulch 2.5 mi. above mouth of Eureka Creek (3491310N, 355210E)

Occurrence Type Quartz sulfide vein

Examining Geologist JMK, TKH

Ownership: Ivan P. Lloyd

Date(s) of Examination June 16 and 23, 1983

General Geology: Spruce Creek metafelsite with minor quartz eyes.

Mineralization: A near vertical brecciated, limonite stained quartz vein-gouge zone averaging 8 ft. wide is exposed for 80 ft. along strike underground.
Mineralogy: quartz, fault gouge, minor calcite, arsenopyrite, pyrite, galena, sphalerite, scorodite, stibiconite, boulangerite, jamesonite(?). See attached figure.

Structure: The vein trends N65°E and is cut off by a low angle NW trending fault 20 ft. short of the adit face. Clayey gouge zone within and running parallel to the vein indicate post emplacement movement.

Development and Production: Development: A 120 ft. adit and several pits on the surface above it.
Production: A small unknown tonnage of ore was added to the Banjo production (Bundtzen, 1981, p. 203).
Indicated reserves in adit: 2339 tons at 0.11 oz/ton Au and 2.8 oz/ton Ag.

Remarks: The continuation of the vein on the footwall side of the crosscutting fault was not located underground. One 237 ft. core drill hole (K-16), 150 ft. southwest of the adit, intersected 9.4 ft. averaging .052 oz/ton Au and 7.30 oz/ton Ag. A brecciated metafelsite and gossaneous quartz zone 9.5 ft. thick was intersected 110 ft. vertically below the surface along the southwest projection of the mineralized zone followed by the adit. The mineralized zone extends northeast on to the Chloride Claim.

Analyses: See attached table.
Drill core samples (see hole K-16, Appendix D)

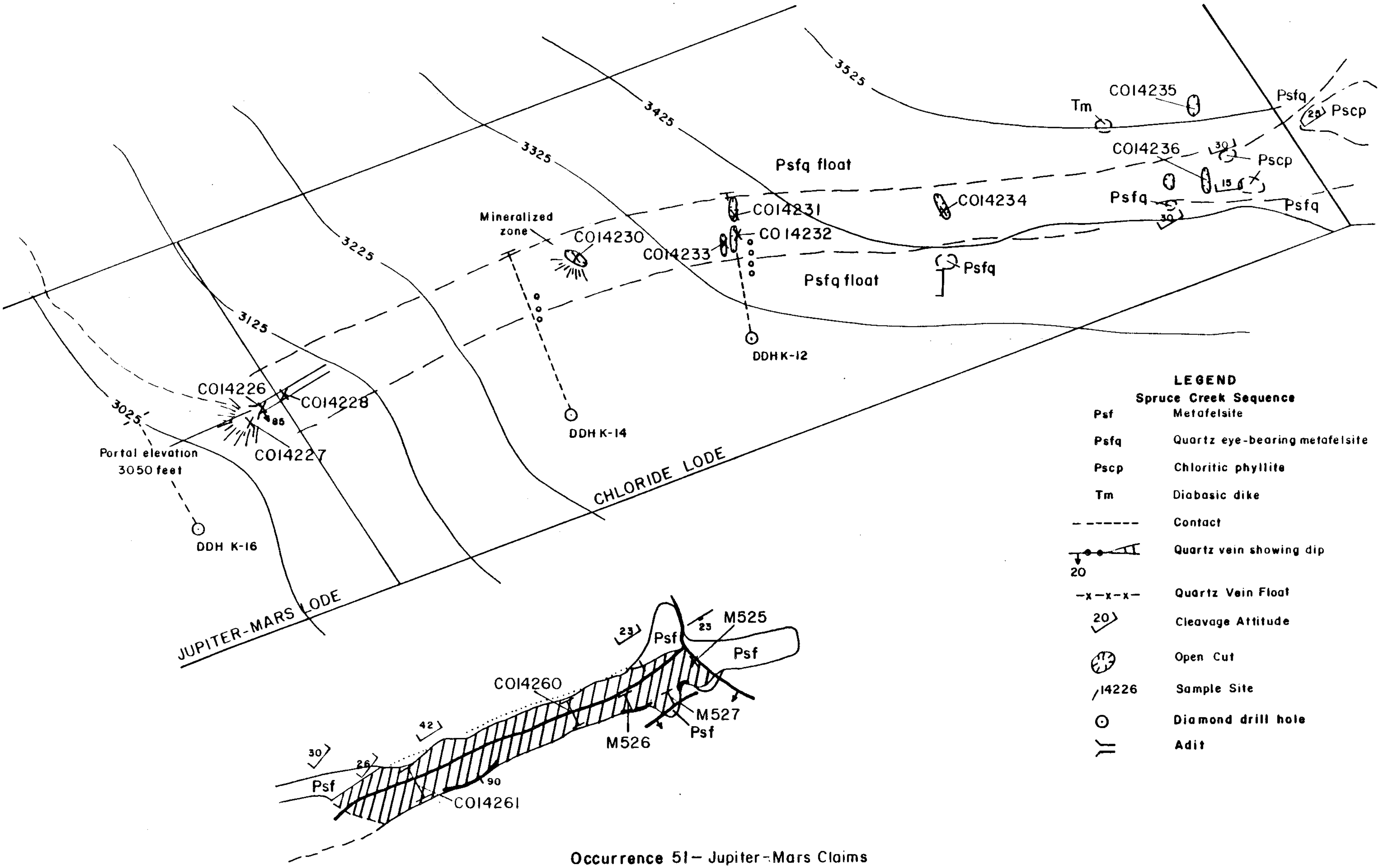
References: Wells, 1933, p. 371.
Hawley, 1977.
Bundtzen, 1981, p. 203, 219.

Jupiter-Mars (Damon & Pythias) (Patented Claim M.S. 361)

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.195%	.790%	.575%	6.30 oz/tn	.20 oz/tn	2 ppm	.020%	2 ppm	11.7%	3 ppm	--	--	Sample C014227. Jupiter-Mars dump.
	.032%	1.20%	.041%	9.81 oz/tn	.11 oz/tn	2 ppm	.042%	2 ppm	.675%	1 ppm	--	--	Sample C014228. Surface quartz vein.
	.004%	.032%	.012%	1.6 ppm	.08 ppm	2 ppm	.002%	4 ppm	.110%	1 ppm	--	--	Sample C014229. Dump sample.
	.048%	2.05%	.150%	3.53 oz/tn	.11 oz/tn	ND	.052%	ND	7.30%	1 ppm	--	--	Sample C014260. 4 ft. chip across vein.
	.048%	2.90%	.115%	3.78 oz/tn	.15 oz/tn	ND	.036%	ND	3.4%	2 ppm	--	--	Sample C014261. 6 ft. chip across vein.
*	.180%	.270%	.050%	3.76 oz/tn	.20 oz/tn	ND	.023%	--	14.2%	.012 ppm	--	.9 ppm	Grab samples, high grade.
*	.060%	.630%	.120%	14.6 oz.tn	.20 oz/tn	ND	.025%	--	--	.018 ppm	7.2 ppm	22.5ppm	
**	.250%	2.25%	.460¢	8.40 oz/tn	.18 oz/tn	--	--	--	--	--	--	--	Channel sample underground.
**	.090%	1.60%	.180%	3.30 oz/tn	.04 oz/tn	--	.034%	--	--	--	--	--	Channel sample underground.
**	.030%	.020%	.180%	tr	tr	--	tr	--	--	--	--	--	Channel sample underground.

* Bundtzen, p. 219.
** Hawley, 1977.



Occurrence 51 — Jupiter-Mars Claims

OCCURRENCE REPORT FORM

NAME Silver King - Merry Widow Claims

Study Area Kantishna Hills

Occurrence No. 52

Location: North side Eureka Creek
NW¼ Sec. 8, T16S, R17W
(3489100N, 352950E)

Occurrence Type Silver-bearing sulfide vein

Examining Geologist TKH

Ownership: Two patented claims controlled by Ivan P. Lloyd.

Date(s) of Examination June 25, 1983

General Geology: Felsite of the Spruce Creek Sequence (Psf).

Mineralization: Galena, pyrite, sphalerite, tetrahedrite and minor chalcopyrite with limonite and malachite in quartz-ankerite gangue. The vein is 4-6 ft. thick. 45 ft. of the vein were exposed by trenching in the 1970's.

Structure: According to Bundtzen (1981) the vein strikes N70^{O}E, dips 65^{O}NW, and is highly sheared and oxidized.

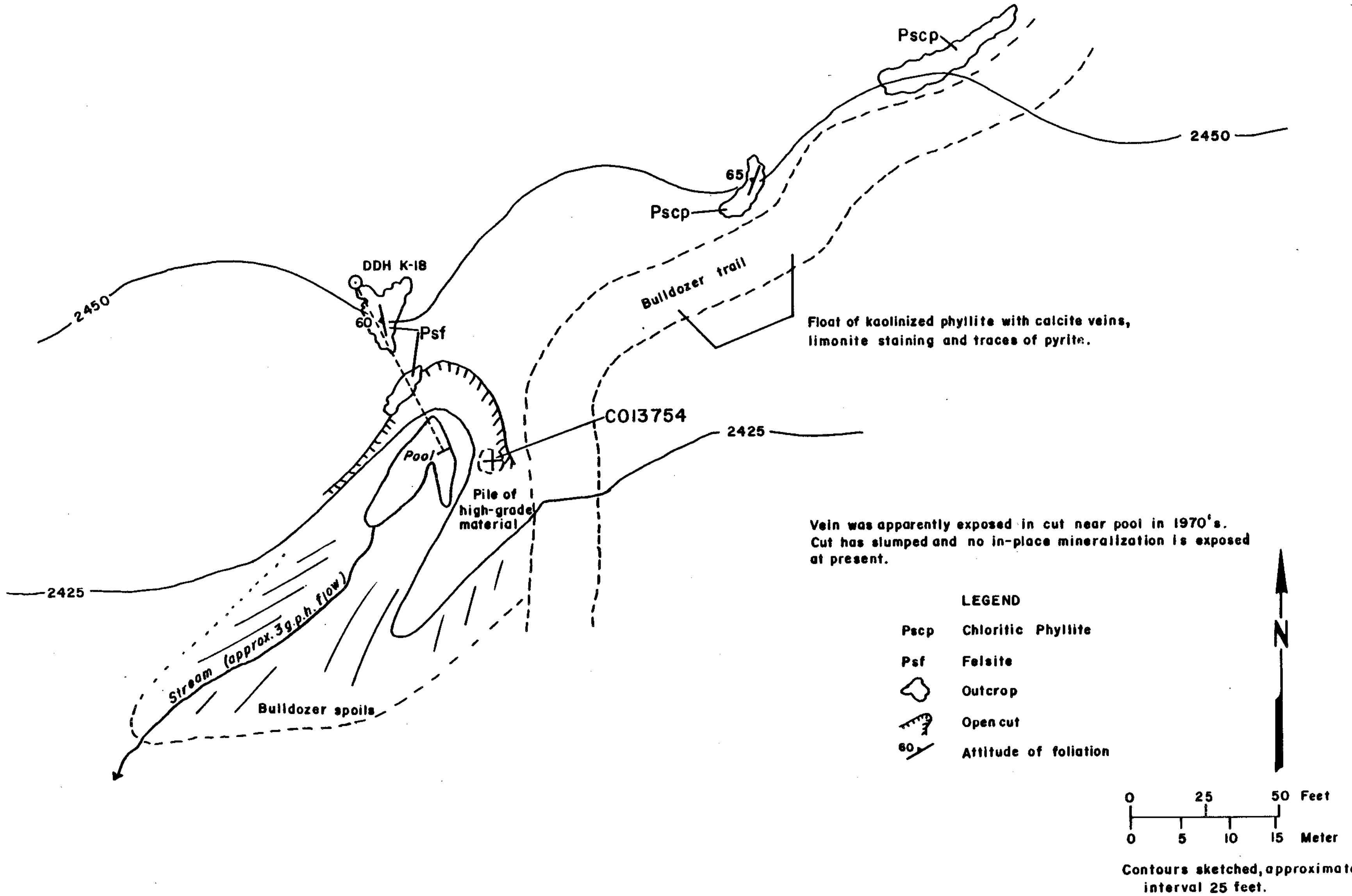
Development and Production: Exposed by dozer trenching. No production.

Remarks: Trenches have slumped or filled with water. Vein is not exposed at this time.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C013754	.905	58.5	13.5	188.7	.047	ND	1.0	ND	.27	Grab from high grade pile near trench.

References: Bundtzen, 1981.
Bundtzen and others, 1976.
Hawley, 1977.
Chadwick, 1976.
Wells, 1933.



Occurrence No. 52 - Silver King - Merry Widow Claims

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 53

Location: Ridge southeast of Eureka Creek (3484000N, 354200E)

Occurrence Type Quartz vein

Examining Geologist CDH

Ownership: No current claims.

Date(s) of Examination July 29, 1983

General Geology: Birch Creek schist.

Mineralization: Pyrite and arsenopyrite, sparse.

Structure: Very poorly exposed N30°W striking vertical vein. Possible 35 ft. of strike length indicated by float.

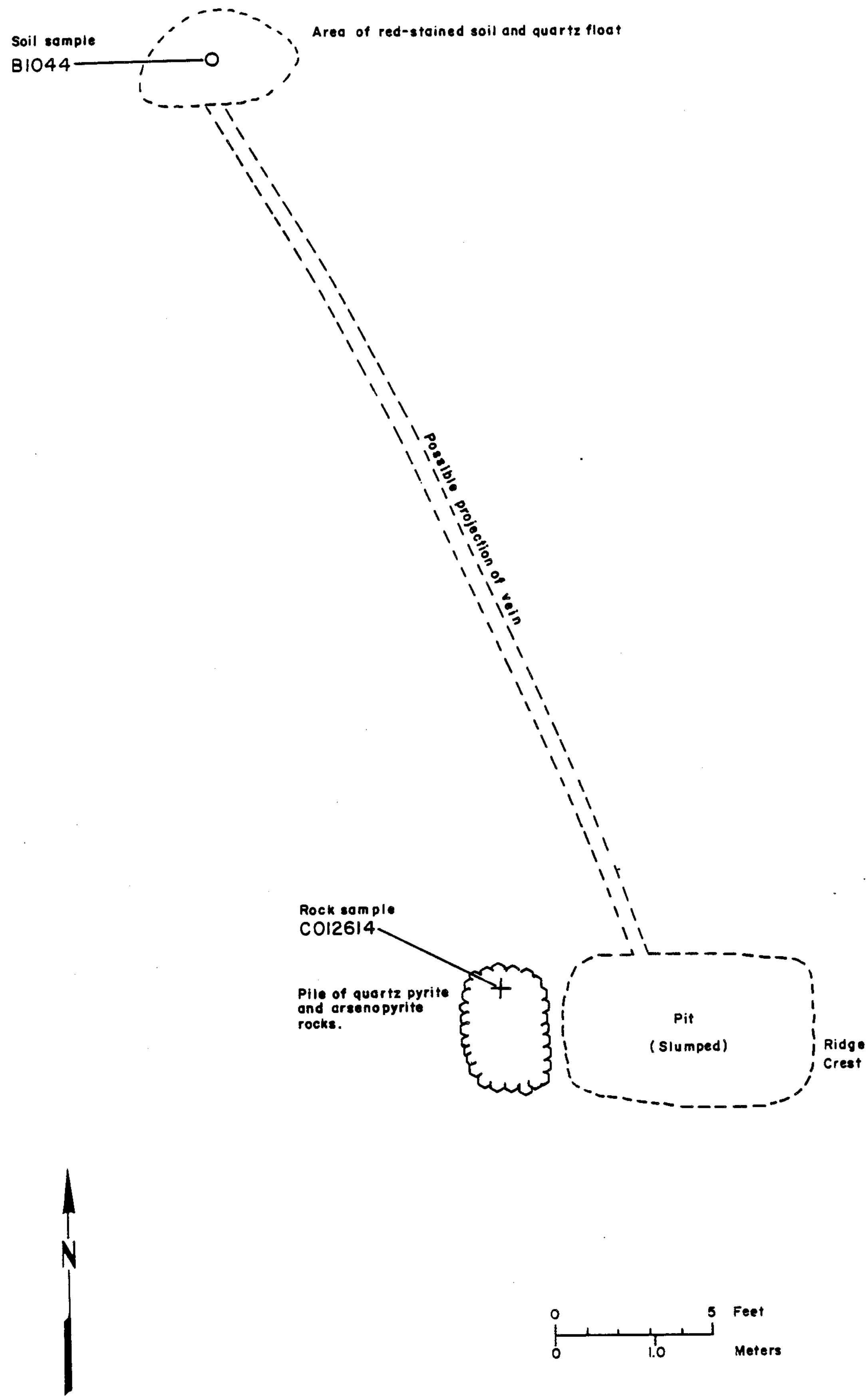
Development and Production: One small slumped prospect pit.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As %	Remarks
C012614	ND	10	20	1.7	1.2	ND	48	2	.99	quartz from pit
B1044	90	115	330	4.7	1.9	ND	165	6	.86	soil sample
Bundtzen	barren (no significant mineralization)									quartz from pit

References: Bundtzen, 1981.



Occurrence No. 53-Unnamed Occurrence

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Location: Ridge south of Eureka Creek (348360N, 357850E)

Ownership: No current claims.

Occurrence No. 54

Occurrence Type Shear controlled and/or stratabound sulfides

Examining Geologist CDH

Date(s) of Examination July 29, 1983

General Geology: Birch Creek schists. No mineralized outcrops seen. Exposure is nonexistent in the area of mineralized float.

Mineralization: Sphalerite, pyrite, galena, chalcopyrite, hematite. Gangue is garnet, tremolite-actinolite, quartz.

Structure: The true structure and rock relationships are unknown. A possible northwest shear zone passes through area and may be a mineralizing structure. Selective replacement in the quartz-garnet schist resulted in a semi-stratabound deposit from which sample C012613 was derived. Abundant quartz float (mostly barren) is also found in the area.

Development and Production: None.

Remarks: Lack of exposure prevents proper evaluation of this showing. Soil sample prospecting and trenching would be helpful.

Analyses: See attached table.

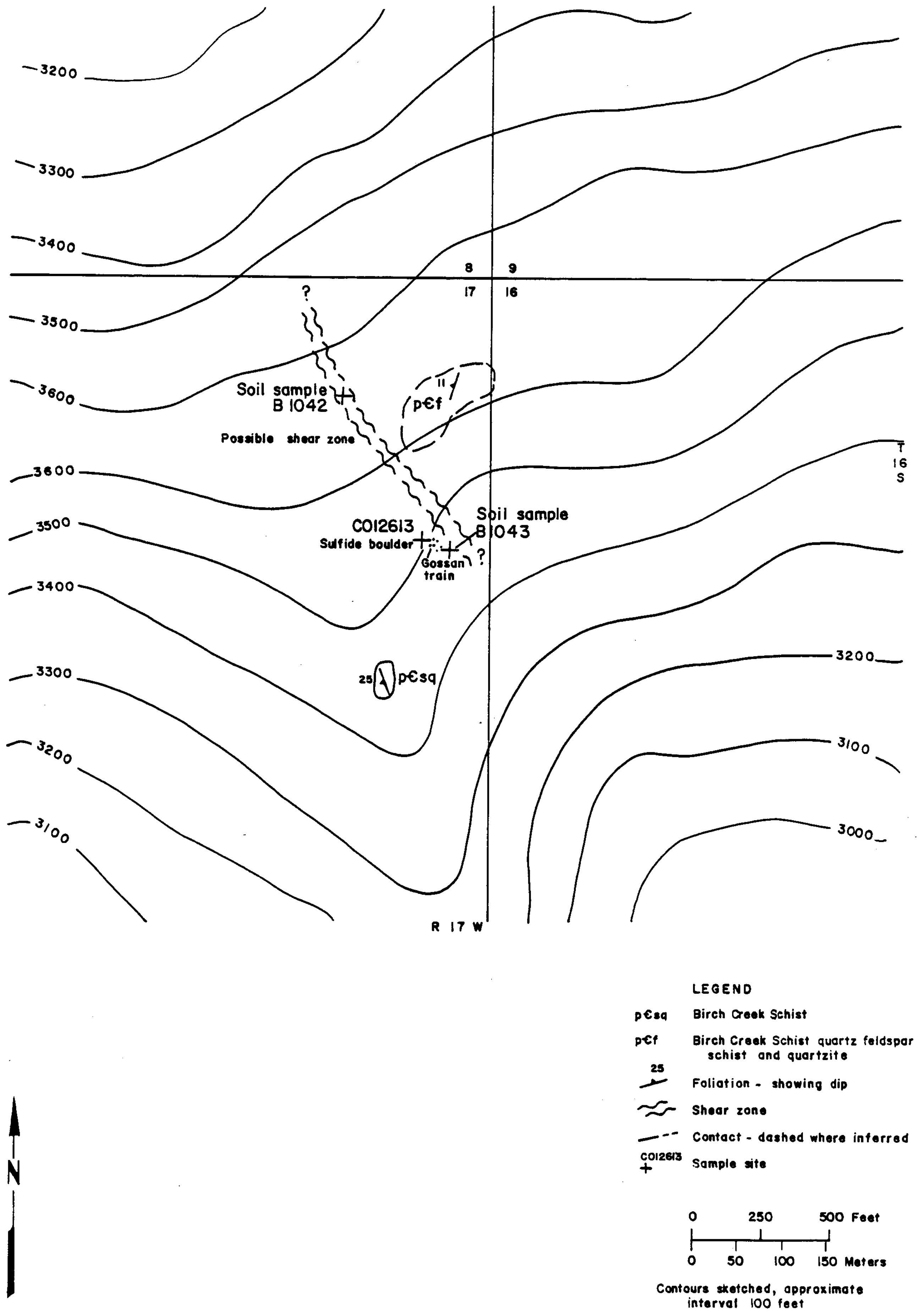
References: Bundtzen, 1981.

Unnamed Occurrence

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.110%	1.05%	11.0%	ND	.007 oz/tn	ND	.067%	ND	.050%	2 ppm	--	--	Sample CO12613. Float.
	.006%	.016%	.016%	.4 ppm	ND	ND	.010%	5 ppm	.092%	ND	--	--	Sample B1042. Soil.
	.004%	.087%	.315%	.5 ppm	.02 ppm	ND	.018%	3 ppm	.028%	ND	--	--	Sample B1043. Soil.
*	.006%	.015%	.240%	.010 oz/tn	tr	--	.810%	--	--	--	--	--	Quartz float.

* Bundtzen, 1981.



Occurrence No. 54 - Unnamed prospect

OCCURRENCE REPORT FORM

NAME Chloride Lode Claim (patented M.S. No. 361)

Study Area Kantishna Hills

Occurrence No. 55

Location: East side Lucky Gulch, 2.6 mi. above mouth of Eureka Creek. (3491570N, 355890E)

Occurrence Type Quartz sulfide vein

Examining Geologist JMK, TKH

Ownership: Ivan P. Lloyd

Date(s) of Examination June 16 and 23, 1983

General Geology: Quartz eye-bearing metafelsite and graphitic schist. The metafelsite alters to a tan-colored, limonite-stained fissile, calcareous wall rock, adjacent to the mineralized zone.

Mineralization: Limonite-stained vuggy massive and brecciated quartz float zone trending roughly N80°E for 1400 ft. along strike. Mineralogy: quartz, limonite, arsenopyrite, scorodite, pyrite, jamesonite(?), galena (see figure for Occurrence No. 51).

Structure: The mineralized zone may be two branching vein structures, one trends N 85°E and the other N65°E. The latter is a continuation of the vein cut underground on the Jupiter-Mars claim.

Development and Production: Development: a series of trenches along the strike length of the mineralized zone. No production.
Indicated reserves along entire mineralized trend including Jupiter-Mars claims: 103,760 tons at 0.062 oz/ton Au and 5.97 oz/ton Ag.

Remarks: Two holes, K-12 and K-14, drilled along trend of mineralization. (See Appendix D) The deepest intersected mineralization 340 ft. vertically below the surface. A 1.8 ft. interval averaged .063 oz/ton Au and 7.31 oz/ton Ag.

Analyses: See attached table.
Drill core samples (See holes K-12 and K-14, Appendix D.)

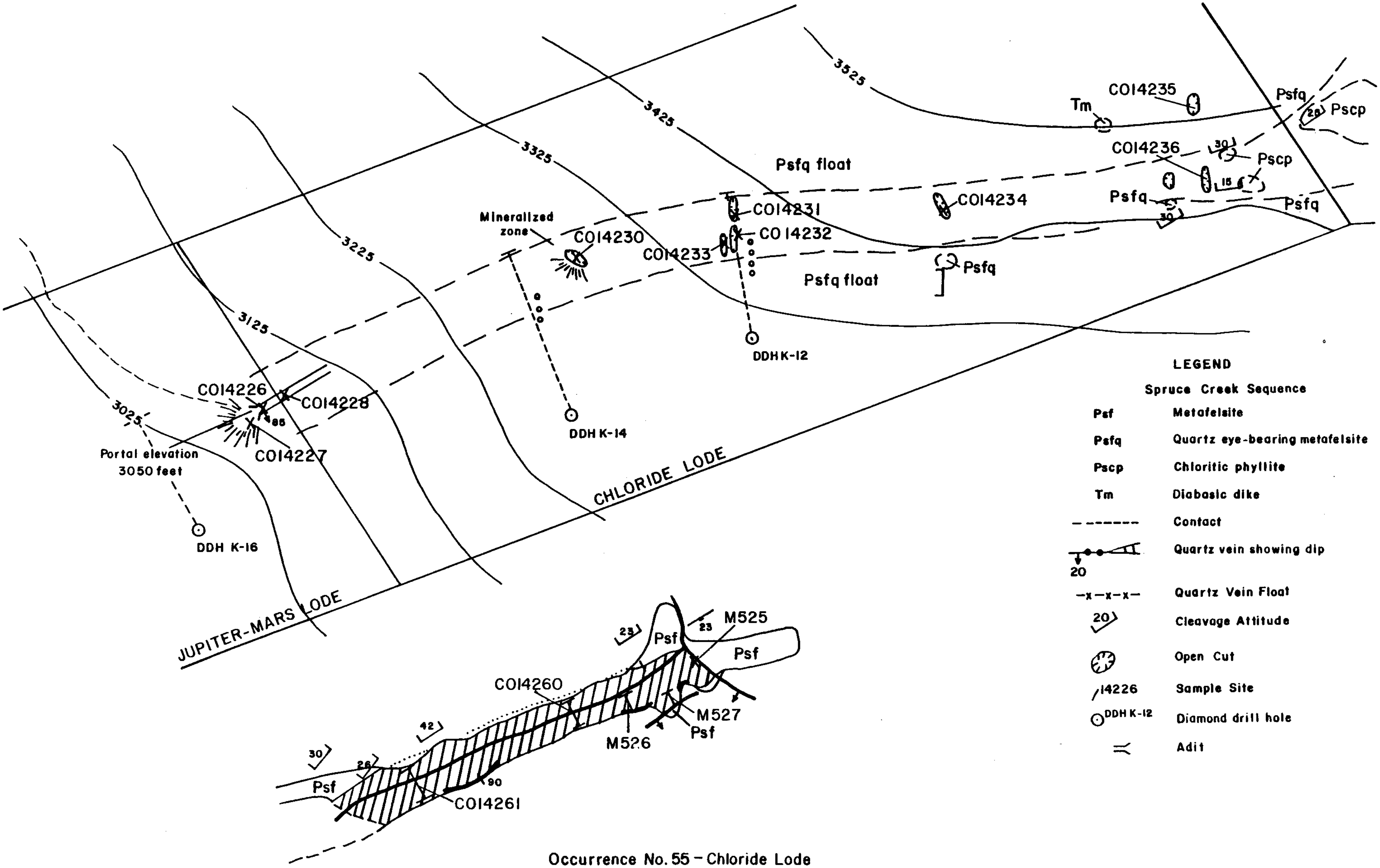
References: Bundtzen, 1981, p. 203, 219.
Hawley, 1977.

Chloride Lode Claim (patented M.S. No. 361)

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.016%	.195%	.004%	4.82 oz/tn	.035 oz/tn	ND	.003%	ND	1.00%	ND	--	--	Sample C014231. Dump sample.
	.200%	14.0%	.440%	43.8 oz/tn	.467 oz/tn	ND	.290%	ND	5.05%	ND			Sample C014232. Dump sample.
	.135%	4.80%	.220%	10.5 oz/tn	.093 oz/tn	ND	.070%	ND	3.60%	ND	--	--	Sample C014233. Dump sample.
	.030%	.315%	.020%	2.92 oz/tn	.105 oz/tn	2 ppm	.034%	5 ppm	2.80%	4 ppm	--	--	Sample C014234. Dump sample.
	.007%	.450%	.010%	1.75 oz/tn	.079 oz/tn	ND	.010%	ND	1.20%	18 ppm	--	--	Sample C014235. Dump sample.
	.110%	20.0%	.125%	52.5 oz/tn	.137 oz/tn	4 ppm	.002%	4 ppm	.245%	3 ppm	--	--	Sample C014236. Dump sample.
*	.007%	.011%	.037%	0.03 oz/tn	tr	--	ND	--	--	--	--	--	Soil samples across mineralized zone.
*	.002%	.013%	.026%	0.26 oz/tn	tr	--	ND	--	--	--	--	--	
*	.007%	.110%	.060%	0.47 oz/tn	.01 oz/tn	--	ND	--	--	--	--	--	
*	.010%	.390%	.080%	0.64 oz/tn	.01 oz/tn	--	ND	--	--	--	--	--	

* Hawley, 1977.



Occurrence No. 55 – Chloride Lode

OCCURRENCE REPORT FORM

NAME Waterloo Claim

Study Area Kantishna Hills

Location: 1.4 mi. east of Wickersham Dome (491850N, 357525E)

Ownership: A. Q. Peterson, Fairbanks, AK

Occurrence No. 56

Occurrence Type Quartz vein

Examining Geologist JMK

Date(s) of Examination June 29, 1983

General Geology: Lies within quartz eye-bearing metafelsite approximately 50 ft. west of a graphitic schist bed.

Mineralization: Float in trenches consists of limonite-stained quartz, locally somewhat gossaneous and brecciated, silicified metafelsite with less than 5% pyrite and arsenopyrite.

Structure: One trench trends N10^{o}E and lies along a northeast fault projected through the area (Bundtzen, 1981, Plate 1).

Development and Production: Development: Three small sloughed-in trenches.

Remarks: This description does not match that given by Bundtzen (1981, p. 203) of the mineralization.

Analyses: See attached table.

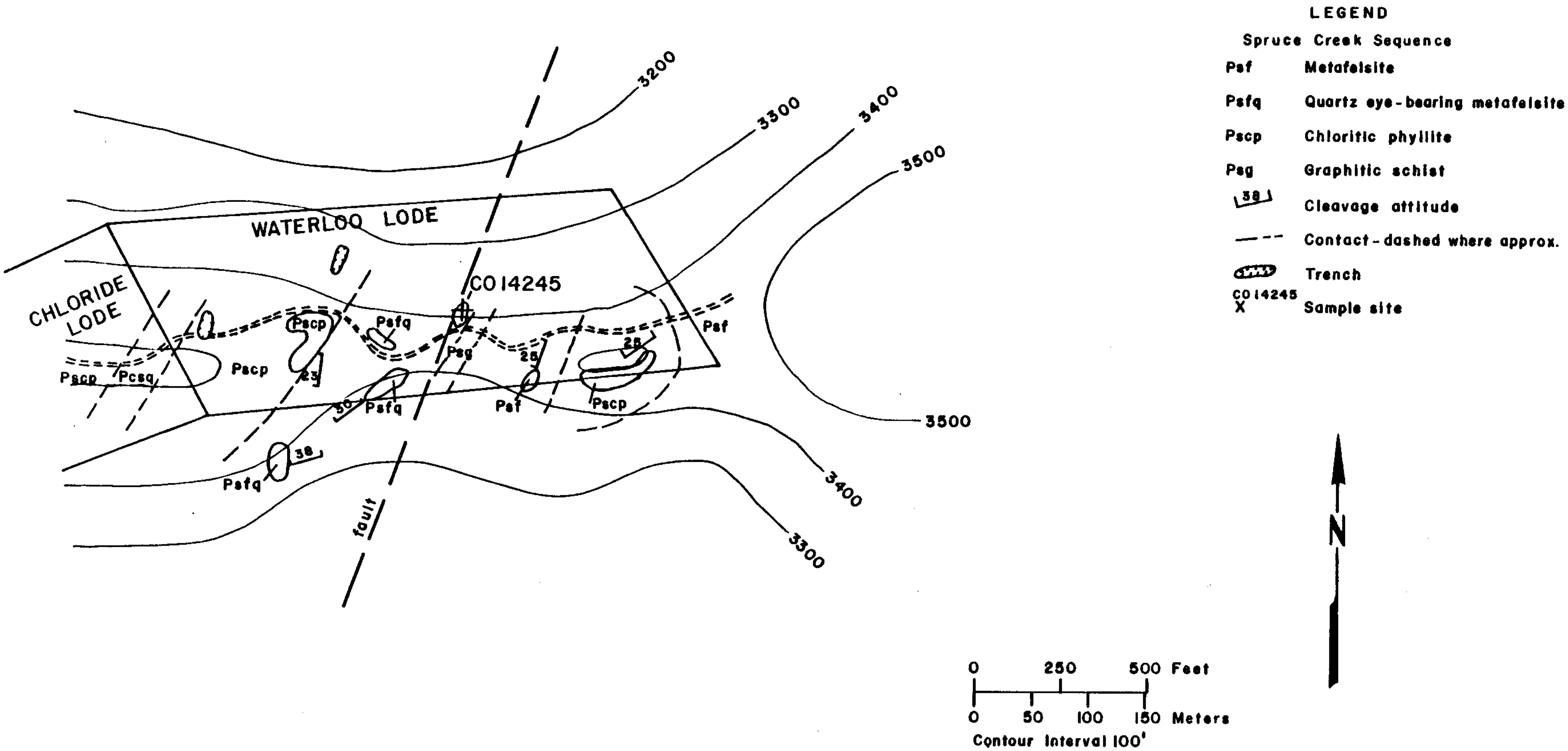
References: Bundtzen, 1981, p. 203, 220, and Plate 1.

Waterloo Claim

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.018%	.026%	.165%	.27 oz/tn	.03 ppm	ND	.016%	ND	0.25%	ND	--	--	Sample C014245.
*	.050%	48.3%	.072%	5.0 oz/tn	.02 oz/tn	6 ppm	.100%	--	--	--	--	--	Massive galena.
*	.077%	52.0%	.133%	79.1oz/tn	.04 oz/tn	50 ppm	.380%	75 ppm	4.97%	.001%	5.2 ppm	1.5 ppm	Massive galena.

* Bundtzen, 1981.



Occurrence No. 56 - Waterloo claim

OCCURRENCE REPORT FORM

NAME Saddle Prospect

Study Area Kantishna Hills

Occurrence No. 57

Location: 700 ft. southwest of peak 3835 (3492800N, 360500E)

Occurrence Type Silicified zone

Examining Geologist JMK

Ownership: Jim Fuksa, Grizzly No. 1 Claim

Date(s) of Examination June 25, 1983

General Geology: Quartz eye-bearing metafelsite.

Mineralization: Quartz and silicified quartz eye-bearing metafelsite float, occurring within a N70°E trending 8 ft. by 100 ft. long zone. Mineralogy: limonite-stained quartz, pyrite, arsenopyrite.

Structure: A dip for the zone could not be determined.

Development and Production: Development: Five trenches in colluvium.

Remarks: Appears to fit Bundtzen's No. 47.

Analyses: See attached table.

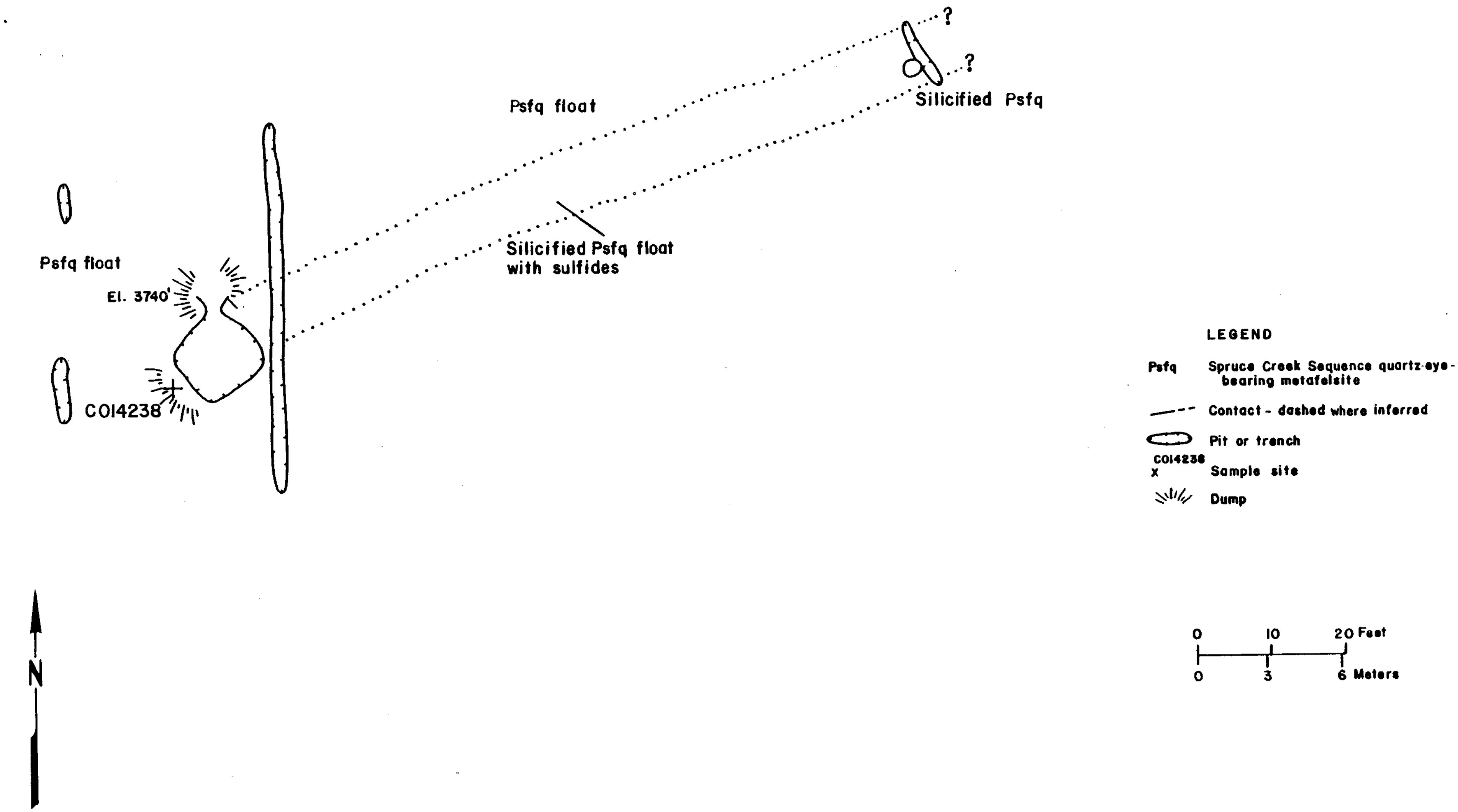
References: Bundtzen, 1981, p. 214, 221.
Hawley, 1977.

Saddle Prospect

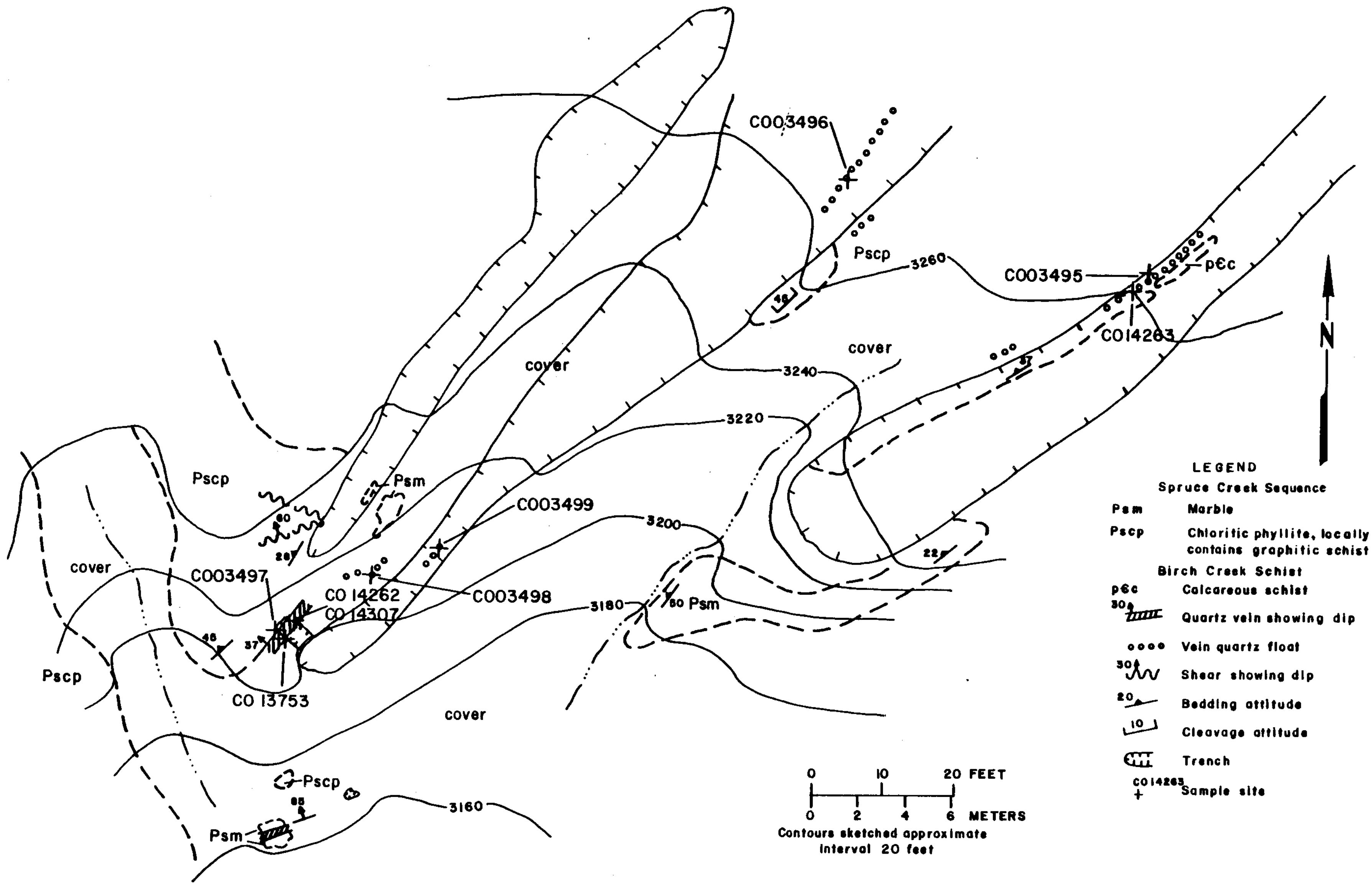
Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	15 ppm	.014%	.004%	1.5 ppm	.17 ppm	ND	.005%	3 ppm	.145%	ND	--	--	Sample C014238
*	.005%	.018%	.008%	.09 oz/tn	.01 oz/tn	20 ppm	.001%	75 ppm	.572%	.007%	1.0 ppm	4.3 ppm	Grab samples; pyrite ore.
**	.001%	.003%	.013%	ND	ND	--	ND	--	--	--	--	--	Gossan chip.

* Bundtzen, 1981.
** Hawley, 1977.



Occurrence No. 57 - Saddle prospect



Occurrence No. 58 - Weiler or Parky Prospect (Griess) (Silver King No. 18 Claim)

OCCURRENCE REPORT FORM

NAME Wieler, (Griess) Prospect (Silver King No. 18 claim)

Study Area Kantishna Hills

Location: 2.0 miles east of Wichersham Dome (3473450N, 333800E)

Ownership: Gold King Mines

Occurrence No. 58

Occurrence Type Quartz, galena vein

Examining Geologist JMK, TKH, LWH, RJH

Date(s) of Examination July 14-15, 1983

General Geology: Interbedded marble and chloritic phyllite of the Spruce Creek sequence. The phyllite locally contains graphitic interbeds.

Mineralization: A four foot wide exposure of limonitic, sheared quartz-vein material exposed for 22 feet along strike. Quartz vein float found in nearby bulldozer cuts. Mineralogy: galena, malachite, azurite, arsenopyrite, pyrite, chalcopyrite, sphalerite.

Structure: The only mineralized bedrock quartz vein exposure trends N40^{O}E and dips 37^{O}N which is roughly parallel to bedding and cleavage. Several shears were noted cutting the nearby host rocks. A barren quartz vein to the south strikes N70^{O}E, dips 89^{O}W and may correlate with chalcopyrite quartz and sphalerite-bearing float in the southern-most trench.

Development and Production: Ore produced from a 5 x 5 x 30 foot trench and an 8 foot adit after examination. Capps (1919, p. 101) reports a 23 foot adit in the area. Production: 156 tons at average 2.8 oz/ton gold, 65.3 oz/ton silver mined during August and September 1983 (Nick Begich, personal comm.).

Remarks: Mineralization is spotty and has a very short continuous strike length.

Analyses: See attached table.

References:

Capps, 1919, p. 101.
Bundtzen, 1981, p. 204.
Hawley, 1977.
Nick Begich, personal comm. 1983.

Wieler, (Griess) Prospect (Silver King No. 18 claim)

Salisbury & Dietz, Inc. study results:

Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	B %	U ppm	Th ppm	Remarks
1.05	14.	4.1	247.9	0.15		1.25						Sample C013755, quartz vein
60 ppm	70 ppm	105 ppm	1.02	.01								Sample C003495
350 ppm	1300 ppm	2750 ppm	2.16	.037								Sample C003496
1750 ppm	220 ppm	1400 ppm	3.84	.1								Sample C003497
900 ppm	560 ppm	5700 ppm	0.21	.005								Sample C003498
17000 ppm	28200 ppm	37000 ppm	377.00	.21								Sample C003499
* ND	.023	.051	tr	tr		.001						Hawley (1977)

* Hawley, 1977

Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	B %	U ppm	Th ppm	Remarks
.45	4.85	.505	95.40	.12		.32		1.0				Sample C014262
.955	12.5	8.95	174.0	.14		9250 ppm		3150 ppm				Sample C014307

OCCURRENCE REPORT FORM

NAME Ridgetop No. 1 Claim (Unnamed Occurrence)

Study Area Kantishna Hills

Occurrence No. 59

Location: 1300 ft. southwest of Peak 3835 (34933500N, 359900E)

Occurrence Type Silicified zone

Examining Geologist JMK

Ownership: Jim Fuksa
Ridgetop No. 1 Claim

Date(s) of Examination June 25, 1983

General Geology: Quartz eye-bearing metafelsite.

Mineralization: Limonite-stained silicified zone exposed in a trench. The zone is 12 ft. wide and contains wall rock inclusions. Mineralogy: quartz, pyrite, arsenopyrite. Up to 10% total sulfide.

Structure: A trend could not be determined for the zone due to poor exposure.

Development and Production: Development: three trenches in colluvium, two of which are sloughed.

Remarks: Two nearby trenches contain no significant mineralization. This occurrence appears to fit Bundtzen's No. 46. Overlaps the Chloride patented lode claim. (See attached.)

Analyses: See attached table.

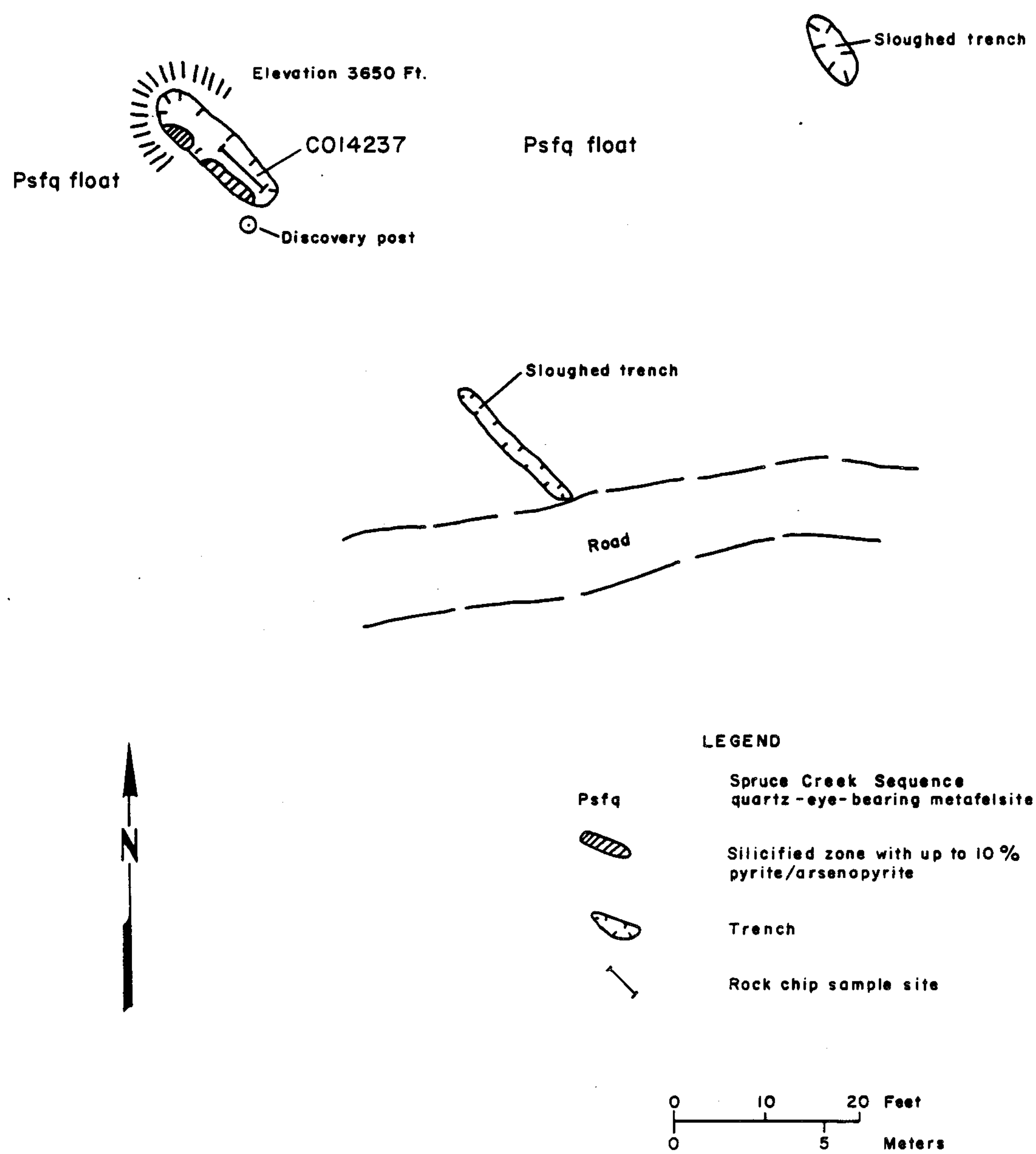
References: Bundtzen, 1981, p. 204, 221.
Hawley, 1977.

Ridgetop No. 1 Claim (Unnamed Occurrence)

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	35 ppm	80 ppm	130 ppm	2.7 ppm	2.9 ppm	<2 ppm	30 ppm	3 ppm	12000 ppm	2 ppm	--	--	Quartz on dump.
*	.004%	.005%	.003%	.10 oz/tn	.11 oz/tn	8 ppm	.004%	75 ppm	1.37 %	.001%	0.1 ppm	1.8 ppm	Arsenopyrite-quartz grab sample.
**	ND	.022%	.012%	.09 oz/tn	.01 oz/tn	--	ND	75 ppm	--	--	--	--	Pit samples.
**	--	.012%	.010%	.05 oz/tn	.01 oz/tn	--	ND	--	--	--	--	--	Pit samples.

* Bundtzen, 1981.
** Hawley, 1977.



Occurrence No. 59-Ridgetop No. 1 Claim

OCCURRENCE REPORT FORM

NAME Grizzly No. 2 Claim

Study Area Kantishna Hills

Occurrence No. 60

Location: 1300 ft. southeast of Peak 3835 (3493200N, 361300E)

Occurrence Type Quartz vein

Examining Geologist JMK

Ownership: Grizzly No. 2 unpatented lode claim belonging to Jim Fuksa

Date(s) of Examination August 1, 1983

General Geology: Spruce Creek metafelsite and quartz eye-bearing metafelsite.

Mineralization: A series of northeast- and northwest-trending quartz veins 0.5-1.0 ft. wide; the longest set exposed over a 40 ft. strike length. Mineralogy: 1-2% pyrite and arsenopyrite, limonite stain.

Structure: Some veins are offset by a northwest-trending fault.

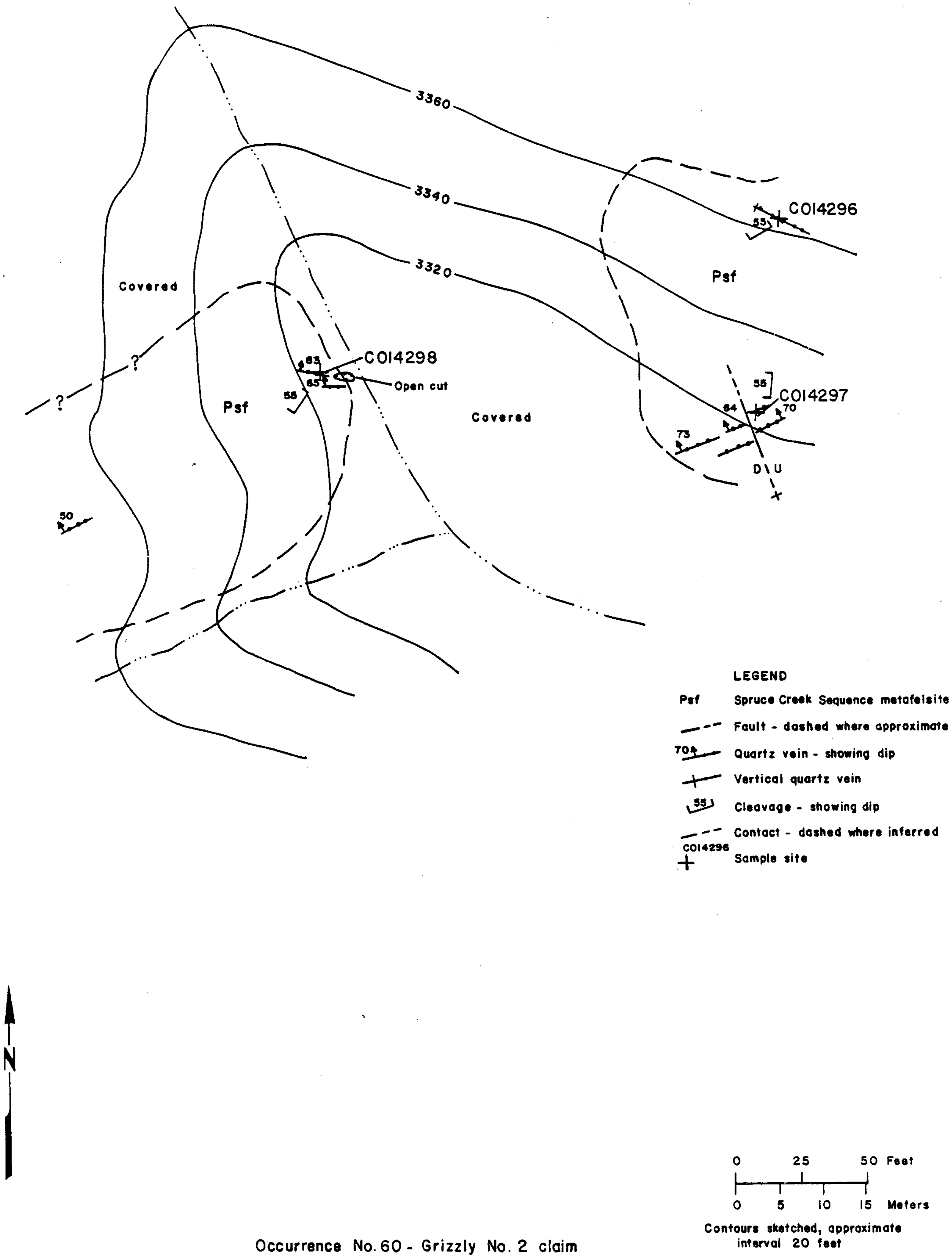
Development and Production: Development: one small open cut. No production.

Remarks: The vein dips do not fit Bundtzen's description of his Occurrence No. 48 which is located in the area.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag oz/tn	Au oz/tn	Mo ppm	Sb ppm	W ppm	As ppm	Remarks
CO14296	ND	10	20	ND	ND	ND	ND	4	240	1'wide quartz vein
CO14297	10	ND	10	0.2	ND	ND	ND	4	55	.5' wide quartz vein
CO14298	ND	15	ND	ND	ND	ND	ND	ND	45	.2-.6'wide quartz vein

References: Bundtzen, 1981, p. 204.



Occurrence No. 60 - Grizzly No. 2 claim

OCCURRENCE REPORT FORM

NAME Last Chance Mine (Caribou Lode)

Study Area ~~Kantishna Hills~~

Occurrence No. 61

Location: Intersection of Last Chance and Caribou Creeks. (3511350N, 367480E)

Occurrence Type Quartz stibnite vein

Examining Geologist JMK

Ownership: Arley Taylor
Last Chance Creek Lode No. 1-6

Date(s) of Examination July 27, 1983

General Geology: Birch Creek biotite amphibolite schist.

Mineralization: A vein 3-6 ft. wide that strikes N30^{O}E and dips 50-70^{O}NW has been exposed by an open cut for 150 ft. along strike. Mineralogy: stibnite, pyrrhotite, jamesonite, pyrite, stibiconite. Intermittent vein exposures occur along this trend for 560 ft.

Structure: The vein is crosscut by numerous northwest trending faults. Intense folding within vein wall rocks.

Development and Production: Development consists of a 150 ft. long open cut, an eight foot deep shaft, a caved shaft and adit and a 32 ft. long open adit. Production: approximately 70 tons of select high grade ores and concentrates mined up through 1975; 15-30 tons ore at mine site. A concentrating plant was set up and used at the property at one time.

Remarks: Potential exists for small-scale future mineral production (Bundtzen, 1981, p. 206).

Analyses: See attached table.

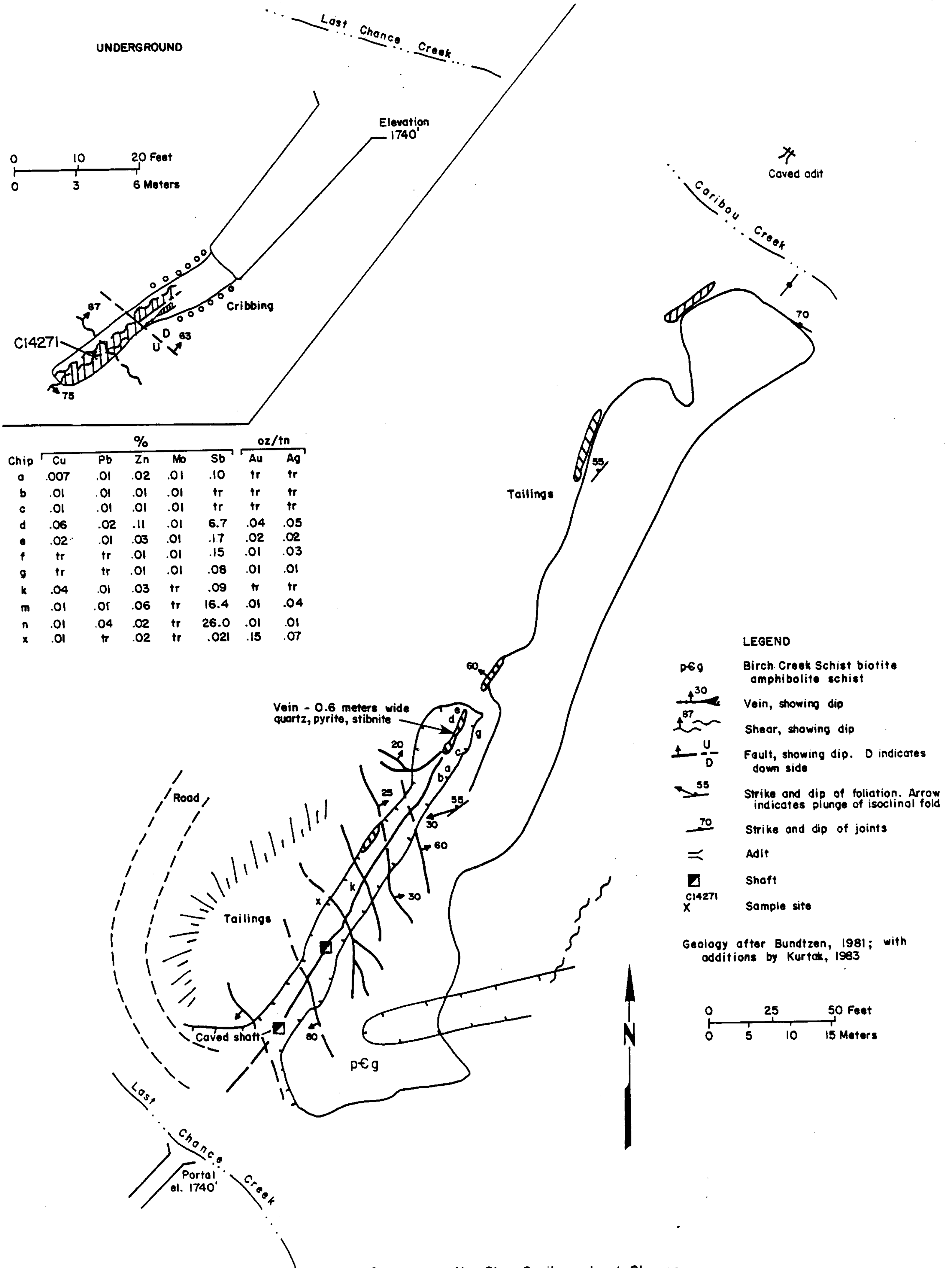
References: Capps, 1919, p. 107-108.
Wells, 1933, p. 377-378.
Hawley, 1977.
Bundtzen, 1981, p. 206, 223.

Last Chance Mine (Caribou Lode)

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.002%	.006%	.006%	ND	.08 oz/tn	ND	.250%	ND	1.00%	--	--	--	Sample C014271.
*	tr	.003%	.016%	0.01 oz/tn	0.01 oz/tn	--	.180%	--	--	--	--	--	
*	.065%	.001%	.013%	3.23 oz/tn	0.08 oz/tn	--	.034%	--	--	--	--	--	
*	.001%	.002%	.008%	0.01 oz/tn	0.11 oz/tn	--	.056%	--	--	--	--	--	
*	.001%	.001%	.001%	0.01 oz/tn	0.02 oz/tn	--	.026	--	--	--	--	--	

* Hawley, 1977.



Chip	%					oz/tn	
	Cu	Pb	Zn	Mo	Sb	Au	Ag
a	.007	.01	.02	.01	.10	tr	tr
b	.01	.01	.01	.01	tr	tr	tr
c	.01	.01	.01	.01	tr	tr	tr
d	.06	.02	.11	.01	6.7	.04	.05
e	.02	.01	.03	.01	.17	.02	.02
f	tr	tr	.01	.01	.15	.01	.03
g	tr	tr	.01	.01	.08	.01	.01
k	.04	.01	.03	tr	.09	tr	tr
m	.01	.01	.06	tr	16.4	.01	.04
n	.01	.04	.02	tr	26.0	.01	.01
x	.01	tr	.02	tr	.021	.15	.07

Occurrence No. 61 - Caribou - Last Chance

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 62

Location: (3491900N, 368100E)

Occurrence Type Quartz-arsenopyrite vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination July 9, 1983

General Geology: Blastoporphyritic metafelsite (Psfq) unit. Unit lies in an area of imbricate thrusting.

Mineralization: No mineralization observed this study. Previous studies indicate arsenopyrite and pyrite in a quartz vein with minor calcite. Vein 6 ft. thick.

Structure: Previous reports indicate a N20-40^{o}W trending vertical vein 6 ft. thick.

Development and Production: None recorded.

Remarks: Previous literature reports a small prospect with only weak mineralization. Occurrence has been covered by bulldozer road fill.

Analyses: No significant results from gossanized chips (Bundtzen, 1981).

References: Bundtzen, 1981, p. 214, 221.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 63

Location: (3494250N, 369750E)

Occurrence Type Quartz-sulfide vein

Examining Geologist MGS

Ownership: None.

Date(s) of Examination July 9, 1983

General Geology: Interlayered chloritic phyllite and chlorite carbonate schist, mapped as chlorite phyllite (Pscp).

Mineralization: Minor float on road cut: iron oxide stained quartz. Previous work describes pyrite and minor galena in quartz vein.

Structure: Previous work describes northeast trending vein. Vein not seen during this examination.

Development and Production: None recorded.

Remarks: No significant mineralization observed other than minor iron-stained quartz float. Bulldozed road probably has covered the prospect.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb %	Zn ppm	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C014423	20	.010	55	.041	ND	ND	.010	ND	.008
Bundtzen	--	.042	--	.114	.01	--	--	--	.016

References: Bundtzen, 1981, p. 214, 221.

OCCURRENCE REPORT FORM

NAME McGonnigill

Study Area Kantishna Hills

Occurrence No. 64

Location: (3496700N, 369200E)

Occurrence Type Polymetallic quartz-carbonate vein

Examining Geologist JRB, MGS

Ownership:

Date(s) of Examination July 21, 1983

General Geology: Micaceous quartzite of the Birch Creek Schist strikes N25^{O}W, dips 25-35^{O}W.

Mineralization: Arsenopyrite, boulangerite, pyrite, minor galena, sphalerite. This study noted pyrite, arsenopyrite, stibnite and sphalerite.

Structure: Prospect located on quartz vein strikes N58-70^{O}E, dips 50^{O}SE (Capps) or 34^{O}NW (Bundtzen, 1981). Vein attains eight foot thickness. At least one other quartz vein present on prospect site.

Development and Production: One ton shipped to testing plant circa 1920. Assays reportedly yielded 1.45 oz/ton Au (Davis, 1922). A partially open 12 ft. adit was driven to explore the quartz vein.

Remarks: Very small amount of development work, not enough to fully evaluate the potential of prospect. (Tonnage potential from outcropping quartz vein estimated 880 tons.)

Analyses: See attached table.

References:

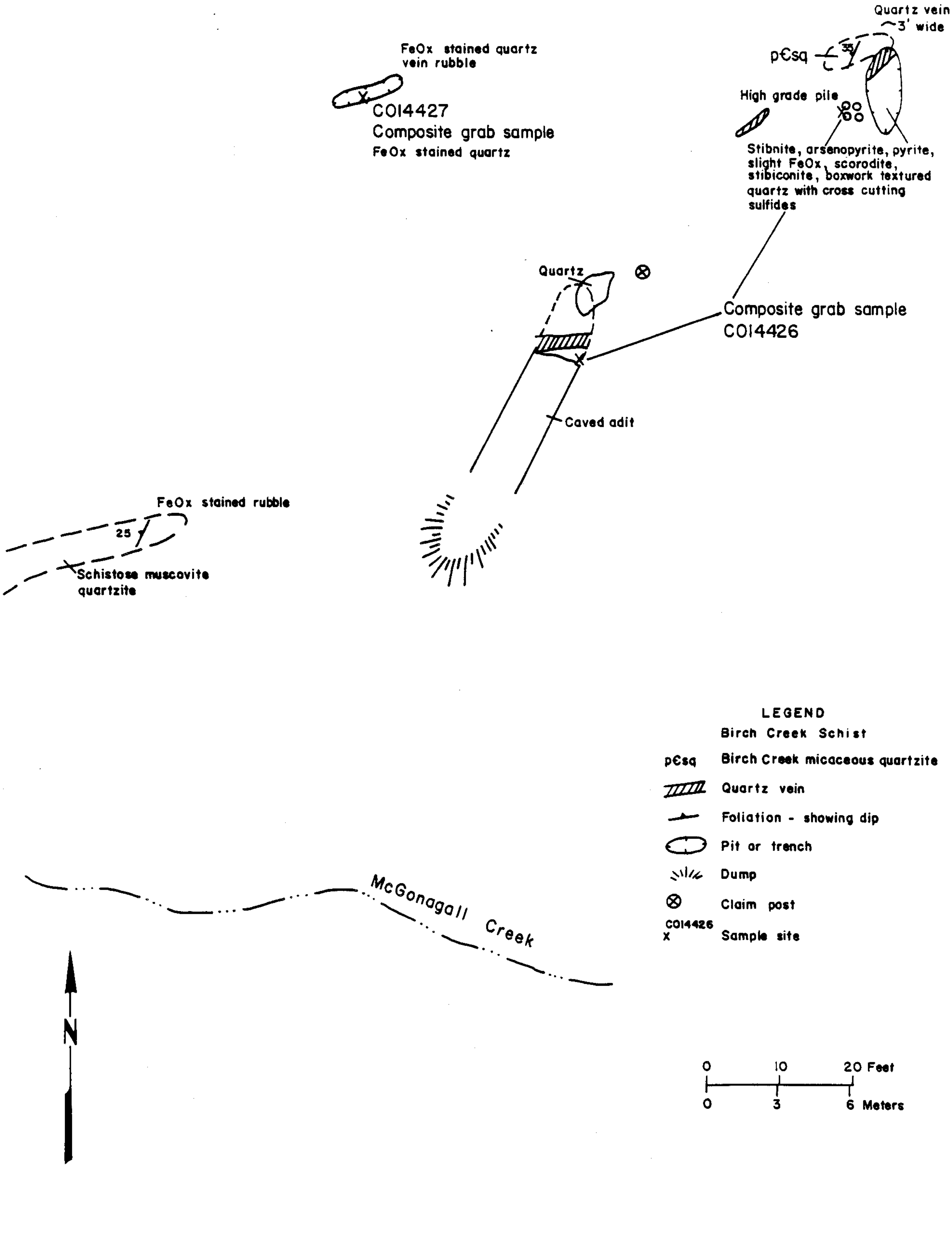
Bundtzen, 1981.
Capps, 1919.
Davis, 1922.

McGonnigill

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.010%	.765%	.220%	2.33 oz/tn	.95 ppm	ND	.340%	3 ppm	.455%	ND	--	--	Sample C014426. Composite grab of high graded dump material. Primarily white, locally FeOx stained vein quartz with disseminated grain and stringers of pyrite, arsenopyrite, stibnite and trace sphalerite. Pronounced FeOx, jarosite, scorodite, and stibiconite stain.
	.0015%	.155%	.125%	0.32 oz/tn	.13 ppm	ND	.096%	ND	.215%	ND	--	--	Sample C014427. Composite grab sample of trench spoils. Similar to No. C014426 except trace sulfides noted.
*	.007%	2.20%	.450%	1.35 oz/tn	.14 oz/tn	54 ppm	1.13%	75 ppm	6.28%	.038%	0.8 ppm	4.8 ppm	Arsenopyrite, galena, and
*	.005%	0.68%	.520%	0.87 oz/tn	.03 oz/tn	39 ppm	.580%	75 ppm	8.51%	.008%	0.4 ppm	1.5 ppm	boulangerite in quartz.
*	--	--	--	0.25 oz/tn	.17 oz/tn	--	--	--	--	--	--	--	Grab sample.
*	--	--	--	2.24 oz/tn	.24 oz/tn	--	--	--	--	--	--	--	One ft. channel area.
**	--	--	--	52.0 oz/tn	--	--	--	--	--	--	--	--	
**	--	--	--	63.0 oz/tn	.60 oz/tn	--	--	--	--	--	--	--	

* Bundtzen, 1981.
** Davis, 1922.



Occurrence No. 64 - McGonagall Prospect

OCCURRENCE REPORT FORM

NAME Pension Claim

Study Area Kantishna Hills

Occurrence No. 65

Location: 3494225N, 372325E)

Occurrence Type Quartz-arsenopyrite-galena vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination July 8, 1983

General Geology: Blastoporphyritic metafelsite (Psfq).

Mineralization: Float: only iron oxide stained quartz. Previous work describes arsenopyrite, boulangerite, and scorodite present in quartz vein.

Structure: Previous work describes northwest trending vein. Early work describes 2.5 ft. galena vein. Vein not seen during this examination.

Development and Production: None recorded.

Remarks: A road cut into the stream bank leads up to an area where loose colluvial material has slumped off burying the shaft and adit that are reported to be present.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo	Sb %	W	As %
C014422	45	.084	.100	.292	.40	ND	0.03	ND	.515
Bundtzen	--	2.76	.400	1.27	.16	--	1.15	--	.340
Davis	--	--	--	150	--	--	--	--	--

References: Bundtzen, 1981, p. 205, 222.

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Location: (3492925N, 371950E)

Ownership: None

Occurrence No. 66

Occurrence Type Stibnite-quartz vein

Examining Geologist MGS

Date(s) of Examination July 7, 1983

General Geology: Blastoporphyritic metafelsite (Psfq) of Spruce Creek Sequence.

Mineralization: Broken rock in prospect pits. Stibnite and pyrite with quartz-tourmaline-calcite.

Structure: Poorly exposed. Mineralized rocks in prospect pits indicate an easterly trend. Rock is broken and sheared with mineralization along numerous, small, anastomosing veinlets. Zone several feet wide.

Development and Production: Several prospect pits and a short adit have been dug. All are caved and/or sloughed in. No recorded production.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C014418	0.46	4.55	.285	97.2	.064	ND	1.80	3	0.51

References:

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 67

Location: (3491725N, 372775E)

Occurrence Type Sb-Ag-Sulfide-Quartz vein

Examining Geologist MGS

Ownership: No current claims.

Date(s) of Examination July 7, 1983

General Geology: Blastoporphyritic metafelsite of the Spruce Creek Sequence.

Mineralization: Partially exposed shear zone along which hydrothermal alteration and sulfide and quartz mineralization have taken place. Pyrite only hypogene mineral observed. Weathering and leaching has produced supergene goethite, limonite, and jarosite.

Structure: Five hundred foot wide shear zone in brittle metafelsite unit adjacent to the major, high angle fault of the Birch Creek/Spruce Creek contact. Vertically dipping zones and discrete shears trend N40^{o}E range in width from 5-13 ft. Limited exposure precludes mapping trend along strike.

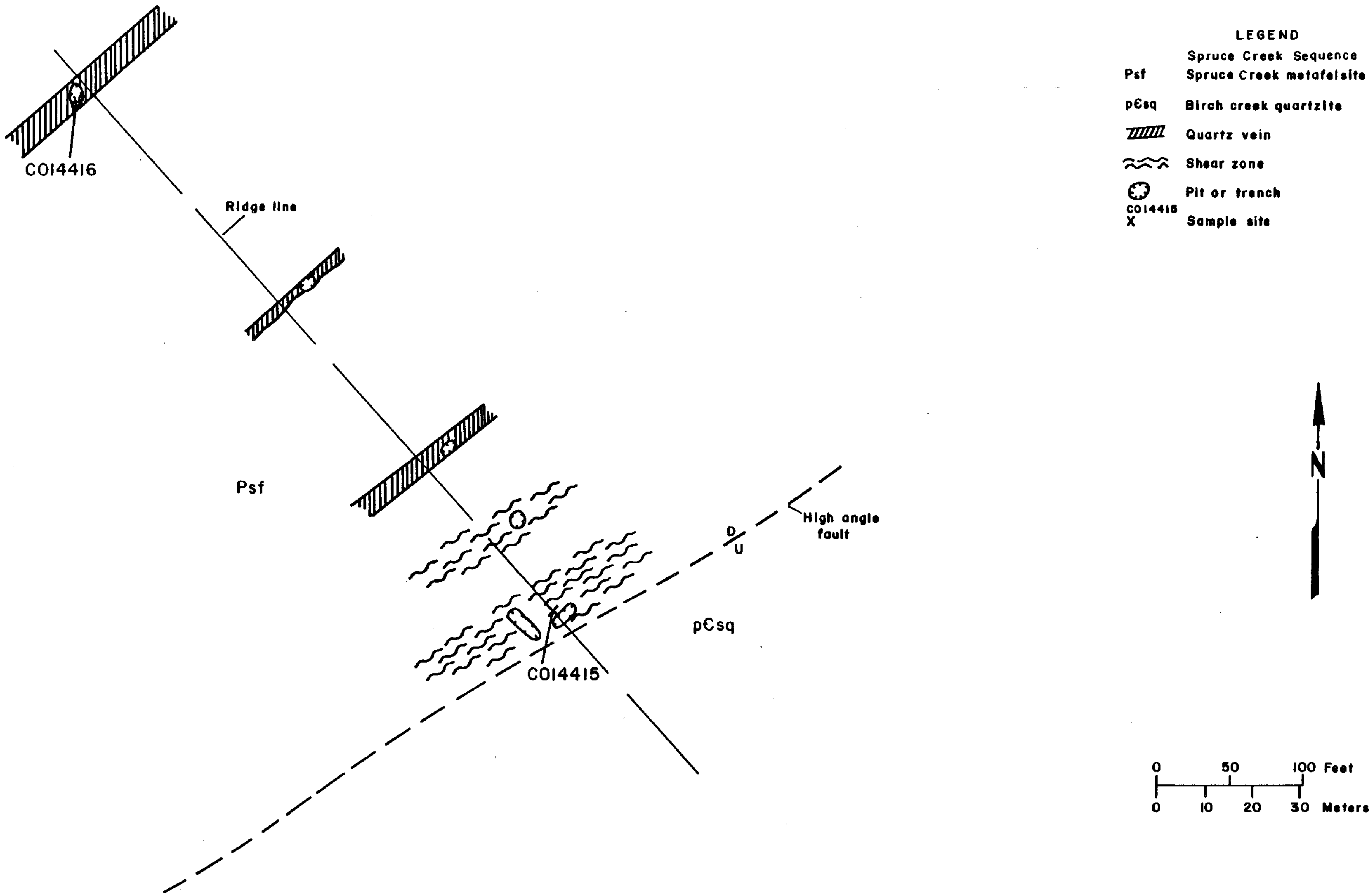
Development and Production: No production recorded. Several of the shears and/or quartz veins have been prospected by pits and trenches.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014415	15	830	20	6.4	ND	ND	480	ND	1650
C014416	35	15	35	0.2	ND	ND	6	3	20

References:



Occurrence No.67 - Unnamed Prospect

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 68

Location: (3493125N, 373850E)

Occurrence Type Stibnite-quartz vein

Examining Geologist MGS

Ownership: None.

Date(s) of Examination July 17, 1983

General Geology: Blastoporphyritic metafelsite of the Spruce Creek Sequence.

Mineralization: Outcrop and float have stibnite, pyrite, possible arsenopyrite in vein quartz.

Structure: Mineralized shear trending N0-10°E at a high to vertical angle. Vein 1-2 ft. across.

Development and Production: Small pits. No recorded production.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C014419	0.006	1.45	0.008	1.60	.019	ND	1.2	ND	2.25

References:

OCCURRENCE REPORT FORM

NAME Arkansas Claim

Study Area Kantishna Hills

Occurrence No. 69

Location: (3493250N, 373950E)

Occurrence Type Quartz-stibnite vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination July 7, 1983

General Geology: Blastoporphyritic metafelsite (Psfq).

Mineralization: Trench float: non oxide-stained quartz locally with stringers of pyrite, stibnite, boulangerite, and arsenopyrite.

Structure: Quartz vein trends N70°E at a vertical angle, with a width of 1-4 ft. Structure traceable for about 100 ft. on the surface.

Development and Production: No recorded production.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au ppm	Mo ppm	Sb %	W ppm	As %
C014421	.012	3.55	.495	2.33	.12	ND	1.9	ND	5.65
Bundtzen	--	.71	.150	1.36	.08	--	.74	--	5.97

References: Bundtzen, 1981, p. 205, 222.

OCCURRENCE REPORT FORM

NAME Glenn Prospect

Study Area Kantishna Hills

Occurrence No. 70

Location: (3496475N, 372575E)

Occurrence Type Quartz-sulfide vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination July 20, 1983

General Geology: Quartzite: weakly to moderately micaceous. Unit included in Birch Creek Schist. Bedding attitude generally strikes to the north and dips 20-40^{o} to the west.

Mineralization: From tailings pile. White quartz vein with disseminated to semi-massive accumulations of stibnite, with lesser pyrite, sphalerite, and minor arsenopyrite. Previous reports (Bundtzen, 1981; Wells, 1933) describe galena. Weathered material contains jarosite, goethite, scorodite, and stibiconite.

Structure: Quartz-sulfide vein trends N80^{o}W and dips 90^{o}. Vein averages four feet in width and has a strike length of 500-700 ft.

Development and Production: No recorded production. Two adits were developed on the trend between 1906-1909. The lower adit is 200 ft. vertically below the upper adit, and extends 300 ft. into the hillside. Both adits now caved. Upper adit 40 ft. long with a winze at the end.

Remarks: A stone shelter was constructed on the property against a cliffy outcrop.

Analyses: See attached table.

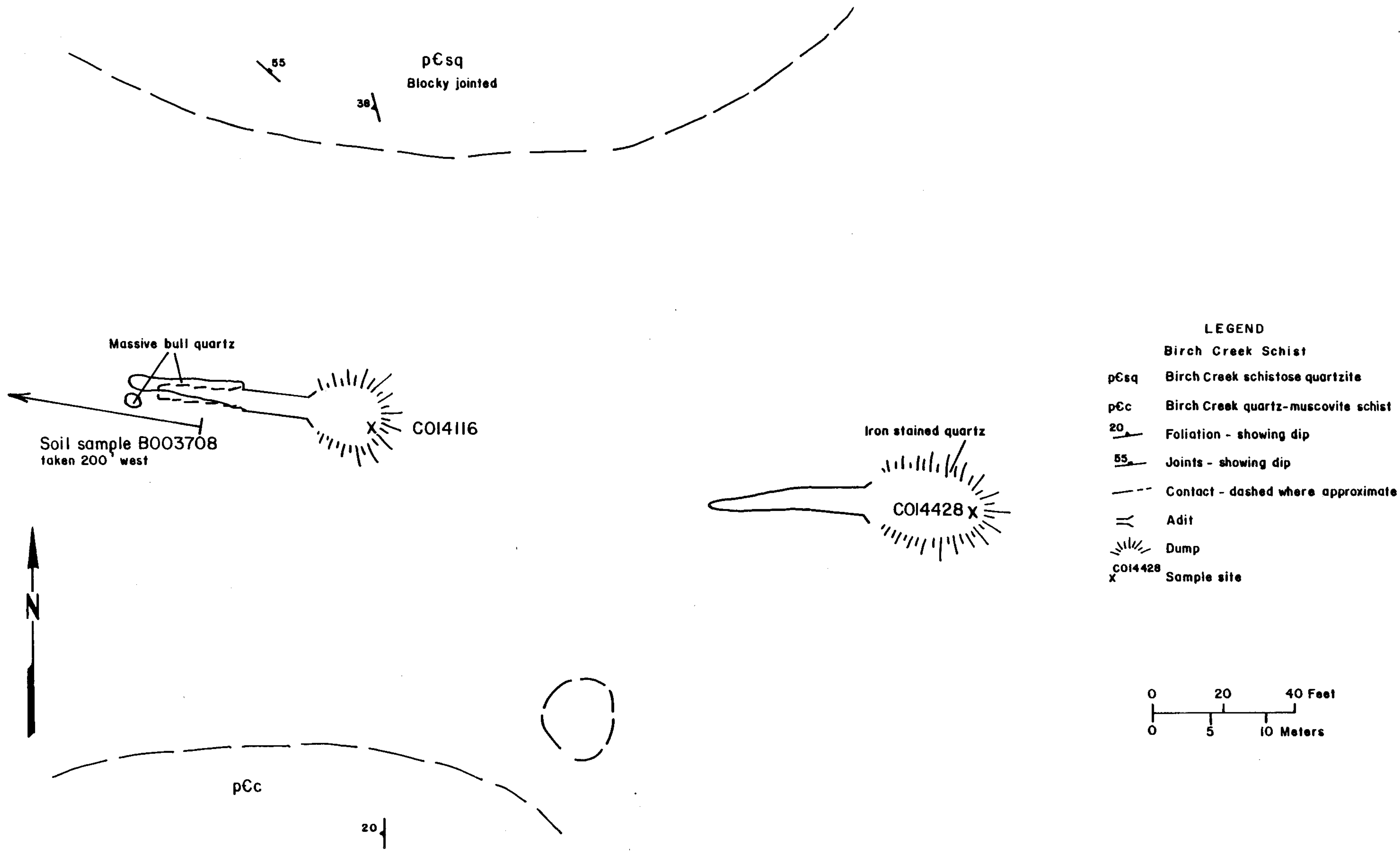
References: Bundtzen, 1981. p. 205, 221.
Wells, 1933, p. 373.

Glenn Prospect

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.086%	3.40%	.480%	8.54 oz/tn	.03 oz/tn	2 ppm	2.05%	4 ppm	2.05%	ND	--	--	Sample C014116. Sample from tailings dump below the upper adit and consists of a composite grab of mineralized material. Ore consists of iron oxide stained vein quartz with disseminated to semi-massive accumulation of stibnite, with lesser pyrite, arsenopyrite, sphalerite, and tetrahedrite(?). Weathered surfaces stained by jarosite, goethite, scorodite, stibiconite.
	.093%	6.55%	1.00%	23.8 oz/tn	.05 oz/tn	ND	.870%	ND	.870%	1 ppm	--	--	Sample C014428. Sample from the tailings dump below the lower adit and consists of a composite grab of mineralized material. Ore consists of vein quartz with disseminated to semi-massive accumulations of stibnite, with lesser sphalerite, arsenopyrite and pyrite. Weathered surfaces contain jarosite, goethite, scorodite, and stibiconite.
	.004%	.006%	.018%	2.7 ppm	.12 ppm	ND	28 ppm	8 ppm	.058%	ND	--	--	Sample B003708. Soil sample taken along quartz vein trend 200 ft. west of upper adit. Sample from 3-5 in. deep and consists of brown to reddish soil with numerous chips of vein quartz and lesser schist.
*	.008%	1.38%	.045%	2.32 oz/tn	.02 oz/tn	16 ppm	.940%	--	--	--	--	--	Grab samples, weathered sulfides.
*	.050%	7.20%	.020%	3.40 oz/tn	.01 oz/tn	100ppm	3.36%	75 ppm	.532%	.006%	0.1 ppm	1.0 ppm	Same.
*	--	--	--	0.76 oz/tn	.04 oz/tn	--	--	--	--	--	--	--	Grab sample, dumps.

* Bundtzen, 1981.



Occurrence No. 70 - Glen Prospect

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 71

Location: 1/3 mi. north of Glacier Peak (3500050N, 372450E)

Occurrence Type Quartz vein

Examining Geologist Bundtzen

Ownership:

Date(s) of Examination

General Geology:

Mineralization: Small six foot wide quartz-siderite vein containing boulangerite and pyrite.

Structure: Mineralization strikes N25-45°E.

Development and Production: None reported.

Remarks:

Analyses:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Sb %	As %
Bundtzen and others	.054	3.5	2.6	9.37	tr	1.19	0.04

References: Bundtzen and others, 1976.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 72

Location: Northeast side of Last Chance Creek, 1.8 mi. above its mouth (3509700N, 375100E)

Occurrence Type Quartz vein

Examining Geologist JMK

Ownership: No current claims.

Date(s) of Examination August 1, 1983

General Geology: Float in area consists of quartz-feldspar schist.

Mineralization: Limonite-stained-quartz-vein float and light colored soil in a 200 ft. zone that averages 30 ft. wide. Minor boxworks and pyrite in the quartz.

Structure: Stained zone trends N50°E across a saddle.

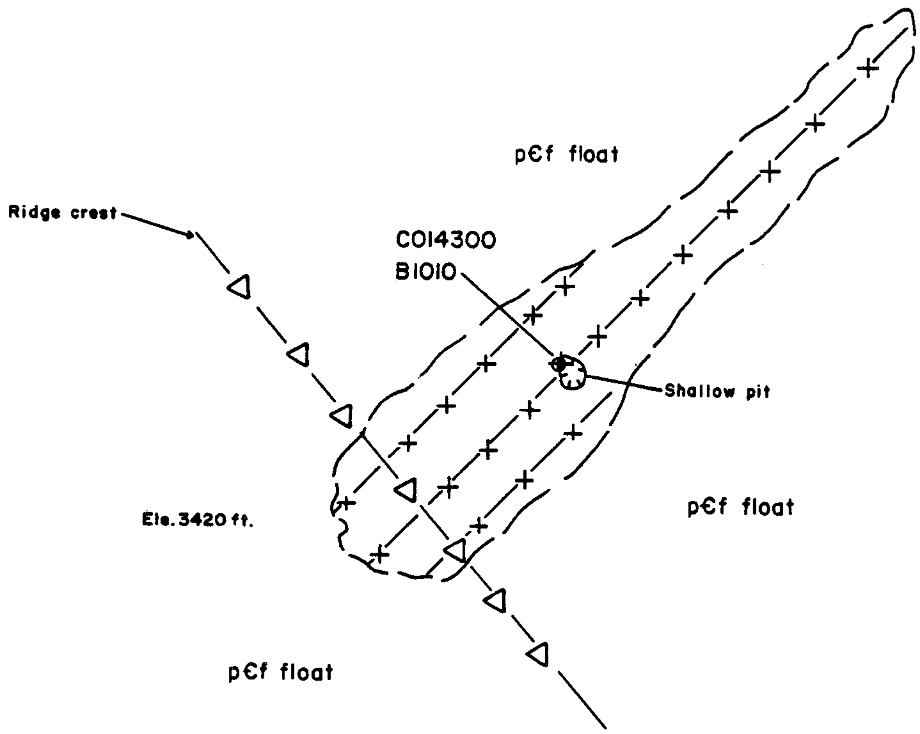
Development and Production: Development: shallow pit. No production.

Remarks: Minor mineralization.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C014300	5 ppm	.001	.001	ND	ND	2	ND	4	ND	quartz vein float
Bundtzen	.040	.002	.003	ND	ND	30	.001	<75	.002	quartz vn w/limonite
Bundtzen	.002	.001	.008	ND	ND	1	ND	--	--	grab sample
Bundtzen	.006	.006	.003	.010	.01	11	ND	--	--	

References: Bundtzen, 1981, p. 206, 224.



LEGEND

pЄf	Birch Creek Quartz Feldspar Schist
x—x	Zone of red brown-yellow colored soil contains vein quartz fragment with minor sulfide boxworks and pyrite
C014300 B1010	Rock and soil sample site

Occurrence No. 72-Unnamed Prospect

OCCURRENCE REPORT FORM

NAME Home Lode Prospect

Study Area Kantishna Hills

Occurrence No. 73

Location: Crevice Creek
(3510150N, 377200E)

Occurrence Type Antimony-bearing quartz vein

Examining Geologist Wells

Ownership:

Date(s) of Examination

General Geology:

Mineralization: Quartz vein containing stibnite.

Structure:

Development and Production: None reported.

Remarks:

Analyses: No assay information available.

References: Wells, 1931.

OCCURRENCE REPORT FORM

NAME Glenn Ridge I or Skoona Prospect

Study Area Kantishna Hills

Occurrence No. 74

Location: (3498800N, 376000)

Occurrence Type Silver bearing quartz vein

Examining Geologist MGS, JRB

Ownership:

Date(s) of Examination July 22, 1983

General Geology: Blastoporphyritic quartz-feldspar metafelsite (Psfq) of the Spruce Creek Sequence.

Mineralization: Arsenopyrite, pyrite, scheelite(?), and scorodite reported by Bundtzen (1981), Wells (1911) and Capps (1916). This study noted galena, arsenopyrite, scorodite, sphalerite, trace azurite with quartz and local tourmaline gangue.

Structure: The prospect area encompasses two distinct vein types: (1) Discontinuous bulbous quartz-galena shear veins up to 40 ft. wide and 150 ft. long; trending N38°W, subvertical, and (2) N45°E trending quartz-tourmaline-arsenopyrite-pyrite-galena-sphalerite filled shear zone approximately 1-3 ft. wide by 300 ft. long. The Type 1 quartz veins occur in a major fault zone of the same orientation.

Development and Production: At least 13 prospect pits and trenches were dug in the prospect area. Of which eight trenches were dug on the northeast trending quartz-galena-arsenopyrite shear system.
No recorded production.

Remarks: The northwest trending quartz and galena veins are discontinuous, possibly en echelon structures emplaced in a large fault zone. Mineralization appears to be erratic. However, the northeast trending vein, with a more uniform sulfide content indirectly evidenced by scorodite stained gossan has good potential for a low tonnage precious metal lode source.

Analyses: See attached table.

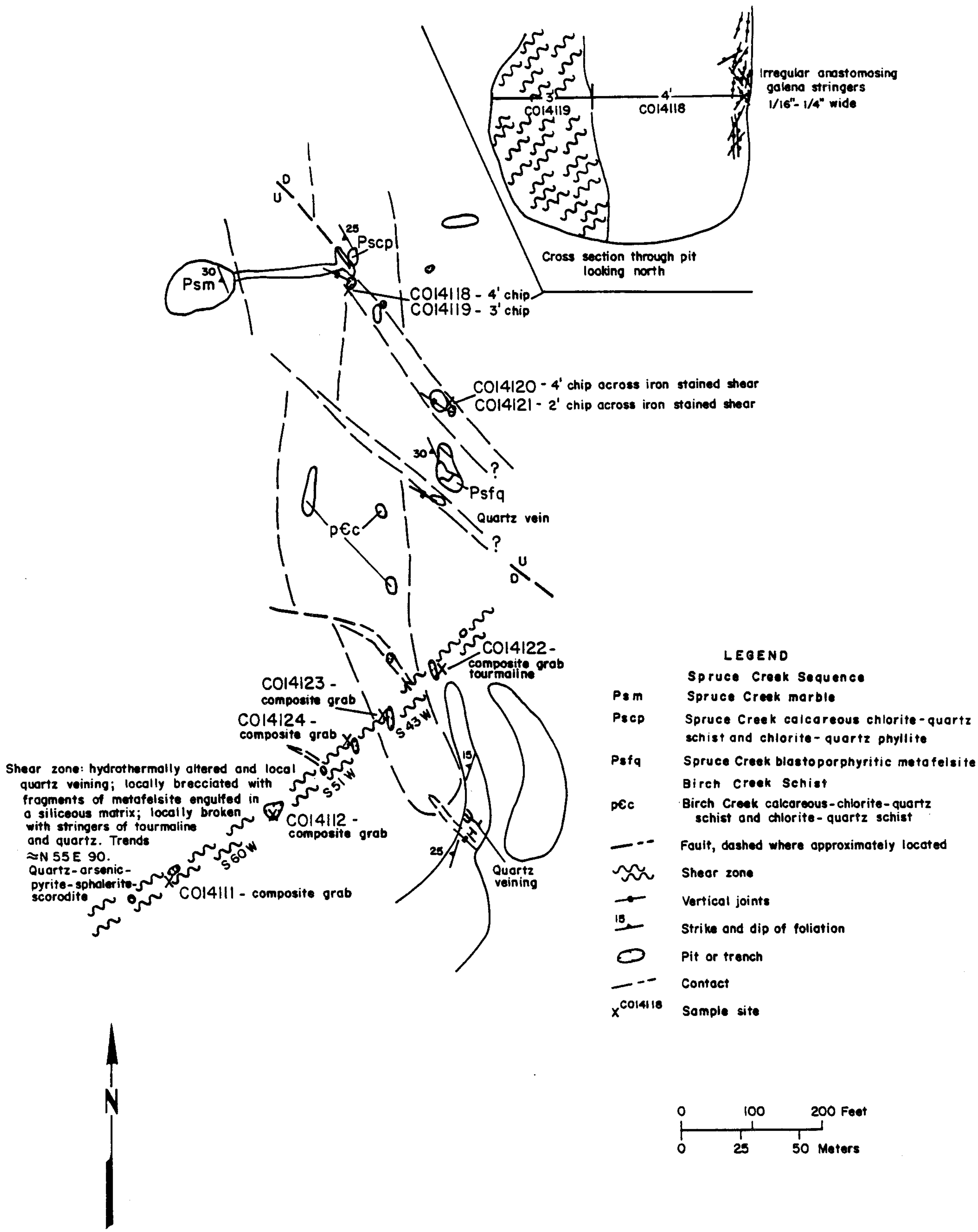
References:
Bundtzen, 1981.
Hawley, 1977.
Seraphim, 1961.

Glenn Ridge I or Skoona Prospect

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
*	.009%	.20%	.360%	0.04 oz/tn	.04 oz/tn	45 ppm	.007%	--	--	--	--	--	Chip samples from mineralized
*	.014%	.70%	.072%	16.40 oz/tn	.28 oz/tn	11 ppm	.100%	150 ppm	8.32%	.004%	2.0 ppm	2.5 ppm	pods in large quartz shear.
*	.004%	.73%	.017%	3.30 oz/tn	.03 oz/tn	71 ppm	.022%	--	--	--	--	--	
*	.004%	.240%	.240%	6.14 oz/tn	.02 oz/tn	51 ppm	.405%	75 ppm	1.54%	.018%	3.2 ppm	0.3 ppm	
*	.004%	.350%	.310%	6.17 oz/tn	.03 oz/tn	25 ppm	.089%	--	--	--	--	--	
*	--	--	.720%	25.50 oz/tn	.08 oz/tn	8 ppm	.240%	--	--	--	--	--	
*	--	--	.360%	1.00 oz/tn	.03 oz/tn	38 ppm	.020%	--	--	--	--	--	Grab sample.
*	.010%	--	.079%	7.10 oz/tn	.01 oz/tn	62 ppm	.140%	--	--	--	--	--	
**	tr	.150%	.100%	0.76 oz/tn	.04 oz/tn	--	--	--	--	--	--	--	Massive quartz vein.
***	--	--	--	2.14 oz/tn	.08 oz/tn	--	--	--	--	--	--	--	
	150 ppm	11500 ppm	1650 ppm	-.8 65 ppm	.8 3.60 ppm	-.9	530 ppm	7 ppm	116000 ppm	-.9	--	--	Sample C014111.
	-.9	7.900%	.180%	11.70 oz/tn -.8	.053 oz/tn -.8	-.9	400 ppm	2 ppm	31000 ppm	2.0 ppm	--	--	Sample C014112.
	.018%	1.10%	.140%	5.28 oz/tn -.8 ppm	-.9 -.8	-.9	.024%	-.9	.054%	85 ppm	--	--	Sample C014118.
	-.9	.110%	.002%	.07 oz/tn -.8 ppm	-.9 -.8	-.9	-.900 ppm	-.9	.019%	6 ppm	--	--	Sample C014119.
	-.9	30 ppm	15 ppm	-.8 1.7 ppm	-.8 -.9	-.9	4.000 ppm	.3 ppm	40 ppm	-.9	--	--	Sample C014120.
	5 ppm	5 ppm	10 ppm	-.8 .2 ppm	-.8 -.9	-.9	6.000 ppm	-.9 ppm	20 ppm	-.9	--	--	Sample C014121.
	.004%	1.700%	.016%	3.69 oz/tn -.8 ppm	.008 oz/tn -.8	-.9	.021%	-.9 ppm	1.100%	-.9	--	--	Sample C014122.
	.016%	1.200%	.067%	8.07 oz/tn -.8 ppm	.150 oz/tn -.8	-.9	.065%	-.9 ppm	7.450%	-.9	--	--	Sample C014123
	.014%	.845%	.098%	13.00 oz/tn -.8 ppm	.230 oz/tn -.8	-.9	.079%	-.9 ppm	5.050%	2 ppm	--	--	Sample C014124.

* Bundtzen, 1981.
** Hawley- 1977.
*** Seraphim, 1961.

-.9 Represents lower than detection limit
-.8 Represents element not analyzed



Occurrence No. 74 - Skookona Prospect (Glen Ridge I)

OCCURRENCE REPORT FORM

NAME Wieler Antimony Prospect

Study Area Kantishna Hills

Occurrence No. 75

Location: West Fork Glen Creek (3493000N, 393250E)

Occurrence Type Antimony Quartz vein

Examining Geologist RH, SF

Ownership: Located on unpatented placer claim owned by the Weiler Brothers.

Date(s) of Examination June 20, 1983

General Geology: Host rock consists of graphitic and chloritic schists.

Mineralization: Quartz gangue containing massive pods and disseminated grains of stibnite, pyrite, galena and sphalerite exposed for a length of 50 ft.

Structure: Mineralization is oriented transverse to shearing developed in the stream valley and appears to be cut off.

Development and Production: Dozer trench exposed mineralization in 1983.

Remarks: Evidence of several mineralized veins associated with an extensive shear zone paralleling the West Fork of Glen Creek. Additional evaluation is warranted.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C014302	.023	8.55	3.1	.12	ND	ND	7.35	ND	.003
C014303	.081	10.5	10.5	ND	ND	ND	9.05	ND	.002

References:

OCCURRENCE REPORT FORM

NAME Glen Creek Rhodochrisite

Study Area Kantishna Hills

Location: East Fork of Glen Creek (3492500N, 342500E)

Ownership: Spacially associated with unpatented placer claims owned by the Weiler Brothers.

Occurrence No. 76

Occurrence Type Rhodochrosite/Carbonate vein

Examining Geologist RH, SF

Date(s) of Examination June 20, 1983

General Geology:

Mineralization: Float consists of pyrolusite stained boulders consisting of fractured rhodochrosite and calcite.

Structure:

Development and Production: None.

Remarks: Mineralization has not been found in place. Boulders are reported to be more numerous about ½ mi. above the junction of the East and West Forks of Glen Creek.

Analyses:

References:

OCCURRENCE REPORT FORM

NAME Lloyd Prospect

Study Area Kantishna Hills

Occurrence No. 77

Location: East Fork Glen Creek near junction with the West Fork of Glen Creek. (3493600N, 379375E)

Occurrence Type Stratiform sphalerite-chalcopyrite

Examining Geologist MGS

Ownership: No valid lode claims.

Date(s) of Examination July 21-25, 1983

General Geology: Metamorphosed recrystallized chert with lesser interbeds of garnetiferous muscovite-quartz schist. The interval is part of the Birch Creek Schist. The sulfide bands parallel the compositional banding of the host lithology.

Mineralization: Observed in outcrop and in adit. Stratiform laminae and layers, 1-10 mm thick, contain disseminated to massive sphalerite and minor chalcopyrite with a trace of galena. Weathered surfaces display malachite, azurite, and smithsonite. The mineralization can be traced for about 100 ft. The greatest thickness observed was 2-3 ft.

Structure: The mineralization does not appear to be structurally controlled. However, small to moderate scale recumbent, isoclinal folds which plunge to the southwest at a shallow angle contort the mineralized horizon.

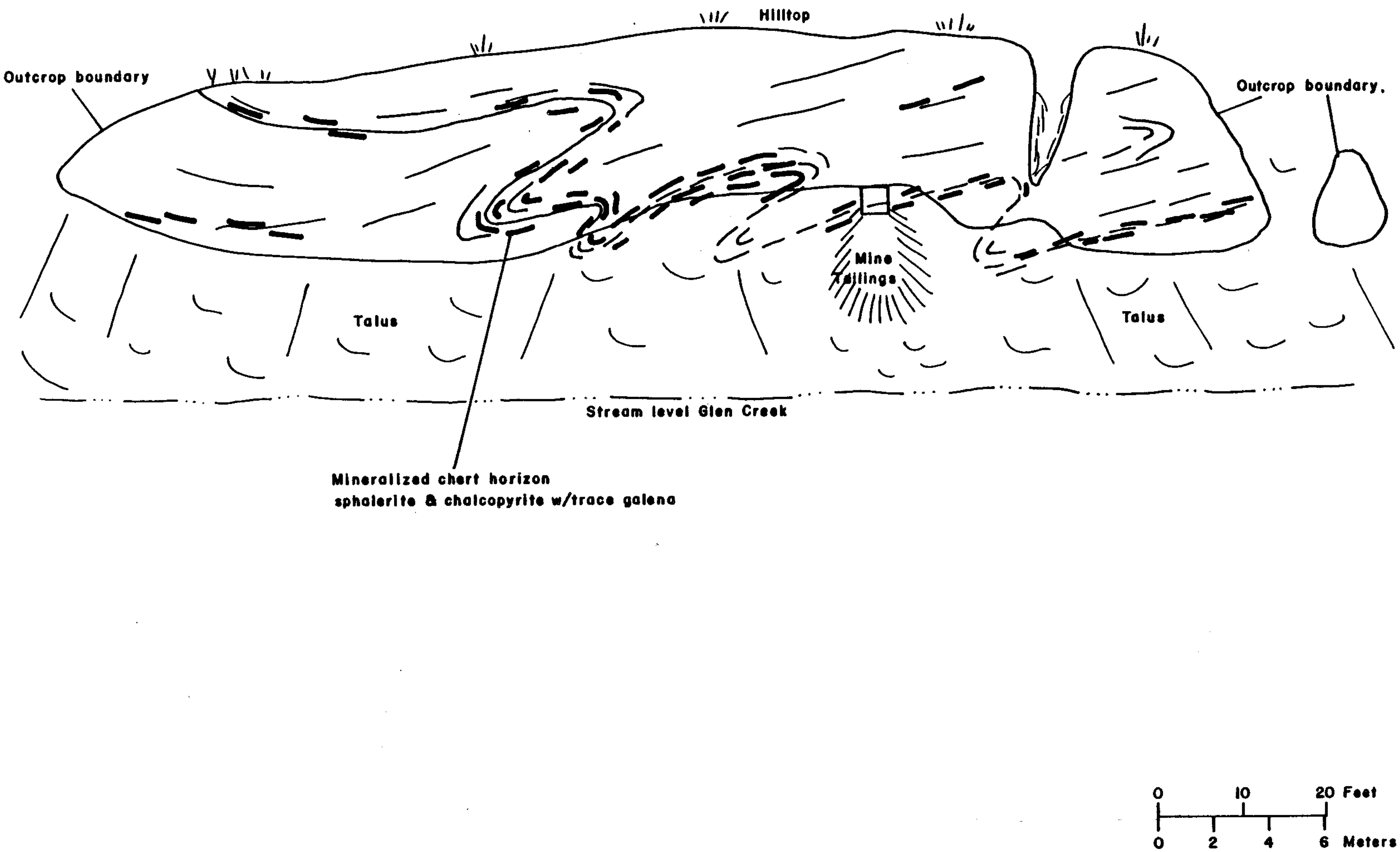
Development and Production: No recorded production. A 30 ft. long adit (10 ft. collapsed) has been driven into the mineralized horizon. The adit is four feet wide and 5-6 ft. high.

Remarks: Similar mineralization in chert has been observed a mile or two to the east. Similar chert is exposed in West Fork of Glen Creek but with no obvious mineralization.

Analyses: Salisbury & Dietz, Inc. study results:

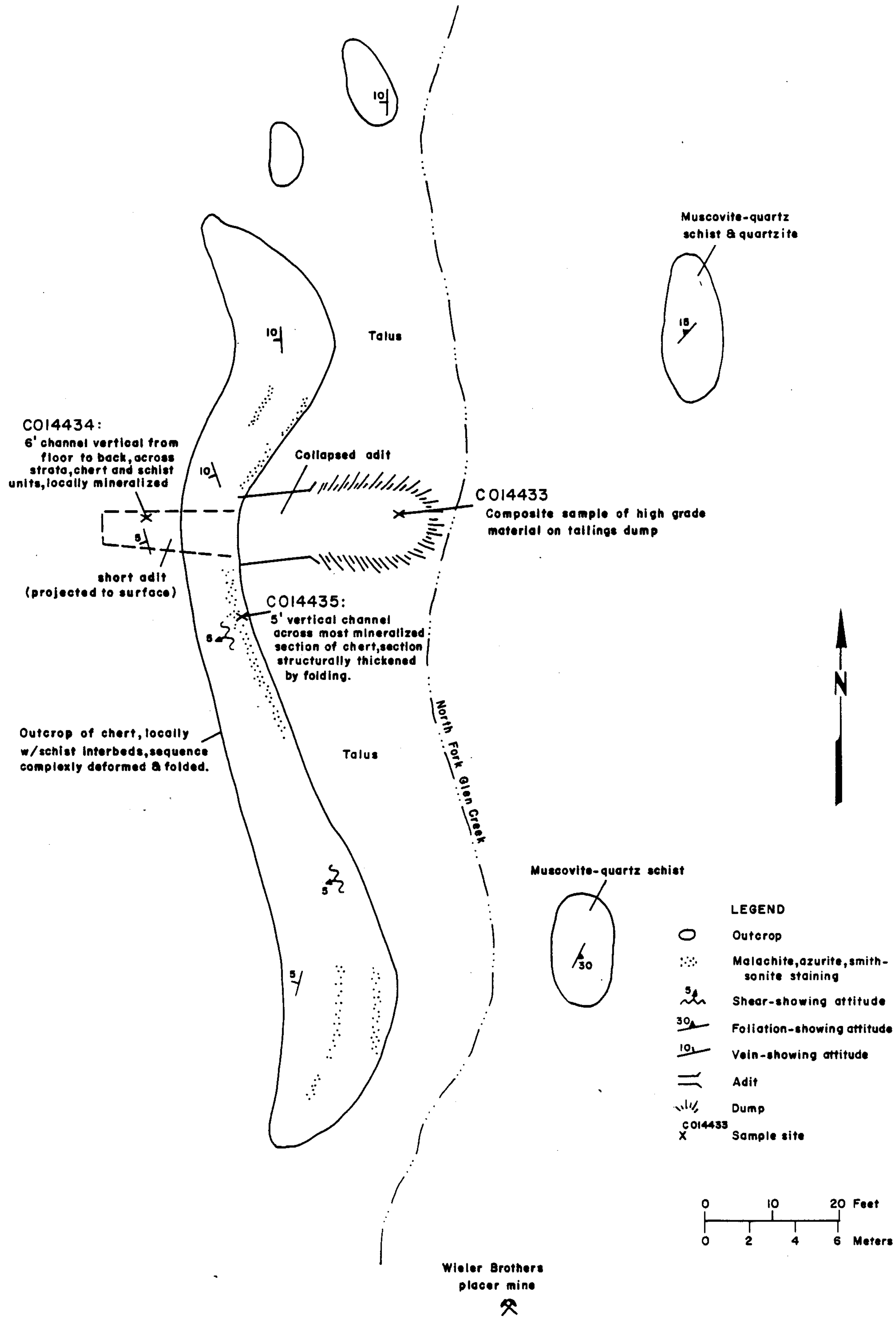
Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb ppm	W ppm	As %	Bi ppm
C014433	1.100	.215	5.600	.850	ND	ND	ND	ND	.002	55
C014434	0.105	.028	0.735	.070	ND	ND	ND	ND	.002	7
C014435	0.355	.070	2.200	.151	ND	ND	ND	ND	ND	14
Bundtzen	2.160	.090	3.980	.970	.01	--	--	--	--	--

References: Bundtzen, 1981, p. 205.



Sketch cross section-Looking West

Occurrence No. 77 - Lloyd prospect



Occurrence No. 77 - Lloyd prospect

OCCURRENCE REPORT FORM

NAME Humbolt Prospect

Study Area Kantishna Hills

Location: (3499000N, 378500E)

Ownership:

Occurrence No. 78

Occurrence Type Gold and silver-bearing quartz vein

Examining Geologist JRB, MGS

Date(s) of Examination July 21, 1983

General Geology: Birch Creek quartz-chlorite with biotite schist and interbedded micaceous quartzite and quartz-chlorite-muscovite with garnet schist. Strikes N35°W, dips 15-25°SW.

Mineralization: Reported pyrite, pyrrhotite, galena, sphalerite, arsenopyrite in massive quartz gangue. This study noted sparse pyrite and abundant FeOx stain associated with the quartz. Minor malachite stain on chloritic interlayers in wall rocks. Pervasive sideritic alteration halos to veined zone.

Structure: Irregular quartz veinlet zone trending roughly N55°W, subvertical. The veined zone consists of several anastomosing white quartz veins to four feet thick, aggregate zone is approximately 22 feet wide.

Development and Production: Adit 48 ft. long, now caved. Several hundred pounds of vein material reportedly shipped to Fairbanks for testing yielded returns of free gold.

Remarks: Impressive quartz vein system associated with fault zone cuts Birch Creek schist wall rocks. The apparent lack of sulfide mineralogies in place or in the dump material indicates lesser base and precious metal potential.

Analyses: See attached table.

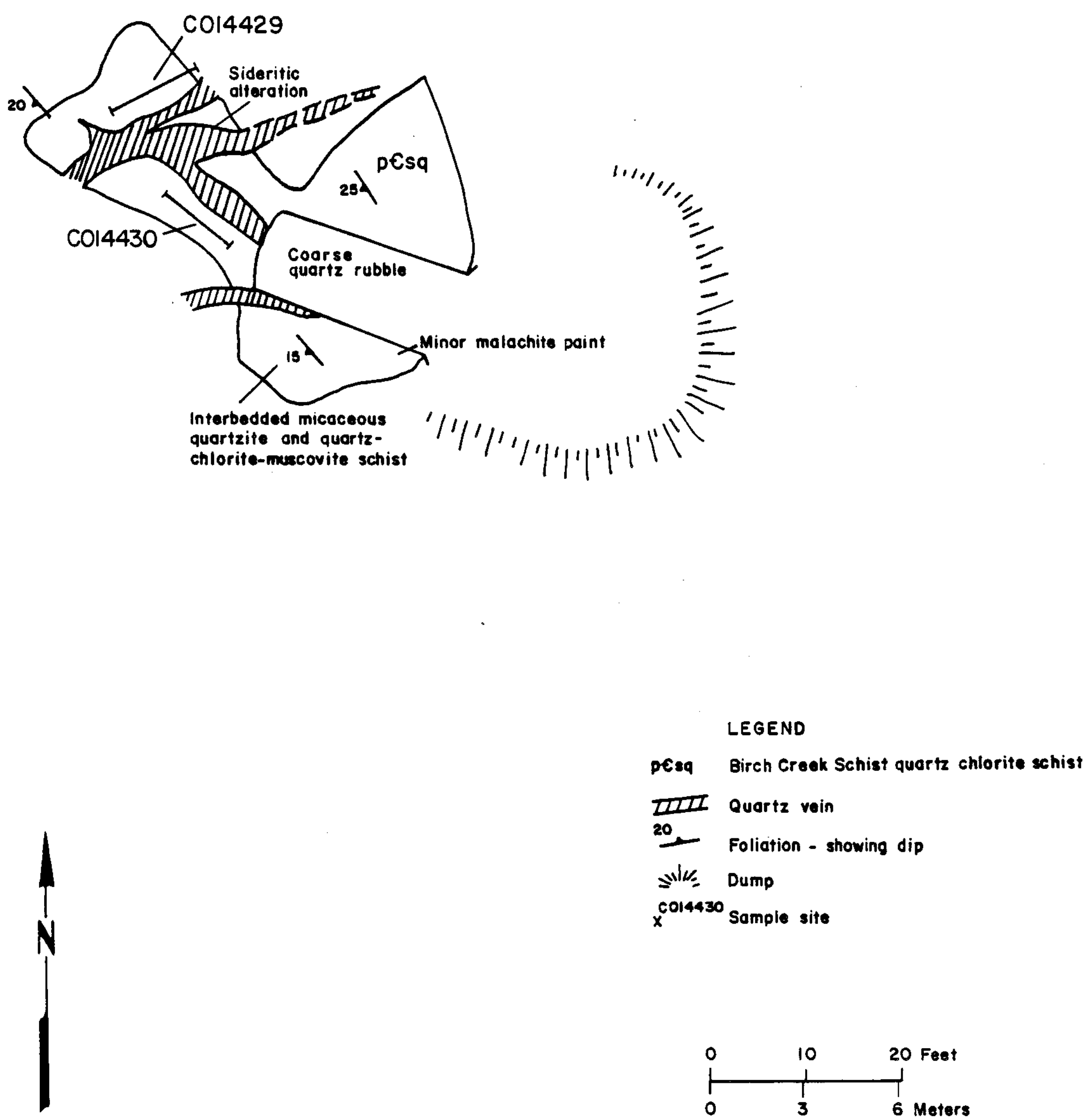
References:
Capps, 1916.
Wells, 1933.
Bundtzen, 1981.

Humbolt Prospect

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.004%	.006%	.003%	0.27 oz/tn	1.02 oz/tn	ND	.002%	3 ppm	.046%	ND	--	--	Sample C014429. Composite along 15 ft. of northeast-trending quartz vein. Trace pyrite and possible stibinite. Abundant sideritic alteration in adjacent wall rocks.
	.001%	.010%	.004%	0.06 oz/tn	0.07 oz/tn	ND	.003%	5 ppm	.090%	ND	--	--	Sample C014430. Composite along 15 ft. of northwest-trending quartz vein. No visible sulfides.
*	.067%	1.45%	2.10%	3.52 oz/tn	0.01 oz/tn	--	--	--	--	--	--	--	Soil gossan sample.

*



Occurrence No.78-Humbolt Prospect

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 79

Location: (3499900N, 380400E)

Occurrence Type Stratiform pyrite in Psfq

Examining Geologist JRB

Ownership:

Date(s) of Examination June 21, 1983

General Geology: Blastoporphyritic quartz-feldspar metafelsite.

Mineralization: Semi-massive stratiform pods of parallel layered pyrite up to six inches thick with 20% pyrite.

Structure: Well foliated metafelsite.

Development and Production: Small caved pit. No production.

Remarks: Same host unit as Occurrence No. 80 and Occurrence No. 86.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm	Remarks
C014108	25	10	10	.6	ND	ND	14	7	270	selected grab sample

References:

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 80

Location: (3498475N, 379875E)

Occurrence Type Disseminated to massive sulfide

Examining Geologist JMK

Ownership: None

Date(s) of Examination

General Geology: Iron stained, sheared and brecciated, dacite dike or plug that intrudes the Spruce Creek blastoporphyritic metafelsite unit.

Mineralization: Observed in outcrop and in tailings pile. Consists of disseminated to semi-massive (1-35%) pyrite and trace arsenopyrite. Mineralization occurs along shears, replaces crystals and in siliceous breccia matrix.

Structure: The mineralization is associated with the dacite dike that is sheared along a northeasterly trend. Brecciation on material is healed by siliceous sulfide matrix.

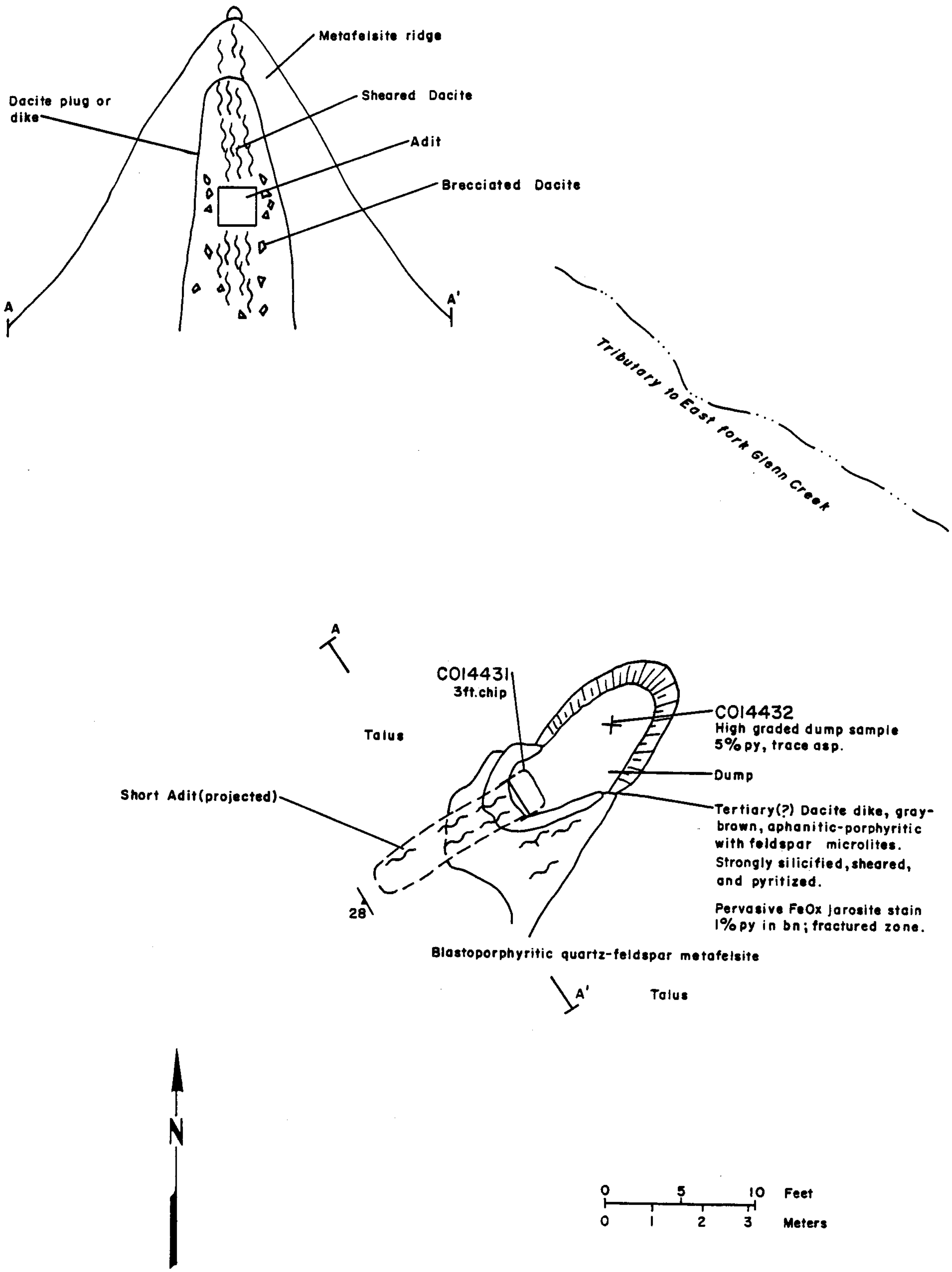
Development and Production: No recorded production. Developed by a short 10 ft. long adit.

Remarks: Dike apparently is a Tertiary dike that is altered and mineralized.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag ppm	Au ppm	Mo ppm	Sb %	W ppm	As %
C014431	.0045	.0075	.0035	1.6	0.1	ND	.0032	3	.695
C014432	.0010	.0305	.0040	5.1	4.2	ND	.0024	ND	.840

References:



Occurrence No.80-Unnamed Occurrence(Nickel Prospect?)

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 81

Location: East Fork Glen Creek
(3498100N, 381150E)

Occurrence Type Quartz vein

Examining Geologist Bundtzen

Ownership: May lie on placer claims currently owned by the Weiler Brothers.

Date(s) of Examination

General Geology:

Mineralization: Quartz vein containing arsenopyrite and galena.

Structure:

Development and Production: Caved adit. Reportedly driven in 1912.

Remarks:

Analyses: No assay information available.

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 82

Location: (3496100N, 382800E)

Occurrence Type Lloyd-type stratiform base metal

Examining Geologist JRB

Ownership:

Date(s) of Examination June 20, 1983

General Geology: Vitreous, tar colored quartzite of the Birch Creek schist unit.

Mineralization: Pyrite, galena, sphalerite, chalcopyrite occurred in parallel layered bands.

Structure:

Development and Production: No development. No production.

Remarks: Occurrence marked by FeOx-stained talus in rubble slope. Mineralization consists of parallel layered aggregates of pyrite, galena, sphalerite, and sparse chalcopyrite in tan vitreous quartzite. Largest piece of mineralized quartzite is 6 in. across and contains up to 20% sulfide. This occurrence is remarkably similar to the stratiform base metal mineralization exposed at the Lloyd Prospect.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C014103	.049	.375	1.30	0.47	ND	ND	.0023	ND	1.25

References:

OCCURRENCE REPORT FORM

NAME Rainy Creek Ridge I and II

Study Area Kantishna Hills

Occurrence No. 83

Location: West side of Spruce Creek. (3499250N, 383300E)

Occurrence Type

Ownership: None.

Examining Geologist Bundtzen

Date(s) of Examination

General Geology:

Mineralization: Rainy Creek Ridge I consists of a silicified zone 6-30 ft. wide, 2600 ft. long which contains pyrite, stibnite and minor galena.
Rainy Creek Ridge II consists of a 30 ft. wide silicified zone with massive arsenopyrite and minor pyrite.

Structure: Rainy Creek Ridge I strikes N75-85°E.
Rainy Creek Ridge II strikes N60-75°E and dips near vertically.

Development and Production: None reported.

Remarks:

Analyses: Bundtzen (1981) reports six samples containing 0-1.29 oz/ton Ag, 0-0.01 oz/ton Au, up to 0.38% Pb, 0.43% Sb and 11% As.

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Ridgetop or Spruce Creek I

Study Area Kantishna Hills

Occurrence No. 84

Location: (3502200N, 384200E)

Occurrence Type Quartz vein

Examining Geologist JRB

Ownership:

Date(s) of Examination

General Geology: Spruce Creek Sequence metafelsite.

Mineralization: Quartz, trace pyrite.

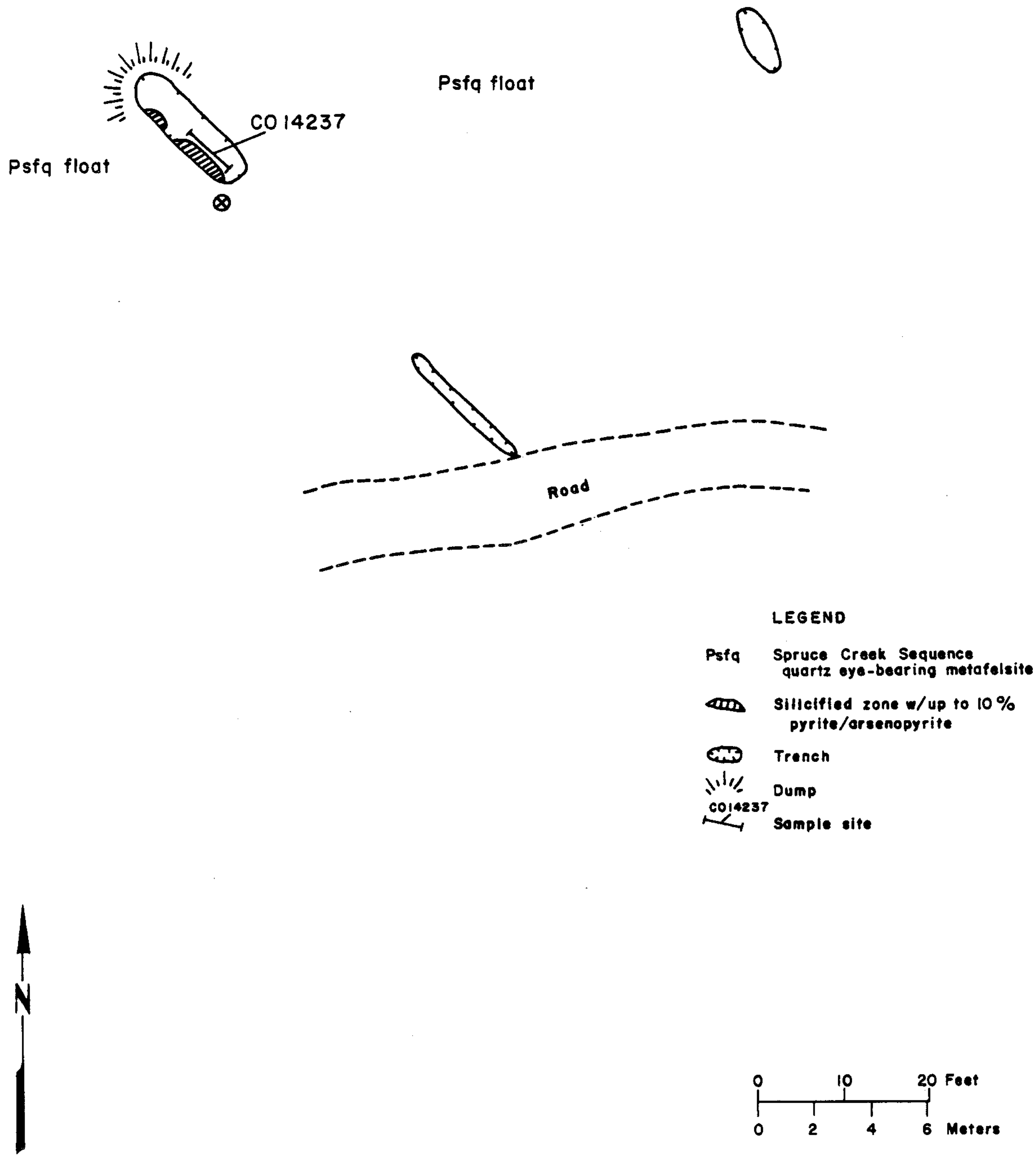
Structure: Major fault zone trends N25^{o}E. Pronounced quartz shear vein up to 20 ft. wide. Well developed breccia texture, with silicified felsite and graphitic phyllite fragments; vuggy quartz matrix. Abundant FeOx, trace pyrite.

Development and Production: No recorded production. Two sloughed prospect pits along trend of veined zone.

Remarks: Impressive vein/breccia zone but little sulfide content.

Analyses: No sample taken.

References: Davis, 1922.



Occurrence No. 84 - Ridgetop No. I claim

OCCURRENCE REPORT FORM

NAME Lema and Silver Wire Prospects

Study Area Kantishna Hills

Occurrence No. 85

Location: Southwest side of Spruce Peak
SW¼ Sec. 29, T15S, R16W.
(3501470N, 384800E)

Ownership: No current claims.

Occurrence Type Silver-bearing sulfide vein

Examining Geologist TKH

Date(s) of Examination August 29, 1981

General Geology: Felsite of the Spruce Creek Sequence.

Mineralization: Galena, tetrahedrite and pyrite in quartz gangue with common malachite staining.

Structure: Bundtzen (1981) states the vein is about five feet thick, strikes N60-70°E and dips 80°S. He apparently got this information from Wells (1933).

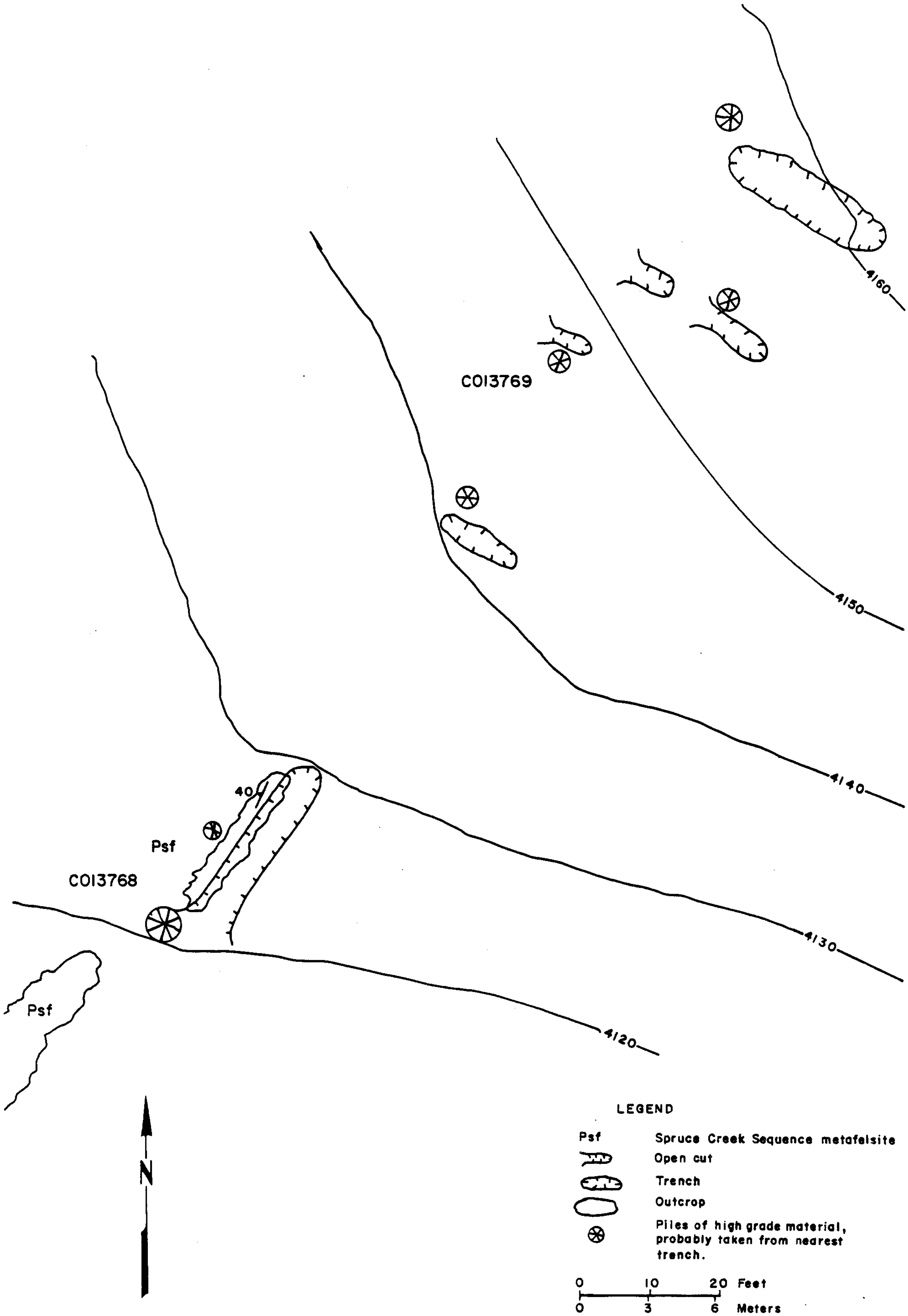
Development and Production: Five trenches expose 100 ft. of strike length, no production. Exploration was done in the late 1920's or early 1930's and the area was staked again in 1965. Claims have since lapsed.

Remarks: Trenches are slumped, vein is not exposed in place, mineralization seen only on high-grade piles near the trenches. Wells (1933) states sulfide content drops off to the east. The material near the trenches appears to bear this out.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo %	Sb ppm	W %	As ppm	Remarks
C013768	.655	36.0	1.45	180.3	0.27	.002	ND	.006	ND	high grade dumps
C013769	.145	52.5	8.20	129.6	0.46	.008	ND	.008	ND	near trenches
Wells	--	--	--	75.0	0.50	--	--	--	--	

References: Wells, 1933.
Bundtzen, 1981.



Occurrence No. 85-Lena and Silver Wire Prospect

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 86

Location: (3502300N, 384400E)

Occurrence Type Quartz-pyrite zone

Examining Geologist JRB

Ownership:

Date(s) of Examination June 25, 1983

General Geology: Blocky jointed massive variety (Psf) of the blastoporphyritic quartz-feldspar metafelsite unit (Psfq).

Mineralization: Disseminated pyrite and semi-massive concordant aggregates in bleached and FeOx-stained Psfq. Trace sphalerite and arsenopyrite.

Structure:

Development and Production: No production. Shallow prospect pit at elevation 4350 ft. on Spruce Peak Ridge.

Remarks: Prospect located in Psb sub-unit of the Psfq metafelsite unit. Style of mineralization suggests a syngenetic, or at least premetamorphic origin.

Analyses: Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As
Sample	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%
C014115	15	.185	.150	12	8.2	ND	13	26	.260

References:

OCCURRENCE REPORT FORM

NAME Mammoth Claim or Lucky Jim Prospect

Study Area Kantishna Hills

Occurrence No. 87

Location: (3502250N, 385350E)

Occurrence Type Quartz-sulfide-gold vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination June 22, 1983

General Geology: Blastoporphyritic metafelsite (Psfq).

Mineralization: Outcrop and float: iron oxide stained quartz. Previous work describes pyrite, minor galena and chalcopyrite. Early work describes free gold.

Structure: Shear with quartz vein and minor sulfide mineralization trends N85°W with a 90° dip. The vein is several feet wide. Float quartz washes from both sides of the saddle.

Development and Production: None recorded.

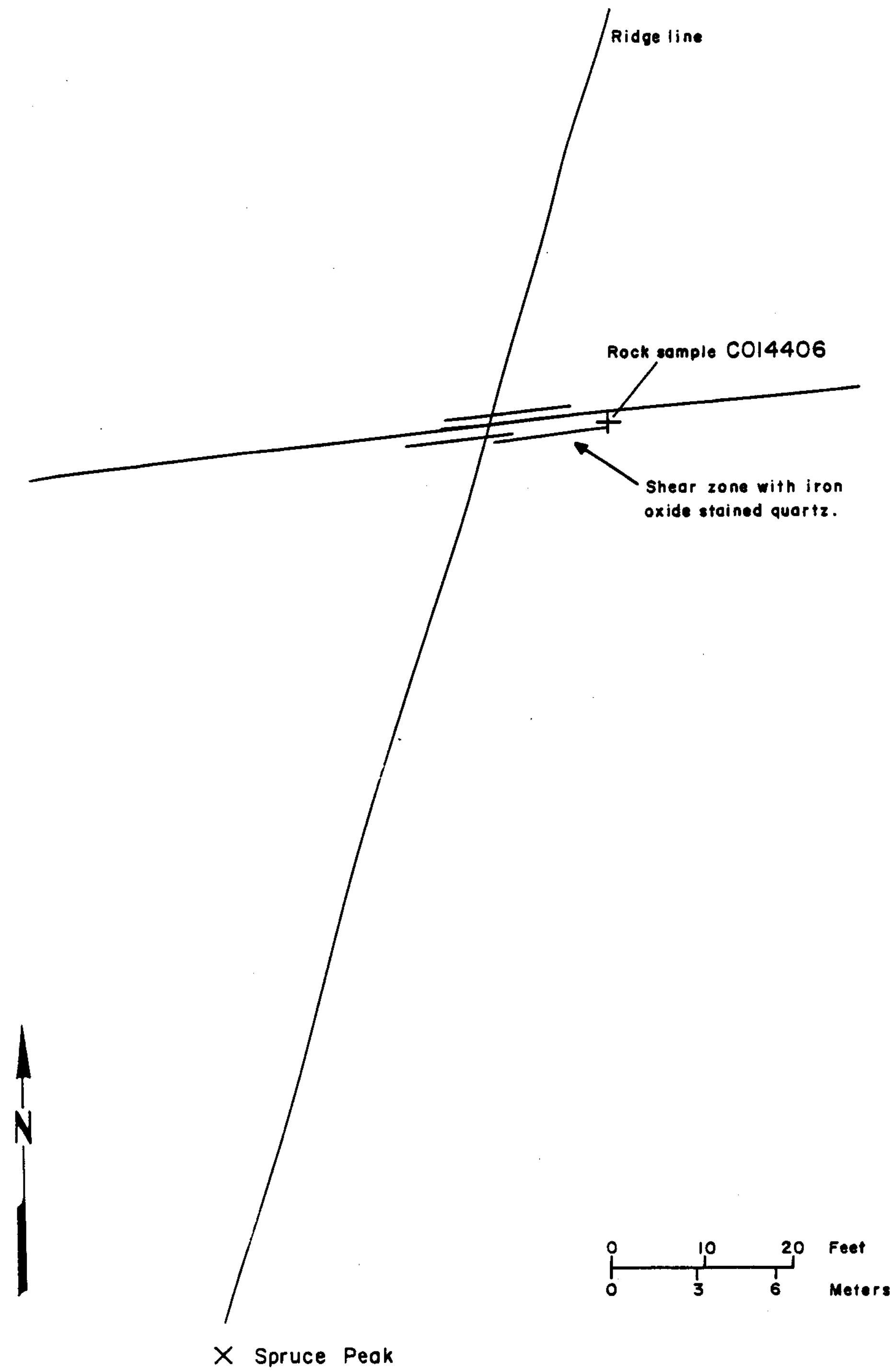
Remarks: The vein is not well exposed at this time.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014406	20	35	15	1.1	0.13	ND	6	9	350

Bundtzen, 1981, and Hawley, 1977, showed no significant values.

References: Bundtzen, 1981, p. 207.



Occurrence No. 87 - Mammoth Claim

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 88

Location: (3502850N, 386175E)

Occurrence Type Au-quartz-sulfide vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination June 22, 1983

General Geology: Blastoporphyritic metafelsite (Psf) and graphitic schist (Psg) of the Spruce Creek Sequence.

Mineralization: Moderately exposed. Weathered and leached shear zone and quartz vein/breccia. Supergene weathering products include goethite, limonite, and jarosite that stain the host rock, as well as the quartz veining and associated soil. Quartz is the dominant gangue mineral with lesser calcite. Anomalous Au and As values.

Structure: Sulfide and quartz mineralization occurs along the structural contact (high angle reverse fault) that places metafelsite juxtaposition to highly deformed graphitic schist. Locally quartz vein is brecciated. Fault through exposured area trends N55^{o}E, 65-75^{o}. The zone is 10-15 ft. wide and in excess of several tens of feet in length (limited exposure precludes mapping).

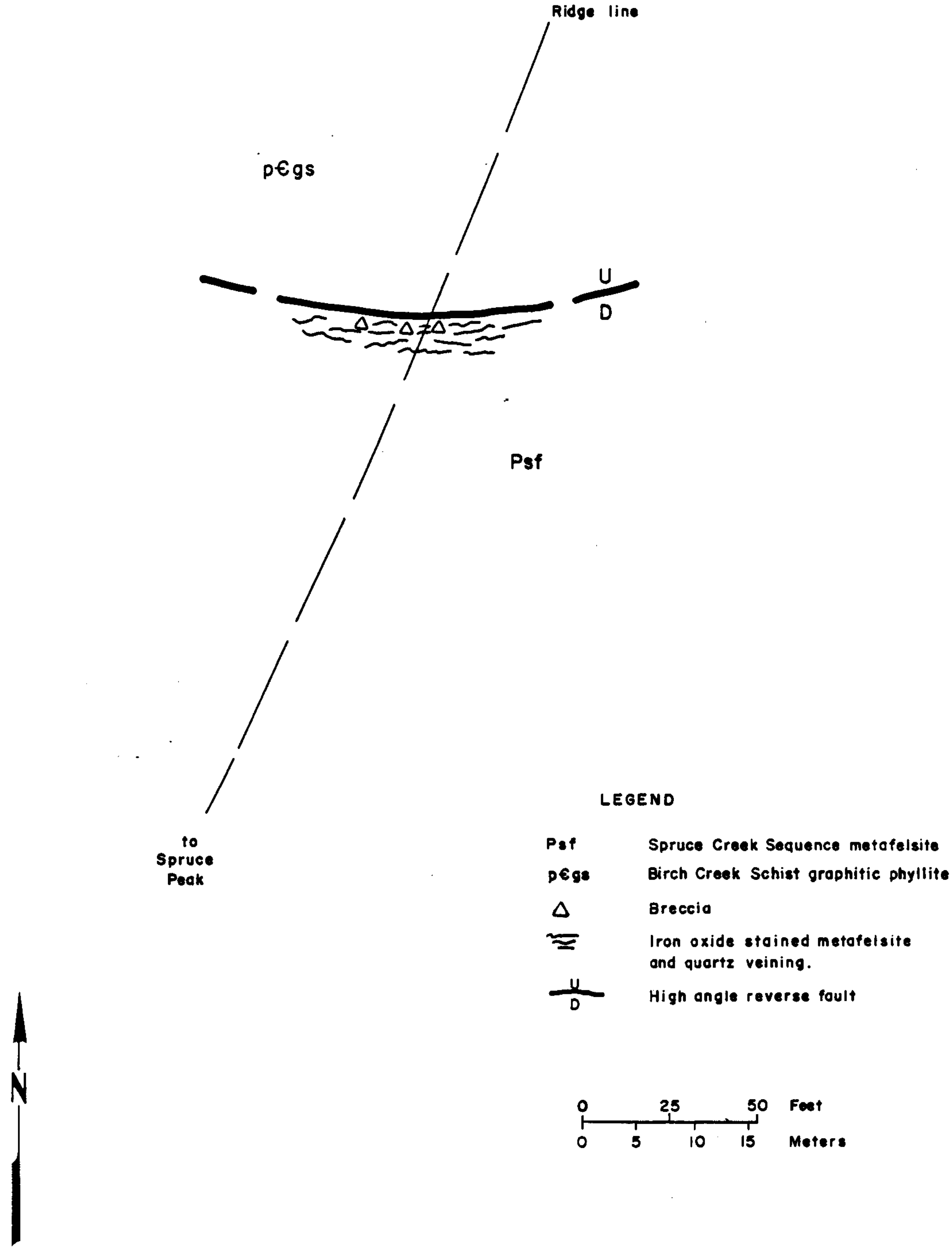
Development and Production: No recorded production. No development.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014407	10	40	20	0.7	0.35	ND	10	4	1400

References:



Occurrence No.88–Unnamed Occurrence

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 89

Location: (3502250N, 285350E)

Occurrence Type Au quartz-sulfide vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination June 22, 1983

General Geology: Blastoporphyritic metafelsite of the Spruce Creek Sequence.

Mineralization: Saddle in ridge line is marked by abundant, orange-red, iron-oxide stained soil and iron-oxide stained vein quartz. No fresh sulfides observed directly, but the weathered and leached supergene minerals goethite, limonite, and jarosite indicate their original presence. Grab sample anomalous in silver, gold, and arsenic.

Structure: Sheared-altered-mineralized zone trends approximately N45^{o}E and dips 55^{o}NW. Iron oxide stained zone 20-30 ft. wide.

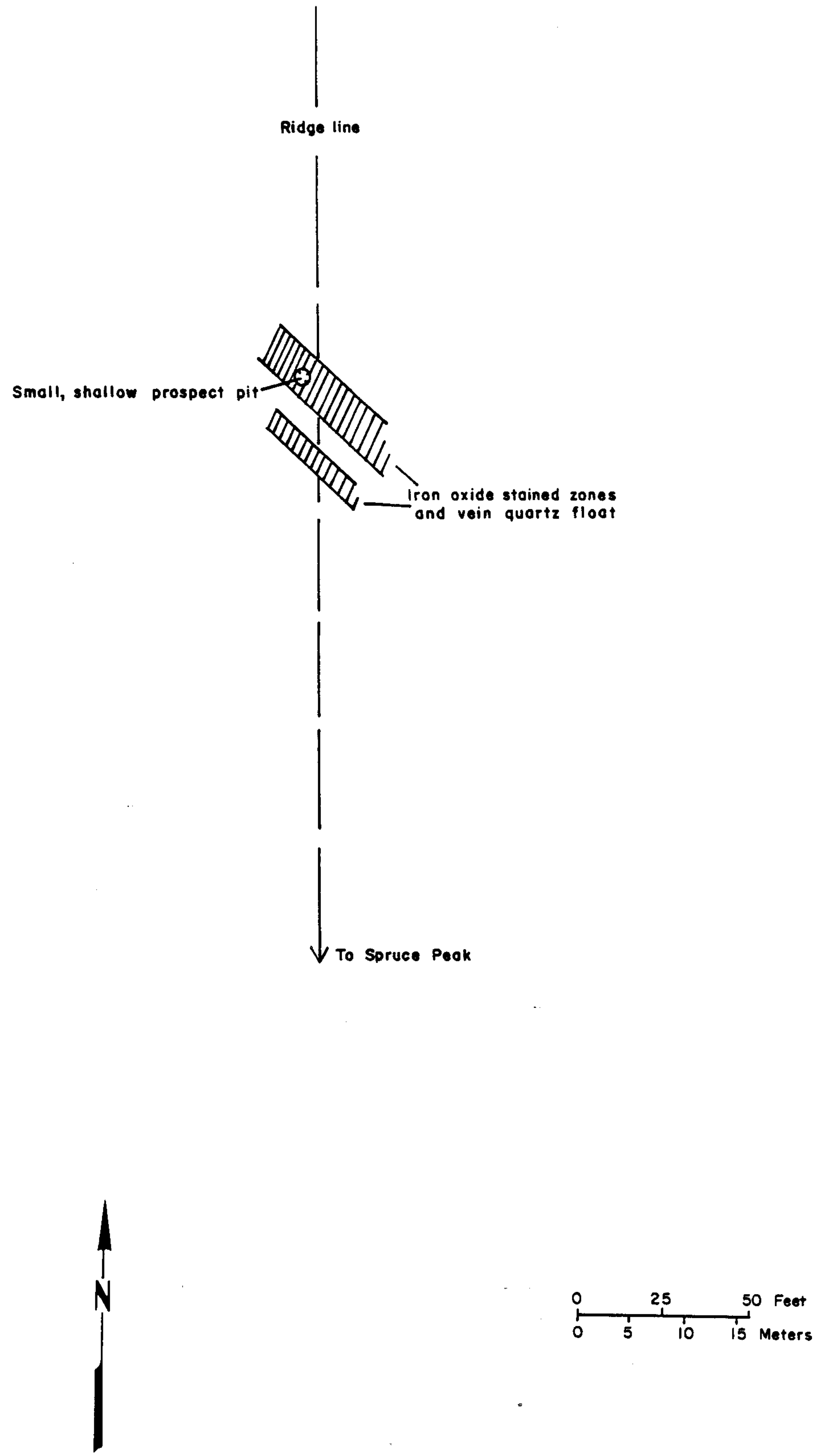
Development and Production: No production recorded. Minor development in the form of shallow prospect pit.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014406	20	35	15	1.1	0.13	ppm	6	9	350

References:



Occurrence No. 89 - Unnamed Prospect

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 90

Location: Ridge trending southeast from Spruce Peak (3500000N, 387000E) to (3498350W, 390250E)

Occurrence Type Vein

Examining Geologist MGS

Ownership: No current claims.

Date(s) of Examination June 20, 1983

General Geology: Spruce Creek metafelsite and Birch Creek quartzite.

Mineralization: Numerous saddles along ridge line are marked by significant orange-red iron oxide and iron oxide stained vein quartz. No fresh sulfides observed directly, but the weathered and leached supergene minerals goethite, limonite, and jarosite indicate their original presence. Grab rock samples anomalous in Pb, Ag, As, Au, Sb.

Structure: Numerous saddles along the ridge are cut by shear zones and fractures along which quartz-sulfide veins have been emplaced. Deep weathering and soil cover preclude direct observation. Most veins trend northeasterly. Veins and shear zones range from less than one foot to several tens of feet in width. Length of veins/shears not determinable due to limited exposure.

Development and Production: No development or production recorded.

Remarks: Four spatially distinct occurrences sampled and grouped under this occurrence number. All are of similar mineralogy and morphology.

See 1 in.=1mi. geochem map.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm	Bi ppm
C014401	25	710	55	9.7	.12	ND	20	ND	465	ND
C014402	25	435	35	7.4	.04	ND	18	3	155	ND
C014403	35	110	30	2.2	ND	ND	15	7	180	ND
C014404	60	50	100	1.0	ND	ND	305	3	40	ND

References:

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Location: Ridge between Spruce and Kankone Peaks N½ Sec. 21, T15S, R16W. (3508900N, 391820E)

Ownership: No claims.

Occurrence No. 91

Occurrence Type Strata-bound sulfide horizon.

Examining Geologist TKH

Date(s) of Examination July 24, 1983

General Geology: Quartz-eye felsite and fine-grained felsite of the Spruce Creek Sequence which form lenses in graphitic and chloritic schist.

Mineralization: Pyrite occurs as disseminated grains in 0.5 in. wide bands that contain up to 50% pyrite. Abundant limonite staining.

Structure: Several pyrite-bearing metamorphosed felsic volcanic units define a horizon of undetermined thickness which can be traced for at least 1300 ft. along strike.

Development and Production: None.

Remarks: Bundtzen describes pyrite in graphitic phyllite nearby. Pyritic black phyllite was located but not with the amount of sulfides seen in the felsite.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm	Remarks
C013770	10	10	10	ND	0.1	ND	ND	3	50	grabs from exposed
C013771	5	15	20	0.4	ND	12	ND	4	90	limonite stained outcrops

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 92

Location: (3509275N, 392400E)

Occurrence Type Galena-quartz vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination June 25, 1983

General Geology: Blastoporphyritic metafelsite (Psfq); hydrothermally altered around the shear vein.

Mineralization: Vein observed in float and outcrops consisted of galena, sphalerite, and pyrite in quartz gangue. Oxidation products of the above sulfides were also present.

Structure: Mineralized shear zone cuts through Psfq strikes N15°W dips 75°SW and is a maximum of 1 ft. wide.

Development and Production: None.

Remarks: Vein is only moderately exposed.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C014409	.006	2.8	8.15	2.94	0.12	ND	.0145	ND	3.95

References:

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 93

Location: (351040450N, 394025E)

Occurrence Type Galena-quartz vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination June 25, 1983

General Geology: Blastoporphyritic metafelsite (Psfq) of Spruce Creek Sequence.

Mineralization: Observed only in float which overlays outcrop. Galena with minor pyrite in quartz vein.

Structure: Northeast-trending mineralized shear. Poorly exposed. Amount of mineralized float indicates structure not very wide.

Development and Production: None.

Remarks: Mineralized float is very close to in place.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C014413	0.12	33	0.265	112.4	0.93	6	0.435	3	2.65

References:

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Location: (3513350N, 394825E)

Ownership: None

Occurrence No. 94

Occurrence Type Stibnite-quartz vein

Examining Geologist MGS

Date(s) of Examination June 27, 1983

General Geology: Graphite-muscovite-quartz schist (Psq).

Mineralization: Mineralization not observed directly. Reported to consist of stibnite, galena, sphalerite in a quartz vein.

Structure: Two foot thick vein cutting schist unit. Poor exposure.

Development and Production: None recorded.

Remarks: New prospect identified by Bundtzen, 1981. Surface showing small. Not located for this study.

Analyses:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Sb %
Bundtzen 1981	0.30	1.43	0.20	0.14	0.22	0.02

References: Bundtzen, 1981, p. 207, 224.

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hills

Occurrence No. 95

Location: (3512850N, 395175E)

Occurrence Type Galena-quartz vein

Examining Geologist MGS

Ownership: None

Date(s) of Examination June 21, 1983

General Geology: Blastoporphyritic metafelsite (Psfq) of Spruce Creek Sequence.

Mineralization: In outcrop and float. Galena with lesser sphalerite and minor pyrite in a quartz vein.

Structure: Mineralized shear trending N75°W at a high angle. Vein is 2-3 ft. thick.

Development and Production: None.

Remarks: Several shallow pits have been located on the mineralized trend.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %
C014412	.325	21.5	14.0	51.3	0.23	ND	0.385	3	2.85

References:

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 96

Location: (3510570N, 394500E)

Occurrence Type Stratiform

Examining Geologist Bundtzen

Ownership: None.

Date(s) of Examination

General Geology: Host rock consists of greenstone schists.

Mineralization: Bundtzen (1981) reports disseminated sulfide bands 4-6 ft. thick parallel to foliation containing pyrite, chalcopyrite, malachite and azurite.

Structure:

Development and Production: None recorded.

Remarks:

Analyses: Bundtzen (1981) reports three samples containing trace amounts Au, trace-0.96 oz/tn Ag, 0.012-0.035% Cu, trace-0.69% Pb, 0.003-0.6% Zn, and trace amounts of Sb and As.

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 97

Location: (3518825N, 399775E)

Occurrence Type Sulfide shear zone

Examining Geologist MGS

Ownership: None

Date(s) of Examination June 28, 1983

General Geology: Quartzite and muscovite-quartz schist of the Birch Creek Sequence (p€sq).

Mineralization: Moderately exposed, orange-red iron oxide stained shear zone. Sheared and hydrothermally altered quartzite containing disseminated pyrite. Much of surface exposure is oxidized to goethite, limonite, and jarosite. Associated soils also pervasively iron oxide stained. Shear zone anomalous in Pb and Ag. Little if any quartz veining.

Structure: Shear zone cuts across quartzite units and trends N55^{O}E at a high angle (vertical?). Shear traceable for 1200 ft. is 5-10 ft. wide.

Development and Production: None recorded.

Remarks: Conspicious color anomaly from the air.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014414	15	650	125	9.6	ND	2	16	2	65
B003705	40	ND	30	0.4	ND	ND	4	2	10

References:

OCCURRENCE REPORT FORM

NAME Canyon Creek Occurrence

Study Area Kantishna Hills

Occurrence No. 98

Location: Sec. 23, T14S, R16W

Occurrence Type Potential Massive Sulfide

Examining Geologist JRB

Ownership: Unclaimed

Date(s) of Examination

General Geology:

Mineralization:

Structure:

Development and Production:

Remarks:

The occurrence is discussed in the text in the Stratabound Massive Sulfide section

Analyses:

References:

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 99

Location: (3519450N, 401700E)

Occurrence Type Sulfide bearing quartz veins

Examining Geologist Bundtzen

Ownership: None

Date(s) of Examination

General Geology:

Mineralization: Low grade mineralization consisting of pyrite with minor galena in quartz gangue.

Structure: Northeast trending vein swarms 15-35 ft. thick and with 360 ft. of strike length.

Development and Production: None recorded.

Remarks:

Analyses: Bundtzen (1981) reports three samples containing trace amounts of Au, 0.05-0.25 oz/tn Ag, 0.004-0.03% Cu, 0.105-0.47% Pb, 0.024-0.14% Zn, and minor As and Sb.

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 100

Location: (3521900N, 402400E)

Occurrence Type Quartz vein

Examining Geologist Bundtzen

Ownership: None

Date(s) of Examination

General Geology: Calcareous schist spatially associated with a dike swarm.

Mineralization: Bundtzen (1981) reports a small quartz filled fracture in schist containing limonite and galena.

Structure: Fracture reported to strike N10^{o}E and to dip 20^{o}SE.

Development and Production: None.

Remarks:

Analyses:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Sb %	As %
Bundtzen	.007	1.15	.001	.62	tr	tr

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 101

Location: Canyon Creek
(3528000N, 414900E)

Occurrence Type Mineralized Dike

Examining Geologist Bundtzen

Ownership: None.

Date(s) of Examination

General Geology: Northeast trending gabbro(?) dike reported by Bundtzen (1981).

Mineralization: Reported to consist of pyrite and a trace of stibnite.

Structure:

Development and Production: None.

Remarks:

Analyses:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Sb %
Bundtzen	tr	tr	tr	0.1	0.01	0.016

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Moonlight Stibnite Occurrence

Study Area Kantishna Hills

Occurrence No. 102

Location: Divide between Moonlight and Canyon Creek. (3475800N, 337500E)

Occurrence Type Antimony-quartz vein

Examining Geologist RBH, JRB

Ownership: None

Date(s) of Examination June 16, 1983

General Geology: Host rock consists of Birch Creek schist near contact with the Keevy Peak Formation.

Mineralization: Massive stibnite pods in a quartz vein up to 10 in. wide exposed for a strike length of 6 ft.

Structure: Vein strikes N30°E and dips 20°NW.

Development and Production: None.

Remarks: Area should be explored for vein extension.

Analyses: Bundtzen reports three samples with traces of Au, up to 0.33 oz/tn Ag, minor Cu, Pb, Zn, and up to 65.5% Sb.

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Bloom Prospect

Study Area Kantishna Hills

Occurrence No. 103

Location: (3542500N, 425400E)

Occurrence Type Possible stratiform sulfides

Examining Geologist JRB

Ownership: Unknown.

Date(s) of Examination July 25, 1983

General Geology: Tan and black quartzite units of the Birch Creek schist. Rocks are essentially horizontal.

Mineralization: Abundant white and yellow sulfate efflloresence on north-facing cliff face.

Structure: Prospect located along two or three shear zones grossly concordant with foliation. Principal shearing localized the contact between black finely-laminated locally graphitic quartzite and tan finely-laminated vitreous quartzite. Strata between shears are plicated and locally brecciated.

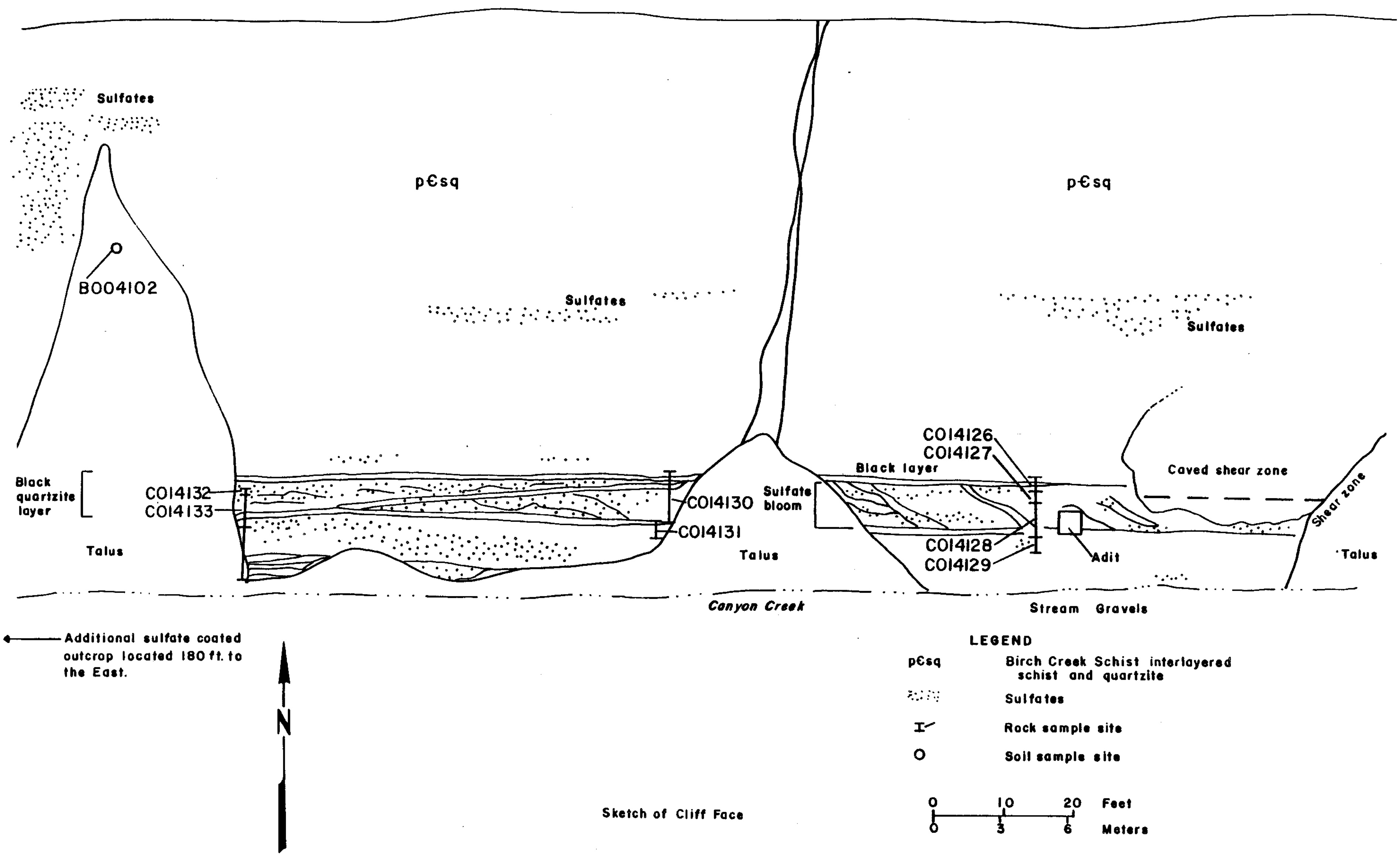
Development and Production: A four foot long 3 x 3 ft. adit was driven. No production.

Remarks: Luxuriant blooms of white and yellow sulfate cover the black quartzite units, especially along the sheared zones. No evidence of relict sulfides. No positive Zn Zap reaction. Geometry of the sulfate blooms suggest possible stratiform sulfide accumulations in the black, locally carbonaceous layers.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag ppm	Au ppm	Mo ppm	Sb %	W %	As %	Remarks
C014126	.002	.001	.005	ND	ND	ND	.0006	.0002	.002	chip sample
C014310	.004	ND	.004	ND	ND	ND	.0019	.0003	.003	
C014311	.002	ND	.004	ND	ND	2	.0012	ND	.001	
B004102	.008	.002	.010	ND	ND	ND	.0030	.0004	.004	soil sample

References:



Occurrence No. 103 - Bloom Prospect

OCCURRENCE REPORT FORM

NAME Red Dirt Occurrence

Study Area Kantishna Hills

Occurrence No. 105

Location: Sec. 5, T14S, R15W

Occurrence Type Potential Massive Sulfide

Examining Geologist JRB

Ownership: Unclaimed

Date(s) of Examination

General Geology:

Mineralization:

Structure:

Development and Production:

Remarks:

The occurrence is discussed in the text in the Stratabound Massive Sulfide section.

Analyses:

References:

OCCURRENCE REPORT FORM

NAME Nessie Deposit (Ridge No. 1 Claim) (Patented Claim M.S. No. 2196)

Study Area Kantishna Hills

Occurrence No. 106

Location: 0.5 mi. northwest of Stampede Mine (3561500N, 437310E)

Occurrence Type Quartz, stibnite vein

Examining Geologist JMK

Ownership: Patented Claim (M.S. No. 2196) Mineral rights belonging to University of Alaska.

Date(s) of Examination August 12-13, 1983

General Geology: Micaceous quartzite.

Mineralization: A 10 ft. wide shear contains a 2.5 ft. wide quartz-stibnite-bearing zone (up to 5% stibnite). Other minerals include kermesite, stibiconite, boulangerite(?).

Structure: The mineralized zone is vertical, trends N85°E and is intermittently exposed for 80 ft. along strike.

Development and Production: Development: Three bulldozer trenches and some small pits. No production.

Remarks: Bundtzen (1981), p. 208) reports reserve of 1400 lbs. of high grade stibnite ore.

Analyses: See attached table.

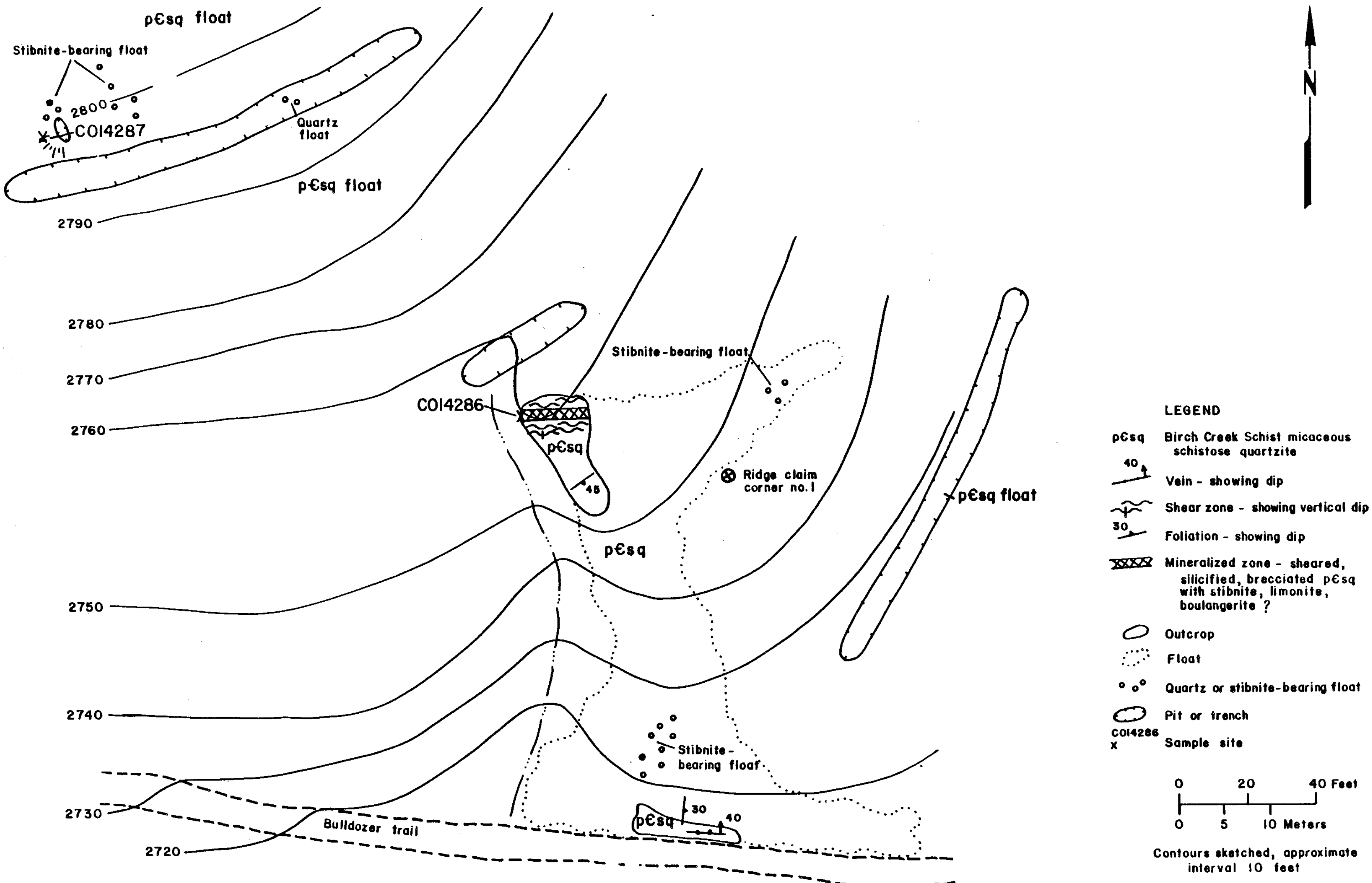
References: Bundtzen, 1981, p. 208, 226.

Nessie Deposit (Ridge No. 1 Claim) (Patented Claim M.S. No. 2196)

Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	.001%	.0005%	.002%	0.05 oz/tn	.016 oz/tn	14 ppm	.795%	6 ppm	.06%	2 %	--	--	Sample C014286. 4 ft. chip across shear.
	.021%	<.001%	.002%	2.76 oz/tn	.4-6 oz/tn	--	6.05%	<.0002 ppm	.57%	.0001	--	--	Sample C014287. Dump grab.
*	.003%	.001%	.001%	.308 oz/tn	.01 oz/tn	33 ppm	.800%	--	--	--	--	--	Disseminated sulfide gashes
*	.001%	.001%	tr	0.01 oz/tn	tr	50 ppm	.016%	--	--	--	--	--	(stibnite) in quartzite.

* Bundtzen, 1981.



Occurrence No. 106 - Nessie prospect/Ridge No. 1 claim

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 107

Location: (3558690N, 433500E)

Occurrence Type Antimony bearing quartz

Examining Geologist Bundtzen

Ownership: None.

Date(s) of Examination

General Geology: Quartzite host rock.

Mineralization: Quartz gangue containing pyrite and minor stibnite exposed for 330 ft.

Structure: Mineralized zone strikes N35^{o}E and dips 45^{o}SE.

Development and Production: None.

Remarks:

Analyses:

Sample	Cu %	Pb %	Zn %	Au oz/tn	Mo ppm	Sb %	Remarks
Bundtzen	tr	tr	tr	tr	51	.052	gossan sample

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Location: Southwest of Stampede Mine (3558700N, 436550E)

Ownership: None.

Occurrence No. 108

Occurrence Type Quartz vein

Examining Geologist Bundtzen

Date(s) of Examination

General Geology: Graphitic schist host rock.

Mineralization: Disseminated chalcopyrite and pyrite in a 12 in. wide discontinuous quartz vein. Minor malachite staining present.

Structure: Vein is subparallel to schistosity.

Development and Production: None recorded.

Remarks:

Analyses:

References: Bundtzen, 1981.

OCCURRENCE REPORT FORM

NAME Upper Ridge Claims No.'s 344 (patented M.S. No. 2261)

Study Area Kantishna Hills

Location: 1.3 mi. northwest of the Stampede Mine (356409N, 433950E)

Ownership: University of Alaska

Occurrence No. 109

Occurrence Type Quartz stibnite vein

Examining Geologist JMK

Date(s) of Examination August 11, 1983

General Geology: Birch Creek quartzite, quartzite feldspar schist and calcareous schist.

Mineralization: Limonite-stained vein quartz exposed in trenched area. Mineralogy: massive and stringer stibnite. Minor stibiconite and kermesite.

Structure: No mineralization found on outcrop.

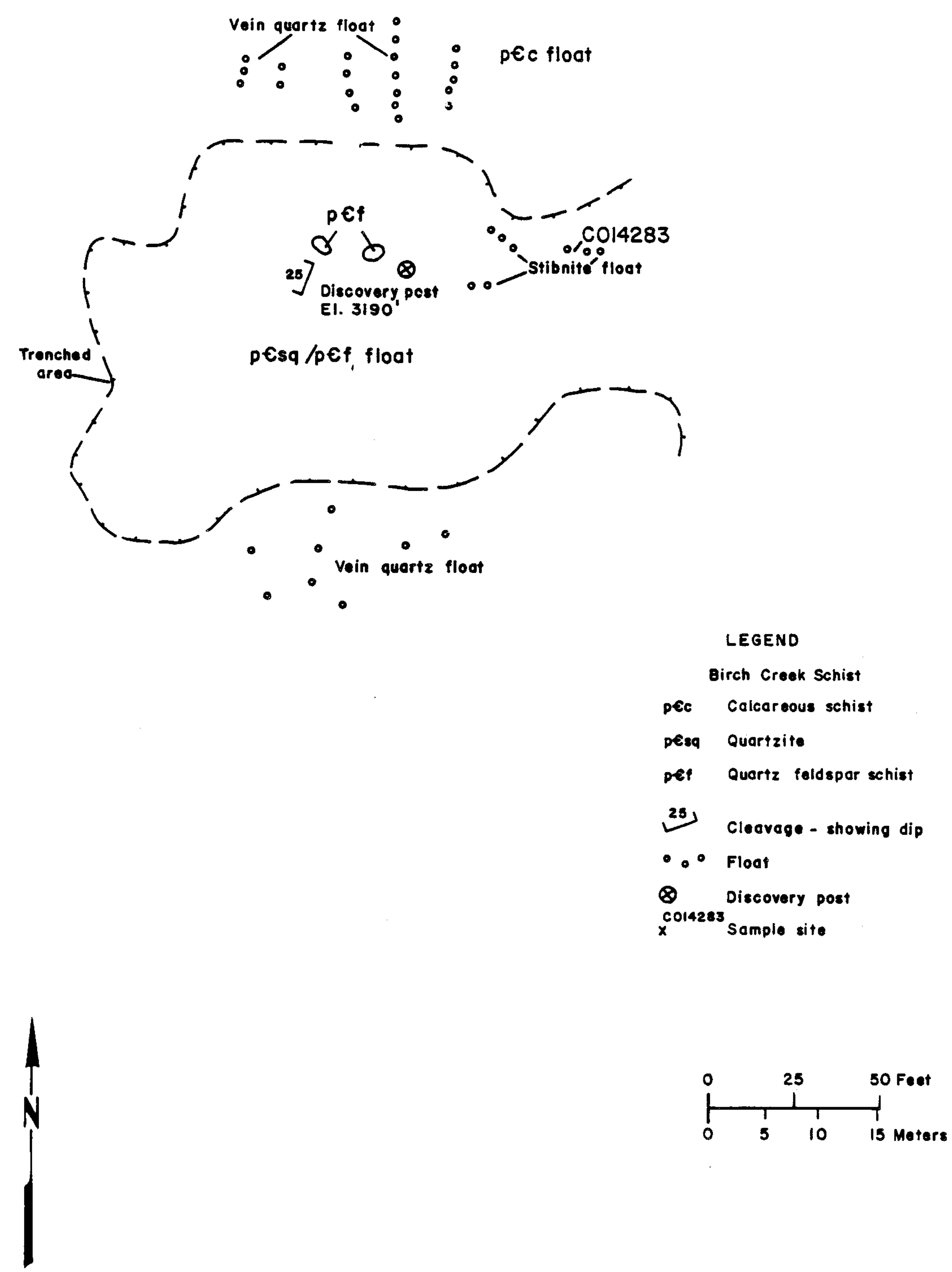
Development and Production: Development: considerable bulldozer trenching. No production.

Remarks:

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu %	Pb %	Zn %	Ag oz/tn	Au oz/tn	Mo ppm	Sb %	W ppm	As %	Remarks
C014283	0.009	<.001	.005	<.01	.026	<2	38.5	--	0.45	float grab
Bundtzen	0.026	.03	1.20	.01	tr	19	0.031	--	--	sulfide schist near vein
Bundtzen	0.010	0.03	0.03	0.20	0.06	22	14.5	--	--	stibnite gash vein

References: Bundtzen, 1981, p. 208, 226.



Occurrence No. 109 - Upper Ridge claim

OCCURRENCE REPORT FORM

NAME Unnamed Prospect

Study Area Kantishna Hill

Location: South bank of Stampede Creek 0.35 mi. west of the Stampede Mine (35660080N, 437300E)

Ownership:

Occurrence No. 110

Occurrence Type Quartz, stibnite vein

Examining Geologist JMK

Date(s) of Examination August 13, 1983

General Geology: Birch Creek calcareous schist and schistose quartzite.

Mineralization: Veinlets and lenses of limonite-stained quartz and quartz breccia, the largest is 1 x 2.5 ft. in size. Mineralogy: stibnite, stibiconite, pyrite. Locally massive stibnite.

Structure: Quartz veinlets and breccia crosscut schistosity. A trend for the mineralized zone could not be determined because of poor exposure.

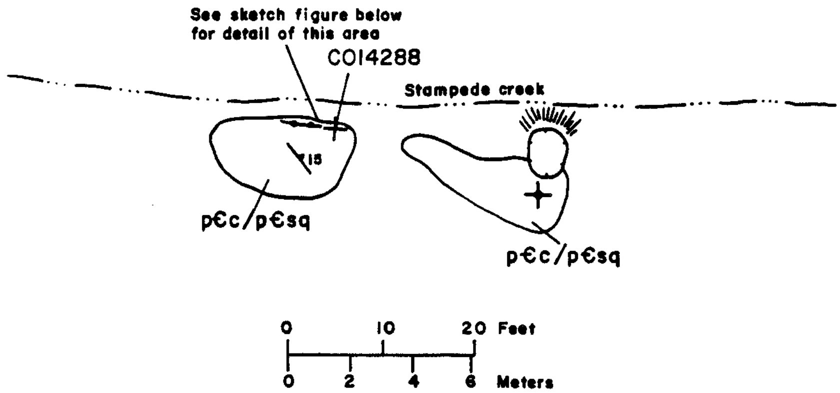
Development and Production: Development: one small open cut. No production.

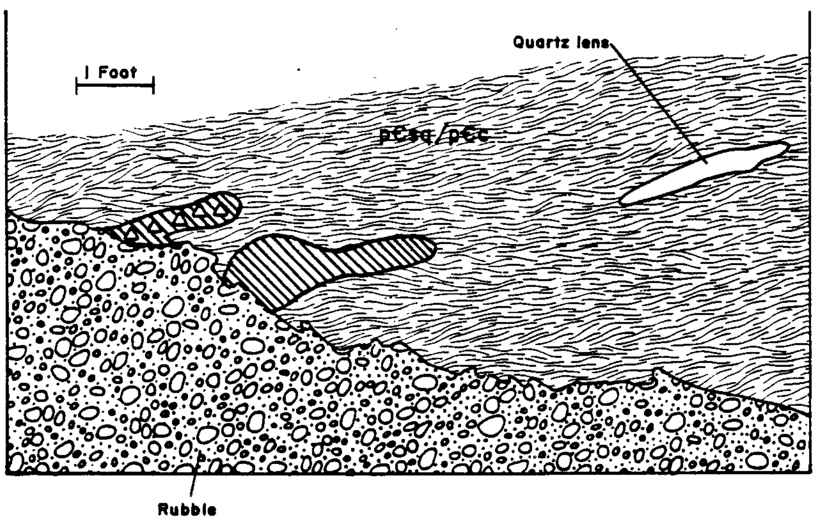
Remarks: Poorly exposed.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm
C014288	5	ND	ND	ND	.007	ND	19%	ND	570

References: Wells, 1941, Plate 49.





Sketch view at south side of Stampede Creek- looking south

LEGEND

Birch Creek Schist

p€c Calcareous schist

p€sq Schistose quartzite

Quartz breccia

Quartz vein

Stibnite-bearing zone

15 Foliation-showing attitude

Horizontal foliation

Pit or trench

Dump

C014288 Sample site

Occurrence No. 110 - Unnamed prospect

OCCURRENCE REPORT FORM

NAME Stampede Mine

Study Area Kantishna Hills

Occurrence No. 111

Location: Stampede Creek
SW¼ Sec. 36, T13S, R15W
(3558420N, 439680E)

Occurrence Type Antimony-quartz veins

Examining Geologist TKH

Date(s) of Examination August 11-12, 1983

Ownership: Patented claims: Mineral rights are owned by University of Alaska surface is controlled by National Park Service.

General Geology: Quartzite and schist of the Birch Creek formation.

Mineralization: Massive stibnite and stibnite-bearing quartz veins with minor pyrite, pyrrhotite and sphalerite.

Structure: The minerals occur in a set of NE trending veins and fractures associated with the Stampede fault.

Development and Production: Development: Small glory hole and more than 3000 ft. of underground workings in complex array of drifts, crosscuts, shafts and inclined workings; small mill.
Production: Total of 3,894.5 tons of ore and concentrates containing 3,695,429 lbs. antimony (see attached table).

Remarks: Includes surface, Nesse winze, Emil winze, West and East Mooney, and Kobuk ore bodies. Many buildings and some equipment on site; most of the buildings and some of the equipment are usuable. Hawley (1977) estimates up to 1000 tons of high grade (50% Sb) material may remain in the workings. White (1942) estimated 6000 tons of mill grade (10-15% Sb) ore remained at that time; most of which has not been mined.

Analyses: See attached table.

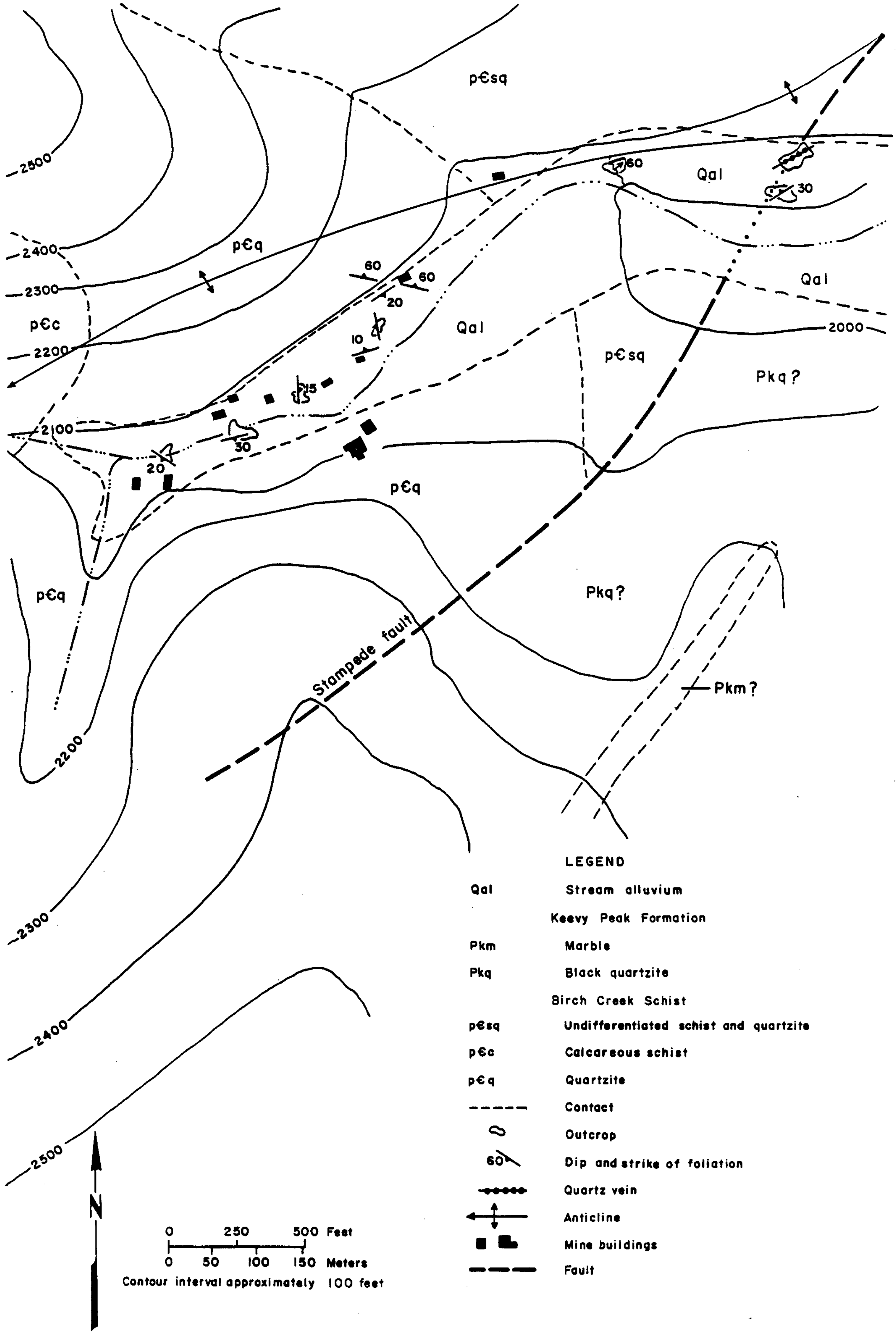
References: Bundtzen, 1981, p. 128-141 and tables.
Hawley, 1977, p. 4-32-4-45.
Barker, 1963, p. 10-17.
Ebbley and Wright, 1940, p. 3-30.
White, 1942.

Stampede Mine

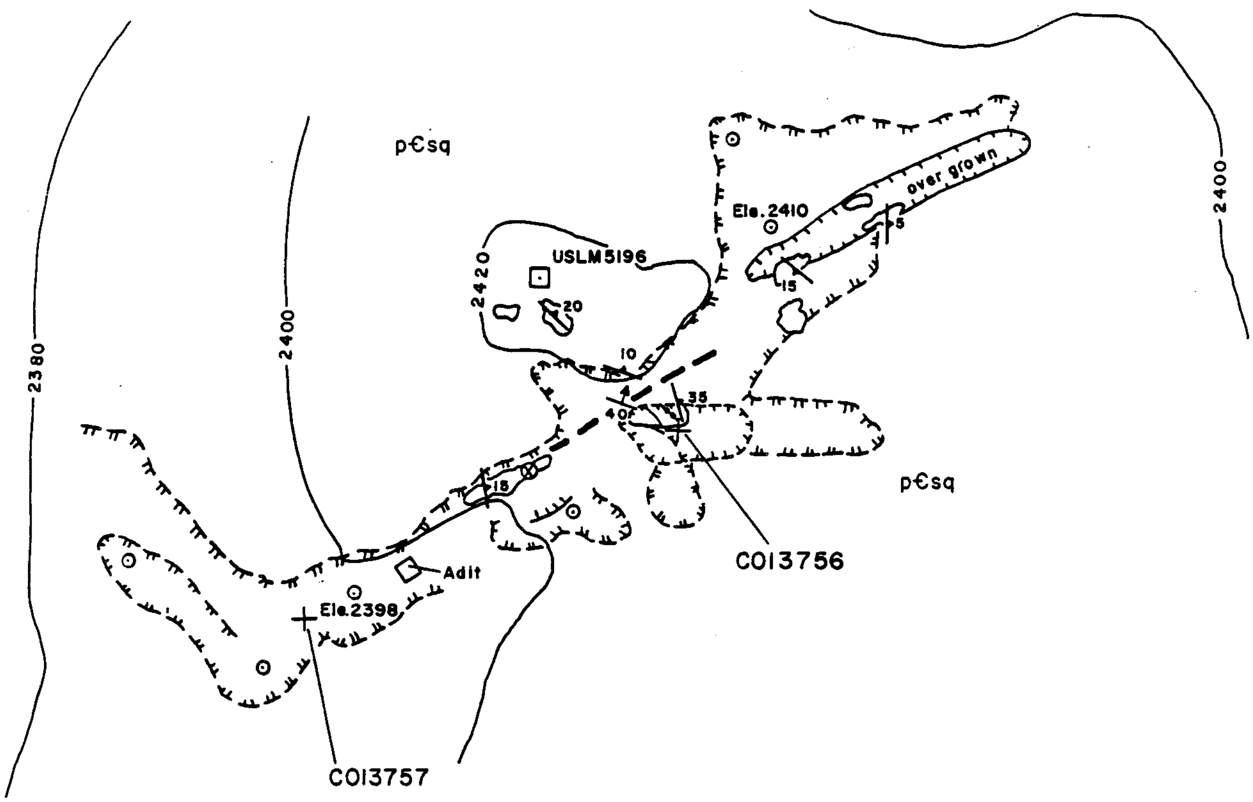
Salisbury & Dietz, Inc. study results:

	Cu	Pb	Zn	Ag	Au	Mo	Sb	W	As	Bi	U	Th	Remarks
	ND	ND	ND	.03 oz/tn	.053 oz/tn	ND	65%	6 ppm	.088%	--	--	--	Sample C013756.
	ND	ND	ND	.12 oz/tn	.070 oz/tn	ND	68%	4 ppm	.100%	--	--	--	Sample C013757.
*	tr	.01%	tr	.05 oz/tn	.020 oz/tn	tr	26.2%	--	--	--	--	--	Grab samples along road cut.
*	tr	tr	tr	.17 oz/tn	.230 oz/tn	tr	30.8%	--	--	--	--	--	
**	--	--	ND	tr	tr	--	.082%	--	--	--	--	--	Channel sample across approximately 20 m of vein and gossans.
**	--	--	ND	tr	tr	--	.042%	--	--	--	--	--	
**	--	--	ND	tr	tr	--	.005%	--	--	--	--	--	
**	--	--	ND	tr	tr	--	.021%	--	--	--	--	--	
**	--	--	ND	.105oz/tn	.010 oz/tn	--	2.75%	--	--	--	--	--	
**	--	--	ND	.04 oz/tn	.020 oz/tn	--	1.20%	--	--	--	--	--	
**	--	--	ND	.02 oz/tn	.010 oz/tn	--	0.06%	--	--	--	--	--	
**	--	--	ND	.01 oz/tn	tr	--	1.70%	--	--	--	--	--	
**	--	--	ND	ND	ND	--	0.035%	--	--	--	--	--	

* Bundtzen and others, 1976.
** Hawley, 1977.



Occurrence No. 111 - Geology of the Stampede Mine Area



LEGEND

p€sq	Birch Creek Schist undifferentiated schist and quartzite
	Fault
	Quartz/Antimony vein
+	Rock sample site
	Cut boundary
	Survey point
20	Dip and strike of foliation
	Outcrop

0 50 100 Feet
0 10 20 30 Meters

Contour interval approximately 20 feet

Occurrence No.111-Stampede Mine/Glory Hole Ore Body

PRODUCTION OF ANTIMONY ORES, CONCENTRATES, STAMPEDE MINE

Year	Ore + Concentrates (ton)	Antimony (%)	Antimony (lb.)
Pre-1937	150.00	----	----
1937	873.67	55.01	962,000
1938	426.73	52.00	444,000
1939	211.52	49.68	210,000
1940	293.83	52.16	306,000
1941	582.90	53.47	624,000
1942	60.00	52.00	83,200
1943	120.00	52.00	124,400
1944	78.50	50.00	78,500
1945	40.00	56.00	46,600
1946	40.00	56.00	44,800
1947	26.00	56.00	29,120
1948	68.50	56.00	69,720
1949	74.00	56.00	82,880
1951	121.00	56.00	135,520
1956	120.00	56.00	134,400
1957	63.50	56.00	71,120
1964	40.00	56.00	46,600
1965	40.00	56.00	46,600
1969	23.00	56.00	29,760
1970	121.35	56.00	126,209
Total	3,594.50		3,695,429

From White, 1942, and estimates by E. R. Pilgrim

Sources: White, 1942.
E. R. Pilgrim, pers. commun.

OCCURRENCE REPORT FORM

NAME Unnamed Occurrence

Study Area Kantishna Hills

Occurrence No. 112

Location: On Clearwater River
SW¼ Sec. 7, T14S, R14W
(3549220N, 444750E)

Occurrence Type Sulfide-bearing quartz vein

Examining Geologist CJM

Ownership: Not claimed.

Date(s) of Examination August 12, 1983

General Geology: Birch Creek quartzite.

Mineralization: Quartz vein with pyrite and galena.

Structure: Quartz veins approximately one foot wide crosscut quartzite schist.

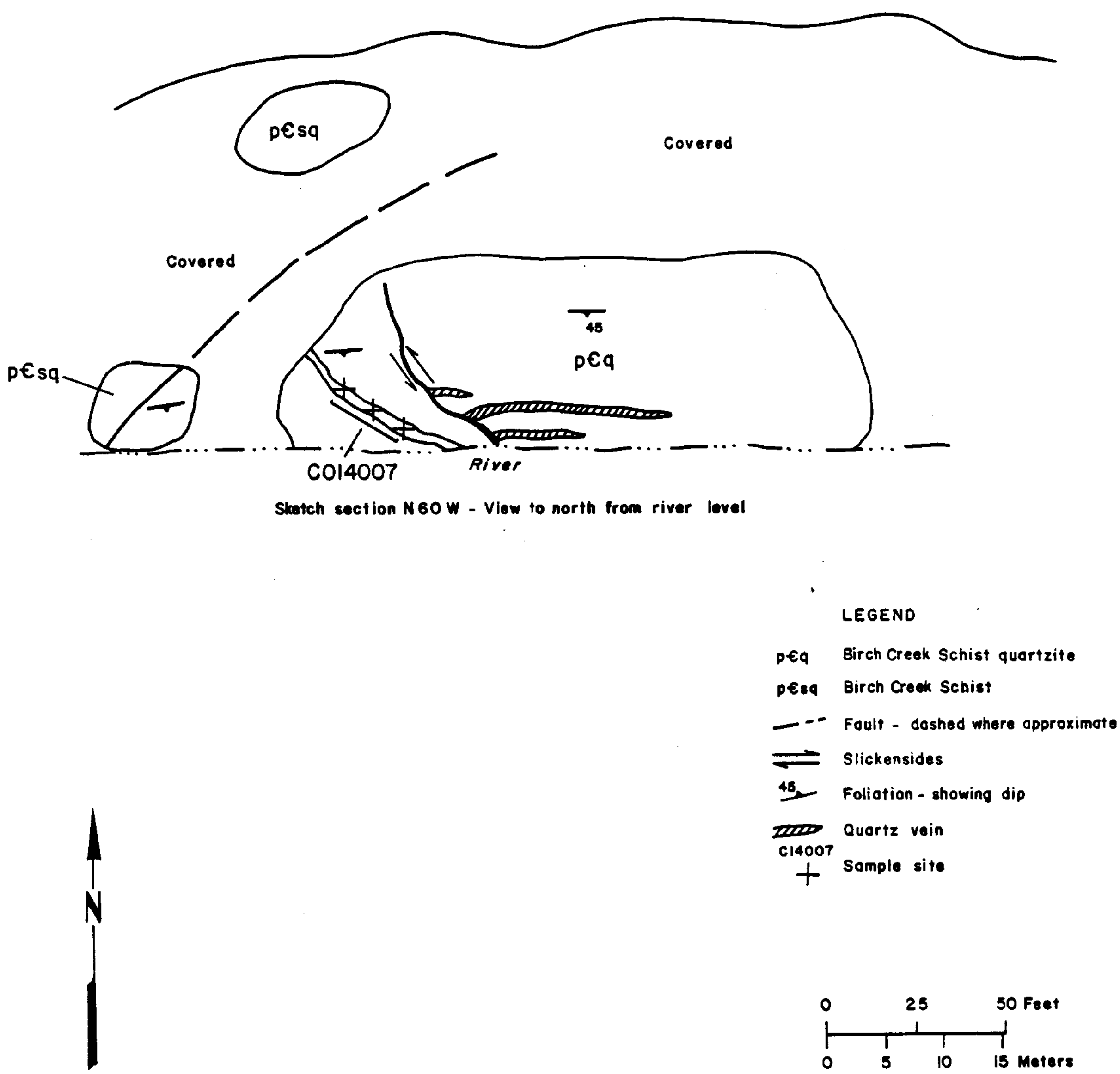
Development and Production: None.

Remarks: Quartz veins contain sparse sulfides.

Analyses: Salisbury & Dietz, Inc. study results:

Sample	Cu ppm	Pb %	Zn ppm	Ag ppm	Au ppm	Mo ppm	Sb ppm	W ppm	As ppm	Remarks
CO14007	30	.505	5	11	ND	ND	2	2	10	selected sample, high-graded from sulfide bearing area of vein

References:



Sketch section N 60 W - View to north from river level

Occurrence No. 112-Unnamed Prospect

OCCURRENCE REPORT FORM

NAME Clearwater Barite

Study Area Kantishna Hills

Occurrence No. 113

Location: Clearwater Fork 1 mile north of Stampede Creek

Occurrence Type

Examining Geologist Bundtzen

Ownership: None

Date(s) of Examination

General Geology:

Mineralization: Poorly exposed quartz vein six feet wide contains barite, pyrite, and pyrrhotite.

Structure: Vein strikes N50°W and dips 40°SW.

Development and Production: None reported.

Remarks:

Analyses: Bundtzen (1981) reports one sample containing approximately 25% barite and 0.017% Zn.

References: Bundtzen, 1981.

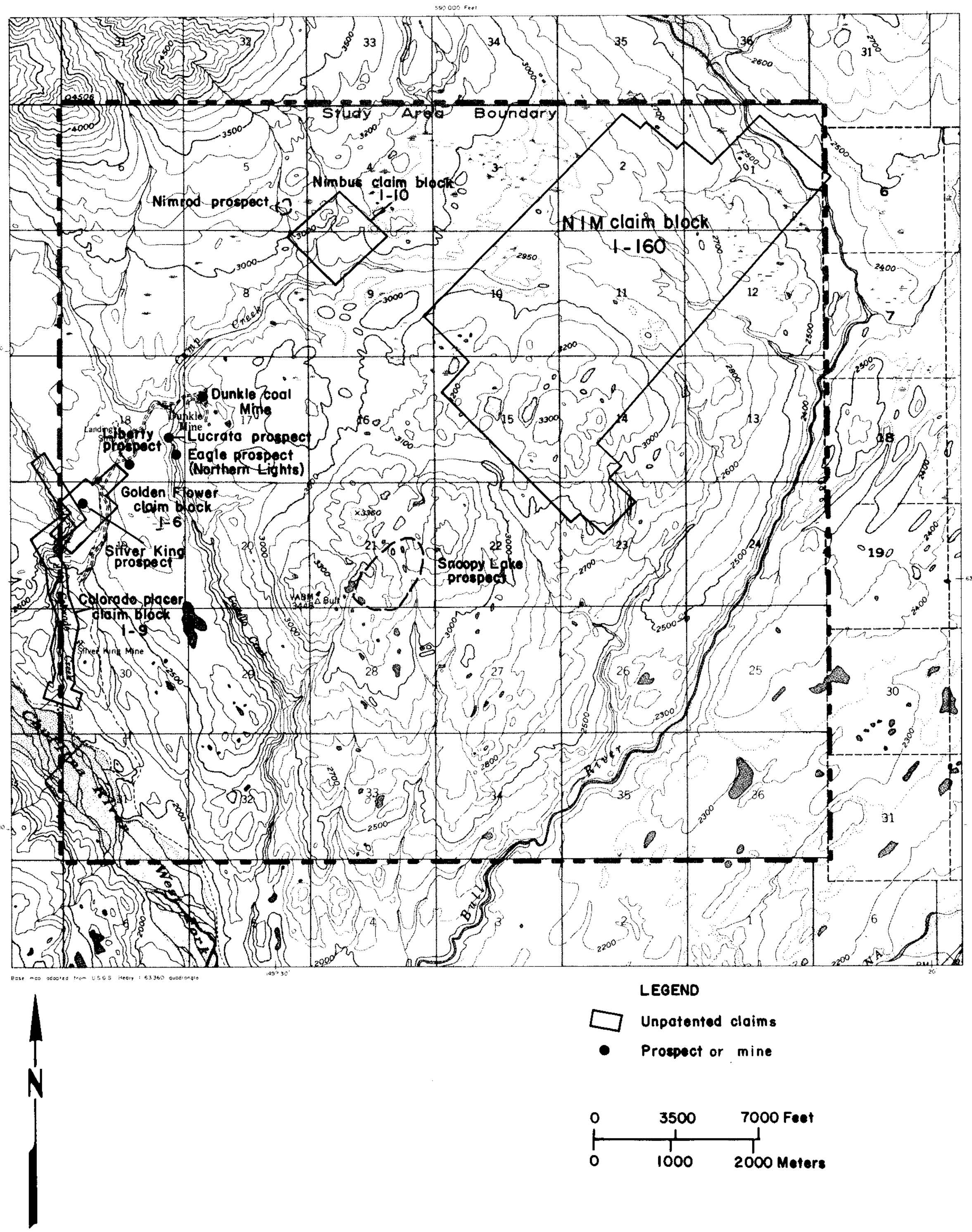


Figure B-2 Claims, Mines, and Prospects - Dunkle Mine Study Area

OCCURRENCE REPORT FORM

NAME Snoopy Lake Prospect

Study Area Dunkle

Occurrence No.

Location: Section 21, T19S, R10W

Occurrence Type Disseminated/Breccia

Examining Geologist CJM, JD, JG

Ownership: Unclaimed.

Date(s) of Examination August 23, 24, 1983

General Geology: Hornfelsed metasediments and/or metavolcanics intruded by felsic to intermediate dikes and plugs.

Mineralization: Arsenopyrite, chalcopyrite, pyrite occurs as disseminations and stringers in and surrounding breccias. Locally sulfides make up part of breccia matrix.

Structure: Hornfels is brecciated by andesitic intrusions.

Development and Production: Several small hand-diggings. No production.

Remarks: At one time covered by part of the NIM claim block. These claims have been allowed to lapse.

See geologic map, plate D-1.

Analyses: See attached table.

References: Resource Associates of Alaska, and Resource Exploration Consultants; In-house reports and maps, 1971-1981.
Bundtzen, 1983.

Snoopy Lake Prospect

Salisbury and Dietz, Inc. study results:

Sample	Cu ppm	Ag ppm	Au ppm	As ppm
C014170	260	3.8	.25	3,200
C014171	20	0.2	--	30
C014172	105	0.2	--	90
C014173	160	--	--	--
C014174	1700	990	.44	109,000
C012715	120	--	--	--
C012743	280	--	--	--
C012746	260	9.2	.50	--
C012747	220	2.4	--	--
C012748	480	--	--	--
C012749	120	--	--	--
C012750	430	--	.40	--
C012751	40	--	.20	--
C013767	360	0.6	--	40

OCCURRENCE REPORT FORM

NAME NIM Property

Study Area Dunkle

Location: Section 10, 11, 14, 15
T19S, R10W

Ownership: Richard Swainbank

Occurrence No.

Occurrence Type Disseminated/breccia/vein?

Examining Geologist CHM, TKH, JB, VVT

Date(s) of Examination August 22-25, 1983

General Geology: Metasedimentary and metavolcanic rocks intruded by felsic to mafic igneous complex.

Mineralization: Disseminated arsenopyrite, chalcopyrite, molybdenite, pyrrhotite, float from massive arsenopyrite vein. Breccias with chalcopyrite, pyrrhotite.

Structure: Numerous breccias.

Development and Production: No development or production. Considerable exploration work performed on property including soil geochemistry, Induced Polarization survey, ground and airborne magnetics, geologic mapping, and limited rotary drilling.

Remarks: Promising area of widespread mineralization.

Analyses: Numerous rock and soil samples taken for this study. See sample location map, plate D-2 , this report. Resource Associates of Alaska and Resource Exploration Consultants. In-house reports and maps, 1971-1981.

References: Resource Associates of Alaska, and Resource Exploration Consultants; in-house maps and reports, 1971-1981.
Bundtzen, 1983.

OCCURRENCE REPORT FORM

NAME Nimrod

Study Area Dunkle

Occurrence No.

Location: On one of the northern tributaries to Camp Creek, SE ¼ Section 5, T19S, R10W.

Ownership: Swainbank?

Occurrence Type Disseminated sulfides in intrusive

Examining Geologist TKH, GJG

Date(s) of Examination August 22, 1983

General Geology: Diorite porphyry.

Mineralization: Disseminated pyrite up to 7 percent in argillized and limonite stained intrusive. Altered zone is exposed for about 125 feet along the creek.

Structure: Altered zone is cut by scattered small shears.

Development and Production: None.

Remarks: Hawley (1977) mentions a brecciated sedimentary rock with sulfides in the matrix from this area that was not seen.

Analyses: See attached table.

References: Hawley and Clark, 1974.
Hawley, 1977.

Nimrod

Salisbury and Dietz, Inc. study results:

Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Sb ppm	Remarks
C013764	--	--	--	0.6	--	--	Chips of mineralized material from outcrop.
C014154	--	--	--	1.0	.04	--	Chips of mineralized material from outcrop.
C014155	--	--	--	1.5	.07	--	Chips of mineralized material from outcrop.
Hawley, 1977	460	25	160	110	<.02	--	Breccia.
Hawley, 1977	10	100	<200	tr	.02	--	
Hawley, 1977	100	150	700	tr	--	--	
Hawley, 1977	10	50	500	.5	--	--	
Hawley, 1977	500	50	1000	.7	.6	150	

OCCURRENCE REPORT FORM

NAME Nimbus

Study Area Dunkle

Occurrence No.

Location: On eastern tributary to Camp Creek, NW ¼ Section 9, T19S, R10W.

Ownership: Swainbank?

Occurrence Type Gold-bearing quartz sulfide vein

Examining Geologist TKH, GJG

Date(s) of Examination August 22, 1983

General Geology: Andesite porphyry and hornfelsed argillite.

Mineralization: Arsenopyrite, pyrite and sphalerite in quartz gangue. Vein is six inches to two feet wide.

Structure: The andesite appears to be of intrusive origin. The sulfides occur at the contact.

Development and Production: Explored by shallow trenches. No production.

Remarks: About ten feet of strike length is exposed. It may be open to east as it appears to trend to south of present trenches.

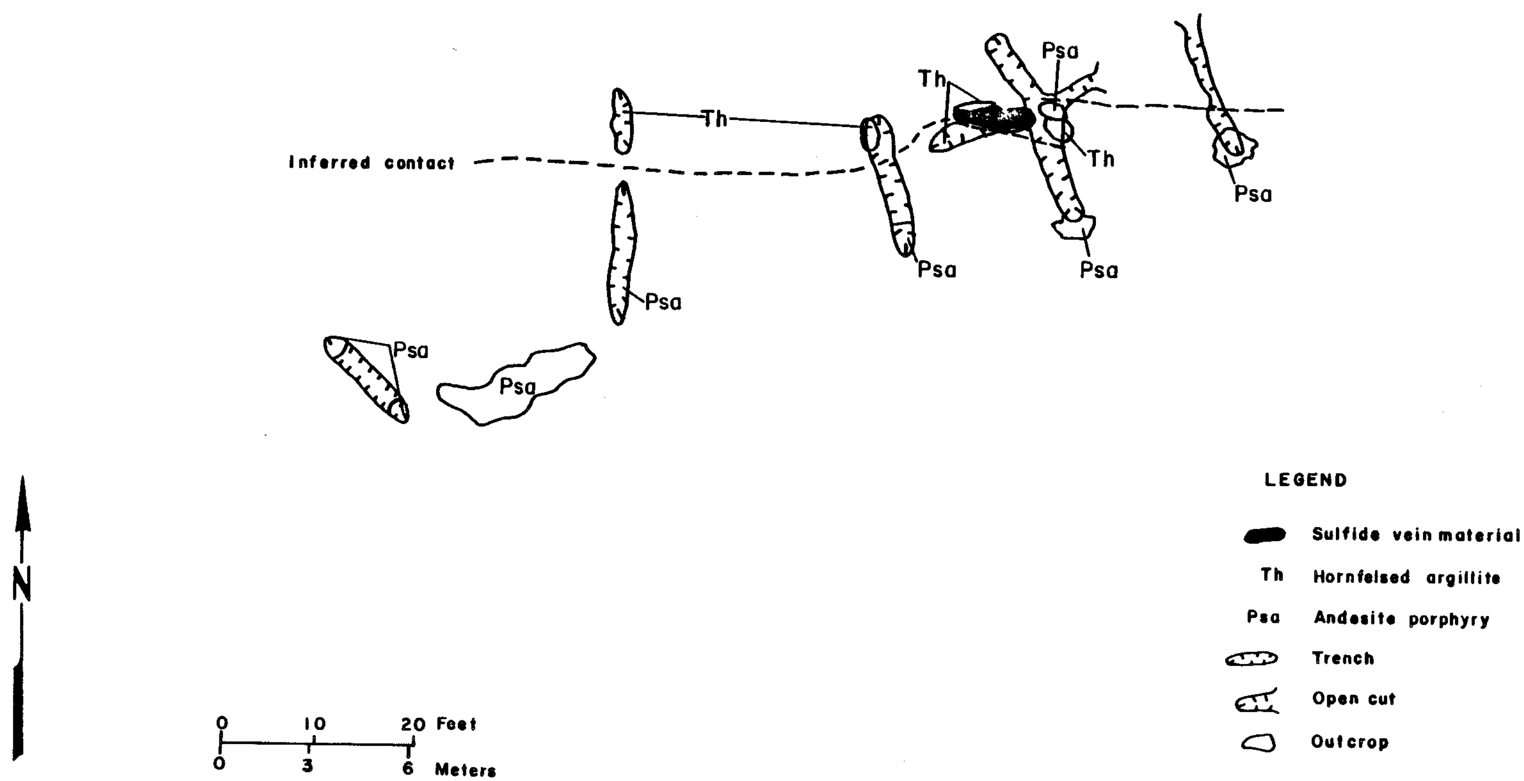
Analyses: See attached table.

References: Hawley, 1977.

Nimbus

Salisbury and Dietz, Inc. study results:

Sample	Pb ppm	Zn ppm	Ag ppm	Au oz/tn	As ppm	Remarks
C014157	--	--	--	.47	--	Grab sample from vein in outcrop.
C014158	--	--	--	.42	--	Grab sample from vein in outcrop.
C014159	--	--	--	.92	--	Grab sample from vein in outcrop.
Hawley, 1977	20	45	1.2	9.30ppm	22%	Chip sample.
Hawley, 1977	--	--	0.6	<.02ppm	1200	Chip sample
Hawley, 1977	--	--	1.0	1.40ppm	2.2%	Chip sample.
Hawley, 1977	--	--	6.0	2.00ppm	1.9%	Chip sample.
Hawley, 1977	--	--	22.0	.50ppm	3.0%	Chip sample.
Hawley, 1977	--	--	<.2	.11ppm	550	Grab sample.
Hawley, 1977	--	--	0.8	<.02ppm	180	Grab sample
Hawley, 1977	--	--	<.2	<.02ppm	60	Trench not into bedrock. Grab sample.



Occurrence No. 2 – Nimbus Prospect – Dunkle Mine Study Area

OCCURRENCE REPORT FORM

NAME Dunkle Coal Mine

Study Area Dunkle

Location: Near confluence of Camp and Costello Creeks, NW ½ Section 17, T19S, R10W.

Ownership: No current leases.

Occurrence No.

Occurrence Type Coal

Examining Geologist TKH, GJG

Date(s) of Examination August 22, 1983

General Geology: Lenses and discontinuous beds of rock in poorly consolidated conglomerates, sandstones, siltstones, and shales of Tertiary age.

Mineralization: Development work and U.S. Bureau of Mines trenching and drilling (Rutledge, 1948) revealed three beds considered mineable at the time: The Dunkle, Upper Billie, and Lower Billie beds. The coal is subbituminous and reportedly makes good steam coal.

Structure: The coal-bearing sediments lie in a small fault-bounded basin. They are gently folded but dips in the U.S.B.M. drill core were all less than 20°. The coal beds are broken by high angle reverse faults with displacement of up to ten feet.

Development and Production: The coal beds were developed by about 1500 feet of underground workings (see attached map). In 1941 and 1942 about 5000 tons of coal were mined from the Dunkle bed. Operations were suspended in March of 1943. During 1952-1954 about tons were produced from a strip-mining operation.

Remarks: Attached tables and figures show reserves in the mine area. See further discussion in main text.

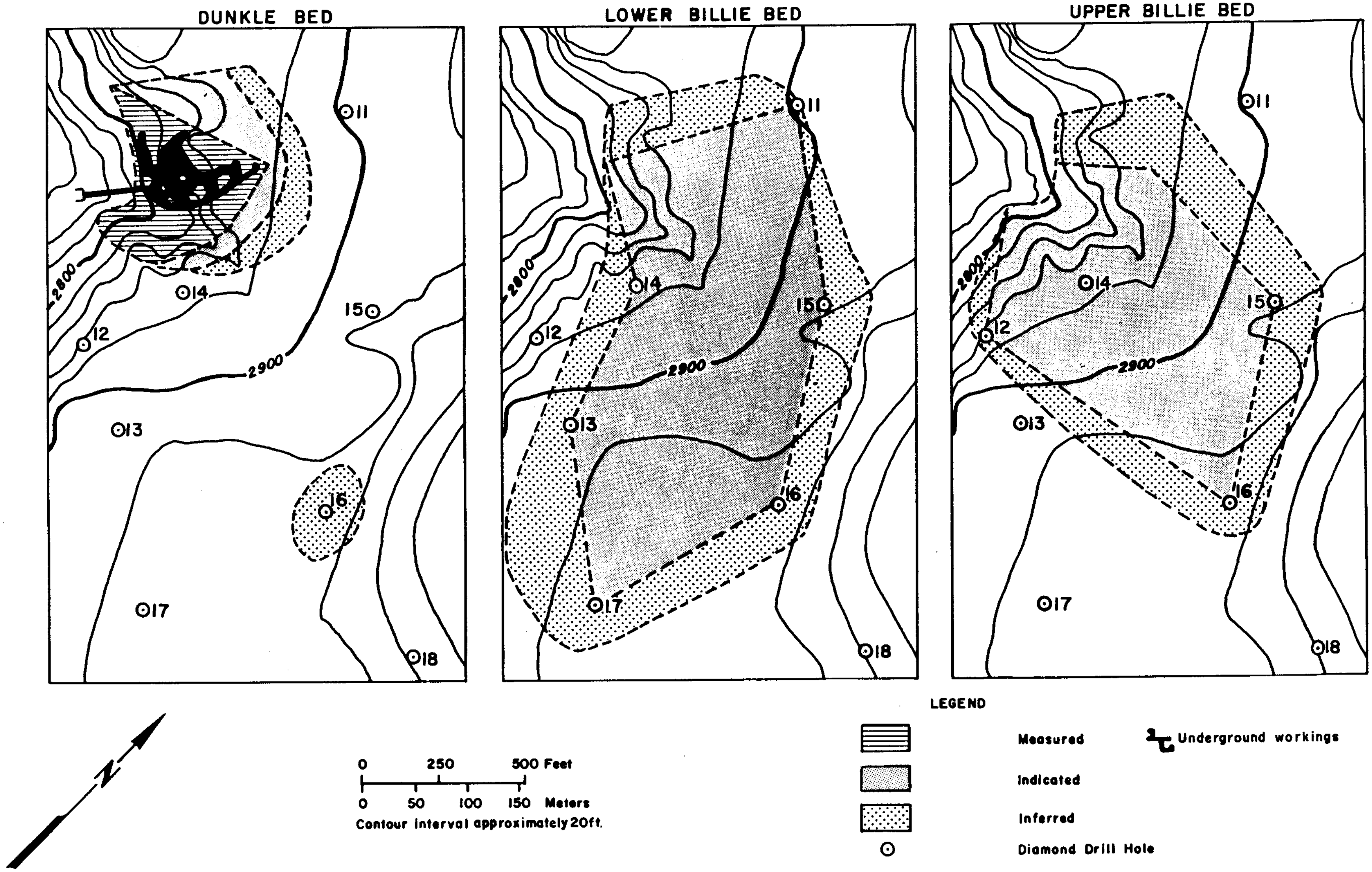
Analyses: See attached tables.

References: Rutledge, 1948.

CALCULATION OF COAL RESERVES
(Rutledge, 1948)

Bed	Class	Area, square feet	Thickness, feet	Volume, cubic feet	Short tons1/	Mineable tonnage2/
Dunkle	Measured	138,000	6.1	841,800	3/33,670	8,400
	Indicated	93,625	6.1	571,100	22,840	11,400
	Inferred	56,525	6.1	344,800	13,790	6,900
						26,700
Lower Billie	Indicated	776,000	3.7	2,871,200	114,850	57,400
	Inferred	471,000	3.7	1,742,700	69,710	34,900
						92,300
Upper Billie	Indicated	549,000	4.3	2,360,700	94,430	47,200
	Inferred	308,000	4.3	1,324,400	52,980	26,500
						73,700
						192,700
	Total:					
	Measured					8,400
	Indicated					116,000
	Inferred					68,300
						192,700

1/ 25 cubic feet of coal equals 1 short ton.
2/ A mining extraction factor of 50 percent has been assumed.
3/ 50 percent of this amount has either been extracted or left as pillars.



Occurrence No. 4 – Coal Reserves, W. E. Dunkle Mine – Dunkle Mine Study Area (from Rutledge, 1948)

OCCURRENCE REPORT FORM

NAME Lucrata (Lucrative Prospect)

Study Area Dunkle

Occurrence No.

Location: West side Costello Creek, 0.3 miles southwest of the Dunkle Mine (3366080N, 578100E)

Occurrence Type Quartz sulfide veins

Examining Geologist JMK, MS

Ownership:

Date(s) of Examination August 22, 1983

General Geology: Hornfels zone surrounded by dacites?

Mineralization: Sheared hornfels zones approximately 40 feet wide containing irregular quartz-rich lenses and veinlets. Largest is 3 x 10 feet. Mineralogy: quartz, arsenopyrite, pyrite, pyrrhotite, scorodite. Sulfides mostly stringer but locally massive.

Structure: The shear zone trends slightly east of north and individual shears indicate a steep dip to the west. It appears to be part of the major Chulitna Fault zone running through the area (Hawley, 1974, p. B11).

Development and Production: Development: a caved 15 foot adit (Ross, p. 224) and two open cuts. No production.

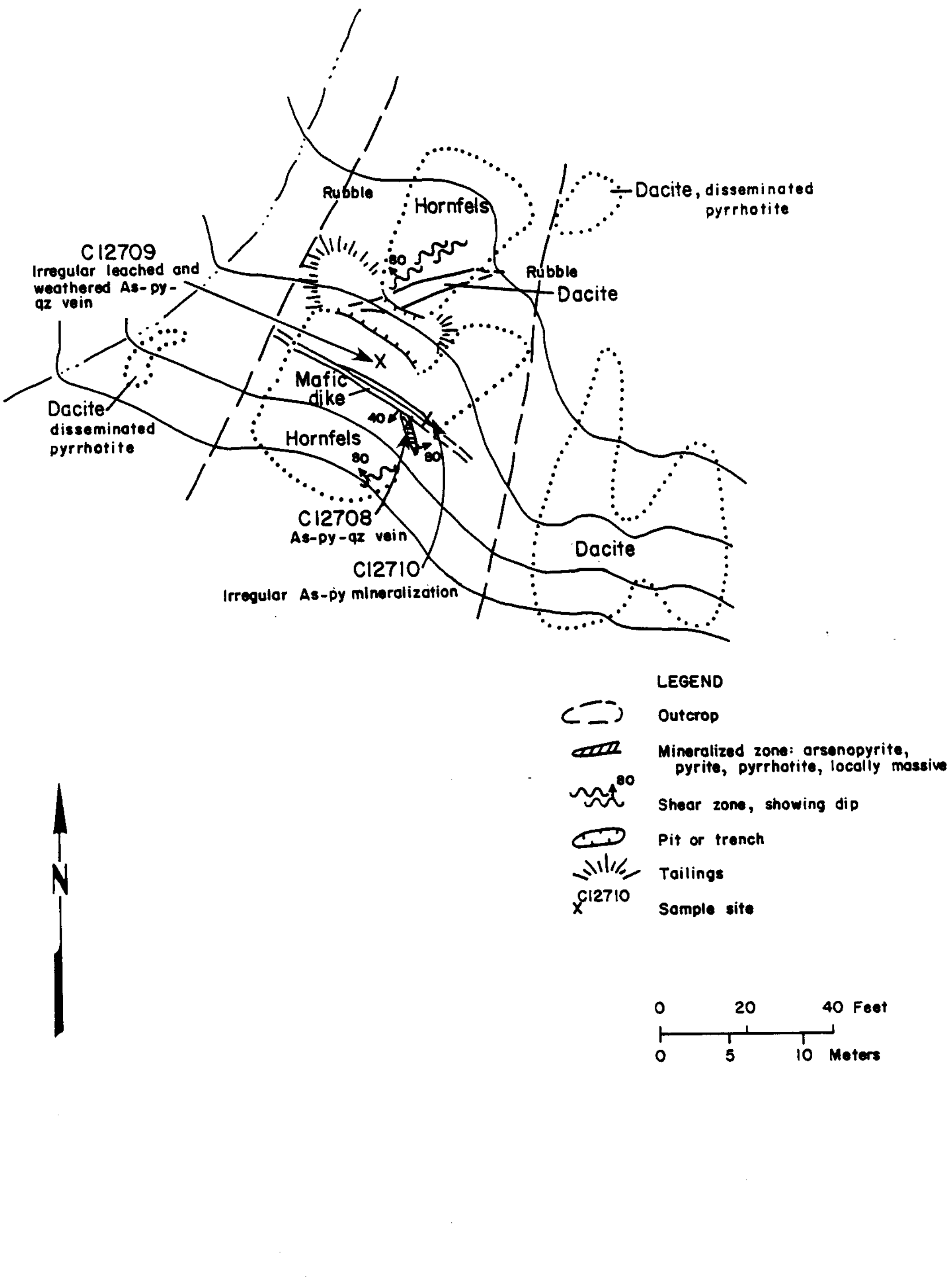
Remarks: No evidence of adit was found.

Analyses: See Hawley, p. B32. Salisbury and Dietz, Inc. study results:

Sample	Ag oz/tn	Au oz/tn	Remarks
C012708	2.82	0.86	
C012709	2.80	0.17	
C012710	2.24	0.17	
Ross	3.80	1.26	Page 225

References:

Capps, 1919, p. 224.
Ross, 1933, p. 224-225.
Hawley, 1974, p. B30-31.



Occurrence No. 5 - Lurata Prospect - Dunkle Mine Study Area

OCCURRENCE REPORT FORM

NAME Eagle Prospect (Northern Lights)

Study Area Dunkle

Occurrence No.

Location: East side Costello Creek 0.3 miles southwest of the Dunkle Mine (3366050N, 578250E)

Occurrence Type Quartz sulfide vein

Examining Geologist JMK, MS

Ownership:

Date(s) of Examination August 20-23, 1983

General Geology: Wallrocks consist of dacites overlain by hornfels.

Mineralization: Branching shear zones up to 10 feet wide contain intermittent quartz veins averaging one foot wide and irregularly exposed for 200 feet along strike. Veins contain stringer, disseminated and locally massive arsenopyrite and pyrite. Chalcopyrite, sphalerite, galena, malachite, azurite, scorodite, and galena occur to a lesser extent.

Structure: In the vicinity of the Eagle Prospect the majority of the veins trend north to slightly northeast. The extension beyond swings slightly to the west of north. The western limit of shearing is the contact between dacite and hornfels and that contact appears to structurally control the shearing. Shearing occurs along this contact north of the main prospect but only minor quartz veining occurs. The mineralization is reported to occur in subparallel faults in the wall of the Lucrata segment of the Chulitna Fault (Hawley, 1974, p. B11).

Development and Production: Development: A caved adit reported to follow a vein for 62 feet (Ross, p. 329) and an open cut. No production.

Remarks: Reserves: 12,000 tons inferred reserves (Ross, p. 329). Ross (p. 329) indicates an extent of mineralization along strike of over 300 feet north of the prospect and Hawley (p. B28) infers veining for over 1600 feet to the north.

Analyses: See attached table.

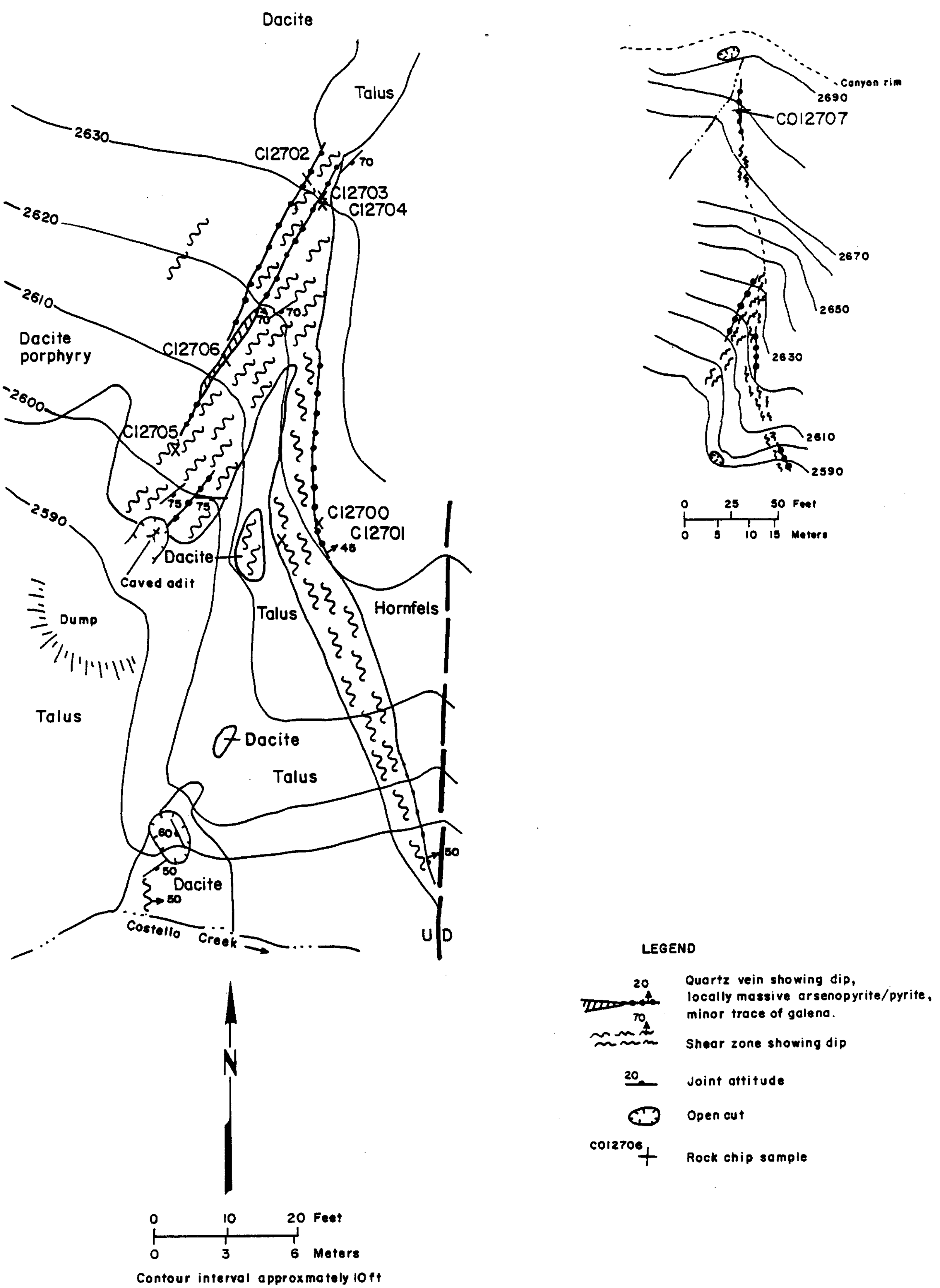
References:

Capps, 1919, p. 224.
Ross, 1933, p. 329.
Hawley, 1974, p. B31.

Eagle Prospect (Northern Lights)

Salisbury and Dietz, Inc. study results:

Sample	Ag oz/tn	Au oz/tn	Remarks
C012701	0.10	0.034	From a shear zone 15 feet wide.
C012702	8.67	0.610	
C012703	4.14	0.240	
C012704	5.88	2.270	From a vein 2 feet wide.
C012705	4.03	0.210	
C012706	72.20	0.250	



Occurrence No. 6- Eagle Prospect-Dunkle Mine Study Area

OCCURRENCE REPORT FORM

NAME Liberty Prospect

Study Area Dunkle

Location: 0.7 miles southwest of the Dunkle Mine (3363250N, 576200E)

Ownership:

Occurrence No.

Occurrence Type Sheared hornfels

Examining Geologist JMK

Date(s) of Examination August 23, 1983

General Geology: Hornfels.

Mineralization: Sheared hornfels containing locally massive and disseminated pyrrhotite, pyrite, and arsenopyrite. Sulfide boxworks containing scorodite present and trace sphalerite(?). Only disseminated sulfides found in outcrop. Massive on dump.

Structure: Mineralization appears to be trending along a N35°E trend. Bedding/ fracture(?) attitudes indicate a steep dip to the east.

Development and Production: A series of bulldozer trenches. No production.

Remarks: Poor exposure of mineralization. Ross (p. 328) mentions a pit exposing a N50°W trending shear zone.

Analyses: Salisbury and Dietz, Inc. study results:

Sample	Ag oz/tn	Au oz/tn	Remarks
C012713	4.56	0.046	
Ross	1.20	0.060	2.5' wide sample across shear zone.
Ross	8.60	0.140	2.5' wide sample across shear zone.

References:

Hawley, p. B32.
Ross, 1933, p. 328.
Capps, 1919, p. 224.
Hawley, 1974.

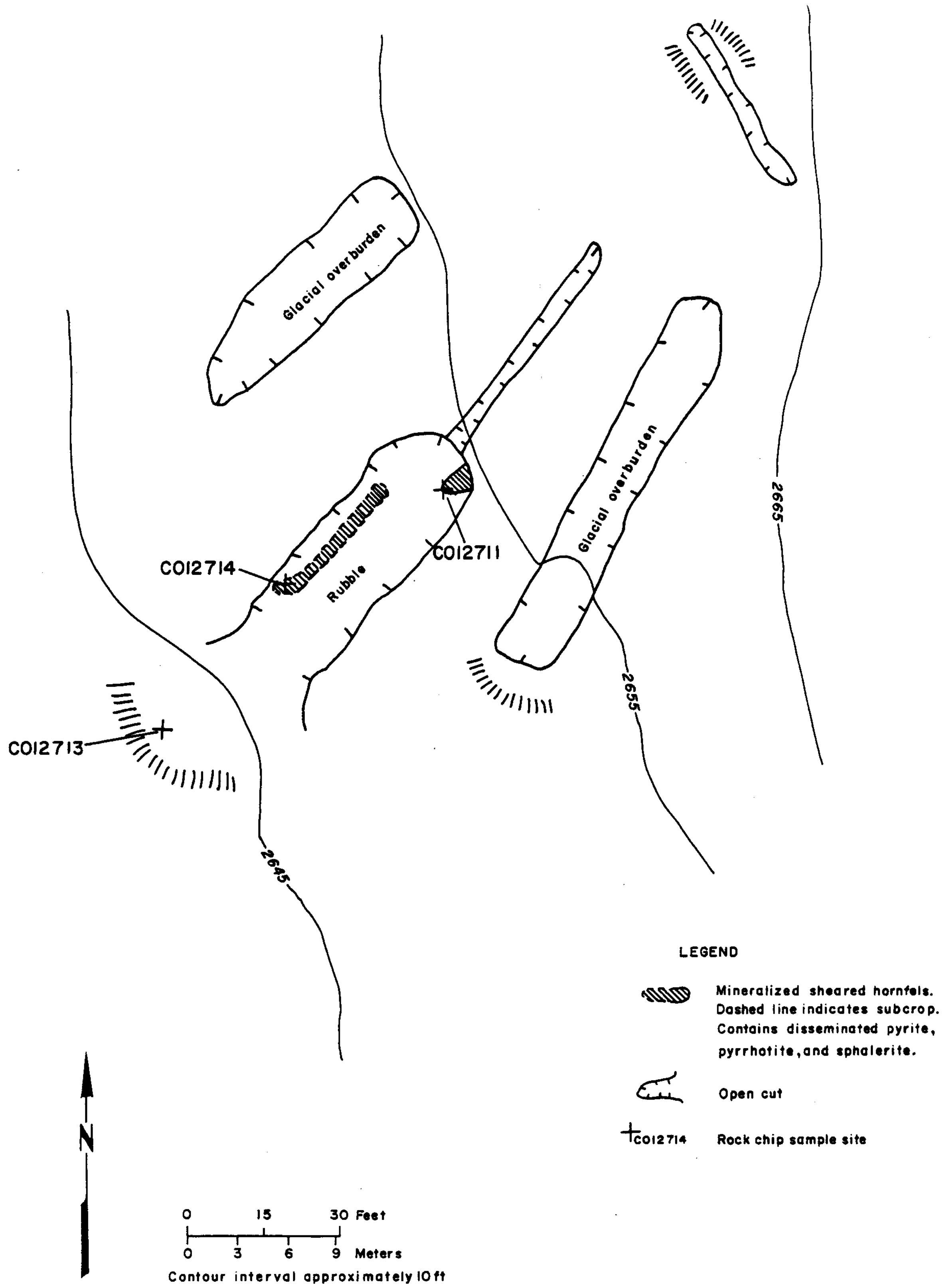
Liberty Prospect

Salisbury & Dietz, Inc. study results:

Sample	Ag oz/tn	Ag ppm	Co	Cu	Mo	Ni	Remarks
C012711	-.9	-.9	.002%	.053%	.002%	.004%	
C012713	4.56	-.8	.018%	.043%	.002%	-.9	
C012714	-.9	-.9	-.9	.031%	.001%	-.9	

	Ag oz/tn	Au oz/tn	Remarks
Ross, 1933	1.20	0.060	2.5' wide sample across shear zone
Ross, 1933	8.60	0.140	2.5' wide sample across shear zone

-.9 Represents lower than detection limit
-.8 Represents element not analyzed



Occurrence No. 7 – Liberty Prospect – Dunkle Mine Study Area

OCCURRENCE REPORT FORM

NAME Silver King Prospect

Study Area Dunkle

Occurrence No.

Location: East of Colorado Creek, NW ¼ Section 19, T19S, R10W (3383300N, 577100E)

Occurrence Type Sulfide-bearing skarn and vein system.

Examining Geologist TKH

Ownership: 3/4th's of the six claim Golden Flower group, owned by Eric Zinc of Anchorage, Alaska, are in the study area.

Date(s) of Examination August, 21, 1983

General Geology: Triassic argillite and limestone that have been intruded by diorite porphyry dikes and bosses and metasomatized into aphanitic very siliceous, light gray-green, banded hornfels and coarse- to medium-grained clinozoisite-idocrase-calcite skarn.

Mineralization: Three types: (1) pyrrhotite and chalcopyrite in veins and skarn; (2) arsenopyrite veins and pods; and (3) a stibnite-quartz vein.

Structure: Mineralization is disseminated and in irregular pods, also in northeast-trending steeply dipping veins.

Development and Production: There is no recorded production. The prospect is developed by several shallow pits and trenches.

Remarks:

Analyses: See attached table.

References: Hawley and Clark, 1974.

Silver King Prospect

Salisbury and Dietz, Inc. study results:

Sample	Cu %	Ag oz/tn	Au oz/tn	Remarks
C013761	--	.85	.87	4"-8" arsenopyrite quartz vein.
C013762	--	ND	ND	Disseminated pyrrhotite and chalcopyrite.
C013763	--	.12	.29	Stibnite quartz vein material from dump of pit.
C012744	.3	.15	.01	Chips across 3 foot width of pyrite-chalcopyrite-arsenopyrite bearing vein in green, siliceous matrix.

Analyses of Rock Samples From the Silver King Prospect (Hawley & Clark, 1973)

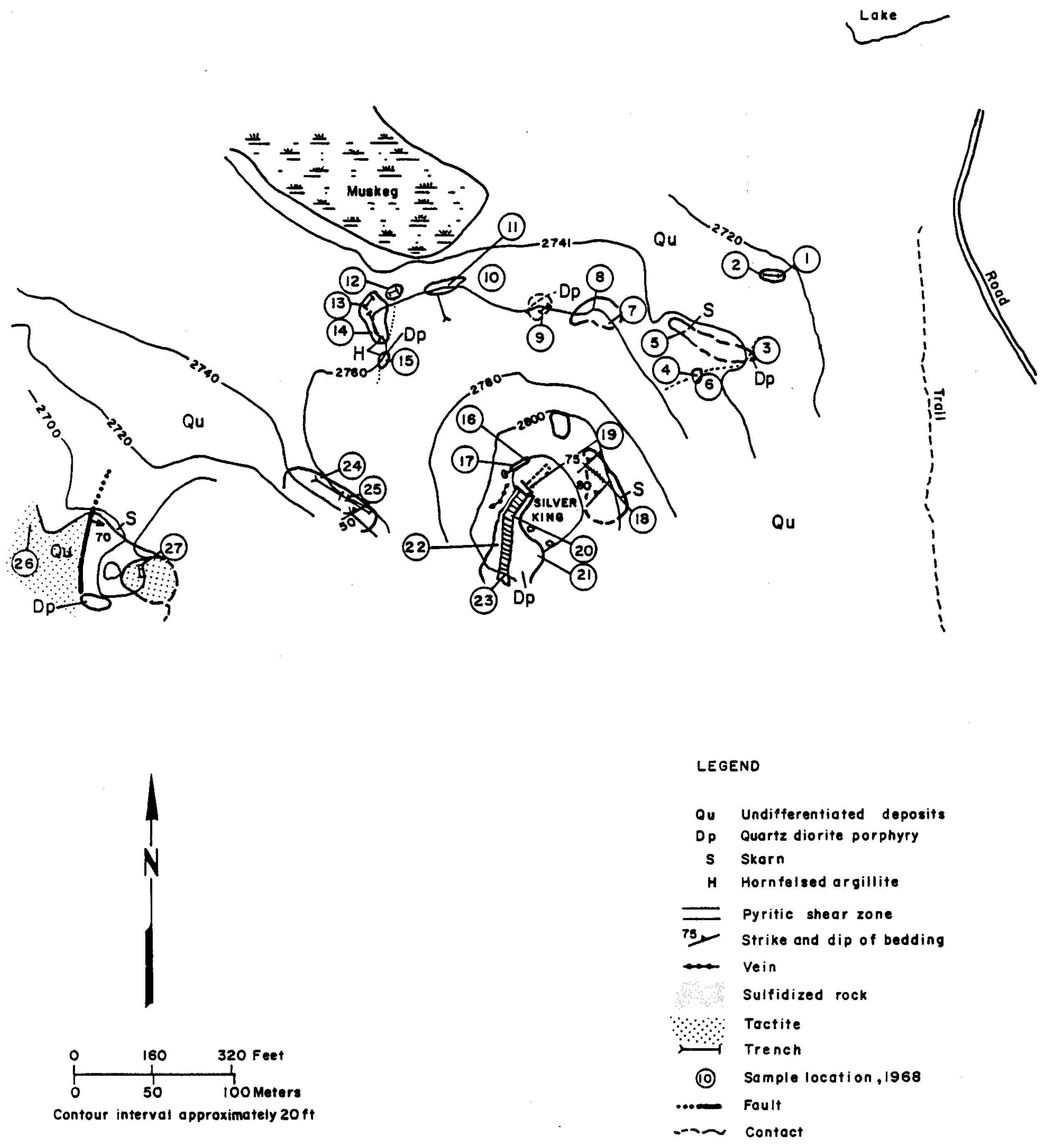
Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on. N = not detected; L = detected but below limit of determination; > = greater than. H = interference with spectral line. Results are given in parts per million except for Fe, which is given in percent.

Sample No.	Ag	As	Au[1]	Bi	Co	Cu	Mo	Ni	Pb	Sb	Sn	Zn	Fe	Host Rock
1	N	N	0.08	L	15	15	L	70	L	N	N	300	10	Contact Metamorphosed argillite.
2	N	N	N	L	15	200	N	50	L	N	N	L	10	Tactite.
3	N	N	1.3	N	15	150	L	50	L	N	N	500	20	Do.
4	L	L	.3	10	15	150	L	50	15	N	N	N	5	Contact Metamorphosed argillite.
5	0.7	N	.06	N	20	2,000	N	70	15	N	L	N	15	Diorite dike.
6	N	L	N	N	15	300	N	70	L	N	N	N	10	Argillite.
7	N	L	N	10	10	L	L	70	L	N	30	L	20	Tactite.
8	N	N	.3	10	10	10	N	50	L	L	30	L	15	Limestone.
9	1.5	10,000	.04	N	20	1,500	N	30	L	N	L	L	15	Tactite.
10	N	N	N	100	10	300	N	150	15	N	50	N	7	Diorite dike.
11A	7	>10,000	1.9	50	70	1,500	N	20	30	L	N	N	20	Tactite.
B	L	>10,000	.4	L	20	500	N	30	10	N	15	N	15	Diorite dike.
C	L	N	.04	100	7	1,500	N	70	L	N	N	N	20	Tactite.
D	7	>10,000	2.2	L	1,500	2,000	30	200	15	150	N	L	>20	Do.
E	N	300	N	L	15	300	L	70	10	N	N	L	15	Diorite dike.
F	.7	1,500	N	L	10	1,500	N	70	10	N	L	N	20	Tactite.
12	N	N	N	L	15	10	N	70	15	N	N	L	10	Limestone.
13	N	N	N	N	15	500	N	100	N	N	15	L	20	Tactite.
14	N	N	N	N	15	500	N	100	N	N	30	L	20	Do.
15	N	N	N	L	15	50	N	70	L	N	N	L	15	Diorite dike.
16	N	N	1.1	N	15	200	N	70	20	N	N	N	10	Silicious argillite.
17	N	N	N	70	15	1,000	N	70	L	N	N	200	20	Tactite.
18	N	N	.2	N	7	300	N	100	20	N	N	L	15	Do.
19A	N	700	N	L	15	500	L	100	L	N	N	L	20	Diorite dike.
B	N	10,000	N	L	20	1,000	N	100	L	N	N	L	720	Tactite.
C	1.5	>10,000	.1	30	30	1,800	5	50	15	L	20	L	10	Diorite dike.
20	7	>10,000	1.0	50	150	1,500	L	70	70	500	15	200	20	Tactite.
21A	.7	500	N	L	10	500	N	30	15	N	N	N	10	Contact metamorphosed argillite.
B	8	500	N	15	10	100	N	30	10	100	15	N	15	Diorite dike.
C	N	L	N	N	15	150	L	50	L	N	N	N	5	Do.

Sample No.	Ag	As	Au[1]	Bi	Co	Cu	Mo	Ni	Pb	Sb	Sn	Zn	Fe	Host Rock
21D	15	1,500	1.8	L	7	1,000	N	50	L	2,000	N	N	20	Tactite.
E	>5(H)	700	2.0	N	L	1,000	L	L	1,500	>10,000	N	N	.2	Stibnite.
22A	N	500	N	L	15	1,000	L	50	10	1,000	20	L	15	Diorite dike.
B	0.7	200	N	10	10	1,000	L	30	10	150	10	N	15	Tactite.
C	.5	200	.02	10	7	1,000	5	30	10	L	10	N	15	Diorite dike.
23	20	>10,000	.5	70	70	2,000	N	30	10	200	30	N	>20	Do.
24	N	N	N	N	15	70	L	70	N	N	30	200	>20	Contact Metamorphosed argillite.
25	N	N	.06	L	15	200	L	100	L	N	50	200	>20	Do.
26	70	H	.08	N	150	10,000	N	500(H)	20(H)	N	N	500(H)	15	Conglomerate.
27A	50	10,000	[2]282	>1,000	150	300	N	5	200	200	70	N	15	Altered diorite dike.
B	L	N	N	N	N	100	5	20	20	N	20	N	10	Contact Metamorphosed argillite.
C	L	200	N	N	N	200	5	5	10	N	100	200	15	Do.
D	N	N	.02	N	5	20	N	30	10	N	N	N	2	
E	L	200	N	N	10	50	5	50	10	N	N	N	5	Contact metamorphosed greywacke.
F	3	>10,000	[2]7.3	300	700	500	N	30	20	200	N	N	15	Arsenopyrite vein.
Limits of determination...	0.5	200	0.02	10	5	5	5	2	10	100	10	200	0.05	

[1]Atomic absorption.

[2]Fire assay.



LEGEND

Qu	Undifferentiated deposits
Dp	Quartz diorite porphyry
S	Skarn
H	Hornfelsed argillite
	Pyritic shear zone
75	Strike and dip of bedding
	Vein
	Sulfidized rock
	Tactite
	Trench
10	Sample location, 1968
	Fault
	Contact

Occurrence No. 8 – Silver King Prospect – Dunkle Mine Study Area (after Clark, Hawley, & Hendrick, 1968)

APPENDIX C

CORE DRILLING

By V. V. Thornsberry

TABLE OF CONTENTS

CORE DRILLING

DISCUSSION OF RESULTS

Twenty-three diamond drill holes totalling 4,909 ft were completed during the Kantishna Hills/Dunkle Mine study. All hole locations were surveyed using an EDM-Theodolite. The location of diamond drill holes is shown on plate 5 and figure C-1. Core was geologically logged, split, and sampled at the Kantishna field camp. Samples were analyzed by Skyline Labs, Wheat Ridge, Colorado. All core has been transferred to the Bureau of Mines, Anchorage. Table C-1 summarizes drill hole survey information.

The core drilling program commenced June 14, and was completed on September 10, 1983. Initially one Salisbury & Dietz, Inc. HG-1500 "hydraulic converted Winkie" diamond drill was employed, operating 2 shifts per day. A second drill was mobilized to the project on August 13, and also operated 2 shifts per day. The majority of the holes were collared to retrieve BW44 (NQ equivalent) size core and were usually reduced to IAX (BQ equivalent). Extremely difficult drilling conditions were encountered due to faulting, folding, incompetent formations, and numerous fracture and clay zones. These conditions resulted in slow penetration rates averaging 22.8 ft/shift. Blocking of core in the core barrel and caving hole conditions resulted in short core-runs in several holes. K-7 for example required 135 runs to complete 282 ft of hole. Average core recovery was 73% and is considered very good for the material being cored.

The drilling program was confined to the Quigley Ridge/Jupiter-Mars areas because core drilling was restricted to patented claims. Objectives of the core drilling program were as follows:

1) Test favorable mineralized structures on the patented lode claims by correlating geology, geochemistry, and geophysical results with drilling.

TABLE C-1 - DRILL HOLE SURVEY DATA

SALISBURY & DIETZ,INC.
KANTISHNA DISTRICT

HOLE #	COLLAR NORTH	COORD. EAST	COLLAR ELEV.	HOLE BEARING	HOLE AZIMUTH	HOLE ANGLE	TOTAL LENGTH	HORIZ. LENGTH	COORD. E.O.H. NORTH	COORD. E.O.H. EAST	ELEV. E.O.H
K-1	3489339.7	345820.76	2541.9	N21W	339	-60	158.8	79.40	3489413.83	345792.31	2404.38
K-2	3488420.65	345546.68	2872.8	N30W	330	-55	280.3	160.77	3488559.88	345466.29	2643.19
K-3	3488556.97	345435.05	2798.4	N30W	330	-50	166.5	107.02	3488649.66	345381.54	2670.85
K-4	3488892.88	345639.34	2652.6	N25W	335	-60	300.7	150.35	3489029.14	345575.80	2392.19
K-5	3487263.87	344073.46	2786.8	S30E	150	-50	195.7	125.79	3487154.93	344136.36	2636.89
K-6	3487331.23	344042.58	2736.4	S30E	150	-50	186	119.56	3487227.69	344102.36	2593.92
K-7	3486978.96	344227.96	2909	N30W	330	-55	281.9	161.69	3487118.99	344147.11	2678.08
K-8	3488364.41	348963.49	2464.6	N45W	315	-50	182.7	117.44	3488447.45	348880.45	2324.64
K-9	3488739.69	349331.71	2567.6	N45W	315	-50	244	156.84	3488850.59	349220.81	2380.69
K-10	3488739.69	349331.71	2567.6	N45W	315	-75	103	26.66	3488758.54	349312.86	2468.11
K-11A	3489167.62	348035.49	2900.7	N5W	355	-60	33.6	16.80	3489184.36	348034.03	2871.60
K-11	3489167.62	348035.49	2900.7	S5E	175	-60	146.8	73.40	3489094.50	348041.89	2773.57
K-12	3491390.19	355923.59	3299.2	N10W	350	-50	304.8	195.92	3491583.14	355889.57	3065.71
K-13	3485886.91	345560.02	2212.5	N55W	305	-50	183	117.63	3485954.38	345463.66	2072.31
K-14	3491259.12	355633.98	3204.3	N25W	335	-50	399.1	256.54	3491491.62	355525.56	2898.57
K-15	3487126.01	342389.34	2473.4	N45W	315	-50	201.7	129.65	3487217.69	342297.66	2318.89
K-16	3491086.21	355097.45	2990.8	N30W	330	-40	237.3	181.78	3491243.64	355006.56	2838.27
K-17	3485802.11	342101.13	2158.9	N35W	325	-70	262.5	89.78	3485875.65	342049.63	1912.23
K-18	3489174.02	353010.3	2432.9	S30E	150	-70	188	64.30	3489118.33	353042.45	2256.24
K-19	3487247.33	341198.97	1954.3	N35W	325	-65	203.5	86.00	3487317.78	341149.64	1769.87
K-20	3487183.27	340924.36	1837.5	N35W	325	-50	186.6	119.94	3487281.52	340855.56	1694.56
K-21	3487521.19	341481.98	2063.9	N35W	325	-50	175	112.49	3487613.33	341417.46	1929.84
K-22	3489398.79	345992.37	2555.4	N20W	340	-60	61	30.50	3489427.45	345981.94	2502.57
K-22B	3489398.79	345992.37	2555.4	N20W	340	-70	226.3	77.40	3489471.52	345965.90	2342.75

TOTAL FOOTAGE 4908.8

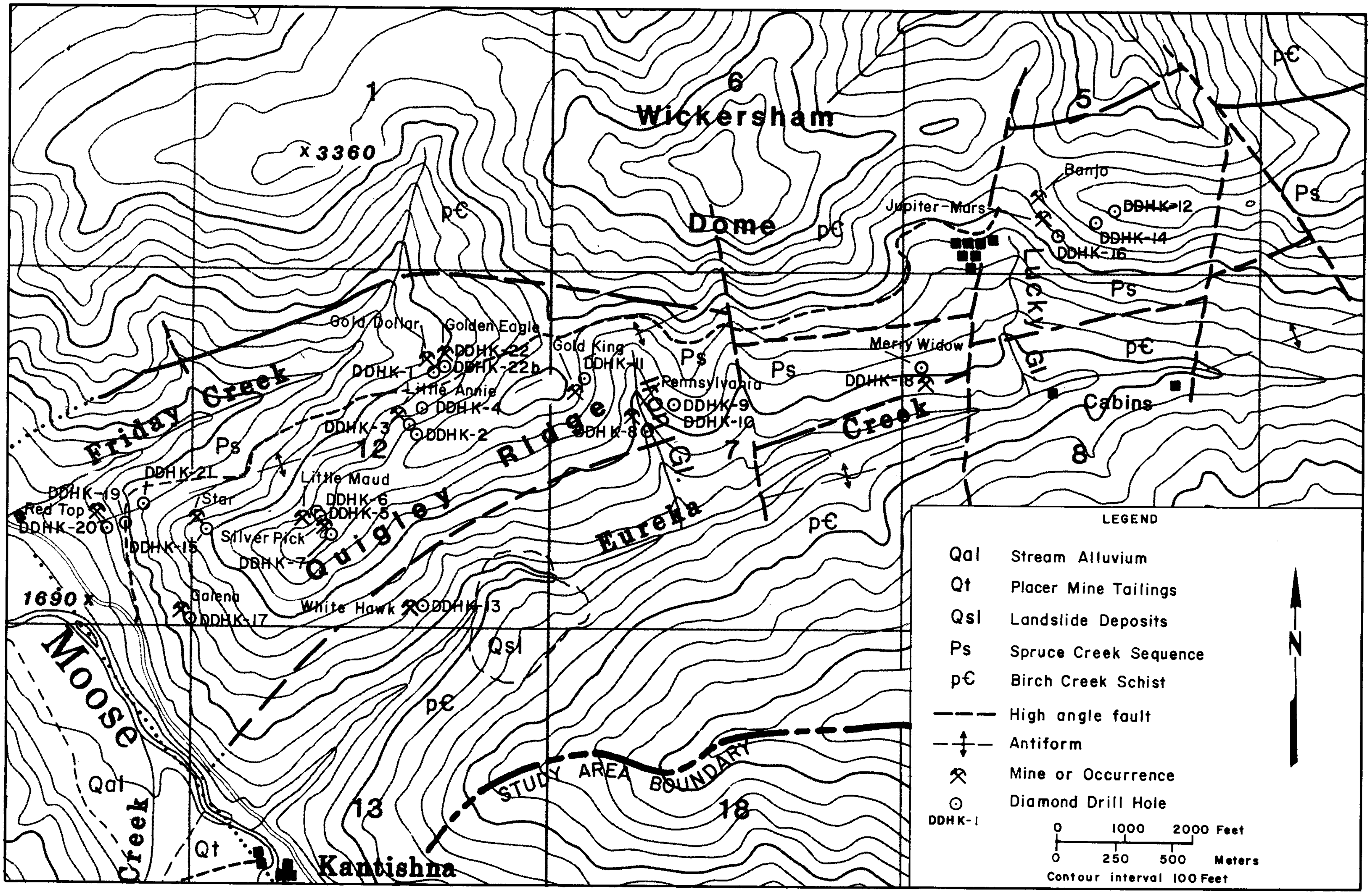


Figure C-1 Drill Hole Index and Geology Map—Kantishna Hills Study Area

2) Verify the existence and continuation of mineralized structures downdip and along strike on patented claims.

3) Project drilling results from patented claims into areas of similar geologic environments where drilling was not allowed.

4) Provide analytical data where possible on subsurface lode mineralization.

No attempt was made to establish reserve estimates or develop ore reserves of individual mines and prospects drilled during the study. Emphasis was placed on establishing continuity of mineralization and structures rather than ore grade and reserves.

The type of structures tested were precious-metal sulfide bearing veins. These structures contain mineralized horizons and ore shoots localized as discrete bodies both laterally and vertically along structure. Rock type controlled to some extent the deposition of gangue and ore minerals. As a general rule, structures within graphitic schist units contained fault clay with minor quartz and sulfides. Structures hosted by the meta-felsite unit contained vein quartz with precious and base metal sulfides. Table C-2 summarizes the mineralized intercepts cored during the program. Individual drill logs are presented in this Appendix following table C-2. Analytical results are shown on the drill logs and in table D-17, Appendix D. Drilling results are discussed in the PRECIOUS METAL VEIN section of the text under the respective occurrence.

TABLE C-2 - DRILL HOLE SUMMARY
KANTISHNA HILLS STUDY AREA

Hole No.	Area	Intercept			Assays oz/ton		Assays % or ppm					Remarks
		Projected	Actual	Length	Au	Ag	Cu	Pb	Zn	As	Sb	
K-1	Gold Dollar	100'	100.5-106.7	6.2'	ND	ND	0.002%	0.002%	0.905%	0.110%	36	Mylonitic crush breccia, structure present, weakly mineralized. Psf with qz and cal veinlets, breccia and clay.
K-2	Little Annie	210'	Not reached, 224.2-224.9	0.7'	0.047	1.79	0.006%	0.785%	0.037%	1.95%	65	Hole problems, abandoned at 280.3' due to caving conditions. Badly fractured interbedded Psf, Psfg, and Psg with several small clay and crush zones containing qz and minor sulfides. Anomalous Zn in country rock.
K-3	Little Annie	75'	103.0-141.0	38.0'	0.023	0.44	0.01	0.04	0.08%			Crushed clay and qz heavily lim staining with py and ap within an extremely fractured and broken Psf/Psfq host rock, poor recovery core runs of less than one foot.
			112.1-122.3	10.2'	0.69	1.89	0.03	0.02	0.14%			
K-4	Little Annie	100-200'	None	-		*			*			Hole drilled on geophysical target several small clay and crush zones encountered. Interbedded Psf and Psg. Anomaly explained by graphitic schist and pyrite. Slightly anomalous Ag and An entire hole.
K-5	Little Maud - Silver Pick	50'	33.0-64.5	31.5'	0.022	1.16	0.019	0.062	0.174%	2.981%	54ppm	Qz/calcite breccia vein with strong lim, ap and py 33-64.5. Second strucutre with less qz in highly fractured Psf.
			46.0-49.8	3.8'	0.082	8.67	0.039	0.288	0.340%	1.05%	240ppm	
			79.5-88.5	9.0'	0.025	0.046	29ppm	157ppm	827ppm	0.267%	14ppm	
K-6	Little Maud - Silver Pick	150'	149.5-168.2	18.7'	-	-	-	-	-	-	-	Structure indicated by Psfq w/unit cataclastic deformation bounded by qz/lim cemented breccia.
			68-76	8.0'	-	-	-	-	-	-	-	Weak to tr mineralization. Barren qz vein at 68-76' Structure is probably cut off by the 1st vein intersected in K-5.

Table C-2 - Drill Hole Summary

Hole No.	Area	Intercept			oz/ton		Assays		% or ppm			Remarks
		Projected	Actual	Length	Au	Ag	Cu	Pb	Zn	As	Sb	
K-7	Silver Pick	170'	128-169	41.0'	-	-	-	-	-	-	-	Qz/cal breccia with fault clay and Psfq clasts, structure weakly mineralizled. Recovery very poor approx. 10% through structure.
			167-169	2.0'	0.028	ND	ND	0.004%	0.008	0.435%	10	
K-8	Iron Gulch	140'	132.5-	22.3	0.052	0.066	Tr	Tr	Tr	0.130%	9	Brecciated Psfq with qz, lim and banded vuggy dolo/qz vein.
			154.8									
			147-150	3.0'	0.294	0.276	10	ND	5	20	6	
K-9	Iron Gulch	120'	33.5-57	23.5'								Brecciated qz vein w/calcite cement and Psfq clasts lim and fault clay. Void 43.5-52.0, poor recovery through entire section.
			34.5-	10.0'	0.12	ND	Tr	Tr	0.003%	535	4	
			43.5									
K-10	Iron Gulch	30'	24.5-69	44.5'								Brecciated dolo, qz, calcite vein material with Psfq clasts and clay several zones weakly mineralized with detectable Au.
			49.3-52	2.7'	0.023	ND	ND	ND	ND	390	2	
			59-60	1.0'	0.029	ND	ND	ND	0.002%	270	4	
K-11	East Gold King	190'	103-108	5'	ND	ND	ND	ND	0.007%	ND	ND	Structure present as fault clay and crush, not mineralized.
K-12	Jupiter-Mars	180'	215-	51.9'								Brecciated qz vein w/lim py gn sph within Psfq country rock. Hole anomalous in zinc.
			267-8		0.017	0.656	0.111%	0.862%	0.756%	1.20%		
			224.7									
			226.5	1.8'	0.063	7.31	0.665%	4.15%	0.965%	1.65	445	
K-13	White Hawk	Float	None									No mineralized structure, host rock is Birch Creek Schist.
K-14	Jupiter-Mars	235'	309.2-	54'	0.014	ND	441	144	215%	1.21%	23	Brecciated Psfq and qz vein material w/qz cement vuggy, lim w/py, ap. Highly anomalous in zinc entire hole.
			363.2									
			323-331.3	8.1'	0.025	ND	0.079%	0.269%	1.05%	1.92%	34	
K-15	Star-Friday	150'	None	-	-	-	-	-	-	-	-	Structure not found, minor fracture zone w/clay at30-34'.
			30-37.8	7.8'	0.019	ND	Tr	Tr	22	412	ND	

Table C-2 - Drill Hole Summary

Hole No.	Area	Intercept Projected	Intercept Actual	Intercept Length	Assays oz/ton Au	Assays oz/ton Ag	Assays % or ppm Cu	Pb	Zn	As	Sb	Remarks
K-16	Jupiter-Mars	125'	162-174.4	9.9	0.052	6.95	160ppm	8.42%	1.21%	1.85%	280ppm	Brecciated, lim qz vein with fragments of Psfq, visible py, ap, gn, and tet.
			165-174.4	6.9	0.71	9.97	210ppm	12.05%	1.75%	2.50%	401ppm	
			0-162	162.0					0.38%			
			174.4-185.9	11.5					1.98%			
			174.4-237.3	62.9					1.01%			
			185.9-237.3	51.4					0.54%			
K-17	Galena	130'	235.8-237.3	1.5	0.23	18.8	0.37%	0.20%	0.24%	9.35%	0.38%	Qz vein material black fault clay and sulfides of as, py, gn and (?)tet w/red and yellow oxides.
			234.1-242.9	8.8	0.165	5.79	0.112%	0.173%	0.117%	4.33%	0.11	
K-18	Merry Widow	150'	None	-	-	-	-	-	-	-	-	Very Poor recovery zone 168-188 Psf and Psg cuttings recovered only.
K-19	Red Top	150'	148-176.4	28.4	0.137	3.36	304	146	0.48%	2.89%	237	Vein qz breccia w/fragments of Psf and Psg with py, ag, tet vuggy lim and qz.
			148-156.4	8.8	0.179	1.38	183	200	0.90%	5.38%	73	
			167.7-172	10.3	0.201	8.09	656	212	0.39%	2.18%	552	
K-20	Red Top	100'	105-111	6	-	-	-	-	-	-	-	Zone of no recovery lim & qz frags and clay 1/2' below zone. Qz breccia vein. Several intercepts in hole carried anomalous Au of +0.005 oz/ton. Geophysical targets projection of vein.
			130.6-132.7	2.1	0.009	ND	ND	30	120	0.150%	2	
K-21	Red Top	100'	None	-	-	-	-	-	-	-	-	Hole was a geophysical test for faulted extension of vein. May have missed vein by drilling in footwall. Hole contained units of conductive Psg and py.
K-22	Gold Dollar	185'	-	-	-	-	-	-	-	-	-	Hole lost at 50'.
K-22B	Gold Dollar	185'	None	-	-	-	-	-	-	-	-	Drainage east of hole 22 appears to be a fault offsetting the vein.

DIAMOND DRILL HOLE LOGS

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

- Property: GOLD DOLLAR
- Location: KANTISHNA DISTRICT
- Coord. - Collar N: 3489340
- E: 345821
- Elev. - Collar: 2541.9
- Date started: 6/14/83
- Completed: 6/17/83
- Hole No.: K-1
- Bearing at Collar: N. 21° W.
- Inclination at Collar: -60°
- Length: 158.8'
- Core Size: IAX
- Logged by: F.G.K.

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

FT.	LITHOLOGY, ALTERATION, MISC.	MINERALIZATION
		ND - BELOW DETECTION LIMITS Ag & Au - FIRE OZ/TON OTHER ELEMENTS - PPM & in %
18.0	CORE RECOVERY @ 18'	
18.0–31.0	LT GREY/LT. GREEN, FN. GR. FELDSPATHIC QUARTZ MICA SCHIST (Sb). ~10% BIOTITE. FOLIATION AT OR NEAR VERTICAL. WEAK CARBONATE ON SOME FCTS. 24.0-27.4: YELLOW GOUGE & SLKS ON SOME FOLIATION FCTS.	NO. VIS. SUL. 20.8': 2" FN IRR FeOx VLTS W/ MINOR TRM. PY.
31.0	CNT. LOST	
31.0–41.0	LT. GREY CLAY CRUSH BRECCIA	NO VIS. SUL.
41.0	CNT. BRK	
41.0–44.3	CARBONATE BRECCIA W/ FeOx STN.	
44.3	70° SHR. CNT	
44.3–51.8	CRUSH BRECCIA. CLAY DECREASING APPROACHING 51.8'	NO VIS. SUL
51.8	GRAD. CNT.	
51.8–	LT. GREY, FN. GR. CRUSHED FELDSPATHIC QUARTZ MICA SCHIST (Sb) ~5% BIOTITE	

RECOVERY

Run	Run length	Core	%
18.0–21.0	3.0	0.9	30
21.0–24.0	3.0	1.6	53
24.0–27.4	3.4	1.6	47
27.4–31.0	3.6	1.4	39
31.0–34.6	3.6	0.4	11
34.6–36.7	2.1	0.1	5
36.7–38.5	1.8	0.2	11
38.5–41.0	2.5	0	0
41.0–42.3	1.3	1.8	15
42.3–45.7	3.4	1.8	53
45.7–47.9	2.2	0.1	5
47.9–49.4	1.5	0.4	27
49.4–50.8	1.4	1.4	100
50.8–51.8	1.0	1.0	100
51.8–52.[illegible]	0.9	0.9	100

ANALYTICAL

Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu (percent)	Pb (percent)	Zn (percent)	BOX
C-013,801	41.0/44.3	ND	ND	.002%	.03%	.009%	44.3

LITHOLOGY, ALTERATION, MISC.

LT. GREY, FN. GR., CRUSHED FELDSPATHIC QUARTZ MICA SCHIST (Sb) 5-10% BIOTITE. FOLIATION AT 70°-80° TO THE CORE

59.0'-61.8': WK. FeOx STN ON FCTS.

63.0'-65.9': 1/2" QTZ VLTS BIO → CHLOR, CHLOR ON FCTS.

65.9 — IRR CNT

CRUSH BRECCIA
BIO → CHLOR

80.5 — GRAD. CNT

Sb, AS AT 51.8'-65.9'

84.0 — IRR CNT

84.8 — CRUSH BRECCIA — GRAD. CNT

Sb, AS @ 51.8'-65.9'

92.0': QTZ & CARBONATE VLTS OFFSET BY FOLIATION. QTZ & CARBONATE FLOODING ON FOLIATION, INCREASING TOWARDS 100.5

100.5 — GRAD. CNT

MYLONITIC CRUSH BRECCIA

106.7 — SHR CNT

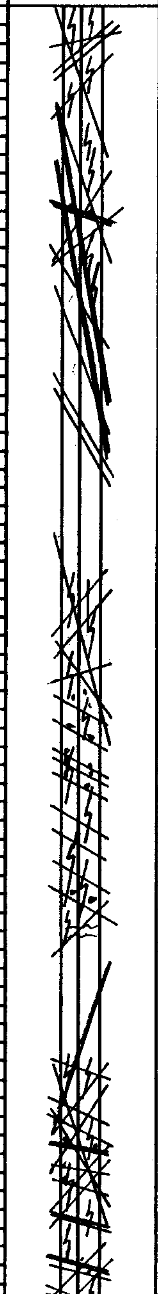
Sb AS @ 51.8-65.9.
LT. GREEN, BIO → CHLOR.
SLKS ON FOLIATION

BIO. ALT. TO CHLOR. DECREASING

FT.

60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG



MINERALIZATION

No VIS. SUL

60.8': 1/4" QTZ. w/ LIM STN & MINOR EUH. TRN Py

No VIS. SUL.

84.0': 2" CRUSHED QTZ.

90.4' FeOx STN, CLAY w/ MINOR

92.0' Py ON // FCTS.

TR. Py ON FOLIATION ESP. WHERE BIO. → CHLOR.

98.1': 1/4" CARBONATE/Py. VLT.
99.6'-100.5': IRR QTZ/Py FLOODING, 1-2% Py

TR (<<1%) EUH. Py., V. FN.

106.7

No. VIS. SUL.

111.9: 1/4" QTZ, CARBONATE, Py.

113.0-114.0: CARBONATE, Py ON FCTS.

118.0-118.5: ~5% V. FN EUH Py & APY)

RECOVERY

Run	Run length	Core	%
52.2			
	3.8	0.9	24
56.0	0.7	0.6	86
56.7	1.8	1.1	61
58.5	[illegible]	[illegible]	[illegible]
58.7	1.4	1.4	100
60.1	1.7	1.7	100
61.8	3.6	3.6	100
65.4	2.0	2.0	100
67.4	1.5	1.3	87
68.9	1.7	1.4	82
70.6	1.3	1.3	100
71.9	1.1	0.7	64
73.0	1.4	0.8	57
74.4	3.1	3.1	100
77.5	1.1	1.1	100
78.6	2.8	2.6	93
81.4	1.1	1.1	100
82.5	2.8	2.8	100
85.3	3.1	2.3	74
88.4	1.6	1.4	88
90.0	4.0	4.0	100
94.0	3.0	3.0	100
97.0	4.0	3.9	98
101.0	2.0	1.2	60
103.0	1.5	1.5	100
104.5	2.2	1.7	77
106.7	1.1	1.4	127
107.8	1.1	1.1	100
108.9	1.6	1.6	100
110.5	2.9	2.9	100
113.4	1.2	1.2	100
114.6	0.8	0.6	75
115.4	0.7	0.7	100
116.1	5.6	5.6	100

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
C-013,802	63.5/65.9	ND	N.D.	ND	.008%	.009%
C-013,803	94.0/100.5	N.D.	N.D.	.002%	.009%	.079%
C-013,804	100.5/104.5	N.D.	N.D.	.002%	.002%	.905%
C-013,805	117.5-121.7	N.D.	N.D.	.002%	.002%	.007%

BOX

Box	Bottom depth
2	58.7
3	66.2
4	75.9
5	83.6
6	94.5
7	104.5
8	113.4
9	

LITHOLOGY, ALTERATION, MISC.

LT. GREY, FN. GR FELDSPATHIC QUARTZ MICA SCHIST (Sb)
5-10% FN. BIO', BIO → CHLOR ON FCTS.

135.3 CNT, BRK

CRUSH BRECCIA

143.3 SHR CNT.

Sb, As @ 120.0 - 135.3

154.0: 6" BRECCIA, BIO → CHLOR.

158.8

END OF HOLE @ 158.8

FT.: 130.0, 140.0, 150.0

GRAPHIC LOG

MINERALIZATION

CARBONATE, ± QTZ, ± Py, TR. AP?

135.3

NO VIS. SUL

143.3

± CARBONATE, ± QTZ, MINOR Py ON FCTS.

153.5-157.0: FN Py ON FOLIATION, <1%
155.0: 1/4" QTZ, CARBONATE ON FOLIATION

RECOVERY

Run	Run length	Core	%
121.7			
	4.7	4.7	100
126.4	1.5	1.5	100
127.9	0.5	0.5	100
128.4	2.7	2.7	100
131.1	3.3	3.3	100
134.9	2.6	2.6	100
137.0	1.8	1.5	83
138.8	2.2	1.6	73
141.0	0.5	0.5	100
141.5	1.5	1.2	80
143.0	1.5	1.5	100
144.5	0.7	0.7	100
145.2	2.0	2.0	100
147.2	4.4	4.4	100
151.6	1.6	1.6	100
153.2	1.6	1.6	100
154.8	2.4	2.2	92
157.2	1.6	1.0	63
158.8			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
C-013,805	117.5/121.7	N.D.	N.D.	.002%	.002%	.007%
C-013,806	137.0/143.0	N.D.	N.D.	N.D.	N.D.	.008%
C-013,807	153.2/158.8	N.D.	N.D.	N.D.	N.D.	.008%

BOX

BOX
121.7
10
130.5
11
140.0
12
149.2
13
158.8

DIAMOND DRILL HOLE LOG

Company: B O M

Property	LITTLE ANNIE	Hole No.	K-2
Location	KANTISHNA DISTRICT	Bearing at Collar	N. 30° W
		Inclination at Collar	-55
Coord. - Collar N	3 488 420.65		
E	345 546.68	Length	280.3
Elev. - Collar	28[illegible].8	Core Size	1 AX
Date started	6/18/83		
Completed	7/6/83	Logged by	F. G. K.

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

14.0

DRK. GREY/BLACK GRAPHITIC QUARTZ PHYLLITE (Sg)

LT. GREEN, FN-MED GR. QUARTZ MUSCOVITE CHLORITE CARBONATE SCHIST (Scp)
@ 15.4': 1" Sg

23.0

DRK. GREY/BLACK MICACEOUS GRAPHITIC QUARTZ PHYLLITE (Sg)

WELL DEVELOPED THIN FOLIATION OF GRAPHITE & MUSCOVITE LAYERS w/ DISCONTINUOUS, ELONGATE, FN. GR. QTZ. MINOR CARBONATE ON SOME FOLIATIONS. LIMONITE ASS. w/ QTZ LAYERS & IRR VERTICAL FRACTURES.
30.5-33.4: GRAPHITE ↑, QTZ ↓

35.6

Sg. AS @ 23.0-35.6, INTERLAYERED w/ ½"-7" CONCORDANT LT. GREY MICACEOUS CARBONATE RICH PHYLLITE

40.2

Sg, AS @ 23.0-35.6

FT.

10, 20, 30, 40, 50

GRAPHIC LOG

MINERALIZATION

14.0

NO. VIS. SULFIDES

LIMONITE & TR. v. Py (<<1%) ON FOLIATION
@ 18.3": CARBONATE VLTS w/ TR CP?

23.0:

NO VIS. SULFIDES
SPOTTY Py. CASTS

~25.0-29.0: STRONG LIMONITE ON IRR. NEAR VERTICAL FRACTURES

MnOx ON FOLIATION & VERT. FR.

Py. CASTS COMMON
~42.0': 2" QTZ + CARBONATE
~43.5: 2" QTZ + LIMONITE

49.0: 1" QTZ
49.7: 6" QTZ

Py CASTS ↓↓

RECOVERY

Run	Run length	Core	%
14.0–19.0	5	5	100
19.0–27.3	8.3	8.3	100
27.3–30.5	3.2	2.3	72
30.5–33.4	2.9	2.9	100
33.4–36.5	3.1	2.7	87
36.5–38.0	1.5	1.4	93
38.0–40.0	2.0	1.8	90
40.0–42.0	2.0	1.7	85
42.0–49.7	7.7	4.5	58
49.7–53.5	3.8	1.1	29
53.5–54.7	1.2	0.2	1.7

ANALYTICAL

Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu (percent)	Pb (percent)	Zn (percent)
C-013808	14.4/19.0	N.D.	N.D.	.008%	N.D.	.01%
C-013809	25.0/29.0	N.D.	N.D.	.004%	.002%	.01%
C-013810	42.0/45.9?	.016	N.D.	.004%	ND	.008%
C-013811	45.9/49.7	N.D.	N.D.	.004%	ND	
C-013812	49.7/50.2	ND	N.D.	.004%	ND	.016%
C-013813	50.2/54.7	N.D.	N.D.	.003%	ND	.002%

BOX

Box	
1	23.9
2	35.0
3	43.4

K-2, 2/5

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
DRK GREY - BLACK MICACEOUS GRAPHITIC QUARTZ PHYLLITE (Sg) WELL DEVELOPED THIN FOLIATION OF GRAPHITE & MUSCOVITE w/ DISCONTINUOUS, ELONGATE FN. GR. QTZ. MINOR CARBONATE ON SOME FOLIATIONS 65.8 CNT. BRK	60		NO VIS. SUL. Py CASTS ON FOL. WK-MOD. LIM. ASS. w/ QTZ LAYERS. 65.8
LT. GREY, APH- V. FN. GR. METAFELSITE (Sf). MUSCOVITE, WK. CARBONATE, LIMONITE STN ON FOLIATION, LIMONITE ↑ @ 65.8'-70.8' @ 69.0': ORANGE CLAY ON FOLIATION 73.0	70		TR. Py, MnO ON FOLIATION << 1% Py. 73.0
74.0 VOID, NO CORE RECOVERY			74.0
LT. GREEN, V. FN. GR. QUARTZ CHLORITE PHYLLITE (Scp). SIMILIAR TO Scp @ 14.4'-23.0', BUT LACKING ELONGATE CARBONATE & CONTAINING ~2% BIOTITE. WK. CARBONATE ON SOME FOLIATIONS 82.0	80		TR. V. FN EUH Py ON FOLIATION, << 1% 82.0
CRUSH BRECCIA, YELLOW GOUGE 85.0			NO VIS. SUL.
GREY, FN. GR. FELDSPATHIC QUARTZ MICA SCHIST (Sfq). ~5% BIO., ~5% MED. GR. QTZ "EYES" 88.0': 6" CRUSH 91.3': 10" CRUSH 92.8	90		
CRUSH BRECCIA 94.7			94.7'
Sfq, AS @ 85.0-92.8, w/ ~15% QTZ EYES. GENERALLY MASSIVE w/ WELL DEVELOPED FOLIATION.	100		TR. Py → LIMONITE ON FOLIATION TR. V. FN. DISS. Py, << 1% 102.5
107.4: 1½" QTZ VN. 109.0			¼"-1½" QTZ VNT w/ LIMONITE Py CASTS & RARE FN Py XLS. Py → LIM NEAR QTZ VLTS. Py IN Sfq INCREASING NEAR QTZ VLTS. 109.0
110.0 VOID, NO CORE RECOVERY	110		110.0
Sfq, AS ABOVE 1" METAMORPHIC QTZ 1" METAMORPHIC QTZ	120		AS @ 102.5-109.0 114.5: ½" QTZ, CARBONATE, LIM.

RECOVERY

Run	Run length	Core	%
–53.5	3.8	1.1	29
53.5–54.7	1.2	0.2	17
54.7–57.7	3.0	0.5	17
57.7–60.3	2.6	0.8	31
60.3–63.3	3.0	1.4	47
63.3–66.1	2.8	0.2	7
66.1–67.0	0.4	0.4	100
67.0–67.5	[illegible]	[illegible]	100
67.5–68.9	1.4	0.9	64
68.9–70.0	1.1	1.5	136
70.0–71.7	1.7	0.8	47
71.7–74.0	2.3	1.3	57
74.0–76.6	2.6	1.2	46
76.6–79.0	2.4	2.1	88
79.0–80.1	1.1	1.0	91
80.1–82.0	1.9	1.0	53
82.0–83.1	1.1	0.9	82
83.1–83.5	[illegible]	[illegible]	[illegible]
83.5–85.0	1.5	0.8	53
85.0–85.5	[illegible]	[illegible]	20
85.5–86.5	1.0	0.1	10
86.5–87.8	1.3	0.5	38
87.8–88.0	[illegible]	[illegible]	[illegible]
88.0–88.5	[illegible]	[illegible]	100
88.5–90.6	2.1	0.5	24
90.6–91.3	0.7	0.7	100
91.3–92.2	0.9	0.6	67
92.2–93.1	0.9	0.9	100
93.1–94.7	1.6	0.6	38
94.7–95.7	1.0	0.9	90
95.7–98.5	2.8	2.8	100
98.5–99.7	1.2	1.2	100
99.7–102.8	3.1	3.1	100
102.8–104.0	1.2	1.2	100
104.0–105.8	1.8	1.8	100
105.8–107.4	1.6	1.6	100
107.4–110.3	2.9	1.4	48
110.3–111.2	0.9	0.9	100
111.2–112.4	1.2	1.2	100
112.4–114.0	1.6	1.3	81
114.0–119.2	5.2	5.2	100

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
C 013814	104.0/108.0	N.D.	N.D.	N.D	.01%	.007%

BOX

4	
	68.0
5	
	78.6
6	
	92.2
7	
	102.8

K-2, 3/5

LITHOLOGY, ALTERATION, MISC.

LT. GREY, V. FN. GR. FELDSPATHIC QUARTZ MICA SCHIST, ~5% MED. GR. QUARTZ EYES (Sfq)

126.8

128.4 CRUSH BRECCIA

Sfq, AS @ 120.0-126.8
MINOR YELLOW CLAY ON FOLIATION

132.8 - 137.2: BOX DROPPED, CORE MIXED

139.7 - 140.3: CLAY ON FOLIATION

147.3 - 155.3: BADLY FRACTURED & GROUND CORE

Sfq AS ABOVE, SLIGHTLY COARSER GR.

159.1: 2½" METAMORPHIC QTZ ∥ TO FOLIATION

161.0 - 164.0: ORANGE/YELLOW CLAY ON NEAR VERTICAL FRACTURES

180.0: 6" CRUSH

Sfq AS ABOVE

FT.

130, 140, 150, 160, 170, 180, 190

GRAPHIC LOG

?

MINERALIZATION

120.0 - 125.5: LIM, PY→LIM. ASS. W/ QTZ VLTS.
PY & LIM. INCREASING IN Sfq NEAR QTZ VLTS.
@123.5: 2" QTZ

126.8: 4" QTZ, NO ATTITUDE

TR. DISS. PY <<1%

@ 137.0 - 140.0: SAME NOTE AS @ 120.0-125.5
139.0: 8" CRUSHED QTZ

145.4: SAME NOTE AS @ 120.0-125.5

155.4: PY → LIM IN QTZ VLT.

158.5 - 161.0. SAME NOTE AS @ 120.0-125.5

171.0 - 174.0. CARBONATE & BROWNISH RED FeOx ON 40° FCTS.

TR. V. FN DISS. PY (<<1%) THRUOUT.

RECOVERY

Run	Run length	Core	%
	4.0	3.6	90
123.2	[illegible]	[illegible]	[illegible]
123.5	3.3	2.2	6.7
126.8	1.1	0.9	82
127.9	1.4	1.4	100
129.3	1.6	1.4	88
130.9	0.6	0.6	100
131.5	0.5	0.3	60
132.0	0.8	0.8	100
132.8	BOX DROPPED MIXED CORE		
137.2	0.5	0.5	100
137.7	1.2	1.2	100
138.9	1.4	1.4	100
140.3	1.6	0.9	56
141.9	2.4	2.1	88
144.3	1.1	0.8	73
145.4	1.6	1.6	100
147.0	1.7	1.7	100
148.7	1.2	0.2	17
149.9	[illegible]	[illegible]	[illegible]
150.1	[illegible]	[illegible]	[illegible]
150.3	2.3	1.7	74
152.6	2.7	1.7	63
155.3	2.7	2.4	89
158.0	2.9	2.9	100
160.9	3.6	3.6	100
164.5	[illegible]	[illegible]	[illegible]
164.9	1.2	1.0	83
166.1	3.3	3.1	94
169.4	1.7	1.6	
171.1	1.0	1.0	100
172.1	1.1	1.1	100
173.2	1.7	1.7	100
174.5	2.3	1.9	83
177.2	1.8	1.8	100
179.0	1.5	1.5	100
180.5	1.5	1.5	100
182.0	1.8	1.1	61
183.8	1.3	1.3	100
185.1	3.41	3.3	97
188.5			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
C013815	138.5/140.3	.06	N.D.	N.D.	N.D.	.02%
C013816	171.1/174.0	N.D.	N.D.	.004%	.002%	.003%

BOX

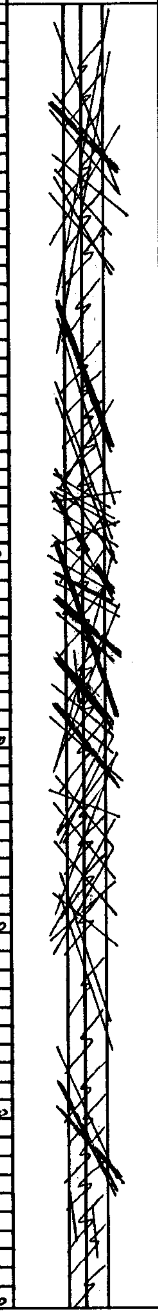
BOX
122.8
10
132.8
11
142.7
12
153.4
13
163.8
14
173.9
15
184.5

K-2, 4/4

LITHOLOGY, ALTERATION, MISC.	MINERALIZATION
CRUSH BRECCIA, 194.0 CNT, BRK.	NO. VIS. SUL. MINOR LIM. STN. 194.0
LT. GREY, FN. GR. FELDSPATHIC QUARTZ MICA SCHIST, w/ ZONES w/ QTZ EYES (Sf/Sfq). 194.0-197.4: Feld → CLAY, Bio → FeOx 202.1 GRAD CNT	TR. Py ON FOLIATION LIM. ON FCTS & FOLIATION
203.6 CRUSH BRECCIA GRAD. CNT	202.1-203.0: MOD LIM. STN IN CRUSH
SHEARED & ALTERED Sf, Feld → CLAY, Bio → FeOx CRUSH & GOUGE @ 204.2-204.9. 206.5 GRAD CNT	
207.5 CRUSH BRECCIA CNT	
SHEARED & ALTERED Sf, AS @ 203.6-206.5 210.0 IRR. CNT	
Sf, AS @ 194.0-202.1. RARE QTZ EYES. @ 210.0: SLKS ON FOLIATION META. QTZ @ 214.6-215.4 ~217.0-221.0 THIN (<1mm) Sg INTERLAYERED w/ Sf. 230.2-231.3: CRUSH ~231.0-234: WK-MOD. ALT Bio → CHLOR. 235.0-237.0: Bio ↓↓ 237.3: 4" CRUSH 239.0 50° CNT.	TR. Py ON FOLIATION 218.3-219.0: LIM STN ON FOL 221.0. 1/4" QTZ w/ Py, RED/BROWNISH CLAY. 224.2-224.9: DRK. RED/BROWN CLAY, MINOR Py. w/ QTZ ~1" QTZ @ 40° 228.4-228.8: MOD RED/BROWN CLAY ON FCTS 236.0-236.5: MOD FeOx ON FCTS
CRUSH BRECCIA 240.3-242.5: LIM. STN, GOUGE. 239.0-242.5 LIM. STN COMMON IN CRUSH BRECCIA. 248.5 CNT, BRK	242.0(?): 2" CRUSHED QTZ w/ LIM., MINOR Py.
LT. GREY, FN. GR., FELDSPATHIC QTZ MICA SCHIST (Sf), FELD → CLAY, Bio → FeOx 252.0 @ 250: 10" CRUSH GRAD	251.5: LIM, Py ON 1/4" QTZ VLTS
SHEARED Sf, GOUGE ON FCTS. LIM. STN, Bio → FeOx, FELD → CLAY 255.0 GRAD	TR. Py ON FOLIATION
CRUSH BRECCIA 259.5	

FT.: 200.0, 210.0, 220.0, 230.0, 240.0, 250.0, 260.0

GRAPHIC LOG



RECOVERY

Run	Run length	Core	%
	2.5	1.8	72
191.0	1.5	1.5	100
192.5	0.5	0.5	100
193.0	0.6	0.6	100
193.6	[illegible]	[illegible]	[illegible]
194.0	0.4	0.3	[illegible]
194.4	1.1	1.0	91
195.5	0.7	0.6	86
196.2	1.2	1.2	100
197.4	1.0	0.9	90
198.4	2.4	2.4	100
200.8	0.3	0.2	67
201.1	2.5	2.2	88
203.6	1.3	1.3	100
204.9	1.3	0.7	54
206.2	1.8	1.8	100
208.0	1.3	1.0	77
209.3	1.5	1.5	100
210.8	0.4	0.3	75
211.2	1.9	1.3	68
213.1	1.5	1.5	100
214.6	1.8	1.8	100
216.4	3.9	3.9	100
220.3	4.4	4.4	100
224.9	0.9	0.9	100
225.8	1.2	1.0	83
227.0	1.6	1.0	63
228.6	3.0	2.7	90
231.6	3.4	3.4	106
235.0	3.1	3.1	100
238.1	1.6	1.6	100
239.7	3.9	2.8	100
243.6	1.1	1.1	100
244.7	2.0	2.0	100
246.7	2.3	2.1	91
249.0	3.8	3.8	100
252.8	2.8	2.8	100
255.6	2.1	1.9	90
257.7	0.8	0.8	100
258.5	1.6	1.4	88
260.1			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
C013817	224.2/224.9	.047	1.79	.006%	.785%	.04%
C013818	240.3/243.6	N.D.	N.D.	.002%	.004%	.02%
C013819	249.0/252.0	.005	N.D.	N.D.	N.D.	.01%

BOX

BOX
16
194.8
17
204.6
18
215.1
19
224.9
20
235.0
21
245.0
22
253.6
23

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
LT. GREY, V. FN. GR. FELDSPATHIC QUARTZ MICA SCHIST (Sf). RARE QTZ EYES, ~5% BIO., ± FEOX ± CLAY ± CARBONATE (V. WK). ON FCTS.			TR. PY. ON FOLIATION	260.1–263.5	3.4	3.4	100	No SAMPLE	260.1/263.5						262.3
				263.5–265.8	2.3	2.3	100								
				265.8–267.3	1.5	1.5	100								
	270			267.3–272.0	4.7	4.7	100								271.7
				272.0–273.2	1.2	0.8	67								
274.0 GRAD. CNT				273.2–274.0	0.8	0.7	88								
INTERLAYERED Sf & Sg				274.0–274.6	0.6	0.6	100								
				274.6–275.2	0.6	0.2	33								
				275.2–276.0	0.8	0.4	50								
Sg/Sf RATIO INCREASING → 280.3			276.6: TR. PY IN 1/4" QTZ VLTS.	276.0–276.6	0.6	0.6	100								
Sg UNITS UP TO 1/2"				276.6–277.4	0.8	0.6	75	C-013820	276.0/280.3	N.D.	N.D.	N.D.	N.D.	.012%	
	280		LIMONITIC PY. CASTS IN Sg	277.4–279.4	2.0	0.6	30								
280.3			280.3	279.4–280.3	0.9	0.9	100								280.3

END OF HOLE @ 280.3, 7/6/83

DIAMOND DRILL HOLE LOG

Company BUREAU OF MINES

Property: LITTLE ANNIE	Hole No.: K-3
Location: KANTISHNA DISTRICT	Bearing at Collar: N. 30° W.
	Inclination at Collar: -50°
Coord. - Collar N: 3 488 556.97	
E: 345 435.05	Length: 166.5
Elev. - Collar: 2798.4	Core Size: BW44 (0.0-63.7), AX (63.7-123.9), EX (123.9-166.5)
Date started: 7/6/83	
Completed: 7/10/83	Logged by: F. G. KRUGER

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

43.0 (?)

LT. GREY, FN. GR. FELDSPATHIC QUARTZ MICA SCHIST, w/ MED. GR. QUARTZ "EYES". (Sfq).

@ 45.0-47.3: STRONGLY FRACTURED ON FOLIATION.

QTZ. EYES ↓

MINERALIZATION

43.0

TR. Py, MINOR LIMONITE ON FOLIATION. MINOR LIM AS IRR. VLTS.

@ 45.0-47.3: No VIS SUL., STRONG LIM.

1/2" QTZ, LIM @ MARGIN.

RECOVERY

Run	Run length	Core	%
0.0–13.0	13.0	1.6	12
13.0–19.0	6.0	1.8	30
19.0–23.2	4.2	1.4	33
23.2–28.0	4.8	1.6	33
28.0–30.4	2.4	2.1	88
30.4–33.0	2.6	2.0	77
33.0–35.0	2.0	1.6	80
35.0–37.9	2.9	1.5	52
37.9–39.4	1.5	0.9	60
39.4–41.4	2.0	0.9	45
41.4–43.0	1.6	0.8	50
43.0–43.7	0.7	0.5	71
43.7–44.7	1.0	1.0	100
44.7–45.0	0.3	0.3	100
45.0–47.3	2.3	1.6	70
47.3–53.0	5.7	1.5	26

ANALYTICAL (oz/ton, % or PPM)

Sample	Interval	Au	Ag	Cu	Pb	Zn
C 013 821	45.0/47.3	.015	ND	N.D.	N.D.	.15%

BOX

Box	To (ft)
1	30.6
2	44.7

LITHOLOGY, ALTERATION, MISC.

LT. GREY, FN. GR. FELDSPATHIC QUARTZ MICA SCHIST (SF) GRADING TO SM. ZONES SFQ

56.0' CNT. BRK

SF AS ABOVE, W/ ALT. FELD. → CLAY

63.7 CNT. BRK.

CRUSH BRECCIA. SHATTERED SF IN HEAVY GOUGE

67.0

SHATTERED & CRUSHED SF MINOR GOUGE

74.5 CNT. BRK

ALT. SF/SFQ AS @ 56.0-63.7

77.7: 1' CRUSHED, ALT. SF W/ SLKS.

81.0-85.0: SHATTERED SF.

84.5 CNT. BRK

SF/SFQ AS @ 50.0-56.0.

92.0-94.0: SHATTERED SF

94.8-95.7 SHATTERED SF

LIMONITE STRONGEST ON FCT ⊥ TO FOL

103.0 CNT. BRK

104.3 SHATTERED QUARTZ & LIMONITE CNT. BRK

105.3 3½" ALT. SF RECOVERED CNT. BRK

CRUSHED LIM. STN. QTZ & ALT. SF.

107.2

NO CORE RECOVERED

110.5

CRUSHED QTZ

112.1

113.3 NO CORE RECOVERED

REDDISH YELLOW CLAY GOUGE

115.5 CNT. BRK

CRUSHED QTZ, ALT. SF, MOD. CLAY GOUGE

117.7

118.5 NO CORE RECOVERED

119.1 BROWNISH FINELY CRUSHED QTZ

CRUSHED QUARTZ

FT.

60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG

MINERALIZATION

TR. V. FN. PY ON FOLIATION WK. LIM. STN. ON FCTS. & FOL.

56.0

NO. VIS. SUL., MOD. LIM. ON FCTS, FOL., & AS IRR VLTS, MnO ON FOL.

74.5

TR. V. FN. PY ON FOLIATION PY → LIM.

77.7: STRONG LIM.

79.0

NO VIS. SUL. LIM/MnO " "

83.0

TR. PY ON FOLIATION

83.4-84.5: STRNG LIM., QTZ

92.0-94.0: LIM. STN, QTZ.

92.3: 3-4" QTZ W/TR. AS, MOD LIM

94.8-95.7: LIM. STN

97. -98.5: RECOVERED 1½" QTZ & LIM.

101.3-102.1: ~2-4"(?) QTZ & LIM.

103.0

V. STRONG LIM, TR. AS?

104.3

NO VIS. SUL., MOD. LIM.

105.3

NO VIS. SUL., MOD.-STRONG LIM.

107.2

110.5

NO VIS. SUL.

112.1 MINOR. LIM.

113.3

NO VIS.

WK-MOD LIM., WK MnO

115.5

FN AS, PY IN QTZ, AS > PY

117.7 PY → LIM.

118.5

119.1 MOD. LIM. STN.

MOD LIM. IRR. DST. FN AS, PY

RECOVERY

Run	Run length	Core	%
53.0	3.0	1.9	63
56.0	7.0	0.5	7
63.0	0.7	0.4	57
63.7	3.3	0.7	21
67.0	1.0	0.8	80
68.0	1.6	0.6	38
69.6	1.8	0.9	50
71.4	1.1	0.8	73
72.5	3.5	2.3	66
76.0	1.5	0.6	40
77.5	2.3	2.3	100
79.8	1.2	1.2	100
81.0	2.4	1.6	67
83.4	1.6	1.6	100
85.0	1.5	1.1	73
86.5	3.0	1.9	63
89.5	1.5	0.8	53
91.0	0.9	0.6	67
91.9	2.1	1.4	67
94.0	1.7	1.3	76
95.7	1.2	1.1	92
96.9	0.4	[illegible]	[illegible]
97.3	1.2	0.1	8
98.5	1.7	1.3	76
100.2	0.4	[illegible]	[illegible]
100.6	0.7	0.4	57
101.3	0.8	0.4	50
102.1	1.9	1.6	84
104.0	[illegible]	[illegible]	[illegible]
104.3	1.0	0.3	30
105.3	1.9	1.8	95
107.2	1.9	0.0	0
109.1	1.4	0.0	0
110.5	0.7	0.7	100
111.2	0.9	0.7	78
112.1	1.2	0.0	0
113.3	2.2	1.6	73
115.5	1.2	0.3	25
116.7	1.0	0.8	80
117.7	0.8	0.0	0
118.5	0.6	0.6	100
119.1 / 120.0	0.9	0.9	100

ANALYTICAL

oz/ton — % or ppm

Sample	Interval	Au	Ag	Cu	Pb	Zn
C 013 822	63.7/67.0	N.D.	N.D.	N.D	N.D.	.1%
C 013 823	83.4/85.0	.012	N.D.	N.D	N.D.	.09%
C013824	91.9/94.0	.005	1.43	.01%	.002%	.14%
C 013 825	100.6/103.0	N.D.	N.D.	.002%	.002%	.165%
C013826	103.0/104.3	.011	N.D.	.004%	.002%	.45%
C-013827	104.3/105.3	N.D.	N.D.	.002%	.004%	
C013828	105.3/107.2	.012	N.D.	.008%	.002%	.115%
	No SAMPLE					
C013829	110.5/112.1	.009	N.D.	.004%	.002%	.18%
	No SAMPLE					
C013830	113.3/115.5	.094	5.86	.077%	.415%	.81%
C013831	115.5/117.7	.039	.21	.014%	.053%	.346%
"	No SAMPLE					
C013832	118.5/119.1	.024	.11	.04%	.140%	.054%
C013833	119.1/121.3	.086	N.D.	.006%	.016%	.015%

BOX

3

69.6

4

83.4

5

95.7

6

111.2

7

K-3, 3/3

LITHOLOGY, ALTERATION, MISC.	FT.
121.3 CRUSHED QUARTZ	
122.3 NO CORE RECOVERY	
CRUSHED QUARTZ.	130
132.0	
132.9 NO CORE RECOVERY	
CRUSHED QUARTZ.	
135.2 CNT. BRK	
136.3(?) ALT. SF. w/ QTZ VLT. CNT. BRK.	
137.5 CRUSHED QTZ & ALT. SF.	
138.2 NO CORE RECOVERY	
138.7 CRUSHED QUARTZ	
139.5 NO CORE RECOVERY	140
141.0 ALT. SF/GOUGE. CRUSH BRECCIA CNT. BRK.	
LT. GREY, FN. GR. ALT. FELSPATHIC QUARTZ MICA SCHIST. (SF/SFq) FELD → CLAY, BIO → FeOx. @ 141.0-166.5 (EOH): STRONGLY FRACTURED & CRUSHED	
149.2-149.6: YELLOW CLAY GOUGE & CRUSH	
149.6-150.3: IRR. NEAR. VERT. FCT w/ WHITE GOUGE	
150.3	150
151.3 NO CORE RECOVERY	
CARBONATE ON FOLIATION SURFACES WITH LITTLE OR NO LIM. STN.	
159.2-160.0: ALT ↑	160
	166.5
END OF HOLE @ 166.5, 7/10/83	

GRAPHIC LOG

MINERALIZATION
MOD. LIM. STN., IRR. DIST. AS, PY 121.3 AS > PY, PY → LIM., < 1% T.S.
122.3
MOD LIM. STN, IRR. DIST. AS, PY. AS > PY, < 1% T.S.
132.0
132.9
MOD. LIM. STN. NO VIS. SUL
135.2 MOD-STRONG LIM. TR. AS.
136.3 NO VIS. PY.
137.5
138.2 MOD-STRONG LIM. TR AS.
138.7 WK. LIM. STN. NO VIS. SUL.
139.5
NO. VIS. SUL., MOD-STRONG LIM. 141.0
NO VIS. SUL. MOD - STRONG LIM ON MOST FCT. & FOLIATION MANY FN, IRR. LIM & QTZ VLTS @ 143.3-144.4: V. STRONG LIM.
149.5: 2" STRONG LIM & GOUGE
TR. PY → LIM ON SOME LIM. FILLED FCTS.
165.8: IRR. LIM, QTZ. PY, CL, VLT.

RECOVERY

Run	Run length	Core	%
121.3	1.3	0.6	46
122.3	1.0	0	0
123.0	0.7	0.9	129
123.9	0.9	0.3	33
	1.7	1.3	76
125.6			
126.2	0.6	0.3	50
	1.1	0.9	82
127.3			
128.5	1.2	0.6	50
129.1	0.6	0.4	67
129.9	0.8	0.7	88
130.4	0.5	0.3	60
	1.6	1.0	63
132.0	0.5	0.0	0
132.5	0.4	0.0	0
132.9	0.5	0.2	40
133.4	0.6	0.6	100
134.0	0.8	0.1	13
134.8	0.7	0.6	86
135.5			
	2.0	1.5	75
137.5	0.7	0.0	0
138.2	0.5	0.5	100
138.7	0.8	0.0	0
139.5	1.5	1.1	73
141.0	1.0	0.7	70
142.0	1.0	0.5	50
143.0	1.8	1.7	94
144.8	1.0	0.7	70
145.8	0.5	0.3	60
146.3	1.4	1.2	86
147.7	1.8	1.8	100
149.5	0.8	0.8	100
150.3	0.7	0.0	0
151.0	0.9	0.9	100
151.9	1.5	1.5	100
153.4	0.9	0.9	100
154.3	0.7	0.7	100
155.0	1.0	0.9	90
156.0	0.7	0.7	100
156.7	0.7	0.7	100
157.4	0.8	0.8	100
158.2	1.0	0.7	70
159.2	0.8	0.8	100
160.0	0.5	0.4	80
160.5	0.6	0.5	83
161.1	0.4	0.4	100
161.5	0.8	0.6	75
162.3	1.2	1.2	100
163.5	0.8	0.8	100
164.3	1.7	1.3	76
166.0	0.5	0.5	100
166.5			

ANALYTICAL (oz/ton, % or ppm)

Sample	Interval	Au	Ag	Cu	Pb	Zn
C 013 833	119.1 / 121.3	.086	N.D.	.006%	.016%	.015%
No Sample						
C 013 834	122.3 / 123.9	.010	N.D.	.004%	.008%	.011%
C 013 835	123.9 / 127.3	.007	N.D.	.002%	.006%	.012%
C 013 836	127.3 / 129.9	.009	N.D.	.002%	.002%	.006%
C 013 837	129.9 / 132.0	.011	N.D.	.002%	N.D.	.004%
No Sample						
C-013 838	132.9 / 135.2	.005	N.D.	N.D.	.002%	.006%
C 013 839	135.2 / 137.5	.014	N.D.	.002%	.005%	.017%
No Sample						
C 013 840	138.2 / 138.7	.009	N.D.	N.D.	N.D.	.008%
No Sample						
C-013 841	139.5 / 141.0	.023	N.D.	.002%	.008%	.034%
C 013 842	141.0 / 144.8	.015	N.D.	.004%	.004%	.041%
C 013 843	149.2 / 160.3	N.D.	N.D.	.003%	.002%	.049%

BOX
7
125.6
8
138.7
9
150.0
10
158.7
11
166.5

DIAMOND DRILL HOLE LOG

Company: U. S. BUREAU OF MINES

Property: Little Annie	Hole No.: K-4
Location: Kantishna	Bearing at Collar: N25°W
	Inclination at Collar: -60°
Coord. - Collar N: 3 488 892.88	
E: 345 639.34	Length: 300.7'
Elev. - Collar: 2652.6	Core Size: BW44 - IAX
Date started: 7/11/83	
Completed: 7/19/83	Logged by: FGK - CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	Run	Run length	Core	%	BOX
	10						
12' core recovery at 12' Metafelsite (SF) quartz-rich Sg, and 3" lim stn qz			12.0				
				4.5	1.5	33	
			16.5				
fine grained, no alteration		<<1% v. fine dissem py		3.2	1.6	50	1
	20		19.7				
Metafelsite (SF) blocky (up to 4"), minor Sg frags, minor qz / lim vein material in light brown sandy matrix ZONE OF ??? (Z E O R S R R E Y O)				4.3	3.9	91	
			24.0				
				3.7	2.8	76	
			27.7				
	30			3.8	3.7	97	
			31.5				
				2.4	2.2	92	2
			33.9				
				2.1	1.8	86	
			36.0				
				3.8	0.4	11	
	40		39.8				
				2.2	2.2	100	
			42.0				
				2.1	2.1	100	3
			44.1				
				2.0	1.3	65	
			46.1				
				1.4	1.4	100	
			48.5				
	50		49.0	0.5	0.2	40	

ANALYTICAL (oz/ton; ppm)

Sample	Interval	Au	Ag	Cu	Pb	Zn

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	BOX
Metafelsite (SF) blocky with minor SG, lim stn qz in light brn sandy matrix				4
overburden	60			
2" of lim stn qz with xenoliths of SG				
weakly chloritized SF with fsp → clay			no visible sulfides	
	70			
badly fractured SG with spotty strong lim stn				5
	80			
Graphitic Phyllite (SG) dk gry, blk, little qz, badly fractured on foliation, ire lim stn, vertical fcts, lim on foliation			no vis. sulfides py casts up to 1/8", some with associated limonite	6
many zones of crushed SG probably due to drilling	90			
interlayered with SF (up to 2")				
	100			
2" black gouge				7
	110			
112.3–113.8: crushed SF with minor gouge and frags of 1/4" qz parallel to foliation				8
116.3–118.0: crush				
SG as above with qz on foliation	120		py xtals → lim in qz layers	

RECOVERY				ANALYTICAL						
Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu	Pb	Zn
51.0	2.0	0.9	45							
51.8	0.8	0.8	100							
	2.4	1.3	54							
54.2										
	2.5	1.7	68							
56.7										
	2.8	1.7	61							
58.5										
	3.4	1.6	47							
61.9	1.1	0.7	64							
63.0										
	2.2	1.4	64							
65.2	1.8	1.5	83							
67.0	0.4	0	0							
67.9										
	4.6	0.8	17							
72.0										
	3.0	0.3	10							
75.0										
	2.0	0.9	45							
77.0										
	1.8	1.8	100							
78.8										
	1.7	1.0	59							
80.5	1.3	0	0							
81.8	1.4	0.6	43							
83.2										
	2.2	0.6	27							
85.4										
86.0	0.6	0.6	100							
	2.0	0.6	30							
88.0										
	2.0	1.6	80							
90.0										
	2.0	1.2	60							
92.0	1.6	0.8	50							
93.6	1.4	0.9	64							
95.0										
	2.0	1.7	85							
98.0	2.0	0.7	35							
100.0	1.3	1.3	100							
101.3	1.5	0.7	47							
102.8	0.9	0.7								
103.7	0.6	0.6	100							
104.3										
	2.7	0.7	26							
107.0										
	2.5	2.2	88							
109.5										
	1.5	1.4	93							
111.0	1.3	1.3	100							
112.3	1.5	0.7	47							
113.8	0.7	0.7	100							
114.5	1.8	1.8	100							
116.3										
	1.7	0.8	47							
118.0	1.1	0.3	27							
119.1										

LITHOLOGY, ALTERATION, MISC.

Graphitic Phyllite (SG)
dk gry/blk

2" qz on foliation
3" qz on foliation

135-136: crush

Metafelsite (SF)
lt gry, fine grained, altered fsp qz mica schist, fsp → clay, fn white mica (sericite?) on foliation
143.5-146.0: foliation subparallel to core
145.2: 2" crush and gouge
irreg dist meta qz on foliation

1" gouge on foliation
2" gouge on foliation, 1' zone meta qz up to ½"

chlor/ser on foliation

strongly fct for 1.3', ~5° fcts, minor gouge

minor carbonate on some crosscutting fcts

gouge on foliation

2-3" crush/gouge
8" crush/gouge
16" shear zone
~30" shear zone
} on foliation

fsp alt grad decreasing

Metafelsite (SFQ)
m gry, fine grained, qz eyes, 1 mm qz veins 2-3 cm apart, some fct. surfaces are chloritized

fsp → clay at 188-189'

FT.

130, 140, 150, 160, 170, 180, 190

GRAPHIC LOG

MINERALIZATION

py → lim ass. w/ qz layers

126: minor py assoc with SF inc in qz

no vis py, weak spotty lim

spotty euhedral py up to ⅛" on foliation, ½-1% py

½-1% py, fine euhedral, irreg dist on fol. as single xtals and aggregates, v. weak lim stn on some fcts and fol.

py on fol 156.0-156.9

py ↓ tr-½%

176.8': py on 50° fct

tr py euhedral

tr py in qz veinlet

RECOVERY

Run	Run length	Core	%
120.8	1.7	1.7	100
	1.5	1.4	93
122.3			
	2.1	2.1	100
124.4			
	1.8	1.6	89
126.2	1.1	0.9	82
127.3	0.7	0.7	100
128.0	1.3	1.3	100
129.3			
	2.2	1.3	59
131.5	0.8	0.8	100
132.3	1.2	0.8	67
133.5			
	2.6	1.8	69
136.1			
	1.9	1.3	68
138.0	0.5	0.5	100
138.5	0.7	0.7	100
139.2	0.9	0.9	100
140.9	1.6	1.0	68
141.7	2.2	1.5	68
143.9			
	2.1	3.0	143
146.0	0.9	0.9	100
146.9			
	1.5	1.5	100
148.4			
	2.2	2.2	100
150.6			
	1.6	1.6	100
152.2			
	3.1	3.1	100
155.3			
	2.1	2.1	100
157.4			
	2.0	2.0	100
159.4	0.8	0.8	100
160.2			
	1.9	1.9	100
162.1			
	2.1	1.9	90
164.2	1.3	1.3	100
165.5	0.3	0.3	100
165.8			
	2.2	2.2	100
168.0			
	1.6	1.6	100
169.6			
	2.1	1.9	90
171.7	1.3	1.3	100
173.0	1.3	1.3	100
174.3	0.5	0.5	100
174.9	1.7	1.7	100
176.6			
	2.3	2.3	100
178.9	1.0	1.0	100
179.9			
	4.6	4.6	100
184.5			
	3.0	2.8	93
187.5	0.5	0.3	60
188.0	0.4	0.4	100
188.4	1.3	0.8	62
189.7			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13882	119.1-123.1	ND	.012	65	15	115
13883	136.1-140.1	ND	.012	70	20	170
13884	140.1-143.0	ND	.012	45	10	155
13885	143.0-146.0	.001	.006	15	10	170
13881	155.3-157.4	ND	ND	5	15	35

BOX

9, 10, 11, 12, 13, 14, 15, 16

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
m gry feldspathic schist, milky qz stringers, foliated, calcite and chlor on some fracture surfaces

up to 2% qz eyes

<1% qz eyes

thin (<1mm) discontinuous qz stringers parallel to foliation

clayey calcitic gouge 216-217'

Metafelsite (SFQ)
m to lt. gry, schistose, 1% qz eyes, minor qz veining parallel to foliation and on fractures, chlor/serp on some fracture surfaces, fsp → cal at 125' and 127'

Metafelsite (SF)
as above but contains fewer qz eyes, lt. gry

Graphitic Schist (SG)
dk gry to black, carbonaceous, increasing graphite with depth, minor qz veinlets, most veinlets are parallel to foliation

py is in the schist, not the qz veinlets

soft, poorly lithified zone 251-255', gouge zone

as above

FT.

200, 210, 220, 230, 240, 250, 260

GRAPHIC LOG

10, 10, 35, 28, 30, 75

MINERALIZATION

sl tr py

minor lim stn

sl tr v. fine py subhedral to euhedral

sl tr v. fine shiny py

no py noted

sl tr py

tr py
some discontinuous stringers parallel to foliation, some euhedral py

up to 1% py in some places, good euhedral xtals to 1 mm, py is in schist not in qz veinlets

tr+ py

tr py

RECOVERY

Run	Run length	Core	%
190.9			
	1.3	1.3	100
192.2			
	2.4	2.3	96
194.6			
	2.9	2.8	97
197.5			
	2.5	2.5	100
200.0			
	1.0	0.9	90
201.0			
	1.0	1.0	100
202.0			
	2.0	2.0	100
204.0			
	1.2	0.8	67
205.2			
	2.2	2.1	95
207.4			
	0.9	0.3	33
208.3			
	1.2	1.2	100
209.5			
	1.0	1.0	100
210.5			
	2.7	2.6	96
213.2			
	2.9	2.9	100
216.1			
	1.5	1.2	80
217.6			
	1.4	1.4	100
219.0			
	0.4	0.4	100
219.4			
	2.3	2.2	96
221.7			
	1.5	1.5	100
223.2			
	0.6	0.3	50
223.8			
	2.4	1.7	71
226.2			
	2.0	1.9	95
228.2			
	1.8	1.1	61
230.0			
	2.8	1.4	50
232.8			
	3.1	2.2	71
235.9			
	3.2	2.8	87
239.1			
	1.1	0.7	64
240.2			
	3.4	1.8	53
243.6			
	1.3	1.1	85
244.9			
	0.8	0.8	100
245.7			
	2.1	1.6	76
247.8			
	0.8	0.7	88
248.6			
	0.7	0.7	100
249.3			
	1.8	0.3	17
251.1			
	4.2	1.0	24
255.3			
	0.9	0.8	89
256.2			
	0.9	0.9	100
257.1			
	1.3	1.3	100
258.4			
	0.9	0.6	67
259.3			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
~~13886~~	~~193.5-194.0~~	~~ND~~	~~ND~~	~~ND~~	~~ND~~	~~30~~
13887	240.0-243.6	ND	.012	55	20	220

BOX

18a, 18b, 19, 21a, 21b, 22

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Graphitic Schist (SG) dk gry to blk, fissile, thin foliations of qz + fsp			tr + py
no qz veinlets in this interval			tr py euhedral xtals
clay (gouge?) zone 261-271' poor recovery, mostly unlithified chips	270		some py up to 2 mm
Graphitic as above		55	
	280	18	
		60	
	290	60	sl tr py generally follows foliation
minor qz veinlet			
		35	sl tr py
	300	40	
Graphitic Schist (SG) kink banding, fsp → clay (+cal?) at 295'		EOH	

RECOVERY

Run	Run length	Core	%
	2.0	.9	45
261.3	3.4	0	0
264.7	2.0	0	0
266.7	0.6	0.6	100
267.3	4.1	0	0
271.4	1.6	1.6	63
273.0	0.8	0	0
273.8	1.0	1.0	100
274.8	0.3	0.3	100
275.1	0.4	0.4	100
275.5	0.7	0.6	86
276.2	0.8	0.7	87
277.0	1.0	1.0	100
278.0	2.2	1.2	55
280.2	1.3	1.3	100
281.5	1.5	1.1	73
283.0	3.1	1.0	32
286.1	2.7	1.4	52
288.8	0.4	0.4	100
289.2	0.7	0.4	57
289.9	2.2	0.7	32
292.1	3.0	1.2	40
295.1	1.2	1.2	100
296.3	1.8	1.8	100
298.1	1.5	1.5	100
299.6	1.1	1.1	100
300.7			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13888	259.3-261.3	ND	ND	45	35	130
13889	278.0-281.5	ND	.006	60	10	160
13890	292.1-295.1	ND	.012	35	10	100

BOX
23
24
25

DIAMOND DRILL HOLE LOG

Company U. S. BUREAU OF MINES

Property	Silver Pick / Little Maud	Hole No.	K-5
Location	Kantishna	Bearing at Collar	S 30°E
		Inclination at Collar	-50°
Coord. - Collar N	3 487 263.87		
E	344 073.46	Length	195.7'
Elev. - Collar	2786.75	Core Size	BW44 - IAX
Date started	7/19/83		
Completed	7/23/83	Logged by	VVT

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Overburden

Metafelsite (SF)
lt gry, f. grained, thin bedded, foliated, weak slicks, cut by qz and cal veinlets

12-28': fault zone
orange FeOx stained clay + crush @ 40° to core
frags of SF with 60-70° foliation

17-20': SF fragments and crush

20-28': clay and crush
gry → orng → tan, talc + kaolin slicks on alt and bleached SF

28-33': gry-tan bleached and altered SF foliation @ 50°

fault clay @ 45°

35-38': recemented fault breccia, qz and carbonate veinlets, random orientation, SF frags, chlor-cal-clay alteration
38-40.5': clay and crush, SF frags, qz vein
40.5-42.5': yel fault clay
42.5-46':
gry-grn heavy FeOx stn SF w/occ qz eyes, chlor and white kaolin on fractures, recemented with 2 or more stages of qz, calcite, kaolin veining, brecciated
46': fault clay @ 40°, qz sulfide at 20°
47-54.6':
recemented fault breccia with 50% qz vein material and 50% frags of chlor alt SF, qz-kao-chl bxd filling, heavy brn FeOx

54.6': sharp 30° contact

FT.

10, 20, 30, 40, 50

GRAPHIC LOG

70, 60, 50

MINERALIZATION

1/4" qz vlt w/ tr py, minor FeOx on fct

FeOx on fct, tr py

12-38': mod FeOx, yel-orng
1% py

33-38': hvy brn-orng FeOx w/ 1-3% py and tr gn + sph, FeOx masks most of sulfides

38-40.5': 1-5% py, gn, sph(?)
weak zinc zap

42.5-46.0':
brn-brk red + yel FeOx w/ py clasts, tr gn, tr cpy

46-47': yel fault clay w/ FeOx and py

47-54': hvy velvet brn → red FeOx, 1-3% py, minor gn(?) and sph, oxidation masks most sulfides, sulfide clasts on fcts.

RECOVERY

Run	Run length	Core	%
7.2 - 9.3	2.1	1.1	52
9.3 - 13.0	3.7	3.6	97
13.0 - 15.2	2.2	2.2	100
15.2 - 18.5	3.3	3.3	100
18.5 - 21.4	2.9	2.4	83
21.4 - 24.0	2.6	2.0	77
24.0 - 28.0	4.0	4.0	100
28.0 - 32.1	4.1	3.8	93
32.1 - 34.0	1.9	1.8	95
34.0 - 37.0	3.0	2.7	90
37.0 - 40.0	3.0	1.9	63
40.0 - 44.0	4.0	3.4	85
44.0 - 46.5	2.5	2.5	100
46.5 - 48.0	1.5	1.5	100
48.0 - 49.8	1.8	1.6	89
49.8 - 54.0	4.2	4.2	100

ANALYTICAL

Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu (ppm)	Pb (ppm)	Zn (ppm)
13848	8.3-12.0	.001	ND	ND	ND	65
13849	12.0-15.2	.006	.032	10	60	120
13850	15.2-21.4	.003	ND	5	5	90
13851	21.4-28.0	ND	ND	95	ND	780
13852	28.0-33.0	ND	ND	95	5	520
13853	33.0-37.0	.010	.035	185	45	730
13854	37.0-40.0	.004	.012	140	10	610
13855	40.0-44.0	.013	.029	120	10	.09%
13856	44.0-46.5	.009	1.23	180	365	.17%
13857	46.0-49.8	.082	8.67	495	.42%	.43%
13858	49.8-54.6	.029	.085	380	45	.39%

BOX

LITHOLOGY, ALTERATION, MISC.

2' alt and brd SF; oxidized, 10% vein matl w/ micro → 1/4" qz veinlets

57-64.5':
recemented fault breccia as at 47',
bx and alt SF w/ 50% qz vein material

sharp 70° contact

Metafelsite (SF)
m gry silicified and altered, cut by qz vlts, FeOx stn, micro to 1/4", chlor & gyp-FeOx on fcts, also clotty metamorphic qz

2' brn SF with ~25% qz vein material, completely resilicified w/ chl
SF → SCC

75-79.5': SF as above

79.5-81.5': 2' milky white qz vein @ 40-55° shp cnt

81.5-85.9': fault zone @ 45-55°
90% FeOx oxidized

85.9-88.5': fault bx recemented & silicified SF and qz vein material

SCC interbedded with SF
→ dk grn, contorted bedding w/ metamorphic boudins and qz veinlets, FeOx stn qz, contorted foliation 30-60°

96': reduced to IAX core

SCC gradational contact with SF
chl → qz

Metafelsite (SF)
dk gry, siliceous w/ qz boudins, fractured and recemented with qz micro veinlets at random orientation, gypsum and kaolin on few fcts

grad increase of graphitic material and chlor

Mixture of SCC and SG
dk gry to blk

tight isoclinal folding (micro)

slicks on fcts, mod FeOx, characteristic FeOx stn qz

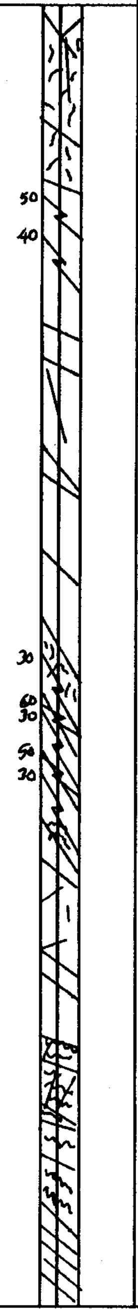
120.6 grd cnt w/ 4" qz vein at 40°

Graphitic Phyllite (SG)
dk gry to blk, minor 1/4-1" qz veinlets, FeOx stn along foliation

FT.

65, 75, 85, 95, 105, 115, 125

GRAPHIC LOG



MINERALIZATION

gyp, str FeOx on fct

57-64.5':
py, aspy, gn(?), sp, T.S. 1-4% much of the sulfides are oxidized and masked by brn-orng hvy FeOx

py & gn 6" 10% T.S. @ 63.7'

64.5-79.5':
diss and remobilized py, aspy 1-2% T.S., tr gn and py along qz vlts

79.5-81.5':
1% py, weak FeOx, weak MnO, tr free Au (?), tr gn

81.5-85.9':
intense brick red to brn FeOx w/ sulfide casts and wk MnO

85.9-88.5': dissem and remob. py (?) and gn, hvy FeOx as above, 1-5% py, T.S. weak MnO

minor $CaCO_3$ on fcts
gypsum on fcts

tr py - 1%

101': heavy FeOx and gyp on fcts

tr py - 1% + fine dissem shiny metallic

110.2-120.6':
mod-wk orng FeOx stn qz w/ 1-2% finely dissem py

tr - 1% py

RECOVERY

Run	Run length	Core	%
59.1	5.1	5.1	100
63.5	4.4	3.3	75
67.0	3.5	3.5	100
70.0	3.0	3.0	100
73.3	3.3	2.4	73
77.7	4.4	4.4	100
80.5	2.8	2.8	100
85.9	5.4	5.4	100
90.8	4.9	4.9	100
96.0	4.8	4.8	100
101.0	5.0	4.6	92
105.9	4.9	4.5	92
110.4	4.5	4.5	100
120.6	10.2	8.7	85
125.6	5.0	1.5	30

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13859	54.6-59.1	.007	.018	40	95	475
13860	59.1-64.5	.014	.062	45	380	.11%
13861	79.5-81.5	.002	.062	15	205	.09%
13862	81.5-85.9	.017	.029	25	180	.11%
13863	85.9-88.5	.062	.062	45	60	310
13864	110.4-120.6	ND	ND	35	ND	.32%
13865	120.6-125.6	ND	.012	100	75	.15%

BOX

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Graphitic Phyllite (SG) dk gry - blk, contorted foliation w/ qz vlts and metamorphic qz		45	
banded red, tan, and blk zones 3-6" @ 133 and 138 w/ sulfides and FeOx		50	6" banded sulfides and FeOx py (?) sph 10% T.S.
core bkn, highly fct, faulted throughout section	135		
			4" banded py ± FeOx ± 5% T.S.
abrupt cnt w/ fault clay, ∠ lost			
Metafelsite (SF) chlor↑, m gry-grn banded, qz eye		50	140-168': 1% dissem py w/ local zones 1-6" of 1-5% py occ py along qz vlts
dist bedding - foliation alt qz, chl, ± G.M.	145	60	
broken frac core w/ chl, talc, and orange FeOx on frac		55	
minor recementation of fracs by qz vlts across and along foliation			
	155	60	
minor bx ± FeOx, qz cement		55	
6" fault gouge			
	165		
grad cnt - chlor ↓, qz ↑, banding ↓ 168 - EOH		60	
Metafelsite (SF)			tr - <1% dissem and euhedral py
med gry, thin bedded, siliceous, blocky, numerous qz eyes and biotite	175		
v. hard comp core		60	
v. little fracturing minor chlorite and orange FeOx along schistosity			
	185		
182-186': zone of 30% metamorphic qz			
183.6': 1" qz vlt @ 20° with crystalline qz		60	tr py and (?) gn
191 - EOH slight inc in mafics and increase in chlor along fct		50	
		EOH	

RECOVERY Run	Run length	Core	%
125.6	1.2	1.2	100
126.8	1.1	0.5	45
127.9	0.4	0.4	100
128.3	1.2	0.9	67
129.5	4.2	2.2	53
133.7	2.9	1.0	34
136.6	1.6	1.2	75
138.2	2.9	2.7	93
141.1	3.1	3.1	100
144.2	1.9	1.9	100
146.1	3.6	1.9	53
149.7	5.0	4.7	94
154.7	8.6	7.8	91
163.3	5.2	5.2	100
168.5	3.4	3.4	100
171.9	9.7	9.7	100
181.6	8.8	8.8	100
190.4	5.3	5.3	100
195.7			

ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
13866	125.6-129.5	ND	.012	35	10	255	
13867	129.5-133.7	ND	.018	25	15	65	
13868	133.7-138.2	.002	.085	60	15	60	
13869	138.2-140.0	.006	.062	40	15	295	
13870	154.7-163.3	ND	ND	ND	ND	60	
13871	190.4-195.7	ND	.018	25	ND	25	

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

Property: Little Maud	Hole No.: K-6
Location: Kantishna District	Bearing at Collar: S 30°E
	Inclination at Collar: -50°
Coord. - Collar N: 3487331.33	
E: 344042.58	Length: 186.0 feet
Elev. - Collar: 2736.44	Core Size: BW44 - IAX
Date started: 7/24/83	
Completed: 7/28/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Overburden

Metafelsite (SF)
med gry, f-m grained musc-bio-qz schist, minor Fe stained calcite veinlets (<1 mm), sl tr specularite on fracture surfaces

Metafelsite (SF)
as above, with more calcite veinlets, smaller veinlets at 45° to larger (1 mm) veinlets

fault gouge at 24'
recrystallized calcite in discontinuous veinlets

fractured at 27'
2 cm wide qz vein at 28.5'
open spaced filling, a few vugs

Metafelsite (SF)
grn-gry, f-m grained, chlor-musc-qz schist, small (<1 mm) qz and carb veinlets

as above but med gry with less chlor, a few qz veinlets up to 7 mm, principal fractures at 20°, contains bio, some dendritic MnO on fracture surfaces

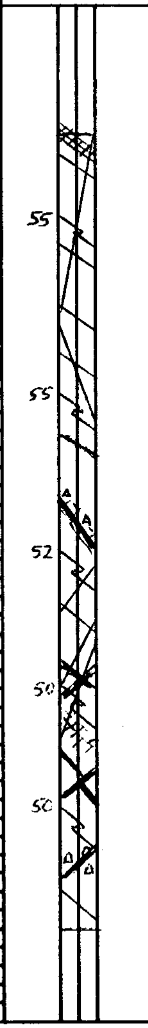
qz veinlets up to 5 mm, some minor offsets, clays and FeOx on fractures

qz vein at 46.2', qz cemented breccia with clasts up to 1.5 cm, zone is ~ 15 cm thick

FT.

10, 20, 30, 40, 50

GRAPHIC LOG



MINERALIZATION

yellow-orange to orange FeOx on fractures, specularite and pyrolusite on some fractures, no sulfides noted

FeOx as above, some red-orange colors, more pervasive than above

qz veinlets and more intense fracturing with FeOx, no sulfides noted, FeOx stained fractures parallel to and cross cutting foliation

FeOx on fractures, no sulfides noted

RECOVERY

Run	Run length	Core	%
7.0–10.4	3.4	2.9	85
10.4–15.0	4.6	3.9	85
15.0–18.5	3.5	2.7	77
18.5–23.8	5.3	4.9	92
23.8–27.2	3.4	3.1	91
27.2–28.1	0.9	0.9	100
28.1–36.8	8.7	8.6	99
36.8–37.4	0.6	0.5	83
37.4–40.6	3.2	1.8	56
40.6–41.4	0.8	0.7	87
41.4–45.6	4.2	4.1	98
45.6–46.2	0.6	0.6	100
46.2–47.1	0.9	0.9	100
47.1–48.6	1.5	1.4	93

ANALYTICAL

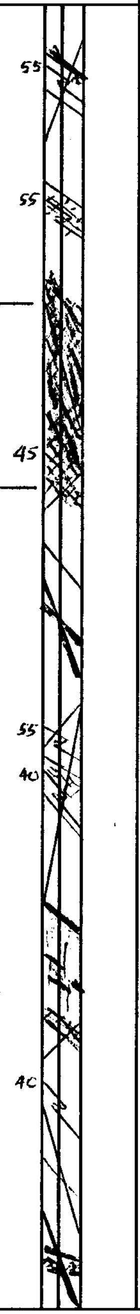
Sample	Interval	Au oz/ton	Ag oz/ton	Cu ppm	Pb ppm	Zn ppm
13892	17.0-18.5	.004	.006	ND	ND	15
13893	26.0-27.2	ND	ND	10	ND	20
13894	28.1-32.0	ND	.018	30	45	45
13895	46.2-48.6	.006	ND	ND	15	75

BOX

1, 2, 3, 4

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	BOX
Metafelsite (SF) m gry, m-f grained, musc-bio-qz schist, numerous FeOx stained fractures and carbonate veinlets, some with solution cavities, 30° fractures, 10 cm thick qz vein at 53' (brecciated and recrystallized) isoclinal deformation, calcite needles on some fractures		sericite associated with quartz veinlet, no sulfides noted	5
intense fracturing at 62.5	60		6
Vein quartz ——— cnt. missing ~68' fractured, recrystallized, FeOx and carbonate on fracture surfaces, some specularite, minor amounts of clayey limonite stained gouge material on some fracture surfaces	70	minor FeOx staining, no sulfides noted	7
cnt. missing ~76'			
Metafelsite (SF) m gry, m-f grained, musc-bio-qz schist, 1-5 mm thick qz veinlets with thin limonite selvages	80		8
cross cutting quartz veinlets		FeOx staining on fractures, no sulfides noted	
Metafelsite (SFQ) as above but with conspicuous qz eyes	90		9
calcite veinlets 3 cm wide at 91.5' parallel to foliation			
calcite, FeOx, and specularite on fracture surfaces, some acicular recrystallized calcite crystals			10
clayey gouge material at 98', 102' & 107' thin calcite veinlets (0.25 mm) parallel to foliation	100		
dk grn gry clayey gouge			
Chlorite phyllite (SCP) fractured, minor calcite veinlets		pervasive limonite staining on fractures	11
	110	pervasive FeOx 109'-113' and 115'-117'	
Graphitic schist (SG) clayey			
breccia with quartz cement	120		12

GRAPHIC LOG



RECOVERY

Run	Run length	Core	%
	4.0	4.0	100
52.6	1.9	1.8	95
54.5	3.3	3.3	100
57.8	4.2	4.0	95
62.0	1.8	1.3	72
63.8	1.1	1.0	91
64.9	3.8	3.7	97
68.7	3.9	3.4	87
72.6	1.5	0.5	33
74.1	0.7	0.7	100
74.8	1.5	1.5	100
76.3	1.1	1.1	100
77.4	1.7	0.5	29
79.1	0.3	0.3	100
79.4	2.0	2.0	100
81.4	2.3	2.3	100
83.7	1.3	1.3	100
85.0	1.3	1.3	100
86.3	1.0	1.0	100
87.3	3.1	3.0	97
90.4	0.9	0.8	89
91.3	0.7	0.7	100
92.0	0.9	0.6	66
92.9	1.0	1.0	100
93.9	1.4	1.0	71
95.3	0.9	0.9	100
96.2	0.9	0.9	100
97.3	0.8	0.8	100
98.1	0.4	0.1	25
98.5	1.5	1.4	93
100.0	0.2	0.2	100
100.2	0.9	0.9	100
101.3	1.0	1.0	100
102.3	0.7	0.7	100
103.0	0.8	0.8	100
103.8	0.5	0.5	100
104.3	0.2	0.2	100
104.5	1.5	0.6	40
106.0	1.0	0.6	60
107.0	1.4	0.8	57
108.4	0.9	0.9	100
109.3	1.0	0.7	70
110.3	2.7	2.4	89
113.0	2.8	2.7	96
115.8	2.2	2.2	100
118.0	1.6	1.1	69
119.6			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13896	52.6-53.0	.004	.006	ND	ND	10
13897	64.9-68.0	ND	ND	ND	5	15
13898	68.7-76.0	ND	ND	ND	ND	5
13899	84.0-86.3	ND	ND	ND	ND	15
13900	88.0-91.0	.020	.012	ND	10	15
13872	108.4-113.0	.013	.029	15	20	290
13873	113.0-118.0	ND	.032	20	40	45

LITHOLOGY, ALTERATION, MISC.

Graphitic schist (SG)
black, discontinuous qz veinlets parallel to foliation, good foliation cleavage

qz blebs up to 5.0 mm
brecciated qz at 127' and 130'
miralitic cavities in qz

Graphitic schist (SG)
as above crenulations, irregular and discontinuous qz veinlets

m dk gry color 133-136'

black, fissile graphitic schist

unconsolidated 140-147'

qz and limonite cemented breccia at 148', clasts may be SF

150.5' thin zone of clayey graphite at 149' — cnt @ 55°

Metafelsite (SFQ)
grn gry, fsp qz-chlorite schist, segregated qz and chlor layers, 'fluxion structure', cataclastic foliation

REDUCED TO IAX CORE

Metafelsite (SF)
dk gry, fractured, qz veinlets, 10 cm thick qz vein at 160', minor white clay on fracture surfaces

Metafelsite (SFQ)
fractured but well lithified, grn gry

breccia clasts up to 5.0 cm

Graphitic schist (SG) — 168.2' cnt @ 40°
black, fissile, qz veinlets up to 2 cm, limonite selvages on some veinlets

slightly vuggy
carbonaceous in places

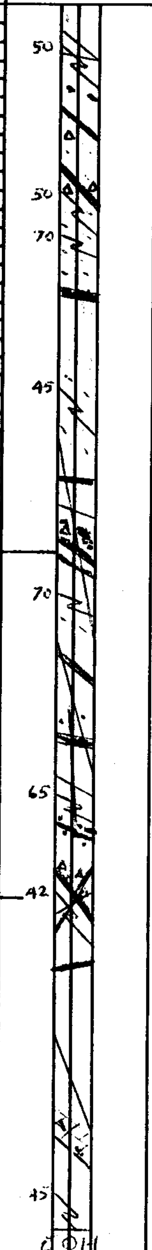
fractured, with irregular, discontinuous qz blebs

black, fissile graphitic schist, as above

FT.

130, 140, 150, 160, 170, 180

GRAPHIC LOG



MINERALIZATION

orange FeOx on fractures

slight limonite staining associated with qz veinlets

brecciated FeOx stained qz, yellow orange to red oxides, no sulfides noted

orange-brn FeOx on fracture surfaces, tr t v. fine ap (or sb?) on some fractures, sl tr py and gn(?)

sl tr pyrite

sl tr py, ap, gn(?)

FeOx on fracture surfaces

FeOx on fractures

RECOVERY

Run	Run length	Core	%
120.4	1.7	1.7	100
122.1	2.4	0.7	29
124.5	1.3	0.4	31
125.8	2.5	2.0	80
128.3	4.7	2.8	60
133.0	2.4	1.3	54
135.4	1.0	0.9	90
136.4	3.5	1.0	29
139.9	5.1	0.2	4
145.0	1.9	1.5	79
146.9	0.4	0.7	78
147.8	1.0	0.9	90
148.8	2.0	1.7	85
150.8	2.9	2.9	100
153.7	0.7	0.7	100
154.4	0.7	0.6	86
155.1	1.0	1.0	100
156.1	1.3	0.3	23
157.4	1.9	1.0	53
159.3	0.9	0.4	44
160.2	0.8	0.4	50
161.0	0.7	0.7	100
161.7	0.6	0.6	100
162.3	3.6	3.0	83
165.9	2.6	1.9	73
168.5	1.6	1.6	100
170.1	1.4	1.2	86
171.5	1.0	1.0	100
172.5	3.3	3.3	100
175.8	3.7	3.7	100
179.5	0.5	0.5	100
180.0	2.0	1.3	65
182.0	2.5	1.9	76
184.5	1.5	1.0	67
186.0			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13874	126.0-127.0	ND	ND	60	ND	100
13875	147.8-148.8	.002	ND	10	ND	140
13876	149.0-153.7	ND	.018	10	ND	50
13877	160.2-161.0	.010	.018	5	ND	15
13878	164.0-165.9	.001	.011	5	5	65
13879	168.5-170.1	ND	.006	40	15	135
13880	180.0-182.0	ND	.011	80	25	185

BOX

13, 14, 15, 16, 17, 18

DIAMOND DRILL HOLE LOG

Company: U. S. BUREAU OF MINES

Property: Silver Pick	Hole No.: K-7
Location: Kantishna	Bearing at Collar: N 30° W
	Inclination at Collar: -55°
Coord. - Collar N: 3 486 978.96	
E: 344 227.96	Length: 281.9'
Elev. - Collar: 2909.0	Core Size: BW44 - IAX
Date started: 7/29/83	
Completed: 8/4/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SF)
m gry, fine grained foliated with thin discontinuous fsp segregations, <1% biotite, schistose

slight calcite coating on some fractures

brecciated: 12-14'
clasts to 5 cm, qz cement with some calcite cement, clay

as above
fsp → clay, minor calcite veinlets (1/4 (mm) with FeOx selvages, calcite with acicular crystals on fracture surfaces

mylonite on 60° fracture at 28'
also calcite, clay, MnO

8 cm qz vein at 31'

Schist (SCP)
dk gry, thinly bedded, slightly graphitic, foliated, irregular shaped qz/fsp boudins up to 15 mm
clayey FeOx on fracture surfaces
also calcite

minor carbonate veinlets parallel to foliation

Metafelsite (SF)
m gry, gradational change from SCP (difficult to distinguish units)

minor FeOx coated calcite veinlets parallel to foliation and crosscutting

FT.: 10, 20, 30, 40, 50

GRAPHIC LOG: 50, 45, 55, 50, 50, 55, 40

MINERALIZATION

FeOx on fracture surfaces
no sulfides noted

dendritic MnO on fractures
limonite stained clay

FeOx selvages on calcite veinlets

FeOx stn, no sulfides noted

RECOVERY

Run	Run length	Core	%
– 5.1	5.1	1.4	27
5.1 – 8.5	3.4	2.9	85
8.5 – 12.2	3.7	1.5	41
12.2 – 14.2	2.0	1.2	60
14.2 – 15.0 / 16.0	1.8	1.6	89
16.0 – 19.2	3.2	0	0
19.2 – 24.0	4.8	3.1	66
24.0 – 27.1	3.1	3.0	97
27.1 – 29.3	2.2	2.0	91
29.3 – 29.8	0.5	0.5	100
29.8 – 33.3	3.5	3.4	97
33.3 – 36.4	3.1	3.0	97
36.4 – 38.9	2.5	2.5	100
38.9 – 40.9	2.0	1.8	90
40.9 – 45.1	4.2	4.1	98
45.1 – 49.0	3.9	3.5	90
49.0 –	1.5	0.5	33

ANALYTICAL

Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu (percent)	Pb (percent)	Zn (percent)
12626	5.1-8.5	.016	ND	ND	.01	.014
12627	24.0-27.1	ND	ND	ND	.008	.013
12628	33.3-36.4	ND	ND	ND	ND	.003

BOX: 1, 2, 3, 4

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Metafelsite (SF) med gry, fine grained, foliated, lacks biotite and qz eyes, as above				51.5	1.1	1.1	100								
			minor FeOx on fracture surfaces and on calcite veinlets	52.6	0.9	0.7	78								
				53.5	2.3	1.7	74	12629	53.5-55.8	ND	ND	ND	ND	.006	
		75		55.8	0.9	0.7	78								5
	60			56.7	3.6	3.1	86								
calcite veinlets up to 1 cm thick				60.3	0.8	0.8	100								
				61.1	0.7	0.7	100								
				61.8	0.9	0.6	67								
		55		62.7	1.7	0.9	53								
		55		64.4	1.7	1.3	76								6
minor qz veinlets some powdery carbonate on fractures			qz vein is FeOx stained	66.1	1.9	1.9	100								
	70			68.0	2.9	2.9	100	12630	69.0-70.9	ND	ND	ND	.006	.013	
				70.9	1.9	1.9	100								
				72.8	0.2	0.2	100								
		50		73.0	2.1	2.1	100								
				75.1	1.0	1.0	100								7
				76.1	0.5	0	0								
				76.6	2.2	2.2	100								
	80			78.8	1.3	0.5	38								
qz veinlets with FeOx stained clay on fracture surfaces, up to 3 cm thick, cavities in veins			FeOx stn no sulfides noted	80.1	1.0	1.0	100								
				81.1	1.4	0.5	36								
				82.5	0.9	0.9	100	~~12631~~	~~82.5-83.4~~	~~ND~~	~~ND~~	~~.002~~	~~.002~~	~~.004~~	
				83.4	3.2	3.2	100								8
				86.6	1.4	1.1	79								
Metafelsite (SF) as above, mylonitized fracture surfaces, fractured qz and calcite veinlets, FeOx stained unconsolidated matrix	90	42		88.0	2.0	1.6	80								
				90.0	1.7	1.0	59								
breccia near contact				91.7	1.4	1.2	80								
				93.1	1.5	1.2	80								
				94.6	0.7	0.5	71								9
Calcite vein pure, well lithified, good cleavages, tr solution cavities			no mineralization, v. sl limonite staining in places	95.3	3.3	3.1	94	12632	95.3-97.0	ND	ND	ND	ND	ND	
	100			98.6	1.6	1.6	100								
Metafelsite (SF) m gry, foliated, as above minor lim stained qz veinlets, limonitic clay on fracture surfaces		35		100.2	6.8	5.8	85								10
veinlets have FeOx selvages				107.0	1.5	1.4	93								
				108.5	0.5	0.3	60								
	110			109.0	1.5	1.0	67								
SF is more strongly fractured than the veins				110.5	0.7	0.3	43								
				111.2	1.8	1.3	72								
		55		113.0	0.9	0.5	55								
up to 3% disseminated fsp porphyroblasts		25		113.9	3.7	0.4	11								11
				117.6	1.4	1.0	71								
	120			119.0				12633	119.0-120.3	ND	ND	ND	.008	.022	

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION
Metafelsite (SF) m gry, 2% fsp porphyroblasts, fine grained, foliated, minor calcite veinlets		FeOx staining on fractures
128' limonite selvage on qz veinlets cnt @ 55°		a couple of very small py(?) grains on breccia fragments
brecciated: 128-135' 70% calcite + quartz cement, clasts to 5 mm, cross cutting calcite veinlets, many small voids,	130	lim staining
POOR RECOVERY	140	
	150	
clayey gouge with qz frags 157-158'		lim stn
lim clay at 160		
some mylonitization of fracture surfaces on fragments of metafelsite	160	no sulfides noted
Metafelsite (SF) m gry, discontinuous fsp/qz segregations, thin Fe-stained calcite veinlets		some pervasive FeOx staining
169' minor qz and carbonate veinlets cnt. est @ 65°		strongly FeOx stained zone 166-169', orange to red
Graphitic schist (SG) foliated, discontinuous qz veinlets, weak fsp → cal + clay, thin laminations	170	v. sl tr py(?)
vuggy qz vein with FeOx at 177'		thin wisp of metallic mineral in qz vein, H3, gry streak, could be Sb or tet
Graphitic schist (SG) as above	180	sl tr py
FeOx stained qz veinlet parallel to foliation	190	

GRAPHIC LOG: 45, 50, 50, 75, 65, 60

RECOVERY			
Run	Run length	Core	%
120.3	1.3	1.0	77
	2.1	1.1	52
122.4	0.4	0.3	75
122.8	1.1	0.7	64
123.9	2.3	0.7	30
126.2	0.8	0.3	38
127.0	0.8	0	0
127.8	0.4	0.4	100
128.2	0.8	0.7	88
129.0	0.3	0.3	100
129.3	1.7	0.8	47
132.0	3.0	0.1	3
135.0	3.0	0.5	17
138.0	3.1	0.3	10
141.1	4.9	0.1	2
146.0	1.7	0	0
147.7	2.3	0	0
150.0	3.0	0.2	7
153.0	1.6	0	0
154.6	1.6	0.1	6
156.2	1.6	0.2	13
157.8	1.6	0.6	38
159.4	0.3	0.3	100
159.7	0.8	0.4	50
160.5	0.6	0.5	83
161.1	1.0	0.6	60
162.1	0.4	0.4	100
162.5	1.0	0.5	50
163.5	1.7	1.6	94
165.2	0.3	0.3	100
165.5	1.5	1.5	100
167.0	2.0	2.0	100
169.0	0.8	0.8	100
169.8	1.8	1.8	100
171.6	0.9	0.9	100
172.5	2.3	1.6	70
174.8	1.6	1.2	75
175.4	0.6	0.6	100
176.0	0.5	0.5	100
176.5	1.9	1.9	100
178.4	0.9	0.9	100
179.3	2.0	1.8	90
181.3	0.7	0.7	100
182.0	2.0	2.0	100
184.0	1.4	1.3	93
185.4	0.4	0.4	100
185.8	4.8	4.8	100

ANALYTICAL						
Sample	Interval	Au	Ag	Cu	Pb	Zn
12634	128.2-129.0	.014	ND	ND	ND	ND
12635	138.0-141.1	ND	ND	ND	ND	ND
12636	159.4-162.5	.005	ND	.002	.002	.005
12637	167.0-169.0	.028	ND	ND	.004	.008
12638	176.5-178.4	ND	ND	.006	.006	.016

BOX: 12, 13, 14, 15

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Graphitic schist (SG) black, foliated, principal cleavage along foliation, minor lim stained qz veinlets		62		190.6											
					4.7	4.0	85								16
			sl tr py	194.7 195.2	0.5	0.5	100								
lim coating on fracture surfaces								12639	195.2-197.5	ND	ND	.006	.004	.012	
	200				7.8	7.8	100								17
fissile															
		75	sl tr py	203.0 203.8	0.8	0.7	88								
					7.0	6.9	99								18
	210			210.8											
as above			tr+ py. increasing py, glomeroporphyric framboidal py up to 3 mm, conforms to foliation		2.6	2.5	96								
				213.4											
			up to 2% py		5.4	5.4	100	12640	215.4-218.8	ND	ND	.004	ND	.013	
poorly lithified at 217'															19
	220	60		218.8											
					3.1	3.1	100								
Graphitic schist (SG) as above		60		221.9											
					1.4	1.0	71								
				223.3											
			tr to 1% py												
					5.6	4.8	86								
gouge zone at 229'				228.9											20
	230				1.7	1.7	100								
								12641	228.9-231.6	ND	ND	.004	ND	.013	
				231.6 232.6	1.0	0.9	90								
		67													
Graphitic schist (SG) as above					8.4	8.4	100								
	240														21
								12642	238.0-241.0	ND	ND	.006	ND	.012	
			up to 5% py	241.0											
				242.2	1.2	1.0	83								
		58		244.8	2.6	2.6	100								
			1% py		2.2	1.2	55								
		58		247.0											
	250				5.2	4.9	94								22
qz vein 5 cm thick slight FeOx staining		65		252.2											
			no py in qz veinlets slight FeOx staining					12643	252.2-254.0	ND	ND	.006	.002	.014	
		47			6.0	6.0	100								
			tr+ to 2% py												23
contact at 260' - bleached zone no evidence of movement		0		258.2											
	260		8 cm of FeOx stn at contact					12644	258.2-261.2	ND	ND	ND	.004	.012	

LITHOLOGY; ALTERATION, MISC.

Metafelsite (SFQ)

m gry, foliated, a few very thin (<1mm) calcite layers parallel to foliation, 1%+ augen qz eyes

at least 2 stages of qz veining at 267'
mylonitized fracture surfaces at 268'

gouge at 274-275'
some vein qz

minor carbonate on some fracture surfaces

FT.

270

280

GRAPHIC LOG

40

60

60

EOH

MINERALIZATION

tr py near contact

FeOx on fracture surfaces

lim staining, no sulfides noted

RECOVERY

Run	Run length	Core	%
	3.0	2.7	90
261.2			
	2.8	2.8	100
264.0			
	2.0	2.0	100
266.0			
	1.8	1.8	100
267.8			
	2.2	1.8	82
270.0			
	0.5	0.5	100
270.5			
	1.5	1.1	100
272.0			
	2.0	1.8	90
274.0			
	1.2	1.1	92
275.2			
	2.5	2.4	96
277.7			
	1.3	1.3	100
279.0			
	1.0	0.8	80
280.0			
	1.9	1.9	100
281.9			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
12645	264.0-266.0					
12646	274.0-275.5					
12647	279.0-280.0					

BOX

24

25

26

DIAMOND DRILL HOLE LOG

Company U. S. BUREAU OF MINES

Property: Iron Gulch	Hole No.: K-8
Location: Kantishna	Bearing at Collar: N 45° W
	Inclination at Collar: -50
Coord. - Collar N: 3 488 364. 41	
E: 348 963. 49	Length: 182.7'
Elev. - Collar: 2464.6	Core Size: BW44 - IAX
Date started: 8/5/83	
Completed: 8/8/83	Logged by: CHC

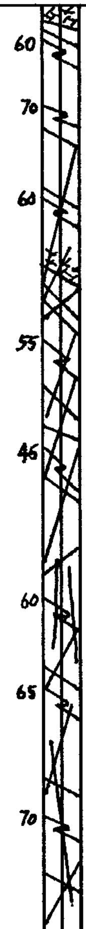
LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.
Metafelsite (SF) med gry, fine grained to very fine grained, foliated thin fsp/qz laminations, chloritic, tr qz boudins, fracture surfaces are limonite stained, clayey and oxidized 3.0-8.5'	
limonite selvages on qz veinlets	10
fractured: 13.4-15.0'	
2 cm qz vein at 17.5' conformable with 50° foliation slight offsets	
Metafelsite (SFQ) as above, with 5% qz eyes	20
FeOx stained $CaCO_3$ on fractures	
pronounced 0-5° fracture 131-133'	30
Metafelsite (SFQ) m gry, very fine to fine grained, foliated, minor qz veinlets parallel to foliation	
	40
cross cutting veinlets with limonite selvages	
	50

GRAPHIC LOG

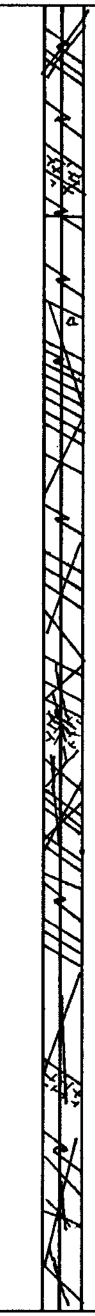


MINERALIZATION
tr py in vein qz at 2.0' FeOx stain
sl tr v. fine py
FeOx on fracture surfaces
lim + goe on fractures
tr + py subhedral to euhedral accumulations up to 2 mm
one very small grain of Au on surface of core
lim and hem on fracture surfaces
hematite on fractures tr py
tr py

RECOVERY			
Run	Run length	Core	%
	8.3	4.2	51
8.3	4.9	4.9	100
13.2 - 13.4	0.2	0.2	100
	5.4	5.4	100
18.8	4.0	3.7	93
22.8 - 23.7	0.9	0.8	89
	5.0	5.0	100
28.7	3.5	3.4	97
32.2 - 34.0	1.8	1.8	100
	4.2	4.2	100
38.2	3.0	2.7	90
41.2 - 42.3	1.1	1.1	100
	5.1	5.1	100
47.4	2.9	2.9	100

ANALYTICAL		oz/ton		ppm		
Sample	Interval	Au	Ag	Cu	Pb	Zn
12648	18.8-22.8	.003	ND	5	10	20
12649	26.0-28.7	ND	ND	10	ND	30
12650	34.0-38.2	ND	.12	10	10	25
12651	46.4-47.4	ND	ND	ND	ND	30

BOX: 1, 2, 3, 4, 5



LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Metafelsite (SFQ) fewer qz eyes than above, m gry, fine grained, limonitic carbonate selvages on qz veinlets, principal fracture in foliation plane		FeOx	50.5											
				7.2	7.2	100								
		no sulfides noted												6
clay on fracture surfaces at 57.6' with $CaCO_3$	60	v. sl tr py	57.7	2.1	1.9	90	12652	56.7-58.7	.001	ND	ND	ND	35	
			59.8											
				6.7	6.7	100								
qz vein 5 cm thick brecciated and recemented														7
			66.5	1.7	1.7	100								
		silver metallic on fracture surfaces, probably from drill rod	68.2	0.6	0.6	100	12653	66.5-70.0	.001	ND	ND	10	40	
	70		68.8											
			70.0	1.2	1.2	100								
Metafelsite (SF) distinct foliation laminations, qz veining 170-173'		FeOx (orng-red-brn) on fractures												
							12654	71.0-74.0	ND	.006	15	10	40	
		more drill pipe contamination		7.8	7.8	100								8
Metafelsite (SFQ) as above with conspicuous qz eyes														
			77.8											
		FeOx stain		2.2	2.2	100								
thin graphitic layers 80-81' slickensides on some surfaces	80		80.0											
							12655	80.0-82.0	ND	ND	10	5	30	
				7.0	7.0	100								
														9
			87.0											
				1.8	1.7	94								
Metafelsite (SF) distinct segregations of felsic and mafic minerals, m gry, fine grained, schistose	90	FeOx on fractures sl tr py	88.8											
				4.7	4.7	100								10
calcite veinlets up to 15 mm thick, minor qz in veinlets			93.5											
				2.3	2.1	91								
			95.8											
				4.5	2.5	56	12656	97.5-98.5	ND	.012	40	10	25	
kink banding Graphitic Phyllite (SG) with vein quartz	100	1% py parallel to foliation												
			100.3											
				3.7	3.1	84								11
Metafelsite (SF) upper 2 feet are almost SCP with gradational change to more siliceous unit, m grn-gry to gry		tr py dissem and on fractures												
			104.0											
				3.0	3.0	100								
slight amt calcite on some fractures			107.0											
			108.4	1.4	1.4	100								
faint slicks on some foliation fractures with slight mylonitization	110													12
				3.5	3.5	100								
			111.9											
				3.1	3.1	100								
			115.0											
as above m lt. gry		up to 2% py in foliation and in cross cutting fractures					12657	115.0-120.0	ND	.012	30	15	700	13
carbonate on fracture surfaces	120			6.6	6.2	94								

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
m gry, fine grained, foliated, conspicuous qz eyes, tr calcite on some fractures, sulfur(?) on fractures
drusy qz veinlet 125'

rock looks slightly propylitized

132.5' slickensides on some fracture surfaces
slicks @ 70°

Vein quartz
some brecciation and recementing, argillic alteration of fsp in SFQ, some of the clay is talc-like

Metafelsite (SF)
brecciated, as above with fewer qz eyes

Milky white vein - dolo/chalcedony
banded, vuggy, fractured, slight effervescence, H 4-7

Metafelsite (SF)
154.8' talc-like clay on fracture surfaces, as above

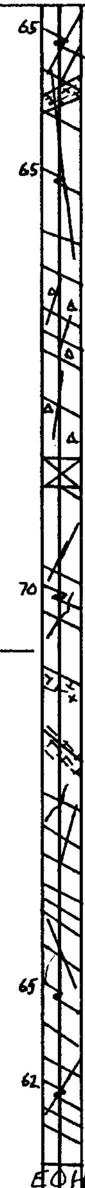
gradational change to black
Graphitic Schist (SG)

gradational change to
Chlorite Phyllite (SCP)
foliated and schistose, minor qz veinlets

FT.

130, 140, 150, 160, 170, 180

GRAPHIC LOG



MINERALIZATION

tr to 1% py
on fractures, euhedral xtals
some py → FeOx

py veinlet cross-cutting qz

tr+ py

tr+ py
minor FeOx

tr Sb and yel/red/orng oxides, tr-1% py, tr ap

no py or FeOx in this vein

tr+ py

tr to 1% py

tr+ py

sl tr py

no sulfides noted

RECOVERY

Run	Run length	Core	%
121.6	1.5	1.5	100
123.1	7.7	7.4	96
130.6	1.9	1.9	100
132.5	4.8	4.8	100
137.3	2.0	1.7	85
139.3	5.1	4.6	90
144.4	1.1	0	0
145.5	0.8	0	0
146.3	3.5	3.5	100
149.8	1.0	0.9	90
150.8	2.3	1.7	74
153.1	1.7	1.7	100
154.8	4.6	4.6	100
159.4	0.8	0.7	88
160.2	1.6	1.5	94
161.8	2.8	2.7	96
164.6	2.7	2.7	100
167.3	1.1	1.1	100
168.4	0.2	0.2	100
168.6	2.8	2.5	89
171.4	2.2	2.2	100
173.6	2.7	2.5	93
176.3	1.2	1.0	83
177.5	5.2	4.8	92
182.7			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
12658	123.1-130.0	ND	.018	25	5	95
12665	132.5-134.5	.011	.026	45	ND	245
12659	134.5-137.0	.009	.012	15	5	15
12666	137.0-139.3	.007	.012	10	10	20
12660	139.3-144.4	.009	.047	15	40	35
12661	147.0-150.0	.294	.276	10	ND	5
12667	150.0-154.8	.012	.026	20	ND	75
12662	154.8-159.4	.002	.024	15	ND	45
12668	159.4-164.6	ND	.012	10	ND	10
12663	164.6-167.3	.002	ND	20	15	30
12664	168.4-171.4	ND	ND	10	15	25

BOX

14, 15, 16, 17, 18, 19, 20

DIAMOND DRILL HOLE LOG

Company: U.S. BUREAU OF MINES

Property: Iron Gulch	Hole No.: K-9
Location: Kantishna	Bearing at Collar: N45°W
	Inclination at Collar: -50°
Coord. - Collar N: 3 488 739.69	
E: 349 331.71	Length: 244′
Elev. - Collar: 2567.6	Core Size: BW44
Date started: 8/9/83	
Completed: 8/11/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
dk gry, fine grained, qz-fsp-mica schist, qz eyes, upper 10′ of hole are clayey and limonite stained

minor calcite veinlets and calcite on fracture surfaces

principal fracture follows foliation

Metafelsite (SFQ)
as above, with a few thin (1-5 mm) graphitic layers

fct. zone @ 33.5′

Vein quartz/dolo
fractured, botryoidal and banded above 35′, limonite stained chalcedony coating fracture surfaces, tr calcite

[DRILLERS SUSPECT THAT THEY DRILLED THROUGH UNDERGROUND WORKINGS but there is no surface evidence]

FT.

10, 20, 30, 40, 50

GRAPHIC LOG

70, 70, 70, 65, 70

MINERALIZATION

tr py → lim

lim on fracture surfaces
no sulfides noted

orng-brn FeOx stain

FeOx stained calcite veinlets
lim/hem pseudomorphs of py on one fracture

tr py on fracture surfaces, sl tr ap, lim, hem, spec

RECOVERY

Run	Run length	Core	%
	6.9	2.1	30
6.9	2.8	2.7	96
9.7	4.9	4.3	88
14.6	0.4	0.4	100
15.0	0.2	0.2	100
15.2	8.3	7.8	94
23.5	0.4	0.4	100
23.9	1.3	1.1	85
25.2	3.3	3.1	94
28.5	5.0	5.0	100
33.5	1.0	1.0	100
34.5	2.8	0.5	18
37.3	0.9	0.5	56
38.2	0.9	0.6	67
39.1	1.7	0.5	29
41.8	1.7	0.2	12
43.5	5.0	0	0
48.5	0.5	0.1	20
49.0			

ANALYTICAL

Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu (percent)	Pb (percent)	Zn (percent)
12669	9.7-14.6	ND	ND	ND	ND	.005
12670	25.2-28.5	.005	ND	ND	ND	.005
12671	31.5-33.5	ND	ND	.002	ND	.006
12672	33.5-34.5	.061	ND	ND	.002	ND
12673	34.5-43.5	.130	ND	ND	ND	.003

BOX

1, 2, 3, 4

LITHOLOGY, ALTERATION, MISC.

Calcite Breccia -
pervasive FeOx staining; clasts are SFQ, qz, and calcite; cement is calcite and limonite

clay gouge @ 57.5'

Metafelsite (SF)
dk gry, fine grained, foliated, principal fracture along foliation, minor calcite veinlets and calcite on fracture surfaces, rock is siliceous in places

fsp → clay
spotty fsp porphyroblasts

FeOx stained carbonate-rich gouge with a few vein quartz fragments

Metafelsite (SF)
dk gry, slightly less feldspathic than above
fragments of fsp (→ clay) in qz veinlets

Dolo/chalcedony Breccia
lim stained with some botryoidal features, lots of calcite cement, some slicks

Metafelsite (SF)
dk gry, as above, thin (< 1 mm) calcite layers in foliation, also crosscutting calcite veinlets

Metafelsite (SF)
increasing amt of qz, ½% qz eyes, propylitic alteration marginal to qz vein

FT.

60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG

70, 70, 50, 70, 65, 65, 65

MINERALIZATION

pervasive FeOx
no sulfides noted

sl tr py along foliation and fractures

sl tr py

FeOx staining, no sulfides noted

v. sl tr py

2% py on fracture at 91'.

FeOx (lim, goe)

sl tr v. fine py
subhedral to euhedral, unoxidized except on fracture surfaces

FeOx on fractures
sl tr py

RECOVERY

Run	Run length	Core	%
52.0	3.0	0	0
56.9	4.9	4.1	84
57.5	0.6	0.5	83
60.3	2.8	1.5	54
62.9	2.6	2.0	77
64.8	1.9	0.7	37
67.0	2.2	0.7	32
68.5	1.5	1.4	93
70.2	1.7	0.3	18
73.8	3.6	0.2	6
74.0	0.2	0	0
74.8	0.8	0	0
75.6	0.8	0.8	100
76.1	0.5	0.5	100
76.9	0.8	0.7	88
80.7	3.8	3.8	100
81.9	1.2	0.3	25
84.1	2.2	1.3	59
87.0	2.9	2.7	93
87.8	0.8	0.8	100
90.7	2.9	2.7	93
93.5	2.8	2.6	93
96.5	3.0	3.0	100
96.9	0.4	0.4	100
98.3	1.4	1.4	100
103.5	5.2	4.0	77
107.0	3.5	3.4	97
107.3	0.3	0.3	100
115.0	7.7	7.6	99
116.5	1.5	1.4	93
	4.6	4.6	100

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
12674	52.0-56.9	.006	ND	ND	ND	.002
12675	56.9-60.3	ND	ND	.002	ND	.003
12676	64.8-68.5	.005	ND	ND	ND	.002
12677	76.9-80.7	ND	ND	ND	.002	.004
12678	90.7-93.5	ND	ND	.002	ND	ND
12679	93.5-96.5	.012	ND	ND	.002	ND
12680	96.5-98.3	ND	ND	ND	.004	.003
12681	103.5-107.0	ND	ND	ND	.004	.008
12682	116.5-121.1	ND	ND	.002	.002	.005

BOX

4, 5, 6, 7, 8, 9, 10

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
as above but more feldspathic and has >1% qz eyes, prop. alteration near qz veins at 120'
calcite veinlets parallel to and cross-cutting foliation

Metafelsite (SF)
fewer qz eyes than above, m gry, lots of small carbonate veinlets, occasional minor qz veinlets

thin (<2 mm) propylitized envelopes around qz vein at 140'

Metafelsite (SF)
as above, m gry to grn gry, gradual increase in chlorite

a few thin (<1 mm) carbonaceous schist stringers in the metafelsite

Metafelsite (SF)
as above

qz cemented breccia with small amount of clayey gouge

FT.

130, 140, 150, 160, 170, 180, 190

GRAPHIC LOG

70, 60, 65, 65, 65, 65, 60, 60, 60, 60

MINERALIZATION

tr py and gn(?)
tiny silver cubes on fractures in qz
FeOx on fractures
up to 1% py on fracture surface
sl tr FeOx

tr py v. fine, euhedral

sl tr v fine py

no py noted
FeOx on fractures

no sulfides noted

strongly oxidized fracture lim, hem, goe

RECOVERY

Run	Run length	Core	%
121.1–123.9	2.8	2.5	89
123.9–125.9	2.0	1.9	95
125.9–132.9	7.0	7.0	100
132.9–135.0	2.1	2.0	95
135.0–137.5	2.5	2.1	84
137.5–140.3	2.8	2.8	100
140.3–144.8	4.5	4.3	95
144.8–145.5	0.7	0.7	100
145.5–147.5	2.0	2.0	100
147.5–151.0	2.5	2.5	100
151.0–153.9	2.9	2.6	90
153.9–156.8	2.9	2.9	100
156.8–163.2	6.4	6.1	95
163.2–165.9	2.7	2.7	100
165.9–170.3	4.4	4.3	98
170.3–171.1	0.8	0.7	88
171.1–172.4	1.3	1.3	100
172.4–179.1	6.5	6.5	100
179.1–182.0	0.9	0.9	100
182.0–188.0	6.0	6.0	100
188.0–	3.3	3.2	97

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
12683	137.5-140.3	ND	ND	.004	ND	.006
12684	151.0-153.9	ND	ND	.002	ND	.007
12685	172.4-179.1	ND	ND	ND	ND	.006

BOX

11, 12, 13, 14, 15, 16, 17

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Metafelsite (SF) m gry, fine grained, foliated		60	tr py on fractures	191.3 191.9	0.6	0.6	100								
					4.6	4.6	100								
vein qz with some calcite cement, brecciated, vuggy, chalcedony banding			up to 1% py on some surfaces, but most of the vein is barren, tr ap	196.5				12686	196.0-197.0	ND	ND	.002	ND	.006	18
								12687	197.0-198.0	ND	ND	ND	ND	ND	
	200				4.4	4.1	93								
								12688	198.0-200.9	ND	ND	.004	ND	.007	
				200.9											
gradational change to Chlorite Phyllite (SCP) as above, metamorphic segregations of calcite, m gry to grn-gry, chlorite-rich, some minor qz veinlets along foliation planes, < 1% thin graphitic interbeds					2.7	2.5	93								
				203.6											
		65	no sulfides noted no FeOx		5.1	4.3	84								19
siliceous in places	210			208.7											
			sl tr py		3.0	2.5	83								
		70		211.7											
					5.9	5.5	93	12689	211.7-217.6	ND	ND	.004	ND	.006	
			no sulfides noted												
				217.6	3.2	3.1	97								20
spotty grn mineral in aggregates up to 2 mm, looks acicular, could be actinolite	220	70													
				220.8 221.5	0.7	0.7	100								
					6.3	5.6	89								
			v. sl tr py												
gradational change to Metafelsite (SF) contains more fsp and is more siliceous than SCP	230	70	sl tr py	227.8	3.9	3.9	100								21
				231.7	2.6	2.3	88	12690	231.7-234.3	ND	ND	.006	.004	.012	
				234.3											
	240				8.2	7.2	88								22
black fracture coating 243-244' carbonaceous		62	tr - 2% py, tr ap along fractures and foliation	242.5											
				244.0	1.5	1.5	100	12691	243.0-244.0	.012	ND	.004	.004	.003	23
		EOH													

DIAMOND DRILL HOLE LOG

Company U. S. BUREAU OF MINES

Property: Iron Gulch	Hole No.: K-10
Location: Kantishna	Bearing at Collar: N45°W
	Inclination at Collar: -75°
Coord. - Collar N: 3 488 739.69	
E: 349 331.71	Length: 103.0'
Elev. - Collar: 2567.6	Core Size: BW44 - IAX
Date started: 8/11/83	
Completed: 8/12/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Metafelsite (SFQ) chips with fragments of clear vitreous vein qz, conspicuous qz eyes, oxidized and fractured, foliated, m dk gry			FeOx on fracture surfaces, no sulfides noted
	10		sl tr py
		65	well oxidized
tr white clay in fracture at 16'		65	tr py, tarnished euhedral cubes and casts
	20	65	
Vein 24.5' light tan, mostly dolo or ank, 30% chalcedony, colloform layering, botryoidal features, fractured, calcite in veinlets and as crystals in vugs			FeOx stn on fractures
Metafelsite (SFQ) as above slicks at 30'	30		no sulfides noted
Vein as at 24-27, brecciation, clasts of SFQ up to 4 cm, calcite xtals in vugs			FeOx stn
			sl tr py
	40	70	
Graphitic Phyllite (SG) 41-42' fractured, fissile, small amt of gauge			sl FeOx, tr py
Metafelsite (SFQ), as above			
Vein more dolo/cal/qz/cal as at 24-27 irregular contact with vitreous vein qz at 49.5'			FeOx on fractures limonite rosettes
	50		tr py in vein qz

RECOVERY			
Run	Run length	Core	%
	10.0	2.4	24
10.0	2.0	1.6	80
12.0	4.7	4.7	100
16.7	0.6	0.6	100
17.3	5.0	5.0	100
22.3	3.2	3.1	97
25.5	7.3	7.0	96
32.8	2.3	2.2	96
35.1	7.1	7.1	100
42.2	0.8	0.8	100
43.0	8.2	7.3	89

ANALYTICAL		oz/ton		percent		
Sample	Interval	Au	Ag	Cu	Pb	Zn
12692	10.0-12.0	ND	ND	ND	ND	.005
12693	20.0-22.5	ND	ND	ND	.002	.003
12694	22.5-27.0	.008	ND	ND	.004	ND
12695	27.0-32.8	ND	ND	ND	.002	.002
12696	32.8-35.1	ND	ND	ND	ND	ND
12697	35.1-37.0	ND	ND	ND	ND	ND
12698	40.5-42.2	ND	ND	ND	ND	.005
12699	42.2-46.0	ND	ND	.002	.004	.006
12700	[illegible]3.0-49.3	ND	ND	ND	.002	ND

BOX: 1, 2, 3, 4, 5

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SF)
m dk gry, fine grained, foliated, qz veinlets, siliceous with red tinge
Dolo/qz Vein at 53.0-54.5, travertine-like banding

thin clayey gouge zone (3 cm) at 62.6'

dolo/qz veins comprise 70° of core between 65-68', banded, brecciated, calcite xtals in open spaces and calcite on fractures

fractured with gouge at 69' and 69.5'

white clay on some fractures

Metafelsite (SF)
m gry to light grn-gry, 3% fsp porphyroblasts, foliated, tr qz eyes, some of the core between 76' and 85' has a slight pink color (hem?), dendritic pyrolusite on fractures

Dolo/qz Vein
as at 53.0-54.5, brecciated

Metafelsite (SF)
as above, dk gry, micaceous to siliceous

gouge at 95.5

FT.

60

70

80

90

100

GRAPHIC LOG

MINERALIZATION

FeOx (orange & red) on fractures
tr py

strongly oxidized (FeOx) fracture surfaces, red-brn to orng-brn py coatings on fcts, 2% py

vein qz is only slightly oxidized on fractures, tr py & ap

strong FeOx with tr py

faint lim stn in vein
no sulfides noted
strong oxidation with FeOx coatings on fractures (orange-brn)

tr py

tr py on fractures, FeOx coatings on fracture surfaces

tr py, sl tr ap

tr py, lim stained

RECOVERY

Run	Run length	Core	%
51.2			
53.0	1.8	0.6	33
54.5	1.5	1.5	100
56.3	1.9	1.7	89
59.1	2.8	2.8	100
60.5	1.4	1.4	100
61.0	0.5	0.5	100
62.7	1.7	1.7	100
63.3	0.6	0.5	83
67.3	4.0	3.9	98
67.8	0.5	0.5	100
69.3	1.5	1.5	100
71.8	2.5	1.8	72
72.8	1.0	0.8	32
74.0	1.2	0.3	25
75.8	1.8	1.8	100
77.3	1.5	1.5	100
77.4	1.1	0.1	100
82.1	4.7	4.7	100
83.9	1.8	1.8	100
88.6	4.7	4.7	100
91.4	2.8	2.6	93
93.4	2.0	2.0	100
100.0	6.6	6.6	100
103.0	3.0	2.2	73

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
13616	49.3-52.0	.023	ND	ND	ND	ND	
13617	55.5-59.0	.005	.02	.004	ND	.02	6
13618	59.0-60.0	.029	ND	ND	ND	.002	
13619	60.0-62.0	ND	ND	.002	ND	.073	
13620	63.3-65.5	.005	ND	ND	ND	.002	
13621	65.5-70.0	.008	ND	ND	ND	ND	7
13622	70.0-72.8	.005	ND	ND	ND	.004	
13623	77.4-82.1	ND	ND	ND	ND	ND	8
13624	83.9-86.0	ND	ND	.002	ND	ND	
13625	86.0-88.6	ND	ND	ND	ND	ND	
13626	88.6-91.4	ND	ND	ND	.002	.003	9
							10
13627	100.0-103.0	ND	ND	ND	ND	ND	11

DIAMOND DRILL HOLE LOG

Company: U. S. BUREAU OF MINES

Property: East Gold King	Hole No.: K-11
Location: Kantishna	Bearing at Collar: 55°E.
	Inclination at Collar: -60°
Coord. - Collar N: 3 489 167.62	
E: 348 035.49	Length: 146.8'
Elev. - Collar: 2900.7	Core Size: BW44 - IAX
Date started: 8/14/83	
Completed: 8/15/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	Run	Run length	Core	%	Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu (percent)	Pb (percent)	Zn (percent)	BOX
Metafelsite (SFQ) m gry, foliated, feldspathic qz-mica schist		orange FeOx		13.0	2.2	17								
	10													
SFQ dips more steeply near the contact may be drag folding, a few vitreous qz chips at contact			13.0	5.0	1.4	28								1
Graphitic Schist (SG) dk gry to blk, poorly lithified to 21', chloritic, lots of black clay	20	slight FeOx	18.0	1.4	1.4	100								
20-25': more lithified, fissile, ~4" of white clay at 22'		orange FeOx on some fractures, mostly unoxidized	20.6	4.7	3.8	81	13628	20.6-25.3	ND	ND	.004	ND	.010	
qz fragments intermixed with SG chips and mud at 26-27'		FeOx stained qz chips	25.3	4.0	4.0	100	13629	25.3-26.3	ND	ND	.012	.002	.021	
Graphitic Schist (SG) as above, clayey at 27-35', small folds in foliation	30	py → FeOx some pseudomorphs of lim after pyrite	29.3	2.7	2.4	89								
			32.0	3.0	1.2	40								2
			35.0	1.6	1.4	88								
			36.6	3.7	3.7	100								
	40		40.3	4.5	4.1	91								3
			44.8	1.2	1.1	92								
fractured 46-52'		FeOx on fracture surfaces	46.0	2.5	2.5	100	13630	46.0-48.5	ND	ND	.004	.002	.010	
	50		48.5											

LITHOLOGY, ALTERATION, MISC.

Graphitic Schist (SG)
black, fissile, foliated, major fracture along foliation plane

indistinct contact at 57.5 appears to be conformable with foliation

slicks at 59.3 with 3 mm of gouge on surface, 10° from axis

Metafelsite (SFQ)
fsp-qz-mica schist, m gry to grn gry, chloritic, fsp → clay, minor calcite and qz veinlets

Graphitic Schist (SG)
as above, can't see contacts, but both top and bottom of unit are clayey - may be fault gouge

Metafelsite (SFQ)
m gry, foliated, qz and fsp segregations (< 1 mm)

Graphitic Schist (SG)
black poorly lithified to 92'
qz/fsp segregations parallel to foliation (~1 mm), sl amt of calcite

contact at 103.2', 60° sharp
fractured qz and calcite

103.2 shp cnt @ 60°

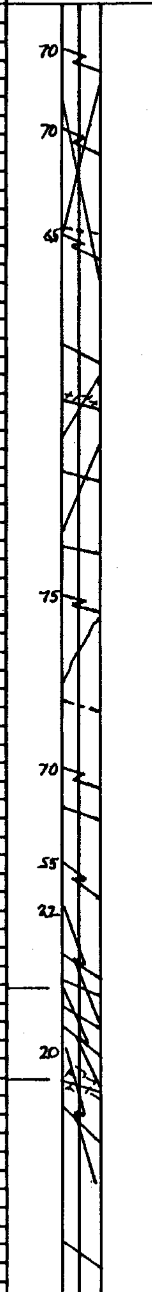
Metafelsite (SF)
m gry, foliated, cross cutting qz veinlets, micaceous, folded foliation planes
108 chlor → talc on some fracture surfaces
clayey fault gouge at 108'

Graphitic Schist (GS) with interbedded SPC
black, foliated, with qz lenses up to 4 cm thick, interbedded chlorite units

FT.

60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG



MINERALIZATION

FeOx (from py) on some fractures but most are unstained

FeOx stn

FeOx on fractures

very minor amts of FeOx

RECOVERY

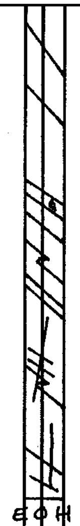
Run	Run length	Core	%
52.0	3.5	2.1	60
55.8	3.8	3.0	79
57.1	1.3	1.3	100
59.3	2.2	2.2	100
63.5	4.2	4.2	100
65.9	2.4	2.1	88
67.4	1.5	1.2	80
72.6	5.2	5.2	100
74.3	1.7	1.7	100
84.0	9.7	9.4	97
88.0	4.0	3.4	85
90.8	2.8	1.2	43
93.8	3.0	2.2	73
96.2	2.4	2.4	100
96.9	0.7	0.7	100
100.3	3.4	2.7	79
103.1	2.8	2.8	100
105.6	2.5	2.5	100
106.1	0.5	0.5	100
108.5	2.4	2.4	100
112.5	4.0	4.0	100
114.0	1.5	1.5	100
117.3	3.3	3.3	100
	5.1	5.1	100

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13631	57.1-59.3	ND	ND	.008	.004	.013
13632	67.4-70.5	ND	ND	.006	.004	.013
13633	70.5-72.6	ND	ND	.002	.004	.013
13634	84.0-88.0	ND	ND	ND	ND	.002
13635	88.0-93.8	ND	ND	.004	ND	.011
13636	100.3-103.2	ND	ND	.004	ND	.008
13637	103.2-108.5	ND	ND	ND	ND	.007
13638	108.5-111.0	ND	ND	.002	ND	.005
13639	111.0-114.0	ND	ND	.006	ND	.011

BOX

4, 5, 6, 7, 8, 9, 10

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Chlorite Phyllite (SCP) interfingers with SG, distinct small folds, calcite on fracture surfaces, qz segregations			lim selvage on qz vein at 222' FeOx (lim, hem, goe) on fracture surfaces	122.4–122.7	0.3	0.3	100								11
				122.7–127.7	5.0	5.0	100								
brecciated vein qz with SCP clasts	130			127.7–131.8	4.1	4.1	100	13640	127.7-131.8	ND	ND	.004	ND	.010	12
				131.8–136.2	4.4	4.4	100								
Graphitic schist (SG) interfingers with SCP foliated with qz and calcite segregations calcite on fracture surfaces	140			136.2–140.0	3.8	3.6	95								13
				140.0–141.8	1.8	1.8	100								
				141.8–146.8	5.0	5.0	100								14

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

Property: Jupiter-Mars	Hole No.: K-12
Location: Kantishna District	Bearing at Collar: N10W
	Inclination at Collar: -50°
Coord. - Collar N: 3491390.19	
E: 355923.59	Length: 304.8 feet
Elev. - Collar: 3299.2	Core Size: BW44
Date started: 8/11/83	
Completed: 8/19/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
[poor recovery in upper 8 feet of hole] m gry fsp-qz mica schist, foliation banding, micaceous on fracture surfaces, minor calcite on fractures and parallel to foliation, qz segregations up to 4.0 cm thick in foliation, thin crosscutting FeOx stained fractures and veinlets, chloritic layers are fissile, conspicuous qz eyes and fsp porphyroblasts (fsp → clay)

tr biotite $\xrightarrow{alt.}$ chlorite + FeOx

Metafelsite (SFQ)
as above with minor folds in the foliation

up to 5% fsp porphyroblasts

5 cm thick brecciated qz segregations at 41.1

Metafelsite (SFQ)
as above

FT.

10, 20, 30, 40, 50

GRAPHIC LOG

40, 40, 40, 32, 35, 30

MINERALIZATION

FeOx on fracture surfaces and slight pink tinge (hem) on some of the core

occasional slight trace of altered pyrite

FeOx on fractures (lim, hem, spec)

v. sl tr ap, euhedral, altered

FeOx on fractures
orange-brn, thin crust (< 0.1 mm), trace amts of sulfides (py + ap) are completely altered to lim, hem, and goe

FeOx on fractures
less intense than above

RECOVERY

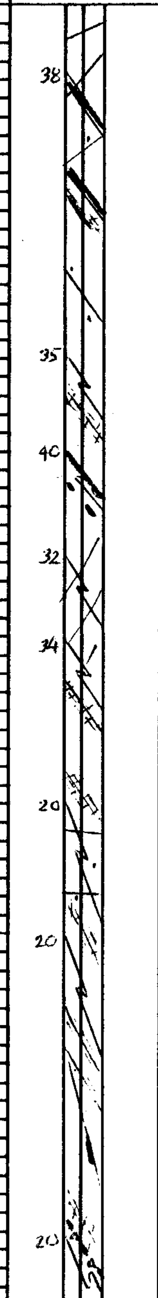
Run	Run length	Core	%
8.2	8.2	0.8	10
11.1	2.9	2.2	76
14.0	2.9	1.3	45
17.8	3.8	3.5	92
19.1	1.3	1.3	100
22.6	3.5	2.8	80
25.4	2.8	2.8	100
27.5	2.1	2.0	95
27.9	0.4	0.4	100
29.2	1.3	1.2	92
30.2	1.0	1.0	100
32.4	2.2	2.2	100
34.2	1.8	1.8	100
36.5	2.3	2.3	100
37.7	1.2	1.2	100
39.1	1.4	1.4	100
41.1	2.0	2.0	100
42.7	1.6	1.6	100
44.6	1.9	1.9	100
45.6	1.0	1.0	100
46.4	0.8	0.8	100
47.4	1.0	1.0	100
	5.3	4.8	91

ANALYTICAL (oz/ton, percent)

Sample	Interval	Au	Ag	Cu	Pb	Zn
13641	14.0-17.8	ND	ND	.002	.002	.004
13642	32.4-34.2	.012	ND	ND	ND	.005
13643	42.7-45.6	ND	ND	ND	ND	.021

BOX

1, 2, 3, 4

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Metafelsite (SFQ) m gry, fine grained, foliated, fsp/qz layers (~0.5 mm) in foliation with boudinage of porphyroblasts, major fracture crosscuts foliation, chlorite selvages on 5 mm qz veinlets (propylitic alteration), minor calcite, up to 7% fsp porphyroblasts (altering to clay)			orange-red-brn to yel-brn FeOx on fractures, also MnO
	60		intense FeOx stain on fractures
			sl tr tarnished py (→ FeOx)
Metafelsite (SFQ) as above but with grn-gry color	70		FeOx in minor fractures and as envelopes on qz veins
fsp → clay			hematite on fracture surfaces red-brn
	80		
Metafelsite (SFQ) m gry, fsp-qz-mica schist, chloritic, minor calcite on fractures			
fractured, moderate amounts of FeOx stained clay			intense FeOx on fractures
[small amount of metal shavings from drill pipe on core (non-magnetic)]	90		pervasive FeOx abun specularite + hem cement
4 cm of lt. grn-gry to lim yellow clayey gouge at 93'			
nearly vertical slicks at 98'			FeOx pseudomorphs after py (all py noted is altered)
	100		
tan FeOx stained gouge with chips of SFQ			
Metafelsite (SFQ) as above, m dk gry	110		
clayey fracture zone			FeOx on fractures
1 cm thick brecciated qz	120		

RECOVERY				ANALYTICAL							BOX
Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu	Pb	Zn	
52.7–54.9	2.2	2.2	100								5
54.9–57.0	2.1	1.6	76								
57.0–59.1	2.1	2.1	100								6
59.1–63.2	4.1	4.1	100	13644	59.1-63.2	ND	ND	ND	ND	.013	
63.2–66.0	2.8	2.8	100								
66.0–70.5	4.5	4.5	100								7
70.5–71.7	1.2	1.2	100								
71.7–72.0	0.3	0.2	67								
72.0–73.9	1.9	1.9	100								
73.9–78.9	5.0	5.0	100								8
78.9–80.5	1.6	1.5	94								
80.5–83.2	2.7	2.7	100								
83.2–88.3	5.1	5.1	100								9
88.3–89.7	1.4	1.2	86								
89.7–91.6	1.9	1.9	100	13645	88.3-91.6	.006	ND	ND	ND	.020	
91.6–93.9	2.3	2.3	100								
93.9–95.7	1.8	1.8	100								10
95.7–97.7	2.0	2.0	100								
97.7–98.0	0.3	0.3	100								
98.0–99.6	1.6	1.6	100								
99.6–102.5	2.9	2.9	100								
102.5–105.1	2.6	2.6	100								11
105.1–106.0	0.9	0.9	100	13646	104.5-107.0	ND	ND	.002	.002	.080	
106.0–107.0	1.0	1.0	100								
107.0–109.1	2.1	2.1	100	13647	107.0-109.1	ND	ND	ND	ND	.100	
109.1–114.0	4.9	4.9	100								12
114.0–116.9	2.9	2.9	100	13648	114.0-116.9	.009	ND	ND	ND	.110	
116.9–118.9	2.0	2.0	100								
118.9–	1.4	1.4	100	13649	116.9-122.3	.006	ND	ND	ND	.185	13

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
m gry to grn gry, fine grained, foliated, fsp-qz-mica schist, crosscutting Fe-stained veinlets of qz and calcite, qz veinlets up to 7.5 mm thick, slickensides at 122', 70° to core axis

fractured with mod. amt. clay

fracture zone - clayey, m dk gry to grn-gry, gouge 141'-142

Metafelsite (SFQ)
m dk gry, ~2% fsp porphyroblasts, foliated, minor qz and calcite veinlets crosscutting foliation, a few weathered out cavities in veinlets (dissolved $CaCO_3$?)

up to 7% white porphyroblasts (FeOx stained, cloudy, weathered) also tr amts of clear vitreous qz eyes

as above, with slight grn-gry tinge

vuggy, 3 cm thick qz veinlet, irregular, conforms to foliation.

minor (<1 mm) cross-cutting FeOx stained calcite veinlets

conformable 1 cm qz vein at 169.5', chlorite envelope (2 mm), slightly vuggy (weathered-out sulfides), fractured

irregular qz vein as above at 173'

Metafelsite (SFQ)
as above

FT.

130, 140, 150, 160, 170, 180, 190

GRAPHIC LOG

30, 32, 30, 26, 30, 30

MINERALIZATION

euhedral py $\xrightarrow{\text{alt.}}$ FeOx
lim and hem on fractures, black goe or MnO on some fractures, minor specularite

FeOx stained fractures

slight FeOx stain on gouge

FeOx on fractures
blk fracture coating (MnO or goe)
lim selvage on some veinlets, some dendritic MnO

FeOx on fractures, minor boxworks (py) in qz veinlet

FeOx stain, sl tr euhedral pseudomorphs of lim after py

FeOx stain

limonite stained calcite veinlets

tr py, FeOx stain

RECOVERY

Run	Run length	Core	%
120.3–122.3	2.0	1.9	95
122.3–123.8	1.5	1.5	100
123.8–124.7	0.9	0.9	100
124.7–127.7	3.0	3.0	100
127.7–129.4	1.7	1.7	100
129.4–130.0	0.6	0.6	100
130.0–131.0	1.0	1.0	100
131.0–133.8	2.8	2.8	100
133.8–135.6	1.8	1.8	100
135.6–137.4	1.8	1.4	78
137.4–138.4	1.0	1.0	100
138.4–139.5	1.1	1.1	100
139.5–141.2	1.7	1.7	100
141.2–144.1	2.9	2.9	100
144.1–146.8	2.7	2.7	100
146.8–149.1	2.3	2.2	96
149.1–153.9	4.8	4.8	100
153.9–155.8	1.9	1.8	95
155.8–157.0	1.2	1.2	100
157.0–160.8	3.8	3.8	100
160.8–163.4	2.6	2.6	100
163.4–164.9	1.5	1.4	93
164.9–166.0	1.1	1.1	100
166.0–171.0	5.0	5.0	100
171.0–174.0	3.0	3.0	100
174.0–178.0	4.0	3.8	95
178.0–183.7	5.7	5.6	98
183.7–188.1	4.4	4.4	100
188.1–	4.6	4.6	100

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13650	131.0-134.5	ND	ND	ND	ND	.240
13651	134.5-141.2	ND	ND	ND	ND	.275
13652	153.9-157.0	ND	ND	ND	.006	.305
13653	171.0-174.0	ND	ND	ND	ND	.140

BOX

14, 15, 16, 17, 18, 19, 20, 21

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Metafelsite (SFQ) m dk gry, conspicuous qz eyes, foliated, powdered calcite (strongly effervescent) on some fractures		30	FeOx on fractures lim, hem, goe and MnO
7 cm gouge zone at 196.6			
lots of undulations and minor folds in foliation	200	30	
fsp porphs → clay		26	qz with lim and sericite
Metafelsite (SFQ) foliated, fractured 210.5-213', chloritic and feldspathic layers, sl amt gouge at 111', minor qz veinlets with minor chlorite	210	60	sl tr oxidized py; FeOx stn on fractures (from py)
cnt. est @ 215'			
slickensides on fractures			ubiquitous FeOx staining, tr+ py (→ FeOx), tr ap
Quartz breccia >90% qz with qz and lim cement, clasts are angular to subrounded, sheared with minor cataclastic foliation, minor clay, sulfides altering to FeOx (lim, hem, and goe) and a pale yellow arsenic or antimony oxide, minor (undistinguishable) boxworks	220		tr py + ap, tr-2% tt or jm, tr gn, FeOx and As or Sb oxides, no Cu oxides; up to 3% v. dk gry, v. fine grained mineral, H3-5, yellow coating, can't see xtals, probably tt (ten) or jm; 224.7-225.3: 30% dk gry mineral, sl tr py
breccia with FeOx and light yellow As-Sb oxide cement, well sheared with subrounded to subangular qz fragments, light grn-gry to FeOx stained clayey gouge	230		pervasive yellow oxide, trace amts of the above sulfides; sl tr sulfides: py, ap, gn(?), jm(?), tt(?) with yel, orange-brn, and purple-brn oxides; 2% sulfides (gn and jm or tt at 234.7'
Metafelsite (SFQ) strongly altered (fsp → clay), fractured with yellow gangue mineral (Sb or As oxide) coating fractures, foliated, fracture set at 70° crosscutting foliation, altered rock has an almost tuffaceous texture, clayey gouge (15 cm) at 243 256.8	240	54	pervasive pale yellow oxide (stibiconite?), sl tr sulfides; sl tr py, tt or jm, ap yellow oxides, minor orange-brn FeOx
Quartz breccia fractured, angular frags, clayey	250		
Quartz breccia fractured, FeOx and SiO_2 cement, yel and pale grn powdery coatings (Sb oxide and Cu(?) phos(?))		30	boxworks, goe, hem, lim, up to 1% tt or jm, tr py; up to 40% tt or jm at 255 tr gn, ap, py
Metafelsite (?) (SFQ?) brecciated, completely altered to FeOx	260		

RECOVERY

Run	Run length	Core	%
192.7			
193.8	1.1	1.1	100
	2.7	2.7	100
196.5	1.5	1.5	100
198.0			
	3.6	3.5	97
201.6	1.8	1.8	100
203.4	1.4	1.4	100
204.8			
	3.7	3.7	100
208.5	1.5	1.5	100
210.0	1.7	1.7	100
211.7	1.6	1.6	100
213.3	1.4	1.3	93
214.7			
	3.6	3.6	100
218.3			
	4.8	4.7	98
223.1	1.6	0.9	56
224.7			
	4.4	3.7	84
229.1			
	2.9	2.7	93
232.0			
	2.6	2.3	88
234.6			
	2.7	2.7	100
237.3	2.2	1.6	73
239.5			
	3.9	2.9	74
243.6	2.4	1.0	42
246.0			
	2.6	2.0	77
248.6			
	5.1	0	0
253.7	1.0	0	0
254.7	1.6	1.5	94
256.3	1.5	1.5	100
257.8	1.9	1.8	95
259.7			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13654	201.0-204.8	ND	ND	ND	.002	.120
13655	211.0-215.9	ND	ND	.006	.006	1.45
13656	215.9-218.0	.023	.26	.032	.520	3.55
13657	218.0-223.1	ND	ND	.045	.250	.315
13658	223.1-224.7	.007	.57	.072	.370	.058
13659	224.7-226.5	.063	7.31	.665	4.15	.965
13660	226.5-232.0	.022	.60	.048	.685	.099
13661	232.0-237.3	.019	.64	.170	1.05	.088
13662	237.3-243.6	.032	1.39	.100	2.25	.078
13663	243.6-248.6	.008	.78	.130	1.95	.062
13664	254.7-257.1	.050	ND	.250	.05	.076

BOX: 22, 23, 24, 25, 26, 27

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
altered, lim & hem, fractured and brecciated, up to 20% qz, tr of extremely f. grained white sericite (or possibly clay), tr calcite, slicks at 264', from 268-270' clay is more yel and not as red-brn

267.8

several small clay zones from 270-278'

gradational change to less altered SFQ

Metafelsite (SFQ)
fsp-qz-mica schist, FeOx stained, thin (<1 mm) foliation laminations, chloritic slicks at 284' (40° from core axis), fsp → clay

slicks and small amt of gouge at 287.8'

Metafelsite (SF)
grn-gry, chloritic, lacks conspicuous qz eyes of above

fissile, fractured

vertical slicks

minor cross-cutting calcite veinlets and qz/cal veinlets

FT.

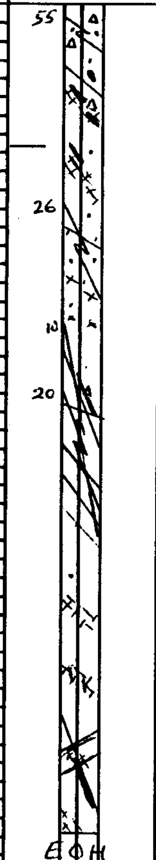
270

280

290

300

GRAPHIC LOG



MINERALIZATION

ubiquitous pervasive oxidation red brn, tr+ py → FeOx
sl tr ap, gn, lim (?)

FeOx stain, tr amts of sulfides (mostly pyrite)

FeOx, tr py, sl tr of plygmatic folded dk gry mineral (pho or tt)

FeOx stain (lim, goe, hem)

FeOx stn, v sl tr py

FeOx stn on fractures

RECOVERY

Run	Run length	Core	%
263.9	4.2	4.2	100
266.0	2.1	2.1	100
268.1	2.1	1.2	57
269.8	0.7	0.7	100
272.0	2.2	1.9	86
273.1	1.1	1.0	.91
277.9	4.8	1.1	23
279.7	1.8	1.8	100
281.3	1.6	1.5	94
284.8	3.5	3.5	100
287.8	3.0	2.9	97
290.5	2.7	2.7	100
293.9	3.4	3.4	100
296.5	2.6	2.6	100
299.4	2.9	2.9	100
300.8	1.4	1.4	100
304.8	4.0	4.0	100

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13665	257.1-263.7	.023	ND	.140	.130	3.00
13666	263.7-267.8	.017	ND	.051	.014	1.60
13667	267.8-273.1	ND	ND	.008	.004	.130
13668	273.1-277.9	ND	ND	.006	.008	.125
13669	277.9-281.3	ND	ND	.004	ND	.030
13670	281.3-287.8	ND	ND	.006	.004	.059
13671	287.8-293.4	ND	ND	.004	ND	.027
13672	293.9-299.4	ND	ND	.006	.002	.029
13673	299.4-304.8	ND	ND	.004	ND	.021

BOX

28

29

30

31

32

DIAMOND DRILL HOLE LOG

Company: U.S. BUREAU OF MINES

Property: White Hawk	Hole No.: K-13
Location: Kantishna	Bearing at Collar: N 55° W
	Inclination at Collar: -50°
Coord. - Collar N: 3 485 887	
E: 345 560	Length: 183.0'
Elev. - Collar: 2212'	Core Size: BW44 - IAX
Date started: 8/15/83	
Completed: 8/19/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Quartz-muscovite Schist
minor bio → chlor

Greenschist (BG?)
muscovite-chlorite schist, med to coarse grained, m gry to m dk gry, small amts of plag, minor qz as segregations

increased amount of fsp and qz
f-m grained, qz segregations to 1 cm

tr of dissem altered metallic porphyroblasts
deep red color, weakly magnetic

Greenschist (BG)
as above, coarse grained 21.5-21.8', m gry to grn gry

Quartzofeldspathic muscovite-chlorite schist
thin (< 16") intervals of this unit are interbedded (or interfingered) with the coarser grained greenschist, looks like metafelsite (SF) at 18-19, 23-24

Greenschist (BG)
muscovite-chlorite schist, as above, qz vein at 32.5, foliated

principal cleavage follows foliation, undulating cleavage

as above

as above
bio → chlor

FT. / GRAPHIC LOG

FT.: 10, 20, 30, 40, 50

Graphic log foliation angles (top to bottom): 45, 60, 80, 50, 25, 10, 15, 20, 10

MINERALIZATION

tr amts of FeOx as alteration product of pyrrhotite

altered metallic
tr dissem pyrrhotite
(or py → mt)

pervasive lim stn

tr euhedral py or po
lim stn in clayey zone

sl tr to tr magnetic po
altered to deep red hem
(occasionally only slightly altered)
FeOx on fractures

tr - 1% po → hem

xtal shapes of sulfide look more cubic than hexagonal but it is magnetic, up to 2% altered po

RECOVERY

Run	Run length	Core	%
11.6	11.6	1.9	16
15.0	3.4	2.9	85
18.0	3.0	2.2	73
21.5	3.5	2.4	69
21.8	0.3	0.3	100
24.0	2.2	2.2	100
25.5	1.5	1.4	93
27.7	2.2	2.2	100
30.3	2.5	2.1	84
30.6	0.3	0.3	100
33.0	2.4	1.7	71
35.4	2.4	2.4	100
37.4	2.0	2.0	100
40.0	2.6	2.1	81
42.7	2.7	2.7	100
47.4	4.7	4.7	100
48.6	1.2	0.9	75
	2.7	2.7	100

ANALYTICAL

Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu (ppm)	Pb (ppm)	Zn (ppm)
13674	21.5-24.0	ND	ND	10	15	520
13675	33.0-35.4	ND	ND	5	10	90
13676	42.7-47.4	ND	ND	5	10	65

BOX

1, 2, 3, 4

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Greenschist (BG) muscovite-chlorite schist, m gry to grn-gry, med to coarse grained, foliated, with principal foliation fractures		25	tr+ to 1% altered po (py?), disseminated, up to 2 mm, minor FeOx (lim) on fractures, po → hem (or possibly py → mt + hem)
		20	
biotite is less altered	60		
thin quartzose layers (to 6 cm) interfingered with coarse grained micaceous schist			tr - sl tr altered po
		30	
foliation banding of chlorite, musc, and fsp / qz, some nearly vertical fractures		20	minor FeOx
	70		
Greenschist (BG) musc-bio/chlor schist, m gry-grn gry, dk grn chlorite layers, est 20% + qz & fsp, rapid changes in foliation attitude, qz segregations up to 1 cm thick		35	
		75	
			sl tr altered po (→ hem)
	80		
as above, medium grained		80	
clayey with minor tight folds (3 mm amplitude)		40	tr py
green		10	
	90		
principal fracture follows foliation		25	tr altered po
		15	tr shiny unaltered py in qz veinlet, some pyritohedron xtals but no good cubes
	100		
Greenschist (BG) musc-chlor schist, med to coarse grained, fracture along foliation			tr+ py
		10	hem staining
minor clay at 107'			
	110		
			tr+ py in qz no FeOx
	120		

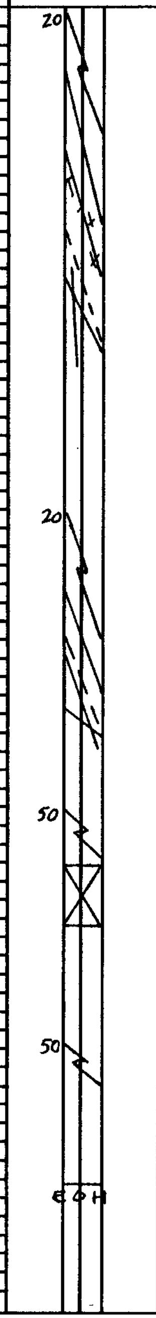
RECOVERY			
Run	Run length	Core	%
51.3			
	4.7	3.6	77
56.0			
	4.3	4.3	100
60.3			
	2.4	2.1	88
62.7			
64.3	1.6	1.5	94
65.0	0.7	0.7	100
	2.7	2.7	100
67.7	2.1	2.1	100
69.8			
	2.5	2.5	100
72.3			
73.0	0.7	0.7	100
74.4	1.4	1.4	100
	4.0	4.0	100
78.4			
	5.2	3.4	65
83.6			
83.9	0.3	0.3	100
85.4	1.5	0.5	33
	4.7	1.6	34
90.1			
	2.0	1.7	85
93.1			
	2.4	1.8	75
95.5			
	1.6	1.5	94
97.1			
	1.9	1.5	79
99.0			
	1.6	1.4	87
100.6			
	1.8	1.6	89
102.4			
	2.4	2.2	92
104.8			
	2.8	1.8	64
107.6			
	1.6	1.3	81
109.2	0.6	0.5	83
109.8	1.2	1.2	100
111.0			
	1.5	0.4	27
112.5	0.5	0.2	40
113.0			
115.0	2.0	1.2	60
	1.2	1.0	83
116.2			
117.8	1.6	1.6	100
	2.2	1.0	45
120.0			

ANALYTICAL						
Sample	Interval	Au	Ag	Cu	Pb	Zn
13677	69.8-72.3	ND	ND	65	15	185
13678	90.1-93.1	ND	ND	ND	20	195
13679	109.8-111.0	ND	ND	20	10	80

BOX
5
6
7
8
9
10
11

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION
Greenschist (BG) fsp-musc-chlor schist, foliated, medium to coarse grained, minor clay, qzt lens at 124'		tr py tr+ py
Quartzite (BQ) with chlor and calcite sericitic at 130.0-133.6'	130	no sulfides noted no feox
Greenschist (BG)		
Quartzite (BQ), as above — 5° cut		sl tr py
Quartzite (BQ) and interfingered Greenschist (BG) to 148.8, numberous thin layers, fine to medium grained	140	v. sl tr py
Greenschist (BG) grn-gry to grn, med to coarse grained, musc-chlor with minor fsp and qz	150	
	160	
light grn clayey musc-chlorite with white clay, semi-consolidated to unconsolidated some qz fragments intermixed with the unconsolidated clay	170	no sulfides noted
	180	

GRAPHIC LOG



RECOVERY

Run	Run length	Core	%
121.1	1.1	0.9	82
122.0	0.9		
122.9	0.9	0.	
124.0	1.1	0.3	27
	1.3	1.1	85
125.3	2.2	2.2	100
127.5	2.5	0.9	36
130.0	1.1	0.9	82
131.1	2.5	0.5	20
133.6	1.0	0.6	60
134.6	0.2	0.2	100
134.8	1.1	1.0	91
135.9	1.5	1.5	100
137.4	2.0	1.5	75
139.4	3.0	2.7	90
142.4	0.9	0.4	44
143.3	0.7	0.5	71
144.0	1.5	0.5	33
145.5	1.1	0.6	54
146.6	1.2	0.6	50
148.8	0.7	0.7	100
149.5	1.7	1.7	100
151.2	2.8	2.1	75
154.0	1.0	0.9	90
155.0	1.2	0.7	58
156.2	3.2	1.5	47
159.4	0.6	0.6	100
160.0	1.1	1.1	100
161.1	4.9	1.5	31
166.0	3.1	0	0
169.1	4.9	0.5	10
174.0	1.0	0.7	70
175.0	1.7	1.7	100
176.7	1.1	1.1	100
177.8	3.2	1.9	59
181.0	1.4	1.1	79
182.4	0.6	0.2	33
183.0			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13680	124.0-125.3	ND	ND	10	15	50
13681	135.9-137.9	ND	ND	10	15	25
13682	151.2-154.0	ND	ND	55	10	55
13683	161.1-166.0	ND	ND	25	10	50
13684	169.1-174.0	ND	ND	50	40	90
13685	181.0-182.4	ND	ND	35	20	90

BOX: 12, 13, 14, 15, 16

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

Property: Jupiter - Mars	Hole No.: K-14
Location: Kantishna District	Bearing at Collar: N25°W
	Inclination at Collar: -50°
Coord. - Collar N: 3491259.12	
E: 355633.98	Length: 399.1 feet
Elev. - Collar: 3204.3	Core Size: BW44 - IAX
Date started: 8/20/83	
Completed: 8/29/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
m gry, fine grained, qz-fsp-mica schist, surface oxidation to 14', foliated with thin (<1mm) discontinuous fsp segregations, conspicuous qz eyes, principal fracture in plane of foliation

irregular qz veinlets (up to 1 cm), conformable with foliation, a few vugs, thin chlorite selvages

minor cross-cutting calcite veinlets

minor brecciation in qz vein

Metafelsite (SFQ)
m gry, fine grained, qz-fsp-mica schist, slight alteration of some fsp porphyroblasts to clay, irregular qz segregations up to 15 mm in width

chloritic at 45.5

FT.

10, 20, 30, 40, 50

GRAPHIC LOG

35, 37, 20, 35

MINERALIZATION

FeOx on fractures

FeOx (lim, hem) in qz veinlet

orange FeOx on fractures

orange to orange-red FeOx

FeOx on fractures
yel-orange to sooty brn-blk
tr py (→ lim)

RECOVERY

Run	Run length	Core	%
	8.8	1.2	14
8.8	1.1	0.9	82
9.9	2.3	1.6	70
12.2	1.5	0.6	40
13.7	3.6	3.2	89
17.3	1.4	1.4	100
18.7	3.3	2.9	88
22.0	0.8	0.8	100
22.8	1.3	1.0	77
24.1	3.7	3.7	100
27.8	1.2	1.1	92
29.0	4.0	4.0	100
33.0	1.3	1.3	100
34.3	2.7	2.7	100
37.0	1.5	1.5	100
38.5	2.3	2.0	87
40.8	1.9	1.9	100
42.7	2.8	2.5	89
45.5	1.4	1.3	93
46.9	2.7	2.7	100
49.6			

ANALYTICAL

Sample	Interval	Au oz/t	Ag oz/t	Cu ppm	Pb ppm	Zn ppm
13695	29.0-33.0	ND	ND	ND	10	295

BOX

1, 2, 3, 4

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY: Run	Run length	Core	%	ANALYTICAL: Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm	BOX
Metafelsite (SFQ) qz-fsp-mica schist, foliated with thin foliation laminations, dk gry to grn gry, qz is usually conformable to foliation, chlorite selvages on qz veinlets		30	red-orange FeOx on fractures		5.0	4.9	98								5
			tr limonite pseudomorphs after pyrite	54.6	2.2	1.8	82	13696	54.6-56.8	ND	ND	ND	15	880	
fracture zone at 56' with qz fragments can't determine attitude	60	30		56.8	5.0	4.6	92								
			slight increase in degree of FeOx staining; tr py → FeOx	61.8	4.4	4.4	100								6
metafelsite, as above				66.2	0.6	0.6	100								
				66.8	2.9	2.5	86								
	70	35		69.7	2.5	2.5	100								
				72.2	2.8	2.8	100								7
				75.0	0.4	0.4	100								
qz-rich zone, irregular but generally conformable to foliation, slightly brecciated, slightly vuggy, propylitic alteration (esp. chlor of wall rock			FeOx (from py) sl tr altered py cubes	75.4	2.6	1.2	46	13697	75.4-78.0	ND	ND	10	15	.32%	
	80			78.0	4.6	4.2	91								8
Metafelsite (SFQ) as above		35		82.6	0.6	0.6	100								
				83.2	2.3	2.3	100								
				85.5	1.2	1.0	83								
	90	35		86.7	4.1	3.7	90								
				90.8	1.7	1.5	88								9
			orange-red FeOx sl tr altered py	92.5	3.1	2.7	87	13698	92.5-95.6	.005	ND	10	25	.43%	
				95.6	2.6	2.4	92								
		30		98.2	1.8	1.6	89								
Metafelsite (SFQ) as above, principal fracture is not in the foliation plane - it's about 90° to it, minor amt. of vugs due to weathering of clay	100		sl tr altered (→FeOx) py	100.0	5.1	5.0	98								10
qz veinlets (< 8mm) in foliation plane, distinct banding		25	FeOx stain on veinlets	105.1	2.1	1.9	90								
	110			107.2	3.2	3.2	100	13699	107.2-110.4	ND	ND	10	10	.21%	
fracture zone - at least 3 sets of fractures			abundant lim, goe, & hem on fractures	110.4	1.3	0.8	62								
				111.7	1.8	1.6	89								11
				113.5	0.8	0.7	88								
Metafelsite (SFQ) gradational change from above to m. gry, more feldspathic, more brittle than above and more siliceous hence has a greater fracture density			lim and hem staining on fractures and foliation	114.3	0.6	0.5	83								
				114.9	0.3	0.2	67								
				115.2	1.2	1.2	100								
				116.4	2.7	2.5	93								
	120			119.1	1.3	1.3	100								

FT.	LITHOLOGY, ALTERATION, MISC.	GRAPHIC LOG	MINERALIZATION	Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm	BOX
	Metafelsite (SFQ) mica-qz-fsp schist, m gry to lt. gry, conspicuous qz eyes, musc, chlorite selvages on qz veinlets, possible hydrothermal silicification and albitization, core is fractured in several directions	20	orange-red FeOx on fractures and as irregular wisps in foliation	120.4	1.2	1.0	83								
				121.6	2.4	2.0	83	13700	121.6-124.0	ND	ND	5	25	.33%	12
				124.0	0.5	0.5	100								
				124.5	4.6	3.2	70								
130	fracture zone	15	pervasive FeOx in fracture zone (orange-yel), small amt of py boxworks	129.1	3.2	3.2	100								13
				132.3	0.5	0.5	100	13901	132.3-135.7	.011	ND	15	25	.13%	
				133.8	0.2	0.2	100								
				134.0	1.7	1.7	100								
				135.7	1.7	1.6	94								
				137.4	1.1	1.0	91								
140	fracture zone		pervasive FeOx	138.5	1.3	1.2	92								
				139.8	1.3	0.7	54								
	10 cm of lt. grn-gry gouge at 142.5			141.1	1.4	1.2	86	13902	141.1-142.5	.005	ND	20	10	.17%	14
		30		142.5	3.7	1.3	35	13903	142.5-146.2	.005	ND	10	25	435	
	Metafelsite (SFQ) qz-fsp-mica schist, m gry to grn gry, foliated with small crenulations and thin (0.5-4.0 mm) color laminations, tr calcite on fractures, some of the qz segregations are slightly vuggy, thin layers of muscovite		orange FeOx on fractures	146.2	1.8	1.8	100								
150		25		148.0	2.5	2.1	84								
				150.5	1.8	1.8	100								15
				152.3	1.4	1.3	93								
				153.7	1.0	1.0	100								
				154.7	0.9	0.7	78								
				155.6	0.7	0.6	86								
			sl tr py in qz	156.3	1.7	1.4	82								
160				158.0	1.6	1.6	100								
				159.6	0.9	0.5	56								
				160.5	5.5	3.3	60	13904	160.5-166.0	ND	ND	5	10	.1550%	16
	several small fracture zones		sl tr py - altered to FeOx	166.0	1.8	0.8	44								
				167.8	0.3	0.3	100								
170				168.1	1.2	0.3	25								
			FeOx on fractures	169.3	1.0	1.0	100								
				170.3	3.0	1.5	50								
		25		173.3	1.3	0.6	46								
				174.6	1.0	0.9	90								
				175.6	0.6	0.6	100								17
				176.2	1.1	0.8	73								
				177.3	1.0	0.8	80								
180		10		178.3	2.0	0.8	40								
	chlorite selvages on margins of some of the qz segregations			180.3	1.0	0.5	50								
				181.3	0.3	0.3	100								
				181.6	0.6	0.5	83								
				182.2	1.1	0.6	55								
				183.3	1.3	1.0	77	13905	183.3-184.6	ND	ND	ND	10	620	
	fracture zones - small amt of light gry clay		sl tr FeOx sl tr altered py	184.6	2.9	0.7	24								18
				187.5	1.3	1.1	85								
				188.8	1.2	1.0	83								
190				190.0											

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm	BOX
Metafelsite (SFQ)		5			2.2	1.7	77								
m gry, musc-qz-fsp schist, foliated, color/comp laminations, chloritic in places, 10 cm gouge at 196'			FeOx staining tr altered py on fracture surfaces	192.2	1.1	1.1	100								
				193.3	2.2	0.5	23								19
10 cm breccia at 197' lim cement with subangular to subrounded qz clasts				195.5	1.5	0.6	40								
			FeOx (lim) cemented qz breccia	197.0	0.8	0.8	100	13906	197.0-197.8	ND	ND	10	5	.19%	
thin graphitic layers at 197.5'	200			197.8	3.0	0.5	17								
undulations in foliation plane				200.8	1.5	1.5	100	13907	200.8-202.3	ND	ND	ND	10	.295%	
			dark FeOx (goe, lim) on fractures	202.3	1.0	0.7	70								
				203.3	1.0	0.8	80								20
fsp porphyroblasts $\xrightarrow{alt.}$ clay				204.3	1.6	0.6	38								
				205.9	0.5	0.5	100								
				206.4	1.0	1.0	100								
				207.4	1.4	1.4	100								
				208.8	1.2	0.9	75								
	210	30	dk FeOx 211-211.5	210.0	1.2	1.2	100								
Metafelsite (SFQ) as above but more chloritic and fissile, fractured to 217.7'				211.2	2.8	2.3	82	13908	211.2-214.0	ND	ND	ND	10	.175%	21
distinct alteration of fsp to 218.4' - (argillic alteration proximal to fracture zone)			tr amts of orange FeOx on fractures	214.0	3.7	3.7	100								
		30		217.7	0.3	0.3	100								
	220			218.0											
Metafelsite (SFQ) grn-gry, foliated, as above, tr amts of calcite		32	lim and goe (rust to blk) in qz py(?) is completely altered		9.2	8.8	96	13909	220.0-225.0	ND	ND	5	15	.325%	22
vuggy vein qz 223-224.5, cavities up to 1 cm^3			orange FeOx on clayey fractures some dk brn goe up to 3 mm thick	227.2											
	230				7.8	7.7	99								
		30													24
				235.0	1.4	1.4	100								
many small calcite/clay veinlets			FeOx selvages on calcite veinlets	236.4											
	240				8.0	8.0	100								
		35													25
Metafelsite (SFQ) as above but more fractured				244.6	1.0	1.0	100								
				245.6	1.5	1.4	93								
				247.1	1.1	1.0	91								
	250		dk orange-brn FeOx	248.2	1.4	0.7	50								
			FeOx on fractures	249.6	2.1	2.1		13910	249.6-252.7	ND	ND	10	20	.960%	26
				252.7	3.0	2.8									
breccia (~15 cm) qz cement and SFQ clasts		30	pervasive lim staining at 257-257.6	255.7	1.9	1.8									
	260			257.6	2.7	2.7									

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	BOX
Metafelsite (SFQ) m gry, qz and fsp augens, foliated with irregular qz and fsp segregations, micaceous (musc ± chlorite), qz veinlets also a few vuggy plag (→ clay) veinlets (possible albitization followed by argillic alteration), minor $CaCO_3$, argillization of fsp porphyroblasts at 267		40	orange-brn FeOx on fractures and as irregular wisps in foliation	27
	270		pervasive rust-orange FeOx on fractures and fsp porphyroblasts	
Metafelsite (SFQ) as above, but with chloritized fractures and selvages on qz veinlets, grn-gry		35		
5-7% altered fsp porphyroblasts	280		FeOx stn with lim envelopes around fractures	
irregular qz and clay segregation				
	290		tr py (most conspicuous in less oxidized rock)	
			pervasive FeOx staining, tr py on fractures sl tr ap	
			vuggy dk red hem fracture surfaces (boxwork-like)	
breccia: SFQ and qz clasts with qz and lim cement, voids up to 1 cm × 0.5 cm increased amts of carbonate (possibly some ankerite), chert veinlet (1 cm) at 301.5'	300		pervasive rusty lim; up to 1% py on some fractures	
			sl tr py	
			tr py	
309.2' @ 50°				30
grn-gry and white clay gouge	310		pervasive FeOx, sl tr py but most py → lim + goe	
Metafelsite (SFQ) m dk gry to grn-gry, foliated, qz and fsp eyes, minor calcite on fractures			tr+ py, tr ap, sl tr gn or tt pervasive FeOx to 323'	
well fractured small irregular veinlets of lim, qz, and minor calcite				31
tr yel-grn oxide (scorodite?)	320		tr py, tr+ tt (or jm?)	
brecciated and fractured up to 40% qz			up to 5% tt for 4" at 323.5' up to 15% py for 3"	
			FeOx stain, minor boxworks	32
micaceous	330		tr+ tt(?), tr py and ap	

RECOVERY

Run	Run length	Core	%
260.3	5.0	4.9	98
265.3	4.5	4.4	98
269.8	1.6	1.6	100
271.4	3.6	0.7	19
274.0	2.2	2.1	95
276.2	2.6	2.6	100
278.8	2.2	2.2	100
281.0	3.4	3.2	94
284.4	5.6	5.6	100
291.0	2.1	1.8	86
293.1	1.0	1.0	100
294.1	8.7	8.6	99
302.8	0.5	0.3	60
303.3	0.3	0.3	100
303.6	1.1	1.1	100
305.7	3.5	3.5	100
309.2	3.4	3.2	94
312.6	0.4	0.4	100
313.0	9.0	8.8	98
322.0	1.2	0.4	33
323.2	1.4	1.4	100
324.6	5.7	5.2	91

ANALYTICAL

Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm
13911	265.3-269.8	ND	ND	15	20	.440%
13912	281.0-284.4	ND	ND	5	10	.655%
13913	294.1-302.8	ND	ND	60	20	2.25%
13914	305.7-309.2	.005	ND	160	20	2.50%
13915	309.2-312.6	ND	ND	520	120	1.00%
13916	312.6-315.0	ND	ND	800	180	1.40%
13917	315.0-322.0	.013	ND	670	210	2.85%
13918	322.0-323.2	.006	ND	.21%	630	.730%
13919	323.2-324.6	.046	ND	.12%	225	.315%
13920	324.6-331.3	.021	ND	740	285	1.20%

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL							BOX
				Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm	
Metafelsite (SFQ) as above, well fractured, brecciated frags, micaceous, qz is slightly vuggy			FeOx (orange rust) with minor boxworks, tr-1% py, tr-1% tt, tr ap, v. sl tr gn (tt could be jm - can't get a positive identification)	331.3	1.9	1.8	95	13921	331.3-333.2	.007	ND	610	190	2.05%	
		55		333.2	1.3	1.3	100	13922	333.2-334.5	.018	ND	.12%	420	.305%	
	340			334.5	7.3	7.2	99	13923	334.5-341.8	.012	ND	320	85	3.55%	33
clay in qz segregations			tr+ py, tr ap and tt	341.8	1.1	1.0	100								
drusy qz in 1 cm wide veinlet				342.9	2.7	2.7	100	13924	341.8-345.6	.006	ND	300	90	5.95%	
brecciated metafelsite as above qz + SFQ clasts	350		pervasive FeOx to 353' tr+ py, sl tr gn, tr-2% ap, tr tt(?), sulfides are disseminated and concentrated in fractures	345.6	4.0	4.0	100	13925	345.6-349.6	.010	ND	25	40	1.65%	34
				349.6	2.5	2.4	96	13926	349.6-352.1	.008	ND	ND	55	3.40%	
vuggy fractures; the rock is siliceous with dk gry color			1-4% sulfides mostly ap, less tt, minor py, sl tr gn rusty FeOx on fractures	352.1	6.9	6.6	96	13927	352.1-359.0	.031	ND	25	40	1.55%	35
Metafelsite (SF) grn-gry, very micaceous, foliated with kink banding and undulations, argillization of fsp, qz veinlets, minor calcite	360			359.0	2.0	1.7	85	13928	359.0-361.0	.009	ND	5	10	.52%	
			tr py and ap	361.0	1.0	1.0	100	13929	361.0-362.0	.005	ND	5	15	.285%	
363.2 fractured and brecciated to 363.2			1% ap	362.0	1.2	1.1	92	13930	362.0-363.2	.025	ND	5	5	395	
				363.2	1.0	1.0	100	13931	363.2-364.2	ND	ND	5	10	230	
		40	tr py + minor FeOx	364.2	3.9	3.4	87	13932	364.2-368.1	ND	ND	10	5	215	36
increase in fsp porphyroblasts (to 2%)	370	30	sl tr py	368.1	2.2	2.2	100								
calcareous clay on some fractures			no sulfides noted, minor FeOx	370.3	1.6	1.4	88								
		30		371.9	2.5	2.5	100								
				374.4	0.9	0.9	100	13933	374.4-375.3	ND	ND	25	ND	590	
				375.3	1.2	0.4	33								37
chloritized fractures at 377.6'				376.5	1.1	0.9	81								
dark green SF chloritic few porphyroblasts	380		sl tr ap	377.6	1.4	0.5	36								
		55		379.0	2.6	2.6	100								
				381.6	0.5	0.5	100								
			tr ap, sl tr py	382.1	1.4	1.3	93								
up to 7% fsp porphyroblasts				383.5	2.6	2.6	100	13934	383.5-386.1	.005	ND	5	10	145	
good calcite xtals on fractures			tr py and ap FeOx on fractures	386.1	1.6	1.6	100	13935	386.1-389.0	.009	ND	5	5	220	38
				387.7	0.2	0.2	100								
				387.9	1.1	1.1	100								
Metafelsite (SFQ) m gry, foliated, mica-qz-fsp schist, qz veinlets up to 5 cm in width, minor calcite, 3% biotite	390	40	FeOx (rust) on fractures tr+ ap, tr py	389.0	1.6	1.5	94								
				390.6	4.4	4.2	95								
		55	tr+ ap and py	395.0	4.1	4.1	100	13936	395.0-399.1	.011	ND	5	5	730	39
		EOH		399.1											

DIAMOND DRILL HOLE LOG

Company U.S. BUREAU OF MINES

Property Star-Friday	Hole No. K-15
Location Kantishna	Bearing at Collar N45°W
	Inclination at Collar -50°
Coord. - Collar N 3487126.01	
E 342389.34	Length 201.7'
Elev. - Collar 2473.4	Core Size BW44-IAX-IEX
Date started 8/19/83	
Completed 8/23/83	Logged by CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	Run	Run length	Core	%	Sample	Interval	Au oz/ton	Ag oz/ton	Cu ppm	Pb ppm	Zn	BOX
Metafelsite (SF) phyllitic, dk gry, 2% biotite, principal fracture in foliation plane, small amt of clay in fractures, rock is competent, a few faint slicks on foliation plane fractures, foliation layers are 1-30 mm thick		40	minor FeOx on fractures		9.1	1.5	17								
rock is more chlorite-rich and oxidized near fracture zone at 12.5'	10			9.1	3.6	3.6	100								1
minor calcite veinlets (<1 mm)				12.6	1.1	1.1	100								
				13.7	2.3	2.3	100								
fracture zone: 18-20', cross cutting qz veins (~1 cm) at top and bottom, thin sericite selvages on veins, a few slicks on fragments - can't determine attitude		40		16.0											
				16.7	0.7	0.7	100								
				18.0	1.3	1.3	100								
	20		intense FeOx (lim, hem, goe) in fracture zone, no sulfides noted	19.9	1.9	1.9	100								2
				21.2	1.3	1.3	100								
vitreous qz segregations conformable to foliation		50		23.1	1.9	1.9	100								
				23.3	0.2	0.2	100								
calcite on some fracture surfaces				25.3	2.0	1.9	80								
					3.1	2.6	84	13686	25.3-30.0	ND	ND	ND	ND	25	
30.0 cnt. ~@ 40°	30	40		28.4	1.3	1.3	100								3
fracture zone, gouge, minor qz and calcite veinlets (intersecting; high vein density in some fragments)				29.7	2.9	2.2	76								
			well oxidized (FeOx)	32.6	0.3	0.3	100	13687	30.0-34.3	.018	ND	5	5	30	
				32.9	1.4	1.4	100								
Metafelsite (SF) m. gry, fine grained, cross-cutting qz veinlet at 46' - vitreous, brecciated, 3 cm thick, calcite selvages, small amt of sericite (or clay), tr+ dk brn Fe-stained carbonate (not pyromagnetic) calcite and qz veinlets, anastomising, generally <1 mm thick, irregular			sl tr py in qz veinlet	34.3	3.5	3.4	97	13688	34.3-37.8	.020	ND	ND	ND	15	
				37.8	0.9	0.8	89								4
	40		FeOx stain on calcite veinlets tr py - dissem and in qz veinlets	38.7	0.7	0.2	29								
				39.4	3.0	2.6	87								
				42.4	2.0	1.5	75								
				44.4	4.4	4.2	95								5
	50		tr py	48.8											

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SF)
dk gry, fine grained, foliated, principal fracture is in foliation plane

1 ft. thick milky quartz vein
can't determine attitude - probably conformable to foliation

minor calcite veinlets (60 ft)

Metafelsite (SF)
as above
with minor qz and cal veinlets

calcite on fracture surfaces (80 ft)

small folds, lensoid quartz segregations and minor calcite veinlets

Metafelsite (SF)
dk gry. fine grained, foliated with corresponding principal fracture, minor qz veinlets with calcareous FeOx stained inclusions in veins (possibly siderite)

from 95 to 99.5' the rock is competent with only minor fracturing, a few hairlike qz veinlets

qz fragments in fracture zone at 103.5

some fractures are chloritized

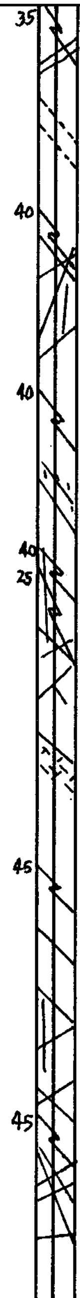
calcite on fractures

Metafelsite (SF)
as above, but slightly more felsic, foliation banding is more distinct than above

FT.

60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG



MINERALIZATION

tr pyrite
dissem and in qz veinlets

tr arsenopyrite in qz
some good xtal shapes;
some of the silvery mineral is N 4 - probably due to alteration

tr py in calcite veinlet

tr py in qz, tarnished, with FeOx stain
tr py in calcite veinlets, lim selvages

pervasive FeOx stain in fracture zone

FeOx stained calcite veinlets and fractures, tr py in qz
tr v. fine grained disseminated arsenopyrite

FeOx selvage on qz/cal veinlet
tr py in qz veinlet

RECOVERY

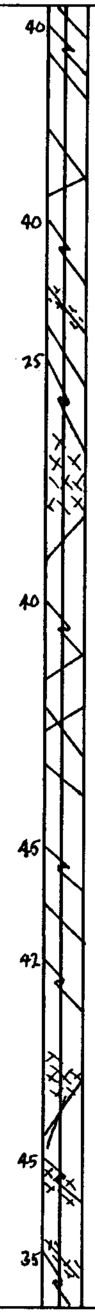
Run	Run length	Core	%
	3.4	2.8	85
52.2			
	4.7	4.7	100
56.9			
	5.1	2.7	53
62.0	1.2	1.2	100
63.2			
	3.9	3.7	95
67.1			
	5.9	5.5	93
73.0	1.8	1.8	100
74.8	0.9	0.9	100
75.7			
	7.1	6.3	89
82.8			
	2.4	2.4	100
85.2			
	5.5	5.5	100
90.7			
	2.7	0.7	26
93.4			
	2.0	0.9	45
95.4			
	2.9	2.9	100
98.3	1.7	1.2	71
100.0	1.0	0	0
101.0	1.5	1.2	80
102.5	1.2	0.7	58
103.7	1.3	1.0	77
105.0	0.4	0.4	100
105.4	1.1	0.9	82
106.5			
	9.1	7.2	79
114.6			
	4.4	3.7	84
119.0	1.2	0.7	58

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13689	56.0-57.0	ND	ND	10	ND	5
13690	73.0-75.7	ND	ND	ND	5	15
13691	105.0-106.5	.014	ND	ND	20	15

BOX

6, 6B, 7, 8, 9, 10



LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Metafelsite (SF) dk gry, fine grained, foliated at ~40°, qz/fsp and bio (→ chlor) laminations; competent rock		no sulfides noted no FeOx	120.2	4.6	3.7	80								11
			124.8	0.6	0.6	100								
		tr py in and near qz vein FeOx staining	125.4	3.1	2.9	93	13692	125.4-128.5	ND	ND	ND	5	15	
	130		128.5	1.5	1.3	87								
			130.0	2.3	2.0	87								
as above			132.3	1.0	0.7	70								12
			133.3	2.9	1.7	59								
			136.2	1.1	1.0	91								
			137.3	1.7	1.3	76								
	140		139.0	1.4	1.4	100								
curved foliation plane - could be drag folding near fault			140.4	2.6	1.7	65								
fractured, as above			143.0	5.7	0.5	9								13
minor calcite veinlets	150	FeOx staining on veinlets	148.7	0.5	0.5	100								
			149.2	1.6	1.2	75								
			150.8	0.9	0.8	89								
			151.7	4.0	3.6	90	13693	151.7-155.7	ND	ND	ND	ND	15	
		cal + lim envelope on qz veinlet	155.7	1.2	0.9	75								
			156.9	0.5	0	0								14
Metafelsite (SF) as above, principal fracture is in the foliation plane	160	tr py	157.4	0.1	0.1	100								
			157.5	3.0	2.8	93								
			160.5	0.7	0.7	100								
			161.2	3.3	2.5	76								
			164.5	2.4	1.0	42								
			166.9	2.6	2.4	92								15
	170		169.5	2.7	2.5	93								
			172.2	0.8	0.6	75								
			173.0	2.0	2.0	100								
			175.0	2.5	0	0								
qz veinlets cross cut calcite veinlets		FeOx stn on calcite veinlets	177.5	2.0	0.4	20								
	180	sl tr arsenopyrite in veinlet	179.5	1.9	1.3	68								
increased alteration of bio → chlor			181.4	4.6	1.0	22								16
			186.0	1.0	0.9	90	13694	186.0-188.2	ND	ND	ND	10	25	
			187.0	1.2	1.0	83								
	190		188.2											
			189.7											

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Metafelsite (SF) m dk gry, fine grained, qz-fsp and bio-chlor segregations, as above		48	FeOx stained calcite veinlets & FeOx on fractures	191.6											
				195.0	13.5	7.2	53								
[Box 17 was blown over by the helicopter]															17
	200			199.3											
				201.7											

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

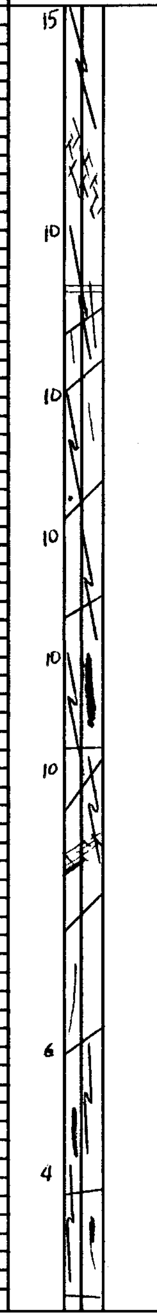
Property: Jupiter - Mars		Hole No.: K-16	
Location: Kantishna District		Bearing at Collar: N30W	
		Inclination at Collar: -40°	
Coord. - Collar N: 3491086.21			
E: 355097.45		Length: 237.3 feet	
Elev. - Collar: 2990.8		Core Size: BW44 - IAX	
Date started: 8/30/83			
Completed: 9/1/83		Logged by: CHC	

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	Run	Run length	Core	%	Sample	Interval	Au oz/ton	Ag oz/ton	Cu ppm	Pb ppm	Zn %	BOX
Metafelsite (SFQ) m gry with slight grn-gry tinge fine to med. grained, qz-fsp-mica schist, (mica is chlorite + musc) foliated with thin (<1 mm) quartzofeldspathic color segregations		20	FeOx stn on fractures tr py												
	10				16.8	4.1	24								1
2 types of qz in segregations vitreous, clear qz with inclusions of milky white qz			FeOx on some fractures v. sl tr py	16.8	2.2	1.2	55								
	20			19.0	2.5	2.5	100								
chlorite selvages on qz segregations		10		21.5											
Metafelsite (SFQ) as above			orange-rust to red-orange FeOx on some fractures and minor amt in fsp-rich layers in foliation plane	22.8	4.7	3.2	68								2
	30			27.5	5.1	5.1	100	13980	27.5-32.6	ND	ND	ND	15	.115	
		10		32.6	0.3	0.3	100								
				32.9	1.4	1.4	100								
				34.3	7.4	7.4	100								3
	40														
rock is more chloritic near quartz segregations				41.7	2.7	2.7	100								
			FeOx on fractures	44.4	7.0	6.7	96								4
	50														



LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn	BOX
Metafelsite (SFQ) m dk gry qz-fsp-mica (chlor + musc) schist thin (<1 mm) irregular color segregations, qz and fsp porphyroblasts, minor qz veinlets, foliated		rust-orange FeOx on fractures and veinlets	51.4	2.7	2.6	96	13981	51.4-54.1	.007	ND	30	10	.235	
			54.1	3.4	2.9	85								
chloritization in fracture zone			57.5											5
	60	abundant FeOx on fractures minor FeOx in foliation		3.6	3.6	100								
minor FeOx stained gouge (5 mm thick) (can't determine attitude)			61.1											
		no sulfides noted FeOx on fractures		9.8	9.5	97								6
Metafelsite (SFQ) as above, grn-gry to m dk gry	70													
		orange to blk FeOx on fractures	70.9 / 71.9	1.0	1.0	100								
veinlets and fractures are vuggy in places		orange powdery FeOx coating on fractures v. sl tr py		8.2	8.2	100	13982	74.0-79.0	ND	ND	35	10	.335	7
	80	fractures and veinlets are FeOx stained powdery coatings on some fractures	80.1											
chlorite selvages on qz segregations				8.3	8.3	100								8
Metafelsite (SFQ) as above minor carbonate	90		88.4 / 89.5	1.1	1.1	100								
				6.0	6.0	100								
SFQ is muscovite-rich in fractured zone minor amt. of clay		pervasive FeOx in fractured zone	95.5											9
				3.4	3.4	100								
	100		98.9											
		rust-orange to blk FeOx and jarosite (?) on fractures		6.8	6.8	100								10
			105.7											
FeOx stained calcite veinlets marginal to qz veinlets				2.5	2.5	100	13983	105.7-108.2	ND	ND	10	35	.120	
	110		108.2											
				7.6	7.5	99								11
		powdery rust-orange FeOx on fractures	115.8 / 117.8	2.0	2.0	100								
	120													

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
m dk gry to grn-gry, qz-fsp-mica metafelsite, mica is chlr ± musc, foliated with thin segregations of quartzofeldspathic minerals (generally < 1 mm), chlorite selvages on qz veinlets

qz, calcite, and ankerite(?) veinlets vuggy and drusy in places

REDUCED TO IAX

Metafelsite (SFQ)
grn-gry, as above

fsp porphyroblasts → clay
increased veinlet density

[drillers report voids]

tr pale blue mineral on fracture at 161' acicular radiating spheres, does not effervesce (possibly shattuckite or cyanotrichite)

162.0 — flt. zone

vein qz fragments

yellow and grn oxides or phosphates fractured qz at 166.5'

brecciated gossanous quartz
limonite cement
60% + lim 170.5-172.5
fragments of qz with fractured SFQ chips

174.4 — approx. bxd cnt.

Metafelsite (SFQ)
dk gry, foliated as above
fsp porphyroblasts → clay
minor qz veinlets, sl tr calcite
qz segregations up to 1.5 cm thick

FT.

130, 140, 150, 160, 170, 180, 190

MINERALIZATION

orange-rust FeOx on fractures pervasive 120-122
FeOx stained gouge at 122'
calcite veinlets have FeOx stn

sl tr py

powdery red-orange FeOx on fractures

sl tr py

tr ap

3 mm thick veinlet of tt, tr ap
also tr+ pale blue Cu(?) mineral

4 mm thick tt on qz frags, FeOx coating, gossanous
165-166.2 = gossanous sulfides
35% sulfides (18% tt, 16% py, tr ap)
vein qz 166.2-166.7: 1% sulfides

169.2-170.3 - poor recovery, up to 15% gn
170.3-170.8: 3-30% gn, tr+ tt
intense pervasive lim+goe+hem
rust orange to dk red-brn
sl tr to tr py, sl tr tt and gn

pervasive FeOx to 180.0

orange-rust FeOx stn on fractures and veinlets

tr ap

RECOVERY

Run	Run length	Core	%
123.0	5.2	5.1	98
125.7	2.7	2.6	96
127.1	1.4	1.4	100
135.1	8.0	8.0	100
136.4	1.3	1.3	100
141.0	4.6	3.9	85
146.7	5.7	5.3	93
148.2	1.5	1.4	93
151.5	3.3	3.0	100
162.0	10.5	3.1	30
165.0	3.0	0.4	13
166.2	1.2	0.7	58
166.7	0.5	0.4	80
169.2	2.5	0	0
170.3	0.9	0.2	22
172.5	2.2	2.2	100
174.4	1.9	1.8	95
176.3	1.9	1.6	84
177.6	1.3	1.3	100
178.5	0.9	0.7	78
179.6	1.1	0.9	82
180.0	0.4	0.4	100
180.7	0.7	0.6	86
185.9	5.2	1.3	25
187.4	1.5	1.5	100
190.0	2.6	1.6	62

ANALYTICAL

Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn
13984	117.8-123.0	.005	ND	20	45	.520
13985	141.0-146.7	ND	ND	10	10	.340
13986	151.5-162.0	ND	ND	15	30	.590
13987	162.0-165.0	.008	ND	65	270	.255
13988	165.0-166.2	.210	6.68	425	10.6%	.970
13989	166.2-166.7	.040	.03	95	290	.140
13990	169.2-170.3	.110	32.4	215	30.4%	.155
13991	170.3-172.5	.038	11.1	190	11.5%	.565
13992	172.5-174.4	.007	.35	95	6.2%	4.50
13993	174.4-176.3	ND	ND	105	.098%	3.20
13994	176.3-177.6	ND	ND	130	420	3.80
13995	177.6-178.5	.007	2.14	100	70	.465
13996	178.5-179.6	ND	ND	60	230	2.80
13997	179.6-180.0	ND	ND	100	370	3.50
13998	180.7-185.9	ND	.07	65	205	1.05

BOX

12, 13, 14, 15, 16, 18

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn	BOX
Metafelsite (SFQ) dk gry to grn-gry, foliated with thin (<1 mm) fsp segregations, qz eyes, fsp → clay, FeOx stained, calcite in fractures, chloritization of fractures and chlorite selvages on qz segregations, carbonate veinlets		25	pervasive FeOx orange-rust to blk to deep red v. sl tr ap (?)	195.8	5.8	3.1	53	13999	190.0-195.8	ND	ND	40	85	.920	
			FeOx in fractures and stained fsp and veinlets no sulfides noted	197.4	1.6	1.6	100								
dk grn-gry, fsp → clay, vugs in some veins	200	55		199.3	1.9	1.6	84								
		15		203.6	4.3	4.3	100								19
				204.6	1.0	1.0	100								
grn-gry, as above				208.7	4.1	1.9	46	1400	204.6-208.7	ND	ND	10	30	.325	
	210	10	powdery FeOx on fractures and lim in foliation	212.7	4.0	1.4	35	3451	208.7-212.7	ND	ND	40	55	.63	
Metafelsite (SFQ) m.gry, as above			orange-rust FeOx on fractures	215.4	2.7	0.8	30								20
1 cm qz/ank (?) veinlet				218.7	3.3	3.1	94								
	220			219.9	1.2	1.2	100								
			tr py and ap	221.4	1.5	1.4	93								
Metafelsite (SFQ) as above, siliceous qz segregations, 1-7 mm thick minor epidote colors marginal to veinlets		25	tr+ py and ap; tr py and ap	226.3	4.9	4.5	92	3452	223.0-226.3	.012	ND	ND	90	.41	21
		10		228.7	2.4	2.2	92								
less siliceous and more micaceous (musc+chlor), grn-gry to gry	230		moderate FeOx stn on fractures tr py and ap	229.9	1.2	1.1	92								
				232.5	2.6	2.5	96								
		20	rust-orange to blk FeOx tr ap and py	237.3	4.8	4.8	100	3453	232.5-237.5	ND	ND	15	25	.305	22
minor qz veinlets		EOH													

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

Property: Galena	Hole No.: K-17
Location: Kantishna District	Bearing at Collar: N 35°W
	Inclination at Collar: -70°
Coord. - Collar N: 3485802.11	
E: 342101.13	Length: 262.5'
Elev. - Collar: 2158.9	Core Size: BW44 - IAX
Date started: 8/25/83	
Completed: 8/29/83	Logged by: CHC

LEGEND

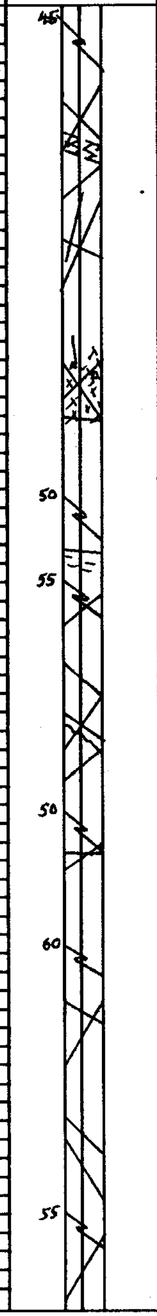
SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu	Pb (ppm)	Zn	BOX
Metafelsite (SFQ) in gry, conspicuous qz eyes, foliated, pervasive oxidation to 9.2' slightly vuggy in places, 6 cm FeOx selvages on fractures, minor qz veinlets		60	pervasive FeOx to 9.2' lim, goe, hem		9.2	2.9	31								1
minor calcite on fractures	10	40		9.2											
			sl tr py		5.0	5.0	100								
slight blue/green tinge minor chlorite		45		14.2	0.9	0.9	100								
				15.3	4.0	4.0	100								
	20			19.3											2
					4.2	4.1	98	13937	19.3-23.5						
slicks at 23.3'				23.5	0.7	0.7	100								
fracture zone several attitudes on fractures				24.2 / 25.1	3.0	3.0	100								
				28.1											3
Metafelsite (SFQ) as above	30				3.7	3.7	100								
		40	sl tr disseminated py	31.8	1.0	1.0	100								
				32.8	2.5	2.5	100	13938	32.8-35.3						
				35.3											
			tr+ ap on fracture		4.8	4.8	100								4
tr amts of calcite on fractures	40		sl tr v. fine grained py												
rock is cohesive, but with increased amt. of FeOx stained calcite veinlets			tr py in veinlets	40.1 / 41.1	1.0	1.0	100								
			at 43' py accumulations up to 3 cm × 1 cm		4.0	4.0	100	13939	41.1-45.1						
qz veinlets with FeOx selvages				45.1											
		55	sl tr py												5
	50														

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Metafelsite (SFQ) m gry to blue-grn-gry, qz eyes and fsp segregations, foliated, calcite on some fractures		sl tr arsenopyrite (tr on some fractures)		10.2	9.2	90								
offset qz veinlets older vein is mostly qz			55.3											6
younger vein has more calcite and is mineralized							13940	57.0-58.0	.011	ND	20	5	20	
				6.9	6.6	96								
qz frags in fracture at 57'	60	up to 1% py - yel and red/brn FeOx					13941	58.0-62.2	ND	ND	10	5	70	
			62.2											
			64.1	1.9	1.7	89								
			65.4	1.3	1.1	85								
			67.8	2.4	2.3	96								7
white to light yellow clay gouge	70	tr py glomerophyric accumulations up to 7 mm in breccia most py → FeOx		2.4	2.3	96								
			70.2	1.5	0.9	60								
chlorite selvages on qz vein			71.7	1.8	1.8	100								
moderate amts of lim stained clay gouge, tr+ calcite		red to orange FeOx, tr ap & py, v. fine grained gry metallic on fractures is probably specularite	73.5	0.4	0.4	100								
			73.9	1.7	0.3	18								
		pervasive yel - yel/orange FeOx	75.6	1.8	1.8	100								8
irregular qz veinlets, mostly conformable with foliation			77.2	0.9	0.9	100								
	80	tr py - in fractures and disseminated	78.1	3.2	2.7	84								
			81.3											
Metafelsite (SFQ) m gry, as above, minor qz veinlets		sl tr py in qz veinlets v. sl tr dissem py		4.8	4.7	98	13942	81.3-86.1	.013	ND	ND	ND	30	
			86.1											9
	90	tr py - some euhedral xtals		4.7	4.5	96								
qz vein at 91'		tr+ py, ap, gn(?) or sb(?), very fine grained	90.8											
		no sulfides noted		3.8	3.8	100								
		sl tr py, sl tr sb(?)	94.6											10
Metafelsite (SFQ) as above		tr ap and py		4.8	4.4	92								
	100		99.4	0.6	0.6	100								
tr calcite on fractures		sl tr dissem py and ap slight FeOx on fractures	100.0	3.5	3.4	97	13943	100.0-103.5	ND	ND	5	5	25	
			103.5											
		no sulfides noted		4.8	4.6	96								11
	110		108.3	1.3	1.3	100								
			109.6											
thin (<1mm) qz veinlets		sl tr ap and py		2.5	2.5	100								
			112.1	4.8	4.5	94								
			116.9											12
	120			4.6	4.6	100								

GRAPHIC LOG



LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Metafelsite (SFQ) m. to m. dk gry, qz eyes (5%), foliated, small qz veinlets (to 3 mm), calcite on some fracture surfaces		55	tr py dissem, up to 1% py in small veinlets; pervasive hem at 121.5	121.5 – 124.6	3.1	3.1	100	13944	121.5-124.6	.008	ND	ND	5	50	
core is competent			tr ap and py dissem & fracture controlled												13
	130			124.6 – 134.4	9.8	9.5	97								
qz veinlets; small amt of ankerite marginal to qz															
			tr-tr+ py and ap	134.4 – 137.3	2.9	2.9	100	13945	134.4-137.3	.011	ND	5	ND	25	14
			yel-orange FeOx	137.3 – 140.3	3.0	2.8	93								
	140														
			sl tr py and ap	140.3 – 149.8											
slickensides at 35°			sl tr ap		9.5	9.3	98								15
Metafelsite (SFQ) m dk gry, ~3% qz eyes, foliated, sl tr py, minor qz veinlets with clay or sericite	150	55	sl tr py	149.8 – 156.0	6.2	6.0	97								16
irregular vitreous white qz segregations in foliation plane (up to 3 cm) and minor cross-cutting qz/ank veinlets				156.0 – 159.6	3.6	3.5	97	13946	156.0-159.6	.008	ND	5	ND	20	
	160		sl tr py	159.6 – 165.4	5.8	5.8	100								17
Metafelsite (SFQ) as above		50		165.4 – 169.4	4.0	3.8	95								
	170			169.4 – 171.4	2.0	1.9	95								18
				171.4 – 174.2	2.8	2.8	100								
nearly vertical fractures 74-79'			no sulfides noted; slight FeOx on fractures	174.2 – 177.2	3.0	2.1	70								
	180	55	v. sl tr ap	177.2 – 180.9	3.7	3.4	92	13947	177.2-180.9	ND	ND	ND	5	20	
slight chloritization of some fractures			FeOx stn 3 cm on each side of fracture	180.9 – 184.4	3.5	3.5	100								19
	190	55		184.4 – 189.0	4.6	4.1	89								

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Metafelsite (SFQ) m. gry, fine grained ~5% qz eyes, foliated, qz veinlets up to 4 mm thick, minor calcite veinlets and calcite on fractures		50	v. sl tr py; slight FeOx on fractures
	200		
some fracture surfaces are slightly chloritized		60	sl tr py on fractures
qz veinlets	210	60	v. sl tr dissem py v. fine grained
			tr py in qz
			FeOx on fractures, sl tr py
calcite on fractures	220		small amt of propylitic alteration tr py, FeOx
4 mm offset on fractures through some veinlets, cataclasite margins on some qz veinlets with vitreous center, also minor carbonate (calcite + ankerite ?)			FeOx stain is flesh colored on some veinlets
SFQ is very siliceous, foliated (fluxion structure?), micaceous (musc/ser), tr amts of black micaceous clay	230	55	pervasive FeOx in gouge zone FeOx stn; tr py and cp
234.1			
qz is broken into small fragments			tr+ gn, tr py, cp, sp in qz
unconsolidated black clay 238.5-240.5. qz frags. at 239.5 with 7% py, sandy with tr+ py from 239.8 to 240.5	240		massive py up to 3 cm thick tr red (kermasite?) and yellow (stibiconite?); sl tr sp, approx 60% sulfide from 236-237 - mostly py with trace amounts of cp, sp, gn, tet (?) unverifiable sl tr cp and sp
242.9			
Metafelsite (SFQ) as above, fewer qz eyes (2%), calcite and qz veinlets		55	
tr yellow oxide	250		minor amts of FeOx, sl tr py
chlorite on fractures	260		

RECOVERY

Run	Run length	Core	%
	3.1	2.9	94
192.1			
	8.3	7.8	94
200.4			
	2.8	2.6	93
203.2			
	2.2	2.0	91
2054			
	2.1	2.1	100
207.5			
	4.5	4.4	98
212.0			
	2.7	2.5	93
214.7			
	4.7	4.7	100
219.4			
	3.6	3.6	100
223.0			
	1.0	0.9	90
224.0			
	1.8	1.6	89
225.8			
	3.0	3.0	100
228.8			
	2.0	1.9	95
230.8			
	3.3	1.6	48
234.1			
	1.7	0.4	24
235.8			
	4.0	2.6	65
239.8			
	0.7	0.7	100
240.5			
	2.4	2.4	100
242.9			
	4.6	4.6	100
247.5			
	4.9	4.7	96
252.4			
	2.5	2.4	96
254.9			
	2.5	2.1	84
257.4			
	3.0	2.3	77
260.4			
	2.1	1.1	52

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
13948	200.4-203.2	ND	ND	ND	10	25
13949	214.0-215.0	ND	ND	5	5	.04%
13950	227.5-229.5	ND	ND	ND	ND	40
13951	229.5-230.8	ND	ND	ND	10	.02%
13952	230.8-234.1	ND	.07	25	60	.02%
13953	234.1-235.8	.031	3.17	.05%	.25%	.12%
13954	235.8-237.3	.230	18.8	.37%	.20%	.24%
13955	237.3-239.8	.360	5.58	.12%	.30%	.17%
13956	239.8-240.5	.140	4.84	.06%	.06%	.05%
13957	240.5-242.9	.023	ND	10	25	35
13958	242.9-245.0	.005	ND	10	20	50
13959	257.4-260.4	ND	ND	10	15	30

BOX: 20, 21, 22, 23, 24, 25, 26, 27

DIAMOND DRILL HOLE LOG

Company: U. S. BUREAU OF MINES

Property: Merry Widow	Hole No.: K-18
Location: Kantishna	Bearing at Collar: S 30°E
	Inclination at Collar: -70
Coord. - Collar N: 3 489 174.02	
E: 353 010.30	Length: 188.0'
Elev. - Collar: 2432.9	Core Size: BW44 - IAX - E
Date started: 9/1/83	
Completed: 9/6/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au (oz/ton)	Ag (oz/ton)	Cu (ppm)	Pb (ppm)	Zn (ppm)	BOX
Metafelsite (SFQ) dk gry, oxidized to 74', fine grained, foliated, minor carbonate ($CaCO_3$) vitreous qz fragments at top of hole, 1-2% qz eyes, poor recovery			surface oxidation (FeOx) to 74' on fractures, a few gossanous fragments (lim + goe with minor boxworks) near top of hole												
	10														
	20				35.1	2.1	6								
		55	minor FeOx												
rock is more friable and micaceous near the bottom of this interval	30														1
		55		35.1											
					3.2	3.1	97	3463	35.1-38.3	ND	ND	10	15	65	
				38.3	2.2	0.7	32								
	40			40.5											
					5.5	1.2	22								
			tr + py dull red hem on fractures												
		60		46.0											
					2.3	0.9	39								
				48.3	2.1	0.3	14								
	50														

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
Metafelsite (SFQ)				50.4											
poor recovery, m gry to med dk gry,			FeOx on fractures	52.0	1.6	0.4	25								
fine grained, fsp-mica-qz schist, mica				53.0	1.0	0	0								
is musc + chlor, fsp phenos → clay,				54.1	1.1	0.3	27	3464	53.0-54.1	ND	ND	5	15	20	
increasing amt. of sericite				54.9	0.8	0.1	12								
				55.6	0.7	0.3	43								
VERY LITTLE ROCK - just cuttings	60														
					12.5	0.1	1								
				68.1											
	70			68.9	0.8	0	0								
					5.1	0.6	12								
a few chips of siliceous med gry SFQ			tr+ very fine grained py	74.0											2
cuttings are med gry, mostly qz			tr fine grained py		5.0	0.3	6								
Metafelsite (SFQ)	80			79.0											
just a few chips of rock, m. gry, as above			tr+ to 1% py rusty red-orange FeOx		4.9	0.5	10	3465	79.0-83.9	ND	ND	105	295	310	
				83.9											
cuttings are med gry, qz with minor fsp and clay			tr py, some euhedral xtals												
	90				12.1	0.3	2								
a few chips of siliceous SFQ brecciation noted in one fragment			tr py, sl tr ap	96.0											
	100														3
cuttings are light gry to med gry qz with minor musc and fsp + clay			tr py		12.0	0	0								
				108.0											
	110				3.0	0	0	3466	108.0-111.0	.011	ND	75	40	100	
				111.0											
					11.0	0.3	3								
	120														

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
cuttings: lt. gry to med gry, qz-rich,
a few milky white qz chips at' 122.0

Graphitic Phyllite (SG) 122-124'
black, schistose

Metafelsite (SFQ)
as above
one milky white quartz chip and a
few chips of SG in cuttings

Graphitic Phyllite (SG)
blk, clayey, more carbonaceous than
graphitic, tr-1% white clay

lt. gry SF (?) chips, altering to clay

Metafelsite (SF?) with interfingered SG
cuttings with a few siliceous chips

cuttings: dk gry to blk
probably SF with interfingered SG

minor lt. gry clay in cuttings
qz fragment

7 cm of dk gry quartzite

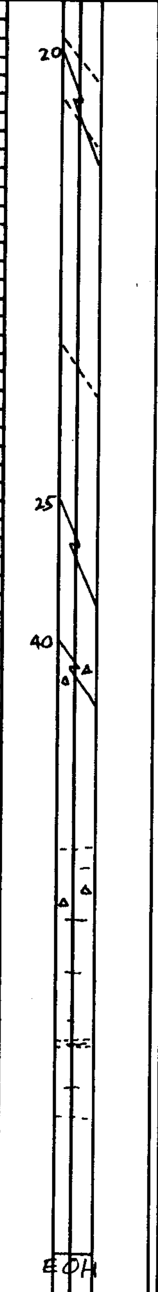
Graphitic Phyllite ? (SG) with interfingered SF?

dk gry black cuttings are more clayey
than above

FT.

130, 140, 150, 160, 170, 180

GRAPHIC LOG



MINERALIZATION

tr py in cuttings

no py noted in SG

tr py in cuttings

tr py

tr py

qzt is 3% py

tr py

RECOVERY

Run	Run length	Core	%
122.0–124.0	2.0	0.5	25
124.0–129.0	5.0	0.1	2
129.0–131.1	2.1	0	0
131.1–134.0	2.9	0	0
134.0–138.0	4.0	0	0
138.0–143.8	5.8	0.4	7
143.8–145.2	1.4	0.9	64
145.2–145.9	0.7	0.7	100
145.9–149.9	4.0	1.7	42
149.9–150.4	0.5	0.4	80
150.4–153.7	3.3	0.7	21
153.7–156.0	2.3	1.2	52
156.0–161.0	5.0	0.8	16
161.0–163.3	2.3	0.2	9
163.3–168.0	4.7	0.3	6
168.0–174.4	6.4	0.1	2
174.4–175.3	0.9	0.2	22
175.3–181.3	6.0	0.2	3
181.3–188.0	6.7	0	0

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
3467	122.0-124	ND	ND	40	20	90
3468	145.9-149.9	ND	ND	35	15	90
3469	175.3-181.3	ND	ND	80	35	255

BOX

4, 5, 6, 7, 8

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

Property: Red Top	Hole No.: K-19
Location: Kantishna District	Bearing at Collar: N35W
	Inclination at Collar: -65°
Coord. - Collar N: 3487247.33	
E: 341198.97	Length: 203.5 feet
Elev. - Collar: 1954.3	Core Size: BW44 - IAX
Date started: 8/29/83	
Completed: 9/1/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

FT.	LITHOLOGY, ALTERATION, MISC.	GRAPHIC LOG (angle)	MINERALIZATION
0–5	Metafelsite (SF) dk gry, foliated, fsp-qz-mica schist, (mica is bio + chlor ± musc), fine grained, thin discontinuous segregations of felsic minerals, few conspicuous qz eyes	65	tr py in qz fragments; no sulfides noted, no FeOx
10		60	
18–20	moderate amt. of grn-gry clay in fracture zone		sl amount of lim and goe in fracture zone
22	6" of gry gouge at 22.2'		FeOx stn on fractures
25	milky quartz		tr amts of very light limonite staining, no sulfides noted
28–31	Metafelsite (SF) as above, minor qz veinlets (<1mm), 3 cm wide qz segregation at 30° with thin chlorite selvages, tr amts of calcite on fractures	50	rust colored FeOx on fractures
36		55	
41		55	
44–46	as above		minor FeOx
50			

RECOVERY

Run	Run length	Core	%
0–13.2	13.2	2.7	20
13.2–16.9	3.7	2.8	76
16.9–19.2	2.3	2.2	96
19.2–20.4	1.2	1.2	100
20.4–23.5	3.1	2.7	87
23.5–27.6	2.1	0.9	43
27.6–32.0	4.4	4.3	98
32.0–36.7	4.7	4.7	100
36.7–41.5	4.5	4.5	100
41.5–45.6	4.4	4.2	95
45.6–	5.4	4.9	91

ANALYTICAL

Sample	Interval	Au oz/t	Ag oz/t	Cu ppm	Pb ppm	Zn ppm
13960	22.5-27.5	ND	ND	5	30	85
13961	32.0-35.0	ND	ND	ND	15	145

BOX: 1 (to ~19 ft), 2 (~19–32 ft), 3 (~32–42 ft), 4 (~42–50+ ft)

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm	BOX
Metafelsite (SF) m gry to dk gry, mica (bjc)-qz-fsp, foliated with thin color bands, minor qz veinlets, calcite on fracture at 51', qz segregations in foliation plane up to 4" thick - qz is vitreous white - cross cutting veinlets are more Fe-stained, chlorite selvages marginal to some qz	60	light FeOx on fractures, a few pseudomorphs of lim after py noted; sl tr py in qz vein euhedral, shiny xtal; tr ap in qz	51.0	10.0	10.0	100	13962	51.0-55.0	ND	ND	ND	ND	45	5
qz segregations and veinlets		sl tr py and ap dissem and on fractures	61.0	5.5	5.1	93								
	70	minor FeOx staining	66.5	4.8	4.2	88								6
minor calcite on fractures			71.3	2.9	2.9	100								
Metafelsite (SF) as above			74.2	5.1	5.1	100	13963	74.2-79.3	ND	ND	ND	ND	30	7
	80		79.3	0.6	0.6	100								
qz veinlets and small (<0.5 mm wide) calcite veinlets		FeOx selvages on some veinlets	79.9	4.6	4.6	100								
		sl tr lim pseudomorphs after pyrite on some fractures	84.5	4.0	3.8	95								8
	90		88.5	0.5	0.5	100								
			89.0	4.4	4.1	93								
grn-gry clay gouge		rust-orange FeOx on qz vein; tr dissem py, also tr py on fractures	93.4	4.8	4.8	100	13964	95.0-98.2	.024	ND	5	20	40	10
	100	no py noted, minor FeOx on fractures	98.2	5.2	5.1	98								
Metafelsite (SF) as above, dk gry		sl tr to tr py	103.4	4.2	4.1	98								11
	110		107.6	8.1	7.6	94								
		v sl tr py FeOx on fractures	115.7	1.0	1.0	100	13965	115.7-116.7	ND	ND	10	10	360	12
	120		116.7	3.1	2.6	84								
			119.8											

GRAPHIC LOG

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SF)
dk gry, foliated, fine grained, qz-Ksp-mica (biotite) schist, thin color segregations

gouge - can't determine attitude with some rock fragments
clay is gry

milky white vein qz

Metafelsite (SF)
as above, with a few more qz eyes (< 1%), qz veinlets up to 3 mm,

calcite on some fractures

some veinlets are vuggy
offset veinlets
at 148': near vertical (5°) qz veinlets look like tension fracture fillings = up to 10% of rock

148.0

Vein quartz breccia
fractured, sulfide rich, pale blue/grn. oxide (or phosphate), contact is indistinct

sl tr gypsum on fractures

Metafelsite (SF)
as above, contact with qz breccia apparently follows foliation at 158.7'

Graphitic phyllite (SG): 162.5-163

Vein quartz breccia
with SG, qz, and sulfide clasts, vuggy in places, tr gypsum

176.4

Graphitic phyllite (SG)

unconsolidated with qz fragments 182.5-183.5

milky white qz segregations, fissile

FT.

130 — 140 — 150 — 160 — 170 — 180 — 190

GRAPHIC LOG

MINERALIZATION

rusty FeOx on fractures

pervasive FeOx on gouge - except in impermeable zones

tr py in qz
tr py and ap

sl tr py - mostly in qz veinlets
mod FeOx (lim) on fractures
sl tr ap

orange-rust FeOx, tr py and ap

good mineralization: tt, ap, + py
148-149: up to 5% sulfides
149-152.5: 10-30% sulfides
massive in places up to 3" of sulfides: 80% tt, 20% py + ap in massive zones
abun siderite on fractures.
152.5-155: est 1-3% sulfides
FeOx on fractures
155-158.7: 2-15% sulfides (70% tt, 20 ap, 10 py)
158.7-162.5: tr+ ap and py
sl tr tt

2-5% py, up to 5% tt

tr+ to 3% sulfides predominately py

tr+ py

tr py

RECOVERY

Run	Run length	Core	%
124.0	4.2	4.2	100
127.2	3.2	3.2	100
128.4	1.2	1.2	100
132.0	3.6	3.6	100
135.0	3.0	3.0	100
136.3	1.3	1.3	100
137.6	1.3	0.4	31
139.4	1.8	1.0	56
140.4	1.0	0.7	70
144.3	3.9	1.4	36
149.0	4.7	4.7	100
152.7	3.7	3.7	100
156.8	4.1	4.1	100
161.7	4.9	4.7	96
166.4	4.7	2.8	60
171.0	4.6	4.5	98
172.0	1.0	0.4	40
173.6	1.6	1.3	81
176.4	2.8	0.9	32
182.5	6.1	0	0
183.9	1.4	1.4	100
185.0	1.1	1.1	100
188.7	3.7	1.8	49
190.0	1.3	1.1	85

ANALYTICAL

Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm
13966	124.0-127.2	ND	ND	ND	ND	190
13967	140.4-144.3	.005	ND	20	10	170
13968	144.3-148.0	ND	ND	15	10	.270%
13969	148.0-149.0	.100	1.32	315	110	.260%
13970	149.0-152.7	.290	2.82	240	375	1.50%
13971	152.7-156.8	.098	.09	100	65	.520%
13972	156.8-161.7	.039	ND	20	30	.280%
13973	161.7-166.4	.240	1.71	175	110	.455%
13974	166.4-171.0	.150	2.54	420	225	.280%
13975	171.0-172.0	.250	63.6	.40%	630	.600%
13976	172.0-173.6	.012	ND	40	25	870
13977	173.6-176.4	.018	.04	35	10	300
13978	188.7-190.0	ND	.03	60	10	100

BOX

13, 14, 15, 16, 17, 18

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm	BOX
vitreous white quartz segregation can't determine attitude, probably conformable with foliation			no sulfides in qz	191.3											
					1.6	1.6	100								
				192.9											
					1.4	1.4	100								
Graphitic phyllite (SG) nearly vertical foliation minor fold features		4	tr to 1% py subhedral to euhedral	194.3											
					2.5	1.3	52								
				196.8											
					2.2	2.2	100								
	200			199.0											20
					2.3	1.9	83								
				201.3											
					2.2	1.6	73	13979	201.3-203.5	.015	ND	70	20	115	
		EOH		203.5											

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

Property: Red Top	Hole No.: K-20
Location: Kantishna District	Bearing at Collar: N35W
	Inclination at Collar: -50
Coord. - Collar N: 3487183.27	
E: 340924.36	Length: 186.6 feet
Elev. - Collar: 1837.5	Core Size: BW44 - IAX
Date started: 9/6/83	
Completed: 9/9/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION
Mine Dump – from surface to at least 39'		
	10	
	20	
	30	
	40	
Graphitic Phyllite (SG) black, carbonaceous, moderately graphitic, 1-2% fsp (→clay)/qz in foliation	50 (graphic log)	minor lim stain of quartzo-feldspathic / clay segregations
cuttings		
Metafelsite (SF) - oxidized, fractured, v. lt gry clay (fault gouge?) to 52.5'	50	

RECOVERY

Run	Run length	Core	%
	12.4	2.7	21
12.4	2.8	2.2	79
15.2	3.0	2.5	83
18.2	4.3	1.9	44
22.5	4.5	1.0	22
27.0	6.0	0	0
33.0	1.5	1.1	73
34.5	1.5	0	0
36.0			
36.4	0.4	0.4	100
	3.1	1.4	45
39.5	5.5	2.9	53
45.0	3.0	0	0
48.0	4.5	1.6	36

ANALYTICAL

Sample	Interval	Au oz/ton	Ag oz/ton	Cu ppm	Pb ppm	Zn ppm
3470	33.0-34.5	ND	.13	45	640	310

BOX: 1, 2

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	BOX
Metafelsite (SF) med gry to dk gry, qz-fsp-mica schist, drag folds at 54', fractured with qz veinlets and segregations, slightly vuggy		55	FeOx on fractures and qz veinlets, tr py - in fractures and disseminated	
chloritization near fractures; qz veinlets have limonite selvages with local sericitization	60	0	pervasive FeOx in gouge; tr py, sl tr ap, strong FeOx (orange-red to blk)	3
much of the SF to 71.5' is fissile with micas → clay, rock is incompetent		0	tr py and ap, strong orange-red FeOx stn on fractures and clays	
Metafelsite (SF) m gry, fine grained, fractured with cross cutting qz veinlets, qz-fsp-mica schist, foliated, sl tr $CaCO_3$, vugs and open spaces in fractures	70	15	sl tr py, orange-red FeOx on fractures	4
		20		5
as above, rock is claystone-like in places, moderate amount of white clayey layers (fsp → clay) up to 5 mm thick	80		tr py, minor FeOx	
rock is better indurated from 82.5 to 86.5'			FeOx (lim-hem-goe) on fractures, tr py, sl tr ap	6
mostly claystone-like SF with some indurated rock, minor brecciation of qz veinlets with open spaced filling	90			
metafelsite, as above; near vertical foliation with irregular qz segregations in foliation plane		5	tr+ ap, accumulations up to 1.3 x 0.75 cm in qz veins; FeOx - rust orange	7
	100		pervasive lim staining	
105.0 est. cnt.				
	110			8
112.0 unconsolidated gry-tan clay with 10% milky white qz fragments			sl tr FeOx on qz chips	
tan (FeOx) clay with interfingered med gry clay, 5% white clay (from fsp), with a few milky white qz chips			FeOx on tan clay and fractures	
claystone-like poorly indurated med gry SF(?)	120	55	no FeOx; orange FeOx on fractures	9

RECOVERY

Run	Run length	Core	%
52.5 – 55.9	3.4	0.7	20
55.9 – 58.4	2.5	2.5	100
58.4 – 60.2	1.8	1.8	100
60.2 – 63.5	3.3	3.2	97
63.5 – 64.9	1.4	1.4	100
64.9 – 67.9	3.0	3.0	100
67.9 – 71.5	3.6	3.2	89
71.5 – 72.8	1.3	1.3	100
72.8 – 76.1	3.3	3.3	100
76.1 – 77.7	1.6	1.1	69
77.7 – 80.5	2.8	2.8	100
80.5 – 81.3	0.8	0.8	100
81.3 – 84.8	3.5	3.5	100
84.8 – 87.8	3.0	2.7	90
87.8 – 89.8	2.0	1.6	80
89.8 – 91.3	1.5	1.5	100
91.3 – 95.1	3.8	3.8	100
95.1 – 97.3	2.2	2.2	100
97.3 – 99.4	2.1	2.1	100
99.4 – 104.9	5.5	4.4	80
104.9 – 110.4	5.5	0	0
110.4 – 111.6	1.2	1.2	100
111.6 – 113.5	1.9	1.1	58
113.5 – 115.0	1.5	1.0	67
115.0 – 115.4	0.4	0.3	75
115.4 – 116.8	1.4	0.9	64
116.8 – 118.2	1.4	1.0	71
118.2 – 119.3	1.1	0.7	64

ANALYTICAL

Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm
3471	63.5-64.9	.009	ND	10	40	230
3472	84.8-87.8	.005	ND	5	20	120
3473	91.3-95.1	.018	ND	10	40	325
3474	113.5-115.0	.005	ND	25	25	315

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SF)
med gry, fine grained, foliated qz-fsp-mica schist, mica + fsp → clay, minor qz segregations and veinlets, small undulations in foliation

poorly indurated

Quartz vein breccia (SFV) - cataclastic angular qz fragments with qz and lim cement

Metafelsite (SF)
as above, poorly indurated, claystone-like

brecciated qz vein
1 cm white clay (alt. fsp) vein at 143'
claystone
probably an altered less feldspathic SF unit

Metafelsite (SF)
as above, gradational change from well indurated rock to poorly indurated claystone-like rock, minor altered (friable clay) qz/fsp veinlets (< 1 mm)

well indurated SF 156-159'
minor brecciated qz veinlets

Metafelsite (SF)
m. gry, micaceous, as above with claystone-like intervals
indurated rock with intermixed clays

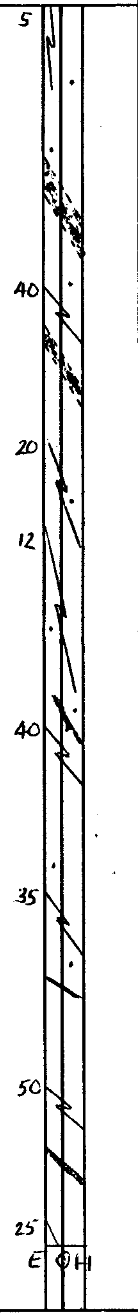
qz fragments in clay

pale red clay on some foliation plane fractures

FT.

130, 140, 150, 160, 170, 180

GRAPHIC LOG



MINERALIZATION

FeOx stn on clays, fractures, and qz veinlets

sl tr py in veinlets

intense FeOx on fractures
tr + ap (up to 3 mm × 3 mm)
tr py

intense FeOx on fractures
sl tr py

very minor FeOx
sl tr py

sl tr v. fine grained py

moderate FeOx
sl tr py

no FeOx

FeOx on fractures

FeOx on fractures
sl tr py

FeOx on fractures

RECOVERY

Run	Run length	Core	%
121.0	1.7	0.5	29
122.3	1.3	0.8	47
123.8	0.5	0.5	100
124.8	1.0	1.0	100
125.8	1.0	0.7	70
126.5	0.7	0.6	86
130.6	4.1	1.2	29
132.7	2.1	1.8	86
133.0	0.3	0.3	100
134.1	1.1	0.9	82
140.0	5.9	1.0	17
140.7	0.7	0.6	86
141.7	1.0	1.0	100
143.0	1.3	1.2	92
143.7	0.7	0.7	100
144.8	1.1	1.0	91
145.2	0.4	0.4	100
147.1	1.9	1.9	100
148.3	1.2	1.2	100
150.0	1.7	1.7	100
150.6	0.6	0.6	100
151.5	0.9	0.8	89
152.5	1.0	0.9	90
153.9	1.4	1.4	100
155.0	1.1	0.9	82
156.1	1.1	1.0	91
157.0	0.9	0.7	78
159.0	2.0	1.6	80
160.4	1.4	0.8	57
162.0	1.6	0.7	44
164.1	2.1	1.5	71
166.0	1.9	1.8	95
167.0	1.0	0.9	90
169.0	2.0	1.7	85
170.5	1.5	1.4	93
171.4	0.9	0.9	100
172.5	1.1	0.8	73
174.0	1.5	1.5	100
175.5	1.5	0.9	60
176.4	0.9	0.8	89
176.9	0.5	0.4	80
178.3	1.4	0.7	50
178.6	0.3	0.3	100
179.4	0.8	0.6	75
180.3	0.9	0.8	89
182.1	1.8	1.7	94
183.6	1.5	1.5	100
186.6	3.0	1.6	53

ANALYTICAL

Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm
3475	126.5-130.6	ND	ND	10	15	170
3476	130.6-132.7	.009	ND	ND	30	120
3477	133.0-134.1	ND	ND	ND	ND	230
3478	134.1-140.0	ND	ND	ND	10	125
3479	157.0-159.0	.005	ND	10	25	185
3480	169.0-170.5	ND	ND	5	25	120
3481	183.6-186.6	ND	ND	10	15	75

BOX

10, 11, 12, 13, 14, 15

DIAMOND DRILL HOLE LOG

Company: BUREAU OF MINES

Property: Red Top	Hole No.: K-21
Location: Kantishna District	Bearing at Collar: N35W
	Inclination at Collar: -50
Coord. - Collar N: 3487521.19	
E: 341481.98	Length: 175 feet
Elev. - Collar: 2063.9	Core Size: BW44 - IAX
Date started: 9/1/83	
Completed: 9/7/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Graphitic Phyllite (SG)
dk gry to black with interbedded calcareous schist (SCS), can't determine thickness or location of SCS due to poor recovery in upper 15' of hole

clay (gouge?) at 15'

Graphitic Phyllite (SG)
blk to dk gry with interbedded layers of qz in foliation plane (1-10 mm), also m gry feldspathic layers (<1-5 mm)

phyllite is clayey and friable in places

Calcareous schist (SCS) [possibly SM]
m gry, foliated, thin (<1-3 mm) color banding, gradational changes to and from SG, calcite effervesence
[this unit could be Buntzen's SM but seems too fine grained]

Graphitic Phyllite (SG)
foliated as above, appears brecciated but fragments may be due to soft sediment deformation, slight amt calcite

Calcareous schist (SCS) [or SM]
med gry to white, as above, calcite segregations to 1.2 cm thick, a few vugs with calcite xtals

6" of breccia at 139.5'

small amounts of calcareous interfingered clayey graphitic-carbonaceous phyllite at 39.5' and 47.5'

FT.: 10, 20, 30, 40, 50

GRAPHIC LOG

MINERALIZATION

tr py in SCS

tr to tr+ py, subhedral to euhedral xtal outlines with FeOx on rims, up to 5 mm, minor FeOx on foliation fractures, some felsic layers with ubiquitous staining

tr fine grained py

FeOx stained layers in foliation

sl tr py with minor FeOx staining near py, py is fine grained

RECOVERY / ANALYTICAL

Run	Run length	Core	%	Sample	Interval	Au oz/ton	Ag oz/ton	Cu ppm	Pb ppm	Zn ppm	BOX
	15.0	1.1	7								
15.0											
17.6	2.6	2.6	100	3454	15.0-17.6	ND	ND	70	65	220	1
	3.9	2.6	67								
21.5											
	4.0	0.8	20								
25.5											
27.0	1.5	0.8	53								
28.5	1.5	1.2	80								
29.4	0.9	0.9	100								
	2.6	1.9	73								
32.0											
	4.3	0.7	16								2
36.3											
	2.7	0.8	30								
39.0											
	2.0	1.3	65								
41.0	0.6	0.6	100								
41.6	0.8	0.7	88								
42.4	1.0	1.0	100								
43.4	1.1	0.5	45								
44.5	2.1	1.2	.57								
46.6	0.8	0.7	88								
47.4	1.5	1.5	100	3455	47.4-48.9	ND	ND	30	35	110	3
48.9	1.4	1.4	100								

LITHOLOGY, ALTERATION, MISC.

Calcareous schist (SCS) [or SM]
med to dk gry with irregular white layers and segregations, thin (<0.5mm) black phyllitic interbeds and fracture fillings, some vugs with calcite xtals, marblized white intervals are up to 6 cm thick, mica is musc + bio

Graphitic Phyllite (SG)
calcareous

Calcareous schist (SCS)
as above but brecciated with calcite cement - could be due to solution collapse

graphitic calcareous schist

Calcareous schist (SCS) [or SM]
as above, with more interbedded graphitic units (SG) up to 25% of rock is graphitic phyllite

fractured [poor recovery]
SCS, SG, and marble

graphitic calcareous schist, as above

Calcareous schist (SCS) [or SM]
med gry to dk gry with marble segregations; irregular, wavy bands of interbedded graphitic layers, rock is 10-20% graphitic phyllite, white marble segregations are up to 4 cm thick

FT.

60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG

40, 35, 25, 15, 10, 45, 40, 55

MINERALIZATION

sl tr fine grained py to tr py, minor FeOx on fractures

tr + py in breccia, up to 2.5 cm x 1.2 cm, slight FeOx on fractures

minor FeOx, sl tr py

sl tr py
sl tr FeOx

sl tr to tr pyrite

sl tr to tr py
occasional xtals up to 5 mm

RECOVERY

Run	Run length	Core	%
50.3	1.3	1.3	100
51.6	0.4	0.4	100
52.0	1.2	1.2	100
53.2	1.0	0.7	70
54.2	1.0	1.0	100
55.2	1.8	1.1	61
57.0	1.7	1.6	94
58.7	1.1	1.1	100
59.8	3.0	1.5	50
62.8	6.8	2.9	43
69.6	1.9	1.9	100
71.5	0.9	0.8	89
72.4	1.1	1.1	100
73.5	1.0	1.0	100
74.5	1.4	0.3	21
75.9	1.9	0.5	26
77.8	0.9	0.7	78
78.7	3.8	0.6	16
81.5	1.0	0.7	70
82.5	1.3	0.8	62
83.8	1.3	0.3	23
85.1	2.6	0.9	35
87.7	2.1	0.9	43
89.8	2.2	0.8	36
92.0	3.0	0.5	17
95.0	5.0	0.5	10
100.0	1.5	1.1	73
101.5	1.3	1.2	92
102.8	0.7	0.3	43
103.5	1.5	0.9	60
105.0	1.0	1.0	100
106.0	1.3	1.1	85
107.3	2.6	1.2	46
109.9	1.4	1.3	93
111.3	2.5	1.4	56
113.8	1.7	1.0	59
115.5	4.5	1.1	24
120.0			

ANALYTICAL

Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm
3456	69.6-71.5	ND	ND	20	25	85
3457	101.5-102.8	ND	ND	35	35	180

BOX

4, 5, 6, 7

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION
Calcareous schist (SCS) [or SM] med gry to dk gry with white marble segregations, graphitic layers (SG) comprise up to 30% of the rock, mica is principally muscovite, white marble occurs in foliation plane and as cross-cutting fractures		tr py, accumulations up to 5 mm; sl tr py
	130	
minor slickensides in foliation plane rake = 60°		tr py
Graphitic phyllite (SG) with 20% SCS, fissile		tr py, minor FeOx
Calcareous schist (SCS) [or SM] as above	140	tr py, good euhedral xtals
graphite-rich zone		
	150	
minor voids		
Graphitic Phyllite (SG) with interbedded SCS, as above	160	tr py; 1 cm wide zone of 2% py
Calcareous schist (SCS) [or SM] as above	170	tr py
Graphitic Phyllite (SG)		

GRAPHIC LOG

RECOVERY

Run	Run length	Core	%
	1.9	0.2	11
121.9	0.9	0.9	100
122.8	1.2	0.6	50
124.0	1.4	0.2	14
125.4	3.8	3.8	100
129.2	1.0	1.0	100
130.2	2.6	1.4	54
132.8	1.4	1.1	79
134.2	1.6	0.8	50
135.8	1.2	0.7	58
137.0	0.8	0.7	88
137.8	1.9	1.8	95
139.7	1.0	1.0	100
140.7	1.0	0.9	90
141.7	1.2	1.2	100
142.9	0.9	0.9	100
143.8	2.0	2.0	100
145.8	0.9	0.4	44
146.7	1.0	0	0
147.7	1.0	0.6	60
148.7	1.9	0.5	26
150.6	1.3	1.1	85
151.9	2.2	0.8	36
153.1	0.9	0.6	67
154.0	1.4	0.6	43
155.4	0.7	0.7	100
156.1	0.7	0.7	100
156.8	0.9	0.7	78
157.7	0.3	0.2	67
158.0	1.6	1.6	100
159.6	4.1	0.5	12
163.7	0.5	0.5	100
164.2	1.1	0.8	80
165.3	0.6	0.6	100
165.9	1.7	1.5	88
167.6	0.9	0.3	33
168.5	1.7	0.9	53
170.2	1.4	0.7	50
171.6	1.2	0.9	75
172.8	0.7	0.1	14
173.5	1.5	1.5	100
175.0			

ANALYTICAL

Sample	Interval	Au	Ag	Cu ppm	Pb ppm	Zn ppm
3458	121.9-122.8	ND	ND	55	30	145
3459	137.8-140.7	ND	ND	25	25	85
3460	150.6-151.9	ND	ND	20	40	75
3461	158.0-159.6	ND	ND	15	35	75
3462	73.5-175.0	ND	ND	105	15	105

BOX: 8, 9, 10, 11, 12

DIAMOND DRILL HOLE LOG

Company U.S. BUREAU OF MINES

Property: Golden Dollar	Hole No.: K-22
Location: Kantishna	Bearing at Collar: N 20° W
	Inclination at Collar: -60
Coord. - Collar N: 3 489 398.79	
E: 345 992.37	Length: 61'
Elev. - Collar: 2555.4	Core Size: BW44 - IAX
Date started: 9/6/83	
Completed: 9/7/83	Logged by: CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

Metafelsite (SFQ)
dk gry, fine grained, foliated, some biotite-rich phyllitic chips, a few small chips of vitreous quartz, slightly vuggy, 2% qz eyes

as above
POOR RECOVERY

v. dk gry to blk mica-rich phase of SFQ (bio + chlor) intermixed with chips of SFQ as above, small amt of milky qz fragments

clay rich gouge (?) zone
m. dk gry, can't determine attitude

Metafelsite (SF)
dk gry, fine grained, foliated, micaceous, <4% qz eyes

GRAPHIC LOG

55
60
35

MINERALIZATION

limonite on fractures and in foliation layers

FeOx stn

FeOx stn (lim) on qz, minor lim on fractures in SFQ, v. sl tr py

minor hem stn on fractures

v. minor FeOx

RECOVERY

Run	Run length	Core	%
	12.0	0	0
12.0	1.0	0	0
13.0	2.0	0	0
15.0	2.0	0.4	20
17.0	2.0	0.3	15
19.0	2.0	0	0
21.0	3.0	0	0
24.0	2.0	0.2	10
26.0	2.0	0	0
28.0	2.0	0	0
30.0	2.0	0	0
32.0	1.5	0.7	47
33.5	5.5	0.8	14
39.0	3.9	2.0	51
42.9	2.1	1.6	76
45.0	2.0	2.0	100
47.0	5.0	2.0	40

ANALYTICAL

Sample	Interval					

BOX

1

FT.: 10, 20, 30, 40, 50

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BOX
Metafelsite (SF) m gry, micaceous, foliated, schistose, as above		60	v. sl tr FeOx	52.0						
				55.0	3.0	0.9	30			
				57.7	2.7	0	0			
				58.0	0.3	0	0			
	60			61.0	3.0	0	0			
		EOH								
STUCK ROD terminated hole										
new hole in same location @ -70° is K-22B										

DIAMOND DRILL HOLE LOG

Company U. S. BUREAU OF MINES

Property Golden Dollar	Hole No. K-22B
Location Kantishna	Bearing at Collar N20°W
	Inclination at Collar -70
Coord. - Collar N 3 489 398.79	
E 345 992.37	Length 226.3′
Elev. - Collar 2555.4	Core Size BW44 - IAX
Date started 9/7/83	
Completed 9/10/83	Logged by CHC

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION
Metafelsite (SFQ) dk gry, fine grained, qz-fsp-mica schist, some intermixed clay, 2% qz eyes		v. minor FeOx
POOR RECOVERY TO 25.6′	10	
	20	
Metafelsite (SF) dk gry, micaceous, schistose, friable in places, thin segregations of quartzofeldspathic minerals	30	red-orange FeOx on fractures; hem pseudomorphs after py
		minor FeOx (lim)
	40	
	50	

GRAPHIC LOG: 30, 20, 25

RECOVERY

Run	Run length	Core	%
	25.6	0.9	4
25.6	1.6	1.4	88
27.2	0.9	0.9	100
28.1	1.9	1.9	100
30.0	2.0	2.0	100
32.0	2.1	0.4	19
34.1	1.9	1.3	68
36.0	0.1	0.1	100
36.1	2.9	1.3	45
39.0	2.0	2.0	100
41.0	3.0	1.6	53
44.0	3.5	3.5	100
47.5	0.7	0.7	100
48.2	2.0	1.7	85

ANALYTICAL

Sample	Interval	Au oz/ton	Ag oz/ton	Cu ppm	Pb ppm	Zn ppm
3482	25.6-27.2	ND	ND	ND	30	45

BOX: 1-3, 4, 5

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Metafelsite (SF) m gry to m dk gry, fsp-qz-mica, bio → chlor and musc, foliated with faint laminations		20	very slight amt. of FeOx (bio → lim)
	60		
as above	70		slight hem on fractures
	80		
	90		
Metafelsite m dk gry, foliated with thin (<0.5mm) discontinuous fsp laminations, minor cross-cutting qz veinlets and calcite veinlets, calcite on some fractures, chlorite is more conspicuous than above, 1% qz porphyroblasts		20	minor FeOx red hem on calcite on a few of the fractures
	100		
			v. slight FeOx
as above	110		
	120		

Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu	Pb	Zn	BOX
50.2	2.3	2.3	100	3483	50.2-54.5	ND	ND	ND	35	55	
54.5	5.5	0.7	13								
60.0	2.7	0	0								6
62.7	2.3	0	0								
65.0	2.0	0.4	20								
67.0	2.0	1.7	85								
69.0	3.0	1.7	57								
72.0	3.0	1.7	57								
75.0	2.0	0.7	35								
77.0	2.5	0.9	36								
79.5	2.5	1.4	56	3484	79.5-82.0	ND	ND	ND	45	125	7
82.0	1.2	1.2	100								
83.2	1.9	0.4	21								
85.1	1.5	1.3	87								
86.6	1.1	0.7	64								
87.7	1.0	0.7	70								
88.7	1.6	0.6	38								
90.3	2.7	0.7	26								
93.0	0.7	0.6	100								
93.7	1.0	0.6	60								
94.7	0.6	0.4	67								
95.3	2.7	1.0	37								8
98.0	2.0	0.8	40								
100.0	0.7	0.6	86								
100.7	1.2	1.1	92	3485	100.7-101.9	ND	ND	5	80	110	
101.9	1.2	0.4	33								
103.1	5.9	0.9	15								
109.0	1.6	0.9	56								
110.6	1.0	0.6	60								
111.6	2.6	0.8	31								9
114.2	2.8	0.9	32								
117.0	1.5	0.6	40								
118.5	2.5	0.4	16								

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	BOX
Metafelsite (SF) m gry, fine grained, qz-fsp-mica schist, foliated with thin (<0.5mm) irregular fsp laminations, cross-cutting qz/ank veinlets with minor chloritization (veinlets up to 5.0 mm thick), calcite on some fracture surfaces			tr py	
	130	25	sl tr hem	
3% biotite grades into sl tr bio				
				11
lt. gry clay with SF chips can't determine attitude	140		tr + py → mt 1 cm × 2 cm in fracture also disseminated	
biotite-rich (3%) phase of SF calcite veinlets some fractures are chloritized		40	sl pink-red (hem) staining no sulfides noted	
minor sericite				
	150			12
	160	55		
poorly indurated, claystone-like SF grades into more cohesive better lithified rock			sl tr ap	13
	170			
				14
	180	30		
Metafelsite (SF) dk gry, biotite, foliated with thin fsp segregations, as above			no sulfides noted	
	190			15

RECOVERY			
Run	Run length	Core	%
121.0–122.4	1.4	0.6	43
122.4–123.3	0.9	0.8	89
123.3–124.3	1.0	0.4	40
124.3–125.8	1.5	1.5	100
125.8–126.8	1.0	0.6	60
126.8–128.3	1.5	0.4	27
128.3–129.0	0.7	0.7	100
129.0–130.0	1.0	0.9	90
130.0–131.3	1.3	1.3	100
131.3–132.9	1.6	1.4	88
132.9–134.0	1.1	1.1	100
134.0–135.4	1.4	1.2	86
135.4–136.3	0.9	0.8	89
136.3–137.3	1.0	0.9	90
137.3–138.6	1.3	1.3	100
138.6–140.3	1.7	1.5	88
140.3–142.0	1.7	1.7	100
142.0–143.0	1.0	0.9	90
143.0–144.2	1.2	1.2	100
144.2–146.5	2.3	2.3	100
146.5–148.0	1.5	1.4	93
148.0–149.1	1.1	0.9	82
149.1–150.0	0.9	0.8	89
150.0–152.2	2.2	1.1	50
152.2–154.6	2.4	1.4	58
154.6–155.6	1.0	0.9	90
155.6–156.9	1.3	0.9	69
156.9–158.2	1.3	0.7	54
158.2–159.9	1.7	0.4	24
159.9–161.8	1.9	1.3	68
161.8–162.9	1.1	1.1	100
162.9–164.5	1.6	1.1	69
164.5–166.2	1.7	1.5	88
166.2–167.8	1.6	1.5	94
167.8–169.0	1.2	1.0	83
169.0–170.0	1.0	0.3	30
170.0–172.0	2.0	0.6	30
172.0–173.3	1.3	1.1	85
173.3–174.3	1.0	0.9	90
174.3–174.8	0.5	0.5	100
174.8–176.5	1.7	1.4	82
176.5–177.2	0.7	0.1	14
177.2–180.0	2.8	0.9	32
180.0–181.0	1.0	0.8	80
181.0–183.0	2.0	0.1	5
183.0–184.3	1.3	0.6	46
184.3–185.3	1.0	1.0	100
185.3–186.3	1.0	1.0	100
186.3–186.9	0.6	0	0
186.9–187.7	0.8	0.8	100
187.7–188.6	0.9	0.6	67
188.6–190.0	1.4	1.4	100

ANALYTICAL						
Sample	Interval	Au	Ag	Cu	Pb	Zn
3486	124.3-125.8	ND	ND	5	35	95
3487	138.6-140.3	ND	ND	35	45	485
3488	164.5-166.2	ND	ND	5	85	70
3489	185.3-186.3	ND	ND	10	30	100

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Metafelsite (SF) dk gry, fine grained, foliated, very thin faint laminations, qz-fsp-mica (chlor + bio) schist, cross cutting calcite veinlets up to 2 mm thick, chlorite selvages on veinlets, some fractures are chloritized		30	v. sl tr py – a couple of small grains noted
qz/ank veinlets (mostly carbonate)	200		sl tr py
veinlets as above	210		tr py marginal to veinlets
			sl tr py
minor graphite on some fractures			slight red hematite staining
faint slicks at 25°			
Metafelsite (SF) as above minor calcite veinlets	220		
		EOH	

RECOVERY

Run	Run length	Core	%
191.3	1.3	0.9	70
192.5	1.2	1.2	100
194.0	1.5	1.3	87
195.1	1.1	1.1	100
196.1	1.0	1.0	100
197.1	1.0	0.7	70
197.8	0.7	0.6	86
198.9	1.1	0.7	64
200.2	1.3	0.9	69
	3.5	1.7	49
203.7			
	1.7	1.7	100
205.4	1.1	0.3	27
206.5	1.0	0.9	90
207.5	1.0	0.9	90
208.5	1.2	1.2	100
209.7	1.0	1.0	100
210.7			
	1.4	0.8	57
212.1	1.6	1.6	100
213.1	0.9	0.6	67
214.6	0.5	0.2	40
215.1			
	2.0	2.0	100
217.1			
	2.0	1.9	80
219.1 ~~219.7~~	0.6	0.3	50
220.9	1.2	0.9	75
	1.3	1.3	100
222.2			
222.8	0.6	0.6	100
224.1	1.3	1.3	100
	2.2	2.2	100
226.3			

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Pb	Zn
3490	200.2-203.7	.005	ND	10	35	170
3491	224.1-226.3	ND	ND	ND	ND	25

BOX

16

17

18

19

APPENDIX D

SAMPLE ANALYSIS AND INTERPRETATION

By Wm. G. Salisbury

TABLE OF CONTENTS

SAMPLE ANALYSIS AND INTERPRETATION

INTRODUCTION

A total of 2,421 samples were collected and analyzed during the 1983 study. The distribution of samples by type and quantity is shown in table AD-1. The table also shows the type of analysis performed on the various kinds of samples. All analyses were performed by Skyline Laboratories in Wheat Ridge, Colorado.

Ammonium citrate-dithizone cold extractable heavy metal (CxMH) analyses were performed on all Kantishna soil samples by field methods before transmittal to the laboratory for conventional determinations. CxHM results correlated well with laboratory analyses and proved to be a rapid and inexpensive indicator of anomalous metal concentrations.

Free gold was recovered from placer concentrates in the field by physical extraction and/or mercury amalgamation. The remaining concentrates were analyzed in the laboratory by the methods shown on table AD-1.

Detection limits for the various methods of analysis are shown on table AD-2.

INTERPRETATION

Analytical data were interpreted by Salisbury & Dietz, Inc. utilizing computer software applications contained in "EARTH SCIENCE INFORMATION SYSTEM" (ESIS), a product of Control Data Corporation. ESIS provides data base management, statistical processing, and data presentation in a variety of formats.

Each of the sample types from both study areas were compiled into separate data bases for interpretation. Stream sediment, panned concentrate, soil, and rock chip samples from previous studies were also accumulated in data base files. Data from previous studies were treated separately in statistical calculations because of differences in analytical techniques and detection limits. No statistics were performed on sample populations from the Dunkle area. Previous samples include 681 soils and 5 stream sediments from the Dunkle area and 453 stream sediments from the Kantishna area. All of the data is shown on tables AD-10 through AD-27.

Ordered arrays, frequency distributions, and correlation matrices were prepared for major elements in each sample type from the Kantishna Hills study area. Erratically high sample values were eliminated prior to statistical processing.

Threshold values for stream sediment and panned concentrate samples were defined as the lower value of the upper 25th percentile of the sample population. Third order anomalies were defined as those values ranging from threshold to mean plus one standard deviation. Second order anomalies were defined as those values between mean plus one and mean plus two standard deviation. First order anomalies were defined as those values exceeding mean plus two standard deviations and include the high values eliminated from statistical processing. All elements were treated in this manner except that any detectable gold was considered anomalous. The anomalous areas delineated on figures K-34 through K-41 in the text are based on values which exceed the lower limits for second order anomalies. A statistical breakdown of anomalous stream sediment samples from the Kantishna area is shown in table AD-3. Similar information for panned concentrates is contained in table AD-4. Anomalous samples in the Dunkle study area were selected by inspection of analytical results.

Element correlation matrices for stream sediment rock and soil samples from the Kantishna area are shown in tables AD-5 through AD-7. Lead and silver in stream sediments correlate moderately, but concentrations of other elements appear to vary independently. Lead-silver and tungsten-gold show a high correlation and lead-zinc correlates moderately well in rock samples. All elements except arsenic in soil samples show an unusually high correlation and arsenic correlates moderately with the other elements. It should be noted that in all cases the samples have been combined from many diverse populations.

All analytical data were transferred to computer tape for archival with the Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys.

Combined element maps for stream sediments, rock chips, and panned concentrates were hand drafted from computer plots for each element (plates K-10, K-11, D-2, and D-3). Anomalous sample locations are shown on plates K-12 through K-15. Plan maps showing soil sample locations and value profiles are contained in this Appendix (figures AD-1 through AD-25. Soil grid locations are shown on plate 17.

Table AD-1 - Sample Types and Analytical Methods

No. of Samples	Sample Types	Method of Analysis and Elements
16	Rock Chip Character Samples	Suite 1 Assay plus Suite 3 Geochem
309	Rock Chip Samples Kantishna	Suite 1 Assay
94	Rock Chip Samples Dunkle	Suite 2 Assay
400	Drill Core Samples	Suite 1 Assay
944	Soils Kantishna	Suite 1 Geochem
53	Soils Kantishna	Suite 1 plus Co, Sn, and V, Geochem
88	Soils Dunkle	Suite 2 Geochem
217	Stream Silt Samples Kantishna	Suite 1 Geochem
55	Stream Silt Samples Dunkle	Suite 1 Geochem
15	Placer (pits and cable tool) Samples	Suite 3 Geochem (after amalgamation)
14	Placer (pits)	31 Element Spec (after amalgamation)
66	Reconnaissance Placer Kantishna	Suite 3 Geochem (after amalgamation)
73	Reconnaissance Placer Kantishna	31 Element Spec (after amalgamation)
4	Reconnaissance Placer Dunkle	Suite 3 Geochem (after amalgamation)
3	Reconnaissance Placer Dunkle	31 Element (after amalgamation)
45	Panned Concentrates Kantishna	Suite 1 Geochem
10	Panned Concentrates Kantishna	Suite 3 Geochem
18	Panned Concentrates Dunkle	Suite 1 plus Sn Geochem
179	Placer Samples Kantishna	Amalgamation
9	Placer Samples Dunkle	Amalgamation

Suite 1 - ASSAY

Au, Ag - Fire
Cu, Pb, Zn, Sb, Bi, As - AA
Mo, W - Colorimetric

Suite 2 - ASSAY

Au, Ag - Fire
Cu, Pb, Zn, Co, Ni - AA
Sn, Mo, W - Colorimetric

Suite 3 - GEOCHEM

Au, Ag, Cu, Pb, Zn, Sb, As, Bi, Fe - AA
Cd, Co, Ni, Sn, Mo, Cr, Be, Te - AA
W, Nb - Colorimetric
Ba, B, Mn, V, Ga, Y, Ta, La - ICAP or Best Means
Zr, Th, Ti, Sc, Ce, Sc - ICAP or Best Means
Pt, Pd Group - Fire ICAP

Suite 1 - GEOCHEM

Au, Ag - AA Fire
Cu, Pb, Zn, Sb, Bi, Mo, W - AA

Suite 2 - GEOCHEM

Au, Ag - AA Fire
Cu, Pb, Zn, Co, Ni, Sn, Mo, W, As - AA

31 ELEMENT SPEC

Fe, Ca, Mg, Ag, As, B, Be, Bi, Cd, Co, Cr, Cu, Ga, Ge, La, Mn, Mo, Nb, Ni, Pb, Sb, Sc, Sn, Sr, Ti, V, W, Y, Zn, Zr

AA = Atomic Absorption
ICAP = Induced Coupled Argon Plasma

Table AD-2 - Detection Limits of Elements Analyzed by Atomic Absorption and Emission Spectrographic Methods, Skyline Labs, Inc. Wheat Ridge, Colorado

Element	Atomic Absorption (ppm)	Emission Spectrographic (ppm)
Ag (Fire A.A.)	0.2	1
As	10	500
Au (Fire A.A.)	.02	NA
B	NA	10
Ba	10	10
Be	2	2
Bi	1	10
Ca	NA	200
Cd	.01	50
Co	5	5
Cr	10	10
Cu	5	2
F	100	NA
Fe	5	500
Ga	NA	10
Ge	NA	20
Hg	.01	NA
I	1	NA
La	NA	20
Mg	NA	200
Mn	10	10
Mo	2	2
Nb	10	20
Ni	5	5
Pb	5	10
Pd	.01	NA
Pt	.01	NA
Sb	1	100
Sc	NA	10
Se	2	NA
Sn	1	10
Sr	NA	100
Te	0.1	NA
Ti	NA	20
Tl	1	NA
V	10	10
W	2	50
Y	NA	10
Zn	5	200
Zr	NA	20

NOTE:

Fire Assay:	Au and Ag	<0.001	oz/ton
Colorimetric:	Mo, W, Sn	<2.0	ppm
ICAP:	Pt, Pd	<0.01	ppm
	Rare Earths	10	ppm
	Common Elements	1	ppm

Table AD-3 - Anomalous Stream Sediment Samples
1983 Kantishna Hills Study

Element	Mean	Std. Dev.	Upper 25 Percentile Range	Upper 25 Percentile #Spls	Upper 25 Percentile Rank %	3rd Order Range	3rd Order #Spls	3rd Order Rank %	2nd Order Range	2nd Order #Spls	2nd Order Rank %	1st Order Range	1st Order #Spls	1st Order Rank %	Highly Anomalous Range	Highly Anomalous #Spls
* Au	.05	.03	*.02-.42	31	All values detectable are plotted as anomalous											
Ag	.58	.44	.7-2.0	21	+77%	.7-1.0	9	77-85%	1.1-1.4	7	86-94%	1.5-2.0	5	+94%	2.8-8.3	5
As	71	101	100-550	45	+77%	100-165	25	81-90%	166-225	9	91-95%	256-550	11	+95%	1250-7500	8
Cu	42	20	55-185	45	+85%	55-60	24	85-90%	61-80	18	86-98%	91-185	4	+98%	255-5650	5
Pb	40	63	40-530	48	+75%	40-95	30	75-91%	96-175	13	92-98%	176-530	7	+98%		0
Sb	21	34	16-205	55	+75%	16-55	39	75-92%	56-90	7	93-95%	91-205	9	+95%	680-115000	5
W	5	2	6-19	40	+80%	6-7	30	80-95%	8-9	8	96-98%	10-19	2	99%	50	1
Zn	155	91	165-550	63	+75%	165-245	40	75-89%	246-335	11	90-95%	336-550	12	+95%	720-5900	6
					Anomalous Values Prior Studies											
Au	.06	.09	.01-.59	40	(All values above .025 plotted as anomalous)											
Ag	.33	.28	.4-2.0	46	+75%	.4-.6	30	75-92%	.7-.89	11	93-96%	.9-2.0	5	97%	2.8- +12	5
Cu	37	18	40-190	73	+75%	40-57	52	68-91%	58-75	14	92-97%	76-190	7	97-100%		0
Pb	30	13	33-122	76	+75%	33-43	48	68-88%	44-54	18	89-96%	55-122	10	98%	548-NA	2
Sb	14	17	15-133	40	+75%	15-31	24	70-90%	32-44	10	91-96%	45-133	6	98%		5
Zn	137	77	138-526	80	+75%	138-213	59	72-90%	214-284	11	91-95%	285-526	10	96-100%		0

Table AD-4 - Anomalous Reconnaissance Placer Panned Concentrates
Kantishna Hills Study Area

Element	Mean	Std. Dev.	Upper 25 Percentile		3rd Order		2nd Order		1st Order		Highly Anomalous	
			Range	#Spls	Range	#Spls	Range	#Spls	Range	#Spls	Range	#Spls
Ag	6	12	5-70	25	5-18	18	19-30	1	31-70	3	71-3680	3
Au	.025 oz/cuyd	.060 oz/cuyd	All samples > .010 oz/cuyd		Total 17 samples, all samples .001-.01 oz/cuyd = 38 spls							
As	151	199	130-870	27	130-350	15	351-549	2	550-749	1	870-12500	9
Cu	34	37	40-380	37	40-71	27	72-108	2	109-380	5	381-3500	3
Pb	67	101	50-530	55	50-168	31	169-269	7	270-530	8	531-473000	9
Sb	82	155	32-730	29	32-237	14	238-392	4	393-730	3	731-7000	8
W	72	87	60-420	36	60-159	16	160-247	7	248-430	4	431-17850	9
Zn	141	87	200-500	30	200-228	20	229-316	8	317-500	1	501-5700	1

Table AD-5 - Stream Sediments Correlation Matrix
Kantishna Hills Study Area

Position	Element	1 Ag	2 As	3 Au	4 Cu	5 Pb	6 Sb	7 W	8 Zn
1	Ag	100	10	-21	10	54	1	3	-6
2	As	10	100	-26	-1	44	30	14	3
3	Au	-21	-26	100	-9	-32	-15	1	-11
4	Cu	10	-1	-9	100	13	-1	-3	17
5	Pb	54	44	-32	13	100	16	8	6
6	Sb	1	30	15	-1	16	100	4	-2
7	W	3	14	1	-3	8	4	100	-5
8	Zn	-6	3	-11	17	6	-2	-5	100

Table AD-6 - Rock Correlation Matrix
Kantishna Hills Study Area

Position	Element	1 Ag	2 As	3 Au	4 Cu	5 Pb	6 Sb	7 W	8 Zn
1	Ag	100	13	21	46	85	2	32	33
2	As	13	100	-4	18	16	-4	-2	-1
3	Au	21	-4	100	-1	39	-5	72	-5
4	Cu	46	18	-1	100	54	14	5	30
5	Pb	85	18	39	54	100	24	44	57
6	Sb	2	-4	-5	14	24	100	-1	15
7	W	32	-2	72	5	44	-1	100	-2
8	Zn	33	-1	-5	30	57	15	-2	100

Table AD-7 - Soil Sample Correlation Matrix
Quigley Ridge/Jupiter Mars,
Kantishna Hills Study Area

Position	Element	1 Ag	2 Au	3 Cu	4 Pb	5 Sb	6 Zn	7 As
1	Ag	100	93	91	97	97	91	57
2	Au	93	100	91	96	96	89	68
3	Cu	91	91	100	89	92	88	50
4	Pb	97	96	89	100	95	93	58
5	Sb	97	96	92	95	100	90	58
6	Zn	91	89	88	93	90	100	58
7	As	57	68	50	58	58	58	100

Table AD-8 - Soil Correlation Matrix
Kantishna Hills Study Area

Position	Element	1 Ag	2 Au	3 Cu	4 Pb	5 Sb	6 Zn	7 As	8 W
1	Ag	100	88	77	81	82	70	54	2
2	Au	88	100	83	71	78	62	64	15
3	Cu	77	83	100	60	54	59	36	-4
4	Pb	81	71	60	100	53	75	48	-3
5	Sb	82	78	54	53	100	50	42	23
6	Zn	70	62	59	75	50	100	44	-4
7	As	54	64	36	48	42	44	100	1
8	W	2	15	-4	-3	23	-4	1	100

Table AD-9 - Soil Correlation Matrix, Dunkle Mine Study Area

Position	Element	1 Ag	2 Au	3 Cu	4 Pb	5 Sb	6 Zn	7 As
1	Ag	100	26	-2	50	0	-12	37
2	Au	26	100	-8	26	0	-8	12
3	Cu	-2	-8	100	16	0	56	75
4	Pb	50	26	16	100	0	22	21
5	Sb	0	0	0	0	0	0	0
6	Zn	-12	-8	56	22	0	100	38
7	As	37	12	75	21	0	38	100

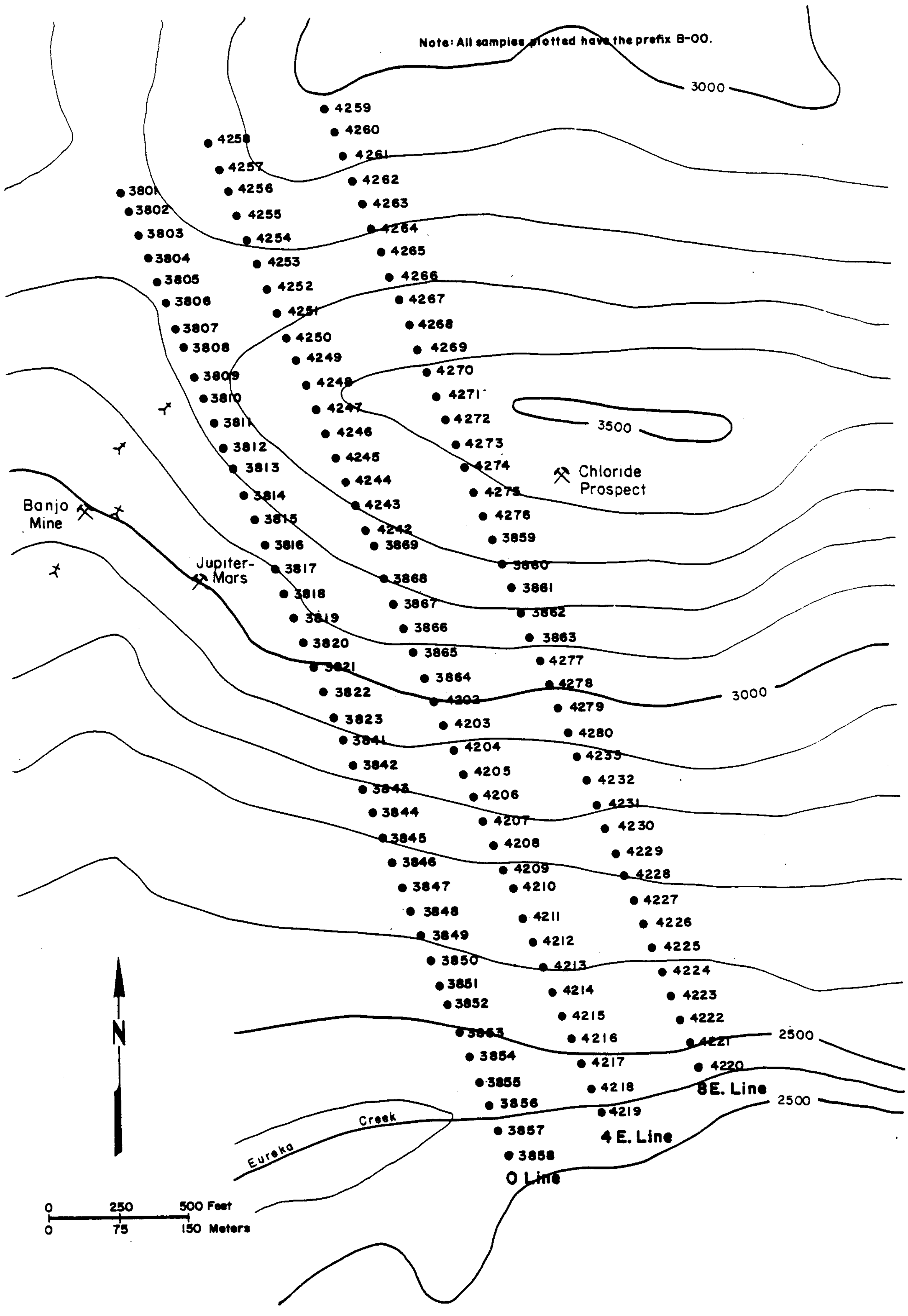


Figure AD-1 Jupiter-Mars soil grid

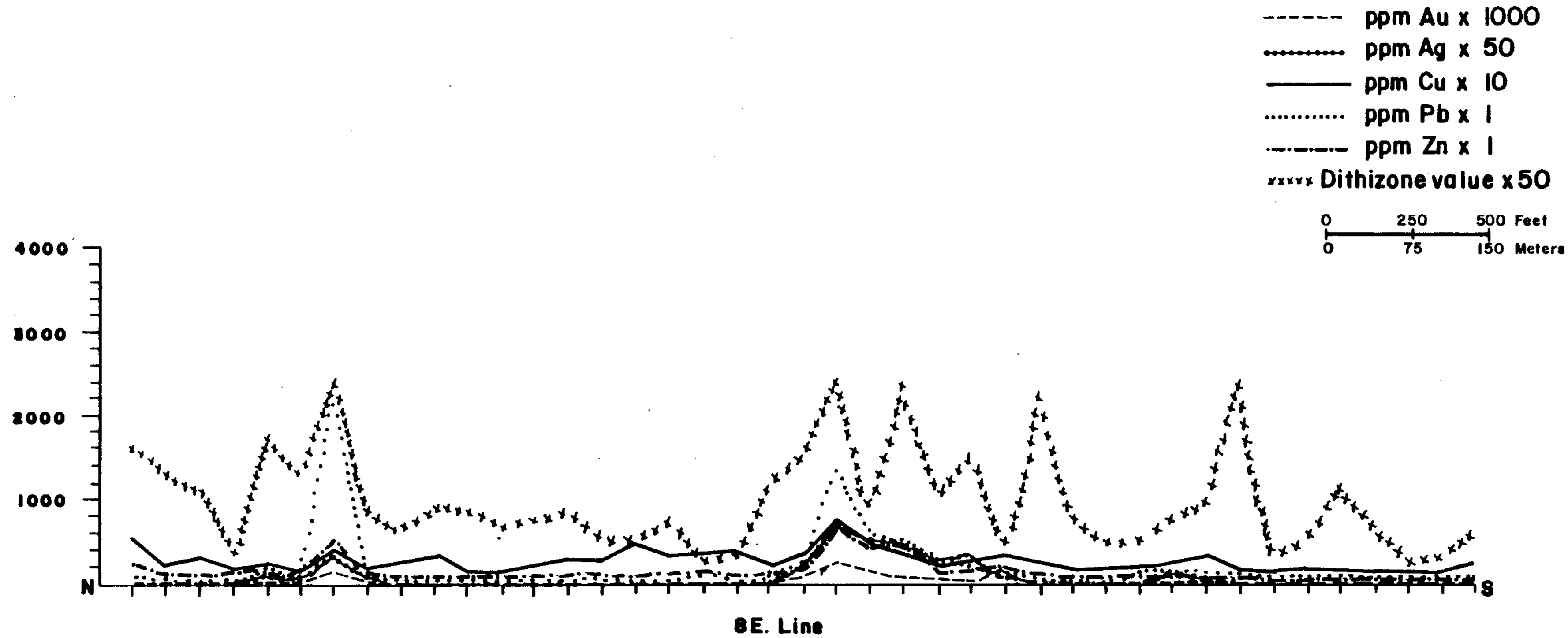


Figure AD-2 Jupiter-Mars soil profiles

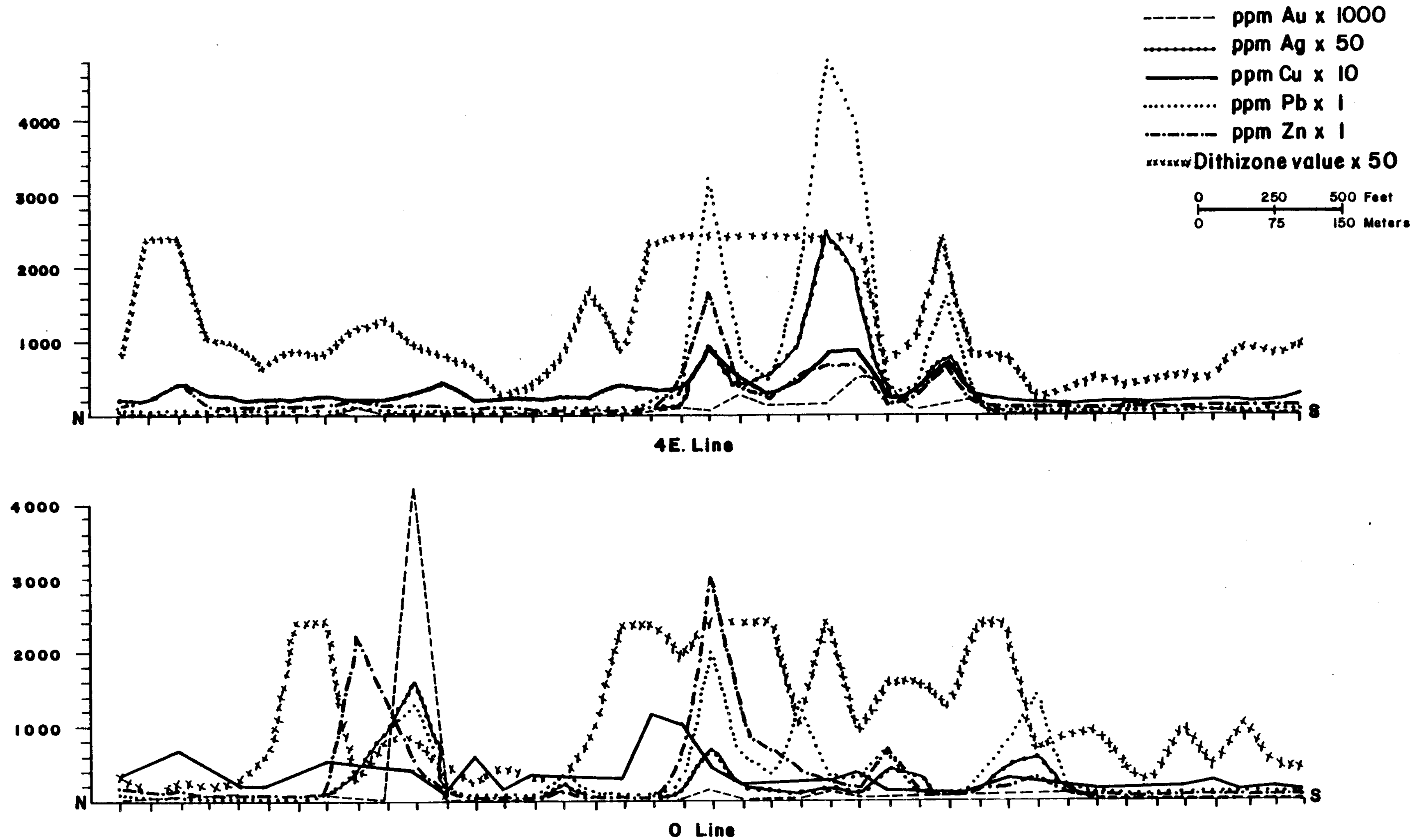


Figure AD-3 Jupiter-Mars soil profiles

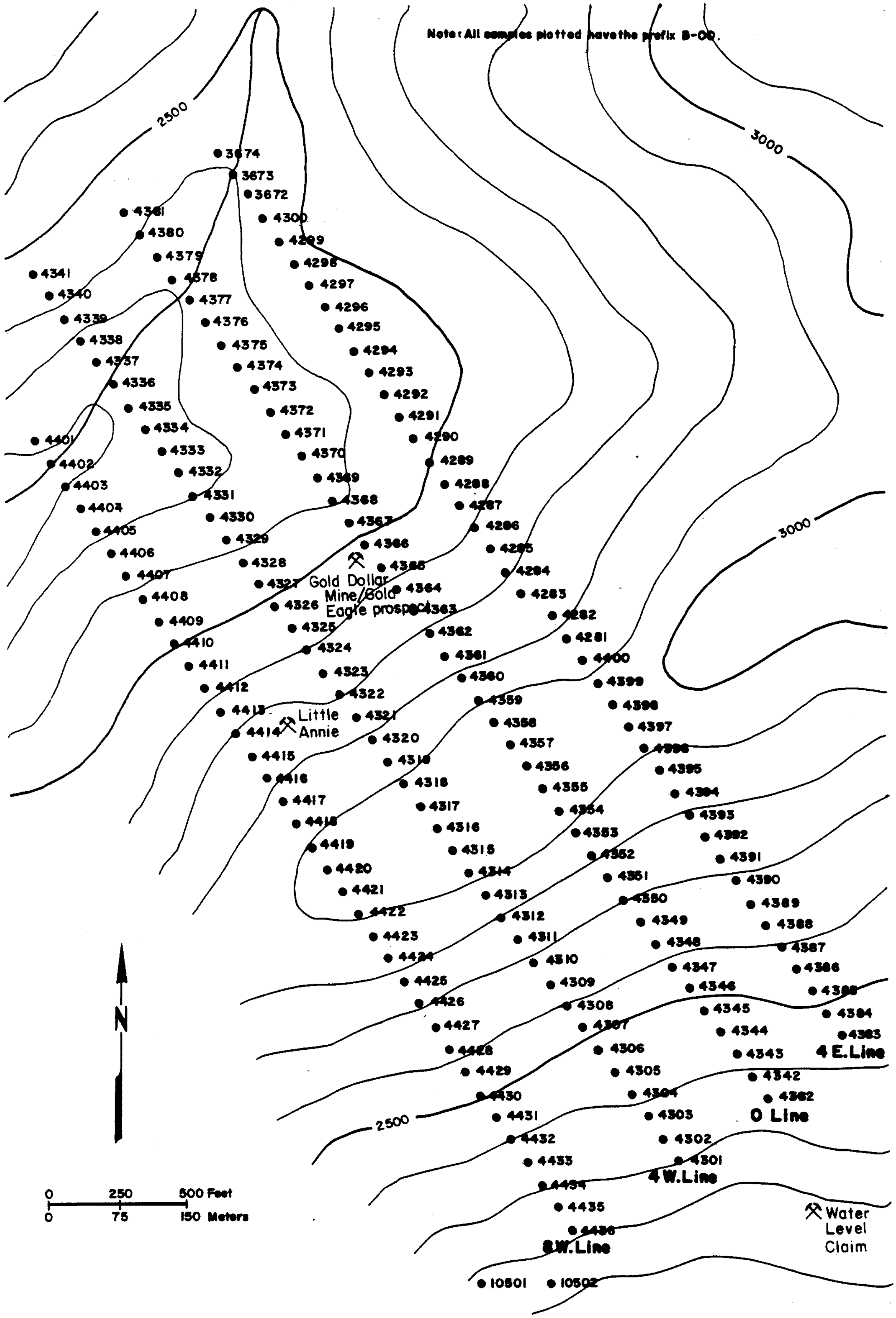


Figure AD-4. Little Annie soil grid

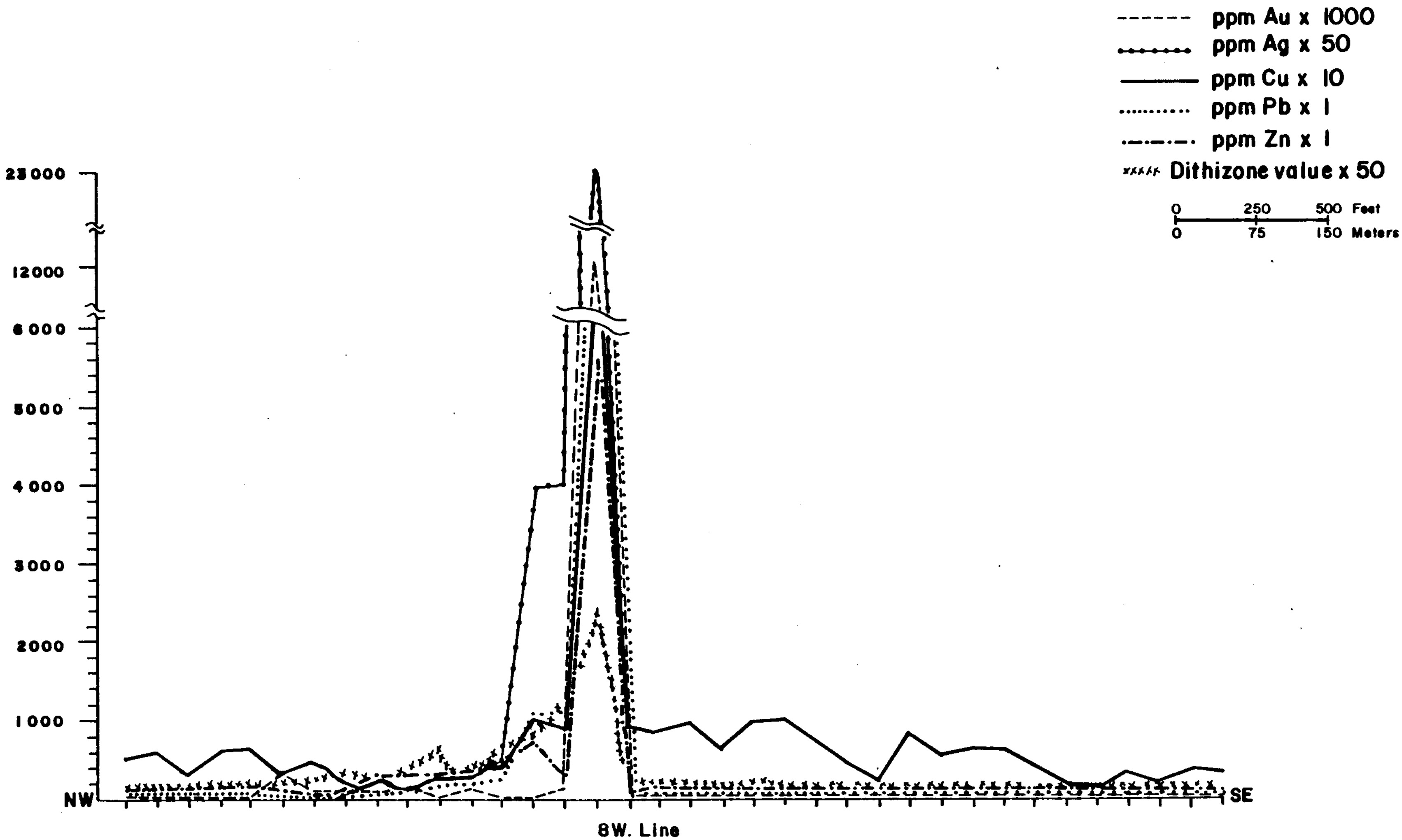


Figure AD-5 Little Annie soil profiles

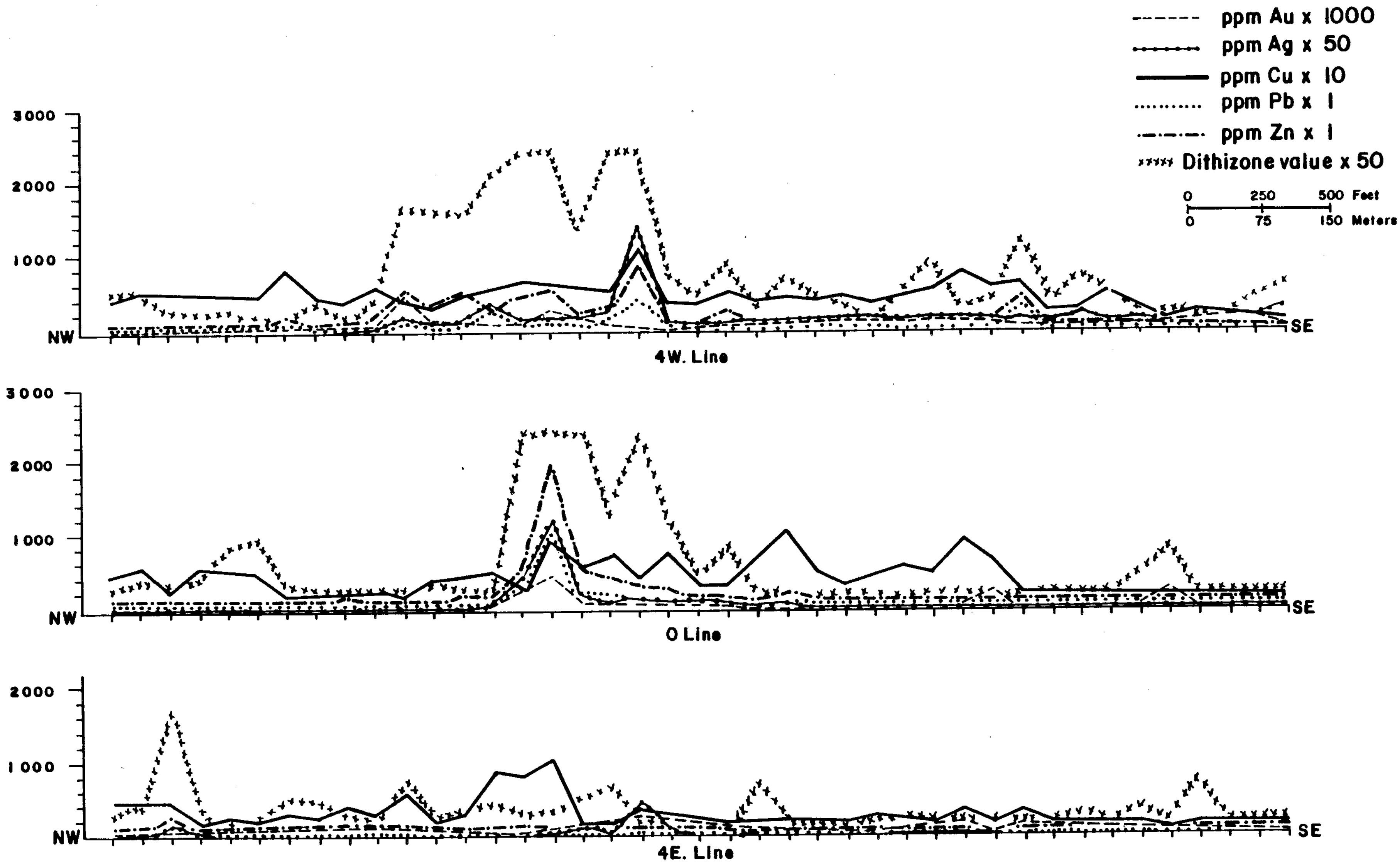


Figure AD-6 Little Annie soil profiles

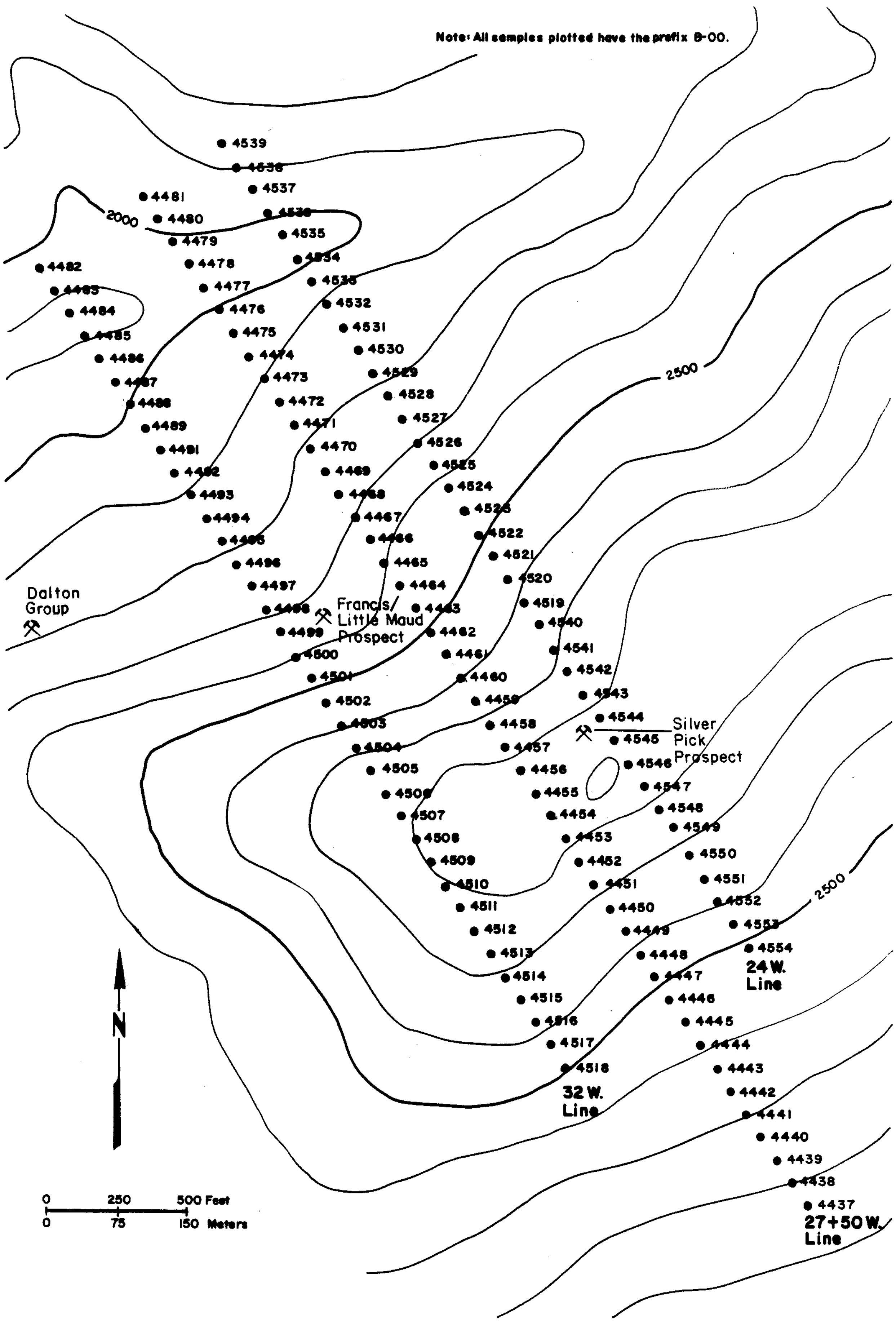


Figure AD-7 Silver Pick soil grid

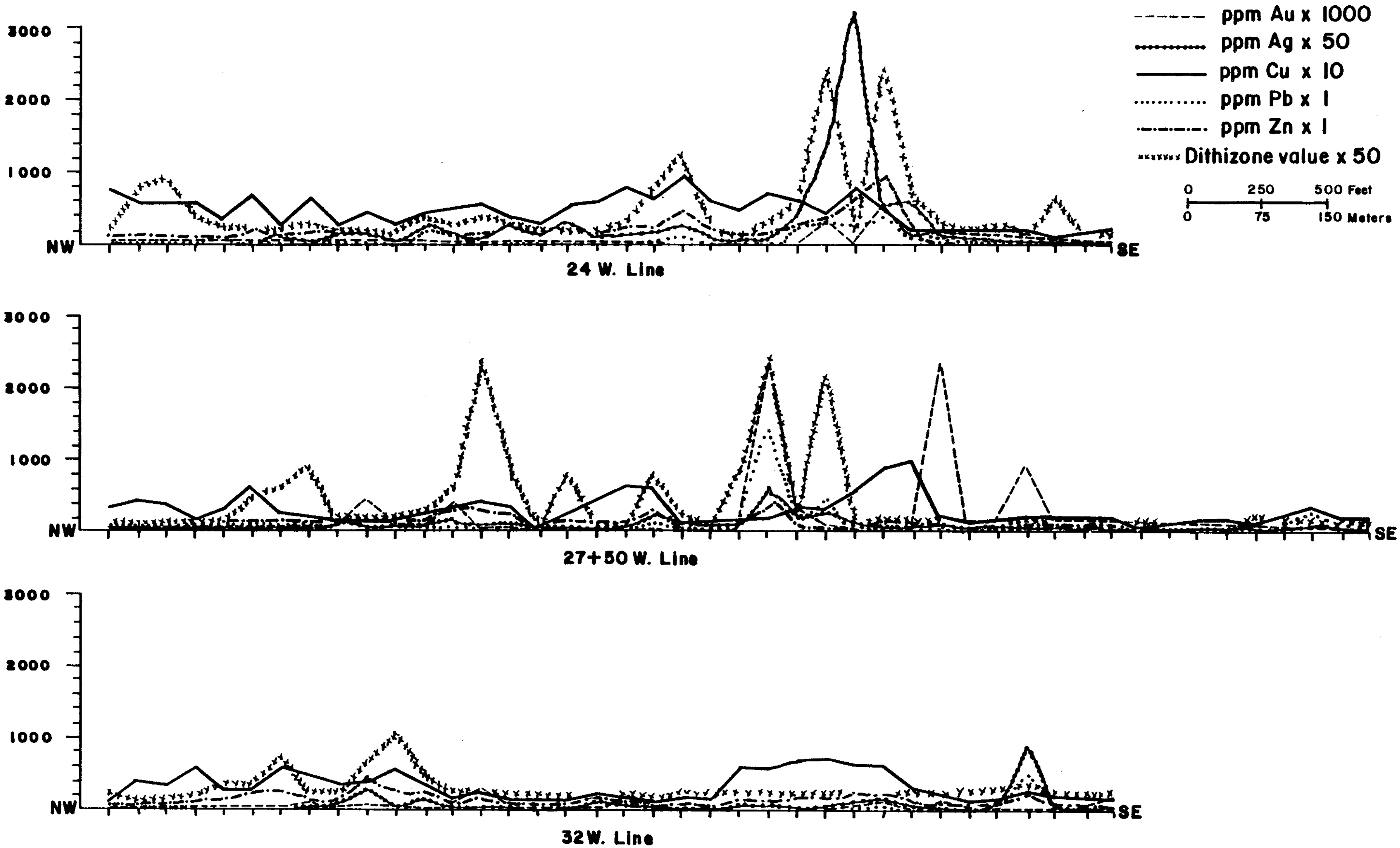


Figure AD-8 Silver Pick soil profiles

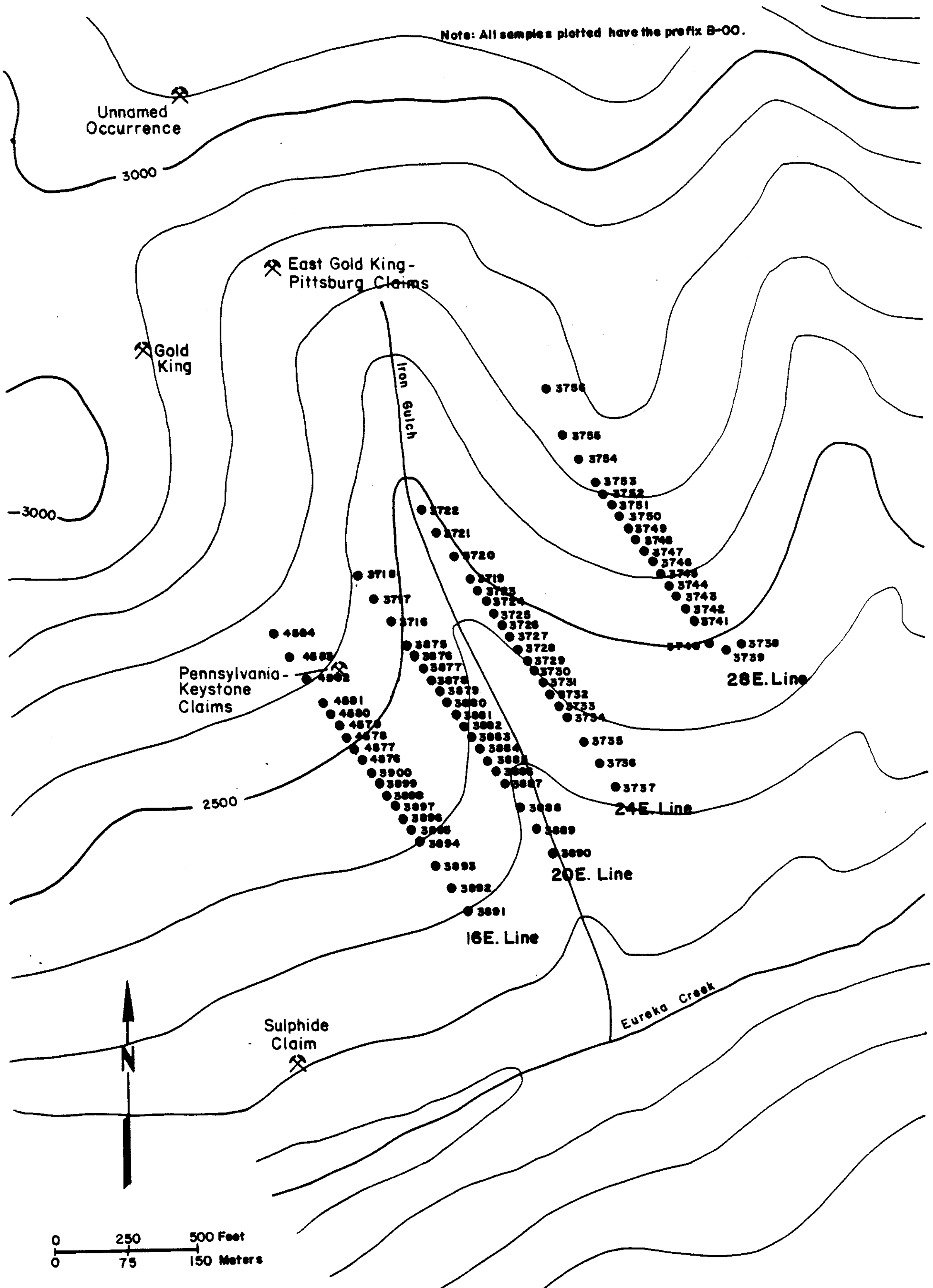


Figure AD-9 Iron Gulch soil grid

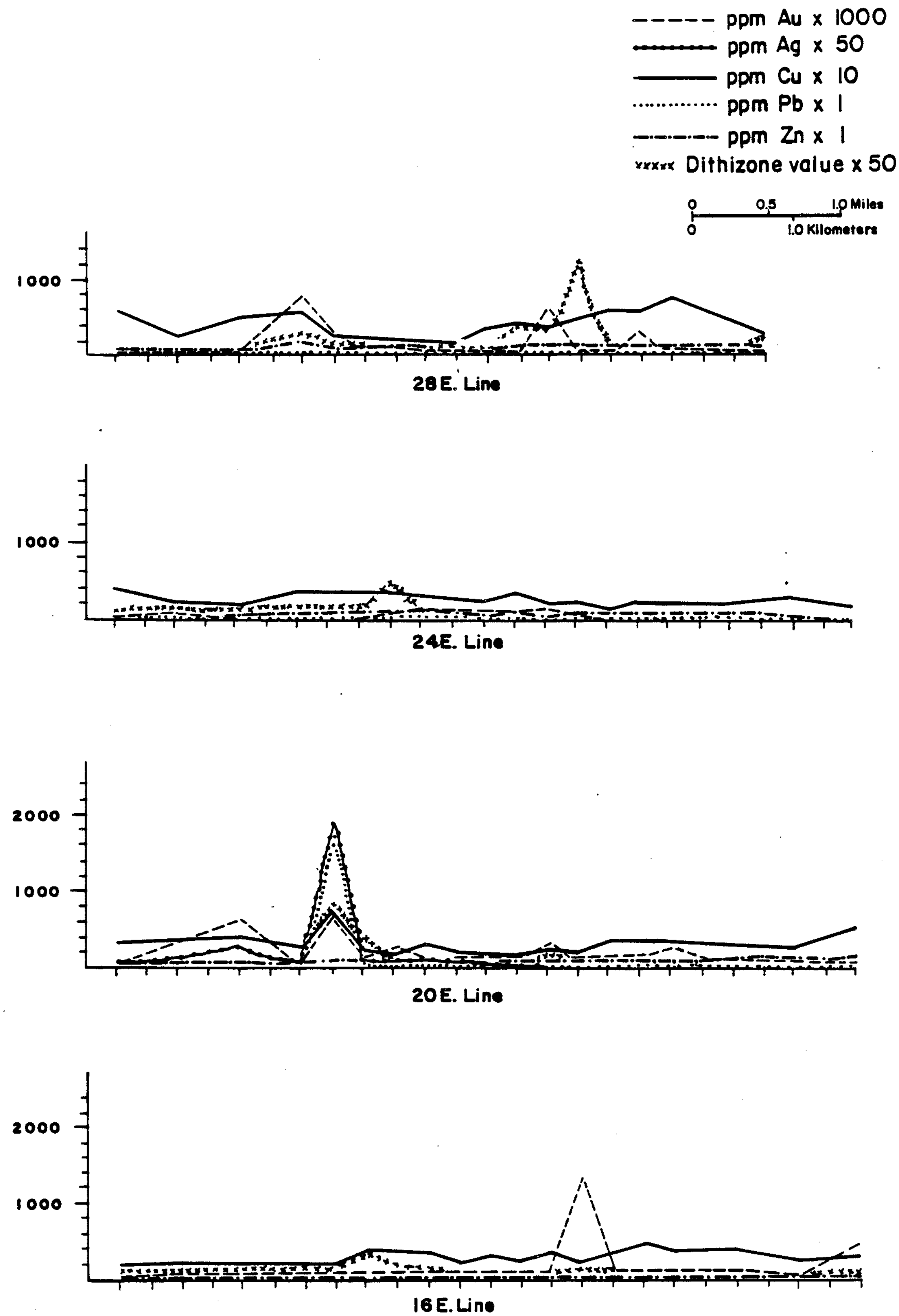


Figure AD-10 Iron Gulch soil profiles

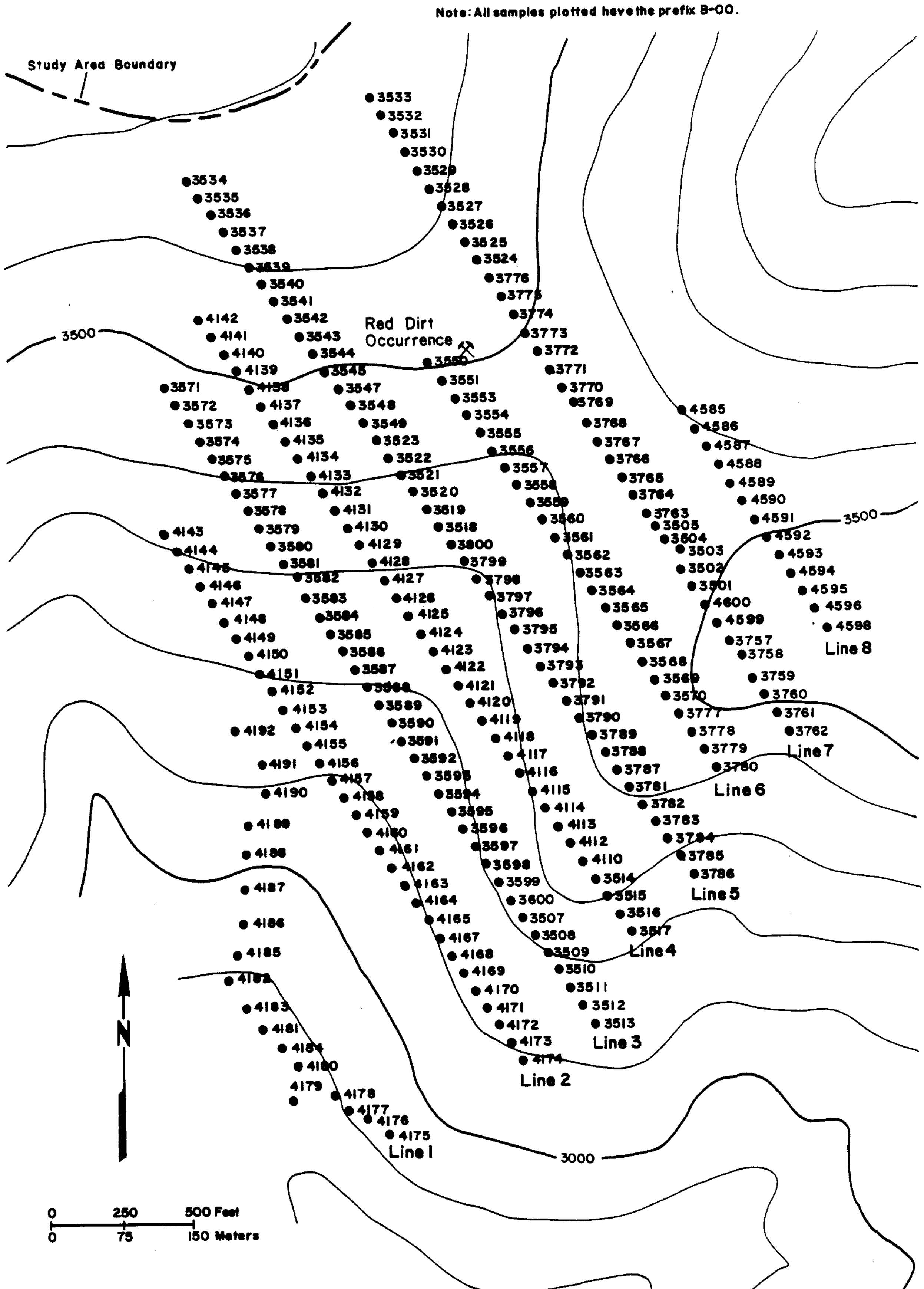


Figure AD-11 Red Dirt soil grid

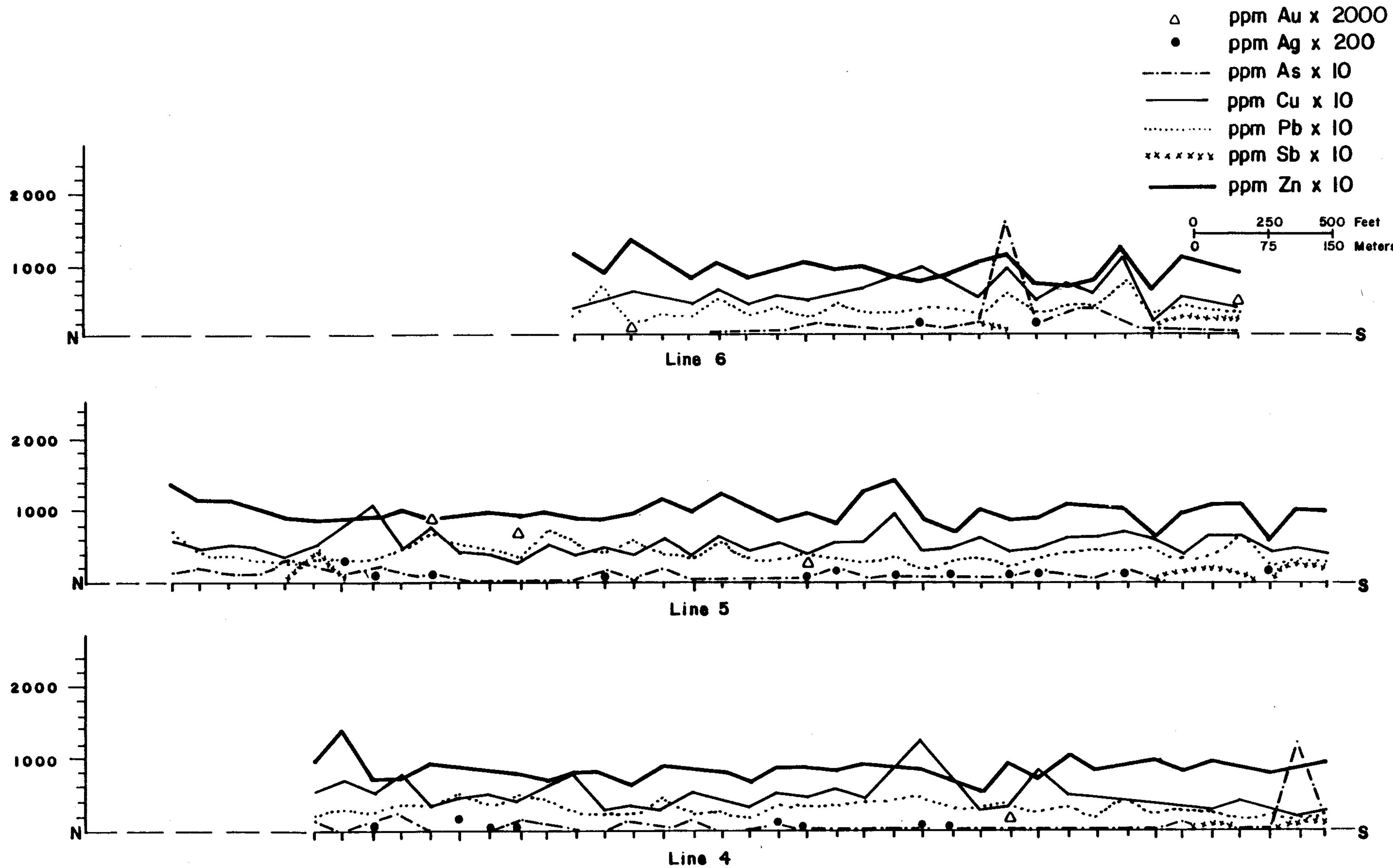


Figure AD-12 Red Dirt soil profiles

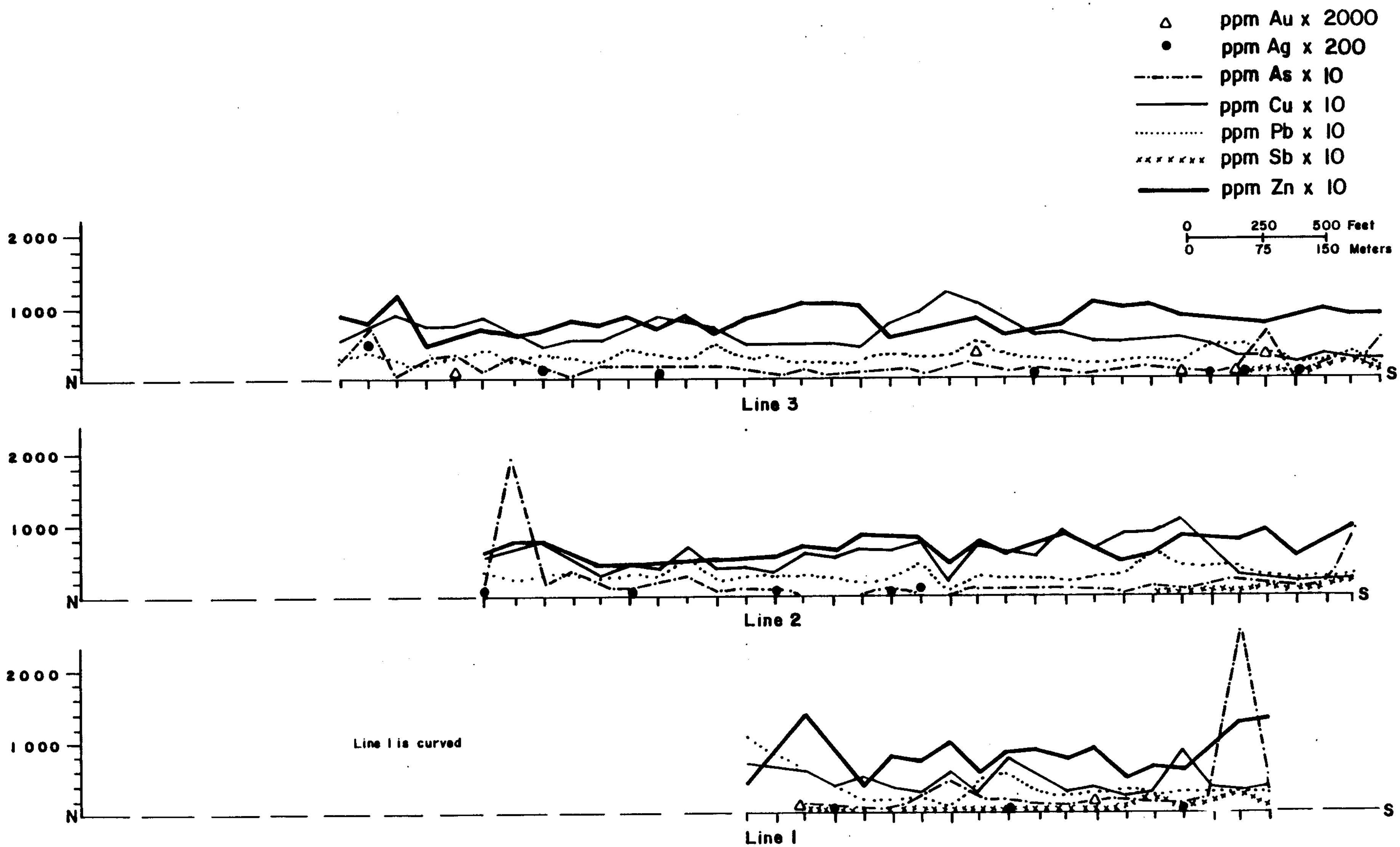


Figure AD-13 Red Dirt soil profile

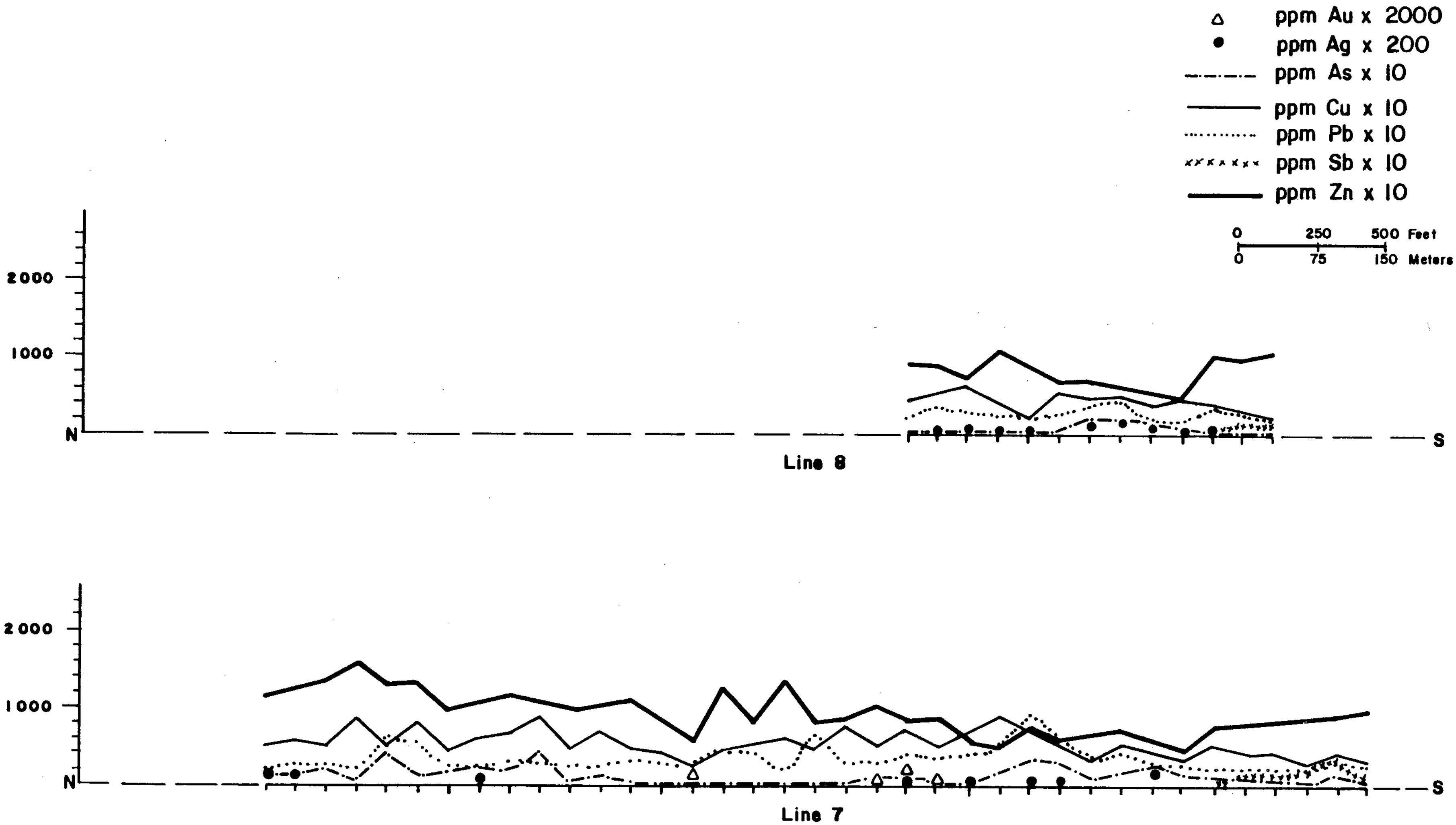


Figure AD-14 Red Dirt soil profiles

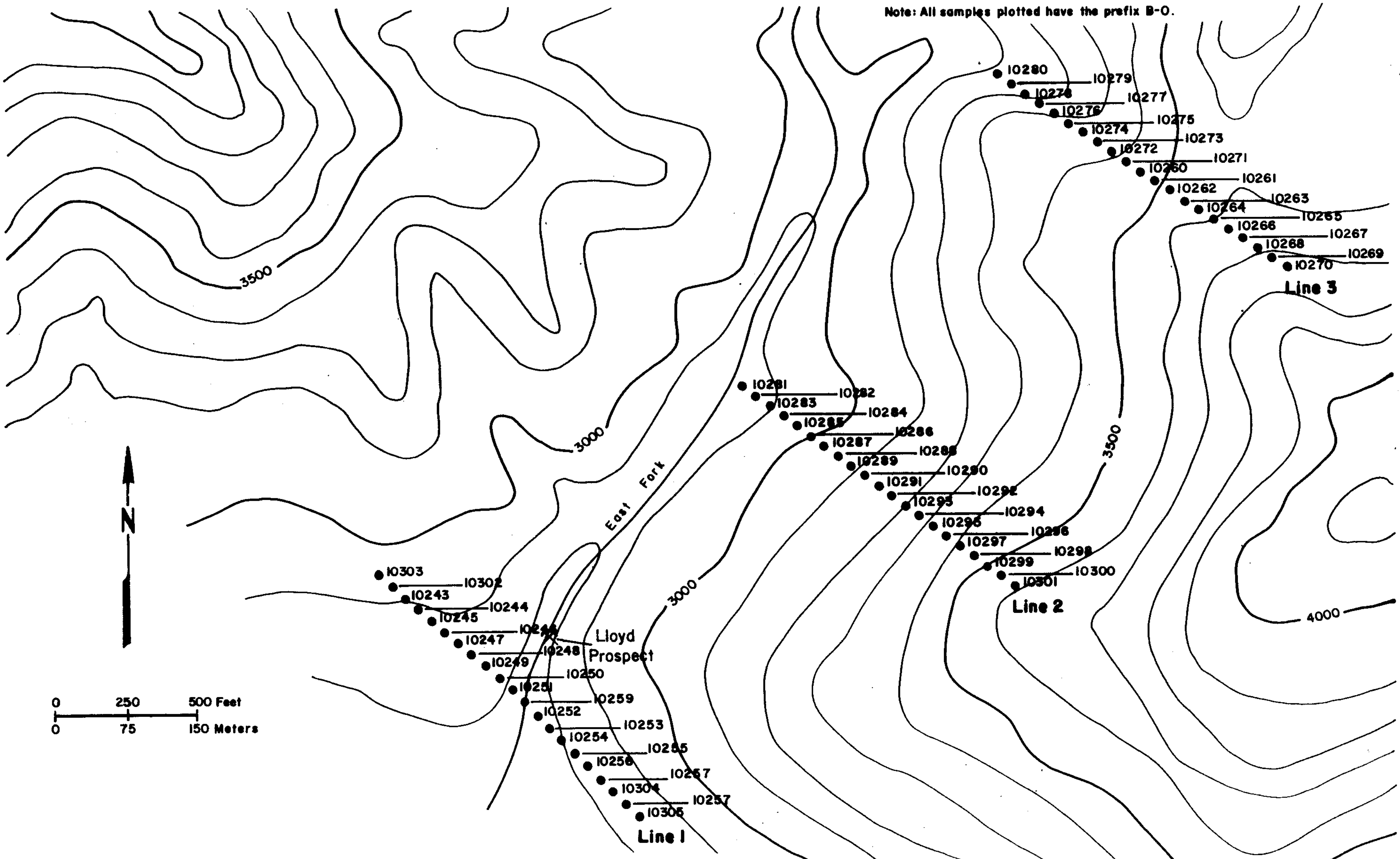


Figure AD-15 Glen Creek soil grid

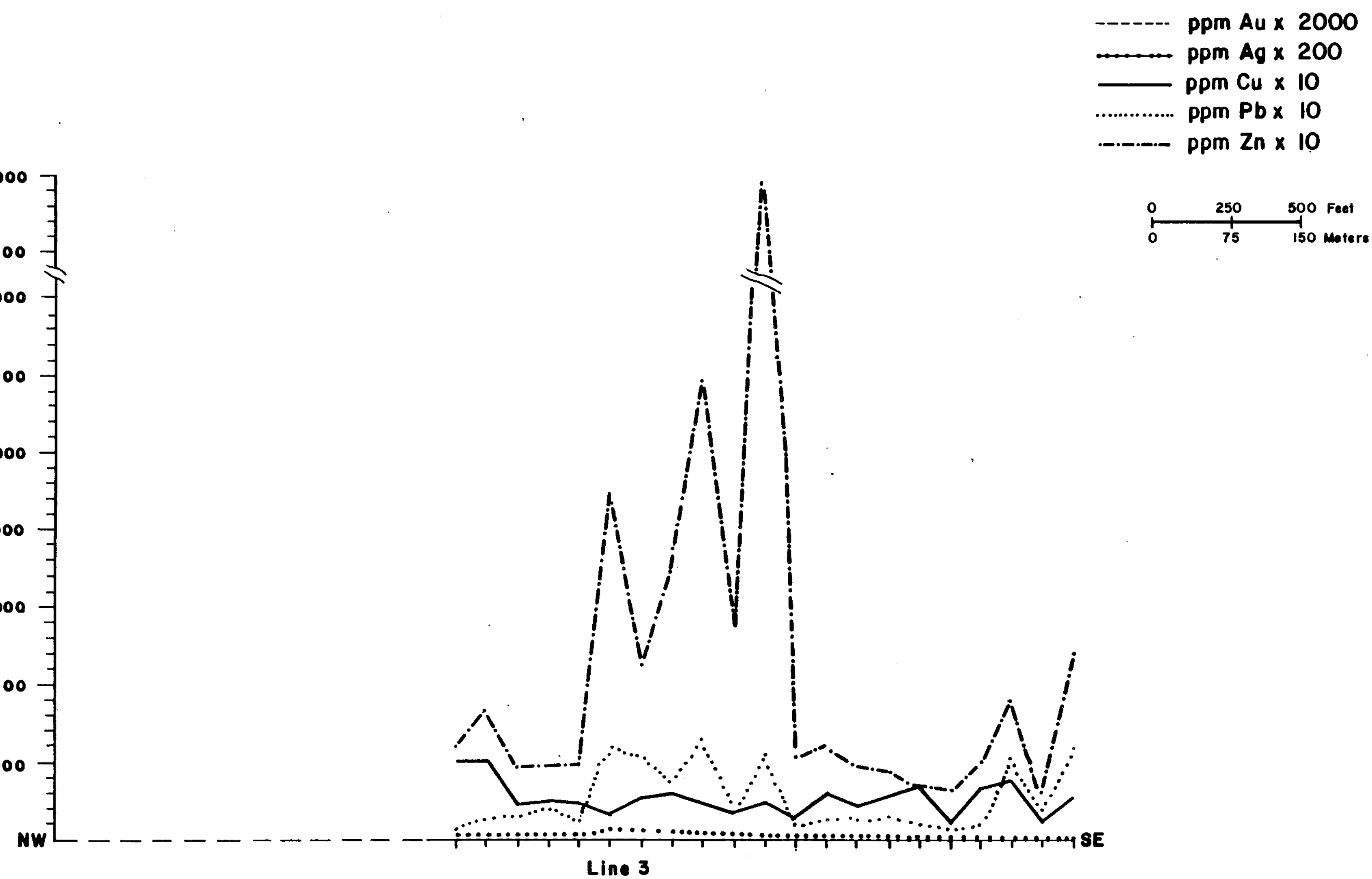


Figure AD-16 Glen Creek soil profiles

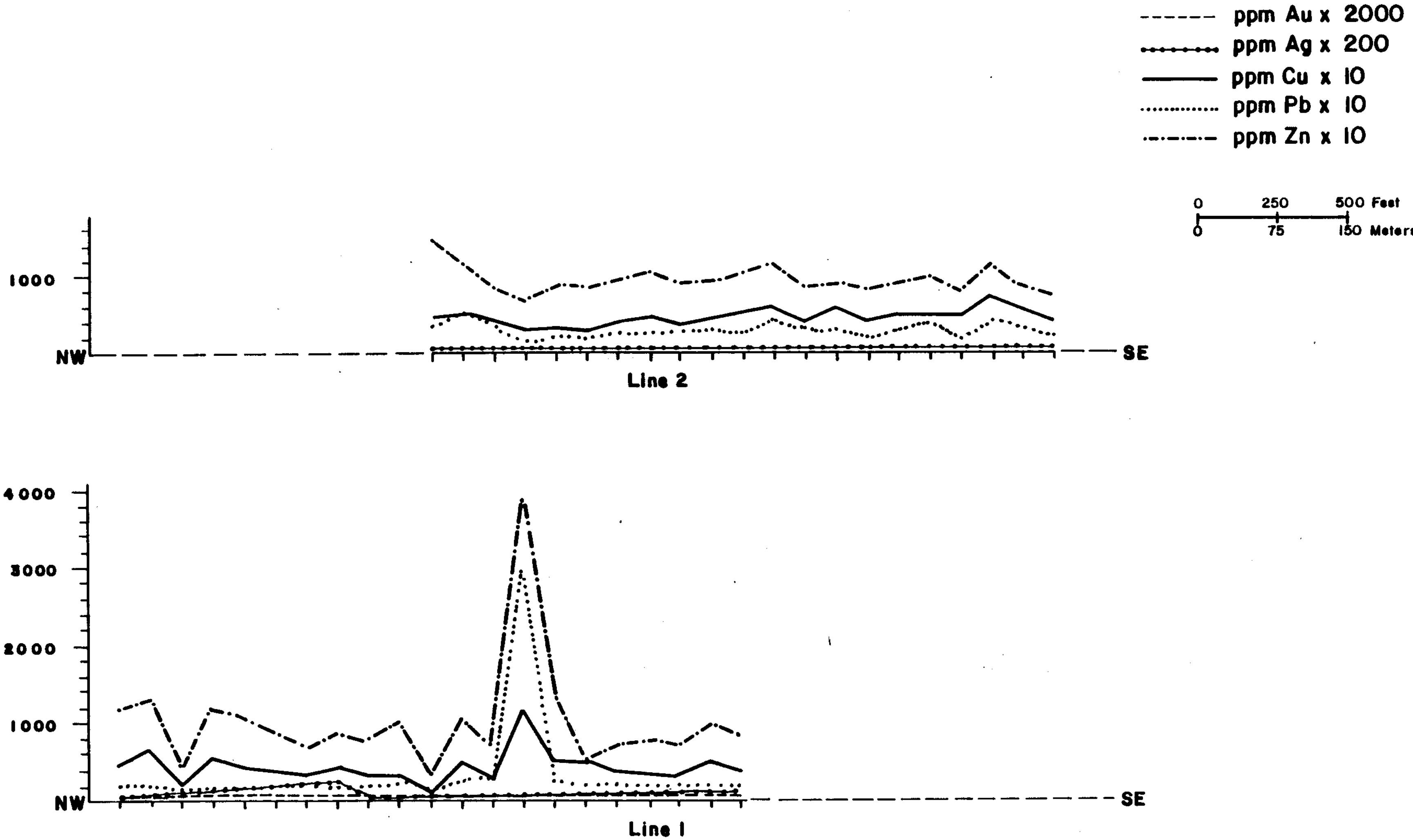


Figure AD-17 Glen Creek soil profiles

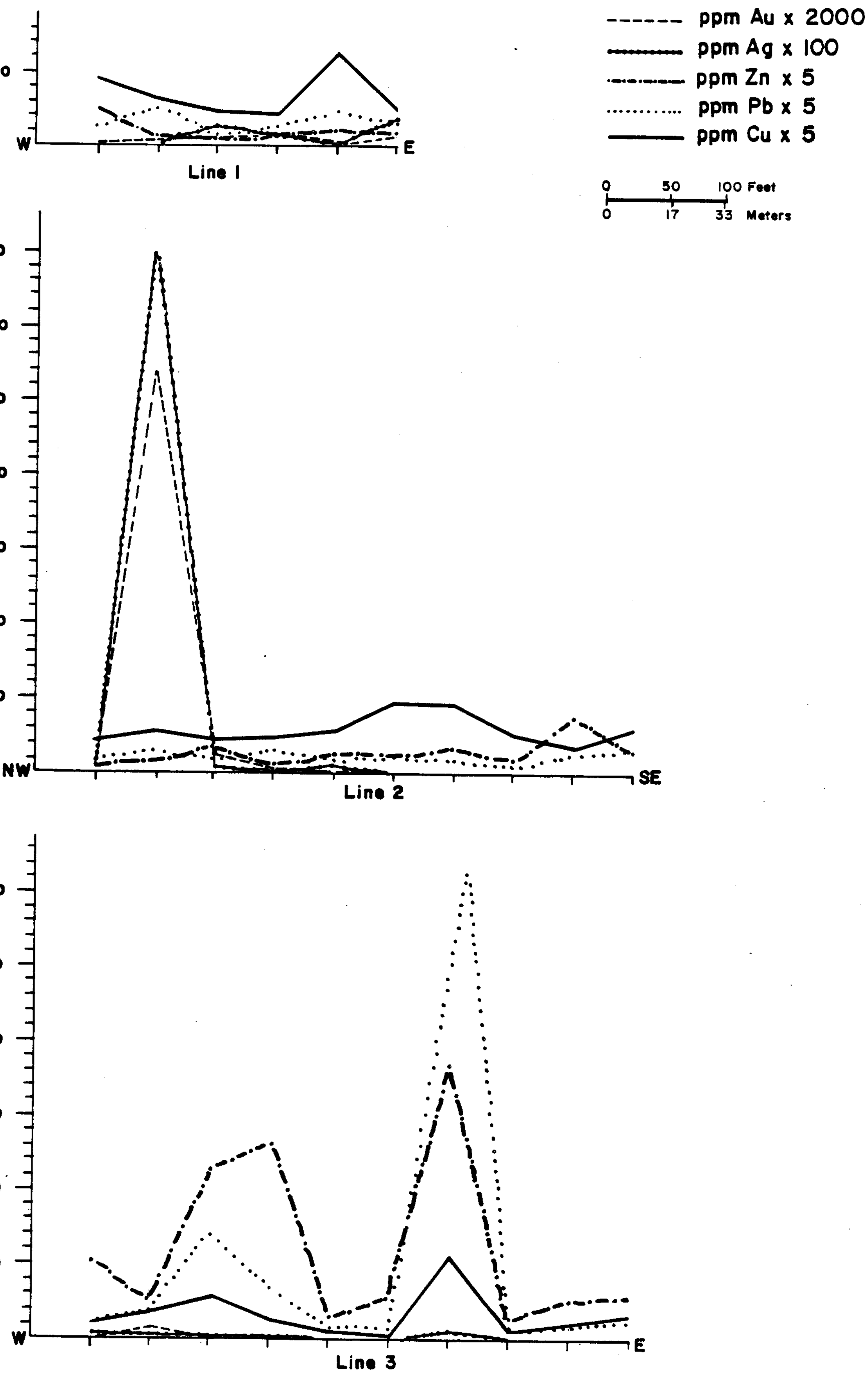


Figure AD-18 Spuce-Kankone soil profiles

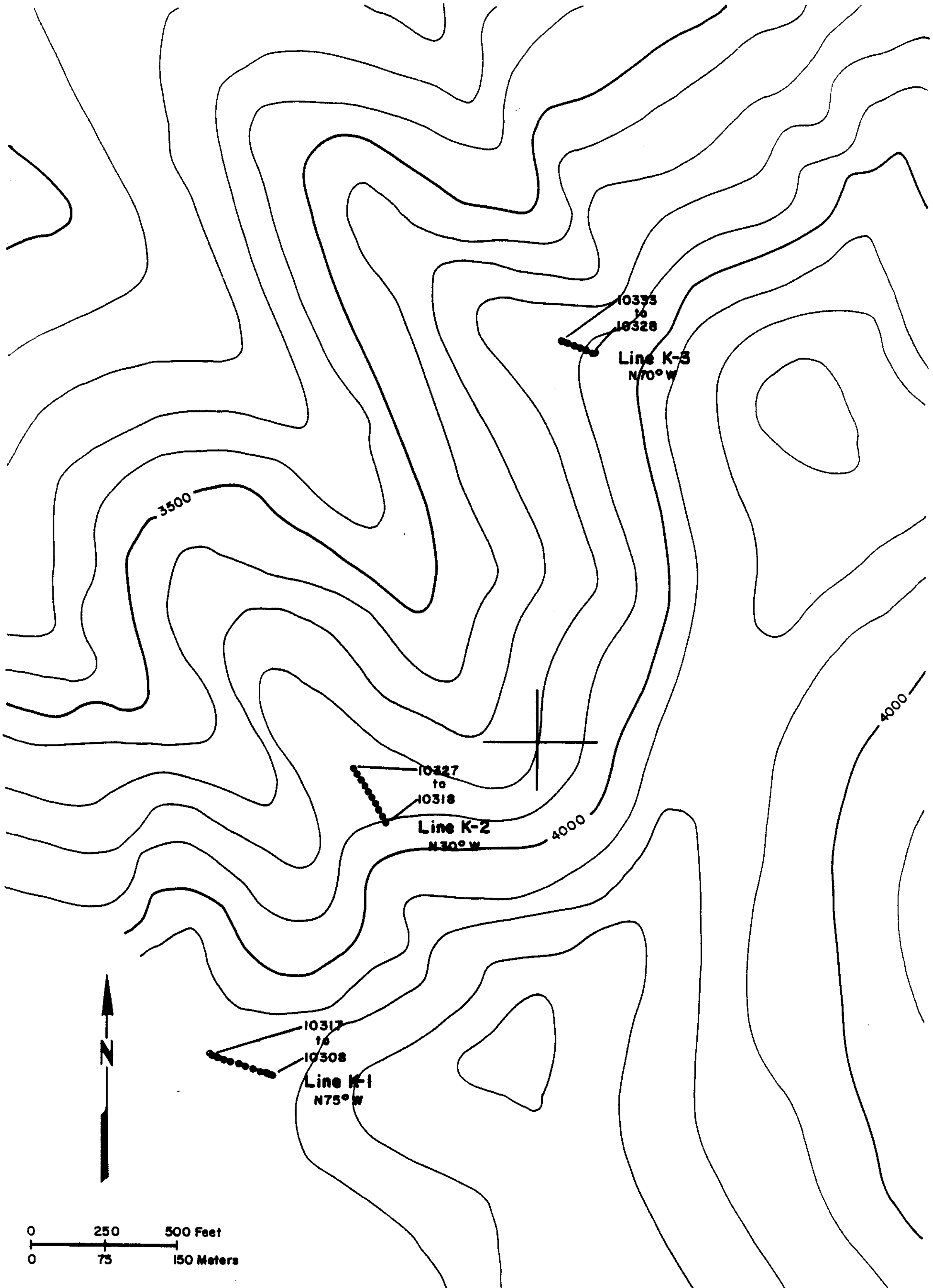


Figure AD-19 Spruce – Kankone soil lines

Samples were analyzed for Au, Ag, As, Bi, Cu, Mo, Pb, and Sb

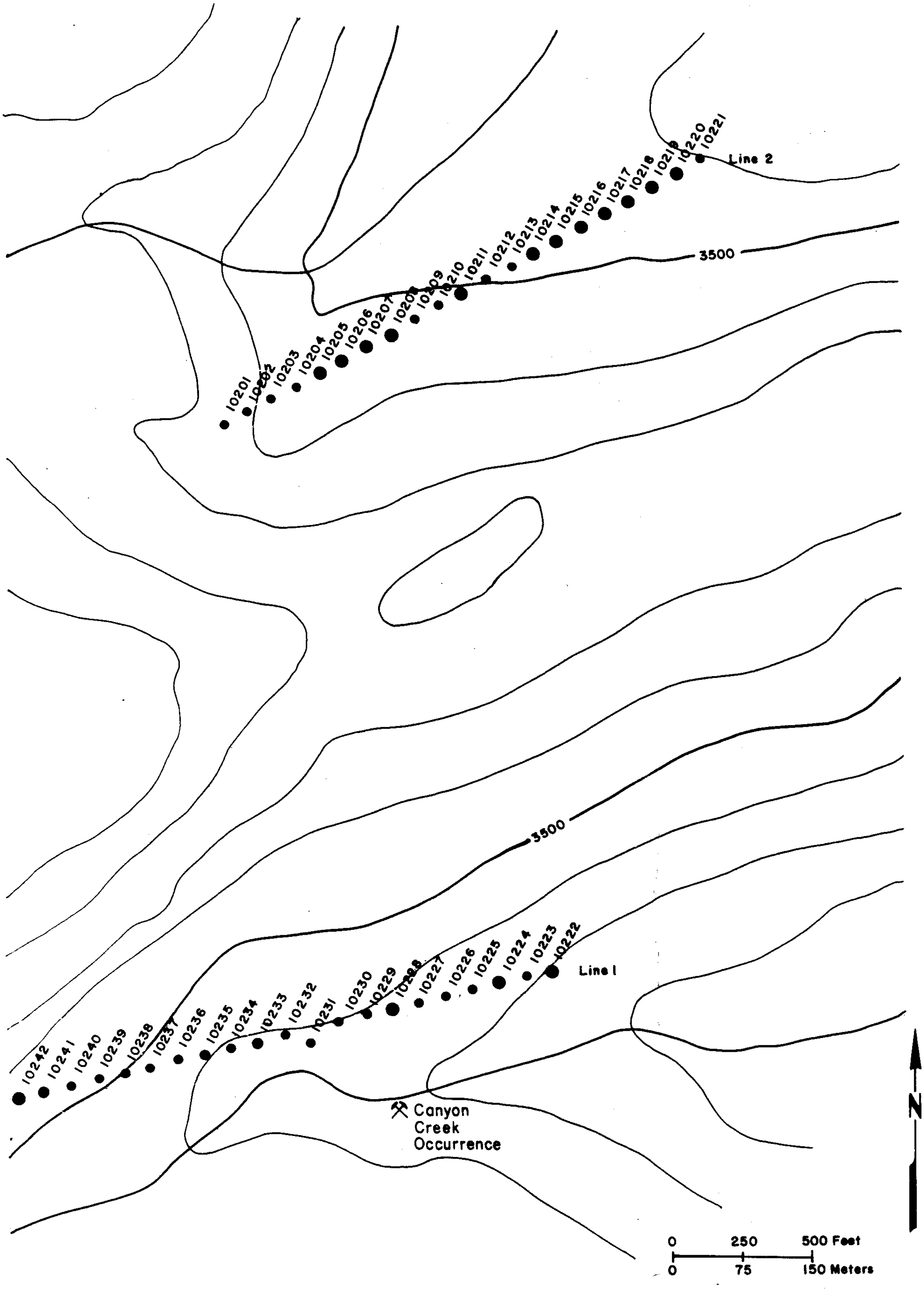


Figure AD-20 Canyon Creek soil grid

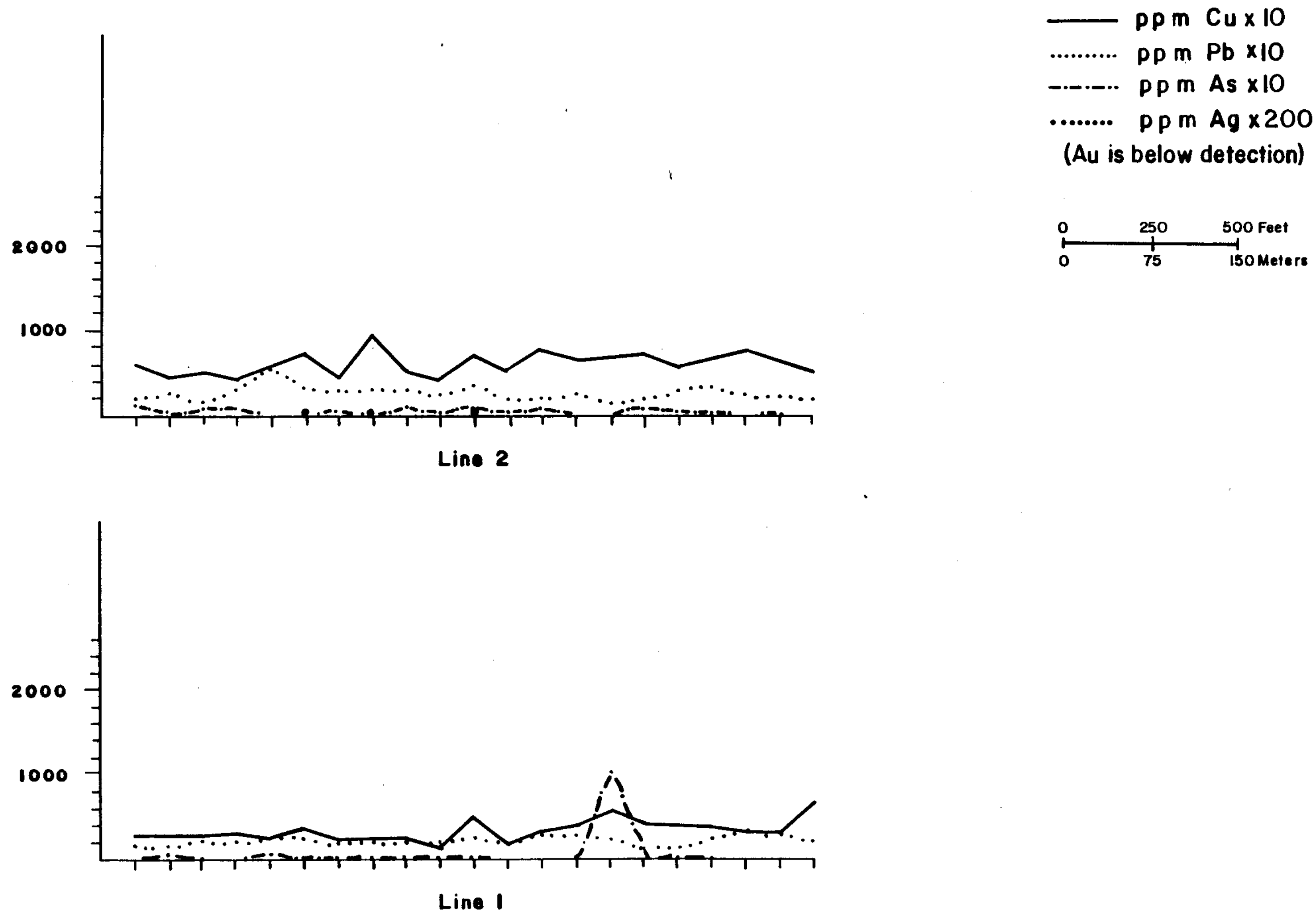


Figure AD-21 Canyon Creek soil profiles

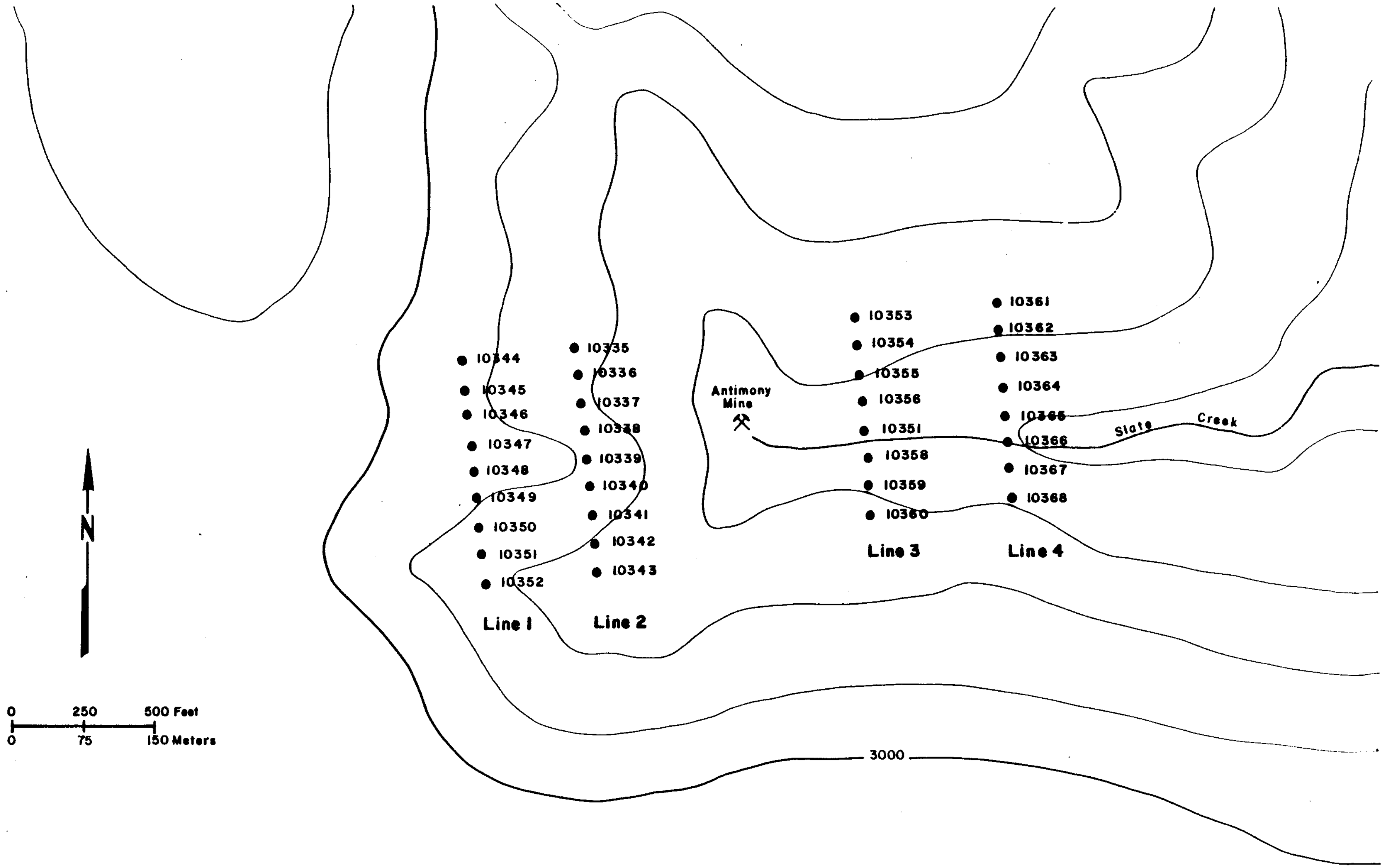


Figure AD-22 Slate Creek soil grid

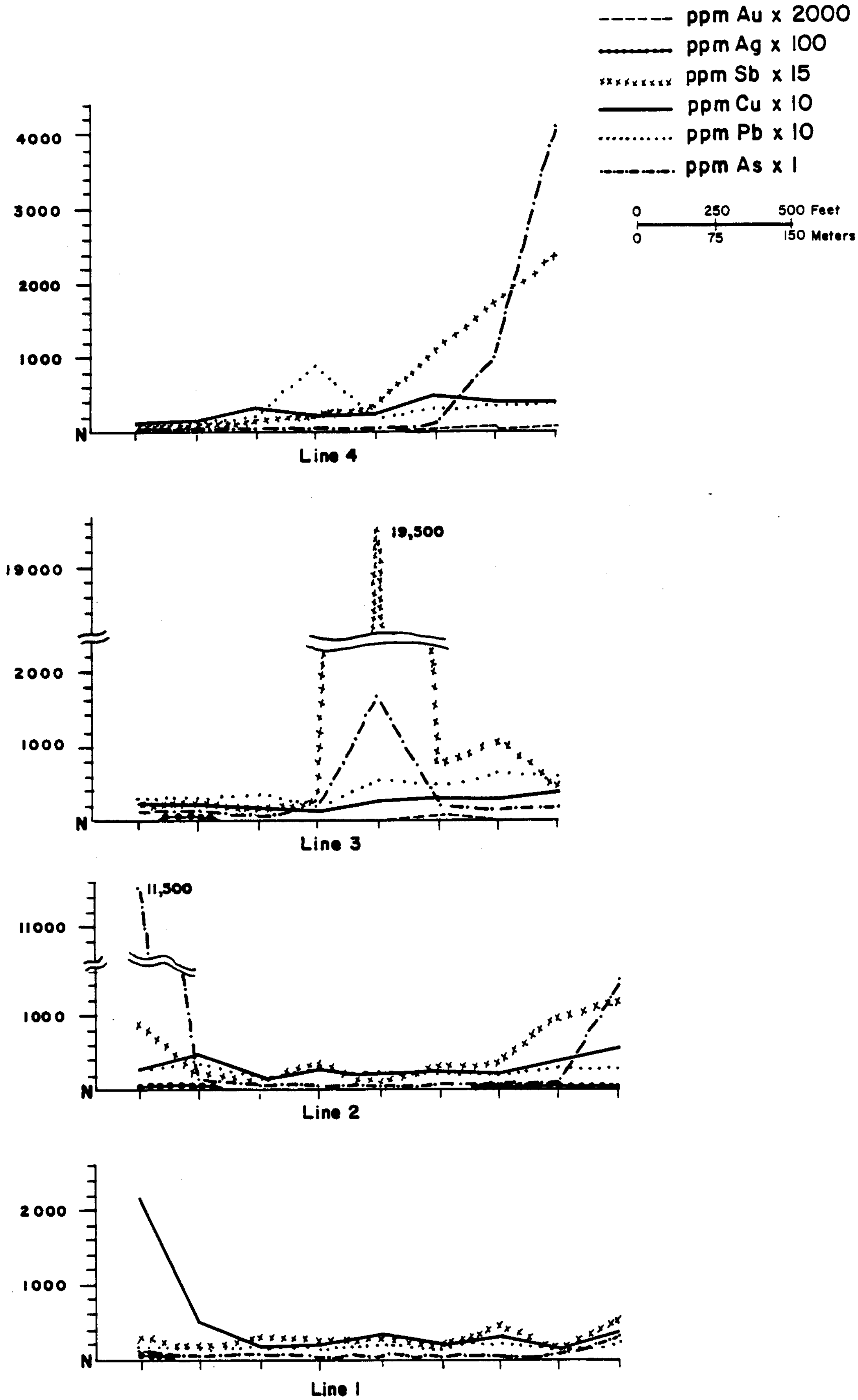


Figure AD-23 Slate Creek soil profiles

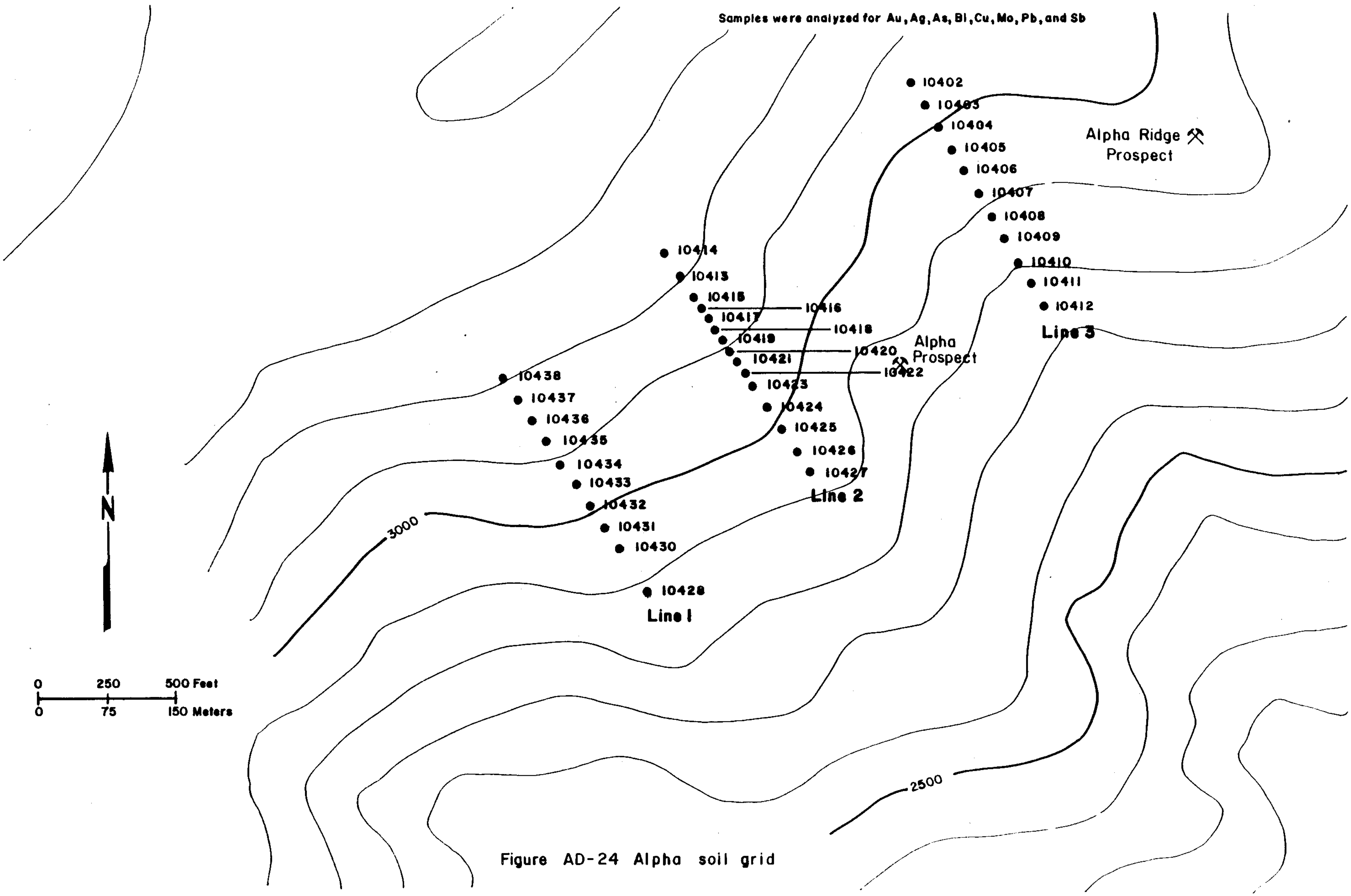


Figure AD-24 Alpha soil grid

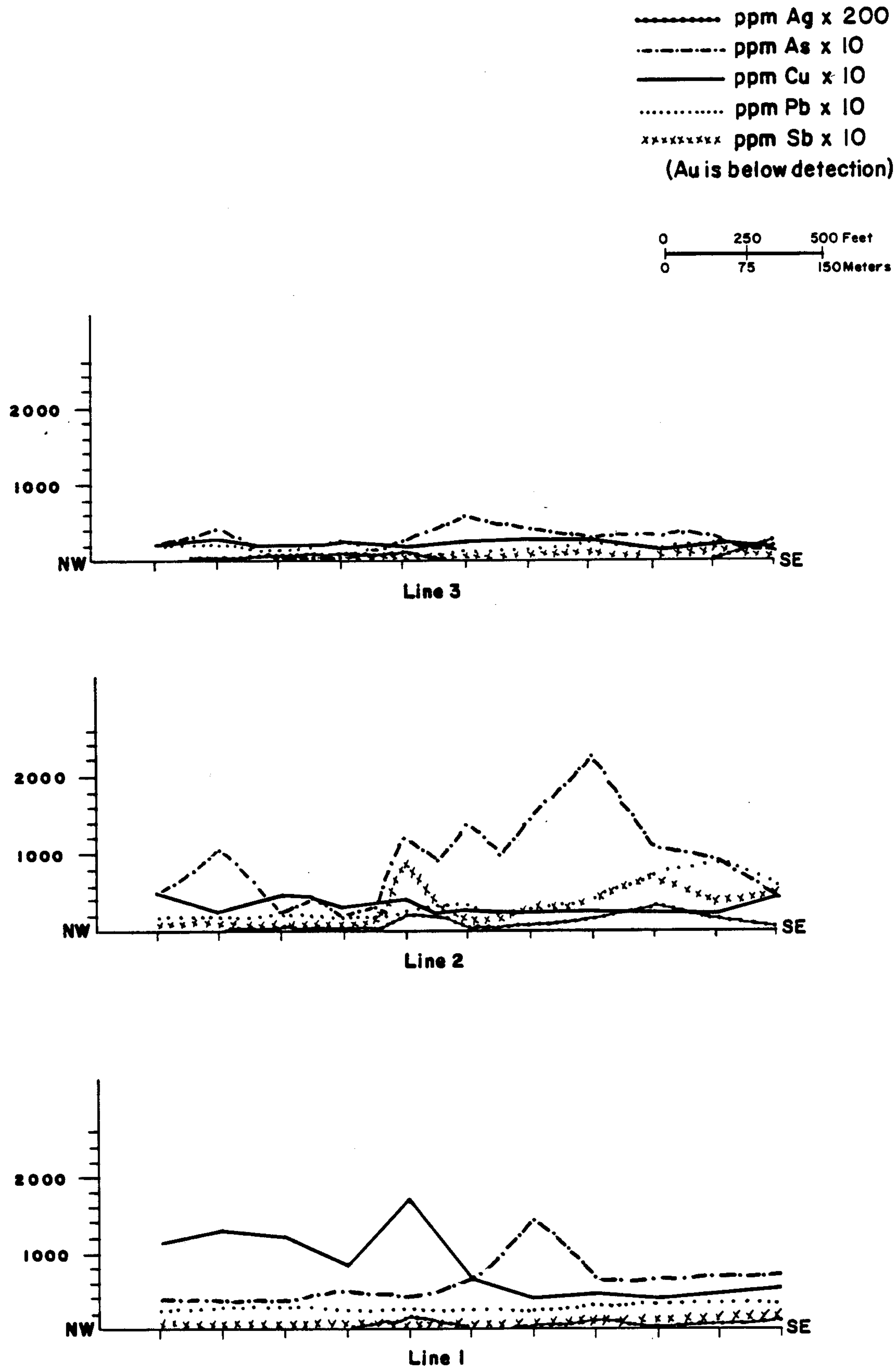


Figure AD-25 Alpha soil profiles

TABLE AD-10

KANTISHNA HILLS STREAM SEDIMENTS

ANALYTICAL RESULTS

TABLE AD-10 CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
A000801	374790.	3502950.	10 71	-.9	-.90	100.0	-.9	-.8	35.0	-.9	-.8	20.0	4.0	-.8	-.8
A000802	374830.	3503100.	10 71	.2	-.90	75.0	-.9	-.8	50.0	2.0	-.8	25.0	6.0	-.8	-.8
A000803	374300.	3503000.	10 71	.6	-.90	140.0	-.9	-.8	45.0	2.0	-.8	50.0	13.0	-.8	-.8
A000805	362530.	3505090.	10 71	-.9	.08	70.0	-.9	-.8	50.0	2.0	-.8	20.0	7.0	-.8	-.8
A000808	332460.	3468450.	10 71	3.4	.05	35.0	-.9	10.0	730.0	4.0	10.0	110.0	30.0	-.9	45.0
A000809	332550.	3467820.	10 71	7.3	-.90	240.0	-.9	25.0	1200.0	2.0	20.0	530.0	34.0	-.9	45.0
A000810	332430.	3467740.	10 71	1.7	.02	235.0	-.9	15.0	65.0	-.9	110.0	100.0	46.0	-.9	105.0
A000811	408440.	3548400.	10 71	-.9	-.90	20.0	-.9	-.8	35.0	-.9	-.8	25.0	9.0	-.8	-.8
A000901	398000.	3520200.	10 71	-.9	.02	40.0	-.9	-.8	40.0	-.9	-.8	20.0	10.0	-.8	-.8
A000902	396400.	3519500.	10 71	-.9	-.90	20.0	-.9	-.8	35.0	2.0	-.8	20.0	4.0	-.8	-.8
A000903	397600.	3517500.	10 71	.4	.14	145.0	-.9	-.8	60.0	2.0	-.8	55.0	6.0	-.8	-.8
A000904	394500.	3518800.	10 71	-.9	.10	20.0	-.9	-.8	45.0	-.9	-.8	20.0	6.0	-.8	-.8
A000905	393900.	3516600.	10 71	.2	-.90	55.0	-.9	-.8	40.0	-.9	-.8	25.0	6.0	-.8	-.8
A000906	393100.	3516200.	10 71	-.9	-.90	50.0	-.9	-.8	40.0	2.0	-.8	15.0	10.0	-.8	-.8
A000908	388800.	3514200.	10 71	-.9	-.90	55.0	-.9	-.8	35.0	-.9	-.8	15.0	10.0	-.8	-.8
A000909	383800.	3513000.	10 71	-.9	-.90	25.0	-.9	-.8	35.0	-.9	-.8	15.0	13.0	-.8	-.8
A000910	431200.	3552400.	10 71	-.9	-.90	65.0	-.9	-.8	30.0	-.9	-.8	15.0	9.0	-.8	-.8
A000911	431400.	3552500.	10 71	-.9	.42	20.0	-.9	-.8	30.0	-.9	-.8	10.0	17.0	-.8	-.8
A000912	437400.	3546900.	10 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	25.0	6.0	-.8	-.8
A000913	437600.	3547100.	10 71	.2	-.90	15.0	-.9	-.8	35.0	2.0	-.8	15.0	4.0	-.8	-.8
A000914	438700.	3569700.	10 71	-.9	-.90	30.0	-.9	-.8	35.0	2.0	-.8	20.0	190.0	-.8	-.8
A000915	438600.	3560000.	10 71	.2	-.90	145.0	-.9	-.8	25.0	-.9	-.8	15.0	70.0	-.8	-.8
A000916	426200.	3560600.	10 71	.6	-.90	45.0	-.9	-.8	40.0	2.0	-.8	20.0	15.0	-.8	-.8
A000917	420300.	3561600.	10 71	-.9	-.90	10.0	-.9	-.8	65.0	2.0	-.8	20.0	-.9	-.8	-.8
A000918	418300.	3556000.	10 71	-.9	-.90	10.0	-.9	-.8	30.0	-.9	-.8	10.0	6.0	-.8	-.8
A000919	416000.	3553800.	10 71	-.9	-.90	70.0	-.9	-.8	45.0	2.0	-.8	15.0	4.0	-.8	-.8
A000920	416300.	3554000.	10 71	.4	-.90	5.0	-.9	-.8	80.0	2.0	-.8	30.0	2.0	-.8	-.8
A000921	401800.	3561100.	10 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	10.0	2.0	-.8	-.8
A000924	388700.	3551700.	10 71	-.9	-.90	10.0	-.9	-.8	30.0	-.9	-.8	-.9	2.0	17.0	-.8
A000925	388300.	3551600.	10 71	-.9	-.90	5.0	-.9	-.8	30.0	-.9	-.8	-.9	2.0	12.0	-.8
A000926	405900.	3540800.	10 71	-.9	-.90	10.0	-.9	-.8	75.0	-.9	-.8	20.0	-.9	-.8	-.8
A000927	406500.	3536800.	10 71	-.9	-.90	25.0	-.9	-.8	35.0	-.9	-.8	15.0	4.0	-.8	-.8
A000929	402100.	3523400.	10 71	.2	-.90	40.0	-.9	-.8	60.0	2.0	-.8	35.0	11.0	-.8	-.8
A000930	401900.	3523500.	10 71	.2	-.90	115.0	-.9	-.8	50.0	2.0	-.8	20.0	24.0	-.8	-.8
A000933	362475.	3547700.	10 71	-.9	-.90	5.0	-.9	-.8	15.0	-.9	-.8	-.9	-.9	-.8	-.8
A000934	362425.	3547100.	10 71	-.9	-.90	10.0	-.9	-.8	30.0	-.9	-.8	20.0	2.0	-.8	-.8
A000935	355550.	3544075.	10 71	-.9	-.90	10.0	-.9	-.8	10.0	-.9	-.8	5.0	-.9	-.8	-.8
A000937	365975.	3525300.	10 71	-.9	-.90	15.0	-.9	-.8	35.0	-.9	-.8	15.0	4.0	-.8	-.8
A000938	365925.	3525300.	10 71	-.9	-.90	5.0	-.9	-.8	35.0	-.9	-.8	20.0	6.0	-.8	-.8
A000939	324600.	3467050.	10 71	.6	-.90	4150.0	-.9	60.0	40.0	-.9	130.0	45.0	205.0	-.9	65.0
A000940	326050.	3466050.	10 71	1.3	.05	550.0	-.9	25.0	100.0	-.9	70.0	95.0	190.0	-.9	90.0
A000941	327100.	3466500.	10 71	.6	.04	2000.0	-.9	5.0	30.0	-.9	15.0	130.0	115000.0	-.9	50.0
A000942	327100.	3467200.	10 71	.6	-.90	510.0	-.9	30.0	45.0	-.9	65.0	60.0	155.0	-.9	90.0
A000943	330000.	3468500.	10 71	1.9	-.90	95.0	-.9	20.0	35.0	-.9	40.0	60.0	60.0	-.9	105.0
A000944	329250.	3467900.	10 71	.6	-.90	200.0	-.9	15.0	70.0	-.9	30.0	150.0	65.0	-.9	70.0
A000946	333500.	3470050.	10 71	1.0	.04	1600.0	-.9	20.0	40.0	-.9	35.0	50.0	21500.0	-.9	80.0
A000947	333900.	3470000.	10 71	.4	-.90	640.0	-.9	15.0	35.0	-.9	35.0	65.0	680.0	-.9	95.0
A000948	333200.	3470900.	10 71	.4	-.90	90.0	-.9	15.0	25.0	-.9	35.0	40.0	50.0	-.9	110.0
A000949	333200.	3471900.	10 71	.4	-.90	50.0	-.9	15.0	30.0	-.9	35.0	35.0	40.0	-.9	110.0
A000950	333200.	3472450.	10 71	.4	-.90	1250.0	-.9	50.0	35.0	-.9	120.0	35.0	150.0	-.9	80.0
A000952	333200.	3473800.	10 71	.6	.03	2300.0	-.9	15.0	40.0	-.9	30.0	145.0	40500.0	-.9	110.0

TABLE AD-10 CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
A000801	6.0	170.0
A000802	6.0	135.0
A000803	4.0	200.0
A000805	4.0	120.0
A000808	5.0	45.0
A000809	5.0	100.0
A000810	4.0	485.0
A000811	4.0	145.0
A000901	3.0	120.0
A000902	5.0	115.0
A000903	4.0	165.0
A000904	3.0	110.0
A000905	4.0	125.0
A000906	4.0	100.0
A000908	4.0	105.0
A000909	4.0	105.0
A000910	6.0	105.0
A000911	7.0	115.0
A000912	5.0	145.0
A000913	9.0	140.0
A000914	4.0	180.0
A000915	6.0	135.0
A000916	4.0	120.0
A000917	4.0	130.0
A000918	4.0	65.0
A000919	3.0	150.0
A000920	3.0	55.0
A000921	6.0	140.0
A000924	19.0	80.0
A000925	-.9	110.0
A000926	6.0	540.0
A000927	5.0	110.0
A000929	5.0	205.0
A000930	7.0	125.0
A000933	-.9	75.0
A000934	-.9	150.0
A000935	-.9	55.0
A000937	3.0	150.0
A000938	-.9	125.0
A000939	-.9	195.0
A000940	50.0	220.0
A000941	-.9	75.0
A000942	4.0	760.0
A000943	4.0	275.0
A000944	5.0	500.0
A000946	8.0	140.0
A000947	6.0	170.0
A000948	5.0	210.0
A000949	4.0	165.0
A000950	3.0	240.0
A000952	7.0	310.0

TABLE AD-10 CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
A000953	333200.	3474150.	10 71	.8	-.90	115.0	-.9	15.0	35.0	-.9	35.0	75.0	60.0	-.9	95.0
A000954	333500.	3475400.	10 71	.6	-.90	185.0	-.9	25.0	55.0	-.9	70.0	65.0	145.0	-.9	150.0
A000955	333480.	3476100.	10 71	.6	-.90	135.0	-.9	80.0	5650.0	-.9	170.0	45.0	55.0	-.9	110.0
A000956	334800.	3477050.	10 71	.8	-.90	130.0	-.9	20.0	255.0	-.9	50.0	80.0	80.0	-.9	120.0
A000957	337800.	3478550.	10 71	1.3	.03	205.0	-.9	15.0	185.0	-.9	35.0	55.0	50.0	-.9	115.0
A000972	386600.	3536600.	10 71	.4	-.90	105.0	-.9	-.8	370.0	-.9	-.8	25.0	2.0	-.8	-.8
A001020	399100.	3538825.	10 71	-.9	-.90	35.0	-.9	-.8	25.0	-.9	-.8	45.0	10.0	-.8	-.8
A001021	399900.	3544775.	10 71	.2	-.90	300.0	-.9	-.8	55.0	-.9	-.8	30.0	4.0	-.8	-.8
A001022	400325.	3544650.	10 71	.2	-.90	20.0	-.9	-.8	80.0	-.9	-.8	20.0	2.0	-.8	-.8
A001023	400875.	3544400.	10 71	.6	-.90	50.0	-.9	-.8	75.0	-.9	-.8	25.0	2.0	-.8	-.8
A001024	401325.	3544150.	10 71	.2	-.90	25.0	-.9	-.8	70.0	-.9	-.8	25.0	2.0	-.8	-.8
A001025	392600.	3513600.	10 71	8.3	.05	150.0	-.9	-.8	55.0	-.9	-.8	200.0	17.0	-.8	-.8
A001026	394300.	3512300.	10 71	.6	.04	220.0	-.9	-.8	55.0	-.9	-.8	65.0	24.0	-.8	-.8
A001027	395600.	3513400.	10 71	.6	.10	530.0	-.9	-.8	45.0	-.9	-.8	175.0	15.0	-.8	-.8
A001028	396600.	3515600.	10 71	-.9	.04	110.0	-.9	-.8	45.0	-.9	-.8	60.0	16.0	-.8	-.8
A001029	396900.	3515800.	10 71	-.9	-.90	30.0	-.9	-.8	45.0	-.9	-.8	50.0	6.0	-.8	-.8
A001030	398900.	3517900.	10 71	-.9	-.90	40.0	-.9	-.8	50.0	-.9	-.8	35.0	8.0	-.8	-.8
A001031	398200.	3516900.	10 71	-.9	-.90	70.0	-.9	-.8	40.0	-.9	-.8	60.0	7.0	-.8	-.8
A001032	392400.	3512450.	10 71	6.4	.06	285.0	-.9	-.8	55.0	-.9	-.8	125.0	11.0	-.8	-.8
A001033	394175.	3512975.	10 71	.6	.04	195.0	-.9	-.8	50.0	-.9	-.8	80.0	16.0	-.8	-.8
A001034	394450.	3514500.	10 71	1.1	-.90	140.0	-.9	-.8	60.0	-.9	-.8	80.0	13.0	-.8	-.8
A001035	391800.	3513500.	10 71	.4	-.90	110.0	-.9	-.8	40.0	-.9	-.8	50.0	9.0	-.8	-.8
A001251	400750.	3542300.	10 71	.2	-.90	5.0	-.9	-.8	65.0	2.0	-.8	10.0	-.9	-.8	-.8
A001252	402200.	3543700.	10 71	.7	-.90	140.0	-.9	-.8	65.0	-.9	-.8	295.0	22.0	-.8	-.8
A001253	404700.	3545300.	10 71	.2	-.90	25.0	-.9	-.8	35.0	2.0	-.8	30.0	12.0	-.8	-.8
A001254	404500.	3544700.	10 71	.2	-.90	35.0	-.9	-.8	150.0	2.0	-.8	15.0	28.0	-.8	-.8
A001255	409900.	3544900.	10 71	-.9	-.90	55.0	-.9	-.8	20.0	2.0	-.8	15.0	17.0	-.8	-.8
A001256	410600.	3546800.	10 71	-.9	-.90	25.0	-.9	-.8	35.0	-.9	-.8	25.0	8.0	-.8	-.8
A001257	415450.	3547500.	10 71	.2	-.90	85.0	-.9	-.8	35.0	-.9	-.8	15.0	65.0	-.8	-.8
A001258	415500.	3548250.	10 71	-.9	-.90	35.0	-.9	-.8	50.0	2.0	-.8	15.0	13.0	-.8	-.8
A001259	416450.	3548900.	10 71	-.9	-.90	40.0	-.9	-.8	80.0	2.0	-.8	10.0	13.0	-.8	-.8
A001260	417800.	3547500.	10 71	-.9	-.90	40.0	-.9	-.8	40.0	-.9	-.8	15.0	42.0	-.8	-.8
A001261	420250.	3548200.	10 71	-.9	-.90	70.0	-.9	-.8	35.0	-.9	-.8	10.0	26.0	-.8	-.8
A001262	342100.	3477350.	10 71	2.0	.02	520.0	-.9	25.0	45.0	-.9	65.0	175.0	110.0	-.9	120.0
A001263	342400.	3477700.	10 71	1.7	.02	7500.0	-.9	-.9	50.0	-.9	15.0	400.0	90.0	-.9	-.9
A001264	342380.	3477700.	10 71	1.4	.02	4500.0	-.9	20.0	30.0	-.9	40.0	110.0	150.0	-.9	80.0
A001301	383525.	3505800.	10 71	.8	.29	255.0	-.9	-.8	55.0	2.0	-.8	70.0	9.0	-.8	-.8
A001302	383075.	3505550.	10 71	.4	.03	280.0	-.9	-.8	50.0	2.0	-.8	20.0	11.0	-.8	-.8
A001303	382925.	3507550.	10 71	.2	.10	105.0	-.9	-.8	60.0	2.0	-.8	40.0	13.0	-.8	-.8
A001306	376475.	3519650.	10 71	.2	-.90	130.0	-.9	-.8	30.0	-.9	-.8	10.0	26.0	-.8	-.8
A001308	364000.	3505300.	10 71	-.9	-.90	30.0	-.9	-.8	35.0	-.9	-.8	10.0	8.0	-.8	-.8
A001309	364700.	3519550.	10 71	-.9	-.90	60.0	-.9	-.8	35.0	-.9	-.8	15.0	13.0	-.8	-.8
A001311	434400.	3551600.	10 71	-.9	-.90	40.0	-.9	-.8	35.0	-.9	-.8	15.0	13.0	-.8	-.8
A001312	430600.	3551900.	10 71	-.9	-.90	30.0	-.9	-.8	40.0	2.0	-.8	10.0	30.0	-.8	-.8
A001313	443800.	3561200.	10 71	-.9	-.90	75.0	-.9	-.8	55.0	2.0	-.8	30.0	8.0	-.8	-.8
A001314	425100.	3560000.	10 71	-.9	-.90	10.0	-.9	-.8	70.0	2.0	-.8	5.0	10.0	-.8	-.8
A001315	418700.	3554900.	10 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	5.0	2.0	-.8	-.8
A001316	419000.	3554800.	10 71	-.9	-.90	70.0	-.9	-.8	10.0	-.9	-.8	5.0	6.0	-.8	-.8
A001317	400400.	3560000.	10 71	-.9	-.90	15.0	-.9	-.8	40.0	-.9	-.8	15.0	2.0	-.8	-.8
A001318	400400.	3559700.	10 71	-.9	-.90	25.0	-.9	-.8	35.0	-.9	-.8	10.0	8.0	-.8	-.8
A001320	397600.	3551700.	10 71	.2	-.90	-.9	-.9	-.8	75.0	2.0	-.8	10.0	2.0	-.8	-.8

TABLE AD-10 CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
A000953	4.0	405.0
A000954	5.0	200.0
A000955	3.0	1250.0
A000956	6.0	285.0
A000957	4.0	215.0
A000972	3.0	1350.0
A001020	4.0	135.0
A001021	5.0	135.0
A001022	3.0	100.0
A001023	-.9	105.0
A001024	3.0	130.0
A001025	6.0	185.0
A001026	4.0	200.0
A001027	5.0	880.0
A001028	4.0	175.0
A001029	3.0	150.0
A001030	3.0	120.0
A001031	3.0	155.0
A001032	4.0	240.0
A001033	5.0	210.0
A001034	6.0	190.0
A001035	5.0	110.0
A001251	4.0	115.0
A001252	5.0	260.0
A001253	5.0	165.0
A001254	4.0	425.0
A001255	5.0	105.0
A001256	6.0	205.0
A001257	8.0	95.0
A001258	6.0	280.0
A001259	4.0	235.0
A001260	8.0	100.0
A001261	7.0	100.0
A001262	4.0	215.0
A001263	-.9	385.0
A001264	-.9	160.0
A001301	5.0	120.0
A001302	4.0	95.0
A001303	7.0	140.0
A001306	4.0	80.0
A001308	3.0	95.0
A001309	3.0	95.0
A001311	5.0	105.0
A001312	4.0	145.0
A001313	3.0	145.0
A001314	-.9	400.0
A001315	3.0	50.0
A001316	4.0	50.0
A001317	5.0	235.0
A001318	5.0	105.0
A001320	3.0	550.0

TABLE AD-10 CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
A001321	401400.	3539400.	10 71	-.9	-.90	-.9	-.9	-.8	60.0	-.9	-.8	5.0	-.9	-.8	-.8
A001322	401600.	3534200.	10 71	-.9	-.90	20.0	-.9	-.8	35.0	-.9	-.8	20.0	4.0	-.8	-.8
A001323	399300.	3529000.	10 71	-.9	-.90	20.0	-.9	-.8	40.0	-.9	-.8	20.0	14.0	-.8	-.8
A001324	399300.	3529400.	10 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	15.0	4.0	-.8	-.8
A001325	401325.	3530100.	10 71	-.9	-.90	20.0	-.9	-.8	65.0	-.9	-.8	15.0	-.9	-.8	-.8
A001326	367825.	3558450.	10 71	-.9	-.90	10.0	-.9	-.8	15.0	-.9	-.8	-.9	2.0	-.8	-.8
A001327	355990.	3553990.	10 71	.8	-.90	15.0	-.9	-.8	25.0	-.9	-.8	15.0	4.0	-.8	-.8
A001328	356200.	3539400.	10 71	-.9	-.90	10.0	-.9	-.8	10.0	-.9	-.8	10.0	-.9	-.8	-.8
A001329	367010.	3551000.	10 71	-.9	-.90	5.0	-.9	-.8	20.0	-.9	-.8	10.0	-.9	-.8	-.8
A001501	374850.	3548800.	10 71	-.9	-.90	10.0	-.9	-.8	30.0	-.9	-.8	10.0	26.0	-.8	-.8
A001502	375100.	3549000.	10 71	-.9	-.90	30.0	-.9	-.8	45.0	-.9	-.8	10.0	2.0	-.8	-.8
A001503	373700.	3549300.	10 71	-.9	-.90	5.0	-.9	-.8	30.0	2.0	-.8	15.0	-.9	-.8	-.8
A001505	373555.	3554800.	10 71	-.9	-.90	25.0	-.9	-.8	25.0	-.9	-.8	15.0	6.0	-.8	-.8
A001506	373500.	3554500.	10 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	10.0	2.0	-.8	-.8
A001507	370380.	3557850.	10 71	-.9	-.90	10.0	-.9	-.8	15.0	-.9	-.8	-.9	-.9	-.8	-.8
A001508	373750.	3557600.	10 71	-.9	-.90	15.0	-.9	-.8	15.0	-.9	-.8	-.9	2.0	-.8	-.8
A001510	431700.	3534350.	10 71	-.9	-.90	25.0	-.9	-.8	40.0	2.0	-.8	20.0	4.0	-.8	-.8
A001511	427600.	3523600.	10 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	20.0	18.0	-.8	-.8
A001512	411550.	3519500.	10 71	-.9	-.90	15.0	-.9	-.8	35.0	-.9	-.8	20.0	14.0	-.8	-.8
A001513	411100.	3519300.	10 71	-.9	-.90	10.0	-.9	-.8	25.0	-.9	-.8	20.0	9.0	-.8	-.8
A001514	390600.	3501600.	10 71	-.9	-.90	20.0	-.9	-.8	30.0	-.9	-.8	15.0	11.0	-.8	-.8
A001515	385500.	3498850.	10 71	1.5	.07	110.0	-.9	-.8	35.0	-.9	-.8	20.0	13.0	-.8	-.8
A001516	385250.	3498700.	10 71	.4	.08	495.0	-.9	-.8	35.0	-.9	-.8	20.0	13.0	-.8	-.8
A001517	380800.	3498750.	10 71	.4	.08	365.0	-.9	-.8	55.0	-.9	-.8	35.0	24.0	-.8	-.8
A001518	381100.	3498800.	10 71	.4	-.90	165.0	-.9	-.8	75.0	-.9	-.8	90.0	17.0	-.8	-.8
A002469	431800.	3533160.	10 71	-.9	-.90	10.0	-.9	-.8	30.0	-.9	-.8	10.0	7.0	-.8	-.8
A002470	424100.	3519500.	10 71	-.9	-.90	15.0	-.9	-.8	50.0	-.9	-.8	15.0	55.0	-.8	-.8
A002471	416350.	3513100.	10 71	-.9	-.90	30.0	-.9	-.8	45.0	-.9	-.8	15.0	14.0	-.8	-.8
A002472	404400.	3512300.	10 71	-.9	-.90	45.0	-.9	-.8	35.0	-.9	-.8	30.0	22.0	-.8	-.8
A002473	404900.	3512500.	10 71	-.9	-.90	45.0	-.9	-.8	35.0	-.9	-.8	30.0	24.0	-.8	-.8
A002474	405100.	3511875.	10 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	20.0	6.0	-.8	-.8
A002475	394800.	3505075.	10 71	.4	-.90	90.0	-.9	-.8	40.0	-.9	-.8	30.0	18.0	-.8	-.8
A002476	395100.	3505000.	10 71	-.9	-.90	10.0	-.9	-.8	20.0	-.9	-.8	15.0	8.0	-.8	-.8
A002477	388100.	3496900.	10 71	-.9	-.90	35.0	-.9	-.8	40.0	-.9	-.8	30.0	22.0	-.8	-.8
A002478	381500.	3496000.	10 71	-.9	-.90	20.0	-.9	-.8	60.0	-.9	-.8	25.0	28.0	-.8	-.8
A002479	381200.	3497000.	10 71	.4	-.90	115.0	-.9	-.8	45.0	-.9	-.8	50.0	28.0	-.8	-.8
A002701	359000.	3521800.	10 71	.2	-.90	15.0	-.9	-.8	50.0	2.0	-.8	15.0	6.0	-.8	-.8
A002702	358000.	3521900.	10 71	-.9	-.90	10.0	-.9	-.8	30.0	2.0	-.8	15.0	2.0	-.8	-.8
A002703	360000.	3522000.	10 71	-.9	-.90	15.0	-.9	-.8	25.0	2.0	-.8	25.0	16.0	-.8	-.8
A002704	358700.	3524000.	10 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	15.0	-.9	-.8	-.8
A002705	359300.	3525200.	10 71	-.9	-.90	20.0	-.9	-.8	35.0	2.0	-.8	15.0	8.0	-.8	-.8
A002706	357600.	3529600.	10 71	-.9	-.90	20.0	-.9	-.8	30.0	-.9	-.8	15.0	8.0	-.8	-.8
A002707	359400.	3525000.	10 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	-.9	9.0	-.9	-.8
A002708	359100.	3524950.	10 71	-.9	-.90	5.0	-.9	-.8	25.0	-.9	-.8	-.9	7.0	-.8	-.8
A002709	359200.	3527200.	10 72	-.9	-.90	10.0	-.9	-.8	25.0	-.9	-.8	-.9	8.0	-.8	-.8
A002750	390300.	3538000.	10 71	-.9	-.90	15.0	-.9	-.8	40.0	2.0	-.8	15.0	4.0	-.8	-.8
A002751	382200.	3537600.	10 71	-.9	-.90	15.0	-.9	-.8	25.0	-.9	-.8	20.0	-.9	-.8	-.8
A002753	375700.	3536240.	10 71	.2	-.90	80.0	-.9	-.8	30.0	2.0	-.8	20.0	8.0	-.8	-.8
A002756	368950.	3534900.	10 71	-.9	-.90	5.0	-.9	-.8	30.0	-.9	-.8	25.0	2.0	-.8	-.8
A002757	364250.	3533800.	10 71	.2	-.90	5.0	-.9	-.8	-.9	2.0	-.8	20.0	-.9	-.8	-.8
A002759	361200.	3533800.	10 71	-.9	-.90	10.0	-.9	-.8	25.0	2.0	-.8	10.0	-.9	-.8	-.8

TABLE AD-10

CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
A001321	3.0	195.0
A001322	4.0	105.0
A001323	4.0	95.0
A001324	4.0	95.0
A001325	3.0	140.0
A001326	4.0	70.0
A001327	4.0	115.0
A001328	-.9	65.0
A001329	4.0	95.0
A001501	5.0	130.0
A001502	4.0	335.0
A001503	5.0	140.0
A001505	4.0	100.0
A001506	5.0	185.0
A001507	5.0	75.0
A001508	6.0	70.0
A001510	4.0	125.0
A001511	5.0	115.0
A001512	5.0	135.0
A001513	4.0	100.0
A001514	4.0	110.0
A001515	5.0	130.0
A001516	6.0	85.0
A001517	5.0	135.0
A001518	4.0	250.0
A002469	-.9	105.0
A002470	3.0	120.0
A002471	5.0	85.0
A002472	3.0	120.0
A002473	5.0	105.0
A002474	5.0	90.0
A002475	4.0	145.0
A002476	5.0	85.0
A002477	3.0	160.0
A002478	4.0	135.0
A002479	3.0	125.0
A002701	8.0	255.0
A002702	4.0	150.0
A002703	4.0	100.0
A002704	7.0	245.0
A002705	5.0	150.0
A002706	3.0	105.0
A002707	3.0	265.0
A002708	3.0	80.0
A002709	4.0	70.0
A002750	5.0	120.0
A002751	5.0	115.0
A002753	7.0	135.0
A002756	4.0	130.0
A002757	5.0	170.0
A002758	3.0	100.0

TABLE AD-10

CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
A002902	398800.	3520300.	10 71	-.9	-.90	35.0	-.9	-.8	30.0	-.9	-.8	15.0	8.0	-.8	-.8
A002903	399000.	3520300.	10 71	-.9	-.90	40.0	-.9	-.8	40.0	-.9	-.8	35.0	6.0	-.8	-.8
A002904	396400.	3518600.	10 71	-.9	-.90	35.0	-.9	-.8	40.0	-.9	-.8	25.0	7.0	-.8	-.8
A002905	397850.	3517800.	10 71	1.4	-.90	75.0	-.9	-.8	60.0	6.0	-.8	35.0	11.0	-.8	-.8
A002907	394400.	3516800.	10 71	.2	.25	60.0	-.9	-.8	45.0	-.9	-.8	35.0	4.0	-.8	-.8
A002908	393300.	3515800.	10 71	.6	.05	125.0	-.9	-.8	55.0	2.0	-.8	80.0	6.0	-.8	-.8
A002909	391300.	3514600.	10 71	.8	-.90	175.0	-.9	-.9	50.0	2.0	-.9	105.0	9.0	-.9	-.9
A002910	389300.	3513000.	10 71	-.9	-.90	110.0	-.9	-.8	50.0	-.9	-.8	25.0	4.0	-.8	-.8
A002911	389300.	3514100.	10 71	.4	-.90	120.0	-.9	-.8	35.0	-.9	-.8	60.0	6.0	-.8	-.8
A002913	386900.	3513500.	10 71	.2	-.90	105.0	-.9	-.8	45.0	-.9	-.8	30.0	11.0	-.8	-.8
A002914	384700.	3512800.	10 71	-.9	-.90	75.0	-.9	-.8	30.0	2.0	-.8	15.0	26.0	-.8	-.8
A002915	437900.	3550100.	10 71	-.9	-.90	10.0	-.9	-.8	45.0	2.0	-.8	15.0	2.0	-.8	-.8
A002916	430200.	3550400.	10 71	-.9	-.90	20.0	-.9	-.8	40.0	2.0	-.8	25.0	4.0	-.8	-.8
A002917	435400.	3560100.	10 71	-.9	-.90	95.0	-.9	-.8	30.0	-.9	-.8	15.0	36.0	-.8	-.8
A002918	435700.	3560400.	10 71	.4	-.90	20.0	-.9	-.8	25.0	2.0	-.8	20.0	15.0	-.8	-.8
A002919	425300.	3568800.	10 71	-.9	-.90	30.0	-.9	-.8	40.0	-.9	-.8	15.0	8.0	-.8	-.8
A002920	425000.	3568900.	10 71	-.9	-.90	45.0	-.9	-.8	40.0	2.0	-.8	15.0	14.0	-.8	-.8
A002921	420900.	3559200.	10 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	10.0	6.0	-.8	-.8
A002922	420900.	3558900.	10 71	-.9	-.90	20.0	-.9	-.8	35.0	-.9	-.8	15.0	20.0	-.8	-.8
A002923	415800.	3556900.	10 71	-.9	-.90	10.0	-.9	-.8	55.0	2.0	-.8	15.0	-.9	-.8	-.8
A002924	416200.	3555800.	10 71	-.9	-.90	30.0	-.9	-.8	50.0	-.9	-.8	35.0	6.0	-.8	-.8
A002925	415900.	3558800.	10 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	10.0	4.0	-.8	-.8
A002926	400300.	3554200.	10 71	.2	-.90	35.0	1.0	-.8	70.0	4.0	-.8	10.0	7.0	-.8	-.8
A002927	399700.	3555200.	10 71	-.9	-.90	15.0	-.9	-.8	35.0	-.9	-.8	10.0	2.0	-.8	-.8
A002928	400500.	3554100.	10 71	-.9	-.90	20.0	-.9	-.8	30.0	-.9	-.8	5.0	5.0	-.8	-.8
A002929	389700.	3554500.	10 71	-.9	-.90	15.0	-.9	-.8	35.0	-.9	-.8	10.0	2.0	-.8	-.8
A002930	411100.	3540500.	10 71	-.9	-.90	30.0	-.9	-.8	60.0	2.0	-.8	20.0	4.0	-.8	-.8
A002932	411100.	3540500.	10 71	-.9	-.90	40.0	-.9	-.8	45.0	-.9	-.8	15.0	14.0	-.8	-.8
A002934	405000.	3529100.	10 71	-.9	-.90	45.0	-.9	-.8	55.0	2.0	-.8	25.0	12.0	-.8	-.8
A002935	404500.	3529100.	10 71	-.9	-.90	25.0	-.9	-.8	30.0	-.9	-.8	10.0	6.0	-.8	-.8
A002936	403900.	3527300.	10 71	.4	-.90	60.0	-.9	-.8	55.0	-.9	-.8	45.0	10.0	-.8	-.8
A002937	363975.	3556500.	10 71	-.9	-.90	15.0	-.9	-.8	15.0	-.9	-.8	-.9	-.9	-.8	-.8
A002941	357000.	3538800.	10 71	-.9	-.90	5.0	-.9	-.8	20.0	-.9	-.8	10.0	-.9	-.8	-.8
A002942	371050.	3525700.	10 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	15.0	6.0	-.8	-.8
A002945	418300.	3556000.	10 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	30.0	6.0	-.8	-.8
A002946	417950.	3556000.	10 71	.4	-.90	10.0	-.9	-.8	45.0	-.9	-.8	30.0	-.9	-.8	-.8
A002947	438700.	3551800.	10 71	-.9	-.90	25.0	-.9	-.8	30.0	-.9	-.8	35.0	20.0	-.8	-.8
A002948	438400.	3551900.	10 71	.6	-.90	10.0	-.9	-.8	30.0	-.9	-.8	25.0	15.0	-.8	-.8
A002949	425000.	3559100.	10 71	-.9	-.90	40.0	-.9	-.8	40.0	-.9	-.8	25.0	38.0	-.8	-.8
A002950	427200.	3542400.	10 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	15.0	8.0	-.8	-.8
A002951	430400.	3541950.	10 71	.2	-.90	10.0	-.9	-.8	40.0	-.9	-.8	420.0	6.0	-.8	-.8
A002952	429800.	3526100.	10 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	20.0	6.0	-.8	-.8
A002953	419100.	3517800.	10 71	-.9	-.90	10.0	-.9	-.8	30.0	-.9	-.8	15.0	16.0	-.8	-.8
A002954	419300.	3517900.	10 71	-.9	-.90	-.9	-.9	-.8	60.0	-.9	-.8	15.0	8.0	-.8	-.8
A002955	399700.	3509300.	10 71	-.9	-.90	5.0	-.9	-.8	30.0	-.9	-.8	15.0	4.0	-.8	-.8
A002956	338300.	3479000.	10 71	2.8	.03	2300.0	-.9	15.0	70.0	-.9	30.0	140.0	35500.0	-.9	105.0
A002957	338900.	3478950.	10 71	.6	-.90	290.0	-.9	30.0	60.0	-.9	80.0	75.0	75.0	-.9	130.0
A002976	401600.	3552600.	10 71	.2	-.90	20.0	-.9	-.8	90.0	2.0	-.8	15.0	4.0	-.8	-.8
A002977	401800.	3553780.	10 71	-.9	-.90	20.0	2.0	-.8	50.0	4.0	-.8	35.0	8.0	-.8	-.8
A002978	401180.	3554000.	10 71	-.9	-.90	20.0	2.0	-.8	45.0	2.0	-.8	15.0	12.0	-.8	-.8
A002979	400850.	3553350.	10 71	-.9	-.90	25.0	2.0	-.8	55.0	4.0	-.8	15.0	15.0	-.8	-.8

TABLE AD-10 CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
A002902	4.0	95.0
A002903	5.0	130.0
A002904	4.0	105.0
A002905	4.0	145.0
A002907	10.0	200.0
A002908	6.0	185.0
A002909	5.0	200.0
A002910	5.0	110.0
A002911	4.0	130.0
A002913	5.0	125.0
A002914	7.0	80.0
A002915	3.0	145.0
A002916	-.9	145.0
A002917	7.0	110.0
A002918	8.0	90.0
A002919	5.0	115.0
A002920	4.0	110.0
A002921	4.0	75.0
A002922	6.0	80.0
A002923	9.0	120.0
A002924	4.0	85.0
A002925	4.0	105.0
A002926	3.0	390.0
A002927	3.0	110.0
A002928	3.0	5900.0
A002929	4.0	140.0
A002930	3.0	425.0
A002932	8.0	115.0
A002934	6.0	125.0
A002935	3.0	90.0
A002936	4.0	195.0
A002937	-.9	100.0
A002941	4.0	80.0
A002942	-.9	95.0
A002945	5.0	80.0
A002946	3.0	75.0
A002947	4.0	155.0
A002948	4.0	145.0
A002949	6.0	115.0
A002950	4.0	105.0
A002951	4.0	720.0
A002952	5.0	80.0
A002953	4.0	95.0
A002954	3.0	130.0
A002955	3.0	75.0
A002956	4.0	170.0
A002957	-.9	500.0
A002976	4.0	235.0
A002977	5.0	190.0
A002978	5.0	165.0
A002979	4.0	270.0

TABLE AD-10 CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
A002985	399400.	3509500.	10 71	.8	-.90	10.0	-.9	-.8	35.0	-.9	-.8	20.0	6.0	-.8	-.8
A002986	401700.	3509700.	10 71	-.9	-.90	10.0	-.9	-.8	25.0	-.9	-.8	20.0	12.0	-.8	-.8
A002987	401700.	3509950.	10 71	-.9	-.90	50.0	-.9	-.8	35.0	-.9	-.8	25.0	8.0	-.8	-.8
A002988	391800.	3501500.	10 71	-.9	-.90	65.0	-.9	-.8	40.0	-.9	-.8	20.0	8.0	-.8	-.8
A002989	392100.	3501600.	10 71	.4	-.90	135.0	-.9	-.8	40.0	-.9	-.8	35.0	14.0	-.8	-.8
A002990	386300.	3497200.	10 71	1.4	-.90	35.0	-.9	-.8	50.0	-.9	-.8	25.0	9.0	-.8	-.8
A002991	386300.	3497800.	10 71	-.9	-.90	30.0	-.9	-.8	40.0	-.9	-.8	25.0	8.0	-.8	-.8
A002992	373800.	3494400.	10 71	1.1	.05	355.0	-.9	-.8	30.0	-.9	-.8	120.0	26.0	-.8	-.8
A002993	374100.	3494550.	10 71	.7	-.90	160.0	-.9	-.8	45.0	-.9	-.8	45.0	14.0	-.8	-.8
A002994	411020.	3554080.	10 71	-.9	-.90	25.0	-.9	-.8	45.0	-.9	-.8	20.0	10.0	-.8	-.8
A002995	411065.	3554100.	10 71	.2	-.90	-.9	-.9	-.8	55.0	-.9	-.8	20.0	13.0	-.8	-.8
A003002	425300.	3560150.	10 71	-.9	-.90	10.0	-.9	-.8	65.0	2.0	-.8	10.0	9.0	-.8	-.8
A003006	431700.	3569350.	10 71	-.9	-.90	25.0	-.9	-.8	35.0	2.0	-.8	15.0	9.0	-.8	-.8

TABLE AD-10

CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
A002985	5.0	85.0
A002986	6.0	80.0
A002987	5.0	125.0
A002988	5.0	125.0
A002989	6.0	190.0
A002990	4.0	130.0
A002991	4.0	120.0
A002992	4.0	195.0
A002993	6.0	200.0
A002994	3.0	200.0
A002995	3.0	115.0
A003002	4.0	380.0
A003006	5.0	300.0

TABLE AD-11

DUNKLE MINE AREA STREAM SEDIMENTS

ANALYTICAL RESULTS

TABLE AD-11

CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)	W (PPM)	ZN (PPM)
A001006	582200.	3399300.	10 71	1.1	-.90	20.0	-.9	65.0	-.9	75.0	14.0	5.0	175.0
A001007	583550.	3396200.	10 71	1.2	-.90	90.0	-.9	45.0	-.9	15.0	6.0	5.0	120.0
A001008	583400.	3393800.	10 71	1.5	-.90	25.0	-.9	55.0	-.9	125.0	32.0	6.0	200.0
A001010	583300.	3393700.	10 71	-.9	-.90	35.0	-.9	35.0	-.9	20.0	4.0	3.0	115.0
A001012	584000.	3392800.	10 71	.9	-.90	70.0	-.9	35.0	-.9	70.0	16.0	4.0	135.0
A001014	582650.	3392100.	10 71	.2	-.90	65.0	-.9	55.0	-.9	25.0	6.0	3.0	120.0
A001016	590000.	3390700.	10 71	1.4	-.90	45.0	-.9	45.0	-.9	120.0	32.0	3.0	150.0
A001017	597600.	3382800.	10 71	.4	-.90	400.0	-.9	35.0	-.9	20.0	4.0	3.0	155.0
A001018	598800.	3382100.	10 71	.6	-.90	235.0	-.9	30.0	-.9	35.0	8.0	4.0	170.0
A002402	579500.	3381950.	10 71	-.9	-.90	15.0	-.9	50.0	-.9	20.0	4.0	3.0	125.0
A002404	579900.	3382200.	10 71	.2	-.90	55.0	-.9	35.0	-.9	15.0	4.0	3.0	165.0
A002407	585100.	3369200.	10 71	.6	-.90	30.0	-.9	35.0	-.9	50.0	8.0	3.0	145.0
A002408	589100.	3376250.	10 71	1.2	-.90	275.0	-.9	70.0	-.9	30.0	6.0	6.0	330.0
A002409	589075.	3376275.	10 71	1.2	-.90	110.0	-.9	65.0	-.9	75.0	16.0	4.0	315.0
A002411	587700.	3369400.	10 71	.4	-.90	45.0	-.9	25.0	-.9	15.0	2.0	3.0	125.0
A002412	581300.	3383700.	10 71	.4	.02	55.0	-.9	40.0	-.9	35.0	6.0	3.0	170.0
A002414	574800.	3381150.	10 71	-.9	-.90	50.0	-.9	30.0	-.9	10.0	4.0	3.0	125.0
A002415	575100.	3389700.	10 71	-.9	.02	15.0	-.9	55.0	-.9	15.0	4.0	5.0	130.0
A002416	576400.	3394975.	10 71	-.9	-.90	35.0	-.9	55.0	-.9	10.0	6.0	4.0	150.0
A002417	576190.	3399950.	10 71	.4	-.90	30.0	-.9	60.0	-.9	15.0	9.0	3.0	135.0
A002418	587050.	3393500.	10 71	.2	-.90	80.0	-.9	15.0	-.9	10.0	2.0	3.0	125.0
A002419	603000.	3390700.	10 71	.4	.02	135.0	-.9	30.0	-.9	70.0	17.0	-.9	130.0
A002421	604800.	3389700.	10 71	.2	-.90	130.0	-.9	40.0	-.9	15.0	12.0	4.0	95.0
A002422	600675.	3392600.	10 71	.2	-.90	120.0	-.9	25.0	-.9	20.0	4.0	3.0	120.0
A002423	573500.	3383200.	10 71	.2	.19	45.0	-.9	55.0	-.9	10.0	8.0	5.0	135.0
A002425	572600.	3381100.	10 71	.4	.23	195.0	-.9	55.0	-.9	20.0	8.0	4.0	135.0
A002426	573200.	3379200.	10 71	.4	.03	75.0	-.9	50.0	-.9	10.0	8.0	4.0	135.0
A002432	578350.	3384900.	10 71	-.9	-.90	15.0	-.9	50.0	-.9	15.0	2.0	4.0	120.0
A002435	582100.	3372600.	10 71	.4	-.90	85.0	-.9	60.0	-.9	15.0	6.0	3.0	170.0
A002436	582550.	3378700.	10 71	1.3	-.90	80.0	-.9	30.0	-.9	45.0	6.0	2.0	205.0
A002437	585500.	3379700.	10 71	.4	-.90	140.0	-.9	45.0	-.9	10.0	6.0	3.0	130.0
A002438	582100.	3372600.	10 71	.2	-.90	20.0	-.9	50.0	-.9	15.0	2.0	3.0	125.0
A002439	575400.	3377100.	10 71	.2	-.90	55.0	-.9	40.0	-.9	15.0	2.0	3.0	145.0
A002440	575000.	3378900.	10 71	-.9	-.90	35.0	-.9	30.0	-.9	10.0	-.9	5.0	130.0
A002443	587100.	3393500.	10 71	-.9	-.90	205.0	-.9	15.0	-.9	5.0	2.0	4.0	140.0
A002444	596700.	3394400.	10 71	.2	-.90	110.0	-.9	25.0	-.9	40.0	6.0	6.0	110.0
A002445	600000.	3392100.	10 71	-.9	-.90	200.0	-.9	25.0	-.9	10.0	2.0	3.0	120.0
A002446	581900.	3371900.	10 71	-.9	.10	20.0	-.9	50.0	-.9	15.0	2.0	3.0	120.0
A002448	582300.	3372300.	10 71	-.9	-.90	25.0	-.9	25.0	-.9	15.0	-.9	3.0	120.0
A002449	590000.	3377900.	10 71	1.2	-.90	40.0	-.9	45.0	-.9	45.0	6.0	5.0	290.0
A002450	575500.	3382900.	10 71	-.9	.15	60.0	-.9	25.0	-.9	5.0	2.0	3.0	135.0
A002451	575900.	3384300.	10 71	-.9	.27	35.0	-.9	35.0	-.9	15.0	2.0	2.0	130.0
A002452	576300.	3372600.	10 71	-.9	-.90	20.0	-.9	20.0	-.9	5.0	2.0	-.9	75.0
A002453	576305.	3372600.	10 71	-.9	-.90	25.0	-.9	30.0	-.9	10.0	2.0	3.0	110.0
A002454	576600.	3387200.	10 71	-.9	-.90	35.0	-.9	60.0	-.9	10.0	4.0	5.0	140.0
A002455	585000.	3396000.	10 71	.2	-.90	20.0	-.9	30.0	-.9	15.0	2.0	3.0	110.0
A002456	592000.	3393000.	10 71	.4	-.90	510.0	-.9	20.0	-.9	30.0	6.0	3.0	200.0
A002457	604700.	3396600.	10 71	-.9	-.90	130.0	-.9	15.0	-.9	5.0	4.0	3.0	110.0
A002458	600875.	3385700.	10 71	.4	-.90	385.0	-.9	20.0	-.9	15.0	6.0	4.0	155.0
A002459	600500.	3383500.	10 71	-.9	-.90	305.0	-.9	25.0	-.9	10.0	4.0	4.0	145.0
A002463	595275.	3379100.	10 71	.2	-.90	70.0	-.9	30.0	-.9	10.0	4.0	4.0	110.0

TABLE AD-11 CHEMICAL ANALYSIS OF STREAM SED. SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)	W (PPM)	ZN (PPM)
A002464	593000.	3382600.	10 71	.2	-.90	85.0	-.9	30.0	-.9	35.0	8.0	5.0	115.0
A002465	591800.	3384700.	10 71	-.9	-.90	170.0	-.9	45.0	-.9	20.0	4.0	5.0	115.0
A002466	588900.	3385500.	10 71	-.9	.06	70.0	-.9	30.0	-.9	15.0	4.0	3.0	115.0
A002468	578400.	3388000.	10 71	-.9	.04	35.0	-.9	30.0	-.9	10.0	2.0	4.0	95.0

TABLE AD-12

KANTISHNA HILLS PANNED CONCENTRATES

ANALYTICAL RESULTS

TABLE AD-12 CHEMICAL ANALYSIS OF PAN CON. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CO (PPM)	CR (PPM)	CU (PPM)	FE (%)	GA (PPM)	HG (PPM)	LA (PPM)
A000804	373950.	3503350.	12 71	.4	-.90	110.0	-.8	-.8	-.9	-.8	-.8	35.0	-.8	-.8	-.80	-.8
A000806	372570.	3505620.	12 71	-.9	-.90	65.0	-.8	-.8	-.9	-.8	-.8	35.0	-.8	-.8	-.80	-.8
A000807	369120.	3509850.	12 72	-.9	-.90	45.0	420.0	-.9	-.9	15.0	75.0	30.0	4.8	10.0	.01	30.0
A000922	396200.	3556300.	12 71	-.9	.43	15.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A000923	397100.	3556400.	12 71	-.9	-.90	-.9	-.8	-.8	-.9	-.8	-.8	20.0	-.8	-.8	-.80	-.8
A000928	406500.	3532400.	12 72	.8	.78	40.0	220.0	-.9	-.9	20.0	90.0	60.0	17.4	6.0	.09	25.0
A000931	367825.	3558450.	12 71	-.9	-.90	5.0	-.8	-.8	-.9	-.8	-.8	15.0	-.8	-.8	-.80	-.8
A000932	350600.	3549300.	12 71	-.9	-.90	10.0	-.8	-.8	-.9	-.8	-.8	20.0	-.8	-.8	-.80	-.8
A000936	366150.	3540400.	12 71	-.9	-.90	5.0	-.8	-.8	-.9	-.8	-.8	10.0	-.8	-.8	-.80	-.8
A000945	333000.	3469950.	12 71	2.4	.16	-.9	-.8	-.8	-.9	45.0	-.9	105.0	-.8	-.8	-.80	-.8
A000951	334200.	3473800.	12 71	.6	-.90	500.0	-.8	-.8	-.9	45.0	-.9	35.0	-.8	-.8	-.80	-.8
A001003	360950.	3526950.	12 71	-.9	-.90	10.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A001004	376250.	3525500.	12 71	-.9	-.90	15.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A001005	384100.	3524100.	12 71	-.9	-.90	15.0	-.8	-.8	-.9	-.8	-.8	30.0	-.8	-.8	-.80	-.8
A001304	382425.	3507500.	12 71	.6	2.40	150.0	-.8	-.8	-.9	-.8	-.8	35.0	-.8	-.8	-.80	-.8
A001305	380175.	3507150.	12 71	-.9	1.80	115.0	-.8	-.8	-.9	-.8	-.8	30.0	-.8	-.8	-.80	-.8
A001307	374150.	3510200.	12 71	.2	.44	115.0	-.8	-.8	-.9	-.8	-.8	35.0	-.8	-.8	-.80	-.8
AC01310	364750.	3510500.	12 71	-.9	5.20	50.0	-.8	-.8	-.9	-.8	-.8	20.0	-.8	-.8	-.80	-.8
A001319	400150.	3559500.	12 71	-.9	.70	20.0	-.8	-.8	-.9	-.8	-.8	15.0	-.8	-.8	-.80	-.8
A001330	358500.	3534200.	12 71	-.9	-.90	10.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A001504	373300.	3549500.	12 71	-.9	-.90	10.0	-.8	-.8	-.9	-.8	-.8	15.0	-.8	-.8	-.80	-.8
A001509	371450.	3599500.	12 72	.6	-.90	5.0	220.0	-.9	-.9	10.0	130.0	15.0	10.2	8.0	.03	15.0
A002752	382300.	3537400.	12 71	-.9	-.90	-.9	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A002754	371750.	3535650.	12 71	-.9	-.90	-.9	-.8	-.8	-.9	-.8	-.8	35.0	-.8	-.8	-.80	-.8
A002755	371600.	3535900.	12 71	-.9	-.90	-.9	-.8	-.8	-.9	-.8	-.8	20.0	-.8	-.8	-.80	-.8
A002759	358980.	3535380.	12 72	-.9	-.90	-.9	540.0	-.9	-.9	20.0	70.0	20.0	-.9	8.0	.02	15.0
A002760	358000.	3536200.	12 71	-.9	-.90	-.9	-.8	-.8	-.9	-.8	-.8	15.0	-.8	-.8	-.80	-.8
A002906	393700.	3517400.	12 71	.2	-.90	45.0	-.8	-.8	-.9	-.8	-.8	30.0	-.8	-.8	-.80	-.8
A002912	387600.	3514000.	12 72	.8	-.90	65.0	550.0	-.9	-.9	15.0	80.0	30.0	6.9	10.0	.02	30.0
A002931	411100.	3540500.	12 71	-.9	-.90	15.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A002933	411700.	3540000.	12 72	-.9	-.90	25.0	380.0	-.9	-.9	20.0	-.9	35.0	8.1	10.0	.07	25.0
A002938	350900.	3550500.	12 71	-.9	-.90	-.9	-.8	-.8	-.9	-.8	-.8	10.0	-.8	-.8	-.80	-.8
A002939	356200.	3550600.	12 71	-.9	-.90	-.9	-.8	-.8	-.9	-.8	-.8	15.0	-.8	-.8	-.80	-.8
A002940	357000.	3538800.	12 71	-.9	-.90	10.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A002943	369850.	3525100.	12 71	-.9	-.90	15.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A002944	382475.	3526150.	12 71	-.9	-.90	10.0	-.8	-.8	-.9	-.8	-.8	30.0	-.8	-.8	-.80	-.8
A003001	425300.	3560150.	12 71	-.9	-.90	30.0	-.8	-.8	-.9	-.8	-.8	40.0	-.8	-.8	-.80	-.8
A003003	425500.	3559800.	12 71	-.9	-.90	60.0	-.8	-.8	-.9	-.8	-.8	30.0	-.8	-.8	-.80	-.8
A003004	428700.	3562600.	12 71	.2	-.90	15.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A003005	431300.	3568950.	12 71	-.9	-.90	15.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A003007	435400.	3572000.	12 71	-.9	-.90	20.0	-.8	-.8	-.9	-.8	-.8	35.0	-.8	-.8	-.80	-.8
A003008	443600.	3573100.	12 72	-.9	-.90	10.0	290.0	-.9	-.9	20.0	50.0	20.0	11.6	8.0	.03	55.0
A003009	446000.	3564600.	12 71	.2	-.90	90.0	-.8	-.8	-.9	-.8	-.8	105.0	-.8	-.8	-.80	-.8
A003010	402900.	3542800.	12 71	-.9	-.90	15.0	-.8	-.8	-.9	-.8	-.8	65.0	-.8	-.8	-.80	-.8
A003011	402200.	3543400.	12 71	-.9	-.90	80.0	-.8	-.8	-.9	-.8	-.8	55.0	-.8	-.8	-.80	-.8
A003012	405450.	3544700.	12 71	-.9	-.90	15.0	-.8	-.8	-.9	-.8	-.8	25.0	-.8	-.8	-.80	-.8
A003013	411850.	3546200.	12 72	-.9	-.90	10.0	580.0	-.9	-.9	10.0	55.0	20.0	8.4	10.0	.02	20.0
A003014	417250.	3551800.	12 71	-.9	-.90	120.0	-.8	-.8	-.9	-.8	-.8	40.0	-.8	-.8	-.80	-.8
A003015	420300.	3547300.	12 71	-.9	-.90	25.0	-.8	-.8	-.9	-.8	-.8	35.0	-.8	-.8	-.80	-.8
A003016	422750.	3530450.	12 72	-.9	-.90	25.0	320.0	-.9	-.9	15.0	50.0	35.0	4.3	8.0	.04	25.0
A003017	424600.	3530750.	12 71	.9	-.90	10.0	-.8	-.8	-.9	-.8	-.8	50.0	-.8	-.8	-.80	-.8

TABLE AD-12 CHEMICAL ANALYSIS OF PAN CON. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)	TE (PPM)	TH (PPM)	TI (%)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A000804	-.8	-.9	-.8	-.8	30.0	-.8	-.8	10.0	-.8	-.9	-.800	-.8	-.80	-.8	3.0	-.8	140.0	-.8
A000806	-.8	-.9	-.8	-.8	15.0	-.8	-.8	7.0	-.8	-.9	-.800	-.8	-.80	-.8	5.0	-.8	95.0	-.8
A000807	1550.0	-.9	20.0	30.0	10.0	.1	-.9	6.0	20.0	-.9	-.900	-.9	-.90	50.0	3.0	35.0	95.0	220.0
A000922	-.8	-.9	-.8	-.8	-.9	-.8	-.8	-.9	-.8	-.9	-.800	-.8	-.80	-.8	4.0	-.8	105.0	-.8
A000923	-.8	2.0	-.8	-.8	-.9	-.8	-.8	2.0	-.8	-.9	-.800	-.8	-.80	-.8	7.0	-.8	55.0	-.8
A000928	7850.0	-.9	20.0	25.0	25.0	-.9	-.9	22.0	90.0	-.9	-.900	-.9	-.90	60.0	13.0	170.0	60.0	270.0
A000931	-.8	-.9	-.8	-.8	-.9	-.8	-.8	2.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	45.0	-.8
A000932	-.8	-.9	-.8	-.8	-.9	-.8	-.8	2.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	60.0	-.8
A000936	-.8	-.9	-.8	-.8	-.9	-.8	-.8	-.9	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	65.0	-.8
A000945	-.8	-.9	-.8	95.0	375.0	-.8	-.8	34000.0	-.8	38.0	-.800	-.8	-.80	85.0	940.0	-.8	310.0	-.8
A000951	-.8	-.9	-.8	120.0	30.0	-.8	-.8	160.0	-.8	-.9	-.800	-.8	-.80	80.0	-.9	-.8	175.0	-.8
A001003	-.8	-.9	-.8	-.8	-.9	-.8	-.8	4.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	60.0	-.8
A001004	-.8	-.9	-.8	-.8	10.0	-.8	-.8	7.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	65.0	-.8
A001005	-.8	-.9	-.8	-.8	15.0	-.8	-.8	7.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	60.0	-.8
A001304	-.8	2.0	-.8	-.8	60.0	-.8	-.8	11.0	-.8	-.9	-.800	-.8	-.80	-.8	11.0	-.8	90.0	-.8
A001305	-.8	-.9	-.8	-.8	35.0	-.8	-.8	7.0	-.8	-.9	-.800	-.8	-.80	-.8	6.0	-.8	75.0	-.8
A001307	-.8	2.0	-.8	-.8	30.0	-.8	-.8	16.0	-.8	-.9	-.800	-.8	-.80	-.8	7.0	-.8	75.0	-.8
A001310	-.8	-.9	-.8	-.8	240.0	-.8	-.8	11.0	-.8	12.0	-.800	-.8	-.80	-.8	8.0	-.8	55.0	-.8
A001319	-.8	-.9	-.8	-.8	30.0	-.8	-.8	4.0	-.8	-.9	-.800	-.8	-.80	-.8	6.0	-.8	60.0	-.8
A001330	-.8	-.9	-.8	-.8	10.0	-.8	-.8	6.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	55.0	-.8
A001504	-.8	-.9	-.8	-.8	-.9	-.8	-.8	4.0	-.8	-.9	-.800	-.8	-.80	-.8	7.0	-.8	100.0	-.8
A001509	4400.0	-.9	10.0	20.0	-.9	.1	-.9	4.0	45.0	-.9	-.900	20.0	-.90	25.0	3.0	90.0	55.0	140.0
A002752	-.8	2.0	-.8	-.8	10.0	-.8	-.8	2.0	-.8	-.9	-.800	-.8	-.80	-.8	4.0	-.8	100.0	-.8
A002754	-.8	-.9	-.8	-.8	15.0	-.8	-.8	-.9	-.8	.5	-.800	-.8	-.80	-.8	5.0	-.8	110.0	-.8
A002755	-.8	-.9	-.8	-.8	-.9	-.8	-.8	2.0	-.8	-.9	-.800	-.8	-.80	-.8	5.0	-.8	70.0	-.8
A002759	2350.0	2.0	-.9	40.0	-.9	-.9	-.9	-.9	15.0	-.9	-.900	-.9	-.90	60.0	5.0	40.0	225.0	210.0
A002760	-.8	-.9	-.8	-.8	-.9	-.8	-.8	-.9	-.8	-.9	-.800	-.8	-.80	-.8	3.0	-.8	65.0	-.8
A002906	-.8	2.0	-.8	-.8	15.0	-.8	-.8	6.0	-.8	-.9	-.800	-.8	-.80	-.8	3.0	-.8	70.0	-.8
A002912	2100.0	-.9	-.9	25.0	50.0	-.9	-.9	5.0	25.0	-.9	-.900	-.9	-.90	70.0	13.0	45.0	100.0	180.0
A002931	-.8	-.9	-.8	-.8	10.0	-.8	-.8	2.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	140.0	-.8
A002933	3000.0	2.0	-.9	30.0	10.0	-.9	-.9	13.0	30.0	-.9	-.900	-.9	-.90	45.0	46.0	50.0	65.0	170.0
A002938	-.8	-.9	-.8	-.8	-.9	-.8	-.8	-.9	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	40.0	-.8
A002939	-.8	-.9	-.8	-.8	-.9	-.8	-.8	-.9	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	50.0	-.8
A002940	-.8	-.9	-.8	-.8	-.9	-.8	-.8	6.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	70.0	-.8
A002943	-.8	-.9	-.8	-.8	10.0	-.8	-.8	5.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	60.0	-.8
A002944	-.8	-.9	-.8	-.8	10.0	-.8	-.8	6.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	65.0	-.8
A003001	-.8	-.9	-.8	-.8	10.0	-.8	-.8	8.0	-.8	-.9	-.800	-.8	-.80	-.8	5.0	-.8	160.0	-.8
A003003	-.8	-.9	-.8	-.8	10.0	-.8	-.8	9.0	-.8	-.9	-.800	-.8	-.80	-.8	5.0	-.8	60.0	-.8
A003004	-.8	2.0	-.8	-.8	10.0	-.8	-.8	6.0	-.8	-.9	-.800	-.8	-.80	-.8	4.0	-.8	65.0	-.8
A003005	-.8	2.0	-.8	-.8	5.0	-.8	-.8	8.0	-.8	-.9	-.800	-.8	-.80	-.8	3.0	-.8	85.0	-.8
A003007	-.8	-.9	-.8	-.8	5.0	-.8	-.8	11.0	-.8	26.0	-.800	-.8	-.80	-.8	10.0	-.8	100.0	-.8
A003008	7700.0	2.0	-.9	30.0	5.0	-.9	-.9	8.0	50.0	7.0	-.900	20.0	-.90	55.0	3.0	95.0	70.0	240.0
A003009	-.8	2.0	-.8	-.8	20.0	-.8	-.8	730.0	-.8	2.0	-.800	-.8	-.80	-.8	75.0	-.8	120.0	-.8
A003010	-.8	-.9	-.8	-.8	5.0	-.8	-.8	4.0	-.8	-.9	-.800	-.8	-.80	-.8	3.0	-.8	120.0	-.8
A003011	-.8	-.9	-.8	-.8	125.0	-.8	-.8	26.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	195.0	-.8
A003012	-.8	-.9	-.8	-.8	10.0	-.8	-.8	17.0	-.8	-.9	-.800	-.8	-.80	-.8	-.9	-.8	75.0	-.8
A003013	4050.0	2.0	-.9	15.0	5.0	-.9	-.9	4.0	35.0	-.9	-.900	-.9	-.90	65.0	-.9	70.0	75.0	230.0
A003014	-.8	2.0	-.8	-.8	5.0	-.8	-.8	22.0	-.8	-.9	-.800	-.8	-.80	-.8	3.0	-.8	65.0	-.8
A003015	-.8	2.0	-.8	-.8	-.9	-.8	-.8	12.0	-.8	-.9	-.800	-.8	-.80	-.8	55.0	-.8	135.0	-.8
A003016	1900.0	-.9	-.9	20.0	15.0	-.9	-.9	6.0	10.0	-.9	-.900	-.9	-.90	55.0	3.0	25.0	60.0	130.0
A003017	-.8	2.0	-.8	-.8	15.0	-.8	-.8	2.0	-.8	-.9	-.800	-.8	-.80	-.8	6.0	-.8	115.0	-.8

TABLE AD-12

CHEMICAL ANALYSIS OF PAN CON. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CO (PPM)	CR (PPM)	CU (PPM)	FE (%)	GA (PPM)	HG (PPM)	LA (PPM)
A003018	433600.	3533500.	12 71	-.9	-.90	10.0	-.8	-.8	-.9	-.8	-.8	45.0	-.8	-.8	-.80	-.8
A003019	438900.	3541500.	12 72	.2	-.90	10.0	340.0	-.9	-.9	20.0	40.0	35.0	7.2	10.0	.17	30.0

TABLE AD-12

CHEMICAL ANALYSIS OF PAN CON. SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)	TE (PPM)	TH (PPM)	TI (%)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A003018	-.8	-.9	-.8	-.8	10.0	-.8	-.8	4.0	-.8	-.9	-.800	-.8	-.80	-.8	5.0	-.8	85.0	-.8
A003019	3600.0	-.9	10.0	35.0	15.0	-.9	-.9	2.0	15.0	-.9	-.900	-.9	-.90	65.0	4.0	35.0	70.0	160.0

TABLE AD-13

KANTISHNA HILLS PLACER CONCENTRATES

ANALYTICAL RESULTS

TABLE AD-13 CHEMICAL ANALYSIS OF PAN CON.-PL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)	CS (PPM)
A001450	343340.	3481590.	13 73	-.9	-.80	-.9	10.0	300.0	-.9	-.9	.5	-.9	-.8	100.0	1000.0	-.8
A001451	341962.	3482639.	13 71	8.6	.27	-.9	-.9	740.0	-.9	1.0	-.8	.4	-.9	40.0	455.0	-.9
A001452	341668.	3482937.	13 73	10.0	-.80	500.0	-.9	1000.0	-.9	-.9	.1	-.9	-.8	150.0	1500.0	-.8
A001453	337844.	3488309.	13 73	2.0	-.80	-.9	-.9	300.0	-.9	-.9	.7	-.9	-.8	50.0	10000.0	-.8
A001454	338613.	3487477.	13 71	6.6	3.00	130.0	-.9	90.0	-.9	-.9	-.8	-.9	260.0	15.0	140.0	25.0
A001455	354844.	3489032.	13 73	15.0	-.80	500.0	-.9	100.0	-.9	-.9	.1	-.9	-.8	500.0	20.0	-.8
A001456	354685.	3489153.	13 73	20.0	-.80	-.9	500.0	300.0	-.9	-.9	.7	-.9	-.8	30.0	200.0	-.8
A001457	354442.	3489311.	13 71	65.0	2.00	310.0	10.0	200.0	-.9	2.0	-.8	1.0	170.0	20.0	265.0	15.0
A001458	353068.	3488530.	13 71	11.0	1.30	455.0	-.9	650.0	-.9	2.0	-.8	.8	160.0	25.0	350.0	10.0
A001459	340120.	3487560.	13 73	-.9	-.80	-.9	50.0	1000.0	-.9	-.9	.5	-.9	-.8	5.0	200.0	-.8
A001460	340350.	3487880.	13 71	22.0	.50	75.0	15.0	190.0	-.9	-.9	-.8	.4	160.0	45.0	230.0	10.0
A001461	340806.	3484233.	13 73	-.9	-.80	-.9	-.9	300.0	-.9	-.9	.7	-.9	-.8	30.0	1000.0	-.8
A001462	391063.	3489583.	13 73	-.9	-.80	-.9	-.9	500.0	-.9	-.9	.2	-.9	-.8	70.0	200.0	-.8
A001463	391245.	3489634.	13 73	3.0	-.80	-.9	-.9	300.0	-.9	-.9	.2	-.9	-.8	50.0	200.0	-.8
A001464	389976.	3488359.	13 71	-.9	.03	-.9	20.0	190.0	-.9	-.9	-.8	-.9	120.0	25.0	190.0	10.0
A001465	389787.	3487998.	13 73	2.0	-.80	-.9	-.9	300.0	-.9	-.9	.5	-.9	-.8	20.0	100.0	-.8
A001466	390289.	3485662.	13 71	-.9	.42	15.0	10.0	90.0	-.9	1.0	-.8	-.9	120.0	35.0	90.0	20.0
A001467	377233.	3493526.	13 73	50.0	-.80	500.0	-.9	500.0	-.9	-.9	1.0	-.9	-.8	200.0	300.0	-.8
A001468	377242.	3493593.	13 71	16.0	1.20	900.0	80.0	710.0	-.9	-.9	-.8	-.9	280.0	50.0	195.0	20.0
A001469	377211.	3493508.	13 73	7.0	-.80	10000.0	1500.0	50.0	-.9	-.9	.1	200.0	-.8	70.0	10.0	-.8
A001470	379023.	3492906.	13 73	1.0	-.80	1500.0	500.0	500.0	-.9	-.9	.2	-.9	-.8	50.0	300.0	-.8
A001471	379168.	3492866.	13 71	10.0	.18	160.0	95.0	270.0	-.9	-.9	-.8	1.0	100.0	35.0	245.0	10.0
A001472	384520.	3483178.	13 73	-.9	-.80	-.9	-.9	300.0	-.9	-.9	.2	-.9	-.8	70.0	200.0	-.8
A001473	384617.	3483462.	13 71	.4	2.70	55.0	35.0	130.0	-.9	-.9	-.8	-.9	100.0	45.0	145.0	20.0
A001474	368748.	3478301.	13 71	.4	1.70	30.0	30.0	180.0	-.9	-.9	-.8	-.9	320.0	25.0	245.0	20.0
A001475	371029.	3480841.	13 71	-.9	.22	120.0	25.0	130.0	-.9	-.9	-.8	.6	80.0	35.0	115.0	20.0
A001476	343340.	3481589.	13 71	32.0	1.10	1150.0	25.0	640.0	10.0	5.0	-.8	.8	120.0	70.0	210.0	10.0
A001477	338181.	3488467.	13 71	4.4	.02	990.0	25.0	350.0	-.9	-.9	-.8	3.0	40.0	35.0	115.0	-.9
A001478	347527.	3510424.	13 71	-.9	.24	70.0	20.0	120.0	-.9	-.9	-.8	-.9	50.0	10.0	125.0	-.9

TABLE AD-13

CHEMICAL ANALYSIS OF PAN CON.-PL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CU (PPM)	FE (%)	GA (PPM)	GE (PPM)	HG (%)	LA (PPM)	MG (PPM)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)
A001450	150.0	20.0	20.0	-.9	-.8	20.0	3.00	1500.0	10.0	20.0	150.0	70.0	-.8	-.8	-.9	70.0	100.0
A001451	55.0	39.3	-.9	-.8	80.0	-.9	-.80	4650.0	-.9	-.9	75.0	260.0	-.9	-.9	110.0	-.9	-.9
A001452	100.0	20.0	70.0	-.9	-.8	-.9	0.50	1000.0	20.0	30.0	150.0	300.0	-.8	-.8	500.0	30.0	500.0
A001453	200.0	20.0	50.0	-.9	-.8	20.0	2.00	2000.0	20.0	30.0	100.0	150.0	-.8	-.8	-.9	50.0	100.0
A001454	15.0	40.0	7.0	-.8	45.0	80.0	-.80	5450.0	-.9	230.0	25.0	280.0	.1	.1	12.0	45.0	910.0
A001455	150.0	20.0	15.0	-.9	-.8	-.9	0.15	500.0	10.0	-.9	500.0	2000.0	-.8	-.8	300.0	-.9	-.9
A001456	100.0	15.0	20.0	-.9	-.8	20.0	1.00	5000.0	5.0	30.0	150.0	1000.0	-.8	-.8	-.9	70.0	20.0
A001457	45.0	27.3	7.0	-.8	25.0	45.0	-.80	5850.0	-.9	130.0	45.0	920.0	-.9	-.9	34.0	50.0	6.0
A001458	25.0	24.4	8.0	-.8	30.0	35.0	-.80	5550.0	-.9	120.0	50.0	2900.0	-.9	-.9	44.0	50.0	-.9
A001459	30.0	10.0	15.0	-.9	-.8	30.0	1.50	2000.0	2.0	20.0	50.0	100.0	-.8	-.8	-.9	20.0	10.0
A001460	55.0	24.9	9.0	-.8	20.0	60.0	-.80	5650.0	-.9	100.0	70.0	1600.0	-.9	-.9	24.0	60.0	-.9
A001461	70.0	20.0	20.0	-.9	-.8	20.0	2.00	3000.0	15.0	30.0	100.0	15.0	-.8	-.8	-.9	70.0	100.0
A001462	30.0	20.0	100.0	-.9	-.8	-.9	0.30	500.0	30.0	20.0	200.0	10.0	-.8	-.8	-.9	15.0	700.0
A001463	50.0	20.0	70.0	-.9	-.8	-.9	0.50	1000.0	20.0	20.0	100.0	310.0	-.8	-.8	-.9	30.0	500.0
A001464	40.0	30.2	10.0	-.8	18.0	50.0	-.80	6650.0	-.9	140.0	145.0	20.0	-.9	-.9	-.9	30.0	18.0
A001465	50.0	20.0	50.0	-.9	-.8	-.9	0.20	3000.0	20.0	50.0	50.0	500.0	-.8	-.8	-.9	30.0	70.0
A001466	15.0	59.1	14.0	-.8	40.0	20.0	-.80	2450.0	-.9	90.0	65.0	15.0	-.9	-.9	4.0	10.0	1100.0
A001467	100.0	20.0	70.0	-.9	-.8	-.9	1.00	2000.0	30.0	20.0	150.0	1000.0	-.8	-.8	100.0	15.0	2000.0
A001468	55.0	43.9	10.0	-.8	-.9	100.0	-.80	2500.0	-.9	90.0	170.0	3400.0	-.9	-.9	105.0	25.0	15000.0
A001469	200.0	20.0	30.0	-.9	-.8	-.9	0.20	200.0	20.0	20.0	20.0	10000.0	-.8	-.8	5000.0	-.9	10000.0
A001470	50.0	20.0	70.0	-.9	-.8	-.9	0.50	2000.0	30.0	20.0	100.0	500.0	-.8	-.8	500.0	20.0	10000.0
A001471	55.0	37.7	11.0	-.8	18.0	35.0	-.80	2050.0	-.9	40.0	120.0	510.0	-.9	-.9	90.0	15.0	17500.0
A001472	200.0	20.0	70.0	-.9	-.8	-.9	0.50	1500.0	30.0	20.0	150.0	70.0	-.8	-.8	-.9	20.0	500.0
A001473	40.0	47.8	15.0	-.8	25.0	30.0	-.80	2300.0	-.9	20.0	115.0	25.0	-.9	-.9	18.0	15.0	4650.0
A001474	30.0	35.9	12.0	-.8	4.7	140.0	-.80	4950.0	-.9	120.0	60.0	20.0	-.9	-.9	12.0	35.0	1100.0
A001475	45.0	44.7	13.0	-.8	1.5	25.0	-.80	3650.0	-.9	60.0	85.0	145.0	-.9	-.9	48.0	25.0	1450.0
A001476	65.0	24.5	10.0	-.8	1.9	20.0	-.80	2750.0	-.9	40.0	65.0	7650.0	-.9	-.9	430.0	25.0	1850.0
A001477	170.0	15.8	8.0	-.8	4.8	30.0	-.80	2300.0	-.9	85.0	115.0	445.0	-.9	-.9	40.0	-.9	8.0
A001478	35.0	8.4	4.0	-.8	5.7	25.0	-.80	4050.0	12.0	25.0	20.0	140.0	-.9	-.9	75.0	35.0	22.0

TABLE AD-13

CHEMICAL ANALYSIS OF PAN CON.-PL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	SR (PPM)	TA (PPM)	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A001450	-.9	-.8	-.800	-.8	-.9	300.0	-.9	200.0	-.9	700.0
A001451	-.8	-.9	-.900	-.9	-.9	630.0	2650.0	-.9	150.0	-.9
A001452	-.9	-.8	-.800	-.8	-.9	300.0	300.0	30.0	-.9	700.0
A001453	-.9	-.8	-.800	-.8	-.9	300.0	-.9	50.0	-.9	700.0
A001454	-.8	40.0	-.900	-.9	.2	980.0	95.0	40.0	50.0	800.0
A001455	-.9	-.8	-.800	-.8	-.9	20.0	50.0	-.9	300.0	500.0
A001456	-.9	-.8	-.800	-.8	-.9	200.0	150.0	70.0	-.9	1000.0
A001457	-.8	10.0	-.900	-.9	.2	455.0	550.0	70.0	120.0	760.0
A001458	-.8	-.9	-.900	-.9	.1	280.0	3600.0	100.0	145.0	680.0
A001459	100.0	-.8	-.800	-.8	-.9	100.0	-.9	20.0	-.9	300.0
A001460	-.8	-.9	-.900	-.9	.1	245.0	75.0	95.0	110.0	350.0
A001461	-.9	-.8	-.800	-.8	-.9	500.0	100.0	50.0	-.9	1000.0
A001462	-.9	-.8	-.800	-.8	-.9	300.0	-.9	50.0	-.9	700.0
A001463	-.9	-.8	-.800	-.8	-.9	200.0	-.9	70.0	-.9	700.0
A001464	-.8	10.0	-.900	-.9	.1	320.0	6.0	60.0	60.0	920.0
A001465	-.9	-.8	-.800	-.8	10000.0	200.0	-.9	50.0	-.9	500.0
A001466	-.8	60.0	-.900	-.9	.5	460.0	28.0	15.0	35.0	400.0
A001467	-.9	-.8	-.800	-.8	5000.0	300.0	-.9	150.0	-.9	100.0
A001468	-.8	60.0	.190	-.9	-.9	255.0	120.0	110.0	115.0	460.0
A001469	-.9	-.8	-.800	-.8	2000.0	20.0	-.9	10.0	10000.0	200.0
A001470	-.9	-.8	-.800	-.8	5000.0	200.0	-.9	30.0	2000.0	300.0
A001471	-.8	20.0	.085	-.9	15000.0	285.0	275.0	40.0	170.0	400.0
A001472	-.9	-.8	-.800	-.8	5000.0	300.0	-.9	20.0	500.0	500.0
A001473	-.8	80.0	.060	-.9	13000.0	340.0	15.0	30.0	65.0	440.0
A001474	-.8	60.0	.040	-.9	68000.0	540.0	150.0	55.0	90.0	600.0
A001475	-.8	60.0	.065	-.9	24000.0	285.0	17.0	50.0	155.0	730.0
A001476	-.8	40.0	1.600	-.9	19000.0	165.0	810.0	35.0	165.0	400.0
A001477	-.8	185.0	.080	-.9	11000.0	80.0	4.0	-.9	465.0	180.0
A001478	-.8	-.9	.025	-.9	11000.0	105.0	4.0	50.0	75.0	145.0

TABLE AD-14

KANTISHNA HILLS RECONNAISSANCE PLACER CONCENTRATES

ANALYTICAL RESULTS

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AU (C/Y)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)
A000958	332200.	3496500.	14 71	.4	.18	.008	110.0	-.9	1250.0	-.9	-.9	-.9	-.9	60.0	10.0	125.0
A000959	331950.	3496150.	14 73	1.0	-.80	.015	300.0	20.0	500.0	-.9	-.9	1.0	-.9	-.8	70.0	700.0
A000960	330750.	3502750.	14 73	-.9	-.80	-.900	-.9	200.0	700.0	2.0	-.9	2.0	-.9	-.8	15.0	500.0
A000961	330600.	3502750.	14 71	1.5	.04	.009	150.0	-.9	480.0	-.9	-.9	-.9	.2	160.0	25.0	620.0
A000962	331950.	3497050.	14 71	-.9	-.90	.017	-.9	-.9	270.0	-.9	-.9	-.9	-.9	140.0	15.0	425.0
A000963	342800.	3482250.	14 73	-.9	-.80	.074	-.9	300.0	700.0	-.9	-.9	1.5	-.9	-.8	20.0	500.0
A000964	398700.	3554800.	14 73	-.9	-.80	-.900	-.9	50.0	500.0	-.9	-.9	3.0	-.9	-.8	15.0	100.0
A000965	397400.	3556900.	14 73	-.9	-.80	-.900	-.9	200.0	300.0	-.9	-.9	5.0	-.9	-.8	20.0	100.0
A000966	396100.	3554900.	14 73	-.9	-.80	-.900	-.9	50.0	300.0	-.9	-.9	3.0	-.9	-.8	20.0	100.0
A000967	392000.	3555800.	14 71	-.9	-.90	-.900	10.0	-.9	180.0	-.9	-.9	-.9	-.9	60.0	10.0	85.0
A000968	389300.	3554700.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	5.0	-.9	-.8	15.0	100.0
A000969	383600.	3537000.	14 73	-.9	-.80	-.900	-.9	200.0	500.0	-.9	-.9	2.0	-.9	-.8	10.0	70.0
A000970	372900.	3536200.	14 71	30.0	25.00	-.900	55.0	-.9	190.0	-.9	-.9	-.9	-.9	80.0	10.0	75.0
A000971	372200.	3535200.	14 73	-.9	-.80	-.900	-.9	200.0	1000.0	-.9	-.9	1.5	-.9	-.8	15.0	100.0
A000973	402100.	3523800.	14 73	5.0	-.80	-.900	-.9	200.0	2000.0	-.9	-.9	1.0	-.9	-.8	100.0	150.0
A000974	404100.	3528200.	14 73	1.0	-.80	-.900	-.9	200.0	700.0	-.9	-.9	2.0	-.9	-.8	30.0	100.0
A000975	403700.	3529200.	14 73	-.9	-.80	-.900	-.9	100.0	300.0	-.9	-.9	3.0	-.9	-.8	5.0	100.0
A000976	407300.	3533350.	14 73	-.9	-.80	-.900	-.9	20.0	300.0	-.9	-.9	3.0	-.9	-.8	15.0	100.0
A000977	413300.	3538000.	14 71	.8	.99	-.900	25.0	-.9	230.0	-.9	-.9	-.9	.4	20.0	15.0	70.0
A000978	380000.	3507800.	14 73	5.0	-.80	.002	-.9	200.0	500.0	-.9	-.9	1.0	-.9	-.8	15.0	300.0
A000979	380550.	3508000.	14 73	30.0	-.80	.022	200.0	100.0	500.0	-.9	-.9	.7	-.9	-.8	20.0	70.0
A000980	374100.	3510300.	14 71	1.7	5.70	.002	90.0	-.9	380.0	-.9	-.9	-.9	-.9	60.0	20.0	75.0
A000981	408700.	3538400.	14 73	5.0	-.80	-.900	-.9	20.0	150.0	-.9	-.9	5.0	-.9	-.8	50.0	70.0
A000982	411100.	3540500.	14 73	-.9	-.80	-.900	-.9	100.0	300.0	-.9	-.9	3.0	-.9	-.8	20.0	100.0
A000983	403850.	3535300.	14 73	-.9	-.80	-.900	-.9	150.0	500.0	-.9	-.9	5.0	-.9	-.8	20.0	100.0
A000984	412900.	3538700.	14 71	7.6	.08	-.900	150.0	25.0	190.0	-.9	-.9	-.9	.6	160.0	15.0	80.0
A000985	419200.	3539000.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	7.0	-.9	-.8	20.0	100.0
A000986	372200.	3559200.	14 73	-.9	-.80	-.900	-.9	70.0	300.0	-.9	-.9	7.0	-.9	-.8	20.0	150.0
A000987	365200.	3557100.	14 71	-.9	-.90	-.900	-.9	-.9	100.0	-.9	-.9	-.9	-.9	100.0	10.0	70.0
A000989	358500.	3554600.	14 73	-.9	-.80	.002	-.9	100.0	200.0	-.9	-.9	7.0	-.9	-.8	20.0	150.0
A000990	343600.	3480100.	14 73	5.0	-.80	-.900	700.0	700.0	1000.0	-.9	-.9	1.0	-.9	-.8	20.0	100.0
A000991	366500.	3525050.	14 73	-.9	-.80	-.900	-.9	100.0	1000.0	-.9	-.9	3.0	-.9	-.8	5.0	100.0
A000992	359800.	3527350.	14 73	-.9	-.80	-.900	-.9	100.0	300.0	-.9	-.9	3.0	-.9	-.8	15.0	100.0
A000993	359400.	3527100.	14 73	-.9	-.80	-.900	-.9	50.0	200.0	-.9	-.9	5.0	-.9	-.8	10.0	100.0
A000994	358500.	3534800.	14 73	-.9	-.80	-.900	-.9	150.0	200.0	-.9	-.9	5.0	-.9	-.8	15.0	70.0
A000995	359050.	3535200.	14 73	-.9	-.80	.001	-.9	50.0	200.0	-.9	-.9	7.0	-.9	-.8	15.0	150.0
A000996	358000.	3536200.	14 73	-.9	-.80	-.900	-.9	20.0	200.0	-.9	-.9	5.0	-.9	-.8	20.0	70.0
A000997	356700.	3540000.	14 73	-.9	-.80	-.900	-.9	-.9	200.0	-.9	-.9	5.0	-.9	-.8	10.0	70.0
A000998	356750.	3539650.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	5.0	-.9	-.8	15.0	100.0
A000999	355800.	3550750.	14 73	-.9	-.80	-.900	-.9	20.0	300.0	-.9	-.9	10.0	-.9	-.8	20.0	100.0
A001000	353600.	3551200.	14 73	-.9	.14	-.900	-.9	-.9	200.0	-.9	-.9	5.0	-.9	-.8	10.0	100.0
A001400	350450.	3550250.	14 73	-.9	.28	.002	-.9	-.9	200.0	-.9	-.9	5.0	-.9	-.8	10.0	100.0
A001401	345550.	3550300.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	3.0	-.9	-.8	70.0	100.0
A001402	344700.	3550000.	14 73	.6	13.50	.026	-.9	-.9	100.0	-.9	-.9	5.0	-.9	-.8	15.0	150.0
A001403	345000.	3550450.	14 73	-.9	-.80	-.900	-.9	50.0	200.0	-.9	-.9	5.0	-.9	-.8	15.0	100.0
A001404	346200.	3541500.	14 73	-.9	-.80	.305	-.9	100.0	150.0	-.9	-.9	7.0	-.9	-.8	20.0	150.0
A001405	344650.	3547400.	14 73	-.9	-.80	.006	-.9	50.0	100.0	-.9	-.9	5.0	-.9	-.8	15.0	100.0
A001406	344500.	3550500.	14 73	-.9	-.80	.003	-.9	50.0	50.0	-.9	-.9	3.0	-.9	-.8	20.0	100.0
A001407	374150.	3503150.	14 73	-.9	-.80	.001	-.9	100.0	500.0	-.9	-.9	1.0	-.9	-.8	20.0	300.0
A001408	371800.	3506200.	14 73	2.0	-.80	-.900	-.9	150.0	500.0	-.9	-.9	2.0	-.9	-.8	30.0	300.0
A001409	368100.	3510800.	14 73	1.4	3.80	-.900	-.9	-.9	300.0	-.9	-.9	7.0	-.9	-.8	20.0	200.0

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CS (PPM)	CU (PPM)	FE (%)	GA (PPM)	GE (PPM)	LA (%)	MG (PPM)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)
A000958	-.9	30.0	6.9	12.0	-.8	20.0	-.80	1500.0	-.9	25.0	35.0	10.0	-.9	-.9	10.0	20.0	7.0
A000959	-.8	70.0	20.0	30.0	-.9	30.0	2.00	5000.0	10.0	20.0	70.0	50.0	-.8	-.8	100.0	50.0	70.0
A000960	-.8	50.0	10.0	20.0	-.9	100.0	2.00	5000.0	5.0	20.0	50.0	20.0	-.8	-.8	100.0	30.0	-.9
A000961	10.0	20.0	33.3	8.0	-.8	70.0	-.80	7150.0	-.9	95.0	45.0	25.0	-.9	-.9	13.0	60.0	245.0
A000962	10.0	15.0	23.0	10.0	-.8	50.0	-.80	5400.0	-.9	70.0	30.0	10.0	-.9	-.9	15.0	44.0	135.0
A000963	-.8	30.0	20.0	20.0	-.9	100.0	3.00	5000.0	10.0	20.0	50.0	20.0	-.8	-.8	-.9	50.0	30.0
A000964	-.8	15.0	15.0	20.0	-.9	-.9	1.00	5000.0	7.0	20.0	20.0	10.0	-.8	-.8	-.9	50.0	-.9
A000965	-.8	15.0	20.0	30.0	-.9	30.0	1.50	7000.0	10.0	20.0	20.0	10.0	-.8	-.8	-.9	70.0	-.9
A000966	-.8	15.0	20.0	20.0	-.9	30.0	1.50	10000.0	5.0	20.0	20.0	-.9	-.8	-.8	-.9	70.0	200.0
A000967	-.9	15.0	18.9	8.0	-.8	35.0	-.80	7900.0	-.9	35.0	10.0	-.9	-.9	-.9	2.0	90.0	95.0
A000968	-.8	15.0	20.0	30.0	20.0	20.0	2.00	10000.0	7.0	20.0	5.0	-.9	-.8	-.8	-.9	70.0	200.0
A000969	-.8	20.0	15.0	20.0	20.0	20.0	1.00	10000.0	7.0	30.0	20.0	30.0	-.8	-.8	-.9	70.0	30.0
A000970	-.9	15.0	18.1	8.0	-.8	40.0	-.80	14000.0	-.9	40.0	15.0	90.0	-.9	-.9	9.0	120.0	20.0
A000971	-.8	30.0	15.0	20.0	-.9	20.0	1.00	10000.0	5.0	20.0	50.0	20.0	-.8	-.8	-.9	50.0	-.9
A000973	-.8	70.0	15.0	20.0	-.9	30.0	1.00	5000.0	5.0	20.0	100.0	200.0	-.8	-.8	-.9	30.0	-.9
A000974	-.8	100.0	20.0	30.0	-.9	30.0	1.50	7000.0	7.0	20.0	70.0	100.0	-.8	-.8	-.9	50.0	-.9
A000975	-.8	20.0	15.0	10.0	20.0	30.0	1.00	10000.0	7.0	20.0	10.0	10.0	-.8	-.8	-.9	70.0	-.9
A000976	-.8	20.0	15.0	10.0	-.9	30.0	.70	10000.0	7.0	20.0	20.0	10.0	-.8	-.8	-.9	70.0	10.0
A000977	-.9	35.0	14.0	8.0	-.8	25.0	-.80	8150.0	-.9	15.0	25.0	15.0	-.9	-.9	18.0	90.0	30.0
A000978	-.8	30.0	15.0	20.0	-.9	30.0	1.50	5000.0	5.0	20.0	50.0	20.0	-.8	-.8	100.0	20.0	-.9
A000979	-.8	50.0	10.0	20.0	-.9	20.0	1.00	700.0	2.0	30.0	50.0	2000.0	-.8	-.8	-.9	10.0	-.9
A000980	-.9	35.0	13.0	12.0	-.8	25.0	-.80	4100.0	-.9	35.0	50.0	50.0	-.9	-.9	24.0	45.0	-.9
A000981	-.8	20.0	20.0	20.0	-.9	30.0	1.50	10000.0	10.0	30.0	50.0	150.0	-.8	-.8	-.9	70.0	-.9
A000982	-.8	15.0	20.0	20.0	-.9	30.0	1.50	10000.0	7.0	20.0	50.0	30.0	-.8	-.8	-.9	70.0	-.9
A000983	-.8	15.0	15.0	10.0	20.0	20.0	2.00	10000.0	10.0	20.0	20.0	10.0	-.8	-.8	-.9	70.0	-.9
A000984	-.9	25.0	19.0	8.0	-.8	40.0	-.80	8950.0	-.9	25.0	25.0	470.0	-.9	-.9	24.0	100.0	16.0
A000985	-.8	20.0	20.0	20.0	20.0	20.0	2.00	10000.0	15.0	20.0	20.0	20.0	-.8	-.8	-.9	70.0	150.0
A000986	-.8	7.0	20.0	20.0	20.0	20.0	3.00	10000.0	15.0	30.0	5.0	10.0	-.8	-.8	-.9	70.0	-.9
A000987	-.9	10.0	20.0	8.0	-.8	40.0	-.80	9150.0	-.9	20.0	10.0	5.0	-.9	-.9	-.9	110.0	85.0
A000989	-.8	10.0	20.0	20.0	20.0	20.0	3.00	10000.0	20.0	30.0	5.0	10.0	-.8	-.8	-.9	70.0	30.0
A000990	-.8	30.0	10.0	30.0	-.9	30.0	1.50	3000.0	5.0	30.0	70.0	300.0	-.8	-.8	300.0	30.0	-.9
A000991	-.8	30.0	10.0	20.0	-.9	20.0	3.00	10000.0	5.0	20.0	30.0	50.0	-.8	-.8	-.9	50.0	-.9
A000992	-.8	20.0	20.0	15.0	20.0	20.0	1.00	10000.0	10.0	30.0	20.0	10.0	-.8	-.8	-.9	70.0	-.9
A000993	-.8	10.0	20.0	15.0	-.9	20.0	2.00	7000.0	10.0	20.0	5.0	15.0	-.8	-.8	-.9	70.0	-.9
A000994	-.8	15.0	20.0	15.0	20.0	20.0	2.00	10000.0	10.0	20.0	10.0	-.9	-.8	-.8	-.9	70.0	10.0
A000995	-.8	15.0	20.0	20.0	20.0	20.0	2.00	10000.0	15.0	30.0	10.0	-.9	-.8	-.8	-.9	100.0	50.0
A000996	-.8	7.0	15.0	20.0	-.9	20.0	1.00	7000.0	10.0	20.0	15.0	-.9	-.8	-.8	-.9	70.0	-.9
A000997	-.8	7.0	20.0	20.0	-.9	20.0	1.50	7000.0	10.0	20.0	5.0	-.9	-.8	-.8	-.9	70.0	50.0
A000998	-.8	15.0	20.0	20.0	20.0	20.0	1.50	10000.0	15.0	20.0	10.0	-.9	-.8	-.8	-.9	70.0	-.9
A000999	-.8	15.0	20.0	30.0	20.0	20.0	3.00	10000.0	20.0	30.0	20.0	-.9	-.8	-.8	-.9	100.0	-.9
A001000	-.8	7.0	20.0	30.0	-.9	20.0	2.00	10000.0	15.0	50.0	5.0	-.9	-.8	-.8	-.9	70.0	100.0
A001400	-.8	10.0	20.0	30.0	20.0	20.0	1.50	10000.0	15.0	30.0	10.0	10.0	-.8	-.8	-.9	70.0	30.0
A001401	-.8	20.0	15.0	15.0	-.9	20.0	1.00	10000.0	10.0	30.0	10.0	10.0	-.8	-.8	-.9	70.0	-.9
A001402	-.8	15.0	20.0	20.0	20.0	20.0	1.50	10000.0	15.0	30.0	5.0	10.0	-.8	-.8	-.9	70.0	30.0
A001403	-.8	15.0	20.0	20.0	20.0	20.0	1.50	10000.0	15.0	20.0	10.0	-.9	-.8	-.8	-.9	70.0	-.9
A001404	-.8	20.0	20.0	30.0	20.0	20.0	1.50	10000.0	20.0	30.0	10.0	-.9	-.8	-.8	-.9	100.0	-.9
A001405	-.8	20.0	15.0	20.0	-.9	-.9	1.00	10000.0	10.0	20.0	20.0	-.9	-.8	-.8	-.9	50.0	-.9
A001406	-.8	15.0	20.0	20.0	20.0	20.0	1.00	10000.0	15.0	50.0	5.0	-.9	-.8	-.8	-.9	70.0	20.0
A001407	-.8	50.0	10.0	20.0	-.9	50.0	1.00	3000.0	3.0	30.0	50.0	10.0	-.8	-.8	-.9	30.0	-.9
A001408	-.8	70.0	20.0	20.0	-.9	50.0	2.00	7000.0	10.0	30.0	50.0	50.0	-.8	-.8	-.9	50.0	-.9
A001409	-.8	50.0	20.0	50.0	-.9	20.0	3.00	10000.0	15.0	30.0	50.0	30.0	-.8	-.8	-.9	50.0	-.9

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	SR (PPM)	TA (PPM)	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A000958	-.8	-.9	-.900	-.9	10000.0	160.0	5.0	25.0	70.0	220.0
A000959	100.0	-.8	-.800	-.8	10000.0	200.0	50.0	70.0	-.9	500.0
A000960	200.0	-.8	-.800	-.8	10000.0	150.0	-.9	50.0	200.0	300.0
A000961	-.8	-.9	.080	-.9	69000.0	610.0	44.0	60.0	85.0	580.0
A000962	-.8	-.9	-.900	-.9	-.9	465.0	50.0	50.0	70.0	450.0
A000963	200.0	-.8	-.800	-.8	10000.0	200.0	70.0	50.0	300.0	200.0
A000964	-.9	-.8	-.800	-.8	7000.0	70.0	-.9	100.0	-.9	500.0
A000965	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	150.0	-.9	500.0
A000966	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	150.0	-.9	200.0
A000967	-.8	-.9	.020	-.9	12000.0	45.0	6.0	150.0	30.0	240.0
A000968	-.9	-.8	-.800	-.8	10000.0	50.0	50.0	200.0	200.0	300.0
A000969	-.9	-.8	-.800	-.8	10000.0	70.0	50.0	150.0	-.9	500.0
A000970	-.8	-.9	.070	-.9	15000.0	55.0	55.0	190.0	35.0	340.0
A000971	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	-.9	200.0
A000973	100.0	-.8	-.800	-.8	10000.0	100.0	-.9	50.0	-.9	500.0
A000974	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	200.0	150.0
A000975	-.9	-.8	-.800	-.8	7000.0	50.0	-.9	200.0	-.9	700.0
A000976	-.9	-.8	-.800	-.8	10000.0	70.0	100.0	200.0	200.0	200.0
A000977	-.8	-.9	.130	-.9	9300.0	55.0	185.0	150.0	35.0	220.0
A000978	100.0	-.8	-.800	-.8	10000.0	100.0	-.9	50.0	200.0	300.0
A000979	-.9	-.8	-.800	-.8	7000.0	100.0	50.0	50.0	200.0	150.0
A000980	-.8	-.9	.085	-.9	11000.0	120.0	65.0	90.0	60.0	190.0
A000981	100.0	-.8	-.800	-.8	7000.0	50.0	1000.0	200.0	300.0	300.0
A000982	-.9	-.8	-.800	-.8	7000.0	50.0	50.0	150.0	300.0	500.0
A000983	-.9	-.8	-.800	-.8	10000.0	50.0	50.0	200.0	200.0	700.0
A000984	-.8	-.9	.075	-.9	11000.0	40.0	17850.0	170.0	50.0	220.0
A000985	-.9	-.8	-.800	-.8	10000.0	70.0	200.0	200.0	200.0	300.0
A000986	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	200.0	200.0	300.0
A000987	-.8	-.9	.014	-.9	7800.0	50.0	7.0	180.0	20.0	260.0
A000989	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	200.0	200.0	300.0
A000990	100.0	-.8	-.800	-.8	10000.0	100.0	150.0	70.0	500.0	700.0
A000991	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	700.0
A000992	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	200.0	-.9	300.0
A000993	-.9	-.8	-.800	-.8	5000.0	70.0	50.0	150.0	-.9	200.0
A000994	-.9	-.8	-.800	-.8	10000.0	50.0	-.9	150.0	-.9	1000.0
A000995	-.9	-.8	-.800	-.8	10000.0	70.0	50.0	200.0	-.9	700.0
A000996	-.9	-.8	-.800	-.8	7000.0	50.0	-.9	150.0	-.9	200.0
A000997	-.9	-.8	-.800	-.8	7000.0	50.0	-.9	150.0	-.9	500.0
A000998	-.9	-.8	-.800	-.8	7000.0	50.0	-.9	150.0	-.9	500.0
A000999	-.9	-.8	-.800	-.8	7000.0	70.0	-.9	200.0	-.9	100.0
A001000	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	500.0
A001400	-.9	-.8	-.800	-.8	5000.0	50.0	-.9	150.0	-.9	300.0
A001401	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	300.0
A001402	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	200.0	-.9	300.0
A001403	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	200.0
A001404	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	150.0	-.9	300.0
A001405	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	150.0	-.9	200.0
A001406	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	200.0	-.9	500.0
A001407	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	50.0	-.9	700.0
A001408	-.9	-.8	-.800	-.8	10000.0	150.0	-.9	100.0	-.9	150.0
A001409	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	100.0	-.9	150.0

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AU (C/Y)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)
A001410	365500.	3511400.	14 73	.6	9.90	-.900	-.9	-.9	200.0	-.9	-.9	7.0	-.9	-.8	20.0	150.0
A001411	364450.	3512000.	14 73	8.2	7.40	.019	1000.0	-.9	300.0	-.9	-.9	5.0	-.9	-.8	50.0	200.0
A001412	370500.	3517600.	14 73	-.9	.99	-.900	-.9	200.0	2000.0	-.9	-.9	.5	-.9	-.8	10.0	100.0
A001413	364700.	3512700.	14 73	-.9	7.20	-.900	-.9	100.0	700.0	-.9	-.9	2.0	-.9	-.8	5.0	100.0
A001414	437500.	3559950.	14 73	6.2	5.50	.042	-.9	100.0	700.0	-.9	-.9	1.0	-.9	-.8	10.0	50.0
A001415	437600.	3559800.	14 73	1.3	8.40	-.900	-.9	100.0	1500.0	-.9	-.9	.5	-.9	-.8	30.0	70.0
A001416	441100.	3558800.	14 73	5.2	17.90	.001	500.0	-.9	10000.0	-.9	-.9	1.0	-.9	-.8	300.0	10.0
A003020	342600.	3481750.	14 73	1.0	-.80	.001	-.9	10.0	70.0	-.9	-.9	.1	-.9	-.8	5.0	150.0
A003021	345700.	3489000.	14 71	3680.0	.06	.009	8500.0	-.9	140.0	-.9	6.0	-.9	520.0	-.9	5.0	10.0
A003022	340900.	3480300.	14 71	-.9	-.90	.016	4650.0	-.9	530.0	-.9	140.0	-.9	10.0	-.9	150.0	150.0
A003023	354800.	3490700.	14 71	320.0	128.00	.006	870.0	25.0	390.0	-.9	-.9	-.9	1.0	20.0	10.0	80.0
A003024	425300.	3560150.	14 73	-.9	-.80	-.900	-.9	20.0	150.0	-.9	-.9	.3	-.9	-.8	20.0	20.0
A003025	425500.	3559800.	14 73	-.9	-.80	.006	-.9	-.9	100.0	-.9	-.9	.1	-.9	-.8	5.0	10.0
A003026	429200.	3563000.	14 71	1.7	1.40	.060	80.0	-.9	300.0	-.9	-.9	-.9	-.9	100.0	80.0	30.0
A003027	431300.	3568950.	14 73	-.9	-.80	.007	-.9	15.0	50.0	-.9	-.9	.5	-.9	-.8	20.0	50.0
A003028	435400.	3572000.	14 73	-.9	-.80	-.900	-.9	20.0	100.0	-.9	-.9	1.0	-.9	-.8	20.0	50.0
A003029	446000.	3564600.	14 71	13.0	250.00	.293	510.0	35.0	2150.0	-.9	2.0	-.9	1.0	380.0	55.0	30.0
A003030	403700.	3544100.	14 73	-.9	-.80	-.900	-.9	15.0	100.0	-.9	-.9	.2	-.9	-.8	5.0	30.0
A003031	412500.	3546700.	14 71	.2	.66	.001	20.0	-.9	280.0	-.9	2.0	-.9	-.9	80.0	20.0	30.0
A003032	354650.	3491650.	14 73	1500.0	-.80	.164	3000.0	30.0	100.0	-.9	-.9	.1	-.9	-.8	10.0	50.0
A003033	335800.	3494400.	14 73	50.0	-.80	.001	-.9	20.0	70.0	-.9	-.9	.2	-.9	-.8	20.0	300.0
A003034	416950.	3551700.	14 73	-.9	-.80	-.900	500.0	20.0	70.0	-.9	-.9	1.0	-.9	-.8	20.0	50.0
A003035	417250.	3547950.	14 73	-.9	-.80	-.900	-.9	10.0	20.0	-.9	-.9	.5	-.9	-.8	15.0	15.0
A003036	420300.	3548350.	14 71	1.3	2.00	-.900	110.0	-.9	340.0	-.9	-.9	-.9	-.9	40.0	20.0	25.0
A003037	424900.	3542250.	14 71	.4	.55	-.900	105.0	-.9	130.0	-.9	-.9	-.9	-.9	100.0	30.0	30.0
A003038	418400.	3527800.	14 73	-.9	-.80	-.900	-.9	-.9	10.0	-.9	-.9	-.9	-.9	-.8	-.9	-.9
A003039	433600.	3533500.	14 71	1.7	.11	-.900	180.0	-.9	430.0	-.9	3.0	-.9	-.9	-.9	110.0	20.0
A003040	438300.	3536350.	14 73	.6	1.30	-.900	50.0	60.0	340.0	-.9	-.9	-.9	-.9	170.0	50.0	135.0
A003041	438400.	3545250.	14 73	-.9	-.80	.001	-.9	10.0	1500.0	-.9	-.9	.3	-.9	-.8	20.0	20.0
A003042	367850.	3488000.	14 71	5.0	-.80	-.900	-.9	200.0	700.0	-.9	-.9	.3	-.9	-.8	20.0	150.0
A003043	370250.	3483200.	14 71	9.6	3.60	.010	80.0	90.0	440.0	-.9	-.9	-.9	.6	60.0	20.0	40.0
A003044	373000.	3480500.	14 71	.4	1.20	-.900	10.0	-.9	340.0	-.9	-.9	-.9	-.9	-.9	10.0	20.0
A003045	371150.	3478250.	14 71	1.1	.82	.007	25.0	55.0	480.0	-.9	2.0	-.9	.2	60.0	20.0	105.0
A003046	371150.	3478250.	14 73	-.9	-.80	.003	-.9	10.0	50.0	-.9	-.9	.1	-.9	-.8	20.0	300.0
A003047	395150.	3517550.	14 73	15.0	-.80	.001	-.9	50.0	150.0	-.9	-.9	.2	-.9	-.8	20.0	200.0
A003048	393200.	3515500.	14 73	-.9	-.80	.008	-.9	70.0	150.0	-.9	-.9	.3	-.9	-.8	50.0	200.0
A003049	389300.	3513600.	14 71	32.0	.74	.001	670.0	-.9	840.0	-.9	-.9	-.9	-.9	120.0	30.0	75.0
A003050	389400.	3512950.	14 73	10.0	-.80	-.900	-.9	20.0	700.0	-.9	-.9	.1	-.9	-.8	20.0	150.0
A003051	333700.	3469000.	14 71	3.4	3.50	-.900	12500.0	80.0	450.0	-.9	3.0	-.9	.8	120.0	60.0	95.0
A003052	334450.	3472100.	14 73	-.9	-.80	.002	-.9	70.0	500.0	-.9	-.9	.1	-.9	-.8	-.9	30.0
A003053	334550.	3474350.	14 73	1.0	-.80	.018	200.0	50.0	150.0	-.9	-.9	.1	-.9	-.8	20.0	300.0
A003054	334300.	3472350.	14 73	10.0	-.80	.001	500.0	50.0	1500.0	-.9	-.9	.1	-.9	-.8	5.0	100.0
A003055	334400.	3474000.	14 73	50.0	-.80	-.900	-.9	30.0	200.0	-.9	-.9	.2	-.9	-.8	20.0	200.0
A003056	334575.	3474200.	14 73	70.0	-.80	.018	2000.0	200.0	700.0	-.9	-.9	.7	-.9	-.8	30.0	150.0
A003057	335350.	3475200.	14 71	-.9	20.00	.071	-.9	-.9	-.9	-.9	-.9	-.9	.6	-.9	30.0	940.0
A003058	331500.	3496100.	14 71	3.9	.43	-.900	2200.0	-.9	520.0	-.9	2.0	-.9	-.9	120.0	25.0	380.0
A003059	394750.	3493300.	14 73	-.9	-.80	-.900	-.9	-.9	150.0	-.9	-.9	.3	-.9	-.8	7.0	70.0
A003060	392800.	3486250.	14 71	-.9	.08	-.900	10.0	-.9	290.0	-.9	-.9	-.9	-.9	80.0	15.0	65.0
A003061	389800.	3526000.	14 73	-.9	-.80	-.900	-.9	-.9	10.0	-.9	-.9	.2	-.9	-.8	-.9	10.0
A003062	384850.	3524850.	14 73	-.9	-.80	-.900	-.9	10.0	50.0	-.9	-.9	.7	-.9	-.8	5.0	30.0
A003063	384500.	3524450.	14 73	-.9	-.80	-.900	-.9	20.0	150.0	-.9	-.9	.5	-.9	-.8	5.0	20.0

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CS (PPM)	CU (PPM)	FE (%)	GA (PPM)	GE (PPM)	LA (%)	MG (PPM)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)
A001410	-.8	50.0	20.0	20.0	-.9	20.0	2.00	10000.0	10.0	30.0	10.0	70.0	-.8	-.8	-.9	70.0	-.9
A001411	-.8	70.0	20.0	30.0	-.9	20.0	1.50	10000.0	15.0	20.0	50.0	70.0	-.8	-.8	700.0	70.0	-.9
A001412	-.8	70.0	7.0	50.0	-.9	100.0	3.00	2000.0	2.0	30.0	50.0	50.0	-.8	-.8	-.9	20.0	-.9
A001413	-.8	20.0	10.0	20.0	-.9	20.0	2.00	7000.0	2.0	30.0	30.0	10.0	-.8	-.8	-.9	30.0	-.9
A001414	-.8	30.0	7.0	10.0	-.9	50.0	2.00	5000.0	-.9	30.0	30.0	20.0	-.8	-.8	100.0	20.0	-.9
A001415	-.8	50.0	5.0	30.0	-.9	50.0	1.00	1500.0	-.9	20.0	50.0	200.0	-.8	-.8	7000.0	10.0	-.9
A001416	-.8	1000.0	20.0	50.0	-.9	100.0	1.00	700.0	30.0	30.0	500.0	2000.0	-.8	-.8	300.0	-.9	-.9
A003020	-.8	20.0	7.0	-.9	-.9	-.9	0.20	500.0	-.9	-.9	20.0	200.0	-.8	-.8	-.9	10.0	10.0
A003021	-.9	3500.0	6.1	4.0	-.8	-.9	-.80	260.0	-.9	-.9	15.0	473000.0	-.9	-.9	4700.0	-.9	16.0
A003022	10.0	380.0	27.3	-.9	-.8	-.9	-.80	2650.0	-.9	-.9	170.0	-.9	-.9	-.9	1750.0	-.9	510.0
A003023	-.9	35.0	9.6	8.0	-.8	10.0	-.80	4150.0	-.9	10.0	30.0	530.0	-.9	-.9	55.0	35.0	6.0
A003024	-.8	50.0	10.0	-.9	-.9	-.9	.10	5000.0	-.9	-.9	30.0	70.0	-.8	-.8	-.9	30.0	-.9
A003025	-.8	7.0	5.0	-.9	-.9	-.9	.15	1000.0	-.9	-.9	20.0	-.9	-.8	-.8	-.9	10.0	-.9
A003026	10.0	30.0	16.8	6.0	-.8	35.0	-.80	12000.0	-.9	-.9	65.0	30.0	-.9	-.9	14.0	90.0	-.9
A003027	-.8	10.0	10.0	-.9	-.9	-.9	.20	5000.0	-.9	-.9	30.0	20.0	-.8	-.8	-.9	30.0	10.0
A003028	-.8	15.0	10.0	-.9	-.9	-.9	.50	5000.0	-.9	-.9	30.0	20.0	-.8	-.8	-.9	50.0	-.9
A003029	10.0	155.0	16.2	7.0	-.8	110.0	-.80	5800.0	-.9	50.0	115.0	110.0	-.9	-.9	2900.0	30.0	660.0
A003030	-.8	5.0	7.0	-.9	-.9	-.9	.20	1500.0	-.9	-.9	5.0	20.0	-.8	-.8	-.9	20.0	-.9
A003031	-.9	20.0	17.4	5.0	-.8	40.0	-.80	10000.0	-.9	10.0	40.0	25.0	-.9	-.9	6.0	100.0	22.0
A003032	-.8	700.0	10.0	-.9	-.9	20.0	.20	500.0	-.9	30.0	15.0	2000.0	-.8	-.8	500.0	15.0	20.0
A003033	-.8	100.0	15.0	-.9	-.9	-.9	.10	2000.0	2.0	30.0	20.0	1500.0	-.8	-.8	-.9	20.0	70.0
A003034	-.8	10.0	15.0	-.9	-.9	-.9	.50	5000.0	-.9	20.0	15.0	-.9	-.8	-.8	-.9	70.0	-.9
A003035	-.8	5.0	7.0	-.9	-.9	-.9	.20	2000.0	-.9	-.9	20.0	-.9	-.8	-.8	-.9	20.0	-.9
A003036	-.9	40.0	13.2	8.0	-.8	20.0	-.80	11500.0	-.9	-.9	45.0	50.0	-.9	-.9	32.0	60.0	7.0
A003037	-.9	40.0	17.6	4.0	-.8	40.0	-.80	9800.0	-.9	10.0	50.0	35.0	-.9	-.9	20.0	95.0	16.0
A003038	-.8	2.0	2.0	-.9	-.9	-.9	0.03	300.0	-.9	-.9	-.9	-.9	-.8	-.8	-.9	-.9	-.9
A003039	10.0	145.0	29.5	6.0	-.8	10.0	-.80	8250.0	-.9	-.9	200.0	145.0	-.9	-.9	9.0	45.0	-.9
A003040	10.0	60.0	28.6	5.0	-.8	70.0	-.80	12000.0	-.9	60.0	130.0	75.0	-.9	-.9	5.0	70.0	13.0
A003041	-.8	70.0	10.0	-.9	-.9	50.0	.50	3000.0	-.9	-.9	50.0	30.0	-.8	-.8	-.9	15.0	-.9
A003042	-.8	30.0	15.0	10.0	-.9	100.0	1.50	2000.0	2.0	20.0	70.0	70.0	-.8	-.8	-.9	20.0	300.0
A003043	-.9	40.0	8.2	11.0	-.8	40.0	-.80	2100.0	-.9	-.9	55.0	330.0	-.9	-.9	34.0	25.0	175.0
A003044	-.9	20.0	5.9	10.0	-.8	20.0	-.80	3850.0	-.9	-.9	35.0	35.0	-.9	-.9	6.0	30.0	3.0
A003045	-.9	30.0	15.4	11.0	-.8	30.0	-.80	4700.0	-.9	40.0	60.0	170.0	-.9	-.9	22.0	25.0	46.0
A003046	-.8	10.0	15.0	-.9	-.9	-.9	.50	500.0	-.9	20.0	30.0	20.0	-.8	-.8	-.9	10.0	300.0
A003047	-.8	30.0	20.0	15.0	-.9	-.9	.30	1000.0	-.9	20.0	50.0	500.0	-.8	-.8	-.9	15.0	-.9
A003048	-.8	20.0	15.0	10.0	-.9	-.9	.30	1000.0	-.9	-.9	50.0	20.0	-.8	-.8	-.9	30.0	30.0
A003049	10.0	45.0	21.0	9.0	-.8	30.0	-.80	5150.0	-.9	20.0	60.0	1300.0	-.9	-.9	36.0	60.0	100.0
A003050	-.8	30.0	5.0	15.0	-.9	20.0	.50	500.0	-.9	-.9	50.0	300.0	-.8	-.8	-.9	10.0	-.9
A003051	10.0	110.0	22.8	8.0	-.8	30.0	-.80	2400.0	-.9	40.0	115.0	370.0	-.9	-.9	3800.0	20.0	195.0
A003052	-.8	10.0	2.0	-.9	-.9	20.0	.05	300.0	-.9	-.9	20.0	-.9	-.8	-.8	-.9	-.9	-.9
A003053	-.8	50.0	7.0	-.9	-.9	-.9	.20	500.0	-.9	-.9	50.0	100.0	-.8	-.8	200.0	-.9	300.0
A003054	-.8	20.0	5.0	-.9	-.9	-.9	.30	1000.0	-.9	-.9	20.0	100.0	-.8	-.8	200.0	-.9	500.0
A003055	-.8	30.0	10.0	10.0	-.9	20.0	.50	1500.0	-.9	-.9	30.0	10000.0	-.8	-.8	1000.0	20.0	10.0
A003056	-.8	100.0	15.0	15.0	-.9	20.0	.50	1500.0	2.0	20.0	100.0	10000.0	-.8	-.8	2000.0	20.0	150.0
A003057	-.9	50.0	-.9	-.9	-.8	-.9	-.80	-.9	-.9	-.9	85.0	200.0	-.9	-.9	370.0	-.9	-.9
A003058	20.0	50.0	32.9	7.0	-.8	65.0	-.80	5500.0	-.9	120.0	60.0	200.0	-.9	-.9	60.0	55.0	640.0
A003059	-.8	10.0	10.0	10.0	-.9	-.9	.50	5000.0	-.9	-.9	30.0	70.0	-.8	-.8	-.9	30.0	-.9
A003060	-.9	20.0	13.7	12.0	-.8	25.0	-.90	7500.0	-.9	20.0	40.0	5.0	-.9	-.9	-.9	45.0	6.0
A003061	-.8	7.0	5.0	-.9	-.9	-.9	.07	2000.0	-.9	-.9	5.0	10.0	-.8	-.8	-.9	30.0	-.9
A003062	-.8	10.0	10.0	-.9	-.9	-.9	.30	5000.0	-.9	-.9	10.0	10.0	-.8	-.8	-.9	50.0	-.9
A003063	-.8	15.0	7.0	-.9	-.9	-.9	.50	5000.0	-.9	-.9	15.0	10.0	-.8	-.8	-.9	30.0	20.0

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	SR (PPM)	TA (PPM)	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A001410	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	150.0	-.9	100.0
A001411	-.9	-.8	-.800	-.8	10000.0	150.0	50.0	200.0	-.9	300.0
A001412	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	50.0	-.9	500.0
A001413	-.9	-.8	-.800	-.8	10000.0	70.0	500.0	100.0	-.9	700.0
A001414	-.9	-.8	-.800	-.8	10000.0	50.0	2000.0	50.0	-.9	200.0
A001415	-.9	-.8	-.800	-.8	10000.0	50.0	200.0	20.0	-.9	150.0
A001416	100.0	-.8	-.800	-.8	5000.0	20.0	3000.0	100.0	-.9	150.0
A003020	-.9	-.8	-.800	-.8	5000.0	30.0	50.0	-.9	-.9	150.0
A003021	-.8	-.9	-.900	-.9	1600.0	15.0	60.0	10.0	57000.0	50.0
A003022	-.8	-.9	-.900	-.9	-.9	145.0	-.9	-.9	-.9	-.9
A003023	-.8	-.9	.055	-.9	30000.0	180.0	1950.0	55.0	170.0	240.0
A003024	-.9	-.8	-.800	-.8	5000.0	20.0	-.9	50.0	-.9	500.0
A003025	-.9	-.8	-.800	-.8	3000.0	10.0	-.9	-.9	-.9	200.0
A003026	-.8	40.0	.045	-.9	11000.0	50.0	240.0	140.0	75.0	150.0
A003027	-.9	-.8	-.800	-.8	3000.0	15.0	-.9	50.0	-.9	30.0
A003028	-.9	-.8	-.800	-.8	7000.0	20.0	-.9	50.0	-.9	100.0
A003029	-.8	40.0	.065	-.9	26000.0	90.0	17500.0	120.0	155.0	440.0
A003030	-.9	-.8	-.800	-.8	2000.0	15.0	50.0	30.0	-.9	50.0
A003031	-.8	60.0	.050	-.9	17000.0	50.0	375.0	170.0	95.0	340.0
A003032	-.9	-.8	-.800	-.8	10000.0	70.0	2000.0	20.0	300.0	500.0
A003033	-.9	-.8	-.800	-.8	10000.0	200.0	-.9	10.0	200.0	500.0
A003034	-.9	-.8	-.800	-.8	7000.0	30.0	-.9	100.0	-.9	150.0
A003035	-.9	-.8	-.800	-.8	2000.0	20.0	50.0	50.0	-.9	200.0
A003036	-.8	20.0	.075	-.9	8900.0	65.0	265.0	100.0	75.0	180.0
A003037	-.8	-.9	.095	20.0	12000.0	45.0	420.0	180.0	65.0	270.0
A003038	-.9	-.8	-.800	-.8	700.0	10.0	-.9	-.9	-.9	-.9
A003039	-.8	60.0	.200	-.9	9700.0	85.0	90.0	75.0	85.0	170.0
A003040	-.8	80.0	.110	-.9	29000.0	240.0	50.0	110.0	95.0	600.0
A003041	-.9	-.8	-.800	-.8	5000.0	20.0	-.9	30.0	-.9	100.0
A003042	-.9	-.8	-.800	-.8	10000.0	70.0	100.0	30.0	-.9	200.0
A003043	-.8	-.9	.080	-.9	9300.0	90.0	19.0	45.0	100.0	230.0
A003044	-.8	-.9	.020	-.9	7500.0	95.0	8.0	35.0	75.0	210.0
A003045	-.8	20.0	.170	-.9	20000.0	230.0	7.0	35.0	90.0	240.0
A003046	-.9	-.8	-.800	-.8	10000.0	100.0	-.9	-.9	-.9	300.0
A003047	-.9	-.8	-.800	-.8	7000.0	100.0	-.9	20.0	-.9	100.0
A003048	-.9	-.8	-.800	-.8	5000.0	100.0	-.9	70.0	-.9	100.0
A003049	-.8	20.0	.095	20.0	13000.0	180.0	85.0	110.0	115.0	380.0
A003050	-.9	-.8	-.800	-.8	5000.0	50.0	-.9	20.0	-.9	200.0
A003051	-.8	20.0	.400	-.9	16000.0	195.0	3100.0	35.0	280.0	880.0
A003052	-.9	-.8	-.800	-.8	2000.0	15.0	70.0	-.9	-.9	30.0
A003053	-.9	-.8	-.800	-.8	5000.0	70.0	100.0	10.0	-.9	100.0
A003054	-.9	-.8	-.800	-.8	2000.0	10.0	70.0	-.9	-.9	70.0
A003055	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	30.0	200.0	200.0
A003056	-.9	-.8	-.800	-.8	10000.0	100.0	300.0	20.0	200.0	500.0
A003057	-.8	-.9	.045	-.9	-.9	-.9	-.9	-.9	250.0	-.9
A003058	-.8	120.0	.190	-.9	96000.0	790.0	165.0	40.0	130.0	480.0
A003059	-.9	-.8	-.800	-.8	5000.0	70.0	-.9	30.0	-.9	100.0
A003060	-.8	40.0	.019	-.9	12000.0	160.0	6.0	65.0	70.0	320.0
A003061	-.9	-.8	-.800	-.8	5000.0	10.0	-.9	50.0	-.9	100.0
A003062	-.9	-.8	-.800	-.8	7000.0	20.0	-.9	70.0	-.9	300.0
A003063	-.9	-.8	-.800	-.8	5000.0	20.0	-.9	50.0	-.9	300.0

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AU (C/Y)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)
A003064	382750.	3526400.	14 73	-.9	-.80	-.900	-.9	20.0	150.0	-.9	-.9	1.0	-.9	-.8	10.0	30.0
A003065	373800.	3524750.	14 71	.2	-.90	-.900	100.0	-.9	300.0	-.9	-.9	-.9	-.9	80.0	15.0	20.0
A003066	379400.	3492600.	14 71	2.4	-.90	-.900	130.0	55.0	490.0	-.9	-.9	-.9	-.9	20.0	20.0	60.0
A003067	328800.	3467200.	14 73	-.9	-.80	-.900	2000.0	100.0	150.0	-.9	-.9	.1	-.9	-.8	20.0	20.0
A003068	333800.	3474300.	14 73	1.0	-.80	-.900	200.0	50.0	300.0	-.9	-.9	.2	-.9	-.8	10.0	200.0
A003069	374750.	3477700.	14 73	-.9	-.80	.003	-.9	-.9	20.0	-.9	-.9	.1	-.9	-.8	30.0	500.0
A003070	371600.	3477450.	14 73	-.9	-.80	.006	-.9	-.9	200.0	-.9	-.9	.1	-.9	-.8	20.0	300.0
A003071	370650.	3477600.	14 71	-.9	-.90	.005	75.0	-.9	240.0	-.9	-.9	-.9	-.9	200.0	15.0	205.0
A003072	392250.	3501450,	14 73	1.0	-.80	.002	-.9	150.0	500.0	-.9	-.9	.3	-.9	-.8	20.0	150.0
A003073	395350.	3502800.	14 73	5.0	-.80	-.900	-.9	100.0	200.0	-.9	-.9	2.0	-.9	-.8	20.0	100.0
A003074	397000.	3500850.	14 71	.8	.22	-.900	110.0	30.0	380.0	2.0	-.9	-.9	.4	120.0	20.0	95.0
A003075	399750.	3499750.	14 73	-.9	-.80	-.900	-.9	200.0	700.0	-.9	-.9	1.5	-.9	-.8	20.0	300.0
A003076	404600.	3502500.	14 73	-.9	-.80	-.900	-.9	500.0	300.0	-.9	-.9	1.0	-.9	-.8	30.0	200.0
A003077	404600.	3502500.	14 71	.8	.25	.005	35.0	-.9	170.0	-.9	-.9	-.9	-.9	60.0	25.0	270.0
A003078	404600.	3502500.	14 73	-.9	-.80	-.900	-.9	500.0	300.0	-.9	-.9	.5	-.9	-.8	20.0	150.0
A003079	404600.	3502500.	14 71	.4	.42	-.900	60.0	25.0	270.0	-.9	-.9	-.9	.2	40.0	15.0	75.0
A003080	405400.	3502700.	14 73	-.9	-.80	-.900	-.9	100.0	300.0	-.9	-.9	1.0	-.9	-.8	20.0	100.0
A003081	408450.	3504250.	14 73	2.0	-.80	-.900	-.9	200.0	500.0	-.9	-.9	1.0	-.9	-.8	15.0	200.0
A003082	402500.	3509200.	14 73	-.9	-.80	-.900	-.9	700.0	300.0	-.9	-.9	1.5	-.9	-.8	10.0	100.0
A003083	402800.	3509800.	14 71	.6	-.90	.001	75.0	75.0	330.0	-.9	-.9	-.9	.2	80.0	45.0	385.0
A003084	405800.	3506350.	14 73	-.9	-.80	.012	-.9	200.0	300.0	-.9	-.9	1.5	-.9	-.8	30.0	1000.0
A003085	411000.	3504800.	14 71	-.9	-.90	.001	25.0	-.9	240.0	-.9	-.9	-.9	-.9	-.9	25.0	220.0
A003086	419200.	3510700.	14 73	-.9	-.80	-.900	-.9	200.0	300.0	-.9	-.9	1.5	-.9	-.8	50.0	150.0
A003087	422650.	3515500.	14 73	-.9	-.80	-.900	-.9	50.0	700.0	-.9	-.9	2.0	-.9	-.8	30.0	100.0
A003088	317400.	3474850.	14 73	-.9	-.80	-.900	-.9	100.0	200.0	-.9	-.9	2.0	-.9	-.8	10.0	500.0
A003089	316900.	3475800.	14 73	-.9	-.80	-.900	-.9	500.0	700.0	-.9	-.9	2.0	-.9	-.8	20.0	200.0
A003090	317000.	3481000.	14 71	.2	5.50	-.900	180.0	-.9	150.0	-.9	-.9	-.9	.6	-.9	10.0	75.0
A003091	322200.	3483200.	14 73	-.9	-.80	-.900	-.9	70.0	300.0	-.9	-.9	1.5	-.9	-.8	10.0	100.0
A003092	327000.	3481100.	14 73	-.9	-.80	-.900	-.9	200.0	200.0	-.9	-.9	1.5	-.9	-.8	10.0	150.0
A003093	337500.	3488300.	14 73	7.0	-.80	.019	-.9	70.0	500.0	-.9	-.9	1.0	-.9	-.8	70.0	1000.0
A003094	336900.	3489800.	14 71	1.2	.05	.001	500.0	-.9	470.0	-.9	-.9	-.9	-.9	120.0	15.0	100.0
A003095	335250.	3476150.	14 73	10.0	-.80	-.900	-.9	70.0	700.0	-.9	-.9	.2	-.9	-.8	15.0	200.0
A003096	335250.	3476150.	14 71	8.3	8.00	-.900	190.0	35.0	430.0	-.9	1.0	-.9	2.0	80.0	15.0	55.0
A003097	340350.	3496800.	14 73	-.9	-.80	-.900	-.9	200.0	200.0	-.9	-.9	1.0	-.9	-.8	5.0	70.0
A003098	342900.	3503000.	14 73	-.9	-.80	-.900	-.9	10.0	100.0	-.9	-.9	5.0	-.9	-.8	20.0	100.0
A003099	342850.	3503850.	14 71	1.0	113.00	.004	20.0	-.9	140.0	-.9	-.9	-.9	1.0	20.0	10.0	65.0
A003100	332200.	3496500.	14 73	-.9	-.80	.001	-.9	200.0	700.0	-.9	-.9	1.5	-.9	-.8	15.0	200.0

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CS (PPM)	CU (PPM)	FE (%)	GA (PPM)	GE (PPM)	LA (%)	MG (PPM)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)
A003064	-.8	20.0	10.0	10.0	-.9	-.9	.70	5000.0	-.9	-.9	15.0	20.0	-.8	-.8	-.9	50.0	-.9
A003065	-.9	25.0	14.6	7.0	-.8	40.0	-.80	12000.0	-.9	40.0	30.0	50.0	-.9	-.9	4.0	100.0	5.0
A003066	-.9	45.0	13.0	14.0	-.8	25.0	-.80	1400.0	-.9	10.0	65.0	35.0	-.9	-.9	18.0	15.0	460.0
A003067	-.8	70.0	5.0	-.9	-.9	20.0	.10	500.0	-.9	20.0	70.0	30.0	-.8	-.8	1500.0	-.9	-.9
A003068	-.8	20.0	5.0	10.0	-.9	20.0	.50	700.0	-.9	-.9	50.0	100.0	-.8	-.8	100.0	10.0	-.9
A003069	-.8	20.0	20.0	15.0	-.9	-.9	1.00	500.0	2.0	20.0	50.0	10.0	-.8	-.8	-.9	10.0	200.0
A003070	-.8	15.0	10.0	15.0	-.9	-.9	1.50	700.0	-.9	-.9	30.0	150.0	-.8	-.8	-.9	10.0	10.0
A003071	20.0	25.0	21.1	8.0	-.8	95.0	-.80	4950.0	-.9	160.0	35.0	25.0	-.9	-.9	290.0	55.0	400.0
A003072	-.8	30.0	7.0	15.0	-.9	200.0	1.00	1000.0	2.0	20.0	70.0	150.0	-.8	-.8	-.9	15.0	2000.0
A003073	-.8	15.0	10.0	15.0	-.9	50.0	1.50	7000.0	5.0	20.0	50.0	300.0	-.8	-.8	-.9	50.0	150.0
A003074	-.9	40.0	9.9	10.0	-.8	25.0	-.80	4050.0	-.9	25.0	40.0	30.0	-.9	-.9	24.0	45.0	165.0
A003075	-.8	30.0	15.0	20.0	-.9	20.0	1.50	5000.0	10.0	20.0	70.0	70.0	-.8	-.8	-.9	50.0	150.0
A003076	-.8	15.0	20.0	20.0	-.9	-.9	.50	5000.0	15.0	-.9	70.0	50.0	-.8	-.8	-.9	30.0	500.0
A003077	10.0	30.0	38.2	14.0	-.8	25.0	-.80	5000.0	-.9	10.0	50.0	15.0	-.9	-.9	18.0	30.0	275.0
A003078	-.8	30.0	15.0	10.0	-.9	-.9	.50	5000.0	10.0	20.0	70.0	70.0	-.8	-.8	-.9	30.0	30.0
A003079	-.9	45.0	15.9	10.0	-.8	30.0	-.80	6450.0	-.9	35.0	40.0	20.0	-.9	-.9	16.0	50.0	80.0
A003080	-.8	30.0	15.0	10.0	-.9	-.9	1.00	5000.0	5.0	20.0	50.0	10.0	-.8	-.8	-.9	30.0	20.0
A003081	-.8	20.0	10.0	15.0	-.9	-.9	1.50	5000.0	2.0	20.0	50.0	20.0	-.8	-.8	-.9	30.0	-.9
A003082	-.8	30.0	7.0	10.0	-.9	20.0	1.50	7000.0	-.9	20.0	50.0	10.0	-.8	-.8	-.9	50.0	-.9
A003083	-.9	50.0	14.5	12.0	-.8	30.0	-.80	4650.0	-.9	30.0	70.0	55.0	-.9	-.9	17.0	40.0	415.0
A003084	-.8	50.0	20.0	20.0	-.9	-.9	1.00	5000.0	10.0	20.0	70.0	100.0	-.8	-.8	-.9	30.0	500.0
A003085	10.0	40.0	22.8	12.0	-.8	25.0	-.80	6100.0	-.9	-.9	45.0	15.0	-.9	-.9	6.0	45.0	14.0
A003086	-.8	70.0	20.0	30.0	-.9	-.9	1.00	5000.0	15.0	20.0	50.0	10.0	-.8	-.8	-.9	50.0	20.0
A003087	-.8	50.0	20.0	20.0	-.9	-.9	.70	7000.0	10.0	20.0	50.0	100.0	-.8	-.8	-.9	50.0	20.0
A003088	-.8	10.0	7.0	15.0	-.9	20.0	1.50	3000.0	2.0	20.0	30.0	10.0	-.8	-.8	-.9	50.0	-.9
A003089	-.8	20.0	10.0	20.0	-.9	20.0	3.00	7000.0	2.0	20.0	50.0	30.0	-.8	-.8	-.9	50.0	-.9
A003090	-.9	15.0	16.9	12.0	-.8	15.0	-.80	10500.0	-.9	35.0	15.0	5.0	-.9	-.9	11.0	100.0	13.0
A003091	-.8	7.0	7.0	15.0	-.9	-.9	1.50	5000.0	2.0	20.0	20.0	10.0	-.8	-.8	-.9	30.0	-.9
A003092	-.8	10.0	10.0	20.0	-.9	-.9	1.00	5000.0	2.0	20.0	20.0	10.0	-.8	-.8	-.9	50.0	70.0
A003093	-.8	50.0	20.0	50.0	-.9	20.0	2.00	2000.0	15.0	30.0	50.0	200.0	-.8	-.8	-.9	30.0	200.0
A003094	10.0	40.0	17.3	12.0	-.8	50.0	-.80	4500.0	-.9	60.0	30.0	130.0	-.9	-.9	85.0	40.0	55.0
A003095	-.8	30.0	10.0	20.0	-.9	20.0	1.00	1500.0	5.0	-.9	50.0	3000.0	-.8	-.8	-.9	20.0	700.0
A003096	-.9	70.0	7.9	16.0	-.8	30.0	-.80	1750.0	-.9	15.0	45.0	1100.0	-.9	-.9	115.0	25.0	225.0
A003097	-.8	10.0	7.0	20.0	-.9	20.0	1.50	7000.0	2.0	20.0	20.0	15.0	-.8	-.8	-.9	30.0	-.9
A003098	-.8	20.0	15.0	30.0	-.9	20.0	1.00	7000.0	10.0	20.0	20.0	10.0	-.8	-.8	-.9	70.0	-.9
A003099	-.9	20.0	13.4	10.0	-.8	25.0	-.80	10000.0	-.9	30.0	15.0	10.0	-.9	-.9	8.0	100.0	-.9
A003100	-.8	50.0	15.0	20.0	-.9	50.0	3.00	3000.0	5.0	30.0	30.0	30.0	-.8	-.8	-.9	50.0	30.0

TABLE AD-14 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	SR (PPM)	TA (PPM)	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	Y (PPM)	ZN (PPM)	ZR (PPM)
A003064	-.9	-.8	-.800	-.8	10000.0	30.0	-.9	50.0	-.9	500.0
A003065	-.8	20.0	.040	-.9	14000.0	50.0	11.0	200.0	55.0	360.0
A003066	-.8	40.0	.075	-.9	6900.0	140.0	4.0	30.0	170.0	240.0
A003067	-.9	-.8	-.800	-.8	3000.0	30.0	200.0	-.9	-.9	300.0
A003068	-.9	-.8	-.800	-.8	5000.0	70.0	-.9	10.0	200.0	200.0
A003069	-.9	-.8	-.800	-.8	10000.0	150.0	-.9	-.9	-.9	100.0
A003070	-.9	-.8	-.800	-.8	7000.0	70.0	-.9	-.9	-.9	50.0
A003071	-.8	100.0	.130	20.0	110000.0	820.0	13.0	35.0	90.0	480.0
A003072	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	50.0	-.9	150.0
A003073	100.0	-.8	-.800	-.8	7000.0	50.0	100.0	70.0	-.9	300.0
A003074	-.8	-.9	.270	-.9	8900.0	-.9	9.0	65.0	110.0	180.0
A003075	100.0	-.8	-.800	-.8	10000.0	100.0	-.9	100.0	200.0	150.0
A003076	-.9	-.8	-.800	-.8	5000.0	150.0	-.9	70.0	300.0	100.0
A003077	-.8	60.0	.070	-.9	11000.0	-.9	19.0	50.0	60.0	260.0
A003078	-.9	-.8	-.800	-.8	7000.0	100.0	-.9	70.0	200.0	200.0
A003079	-.8	-.9	.080	-.9	14000.0	-.9	12.0	75.0	80.0	310.0
A003080	-.9	-.8	-.800	-.8	7000.0	100.0	-.9	70.0	200.0	200.0
A003081	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	50.0	-.9	200.0
A003082	100.0	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	-.9	300.0
A003083	-.8	-.9	.240	-.9	14000.0	-.9	65.0	50.0	90.0	150.0
A003084	-.9	-.8	-.800	-.8	7000.0	100.0	-.9	100.0	200.0	50.0
A003085	-.8	-.9	.045	-.9	11000.0	-.9	4.0	60.0	65.0	280.0
A003086	-.9	-.8	-.800	-.8	5000.0	100.0	-.9	100.0	200.0	200.0
A003087	-.9	-.8	-.800	-.8	7000.0	150.0	-.9	100.0	-.9	150.0
A003088	100.0	-.8	-.800	-.8	10000.0	100.0	-.9	70.0	-.9	150.0
A003089	100.0	-.8	-.800	-.8	7000.0	100.0	-.9	70.0	-.9	200.0
A003090	-.8	-.9	.050	-.9	16000.0	-.9	60.0	150.0	50.0	170.0
A003091	100.0	-.8	-.800	-.8	7000.0	70.0	-.9	70.0	-.9	150.0
A003092	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	-.9	200.0
A003093	-.9	-.8	-.800	-.8	10000.0	200.0	50.0	30.0	-.9	300.0
A003094	-.8	-.9	.045	-.9	42000.0	-.9	12.0	60.0	110.0	210.0
A003095	-.9	-.8	-.800	-.8	5000.0	100.0	50.0	20.0	300.0	100.0
A003096	-.8	-.9	.040	-.9	11000.0	-.9	65.0	30.0	220.0	160.0
A003097	-.9	-.8	-.800	-.8	10000.0	70.0	-.9	100.0	-.9	300.0
A003098	-.9	-.8	-.800	-.8	10000.0	150.0	-.9	150.0	-.9	150.0
A003099	-.8	-.9	.040	-.9	14000.0	-.9	210.0	160.0	45.0	180.0
A003100	200.0	-.8	-.800	-.8	10000.0	200.0	-.9	50.0	200.0	300.0

TABLE AD-15

DUNKLE MINE AREA PANNED CONCENTRATES

ANALYTICAL RESULTS

TABLE AD-15 CHEMICAL ANALYSIS OF PAN CON. SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	W (PPM)	ZN (PPM)
A001009	583400.	3393800.	12 71	-.9	-.90	25.0	-.9	25.0	-.9	20.0	4.0	-.9	-.9	105.0
A001011	583300.	3393700.	12 71	-.9	-.90	20.0	-.9	15.0	-.9	-.9	2.0	-.9	5.0	65.0
A001013	584000.	3392800.	12 71	-.9	-.90	45.0	-.9	30.0	-.9	20.0	8.0	6.0	4.0	85.0
A001015	582650.	3392100.	12 71	-.9	-.90	35.0	-.9	40.0	-.9	-.9	2.0	-.9	3.0	120.0
A001019	598800.	3382100.	12 71	-.9	.08	60.0	-.9	20.0	-.9	10.0	2.0	-.9	4.0	105.0
A002403	579900.	3382200.	12 71	-.9	.83	30.0	-.9	30.0	-.9	10.0	-.9	-.9	4.0	120.0
A002405	579500.	3381950.	12 71	.4	-.90	20.0	-.9	45.0	-.9	10.0	2.0	-.9	2.0	125.0
A002406	585100.	3369200.	12 71	-.9	-.90	20.0	-.9	15.0	-.9	-.9	-.9	-.9	4.0	75.0
A002410	587700.	3369400.	12 71	.2	-.90	35.0	-.9	30.0	-.9	25.0	4.0	120.0	4.0	120.0
A002413	574800.	3381150.	12 71	-.9	-.90	25.0	-.9	25.0	-.9	5.0	2.0	-.9	-.9	95.0
A002420	604800.	3389700.	12 71	-.9	-.90	55.0	-.9	25.0	-.9	10.0	8.0	-.9	3.0	70.0
A002433	582800.	3374900.	12 71	-.9	-.90	35.0	-.9	45.0	-.9	10.0	2.0	-.9	3.0	115.0
A002434	583200.	3376500.	12 71	-.9	-.90	60.0	-.9	40.0	-.9	10.0	4.0	-.9	4.0	120.0
A002441	575100.	3389700.	12 71	-.9	.08	20.0	-.9	50.0	-.9	10.0	2.0	-.9	3.0	105.0
A002442	574450.	3391800.	12 71	-.9	-.90	40.0	-.9	15.0	-.9	10.0	4.0	-.9	-.9	160.0
A002447	582100.	3369500.	12 71	-.9	-.90	20.0	-.9	40.0	-.9	10.0	2.0	-.9	3.0	120.0
A002460	596500.	3378700.	12 71	-.9	-.90	45.0	-.9	30.0	-.9	10.0	2.0	-.9	3.0	110.0
A002461	605300.	3388650.	12 71	-.9	-.90	40.0	-.9	35.0	-.9	-.9	2.0	-.9	-.9	85.0
A002462	596500.	3378700.	12 71	.4	-.90	80.0	-.9	40.0	-.9	20.0	4.0	-.8	4.0	140.0
A002467	578400.	3388000.	12 71	-.9	.19	50.0	-.9	25.0	-.9	15.0	4.0	85.0	-.9	85.0

TABLE AD-16

DUNKLE MINE AREA RECONNAISSANCE PLACER CONCENTRATES

ANALYTICAL RESULTS

TABLE AD-16 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV	IT CODE	AG (PPM)	AU (PPM)	AU (C/Y)	AS (PPM)	B (PPM)	BA (PPM)	BE (PPM)	BI (PPM)	CA (%)	CD (PPM)	CE (PPM)	CO (PPM)	CR (PPM)	CS (PPM)
A002424	593600.	3383200.	14	73	7.0	-.80	.0078	10000.0	50.0	1500.0	-.9	70.0	1.5	-.9	-.8	500.0	7000.0	-.8
A002427	575600.	3369800.	14	73	-.9	-.80	.0006	-.9	30.0	1000.0	-.9	-.9	2.0	-.9	-.8	20.0	7000.0	-.8
A002428	573400.	3375900.	14	71	-.9	.12	-.8000	70.0	-.8	-.8	-.8	-.9	-.8	-.8	-.8	-.8	-.8	-.8
A002429	573400.	3375850.	14	71	5.9	3.40	.0047	420.0	50.0	1100.0	-.9	30.0	-.8	-.9	20.0	20.0	2500.0	-.9
A002430	573250.	3374750.	14	73	-.9	-.80	.0007	-.9	100.0	2000.0	-.9	-.9	5.0	-.9	-.8	20.0	5000.0	-.8
A002431	582850.	3374600.	14	71	.8	1.30	.0029	1300.0	60.0	1500.0	3.0	4.0	-.8	.2	40.0	30.0	4250.0	-.9
A002489	598600.	3374000.	14	71	.6	.44	.0010	230.0	-.9	540.0	-.9	3.0	-.8	.4	20.0	65.0	24000.0	-.9

TABLE AD-16 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	TE (PPM)	TH (PPM)	TI (PPM)	V (PPM)	W (PPM)	WT (GRAMS)	Y (PPM)	ZN (PPM)	ZR (PPM)
A002424	-.800	-.8	5000.0	100.0	150.0	96.14	30.0	500.0	200.0
A002427	-.800	-.8	7000.0	100.0	-.9	106.54	-.9	200.0	50.0
A002428	-.800	-.8	-.8	-.8	3.0	-.80	-.8	130.0	-.8
A002429	6.400	-.9	6000.0	-.9	100.0	118.61	15.0	135.0	190.0
A002430	-.800	-.8	7000.0	150.0	-.9	87.60	20.0	200.0	100.0
A002431	.190	-.9	10000.0	-.9	6.0	105.09	20.0	285.0	280.0
A002489	1.000	-.9	18000.0	-.9	9.0	95.25	30.0	280.0	280.0

TABLE AD-16 CHEMICAL ANALYSIS OF PAN CON.-RP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	CU (PPM)	FE (%)	GA (PPM)	LA (PPM)	MG (%)	MN (PPM)	MO (PPM)	NB (PPM)	NI (PPM)	PB (PPM)	PD (PPM)	PT (PPM)	SB (PPM)	SC (PPM)	SN (PPM)	SR (PPM)	TA (PPM)
A002424	200.0	10.0	30.0	20.0	1.00	1000.0	5.0	-.9	200.0	500.0	-.8	-.8	300.0	20.0	-.9	100.0	-.8
A002427	30.0	5.0	15.0	-.9	1.50	1000.0	-.9	-.9	100.0	50.0	-.8	-.8	-.9	10.0	-.9	200.0	-.8
A002428	55.0	-.8	-.8	-.8	-.80	-.8	-.9	-.8	-.8	-.9	-.8	-.8	4.0	-.8	-.9	-.8	-.8
A002429	70.0	6.1	14.0	10.0	-.80	1450.0	-.9	-.9	65.0	20.0	-.9	-.9	4.0	25.0	12.0	-.8	-.9
A002430	50.0	7.0	20.0	20.0	2.00	1000.0	2.0	-.9	70.0	70.0	-.8	-.8	-.9	20.0	-.9	300.0	-.8
A002431	70.0	9.2	14.0	10.0	-.80	3050.0	-.9	10.0	75.0	80.0	-.9	-.9	18.0	30.0	26.0	-.8	-.9
A002489	65.0	13.5	10.0	-.9	-.80	-.9	-.9	10.0	230.0	50.0	-.9	-.9	9.0	30.0	265.0	-.8	180.0

TABLE AD-17

DUNKLE MINE AREA ROCK CHIP SAMPLES

ANALYTICAL RESULTS

TABLE AD-17

CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	HG (PPM)	MO (PPM)	NI (PPM)
CX00001	596550.	3391250.	30 71	-.80	.4	-.800	-.90	110.000	-.8	-.800	65.000	.05	30.000	-.800
CX00002	596050.	3391050.	30 71	-.80	1.6	-.800	.09	270.000	-.8	-.800	155.000	.04	24.000	-.800
CX00003	594950.	3391650.	30 71	-.80	3.3	-.800	.33	449000.000	-.8	-.800	25.000	.02	8.000	-.800
CX00004	594950.	3391500.	30 71	-.80	1.8	-.800	-.90	1450.000	-.8	-.800	215.000	.02	6.000	-.800
CX00005	595890.	3390420.	30 71	-.80	.8	-.800	-.90	190.000	-.8	-.800	20.000	.02	4.000	-.800
CX00006	594750.	3391300.	30 71	-.80	2.4	-.800	-.90	1400.000	-.8	-.800	310.000	.03	12.000	-.800
CX00007	594600.	3391000.	30 71	-.80	1.2	-.800	-.90	260.000	-.8	-.800	220.000	.04	8.000	-.800
CX00008	594700.	3390780.	30 71	-.80	1.2	-.800	.12	510.000	-.8	-.800	35.000	.02	16.000	-.800
CX00009	594750.	3390050.	30 71	-.80	.8	-.800	-.90	110.000	-.8	-.800	45.000	.02	-.900	-.800
CX00010	594700.	3389420.	30 71	-.80	.9	-.800	-.90	360.000	-.8	-.800	40.000	.01	-.900	-.800
CX00011	593950.	3389950.	30 71	-.80	5.7	-.800	-.90	1200.000	-.8	-.800	355.000	.02	4.000	-.800
CX00012	593850.	3389500.	30 71	-.80	1.2	-.800	-.90	680.000	-.8	-.800	70.000	-.90	-.900	-.800
CX00013	594500.	3388900.	30 71	-.80	3.7	-.800	.04	8250.000	-.8	-.800	235.000	.01	4.000	-.800
CX00014	593800.	3389250.	30 71	-.80	1.7	-.800	-.90	1450.000	-.8	-.800	105.000	.01	-.900	-.800
CX00015	593900.	3388800.	30 71	-.80	.8	-.800	-.90	680.000	-.8	-.800	145.000	.02	2.000	-.800
CX00016	594400.	3388320.	30 71	-.80	1.2	-.800	-.90	410.000	-.8	-.800	45.000	.02	2.000	-.800
CX00017	594100.	3388040.	30 71	-.80	.6	-.800	-.90	580.000	-.8	-.800	20.000	-.90	12.000	-.800
CX00018	594600.	3387670.	30 71	-.80	1.0	-.800	-.90	420.000	-.8	-.800	30.000	.01	-.900	-.800
CX00019	592860.	3389050.	30 71	-.80	1.9	-.800	-.90	1400.000	-.8	-.800	115.000	.02	-.900	-.800
CX00020	593500.	3388500.	30 71	-.80	2.9	-.800	-.90	1200.000	-.8	-.800	210.000	.02	6.000	-.800
CX00021	594900.	3387300.	30 71	-.80	4.8	-.800	13.00	2500.000	-.8	-.800	50.000	.12	4.000	-.800
CX00022	593000.	3388720.	30 71	-.80	.4	-.800	.02	80.000	-.8	-.800	30.000	-.90	4.000	-.800
CX00023	593720.	3388050.	30 71	-.80	1.0	-.800	-.90	790.000	-.8	-.800	105.000	.01	42.000	-.800
CX00024	592700.	3388550.	30 71	-.80	1.8	-.800	-.90	3700.000	-.8	-.800	130.000	.01	2.000	-.800
CX00025	592900.	3388350.	30 71	-.80	.4	-.800	-.90	660.000	-.8	-.800	35.000	.01	4.000	-.800
CX00026	593200.	3388150.	30 71	-.80	.4	-.800	-.90	300.000	-.8	-.800	80.000	.01	4.000	-.800
CX00027	594350.	3387150.	30 71	-.80	.6	-.800	.26	5200.000	-.8	-.800	5.000	.02	4.000	-.800
CX00028	592400.	3388800.	30 71	-.80	65.0	-.800	-.90	27000.000	-.8	-.800	15500.000	.03	4.000	-.800
CX00029	593050.	3388000.	30 71	-.80	.2	-.800	-.90	360.000	-.8	-.800	15.000	.01	6.000	-.800
CX00030	592850.	3387900.	30 71	-.80	2.8	-.800	.13	1150.000	-.8	-.800	30.000	.01	12.000	-.800
CX00031	594600.	3386150.	30 71	-.80	1.9	-.800	.11	820.000	-.8	-.800	30.000	.02	140.000	-.800
CX00032	593200.	3387100.	30 71	-.80	.6	-.800	-.90	1200.000	-.8	-.800	10.000	.01	-.900	-.800
CX00033	593550.	3386500.	30 71	-.80	.6	-.800	-.90	500.000	-.8	-.800	25.000	-.90	22.000	-.800
CX00034	592350.	3387450.	30 71	-.80	.4	-.800	-.90	1350.000	-.8	-.800	20.000	.02	16.000	-.800
CX00035	593450.	3386090.	30 71	-.80	6.5	-.800	.03	1300.000	-.8	-.800	425.000	.02	20.000	-.800
CX00036	592150.	3386050.	30 71	-.80	7.1	-.800	.03	2300.000	-.8	-.800	135.000	.02	70.000	-.800
CX00037	591800.	3386700.	30 71	-.80	.4	-.800	.04	3600.000	-.8	-.800	65.000	.03	8.000	-.800
C012502	594050.	3387050.	34 71	-.80	7.7	-.800	.04	700.000	8.0	-.800	4650.000	-.90	10.000	-.800
C012701	578250.	3386050.	32 72	.10	-.8	.034	-.80	-.800	-.8	.002%	.026%	-.80	-.900	.010%
C012702	578250.	3386050.	32 72	8.67	-.8	.610	-.80	-.800	-.8	-.900	.700%	-.80	-.900	.008%
C012703	578250.	3386050.	32 72	4.14	-.8	.240	-.80	-.800	-.8	.002%	.260%	-.80	-.900	.008%
C012704	578250.	3386050.	32 72	5.88	-.8	2.270	-.80	-.800	-.8	-.900	.815%	-.80	-.900	.008%
C012705	578250.	3386050.	32 72	4.03	-.8	.210	-.80	-.800	-.8	.002%	.115%	-.80	-.900	.002%
C012706	578250.	3386050.	32 72	72.20	-.8	.250	-.80	-.800	-.8	-.900	.755%	-.80	-.900	.034%
C012707	578250.	3386050.	32 72	.99	-.8	.190	-.80	-.800	-.8	.004%	.056%	-.80	-.900	.006%
C012708	578100.	3386080.	32 72	2.82	-.8	.860	-.80	-.800	-.8	.026%	.095%	-.80	-.900	.002%
C012709	578100.	3386080.	32 72	2.80	-.8	.170	-.80	-.800	-.8	.004%	.060%	-.80	-.900	.002%
C012710	578250.	3386050.	32 72	2.24	-.8	.170	-.80	-.800	-.8	.010%	.320%	-.80	-.900	.002%
C012711	576200.	3385250.	32 72	-.90	-.9	-.900	-.90	-.800	-.8	.002%	.053%	-.80	.002%	.004%
C012713	576200.	3385250.	34 72	4.56	-.8	.046	-.80	-.800	-.8	.018%	.043%	-.80	.002%	-.900
C012714	576200.	3385250.	34 72	-.90	-.9	-.900	-.90	-.800	-.8	-.900	.031%	-.80	.001%	-.900

TABLE AD-17 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	PB (PPM)	SB (PPM)	SN (PPM)	W (PPM)	ZN (PPM)
CX00001	20.000	-.800	-.900	15.0	15.000
CX00002	20.000	-.800	5.000	15.0	25.000
CX00003	15.000	-.800	-.900	-.9	-.900
CX00004	10.000	-.800	10.000	3.0	10.000
CX00005	30.000	-.800	-.900	13.0	10.000
CX00006	15.000	-.800	4.000	14.0	65.000
CX00007	10.000	-.800	3.000	10.0	15.000
CX00008	10.000	-.800	-.900	14.0	-.900
CX00009	15.000	-.800	-.900	6.0	10.000
CX00010	15.000	-.800	-.900	6.0	10.000
CX00011	15.000	-.800	10.000	10.0	25.000
CX00012	15.000	-.800	-.900	8.0	30.000
CX00013	20.000	-.800	-.900	4.0	30.000
CX00014	10.000	-.800	-.900	6.0	5.000
CX00015	15.000	-.800	-.900	8.0	25.000
CX00016	20.000	-.800	-.900	6.0	30.000
CX00017	15.000	-.800	-.900	5.0	5.000
CX00018	15.000	-.800	4.000	5.0	-.900
CX00019	15.000	-.800	-.900	5.0	-.900
CX00020	10.000	-.800	4.000	9.0	10.000
CX00021	90.000	-.800	-.900	5.0	10.000
CX00022	15.000	-.800	-.900	6.0	10.000
CX00023	15.000	-.800	-.900	6.0	5.000
CX00024	15.000	-.800	-.900	-.9	-.900
CX00025	15.000	-.800	-.900	6.0	-.900
CX00026	10.000	-.800	-.900	7.0	15.000
CX00027	20.000	-.800	-.900	4.0	10.000
CX00028	5.000	-.800	17.000	6.0	300.000
CX00029	10.000	-.800	-.900	4.0	-.900
CX00030	90.000	-.800	-.900	6.0	20.000
CX00031	65.000	-.800	-.900	8.0	5.000
CX00032	10.000	-.800	3.000	3.0	5.000
CX00033	15.000	-.800	-.900	8.0	25.000
CX00034	15.000	-.800	-.900	7.0	5.000
CX00035	70.000	-.800	6.000	6.0	20.000
CX00036	-.900	-.800	-.900	5.0	-.900
CX00037	5.000	-.800	-.900	6.0	10.000
C012502	-.900	-.800	-.900	5.0	120.000
C012701	.056%	-.800	-.900	5.0	.024%
C012702	.130%	-.800	16.000	-.9	.015%
C012703	.010%	-.800	20.000	3.0	.006%
C012704	.285%	-.800	13.000	-.9	.038%
C012705	.071%	-.800	-.900	-.9	.007%
C012706	1.150%	-.800	4.000	3.0	1.600%
C012707	.135%	-.800	-.900	-.9	.040%
C012708	.069%	-.800	4.000	-.9	.004%
C012709	.036%	-.800	7.000	-.9	.003%
C012710	.026%	-.800	14.000	-.9	.007%
C012711	.002%	-.800	-.900	8.0	.004%
C012713	.685%	-.800	4.000	3.0	.016%
C012714	-.900	-.800	-.900	5.0	-.900

TABLE AD-17 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	HG (PPM)	MO (PPM)	NI (PPM)
C012715	587500.	3380390.	34 72	-.90	-.9	-.900	-.90	-.800	-.8	-.900	.012%	-.80	-.900	.006%
C012743	586900.	3380800.	34 72	-.90	-.8	.006	-.80	-.800	-.8	-.900	.028%	-.80	.002%	-.900
C012744	573950.	3382800.	34 72	.15	-.8	.010	-.80	-.800	-.8	.030%	.325%	-.80	.008%	.004%
C012745	578250.	3385800.	30 72	-.90	-.9	-.900	-.90	-.800	-.8	-.900	.006%	-.80	.001%	.002%
C012746	586750.	3380400.	32 72	.27	-.8	.016	-.80	-.800	-.8	.004%	.026%	-.80	-.900	.002%
C012747	586500.	3380100.	34 72	.07	-.8	-.900	-.80	-.800	-.8	-.900	.022%	-.80	-.900	-.900
C012748	586150.	3379100.	34 72	-.90	-.9	-.900	-.90	-.800	-.8	-.900	.048%	-.80	-.900	-.900
C012749	586150.	3379100.	34 72	-.90	-.9	-.900	-.90	-.800	-.8	-.900	.012%	-.80	.001%	-.900
C012750	586400.	3379150.	34 72	-.90	-.8	.013	-.80	-.800	-.8	.006%	.043%	-.80	-.900	.010%
C012751	586400.	3379150.	34 72	-.90	-.8	.005	-.80	-.800	-.8	.002%	.004%	-.80	-.900	.002%
C013761	577190.	3383390.	34 72	.85	-.8	.870	-.80	-.800	-.8	.435%	.020%	-.80	.009%	.099%
C013762	577340.	3383320.	34 72	-.90	-.9	-.900	-.90	-.800	-.8	-.900	.105%	-.80	-.900	.004%
C013763	577460.	3383330.	34 72	.12	-.8	.290	-.80	-.800	-.8	-.900	.028%	-.80	-.900	-.900
C013764	582900.	3395650.	34 71	-.80	.6	-.800	-.90	50.000	-.8	5.000	10.000	-.90	2.000	15.000
C013765	594000.	3387320.	34 71	-.80	4.9	-.800	-.90	2150.000	-.8	-.900	2150.000	-.90	-.900	-.900
C013766	596430.	3390750.	34 71	-.80	2.7	-.800	-.90	360.000	-.8	-.900	60.000	-.90	36.000	-.900
C013767	587820.	3382640.	34 71	-.80	.6	-.800	-.90	40.000	-.8	20.000	360.000	-.90	-.900	-.900
C014009	592050.	3388100.	34 72	.62	-.8	-.900	-.80	-.800	-.8	.002%	.175%	-.90	.002%	.002%
C014010	592050.	3388200.	34 72	.65	-.8	-.900	-.80	-.800	-.8	.097%	.955%	-.90	.001%	.006%
C014011	592050.	3391400.	34 72	-.90	-.8	.034	-.80	-.800	-.8	.006%	-.900	-.90	.005%	-.900
C014012	594650.	3391100.	34 72	.06	-.8	-.900	-.80	-.800	-.8	-.900	.044%	-.90	.003%	-.900
C014013	592250.	3386550.	34 71	-.80	.4	-.800	-.90	130.000	-.8	-.900	105.000	-.90	555.000	-.900
C014154	582800.	3395900.	34 71	-.80	1.0	-.800	.04	10.000	-.8	-.900	80.000	-.90	-.900	10.000
C014155	582600.	3396000.	34 71	-.80	1.5	-.800	.07	20.000	-.8	-.900	115.000	-.90	-.900	10.000
C014156	583400.	3391600.	34 71	-.80	1.2	-.800	-.90	110.000	-.8	5.000	50.000	-.90	-.900	15.000
C014157	586000.	3393400.	30 72	-.90	-.8	.470	-.80	-.800	-.8	.089%	.067%	-.90	.002%	.008%
C014158	586000.	3393400.	32 72	-.90	-.8	.420	-.80	-.800	-.8	.150%	.125%	-.90	.002%	.014%
C014159	586000.	3393400.	34 72	-.90	-.8	.920	-.80	-.800	-.8	.155%	.120%	-.90	.004%	.034%
C014160	586000.	3393200.	32 71	-.80	-.9	-.800	.04	750.000	-.8	10.000	15.000	-.90	-.900	5.000
C014168	593100.	3390600.	34 72	.32	-.8	-.900	-.80	-.800	-.8	.002%	.350%	-.90	-.900	-.900
C014169	594300.	3391000.	34 72	-.90	-.9	-.900	-.90	-.800	-.8	-.900	.061%	-.90	.014%	-.900
C014170	586500.	3380100.	30 71	-.80	3.8	-.800	.25	3200.000	-.8	10.000	260.000	-.90	-.900	-.900
C014171	586800.	3380600.	32 71	-.80	.2	-.800	-.90	30.000	-.8	-.900	20.000	-.90	-.900	-.900
C014172	586200.	3380600.	32 71	-.80	.2	-.800	-.90	90.000	-.8	5.000	105.000	-.90	-.900	5.000
C014173	586400.	3381200.	32 72	-.90	-.9	-.900	-.90	-.800	-.8	-.900	.016%	-.90	-.900	-.900
C014174	583900.	3378500.	34 71	-.80	990.0	-.800	.44	109000.000	-.8	115.000	1700.000	-.90	-.900	-.900
C014290	578250.	3386050.	32 72	5.01	-.8	.280	-.80	-.900	-.8	.002%	.230%	-.90	-.900	-.900
C014436	576200.	3387900.	34 72	3.52	-.8	1.140	-.80	17.000%	920.0	-.800	.175%	-.90	-.900	-.800
C014437	576100.	3388350.	34 72	3.04	-.8	.420	-.80	5.500%	100.0	-.800	.135%	-.90	-.900	-.800
C014457	593750.	3386500.	34 71	-.80	6.8	-.800	-.90	620.000	-.8	10.000	2750.000	-.90	-.900	-.900
C014458	593725.	3386225.	34 71	-.80	1.1	-.800	.03	2350.000	-.8	5.000	50.000	-.90	4.000	-.900
C014459	602100.	3391200.	34 71	-.80	-.9	-.800	.03	20.000	-.8	5.000	5.000	-.90	2.000	-.900
C014465	593700.	3386000.	34 71	-.80	5.7	-.800	-.90	1850.000	-.8	15.000	2900.000	-.90	-.900	-.900

TABLE AD-17

CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	PB (PPM)	SB (PPM)	SN (PPM)	W (PPM)	ZN (PPM)
C012715	-.900	-.800	-.900	3.0	.005%
C012743	-.900	-.800	-.900	22.0	.008%
C012744	-.900	-.800	-.900	5.0	.011%
C012745	-.900	-.800	-.900	4.0	.003%
C012746	-.900	-.800	-.900	4.0	.007%
C012747	-.900	-.800	-.900	7.0	.004%
C012748	-.900	-.800	-.900	9.0	-.900
C012749	-.900	-.800	-.900	6.0	.005%
C012750	-.900	-.800	-.900	65.0	.013%
C012751	-.900	-.800	-.900	48.0	.010%
C013761	.024%	-.800	-.900	3.0	.003%
C013762	-.900	-.800	-.900	4.0	.007%
C013763	-.900	-.800	-.900	3.0	.003%
C013764	40.000	-.800	-.900	4.0	120.000
C013765	-.900	-.800	11.000	16.0	155.000
C013766	15.000	-.800	-.900	15.0	10.000
C013767	-.900	-.800	-.900	3.0	55.000
C014009	.195%	-.800	-.900	8.0	.044%
C014010	.006%	-.800	28.000	3.0	.039%
C014011	.012%	-.800	-.900	-.9	-.900
C014012	.016%	-.800	-.900	7.0	.004%
C014013	5.000	-.800	-.900	19.0	90.000
C014154	10.000	-.800	-.900	3.0	205.000
C014155	30.000	-.800	-.900	5.0	460.000
C014156	5.000	-.800	-.900	5.0	160.000
C014157	.004%	-.800	-.900	-.9	.007%
C014158	.004%	-.800	-.900	3.0	.003%
C014159	-.900	-.800	-.900	6.0	-.900
C014160	-.900	-.800	-.900	4.0	50.000
C014168	.002%	-.800	6.000	4.0	.039%
C014169	.004%	-.800	7.000	8.0	.002%
C014170	10.000	-.800	4.000	4.0	60.000
C014171	5.000	-.800	-.900	6.0	60.000
C014172	5.000	-.800	-.900	5.0	60.000
C014173	.004%	-.800	-.900	5.0	.014%
C014174	5350.000	-.800	8.000	12.0	1600.000
C014290	.066%	.210%	11.000	-.9	.008%
C014436	.095%	.057%	-.800	-.9	.047%
C014437	.043%	.155%	-.800	3.0	.041%
C014457	10.000	-.800	3.000	14.0	105.000
C014458	20.000	-.800	-.900	5.0	5.000
C014459	-.900	-.800	-.900	4.0	30.000
C014465	5.000	-.800	3.000	3.0	80.000

TABLE AD-18
KANTISHNA HILLS SOIL SAMPLES
ANALYTICAL RESULTS

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B001006	354180.	3493450.	20 71	.5	-.90	25.0	-.9	-.8	45.0	-.9	-.8	45.0	9.0	-.8	-.8
B001007	354180.	3493450.	20 71	.8	-.90	85.0	2.0	-.8	185.0	-.9	-.8	405.0	75.0	-.8	-.8
B001008	354180.	3493450.	20 71	.4	-.90	70.0	1.0	-.8	175.0	-.9	-.8	215.0	38.0	-.8	-.8
B001009	351650.	3495000.	20 71	2.7	.12	3500.0	-.9	-.8	40.0	-.9	-.8	1900.0	110.0	-.8	-.8
B001010	375100.	3509700.	20 71	1.1	-.90	45.0	20.0	-.8	135.0	8.0	-.8	520.0	17.0	-.8	-.8
B001042	357500.	3484900.	20 71	.4	-.90	920.0	-.9	-.8	65.0	-.9	-.8	160.0	120.0	-.8	-.8
B001043	357900.	3484550.	20 71	.5	.02	285.0	-.9	-.8	40.0	-.9	-.8	870.0	175.0	-.8	-.8
B001044	354200.	3484000.	20 71	4.7	1.90	8550.0	-.9	-.8	90.0	-.9	-.8	115.0	165.0	-.8	-.8
B003501	419203.	3557745.	20 71	-.9	-.90	20.0	-.9	-.8	50.0	2.0	-.8	40.0	-.9	-.8	-.8
B003502	419149.	3557827.	20 71	-.9	-.90	10.0	-.9	-.8	30.0	2.0	-.8	35.0	-.9	-.8	-.8
B003503	419149.	3557910.	20 71	.2	-.90	30.0	1.0	-.8	55.0	2.0	-.8	65.0	-.9	-.8	-.8
B003504	418041.	3558993.	20 71	.2	-.90	35.0	2.0	-.8	75.0	2.0	-.8	95.0	-.9	-.8	-.8
B003505	418987.	3557075.	20 71	-.9	-.90	20.0	1.0	-.8	90.0	2.0	-.8	50.0	-.9	-.8	-.8
B003507	418413.	3556247.	20 71	.2	-.90	5.0	-.9	-.8	45.0	-.9	-.8	40.0	-.9	-.8	-.8
B003508	418467.	3556166.	20 71	.2	.02	15.0	-.9	-.8	30.0	-.9	-.8	45.0	-.9	-.8	-.8
B003509	418521.	3556085.	20 71	-.9	.19	65.0	-.9	-.8	30.0	-.9	-.8	30.0	12.0	-.8	-.8
B003510	418575.	3556005.	20 71	.2	-.90	5.0	-.9	10.0	20.0	-.9	25.0	25.0	4.0	-.9	95.0
B003511	418629.	3555924.	20 71	-.9	-.90	20.0	-.9	20.0	30.0	-.9	40.0	20.0	12.0	-.9	120.0
B003512	418684.	3555843.	20 71	-.9	-.90	15.0	-.9	-.8	25.0	-.9	-.8	35.0	26.0	-.8	-.8
B003513	418738.	3555762.	20 71	-.9	-.90	55.0	-.9	-.8	25.0	-.9	-.8	15.0	16.0	-.8	-.8
B003514	418742.	3556421.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	15.0	4.0	-.8	-.8
B003515	418798.	3556342.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	20.0	-.9	-.8	-.8
B003516	418854.	3556262.	20 71	-.9	.43	120.0	-.9	-.8	20.0	-.9	-.8	15.0	14.0	-.8	-.8
B003517	418910.	3556182.	20 71	-.9	-.90	10.0	-.9	15.0	30.0	-.9	35.0	35.0	8.0	-.9	105.0
B003518	418045.	3558024.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	25.0	-.9	-.8	-.8
B003519	417987.	3558103.	20 71	-.9	-.90	-.9	-.9	-.8	60.0	-.9	-.8	50.0	-.9	-.8	-.8
B003520	417930.	3558183.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	30.0	-.9	-.8	-.8
B003521	417873.	3558262.	20 71	-.9	-.90	15.0	-.9	-.8	55.0	-.9	-.8	35.0	-.9	-.8	-.8
B003522	417815.	3558341.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	55.0	-.9	-.8	-.8
B003523	417758.	3558420.	20 71	.4	-.90	15.0	-.9	-.8	45.0	-.9	-.8	40.0	-.9	-.8	-.8
B003524	418228.	3559233.	20 71	-.9	-.90	40.0	-.9	-.8	90.0	-.9	-.8	30.0	-.9	-.8	-.8
B003525	418174.	3559316.	20 71	-.9	-.90	20.0	1.0	-.8	65.0	-.9	-.8	30.0	4.0	-.8	-.8
B003526	418120.	3559398.	20 71	.4	-.90	25.0	-.9	-.8	60.0	-.9	-.8	25.0	-.9	-.8	-.8
B003527	418066.	3559481.	20 71	-.9	-.90	15.0	-.9	-.8	45.0	-.9	-.8	25.0	-.9	-.8	-.8
B003528	418012.	3559564.	20 71	-.9	-.90	15.0	-.9	-.8	80.0	-.9	-.8	55.0	2.0	-.8	-.8
B003529	417957.	3559646.	20 71	-.9	-.90	40.0	-.9	-.8	50.0	-.9	-.8	60.0	-.9	-.8	-.8
B003530	417903.	3559729.	20 71	-.9	-.90	5.0	-.9	-.8	85.0	-.9	-.8	20.0	-.9	-.8	-.8
B003531	417849.	3559812.	20 71	-.9	-.90	20.0	-.9	-.8	50.0	-.9	-.8	25.0	-.9	-.8	-.8
B003532	417795.	3559894.	20 71	.8	-.90	15.0	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B003533	417741.	3559977.	20 71	-.9	-.90	10.0	-.9	-.8	50.0	-.9	-.8	20.0	-.9	-.8	-.8
B003534	416896.	3559608.	20 71	-.9	-.90	15.0	-.9	-.8	60.0	-.9	-.8	70.0	4.0	-.8	-.8
B003535	416954.	3559529.	20 71	-.9	-.90	20.0	-.9	-.8	45.0	-.9	-.8	40.0	2.0	-.8	-.8
B003536	417011.	3559449.	20 71	-.9	-.90	15.0	-.9	-.8	50.0	-.9	-.8	35.0	4.0	-.8	-.8
B003537	417069.	3559370.	20 71	-.9	-.90	10.0	-.9	-.8	45.0	-.9	-.8	30.0	4.0	-.8	-.8
B003538	417126.	3559291.	20 71	-.9	-.90	30.0	-.9	-.8	35.0	-.9	-.8	25.0	6.0	-.8	-.8
B003539	417184.	3559212.	20 71	-.9	-.90	25.0	-.9	15.0	50.0	-.9	30.0	30.0	40.0	-.9	115.0
B003540	417241.	3559133.	20 71	1.5	-.90	10.0	-.9	-.9	70.0	-.9	30.0	30.0	2.0	-.9	95.0
B003541	417298.	3559054.	20 71	.4	-.90	20.0	-.9	-.9	105.0	-.9	-.8	30.0	-.9	-.8	-.8
B003542	417356.	3558974.	20 71	-.9	-.90	10.0	-.9	-.8	45.0	-.9	-.8	45.0	-.9	-.8	-.8
B003543	417413.	3558895.	20 71	.4	.44	10.0	-.9	-.8	75.0	-.9	-.8	65.0	-.9	-.8	-.8
B003544	417471.	3558816.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	50.0	-.9	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B001006	5.0	100.0
B001007	4.0	185.0
B001008	6.0	340.0
B001009	-.9	1000.0
B001010	4.0	95.0
B001042	5.0	160.0
B001043	3.0	3150.0
B001044	6.0	330.0
B003501	4.0	70.0
B003502	4.0	65.0
B003503	3.0	60.0
B003504	3.0	75.0
B003505	4.0	50.0
B003507	4.0	85.0
B003508	4.0	80.0
B003509	4.0	75.0
B003510	4.0	85.0
B003511	5.0	95.0
B003512	4.0	90.0
B003513	5.0	90.0
B003514	4.0	90.0
B003515	5.0	80.0
B003516	6.0	90.0
B003517	5.0	95.0
B003518	4.0	100.0
B003519	3.0	120.0
B003520	5.0	95.0
B003521	4.0	110.0
B003522	5.0	90.0
B003523	4.0	85.0
B003524	5.0	110.0
B003525	6.0	115.0
B003526	4.0	105.0
B003527	6.0	100.0
B003528	6.0	130.0
B003529	5.0	130.0
B003530	8.0	155.0
B003531	7.0	135.0
B003532	7.0	125.0
B003533	6.0	115.0
B003534	6.0	140.0
B003535	5.0	115.0
B003536	5.0	115.0
B003537	6.0	105.0
B003538	5.0	90.0
B003539	6.0	85.0
B003540	5.0	90.0
B003541	6.0	90.0
B003542	5.0	100.0
B003543	9.0	85.0
B003544	7.0	90.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B003545	417528.	3558737.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	40.0	-.9	-.8	-.8
B003547	417586.	3558658.	20 71	-.9	.32	-.9	-.9	-.8	25.0	-.9	-.8	30.0	-.9	-.8	-.8
B003548	417643.	3558578.	20 71	-.9	-.90	-.9	1.0	-.8	50.0	-.9	-.8	70.0	-.9	-.8	-.8
B003549	417700.	3558499.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	25.0	-.9	-.8	-.8
B003550	418106.	3558652.	20 71	-.9	-.90	5.0	-.9	30.0	35.0	-.9	60.0	25.0	-.9	-.9	105.0
B003551	418068.	3558692.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	65.0	4.0	-.8	-.8
B003553	418124.	3558612.	20 71	-.9	.03	-.9	-.9	30.0	60.0	-.9	90.0	15.0	4.0	-.9	105.0
B003554	418180.	3558531.	20 71	-.9	-.90	-.9	-.9	20.0	55.0	-.9	50.0	25.0	2.0	-.9	110.0
B003555	418237.	3558451.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	25.0	-.9	-.8	-.8
B003556	418293.	3558371.	20 71	-.9	-.90	-.9	-.9	-.8	60.0	-.9	-.8	45.0	-.9	-.8	-.8
B003557	418349.	3558290.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	25.0	-.9	-.8	-.8
B003558	418405.	3558210.	20 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	35.0	-.9	-.8	-.8
B003559	418461.	3558130.	20 71	-.9	-.90	10.0	-.9	-.8	45.0	-.9	-.8	20.0	-.9	-.8	-.8
B003560	418518.	3558050.	20 71	-.9	-.90	10.0	-.9	-.8	55.0	-.9	-.8	35.0	-.9	-.8	-.8
B003561	418574.	3557969.	20 71	-.9	-.90	5.0	-.9	-.8	60.0	-.9	-.8	25.0	-.9	-.8	-.8
B003562	418630.	3557889.	20 71	-.9	-.90	5.0	-.9	-.8	80.0	-.9	-.8	25.0	-.9	-.8	-.8
B003563	418686.	3557809.	20 71	.6	-.90	10.0	-.9	-.8	90.0	-.9	-.8	30.0	-.9	-.8	-.8
B003564	418742.	3557729.	20 71	-.9	-.90	-.9	-.9	-.8	65.0	-.9	-.8	30.0	-.9	-.8	-.8
B003565	418799.	3557648.	20 71	-.9	-.90	10.0	-.9	-.8	45.0	-.9	-.8	20.0	13.0	-.8	-.8
B003566	418855.	3557568.	20 71	-.9	-.90	150.0	-.9	-.8	85.0	-.9	-.8	50.0	2.0	-.8	-.8
B003567	418911.	3557488.	20 71	.4	-.90	15.0	-.9	-.8	40.0	-.9	-.8	20.0	-.9	-.8	-.8
B003568	418967.	3557407.	20 71	-.9	-.90	25.0	-.9	-.8	65.0	-.9	-.8	35.0	-.9	-.8	-.8
B003569	419024.	3557327.	20 71	-.9	-.90	30.0	-.9	-.8	50.0	-.9	-.8	30.0	4.0	-.8	-.8
B003570	419080.	3557247.	20 71	-.9	-.90	10.0	-.9	-.8	100.0	-.9	-.8	60.0	-.9	-.8	-.8
B003571	416786.	3558668.	20 71	-.9	-.90	20.0	-.9	-.8	55.0	-.9	-.8	30.0	-.9	-.8	-.8
B003572	416840.	3558588.	20 71	2.5	-.90	70.0	-.9	-.8	70.0	-.9	-.8	35.0	-.9	-.8	-.8
B003573	416895.	3558507.	20 71	-.9	-.90	-.9	-.9	-.8	90.0	-.9	-.8	25.0	-.9	-.8	-.8
B003574	416949.	3558426.	20 71	-.9	-.90	25.0	-.9	-.8	75.0	-.9	-.8	20.0	-.9	-.8	-.8
B003575	417003.	3558346.	20 71	-.9	.03	35.0	-.9	-.8	75.0	-.9	-.8	30.0	2.0	-.8	-.8
B003576	417057.	3558265.	20 71	-.9	-.90	15.0	-.9	-.8	85.0	-.9	-.8	40.0	-.9	-.8	-.8
B003577	417111.	3558184.	20 71	-.9	-.90	30.0	-.9	-.8	65.0	-.9	-.8	25.0	-.9	-.8	-.8
B003578	417166.	3558103.	20 71	.4	-.90	15.0	-.9	-.8	45.0	-.9	-.8	35.0	4.0	-.8	-.8
B003579	417220.	3558023.	20 71	-.9	-.90	5.0	-.9	-.8	55.0	-.9	-.8	30.0	-.9	-.8	-.8
B003580	417274.	3557942.	20 71	-.9	-.90	20.0	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B003581	417328.	3557861.	20 71	-.9	-.90	20.0	-.9	-.8	70.0	-.9	-.8	40.0	-.9	-.8	-.8
B003582	417382.	3557480.	20 71	.4	-.90	20.0	-.9	-.8	85.0	-.9	-.8	35.0	4.0	-.8	-.8
B003583	417432.	3557700.	20 71	-.9	-.90	20.0	-.9	-.8	90.0	-.9	-.8	30.0	-.9	-.8	-.8
B003584	417491.	3557619.	20 71	-.9	-.90	20.0	-.9	-.8	70.0	-.9	-.8	45.0	-.9	-.8	-.8
B003585	417545.	3557538.	20 71	-.9	-.90	10.0	-.9	-.8	50.0	-.9	-.8	25.0	-.9	-.8	-.8
B003586	417599.	3557458.	20 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	30.0	-.9	-.8	-.8
B003587	417654.	3557377.	20 71	-.9	-.90	15.0	-.9	20.0	50.0	-.9	65.0	20.0	-.9	-.9	105.0
B003588	417708.	3557296.	20 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	20.0	-.9	-.8	-.8
B003589	417762.	3557215.	20 71	-.9	-.90	5.0	-.9	15.0	45.0	-.9	40.0	25.0	-.9	-.9	100.0
B003590	417816.	3557135.	20 71	-.9	-.90	10.0	-.9	-.9	75.0	-.9	20.0	35.0	-.9	-.9	100.0
B003591	417870.	3557054.	20 71	-.9	-.90	5.0	-.9	-.8	90.0	-.9	-.8	30.0	-.9	-.8	-.8
B003592	417925.	3556973.	20 71	-.9	-.90	20.0	1.0	-.8	120.0	-.9	-.8	30.0	-.9	-.8	-.8
B003593	417979.	3556893.	20 71	-.9	.19	20.0	1.0	-.8	105.0	-.9	-.8	50.0	-.9	-.8	-.8
B003594	418033.	3556812.	20 71	-.9	-.90	10.0	-.9	-.8	75.0	-.9	-.8	30.0	-.9	-.8	-.8
B003595	418087.	3556731.	20 71	.4	-.90	15.0	-.9	-.8	60.0	-.9	-.8	25.0	-.9	-.8	-.8
B003596	418141.	3556650.	20 71	-.9	-.90	10.0	-.9	-.8	60.0	-.9	-.8	25.0	-.9	-.8	-.8
B003597	418196.	3556570.	20 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	20.0	-.9	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B003545	2.0	95.0
B003547	3.0	90.0
B003548	4.0	95.0
B003549	7.0	85.0
B003550	4.0	110.0
B003551	5.0	85.0
B003553	4.0	125.0
B003554	3.0	105.0
B003555	5.0	75.0
B003556	3.0	95.0
B003557	3.0	75.0
B003558	3.0	85.0
B003559	3.0	95.0
B003560	3.0	90.0
B003561	2.0	90.0
B003562	3.0	75.0
B003563	3.0	70.0
B003564	-.9	80.0
B003565	2.0	95.0
B003566	5.0	105.0
B003567	4.0	65.0
B003568	3.0	60.0
B003569	3.0	65.0
B003570	8.0	115.0
B003571	3.0	90.0
B003572	3.0	80.0
B003573	-.9	120.0
B003574	6.0	50.0
B003575	8.0	60.0
B003576	3.0	70.0
B003577	6.0	60.0
B003578	-.9	65.0
B003579	4.0	80.0
B003580	8.0	75.0
B003581	3.0	85.0
B003582	2.0	70.0
B003583	-.9	90.0
B003584	4.0	65.0
B003585	-.9	85.0
B003586	-.9	95.0
B003587	3.0	105.0
B003588	3.0	105.0
B003589	-.9	100.0
B003590	3.0	55.0
B003591	-.9	65.0
B003592	-.9	70.0
B003593	-.9	85.0
B003594	5.0	60.0
B003595	-.9	70.0
B003596	-.9	75.0
B003597	-.9	105.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B003598	418250.	3556489.	20 71	-.9	-.90	10.0	-.9	-.8	50.0	-.9	-.8	20.0	-.9	-.8	-.8
B003599	418304.	3556408.	20 71	-.9	-.90	15.0	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B003600	418358.	3556327.	20 71	-.9	.02	10.0	-.9	-.8	55.0	-.9	-.8	20.0	4.0	-.8	-.8
B003702	391150.	3512400.	20 71	.6	-.90	230.0	-.9	-.8	70.0	-.9	-.8	30.0	50.0	-.8	-.8
B003703	394650.	3511325.	20 71	.8	.03	135.0	4.0	-.8	65.0	-.9	-.8	240.0	8.0	-.8	-.8
B003704	394275.	3510425.	20 71	.8	.02	120.0	-.9	-.8	60.0	4.0	-.8	145.0	34.0	-.8	-.8
B003705	399775.	3518825.	20 71	.4	-.90	10.0	-.9	-.8	40.0	-.9	-.8	-.9	4.0	-.8	-.8
B003708	372225.	3496750.	20 71	2.7	.12	560.0	-.9	-.8	40.0	-.9	-.8	55.0	28.0	-.8	-.8
B003716	348637.	3488684.	20 71	5.2	.63	790.0	-.9	-.8	40.0	2.0	-.8	25.0	9.0	-.8	-.8
B003717	348581.	3488767.	20 71	3.8	.34	205.0	-.9	-.8	35.0	-.9	-.8	20.0	9.0	-.8	-.8
B003718	348525.	3488850.	20 71	1.2	.05	295.0	-.9	-.8	30.0	2.0	-.8	10.0	2.0	-.8	-.8
B003719	348918.	3488831.	20 71	.4	.10	570.0	-.9	-.8	35.0	2.0	-.8	25.0	4.0	-.8	-.8
B003720	348862.	3488914.	20 71	-.9	-.90	110.0	-.9	-.8	20.0	-.9	-.8	15.0	13.0	-.8	-.8
B003721	348800.	3488997.	20 71	-.9	.10	195.0	-.9	-.8	20.0	-.9	-.8	20.0	4.0	-.8	-.8
B003722	348750.	3489080.	20 71	.2	.04	130.0	-.9	-.8	40.0	-.9	-.8	10.0	7.0	-.8	-.8
B003723	348946.	3488790.	20 71	-.9	-.90	80.0	-.9	-.8	35.0	-.9	-.8	20.0	2.0	-.8	-.8
B003724	348974.	3488749.	20 71	1.0	.02	140.0	-.9	-.8	35.0	2.0	-.8	15.0	2.0	-.8	-.8
B003725	349002.	3488707.	20 71	.2	.09	90.0	-.9	-.8	35.0	2.0	-.8	15.0	4.0	-.8	-.8
B003726	349029.	3488666.	20 71	.4	.18	485.0	-.9	-.8	30.0	2.0	-.8	25.0	4.0	-.8	-.8
B003727	349057.	3488624.	20 71	.8	.08	230.0	-.9	-.8	30.0	2.0	-.8	20.0	4.0	-.8	-.8
B003728	349085.	3488583.	20 71	.2	.09	310.0	-.9	-.8	25.0	-.9	-.8	20.0	24.0	-.8	-.8
B003729	349113.	3488542.	20 71	.2	.13	365.0	-.9	-.8	35.0	-.9	-.8	20.0	22.0	-.8	-.8
B003730	349141.	3488500.	20 71	-.9	.05	165.0	-.9	-.8	25.0	-.9	-.8	15.0	14.0	-.8	-.8
B003731	349168.	3488459.	20 71	-.9	.08	75.0	-.9	-.8	25.0	2.0	-.8	20.0	6.0	-.8	-.8
B003732	349197.	3488417.	20 71	.2	-.90	30.0	-.9	-.8	15.0	2.0	-.8	10.0	-.9	-.8	-.8
B003733	349225.	3488376.	20 71	-.9	-.90	175.0	-.9	-.8	25.0	-.9	-.8	10.0	4.0	-.8	-.8
B003734	349253.	3488335.	20 71	-.9	.03	95.0	-.9	-.8	25.0	2.0	-.8	15.0	2.0	-.8	-.8
B003735	349309.	3488252.	20 71	-.9	.08	180.0	-.9	-.8	25.0	-.9	-.8	45.0	2.0	-.8	-.8
B003736	349364.	3488169.	20 71	.8	.05	120.0	-.9	-.8	30.0	-.9	-.8	50.0	8.0	-.8	-.8
B003737	349420.	3488086.	20 71	.4	-.90	70.0	-.9	-.8	20.0	2.0	-.8	35.0	4.0	-.8	-.8
B003738	349870.	3488539.	20 71	.4	.04	110.0	-.9	-.8	30.0	-.9	-.8	10.0	8.0	-.8	-.8
B003739	349814.	3488566.	20 71	1.0	.03	35.0	-.9	-.8	50.0	-.9	-.8	25.0	6.0	-.8	-.8
B003740	349758.	3488589.	20 71	.2	-.90	20.0	-.9	-.8	65.0	-.9	-.8	15.0	4.0	-.8	-.8
B003741	349703.	3488672.	20 71	.6	.02	25.0	-.9	-.8	75.0	-.9	-.8	5.0	8.0	-.8	-.8
B003742	349675.	3488713.	20 71	-.9	.31	40.0	-.9	-.8	60.0	-.9	-.8	5.0	9.0	-.8	-.8
B003743	349647.	3488754.	20 71	.2	.06	25.0	-.9	-.8	60.0	-.9	-.8	15.0	6.0	-.8	-.8
B003744	349619.	3488796.	20 71	.2	-.90	50.0	-.9	35.0	50.0	-.9	-.9	20.0	6.0	-.9	155.0
B003745	349591.	3488837.	20 71	-.9	.69	45.0	-.9	-.8	40.0	-.9	-.8	15.0	6.0	-.8	-.8
B003746	349563.	3488879.	20 71	.2	.08	50.0	-.9	-.8	45.0	-.9	-.8	20.0	6.0	-.8	-.8
B003747	349535.	3488920.	20 71	.8	-.90	60.0	-.9	-.8	35.0	-.9	-.8	30.0	2.0	-.8	-.8
B003748	349507.	3488961.	20 71	-.9	-.90	10.0	-.9	-.8	15.0	-.9	-.8	-.9	-.9	-.8	-.8
B003749	349479.	3489003.	20 71	-.9	.06	45.0	-.9	-.8	20.0	-.9	-.8	25.0	6.0	-.8	-.8
B003750	349451.	3489044.	20 71	-.9	.09	40.0	-.9	-.8	20.0	-.9	-.8	10.0	2.0	-.8	-.8
B003751	349423.	3489086.	20 71	1.0	.05	30.0	-.9	-.8	20.0	-.9	-.8	15.0	2.0	-.8	-.8
B003752	349396.	3489127.	20 71	.2	.34	385.0	-.9	-.8	25.0	-.9	-.8	15.0	6.0	-.8	-.8
B003753	349368.	3489168.	20 71	.6	.80	115.0	-.9	-.8	55.0	2.0	-.8	20.0	6.0	-.8	-.8
B003754	349312.	3489251.	20 71	1.7	.09	405.0	-.9	-.8	50.0	2.0	-.8	25.0	6.0	-.8	-.8
B003755	349256.	3489334.	20 71	.2	-.90	175.0	-.9	-.8	25.0	2.0	-.8	15.0	4.0	-.8	-.8
B003756	349200.	3489500.	20 71	1.0	.03	1850.0	-.9	-.8	55.0	-.9	-.8	40.0	7.0	-.8	-.8
B003757	419366.	3557497.	20 71	-.9	-.90	10.0	-.9	-.8	50.0	-.9	-.8	20.0	-.9	-.8	-.8
B003758	419179.	3557414.	20 71	-.9	-.90	10.0	-.9	-.8	40.0	-.9	-.8	20.0	14.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B003598	-.9	100.0
B003599	-.9	105.0
B003600	2.0	90.0
B003702	5.0	180.0
B003703	3.0	360.0
B003704	4.0	275.0
B003705	2.0	30.0
B003709	8.0	180.0
B003716	5.0	100.0
B003717	6.0	75.0
B003718	4.0	75.0
B003719	6.0	90.0
B003720	5.0	50.0
B003721	6.0	55.0
B003722	5.0	75.0
B003723	6.0	85.0
B003724	5.0	85.0
B003725	5.0	90.0
B003726	6.0	80.0
B003727	6.0	85.0
B003728	5.0	80.0
B003729	5.0	100.0
B003730	4.0	70.0
B003731	4.0	70.0
B003732	4.0	30.0
B003733	4.0	80.0
B003734	6.0	55.0
B003735	5.0	60.0
B003736	5.0	125.0
B003737	4.0	90.0
B003738	5.0	90.0
B003739	5.0	110.0
B003740	6.0	135.0
B003741	5.0	110.0
B003742	4.0	105.0
B003743	4.0	135.0
B003744	4.0	140.0
B003745	5.0	105.0
B003746	7.0	155.0
B003747	5.0	60.0
B003748	5.0	30.0
B003749	7.0	120.0
B003750	6.0	65.0
B003751	5.0	45.0
B003752	7.0	75.0
B003753	5.0	175.0
B003754	6.0	135.0
B003755	4.0	55.0
B003756	4.0	120.0
B003757	5.0	75.0
B003758	3.0	80.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B003759	419474.	3557331.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	20.0	10.0	-.8	-.8
B003760	419528.	3557249.	20 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	20.0	20.0	-.8	-.8
B003761	419582.	3557166.	20 71	-.9	-.90	10.0	-.9	-.8	40.0	-.9	-.8	25.0	36.0	-.8	-.8
B003762	419637.	3557083.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	25.0	4.0	-.8	-.8
B003763	418987.	3558075.	20 71	.2	-.90	-.9	-.9	-.8	70.0	-.9	-.8	40.0	4.0	-.8	-.8
B003764	418932.	3558158.	20 71	-.9	.03	5.0	-.9	-.8	50.0	-.9	-.8	35.0	6.0	-.8	-.8
B003765	418878.	3558241.	20 71	.2	.08	10.0	-.9	-.8	70.0	-.9	-.8	40.0	-.9	-.8	-.8
B003766	418824.	3558323.	20 71	-.9	.03	10.0	-.9	-.8	50.0	-.9	-.8	30.0	-.9	-.8	-.8
B003767	418770.	3558406.	20 71	-.9	-.90	-.9	-.9	-.8	75.0	-.9	-.8	30.0	-.9	-.8	-.8
B003768	418716.	3558489.	20 71	-.9	-.90	5.0	-.9	-.8	45.0	-.9	-.8	65.0	-.9	-.8	-.8
B003769	418662.	3558872.	20 71	-.9	-.90	-.9	-.9	-.8	60.0	-.9	-.8	20.0	-.9	-.8	-.8
B003770	418607.	3558654.	20 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	40.0	-.9	-.8	-.8
B003771	418553.	3558737.	20 71	-.9	-.90	5.0	-.9	-.8	45.0	-.9	-.8	50.0	-.9	-.8	-.8
B003772	418499.	3558820.	20 71	-.9	.06	-.9	-.9	-.8	25.0	-.9	-.8	25.0	-.9	-.8	-.8
B003773	418445.	3558902.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	30.0	-.9	-.8	-.8
B003774	418391.	3558985.	20 71	-.9	-.90	-.9	-.9	-.8	45.0	-.9	-.8	35.0	-.9	-.8	-.8
B003775	418337.	3559068.	20 71	-.9	-.90	10.0	-.9	-.8	70.0	-.9	-.8	25.0	-.9	-.8	-.8
B003776	418282.	3559150.	20 71	-.9	-.90	5.0	-.9	-.8	45.0	-.9	-.8	25.0	-.9	-.8	-.8
B003777	419136.	3557167.	20 71	-.9	-.90	-.9	-.9	-.8	10.0	-.9	-.8	15.0	4.0	-.8	-.8
B003778	419192.	3557086.	20 71	-.9	-.90	-.9	-.9	-.8	45.0	-.9	-.8	30.0	17.0	-.8	-.8
B003779	419248.	3557006.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	25.0	15.0	-.8	-.8
B003780	419305.	3556926.	20 71	-.9	.20	5.0	-.9	-.8	30.0	-.9	-.8	20.0	13.0	-.8	-.8
B003781	418900.	3556837.	20 71	-.9	-.90	-.9	-.9	10.0	30.0	-.9	40.0	20.0	6.0	-.9	75.0
B003782	418964.	3556757.	20 71	-.9	-.90	-.9	-.9	-.8	55.0	-.9	-.8	25.0	15.0	-.8	-.8
B003783	419021.	3556678.	20 71	-.9	-.90	-.9	-.9	-.8	55.0	-.9	-.8	55.0	6.0	-.8	-.8
B003784	419079.	3556599.	20 71	.2	-.90	-.9	-.9	-.8	30.0	-.9	-.8	10.0	2.0	-.8	-.8
B003785	419136.	3556520.	20 71	-.9	-.90	5.0	-.9	-.8	35.0	-.9	-.8	15.0	14.0	-.8	-.8
B003786	419193.	3556441.	20 71	-.9	-.90	10.0	-.9	-.8	30.0	-.9	-.8	15.0	9.0	-.8	-.8
B003787	418849.	3556916.	20 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	35.0	2.0	-.8	-.8
B003788	418791.	3556995.	20 71	.2	-.90	10.0	-.9	-.8	60.0	-.9	-.8	30.0	-.9	-.8	-.8
B003789	418734.	3557074.	20 71	-.9	-.90	-.9	-.9	-.8	55.0	-.9	-.8	30.0	-.9	-.8	-.8
B003790	418677.	3557153.	20 71	-.9	-.90	5.0	-.9	25.0	55.0	-.9	45.0	30.0	-.9	-.9	115.0
B003791	418619.	3557232.	20 71	.2	-.90	10.0	-.9	-.8	40.0	-.9	-.8	25.0	-.9	-.8	-.8
B003792	418562.	3557312.	20 71	.2	-.90	-.9	-.9	-.8	35.0	-.9	-.8	15.0	-.9	-.8	-.8
B003793	418504.	3557391.	20 71	-.9	-.90	-.9	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B003794	418447.	3557470.	20 71	.2	-.90	-.9	-.9	-.8	40.0	-.9	-.8	20.0	-.9	-.8	-.8
B003795	418389.	3557249.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	10.0	-.9	-.8	-.8
B003796	418332.	3557628.	20 71	.2	-.90	-.9	-.9	-.8	90.0	-.9	-.8	25.0	-.9	-.8	-.8
B003797	418275.	3557708.	20 71	-.9	-.90	-.9	-.9	20.0	50.0	-.9	70.0	20.0	-.9	-.9	115.0
B003798	418217.	3557787.	20 71	.4	-.90	15.0	-.9	-.8	50.0	-.9	-.8	25.0	-.9	-.8	-.8
B003799	418160.	3557866.	20 71	.2	.12	-.9	-.9	-.8	35.0	-.9	-.8	35.0	-.9	-.8	-.8
B003800	418102.	3557945.	20 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	25.0	-.9	-.8	-.8
B003801	354527.	3493033.	20 71	.2	-.90	35.0	-.9	-.8	40.0	-.9	-.8	80.0	20.0	-.8	-.8
B003803	354641.	3492853.	20 71	-.9	-.90	10.0	-.9	-.8	50.0	-.9	-.8	20.0	16.0	-.8	-.8
B003804	354676.	3492764.	20 71	.2	-.90	-.9	-.9	-.8	70.0	2.0	-.8	10.0	-.9	-.8	-.8
B003806	354745.	3492585.	20 71	-.9	-.90	-.9	-.9	-.8	20.0	-.9	-.8	15.0	-.9	-.8	-.8
B003807	354780.	3492495.	20 71	.8	-.90	15.0	-.9	-.8	20.0	2.0	-.8	20.0	-.9	-.8	-.8
B003808	354814.	3492405.	20 71	.2	-.90	-.9	-.9	-.8	40.0	-.9	-.8	15.0	-.9	-.8	-.8
B003809	354849.	3492316.	20 71	7.7	.11	1900.0	-.9	20.0	55.0	2.0	20.0	530.0	65.0	-.9	100.0
B003810	354884.	3492226.	20 71	-.9	.03	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
B003811	354918.	3492137.	20 71	34.0	4.30	2350.0	-.9	-.8	90.0	2.0	-.8	1350.0	75.0	-.8	-.8

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B003759	-.9	85.0
B003760	-.9	85.0
B003761	3.0	90.0
B003762	-.9	95.0
B003763	-.9	55.0
B003764	7.0	90.0
B003765	-.9	85.0
B003766	-.9	100.0
B003767	-.9	85.0
B003768	-.9	80.0
B003769	-.9	135.0
B003770	-.9	80.0
B003771	4.0	125.0
B003772	-.9	55.0
B003773	-.9	85.0
B003774	-.9	110.0
B003775	-.9	100.0
B003776	-.9	100.0
B003777	-.9	55.0
B003778	8.0	95.0
B003779	4.0	90.0
B003780	-.9	80.0
B003781	-.9	85.0
B003782	3.0	95.0
B003783	-.9	100.0
B003784	-.9	45.0
B003785	6.0	90.0
B003786	-.9	85.0
B003787	-.9	55.0
B003788	-.9	90.0
B003789	-.9	90.0
B003790	-.9	95.0
B003791	-.9	80.0
B003792	-.9	80.0
B003793	3.0	90.0
B003794	4.0	60.0
B003795	3.0	80.0
B003796	-.9	135.0
B003797	-.9	120.0
B003798	-.9	75.0
B003799	-.9	90.0
B003800	-.9	80.0
B003801	4.0	195.0
B003803	3.0	150.0
B003804	-.9	95.0
B003806	4.0	85.0
B003807	5.0	85.0
B003808	4.0	110.0
B003809	-.9	2250.0
B003810	3.0	-.9
B003811	12.0	425.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B003812	354953.	3492047.	20 71	.7	.03	290.0	-.9	-.8	40.0	-.9	-.8	35.0	2.0	-.8	-.8
B003813	354987.	3491957.	20 71	.2	-.90	60.0	-.9	-.8	10.0	2.0	-.8	20.0	-.9	-.8	-.8
B003814	355022.	3491868.	20 71	.4	-.90	190.0	-.9	-.8	65.0	2.0	-.8	30.0	-.9	-.8	-.8
B003815	355057.	3491778.	20 71	.2	-.90	245.0	-.9	-.8	15.0	-.9	-.8	30.0	-.9	-.8	-.8
B003816	355091.	3491689.	20 71	4.2	.16	950.0	-.9	-.8	35.0	2.0	-.8	375.0	9.0	-.8	-.8
B003817	355126.	3491599.	20 71	1.6	-.90	125.0	-.9	-.8	30.0	-.9	-.8	125.0	-.9	-.8	-.8
B003818	355160.	3491509.	20 71	1.2	.02	120.0	-.9	-.8	25.0	-.9	-.8	110.0	-.9	-.8	-.8
B003819	355195.	3491420.	20 71	1.3	.04	180.0	-.9	-.8	30.0	2.0	-.8	140.0	-.9	-.8	-.8
B003820	355230.	3491330.	20 71	3.9	-.90	385.0	-.9	5.0	120.0	-.9	10.0	375.0	9.0	-.9	80.0
B003821	355264.	3491240.	20 71	14.0	.17	860.0	-.9	15.0	105.0	2.0	35.0	2050.0	20.0	-.9	155.0
B003822	355300.	3491151.	20 71	4.4	.05	410.0	1.0	-.8	50.0	-.9	-.8	670.0	4.0	-.8	-.8
B003823	355333.	3491061.	20 71	2.4	-.90	260.0	-.9	10.0	25.0	2.0	15.0	380.0	6.0	-.9	110.0
B003824	332210.	3469800.	20 71	.4	.02	30.0	-.9	-.8	155.0	70.0	-.8	10.0	-.9	-.8	-.8
B003825	336500.	3481650.	20 71	1.2	.09	2700.0	-.9	-.8	100.0	-.9	-.8	20.0	130.0	-.8	-.8
B003826	336500.	3476150.	20 71	5.5	.06	770.0	-.9	-.8	40.0	2.0	-.8	105.0	750.0	-.8	-.8
B003827	338250.	3477900.	20 71	1.0	.04	190.0	-.9	-.8	30.0	2.0	-.8	175.0	38.0	-.8	-.8
B003828	342500.	3477100.	20 71	.4	-.90	160.0	-.9	-.8	35.0	-.9	-.8	35.0	245.0	-.8	-.8
B003841	355368.	3490972.	20 71	1.9	-.90	315.0	-.9	10.0	25.0	-.9	10.0	365.0	7.0	-.9	105.0
B003842	355403.	3490882.	20 71	3.1	.08	550.0	-.9	-.9	30.0	-.9	10.0	390.0	9.0	-.9	85.0
B003843	355437.	3490793.	20 71	3.1	.03	315.0	-.9	-.8	30.0	2.0	-.8	320.0	6.0	-.8	-.8
B003844	355472.	3490703.	20 71	8.1	.06	690.0	-.9	10.0	40.0	2.0	15.0	700.0	19.0	-.9	75.0
B003845	355506.	3490613.	20 71	2.6	.06	215.0	-.9	-.8	15.0	-.9	-.8	155.0	6.0	-.8	-.8
B003846	355541.	3490524.	20 71	2.7	.04	80.0	-.9	-.8	15.0	2.0	-.8	130.0	22.0	-.8	-.8
B003847	355576.	3490434.	20 71	3.5	.04	560.0	-.9	-.8	20.0	2.0	-.8	390.0	10.0	-.8	-.8
B003848	355610.	3490345.	20 71	10.0	.12	1050.0	-.9	-.8	35.0	2.0	-.8	860.0	18.0	-.8	-.8
B003849	355645.	3490255.	20 71	12.0	.16	580.0	-.9	5.0	35.0	-.9	10.0	1450.0	26.0	-.9	80.0
B003850	355679.	3490165.	20 71	3.3	-.90	570.0	-.9	5.0	30.0	2.0	10.0	290.0	6.0	-.9	80.0
B003851	355714.	3490076.	20 71	1.7	-.90	250.0	-.9	-.8	20.0	2.0	-.8	90.0	2.0	-.8	-.8
B003852	355649.	3489986.	20 71	.4	-.90	295.0	-.9	-.8	20.0	-.9	-.8	40.0	-.9	-.8	-.8
B003853	355783.	3489897.	20 71	.4	.05	150.0	-.9	-.8	20.0	-.9	-.8	20.0	-.9	-.8	-.8
B003854	355818.	3489807.	20 71	.4	-.90	365.0	-.9	-.8	15.0	2.0	-.8	30.0	-.9	-.8	-.8
B003855	355852.	3489717.	20 71	1.0	-.90	230.0	-.9	-.8	30.0	-.9	-.8	65.0	-.9	-.8	-.8
B003856	355887.	3489628.	20 71	.4	-.90	170.0	-.9	-.8	15.0	-.9	-.8	30.0	4.0	-.8	-.8
B003857	355922.	3489538.	20 71	.4	-.90	310.0	-.9	-.8	20.0	2.0	-.8	40.0	2.0	-.8	-.8
B003858	355956.	3489449.	20 71	.4	-.90	380.0	-.9	-.8	15.0	-.9	-.8	40.0	-.9	-.8	-.8
B003859	355928.	3491693.	20 71	.6	-.90	115.0	-.9	-.8	40.0	2.0	-.8	55.0	4.0	-.8	-.8
B003860	355961.	3491605.	20 71	1.4	.03	135.0	-.9	-.8	25.0	2.0	-.8	95.0	4.0	-.8	-.8
B003861	355994.	3491517.	20 71	4.0	.14	300.0	-.9	-.8	35.0	-.9	-.8	280.0	8.0	-.8	-.8
B003862	356027.	3491429.	20 71	16.0	.26	1550.0	-.9	15.0	80.0	2.0	25.0	1300.0	44.0	-.9	105.0
B003863	356060.	3491341.	20 71	9.1	.18	1250.0	-.9	-.8	50.0	-.9	-.8	600.0	20.0	-.8	-.8
B003864	355669.	3491201.	20 71	10.0	.13	670.0	-.9	5.0	30.0	-.9	10.0	910.0	18.0	-.9	100.0
B003865	355634.	3491290.	20 71	7.6	.11	470.0	-.9	-.8	50.0	-.9	-.8	800.0	24.0	-.8	-.8
B003866	355600.	3491379.	20 71	19.0	.32	1450.0	-.9	-.8	90.0	-.9	-.8	3200.0	70.0	-.8	-.8
B003867	355565.	3491468.	20 71	2.3	.03	305.0	-.9	10.0	35.0	2.0	15.0	235.0	5.0	-.9	90.0
B003868	355530.	3491557.	20 71	1.6	.04	150.0	-.9	-.8	30.0	2.0	-.8	215.0	2.0	-.8	-.8
B003869	355460.	3491734.	20 71	1.1	-.90	100.0	-.9	-.8	40.0	-.9	-.8	75.0	6.0	-.8	-.8
B003872	345307.	3490222.	20 71	1.8	-.90	510.0	1.0	-.8	45.0	-.9	-.8	265.0	75.0	-.8	-.8
B003873	345252.	3490803.	20 71	-.9	-.90	20.0	-.9	-.8	45.0	-.9	-.8	20.0	7.0	-.8	-.8
B003874	345196.	3490884.	20 71	-.9	-.90	25.0	-.9	-.8	35.0	-.9	-.8	20.0	9.0	-.8	-.8
B003875	348693.	3488601.	20 71	.4	.03	140.0	-.9	-.8	25.0	-.9	-.8	15.0	4.0	-.8	-.8
B003876	348721.	3488569.	20 71	38.0	.64	8850.0	-.9	10.0	70.0	-.9	-.9	1750.0	32.0	-.9	45.0

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B003812	3.0	85.0
B003813	3.0	40.0
B003814	-.9	70.0
B003815	4.0	65.0
B003816	3.0	115.0
B003817	3.0	80.0
B003818	3.0	80.0
B003819	5.0	110.0
B003820	3.0	700.0
B003821	4.0	3000.0
B003822	3.0	900.0
B003823	4.0	700.0
B003824	9.0	20.0
B003825	3.0	400.0
B003826	3.0	125.0
B003827	6.0	850.0
B003828	5.0	165.0
B003841	4.0	420.0
B003842	3.0	345.0
B003843	3.0	200.0
B003844	3.0	680.0
B003845	4.0	70.0
B003846	4.0	45.0
B003847	3.0	135.0
B003848	3.0	185.0
B003849	3.0	325.0
B003850	5.0	155.0
B003851	5.0	90.0
B003852	3.0	95.0
B003853	3.0	70.0
B003854	3.0	70.0
B003855	5.0	125.0
B003856	4.0	65.0
B003857	4.0	115.0
B003858	4.0	95.0
B003859	4.0	115.0
B003860	3.0	105.0
B003861	3.0	145.0
B003862	4.0	670.0
B003863	5.0	510.0
B003864	3.0	230.0
B003865	4.0	395.0
B003866	3.0	1650.0
B003867	5.0	425.0
B003868	4.0	95.0
B003869	3.0	125.0
B003872	7.0	235.0
B003873	3.0	90.0
B003874	3.0	95.0
B003875	5.0	60.0
B003876	5.0	85.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B003877	348749.	3488519.	20 71	.4	.18	510.0	-.9	-.8	20.0	-.9	-.8	30.0	4.0	-.8	-.8
B003878	348777.	3488477.	20 71	1.0	.27	360.0	-.9	-.8	15.0	-.9	-.8	30.0	2.0	-.8	-.8
B003879	348804.	3488436.	20 71	2.3	.11	170.0	-.9	-.8	30.0	-.9	-.8	75.0	8.0	-.8	-.8
B003880	348832.	3488394.	20 71	.6	.11	190.0	-.9	-.8	20.0	-.9	-.8	20.0	15.0	-.8	-.8
B003881	348860.	3488353.	20 71	.4	.14	55.0	-.9	-.8	15.0	-.9	-.8	15.0	-.9	-.8	-.8
B003882	348888.	3488311.	20 71	.4	.16	35.0	-.9	-.8	15.0	-.9	-.8	10.0	2.0	-.8	-.8
B003883	348916.	3488270.	20 71	.4	.30	55.0	1.0	-.8	25.0	-.9	-.8	20.0	2.0	-.8	-.8
B003884	348944.	3488229.	20 71	.4	.06	55.0	-.9	-.8	20.0	2.0	-.8	15.0	2.0	-.8	-.8
B003885	348972.	3488187.	20 71	.6	.15	255.0	-.9	-.8	35.0	-.9	-.8	20.0	6.0	-.8	-.8
B003886	348999.	3488146.	20 71	.6	.12	280.0	-.9	-.8	35.0	2.0	-.8	25.0	6.0	-.8	-.8
B003887	349028.	3488105.	20 71	1.0	.25	205.0	-.9	-.8	30.0	2.0	-.8	10.0	2.0	-.8	-.8
B003888	349083.	3488022.	20 71	.4	.10	65.0	-.9	-.8	30.0	-.9	-.8	15.0	2.0	-.8	-.8
B003889	349139.	3487939.	20 71	-.9	.05	80.0	-.9	-.8	25.0	-.9	-.8	20.0	-.9	-.8	-.8
B003890	349195.	3487856.	20 71	.8	.07	310.0	-.9	-.8	50.0	-.9	-.8	85.0	10.0	-.8	-.8
B003891	348895.	3487656.	20 71	.4	.50	190.0	-.9	-.8	30.0	2.0	-.8	15.0	2.0	-.8	-.8
B003892	348839.	3487739.	20 71	.6	.04	130.0	-.9	-.8	25.0	-.9	-.8	20.0	2.0	-.8	-.8
B003893	348784.	3487822.	20 71	.6	.12	145.0	-.9	-.8	35.0	-.9	-.8	20.0	2.0	-.8	-.8
B003894	348728.	3487905.	20 71	.8	.14	175.0	-.9	-.8	35.0	2.0	-.8	20.0	2.0	-.8	-.8
B003895	348700.	3487946.	20 71	.6	.06	145.0	-.9	-.8	45.0	2.0	-.8	20.0	4.0	-.8	-.8
B003896	348672.	3487987.	20 71	.4	.13	140.0	-.9	-.8	30.0	2.0	-.8	20.0	2.0	-.8	-.8
B003897	348644.	3488029.	20 71	.6	1.30	115.0	-.9	-.8	20.0	2.0	-.8	10.0	2.0	-.8	-.8
B003898	348616.	3488070.	20 71	2.3	.15	215.0	3.0	-.8	35.0	2.0	-.8	35.0	4.0	-.8	-.8
B003899	348588.	3488112.	20 71	1.7	.06	155.0	-.9	-.8	25.0	-.9	-.8	15.0	2.0	-.8	-.8
B003900	348559.	3488153.	20 71	1.5	.06	280.0	-.9	-.8	30.0	2.0	-.8	35.0	4.0	-.8	-.8
B004101	417100.	3558950.	20 71	-.9	-.90	-.9	-.9	-.8	15.0	-.9	-.8	40.0	-.9	-.8	-.8
B004102	425400.	3542500.	20 71	-.9	-.90	45.0	-.9	-.8	85.0	-.9	-.8	20.0	30.0	-.8	-.8
B004110	418687.	3556501.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	30.0	10.0	-.8	-.8
B004111	418687.	3556501.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	25.0	8.0	-.8	-.8
B004112	418631.	3556581.	20 71	-.9	-.90	10.0	-.9	-.8	35.0	-.9	-.8	35.0	-.9	-.8	-.8
B004113	418575.	3556661.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	25.0	-.9	-.8	-.8
B004114	418519.	3556741.	20 71	-.9	-.90	-.9	-.9	20.0	45.0	-.9	45.0	45.0	-.9	-.9	120.0
B004115	418463.	3556821.	20 71	-.9	-.90	-.9	-.9	-.8	45.0	-.9	-.8	20.0	-.9	-.8	-.8
B004116	418407.	3556901.	20 71	-.9	-.90	-.9	-.9	-.8	50.0	-.9	-.8	35.0	-.9	-.8	-.8
B004117	418351.	3556981.	20 71	-.9	-.90	-.9	-.9	-.8	85.0	-.9	-.8	25.0	-.9	-.8	-.8
B004118	418295.	3557060.	20 71	-.9	.10	-.9	-.9	-.8	35.0	-.9	-.8	35.0	-.9	-.8	-.8
B004119	418239.	3557140.	20 71	.2	-.90	-.9	-.9	-.8	30.0	-.9	-.8	35.0	-.9	-.8	-.8
B004120	418183.	3557220.	20 71	-.9	-.90	-.9	-.9	-.8	75.0	-.9	-.8	30.0	-.9	-.8	-.8
B004121	418127.	3557300.	20 71	.2	-.90	-.9	-.9	-.8	125.0	-.9	-.8	45.0	-.9	-.8	-.8
B004122	418071.	3557380.	20 71	-.9	-.90	-.9	-.9	-.8	90.0	-.9	-.8	40.0	-.9	-.8	-.8
B004123	418015.	3557460.	20 71	-.9	-.90	-.9	-.9	-.8	45.0	-.9	-.8	40.0	-.9	-.8	-.8
B004124	417960.	3557540.	20 71	-.9	-.90	-.9	-.9	-.8	60.0	-.9	-.8	35.0	-.9	-.8	-.8
B004125	417904.	3557619.	20 71	.2	-.90	-.9	-.9	-.8	50.0	-.9	-.8	35.0	-.9	-.8	-.8
B004126	417848.	3557699.	20 71	.4	-.90	5.0	-.9	-.8	55.0	-.9	-.8	35.0	-.9	-.8	-.8
B004127	417792.	3557779.	20 71	-.9	-.90	40.0	-.9	-.8	35.0	-.9	-.8	15.0	4.0	-.8	-.8
B004128	417736.	3557859.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	25.0	-.9	-.8	-.8
B004129	417680.	3557939.	20 71	-.9	-.90	15.0	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B004130	417624.	3558019.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	45.0	-.9	-.8	-.8
B004131	417568.	3558099.	20 71	-.9	-.90	15.0	-.9	-.8	35.0	-.9	-.8	25.0	-.9	-.8	-.8
B004132	417512.	3558179.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	25.0	-.9	-.8	-.8
B004133	417456.	3558258.	20 71	-.9	-.90	-.9	-.9	-.8	80.0	-.9	-.8	25.0	-.9	-.8	-.8
B004134	417400.	3558338.	20 71	-.9	-.90	10.0	-.9	-.8	60.0	-.9	-.8	45.0	-.9	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B003877	5.0	45.0
B003878	4.0	35.0
B003879	7.0	85.0
B003880	7.0	50.0
B003881	4.0	75.0
B003882	5.0	40.0
B003883	4.0	55.0
B003884	5.0	40.0
B003885	6.0	70.0
B003886	4.0	90.0
B003887	6.0	50.0
B003888	5.0	70.0
B003889	6.0	80.0
B003890	7.0	150.0
B003891	4.0	55.0
B003892	3.0	55.0
B003893	4.0	75.0
B003894	9.0	80.0
B003895	4.0	95.0
B003896	4.0	60.0
B003897	5.0	50.0
B003898	4.0	75.0
B003899	4.0	35.0
B003900	5.0	80.0
B004101	-.9	45.0
B004102	4.0	105.0
B004110	-.9	90.0
B004111	3.0	95.0
B004112	-.9	85.0
B004113	-.9	100.0
B004114	-.9	95.0
B004115	-.9	85.0
B004116	-.9	105.0
B004117	3.0	75.0
B004118	-.9	95.0
B004119	4.0	55.0
B004120	-.9	75.0
B004121	-.9	85.0
B004122	-.9	85.0
B004123	-.9	90.0
B004124	3.0	85.0
B004125	-.9	90.0
B004126	-.9	90.0
B004127	4.0	70.0
B004128	-.9	85.0
B004129	-.9	85.0
B004130	-.9	85.0
B004131	-.9	65.0
B004132	-.9	80.0
B004133	-.9	80.0
B004134	-.9	70.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004135	417344.	3558418.	20 71	.2	-.90	15.0	-.9	-.8	40.0	2.0	-.8	45.0	4.0	-.8	-.8
B004136	417288.	3558498.	20 71	.2	-.90	-.9	-.9	-.8	50.0	-.9	-.8	35.0	2.0	-.8	-.8
B004137	417233.	3558578.	20 71	.7	-.90	-.9	-.9	-.8	45.0	-.9	-.8	50.0	8.0	-.8	-.8
B004138	417177.	3558658.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	35.0	2.0	-.8	-.8
B004139	417121.	3558738.	20 71	-.9	-.90	25.0	-.9	-.8	80.0	-.9	-.8	35.0	-.9	-.8	-.8
B004140	417065.	3558817.	20 71	.2	-.90	15.0	-.9	-.8	50.0	-.9	-.8	25.0	-.9	-.8	-.8
B004141	417009.	3558897.	20 71	-.9	-.90	-.9	-.9	40.0	70.0	-.9	95.0	30.0	2.0	-.9	185.0
B004142	416953.	3558977.	20 71	-.9	-.90	15.0	-.9	-.8	55.0	-.9	-.8	20.0	2.0	-.8	-.8
B004143	416783.	3558002.	20 71	.4	-.90	20.0	-.9	-.8	55.0	-.9	-.8	35.0	-.9	-.8	-.8
B004144	416837.	3557922.	20 71	-.9	-.90	190.0	-.9	-.8	65.0	-.9	-.8	25.0	-.9	-.8	-.8
B004145	416891.	3557841.	20 71	.9	-.90	15.0	-.9	-.8	75.0	-.9	-.8	30.0	-.9	-.8	-.8
B004146	416945.	3557761.	20 71	-.9	-.90	35.0	-.9	-.8	45.0	-.9	-.8	30.0	-.9	-.8	-.8
B004147	416999.	3557680.	20 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	25.0	-.9	-.8	-.8
B004148	417054.	3557600.	20 71	.2	-.90	10.0	-.9	-.8	45.0	-.9	-.8	30.0	2.0	-.8	-.8
B004149	417108.	3557519.	20 71	-.9	-.90	20.0	-.9	-.8	40.0	-.9	-.8	30.0	-.9	-.8	-.8
B004150	417162.	3557439.	20 71	-.9	-.90	30.0	-.9	-.8	70.0	-.9	-.8	50.0	2.0	-.8	-.8
B004151	417216.	3557359.	20 71	-.9	-.90	5.0	-.9	-.8	40.0	-.9	-.8	25.0	-.9	-.8	-.8
B004152	417271.	3557278.	20 71	-.9	-.90	10.0	-.9	-.8	40.0	-.9	-.8	30.0	-.9	-.8	-.8
B004153	417325.	3557198.	20 71	.4	-.90	10.0	-.9	-.8	35.0	-.9	-.8	30.0	-.9	-.8	-.8
B004154	417379.	3557117.	20 71	-.9	-.90	-.9	-.9	-.8	60.0	-.9	-.8	30.0	-.9	-.8	-.8
B004155	417433.	3557037.	20 71	-.9	-.90	-.9	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B004156	417488.	3556957.	20 71	-.9	-.90	5.0	-.9	-.8	65.0	-.9	-.8	20.0	-.9	-.8	-.8
B004157	417542.	3556876.	20 71	.2	-.90	10.0	-.9	-.8	65.0	-.9	-.8	25.0	-.9	-.8	-.8
B004158	417596.	3556796.	20 71	.4	-.90	-.9	-.9	-.8	75.0	-.9	-.8	45.0	-.9	-.8	-.8
B004159	417650.	3556715.	20 71	-.9	-.90	-.9	-.9	-.8	20.0	-.9	-.8	10.0	-.9	-.8	-.8
B004160	417705.	3556635.	20 71	-.9	-.90	10.0	-.9	-.8	70.0	-.9	-.8	30.0	-.9	-.8	-.8
B004161	417759.	3556554.	20 71	-.9	-.90	10.0	-.9	-.8	65.0	-.9	-.8	25.0	-.9	-.8	-.8
B004162	417813.	3556474.	20 71	-.9	-.90	10.0	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B004163	417867.	3556394.	20 71	-.9	-.90	10.0	-.9	-.8	90.0	-.9	-.8	20.0	-.9	-.8	-.8
B004164	417922.	3556313.	20 71	-.9	-.90	10.0	-.9	-.8	65.0	-.9	-.8	25.0	-.9	-.8	-.8
B004165	417976.	3556233.	20 71	-.9	-.90	5.0	-.9	-.8	85.0	-.9	-.8	25.0	-.9	-.8	-.8
B004166	326100.	3468550.	20 71	3.7	-.90	235.0	-.9	-.8	15.0	-.9	-.8	890.0	235.0	-.8	-.8
B004167	418030.	3556152.	20 71	-.9	-.90	15.0	-.9	-.8	85.0	-.9	-.8	60.0	6.0	-.8	-.8
B004168	418084.	3556072.	20 71	-.9	-.90	10.0	-.9	15.0	105.0	-.9	15.0	40.0	4.0	-.9	105.0
B004169	418139.	3555992.	20 71	-.9	-.90	15.0	-.9	-.8	70.0	-.9	-.8	40.0	2.0	-.8	-.8
B004170	418193.	3555911.	20 71	-.9	-.90	25.0	-.9	-.8	30.0	-.9	-.8	35.0	8.0	-.8	-.8
B004171	418247.	3555831.	20 71	-.9	-.90	20.0	-.9	-.8	25.0	-.9	-.8	15.0	14.0	-.8	-.8
B004172	418301.	3555750.	20 71	-.9	-.90	10.0	-.9	-.8	20.0	-.9	-.8	15.0	8.0	-.8	-.8
B004173	418356.	3555670.	20 71	-.9	-.90	15.0	-.9	-.8	20.0	-.9	-.8	25.0	14.0	-.8	-.8
B004174	418410.	3555589.	20 71	-.9	-.90	95.0	-.9	-.8	25.0	-.9	-.8	30.0	32.0	-.8	-.8
B004175	417800.	3555265.	20 71	-.9	-.90	35.0	-.9	20.0	35.0	-.9	45.0	25.0	18.0	-.9	115.0
B004176	417700.	3555330.	20 71	-.9	-.90	255.0	-.9	-.8	30.0	-.9	-.8	35.0	32.0	-.8	-.8
B004177	417610.	3555375.	20 71	-.9	-.90	25.0	-.9	10.0	35.0	-.9	15.0	25.0	17.0	-.9	125.0
B004178	417545.	3555440.	20 71	-.9	-.90	15.0	-.9	-.9	85.0	-.9	5.0	30.0	4.0	-.9	90.0
B004179	417355.	3555415.	20 71	.2	-.90	15.0	-.9	-.8	30.0	-.9	-.8	25.0	22.0	-.8	-.8
B004180	417375.	3555570.	20 71	-.9	-.90	20.0	-.9	-.8	25.0	-.9	-.8	35.0	4.0	-.8	-.8
B004181	417215.	3555745.	20 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	25.0	2.0	-.8	-.8
B004182	417060.	3555965.	20 71	-.9	-.90	20.0	2.0	-.8	75.0	-.9	-.8	55.0	4.0	-.8	-.8
B004183	417140.	3555840.	20 71	-.9	-.90	15.0	-.9	-.8	45.0	-.9	-.8	30.0	-.9	-.8	-.8
B004184	417305.	3555655.	20 71	-.9	.10	20.0	-.9	-.8	35.0	-.9	-.8	30.0	2.0	-.8	-.8
B004185	417100.	3556085.	20 71	.2	-.90	20.0	-.9	-.8	30.0	-.9	-.8	45.0	2.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004135	-.9	85.0
B004136	-.9	85.0
B004137	3.0	90.0
B004138	-.9	95.0
B004139	-.9	75.0
B004140	-.9	70.0
B004141	-.9	140.0
B004142	-.9	95.0
B004143	-.9	60.0
B004144	4.0	75.0
B004145	-.9	75.0
B004146	-.9	55.0
B004147	3.0	40.0
B004148	-.9	40.0
B004149	-.9	50.0
B004150	-.9	55.0
B004151	-.9	50.0
B004152	-.9	55.0
B004153	-.9	55.0
B004154	-.9	70.0
B004155	-.9	65.0
B004156	-.9	85.0
B004157	-.9	85.0
B004158	4.0	80.0
B004159	-.9	45.0
B004160	-.9	75.0
B004161	6.0	60.0
B004162	-.9	65.0
B004163	5.0	85.0
B004164	-.9	65.0
B004165	-.9	50.0
B004166	8.0	130.0
B004167	3.0	55.0
B004168	4.0	80.0
B004169	3.0	80.0
B004170	9.0	75.0
B004171	4.0	90.0
B004172	5.0	55.0
B004173	5.0	80.0
B004174	7.0	95.0
B004175	5.0	130.0
B004176	10.0	125.0
B004177	6.0	85.0
B004178	3.0	60.0
B004179	4.0	65.0
B004180	3.0	50.0
B004181	3.0	75.0
B004182	3.0	85.0
B004183	4.0	90.0
B004184	3.0	90.0
B004185	-.9	55.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV CODE	IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004186	417130.	3556220.	20	71	-.9	-.90	45.0	-.9	-.8	55.0	2.0	-.8	10.0	-.9	-.8	-.8
B004187	417140.	3556385.	20	71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	25.0	-.9	-.8	-.8
B004188	417145.	3556540.	20	71	-.9	-.90	10.0	-.9	-.8	35.0	-.9	-.8	20.0	-.9	-.8	-.8
B004189	417160.	3556670.	20	71	-.9	-.90	5.0	-.9	-.8	50.0	-.9	-.8	20.0	-.9	-.8	-.8
B004190	417240.	3556815.	20	71	-.9	-.90	10.0	-.9	-.8	40.0	-.9	-.8	40.0	-.9	-.8	-.8
B004191	417225.	3556955.	20	71	.2	-.90	15.0	-.9	-.8	60.0	2.0	-.8	60.0	2.0	-.8	-.8
B004192	417105.	3557105.	20	71	-.9	.04	90.0	-.9	-.8	70.0	-.9	-.8	105.0	2.0	-.8	-.8
B004193	417235.	3557235.	20	71	-.9	.02	5.0	-.9	-.8	50.0	-.9	-.8	30.0	4.0	-.8	-.8
B004194	417245.	3557395.	20	71	-.9	-.90	5.0	-.9	-.8	55.0	2.0	-.8	30.0	-.9	-.8	-.8
B004201	355674.	3491200.	20	71	.2	.04	255.0	-.9	-.8	30.0	2.0	-.8	35.0	-.9	-.8	-.8
B004202	355704.	3491112.	20	71	19.0	.19	940.0	-.9	-.8	45.0	-.9	-.8	1750.0	34.0	-.8	-.8
B004203	355739.	3491023.	20	71	50.0	.48	1850.0	-.9	-.8	85.0	2.0	-.8	4800.0	85.0	-.8	-.8
B004204	355774.	3490934.	20	71	36.0	.41	2050.0	-.9	-.8	90.0	-.9	-.8	3850.0	85.0	-.8	-.8
B004205	355808.	3490845.	20	71	2.3	.06	640.0	-.9	-.8	25.0	-.9	-.8	265.0	8.0	-.8	-.8
B004206	355843.	3490757.	20	71	4.6	.17	750.0	-.9	-.8	30.0	-.9	-.8	445.0	14.0	-.8	-.8
B004207	355878.	3490668.	20	71	13.0	.20	1400.0	-.9	-.8	70.0	-.9	-.8	1600.0	28.0	-.8	-.8
B004208	355913.	3490579.	20	71	2.4	.02	260.0	-.9	-.8	30.0	-.9	-.8	120.0	11.0	-.8	-.8
B004209	355948.	3490490.	20	71	1.0	.06	425.0	-.9	-.8	20.0	-.9	-.8	100.0	4.0	-.8	-.8
B004210	356982.	3490401.	20	71	1.3	.06	630.0	-.9	-.8	20.0	-.9	-.8	100.0	6.0	-.8	-.8
B004211	356017.	3490312.	20	71	1.0	.03	430.0	-.9	-.8	15.0	-.9	-.8	60.0	2.0	-.8	-.8
B004212	356052.	3490223.	20	71	.6	.07	600.0	-.9	-.8	20.0	2.0	-.8	85.0	-.9	-.8	-.8
B004213	356087.	3490134.	20	71	1.1	.15	410.0	-.9	-.8	20.0	-.9	-.8	60.0	2.0	-.8	-.8
B004214	356122.	3490045.	20	71	.4	.14	310.0	-.9	-.8	15.0	-.9	-.8	40.0	-.9	-.8	-.8
B004215	356157.	3489956.	20	71	.6	-.90	315.0	-.9	-.8	20.0	2.0	-.8	45.0	-.9	-.8	-.8
B004216	356192.	3489867.	20	71	1.0	-.90	415.0	-.9	-.8	25.0	-.9	-.8	65.0	-.9	-.8	-.8
B004217	356226.	3489778.	20	71	.8	-.90	350.0	-.9	-.8	20.0	-.9	-.8	75.0	2.0	-.8	-.8
B004218	356261.	3489689.	20	71	1.8	.02	230.0	-.9	-.8	20.0	2.0	-.8	50.0	-.9	-.8	-.8
B004219	356296.	3489600.	20	71	.6	-.90	285.0	-.9	-.8	30.0	2.0	-.8	55.0	-.9	-.8	-.8
B004220	356654.	3489759.	20	71	.4	.03	160.0	-.9	-.8	25.0	-.9	-.8	25.0	-.9	-.8	-.8
B004221	356621.	3489847.	20	71	-.9	.03	210.0	-.9	-.8	15.0	-.9	-.8	20.0	-.9	-.8	-.8
B004222	356588.	3489935.	20	71	.2	-.90	290.0	-.9	-.8	15.0	2.0	-.8	20.0	-.9	-.8	-.8
B004223	356555.	3490023.	20	71	.4	.04	360.0	-.9	-.8	15.0	-.9	-.8	20.0	-.9	-.8	-.8
B004224	356522.	3490111.	20	71	-.9	-.90	220.0	-.9	-.8	15.0	-.9	-.8	20.0	-.9	-.8	-.8
B004225	356489.	3490199.	20	71	.4	-.90	700.0	-.9	-.8	20.0	-.9	-.8	25.0	-.9	-.8	-.8
B004226	356456.	3490287.	20	71	-.9	.04	600.0	-.9	-.8	15.0	12.0	-.8	25.0	-.9	-.8	-.8
B004227	356423.	3490374.	20	71	-.9	-.90	165.0	-.9	-.8	20.0	-.9	-.8	30.0	4.0	-.8	-.8
B004228	356390.	3490462.	20	71	1.4	.04	610.0	-.9	-.8	35.0	2.0	-.8	120.0	12.0	-.8	-.8
B004229	356357.	3490550.	20	71	1.6	.03	580.0	-.9	-.8	30.0	2.0	-.8	160.0	8.0	-.8	-.8
B004230	356324.	3490638.	20	71	1.0	.06	630.0	-.9	-.8	25.0	-.9	-.8	130.0	5.0	-.8	-.8
B004231	356291.	3490726.	20	71	.6	.02	295.0	-.9	-.8	25.0	2.0	-.8	60.0	2.0	-.8	-.8
B004232	356258.	3490814.	20	71	-.9	-.90	170.0	-.9	-.8	15.0	-.9	-.8	35.0	7.0	-.8	-.8
B004233	356225.	3490902.	20	71	.8	-.90	570.0	-.9	-.8	25.0	2.0	-.8	65.0	2.0	-.8	-.8
B004242	355466.	3491734.	20	71	1.0	-.90	155.0	-.9	-.8	25.0	-.9	-.8	155.0	4.0	-.8	-.8
B004243	355426.	3491823.	20	71	1.2	-.90	125.0	-.9	-.8	25.0	-.9	-.8	85.0	2.0	-.8	-.8
B004244	355391.	3491912.	20	71	.2	-.90	80.0	-.9	-.8	25.0	2.0	-.8	30.0	-.9	-.8	-.8
B004245	355356.	3492001.	20	71	-.9	-.90	180.0	-.9	-.8	25.0	-.9	-.8	30.0	2.0	-.8	-.8
B004246	355321.	3492090.	20	71	.8	.02	-.9	-.9	-.8	20.0	2.0	-.8	60.0	-.9	-.8	-.8
B004247	355286.	3492179.	20	71	.6	-.90	185.0	-.9	-.8	45.0	2.0	-.8	80.0	4.0	-.8	-.8
B004248	355252.	3492268.	20	71	-.9	-.90	-.9	-.9	-.8	-.9	-.9	-.8	-.9	-.9	-.8	-.8
B004249	355217.	3492357.	20	71	1.2	-.90	-.9	-.9	-.8	20.0	2.0	-.8	115.0	-.9	-.8	-.8
B004250	355182.	3492446.	20	71	1.8	.09	600.0	-.9	-.8	20.0	-.9	-.8	95.0	7.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004186	4.0	100.0
B004187	5.0	75.0
B004188	5.0	80.0
B004189	3.0	40.0
B004190	-.9	90.0
B004191	3.0	135.0
B004192	3.0	40.0
B004193	4.0	55.0
B004194	4.0	55.0
B004201	3.0	85.0
B004202	-.9	550.0
B004203	3.0	680.0
B004204	-.9	670.0
B004205	4.0	120.0
B004206	4.0	210.0
B004207	3.0	510.0
B004208	4.0	105.0
B004209	4.0	85.0
B004210	4.0	100.0
B004211	4.0	60.0
B004212	5.0	115.0
B004213	4.0	80.0
B004214	4.0	80.0
B004215	4.0	100.0
B004216	4.0	95.0
B004217	5.0	100.0
B004218	4.0	60.0
B004219	5.0	95.0
B004220	3.0	90.0
B004221	5.0	80.0
B004222	3.0	70.0
B004223	4.0	65.0
B004224	-.9	60.0
B004225	3.0	65.0
B004226	8.0	85.0
B004227	6.0	110.0
B004228	7.0	175.0
B004229	5.0	155.0
B004230	5.0	135.0
B004231	4.0	65.0
B004232	4.0	50.0
B004233	4.0	135.0
B004242	4.0	85.0
B004243	3.0	85.0
B004244	3.0	75.0
B004245	5.0	75.0
B004246	3.0	65.0
B004247	4.0	95.0
B004248	-.9	-.9
B004249	4.0	100.0
B004250	5.0	215.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004251	355147.	3492535.	20 71	-.9	-.90	140.0	-.9	-.8	25.0	-.9	-.8	25.0	6.0	-.8	-.8
B004252	355112.	3492623.	20 71	-.9	-.90	170.0	-.9	-.8	20.0	-.9	-.8	15.0	4.0	-.8	-.8
B004253	355078.	3492712.	20 71	.6	-.90	200.0	-.9	-.8	20.0	2.0	-.8	35.0	11.0	-.8	-.8
B004254	355043.	3492801.	20 71	-.9	-.90	25.0	-.9	-.8	20.0	-.9	-.8	20.0	8.0	-.8	-.8
B004255	355008.	3492890.	20 71	-.9	-.90	25.0	-.9	-.8	30.0	-.9	-.8	25.0	10.0	-.8	-.8
B004256	354973.	3492979.	20 71	.4	-.90	105.0	-.9	-.8	45.0	-.9	-.8	85.0	30.0	-.8	-.8
B004257	354938.	3493068.	20 71	-.9	-.90	35.0	-.9	-.8	25.0	-.9	-.8	65.0	16.0	-.8	-.8
B004258	354904.	3493157.	20 71	.4	-.90	155.0	-.9	-.8	20.0	-.9	-.8	80.0	22.0	-.8	-.8
B004259	355334.	3493275.	20 71	1.1	-.90	35.0	-.9	-.8	55.0	-.9	-.8	40.0	6.0	-.8	-.8
B004260	355367.	3493187.	20 71	-.9	-.90	40.0	-.9	-.8	25.0	-.9	-.8	20.0	6.0	-.8	-.8
B004261	355400.	3493099.	20 71	-.9	-.90	55.0	-.9	-.8	30.0	-.9	-.8	40.0	8.0	-.8	-.8
B004262	355433.	3493011.	20 71	.4	-.90	260.0	-.9	-.8	20.0	-.9	-.8	60.0	8.0	-.8	-.8
B004263	355466.	3492923.	20 71	1.6	-.90	-.9	-.9	-.8	25.0	2.0	-.8	270.0	15.0	-.8	-.8
B004264	355499.	3492836.	20 71	1.4	-.90	125.0	-.9	-.8	15.0	2.0	-.8	85.0	4.0	-.8	-.8
B004265	355532.	3492748.	20 71	7.7	.18	455.0	4.0	-.8	40.0	2.0	-.8	2150.0	26.0	-.8	-.8
B004266	355565.	3492660.	20 71	.9	-.90	95.0	-.9	-.8	20.0	-.9	-.8	155.0	2.0	-.8	-.8
B004267	355598.	3492572.	20 71	.6	-.90	85.0	-.9	-.8	25.0	4.0	-.8	45.0	4.0	-.8	-.8
B004268	355631.	3492484.	20 71	.6	-.90	85.0	1.0	-.8	35.0	2.0	-.8	35.0	4.0	-.8	-.8
B004269	355664.	3492396.	20 71	-.9	-.90	50.0	1.0	-.8	15.0	2.0	-.8	20.0	-.9	-.8	-.8
B004270	355697.	3492308.	20 71	.2	-.90	40.0	-.9	-.8	15.0	2.0	-.8	15.0	2.0	-.8	-.8
B004271	355730.	3492220.	20 71	-.9	-.90	90.0	-.9	-.8	25.0	-.9	-.8	25.0	2.0	-.8	-.8
B004272	355763.	3492132.	20 71	.8	-.90	235.0	-.9	-.8	30.0	-.9	-.8	35.0	7.0	-.8	-.8
B004273	355796.	3492044.	20 71	1.6	-.90	205.0	-.9	-.8	30.0	2.0	-.8	115.0	6.0	-.8	-.8
B004274	355829.	3491957.	20 71	.4	-.90	85.0	-.9	-.8	50.0	-.9	-.8	45.0	7.0	-.8	-.8
B004275	355862.	3491869.	20 71	.4	-.90	45.0	-.9	-.8	35.0	-.9	-.8	30.0	2.0	-.8	-.8
B004276	355895.	3491781.	20 71	.6	.02	115.0	-.9	-.8	35.0	2.0	-.8	60.0	4.0	-.8	-.8
B004277	356093.	3491253.	20 71	9.9	.07	1850.0	-.9	-.8	40.0	-.9	-.8	560.0	26.0	-.8	-.8
B004278	356126.	3491166.	20 71	4.5	.04	650.0	-.9	-.8	25.0	2.0	-.8	300.0	12.0	-.8	-.8
B004279	356159.	3491078.	20 71	6.0	.06	920.0	-.9	-.8	30.0	2.0	-.8	290.0	11.0	-.8	-.8
B004280	356192.	3490990.	20 71	1.8	.20	860.0	-.9	-.8	35.0	4.0	-.8	140.0	6.0	-.8	-.8
B004281	346468.	3489102.	20 71	.6	-.90	20.0	-.9	-.8	10.0	-.9	-.8	-.9	2.0	-.8	-.8
B004282	346413.	3489183.	20 71	1.3	.12	45.0	1.0	-.8	15.0	-.9	-.8	-.9	2.0	-.8	-.8
B004283	346302.	3489264.	20 71	.2	.13	165.0	-.9	-.8	15.0	-.9	-.8	10.0	2.0	-.8	-.8
B004284	346247.	3489345.	20 71	.9	-.90	150.0	-.9	-.8	15.0	-.9	-.8	-.9	2.0	-.8	-.8
B004285	346192.	3489426.	20 71	9.1	.27	750.0	-.9	-.8	35.0	-.9	-.8	65.0	17.0	-.8	-.8
B004286	346137.	3489507.	20 71	.7	.17	640.0	-.9	-.8	15.0	-.9	-.8	10.0	4.0	-.8	-.8
B004287	346081.	3489588.	20 71	2.3	-.90	-.9	-.9	-.8	15.0	-.9	-.8	60.0	-.9	-.8	-.8
B004288	346026.	3489669.	20 71	.4	-.90	5.0	-.9	-.8	100.0	2.0	-.8	-.9	2.0	-.8	-.8
B004289	345971.	3489750.	20 71	-.9	-.90	105.0	-.9	-.8	80.0	-.9	-.8	-.9	-.9	-.8	-.8
B004290	345915.	3489831.	20 71	.6	-.90	205.0	-.9	-.8	85.0	-.9	-.8	15.0	4.0	-.8	-.8
B004291	345860.	3489912.	20 71	-.9	-.90	35.0	-.9	-.8	30.0	-.9	-.8	20.0	30.0	-.8	-.8
B004292	345805.	3489993.	20 71	-.9	-.90	20.0	-.9	-.8	15.0	-.9	-.8	10.0	13.0	-.8	-.8
B004293	345749.	3490074.	20 71	-.9	-.90	35.0	1.0	-.8	55.0	-.9	-.8	15.0	50.0	-.8	-.8
B004294	345694.	3490155.	20 71	.4	.06	15.0	-.9	-.8	25.0	-.9	-.8	-.9	6.0	-.8	-.8
B004295	345639.	3490236.	20 71	-.9	-.90	35.0	-.9	-.8	40.0	-.9	-.8	15.0	17.0	-.8	-.8
B004296	345584.	3490317.	20 71	.2	-.90	45.0	-.9	-.8	25.0	-.9	-.8	10.0	75.0	-.8	-.8
B004297	345528.	3490398.	20 71	.4	-.90	150.0	-.9	-.8	30.0	-.9	-.8	40.0	70.0	-.8	-.8
B004298	345473.	3490479.	20 71	-.9	-.90	15.0	-.9	-.8	20.0	-.9	-.8	15.0	32.0	-.8	-.8
B004299	345418.	3490560.	20 71	-.9	-.90	35.0	-.9	-.8	25.0	-.9	-.8	25.0	50.0	-.8	-.8
B004300	345362.	3490641.	20 71	-.9	.07	60.0	-.9	-.8	15.0	-.9	-.8	20.0	65.0	-.8	-.8
B004301	346871.	3487138.	20 71	.6	-.90	110.0	-.9	-.8	30.0	-.9	-.8	10.0	2.0	-.8	-.8

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004251	5.0	130.0
B004252	4.0	85.0
B004253	4.0	110.0
B004254	3.0	85.0
B004255	3.0	120.0
B004256	-.9	460.0
B004257	3.0	225.0
B004258	3.0	130.0
B004259	3.0	205.0
B004260	4.0	110.0
B004261	3.0	125.0
B004262	3.0	100.0
B004263	-.9	190.0
B004264	16.0	65.0
B004265	5.0	520.0
B004266	6.0	90.0
B004267	6.0	60.0
B004268	6.0	80.0
B004269	3.0	60.0
B004270	3.0	55.0
B004271	3.0	75.0
B004272	5.0	105.0
B004273	3.0	110.0
B004274	3.0	110.0
B004275	4.0	115.0
B004276	4.0	90.0
B004277	3.0	540.0
B004278	3.0	175.0
B004279	3.0	200.0
B004280	4.0	190.0
B004281	5.0	20.0
B004282	7.0	40.0
B004283	3.0	35.0
B004284	4.0	50.0
B004285	3.0	90.0
B004286	4.0	55.0
B004287	-.9	65.0
B004288	3.0	130.0
B004289	-.9	110.0
B004290	3.0	100.0
B004291	5.0	105.0
B004292	3.0	40.0
B004293	4.0	70.0
B004294	4.0	30.0
B004295	3.0	85.0
B004296	3.0	40.0
B004297	3.0	120.0
B004298	3.0	45.0
B004299	3.0	55.0
B004300	3.0	75.0
B004301	4.0	45.0

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004302	346812.	3487269.	20 71	-.9	.20	50.0	-.9	-.8	15.0	-.9	-.8	-.9	-.9	-.8	-.8
B004303	346753.	3487351.	20 71	-.9	-.90	45.0	-.9	-.8	15.0	-.9	-.8	-.9	-.9	-.8	-.8
B004304	346694.	3487432.	20 71	.4	.03	25.0	2.0	-.8	20.0	-.9	-.8	-.9	-.9	-.8	-.8
B004305	346636.	3487513.	20 71	.2	-.90	-.9	-.9	-.8	10.0	-.9	-.8	-.9	-.9	-.8	-.8
B004306	346577.	3487595.	20 71	3.7	-.90	15.0	-.9	-.8	30.0	-.9	-.8	-.9	-.9	-.8	-.8
B004307	346518.	3487676.	20 71	1.5	-.90	255.0	-.9	-.8	50.0	-.9	-.8	130.0	2.0	-.8	-.8
B004308	346459.	3487757.	20 71	4.2	-.90	95.0	-.9	-.8	25.0	2.0	-.8	75.0	4.0	-.8	-.8
B004309	346400.	3487839.	20 71	3.1	-.90	-.9	-.9	-.8	25.0	-.9	-.8	40.0	-.9	-.8	-.8
B004310	346342.	3487920.	20 71	3.6	.04	70.0	-.9	-.8	65.0	2.0	-.8	345.0	4.0	-.8	-.8
B004311	346283.	3488002.	20 71	1.2	.08	100.0	-.9	-.8	55.0	4.0	-.8	55.0	8.0	-.8	-.8
B004312	346224.	3488083.	20 71	1.3	-.90	55.0	-.9	-.8	75.0	6.0	-.8	60.0	4.0	-.8	-.8
B004313	346165.	3488164.	20 71	3.8	.14	260.0	-.9	-.8	55.0	2.0	-.8	145.0	6.0	-.8	-.8
B004314	346106.	3488246.	20 71	1.8	.10	245.0	-.9	-.8	45.0	2.0	-.8	65.0	8.0	-.8	-.8
B004315	346048.	3488327.	20 71	.4	.06	120.0	-.9	-.8	35.0	-.9	-.8	30.0	4.0	-.8	-.8
B004316	345989.	3488409.	20 71	1.5	.10	200.0	-.9	-.8	45.0	2.0	-.8	35.0	8.0	-.8	-.8
B004317	345930.	3488490.	20 71	1.1	-.90	240.0	-.9	-.8	40.0	2.0	-.8	50.0	6.0	-.8	-.8
B004318	345871.	3488571.	20 71	1.1	-.90	110.0	-.9	-.8	45.0	4.0	-.8	25.0	4.0	-.8	-.8
B004319	345812.	3488653.	20 71	1.3	-.90	50.0	-.9	-.8	35.0	2.0	-.8	15.0	7.0	-.8	-.8
B004320	345754.	3488734.	20 71	1.3	.20	480.0	-.9	-.8	50.0	4.0	-.8	85.0	6.0	-.8	-.8
B004321	345695.	3488816.	20 71	.8	-.90	65.0	-.9	-.8	35.0	2.0	-.8	10.0	2.0	-.8	-.8
B004322	345636.	3488898.	20 71	2.2	-.90	105.0	-.9	-.8	35.0	-.9	-.8	65.0	6.0	-.8	-.8
B004323	345577.	3488978.	20 71	28.0	.03	285.0	-.9	20.0	110.0	4.0	60.0	400.0	50.0	-.9	220.0
B004324	335518.	3489059.	20 71	4.4	.06	570.0	-.9	10.0	50.0	2.0	35.0	140.0	11.0	-.9	135.0
B004325	345460.	3489141.	20 71	2.6	-.90	80.0	-.9	-.8	55.0	2.0	-.8	45.0	7.0	-.8	-.8
B004326	345401.	3489222.	20 71	3.1	.23	1600.0	-.9	10.0	55.0	2.0	20.0	85.0	13.0	-.9	90.0
B004327	345342.	3489304.	20 71	3.4	.05	1050.0	-.9	15.0	60.0	2.0	30.0	115.0	11.0	-.9	130.0
B004328	345283.	3489385.	20 71	7.0	.10	680.0	-.9	15.0	50.0	2.0	40.0	205.0	13.0	-.9	140.0
B004329	345224.	3489466.	20 71	3.2	.11	1250.0	-.9	-.8	45.0	2.0	-.8	90.0	15.0	-.8	-.8
B004330	345166.	3489548.	20 71	1.6	.15	890.0	-.9	-.8	30.0	-.9	-.8	45.0	12.0	-.8	-.8
B004331	345107.	3489629.	20 71	3.2	.43	1150.0	-.9	-.8	40.0	2.0	-.8	100.0	14.0	-.8	-.8
B004332	345048.	3489711.	20 71	.9	.03	55.0	-.9	-.8	55.0	2.0	-.8	30.0	13.0	-.8	-.8
B004333	344989.	3489792.	20 71	.2	.04	35.0	-.9	-.8	35.0	2.0	-.8	10.0	17.0	-.8	-.8
B004334	344930.	3489873.	20 71	.2	-.90	45.0	-.9	-.8	45.0	2.0	-.8	15.0	24.0	-.8	-.8
B004335	344872.	3489955.	20 71	-.9	-.90	60.0	-.9	-.8	80.0	4.0	-.8	35.0	38.0	-.8	-.8
B004336	344813.	3490036.	20 71	.2	-.90	10.0	-.9	-.8	45.0	2.0	-.8	15.0	-.9	-.8	-.8
B004337	344754.	3490118.	20 71	-.9	-.90	10.0	-.9	-.8	45.0	2.0	-.8	20.0	-.9	-.8	-.8
B004338	344695.	3490199.	20 71	-.9	-.90	20.0	-.9	-.8	40.0	2.0	-.8	15.0	4.0	-.8	-.8
B004339	344636.	3490280.	20 71	-.9	-.90	15.0	-.9	-.8	45.0	2.0	-.8	10.0	6.0	-.8	-.8
B004340	344578.	3490362.	20 71	-.9	-.90	10.0	-.9	-.8	50.0	-.9	-.8	-.9	6.0	-.8	-.8
B004341	344519.	3490443.	20 71	-.9	.02	45.0	-.9	-.8	40.0	2.0	-.8	20.0	-.9	-.8	-.8
B004342	347138.	3487493.	20 71	1.3	-.90	160.0	-.9	-.8	20.0	4.0	-.8	35.0	-.9	-.8	-.8
B004343	347079.	3487575.	20 71	.4	.07	365.0	-.9	-.8	20.0	4.0	-.8	25.0	2.0	-.8	-.8
B004344	347021.	3487656.	20 71	.4	-.90	940.0	-.9	-.8	15.0	-.9	-.8	5.0	-.9	-.8	-.8
B004345	346962.	3487737.	20 71	.4	.32	1350.0	-.9	-.8	20.0	2.0	-.8	10.0	6.0	-.8	-.8
B004346	346904.	3487819.	20 71	.4	.10	355.0	-.9	-.8	20.0	-.9	-.8	15.0	4.0	-.8	-.8
B004347	346845.	3487900.	20 71	.4	-.90	35.0	-.9	-.8	15.0	2.0	-.8	-.9	2.0	-.8	-.8
B004348	346787.	3487982.	20 71	-.9	-.90	115.0	-.9	-.8	15.0	-.9	-.8	-.9	-.9	-.8	-.8
B004349	346728.	3488063.	20 71	.2	.06	210.0	-.9	-.8	20.0	2.0	-.8	10.0	32.0	-.8	-.8
B004350	346670.	3488144.	20 71	-.9	-.90	370.0	-.9	-.8	20.0	2.0	-.8	10.0	4.0	-.8	-.8
B004351	346611.	3488226.	20 71	.8	.26	405.0	-.9	-.8	70.0	4.0	-.8	25.0	6.0	-.8	-.8
B004352	346553.	3488307.	20 71	.7	.03	30.0	1.0	-.8	95.0	6.0	-.8	30.0	9.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004302	6.0	30.0
B004303	4.0	35.0
B004304	3.0	40.0
B004305	3.0	15.0
B004306	3.0	30.0
B004307	4.0	145.0
B004308	3.0	60.0
B004309	4.0	70.0
B004310	8.0	410.0
B004311	4.0	130.0
B004312	3.0	185.0
B004313	7.0	165.0
B004314	4.0	85.0
B004315	7.0	95.0
B004316	4.0	90.0
B004317	4.0	45.0
B004318	7.0	70.0
B004319	3.0	55.0
B004320	4.0	235.0
B004321	3.0	70.0
B004322	3.0	80.0
B004323	3.0	820.0
B004324	4.0	340.0
B004325	-.9	180.0
B004326	4.0	540.0
B004327	4.0	460.0
B004328	3.0	420.0
B004329	4.0	485.0
B004330	5.0	340.0
B004331	3.0	520.0
B004332	4.0	105.0
B004333	3.0	85.0
B004334	3.0	85.0
B004335	3.0	130.0
B004336	4.0	65.0
B004337	3.0	65.0
B004338	3.0	70.0
B004339	-.9	75.0
B004340	3.0	75.0
B004341	5.0	75.0
B004342	4.0	60.0
B004343	3.0	80.0
B004344	5.0	50.0
B004345	4.0	65.0
B004346	4.0	60.0
B004347	3.0	30.0
B004348	4.0	45.0
B004349	3.0	60.0
B004350	4.0	50.0
B004351	5.0	140.0
B004352	4.0	150.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON).. ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004353	346494.	3488389.	20 71	.8	-.90	30.0	1.0	-.8	50.0	4.0	-.8	15.0	-.9	-.8	-.8
B004354	346436.	3488470.	20 71	-.9	-.90	20.0	-.9	-.8	60.0	4.0	-.8	5.0	-.9	-.8	-.8
B004355	346377.	3488551.	20 71	-.9	-.90	15.0	-.9	-.8	50.0	4.0	-.8	5.0	4.0	-.8	-.8
B004356	346319.	3488633.	20 71	-.9	-.90	25.0	-.9	-.8	35.0	4.0	-.8	10.0	-.9	-.8	-.8
B004357	346260.	3488714.	20 71	.4	-.90	25.0	-.9	-.8	55.0	4.0	-.8	10.0	-.9	-.8	-.8
B004358	346202.	3488796.	20 71	.6	-.90	30.0	-.9	-.8	110.0	8.0	-.8	25.0	-.9	-.8	-.8
B004359	346143.	3488877.	20 71	.7	-.90	35.0	-.9	-.8	70.0	6.0	-.8	20.0	-.9	-.8	-.8
B004360	346085.	3488958.	20 71	.9	-.90	40.0	1.0	-.8	35.0	4.0	-.8	10.0	-.9	-.8	-.8
B004361	346026.	3489040.	20 71	1.3	-.90	85.0	-.9	-.8	35.0	4.0	-.8	20.0	-.9	-.8	-.8
B004362	345968.	3489121.	20 71	2.1	-.90	740.0	1.0	-.8	75.0	4.0	-.8	90.0	7.0	-.8	-.8
B004363	345909.	3489203.	20 71	2.8	-.90	490.0	-.9	5.0	40.0	2.0	15.0	150.0	4.0	-.9	135.0
B004364	345851.	3489284.	20 71	1.4	-.90	980.0	1.0	-.8	75.0	4.0	-.8	180.0	15.0	-.8	-.8
B004365	345792.	3489365.	20 71	2.9	.10	1200.0	1.0	5.0	55.0	4.0	15.0	220.0	8.0	-.9	165.0
B004366	345734.	3489447.	20 71	24.0	.42	2150.0	-.9	10.0	95.0	-.9	10.0	1050.0	48.0	-.9	80.0
B004367	345675.	3489528.	20 71	8.4	.28	830.0	-.9	-.9	30.0	-.9	10.0	210.0	10.0	-.9	60.0
B004368	345617.	3489610.	20 71	.8	.02	85.0	-.9	-.8	50.0	4.0	-.8	35.0	2.0	-.8	-.8
B004369	345558.	3489691.	20 71	.9	-.90	105.0	-.9	-.8	45.0	4.0	-.8	35.0	4.0	-.8	-.8
B004370	345500.	3489772.	20 71	.2	-.90	50.0	-.9	-.8	40.0	2.0	-.8	10.0	11.0	-.8	-.8
B004371	345441.	3489854.	20 71	.2	-.90	35.0	-.9	-.8	15.0	2.0	-.8	5.0	7.0	-.8	-.8
B004372	345383.	3489935.	20 71	-.9	-.90	35.0	-.9	-.8	20.0	-.9	-.8	5.0	-.9	-.8	-.8
B004373	345324.	3490017.	20 71	.2	-.90	40.0	-.9	-.8	20.0	2.0	-.8	15.0	4.0	-.8	-.8
B004374	345266.	3490098.	20 71	.4	-.90	65.0	2.0	-.8	20.0	2.0	-.8	25.0	19.0	-.8	-.8
B004375	345207.	3490179.	20 71	.2	-.90	85.0	1.0	-.8	15.0	2.0	-.8	20.0	44.0	-.8	-.8
B004376	345148.	3490261.	20 71	.4	-.90	85.0	1.0	-.8	50.0	2.0	-.8	20.0	65.0	-.8	-.8
B004377	345090.	3490342.	20 71	.2	-.90	30.0	-.9	-.8	55.0	2.0	-.8	15.0	-.9	-.8	-.8
B004378	345031.	3490424.	20 71	-.9	-.90	40.0	-.9	-.8	55.0	2.0	-.8	15.0	-.9	-.8	-.8
B004379	344973.	3490505.	20 71	-.9	-.90	25.0	1.0	-.8	25.0	2.0	-.8	20.0	2.0	-.8	-.8
B004380	344914.	3490586.	20 71	-.9	-.90	35.0	-.9	-.8	55.0	-.9	-.8	15.0	-.9	-.8	-.8
B004381	344856.	3490668.	20 71	-.9	-.90	20.0	-.9	-.8	45.0	-.9	-.8	10.0	-.9	-.8	-.8
B004382	347196.	3487412.	20 71	-.9	-.90	220.0	-.9	-.8	15.0	-.9	-.8	10.0	-.9	-.8	-.8
B004383	347464.	3487644.	20 71	1.7	-.90	45.0	-.9	-.8	10.0	-.9	-.8	5.0	-.9	-.8	-.8
B004384	347409.	3487725.	20 71	1.5	-.90	170.0	-.9	-.8	15.0	-.9	-.8	45.0	4.0	-.8	-.8
B004385	347353.	3487806.	20 71	.7	-.90	130.0	-.9	-.8	15.0	-.9	-.8	10.0	2.0	-.8	-.8
B004386	347298.	3487887.	20 71	.2	-.90	50.0	-.9	-.8	15.0	2.0	-.8	5.0	-.9	-.8	-.8
B004387	347243.	3487968.	20 71	.4	.03	310.0	2.0	-.8	15.0	-.9	-.8	5.0	-.9	-.8	-.8
B004388	347187.	3488049.	20 71	-.9	.04	15.0	-.9	-.8	5.0	-.9	-.8	-.9	-.9	-.8	-.8
B004389	347132.	3488130.	20 71	.8	-.90	40.0	-.9	-.8	10.0	2.0	-.8	-.9	-.9	-.8	-.8
B004390	347076.	3488211.	20 71	.4	.09	270.0	-.9	-.8	10.0	2.0	-.8	15.0	-.9	-.8	-.8
B004391	347021.	3488292.	20 71	.6	.02	400.0	-.9	-.8	15.0	2.0	-.8	10.0	-.9	-.8	-.8
B004392	346966.	3488373.	20 71	1.2	.10	1000.0	-.9	-.8	30.0	2.0	-.8	15.0	8.0	-.8	-.8
B004393	346911.	3488454.	20 71	.2	-.90	75.0	-.9	-.8	15.0	2.0	-.8	5.0	-.9	-.8	-.8
B004394	346856.	3488535.	20 71	.5	.19	640.0	-.9	-.8	35.0	-.9	-.8	40.0	-.9	-.8	-.8
B004395	346800.	3488616.	20 71	.2	.06	165.0	-.9	-.8	15.0	2.0	-.8	15.0	-.9	-.8	-.8
B004396	346745.	3488697.	20 71	.2	.03	155.0	-.9	-.8	15.0	2.0	-.8	10.0	-.9	-.8	-.8
B004397	346690.	3488778.	20 71	.6	.04	165.0	-.9	-.8	25.0	2.0	-.8	20.0	-.9	-.8	-.8
B004398	346634.	3488859.	20 71	.6	.02	140.0	-.9	-.8	15.0	-.9	-.8	10.0	-.9	-.8	-.8
B004399	346579.	3488940.	20 71	.4	.06	265.0	-.9	-.8	20.0	-.9	-.8	10.0	-.9	-.8	-.8
B004400	346523.	3489021.	20 71	1.2	-.90	100.0	-.9	-.8	20.0	-.9	-.8	5.0	-.9	-.8	-.8
B004401	344527.	3489831.	20 71	.2	.02	30.0	-.9	-.8	50.0	2.0	-.8	15.0	6.0	-.8	-.8
B004402	344583.	3489748.	20 71	-.9	-.90	25.0	-.9	-.8	55.0	-.9	-.8	15.0	4.0	-.8	-.8
B004403	344639.	3489665.	20 71	-.9	-.90	20.0	-.9	-.8	30.0	-.9	-.8	10.0	4.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004353	3.0	100.0
B004354	4.0	120.0
B004355	3.0	110.0
B004356	5.0	105.0
B004357	3.0	90.0
B004358	5.0	190.0
B004359	3.0	115.0
B004360	5.0	100.0
B004361	3.0	95.0
B004362	4.0	300.0
B004363	3.0	330.0
B004364	6.0	465.0
B004365	5.0	570.0
B004366	4.0	1950.0
B004367	5.0	540.0
B004368	5.0	190.0
B004369	3.0	165.0
B004370	4.0	75.0
B004371	6.0	35.0
B004372	6.0	30.0
B004373	4.0	155.0
B004374	7.0	40.0
B004375	6.0	80.0
B004376	7.0	100.0
B004377	3.0	85.0
B004378	4.0	100.0
B004379	5.0	90.0
B004380	4.0	85.0
B004381	3.0	75.0
B004382	5.0	90.0
B004383	4.0	20.0
B004384	3.0	50.0
B004385	4.0	45.0
B004386	4.0	25.0
B004387	3.0	90.0
B004388	3.0	15.0
B004389	3.0	50.0
B004390	3.0	40.0
B004391	3.0	50.0
B004392	-.9	175.0
B004393	4.0	35.0
B004394	3.0	105.0
B004395	-.9	55.0
B004396	3.0	45.0
B004397	-.9	65.0
B004398	4.0	45.0
B004399	-.9	60.0
B004400	-.9	60.0
B004401	3.0	90.0
B004402	-.9	90.0
B004403	-.9	75.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004404	344694.	3489583.	20 71	.4	.04	130.0	-.9	-.8	60.0	-.9	-.8	15.0	4.0	-.8	-.8
B004405	344750.	3489500.	20 71	.4	-.90	65.0	-.9	-.8	65.0	-.9	-.8	5.0	2.0	-.8	-.8
B004406	344806.	3489418.	20 71	.4	.34	195.0	-.9	-.8	30.0	-.9	-.8	15.0	4.0	-.8	-.8
B004407	344862.	3489335.	20 71	-.9	-.90	35.0	-.9	-.8	45.0	-.9	-.8	5.0	2.0	-.8	-.8
B004408	344918.	3489252.	20 71	1.2	-.90	245.0	-.9	-.8	20.0	-.9	-.8	20.0	4.0	-.8	-.8
B004409	344973.	3489170.	20 71	4.1	.14	1250.0	-.9	-.8	25.0	-.9	-.8	75.0	11.0	-.8	-.8
B004410	345029.	3489087.	20 71	1.9	.16	1450.0	-.9	-.8	15.0	-.9	-.8	105.0	8.0	-.8	-.8
B004411	345085.	3489005.	20 71	6.6	.05	810.0	-.9	-.8	30.0	-.9	-.8	195.0	15.0	-.8	-.8
B004412	345141.	3488922.	20 71	5.4	.17	560.0	-.9	-.8	40.0	-.9	-.8	210.0	22.0	-.8	-.8
B004413	345197.	3488839.	20 71	9.7	.20	1400.0	-.9	-.8	35.0	-.9	-.8	260.0	22.0	-.8	-.8
B004414	345252.	3488757.	20 71	80.0	.40	900.0	-.9	-.8	100.0	2.0	-.8	1100.0	150.0	-.8	-.8
B004415	345308.	3488674.	20 71	80.0	.14	610.0	-.9	-.8	90.0	-.9	-.8	1100.0	90.0	-.8	-.8
B004416	345364.	3488592.	20 71	460.0	12.00	20000.0	15.0	-.8	850.0	-.9	-.8	9250.0	1500.0	-.8	-.8
B004417	345420.	3488509.	20 71	3.1	-.90	55.0	-.9	-.8	90.0	-.9	-.8	40.0	6.0	-.8	-.8
B004418	345476.	3488426.	20 71	1.0	-.90	25.0	-.9	-.8	85.0	-.9	-.8	10.0	4.0	-.8	-.8
B004419	345531.	3488344.	20 71	.4	-.90	15.0	-.9	-.8	95.0	-.9	-.8	-.9	-.9	-.8	-.8
B004420	345587.	3488261.	20 71	.2	-.90	15.0	-.9	-.8	65.0	-.9	-.8	-.9	-.9	-.8	-.8
B004421	345643.	3488179.	20 71	.8	-.90	20.0	-.9	-.8	100.0	-.9	-.8	15.0	-.9	-.8	-.8
B004422	345699.	3488096.	20 71	-.9	-.90	5.0	-.9	-.8	105.0	-.9	-.8	-.9	-.9	-.8	-.8
B004423	345755.	3488013.	20 71	-.9	-.90	25.0	-.9	-.8	80.0	-.9	-.8	-.9	22.0	-.8	-.8
B004424	345810.	3487931.	20 71	.2	-.90	15.0	-.9	-.8	50.0	-.9	-.8	15.0	6.0	-.8	-.8
B004425	345866.	3487848.	20 71	2.1	-.90	20.0	1.0	-.8	25.0	2.0	-.8	15.0	2.0	-.8	-.8
B004426	345922.	3487766.	20 71	.4	-.90	25.0	-.9	-.8	85.0	2.0	-.8	10.0	4.0	-.8	-.8
B004427	345978.	3487683.	20 71	.4	-.90	20.0	-.9	-.8	55.0	2.0	-.8	5.0	4.0	-.8	-.8
B004428	346033.	3487600.	20 71	.7	-.90	20.0	-.9	-.8	65.0	2.0	-.8	15.0	4.0	-.8	-.8
B004429	346089.	3487518.	20 71	.4	-.90	25.0	-.9	-.8	65.0	-.9	-.8	10.0	5.0	-.8	-.8
B004430	346145.	3487435.	20 71	.6	-.90	85.0	1.0	-.8	45.0	2.0	-.8	10.0	4.0	-.8	-.8
B004431	346201.	3487353.	20 71	-.9	-.90	75.0	-.9	-.8	20.0	-.9	-.8	10.0	-.9	-.8	-.8
B004432	346257.	3487270.	20 71	.7	.06	240.0	-.9	-.8	15.0	-.9	-.8	-.9	2.0	-.8	-.8
B004433	346313.	3487187.	20 71	.4	.03	380.0	-.9	-.8	35.0	-.9	-.8	15.0	5.0	-.8	-.8
B004434	346368.	3487105.	20 71	.4	-.90	115.0	-.9	-.8	25.0	2.0	-.8	10.0	5.0	-.8	-.8
B004435	346424.	3487022.	20 71	.4	.06	115.0	-.9	-.8	40.0	-.9	-.8	25.0	4.0	-.8	-.8
B004436	346480.	3486940.	20 71	.8	-.90	110.0	-.9	-.8	35.0	-.9	-.8	20.0	2.0	-.8	-.8
B004437	345095.	3485513.	20 71	.8	-.90	570.0	-.9	-.8	20.0	-.9	-.8	40.0	11.0	-.8	-.8
B004438	345039.	3485596.	20 71	1.1	-.90	530.0	-.9	-.8	20.0	-.9	-.8	40.0	11.0	-.8	-.8
B004439	344983.	3485679.	20 71	1.4	.02	1150.0	2.0	-.8	30.0	-.9	-.8	320.0	44.0	-.8	-.8
B004440	344927.	3485761.	20 71	-.9	-.90	35.0	-.9	-.8	15.0	-.9	-.8	10.0	4.0	-.8	-.8
B004441	344871.	3485844.	20 71	-.9	-.90	295.0	-.9	-.8	10.0	-.9	-.8	10.0	6.0	-.8	-.8
B004442	344816.	3485927.	20 71	-.9	.02	125.0	-.9	-.8	20.0	-.9	-.8	10.0	8.0	-.8	-.8
B004443	344766.	3486010.	20 71	.2	-.90	140.0	-.9	-.8	20.0	2.0	-.8	15.0	6.0	-.8	-.8
B004444	344704.	3486093.	20 71	-.9	.14	495.0	-.9	-.8	10.0	-.9	-.8	35.0	7.0	-.8	-.8
B004445	344648.	3486176.	20 71	-.9	.02	75.0	-.9	-.8	5.0	-.9	-.8	5.0	2.0	-.8	-.8
B004446	344592.	3486259.	20 71	.6	.02	135.0	-.9	-.8	20.0	-.9	-.8	20.0	4.0	-.8	-.8
B004447	344536.	3486341.	20 71	.6	.18	540.0	-.9	-.8	25.0	-.9	-.8	35.0	10.0	-.8	-.8
B004448	344480.	3486424.	20 71	.4	.20	400.0	-.9	-.8	25.0	-.9	-.8	30.0	7.0	-.8	-.8
B004449	344424.	3486507.	20 71	1.5	.46	540.0	-.9	-.8	25.0	-.9	-.8	25.0	8.0	-.8	-.8
B004450	344368.	3486590.	20 71	.8	.18	590.0	-.9	-.8	20.0	-.9	-.8	70.0	10.0	-.8	-.8
B004451	344312.	3486673.	20 71	2.7	.05	150.0	-.9	-.8	15.0	-.9	-.8	25.0	4.0	-.8	-.8
B004452	344257.	3486756.	20 71	.8	.24	900.0	-.9	-.8	25.0	-.9	-.8	40.0	15.0	-.8	-.8
B004453	344201.	3486839.	20 71	1.1	-.90	580.0	-.9	-.8	100.0	4.0	-.8	15.0	16.0	-.8	-.8
B004454	344145.	3486922.	20 71	1.5	-.90	80.0	-.9	-.8	90.0	4.0	-.8	30.0	26.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004404	3.0	110.0
B004405	4.0	135.0
B004406	3.0	95.0
B004407	4.0	40.0
B004408	3.0	85.0
B004409	4.0	355.0
B004410	-.9	330.0
B004411	3.0	370.0
B004412	3.0	375.0
B004413	-.9	520.0
B004414	8.0	760.0
B004415	3.0	375.0
B004416	-.9	5550.0
B004417	3.0	195.0
B004418	-.9	165.0
B004419	-.9	125.0
B004420	-.9	95.0
B004421	-.9	115.0
B004422	-.9	120.0
B004423	-.9	130.0
B004424	-.9	105.0
B004425	-.9	70.0
B004426	-.9	195.0
B004427	3.0	135.0
B004428	-.9	130.0
B004429	-.9	135.0
B004430	-.9	105.0
B004431	-.9	50.0
B004432	-.9	55.0
B004433	-.9	100.0
B004434	-.9	70.0
B004435	4.0	95.0
B004436	4.0	85.0
B004437	-.9	70.0
B004438	-.9	55.0
B004439	4.0	175.0
B004440	3.0	30.0
B004441	-.9	70.0
B004442	-.9	50.0
B004443	-.9	55.0
B004444	3.0	65.0
B004445	-.9	25.0
B004446	-.9	30.0
B004447	3.0	135.0
B004448	3.0	85.0
B004449	7.0	65.0
B004450	3.0	105.0
B004451	3.0	45.0
B004452	3.0	160.0
B004453	5.0	150.0
B004454	-.9	120.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV	IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004455	344089.	3487005.	20	71	2.3	.03	120.0	-.9	-.8	55.0	4.0	-.8	25.0	12.0	-.8	-.8
B004456	344033.	3487088.	20	71	5.5	.06	550.0	-.9	10.0	35.0	2.0	25.0	410.0	10.0	-.9	110.0
B004457	343977.	3487171.	20	71	4.2	.30	2250.0	-.9	-.8	35.0	-.9	-.8	105.0	15.0	-.8	-.8
B004458	343921.	3487253.	20	71	12.0	2.30	5600.0	-.9	15.0	20.0	-.9	-.9	1400.0	24.0	-.9	40.0
B004459	343865.	3487336.	20	71	1.1	.45	1450.0	-.9	-.8	10.0	-.9	-.8	110.0	6.0	-.8	-.8
B004460	343809.	3487419.	20	71	1.3	-.90	90.0	-.9	-.8	10.0	-.9	-.8	20.0	2.0	-.8	-.8
B004461	343753.	3487502.	20	71	2.8	-.90	50.0	-.9	-.8	10.0	-.9	-.8	20.0	2.0	-.8	-.8
B004462	343698.	3487585.	20	71	5.8	.04	740.0	-.9	-.8	65.0	-.9	-.8	135.0	13.0	-.8	-.8
B004463	343642.	3487668.	20	71	1.5	-.90	145.0	-.9	-.8	65.0	-.9	-.8	35.0	10.0	-.8	-.8
B004464	343586.	3487751.	20	71	.5	-.90	110.0	-.9	-.8	40.0	-.9	-.8	20.0	4.0	-.8	-.8
B004465	343530.	3487834.	20	71	.8	-.90	40.0	-.9	-.8	20.0	-.9	-.8	30.0	4.0	-.8	-.8
B004466	343474.	3487917.	20	71	1.1	.12	360.0	-.9	-.8	-.9	2.0	-.8	10.0	2.0	-.8	-.8
B004467	343418.	3487999.	20	71	2.5	.07	290.0	-.9	-.8	35.0	-.9	-.8	60.0	9.0	-.8	-.8
B004468	343362.	3488082.	20	71	2.0	-.90	155.0	-.9	10.0	45.0	-.9	40.0	65.0	6.0	-.9	90.0
B004469	343306.	3488165.	20	71	2.9	.45	315.0	-.9	-.8	35.0	-.9	-.8	75.0	11.0	-.8	-.8
B004470	343256.	3488248.	20	71	2.9	.08	170.0	-.9	-.8	25.0	-.9	-.8	50.0	7.0	-.8	-.8
B004471	343194.	3488331.	20	71	.9	.14	255.0	-.9	-.8	15.0	-.9	-.8	80.0	6.0	-.8	-.8
B004472	343139.	3488414.	20	71	.7	.44	275.0	-.9	-.8	15.0	-.9	-.8	80.0	5.0	-.8	-.8
B004473	343083.	3488497.	20	71	2.4	.05	165.0	-.9	-.8	15.0	-.9	-.8	135.0	8.0	-.8	-.8
B004474	343027.	3488590.	20	71	2.0	.02	75.0	-.9	-.8	25.0	-.9	-.8	70.0	7.0	-.8	-.8
B004475	342971.	3488663.	20	71	1.8	.05	155.0	-.9	-.8	30.0	-.9	-.8	55.0	12.0	-.8	-.8
B004476	342915.	3488746.	20	71	1.1	.02	125.0	-.9	-.8	65.0	-.9	-.8	30.0	6.0	-.8	-.8
B004477	342859.	3488828.	20	71	1.4	.02	280.0	-.9	-.8	35.0	-.9	-.8	45.0	6.0	-.8	-.8
B004478	342803.	3488911.	20	71	.2	-.90	20.0	-.9	-.8	20.0	-.9	-.8	25.0	-.9	-.8	-.8
B004479	342747.	3488994.	20	71	.2	-.90	85.0	-.9	-.8	40.0	-.9	-.8	15.0	-.9	-.8	-.8
B004480	342691.	3489077.	20	71	-.9	-.90	15.0	-.9	-.8	45.0	-.9	-.8	15.0	-.9	-.8	-.8
B004481	342635.	3489160.	20	71	-.9	-.90	10.0	-.9	-.8	35.0	-.9	-.8	5.0	-.9	-.8	-.8
B004482	342259.	3488897.	20	71	-.9	-.90	30.0	-.9	-.8	10.0	-.9	-.8	10.0	-.9	-.8	-.8
B004483	342315.	3488815.	20	71	-.9	-.90	40.0	-.9	-.8	40.0	-.9	-.8	35.0	4.0	-.8	-.8
B004484	342371.	3488732.	20	71	-.9	-.90	25.0	-.9	-.8	35.0	-.9	-.8	15.0	-.9	-.8	-.8
B004485	342426.	3488650.	20	71	.2	-.90	20.0	-.9	-.8	60.0	2.0	-.8	15.0	4.0	-.8	-.8
B004486	342482.	3488567.	20	71	.4	-.90	120.0	-.9	-.8	30.0	2.0	-.8	20.0	-.9	-.8	-.8
B004487	342538.	3488485.	20	71	.2	.03	240.0	-.9	-.8	30.0	2.0	-.8	10.0	2.0	-.8	-.8
B004488	342594.	3488402.	20	71	.4	-.90	240.0	-.9	-.8	60.0	2.0	-.8	15.0	2.0	-.8	-.8
B004489	342650.	3488320.	20	71	.2	.15	220.0	-.9	-.8	45.0	2.0	-.8	15.0	-.9	-.8	-.8
B004491	342705.	3488237.	20	71	1.1	-.90	165.0	-.9	-.8	35.0	-.9	-.8	10.0	-.9	-.8	-.8
B004492	342761.	3488155.	20	71	5.9	.06	40.0	-.9	-.8	40.0	-.9	-.8	65.0	7.0	-.8	-.8
B004493	342817.	3488072.	20	71	.4	-.90	405.0	-.9	25.0	55.0	-.9	85.0	50.0	6.0	-.9	190.0
B004494	342873.	3487990.	20	71	2.7	.04	325.0	-.9	-.8	40.0	-.9	-.8	65.0	8.0	-.8	-.8
B004495	342929.	3487907.	20	71	-.9	.05	425.0	-.9	-.8	15.0	-.9	-.8	10.0	2.0	-.8	-.8
B004496	342984.	3487825.	20	71	1.2	.34	395.0	-.9	-.8	25.0	-.9	-.8	25.0	4.0	-.8	-.8
B004497	343040.	3487742.	20	71	-.9	.07	600.0	-.9	-.8	10.0	-.9	-.8	10.0	2.0	-.8	-.8
B004498	343096.	3487660.	20	71	1.5	.02	650.0	-.9	-.8	15.0	-.9	-.8	30.0	2.0	-.8	-.8
B004499	343152.	3487577.	20	71	.2	-.90	15.0	-.9	-.8	10.0	-.9	-.8	10.0	-.9	-.8	-.8
B004500	343207.	3487495.	20	71	3.2	.10	1050.0	-.9	-.8	25.0	-.9	-.8	75.0	4.0	-.8	-.8
B004501	343263.	3487412.	20	71	2.6	.20	890.0	-.9	-.8	15.0	-.9	-.8	140.0	4.0	-.8	-.8
B004502	343319.	3487330.	20	71	.4	.05	145.0	-.9	-.8	15.0	-.9	-.8	5.0	-.9	-.8	-.8
B004503	343375.	3487247.	20	71	.4	.06	365.0	-.9	-.8	20.0	-.9	-.8	20.0	4.0	-.8	-.8
B004504	343431.	3487165.	20	71	.4	.02	205.0	-.9	-.8	15.0	-.9	-.8	10.0	12.0	-.8	-.8
B004505	343487.	3487082.	20	71	1.7	-.90	280.0	-.9	-.8	60.0	2.0	-.8	10.0	13.0	-.8	-.8
B004506	343542.	3487000.	20	71	1.6	-.90	60.0	-.9	-.8	60.0	4.0	-.8	10.0	9.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004455	-.9	100.0
B004456	-.9	380.0
B004457	4.0	195.0
B004458	4.0	470.0
B004459	-.9	105.0
B004460	-.9	35.0
B004461	-.9	30.0
B004462	-.9	325.0
B004463	-.9	155.0
B004464	-.9	115.0
B004465	-.9	130.0
B004466	-.9	70.0
B004467	-.9	240.0
B004468	-.9	325.0
B004469	-.9	390.0
B004470	-.9	170.0
B004471	-.9	190.0
B004472	4.0	175.0
B004473	-.9	215.0
B004474	-.9	130.0
B004475	-.9	180.0
B004476	-.9	190.0
B004477	-.9	165.0
B004478	-.9	45.0
B004479	3.0	70.0
B004480	-.9	80.0
B004481	-.9	50.0
B004482	5.0	40.0
B004483	-.9	95.0
B004484	-.9	85.0
B004485	-.9	105.0
B004486	3.0	155.0
B004487	-.9	225.0
B004488	-.9	250.0
B004489	-.9	135.0
B004491	4.0	45.0
B004492	-.9	420.0
B004493	-.9	275.0
B004494	-.9	265.0
B004495	-.9	70.0
B004496	-.9	160.0
B004497	-.9	70.0
B004498	-.9	85.0
B004499	-.9	30.0
B004500	3.0	235.0
B004501	-.9	85.0
B004502	-.9	40.0
B004503	-.9	60.0
B004504	-.9	55.0
B004505	3.0	130.0
B004506	-.9	145.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004507	343598.	3486917.	20 71	.2	-.90	25.0	-.9	-.8	70.0	2.0	-.8	10.0	6.0	-.8	-.8
B004508	343654.	3486834.	20 71	1.7	-.90	145.0	-.9	-.8	70.0	2.0	-.8	15.0	13.0	-.8	-.8
B004509	343710.	3486752.	20 71	3.6	-.90	610.0	-.9	-.8	55.0	6.0	-.8	45.0	30.0	-.8	-.8
B004510	343766.	3486670.	20 71	2.2	.16	-.9	-.9	-.8	55.0	8.0	-.8	35.0	24.0	-.8	-.8
B004511	343821.	3486587.	20 71	.4	.03	210.0	-.9	-.8	30.0	-.9	-.8	25.0	5.0	-.8	-.8
B004512	343877.	3486504.	20 71	.4	.09	175.0	-.9	-.8	15.0	-.9	-.8	40.0	8.0	-.8	-.8
B004513	343933.	3486422.	20 71	-.9	-.90	75.0	-.9	-.8	10.0	-.9	-.8	15.0	4.0	-.8	-.8
B004514	343989.	3486339.	20 71	2.7	.02	205.0	-.9	-.8	15.0	-.9	-.8	65.0	4.0	-.8	-.8
B004515	344045.	3486257.	20 71	17.0	.02	145.0	-.9	-.8	30.0	-.9	-.8	420.0	22.0	-.8	-.8
B004516	344100.	3486174.	20 71	.6	-.90	175.0	-.9	-.8	20.0	-.9	-.8	30.0	4.0	-.8	-.8
B004517	344156.	3486092.	20 71	.4	.03	140.0	-.9	-.8	20.0	-.9	-.8	20.0	2.0	-.8	-.8
B004518	344212.	3486009.	20 71	.9	.18	14500.0	-.9	-.8	15.0	-.9	-.8	20.0	2.0	-.8	-.8
B004519	344038.	3487695.	20 71	4.6	-.90	365.0	1.0	30.0	95.0	2.0	80.0	115.0	12.0	-.9	330.0
B004520	343982.	3487778.	20 71	3.5	.06	590.0	-.9	-.8	65.0	2.0	-.8	65.0	15.0	-.8	-.8
B004521	343926.	3487861.	20 71	2.0	-.90	345.0	-.9	-.8	80.0	2.0	-.8	75.0	10.0	-.8	-.8
B004522	343871.	3487944.	20 71	1.5	-.90	265.0	-.9	-.8	60.0	2.0	-.8	40.0	11.0	-.8	-.8
B004523	343815.	3488027.	20 71	5.7	-.90	265.0	-.9	-.8	55.0	-.9	-.8	60.0	13.0	-.8	-.8
B004524	343759.	3488110.	20 71	2.2	.09	355.0	-.9	-.8	30.0	-.9	-.8	30.0	10.0	-.8	-.8
B004525	343703.	3488192.	20 71	4.9	.06	260.0	-.9	-.8	40.0	-.9	-.8	80.0	13.0	-.8	-.8
B004526	343647.	3488275.	20 71	1.4	.02	240.0	-.9	-.8	60.0	-.9	-.8	40.0	10.0	-.8	-.8
B004527	343592.	3488358.	20 71	2.2	-.90	210.0	-.9	-.8	50.0	-.9	-.8	45.0	7.0	-.8	-.8
B004528	343536.	3488441.	20 71	4.1	-.90	240.0	-.9	-.8	45.0	2.0	-.8	215.0	10.0	-.8	-.8
B004529	343480.	3488524.	20 71	.2	-.90	65.0	-.9	-.8	30.0	-.9	-.8	5.0	-.9	-.8	-.8
B004530	343424.	3488607.	20 71	2.6	-.90	300.0	-.9	-.8	45.0	-.9	-.8	45.0	9.0	-.8	-.8
B004531	343368.	3488689.	20 71	2.3	.06	295.0	-.9	-.8	25.0	-.9	-.8	65.0	6.0	-.8	-.8
B004532	343312.	3488772.	20 71	.8	-.90	385.0	-.9	-.8	65.0	2.0	-.8	20.0	6.0	-.8	-.8
B004533	343256.	3488855.	20 71	1.8	.03	180.0	-.9	-.8	25.0	-.9	-.8	35.0	6.0	-.8	-.8
B004534	343200.	3488938.	20 71	1.4	-.90	265.0	-.9	-.8	70.0	2.0	-.8	25.0	8.0	-.8	-.8
B004535	343144.	3489021.	20 71	.2	-.90	25.0	-.9	-.8	35.0	-.9	-.8	10.0	-.9	-.8	-.8
B004536	343088.	3489104.	20 71	-.9	-.90	25.0	-.9	-.8	55.0	-.9	-.8	20.0	4.0	-.8	-.8
B004537	343033.	3489186.	20 71	.2	-.90	25.0	-.9	-.8	55.0	-.9	-.8	15.0	4.0	-.8	-.8
B004538	342977.	3489269.	20 71	-.9	-.90	40.0	-.9	-.8	60.0	-.9	-.8	35.0	2.0	-.8	-.8
B004539	342921.	3489352.	20 71	-.9	-.90	40.0	-.9	-.8	75.0	-.9	-.8	10.0	2.0	-.8	-.8
B004540	344094.	3486613.	20 71	.6	-.90	130.0	-.9	-.8	60.0	-.9	-.8	25.0	11.0	-.8	-.8
B004541	344150.	3487530.	20 71	.4	-.90	215.0	-.9	-.8	50.0	-.9	-.8	15.0	9.0	-.8	-.8
B004542	344202.	3487447.	20 71	.4	.02	105.0	-.9	-.8	70.0	-.9	-.8	15.0	11.0	-.8	-.8
B004543	344262.	3487364.	20 71	8.0	.06	490.0	-.9	-.8	65.0	-.9	-.8	210.0	17.0	-.8	-.8
B004544	344318.	3487281.	20 71	26.0	.39	3050.0	-.9	10.0	45.0	-.9	-.9	360.0	24.0	-.9	50.0
B004545	344374.	3487198.	20 71	65.0	.30	3550.0	-.9	-.8	80.0	-.9	-.8	270.0	48.0	-.8	-.8
B004546	344429.	3487115.	20 71	11.0	.54	1800.0	-.9	10.0	45.0	-.9	-.9	380.0	18.0	-.9	75.0
B004547	344485.	3487032.	20 71	12.0	.10	190.0	-.9	-.9	20.0	-.9	-.9	45.0	4.0	-.9	75.0
B004548	344541.	3486949.	20 71	2.3	.20	1350.0	-.9	-.8	20.0	-.9	-.8	25.0	36.0	-.8	-.8
B004549	344597.	3486886.	20 71	1.0	.03	200.0	-.9	-.8	20.0	-.9	-.8	-.9	10.0	-.8	-.8
B004550	344653.	3486783.	20 71	.6	.12	680.0	-.9	-.8	20.0	-.9	-.8	15.0	4.0	-.8	-.8
B004551	344709.	3486700.	20 71	.2	.02	205.0	-.9	-.8	20.0	-.9	-.8	10.0	4.0	-.8	-.8
B004552	344765.	3486617.	20 71	.2	-.90	25.0	-.9	-.9	10.0	-.9	-.9	5.0	-.9	-.9	100.0
B004553	344821.	3486535.	20 71	.2	.03	195.0	-.9	-.8	15.0	-.9	-.8	10.0	4.0	-.8	-.8
B004554	344877.	3486452.	20 71	1.0	.05	480.0	-.9	-.8	20.0	-.9	-.8	30.0	6.0	-.8	-.8
B004555	435750.	3562150.	20 71	.8	.07	680.0	-.9	-.8	40.0	-.9	-.8	20.0	205.0	-.8	-.8
B004576	348532.	3488194.	20 71	.2	-.90	100.0	-.9	-.8	20.0	-.9	-.8	10.0	2.0	-.8	-.8
B004577	348504.	3488236.	20 71	1.2	.05	170.0	-.9	-.8	30.0	-.9	-.8	10.0	4.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004507	4.0	180.0
B004508	4.0	130.0
B004509	5.0	210.0
B004510	5.0	210.0
B004511	4.0	90.0
B004512	5.0	65.0
B004513	5.0	25.0
B004514	5.0	100.0
B004515	5.0	285.0
B004516	5.0	45.0
B004517	3.0	50.0
B004518	5.0	95.0
B004519	4.0	475.0
B004520	4.0	245.0
B004521	4.0	220.0
B004522	3.0	170.0
B004523	5.0	245.0
B004524	5.0	150.0
B004525	6.0	235.0
B004526	5.0	160.0
B004527	4.0	160.0
B004528	4.0	215.0
B004529	3.0	20.0
B004530	4.0	130.0
B004531	3.0	145.0
B004532	4.0	195.0
B004533	4.0	115.0
B004534	6.0	200.0
B004535	6.0	80.0
B004536	8.0	95.0
B004537	4.0	120.0
B004538	5.0	115.0
B004539	4.0	125.0
B004540	5.0	185.0
B004541	7.0	110.0
B004542	4.0	120.0
B004543	5.0	265.0
B004544	6.0	350.0
B004545	4.0	610.0
B004546	6.0	930.0
B004547	6.0	60.0
B004548	9.0	80.0
B004549	5.0	30.0
B004550	6.0	50.0
B004551	4.0	35.0
B004552	4.0	25.0
B004553	6.0	40.0
B004554	10.0	60.0
B004555	6.0	160.0
B004576	4.0	45.0
B004577	4.0	85.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B004578	348476.	3488277.	20 71	.6	.04	185.0	-.9	-.8	35.0	2.0	-.8	25.0	6.0	-.8	-.8
B004579	348449.	3488319.	20 71	1.7	-.90	175.0	-.9	-.8	35.0	-.9	-.8	40.0	4.0	-.8	-.8
B004580	348421.	3488360.	20 71	.6	-.90	95.0	-.9	-.8	20.0	-.9	-.8	15.0	4.0	-.8	-.8
B004581	348393.	3488401.	20 71	.6	-.90	100.0	-.9	-.8	20.0	-.9	-.8	15.0	2.0	-.8	-.8
B004582	348337.	3488484.	20 71	.8	-.90	50.0	-.9	-.8	20.0	-.9	-.8	-.9	2.0	-.8	-.8
B004583	348281.	3488567.	20 71	.6	.07	145.0	-.9	-.8	20.0	-.9	-.8	10.0	4.0	-.8	-.8
B004584	348225.	3488650.	20 71	1.0	-.90	160.0	-.9	-.8	15.0	-.9	-.8	10.0	2.0	-.8	-.8
B004585	419159.	3558543.	20 71	-.9	-.90	-.9	-.9	-.8	45.0	-.9	-.8	20.0	-.9	-.8	-.8
B004586	419213.	3558460.	20 71	.4	-.90	-.9	-.9	-.8	55.0	-.9	-.8	35.0	2.0	-.8	-.8
B004587	419267.	3558377.	20 71	.4	-.90	-.9	-.9	-.8	60.0	-.9	-.8	30.0	2.0	-.8	-.8
B004588	419321.	3558295.	20 71	.2	-.90	-.9	-.9	-.8	35.0	-.9	-.8	25.0	-.9	-.8	-.8
B004589	419375.	3558212.	20 71	.2	-.90	-.9	-.9	-.8	20.0	-.9	-.8	20.0	-.9	-.8	-.8
B004590	419429.	3558129.	20 71	.2	-.90	-.9	-.9	-.8	55.0	-.9	-.8	25.0	2.0	-.8	-.8
B004591	419484.	3558047.	20 71	.6	-.90	20.0	-.9	-.8	50.0	2.0	-.8	35.0	2.0	-.8	-.8
B004592	419538.	3557964.	20 71	.8	-.90	20.0	-.9	-.8	50.0	2.0	-.8	45.0	2.0	-.8	-.8
B004593	419592.	3557881.	20 71	.4	-.90	15.0	-.9	-.8	40.0	2.0	-.8	20.0	2.0	-.8	-.8
B004594	419646.	3557799.	20 71	.4	-.90	5.0	-.9	-.8	45.0	-.9	-.8	15.0	-.9	-.8	-.8
B004595	419700.	3557716.	20 71	.2	-.90	-.9	-.9	-.8	40.0	-.9	-.8	35.0	4.0	-.8	-.8
B004596	419754.	3557633.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	30.0	10.0	-.8	-.8
B004598	419809.	3557551.	20 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	25.0	10.0	-.8	-.8
B004599	419312.	3557579.	20 71	1.0	-.90	15.0	1.0	-.8	30.0	2.0	-.8	25.0	2.0	-.8	-.8
B004600	419257.	3557662.	20 71	.6	-.90	25.0	-.9	-.8	40.0	2.0	-.8	30.0	2.0	-.8	-.8
B010201	399794.	3541332.	20 71	-.9	-.90	15.0	-.9	-.8	60.0	2.0	-.8	20.0	-.9	-.8	-.8
B010202	399881.	3541380.	20 71	-.9	-.90	5.0	-.9	-.8	45.0	2.0	-.8	25.0	-.9	-.8	-.8
B010203	399967.	3541427.	20 71	-.9	-.90	10.0	-.9	-.8	50.0	-.9	-.8	15.0	-.9	-.8	-.8
B010204	400053.	3541475.	20 71	-.9	-.90	10.0	-.9	-.8	45.0	-.9	-.8	30.0	-.9	-.8	-.8
B010205	400139.	3541523.	20 71	-.9	-.90	-.9	-.9	-.8	55.0	-.9	-.8	55.0	4.0	-.8	-.8
B010206	400226.	3541570.	20 71	.2	-.90	-.9	-.9	-.8	75.0	-.9	-.8	35.0	8.0	-.8	-.8
B010207	400312.	3541618.	20 71	-.9	-.90	5.0	-.9	-.8	45.0	-.9	-.8	30.0	4.0	-.8	-.8
B010208	400398.	3541666.	20 71	.2	-.90	-.9	-.9	-.8	95.0	-.9	-.8	30.0	-.9	-.8	-.8
B010209	400485.	3541713.	20 71	-.9	-.90	10.0	-.9	-.8	55.0	-.9	-.8	30.0	2.0	-.8	-.8
B010210	400571.	3541761.	20 71	-.9	-.90	5.0	-.9	-.8	45.0	-.9	-.8	25.0	-.9	-.8	-.8
B010211	400657.	3541809.	20 71	.2	-.90	10.0	-.9	-.8	70.0	-.9	-.8	35.0	-.9	-.8	-.8
B010212	400743.	3541856.	20 71	-.9	-.90	5.0	-.9	-.8	55.0	-.9	-.8	20.0	-.9	-.8	-.8
B010213	400836.	3541904.	20 71	-.9	-.90	10.0	-.9	-.8	80.0	-.9	-.8	20.0	-.9	-.8	-.8
B010214	400916.	3541951.	20 71	-.9	-.90	-.9	-.9	-.8	70.0	-.9	-.8	25.0	-.9	-.8	-.8
B010215	401002.	3541999.	20 71	-.9	-.90	-.9	-.9	-.8	70.0	-.9	-.8	15.0	-.9	-.8	-.8
B010216	401089.	3542047.	20 71	-.9	-.90	10.0	-.9	-.8	75.0	-.9	-.8	20.0	4.0	-.8	-.8
B010217	401175.	3542094.	20 71	-.9	-.90	5.0	-.9	-.8	60.0	-.9	-.8	30.0	6.0	-.8	-.8
B010218	401261.	3542142.	20 71	-.9	-.90	5.0	-.9	-.8	70.0	-.9	-.8	35.0	8.0	-.8	-.8
B010219	401347.	3542190.	20 71	-.9	-.90	-.9	-.9	-.8	80.0	-.9	-.8	25.0	2.0	-.8	-.8
B010220	401434.	3542237.	20 71	-.9	-.90	-.9	-.9	-.8	70.0	-.9	-.8	25.0	4.0	-.8	-.8
B010221	401520.	3542285.	20 71	-.9	-.90	-.9	-.9	-.8	55.0	-.9	-.8	20.0	2.0	-.8	-.8
B010222	400979.	3539374.	20 71	-.9	-.90	-.9	-.9	-.8	70.0	-.9	-.8	25.0	-.9	-.8	-.8
B010223	400883.	3539351.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	30.0	-.9	-.8	-.8
B010224	400786.	3539328.	20 71	-.9	-.90	5.0	-.9	-.8	35.0	-.9	-.8	35.0	2.0	-.8	-.8
B010225	400690.	3539305.	20 71	-.9	-.90	5.0	-.9	-.8	40.0	-.9	-.8	25.0	2.0	-.8	-.8
B010226	400594.	3539282.	20 71	-.9	-.90	5.0	-.9	-.8	40.0	-.9	-.8	15.0	-.9	-.8	-.8
B010227	400497.	3539259.	20 71	-.9	-.90	-.9	-.9	-.8	45.0	-.9	-.8	15.0	-.9	-.8	-.8
B010228	400401.	3539236.	20 71	-.9	-.90	105.0	-.9	-.8	60.0	-.9	-.8	25.0	-.9	-.8	-.8
B010229	400304.	3539213.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	30.0	-.9	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B004578	5.0	70.0
B004579	4.0	50.0
B004580	4.0	70.0
B004581	5.0	45.0
B004582	3.0	35.0
B004583	8.0	35.0
B004584	5.0	40.0
B004585	5.0	90.0
B004586	3.0	90.0
B004587	3.0	75.0
B004588	4.0	110.0
B004589	-.9	85.0
B004590	-.9	70.0
B004591	-.9	70.0
B004592	3.0	65.0
B004593	-.9	55.0
B004594	-.9	50.0
B004595	-.9	105.0
B004596	-.9	100.0
B004598	-.9	105.0
B004599	-.9	45.0
B004600	-.9	60.0
B010201	3.0	115.0
B010202	4.0	95.0
B010203	4.0	115.0
B010204	9.0	130.0
B010205	3.0	110.0
B010206	3.0	135.0
B010207	3.0	115.0
B010208	5.0	165.0
B010209	5.0	130.0
B010210	5.0	75.0
B010211	4.0	150.0
B010212	3.0	105.0
B010213	4.0	70.0
B010214	5.0	75.0
B010215	3.0	55.0
B010216	3.0	80.0
B010217	3.0	110.0
B010218	4.0	110.0
B010219	5.0	135.0
B010220	3.0	140.0
B010221	3.0	120.0
B010222	3.0	105.0
B010223	4.0	120.0
B010224	4.0	115.0
B010225	3.0	115.0
B010226	5.0	110.0
B010227	3.0	100.0
B010228	3.0	185.0
B010229	2.0	150.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B010230	400208.	3539189.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	30.0	-.9	-.8	-.8
B010231	400111.	3539116.	20 71	-.9	-.90	-.9	-.9	-.8	20.0	-.9	-.8	20.0	-.9	-.8	-.8
B010232	400015.	3539143.	20 71	-.9	-.90	-.9	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B010233	399918.	3539120.	20 71	-.9	-.90	-.9	-.9	-.8	15.0	-.9	-.8	20.0	2.0	-.8	-.8
B010234	399822.	3539097.	20 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	20.0	-.9	-.8	-.8
B010235	399725.	3539074.	20 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	20.0	2.0	-.8	-.8
B010236	399629.	3539051.	20 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	20.0	-.9	-.8	-.8
B010237	399532.	3539028.	20 71	-.9	-.90	-.9	-.9	-.8	35.0	-.9	-.8	25.0	2.0	-.8	-.8
B010238	399436.	3539005.	20 71	-.9	-.90	5.0	-.9	-.8	25.0	-.9	-.8	25.0	2.0	-.8	-.8
B010239	399339.	3538982.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	20.0	-.9	-.8	-.8
B010240	399243.	3538959.	20 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	20.0	-.9	-.8	-.8
B010241	399146.	3538936.	20 71	-.9	-.90	5.0	-.9	-.8	30.0	-.9	-.8	15.0	2.0	-.8	-.8
B010242	399050.	3538913.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	15.0	4.0	-.8	-.8
B010243	378688.	3493780.	20 71	-.9	-.90	25.0	-.9	-.8	35.0	-.9	-.8	20.0	-.9	-.8	-.8
B010244	378762.	3493712.	20 71	-.9	-.90	15.0	-.9	-.8	35.0	-.9	-.8	20.0	-.9	-.8	-.8
B010245	378837.	3493645.	20 71	-.9	-.90	20.0	-.9	-.8	40.0	-.9	-.8	20.0	2.0	-.8	-.8
B010246	378911.	3493578.	20 71	-.9	.03	15.0	-.9	-.8	25.0	-.9	-.8	20.0	2.0	-.8	-.8
B010247	378985.	3493511.	20 71	-.9	-.90	15.0	-.9	-.8	55.0	-.9	-.8	25.0	-.9	-.8	-.8
B010248	379060.	3493444.	20 71	1.3	-.90	15.0	2.0	-.8	120.0	-.9	-.8	295.0	2.0	-.8	-.8
B010249	379134.	3493377.	20 71	.2	-.90	15.0	-.9	-.8	40.0	2.0	-.8	30.0	2.0	-.8	-.8
B010250	379208.	3493309.	20 71	-.9	-.90	15.0	-.9	-.8	50.0	-.9	-.8	25.0	-.9	-.8	-.8
B010251	379283.	3493242.	20 71	-.9	-.90	15.0	-.9	-.8	15.0	-.9	-.8	15.0	-.9	-.8	-.8
B010252	379422.	3493100.	20 71	-.9	-.90	20.0	-.9	-.8	35.0	-.9	-.8	20.0	2.0	-.8	-.8
B010253	379492.	3493029.	20 71	-.9	-.90	20.0	-.9	-.8	45.0	-.9	-.8	15.0	2.0	-.8	-.8
B010254	379561.	3492958.	20 71	-.9	-.90	20.0	-.9	-.8	35.0	-.9	-.8	20.0	2.0	-.8	-.8
B010255	379631.	3492887.	20 71	-.9	-.90	25.0	-.9	-.8	40.0	-.9	-.8	20.0	-.9	-.8	-.8
B010256	379701.	3492816.	20 71	-.9	-.90	20.0	-.9	-.8	45.0	-.9	-.8	15.0	2.0	-.8	-.8
B010257	379770.	3492745.	20 71	-.9	-.90	20.0	-.9	-.8	55.0	-.9	-.8	20.0	4.0	-.8	-.8
B010258	379910.	3492603.	20 71	.4	.04	15.0	-.9	-.8	20.0	-.9	-.8	15.0	2.0	-.8	-.8
B010259	379352.	3493171.	20 71	-.9	-.90	30.0	-.9	-.8	35.0	-.9	-.8	25.0	2.0	-.8	-.8
B010260	382811.	3496144.	20 71	.4	-.90	15.0	-.9	-.8	50.0	-.9	-.8	110.0	-.9	-.8	-.8
B010261	382891.	3496090.	20 71	-.9	-.90	15.0	-.9	-.8	30.0	-.9	-.8	20.0	2.0	-.8	-.8
B010262	382971.	3496036.	20 71	-.9	-.90	15.0	-.9	-.8	60.0	-.9	-.8	25.0	4.0	-.8	-.8
B010263	382052.	3495982.	20 71	-.9	-.90	35.0	-.9	-.8	45.0	-.9	-.8	25.0	2.0	-.8	-.8
B010264	383132.	3495927.	20 71	-.9	-.90	35.0	-.9	-.8	60.0	-.9	-.8	30.0	2.0	-.8	-.8
B010265	383212.	3495873.	20 71	-.9	-.90	15.0	-.9	-.8	65.0	-.9	-.8	20.0	2.0	-.8	-.8
B010266	383293.	3495819.	20 71	-.9	-.90	30.0	-.9	-.8	20.0	-.9	-.8	15.0	14.0	-.8	-.8
B010267	383373.	3495764.	20 71	-.9	-.90	45.0	-.9	-.8	65.0	-.9	-.8	20.0	12.0	-.8	-.8
B010268	383453.	3495710.	20 71	-.9	-.90	40.0	-.9	-.8	75.0	-.9	-.8	105.0	2.0	-.8	-.8
B010269	383533.	3495656.	20 71	-.9	-.90	20.0	-.9	-.8	25.0	-.9	-.8	40.0	4.0	-.8	-.8
B010270	383614.	3495602.	20 71	-.9	-.90	50.0	-.9	-.8	55.0	-.9	-.8	120.0	12.0	-.8	-.8
B010271	382731.	3496199.	20 71	-.9	-.90	15.0	-.9	-.8	40.0	-.9	-.8	35.0	2.0	-.8	-.8
B010272	382650.	3496253.	20 71	-.9	-.90	25.0	-.9	-.8	50.0	-.9	-.8	130.0	2.0	-.8	-.8
B010273	382570.	3496307.	20 71	.8	-.90	40.0	-.9	-.8	60.0	-.9	-.8	75.0	10.0	-.8	-.8
B010274	382490.	3496362.	20 71	-.9	-.90	10.0	-.9	-.8	55.0	-.9	-.8	105.0	2.0	-.8	-.8
B010275	382409.	3496416.	20 71	.8	-.90	40.0	-.9	-.8	35.0	-.9	-.8	120.0	6.0	-.8	-.8
B010276	382329.	3496470.	20 71	.2	-.90	20.0	-.9	-.8	45.0	-.9	-.8	25.0	2.0	-.8	-.8
B010277	382249.	3496524.	20 71	.2	-.90	20.0	-.9	-.8	50.0	-.9	-.8	40.0	13.0	-.8	-.8
B010278	382169.	3496579.	20 71	.2	-.90	20.0	-.9	-.8	45.0	-.9	-.8	30.0	4.0	-.8	-.8
B010279	382088.	3496633.	20 71	.2	-.90	10.0	-.9	-.8	100.0	-.9	-.8	25.0	6.0	-.8	-.8
B010280	382008.	3496687.	20 71	-.9	-.90	10.0	-.9	-.8	100.0	-.9	-.8	15.0	11.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B010230	5.0	130.0
B010231	4.0	120.0
B010232	4.0	70.0
B010233	4.0	50.0
B010234	4.0	65.0
B010235	4.0	85.0
B010236	4.0	80.0
B010237	5.0	100.0
B010238	3.0	90.0
B010239	4.0	100.0
B010240	3.0	85.0
B010241	4.0	100.0
B010242	3.0	110.0
B010243	4.0	75.0
B010244	3.0	80.0
B010245	3.0	70.0
B010246	3.0	55.0
B010247	2.0	135.0
B010248	3.0	385.0
B010249	3.0	70.0
B010250	-.9	105.0
B010251	4.0	35.0
B010252	-.9	80.0
B010253	3.0	85.0
B010254	4.0	70.0
B010255	6.0	90.0
B010256	3.0	110.0
B010257	-.9	120.0
B010258	4.0	45.0
B010259	2.0	100.0
B010260	5.0	970.0
B010261	3.0	105.0
B010262	5.0	120.0
B010263	4.0	95.0
B010264	4.0	90.0
B010265	4.0	70.0
B010266	4.0	65.0
B010267	3.0	100.0
B010268	4.0	180.0
B010269	3.0	60.0
B010270	4.0	240.0
B010271	4.0	275.0
B010272	4.0	590.0
B010273	4.0	355.0
B010274	3.0	225.0
B010275	4.0	450.0
B010276	-.9	100.0
B010277	3.0	95.0
B010278	-.9	95.0
B010279	3.0	165.0
B010280	3.0	120.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV	IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B010281	380576.	3494961.	20	71	.2	-.90	40.0	-.9	-.8	45.0	-.9	-.8	35.0	10.0	-.8	-.8
B010282	380651.	3494905.	20	71	-.9	-.90	15.0	-.9	-.8	50.0	-.9	-.8	50.0	15.0	-.8	-.8
B010283	380727.	3494849.	20	71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	35.0	2.0	-.8	-.8
B010284	380802.	3494792.	20	71	-.9	-.90	175.0	-.9	-.8	30.0	-.9	-.8	15.0	2.0	-.8	-.8
B010285	380878.	3494736.	20	71	-.9	-.90	25.0	-.9	-.8	35.0	-.9	-.8	20.0	4.0	-.8	-.8
B010286	380954.	3494680.	20	71	-.9	-.90	45.0	-.9	-.8	30.0	-.9	-.8	20.0	4.0	-.8	-.8
B010287	381029.	3494624.	20	71	-.9	-.90	45.0	-.9	-.8	40.0	-.9	-.8	25.0	4.0	-.8	-.8
B010288	381105.	3494568.	20	71	-.9	-.90	40.0	-.9	-.8	45.0	-.9	-.8	25.0	8.0	-.8	-.8
B010289	381181.	3494512.	20	71	.2	-.90	30.0	-.9	-.8	35.0	-.9	-.8	25.0	2.0	-.8	-.8
B010290	381256.	3494456.	20	71	-.9	-.90	25.0	-.9	-.8	45.0	-.9	-.8	30.0	4.0	-.8	-.8
B010291	381332.	3494399.	20	71	-.9	-.90	30.0	-.9	-.8	50.0	-.9	-.8	25.0	4.0	-.8	-.8
B010292	381408.	3494343.	20	71	-.9	-.90	35.0	-.9	-.8	55.0	-.9	-.8	40.0	2.0	-.8	-.8
B010293	381483.	3494287.	20	71	-.9	-.90	30.0	-.9	-.8	40.0	-.9	-.8	30.0	8.0	-.8	-.8
B010294	381559.	3494231.	20	71	-.9	-.90	45.0	-.9	-.8	55.0	-.9	-.8	30.0	4.0	-.8	-.8
B010295	381635.	3494175.	20	71	.2	-.90	25.0	-.9	-.8	40.0	-.9	-.8	20.0	4.0	-.8	-.8
B010296	381710.	3494119.	20	71	-.9	-.90	30.0	-.9	-.8	45.0	-.9	-.8	25.0	4.0	-.8	-.8
B010297	381786.	3494062.	20	71	-.9	-.90	35.0	-.9	-.8	45.0	-.9	-.8	40.0	4.0	-.8	-.8
B010298	381862.	3494006.	20	71	-.9	-.90	15.0	-.9	-.8	45.0	-.9	-.8	15.0	2.0	-.8	-.8
B010299	381937.	3493950.	20	71	-.9	-.90	30.0	-.9	-.8	70.0	-.9	-.8	40.0	4.0	-.8	-.8
B010300	382013.	3493894.	20	71	-.9	-.90	25.0	-.9	-.8	55.0	-.9	-.8	30.0	2.0	-.8	-.8
B010301	382089.	3493838.	20	71	-.9	-.90	25.0	-.9	-.8	40.0	-.9	-.8	20.0	2.0	-.8	-.8
B010302	378613.	3493847.	20	71	-.9	-.90	30.0	-.9	-.8	50.0	-.9	-.8	20.0	2.0	-.8	-.8
B010303	378539.	3493914.	20	71	-.9	-.90	40.0	-.9	-.8	40.0	-.9	-.8	20.0	4.0	-.8	-.8
B010304	379840.	3492674.	20	71	-.9	-.90	45.0	-.9	-.8	65.0	-.9	-.8	20.0	2.0	-.8	-.8
B010305	379979.	3492533.	20	71	-.9	-.90	50.0	-.9	-.8	45.0	-.9	-.8	20.0	4.0	-.8	-.8
B010308	395000.	3510175.	20	71	-.9	-.90	85.0	-.9	-.8	60.0	-.9	-.8	40.0	6.0	-.8	-.8
B010309	395000.	3510200.	20	71	-.9	-.90	35.0	-.9	-.8	40.0	-.9	-.8	40.0	2.0	-.8	-.8
B010310	395000.	3510225.	20	71	-.9	-.90	45.0	-.9	-.8	25.0	-.9	-.8	20.0	8.0	-.8	-.8
B010311	395000.	3510250.	20	71	1.0	-.90	175.0	-.9	-.8	225.0	-.9	-.8	1250.0	36.0	-.8	-.8
B010312	395000.	3510275.	20	71	-.9	-.90	10.0	-.9	-.8	15.0	-.9	-.8	25.0	8.0	-.8	-.8
B010313	395000.	3510300.	20	71	-.9	-.90	105.0	-.9	-.8	20.0	-.9	-.8	30.0	48.0	-.8	-.8
B010314	395000.	3510325.	20	71	.4	-.90	60.0	-.9	-.8	55.0	-.9	-.8	135.0	42.0	-.8	-.8
B010315	395000.	3510350.	20	71	.6	-.90	185.0	-.9	-.8	115.0	-.9	-.8	280.0	46.0	-.8	-.8
B010316	395000.	3510375.	20	71	.8	.04	335.0	3.0	-.8	70.0	-.9	-.8	75.0	80.0	-.8	-.8
B010317	395000.	3510400.	20	71	.8	-.90	45.0	-.9	-.8	40.0	-.9	-.8	40.0	14.0	-.8	-.8
B010318	396150.	3511025.	20	71	.2	-.90	40.0	-.9	-.8	50.0	-.9	-.8	55.0	4.0	-.8	-.8
B010319	396150.	3511050.	20	71	-.9	-.90	160.0	-.9	-.8	40.0	-.9	-.8	145.0	16.0	-.8	-.8
B010320	396150.	3511075.	20	71	.4	-.90	120.0	-.9	-.8	10.0	-.9	-.8	30.0	50.0	-.8	-.8
B010321	396150.	3511100.	20	71	-.9	-.90	110.0	-.9	-.8	35.0	-.9	-.8	65.0	38.0	-.8	-.8
B010322	396150.	3511125.	20	71	-.9	-.90	185.0	-.9	-.8	40.0	-.9	-.8	40.0	40.0	-.8	-.8
B010323	396150.	3511150.	20	71	.8	-.90	205.0	-.9	-.8	30.0	-.9	-.8	45.0	34.0	-.8	-.8
B010324	396150.	3511175.	20	71	.6	.05	440.0	-.9	-.8	55.0	-.9	-.8	20.0	24.0	-.8	-.8
B010325	396150.	3511200.	20	71	.7	.11	590.0	-.9	-.8	35.0	-.9	-.8	75.0	36.0	-.8	-.8
B010326	396150.	3511225.	20	71	70.0	2.70	2500.0	-.9	-.8	55.0	-.9	-.8	30.0	95.0	-.8	-.8
B010327	396150.	3511250.	20	71	.9	-.90	35.0	-.9	-.8	30.0	-.9	-.8	15.0	15.0	-.8	-.8
B010328	395800.	3512950.	20	71	1.2	.18	70.0	-.9	-.8	50.0	-.9	-.8	95.0	8.0	-.8	-.8
B010329	395795.	3512960.	20	71	.4	-.90	50.0	-.9	-.8	85.0	-.9	-.8	20.0	8.0	-.8	-.8
B010330	395790.	3512970.	20	71	1.5	.06	250.0	-.9	-.8	50.0	-.9	-.8	15.0	70.0	-.8	-.8
B010331	395785.	3512980.	20	71	1.2	.14	180.0	-.9	-.8	35.0	-.9	-.8	25.0	42.0	-.8	-.8
B010332	395780.	3512990.	20	71	.9	-.90	115.0	-.9	-.8	100.0	-.9	-.8	40.0	95.0	-.8	-.8
B010333	395775.	3513000.	20	71	.2	-.90	35.0	-.9	-.8	50.0	-.9	-.8	30.0	11.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B010281	3.0	145.0
B010282	3.0	110.0
B010283	3.0	85.0
B010284	4.0	70.0
B010285	-.9	85.0
B010286	3.0	85.0
B010287	3.0	90.0
B010288	3.0	100.0
B010289	4.0	90.0
B010290	3.0	90.0
B010291	-.9	100.0
B010292	4.0	110.0
B010293	-.9	85.0
B010294	3.0	90.0
B010295	2.0	80.0
B010296	3.0	85.0
B010297	2.0	95.0
B010298	4.0	80.0
B010299	-.9	110.0
B010300	5.0	105.0
B010301	3.0	90.0
B010302	3.0	100.0
B010303	3.0	90.0
B010304	4.0	130.0
B010305	3.0	120.0
B010308	3.0	105.0
B010309	4.0	105.0
B010310	6.0	45.0
B010311	3.0	740.0
B010312	9.0	105.0
B010313	4.0	55.0
B010314	4.0	520.0
B010315	5.0	455.0
B010316	3.0	105.0
B010317	7.0	205.0
B010318	3.0	120.0
B010319	6.0	75.0
B010320	5.0	95.0
B010321	4.0	185.0
B010322	3.0	190.0
B010323	7.0	115.0
B010324	4.0	100.0
B010325	4.0	85.0
B010326	-.9	115.0
B010327	7.0	85.0
B010328	3.0	185.0
B010329	4.0	130.0
B010330	5.0	90.0
B010331	5.0	85.0
B010332	3.0	245.0
B010333	3.0	100.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B010334	395600.	3513300.	20 71	2.1	-.90	445.0	-.9	-.8	45.0	-.9	-.8	45.0	46.0	-.8	-.8
B010335	324600.	3466800.	20 71	.2	-.90	11500.0	-.9	-.8	30.0	-.9	-.8	30.0	60.0	-.8	-.8
B010336	324600.	3466700.	20 71	.2	-.90	195.0	-.9	-.8	50.0	-.9	-.8	35.0	16.0	-.8	-.8
B010337	324600.	3466600.	20 71	-.9	-.90	90.0	-.9	-.8	20.0	-.9	-.8	15.0	11.0	-.8	-.8
B010338	324600.	3466500.	20 71	-.9	-.90	55.0	-.9	-.8	30.0	-.9	-.8	30.0	24.0	-.8	-.8
B010339	324600.	3466400.	20 71	.8	-.90	45.0	-.9	-.8	20.0	-.9	-.8	25.0	6.0	-.8	-.8
B010340	324600.	3466300.	20 71	-.9	-.90	60.0	-.9	-.8	25.0	-.9	-.8	20.0	20.0	-.8	-.8
B010341	324600.	3466200.	20 71	.4	-.90	65.0	-.9	-.8	25.0	-.9	-.8	20.0	24.0	-.8	-.8
B010342	324600.	3466100.	20 71	.2	-.90	160.0	-.9	-.8	40.0	-.9	-.8	30.0	65.0	-.8	-.8
B010343	324600.	3466000.	20 71	.4	-.90	1500.0	-.9	-.8	55.0	-.9	-.8	30.0	80.0	-.8	-.8
B010344	324200.	3466700.	20 71	.2	-.90	120.0	-.9	-.8	210.0	2.0	-.8	15.0	19.0	-.8	-.8
B010345	324200.	3466600.	20 71	-.9	-.90	60.0	-.9	-.8	55.0	-.9	-.8	20.0	6.0	-.8	-.8
B010346	324200.	3466500.	20 71	-.9	-.90	80.0	-.9	-.8	20.0	-.9	-.8	20.0	20.0	-.8	-.8
B010347	324200.	3466400.	20 71	-.9	-.90	20.0	-.9	-.8	20.0	-.9	-.8	15.0	16.0	-.8	-.8
B010348	324200.	3466300.	20 71	-.9	-.90	35.0	-.9	-.8	35.0	-.9	-.8	20.0	19.0	-.8	-.8
B010349	324200.	3466200.	20 71	-.9	-.90	20.0	-.9	-.8	25.0	-.9	-.8	20.0	12.0	-.8	-.8
B010350	324200.	3466100.	20 71	-.9	-.90	20.0	-.9	-.8	30.0	-.9	-.8	20.0	28.0	-.8	-.8
B010351	324200.	3466000.	20 71	-.9	-.90	85.0	-.9	-.8	15.0	-.9	-.8	15.0	10.0	-.8	-.8
B010352	324200.	3465900.	20 71	-.9	-.90	320.0	-.9	-.8	35.0	-.9	-.8	25.0	34.0	-.8	-.8
B010353	325250.	3466900.	20 71	-.9	-.90	175.0	-.9	-.8	25.0	-.9	-.8	30.0	14.0	-.8	-.8
B010354	325250.	3466800.	20 71	.2	-.90	165.0	-.9	-.8	25.0	-.9	-.8	30.0	14.0	-.8	-.8
B010355	325250.	3466700.	20 71	-.9	-.90	50.0	-.9	-.8	15.0	-.9	-.8	35.0	8.0	-.8	-.8
B010356	325250.	3466600.	20 71	-.9	-.90	125.0	-.9	-.8	20.0	-.9	-.8	25.0	16.0	-.8	-.8
B010357	325250.	3466500.	20 71	-.9	-.90	1700.0	-.9	-.8	30.0	-.9	-.8	55.0	1300.0	-.8	-.8
B010358	325250.	3466400.	20 71	-.9	.02	210.0	-.9	-.8	30.0	-.9	-.8	50.0	48.0	-.8	-.8
B010359	325250.	3466300.	20 71	-.9	-.90	185.0	-.9	-.8	30.0	-.9	-.8	65.0	70.0	-.8	-.8
B010360	325250.	3466200.	20 71	.2	-.90	200.0	-.9	-.8	40.0	-.9	-.8	60.0	28.0	-.8	-.8
B010361	326000.	3467000.	20 71	-.9	-.90	20.0	-.9	-.8	10.0	-.9	-.8	15.0	6.0	-.8	-.8
B010362	326000.	3466900.	20 71	-.9	-.90	15.0	-.9	-.8	15.0	-.9	-.8	15.0	2.0	-.8	-.8
B010363	326000.	3466800.	20 71	.2	-.90	30.0	-.9	-.8	35.0	-.9	-.8	20.0	12.0	-.8	-.8
B010364	326000.	3466700.	20 71	-.9	-.90	35.0	-.9	-.8	25.0	-.9	-.8	90.0	14.0	-.8	-.8
B010365	326000.	3466600.	20 71	-.9	-.90	35.0	-.9	-.8	25.0	-.9	-.8	15.0	20.0	-.8	-.8
B010366	326000.	3466500.	20 71	-.9	-.90	85.0	-.9	-.8	50.0	-.9	-.8	30.0	70.0	-.8	-.8
B010367	326000.	3466400.	20 71	-.9	-.90	1000.0	-.9	-.8	40.0	-.9	-.8	35.0	115.0	-.8	-.8
B010368	326000.	3466300.	20 71	-.9	.03	4100.0	-.9	-.8	40.0	-.9	-.8	40.0	155.0	-.8	-.8
B010369	425950.	3537500.	20 71	-.9	-.90	15.0	-.9	-.8	15.0	-.9	-.8	20.0	-.9	-.8	-.8
B010370	426500.	3537550.	20 71	.2	-.90	35.0	-.9	-.8	60.0	-.9	-.8	30.0	2.0	-.8	-.8
B010371	425475.	3537500.	20 71	-.9	-.90	30.0	-.9	-.8	55.0	-.9	-.8	20.0	-.9	-.8	-.8
B010372	426000.	3537475.	20 71	-.9	-.90	20.0	-.9	-.8	40.0	-.9	-.8	15.0	-.9	-.8	-.8
B010373	427000.	3537700.	20 71	.6	-.90	15.0	-.9	-.8	105.0	2.0	-.8	35.0	-.9	-.8	-.8
B010374	427500.	3537750.	20 71	-.9	-.90	10.0	-.9	-.8	45.0	-.9	-.8	20.0	-.9	-.8	-.8
B010375	428475.	3537500.	20 71	.4	-.90	10.0	-.9	-.8	45.0	-.9	-.8	20.0	-.9	-.8	-.8
B010376	428500.	3537550.	20 71	-.9	-.90	15.0	-.9	-.8	45.0	-.9	-.8	15.0	-.9	-.8	-.8
B010377	428900.	3537500.	20 71	-.9	-.90	20.0	-.9	-.8	45.0	-.9	-.8	50.0	4.0	-.8	-.8
B010378	429475.	3537600.	20 71	2.2	-.90	100.0	-.9	-.8	75.0	-.9	-.8	25.0	8.0	-.8	-.8
B010379	429450.	3537700.	20 71	.6	-.90	45.0	-.9	-.8	110.0	-.9	-.8	30.0	8.0	-.8	-.8
B010380	430250.	3537900.	20 71	-.9	-.90	25.0	-.9	-.8	25.0	-.9	-.8	10.0	2.0	-.8	-.8
B010381	430800.	3538050.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	15.0	-.9	-.8	-.8
B010382	431050.	3538300.	20 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	15.0	-.9	-.8	-.8
B010383	431500.	3538775.	20 71	1.7	-.90	-.9	-.9	-.8	30.0	-.9	-.8	15.0	-.9	-.8	-.8
B010384	431900.	3539050.	20 71	-.9	-.90	5.0	-.9	-.8	25.0	-.9	-.8	15.0	-.9	-.8	-.8

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B010334	4.0	160.0
B010335	3.0	50.0
B010336	6.0	245.0
B010337	4.0	65.0
B010338	3.0	150.0
B010339	3.0	55.0
B010340	4.0	75.0
B010341	3.0	70.0
B010342	12.0	110.0
B010343	3.0	110.0
B010344	9.0	70.0
B010345	4.0	65.0
B010346	5.0	40.0
B010347	4.0	65.0
B010348	6.0	100.0
B010349	4.0	65.0
B010350	9.0	100.0
B010351	3.0	40.0
B010352	6.0	90.0
B010353	4.0	95.0
B010354	6.0	95.0
B010355	8.0	65.0
B010356	8.0	80.0
B010357	15.0	80.0
B010358	4.0	190.0
B010359	6.0	105.0
B010360	6.0	180.0
B010361	3.0	45.0
B010362	5.0	45.0
B010363	4.0	65.0
B010364	5.0	50.0
B010365	4.0	50.0
B010366	5.0	80.0
B010367	5.0	85.0
B010368	3.0	85.0
B010369	5.0	55.0
B010370	4.0	130.0
B010371	3.0	105.0
B010372	3.0	140.0
B010373	6.0	85.0
B010374	4.0	120.0
B010375	-.9	95.0
B010376	3.0	110.0
B010377	5.0	80.0
B010378	6.0	85.0
B010379	6.0	95.0
B010380	6.0	80.0
B010381	3.0	75.0
B010382	4.0	70.0
B010383	3.0	75.0
B010384	3.0	80.0

TABLE AD-18 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B010385	432075.	3539625.	20 71	-.9	-.90	-.9	-.9	-.8	20.0	-.9	-.8	10.0	-.9	-.8	-.8
B010386	432675.	3539870.	20 71	-.9	-.90	-.9	-.9	-.8	30.0	-.9	-.8	10.0	-.9	-.8	-.8
B010387	433020.	3540050.	20 71	-.9	-.90	-.9	-.9	-.8	40.0	-.9	-.8	20.0	11.0	-.8	-.8
B010388	433650.	3540500.	20 71	.9	-.90	35.0	-.9	-.8	20.0	-.9	-.8	20.0	4.0	-.8	-.8
B010389	434000.	3540800.	20 71	-.9	-.90	-.9	-.9	-.8	45.0	-.9	-.8	20.0	13.0	-.8	-.8
B010390	434200.	3541200.	20 71	-.9	-.90	-.9	-.9	-.8	25.0	-.9	-.8	15.0	-.9	-.8	-.8
B010402	335501.	3482089.	20 71	.2	-.90	20.0	-.9	-.8	20.0	-.9	-.8	20.0	-.9	-.8	-.8
B010403	335549.	3482007.	20 71	.4	-.90	40.0	-.9	-.8	30.0	-.9	-.8	20.0	6.0	-.8	-.8
B010404	335598.	3481925.	20 71	.4	-.90	-.9	-.9	-.8	20.0	-.9	-.8	15.0	4.0	-.8	-.8
B010405	335647.	3481844.	20 71	.6	-.90	-.9	-.9	-.8	25.0	-.9	-.8	25.0	-.9	-.8	-.8
B010406	335696.	3481762.	20 71	-.9	-.90	25.0	-.9	-.8	20.0	-.9	-.8	-.9	4.0	-.8	-.8
B010407	335744.	3481680.	20 71	-.9	-.90	55.0	-.9	-.8	25.0	-.9	-.8	10.0	2.0	-.8	-.8
B010408	335793.	3481599.	20 71	-.9	-.90	40.0	-.9	-.8	30.0	-.9	-.8	10.0	8.0	-.8	-.8
B010409	335841.	3481517.	20 71	-.9	-.90	30.0	-.9	-.8	25.0	-.9	-.8	20.0	4.0	-.8	-.8
B010410	335889.	3481435.	20 71	-.9	-.90	30.0	-.9	-.8	15.0	-.9	-.8	15.0	4.0	-.8	-.8
B010411	335939.	3481353.	20 71	-.9	-.90	30.0	-.9	-.8	25.0	-.9	-.8	25.0	14.0	-.8	-.8
B010412	335987.	3481272.	20 71	1.2	-.90	-.9	-.9	-.8	15.0	-.9	-.8	10.0	-.9	-.8	-.8
B010413	334642.	3481381.	20 71	.2	-.90	105.0	-.9	-.8	25.0	-.9	-.8	20.0	7.0	-.8	-.8
B010414	334588.	3481461.	20 71	-.9	-.90	50.0	-.9	-.8	50.0	-.9	-.8	15.0	13.0	-.8	-.8
B010415	334695.	3481302.	20 71	.4	-.90	25.0	-.9	-.8	45.0	-.9	-.8	20.0	4.0	-.8	-.8
B010416	334722.	3481261.	20 71	-.9	-.90	40.0	-.9	-.8	45.0	-.9	-.8	20.0	4.0	-.8	-.8
B010417	334749.	3481222.	20 71	.4	-.90	20.0	-.9	-.8	30.0	-.9	-.8	15.0	4.0	-.8	-.8
B010418	334775.	3481182.	20 71	-.9	-.90	30.0	-.9	-.8	35.0	-.9	-.8	25.0	10.0	-.8	-.8
B010419	334828.	3481103.	20 71	1.0	-.90	120.0	-.9	-.8	40.0	-.9	-.8	30.0	85.0	-.8	-.8
B010420	334828.	3481102.	20 71	.9	-.90	90.0	-.9	-.8	20.0	-.9	-.8	30.0	38.0	-.8	-.8
B010421	334855.	3481063.	20 71	.2	-.90	135.0	-.9	-.8	25.0	-.9	-.8	20.0	13.0	-.8	-.8
B010422	334882.	3481023.	20 71	-.9	-.90	95.0	-.9	-.8	15.0	-.9	-.8	25.0	13.0	-.8	-.8
B010423	334908.	3480983.	20 71	.4	-.90	145.0	-.9	-.8	20.0	-.9	-.8	40.0	22.0	-.8	-.8
B010424	334962.	3480903.	20 71	.6	-.90	225.0	-.9	-.8	25.0	-.9	-.8	70.0	36.0	-.8	-.8
B010425	335015.	3480824.	20 71	1.5	-.90	105.0	-.9	-.8	20.0	-.9	-.8	85.0	70.0	-.8	-.8
B010426	335068.	3480744.	20 71	.6	-.90	90.0	-.9	-.8	20.0	-.9	-.8	55.0	38.0	-.8	-.8
B010427	335122.	3480664.	20 71	-.9	-.90	40.0	-.9	-.8	40.0	-.9	-.8	20.0	42.0	-.8	-.8
B010428	334523.	3480223.	20 71	.4	-.90	70.0	-.9	-.8	50.0	-.9	-.8	30.0	10.0	-.8	-.8
B010430	334417.	3480380.	20 71	-.9	-.90	65.0	-.9	-.8	40.0	-.9	-.8	30.0	9.0	-.8	-.8
B010431	334364.	3480458.	20 71	.4	-.90	60.0	-.9	-.8	45.0	-.9	-.8	30.0	9.0	-.8	-.8
B010432	334312.	3480537.	20 71	.2	-.90	140.0	-.9	-.8	40.0	-.9	-.8	25.0	6.0	-.8	-.8
B010433	334258.	3480616.	20 71	-.9	-.90	65.0	-.9	-.8	65.0	-.9	-.8	25.0	4.0	-.8	-.8
B010434	334206.	3480694.	20 71	.7	-.90	40.0	-.9	-.8	170.0	2.0	-.8	25.0	4.0	-.8	-.8
B010435	334152.	3480772.	20 71	-.9	-.90	50.0	-.9	-.8	85.0	-.9	-.8	25.0	6.0	-.8	-.8
B010436	334100.	3480851.	20 71	-.9	-.90	35.0	-.9	-.8	125.0	-.9	-.8	30.0	4.0	-.8	-.8
B010437	334047.	3480930.	20 71	-.9	-.90	35.0	-.9	-.8	130.0	-.9	-.8	30.0	4.0	-.8	-.8
B010438	333994.	3481009.	20 71	-.9	-.90	40.0	-.9	-.8	115.0	-.9	-.8	25.0	6.0	-.8	-.8
B010439	341624.	3486309.	20 71	1.5	.30	1050.0	-.9	-.8	30.0	-.9	-.8	110.0	24.0	-.8	-.8
B010440	341562.	3486388.	20 71	1.5	.04	230.0	-.9	-.8	15.0	-.9	-.8	45.0	2.0	-.8	-.8
B010441	341500.	3486466.	20 71	.6	.62	600.0	-.9	-.8	15.0	-.9	-.8	30.0	-.9	-.8	-.8
B010442	341438.	3486544.	20 71	1.3	.05	85.0	-.9	-.8	15.0	-.9	-.8	15.0	-.9	-.8	-.8
B010443	341376.	3486623.	20 71	.8	.16	380.0	-.9	-.8	15.0	-.9	-.8	60.0	2.0	-.8	-.8
B010444	341314.	3486701.	20 71	.4	.14	475.0	-.9	-.8	15.0	-.9	-.8	25.0	-.9	-.8	-.8
B010445	341251.	3486779.	20 71	.7	.11	235.0	-.9	-.8	10.0	-.9	-.8	15.0	2.0	-.8	-.8
B010446	341189.	3486857.	20 71	1.5	-.90	205.0	-.9	-.8	-.9	-.9	-.8	30.0	-.9	-.8	-.8
B010447	341127.	3486936.	20 71	.8	.93	290.0	-.9	-.8	15.0	-.9	-.8	45.0	-.9	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B010385	3.0	70.0
B010386	6.0	75.0
B010387	-.9	275.0
B010388	3.0	45.0
B010389	4.0	265.0
B010390	7.0	110.0
B010402	3.0	30.0
B010403	3.0	75.0
B010404	4.0	75.0
B010405	4.0	55.0
B010406	6.0	50.0
B010407	9.0	45.0
B010408	6.0	90.0
B010409	8.0	70.0
B010410	5.0	40.0
B010411	4.0	65.0
B010412	22.0	35.0
B010413	4.0	115.0
B010414	3.0	105.0
B010415	5.0	110.0
B010416	4.0	105.0
B010417	3.0	65.0
B010418	3.0	105.0
B010419	8.0	415.0
B010420	6.0	255.0
B010421	3.0	105.0
B010422	3.0	90.0
B010423	4.0	125.0
B010424	3.0	110.0
B010425	4.0	90.0
B010426	4.0	95.0
B010427	-.9	160.0
B010428	3.0	105.0
B010430	4.0	115.0
B010431	4.0	115.0
B010432	6.0	95.0
B010433	4.0	85.0
B010434	-.9	265.0
B010435	3.0	105.0
B010436	3.0	110.0
B010437	3.0	120.0
B010438	4.0	115.0
B010439	4.0	170.0
B010440	4.0	70.0
B010441	3.0	65.0
B010442	4.0	35.0
B010443	3.0	85.0
B010444	4.0	65.0
B010445	3.0	40.0
B010446	6.0	60.0
B010447	2.0	60.0

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	BI (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SB (PPM)	SN (PPM)	V (PPM)
B010448	341005.	3487014.	20 71	.2	.04	110.0	-.9	-.8	10.0	-.9	-.8	15.0	-.9	-.8	-.8
B010449	341003.	3487093.	20 71	7.9	.12	740.0	-.9	-.8	30.0	-.9	-.8	495.0	12.0	-.8	-.8
B010450	340941.	3487171.	20 71	75.0	2.90	4450.0	-.9	-.8	135.0	-.9	-.8	2600.0	135.0	-.8	-.8
B010451	340878.	3487249.	20 71	44.0	.68	2450.0	-.9	-.8	95.0	-.9	-.8	1400.0	80.0	-.8	-.8
B010452	340817.	3487327.	20 71	2.6	-.90	150.0	-.9	-.8	45.0	-.9	-.8	95.0	4.0	-.8	-.8
B010453	340754.	3487406.	20 71	3.3	-.90	140.0	-.9	-.8	30.0	-.9	-.8	185.0	32.0	-.8	-.8
B010454	340692.	3487484.	20 71	.6	-.90	25.0	-.9	-.8	30.0	-.9	-.8	20.0	-.9	-.8	-.8
B010455	340630.	3487562.	20 71	.6	.05	30.0	-.9	-.8	25.0	-.9	-.8	40.0	8.0	-.8	-.8
B010456	340568.	3487641.	20 71	3.6	.03	105.0	-.9	-.8	110.0	-.9	-.8	410.0	11.0	-.8	-.8
B010457	340506.	3467719.	20 71	7.7	-.90	125.0	-.9	-.8	70.0	-.9	-.8	470.0	13.0	-.8	-.8
B010458	340444.	3487797.	20 71	.6	-.90	75.0	-.9	-.8	65.0	-.9	-.8	55.0	14.0	-.8	-.8
B010459	340382.	3487876.	20 71	.6	-.90	35.0	-.9	-.8	25.0	-.9	-.8	25.0	2.0	-.8	-.8
B010460	340316.	3487954.	20 71	.2	-.90	20.0	-.9	-.8	15.0	-.9	-.8	30.0	4.0	-.8	-.8
B010461	340251.	3488032.	20 71	.4	-.90	20.0	-.9	-.8	30.0	-.9	-.8	65.0	20.0	-.8	-.8
B010462	340195.	3488111.	20 71	.2	-.90	55.0	-.9	-.8	35.0	-.9	-.8	35.0	6.0	-.8	-.8
B010501	346150.	3486750.	20 71	4.0	1.30	5100.0	-.9	-.8	25.0	-.9	-.8	65.0	155.0	-.8	-.8
B010502	346400.	3486750.	20 71	4.2	1.90	24000.0	2.0	-.8	45.0	-.9	-.8	110.0	34.0	-.8	-.8
B010503	433650.	3563250.	20 71	.4	.06	200.0	-.9	-.8	60.0	-.9	-.8	55.0	170.0	-.8	-.8
B010504	430150.	3559050.	20 71	1.1	.04	75.0	-.9	-.8	30.0	-.9	-.8	50.0	85.0	-.8	-.8
B010505	431750.	3556700.	20 71	-.9	-.90	35.0	-.9	-.8	25.0	-.9	-.8	35.0	130.0	-.8	-.8
B010506	437000.	3558500.	20 71	.2	-.90	95.0	-.9	-.8	30.0	-.9	-.8	20.0	170.0	-.8	-.8
B011201	422300.	3556400.	20 71	.2	.09	25.0	-.9	-.8	5.0	-.9	-.8	35.0	40.0	-.8	-.8
B011202	425200.	3554600.	20 71	.4	-.90	-.9	-.9	-.8	5.0	-.9	-.8	105.0	100.0	-.8	-.8
B011203	425500.	3554500.	20 71	.4	-.90	25.0	-.9	-.8	5.0	-.9	-.8	25.0	30.0	-.8	-.8
B011204	428700.	3554000.	20 71	-.9	-.90	-.9	-.9	-.8	105.0	-.9	-.8	25.0	60.0	-.8	-.8
B011205	429300.	3554950.	20 71	3.9	.30	2550.0	-.9	-.8	50.0	-.9	-.8	25.0	85.0	-.8	-.8
B011206	429700.	3557300.	20 71	1.0	-.90	15.0	-.9	-.8	35.0	-.9	-.8	35.0	75.0	-.8	-.8
B011207	429950.	3557800.	20 71	.9	.02	85.0	-.9	-.8	25.0	-.9	-.8	25.0	75.0	-.8	-.8

TABLE AD-18

CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
B010448	3.0	40.0
B010449	3.0	155.0
B010450	-.9	1050.0
B010451	3.0	750.0
B010452	2.0	120.0
B010453	5.0	130.0
B010454	-.9	70.0
B010455	-.9	45.0
B010456	4.0	300.0
B010457	-.9	310.0
B010458	3.0	150.0
B010459	10.0	55.0
B010460	7.0	55.0
B010461	10.0	105.0
B010462	3.0	70.0
B010501	4.0	265.0
B010502	2.0	375.0
B010503	5.0	150.0
B010504	6.0	120.0
B010505	5.0	65.0
B010506	7.0	85.0
B011201	22.0	15.0
B011202	3.0	35.0
B011203	5.0	10.0
B011204	3.0	200.0
B011205	24.0	95.0
B011206	4.0	70.0
B011207	5.0	70.0

TABLE AD-19

DUNKLE MINE AREA SOIL SAMPLES

ANALYTICAL RESULTS

TABLE AD-19 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SN (PPM)	W (PPM)	ZN (PPM)
B001016	592700.	3387150.	20 71	.8	.02	30.0	10.0	50.0	-.9	15.0	85.0	-.9	5.0	90.0
B001017	592500.	3387150.	20 71	-.9	.03	130.0	10.0	70.0	-.9	20.0	90.0	-.9	5.0	120.0
B001018	592300.	3387150.	20 71	-.9	.02	110.0	10.0	50.0	-.9	20.0	20.0	-.9	6.0	70.0
B001019	592100.	3387150.	20 71	-.9	.01	120.0	10.0	65.0	-.9	15.0	10.0	-.9	4.0	95.0
B001020	591900.	3387150.	20 71	-.9	-.90	30.0	-.9	25.0	-.9	15.0	20.0	-.9	3.0	40.0
B001021	591700.	3387150.	20 71	-.9	-.90	30.0	10.0	35.0	-.9	25.0	10.0	-.9	5.0	90.0
B001022	591500.	3387150.	20 71	-.9	.01	30.0	10.0	30.0	-.9	20.0	15.0	-.9	3.0	70.0
B001023	591300.	3387150.	20 71	-.9	-.90	50.0	15.0	40.0	-.9	25.0	15.0	-.9	3.0	110.0
B001024	591000.	3387150.	20 71	-.9	-.90	40.0	15.0	30.0	-.9	20.0	15.0	-.9	4.0	100.0
B001025	590700.	3387150.	20 71	-.9	-.90	30.0	15.0	40.0	4.0	30.0	20.0	-.9	-.9	105.0
B001026	590450.	3387150.	20 71	-.9	-.90	20.0	15.0	25.0	4.0	15.0	10.0	-.9	3.0	100.0
B001027	590250.	3387150.	20 71	-.9	-.90	30.0	15.0	25.0	14.0	20.0	15.0	-.9	-.9	100.0
B001028	590100.	3387150.	20 71	-.9	-.90	20.0	10.0	30.0	18.0	20.0	20.0	-.9	3.0	60.0
B001029	589900.	3387150.	20 71	-.9	.01	30.0	15.0	40.0	-.9	30.0	20.0	-.9	-.9	105.0
B001030	589800.	3387150.	20 71	-.9	-.90	20.0	15.0	25.0	10.0	20.0	15.0	-.9	3.0	115.0
B001031	589600.	3387150.	20 71	-.9	-.90	20.0	15.0	25.0	-.9	25.0	10.0	-.9	3.0	100.0
B001032	589400.	3387150.	20 71	-.9	-.90	10.0	15.0	20.0	-.9	20.0	10.0	-.9	4.0	120.0
B001033	589200.	3387150.	20 71	-.9	.01	20.0	15.0	25.0	-.9	25.0	15.0	-.9	3.0	100.0
B001034	593600.	3387150.	20 71	.6	-.90	70.0	10.0	60.0	-.9	20.0	20.0	-.9	4.0	80.0
B001035	593800.	3387150.	20 71	.8	.02	210.0	10.0	205.0	6.0	15.0	20.0	20.0	11.0	85.0
B001036	594000.	3387150.	20 71	-.9	.01	110.0	10.0	140.0	-.9	20.0	25.0	-.9	19.0	135.0
B001037	594200.	3387150.	20 71	-.9	-.90	50.0	10.0	80.0	-.9	25.0	20.0	-.9	3.0	100.0
B001038	594400.	3387150.	20 71	.4	.01	100.0	10.0	75.0	-.9	20.0	15.0	-.9	15.0	90.0
B001039	594600.	3387150.	20 71	-.9	.03	190.0	15.0	135.0	-.9	20.0	15.0	-.9	4.0	95.0
B001040	594800.	3387150.	20 71	-.9	.02	80.0	10.0	80.0	-.9	20.0	10.0	-.9	4.0	75.0
B001045	595000.	3387150.	20 71	.4	.02	100.0	10.0	55.0	18.0	30.0	20.0	-.9	6.0	90.0
B010601	596500.	3388200.	20 71	-.9	.01	140.0	10.0	170.0	-.9	25.0	20.0	-.9	6.0	140.0
B010602	596500.	3388400.	20 71	-.9	-.90	190.0	10.0	40.0	-.9	25.0	20.0	-.9	10.0	75.0
B010603	596500.	3388600.	20 71	.6	-.90	40.0	10.0	30.0	6.0	30.0	15.0	-.9	5.0	80.0
B010604	596500.	3388800.	20 71	-.9	-.90	50.0	10.0	25.0	-.9	10.0	20.0	-.9	5.0	40.0
B010605	596000.	3389000.	20 71	-.9	-.90	70.0	5.0	45.0	6.0	10.0	30.0	-.9	6.0	30.0
B010606	596500.	3389200.	20 71	-.9	.01	250.0	-.9	445.0	-.9	20.0	40.0	-.9	8.0	410.0
B010607	596500.	3389400.	20 71	-.9	.02	130.0	10.0	35.0	6.0	25.0	20.0	-.9	4.0	80.0
B010608	596500.	3389600.	20 71	-.9	-.90	80.0	10.0	35.0	-.9	25.0	25.0	-.9	3.0	65.0
B010609	596500.	3389800.	20 71	.4	-.90	20.0	-.9	25.0	-.9	15.0	15.0	-.9	3.0	45.0
B010610	596500.	3390000.	20 71	-.9	-.90	60.0	10.0	50.0	-.9	30.0	25.0	-.9	3.0	105.0
B010611	596500.	3390200.	20 71	-.9	.02	90.0	10.0	50.0	-.9	30.0	25.0	-.9	4.0	95.0
B010612	596500.	3390400.	20 71	-.9	-.90	80.0	-.9	65.0	-.9	25.0	15.0	-.9	5.0	55.0
B010613	596500.	3390600.	20 71	-.9	-.90	30.0	10.0	30.0	-.9	25.0	15.0	-.9	-.9	55.0
B010614	596500.	3391000.	20 71	-.9	-.90	230.0	10.0	80.0	-.9	30.0	20.0	-.9	4.0	100.0
B010615	596500.	3391200.	20 71	-.9	-.90	3050.0	20.0	840.0	-.9	30.0	35.0	-.9	3.0	185.0
B010616	596500.	3391400.	20 71	.2	.03	370.0	10.0	55.0	-.9	35.0	15.0	2.0	-.9	95.0
B010617	596500.	3391600.	20 71	.4	-.90	720.0	10.0	960.0	-.9	35.0	20.0	-.9	-.9	130.0
B010618	596500.	3391800.	20 71	-.9	-.90	210.0	15.0	45.0	-.9	35.0	15.0	-.9	-.9	100.0
B010619	596500.	3392000.	20 71	-.9	-.90	1200.0	15.0	485.0	-.9	35.0	20.0	-.9	2.0	205.0
B010620	596500.	3392200.	20 71	-.9	-.90	480.0	15.0	225.0	-.9	20.0	15.0	-.9	4.0	190.0
B010621	596500.	3392400.	20 71	-.9	-.90	380.0	5.0	250.0	-.9	15.0	15.0	-.9	9.0	140.0
B010622	596500.	3392600.	20 71	-.9	-.90	30.0	15.0	30.0	-.9	25.0	15.0	-.9	4.0	75.0
B010623	596500.	3392800.	20 71	-.9	-.90	30.0	10.0	25.0	-.9	25.0	15.0	-.9	7.0	60.0
B010624	596500.	3393000.	20 71	.4	-.90	20.0	15.0	20.0	-.9	25.0	15.0	-.9	3.0	65.0
B010625	596500.	3393200.	20 71	-.9	.01	50.0	10.0	20.0	-.9	30.0	15.0	-.9	-.9	75.0

TABLE AD-19 CHEMICAL ANALYSIS OF SOIL SAMPLES FROM THE DUNKLE MINE STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AU (PPM)	AS (PPM)	CO (PPM)	CU (PPM)	MO (PPM)	NI (PPM)	PB (PPM)	SN (PPM)	W (PPM)	ZN (PPM)
B010626	596500.	3393400.	20 71	-.9	-.90	-.9	5.0	10.0	-.9	10.0	5.0	-.9	3.0	20.0
B010627	596500.	3393600.	20 71	-.9	-.90	10.0	-.9	15.0	-.9	10.0	20.0	-.9	-.9	35.0
B010628	596500.	3393800.	20 71	.4	-.90	400.0	-.9	40.0	-.9	20.0	20.0	-.9	-.9	30.0
B010629	596400.	3387000.	20 71	.4	.01	100.0	10.0	55.0	-.9	15.0	20.0	-.9	3.0	80.0
B010630	596600.	3387000.	20 71	-.9	-.90	100.0	10.0	75.0	-.9	15.0	15.0	-.9	3.0	85.0
B010631	596800.	3387000.	20 71	-.9	.01	120.0	10.0	65.0	-.9	10.0	15.0	-.9	5.0	80.0
B011219	595200.	3387150.	20 71	-.9	.01	40.0	10.0	25.0	-.9	20.0	20.0	-.9	3.0	65.0
B011220	595400.	3387150.	20 71	-.9	.01	60.0	10.0	40.0	-.9	15.0	15.0	-.9	3.0	110.0
B011221	595600.	3387150.	20 71	-.9	.01	50.0	10.0	50.0	-.9	20.0	20.0	-.9	3.0	85.0
B011222	595800.	3387150.	20 71	-.9	-.90	60.0	20.0	35.0	-.9	15.0	15.0	-.9	-.9	90.0
B011235	593500.	3387200.	20 71	.4	-.90	290.0	10.0	75.0	-.9	10.0	10.0	-.9	8.0	70.0
B011236	593500.	3387000.	20 71	-.9	.01	140.0	10.0	65.0	-.9	15.0	15.0	-.9	4.0	100.0
B011237	593500.	3386800.	20 71	.4	-.90	160.0	10.0	85.0	-.9	15.0	20.0	-.9	13.0	75.0
B011238	593500.	3386600.	20 71	.4	.02	60.0	10.0	55.0	-.9	20.0	20.0	-.9	3.0	90.0
B011239	593500.	3386400.	20 71	.4	.01	360.0	10.0	140.0	-.9	15.0	20.0	-.9	13.0	95.0
B011240	593500.	3386200.	20 71	.4	.01	120.0	10.0	95.0	-.9	20.0	20.0	-.9	3.0	80.0
B011241	593500.	3386000.	20 71	-.9	.01	90.0	10.0	70.0	-.9	25.0	25.0	-.9	4.0	85.0
B011242	593500.	3385800.	20 71	-.9	.01	50.0	10.0	90.0	-.9	15.0	15.0	-.9	4.0	70.0
B011243	593500.	3385600.	20 71	-.9	-.90	60.0	10.0	70.0	-.9	20.0	20.0	-.9	5.0	70.0
B011244	593500.	3385400.	20 71	.2	.01	160.0	15.0	195.0	-.9	25.0	20.0	-.9	19.0	110.0
B011245	593500.	3385200.	20 71	.4	.01	1050.0	15.0	185.0	-.9	25.0	35.0	-.9	4.0	140.0
B011246	593500.	3385000.	20 71	-.9	.01	40.0	5.0	35.0	-.9	5.0	10.0	-.9	3.0	35.0
B011247	593500.	3384800.	20 71	-.9	.01	110.0	10.0	50.0	-.9	20.0	15.0	10.0	6.0	95.0
B011248	593500.	3384600.	20 71	.8	.01	40.0	5.0	80.0	4.0	20.0	20.0	-.9	11.0	75.0
B011249	593500.	3387400.	20 71	.4	.02	130.0	10.0	85.0	-.9	15.0	25.0	-.9	8.0	100.0
B011250	593500.	3387600.	20 71	-.9	.01	120.0	10.0	70.0	-.9	25.0	20.0	-.9	6.0	95.0
B011251	593500.	3387800.	20 71	.4	.01	50.0	5.0	50.0	-.9	25.0	25.0	-.9	5.0	75.0
B011252	593500.	3388000.	20 71	.8	.03	400.0	-.9	100.0	-.9	10.0	20.0	12.0	9.0	70.0
B011253	593500.	3388200.	20 71	.6	.04	130.0	10.0	70.0	-.9	25.0	20.0	-.9	8.0	95.0
B011254	593500.	3388400.	20 71	-.9	.02	70.0	5.0	45.0	-.9	15.0	20.0	3.0	4.0	60.0
B011255	593500.	3388600.	20 71	2.0	-.90	950.0	5.0	145.0	-.9	15.0	50.0	-.9	4.0	80.0
B011256	593500.	3388800.	20 71	-.9	.01	40.0	-.9	225.0	6.0	15.0	20.0	-.9	8.0	65.0
B011257	593500.	3389000.	20 71	.6	-.90	20.0	5.0	25.0	-.9	10.0	20.0	-.9	4.0	25.0
B011258	593500.	3389200.	20 71	-.9	-.90	110.0	10.0	80.0	-.9	25.0	25.0	-.9	10.0	85.0
B011259	593500.	3389400.	20 71	-.9	.02	120.0	10.0	115.0	-.9	25.0	20.0	-.9	5.0	115.0
B011260	593500.	3389600.	20 71	-.9	.01	130.0	10.0	65.0	-.9	25.0	20.0	-.9	5.0	75.0
B011261	593500.	3389800.	20 71	-.9	-.90	10.0	-.9	45.0	-.9	10.0	20.0	-.9	3.0	15.0

TABLE AD-20

KANTISHNA HILLS ROCK CHIP SAMPLES

ANALYTICAL RESULTS

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C003495	360650.	3492400.	30 72	1.02	-.8	.010	-.80	-.900	-.9	60.000	-.900	70.000	-.900
C003496	360640.	3492390.	30 72	2.16	-.8	.037	-.80	-.900	-.9	350.000	-.900	1300.000	-.900
C003497	360630.	3492330.	30 72	3.84	-.8	.100	-.80	-.900	-.9	1750.000	-.900	220.000	-.900
C003498	360660.	3492410.	30 72	.21	-.8	.005	-.80	-.900	-.9	900.000	-.900	560.000	-.900
C003499	360670.	3492420.	30 72	377.00	-.8	.210	-.80	-.900	-.9	17000.000	-.900	282000.000	-.900
C012601	336750.	3475800.	34 72	2.76	-.8	-.900	-.80	.015%	-.9	.014%	-.900	-.900	44.300%
C012602	336600.	3476100.	34 72	.20	-.8	.011	-.80	.066%	-.9	-.900	-.900	-.900	11.400%
C012603	336600.	3474300.	34 72	40.10	-.8	.005	-.80	.065%	330.0	.830%	6.000	.077%	.910%
C012604	336550.	3474250.	32 71	-.80	.8	-.800	.67	4850.000	2.0	-.900	-.900	15.000	.042%
C012605	336200.	3477400.	32 72	.30	-.8	.005	-.80	.015%	-.9	-.900	-.900	-.900	3.200%
C012606	336850.	3476900.	34 71	-.80	3.6	-.800	.02	95.000	4.0	15.000	-.900	230.000	.017%
C012607	336550.	3476050.	34 71	-.80	1.0	-.800	-.90	90.000	-.9	5.000	-.900	70.000	.012%
C012608	343250.	3479550.	34 72	.46	-.8	.015	-.80	.345%	1.0	.004%	-.900	1.000%	.925%
C012609	340750.	3481100.	32 72	.16	-.8	.010	-.80	.465%	-.9	.002%	-.900	.235%	.028%
C012610	340400.	3480500.	34 72	-.90	-.8	.005	-.80	.027%	-.9	.004%	-.900	.004%	-.900
C012611	333750.	3473100.	30 72	.77	-.8	.005	-.80	.215%	-.9	.034%	-.900	.795%	.105%
C012612	335200.	3473250.	34 72	.50	-.8	-.900	-.80	.037%	-.9	.004%	-.900	-.900	6.400%
C012613	357850.	3484600.	34 72	-.90	-.8	.007	-.80	.050%	2.0	.110%	-.900	1.050%	.067%
C012614	354200.	3484000.	34 71	-.80	1.7	-.800	1.20	9900.000	-.9	-.900	-.900	10.000	48.000
C012615	345600.	3485900.	34 72	4.30	-.8	.009	-.80	.530%	-.9	.054%	-.900	11.000%	5.450%
C012616	345400.	3486100.	34 72	11.60	-.8	.015	-.80	.093%	11.0	.340%	-.900	24.500%	11.000%
C012617	346400.	3486750.	34 72	.03	-.8	.091	-.80	3.950%	1.0	.004%	-.900	.074%	.050%
C012618	346900.	3488450.	34 72	-.90	-.8	.008	-.80	.054%	-.9	-.900	-.900	.071%	.038%
C012619	346850.	3486300.	34 72	49.20	-.8	.008	-.80	.130%	4.0	.010%	-.900	.815%	.720%
C012620	345200.	3484400.	34 72	.56	-.8	.027	-.80	390.000	4.0	-.900	-.900	-.900	51.000%
C013601	354100.	3491000.	30 70	1.88	-.8	.048	-.80	54000.000	3.0	.025%	-.900	.490%	95.000
C013602	346065.	3489530.	30 70	30.90	-.8	.110	-.80	20500.000	5.0	.110%	-.900	5.100%	1300.000
C013603	346385.	3489530.	34 71	-.80	3.1	-.800	-.90	260.000	-.9	-.900	-.900	115.000	8.000
C013604	341170.	3487355.	30 70	.08	-.8	.026	-.80	6000.000	-.9	.004%	-.900	.006%	22.000
C013605	341165.	3487365.	30 70	-.90	-.8	.013	-.80	5600.000	-.9	.004%	-.900	-.900	13.000
C013606	341770.	3487430.	34 71	-.80	-.9	-.800	.16	2850.000	-.9	-.900	-.900	10.000	.001%
C013727	355750.	3490265.	34 71	-.80	1.0	-.800	-.90	90.000	2.0	15.000	2.000	105.000	-.900
C013728	355295.	3490860.	34 71	-.90	-.9	-.900	-.90	10.000	-.9	10.000	-.900	20.000	2.000
C013729	355175.	3491285.	34 71	-.80	55.0	-.800	9.60	137000.000	-.9	550.000	-.900	2500.000	180.000
C013730	355080.	3492630.	34 71	-.90	-.9	-.900	-.90	10.000	-.9	10.000	-.900	5.000	10.000
C013731	355030.	3492680.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	10.000	-.900
C013732	354270.	3490490.	34 71	-.80	.6	-.800	.04	770.000	-.9	10.000	-.900	20.000	4.000
C013733	351535.	3488685.	34 71	-.80	.2	-.800	-.90	50.000	-.9	40.000	-.900	15.000	10.000
C013734	323860.	3472900.	32 71	-.80	.6	-.800	-.90	40.000	-.9	15.000	-.900	10.000	180.000
C013735	363000.	3504750.	34 71	-.90	-.9	-.900	-.90	45.000	-.9	15.000	-.900	10.000	2.000
C013736	362530.	3505090.	34 71	-.80	.2	-.800	-.90	115.000	-.9	10.000	-.900	5.000	4.000
C013737	369220.	3509650.	34 71	-.80	.4	-.800	-.90	35.000	-.9	130.000	-.900	-.900	-.900
C013738	324830.	3456400.	34 71	-.80	-.9	-.800	.07	232000.000	-.9	30.000	-.900	-.900	1400.000
C013739	324830.	3456400.	34 72	-.80	.4	-.800	-.90	55.000	-.9	.006%	-.900	-.900	606000.000
C013740	324830.	3456400.	34 72	-.80	1.0	-.800	-.90	1800.000	-.9	.012%	-.900	-.900	610000.000
C013741	332210.	3469800.	34 71	-.90	-.9	-.900	-.90	20.000	-.9	45.000	20.000	-.900	1350.000
C013742	332950.	3468850.	34 71	-.80	90.0	-.800	.45	2800.000	1.0	720.000	-.900	3450.000	7200.000
C013743	329900.	3477450.	34 72	-.80	275.0	-.800	1.10	2450.000	2.0	.030%	-.900	10.500%	91500.000
C013744	329900.	3477450.	34 71	-.80	1.2	-.800	.03	85.000	3.0	105.000	-.900	410.000	300.000
C013745	330700.	3476790.	34 72	-.80	4900.0	-.800	1.60	18000.000	-.9	.365%	-.900	8.400%	45000.000
C013746	328430.	3473250.	34 72	-.80	700.0	-.800	.15	13000.000	-.9	.079%	2.000	3.000%	15500.000

TABLE AD-20

CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C003495	-.9	105.000
C003496	-.9	2750.000
C003497	-.9	1400.000
C003498	-.9	5700.000
C003499	-.9	37000.000
C012601	-.9	-.900
C012602	-.9	-.900
C012603	3.0	.110%
C012604	-.9	60.000
C012605	-.9	.004%
C012606	-.9	570.000
C012607	-.9	1250.000
C012608	-.9	.010%
C012609	-.9	.110%
C012610	3.0	-.900
C012611	-.9	6.650%
C012612	3.0	.007%
C012613	-.9	11.000%
C012614	2.0	20.000
C012615	-.9	32.500%
C012616	3.0	12.000%
C012617	4.0	.050%
C012618	4.0	.039%
C012619	3.0	.008%
C012620	9.0	-.900
C013601	-.9	.031%
C013602	-.9	.225%
C013603	5.0	55.000
C013604	-.9	.120%
C013605	7.0	.110%
C013606	8.0	55.000
C013727	3.0	25.000
C013728	3.0	50.000
C013729	5.0	165.000
C013730	2.0	30.000
C013731	4.0	15.000
C013732	8.0	130.000
C013733	4.0	70.000
C013734	3.0	30.000
C013735	4.0	30.000
C013736	26.0	45.000
C013737	-.9	60.000
C013738	3.0	105.000
C013739	3.0	.006%
C013740	-.9	.014%
C013741	7.0	10.000
C013742	4.0	8400.000
C013743	4.0	.905%
C013744	6.0	155.000
C013745	3.0	3.750%
C013746	-.9	.280%

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C013747	331850.	3466000.	34 72	5.16	-.8	-.900	-.80	.009%	100.0	1.250%	-.900	4.450%	2.450%
C013748	331850.	3466000.	34 71	-.80	7.2	-.800	-.90	195.000	-.9	105.000	-.900	35.000	.094%
C013751	333300.	3466750.	34 71	-.80	.7	-.800	-.90	-.900	-.9	135.000	-.900	120.000	.084%
C013752	336720.	3461260.	34 72	.18	-.8	.006	-.80	.018%	-.9	.004%	-.900	-.900	54.200%
C013753	360650.	3492400.	32 72	247.90	-.8	.150	-.80	.700%	2.0	1.050%	-.900	14.000%	1.250%
C013754	352980.	3489100.	34 72	188.70	-.8	.047	-.80	.270%	4.0	.905%	-.900	58.500%	1.000%
C013755	324830.	3456400.	34 71	-.80	1.8	-.800	-.90	350.000	-.9	-.900	-.900	35.000	155.000
C013756	439680.	3558420.	34 72	.03	-.8	.053	-.80	880.000	4.0	-.900	-.900	-.900	65.000%
C013757	439680.	3558420.	34 72	.12	-.8	.070	-.80	1000.000	4.0	-.900	-.900	-.900	68.000%
C013758	408200.	3550630.	30 72	-.90	-.9	-.900	-.90	-.900	-.9	10.000	-.900	-.900	-.900
C013759	408030.	3549230.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	10.000	-.900	10.000	2.000
C013760	409820.	3552030.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	150.000	-.900	-.900	6.000
C013768	384800.	3501470.	34 72	180.30	-.8	.270	-.80	-.900	-.9	.655%	.002%	36.000%	-.900
C013769	384850.	3501550.	34 72	129.60	-.8	.460	-.80	-.900	-.9	.145%	.008%	52.500%	-.900
C013770	391820.	3508900.	34 71	-.80	-.9	-.800	.10	50.000	-.9	10.000	-.900	10.000	-.900
C013771	392380.	3509300.	34 71	-.80	.4	-.800	-.90	90.000	-.9	5.000	12.000	15.000	-.900
C014001	345850.	3488850.	34 71	-.80	.4	-.800	.21	10500.000	-.9	55.000	-.900	-.900	18.000
C014002	343840.	3487250.	30 71	-.80	2.4	-.800	.12	1250.000	-.9	115.000	2.000	35.000	26.000
C014003	344210.	3487260.	30 71	-.80	860.0	-.800	.52	6900.000	-.9	1400.000	-.900	30500.000	1000.000
C014004	347900.	3489250.	30 71	-.80	270.0	-.800	6.50	810.000	2.0	350.000	8.000	90.000	305.000
C014005	342020.	3485930.	30 71	-.80	1555.0	-.800	2.50	8350.000	-.9	3700.000	-.900	33000.000	1850.000
C014006	442250.	3553900.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	35.000	-.900	25.000	4.000
C014007	444750.	3549220.	30 71	-.80	11.0	-.800	-.90	10.000	46.0	30.000	-.900	5050.000	2.000
C014008	342390.	3487040.	30 71	-.80	355.0	-.800	.13	540.000	-.9	15.000	-.900	148000.000	710.000
C014014	342420.	3488700.	32 71	-.90	-.9	-.900	-.90	15.000	-.9	5.000	-.900	30.000	-.900
C014101	385450.	3498650.	34 72	4.14	-.8	.060	-.80	250000.000	105.0	.008%	-.900	2.750%	730.000
C014102	384300.	3496750.	34 71	-.80	-.9	-.800	.04	20.000	10.0	25.000	-.900	10.000	-.900
C014103	382800.	3496100.	30 72	.47	-.8	-.900	-.80	12500.000	34.0	.049%	-.900	.375%	28.000
C014104	383600.	3496300.	34 71	-.80	3.2	-.800	-.90	390.000	3.0	215.000	-.900	25.000	24.000
C014105	384000.	3496400.	34 71	-.90	-.9	-.900	-.90	80.000	-.9	40.000	-.900	15.000	2.000
C014106	383700.	3497600.	30 72	1.38	-.8	.006	-.80	14000.000	2.0	.006%	-.900	.630%	8400.000
C014107	383600.	3498300.	34 71	-.80	.8	-.800	-.90	85.000	1.0	10.000	-.900	95.000	7.000
C014108	380400.	3499900.	34 71	-.80	.6	-.800	-.90	270.000	1.0	25.000	-.900	10.000	14.000
C014109	379500.	3495450.	30 72	2.06	-.8	.044	-.80	223000.000	215.0	.008%	-.900	.115%	2800.000
C014110	379700.	3496400.	30 71	-.80	30.0	-.800	.68	62500.000	3.0	55.000	-.900	9950.000	6750.000
C014111	375600.	3496700.	34 71	-.80	65.0	-.800	3.60	116000.000	-.9	150.000	-.900	11500.000	530.000
C014112	375750.	3496800.	34 72	11.70	-.8	.053	-.80	31000.000	2.0	-.900	-.900	7.900%	400.000
C014113	426800.	3532800.	30 71	-.80	.8	-.800	.03	960.000	-.9	40.000	-.900	85.000	14.000
C014114	379400.	3498700.	30 71	-.80	13.0	-.800	1.80	4200.000	6.0	75.000	2.000	325.000	34.000
C014115	384450.	3502300.	34 71	-.80	12.0	-.800	8.20	2600.000	-.9	15.000	-.900	1850.000	13.000
C014116	372400.	3496600.	34 70	8.54	-.8	.027	-.80	20500.000	-.9	.086%	2.000	3.400%	25000.000
C014117	398950.	3520200.	34 71	-.80	11.0	-.800	-.90	250.000	-.9	30.000	-.900	10000.000	475.000
C014118	375875.	3497300.	32 72	5.28	-.8	-.900	-.80	.054%	85.0	.018%	-.900	1.100%	.024%
C014119	375875.	3497300.	32 72	.07	-.8	-.900	-.80	.019%	6.0	-.900	-.900	.110%	-.900
C014120	375975.	3497100.	32 71	-.80	1.7	-.800	-.90	40.000	-.9	-.900	-.900	30.000	4.000
C014121	375975.	3497100.	32 71	-.80	.2	-.800	-.90	20.000	-.9	5.000	-.900	5.000	6.000
C014122	375950.	3496725.	34 72	3.69	-.8	.008	-.80	1.100%	-.9	.004%	-.900	1.700%	.021%
C014123	375850.	3496675.	34 72	8.07	-.8	.150	-.80	7.450%	-.9	.016%	-.900	1.200%	.065%
C014124	375825.	3496750.	34 72	13.00	-.8	.230	-.80	5.050%	2.0	.014%	-.900	.845%	.079%
C014125	417250.	3558400.	34 72	-.90	-.9	-.900	-.90	.021%	-.9	.004%	-.900	.004%	-.900
C014126	425400.	3542500.	32 71	-.90	-.9	-.900	-.90	20.000	-.9	20.000	-.900	10.000	6.000

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C013747	-.9	33.000%
C013748	-.9	29500.000
C013751	-.9	600.000
C013752	-.9	.090%
C013753	-.9	4.100%
C013754	-.9	13.500%
C013755	5.0	15.000
C013756	6.0	-.900
C013757	4.0	-.900
C013758	4.0	150.000
C013759	4.0	55.000
C013760	3.0	185.000
C013768	65.0	1.450%
C013769	80.0	8.200%
C013770	3.0	10.000
C013771	4.0	20.000
C014001	3.0	1100.000
C014002	7.0	3950.000
C014003	6.0	76500.000
C014004	9.0	1200.000
C014005	3.0	55000.000
C014006	3.0	50.000
C014007	2.0	5.000
C014008	4.0	93500.000
C014014	4.0	60.000
C014101	-.9	.265%
C014102	5.0	10.000
C014103	-.9	1.300%
C014104	3.0	630.000
C014105	4.0	15.000
C014106	-.9	.013%
C014107	6.0	55.000
C014108	7.0	10.000
C014109	-.9	.051%
C014110	-.9	145.000
C014111	7.0	1650.000
C014112	2.0	.180%
C014113	3.0	285.000
C014114	3.0	7400.000
C014115	26.0	1500.000
C014116	4.0	.480%
C014117	5.0	235.000
C014118	-.9	.140%
C014119	-.9	.002%
C014120	3.0	15.000
C014121	-.9	10.000
C014122	-.9	.016%
C014123	-.9	.067%
C014124	-.9	.098%
C014125	-.9	.003%
C014126	2.0	50.000

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV	IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C014127	425400.	3542500.	32	71	-.90	-.9	-.900	-.90	20.000	-.9	25.000	-.900	10.000	12.000
C014128	425400.	3542500.	32	71	-.90	-.9	-.900	-.90	25.000	-.9	25.000	-.900	10.000	22.000
C014129	425400.	3542500.	32	71	-.90	-.9	-.900	-.90	25.000	-.9	30.000	-.900	15.000	22.000
C014130	425400.	3542500.	32	71	-.90	-.9	-.900	-.90	130.000	-.9	20.000	-.900	-.900	20.000
C014131	425400.	3542500.	32	71	-.80	.4	-.800	-.90	70.000	-.9	20.000	-.900	10.000	20.000
C014132	425400.	3542500.	32	71	-.90	-.9	-.900	-.90	5.000	-.9	25.000	-.900	5.000	7.000
C014133	425400.	3542500.	32	71	-.90	-.9	-.900	-.90	50.000	-.9	30.000	-.900	10.000	20.000
C014134	418800.	3558100.	34	71	-.90	-.9	-.900	-.90	20.000	-.9	25.000	-.900	15.000	-.900
C014135	417150.	3557500.	34	71	-.90	-.9	-.900	-.90	-.900	-.9	20.000	-.900	15.000	2.000
C014136	417150.	3557000.	30	71	-.80	7.4	-.800	-.90	-.900	-.9	40.000	-.900	10.000	-.900
C014137	416200.	3554800.	30	71	-.90	-.9	-.900	-.90	-.900	-.9	30.000	-.900	40.000	2.000
C014138	416200.	3554800.	30	71	-.90	-.9	-.900	-.90	-.900	-.9	25.000	-.900	45.000	2.000
C014139	418200.	3556450.	34	71	-.90	-.9	-.900	-.90	-.900	-.9	140.000	-.900	50.000	4.000
C014140	417800.	3556200.	34	71	-.90	-.9	-.900	-.90	-.900	-.9	20.000	-.900	20.000	-.900
C014141	417800.	3556850.	34	71	-.90	-.9	-.900	-.90	-.900	-.9	15.000	-.900	30.000	-.900
C014142	419200.	3557950.	34	71	-.90	-.9	-.900	-.90	-.900	-.9	10.000	-.900	40.000	4.000
C014143	418300.	3558700.	34	71	-.90	-.9	-.900	-.90	-.900	-.9	-.900	4.000	15.000	-.900
C014144	434950.	3545200.	30	71	-.80	1.7	-.800	-.90	15.000	-.9	65.000	2.000	310.000	6.000
C014145	438300.	3550800.	34	71	-.80	.4	-.800	-.90	5.000	-.9	55.000	2.000	115.000	2.000
C014146	421800.	3556800.	30	71	-.80	.4	-.800	1.00	770.000	-.9	40.000	-.900	55.000	38.000
C014147	429700.	3557250.	34	71	-.80	1.2	-.800	-.90	40.000	-.9	-.900	-.900	70.000	12.000
C014148	427000.	3556050.	30	71	-.90	-.9	-.900	-.90	130.000	-.9	25.000	-.900	-.900	6.000
C014201	355350.	3492200.	32	71	-.80	.2	-.800	-.90	205.000	-.9	-.900	-.900	30.000	4.000
C014202	355500.	3492900.	32	71	-.80	.4	-.800	-.90	130.000	-.9	30.000	-.900	15.000	4.000
C014203	355600.	3491300.	34	71	-.80	4.6	-.800	-.90	260.000	-.9	95.000	-.900	2000.000	8.000
C014204	355600.	3491300.	34	71	-.80	315.0	-.800	2.30	12500.000	4.0	470.000	-.900	33000.000	480.000
C014205	355750.	3491100.	34	71	-.80	490.0	-.800	2.90	45500.000	-.9	6700.000	-.900	124000.000	590.000
C014206	355900.	3490750.	34	71	-.80	1.4	-.800	-.90	150.000	-.9	25.000	-.900	460.000	4.000
C014207	355750.	3491950.	32	71	-.80	1.1	-.800	-.90	260.000	-.9	25.000	-.900	210.000	8.000
C014208	355550.	3491400.	34	71	-.80	140.0	-.800	2.50	67500.000	15.0	445.000	-.900	41500.000	250.000
C014209	355500.	3492650.	34	71	-.80	.9	-.800	.41	1050.000	1.0	10.000	-.900	325.000	4.000
C014210	355400.	3492800.	34	71	-.80	3.6	-.800	-.90	610.000	9.0	-.900	-.900	170.000	4.000
C014211	356600.	3491700.	34	71	-.80	1.7	-.800	.22	1200.000	2.0	10.000	-.900	185.000	14.000
C014212	354880.	3491980.	32	72	.21	-.8	.720	-.80	7850.000	2.0	.004%	2.000	.030%	32.000
C014213	354880.	3491980.	30	72	.40	-.8	.370	-.80	3450.000	-.9	.006%	-.900	.078%	34.000
C014214	354880.	3491980.	32	71	-.80	.8	-.800	1.10	4800.000	-.9	40.000	-.900	65.000	14.000
C014215	354900.	3492080.	32	72	3.04	-.8	.061	-.80	1800.000	-.9	.018%	-.900	.500%	220.000
C014216	354900.	3492080.	32	72	2.09	-.8	.210	-.80	800.000	-.9	.008%	-.900	1.300%	55.000
C014217	354930.	3492080.	34	71	-.80	7.6	-.800	1.10	1250.000	-.9	75.000	-.900	25.000	22.000
C014218	354930.	3492080.	34	71	-.80	-.9	-.800	.11	720.000	-.9	10.000	-.900	15.000	2.000
C014219	354800.	3491980.	34	72	.41	-.8	.480	-.80	2150.000	-.9	.002%	-.900	.092%	15.000
C014220	354700.	3492000.	34	72	1.15	-.8	.013	-.80	215.000	-.9	.004%	-.900	1.100%	42.000
C014223	354560.	3491320.	34	71	-.80	70.0	-.800	2.60	1950.000	-.9	65.000	-.900	770.000	85.000
C014224	354540.	3491340.	34	71	-.80	165.0	-.800	210.00	3200.000	3.0	80.000	-.900	3300.000	60.000
C014226	355180.	3491300.	32	72	10.40	-.8	.100	-.80	50000.000	4.0	.035%	-.900	1.800%	320.000
C014227	355170.	3491240.	34	72	6.30	-.8	.200	-.80	117000.000	3.0	.195%	-.900	.790%	205.000
C014228	355220.	3491320.	32	72	9.81	-.8	.110	-.80	67500.000	1.0	.032%	-.900	1.200%	420.000
C014229	355210.	3491310.	34	71	-.80	1.6	-.800	.08	1100.000	-.9	45.000	-.900	320.000	16.000
C014230	355620.	3491500.	34	71	-.80	60.0	-.800	1.30	6100.000	-.9	140.000	-.900	3800.000	26.000
C014231	355890.	3491570.	34	71	-.80	165.0	-.800	1.20	10000.000	-.9	165.000	-.900	1950.000	32.000
C014232	355890.	3491550.	34	71	-.80	1500.0	-.800	16.00	50500.000	-.9	2000.000	-.900	140000.000	2900.000

TABLE AD-20

CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C014127	3.0	70.000
C014128	3.0	40.000
C014129	4.0	40.000
C014130	3.0	15.000
C014131	5.0	20.000
C014132	-.9	40.000
C014133	4.0	40.000
C014134	-.9	125.000
C014135	3.0	90.000
C014136	3.0	80.000
C014137	-.9	55.000
C014138	-.9	55.000
C014139	4.0	40.000
C014140	-.9	50.000
C014141	-.9	40.000
C014142	-.9	230.000
C014143	4.0	45.000
C014144	3.0	345.000
C014145	-.9	190.000
C014146	4.0	25.000
C014147	-.9	35.000
C014148	3.0	60.000
C014201	3.0	20.000
C014202	6.0	35.000
C014203	7.0	3600.000
C014204	-.9	2550.000
C014205	-.9	3250.000
C014206	2.0	115.000
C014207	3.0	55.000
C014208	5.0	1300.000
C014209	3.0	15.000
C014210	3.0	10.000
C014211	6.0	10.000
C014212	4.0	.004%
C014213	3.0	.011%
C014214	5.0	145.000
C014215	660.0	.025%
C014216	140.0	.765%
C014217	7.0	1000.000
C014218	7.0	40.000
C014219	105.0	.028%
C014220	95.0	.275%
C014223	9.0	165.000
C014224	315.0	630.000
C014226	2.0	.067%
C014227	-.9	.575%
C014228	-.9	.041%
C014229	4.0	125.000
C014230	4.0	40.000
C014231	-.9	45.000
C014232	-.9	4400.000

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C014233	355870.	3491500.	34 71	-.80	360.0	-.800	3.20	36000.000	-.9	1350.000	-.900	48000.000	700.000
C014234	356180.	3491570.	34 71	-.80	100.0	-.800	3.60	28000.000	4.0	300.000	2.000	3150.000	340.000
C014235	356540.	3491730.	34 71	-.80	60.0	-.800	2.70	12000.000	18.0	70.000	-.900	11500.000	100.000
C014236	356560.	3491620.	34 71	-.80	1800.0	-.800	4.70	34500.000	3.0	1100.000	4.000	200000.000	3550.000
C014237	359900.	3492250.	32 71	-.80	2.7	-.800	2.90	12000.000	2.0	35.000	-.900	80.000	30.000
C014238	360500.	3492800.	34 71	-.80	1.5	-.800	.17	1450.000	-.9	15.000	-.900	145.000	50.000
C014239	360400.	3493200.	34 71	-.80	.2	-.800	-.90	35.000	-.9	15.000	-.900	15.000	17.000
C014240	357200.	3493950.	32 71	-.80	.8	-.800	-.90	85.000	-.9	90.000	2.000	5.000	17.000
C014241	349550.	3489550.	34 71	-.80	2.2	-.800	1.70	90.000	-.9	10.000	-.900	15.000	2.000
C014242	348550.	3488600.	34 71	-.80	-.9	-.800	.16	395.000	-.9	10.000	-.900	10.000	4.000
C014243	348900.	3488400.	30 71	-.80	1.1	-.800	.04	2150.000	-.9	10.000	-.900	100.000	6.000
C014244	349900.	3488600.	34 71	-.80	200.5	-.800	.95	5350.000	3.0	2550.000	-.900	85500.000	2500.000
C014245	357525.	3491850.	34 71	-.80	9.1	-.800	.03	2500.000	-.9	180.000	-.900	260.000	165.000
C014246	340500.	3480600.	32 71	-.80	7.2	-.800	.34	2450.000	-.9	20.000	2.000	265.000	16.000
C014247	334150.	3474600.	34 71	-.80	1.8	-.800	-.90	25.000	-.9	50.000	-.900	75.000	55.000
C014248	335700.	3476900.	32 71	-.80	.8	-.800	-.90	10.000	-.9	75.000	-.900	25.000	50.000
C014249	334550.	3479550.	34 71	-.80	.8	-.800	.05	135.000	-.9	-.900	-.900	60.000	60.000
C014250	334800.	3480750.	34 72	-.80	1640.0	-.800	.13	4350.000	155.0	1.650%	-.900	7.850%	43500.000
C014251	334800.	3480750.	34 72	163.90	-.8	.025	-.80	.380%	90.0	1.750%	-.900	6.200%	5.500%
C014252	334800.	3480750.	34 71	-.80	4.4	-.800	.05	45.000	-.9	20.000	4.000	85.000	110.000
C014253	336350.	3481700.	34 71	-.80	.6	-.800	.24	480.000	-.9	10.000	-.900	15.000	18.000
C014254	339100.	3481400.	34 71	-.80	.2	-.800	-.90	30.000	-.9	270.000	-.900	25.000	8.000
C014255	339100.	3481400.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	200.000	-.900	-.900	4.000
C014256	337100.	3480400.	34 71	-.90	-.9	-.900	-.90	40.000	-.9	-.900	-.900	20.000	4.000
C014257	335800.	3489200.	34 71	-.80	85.0	-.800	1.10	5200.000	1.0	550.000	-.900	4800.000	.505%
C014258	335800.	3489200.	34 71	-.80	255.0	-.800	2.60	17000.000	2.0	520.000	-.900	2600.000	.092%
C014259	333800.	3473450.	34 72	.11	-.8	-.900	-.80	.034%	2.0	.002%	-.900	.460%	.305%
C014260	354900.	3491400.	32 72	3.53	-.8	.110	-.80	7.300%	1.0	.048%	-.900	2.050%	.052%
C014261	354900.	3491400.	32 72	3.78	-.8	.150	-.80	3.350%	2.0	.080%	-.900	2.950%	.036%
C014262	360650.	3492400.	32 72	95.40	-.8	.120	-.80	1.000%	4.0	.450%	-.900	4.850%	.320%
C014263	360650.	3492400.	34 72	4.69	-.8	.035	-.80	.830%	-.9	.052%	6.000	.105%	.051%
C014264	348000.	3490400.	34 71	-.80	1.6	-.800	.04	670.000	-.9	40.000	-.900	45.000	6.000
C014265	348350.	3491550.	34 71	-.80	.4	-.800	-.90	105.000	-.9	-.900	-.900	10.000	4.000
C014266	332760.	3474080.	34 72	4.59	-.8	.005	-.80	.062%	85.0	.029%	-.900	11.500%	3.350%
C014267	324000.	3468000.	34 71	-.80	.4	-.800	-.90	20.000	-.9	40.000	-.900	70.000	20.000
C014268	323400.	3466000.	34 71	-.80	.2	-.800	-.90	3450.000	-.9	-.900	-.900	130.000	90.000
C014269	323650.	3466750.	34 71	-.90	-.9	-.900	-.90	15.000	-.9	690.000	-.900	-.900	4.000
C014270	335000.	3480600.	34 72	5.27	-.8	.007	-.80	.750%	28.0	.088%	-.900	1.300%	.620%
C014271	367480.	3511350.	32 72	-.90	-.8	.080	-.80	1.000%	-.9	.002%	-.900	.006%	.250%
C014272	367880.	3511380.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	10.000	-.900	10.000	-.900
C014273	367950.	3511600.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	35.000	-.900	15.000	-.900
C014274	360810.	3511800.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	45.000	-.900	20.000	-.900
C014275	354180.	3493450.	34 72	-.90	-.9	-.900	-.90	.004%	5.0	.019%	-.900	.067%	.024%
C014276	354180.	3493450.	34 72	-.90	-.9	-.900	-.90	-.900	3.0	.021%	-.900	.040%	.003%
C014277	351350.	3494650.	30 72	35.80	-.8	-.900	-.80	.035%	5.0	1.150%	-.900	49.500%	2.400%
C014278	351350.	3494650.	34 72	2.30	-.8	-.900	-.80	.030%	3.0	.059%	-.900	5.500%	.625%
C014279	351350.	3494650.	34 72	.89	-.8	-.900	-.80	.026%	1.0	.033%	-.900	2.950%	.595%
C014280	351800.	3495150.	34 72	-.90	-.9	-.900	-.90	.125%	-.9	.002%	-.900	.078%	.007%
C014281	349200.	3489550.	34 71	-.80	.6	-.800	-.90	710.000	-.9	10.000	-.900	15.000	4.000
C014282	433750.	3564050.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	30.000	-.900	20.000	2.000
C014283	433950.	3564090.	34 72	-.90	-.8	.026	-.80	4500.000	3.0	85.000	-.900	-.900	38.500%

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C014233	-.9	2200.000
C014234	5.0	200.000
C014235	-.9	45.000
C014236	4.0	1250.000
C014237	3.0	130.000
C014238	3.0	45.000
C014239	6.0	265.000
C014240	7.0	160.000
C014241	5.0	30.000
C014242	4.0	10.000
C014243	4.0	25.000
C014244	-.9	7300.000
C014245	-.9	1650.000
C014246	6.0	900.000
C014247	3.0	195.000
C014248	5.0	85.000
C014249	7.0	20.000
C014250	6.0	6.950%
C014251	-.9	2.900%
C014252	4.0	145.000
C014253	-.9	20.000
C014254	-.9	245.000
C014255	-.9	20.000
C014256	-.9	10.000
C014257	-.9	1400.000
C014258	-.9	1450.000
C014259	-.9	.010%
C014260	-.9	.150%
C014261	-.9	.115%
C014262	-.9	.505%
C014263	-.9	.038%
C014264	3.0	70.000
C014265	3.0	10.000
C014266	-.9	1.900%
C014267	3.0	55.000
C014268	-.9	20.000
C014269	3.0	25.000
C014270	-.9	.044%
C014271	-.9	.006%
C014272	-.9	115.000
C014273	2.0	65.000
C014274	3.0	135.000
C014275	3.0	.055%
C014276	2.0	.048%
C014277	4.0	4.000%
C014278	3.0	.900%
C014279	3.0	.295%
C014280	3.0	.130%
C014281	4.0	15.000
C014282	-.9	40.000
C014283	-.9	50.000

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV	IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C014284	435750.	3562150.	34	71	-.80	3.8	-.800	1.60	1100.000	6.0	30.000	-.900	5.000	8850.000
C014285	439200.	3559500.	34	72	-.90	-.8	.038	-.80	2600.000	-.9	20.000	-.900	70.000	3.650%
C014286	437310.	3561500.	30	72	.05	-.8	.016	-.80	600.000	2.0	10.000	14.000	5.000	.795%
C014287	437310.	3561500.	34	72	2.76	-.8	.460	-.80	5650.000	1.0	205.000	6.000	-.900	6.050%
C014288	437400.	3560080.	34	72	-.90	-.8	.007	-.80	570.000	2.0	5.000	-.900	-.900	19.000%
C014289	340800.	3487850.	34	70	-.80	2400.0	-.800	210.00	550.000	4.0	320.000	-.900	229000.000	1200.000
C014291	352720.	3497440.	34	72	23.60	-.8	-.900	-.80	.020%	1.0	.365%	-.900	32.000%	.830%
C014292	353700.	3497240.	30	72	95.00	-.8	.012	-.80	.310%	9.0	3.100%	-.900	23.500%	7.250%
C014293	353700.	3497240.	34	72	12.60	-.8	-.900	-.80	.145%	-.9	.145%	-.900	3.950%	.425%
C014294	353700.	3497240.	30	72	55.50	-.8	.016	-.80	.640%	8.0	.585%	-.900	11.500%	4.050%
C014295	345700.	3484500.	34	72	.16	-.8	.120	-.80	.400%	-.9	.004%	-.900	.210%	.150%
C014296	361300.	3493200.	32	71	-.90	-.9	-.900	-.90	240.000	-.9	-.900	-.900	10.000	-.900
C014297	361300.	3493200.	32	71	-.80	.2	-.800	-.90	55.000	-.9	10.000	-.900	-.900	-.900
C014298	361300.	3493200.	32	71	-.90	-.9	-.900	-.90	45.000	-.9	-.900	-.900	15.000	-.900
C014299	362420.	3492800.	32	71	-.80	1.5	-.800	-.90	125.000	-.9	35.000	-.900	680.000	2.000
C014300	375100.	3509700.	34	71	-.90	-.9	-.900	-.90	-.900	-.9	5.000	2.000	10.000	-.900
C014301	372000.	3501000.	34	72	-.90	-.9	-.900	-.90	640.000	-.9	-.900	-.900	.008%	4.000
C014302	393250.	3493000.	34	72	.12	-.8	-.900	-.80	30.000	-.9	.023%	-.900	8.550%	73500.000
C014303	393250.	3493000.	34	72	-.90	-.9	-.900	-.90	25.000	-.9	.081%	-.900	10.500%	90500.000
C014305	340850.	3481300.	30	72	.04	-.8	.042	-.80	6900.000	-.9	.002%	-.900	.078%	660.000
C014306	340850.	3481300.	34	72	.04	-.8	.028	-.80	3150.000	-.9	-.900	-.900	.018%	140.000
C014307	360800.	3492000.	34	72	174.00	-.8	.140	-.80	3150.000	2.0	.955%	-.900	12.500%	9250.000
C014308	400900.	3542100.	34	70	-.90	-.9	-.900	-.90	10.000	-.9	.006%	2.000	.002%	-.900
C014309	400900.	3542100.	34	70	-.90	-.9	-.900	-.90	40.000	-.9	.004%	2.000	.002%	-.900
C014310	425600.	3542250.	30	70	-.90	-.9	-.900	-.90	30.000	-.9	.004%	-.900	-.900	19.000
C014311	425600.	3542250.	34	70	-.90	-.9	-.900	-.90	10.000	-.9	.002%	2.000	-.900	12.000
C014312	392750.	3515100.	34	72	-.90	-.9	-.900	-.90	.002%	-.9	.002%	-.900	.002%	.002%
C014313	380200.	3526350.	34	72	-.90	-.9	-.900	-.90	-.900	-.9	.008%	-.900	.002%	.002%
C014314	380200.	3526350.	32	72	-.90	-.9	-.900	-.90	.001%	-.9	.010%	-.900	.002%	.001%
C014315	380300.	3494400.	34	72	245.80	-.8	.061	-.80	.079%	20.0	.205%	-.900	82.000%	1.350%
C014316	333250.	3484750.	34	72	-.90	-.9	-.900	-.90	-.900	-.9	.390%	22.000	.006%	.002%
C014317	332750.	3483350.	34	72	-.90	-.9	-.900	-.90	-.900	-.9	.048%	105.000	-.900	-.900
C014318	332750.	3483350.	34	72	-.90	-.9	-.900	-.90	.004%	-.9	.175%	16.000	.002%	-.900
C014320	335250.	3476150.	34	72	-.90	-.9	-.900	-.90	-.900	19.0	.006%	16.000	.002%	-.900
C014321	411100.	3540500.	30	72	-.90	-.9	-.900	-.90	15.000	-.9	.004%	4.000	.004%	2.000
C014401	387000.	3500000.	30	71	-.80	9.7	-.800	.12	465.000	-.9	25.000	-.900	710.000	20.000
C014402	387450.	3500000.	30	71	-.80	7.4	-.800	.04	155.000	-.9	25.000	-.900	435.000	18.000
C014403	388850.	3499550.	30	71	-.80	2.2	-.800	-.90	180.000	-.9	35.000	-.900	110.000	15.000
C014404	390250.	3498350.	30	71	-.80	1.0	-.800	-.90	40.000	-.9	60.000	-.900	50.000	305.000
C014405	388900.	3503100.	30	71	-.80	1.1	-.800	-.90	170.000	1.0	-.900	-.900	70.000	4.000
C014406	385350.	3502250.	30	71	-.80	1.1	-.800	.13	350.000	-.9	20.000	-.900	35.000	6.000
C014407	386175.	3502850.	30	71	-.80	.7	-.800	.35	1400.000	-.9	10.000	-.900	40.000	10.000
C014408	350750.	3504100.	30	71	-.80	.8	-.800	-.90	285.000	-.9	20.000	-.900	35.000	6.000
C014409	392400.	3509275.	30	72	2.94	-.8	.120	-.80	39500.000	-.9	.006%	-.900	2.800%	145.000
C014410	394650.	3511325.	30	71	-.80	.4	-.800	-.90	125.000	-.9	-.900	-.900	20.000	10.000
C014411	394275.	3510425.	30	71	-.80	7.0	-.800	.22	980.000	-.9	30.000	-.900	1900.000	55.000
C014412	395175.	3512850.	30	70	51.30	-.8	.230	-.80	28500.000	-.9	.325%	-.900	21.500%	3850.000
C014413	394025.	3510450.	34	70	112.40	-.8	.930	-.80	26500.000	3.0	.120%	6.000	33.000%	4350.000
C014414	399775.	3518825.	32	71	-.80	9.6	-.800	-.90	65.000	-.9	15.000	2.000	650.000	16.000
C014415	372775.	3491725.	30	71	-.80	6.4	-.800	-.90	1650.000	-.9	15.000	-.900	830.000	480.000
C014416	372525.	3492000.	30	71	-.80	.2	-.800	-.90	20.000	-.9	35.000	-.900	15.000	6.000

TABLE AD-20

CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C014284	-.9	10.000
C014285	4.0	105.000
C014286	6.0	15.000
C014287	-.9	20.000
C014288	-.9	-.900
C014289	7450.0	410.000
C014291	4.0	18.000%
C014292	3.0	6.900%
C014293	22.0	5.450%
C014294	-.9	.795%
C014295	-.9	.004%
C014296	4.0	20.000
C014297	4.0	10.000
C014298	-.9	-.900
C014299	7.0	115.000
C014300	4.0	10.000
C014301	3.0	.008%
C014302	-.9	3.100%
C014303	-.9	10.500%
C014305	-.9	.945%
C014306	3.0	.260%
C014307	-.9	8.950%
C014308	-.9	.006%
C014309	6.0	-.900
C014310	3.0	.004%
C014311	-.9	.004%
C014312	-.9	.005%
C014313	-.9	.006%
C014314	-.9	.008%
C014315	-.9	1.700%
C014316	5.0	.003%
C014317	8.0	-.900
C014318	6.0	.039%
C014320	3.0	-.900
C014321	3.0	.004%
C014401	-.9	55.000
C014402	3.0	35.000
C014403	7.0	30.000
C014404	3.0	100.000
C014405	10.0	30.000
C014406	9.0	15.000
C014407	4.0	20.000
C014408	5.0	35.000
C014409	-.9	8.150%
C014410	7.0	20.000
C014411	-.9	225.000
C014412	3.0	14.000%
C014413	3.0	.265%
C014414	2.0	125.000
C014415	-.9	20.000
C014416	3.0	35.000

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C014417	371975.	3492650.	32 71	-.90	-.9	-.900	-.90	40.000	-.9	30.000	-.900	5.000	10.000
C014418	371950.	3492925.	30 72	-.80	3330.0	-.800	2.20	5100.000	10.0	.460%	-.900	4.550%	18000.000
C014419	372850.	3493125.	30 72	-.80	55.0	-.800	.64	22500.000	0.0	.006%	-.900	1.450%	12000.000
C014420	373500.	3493125.	30 71	-.80	105.0	-.800	2.00	1000.000	12.0	135.000	-.900	31000.000	15000.000
C014421	373950.	3493250.	32 72	-.80	80.0	-.800	4.00	56500.000	6.0	.012%	-.900	3.550%	19000.000
C014422	372325.	3494225.	30 71	-.80	10.0	-.800	.40	5150.000	-.9	45.000	-.900	840.000	.030%
C014423	369750.	3493250.	30 71	-.80	1.4	-.800	-.90	75.000	-.9	20.000	-.900	105.000	.010%
C014424	419100.	3557925.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	95.000	-.900	-.900	-.900
C014425	419100.	3557875.	34 71	-.90	-.9	-.900	-.90	-.900	-.9	20.000	-.900	10.000	-.900
C014426	369450.	3496675.	30 71	-.80	80.0	-.800	.95	4550.000	-.9	95.000	-.900	7650.000	3400.000
C014427	369375.	3496675.	30 71	-.80	11.0	-.800	.13	2150.000	-.9	15.000	-.900	1550.000	960.000
C014428	372575.	3496475.	30 72	23.80	-.8	.054	-.80	.870%	1.0	.093%	-.900	6.550%	.870%
C014429	378500.	3499000.	30 71	-.80	9.3	-.800	35.00	460.000	-.9	35.000	-.900	55.000	20.000
C014430	378475.	3498975.	30 71	-.80	1.9	-.800	2.40	900.000	-.9	10.000	-.900	95.000	32.000
C014431	379875.	3498500.	33 71	-.80	1.6	-.800	.10	6950.000	1.0	45.000	-.900	75.000	32.000
C014432	379875.	3498475.	30 71	-.80	5.1	-.800	4.20	8400.000	-.9	10.000	-.900	305.000	24.000
C014433	379425.	3493600.	30 72	.85	-.8	-.900	-.80	.002%	55.0	1.100%	-.900	.215%	-.900
C014434	379375.	3493600.	33 71	-.80	2.5	-.800	-.90	25.000	7.0	1050.000	-.900	285.000	-.900
C014435	379400.	3493550.	33 72	.15	-.8	-.900	-.80	-.900	14.0	.355%	-.900	.070%	-.900
C014438	400975.	3542250.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	30.000	-.900	10.000	-.900
C014439	400960.	3542240.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	20.000	-.900	5.000	4.000
C014440	400930.	3542230.	32 71	-.90	-.9	-.900	-.90	-.900	1.0	20.000	-.900	5.000	-.900
C014441	400900.	3542225.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	20.000	-.900	20.000	-.900
C014442	400890.	3542220.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	25.000	-.900	10.000	-.900
C014443	400870.	3542215.	32 71	-.90	-.9	-.900	-.90	10.000	-.9	25.000	-.900	5.000	-.900
C014444	400860.	3542210.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	20.000	-.900	10.000	-.900
C014445	400850.	3542205.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	25.000	-.900	10.000	-.900
C014446	400840.	3542000.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	25.000	-.900	10.000	-.900
C014447	400840.	3541995.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	25.000	-.900	10.000	-.900
C014448	400830.	3541990.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	40.000	-.900	5.000	-.900
C014449	400830.	3541985.	32 71	-.80	.8	-.800	-.90	-.900	-.9	30.000	-.900	15.000	4.000
C014450	400820.	3541880.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	25.000	-.900	10.000	-.900
C014451	400810.	3541975.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	30.000	-.900	10.000	-.900
C014452	400800.	3541975.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	35.000	-.900	10.000	-.900
C014453	400790.	3541970.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	25.000	-.900	15.000	-.900
C014454	400790.	3541965.	32 71	-.90	-.9	-.900	-.90	-.900	-.9	30.000	-.900	15.000	-.900
C014455	394000.	3511975.	34 72	53.30	-.8	.340	-.80	5700.000	2.0	100.000	-.900	383000.000	.365%
C014456	396400.	3514200.	34 71	-.90	-.9	-.900	-.90	105.000	-.9	5.000	-.900	5.000	12.000

TABLE AD-20 CHEMICAL ANALYSIS OF ROCK CHIP SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C014417	-.9	70.000
C014418	3.0	.285%
C014419	-.9	.008%
C014420	4.0	14000.000
C014421	-.9	.495%
C014422	-.9	1000.000
C014423	-.9	55.000
C014424	4.0	45.000
C014425	3.0	60.000
C014426	3.0	2200.000
C014427	-.9	1250.000
C014428	-.9	1.000%
C014429	3.0	30.000
C014430	5.0	40.000
C014431	3.0	35.000
C014432	-.9	40.000
C014433	-.9	5.600%
C014434	-.9	7350.000
C014435	-.9	2.200%
C014438	4.0	60.000
C014439	4.0	35.000
C014440	3.0	25.000
C014441	5.0	40.000
C014442	4.0	40.000
C014443	4.0	45.000
C014444	-.9	60.000
C014445	5.0	65.000
C014446	3.0	25.000
C014447	6.0	35.000
C014448	4.0	30.000
C014449	4.0	40.000
C014450	4.0	45.000
C014451	5.0	65.000
C014452	4.0	105.000
C014453	3.0	95.000
C014454	3.0	60.000
C014455	3.0	76500.000
C014456	4.0	20.000

TABLE AD-21
KANTISHNA HILLS DRILL CORE SAMPLES
ANALYTICAL RESULTS

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C003451	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	150.000	-.9	40.000	-.900	55.000	2.000
C003452	355097.	3491086.	31 72	-.90	-.8	.012	-.80	4450.000	-.9	-.900	-.900	90.000	4.000
C003453	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	750.000	-.9	15.000	-.900	25.000	-.900
C003454	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	50.000	-.9	70.000	-.900	65.000	6.000
C003455	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	100.000	-.9	30.000	-.900	35.000	10.000
C003456	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	55.000	-.9	20.000	-.900	25.000	-.900
C003457	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	440.000	-.9	35.000	-.900	35.000	4.000
C003458	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	20.000	-.9	55.000	-.900	30.000	-.900
C003459	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	40.000	-.9	25.000	-.900	25.000	4.000
C003460	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	390.000	-.9	20.000	-.900	40.000	-.900
C003461	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	40.000	-.9	15.000	-.900	35.000	-.900
C003462	341482.	3487521.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	105.000	-.900	15.000	-.900
C003463	353010.	3489174.	31 72	-.90	-.9	-.900	-.90	20.000	-.9	10.000	-.900	15.000	2.000
C003464	353010.	3489174.	31 72	-.90	-.9	-.900	-.90	15.000	-.9	5.000	-.900	15.000	14.000
C003465	353010.	3489174.	31 72	-.90	-.9	-.900	-.90	290.000	-.9	105.000	-.900	295.000	12.000
C003466	353010.	3489174.	31 72	-.90	-.8	.011	-.80	1400.000	-.9	75.000	-.900	40.000	4.000
C003467	353010.	3489174.	31 72	-.90	-.9	-.900	-.90	95.000	-.9	40.000	-.900	20.000	2.000
C003468	353010.	3489174.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	35.000	-.900	15.000	12.000
C003469	353010.	3489174.	31 72	-.90	-.9	-.900	-.90	75.000	-.9	80.000	-.900	35.000	6.000
C003470	340924.	3487183.	31 72	.13	-.8	-.900	-.80	870.000	-.9	45.000	-.900	640.000	18.000
C003471	340924.	3487183.	31 72	-.90	-.8	.009	-.80	3800.000	-.9	10.000	-.900	40.000	6.000
C003472	340924.	3487183.	31 72	-.90	-.8	.005	-.80	195.000	-.9	5.000	-.900	20.000	2.000
C003473	340924.	3487183.	31 72	-.90	-.8	.018	-.80	1300.000	-.9	10.000	-.900	40.000	6.000
C003474	340924.	3487183.	31 72	-.90	-.8	.005	-.80	1700.000	-.9	25.000	-.900	25.000	10.000
C003475	340924.	3487183.	31 72	-.90	-.9	-.900	-.90	290.000	-.9	10.000	-.900	15.000	-.900
C003476	340924.	3487183.	31 72	-.90	-.8	.009	-.80	1500.000	-.9	-.900	-.900	30.000	2.000
C003477	340924.	3487183.	31 72	-.90	-.9	-.900	-.90	190.000	-.9	-.900	-.900	-.900	-.900
C003478	340924.	3487183.	31 72	-.90	-.9	-.900	-.90	290.000	-.9	-.900	-.900	10.000	-.900
C003479	340924.	3487183.	31 72	-.90	-.8	.005	-.80	255.000	-.9	10.000	-.900	25.000	24.000
C003480	340924.	3487183.	31 72	-.90	-.9	-.900	-.90	60.000	-.9	5.000	-.900	25.000	4.000
C003481	340924.	3487183.	31 72	-.90	-.9	-.900	-.90	40.000	-.9	10.000	-.900	15.000	-.900
C003482	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	65.000	-.9	-.900	-.900	30.000	-.900
C003483	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	50.000	-.9	-.900	-.900	35.000	-.900
C003484	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	60.000	-.9	-.900	-.900	45.000	-.900
C003485	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	65.000	-.9	5.000	-.900	80.000	4.000
C003486	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	70.000	-.9	5.000	-.900	35.000	-.900
C003487	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	20.000	-.9	35.000	-.900	45.000	8.000
C003488	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	30.000	-.9	5.000	-.900	85.000	10.000
C003489	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	10.000	-.900	30.000	-.900
C003490	345992.	3489399.	31 72	-.90	-.8	.005	-.80	1800.000	-.9	10.000	-.900	35.000	2.000
C003491	345992.	3489399.	31 72	-.90	-.9	-.900	-.90	115.000	-.9	-.900	-.900	-.900	2.000
C012626	344228.	3486978.	31 72	-.90	-.8	.016	-.80	415.000	-.9	-.900	-.900	.010%	4.000
C012627	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	-.900	-.900	.008%	-.900
C012628	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	-.900	-.900	-.900	2.000
C012629	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	115.000	-.9	-.900	-.900	-.900	4.000
C012630	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	1150.000	-.9	-.900	-.900	.006%	6.000
C012631	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	85.000	-.9	.002%	-.900	.002%	9.000
C012632	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	-.900	-.900	-.900	2.000
C012633	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	680.000	-.9	-.900	-.900	.008%	6.000
C012634	344228.	3486978.	31 72	-.90	-.8	.014	-.80	445.000	-.9	-.900	2.000	-.900	14.000
C012635	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	125.000	-.9	-.900	-.900	-.900	2.000

TABLE AD-21

CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C003451	5.0	6300.000
C003452	10.0	4100.000
C003453	5.0	3050.000
C003454	3.0	220.000
C003455	6.0	110.000
C003456	-.9	85.000
C003457	5.0	180.000
C003458	4.0	145.000
C003459	3.0	85.000
C003460	-.9	75.000
C003461	-.9	75.000
C003462	-.9	105.000
C003463	5.0	65.000
C003464	5.0	20.000
C003465	80.0	310.000
C003466	70.0	100.000
C003467	6.0	90.000
C003468	6.0	90.000
C003469	175.0	255.000
C003470	16.0	310.000
C003471	14.0	230.000
C003472	8.0	120.000
C003473	6.0	325.000
C003474	13.0	315.000
C003475	26.0	170.000
C003476	3.0	120.000
C003477	3.0	230.000
C003478	8.0	125.000
C003479	6.0	185.000
C003480	6.0	120.000
C003481	4.0	75.000
C003482	3.0	45.000
C003483	2.0	55.000
C003484	4.0	125.000
C003485	4.0	110.000
C003486	2.0	95.000
C003487	3.0	485.000
C003488	9.0	70.000
C003489	3.0	100.000
C003490	6.0	170.000
C003491	8.0	25.000
C012626	8.0	.014%
C012627	3.0	.013%
C012628	2.0	.003%
C012629	12.0	.006%
C012630	5.0	.013%
C012631	-.9	.004%
C012632	11.0	-.900
C012633	14.0	.022%
C012634	4.0	-.900
C012635	6.0	-.900

TABLE AD-21

CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE <ANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C012636	344228.	3486978.	31 72	-.90	-.8	.005	-.80	1900.000	-.9	.002%	-.900	.002%	9.000
C012637	344228.	3486978.	31 72	-.90	-.8	.028	-.80	4350.000	-.9	-.900	-.900	.004%	10.000
C012638	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	115.000	-.9	.006%	4.000	.006%	4.000
C012639	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	25.000	-.9	.006%	2.000	.004%	2.000
C012640	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	.004%	4.000	-.900	8.000
C012641	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	5.000	-.9	.004%	4.000	-.900	6.000
C012642	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.006%	2.000	-.900	2.000
C012643	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.006%	-.900	.002%	6.000
C012644	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	.004%	4.000	.004%	13.000
C012645	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	65.000	-.9	-.900	-.900	-.900	32.000
C012646	344228.	3486978.	31 72	-.90	-.8	.007	-.80	600.000	-.9	.002%	-.900	.004%	4.000
C012647	344228.	3486978.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	-.900	4.000
C012648	348963.	3488364.	31 71	-.80	-.9	-.800	.10	30.000	-.9	5.000	-.900	10.000	2.000
C012649	348963.	3488364.	31 71	-.90	-.9	-.900	-.90	-.900	-.9	10.000	-.900	-.900	2.000
C012650	348963.	3488364.	31 71	-.80	.4	-.800	-.90	40.000	-.9	10.000	-.900	10.000	2.000
C012651	348963.	3488364.	31 71	-.90	-.9	-.900	-.90	10.000	-.9	-.900	-.900	-.900	6.000
C012652	348963.	3488364.	31 71	-.80	-.9	-.800	.03	240.000	-.9	-.900	-.900	-.900	4.000
C012653	348963.	3488364.	31 71	-.80	-.9	-.800	.05	20.000	-.9	-.900	-.900	10.000	2.000
C012654	348963.	3488364.	31 71	-.80	.2	-.800	-.90	30.000	-.9	15.000	-.900	10.000	4.000
C012655	348963.	3488364.	31 71	-.90	-.9	-.900	-.90	-.900	-.9	10.000	4.000	5.000	14.000
C012656	348963.	3488364.	31 71	-.80	.4	-.800	-.90	40.000	-.9	40.000	10.000	10.000	12.000
C012657	348963.	3488364.	31 71	-.80	.4	-.800	-.90	460.000	-.9	30.000	-.900	15.000	4.000
C012658	348963.	3488364.	31 71	-.80	.6	-.800	-.90	190.000	-.9	25.000	-.900	5.000	2.000
C012659	348963.	3488364.	31 71	-.80	.4	-.800	.29	1400.000	-.9	15.000	-.900	5.000	8.000
C012660	348963.	3488364.	31 71	-.80	1.6	-.800	.23	2900.000	-.9	15.000	-.900	40.000	16.000
C012661	348963.	3488364.	31 71	-.80	9.4	-.800	10.00	20.000	-.9	10.000	-.900	-.900	6.000
C012662	348963.	3488364.	31 71	-.80	.8	-.800	.07	80.000	-.9	15.000	-.900	-.900	8.000
C012663	348963.	3488364.	31 71	-.80	-.9	-.800	.06	130.000	-.9	20.000	12.000	15.000	4.000
C012664	348963.	3488364.	31 71	-.90	-.9	-.900	-.90	20.000	-.9	10.000	-.900	15.000	-.900
C012665	348963.	3488364.	31 71	-.80	.9	-.800	.37	1850.000	-.9	45.000	-.900	-.900	12.000
C012666	348963.	3488364.	31 71	-.80	.4	-.800	.25	1200.000	-.9	10.000	-.900	10.000	6.000
C012667	348963.	3488364.	31 71	-.80	.9	-.800	.41	160.000	-.9	20.000	-.900	-.900	8.000
C012668	348963.	3488364.	31 71	-.80	.4	-.800	-.90	40.000	-.9	10.000	-.900	-.900	4.000
C012669	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	-.900	2.000
C012670	349332.	3488740.	31 72	-.90	-.8	.005	-.80	120.000	-.9	-.900	2.000	-.900	8.000
C012671	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	130.000	-.9	.002%	-.900	-.900	2.000
C012672	349332.	3488740.	31 72	-.90	-.8	.061	-.80	190.000	-.9	-.900	-.900	.002%	4.000
C012673	349332.	3488740.	31 72	-.90	-.8	.130	-.80	580.000	-.9	-.900	4.000	-.900	4.000
C012674	349332.	3488740.	31 72	-.90	-.8	.006	-.80	260.000	-.9	-.900	-.900	-.900	10.000
C012675	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	30.000	-.9	.002%	-.900	-.900	6.000
C012676	349332.	3488740.	31 72	-.90	-.8	.005	-.80	150.000	-.9	-.900	-.900	-.900	36.000
C012677	349332.	3488740.	31 72	-.90	-.8	.009	-.80	165.000	-.9	-.900	-.900	.002%	7.000
C012678	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	40.000	-.9	.002%	-.900	-.900	9.000
C012679	349332.	3488740.	31 72	-.90	-.8	.012	-.80	520.000	-.9	-.900	-.900	.002%	20.000
C012680	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	15.000	-.9	-.900	-.900	.004%	8.000
C012681	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	-.900	-.900	.004%	4.000
C012682	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.002%	2.000	.002%	8.000
C012683	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.004%	-.900	-.900	8.000
C012684	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.002%	-.900	-.900	8.000
C012685	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	5.000	-.9	-.900	-.900	-.900	2.000
C012686	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	5.000	-.9	.002%	-.900	-.900	11.000

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C012636	10.5	.005%
C012637	20.0	.008%
C012638	4.0	.016%
C012639	5.0	.012%
C012640	4.0	.013%
C012641	3.0	.013%
C012642	4.0	.012%
C012643	4.0	.014%
C012644	5.0	.012%
C012645	10.0	.005%
C012646	16.0	.005%
C012647	5.0	-.900
C012648	6.0	20.000
C012649	4.0	30.000
C012650	7.0	25.000
C012651	4.0	30.000
C012652	5.0	35.000
C012653	-.9	40.000
C012654	3.0	40.000
C012655	3.0	30.000
C012656	4.0	25.000
C012657	13.0	700.000
C012658	9.0	95.000
C012659	5.0	15.000
C012660	6.0	35.000
C012661	3.0	5.000
C012662	13.0	45.000
C012663	24.0	30.000
C012664	3.0	25.000
C012665	12.0	245.000
C012666	11.0	20.000
C012667	11.0	75.000
C012668	12.0	10.000
C012669	3.0	.005%
C012670	9.0	.005%
C012671	5.0	.006%
C012672	6.0	-.900
C012673	3.0	.003%
C012674	6.0	.002%
C012675	13.0	.003%
C012676	3.0	.002%
C012677	4.0	.004%
C012678	4.0	-.900
C012679	4.0	-.900
C012680	5.0	.003%
C012681	3.0	.008%
C012682	4.0	.005%
C012683	4.0	.006%
C012684	5.0	.007%
C012685	8.0	.006%
C012686	5.0	.006%

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C012687	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	80.000	-.9	-.900	-.900	-.900	80.000
C012688	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.004%	-.900	-.900	14.000
C012689	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.004%	-.900	-.900	2.000
C012690	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.006%	-.900	.004%	2.000
C012691	349332.	3488740.	31 72	-.90	-.8	.012	-.80	-.900	-.9	.004%	2.000	.004%	10.000
C012692	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	-.900	2.000
C012693	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	15.000	-.9	-.900	-.900	.002%	4.000
C012694	349332.	3488740.	31 72	-.90	-.8	.008	-.80	55.000	-.9	-.900	-.900	.004%	2.000
C012695	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	30.000	-.9	-.900	-.900	.002%	4.000
C012696	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	15.000	-.9	-.900	-.900	-.900	4.000
C012697	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	15.000	-.9	-.900	2.000	-.900	-.900
C012698	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	35.000	-.9	-.900	-.900	-.900	6.000
C012699	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	105.000	-.9	.002%	2.000	.004%	4.000
C012700	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	60.000	-.9	-.900	-.900	.002%	4.000
C013616	349332.	3488740.	31 72	-.90	-.8	.023	-.80	390.000	-.9	-.900	-.900	-.900	2.000
C013617	349332.	3488740.	31 72	.02	-.8	.005	-.80	1250.000	-.9	.004%	-.900	-.900	12.000
C013618	349332.	3488740.	31 72	-.90	-.8	.029	-.80	270.000	-.9	-.900	-.900	-.900	4.000
C013619	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	590.000	-.9	.002%	2.000	-.900	6.000
C013620	349332.	3488740.	31 72	-.90	-.8	.005	-.80	720.000	-.9	-.900	-.900	-.900	9.000
C013621	349332.	3488740.	31 72	-.90	-.8	.008	-.80	435.000	-.9	-.900	-.900	-.900	6.000
C013622	349332.	3488740.	31 72	-.90	-.8	.005	-.80	700.000	-.9	-.900	-.900	-.900	10.000
C013623	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	195.000	-.9	-.900	-.900	-.900	4.000
C013624	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	40.000	-.9	.002%	-.900	-.900	4.000
C013625	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	240.000	-.9	-.900	-.900	-.900	8.000
C013626	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	35.000	-.9	-.900	-.900	.002%	2.000
C013627	349332.	3488740.	31 72	-.90	-.9	-.900	-.90	30.000	-.9	-.900	-.900	-.900	-.900
C013628	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.004%	-.900	-.900	14.000
C013629	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	5.000	-.9	.012%	-.900	.002%	13.000
C013630	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.004%	-.900	.002%	20.000
C013631	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.008%	-.900	.004%	2.000
C013632	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.006%	-.900	.004%	4.000
C013633	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	125.000	-.9	.002%	-.900	.004%	-.900
C013634	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	-.900	-.900
C013635	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	20.000	-.9	.004%	-.900	-.900	4.000
C013636	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.004%	-.900	-.900	-.900
C013637	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	-.900	-.900
C013638	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.002%	-.900	-.900	2.000
C013639	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.006%	-.900	-.900	4.000
C013640	348035.	3489168.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	.004%	2.000	-.900	-.900
C013641	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	50.000	-.9	.002%	-.900	.002%	6.000
C013642	355924.	3491390.	31 72	-.90	-.8	.012	-.80	2950.000	-.9	-.900	2.000	-.900	12.000
C013643	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	325.000	-.9	-.900	-.900	-.900	4.000
C013644	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	770.000	-.9	-.900	-.900	-.900	-.900
C013645	355924.	3491390.	31 72	-.90	-.8	.006	-.80	1250.000	-.9	-.900	-.900	-.900	2.000
C013646	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	890.000	-.9	.002%	-.900	.002%	4.000
C013647	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	265.000	-.9	-.900	-.900	-.900	2.000
C013648	355924.	3491390.	31 72	-.90	-.8	.009	-.80	3000.000	-.9	-.900	-.900	-.900	2.000
C013649	355924.	3491390.	31 72	-.90	-.8	.006	-.80	1600.000	-.9	-.900	-.900	-.900	4.000
C013650	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	315.000	-.9	-.900	-.900	-.900	2.000
C013651	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	245.000	-.9	-.900	-.900	-.900	2.000
C013652	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	730.000	-.9	-.900	-.900	.006%	2.000

TABLE AD-21

CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C012687	15.0	-.900
C012688	3.0	.007%
C012689	3.0	.006%
C012690	4.0	.012%
C012691	4.0	.003%
C012692	4.0	.005%
C012693	6.0	.003%
C012694	3.0	-.900
C012695	3.0	.002%
C012696	5.0	-.900
C012697	4.0	-.900
C012698	5.0	.005%
C012699	5.0	.006%
C012700	9.0	-.900
C013616	4.0	-.900
C013617	14.0	.020%
C013618	9.0	.002%
C013619	11.0	.073%
C013620	15.0	.002%
C013621	4.0	-.900
C013622	13.0	.004%
C013623	11.0	-.900
C013624	14.0	-.900
C013625	5.0	-.900
C013626	9.0	.003%
C013627	13.0	-.900
C013628	3.0	.010%
C013629	3.0	.021%
C013630	3.0	.010%
C013631	3.0	.013%
C013632	5.0	.013%
C013633	6.0	.013%
C013634	4.0	.002%
C013635	3.0	.011%
C013636	3.0	.008%
C013637	3.0	.007%
C013638	3.0	.005%
C013639	4.0	.011%
C013640	-.9	.010%
C013641	4.0	.004%
C013642	2.0	.005%
C013643	5.0	.021%
C013644	4.0	.013%
C013645	9.0	.020%
C013646	10.0	.080%
C013647	5.0	.100%
C013648	3.0	.110%
C013649	6.0	.185%
C013650	3.0	.240%
C013651	3.0	.275%
C013652	5.0	.305%

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C013653	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	135.000	-.9	-.900	-.900	-.900	4.000
C013654	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	205.000	-.9	-.900	-.900	.002%	-.900
C013655	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	1750.000	-.9	.006%	-.900	.006%	4.000
C013656	355924.	3491390.	31 72	.26	-.8	.023	-.80	9750.000	-.9	.032%	-.900	.520%	32.000
C013657	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	6700.000	-.9	.045%	-.900	.250%	55.000
C013658	355924.	3491390.	31 72	.57	-.8	.007	-.80	5550.000	-.9	.072%	-.900	.370%	46.000
C013659	355924.	3491390.	31 72	7.31	-.8	.063	-.80	16500.000	-.9	.665%	-.900	4.150%	445.000
C013660	355924.	3491390.	31 72	.60	-.8	.022	-.80	16500.000	-.9	.048%	-.900	.685%	85.000
C013661	355924.	3491390.	31 72	.64	-.8	.019	-.80	14000.000	-.9	.170%	-.900	1.050%	85.000
C013662	355924.	3491390.	31 72	1.39	-.8	.032	-.80	10500.000	-.9	.100%	2.000	2.250%	90.000
C013663	355924.	3491390.	31 72	.78	-.8	.008	-.80	7350.000	-.9	.130%	-.900	1.950%	80.000
C013664	355924.	3491390.	31 72	-.90	-.8	.050	-.80	45500.000	1.0	.250%	-.900	.050%	65.000
C013665	355924.	3491390.	31 72	-.90	-.8	.023	-.80	9150.000	-.9	.140%	-.900	.130%	22.000
C013666	355924.	3491390.	31 72	-.90	-.8	.017	-.80	1150.000	-.9	.051%	-.900	.014%	6.000
C013667	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	130.000	-.9	.008%	-.900	.004%	6.000
C013668	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	160.000	-.9	.006%	-.900	.008%	4.000
C013669	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	35.000	-.9	.004%	-.900	-.900	2.000
C013670	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	70.000	-.9	.006%	-.900	.004%	2.000
C013671	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	60.000	-.9	.004%	-.900	-.900	9.000
C013672	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	20.000	-.9	.006%	-.900	.002%	4.000
C013673	355924.	3491390.	31 72	-.90	-.9	-.900	-.90	30.000	-.9	.004%	-.900	-.900	2.000
C013674	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	55.000	-.9	10.000	-.900	15.000	15.000
C013675	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	40.000	-.9	5.000	-.900	10.000	4.000
C013676	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	80.000	-.9	5.000	-.900	10.000	-.900
C013677	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	15.000	-.9	65.000	-.900	15.000	8.000
C013678	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	65.000	-.9	-.900	-.900	20.000	14.000
C013679	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	35.000	-.9	20.000	-.900	10.000	4.000
C013680	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	10.000	-.900	15.000	6.000
C013681	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	10.000	-.900	15.000	-.900
C013682	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	55.000	-.900	10.000	20.000
C013683	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	15.000	-.9	25.000	-.900	10.000	2.000
C013684	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	205.000	-.9	50.000	-.900	40.000	24.000
C013685	345560.	3485887.	31 72	-.90	-.9	-.900	-.90	20.000	-.9	35.000	-.900	20.000	9.000
C013686	342389.	3487126.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	-.900	-.900	-.900	-.900
C013687	342389.	3487126.	31 72	-.90	-.8	.018	-.80	560.000	-.9	5.000	-.900	5.000	-.900
C013688	342389.	3487126.	31 72	-.90	-.8	.020	-.80	265.000	-.9	-.900	-.900	-.900	-.900
C013689	342389.	3487126.	31 72	-.90	-.9	-.900	-.90	570.000	-.9	10.000	-.900	-.900	2.000
C013690	342389.	3487126.	31 72	-.90	-.9	-.900	-.90	20.000	-.9	-.900	-.900	5.000	-.900
C013691	342389.	3487126.	31 72	-.90	-.8	.014	-.80	4950.000	-.9	-.900	-.900	20.000	-.900
C013692	342389.	3487126.	31 72	-.90	-.9	-.900	-.90	290.000	-.9	-.900	-.900	5.000	-.900
C013693	342389.	3487126.	31 72	-.90	-.9	-.900	-.90	80.000	-.9	-.900	-.900	-.900	-.900
C013694	342389.	3487126.	31 72	-.90	-.9	-.900	-.90	30.000	-.9	-.900	-.900	10.000	-.900
C013695	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	25.000	-.9	-.900	-.900	10.000	-.900
C013696	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	580.000	-.9	-.900	-.900	15.000	2.000
C013697	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	205.000	-.9	10.000	-.900	15.000	-.900
C013698	355633.	3491259.	31 72	-.90	-.8	.005	-.80	2150.000	-.9	10.000	-.900	25.000	-.900
C013699	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	125.000	-.9	5.000	-.900	10.000	-.900
C013700	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	500.000	-.9	5.000	-.900	25.000	-.900
C013801	345821.	3489340.	31 70	-.90	-.9	-.900	-.90	35.000	-.9	.002%	-.900	.030%	6.000
C013802	345821.	3489340.	31 70	-.90	-.9	-.900	-.90	25.000	-.9	-.900	-.900	.008%	8.000
C013803	345821.	3489340.	31 70	-.90	-.9	-.900	-.90	165.000	-.9	.002%	-.900	.004%	4.000

TABLE AD-21

CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C013653	5.0	.140%
C013654	4.0	.120%
C013655	16.0	1.450%
C013656	3.0	3.550%
C013657	-.9	.315%
C013658	3.0	.058%
C013659	3.0	.965%
C013660	2.0	.099%
C013661	2.0	.088%
C013662	3.0	.078%
C013663	4.0	.062%
C013664	2.0	.076%
C013665	4.0	3.000%
C013666	5.0	1.600%
C013667	4.0	.130%
C013668	3.0	.125%
C013669	2.0	.030%
C013670	3.0	.059%
C013671	3.0	.027%
C013672	2.0	.029%
C013673	4.0	.021%
C013674	3.0	520.000
C013675	3.0	90.000
C013676	4.0	65.000
C013677	3.0	185.000
C013678	4.0	195.000
C013679	6.0	80.000
C013680	-.9	50.000
C013681	-.9	25.000
C013682	4.0	55.000
C013683	3.0	50.000
C013684	70.0	90.000
C013685	4.0	90.000
C013686	3.0	25.000
C013687	9.0	30.000
C013688	6.0	15.000
C013689	4.0	5.000
C013690	4.0	15.000
C013691	12.0	15.000
C013692	3.0	15.000
C013693	3.0	15.000
C013694	3.0	25.000
C013695	-.9	295.000
C013696	7.0	880.000
C013697	4.0	3200.000
C013698	-.9	4300.000
C013699	-.9	2100.000
C013700	3.0	3300.000
C013801	4.0	.009%
C013802	-.9	.005%
C013803	5.0	.079%

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C013804	345821.	3489340.	31 70	-.90	-.9	-.900	-.90	1100.000	-.9	.002%	-.900	.002%	36.000
C013805	345821.	3489340.	31 70	-.90	-.9	-.900	-.90	255.000	-.9	.002%	-.900	.002%	4.000
C013806	345821.	3489340.	31 70	-.90	-.9	-.900	-.90	315.000	-.9	-.900	-.900	-.900	2.000
C013807	345821.	3489340.	31 70	-.90	-.9	-.900	-.90	355.000	-.9	-.900	-.900	-.900	2.000
C013808	345547.	3488421.	31 70	-.90	-.9	-.900	-.90	25.000	-.9	.008%	-.900	-.900	-.900
C013809	345547.	3488421.	31 70	-.90	-.9	-.900	-.90	25.000	-.9	.004%	4.000	.002%	-.900
C013810	345547.	3488421.	31 70	-.90	-.8	.016	-.80	10.000	-.9	.004%	4.000	-.900	2.000
C013811	345547.	3488421.	31 70	-.90	-.9	-.900	-.90	15.000	-.9	.004%	6.000	-.900	4.000
C013812	345547.	3488421.	31 70	-.90	-.9	-.900	-.90	-.900	-.9	-.900	2.000	-.900	-.900
C013813	345547.	3488421.	31 70	-.90	-.9	-.900	-.90	15.000	-.9	.004%	4.000	-.900	15.000
C013814	345547.	3488421.	31 70	-.90	-.9	-.900	-.90	340.000	-.9	-.900	-.900	.010%	2.000
C013815	345547.	3488421.	31 70	-.90	-.8	.006	-.80	1500.000	-.9	-.900	-.900	-.900	2.000
C013816	345547.	3488421.	31 72	-.90	-.9	-.900	-.90	650.000	-.9	.004%	-.900	.002%	-.900
C013817	345547.	3488421.	31 72	1.79	-.8	.047	-.80	19500.000	-.9	.006%	-.900	.785%	65.000
C013818	345547.	3488421.	31 72	-.90	-.9	-.900	-.90	550.000	-.9	.002%	-.900	.004%	2.000
C013819	345547.	3488421.	31 72	-.90	-.8	.005	-.80	1400.000	-.9	-.900	-.900	-.900	-.900
C013820	345547.	3488421.	31 72	-.90	-.9	-.900	-.90	430.000	-.9	-.900	-.900	-.900	-.900
C013821	345437.	3488557.	31 72	-.90	-.8	.015	-.80	2650.000	-.9	-.900	-.900	-.900	2.000
C013822	345437.	3488557.	31 72	-.90	-.9	-.900	-.90	890.000	-.9	-.900	-.900	-.900	6.000
C013823	345437.	3488557.	31 72	-.90	-.8	.012	-.80	4150.000	-.9	-.900	-.900	-.900	2.000
C013824	345437.	3488557.	31 72	1.43	-.8	.005	-.80	1600.000	-.9	.010%	-.900	.002%	18.000
C013825	345437.	3488557.	31 72	-.90	-.9	-.900	-.90	850.000	-.9	.002%	-.900	.002%	2.000
C013826	345437.	3488557.	31 72	-.90	-.8	.011	-.80	5750.000	-.9	.004%	-.900	.002%	9.000
C013827	345437.	3488557.	31 72	-.90	-.9	-.900	-.90	460.000	-.9	.002%	2.000	.004%	-.900
C013828	345437.	3488557.	31 72	-.90	-.8	.012	-.80	5750.000	-.9	.008%	-.900	.002%	2.000
C013829	345437.	3488557.	31 72	-.90	-.8	.009	-.80	2850.000	-.9	.004%	-.900	.002%	2.000
C013830	345437.	3488557.	31 72	5.89	-.8	.094	-.80	18000.000	2.0	.077%	-.900	.415%	220.000
C013831	345437.	3488557.	31 72	.21	-.8	.039	-.80	26000.000	-.9	.014%	-.900	.053%	28.000
C013832	345437.	3488557.	31 72	.11	-.8	.024	-.80	9900.000	-.9	.040%	-.900	.140%	20.000
C013833	345437.	3488557.	31 72	-.90	-.8	.086	-.80	9350.000	-.9	.006%	-.900	.016%	12.000
C013834	345437.	3488557.	31 72	-.90	-.8	.010	-.80	2000.000	-.9	.004%	-.900	.008%	-.900
C013835	345437.	3488557.	31 72	-.90	-.8	.007	-.80	840.000	-.9	.002%	-.900	.006%	-.900
C013836	345437.	3488557.	31 72	-.90	-.8	.009	-.80	1500.000	-.9	.002%	-.900	.002%	-.900
C013837	345437.	3488557.	31 72	-.90	-.8	.011	-.80	240.000	-.9	.002%	-.900	-.900	-.900
C013838	345437.	3488557.	31 72	-.90	-.8	.005	-.80	390.000	-.9	-.900	-.900	.002%	-.900
C013839	345437.	3488557.	31 72	-.90	-.8	.014	-.80	4800.000	-.9	.002%	-.900	.006%	4.000
C013840	345437.	3488557.	31 72	-.90	-.8	.009	-.80	3000.000	-.9	-.900	-.900	-.900	-.900
C013841	345437.	3488557.	31 72	-.90	-.8	.023	-.80	9700.000	-.9	.002%	-.900	.008%	6.000
C013842	345437.	3488557.	31 72	-.90	-.8	.015	-.80	5400.000	-.9	.004%	-.900	.004%	4.000
C013843	345437.	3488557.	31 72	-.90	-.9	-.900	-.90	930.000	-.9	.002%	-.900	.002%	2.000
C013844	345437.	3488557.	31 72	.05	-.8	.140	-.80	5100.000	2.0	.048%	6.000	.016%	10.000
C013845	345437.	3488557.	31 72	.25	-.8	.420	-.80	2050.000	1.0	.076%	6.000	.010%	10.000
C013846	345437.	3488557.	31 72	.08	-.8	.200	-.80	4800.000	-.9	.048%	4.000	.002%	4.000
C013847	345437.	3488557.	31 72	-.90	-.8	.017	-.80	7550.000	-.9	.016%	4.000	.004%	8.000
C013848	344073.	3487263.	31 71	-.80	-.9	-.800	.04	265.000	-.9	-.900	-.900	-.900	2.000
C013849	344073.	3487263.	31 71	-.80	1.1	-.800	.22	1050.000	-.9	10.000	-.900	60.000	4.000
C013850	344073.	3487263.	31 71	-.80	-.9	-.800	.09	830.000	-.9	5.000	-.900	5.000	2.000
C013851	344073.	3487263.	31 71	-.90	-.9	-.900	-.90	220.000	-.9	95.000	-.900	-.900	4.000
C013852	344073.	3487263.	31 71	-.90	-.9	-.900	-.90	110.000	-.9	95.000	-.900	5.000	2.000
C013853	344073.	3487263.	31 71	-.80	1.2	-.800	.34	3700.000	-.9	185.000	-.900	45.000	12.000
C013854	344073.	3487263.	31 71	-.80	.4	-.800	.14	5800.000	-.9	140.000	-.900	10.000	6.000

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C013804	5.0	.905%
C013805	6.0	.007%
C013806	3.0	.008%
C013807	9.0	.008%
C013808	-.9	.011%
C013809	3.0	.014%
C013810	-.9	.008%
C013811	3.0	.015%
C013812	-.9	.002%
C013813	3.0	.007%
C013814	6.0	.017%
C013815	9.0	.003%
C013816	6.0	.043%
C013817	-.9	.037%
C013818	8.0	.021%
C013819	7.0	.010%
C013820	4.0	.012%
C013821	7.0	.150%
C013822	6.0	.100%
C013823	-.9	.014%
C013824	60.0	.140%
C013825	8.0	.165%
C013826	-.9	.450%
C013827	6.0	.115%
C013828	20.0	.180%
C013829	18.0	.081%
C013830	-.9	.345%
C013831	-.9	.085%
C013832	1050.0	.054%
C013833	-.9	.015%
C013834	3.0	.011%
C013835	-.9	.007%
C013836	-.9	.006%
C013837	-.9	.004%
C013838	-.9	.006%
C013839	-.9	.017%
C013840	-.9	.008%
C013841	-.9	.034%
C013842	345.0	.041%
C013843	7.0	.049%
C013844	1400.0	.034%
C013845	2500.0	.064%
C013846	3500.0	.046%
C013847	1700.0	.052%
C013848	12.0	65.000
C013849	10.0	120.000
C013850	9.0	90.000
C013851	6.0	780.000
C013852	6.0	520.000
C013853	4.0	730.000
C013854	5.0	610.000

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C013855	344073.	3487263.	31 71	-.80	1.0	-.800	.43	4350.000	-.9	120.000	-.900	10.000	8.000
C013856	344073.	3487263.	31 71	-.80	42.0	-.800	.31	1900.000	-.9	180.000	-.900	365.000	42.000
C013857	344073.	3487263.	31 71	-.80	295.0	-.800	2.80	15000.000	-.9	495.000	-.900	4200.000	345.000
C013858	344073.	3487263.	31 71	-.80	2.9	-.800	1.00	17000.000	-.9	380.000	-.900	45.000	24.000
C013859	344073.	3487263.	31 71	-.80	.6	-.800	.24	4000.000	-.9	40.000	-.900	95.000	6.000
C013860	344073.	3487263.	31 71	-.80	2.1	-.800	.47	13500.000	-.9	45.000	-.900	380.000	14.000
C013861	344073.	3487263.	31 71	-.80	2.1	-.800	.08	1050.000	-.9	15.000	-.900	205.000	4.000
C013862	344073.	3487263.	31 71	-.80	1.0	-.800	.44	1700.000	-.9	25.000	-.900	180.000	20.000
C013863	344073.	3487263.	31 71	-.80	2.1	-.800	2.10	5550.000	-.9	45.000	-.900	60.000	12.000
C013864	344073.	3487253.	31 71	-.90	-.9	-.900	-.90	540.000	-.9	35.000	-.900	-.900	6.000
C013865	344073.	3487263.	31 71	-.80	.4	-.800	-.90	1450.000	-.9	100.000	-.900	15.000	8.000
C013866	344073.	3487263.	31 71	-.80	.4	-.800	-.90	105.000	-.9	35.000	-.900	10.000	6.000
C013867	344073.	3487263.	31 71	-.80	.6	-.800	-.90	375.000	-.9	25.000	-.900	15.000	4.000
C013868	344073.	3487263.	31 71	-.80	2.9	-.800	.08	660.000	-.9	60.000	-.900	15.000	10.000
C013869	344073.	3487263.	31 71	-.80	2.1	-.800	.20	1950.000	-.9	40.000	-.900	15.000	18.000
C013870	344073.	3487263.	31 71	-.90	-.9	-.900	-.90	40.000	-.9	-.900	-.900	-.900	2.000
C013871	344073.	3487263.	31 71	-.80	.6	-.800	-.90	30.000	-.9	25.000	-.900	-.900	2.000
C013872	344043.	3487331.	31 71	-.80	1.0	-.800	.45	2650.000	-.9	15.000	-.900	20.000	6.000
C013873	344043.	3487331.	31 71	-.80	1.1	-.800	-.90	110.000	-.9	20.000	-.900	40.000	6.000
C013874	344043.	3487331.	31 71	-.90	-.9	-.900	-.90	5.000	-.9	60.000	-.900	-.900	-.900
C013875	344043.	3487331.	31 71	-.80	-.9	-.800	.07	710.000	-.9	10.000	-.900	-.900	2.000
C013876	344043.	3487331.	31 71	-.80	.6	-.800	-.90	340.000	-.9	10.000	-.900	-.900	2.000
C013877	344043.	3487331.	31 71	-.80	.6	-.800	.33	400.000	-.9	5.000	-.900	-.900	-.900
C013878	344043.	3487331.	31 71	-.80	.4	-.800	.04	35.000	-.9	5.000	-.900	5.000	-.900
C013879	344043.	3487331.	31 71	-.80	.2	-.800	-.90	15.000	-.9	40.000	-.900	15.000	12.000
C013880	344043.	3487331.	31 71	-.80	.4	-.800	-.90	50.000	-.9	80.000	-.900	25.000	12.000
C013881	345639.	3488893.	31 71	-.90	-.9	-.900	-.90	-.900	-.9	5.000	-.900	15.000	4.000
C013882	345639.	3488893.	31 71	-.80	.2	-.800	-.90	-.900	-.9	65.000	2.000	15.000	-.900
C013883	345639.	3488893.	31 71	-.80	.4	-.800	-.90	-.900	-.9	70.000	-.900	20.000	6.000
C013884	345639.	3488893.	31 71	-.80	.4	-.800	-.90	-.900	-.9	45.000	-.900	10.000	4.000
C013885	345639.	3488893.	31 71	-.80	.4	-.800	.04	560.000	-.9	15.000	-.900	10.000	4.000
C013886	345639.	3488893.	31 71	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	-.900	-.900
C013887	345639.	3488893.	31 71	-.80	.4	-.800	-.90	15.000	-.9	55.000	-.900	20.000	2.000
C013888	345639.	3488893.	31 71	-.90	-.9	-.900	-.90	10.000	-.9	45.000	-.900	35.000	14.000
C013889	345639.	3488893.	31 71	-.80	.2	-.800	-.90	25.000	-.9	60.000	-.900	10.000	2.000
C013890	345639.	3488893.	31 71	-.80	.4	-.800	-.90	60.000	-.9	35.000	-.900	10.000	2.000
C013892	344043.	3487331.	31 71	-.80	.2	-.800	.12	115.000	-.9	-.900	-.900	-.900	-.900
C013893	344043.	3487331.	31 71	-.90	-.9	-.900	-.90	50.000	-.9	10.000	-.900	-.900	-.900
C013894	344043.	3487331.	31 71	-.80	.6	-.800	-.90	170.000	-.9	30.000	-.900	45.000	6.000
C013895	344043.	3487331.	31 71	-.80	-.9	-.800	.20	1000.000	-.9	-.900	-.900	15.000	2.000
C013896	344043.	3487331.	31 71	-.80	.2	-.800	.13	385.000	-.9	-.900	-.900	-.900	-.900
C013897	344043.	3487331.	31 71	-.90	-.9	-.900	-.90	100.000	-.9	-.900	-.900	5.000	-.900
C013898	344043.	3487331.	31 71	-.90	-.9	-.900	-.90	80.000	-.9	-.900	-.900	-.900	-.900
C013899	344043.	3487331.	31 71	-.90	-.9	-.900	-.90	50.000	-.9	-.900	-.900	-.900	-.900
C013900	344043.	3487331.	31 71	-.80	.4	-.800	.67	1150.000	-.9	-.900	-.900	10.000	-.900
C013901	355633.	3491259.	31 72	-.90	-.8	.011	-.80	690.000	-.9	15.000	-.900	25.000	2.000
C013902	355633.	3491259.	31 72	-.90	-.8	.005	-.80	1150.000	-.9	20.000	-.900	10.000	6.000
C013903	355633.	3491259.	31 72	-.90	-.8	.005	-.80	50.000	-.9	10.000	-.900	25.000	7.000
C013904	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	130.000	-.9	5.000	-.900	10.000	-.900
C013905	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	45.000	-.9	-.900	-.900	10.000	-.900
C013906	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	120.000	-.9	10.000	-.900	5.000	-.900

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C013855	4.0	920.000
C013856	4.0	1700.000
C013857	3.0	4250.000
C013858	3.0	3900.000
C013859	5.0	475.000
C013860	3.0	1150.000
C013861	6.0	940.000
C013862	13.0	1100.000
C013863	4.0	310.000
C013864	10.0	3150.000
C013865	11.0	1450.000
C013866	8.0	255.000
C013867	5.0	65.000
C013868	110.0	60.000
C013869	5.0	295.000
C013870	6.0	60.000
C013871	6.0	25.000
C013872	9.0	290.000
C013873	4.0	45.000
C013874	3.0	100.000
C013875	12.0	140.000
C013876	8.0	50.000
C013877	6.0	15.000
C013878	-.9	65.000
C013879	3.0	135.000
C013880	5.0	185.000
C013881	-.9	35.000
C013882	5.0	115.000
C013883	4.0	170.000
C013884	4.0	155.000
C013885	6.0	170.000
C013886	3.0	30.000
C013887	3.0	220.000
C013888	3.0	130.000
C013889	3.0	160.000
C013890	5.0	100.000
C013892	18.0	15.000
C013893	5.0	20.000
C013894	9.0	45.000
C013895	16.0	75.000
C013896	7.0	10.000
C013897	4.0	15.000
C013898	-.9	5.000
C013899	5.0	15.000
C013900	16.0	15.000
C013901	-.9	1300.000
C013902	-.9	1700.000
C013903	-.9	435.000
C013904	4.0	1550.000
C013905	2.0	620.000
C013906	5.0	1900.000

TABLE AD-21

CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C013907	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	360.000	-.9	-.900	-.900	10.000	6.000
C013908	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	265.000	-.9	-.900	-.900	10.000	2.000
C013909	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	210.000	-.9	5.000	-.900	15.000	-.900
C013910	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	230.000	-.9	10.000	-.900	20.000	-.900
C013911	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	25.000	-.9	15.000	-.900	20.000	8.000
C013912	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	530.000	-.9	5.000	-.900	10.000	7.000
C013913	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	1400.000	-.9	60.000	-.900	20.000	2.000
C013914	355633.	3491259.	31 72	-.90	-.8	.005	-.80	1500.000	-.9	160.000	-.900	20.000	7.000
C013915	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	2750.000	-.9	520.000	-.900	120.000	9.000
C013916	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	2350.000	-.9	800.000	-.900	180.000	10.000
C013917	355633.	3491259.	31 72	-.90	-.8	.013	-.80	9050.000	-.9	670.000	-.900	210.000	24.000
C013918	355633.	3491259.	31 72	-.90	-.8	.006	-.80	9000.000	-.9	2100.000	-.900	630.000	70.000
C013919	355633.	3491259.	31 72	-.90	-.8	.046	-.80	37000.000	3.0	1200.000	-.900	225.000	60.000
C013920	355633.	3491259.	31 72	-.90	-.8	.021	-.80	15500.000	-.9	740.000	-.900	285.000	28.000
C013921	355633.	3491259.	31 72	-.90	-.8	.007	-.80	9000.000	-.9	610.000	-.900	190.000	22.000
C013922	355633.	3491259.	31 72	-.90	-.8	.018	-.80	13500.000	-.9	1150.000	-.900	420.000	55.000
C013923	355633.	3491259.	31 72	-.90	-.8	.012	-.80	17000.000	-.9	320.000	-.900	85.000	26.000
C013924	355633.	3491259.	31 72	-.90	-.8	.006	-.80	8050.000	-.9	300.000	-.900	90.000	16.000
C013925	355633.	3491259.	31 72	-.90	-.8	.010	-.80	13500.000	-.9	25.000	-.900	40.000	18.000
C013926	355633.	3491259.	31 72	-.90	-.8	.008	-.80	10500.000	-.9	-.900	-.900	55.000	15.000
C013927	355633.	3491259.	31 72	-.90	-.8	.031	-.80	19500.000	-.9	25.000	-.900	40.000	22.000
C013928	355633.	3491259.	31 72	-.90	-.8	.009	-.80	3300.000	-.9	5.000	-.900	10.000	4.000
C013929	355633.	3491259.	31 72	-.90	-.8	.005	-.80	6250.000	-.9	5.000	-.900	15.000	9.000
C013930	355633.	3491259.	31 72	-.90	-.8	.025	-.80	2100.000	-.9	5.000	-.900	5.000	4.000
C013931	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	325.000	-.9	5.000	-.900	10.000	4.000
C013932	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	135.000	-.9	10.000	-.900	5.000	5.000
C013933	355633.	3491259.	31 72	-.90	-.9	-.900	-.90	170.000	-.9	25.000	-.900	-.900	6.000
C013934	355633.	3491259.	31 72	-.90	-.8	.005	-.80	1450.000	-.9	5.000	-.900	10.000	-.900
C013935	355633.	3491259.	31 72	-.90	-.8	.009	-.80	1350.000	-.9	5.000	-.900	5.000	-.900
C013936	355633.	3491259.	31 72	-.90	-.8	.011	-.80	1650.000	-.9	5.000	-.900	5.000	2.000
C013937	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	115.000	-.9	10.000	-.900	10.000	4.000
C013938	342101.	3485802.	31 72	-.90	-.8	.012	-.80	230.000	-.9	10.000	-.900	5.000	-.900
C013939	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	810.000	-.9	15.000	-.900	10.000	-.900
C013940	342101.	3485802.	31 72	-.90	-.8	.011	-.80	1050.000	-.9	20.000	-.900	5.000	2.000
C013941	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	295.000	-.9	10.000	-.900	5.000	2.000
C013942	342101.	3485802.	31 72	-.90	-.8	.013	-.80	15.000	-.9	-.900	-.900	-.900	6.000
C013943	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	480.000	-.9	5.000	-.900	5.000	4.000
C013944	342101.	3485802.	31 72	-.90	-.8	.008	-.80	290.000	-.9	-.900	-.900	5.000	4.000
C013945	342101.	3485802.	31 72	-.90	-.8	.011	-.80	670.000	-.9	5.000	-.900	-.900	10.000
C013946	342101.	3485802.	31 72	-.90	-.8	.008	-.80	20.000	-.9	5.000	-.900	5.000	4.000
C013947	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	560.000	-.9	-.900	-.900	-.900	6.000
C013948	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	325.000	-.9	-.900	-.900	10.000	8.000
C013949	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	45.000	-.9	5.000	-.900	5.000	4.000
C013950	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	55.000	-.9	-.900	-.900	-.900	2.000
C013951	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	120.000	-.9	-.900	-.900	10.000	8.000
C013952	342101.	3485802.	31 72	.07	-.8	-.900	-.80	750.000	-.9	25.000	-.900	60.000	32.000
C013953	342101.	3485802.	31 72	3.17	-.8	.031	-.80	18500.000	-.9	510.000	-.900	2500.000	530.000
C013954	342101.	3485802.	31 72	18.80	-.8	.230	-.80	93500.000	7.0	3700.000	-.900	1950.000	3800.000
C013955	342101.	3485802.	31 72	5.58	-.8	.360	-.80	74000.000	4.0	1150.000	-.900	2900.000	1300.000
C013956	342101.	3485802.	31 72	4.84	-.8	.140	-.80	990.000	-.9	570.000	-.900	620.000	305.000
C013957	342101.	3485802.	31 72	-.90	-.8	.023	-.80	10000.000	-.9	10.000	-.900	25.000	19.000

TABLE AD-21

CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C013907	9.0	2950.000
C013908	3.0	1750.000
C013909	4.0	3250.000
C013910	6.0	9600.000
C013911	6.0	4400.000
C013912	8.0	6550.000
C013913	5.0	22500.000
C013914	6.0	25000.000
C013915	-.9	10000.000
C013916	-.9	14000.000
C013917	-.9	28500.000
C013918	-.9	7300.000
C013919	36.0	3150.000
C013920	-.9	12000.000
C013921	-.9	20500.000
C013922	10.0	3050.000
C013923	3.0	35500.000
C013924	-.9	59500.000
C013925	55.0	16500.000
C013926	195.0	34000.000
C013927	375.0	15500.000
C013928	4.0	5200.000
C013929	5.0	2850.000
C013930	2.0	395.000
C013931	4.0	230.000
C013932	-.9	215.000
C013933	3.0	590.000
C013934	11.0	145.000
C013935	19.0	220.000
C013936	310.0	730.000
C013937	11.0	35.000
C013938	12.0	35.000
C013939	9.0	25.000
C013940	6.0	20.000
C013941	7.0	70.000
C013942	-.9	30.000
C013943	5.0	25.000
C013944	7.0	50.000
C013945	10.0	25.000
C013946	6.0	20.000
C013947	4.0	20.000
C013948	9.0	25.000
C013949	2.0	350.000
C013950	9.0	40.000
C013951	8.0	235.000
C013952	9.0	200.000
C013953	-.9	1200.000
C013954	-.9	2400.000
C013955	55.0	1650.000
C013956	900.0	510.000
C013957	11.0	35.000

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (OZ/T)	AG (PPM)	AU (OZ/T)	AU (PPM)	AS (PPM)	BI (PPM)	CU (PPM)	MO (PPM)	PB (PPM)	SB (PPM)
C013958	342101.	3485802.	31 72	-.90	-.8	.005	-.80	1100.000	-.9	10.000	-.900	20.000	16.000
C013959	342101.	3485802.	31 72	-.90	-.9	-.900	-.90	100.000	-.9	10.000	-.900	15.000	6.000
C013960	341199.	3487247.	31 72	-.90	-.9	-.900	-.90	40.000	-.9	5.000	-.900	30.000	-.900
C013961	341199.	3487247.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	15.000	-.900
C013962	341199.	3487247.	31 72	-.90	-.9	-.900	-.90	10.000	-.9	-.900	-.900	-.900	-.900
C013963	341199.	3487247.	31 72	-.90	-.9	-.900	-.90	-.900	-.9	-.900	-.900	-.900	-.900
C013964	341199.	3487247.	31 72	-.90	-.8	.024	-.80	510.000	-.9	5.000	-.900	20.000	-.900
C013965	341199.	3487247.	31 72	-.90	-.9	-.900	-.90	65.000	-.9	10.000	-.900	10.000	-.900
C013966	341199.	3487247.	31 72	-.90	-.9	-.900	-.90	860.000	-.9	-.900	-.900	-.900	-.900
C013967	341199.	3487247.	31 72	-.90	-.8	.005	-.80	990.000	-.9	20.000	-.900	10.000	-.900
C013968	341199.	3487247.	31 72	-.90	-.9	-.900	-.90	750.000	-.9	15.000	-.900	10.000	-.900
C013969	341199.	3487247.	31 72	1.32	-.8	.100	-.80	19500.000	-.9	315.000	-.900	110.000	50.000
C013970	341199.	3487247.	31 72	2.82	-.8	.290	-.80	64000.000	-.9	240.000	-.900	375.000	100.000
C013971	341199.	3487247.	31 72	.09	-.8	.098	-.80	53000.000	-.9	100.000	-.900	65.000	55.000
C013972	341199.	3487247.	31 72	-.90	-.8	.039	-.80	22500.000	-.9	20.000	10.000	30.000	26.000
C013973	341199.	3487247.	31 72	1.71	-.8	.240	-.80	30500.000	-.9	175.000	-.900	110.000	165.000
C013974	341199.	3487247.	31 72	2.54	-.8	.150	-.80	14500.000	-.9	420.000	-.900	225.000	340.000
C013975	341199.	3487247.	31 72	63.60	-.8	.250	-.80	14500.000	-.9	4000.000	-.900	630.000	3350.000
C013976	341199.	3487247.	31 72	-.90	-.8	.012	-.80	1350.000	-.9	40.000	-.900	25.000	30.000
C013977	341199.	3487247.	31 72	.04	-.8	.018	-.80	3450.000	-.9	35.000	-.900	10.000	80.000
C013978	341199.	3487247.	31 72	.03	-.8	-.900	-.80	65.000	-.9	60.000	-.900	10.000	10.000
C013979	341199.	3487247.	31 72	-.90	-.8	.015	-.80	400.000	-.9	70.000	6.000	20.000	18.000
C013980	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	115.000	-.9	-.900	-.900	15.000	-.900
C013981	355097.	3491086.	31 72	-.90	-.8	.007	-.80	245.000	-.9	30.000	-.900	10.000	-.900
C013982	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	740.000	-.9	35.000	-.900	10.000	-.900
C013983	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	375.000	-.9	10.000	-.900	35.000	6.000
C013984	355097.	3491086.	31 72	-.90	-.8	.005	-.80	2050.000	-.9	20.000	-.900	45.000	4.000
C013985	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	2200.000	-.9	10.000	-.900	10.000	2.000
C013986	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	1600.000	-.9	15.000	-.900	30.000	2.000
C013987	355097.	3491086.	31 72	-.90	-.8	.008	-.80	3600.000	-.9	65.000	-.900	270.000	26.000
C013988	355097.	3491086.	31 72	6.68	-.8	.210	-.80	111000.000	-.9	425.000	-.900	106000.000	375.000
C013989	355097.	3491086.	31 72	.03	-.8	.040	-.80	22500.000	-.9	95.000	-.900	290.000	32.000
C013990	355097.	3491086.	31 72	32.40	-.8	.110	-.80	3950.000	115.0	215.000	-.900	304000.000	1250.000
C013991	355097.	3491086.	31 72	11.10	-.8	.038	-.80	9150.000	60.0	190.000	-.900	115000.000	360.000
C013992	355097.	3491086.	31 72	.35	-.8	.007	-.80	1950.000	2.0	95.000	-.900	6200.000	32.000
C013993	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	1500.000	-.9	105.000	-.900	980.000	10.000
C013994	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	3250.000	-.9	130.000	-.900	420.000	14.000
C013995	355097.	3491086.	31 72	2.14	-.8	.007	-.80	1450.000	-.9	100.000	-.900	70.000	160.000
C013996	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	980.000	-.9	60.000	-.900	230.000	11.000
C013997	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	1150.000	-.9	100.000	-.900	370.000	18.000
C013998	355097.	3491086.	31 72	.07	-.8	-.900	-.80	320.000	-.9	65.000	-.900	205.000	4.000
C013999	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	335.000	-.9	40.000	-.900	85.000	10.000
C014000	355097.	3491086.	31 72	-.90	-.9	-.900	-.90	85.000	-.9	10.000	-.900	30.000	4.000

TABLE AD-21 CHEMICAL ANALYSIS OF CORE SPLIT SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON). ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	W (PPM)	ZN (PPM)
C013958	9.0	50.000
C013959	7.0	30.000
C013960	7.0	85.000
C013961	3.0	145.000
C013962	-.9	45.000
C013963	2.0	30.000
C013964	9.0	40.000
C013965	6.0	360.000
C013966	10.0	190.000
C013967	8.0	170.000
C013968	10.0	2700.000
C013969	28.0	2600.000
C013970	4.0	15000.000
C013971	-.9	5200.000
C013972	5.0	2800.000
C013973	3.0	4550.000
C013974	3.0	2800.000
C013975	-.9	6000.000
C013976	7.0	870.000
C013977	6.0	300.000
C013978	5.0	100.000
C013979	3.0	115.000
C013980	-.9	1150.000
C013981	22.0	2350.000
C013982	8.0	3350.000
C013983	4.0	1200.000
C013984	8.0	5200.000
C013985	3.0	3400.000
C013986	7.0	5900.000
C013987	19.0	2550.000
C013988	-.9	9700.000
C013989	-.9	1400.000
C013990	20.0	1550.000
C013991	4.0	5650.000
C013992	6.0	45000.000
C013993	4.0	32000.000
C013994	5.0	38000.000
C013995	-.9	4650.000
C013996	4.0	28000.000
C013997	9.0	35000.000
C013998	6.0	10500.000
C013999	5.0	9200.000
C014000	4.0	3250.000

TABLE AD-22

KANTISHNA HILLS ROCK CHARACTER SAMPLES

ANALYTICAL RESULTS

TABLE AD-22 CHEMICAL ANALYSIS OF CHARACTER SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON).ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT
-.8 REPRESENTS ELEMENT NOT ANALYZED

SAMPLE ID	X (EAST)	Y (NORTH)	IV IT CODE	AG (PPM)	AG (OZ/T)	AU (PPM)	AU (OZ/T)	AL2O3 (%)	AS (%)	BA (PPM)	BI (PPM)	CAO (%)	CD (PPM)	CO (PPM)	CO2 (PPM)	CU (%)
C013701	324830.	3456400.	35 73	.8	-.80	-.90	-.800	7.90	-.900	360.0	-.9	.071	-.9	5.0	-.9	.002
C013704	324830.	3456400.	35 73	-.8	-.90	-.80	-.900	.09	-.900	50.0	-.9	.020	-.9	-.9	-.9	-.900
C013706	324830.	3456400.	35 73	-.8	-.90	-.80	.005	.96	.028	50.0	-.9	.033	-.9	-.9	.5	.016
C013707	334310.	3473470.	35 73	-.8	18.60	-.80	.059	.50	.795	50.0	10.0	2.200	2050.0	15.0	3.1	.145
C013709	334310.	3473470.	35 73	-.8	23.80	-.80	.029	.34	.225	50.0	22.0	2.100	1800.0	5.0	3.0	.105
C013711	334310.	3473470.	35 73	2.0	-.80	.78	-.800	13.00	2.050	670.0	-.9	.073	7.0	-.9	-.9	.001
C013713	341180.	3487460.	35 73	-.8	10.10	-.80	.180	.51	1.100	50.0	3.0	.510	1350.0	10.0	.3	.120
C013714	341180.	3487460.	35 73	-.8	142.60	-.80	.630	.12	4.600	-.9	-.9	.100	1550.0	20.0	-.9	.695
C013716	341180.	3487460.	35 73	1.1	-.80	.79	-.800	12.10	.895	860.0	-.9	1.300	95.0	-.9	2.1	.038
C013717	345570.	3488880.	35 73	-.8	44.40	-.80	.024	2.40	.290	140.0	-.9	.350	310.0	5.0	3.1	.485
C013719	345570.	3488830.	35 73	.4	-.80	.04	-.800	12.20	.072	750.0	-.9	1.200	6.0	-.9	1.1	.001
C013720	345850.	3488550.	35 73	-.8	65.70	-.80	.053	2.00	.965	140.0	-.9	.094	285.0	-.9	1.5	.200
C013721	354820.	3492050.	35 73	-.8	10.50	-.80	1.340	.09	.405	-.9	3.0	.820	130.0	-.9	.5	.041
C013723	354450.	3491480.	35 73	1.1	-.80	.70	-.800	.64	.615	50.0	-.9	.032	.6	-.9	-.9	.001
C013725	354450.	3491480.	35 73	.2	-.80	.04	-.800	14.10	.063	630.0	-.9	.120	.4	-.9	-.9	.003
C013726	354870.	3491900.	35 73	-.8	.42	-.80	.950	2.80	.595	100.0	3.0	.055	.6	-.9	-.9	-.900

TABLE AD-22

CHEMICAL ANALYSIS OF CHARACTER SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON).ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT

SAMPLE ID	F (%)	FE2O3 (%)	FEO (%)	GA (PPM)	HG (PPM)	IN (PPM)	K2O (%)	LI2O (%)	LOI (%)	MGO (%)	MNO (%)	MO (PPM)	MOIST (%)	NA2O (%)	NI (PPM)	P2O5 (%)	PB (%)	PT (PPM)
C013701	.039	2.50	.52	10.0	.07	-.9	1.80	.010	2.4	.390	.016	-.9	.1	.13	10.0	.06	.002	-.9
C013704	.016	.28	-.90	-.9	.05	-.9	.02	-.900	25.5	.005	.001	-.9	-.9	.03	-.9	-.90	-.900	-.9
C013706	.016	.80	-.90	-.9	.12	-.9	.26	.002	8.9	.039	-.900	-.9	.4	.03	-.9	-.90	-.900	-.9
C013707	.019	10.50	3.00	-.9	1.90	-.9	.16	-.900	8.6	.470	.400	-.9	.6	.01	10.0	.10	13.000	-.9
C013709	.019	5.90	-.90	-.9	.27	3.0	.10	-.900	7.6	.480	.370	-.9	.3	.01	-.9	.03	17.000	-.9
C013711	.100	3.90	.34	19.0	.05	-.9	3.50	.002	4.7	.260	.005	-.9	.2	.09	-.9	.02	.115	-.9
C013713	.014	27.30	1.70	-.9	1.50	-.9	.11	.002	19.6	.087	.031	-.9	.9	.05	-.9	.13	2.900	-.9
C013714	.014	31.10	6.60	-.9	7.20	2.0	.02	-.900	25.1	.060	.049	-.9	1.2	.02	-.9	.24	.240	-.9
C013716	.045	2.50	1.30	12.0	.07	-.9	1.90	.002	3.2	.560	.082	-.9	.3	3.20	-.9	.04	.005	-.9
C013717	.017	26.30	12.00	4.0	2.00	-.9	.49	.002	13.7	1.100	.940	-.9	.5	.11	-.9	.17	.465	-.9
C013719	.055	2.40	.55	14.0	.05	-.9	1.80	.002	5.8	.350	.110	2.0	.2	.85	-.9	.03	.006	-.9
C013720	.018	.68	2.60	2.0	8.00	-.9	.23	.002	3.9	.043	.130	-.9	.1	.31	-.9	-.90	10.500	-.9
C013721	.022	.42	.51	-.9	2.50	-.9	.01	-.900	1.0	.006	.007	-.9	.1	.01	-.9	.05	4.600	-.9
C013723	.017	.70	.21	-.9	.03	-.9	.02	-.900	.5	.008	.004	-.9	.1	.24	-.9	-.90	.002	-.9
C013725	.050	1.10	.72	14.0	.03	-.9	1.90	.002	1.5	.400	.026	-.9	.2	4.10	10.0	-.90	.001	-.9
C013726	.020	1.30	.25	-.9	.05	-.9	.16	-.900	.9	.033	.014	-.9	.1	1.20	-.9	-.90	.019	-.9

TABLE AD-22 CHEMICAL ANALYSIS OF CHARACTER SAMPLES FROM THE KANTISHNA HILLS STUDY AREA, ALASKA.

FIRE ASSAY VALUES SHOWN IN OUNCES PER TON (OZ/TON).ALL OTHER RESULTS IN % OR PPM.
-.9 REPRESENTS LOWER THAN DETECTION LIMIT

SAMPLE ID	RB2O (%)	SB (%)	SC (PPM)	SE (PPM)	SIO2 (%)	SN (PPM)	SRO (%)	TE (PPM)	TH (PPM)	TI2O (%)	U (PPM)	V (PPM)	W (PPM)	ZN (%)
C013701	.009	.001	-.9	-.9	84.5	-.9	.007	.050	-.9	.41	3.0	30.0	6.0	.004
C013704	.001	59.500	-.9	3.0	10.4	2.0	.002	.017	-.9	-.90	-.9	-.9	4.0	-.900
C013706	.002	38.500	-.9	4.0	41.5	2.0	.002	.010	-.9	-.90	-.9	-.9	4.0	.006
C013707	.002	.640	-.9	-.9	30.4	60.0	.009	.040	-.9	.31	-.9	-.9	5.0	17.000
C013709	.002	2.000	-.9	-.9	44.7	16.0	.007	.085	-.9	-.90	-.9	-.9	3.0	13.500
C013711	.027	.048	-.9	-.9	71.5	-.9	.002	.025	-.9	.18	10.0	-.9	-.9	.048
C013713	.002	.062	-.9	6.0	32.4	-.9	.003	.250	-.9	.03	-.9	-.9	6.0	11.000
C013714	.002	.680	-.9	-.9	18.0	2.0	.003	-.900	-.9	-.90	-.9	-.9	3.0	12.000
C013716	.009	.001	-.9	-.9	73.0	-.9	.009	-.900	-.9	.38	-.9	20.0	3.0	.585
C013717	.003	.150	-.9	-.9	37.8	-.9	.003	.025	-.9	.06	-.9	-.9	3.0	2.750
C013719	.009	.001	-.9	-.9	72.9	-.9	.003	-.900	20.0	.42	-.9	20.0	10.0	.275
C013720	.002	.260	-.9	-.9	73.9	-.9	.007	-.900	-.9	.06	-.9	-.9	3.0	2.350
C013721	.001	.050	-.9	-.9	83.2	-.9	.018	-.900	10.0	-.90	-.9	-.9	24500.0	1.650
C013723	.001	.001	-.9	-.9	95.2	-.9	.002	.030	-.9	-.90	-.9	-.9	7.0	.005
C013725	.008	-.900	-.9	-.9	73.6	-.9	.005	-.900	-.9	.32	-.9	10.0	6.0	.014
C013726	.001	.005	-.9	-.9	94.3	-.9	.004	.055	-.9	.06	-.9	-.9	18.0	.006

TABLE AD-23

KANTISHNA HILLS

VAN EECKHOUT ET AL., 1979 ANALYTICAL RESULTS

TABLE AD-23

KANTISHNA HILLS AREA - 4000 SERIES - VAN EECKHART ET AL 1979
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AL	BA	BE	CA	WCA	CE	CL	CO	WCO	CR	WCR	CS	CU	WCU	DY	EU	FE
4159	376336.7	3484153.5	50	89370.0	1130.0	1.0	10340.0	31484.0	111.0	-.9	20.5	-.9	108.0	-.9	5.5	29.0	10.0	4.0	1.7	28660.0
4160	382252.7	3484646.2	50	-.9	-.9	-.9	-.9	8257.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	12.0	-.9	-.9	-.9
4180	435180.2	3544771.4	51	50780.0	751.0	1.0	12400.0	55814.0	128.0	-.9	19.0	-.9	75.0	-.9	10.6	34.0	7.0	7.0	1.6	33110.0
4181	434175.4	3533842.9	51	54750.0	871.0	2.0	27210.0	85700.0	119.0	-.9	17.9	85.0	90.0	-.9	3.5	36.0	21.0	5.0	1.3	33860.0
4182	428028.3	3523561.6	51	42080.0	459.0	1.0	8452.0	42343.0	89.0	-.9	10.0	-.9	62.0	-.9	4.3	27.0	9.0	5.0	1.2	25210.0
4183	413054.8	3508223.1	51	29440.0	659.0	2.0	5205.0	31831.0	119.0	-.9	21.2	-.9	117.0	-.9	9.5	30.0	10.0	3.0	1.7	46970.0
4184	403361.6	3501580.0	51	64660.0	1261.0	2.0	9399.0	38415.0	132.0	-.9	34.7	-.9	215.0	-.9	8.2	-.9	5.0	7.0	2.4	65540.0
4185	386469.0	3497173.5	51	71980.0	957.0	2.0	11480.0	63988.0	138.0	-.9	32.4	-.9	167.0	-.9	10.9	-.9	13.0	4.0	2.2	51710.0
4186	374180.9	3503408.9	51	32740.0	604.0	2.0	5649.0	46313.0	242.0	-.9	39.3	-.9	295.0	-.9	11.3	-.9	13.0	3.0	3.3	70550.0
4435	448401.5	3583789.3	50	90430.0	1432.0	2.0	12430.0	61028.0	85.0	-.9	18.2	102.0	148.0	49.0	7.8	57.0	20.0	6.0	1.8	27170.0
4436	442588.1	3573234.5	51	82500.0	1733.0	2.0	12080.0	57905.0	-.9	-.9	26.6	92.0	134.0	53.0	-.9	64.0	22.0	3.0	-.9	49230.0
4437	446674.4	3565858.3	51	13800.0	1729.0	2.0	-.9	4358.0	137.0	-.9	32.0	-.9	117.0	51.0	16.3	18.0	20.0	7.0	1.7	34780.0
4438	423687.6	3520410.5	51	59880.0	644.0	2.0	25450.0	-.9	33.0	-.9	16.5	-.9	128.0	-.9	-.9	87.0	-.9	4.0	1.1	35600.0
4439	418354.7	3511716.7	51	64210.0	799.0	2.0	24730.0	42553.0	59.0	-.9	19.9	127.0	146.0	95.0	-.9	105.0	70.0	4.0	1.5	36990.0
4440	340570.8	3480993.9	51	200.0	1060.0	2.0	5478.0	28264.0	127.0	-.9	18.1	57.0	122.0	46.0	9.5	39.0	16.0	5.0	1.5	38500.0
4441	335499.5	3488873.2	51	66680.0	815.0	2.0	16150.0	6031.0	85.0	-.9	18.8	-.9	105.0	47.0	-.9	11.0	13.0	6.0	1.5	29450.0
4442	318614.6	3493020.9	50	76330.0	1135.0	2.0	12940.0	1044.0	70.0	-.9	11.7	-.9	87.0	-.9	-.9	43.0	20.0	5.0	1.5	25230.0
4470	320314.4	3507599.6	11	9376.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
4471	333788.3	3508583.3	51	77950.0	1270.0	2.0	13600.0	1416.0	61.0	-.9	12.2	-.9	119.0	-.9	-.9	25.0	6.0	5.0	1.0	23190.0
4472	343093.7	3503258.8	50	66590.0	828.0	-.9	15210.0	910.0	42.0	547.0	10.7	-.9	95.0	-.9	-.9	28.0	5.0	4.0	1.2	14700.0
4473	355355.5	3498687.5	51	68730.0	971.0	-.9	15940.0	1484.0	66.0	-.9	13.2	-.9	91.0	-.9	-.9	25.0	6.0	4.0	1.5	19530.0
4474	346035.7	3485315.7	51	83470.0	936.0	-.9	4687.0	57535.0	114.0	-.9	15.9	86.0	121.0	71.0	13.2	28.0	47.0	4.0	1.6	30800.0
4475	327233.6	3481556.1	51	82250.0	812.0	2.0	10340.0	10703.0	102.0	-.9	19.6	-.9	99.0	-.9	5.1	37.0	6.0	6.0	2.1	28170.0
4476	316788.5	3481112.3	51	69040.0	751.0	1.0	9586.0	8962.0	99.0	-.9	12.5	-.9	73.0	-.9	-.9	39.0	17.0	6.0	1.4	26330.0
4516	320707.7	3524169.0	50	69430.0	883.0	1.0	10390.0	847.0	74.0	-.9	9.6	-.9	104.0	26.0	-.9	32.0	12.0	5.0	1.1	15430.0
4518	323372.0	3528450.0	50	77290.0	1012.0	2.0	14480.0	1709.0	75.0	-.9	13.0	-.9	100.0	-.9	3.7	28.0	16.0	6.0	1.2	25890.0
4519	336153.1	3521144.6	11	45450.0	-.9	-.9	8177.0	-.9	33.0	416.0	15.1	-.9	66.0	-.9	-.9	24.0	-.9	3.0	1.0	24940.0
4520	350776.8	3516295.3	50	68620.0	796.0	1.0	14190.0	1296.0	63.0	-.9	9.4	-.9	93.0	-.9	-.9	26.0	12.0	3.0	1.4	19090.0
4521	338342.3	3533667.3	51	67140.0	865.0	2.0	14260.0	939.0	49.0	-.9	8.0	-.9	97.0	-.9	2.7	19.0	13.0	4.0	1.0	15150.0
4522	350070.2	3543879.1	51	68490.0	884.0	2.0	15170.0	919.0	69.0	-.9	8.4	-.9	101.0	37.0	-.9	21.0	11.0	4.0	1.2	20290.0
4523	348029.7	3560121.4	50	18080.0	-.9	-.9	-.9	977.0	-.9	486.0	22.8	-.9	-.9	-.9	-.9	-.9	10.0	-.9	-.9	4600.0
4547	329238.8	3537366.3	50	-.9	-.9	-.9	-.9	1150.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	10.0	-.9	-.9	-.9
4548	358504.3	3534056.5	50	76130.0	825.0	2.0	6929.0	36396.0	136.0	-.9	18.8	-.9	64.0	-.9	8.8	20.0	15.0	5.0	1.4	27890.0

TABLE AD-23

KANTISHNA HILLS AREA - 4000 SERIES - VAN EECKHART ET AL 1979
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	WFE	HF	K	LA	LI	LU	MG	WMG	MN	WMN	NA	NI	WNI	PB	WPB	RB	SB	SC	SM
4159	2859.0	7.6	26460.0	58.0	18.0	.6	19150.0	5838.0	353.0	75.0	10620.0	18.0	30.0	13.0	-.9	96.0	-.9	17.2	7.8
4160	585.0	-.9	-.9	-.9	-.9	-.9	-.9	1760.0	-.9	18.0	-.9	-.9	68.0	-.9	-.9	-.9	-.9	-.9	-.9
4180	151.0	14.2	21410.0	68.0	23.0	.7	11950.0	15772.0	1062.0	9.0	15640.0	36.0	-.9	22.0	-.9	-.9	20.0	13.6	8.4
4181	9051.0	8.8	18370.0	75.0	48.0	.5	18310.0	40779.0	620.0	132.0	12010.0	17.0	-.9	12.0	-.9	50.0	7.0	13.6	8.0
4182	3791.0	13.6	14750.0	56.0	20.0	.5	12080.0	8095.0	756.0	56.0	13150.0	16.0	-.9	5.0	-.9	41.0	5.0	12.3	6.2
4183	3510.0	10.9	12330.0	41.0	26.0	.4	12190.0	6186.0	425.0	53.0	7279.0	20.0	-.9	18.0	-.9	106.0	5.0	21.9	4.8
4184	91.0	13.2	31020.0	43.0	47.0	.3	31670.0	5822.0	1175.0	-.9	20190.0	-.9	-.9	-.9	-.9	110.0	10.0	33.9	6.4
4185	4883.0	10.4	37650.0	42.0	38.0	.4	33820.0	8723.0	1525.0	179.0	23280.0	-.9	-.9	-.9	-.9	77.0	9.0	26.8	5.9
4186	511.0	15.2	13320.0	57.0	42.0	.7	14240.0	6858.0	868.0	21.0	9105.0	-.9	-.9	-.9	-.9	121.0	8.0	38.2	9.6
4435	146.0	6.2	23630.0	47.0	30.0	.4	19580.0	16091.0	349.0	26.0	8008.0	30.0	86.0	6.0	274.0	-.9	7.0	17.2	8.4
4436	61.0	-.9	24120.0	-.9	45.0	-.9	47130.0	21914.0	1037.0	8.0	13050.0	46.0	105.0	5.0	519.0	-.9	-.9	17.7	2.5
4437	1145.0	6.4	32310.0	73.0	24.0	.5	12280.0	1215.0	357.0	115.0	7812.0	54.0	120.0	10.0	403.0	108.0	96.0	16.9	8.6
4438	-.9	4.1	7647.0	19.0	18.0	.2	20630.0	-.9	967.0	-.9	11300.0	31.0	-.9	-.9	-.9	-.9	-.9	16.1	3.5
4439	23560.0	5.1	7647.0	21.0	29.0	.5	21730.0	17879.0	1072.0	558.0	11350.0	49.0	193.0	-.9	659.0	-.9	-.9	17.8	3.7
4440	97.0	7.4	31500.0	64.0	40.0	.6	22360.0	12742.0	1228.0	6.0	9425.0	30.0	109.0	54.0	413.0	79.0	39.0	18.5	8.1
4441	1307.0	10.3	14080.0	42.0	21.0	.5	20610.0	1571.0	987.0	38.0	13750.0	-.9	125.0	17.0	414.0	66.0	-.9	15.2	6.2
4442	717.0	3.9	14350.0	25.0	26.0	.3	20300.0	473.0	384.0	40.0	13570.0	-.9	37.0	11.0	-.9	-.9	-.9	14.3	4.4
4470	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.9	165.0	-.9	2273.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
4471	671.0	5.3	18630.0	32.0	31.0	.4	22400.0	785.0	420.0	23.0	14210.0	19.0	-.9	-.9	-.9	-.9	-.9	14.4	5.2
4472	342.0	3.0	14300.0	27.0	9.0	.3	17570.0	552.0	421.0	16.0	16840.0	-.9	-.9	-.9	-.9	-.9	-.9	10.5	3.4
4473	3187.0	6.7	13200.0	32.0	15.0	.5	18300.0	891.0	443.0	38.0	15380.0	25.0	-.9	11.0	-.9	-.9	-.9	12.7	4.5
4474	30256.0	5.6	20770.0	54.0	17.0	.3	22800.0	27592.0	892.0	1230.0	5519.0	70.0	139.0	49.0	-.9	-.9	20.0	14.1	6.6
4475	271.0	6.0	20640.0	59.0	28.0	.6	24130.0	3999.0	1460.0	24.0	9451.0	63.0	29.0	20.0	-.9	-.9	6.0	14.1	9.3
4476	2409.0	5.4	15820.0	59.0	20.0	.4	19480.0	3569.0	511.0	297.0	9802.0	40.0	39.0	14.0	-.9	-.9	4.0	13.1	7.3
4516	838.0	5.5	10830.0	34.0	25.0	.3	18120.0	448.0	306.0	27.0	12980.0	24.0	49.0	10.0	-.9	-.9	-.9	13.2	3.8
4518	447.0	5.0	15520.0	39.0	26.0	.4	22120.0	652.0	518.0	12.0	13620.0	17.0	-.9	9.0	-.9	61.0	-.9	15.8	5.4
4519	-.9	-.9	10330.0	15.0	2.0	-.9	15260.0	-.9	227.0	-.9	7526.0	15.0	-.9	-.9	-.9	-.9	-.9	8.2	2.7
4520	2079.0	5.3	16140.0	32.0	28.0	.5	18890.0	579.0	336.0	43.0	13930.0	15.0	-.9	-.9	-.9	-.9	-.9	13.9	3.7
4521	1164.0	6.1	13540.0	28.0	25.0	.3	17610.0	618.0	345.0	22.0	15370.0	-.9	41.0	-.9	-.9	36.0	2.0	11.6	4.0
4522	1376.0	6.9	13770.0	33.0	26.0	.4	19850.0	512.0	381.0	17.0	15140.0	-.9	45.0	-.9	238.0	-.9	2.0	12.7	4.5
4523	963.0	-.9	-.9	-.9	2.0	-.9	-.9	467.0	88.0	28.0	2347.0	-.9	42.0	-.9	-.9	-.9	-.9	2.4	-.9
4547	507.0	-.9	-.9	-.9	-.9	-.9	-.9	622.0	-.9	72.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
4548	127.0	16.6	21180.0	60.0	30.0	.6	13360.0	8421.0	796.0	4.0	12790.0	32.0	-.9	23.0	-.9	62.0	8.0	13.3	8.8

TABLE AD-23

KANTISHNA HILLS AREA - 4000 SERIES - VAN EECKHART ET AL 1979
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	SN	SR	TA	TH	TI	WTI	V	W	YB	ZN	WZN
4159	-.9	-.9	-.9	18.6	5249.0	22.0	108.0	-.9	4.0	151.00	59.00
4160	-.9	-.9	-.9	-.9	-.9	6.0	-.9	-.9	-.9	-.90	58.00
4180	-.9	-.9	-.9	19.8	7774.0	5.0	63.0	-.9	6.3	-.90	77.00
4181	-.9	-.9	-.9	21.1	5374.0	97.0	78.0	-.9	4.5	128.00	123.00
4182	-.9	-.9	1.0	15.2	7560.0	25.0	57.0	-.9	4.2	-.90	-.90
4183	-.9	-.9	-.9	20.4	3395.0	19.0	92.0	-.9	3.1	-.90	-.90
4184	-.9	-.9	-.9	19.4	9147.0	-.9	75.0	-.9	2.6	354.00	-.90
4185	-.9	-.9	-.9	18.2	8139.0	31.0	114.0	-.9	3.0	272.00	-.90
4186	-.9	-.9	-.9	26.2	3843.0	17.0	55.0	-.9	5.7	307.00	-.90
4435	-.9	-.9	-.9	17.2	6671.0	16.0	145.0	-.9	4.1	298.00	204.00
4436	-.9	-.9	-.9	6.7	4056.0	14.0	196.0	-.9	-.9	-.90	147.00
4437	-.9	-.9	-.9	22.6	7136.0	13.0	128.0	-.9	-.9	182.00	142.00
4438	-.9	-.9	-.9	3.7	6112.0	-.9	169.0	-.9	2.2	144.00	-.90
4439	-.9	-.9	-.9	4.4	6157.0	25.0	161.0	15.0	3.1	117.00	241.00
4440	-.9	-.9	-.9	19.4	5370.0	12.0	123.0	-.9	2.9	-.90	129.00
4441	-.9	-.9	-.9	11.2	8180.0	16.0	136.0	-.9	3.8	63.00	109.00
4442	-.9	-.9	-.9	8.4	5651.0	5.0	131.0	-.9	-.9	137.00	60.00
4470	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90
4471	-.9	-.9	-.9	9.5	5530.0	7.0	145.0	-.9	3.0	130.00	-.90
4472	-.9	-.9	-.9	6.9	3619.0	-.9	100.0	-.9	2.5	50.00	69.00
4473	-.9	-.9	-.9	6.1	5285.0	23.0	102.0	-.9	2.6	154.00	95.00
4474	-.9	-.9	-.9	16.9	6030.0	30.0	95.0	-.9	3.2	-.90	311.00
4475	-.9	-.9	-.9	14.3	5966.0	6.0	114.0	-.9	3.6	234.00	69.00
4476	-.9	-.9	-.9	10.3	5254.0	27.0	98.0	-.9	4.3	-.90	-.90
4516	11.0	-.9	-.9	8.1	4790.0	15.0	114.0	-.9	2.7	146.00	-.90
4518	-.9	409.0	-.9	10.5	5613.0	7.0	147.0	-.9	3.7	158.00	-.90
4519	-.9	-.9	-.9	6.2	3373.0	-.9	87.0	-.9	-.9	172.00	-.90
4520	-.9	-.9	-.9	8.7	5085.0	9.0	126.0	-.9	2.9	-.90	-.90
4521	-.9	-.9	-.9	6.6	5449.0	14.0	102.0	-.9	2.1	-.90	-.90
4522	-.9	-.9	-.9	9.2	5643.0	7.0	117.0	-.9	2.5	-.90	-.90
4523	-.9	-.9	-.9	-.9	-.9	5.0	-.9	-.9	-.9	476.00	-.90
4547	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	75.00
4548	-.9	-.9	1.0	20.7	7092.0	-.9	63.0	17.0	5.5	100.00	-.90

TABLE AD-24

KANTISHNA HILLS

BUNDTZEN, ET AL., 1976 ANALYTICAL RESULTS

TABLE AD-24

KANTISHNA HILLS AREA - 100 SERIES - BUNDTZEN ET AL 1976
ATOMIC ABSORBTION TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A # BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AU	CU	MO	PB	SB	ZN
180	348119.5	3564370.3	10	.20	.060	16.0	4.0	20.0	-.9	69.00
182	345792.6	3549753.8	10	.40	-.900	28.0	-.9	30.0	2.0	68.00
183	350638.4	3549839.8	10	-.90	-.900	26.0	-.9	23.0	3.0	104.00
184	351059.9	3550183.3	10	.10	-.900	19.0	27.0	17.0	4.0	46.00
185	353562.4	3551162.8	10	-.90	.020	88.0	37.0	15.0	10.0	39.00
186	354273.3	3550873.7	10	-.90	-.900	17.0	27.0	11.0	5.0	48.00
187	359174.1	3554573.6	10	-.90	-.900	24.0	-.9	28.0	224.0	88.00
188	360494.7	3560510.4	10	.10	-.900	17.0	-.9	20.0	1.0	58.00
189	361073.9	3560326.6	10	.10	.010	12.0	1.0	19.0	13.0	75.00
190	363573.9	3557428.6	10	.40	-.900	34.0	-.9	36.0	-.9	146.00
191	363731.5	3556769.4	10	.10	-.900	20.0	1.0	16.0	-.9	80.00
192	370580.8	3559997.3	10	.20	-.900	24.0	-.9	22.0	-.9	100.00
193	370001.7	3560444.9	10	-.90	-.900	24.0	-.9	38.0	2.0	92.00
194	372978.7	3562163.7	10	.10	.020	18.0	37.0	20.0	-.9	48.00
203	375745.9	3565148.3	10	1.20	-.900	28.0	2.0	16.0	-.9	132.00
206	381591.7	3564154.3	10	-.90	-.900	25.0	2.0	16.0	-.9	118.00
226	443960.1	3573554.5	10	-.90	.070	19.0	-.9	17.0	20.0	95.00
226A	438587.2	3572940.2	10	3.00	.100	50.0	3.0	88.0	5000.0	238.00
226B	433819.8	3571851.9	10	.10	.030	25.0	45.0	18.0	3.0	71.00
226C	430499.1	3568075.1	10	.20	.030	40.0	-.9	23.0	5.0	203.00
226D	428784.5	3563694.0	10	-.90	.020	27.0	30.0	19.0	1.0	67.00
226E	424436.8	3559994.9	10	-.90	-.900	70.0	2.0	27.0	3.0	370.00
226F	425095.1	3559864.0	10	-.90	-.900	28.0	1.0	22.0	6.0	92.00
226G	433076.8	3563067.1	30	-.90	.260	8.0	-.9	9.0	-.9	41.00
226H	433683.3	3564307.7	30	.20	.060	46.0	2.0	25.0	5.0	130.00
226I	434079.3	3565759.0	30	.15	-.900	14.0	83.0	7.0	-.9	7.00
226J	437848.0	3569984.8	30	-.90	.040	17.0	75.0	5.0	-.9	9.00
227	445298.0	3565458.5	10	.50	.025	25.0	2.0	33.0	-.9	95.00
228	445824.5	3565116.3	10	.75	-.900	40.0	2.0	33.0	451.0	140.00
229	445323.8	3564693.6	10	.85	.020	34.0	3.0	26.0	417.0	130.00
230	443926.0	3561499.9	10	-.90	.030	33.0	4.0	32.0	15.0	114.00
231	442950.9	3560469.7	10	.35	.030	31.0	3.0	36.0	10.0	110.00
232	441871.4	3560784.7	10	1.25	.150	35.0	32.0	30.0	1269.0	138.00
233	441949.4	3559228.6	10	-.90	-.900	33.0	3.0	36.0	10.0	107.00
234	441790.7	3558173.2	10	.35	-.900	25.0	3.0	37.0	15.0	134.00
235	441763.6	3557038.9	10	.50	.020	29.0	32.0	34.0	49.0	160.00
236	441104.9	3556431.3	10	.15	.040	37.0	5.0	46.0	25.0	142.00
237	441420.5	3555825.1	10	.20	.070	18.0	-.9	26.0	-.9	90.00
238	441025.1	3555297.0	10	.50	.090	20.0	21.0	27.0	26.0	100.00
239	441129.9	3554426.6	10	-.90	-.900	-.9	-.9	-.9	-.9	-.90
240	445976.2	3555304.0	10	-.90	-.900	58.0	-.9	27.0	4.0	146.00
241	441180.5	3551235.0	20	.35	.080	10.0	17.0	28.0	-.9	50.00
242	441283.2	3546988.4	10	-.90	-.900	33.0	1.0	23.0	5.0	85.00
243	439227.6	3544848.8	10	-.90	-.900	33.0	1.0	23.0	5.0	85.00
244	437728.2	3547431.7	10	.10	-.900	41.0	2.0	32.0	6.0	135.00
245	434229.1	3552913.3	10	.70	.090	35.0	-.9	26.0	19.0	175.00
246	435651.8	3553917.7	20	.40	-.900	41.0	-.9	18.0	3.0	118.00
247	434598.6	3554259.1	10	.35	.040	20.0	-.9	17.0	-.9	110.00
248	432176.3	3555178.8	10	.35	.100	22.0	35.0	26.0	-.9	100.00

TABLE AD-24

KANTISHNA HILLS AREA - 100 SERIES - BUNDTZEN ET AL 1976
ATOMIC ABSORBTION TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AU	CU	MO	PB	SB	ZN
249	438760.4	3555478.4	30	.15	-.900	15.0	48.0	67.0	5.0	610.00
250	437681.6	3556901.2	10	.40	.150	24.0	14.0	26.0	12.0	170.00
253A	435337.6	3556660.5	30	3.00	.320	16.0	26.0	14.0	-.9	90.00
253B	435996.1	3556846.1	10	.60	.100	36.0	3.0	12.0	8.0	80.00
253C	436575.6	3557084.3	10	.50	.100	32.0	4.0	20.0	-.9	95.00
253D	437155.2	3557428.0	10	.70	.060	37.0	35.0	36.0	-.9	150.00
253E	437840.2	3557930.2	10	.60	.020	41.0	5.0	16.0	-.9	218.00
253F	438209.3	3558484.7	10	.60	.250	28.0	2.0	34.0	-.9	180.00
253G	438473.0	3558986.2	10	-.90	-.900	-.9	-.9	-.9	-.9	-.90
254	434100.2	3557265.4	30	.50	.150	20.0	-.9	18.0	24.0	60.00
255	439342.8	3560174.4	10	12.00	.420	36.0	2.0	33.0	1512.0	154.00
256	440027.8	3560597.5	10	.70	.220	36.0	4.0	32.0	1848.0	140.00
257	440765.1	3560466.6	10	.70	.190	33.0	25.0	33.0	1380.0	140.00
258	435155.3	3559878.3	10	-.90	-.900	-.9	-.9	-.9	-.9	-.90
259	435076.9	3560801.4	10	-.90	-.900	-.9	-.9	-.9	-.9	-.90
260	400682.3	3560092.9	10	.10	.050	17.0	1.0	15.0	-.9	62.00
261	400734.4	3559275.3	10	-.90	-.900	51.0	2.0	29.0	2.0	221.00
262	397520.0	3556870.3	10	-.90	-.900	31.0	2.0	34.0	-.9	131.00
263	397256.2	3556236.9	10	12.70	.040	34.0	45.0	2090.0	133.0	410.00
264	396308.1	3556209.2	10	.20	-.900	54.0	-.9	26.0	-.9	284.00
265	389434.3	3555777.3	10	.40	.010	21.0	34.0	56.0	-.9	78.00
266	389249.5	3555117.6	10	.10	.030	26.0	1.0	13.0	-.9	120.00
267	388773.2	3551529.6	10	.20	-.900	23.0	28.0	41.0	5.0	67.00
268	388219.8	3551001.2	10	.10	.010	36.0	1.0	14.0	2.0	117.00
269	391115.0	3548341.2	10	.10	.010	57.0	2.0	29.0	-.9	156.00
270	386978.4	3545354.6	10	-.90	.010	23.0	1.0	17.0	3.0	62.00
271	386477.7	3544800.0	10	.40	.060	48.0	2.0	38.0	2.0	164.00
272	386722.6	3557118.7	10	.10	.050	36.0	-.9	23.0	3.0	87.00
273	385721.6	3556748.0	10	-.90	.080	34.0	-.9	18.0	-.9	144.00
274	383986.2	3561071.5	10	-.90	-.900	22.0	27.0	17.0	3.0	78.00
275	371016.5	3541190.6	10	-.90	-.900	27.0	-.9	22.0	-.9	119.00
276	368725.8	3542031.4	10	.10	-.900	75.0	1.0	22.0	-.9	82.00
277	368909.8	3541398.6	10	-.90	-.900	27.0	-.9	24.0	-.9	152.00
278	361560.0	3537985.4	10	.10	.020	30.0	1.0	23.0	-.9	213.00
279	353058.3	3545253.5	10	-.90	.010	12.0	-.9	14.0	-.9	42.00
280	353743.1	3545439.1	10	-.90	.030	25.0	-.9	24.0	2.0	86.00
281	356979.0	3540221.0	10	.20	.060	22.0	-.9	28.0	-.9	144.00
282	356767.9	3539587.6	10	.10	.020	12.0	1.0	17.0	-.9	52.00
283	358240.6	3536318.9	10	.20	-.900	22.0	-.9	31.0	-.9	134.00
284	358240.1	3535553.9	10	3.80	-.900	42.0	72.0	548.0	20.0	200.00
284A	358977.3	3535132.9	10	-.90	.040	26.0	1.0	21.0	3.0	194.00
284B	358503.0	3534789.3	10	.20	.010	27.0	1.0	26.0	112.0	99.00
285	366481.6	3533165.3	10	.10	.030	24.0	-.9	24.0	10.0	90.00
286	366930.0	3534168.3	10	-.90	-.900	26.0	1.0	24.0	3.0	174.00
287	371987.6	3536021.9	10	-.90	.010	25.0	2.0	21.0	2.0	121.00
288	372171.4	3535230.9	10	.20	-.900	40.0	1.0	31.0	-.9	212.00
289	380074.2	3538565.7	10	.20	-.900	42.0	1.0	26.0	2.0	180.00
290	380574.2	3538091.6	10	.20	-.900	56.0	2.0	46.0	7.0	165.00
291	386525.7	3537572.6	10	.20	-.900	34.0	2.0	26.0	9.0	135.00

TABLE AD-24

KANTISHNA HILLS AREA - 100 SERIES - BUNDTZEN ET AL 1976
ATOMIC ABSORBTION TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AU	CU	MO	PB	SB	ZN
292	384444.5	3536435.4	10	.50	-.900	36.0	2.0	30.0	39.0	105.00
293	347990.0	3526676.4	10	-.90	-.900	26.0	-.9	26.0	38.0	82.00
294	348435.2	3522852.3	10	.10	-.900	28.0	-.9	27.0	37.0	91.00
295	349093.7	3522932.3	10	-.90	-.900	38.0	1.0	27.0	7.0	77.00
296	359393.5	3527167.5	10	.10	-.900	30.0	1.0	23.0	6.0	133.00
297	358890.1	3522366.0	10	-.90	-.900	28.0	1.0	46.0	16.0	134.00
298	358861.8	3519279.8	10	-.90	-.900	26.0	-.9	27.0	8.0	143.00
299	358282.0	3518725.0	10	-.90	-.900	40.0	1.0	24.0	-.9	48.00
300	360210.1	3527353.3	10	-.90	.020	28.0	-.9	24.0	6.0	88.00
301	364369.0	3524114.7	10	-.90	-.900	32.0	-.9	32.0	8.0	84.00
302	367924.7	3524805.6	10	.10	-.900	31.0	-.9	41.0	10.0	200.00
303	367371.3	3524250.9	10	.20	-.900	33.0	-.9	27.0	20.0	91.00
304	372981.1	3524786.5	10	.10	-.900	34.0	-.9	38.0	10.0	110.00
305	377616.9	3525927.3	10	.10	-.900	36.0	1.0	48.0	8.0	105.00
306	382383.8	3526171.5	10	-.90	-.900	32.0	1.0	30.0	9.0	107.00
307	382409.6	3525459.3	10	-.90	-.900	32.0	-.9	28.0	18.0	88.00
308	384673.6	3524117.3	10	-.90	-.900	30.0	-.9	28.0	8.0	105.00
309	387676.2	3524596.4	10	-.90	-.900	33.0	-.9	34.0	18.0	101.00
310	390231.8	3526314.6	10	-.90	.020	32.0	-.9	33.0	12.0	108.00
311	390468.5	3525734.6	10	-.90	-.900	40.0	-.9	32.0	10.0	108.00
312	386837.5	3530873.1	10	.10	-.900	39.0	1.0	25.0	5.0	168.00
313	387706.3	3530505.0	10	-.90	-.900	38.0	1.0	35.0	10.0	116.00
314A	404675.9	3545379.9	10	-.90	-.900	22.0	-.9	21.0	7.0	78.00
314B	403990.6	3544561.2	10	.20	.030	-.9	3.0	34.0	18.0	273.00
314C	409468.9	3545334.0	10	.10	-.900	53.0	2.0	31.0	17.0	257.00
315	410760.1	3546575.5	10	-.90	-.900	26.0	1.0	30.0	5.0	123.00
316	414711.6	3548427.6	10	-.90	.080	36.0	-.9	34.0	12.0	228.00
317	416476.5	3549116.0	10	.20	-.900	102.0	1.0	33.0	39.0	267.00
318	416663.2	3552756.3	10	-.90	-.900	190.0	2.0	40.0	6.0	432.00
319	417374.4	3552915.6	10	-.90	-.900	58.0	2.0	34.0	36.0	70.00
320	420294.8	3548462.0	10	.10	-.900	40.0	1.0	25.0	31.0	97.00
321	419557.0	3547880.6	10	-.90	-.900	81.0	2.0	27.0	18.0	357.00
322	430852.5	3544124.7	10	-.90	-.900	52.0	-.9	32.0	11.0	140.00
323	425137.2	3543325.2	10	-.90	.070	53.0	-.9	28.0	16.0	183.00
324	424873.3	3542428.0	10	.10	-.900	36.0	1.0	21.0	17.0	78.00
325	410888.0	3540588.0	10	.60	-.900	67.0	1.0	54.0	40.0	380.00
326	410439.9	3540086.2	10	-.90	-.900	51.0	-.9	28.0	16.0	108.00
327	405041.6	3540790.7	10	.10	-.900	80.0	1.0	38.0	-.9	512.00
328	404616.9	3535646.4	10	.20	-.900	39.0	-.9	30.0	5.0	127.00
329	404164.6	3528339.2	10	.20	-.900	48.0	3.0	28.0	27.0	116.00
330	407037.6	3532141.6	10	-.90	.020	38.0	-.9	20.0	-.9	106.00
331	406432.2	3532615.6	10	.90	-.900	-.9	-.9	-.9	-.9	-.90
332	408697.6	3533568.4	10	.20	-.900	40.0	-.9	22.0	5.0	103.00
333	412913.1	3536423.2	10	-.90	-.900	46.0	1.0	28.0	25.0	103.00
334	412940.3	3537768.5	10	-.90	-.900	43.0	1.0	32.0	20.0	103.00
335	431898.9	3534335.3	10	.10	-.900	37.0	-.9	37.0	1.0	154.00
336	431450.4	3533754.0	10	.40	-.900	60.0	-.9	48.0	4.0	124.00
337	431898.1	3533120.9	10	.10	-.900	45.0	1.0	29.0	5.0	85.00
338	426810.5	3533194.5	10	.40	-.900	63.0	2.0	44.0	2.0	438.00

TABLE AD-24

KANTISHNA HILLS AREA - 100 SERIES - BUNDTZEN ET AL 1976
ATOMIC ABSORBTION TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AU	CU	MO	PB	SB	ZN
339	426862.7	3532534.5	10	.20	-.900	42.0	1.0	27.0	38.0	83.00
340	424409.8	3530657.4	10	.10	-.900	38.0	-.9	25.0	12.0	76.00
341	423751.1	3531026.3	10	-.90	-.900	40.0	1.0	34.0	6.0	126.00
342	417528.0	3528326.6	10	-.90	-.900	30.0	-.9	34.0	3.0	104.00
343	417711.9	3527455.6	10	.20	-.900	40.0	-.9	34.0	12.0	75.00
344	415566.1	3525585.8	10	.30	-.900	47.0	-.9	35.0	14.0	107.00
345	415354.6	3524372.1	10	.10	-.900	40.0	-.9	28.0	12.0	73.00
346	412588.1	3522389.8	10	.30	-.900	51.0	-.9	39.0	14.0	92.00
347	412483.2	3523154.6	10	-.90	-.900	42.0	1.0	34.0	26.0	90.00
348	409717.0	3521594.4	10	.20	-.900	53.0	-.9	48.0	103.0	88.00
349	413119.6	3529934.6	20	-.90	-.900	24.0	-.9	38.0	19.0	96.00
350	410564.1	3528295.5	20	-.90	-.900	13.0	-.9	24.0	-.9	60.00
351	427410.0	3523664.6	10	-.90	-.900	98.0	-.9	30.0	-.9	108.00
352	424033.2	3519964.9	10	-.90	-.900	-.9	-.9	-.9	-.9	-.90
353	421842.5	3516081.6	10	.10	.030	50.0	-.9	32.0	7.0	120.00
354	419413.3	3510534.8	10	-.90	-.900	30.0	-.9	18.0	8.0	74.00
355	412373.5	3508388.6	10	.20	.020	31.0	1.0	31.0	-.9	96.00
356	412367.5	3499993.3	10	-.90	-.900	22.0	-.9	30.0	-.9	102.00
357	409180.5	3503712.3	10	.20	-.900	56.0	-.9	33.0	21.0	92.00
358	406569.5	3502019.8	10	.20	-.900	28.0	2.0	40.0	44.0	136.00
359	404935.4	3502308.3	10	.70	-.900	38.0	1.0	47.0	65.0	177.00
360	402888.6	3509767.4	10	.30	-.900	40.0	-.9	28.0	4.0	78.00
361	401835.1	3509634.0	10	.20	-.900	37.0	-.9	32.0	21.0	104.00
362	393043.2	3516189.6	10	.10	-.900	30.0	-.9	30.0	20.0	92.00
363	390145.2	3514497.2	10	.30	-.900	38.0	2.0	85.0	3.0	147.00
364	389117.6	3513651.7	10	.80	-.900	40.0	-.9	122.0	6.0	193.00
365	385246.5	3514015.5	10	-.90	-.900	31.0	1.0	26.0	14.0	84.00
366	383771.2	3513142.9	10	-.90	-.900	-.9	-.9	-.9	-.9	-.90
367	379820.8	3513110.9	10	-.90	-.900	-.9	-.9	-.9	-.9	-.90
368	378003.1	3512211.5	10	-.90	-.900	18.0	-.9	25.0	7.0	70.00
369	367679.2	3511563.7	10	-.90	.040	72.0	2.0	44.0	1026.0	206.00
370	369762.5	3515892.6	10	.30	.020	36.0	2.0	30.0	18.0	197.00
371	369420.6	3516577.9	10	-.90	-.900	36.0	1.0	29.0	2.0	526.00
372	353985.4	3512467.4	10	.20	.070	33.0	1.0	26.0	66.0	79.00
373	353221.2	3511754.1	10	-.90	.040	36.0	1.0	25.0	21.0	108.00
374	350959.0	3515892.1	10	.20	-.900	38.0	-.9	29.0	8.0	138.00
375	355958.5	3509384.0	10	-.90	.040	20.0	-.9	10.0	10.0	46.00
376	355431.3	3508565.5	10	-.90	.010	30.0	1.0	22.0	26.0	116.00
377	348713.9	3505680.8	10	.20	-.900	42.0	1.0	28.0	10.0	121.00
378	349530.1	3505365.4	10	.20	.030	27.0	1.0	26.0	14.0	117.00
379	352425.4	3502916.4	10	.60	.020	31.0	1.0	33.0	9.0	169.00
380	351687.9	3502651.6	10	-.90	.020	38.0	1.0	21.0	9.0	107.00
381	342889.5	3498998.9	10	.40	.020	38.0	-.9	28.0	12.0	150.00
382	340544.3	3496911.7	10	.40	-.900	30.0	-.9	26.0	-.9	108.00
383	355741.6	3499650.3	10	.30	.020	55.0	-.9	36.0	11.0	229.00
384	356400.2	3499888.6	10	.70	.090	29.0	1.0	39.0	9.0	177.00
385	354581.3	3497248.3	10	.20	.040	43.0	5.0	33.0	13.0	169.00
386	355397.7	3497196.7	10	.20	-.900	50.0	22.0	28.0	7.0	155.00
387	358954.2	3499074.6	10	.60	.050	32.0	-.9	40.0	9.0	206.00

TABLE AD-24

KANTISHNA HILLS AREA - 100 SERIES - BUNDTZEN ET AL 1976
ATOMIC ABSORBTION TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AU	CU	MO	PB	SB	ZN
388	364299.5	3497895.2	10	.80	-.900	32.0	-.9	36.0	12.0	144.00
389	363903.8	3496865.9	10	.80	-.900	45.0	1.0	78.0	14.0	321.00
390	364296.7	3493542.9	10	2.80	.120	60.0	4.0	48.0	8.0	184.00
391	365218.5	3493649.7	10	1.10	.590	44.0	2.0	58.0	8.0	329.00
392	378385.9	3493088.2	10	.60	-.900	58.0	1.0	72.0	14.0	153.00
393	379228.6	3493089.4	10	.40	.020	50.0	1.0	58.0	12.0	140.00
394	379491.4	3492113.8	10	.40	-.900	34.0	1.0	43.0	8.0	97.00
395	381048.0	3496494.7	10	.20	-.900	69.0	1.0	32.0	8.0	225.00
396	380943.5	3497787.0	10	.60	.020	55.0	2.0	52.0	8.0	128.00
397	387157.8	3496477.0	10	.20	-.900	65.0	1.0	49.0	9.0	153.00
398	387895.2	3496530.8	10	.40	-.900	64.0	2.0	44.0	11.0	123.00
399	389347.2	3502125.0	10	-.90	-.900	-.9	-.9	-.9	-.9	-.90
400	390296.3	3503656.2	10	.60	-.900	45.0	1.0	43.0	26.0	177.00
401	394087.7	3502210.9	10	2.00	-.900	76.0	-.9	46.0	18.0	182.00
402	396747.0	3501317.8	10	.50	-.900	44.0	-.9	32.0	5.0	135.00
403	410010.5	3484784.2	10	-.90	-.900	16.0	23.0	15.0	-.9	93.00
404	402340.2	3485726.1	10	-.90	-.900	16.0	2.0	18.0	2.0	100.00
405	398387.0	3486988.9	10	-.90	.010	37.0	-.9	20.0	3.0	96.00
406	397358.7	3486618.2	10	.10	-.900	26.0	25.0	12.0	1.0	71.00
407	394197.5	3489650.7	10	-.90	-.900	32.0	2.0	24.0	-.9	94.00
408	391350.8	3489964.4	10	-.90	-.900	38.0	-.9	26.0	-.9	84.00
409	386467.7	3488087.9	10	.50	.040	45.0	1.0	44.0	17.0	113.00
410	383123.8	3489191.0	10	.20	-.900	36.0	1.0	40.0	7.0	102.00
411	383699.6	3483626.1	10	.20	-.900	36.0	1.0	28.0	4.0	88.00
412	384961.7	3480436.2	10	.20	-.900	33.0	1.0	34.0	9.0	82.00
413	374877.6	3484246.6	10	-.90	.020	34.0	1.0	22.0	16.0	103.00
414	375456.7	3483799.0	10	-.90	-.900	32.0	1.0	29.0	6.0	135.00
415	372374.0	3481473.4	10	.20	-.900	44.0	1.0	28.0	14.0	156.00
416	370583.4	3481866.5	10	.20	-.900	39.0	1.0	23.0	32.0	97.00
417	367348.1	3488007.9	10	.40	.040	39.0	1.0	41.0	15.0	223.00
418	367848.3	3487665.7	10	.40	.020	40.0	1.0	47.0	5.0	207.00
419	364392.7	3478929.8	10	-.90	-.900	26.0	-.9	16.0	9.0	81.00
420	361890.4	3478266.8	10	-.90	-.900	26.0	-.9	21.0	6.0	98.00
421	356069.9	3477730.9	10	-.90	-.900	14.0	-.9	13.0	6.0	50.00
422	346221.1	3478692.8	10	.20	.120	45.0	-.9	44.0	27.0	204.00
423	328367.8	3481991.0	10	.10	.070	35.0	-.9	33.0	-.9	176.00
424	327577.7	3481989.8	10	.20	-.900	58.0	1.0	25.0	-.9	180.00
425	322942.1	3481139.1	10	.20	.010	28.0	-.9	26.0	-.9	169.00
426	317411.9	3481474.2	10	-.90	-.900	24.0	1.0	22.0	5.0	112.00
427	316119.3	3478175.1	10	.10	-.900	24.0	-.9	24.0	5.0	92.00
428	316775.3	3474377.7	10	-.90	-.900	18.0	-.9	14.0	4.0	75.00
429	317723.7	3474853.8	10	.30	-.900	26.0	-.9	23.0	9.0	129.00
430	320772.2	3464913.8	10	.20	-.900	36.0	-.9	43.0	39.0	128.00

TABLE AD-25

KANTISHNA HILLS

HINDERMAN, 1982 ANALYTICAL RESULTS

TABLE AD-25

KANTISHNA HILLS AREA - Q & X SERIES - HINDERMAN 1982
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AL	AS	B	BA	BE	CA	CO	CR	CU	FE	WFE	LA	LI	MN
Q009	425692.2	3560405.9	10	-.90	10000.0	-.9	20.0	30.0	2.0	500.0	10.0	-.9	20.0	50000.0	-.9	200.0	20.0	700.0
Q010	426277.0	3560574.2	52	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	7.0	-.9	-.9	-.9
Q012	424465.3	3559094.1	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
Q013	420714.0	3560414.7	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X007	441139.8	3564932.4	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X008	442166.2	3573220.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X055	418310.0	3521117.1	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X056	422092.3	3524099.1	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X072	354849.6	3550898.9	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X073	354429.0	3551755.7	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X074	370965.6	3559894.9	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X075	400652.2	3559899.8	10	-.90	100000.0	-.9	30.0	100.0	3.0	1000.0	20.0	10.0	10.0	20000.0	-.9	100.0	50.0	500.0
X077	444997.2	3563635.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X078	430333.7	3564736.5	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X079	429442.7	3564048.9	10	-.90	70000.0	-.9	30.0	100.0	5.0	5000.0	20.0	10.0	30.0	50000.0	-.9	300.0	50.0	1000.0
X080	426285.9	3569999.5	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X087	355052.6	3491620.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X088	354692.5	3491894.5	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X089	404051.5	3529177.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X090	404264.1	3528405.5	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X091	408565.2	3534461.9	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X092	413095.1	3537766.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X093	417936.7	3537602.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X099	387397.2	3496540.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X100	387926.1	3496604.3	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X134	426534.8	3556236.9	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X136	372212.4	3492824.5	30	700.00	1000.0	10000.0	-.9	-.9	-.9	-.9	-.9	10.0	700.0	20000.0	-.9	20.0	10.0	20.0
X137	372864.9	3491802.8	30	1.00	70000.0	-.9	10.0	1000.0	2.0	5000.0	-.9	-.9	10.0	20000.0	-.9	20.0	20.0	200.0
X138	373912.2	3490769.9	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X154	363164.7	3558109.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X155	389003.0	3551384.7	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X156	385777.7	3556835.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X157	388342.6	3551324.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X158	371690.6	3541208.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X159	410917.9	3540547.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X160	410587.1	3540081.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X165	425520.9	3559988.3	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X166	425213.5	3560261.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X167	416796.8	3552340.9	10	-.90	100000.0	-.9	30.0	10.0	3.0	1000.0	10.0	10.0	50.0	20000.0	-.9	300.0	50.0	500.0
X168	417542.9	3552610.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X169	419505.3	3538059.9	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X170	425259.7	3542596.7	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X171	436618.0	3546922.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X172	437730.1	3547101.8	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X173	423510.9	3520653.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X179	335704.9	3473739.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X180	426617.5	3565501.7	30	-.90	70000.0	-.9	30.0	1000.0	2.0	2000.0	5.0	30.0	10.0	50000.0	-.9	20.0	20.0	500.0
X181	436599.4	3562130.3	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X183	348128.9	3531657.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9

TABLE AD-25

KANTISHNA HILLS AREA - Q & X SERIES - HINDERMAN 1982
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	MO	NA	NB	NI	PB	SB	SC	SM	WSO4	SR	WTDS	TI	U3O8P	U3O8T	V	Y	ZN	WZN	ZR
Q009	-.9	5000.0	-.9	15.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1000.0	36.0	-.9	50.0	70.0	-.90	-.90	50.0
Q010	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	200.0	-.9	37.0	-.9	3.0	-.9	-.9	-.9	-.90	.09	-.9
Q012	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
Q013	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X007	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X008	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X055	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X056	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X072	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	5.0	-.9	-.9	-.9	-.90	-.90	-.9
X073	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X074	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	7.0	-.9	-.9	-.9	-.90	-.90	-.9
X075	-.9	7000.0	20.0	50.0	10.0	-.9	-.9	-.9	-.9	100.0	-.9	2000.0	17.0	-.9	50.0	20.0	-.90	-.90	100.0
X077	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X078	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X079	-.9	7000.0	20.0	150.0	10.0	-.9	10.0	-.9	-.9	100.0	-.9	3000.0	18.0	-.9	50.0	100.0	200.00	-.90	300.0
X080	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X087	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.9	-.90	-.90	-.9
X088	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X089	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	5.0	-.9	-.9	-.9	-.90	-.90	-.9
X090	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X091	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X092	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X093	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X099	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X100	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X134	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	2.0	-.9	-.9	-.90	-.90	-.9
X136	-.9	100.0	20.0	-.9	10000.0	10000.0	-.9	-.9	-.9	100.0	-.9	-.9	-.9	-.9	10.0	-.9	2000.00	-.90	-.9
X137	-.9	30000.0	20.0	5.0	70.0	-.9	10.0	-.9	-.9	200.0	-.9	1500.0	-.9	-.9	20.0	20.0	300.00	-.90	100.0
X138	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	3.0	-.9	-.9	-.90	-.90	-.9
X154	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X155	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X156	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	5.0	-.9	-.9	-.9	-.90	-.90	-.9
X157	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	6.0	-.9	-.9	-.9	-.90	-.90	-.9
X158	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	9.0	-.9	-.9	-.9	-.90	-.90	-.9
X159	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	9.0	-.9	-.9	-.9	-.90	-.90	-.9
X160	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X165	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X166	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	-.90	-.90	-.9
X167	-.9	7000.0	20.0	20.0	-.9	-.9	-.9	-.9	-.9	100.0	-.9	2000.0	55.0	-.9	30.0	50.0	-.90	-.90	20.0
X168	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	7.0	-.9	-.9	-.9	-.90	-.90	-.9
X169	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X170	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	6.0	-.9	-.9	-.9	-.90	-.90	-.9
X171	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X172	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X173	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X179	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	6.0	8.0	-.9	-.9	-.90	-.90	-.9
X180	-.9	10000.0	30.0	20.0	30.0	-.9	10.0	-.9	-.9	200.0	-.9	5000.0	2.0	2.0	50.0	10.0	-.90	-.90	100.0
X181	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	1.0	-.9	-.9	-.90	-.90	-.9
X183	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.9	-.90	-.90	-.9

TABLE AD-25

KANTISHNA HILLS AREA - Q & X SERIES - HINDERMAN 1982
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AL	AS	B	BA	BE	CA	CO	CR	CU	FE	WFE	LA	LI	MN
X184	344405.3	3548818.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X185	338775.3	3534905.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X186	336589.2	3526597.5	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X201	384887.9	3481128.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X203	371618.3	3479059.4	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X204	369633.2	3479590.8	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X207	346851.1	3486334.3	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X208	354438.5	3488865.4	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X209	389067.1	3513495.8	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X210	390044.6	3514418.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X211	374053.1	3511016.3	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X212	368539.4	3510749.9	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X213	365277.7	3510895.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X214	364701.2	3512653.8	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X215	371769.0	3518737.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X216	355212.2	3498321.9	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X217	363849.8	3497417.5	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X218	360422.0	3527243.3	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X219	359199.0	3535198.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X220	358515.0	3534691.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X221	359374.0	3536566.5	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X222	372108.7	3535282.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X223	372185.6	3536045.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X224	385042.4	3536949.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X225	384599.5	3536275.2	10	-.90	100000.0	-.9	30.0	50.0	2.0	1000.0	-.9	10.0	10.0	15000.0	-.9	100.0	50.0	500.0
X226	400917.4	3559126.7	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X227	389748.7	3555799.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X228	389077.4	3555395.7	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X229	357144.6	3540193.9	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X230	407134.5	3545010.4	10	-.90	70000.0	-.9	50.0	30.0	2.0	700.0	7.0	10.0	30.0	70000.0	-.9	200.0	50.0	300.0
X231	400261.8	3539264.4	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X251	383089.8	3525202.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X252	387174.4	3531080.4	10	-.90	10000.0	-.9	50.0	300.0	2.0	2000.0	5.0	20.0	15.0	20000.0	-.9	100.0	50.0	200.0
X253	387623.9	3530302.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X282	396112.5	3542154.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X283	400552.2	3540945.9	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X284	418357.4	3545062.5	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X289	354497.8	3484085.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X304	444626.6	3562748.0	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X331	375588.9	3529560.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X332	370944.9	3530140.2	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X333	366794.2	3528832.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X351	395577.6	3521945.1	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X352	390843.3	3518013.1	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X353	380040.6	3519586.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X354	369309.4	3519256.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X376	388222.6	3540053.9	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X377	381545.9	3544651.9	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X445	320762.8	3468538.1	30	-.90	70000.0	-.9	-.9	-.9	-.9	50000.0	30.0	70.0	50.0	100000.0	-.9	-.9	30.0	700.0

TABLE AD-25

KANTISHNA HILLS AREA - Q & X SERIES - HINDERMAN 1982
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	MO	NA	NB	NI	PB	SB	SC	SM	WSO4	SR	WTDS	TI	U308P	U308T	V	Y	ZN	WZN	ZR
X184	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.9	-.90	-.90	-.9
X185	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X186	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.9	-.90	-.90	-.9
X201	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X203	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X204	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X207	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X208	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X209	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X210	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X211	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X212	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X213	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X214	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X215	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	6.0	-.9	-.9	-.9	-.90	-.90	-.9
X216	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X217	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.9	-.90	-.90	-.9
X218	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X219	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	5.0	-.9	-.9	-.9	-.90	-.90	-.9
X220	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X221	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	6.0	-.9	-.9	-.9	-.90	-.90	-.9
X222	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X223	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	6.0	-.9	-.9	-.9	-.90	-.90	-.9
X224	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X225	-.9	10000.0	20.0	10.0	10.0	-.9	-.9	-.9	-.9	100.0	-.9	2000.0	11.0	-.9	50.0	10.0	-.90	-.90	50.0
X226	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X227	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X228	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	5.0	-.9	-.9	-.9	-.90	-.90	-.9
X229	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X230	-.9	7000.0	20.0	20.0	10.0	-.9	-.9	-.9	-.9	100.0	-.9	1500.0	13.0	-.9	50.0	30.0	-.90	-.90	30.0
X231	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X251	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X252	-.9	10000.0	20.0	20.0	20.0	-.9	10.0	-.9	-.9	100.0	-.9	2000.0	12.0	-.9	100.0	10.0	-.90	-.90	100.0
X253	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X282	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	2.0	-.9	-.9	-.90	-.90	-.9
X283	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	1.0	-.9	-.9	-.90	-.90	-.9
X284	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X289	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	3.0	-.9	-.9	-.90	-.90	-.9
X304	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X331	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X332	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X333	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	2.0	-.9	-.9	-.90	-.90	-.9
X351	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X352	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X353	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X354	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X376	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	3.0	-.9	-.9	-.90	-.90	-.9
X377	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X445	2.0	20000.0	20.0	30.0	30.0	-.9	50.0	-.9	-.9	200.0	-.9	7000.0	-.9	-.9	300.0	20.0	-.90	-.90	30.0

TABLE AD-25

KANTISHNA HILLS AREA - Q & X SERIES - HINDERMAN 1982
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AL	AS	B	BA	BE	CA	CO	CR	CU	FE	WFE	LA	LI	MN
X446	316814.7	3469468.2	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X451	339696.6	3497467.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X452	342566.5	3499920.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X453	327920.9	3485787.4	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X454	322324.4	3482909.5	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X455	316402.5	3480568.8	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X483	402803.1	3509727.7	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X484	402061.2	3509590.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X485	395341.0	3502836.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X486	395063.6	3502395.6	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X595	411152.0	3554586.4	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X596	411290.2	3554793.7	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X597	413526.8	3553885.5	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X730	413011.8	3558414.9	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X731	418193.0	3561489.3	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X732	371324.7	3493905.7	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X733	386172.5	3507769.2	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X734	404322.9	3517790.1	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X735	408273.9	3516120.6	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X736	401359.4	3515709.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X737	393158.3	3497961.2	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X738	389485.0	3490936.5	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X739	384348.2	3494250.1	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X740	378562.1	3500354.3	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X741	382679.4	3502270.8	30	-.90	20000.0	1000.0	10.0	200.0	-.9	300.0	-.9	10.0	5.0	15000.0	-.9	-.9	70.0	200.0
X742	376631.8	3505108.5	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X743	369744.9	3500577.4	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X744	367258.2	3506060.2	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X749	435381.6	3557781.9	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X750	432052.7	3561625.2	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X774	429125.2	3561659.9	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X775	424733.9	3558426.4	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X826	425424.0	3558591.7	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X827	427163.5	3556958.4	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X828	427140.9	3556246.2	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X872	414536.5	3553328.9	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X873	413231.0	3554527.5	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X874	407180.9	3553959.5	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X875	409437.2	3561156.2	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X895	416759.2	3552817.2	52	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X896	419269.4	3554726.3	52	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.1	-.9	-.9	-.9
X897	418693.0	3554821.8	52	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X917	417238.4	3552143.6	10	-.90	70000.0	-.9	20.0	50.0	2.0	200.0	-.9	10.0	20.0	20000.0	-.9	50.0	50.0	100.0
X918	416964.3	3551808.1	10	-.90	150000.0	-.9	30.0	100.0	5.0	2000.0	20.0	10.0	20.0	15000.0	-.9	300.0	50.0	2000.0
X920	416375.8	3554016.1	10	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X925	417678.7	3552738.4	52	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	9.9	-.9	-.9	-.9
X971	429872.9	3557673.8	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X972	425684.6	3548525.1	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X973	419161.6	3543006.8	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9

TABLE AD-25

KANTISHNA HILLS AREA - Q & X SERIES - HINDERMAN 1982
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	MO	NA	NB	NI	PB	SB	SC	SM	WSO4	SR	WTDS	TI	U308P	U308T	V	Y	ZN	WZN	ZR
X446	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	3.0	-.9	-.9	-.90	-.90	-.9
X451	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X452	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X453	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X454	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	7.0	-.9	-.9	-.9	-.90	-.90	-.9
X455	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	6.0	-.9	-.9	-.9	-.90	-.90	-.9
X483	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X484	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.9	-.90	-.90	-.9
X485	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.9	-.90	-.90	-.9
X486	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X595	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	9.0	-.9	-.9	-.9	-.90	-.90	-.9
X596	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	7.0	-.9	-.9	-.9	-.90	-.90	-.9
X597	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	6.0	-.9	-.9	-.9	-.90	-.90	-.9
X730	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X731	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X732	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X733	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X734	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X735	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X736	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X737	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X738	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X739	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X740	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X741	2.0	500.0	20.0	10.0	15.0	-.9	-.9	-.9	-.9	100.0	-.9	1000.0	-.9	-.9	70.0	-.9	-.90	-.90	20.0
X742	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X743	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X744	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.90	-.90	-.9
X749	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X750	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X774	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X775	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X826	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.90	-.90	-.9
X827	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X828	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.90	-.90	-.9
X872	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X873	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.90	-.90	-.9
X874	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.90	-.90	-.9
X875	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	-.9	-.90	-.90	-.9
X895	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	9.0	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X896	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	250.0	-.9	58.0	-.9	22.0	-.9	-.9	-.9	-.90	.36	-.9
X897	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	7.0	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X917	-.9	5000.0	-.9	-.9	10.0	-.9	-.9	-.9	-.9	100.0	-.9	700.0	20.0	-.9	30.0	10.0	-.90	-.90	20.0
X918	-.9	5000.0	-.9	50.0	10.0	-.9	-.9	-.9	-.9	-.9	-.9	2000.0	65.0	-.9	30.0	100.0	200.00	-.90	70.0
X920	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	9.0	-.9	-.9	-.9	-.90	-.90	-.9
X925	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	600.0	-.9	79.0	-.9	8.0	-.9	-.9	-.9	-.90	.57	-.9
X971	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X972	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X973	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9

TABLE AD-25

KANTISHNA HILLS AREA - Q & X SERIES - HINDERMAN 1982
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	AL	AS	B	BA	BE	CA	CO	CR	CU	FE	WFE	LA	LI	MN
X974	434898.2	3550007.0	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9.	-.9	-.9	-.9	-.9
X990	341900.8	3474751.8	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X991	339424.9	3473924.2	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X992	428188.7	3567701.5	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
X993	423746.4	3563840.4	30	-.90	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9

TABLE AD-25

KANTISHNA HILLS AREA - Q & X SERIES - HINDERMAN 1982
SEMI - QUANITATIVE TECHNIQUES

WATER RESULTS IN PPB AND MG/L (INDICATED BY A W BEFORE THE ELEMENT)
SEDIMENT RESULTS IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	MO	NA	NB	NI	PB	SB	SC	SN	WSO4	SR	WTDS	TI	U3O8P	U3O8T	V	Y	ZN	WZN	ZR
X974	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X990	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.90	-.90	-.9
X991	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.0	-.9	-.9	-.90	-.90	-.9
X992	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9
X993	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	-.9	-.90	-.90	-.9

TABLE AD-26

KANTISHNA HILLS

PROSPECT LOCATIONS

TABLE AD-26

PROSPECT LOCATIONS

ID	X	Y	IV CODE
1	324668.4	3466387.7	40
2	328243.8	3473625.7	40
3	333730.0	3472962.1	40
4	334172.1	3473609.4	40
5	336405.2	3474230.4	40
6	336644.5	3475966.7	40
7	341402.8	3477279.3	40
8	329571.1	3478103.6	40
9	335025.4	3481429.6	40
10	336233.5	3482133.6	40
11	335916.6	3485444.9	40
12	336306.8	3486120.2	40
13	335883.5	3477732.6	40
14	339195.0	3479959.5	40
15	340831.8	3480888.6	40
16	338701.1	3481004.2	40
17	345605.0	3484340.3	40
18	340697.2	3490798.3	40
19	341363.0	3487688.1	40
20	342286.5	3486894.8	40
21	342560.8	3483901.8	40
22	342103.5	3487771.9	40
23	343340.8	3487735.4	40
24	344243.0	3487101.3	40
25	345281.7	3489949.9	40
26	345417.9	3489259.1	40
27	346005.9	3488687.1	40
28	347083.6	3488602.4	40
29	347757.6	3489084.5	40
30	349433.3	3488744.5	40
31	345689.7	3486186.9	40
32	347236.6	3486775.3	40
33	348138.4	3486960.0	40
34	353821.8	3489196.2	40
35	354611.0	3491656.0	40
36	355444.2	3491340.9	40
37	356145.4	3491848.5	40
38	348195.1	3490418.8	40
39	351229.4	3494714.2	40
40	351465.9	3495526.1	40
41	352525.1	3498189.3	40
42	353596.9	3497919.9	40
43A	353979.9	3484199.1	40
43B	359078.0	3484633.0	40
44	357836.1	3491983.6	40
45	360757.4	3491871.0	40
46	360684.7	3492903.3	40
47	359966.4	3492686.8	40
48	361998.5	3492785.4	40
49	368221.0	3492073.6	40

TABLE AD-26

PROSPECT LOCATIONS

ID	X	Y	IV CODE
50	369713.2	3493429.6	40
51	369141.4	3497012.5	40
52	372802.3	3496957.4	40
53	375785.5	3497133.6	40
54	372375.0	3494275.7	40
55	373558.4	3493369.1	40
56	379295.4	3493965.9	40
57	372924.7	3498327.4	40
58	381195.3	3496551.5	40
59	383724.6	3497375.0	40
60	385487.0	3501443.8	40
61	380755.6	3499311.6	40
62	384441.9	3502557.7	40
63A	377327.3	3508393.9	40
63B	367663.1	3511928.0	40
64	376068.9	3505261.2	40
65	386051.9	3502642.3	40
66AB	392050.6	3509016.4	40
66C	394218.4	3510907.2	40
67	394827.5	3513504.4	40
68	401765.7	3517922.5	40
69	402598.4	3520090.4	40
70A	424104.1	3537709.4	40
70B	413902.6	3530085.5	40
71	422020.2	3546804.9	40
72A	436718.7	3556647.0	40
72B	433498.6	3556477.8	40
73	439095.1	3559297.8	40
74	440171.0	3560824.5	40
75	445473.3	3570177.7	40
76A	435970.1	3562137.1	40
76B	433934.6	3563597.1	40
77A	418313.4	3569578.5	40
77B	418610.9	3570652.8	40
78	436061.7	3577534.6	40

TABLE AD-27

DUNKLE AREA - SNOOPY PROSPECT

RAA, 1971 ANALYTICAL RESULTS

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
1	590307.7	3375524.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	4.0	-.9	27.0	-.9	-.9
2	590934.2	3375496.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	3.0	-.9	28.0	-.9	-.9
3	591530.0	3375517.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
4	592055.9	3375556.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	3.0	-.9	60.0	-.9	-.9
5	592612.4	3375556.4	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
6	593198.3	3375577.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	17.0	-.9	-.9
7	593745.1	3375557.0	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
8	594370.4	3375599.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
9	595531.8	3375660.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
10	596099.2	3375660.4	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	2.0	-.9	17.0	-.9	-.9
11	596833.7	3375646.9	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
12	597280.3	3375682.6	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
13	597955.9	3375686.7	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	1.5	-.9	17.0	-.9	-.9
14	590908.7	3374126.0	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
15	591534.2	3374158.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
16	592070.7	3374157.4	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
17	593223.3	3374158.6	20	.50	-.9	-.9	-.9	-.9	-.9	-.9	10.0	-.9	-.9	-.9	1.0	-.9	10.0	-.9	-.9
18	593878.2	3374211.7	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	19.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
19	594394.9	3374210.2	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	2.0	-.9	17.0	-.9	-.9
20	594911.5	3374218.6	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	17.0	-.9	-.9
21	595506.8	3374269.5	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	1.5	-.9	17.0	-.9	-.9
22	596125.8	3374102.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	2.0	-.9	17.0	-.9	-.9
23	596718.8	3374282.8	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
24	597295.2	3374273.5	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	54.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
25	597950.6	3374296.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.0	-.9	15.0	-.9	-.9
26	599043.7	3374296.0	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	3.0	-.9	18.0	-.9	-.9
27	599719.3	3374300.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	-.9	-.9	20.0	-.9	-.9
28	581615.5	3372594.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	54.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
29	582906.6	3372630.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	1.0	-.9	20.0	-.9	-.9
30	583969.3	3372658.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
32	585142.8	3372600.9	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	1.0	-.9	27.0	-.9	-.9
33	586323.8	3372682.5	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9	-.9	1.0	-.9	12.0	-.9	-.9
34	587506.0	3372694.8	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	1.0	-.9	15.0	-.9	-.9
35	588687.9	3372726.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
36	589780.9	3372726.0	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
37	592046.0	3372746.9	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	23.0	-.9	-.9	-.9	1.5	-.9	12.0	-.9	-.9
38	592671.3	3372789.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
39	593177.5	3372816.9	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9	-.9	1.5	-.9	17.0	-.9	-.9
40	593734.1	3372806.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	43.0	-.9	-.9	-.9	3.0	-.9	22.0	-.9	-.9
41	594320.2	3372817.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.0	-.9	32.0	-.9	-.9
42	594906.2	3372828.7	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	1.5	-.9	32.0	-.9	-.9
43	595532.0	3372841.0	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	1.0	-.9	17.0	-.9	-.9
44	596127.7	3372872.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	122.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
45	596704.0	3372872.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
46	597399.2	3372887.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
47	597895.8	3372905.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
48	599077.6	3372937.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	6.0	-.9	25.0	-.9	-.9
49	600289.6	3372950.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
50	601501.5	3372973.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
1	-.9	-.9	-.9	100.00	-.9
2	-.9	-.9	-.9	120.00	-.9
3	-.9	-.9	-.9	120.00	-.9
4	-.9	-.9	-.9	190.00	-.9
5	-.9	-.9	-.9	105.00	-.9
6	-.9	-.9	-.9	75.00	-.9
7	-.9	-.9	-.9	100.00	-.9
8	-.9	-.9	-.9	90.00	-.9
9	-.9	-.9	-.9	100.00	-.9
10	-.9	-.9	-.9	80.00	-.9
11	-.9	-.9	-.9	90.00	-.9
12	-.9	-.9	-.9	90.00	-.9
13	-.9	-.9	-.9	55.00	-.9
14	-.9	-.9	-.9	85.00	-.9
15	-.9	-.9	-.9	80.00	-.9
16	-.9	-.9	-.9	90.00	-.9
17	-.9	-.9	-.9	50.00	-.9
18	-.9	-.9	-.9	75.00	-.9
19	-.9	-.9	-.9	90.00	-.9
20	-.9	-.9	-.9	65.00	-.9
21	-.9	-.9	-.9	65.00	-.9
22	-.9	-.9	-.9	80.00	-.9
23	-.9	-.9	-.9	80.00	-.9
24	-.9	-.9	-.9	145.00	-.9
25	-.9	-.9	-.9	80.00	-.9
26	-.9	-.9	-.9	80.00	-.9
27	-.9	-.9	-.9	100.00	-.9
28	-.9	-.9	-.9	60.00	-.9
29	-.9	-.9	-.9	100.00	-.9
30	-.9	-.9	-.9	120.00	-.9
32	-.9	-.9	-.9	85.00	-.9
33	-.9	-.9	-.9	55.00	-.9
34	-.9	-.9	-.9	70.00	-.9
35	-.9	-.9	-.9	75.00	-.9
36	-.9	-.9	-.9	50.00	-.9
37	-.9	-.9	-.9	70.00	-.9
38	-.9	-.9	-.9	80.00	-.9
39	-.9	-.9	-.9	55.00	-.9
40	-.9	-.9	-.9	105.00	-.9
41	-.9	-.9	-.9	115.00	-.9
42	-.9	-.9	-.9	130.00	-.9
43	-.9	-.9	-.9	80.00	-.9
44	-.9	-.9	-.9	130.00	-.9
45	-.9	-.9	-.9	110.00	-.9
46	-.9	-.9	-.9	110.00	-.9
47	-.9	-.9	-.9	120.00	-.9
48	-.9	-.9	-.9	130.00	-.9
49	-.9	-.9	-.9	90.00	-.9
50	-.9	-.9	-.9	160.00	-.9

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
51	602583.0	3373025.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
52	603895.5	3373009.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
53	603681.2	3373329.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	20.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
54	604168.3	3373316.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
55	604148.0	3372779.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
56	593811.7	3372353.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	22.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
57	597611.3	3372696.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9
58	597949.3	3372688.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.9
59	593178.5	3372201.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	23.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
60	594390.5	3372214.8	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
61	596167.1	3372327.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	2.5	-.9	30.0	-.9	-.9
62	596730.8	3372476.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
63	597915.3	3372359.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	2.0	-.9	35.0	-.9	-.9
64	593779.5	3371925.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
65	595275.7	3372166.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	1.2	-.9	-.9	-.9	-.9
66	595853.9	3372058.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	98.0	-.9	-.9	-.9	30.0	-.9	30.0	-.9	-.9
67	593216.9	3371716.5	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	67.0	-.9	-.9	-.9	4.5	-.9	27.0	-.9	-.9
68	594246.4	3371931.7	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
69	594944.9	3371767.9	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	54.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
70	594631.4	3372074.5	20	5.00	-.9	-.9	-.9	-.9	-.9	-.9	220.0	-.9	-.9	-.9	13.0	-.9	35.0	-.9	-.9
71	595281.6	3371829.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	520.0	-.9	-.9	-.9	12.0	-.9	30.0	-.9	-.9
72	596136.5	3371810.3	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	99.0	-.9	-.9	-.9	44.0	-.9	20.0	-.9	-.9
73	596721.0	3371910.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	63.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
74	597020.8	3371811.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	930.0	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.9
75	597408.1	3371825.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9
76	597645.2	3371903.6	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	17.0	-.9	17.0	-.9	-.9
77	597845.0	3371841.2	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
78	594073.5	3371598.0	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
79	594369.3	3371727.6	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	55.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
80	594628.9	3371657.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	110.0	-.9	-.9	-.9	1.0	-.9	25.0	-.9	-.9
81	595831.8	3371620.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	300.0	-.9	-.9	-.9	5.5	-.9	27.0	-.9	-.9
82	596482.8	3371892.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	560.0	-.9	-.9	-.9	52.0	-.9	20.0	-.9	-.9
84	581580.8	3371183.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	84.0	-.9	-.9	-.9	5.0	-.9	25.0	-.9	-.9
85	582382.2	3371200.3	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	51.0	-.9	-.9	-.9	3.0	-.9	28.0	-.9	-.9
86	584024.5	3371221.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	3.0	-.9	28.0	-.9	-.9
87	585196.6	3371242.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
88	586328.3	3371302.9	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	1.5	-.9	17.0	-.9	-.9
89	587510.5	3371315.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
90	588702.5	3371337.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
91	589775.7	3371336.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
92	590907.9	3371366.4	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	23.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
93	592079.6	3371408.0	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9	-.9	2.0	-.9	75.0	-.9	-.9
94	593222.1	3371418.9	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	49.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
95	593788.7	3371409.2	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
96	594354.9	3371419.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	120.0	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.9
97	595556.8	3371442.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	130.0	-.9	-.9	-.9	-.9	-.9	35.0	-.9	-.9
98	596152.4	3371473.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	280.0	-.9	-.9	-.9	1.5	-.9	55.0	-.9	-.9
99	596718.6	3371483.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	11.0	-.9	25.0	-.9	-.9
100	597393.8	3371507.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	5.0	-.9	32.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
51	-.9	-.9	-.9	90.00	-.9
52	-.9	-.9	-.9	-.90	-.9
53	-.9	-.9	-.9	120.00	-.9
54	-.9	-.9	-.9	-.90	-.9
55	-.9	-.9	-.9	-.90	-.9
56	-.9	-.9	-.9	120.00	-.9
57	-.9	-.9	-.9	120.00	-.9
58	-.9	-.9	-.9	140.00	-.9
59	-.9	-.9	-.9	110.00	-.9
60	-.9	-.9	-.9	90.00	-.9
61	-.9	-.9	-.9	100.00	-.9
62	-.9	-.9	-.9	90.00	-.9
63	-.9	-.9	-.9	160.00	-.9
64	-.9	-.9	-.9	90.00	-.9
65	-.9	-.9	-.9	110.00	-.9
66	-.9	-.9	-.9	310.00	-.9
67	-.9	-.9	-.9	155.00	-.9
68	-.9	-.9	-.9	-.90	-.9
69	-.9	-.9	-.9	114.00	-.9
70	-.9	-.9	-.9	170.00	-.9
71	-.9	-.9	-.9	175.00	-.9
72	-.9	-.9	-.9	180.00	-.9
73	-.9	-.9	-.9	100.00	-.9
74	-.9	-.9	-.9	240.00	-.9
75	-.9	-.9	-.9	300.00	-.9
76	-.9	-.9	-.9	120.00	-.9
77	-.9	-.9	-.9	250.00	-.9
78	-.9	-.9	-.9	145.00	-.9
79	-.9	-.9	-.9	140.00	-.9
80	-.9	-.9	-.9	140.00	-.9
81	-.9	-.9	-.9	140.00	-.9
82	-.9	-.9	-.9	170.00	-.9
84	-.9	-.9	-.9	80.00	-.9
85	-.9	-.9	-.9	9.00	-.9
86	-.9	-.9	-.9	70.00	-.9
87	-.9	-.9	-.9	120.00	-.9
88	-.9	-.9	-.9	70.00	-.9
89	-.9	-.9	-.9	110.00	-.9
90	-.9	-.9	-.9	65.00	-.9
91	-.9	-.9	-.9	90.00	-.9
92	-.9	-.9	-.9	95.00	-.9
93	-.9	-.9	-.9	75.00	-.9
94	-.9	-.9	-.9	75.00	-.9
95	-.9	-.9	-.9	-.90	-.9
96	-.9	-.9	-.9	125.00	-.9
97	-.9	-.9	-.9	164.00	-.9
98	-.9	-.9	-.9	121.00	-.9
99	-.9	-.9	-.9	125.00	-.9
100	-.9	-.9	-.9	145.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
101	597970.1	3371508.2	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	23.0	-.9	-.9	-.9	1.5	-.9	12.0	-.9	-.9
102	598516.1	3371537.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9
103	598834.4	3371519.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	2.0	-.9	23.0	-.9	-.9
104	599132.3	3371529.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
105	600303.6	3371601.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	132.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
106	601486.3	3371583.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
107	602677.9	3371625.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	74.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
108	592611.5	3371109.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
109	593209.5	3371011.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	126.0	-.9	-.9	-.9	3.0	-.9	45.0	-.9	-.9
110	593534.9	3371152.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	53.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
111	593775.3	3371041.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	72.0	-.9	-.9	-.9	2.0	-.9	35.0	-.9	-.9
112	594090.3	3371211.5	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	170.0	-.9	-.9	-.9	2.5	-.9	30.0	-.9	-.9
113	594371.1	3371062.6	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	94.0	-.9	-.9	-.9	7.0	-.9	25.0	-.9	-.9
114	594625.8	3371270.2	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	122.0	-.9	-.9	-.9	7.0	-.9	25.0	-.9	-.9
115	594917.6	3371062.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	132.0	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.9
116	595241.8	3371272.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	90.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
117	595590.2	3371235.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	158.0	-.9	-.9	-.9	5.3	-.9	30.0	-.9	-.9
118	595847.5	3371293.8	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	280.0	-.9	-.9	-.9	5.0	-.9	30.0	-.9	-.9
119	596119.3	3371095.0	20	5.00	-.9	-.9	-.9	-.9	-.9	-.9	192.0	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9
120	596714.8	3371136.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	320.0	-.9	-.9	-.9	10.0	-.9	40.0	-.9	-.9
121	597410.4	3371130.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	141.0	-.9	-.9	-.9	5.0	-.9	25.0	-.9	-.9
122	597888.1	3371088.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9
123	598225.2	3371130.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
124	588686.4	3370562.8	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	1.5	-.9	27.0	-.9	-.9
125	589153.5	3370559.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
126	589729.8	3370560.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	41.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
127	590940.7	3370633.0	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	19.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
128	592072.9	3370663.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
129	592648.2	3370723.5	20	4.50	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	3.0	-.9	40.0	-.9	-.9
130	592921.7	3370991.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	82.0	-.9	-.9	-.9	3.5	-.9	85.0	-.9	-.9
131	593513.0	3370704.6	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	96.0	-.9	-.9	-.9	35.0	-.9	30.0	-.9	-.9
132	594087.3	3370814.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	192.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
133	594359.8	3370575.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	230.0	-.9	-.9	-.9	25.0	-.9	27.0	-.9	-.9
134	594593.8	3370832.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	220.0	-.9	-.9	-.9	3.0	-.9	35.0	-.9	-.9
135	594926.4	3370566.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	170.0	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.9
136	595259.1	3370855.9	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	130.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
137	595523.7	3371063.9	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	290.0	-.9	-.9	-.9	3.5	-.9	-.9	-.9	-.9
138	595844.1	3370926.4	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	180.0	-.9	-.9	-.9	5.0	-.9	30.0	-.9	-.9
139	598496.0	3370990.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
140	596118.2	3370598.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	81.0	-.9	-.9	-.9	2.5	-.9	32.0	-.9	-.9
141	596724.3	3370600.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	64.0	-.9	-.9	-.9	2.0	-.9	39.0	-.9	-.9
142	597399.2	3370644.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
143	597926.0	3370633.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
144	592307.5	3370324.2	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	1.0	-.9	20.0	-.9	-.9
145	592894.2	3370295.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	110.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
146	593471.6	3370236.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	82.0	-.9	-.9	-.9	3.2	-.9	25.0	-.9	-.9
147	594076.6	3370297.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	220.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
148	594623.3	3370287.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	270.0	-.9	-.9	-.9	3.0	-.9	32.0	-.9	-.9
149	595268.8	3370310.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	260.0	-.9	-.9	-.9	3.0	-.9	45.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
101	-.9	-.9	-.9	55.00	-.9
102	-.9	-.9	-.9	110.00	-.9
103	-.9	-.9	-.9	-.90	-.9
104	-.9	-.9	-.9	100.00	-.9
105	-.9	-.9	-.9	110.00	-.9
106	-.9	-.9	-.9	90.00	-.9
107	-.9	-.9	-.9	70.00	-.9
108	-.9	-.9	-.9	110.00	-.9
109	-.9	-.9	-.9	130.00	-.9
110	-.9	-.9	-.9	120.00	-.9
111	-.9	-.9	-.9	100.00	-.9
112	-.9	-.9	-.9	135.00	-.9
113	-.9	-.9	-.9	120.00	-.9
114	-.9	-.9	-.9	150.00	-.9
115	-.9	-.9	-.9	130.00	-.9
116	-.9	-.9	-.9	140.00	-.9
117	-.9	-.9	-.9	100.00	-.9
118	-.9	-.9	-.9	145.00	-.9
119	-.9	-.9	-.9	-.90	-.9
120	-.9	-.9	-.9	310.00	-.9
121	-.9	-.9	-.9	70.00	-.9
122	-.9	-.9	-.9	90.00	-.9
123	-.9	-.9	-.9	190.00	-.9
124	-.9	-.9	-.9	80.00	-.9
125	-.9	-.9	-.9	95.00	-.9
126	-.9	-.9	-.9	40.00	-.9
127	-.9	-.9	-.9	55.00	-.9
128	-.9	-.9	-.9	110.00	-.9
129	-.9	-.9	-.9	40.00	-.9
130	-.9	-.9	-.9	130.00	-.9
131	-.9	-.9	-.9	135.00	-.9
132	-.9	-.9	-.9	140.00	-.9
133	-.9	-.9	-.9	90.00	-.9
134	-.9	-.9	-.9	120.00	-.9
135	-.9	-.9	-.9	140.00	-.9
136	-.9	-.9	-.9	120.00	-.9
137	-.9	-.9	-.9	-.90	-.9
138	-.9	-.9	-.9	115.00	-.9
139	-.9	-.9	-.9	-.90	-.9
140	-.9	-.9	-.9	128.00	-.9
141	-.9	-.9	-.9	135.00	-.9
142	-.9	-.9	-.9	150.00	-.9
143	-.9	-.9	-.9	70.00	-.9
144	-.9	-.9	-.9	100.00	-.9
145	-.9	-.9	-.9	150.00	-.9
146	-.9	-.9	-.9	100.00	-.9
147	-.9	-.9	-.9	140.00	-.9
148	-.9	-.9	-.9	135.00	-.9
149	-.9	-.9	-.9	100.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
150	581614.6	3369835.0	20	1.40	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	2.0	-.9	15.0	-.9	-.9
151	582905.5	3369880.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
152	583988.8	3369869.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.9
153	587505.8	3369895.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	23.0	-.9	-.9	-.9	4.0	-.9	27.0	-.9	-.9
154	588706.7	3369977.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
155	589173.7	3369974.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	2.5	-.9	27.0	-.9	-.9
156	589760.5	3369945.8	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
157	590365.9	3369987.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	39.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
158	590893.1	3369956.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
159	591568.5	3369970.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
160	592064.6	3370007.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
161	593196.9	3370038.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	110.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
162	594348.8	3370079.1	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	3.5	-.9	22.0	-.9	-.9
163	594915.3	3370069.5	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	92.0	-.9	-.9	-.9	2.0	-.9	35.0	-.9	-.9
164	595550.7	3370102.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	100.0	-.9	-.9	-.9	2.0	-.9	32.0	-.9	-.9
165	596136.5	3370122.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	170.0	-.9	-.9	-.9	2.5	-.9	35.0	-.9	-.9
166	596742.5	3370134.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	6.0	-.9	12.0	-.9	-.9
167	597417.7	3370158.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	5.0	-.9	1.5	-.9	-.9
168	597964.4	3370148.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
169	598510.9	3370147.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
170	599106.5	3370178.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
171	600278.8	3370190.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
172	601490.3	3370233.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	4.0	-.9	33.0	-.9	-.9
173	602682.4	3370246.2	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	8.0	-.9	25.0	-.9	-.9
174	603879.6	3371658.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	2.0	-.9	35.0	-.9	-.9
175	603884.0	3370288.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	18.0	-.9	-.9	-.9	4.0	-.9	20.0	-.9	-.9
176	587494.4	3369418.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
177	588695.9	3369461.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.5	-.9	27.0	-.9	-.9
178	589163.5	3369428.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	21.0	-.9	-.9	-.9	2.0	-.9	17.0	-.9	-.9
179	589659.5	3369475.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
180	590345.2	3369470.3	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
181	590921.7	3369461.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
182	591528.0	3369452.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
183	592083.7	3369492.4	20	2.10	-.9	-.9	-.9	-.9	-.9	-.9	47.0	-.9	-.9	-.9	2.0	-.9	23.0	-.9	-.9
184	592332.1	3369491.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	1.0	-.9	-.9	-.9	-.9
185	592610.2	3369501.1	20	4.20	-.9	-.9	-.9	-.9	-.9	-.9	490.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
186	593002.8	3369773.2	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	2.0	-.9	17.0	-.9	-.9
187	593558.0	3369842.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	19.0	-.9	-.9	-.9	-.9
188	593236.0	3369513.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	80.0	-.9	-.9	-.9	5.0	-.9	22.0	-.9	-.9
189	593742.6	3369521.5	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	90.0	-.9	-.9	-.9	2.5	-.9	27.0	-.9	-.9
190	594095.7	3369782.2	20	3.50	-.9	-.9	-.9	-.9	-.9	-.9	260.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
191	594368.2	3369543.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	170.0	-.9	-.9	-.9	7.0	-.9	27.0	-.9	-.9
192	594721.1	3369814.4	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	210.0	-.9	-.9	-.9	3.5	-.9	-.9	-.9	-.9
193	594924.4	3369553.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	450.0	-.9	-.9	-.9	2.5	-.9	37.0	-.9	-.9
194	595367.8	3369767.9	20	3.50	-.9	-.9	-.9	-.9	-.9	-.9	95.0	-.9	-.9	-.9	30.0	-.9	35.0	-.9	-.9
195	595345.7	3369330.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	120.0	-.9	-.9	-.9	7.0	-.9	35.0	-.9	-.9
196	596135.7	3369606.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	76.0	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
197	596751.8	3369608.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
198	597407.3	3369622.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
150	-.9	-.9	-.9	110.00	-.9
151	-.9	-.9	-.9	80.00	-.9
152	-.9	-.9	-.9	70.00	-.9
153	-.9	-.9	-.9	100.00	-.9
154	-.9	-.9	-.9	90.00	-.9
155	-.9	-.9	-.9	70.00	-.9
156	-.9	-.9	-.9	80.00	-.9
157	-.9	-.9	-.9	95.00	-.9
158	-.9	-.9	-.9	-.90	-.9
159	-.9	-.9	-.9	85.00	-.9
160	-.9	-.9	-.9	80.00	-.9
161	-.9	-.9	-.9	120.00	-.9
162	-.9	-.9	-.9	170.00	-.9
163	-.9	-.9	-.9	130.00	-.9
164	-.9	-.9	-.9	105.00	-.9
165	-.9	-.9	-.9	145.00	-.9
166	-.9	-.9	-.9	80.00	-.9
167	-.9	-.9	-.9	150.00	-.9
168	-.9	-.9	-.9	140.00	-.9
169	-.9	-.9	-.9	110.00	-.9
170	-.9	-.9	-.9	90.00	-.9
171	-.9	-.9	-.9	55.00	-.9
172	-.9	-.9	-.9	80.00	-.9
173	-.9	-.9	-.9	60.00	-.9
174	-.9	-.9	-.9	115.00	-.9
175	-.9	-.9	-.9	60.00	-.9
176	-.9	-.9	-.9	110.00	-.9
177	-.9	-.9	-.9	85.00	-.9
178	-.9	-.9	-.9	80.00	-.9
179	-.9	-.9	-.9	85.00	-.9
180	-.9	-.9	-.9	80.00	-.9
181	-.9	-.9	-.9	85.00	-.9
182	-.9	-.9	-.9	65.00	-.9
183	-.9	-.9	-.9	85.00	-.9
184	-.9	-.9	-.9	50.00	-.9
185	-.9	-.9	-.9	105.00	-.9
186	-.9	-.9	-.9	125.00	-.9
187	-.9	-.9	-.9	60.00	-.9
188	-.9	-.9	-.9	65.00	-.9
189	-.9	-.9	-.9	80.00	-.9
190	-.9	-.9	-.9	140.00	-.9
191	-.9	-.9	-.9	75.00	-.9
192	-.9	-.9	-.9	135.00	-.9
193	-.9	-.9	-.9	130.00	-.9
194	-.9	-.9	-.9	35.00	-.9
195	-.9	-.9	-.9	110.00	-.9
196	-.9	-.9	-.9	115.00	-.9
197	-.9	-.9	-.9	100.00	-.9
198	-.9	-.9	-.9	110.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
199	597914.3	3369610.2	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
200	598595.3	3369306.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
201	587485.1	3368822.7	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
202	588686.6	3368865.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
203	589143.7	3368861.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
204	589769.2	3368893.9	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	1.5	-.9	17.0	-.9	-.9
205	590365.2	3368905.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	2.5	-.9	27.0	-.9	-.9
206	590901.6	3368914.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
207	591546.8	3368947.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
208	592053.3	3368965.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
209	592366.7	3369224.5	20	3.70	-.9	-.9	-.9	-.9	-.9	-.9	71.0	-.9	-.9	-.9	2.5	-.9	27.0	-.9	-.9
210	592610.1	3368945.2	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	120.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
211	592882.9	3369252.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	420.0	-.9	-.9	-.9	2.5	-.9	-.9	-.9	-.9
212	593479.2	3369244.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	200.0	-.9	-.9	-.9	3.0	-.9	70.0	-.9	-.9
213	593166.3	3368955.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	125.0	-.9	-.9	-.9	1.5	-.9	-.9	-.9	-.9
214	593749.1	3369154.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.9
215	594035.8	3369234.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	280.0	-.9	-.9	-.9	3.0	-.9	55.0	-.9	-.9
216	593732.5	3368965.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	-.9	-.9	20.0	-.9	-.9
217	594348.6	3368967.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	95.0	-.9	-.9	-.9	16.0	-.9	27.0	-.9	-.9
218	594641.2	3369275.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
219	594934.6	3368978.2	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	360.0	-.9	-.9	-.9	44.0	-.9	30.0	-.9	-.9
220	595550.5	3368990.2	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
221	596165.9	3369022.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	65.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
222	596732.8	3368992.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
223	597348.0	3369044.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	54.0	-.9	-.9	-.9	5.0	-.9	30.0	-.9	-.9
224	597934.2	3369045.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	136.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
225	598498.0	3368628.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
226	599123.3	3368670.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
227	600314.9	3368712.8	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	11.0	-.9	30.0	-.9	-.9
228	601517.1	3368715.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	5.0	-.9	20.0	-.9	-.9
229	602698.5	3368777.7	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
230	603900.2	3368810.4	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	7.0	-.9	20.0	-.9	-.9
231	581631.3	3368326.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	55.0	-.9	-.9	-.9	2.0	-.9	-.9	-.9	-.9
232	582208.3	3368287.7	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	98.0	-.9	-.9	-.9	2.0	-.9	40.0	-.9	-.9
233	582903.1	3368332.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	78.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
234	583479.4	3368332.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	35.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
235	583996.1	3368331.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	62.0	-.9	-.9	-.9	3.0	-.9	60.0	-.9	-.9
236	584562.1	3368351.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	63.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
237	585168.1	3368363.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	54.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
238	585794.0	3368365.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
239	586280.2	3368402.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	55.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
240	587476.1	3368206.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	1.0	-.9	25.0	-.9	-.9
241	588658.3	3368219.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	3.0	-.9	22.0	-.9	-.9
242	589155.0	3368226.9	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
243	589751.0	3368238.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
244	590356.2	3368289.4	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
245	590902.7	3368289.0	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
246	591538.4	3368301.6	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	55.0	-.9	-.9	-.9	1.5	-.9	26.0	-.9	-.9
247	592074.6	3368320.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	140.0	-.9	-.9	-.9	3.5	-.9	2.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
199	-.9	-.9	-.9	110.00	-.9
200	-.9	-.9	-.9	130.00	-.9
201	-.9	-.9	-.9	-.90	-.9
202	-.9	-.9	-.9	120.00	-.9
203	-.9	-.9	-.9	75.00	-.9
204	-.9	-.9	-.9	75.00	-.9
205	-.9	-.9	-.9	80.00	-.9
206	-.9	-.9	-.9	70.00	-.9
207	-.9	-.9	-.9	75.00	-.9
208	-.9	-.9	-.9	80.00	-.9
209	-.9	-.9	-.9	150.00	-.9
210	-.9	-.9	-.9	90.00	-.9
211	-.9	-.9	-.9	125.00	-.9
212	-.9	-.9	-.9	-.90	-.9
213	-.9	-.9	-.9	55.00	-.9
214	-.9	-.9	-.9	80.00	-.9
215	-.9	-.9	-.9	150.00	-.9
216	-.9	-.9	-.9	60.00	-.9
217	-.9	-.9	-.9	65.00	-.9
218	-.9	-.9	-.9	80.00	-.9
219	-.9	-.9	-.9	80.00	-.9
220	-.9	-.9	-.9	75.00	-.9
221	-.9	-.9	-.9	95.00	-.9
222	-.9	-.9	-.9	70.00	-.9
223	-.9	-.9	-.9	130.00	-.9
224	-.9	-.9	-.9	130.00	-.9
225	-.9	-.9	-.9	80.00	-.9
226	-.9	-.9	-.9	100.00	-.9
227	-.9	-.9	-.9	75.00	-.9
228	-.9	-.9	-.9	160.00	-.9
229	-.9	-.9	-.9	90.00	-.9
230	-.9	-.9	-.9	70.00	-.9
231	-.9	-.9	-.9	70.00	-.9
232	-.9	-.9	-.9	135.00	-.9
233	-.9	-.9	-.9	100.00	-.9
234	-.9	-.9	-.9	80.00	-.9
235	-.9	-.9	-.9	100.00	-.9
236	-.9	-.9	-.9	65.00	-.9
237	-.9	-.9	-.9	70.00	-.9
238	-.9	-.9	-.9	70.00	-.9
239	-.9	-.9	-.9	105.00	-.9
240	-.9	-.9	-.9	80.00	-.9
241	-.9	-.9	-.9	4.00	-.9
242	-.9	-.9	-.9	80.00	-.9
243	-.9	-.9	-.9	80.00	-.9
244	-.9	-.9	-.9	85.00	-.9
245	-.9	-.9	-.9	60.00	-.9
246	-.9	-.9	-.9	95.00	-.9
247	-.9	-.9	-.9	120.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
248	592352.3	3368350.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	80.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
249	592744.6	3368642.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	62.0	-.9	-.9	-.9	3.5	-.9	20.0	-.9	-.9
250	593186.4	3368380.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	140.0	-.9	-.9	-.9	9.5	-.9	42.0	-.9	-.9
251	593713.1	3368378.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	160.0	-.9	-.9	-.9	2.5	-.9	55.0	-.9	-.9
252	594075.4	3368679.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	79.0	-.9	-.9	-.9	2.5	-.9	-.9	-.9	-.9
253	594328.1	3368440.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	65.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
254	594642.8	3368620.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	140.0	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.9
255	594964.8	3368393.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
256	595560.6	3368414.8	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	140.0	-.9	-.9	-.9	2.0	-.9	32.0	-.9	-.9
257	596143.4	3368614.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
258	596729.6	3368615.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
259	597315.6	3368626.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	43.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
260	597921.0	3368667.4	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
261	587496.4	3367622.0	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
262	589174.9	3367661.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	1.5	-.9	27.0	-.9	-.9
263	589801.0	3367654.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
264	590367.2	3367664.4	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
265	590933.4	3367674.6	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
266	592083.9	3367794.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	85.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
267	592362.5	3367775.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	80.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
268	592660.2	3367795.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	195.0	-.9	-.9	-.9	3.5	-.9	32.0	-.9	-.9
269	592810.3	3368131.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	26.0	-.9	20.0	-.9	-.9
270	593167.9	3368153.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	168.0	-.9	-.9	-.9	2.0	-.9	70.0	-.9	-.9
271	593214.7	3367904.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	100.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
273	593791.0	3367905.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
274	594113.3	3368114.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	92.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
275	594780.2	3368076.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	2.5	-.9	17.0	-.9	-.9
276	594387.2	3367906.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
277	594943.6	3367906.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
278	595569.4	3367918.8	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	61.0	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9
279	596155.3	3367939.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	90.0	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
280	596760.5	3367990.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	2.5	-.9	30.0	-.9	-.9
281	597348.0	3367922.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	35.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
282	597943.9	3367933.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
283	581635.9	3366947.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	104.0	-.9	-.9	-.9	1.0	-.9	15.0	-.9	-.9
284	582897.5	3366962.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	82.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
285	584030.1	3366972.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
286	585212.3	3366984.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
287	586295.4	3366983.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
288	587467.2	3367025.3	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	1.5	-.9	17.0	-.9	-.9
289	587484.6	3366599.1	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	1.5	-.9	5.0	-.9	-.9
290	588678.8	3367058.5	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
291	589235.3	3367058.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	39.0	-.9	-.9	-.9	2.5	-.9	27.0	-.9	-.9
292	589792.0	3367038.5	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	3.5	-.9	25.0	-.9	-.9
293	589819.3	3366622.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
294	590417.6	3367060.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	35.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
295	590706.0	3367051.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9
296	590377.8	3366503.4	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	1.5	-.9	-.9	-.9	-.9
297	590963.8	3367080.1	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
248	-.9	-.9	-.9	90.00	-.9
249	-.9	-.9	-.9	75.00	-.9
250	-.9	-.9	-.9	100.00	-.9
251	-.9	-.9	-.9	85.00	-.9
252	-.9	-.9	-.9	90.00	-.9
253	-.9	-.9	-.9	75.00	-.9
254	-.9	-.9	-.9	30.00	-.9
255	-.9	-.9	-.9	75.00	-.9
256	-.9	-.9	-.9	110.00	-.9
257	-.9	-.9	-.9	85.00	-.9
258	-.9	-.9	-.9	80.00	-.9
259	-.9	-.9	-.9	1.50	-.9
260	-.9	-.9	-.9	85.00	-.9
261	-.9	-.9	-.9	-.90	-.9
262	-.9	-.9	-.9	70.00	-.9
263	-.9	-.9	-.9	80.00	-.9
264	-.9	-.9	-.9	1.50	-.9
265	-.9	-.9	-.9	75.00	-.9
266	-.9	-.9	-.9	75.00	-.9
267	-.9	-.9	-.9	80.00	-.9
268	-.9	-.9	-.9	75.00	-.9
269	-.9	-.9	-.9	250.00	-.9
270	-.9	-.9	-.9	135.00	-.9
271	-.9	-.9	-.9	50.00	-.9
273	-.9	-.9	-.9	70.00	-.9
274	-.9	-.9	-.9	10.00	-.9
275	-.9	-.9	-.9	75.00	-.9
276	-.9	-.9	-.9	70.00	-.9
277	-.9	-.9	-.9	90.00	-.9
278	-.9	-.9	-.9	115.00	-.9
279	-.9	-.9	-.9	90.00	-.9
280	-.9	-.9	-.9	9.00	-.9
281	-.9	-.9	-.9	115.00	-.9
282	-.9	-.9	-.9	110.00	-.9
283	-.9	-.9	-.9	100.00	-.9
284	-.9	-.9	-.9	90.00	-.9
285	-.9	-.9	-.9	120.00	-.9
286	-.9	-.9	-.9	60.00	-.9
287	-.9	-.9	-.9	90.00	-.9
288	-.9	-.9	-.9	100.00	-.9
289	-.9	-.9	-.9	-.90	-.9
290	-.9	-.9	-.9	-.90	-.9
291	-.9	-.9	-.9	90.00	-.9
292	-.9	-.9	-.9	8.50	-.9
293	-.9	-.9	-.9	140.00	-.9
294	-.9	-.9	-.9	95.00	-.9
295	-.9	-.9	-.9	80.00	-.9
296	-.9	-.9	-.9	85.00	-.9
297	-.9	-.9	-.9	85.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
298	591241.9	3367090.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
299	591238.1	3366742.4	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
300	590955.2	3366444.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
301	591579.3	3367111.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
302	591838.0	3367091.3	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
303	591833.5	3366783.4	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.9
304	592066.2	3367109.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	160.0	-.9	-.9	-.9	12.0	-.9	27.0	-.9	-.9
305	592359.2	3367397.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	190.0	-.9	-.9	-.9	2.0	-.9	32.0	-.9	-.9
306	592373.7	3367140.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	90.0	-.9	-.9	-.9	8.0	-.9	25.0	-.9	-.9
307	592359.5	3366822.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	10.0	-.9	30.0	-.9	-.9
308	592657.4	3366832.6	20	4.00	-.9	-.9	-.9	-.9	-.9	-.9	80.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
309	592949.8	3367150.7	20	3.50	-.9	-.9	-.9	-.9	-.9	-.9	215.0	-.9	-.9	-.9	7.0	-.9	27.0	-.9	-.9
310	593213.6	3366842.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	78.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
311	593208.5	3367130.1	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	145.0	-.9	-.9	-.9	5.0	-.9	30.0	-.9	-.9
312	593212.2	3367487.6	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	210.0	-.9	-.9	-.9	3.5	-.9	50.0	-.9	-.9
313	593565.7	3367162.6	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	185.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
314	593837.9	3367499.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	150.0	-.9	-.9	-.9	1.0	-.9	32.0	-.9	-.9
315	593863.4	3367183.2	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	210.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
316	593808.3	3366835.5	20	5.00	-.9	-.9	-.9	-.9	-.9	-.9	100.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
317	594151.9	3367163.6	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	248.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
318	594365.0	3366843.7	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	64.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
319	594400.2	3367172.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	100.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
321	594687.6	3367212.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	120.0	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
323	594976.1	3367192.9	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	65.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
324	595264.6	3367173.4	20	3.20	-.9	-.9	-.9	-.9	-.9	-.9	260.0	-.9	-.9	-.9	3.0	-.9	27.0	-.9	-.9
325	595536.5	3367530.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	6.5	-.9	25.0	-.9	-.9
326	595582.6	3367174.8	20	2.70	-.9	-.9	-.9	-.9	-.9	-.9	100.0	-.9	-.9	-.9	2.0	-.9	40.0	-.9	-.9
327	595549.2	3366816.2	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	47.0	-.9	-.9	-.9	2.5	-.9	30.0	-.9	-.9
328	596168.4	3367195.6	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
329	596476.1	3367216.4	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
330	596754.5	3367206.5	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
331	597091.9	3367228.4	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	63.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
332	597369.6	3367258.1	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.5	-.9	28.0	-.9	-.9
333	597648.2	3367238.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	39.0	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
334	597965.8	3367259.5	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	1.2	-.9	22.0	-.9	-.9
335	598233.9	3367269.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
336	598551.9	3367270.4	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	49.0	-.9	-.9	-.9	4.5	-.9	22.0	-.9	-.9
337	598860.0	3367261.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
338	599128.2	3367271.0	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
339	600310.0	3367303.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
340	601522.0	3367316.3	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
341	591520.7	3366494.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
342	592087.2	3366484.7	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	120.0	-.9	-.9	-.9	6.0	-.9	30.0	-.9	-.9
343	592682.0	3366565.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	160.0	-.9	-.9	-.9	15.0	-.9	22.0	-.9	-.9
344	592960.2	3366565.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	100.0	-.9	-.9	-.9	6.0	-.9	25.0	-.9	-.9
345	593564.2	3366686.1	20	3.20	-.9	-.9	-.9	-.9	-.9	-.9	305.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
346	594130.4	3366696.3	20	3.70	-.9	-.9	-.9	-.9	-.9	-.9	300.0	-.9	-.9	-.9	2.5	-.9	75.0	-.9	-.9
347	594717.5	3366647.7	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	120.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
348	595333.0	3366579.5	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
298	-.9	-.9	-.9	90.00	-.9
299	-.9	-.9	-.9	-.90	-.9
300	-.9	-.9	-.9	100.00	-.9
301	-.9	-.9	-.9	80.00	-.9
302	-.9	-.9	-.9	85.00	-.9
303	-.9	-.9	-.9	70.00	-.9
304	-.9	-.9	-.9	115.00	-.9
305	-.9	-.9	-.9	100.00	-.9
306	-.9	-.9	-.9	110.00	-.9
307	-.9	-.9	-.9	100.00	-.9
308	-.9	-.9	-.9	140.00	-.9
309	-.9	-.9	-.9	115.00	-.9
310	-.9	-.9	-.9	100.00	-.9
311	-.9	-.9	-.9	100.00	-.9
312	-.9	-.9	-.9	110.00	-.9
313	-.9	-.9	-.9	115.00	-.9
314	-.9	-.9	-.9	-.90	-.9
315	-.9	-.9	-.9	65.00	-.9
316	-.9	-.9	-.9	90.00	-.9
317	-.9	-.9	-.9	50.00	-.9
318	-.9	-.9	-.9	-.90	-.9
319	-.9	-.9	-.9	70.00	-.9
321	-.9	-.9	-.9	95.00	-.9
323	-.9	-.9	-.9	90.00	-.9
324	-.9	-.9	-.9	135.00	-.9
325	-.9	-.9	-.9	135.00	-.9
326	-.9	-.9	-.9	130.00	-.9
327	-.9	-.9	-.9	-.90	-.9
328	-.9	-.9	-.9	105.00	-.9
329	-.9	-.9	-.9	95.00	-.9
330	-.9	-.9	-.9	90.00	-.9
331	-.9	-.9	-.9	90.00	-.9
332	-.9	-.9	-.9	155.00	-.9
333	-.9	-.9	-.9	130.00	-.9
334	-.9	-.9	-.9	120.00	-.9
335	-.9	-.9	-.9	125.00	-.9
336	-.9	-.9	-.9	120.00	-.9
337	-.9	-.9	-.9	105.00	-.9
338	-.9	-.9	-.9	155.00	-.9
339	-.9	-.9	-.9	70.00	-.9
340	-.9	-.9	-.9	90.00	-.9
341	-.9	-.9	-.9	80.00	-.9
342	-.9	-.9	-.9	115.00	-.9
343	-.9	-.9	-.9	252.00	-.9
344	-.9	-.9	-.9	80.00	-.9
345	-.9	-.9	-.9	90.00	-.9
346	-.9	-.9	-.9	80.00	-.9
347	-.9	-.9	-.9	95.00	-.9
348	-.9	-.9	-.9	60.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
349	596196.2	3366749.9	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
350	596881.6	3366764.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	2.5	-.9	32.0	-.9	-.9
351	597348.3	3366780.9	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
352	597964.8	3366753.2	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
353	587512.9	3366123.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
354	588694.8	3366155.7	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
355	589777.2	3366194.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	1.0	-.9	20.0	-.9	-.9
356	590938.5	3366265.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
357	591146.8	3366282.6	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	4.0	-.9	20.0	-.9	-.9
358	591624.5	3366240.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	64.0	-.9	-.9	-.9	7.0	-.9	-.9	-.9	-.9
359	592111.1	3366257.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	8.0	-.9	30.0	-.9	-.9
360	592766.7	3366270.6	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	108.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
361	593472.1	3366275.9	20	3.50	-.9	-.9	-.9	-.9	-.9	-.9	340.0	-.9	-.9	-.9	5.0	-.9	90.0	-.9	-.9
362	594087.4	3366317.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	97.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
363	594702.9	3366349.4	20	3.50	-.9	-.9	-.9	-.9	-.9	-.9	154.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
364	595248.5	3366398.5	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	116.0	-.9	-.9	-.9	2.0	-.9	28.0	-.9	-.9
365	595794.8	3366408.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	90.0	-.9	-.9	-.9	4.0	-.9	30.0	-.9	-.9
366	581622.8	3365437.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
367	582904.2	3365463.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
368	584036.9	3365464.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	76.0	-.9	-.9	-.9	3.0	-.9	35.0	-.9	-.9
369	585228.9	3365486.6	20	4.00	-.9	-.9	-.9	-.9	-.9	-.9	300.0	-.9	-.9	-.9	3.0	-.9	35.0	-.9	-.9
370	586310.2	3365584.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	22.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
371	587523.1	3365548.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	23.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
372	588685.6	3365549.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	3.0	-.9	23.0	-.9	-.9
373	589798.2	3365569.6	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
374	590959.5	3365640.6	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
375	591530.7	3365928.9	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.9
376	591808.2	3365968.6	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	64.0	-.9	-.9	-.9	4.0	-.9	-.9	-.9	-.9
377	592106.8	3365939.5	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	65.0	-.9	-.9	-.9	25.0	-.9	-.9	-.9	-.9
378	592132.1	3365632.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
379	592693.0	3365940.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	89.0	-.9	-.9	-.9	10.0	-.9	25.0	-.9	-.9
380	593267.0	3366070.0	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	80.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
381	592986.3	3365653.1	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	360.0	-.9	-.9	-.9	5.0	-.9	35.0	-.9	-.9
382	593562.4	3365663.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	87.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
383	593803.8	3366059.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
384	594119.0	3365653.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	78.0	-.9	-.9	-.9	2.0	-.9	15.0	-.9	-.9
385	594714.6	3365684.7	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	80.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
386	594399.8	3366070.6	20	2.70	-.9	-.9	-.9	-.9	-.9	-.9	155.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
387	594965.8	3366090.7	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	128.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
388	595350.2	3365707.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
389	595571.2	3366132.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
390	595852.6	3365969.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	5.0	-.9	28.0	-.9	-.9
391	596343.1	3366127.6	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	2.5	-.9	27.0	-.9	-.9
392	597359.7	3366136.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	4.5	-.9	39.0	-.9	-.9
393	597936.2	3366126.8	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	23.0	-.9	-.9	-.9	65.0	-.9	22.0	-.9	-.9
394	599124.7	3365781.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
395	600297.8	3365744.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
396	601499.2	3365796.8	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
397	602700.8	3365839.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
349	-.9	-.9	-.9	-.90	-.9
350	-.9	-.9	-.9	90.00	-.9
351	-.9	-.9	-.9	90.00	-.9
352	-.9	-.9	-.9	125.00	-.9
353	-.9	-.9	-.9	225.00	-.9
354	-.9	-.9	-.9	8.50	-.9
355	-.9	-.9	-.9	85.00	-.9
356	-.9	-.9	-.9	80.00	-.9
357	-.9	-.9	-.9	20.00	-.9
358	-.9	-.9	-.9	-.90	-.9
359	-.9	-.9	-.9	90.00	-.9
360	-.9	-.9	-.9	70.00	-.9
361	-.9	-.9	-.9	55.00	-.9
362	-.9	-.9	-.9	190.00	-.9
363	-.9	-.9	-.9	100.00	-.9
364	-.9	-.9	-.9	70.00	-.9
365	-.9	-.9	-.9	80.00	-.9
366	-.9	-.9	-.9	80.00	-.9
367	-.9	-.9	-.9	60.00	-.9
368	-.9	-.9	-.9	140.00	-.9
369	-.9	-.9	-.9	230.00	-.9
370	-.9	-.9	-.9	110.00	-.9
371	-.9	-.9	-.9	110.00	-.9
372	-.9	-.9	-.9	120.00	-.9
373	-.9	-.9	-.9	85.00	-.9
374	-.9	-.9	-.9	100.00	-.9
375	-.9	-.9	-.9	50.00	-.9
376	-.9	-.9	-.9	80.00	-.9
377	-.9	-.9	-.9	105.00	-.9
378	-.9	-.9	-.9	130.00	-.9
379	-.9	-.9	-.9	60.00	-.9
380	-.9	-.9	-.9	80.00	-.9
381	-.9	-.9	-.9	220.00	-.9
382	-.9	-.9	-.9	95.00	-.9
383	-.9	-.9	-.9	70.00	-.9
384	-.9	-.9	-.9	85.00	-.9
385	-.9	-.9	-.9	90.00	-.9
386	-.9	-.9	-.9	95.00	-.9
387	-.9	-.9	-.9	80.00	-.9
388	-.9	-.9	-.9	70.00	-.9
389	-.9	-.9	-.9	95.00	-.9
390	-.9	-.9	-.9	125.00	-.9
391	-.9	-.9	-.9	90.00	-.9
392	-.9	-.9	-.9	135.00	-.9
393	-.9	-.9	-.9	65.00	-.9
394	-.9	-.9	-.9	90.00	-.9
395	-.9	-.9	-.9	90.00	-.9
396	-.9	-.9	-.9	60.00	-.9
397	-.9	-.9	-.9	90.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
398	603892.6	3365871.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
399	586330.5	3364999.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	35.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
400	587502.1	3365051.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
401	588693.9	3365083.6	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	6.5	-.9	24.0	-.9	-.9
402	589796.3	3365112.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	47.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
403	590948.5	3365134.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	1.0	-.9	17.0	-.9	-.9
404	591485.3	3365123.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
405	591788.4	3365402.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
406	591773.3	3365133.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	43.0	-.9	-.9	-.9	1.0	-.9	17.0	-.9	-.9
407	592100.8	3365155.1	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	76.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
408	592077.8	3365332.9	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	100.0	-.9	-.9	-.9	3.5	-.9	20.0	-.9	-.9
409	592438.6	3365157.1	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	43.0	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
410	596853.1	3365562.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	3.5	-.9	22.0	-.9	-.9
412	592953.7	3365244.9	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	2.0	-.9	17.0	-.9	-.9
413	593599.0	3365277.8	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	84.0	-.9	-.9	-.9	4.5	-.9	22.0	-.9	-.9
414	593834.2	3365464.8	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	65.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
415	594166.1	3365238.4	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	102.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
416	594370.6	3365474.0	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	90.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
417	594742.2	3365248.9	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
418	594956.5	3365494.8	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	100.0	-.9	-.9	-.9	1.5	-.9	27.0	-.9	-.9
419	595318.5	3365249.6	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	33.0	-.9	-.9	-.9	2.5	-.9	22.0	-.9	-.9
420	595964.5	3365242.7	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	86.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
421	596108.9	3365506.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	4.5	-.9	37.0	-.9	-.9
422	597379.4	3365580.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
423	597955.7	3365581.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	4.0	-.9	20.0	-.9	-.9
424	586350.8	3364414.7	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	19.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
425	587512.6	3364456.0	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9
426	588695.2	3364448.4	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
427	589807.7	3364468.1	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	86.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
428	591569.5	3364858.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9
429	592085.8	3364876.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	4.0	-.9	17.0	-.9	-.9
430	592751.7	3364870.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	2.5	-.9	40.0	-.9	-.9
431	593374.7	3364860.7	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	3.0	-.9	26.0	-.9	-.9
432	594411.4	3364850.0	20	2.70	-.9	-.9	-.9	-.9	-.9	-.9	115.0	-.9	-.9	-.9	1.5	-.9	17.0	-.9	-.9
433	595047.0	3364872.6	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	3.0	-.9	50.0	-.9	-.9
434	595573.6	3364871.5	20	3.50	-.9	-.9	-.9	-.9	-.9	-.9	150.0	-.9	-.9	-.9	5.0	-.9	55.0	-.9	-.9
435	596209.5	3364874.2	20	4.00	-.9	-.9	-.9	-.9	-.9	-.9	103.0	-.9	-.9	-.9	4.0	-.9	60.0	-.9	-.9
436	596854.3	3364936.8	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	35.0	-.9	-.9	-.9	2.5	-.9	20.0	-.9	-.9
437	597390.8	3364936.1	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	39.0	-.9	-.9	-.9	2.5	-.9	25.0	-.9	-.9
438	597917.7	3364925.0	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	2.5	-.9	17.0	-.9	-.9
439	592080.5	3364618.3	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	43.0	-.9	-.9	-.9	2.0	-.9	12.0	-.9	-.9
440	581626.6	3364097.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
441	582947.5	3364134.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
442	584040.6	3364134.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
443	585211.8	3364205.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	3.0	-.9	40.0	-.9	-.9
444	586331.3	3363828.3	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	16.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
445	587502.4	3363909.7	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
446	588694.7	3363912.3	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
447	589549.1	3363922.8	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
398	-.9	-.9	-.9	110.00	-.9
399	-.9	-.9	-.9	105.00	-.9
400	-.9	-.9	-.9	-.90	-.9
401	-.9	-.9	-.9	160.00	-.9
402	-.9	-.9	-.9	90.00	-.9
403	-.9	-.9	-.9	80.00	-.9
404	-.9	-.9	-.9	40.00	-.9
405	-.9	-.9	-.9	100.00	-.9
406	-.9	-.9	-.9	100.00	-.9
407	-.9	-.9	-.9	120.00	-.9
408	-.9	-.9	-.9	-.90	-.9
409	-.9	-.9	-.9	-.90	-.9
410	-.9	-.9	-.9	95.00	-.9
412	-.9	-.9	-.9	110.00	-.9
413	-.9	-.9	-.9	105.00	-.9
414	-.9	-.9	-.9	65.00	-.9
415	-.9	-.9	-.9	90.00	-.9
416	-.9	-.9	-.9	-.90	-.9
417	-.9	-.9	-.9	90.00	-.9
418	-.9	-.9	-.9	120.00	-.9
419	-.9	-.9	-.9	85.00	-.9
420	-.9	-.9	-.9	150.00	-.9
421	-.9	-.9	-.9	140.00	-.9
422	-.9	-.9	-.9	95.00	-.9
423	-.9	-.9	-.9	70.00	-.9
424	-.9	-.9	-.9	110.00	-.9
425	-.9	-.9	-.9	106.00	-.9
426	-.9	-.9	-.9	90.00	-.9
427	-.9	-.9	-.9	90.00	-.9
428	-.9	-.9	-.9	80.00	-.9
429	-.9	-.9	-.9	95.00	-.9
430	-.9	-.9	-.9	115.00	-.9
431	-.9	-.9	-.9	15.00	-.9
432	-.9	-.9	-.9	65.00	-.9
433	-.9	-.9	-.9	90.00	-.9
434	-.9	-.9	-.9	160.00	-.9
435	-.9	-.9	-.9	150.00	-.9
436	-.9	-.9	-.9	85.00	-.9
437	-.9	-.9	-.9	90.00	-.9
438	-.9	-.9	-.9	115.00	-.9
439	-.9	-.9	-.9	90.00	-.9
440	-.9	-.9	-.9	110.00	-.9
441	-.9	-.9	-.9	100.00	-.9
442	-.9	-.9	-.9	135.00	-.9
443	-.9	-.9	-.9	140.00	-.9
444	-.9	-.9	-.9	140.00	-.9
445	-.9	-.9	-.9	130.00	-.9
446	-.9	-.9	-.9	115.00	-.9
447	-.9	-.9	-.9	-.90	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971

* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
448	589833.7	3364121.5	20	1.20	-.9	-.9	-.9	-.9	-.9	-.9	63.0	-.9	-.9	-.9	2.5	-.9	-.9	-.9	-.9
449	589817.2	3363932.4	20	2.70	-.9	-.9	-.9	-.9	-.9	-.9	285.0	-.9	-.9	-.9	6.0	-.9	30.0	-.9	-.9
450	590979.5	3363943.9	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	94.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
451	592115.5	3364321.8	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.9
452	592092.2	3363953.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
453	593247.6	3364362.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	58.0	-.9	-.9	-.9	2.0	-.9	53.0	-.9	-.9
454	594370.6	3364352.3	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	110.0	-.9	-.9	-.9	4.0	-.9	35.0	-.9	-.9
456	595572.6	3364365.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	1.0	-.9	25.0	-.9	-.9
457	596853.6	3364410.7	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	152.0	-.9	-.9	-.9	6.0	-.9	33.0	-.9	-.9
458	597976.8	3364391.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	1.0	-.9	20.0	-.9	-.9
459	599159.0	3364403.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	22.0	-.9	-.9	-.9	2.0	-.9	15.0	-.9	-.9
460	600340.7	3364445.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
461	601473.6	3364435.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
462	602754.2	3364501.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	2.0	-.9	18.0	-.9	-.9
463	603917.1	3364483.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
464	586331.6	3363252.6	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
465	587493.4	3363293.9	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
466	588676.0	3363286.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
467	589817.8	3363336.8	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
468	589821.9	3363664.5	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
469	590940.2	3363356.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.5	-.9	27.0	-.9	-.9
470	581653.8	3362560.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
471	582935.7	3362556.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	2.0	-.9	50.0	-.9	-.9
472	584057.6	3362606.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
473	585220.2	3362607.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	2.0	-.9	35.0	-.9	-.9
474	586322.2	3362656.7	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	2.5	-.9	30.0	-.9	-.9
475	587524.0	3362689.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	2.5	-.9	15.0	-.9	-.9
476	588696.8	3362671.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	1.0	-.9	25.0	-.9	-.9
477	589828.6	3362721.7	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	96.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
478	590941.7	3362711.6	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	3.5	-.9	20.0	-.9	-.9
479	592083.5	3362762.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
480	593236.1	3362763.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	64.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
481	594377.5	3362833.7	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
482	595559.6	3362855.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
483	596751.4	3362888.3	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
484	597923.1	3362930.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
485	586332.8	3362061.5	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	2.0	-.9	27.0	-.9	-.9
486	587485.9	3362033.0	20	2.70	-.9	-.9	-.9	-.9	-.9	-.9	65.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
487	588666.9	3362114.6	20	4.50	-.9	-.9	-.9	-.9	-.9	-.9	144.0	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9
488	589829.1	3362136.1	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	65.0	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9
489	590961.1	3362176.3	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	4.5	-.9	32.0	-.9	-.9
490	581648.4	3361180.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	45.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
491	582978.9	3361237.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	78.0	-.9	-.9	-.9	6.0	-.9	35.0	-.9	-.9
492	584072.5	3361206.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	66.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
493	585243.9	3361268.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
494	587515.8	3361468.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	89.0	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
495	588667.0	3361548.8	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
496	589319.9	3361530.2	20	2.20	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.5	-.9	25.0	-.9	-.9
497	590951.8	3361580.4	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	1.3	-.9	30.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
448	-.9	-.9	-.9	-.90	-.9
449	-.9	-.9	-.9	100.00	-.9
450	-.9	-.9	-.9	160.00	-.9
451	-.9	-.9	-.9	120.00	-.9
452	-.9	-.9	-.9	55.00	-.9
453	-.9	-.9	-.9	80.00	-.9
454	-.9	-.9	-.9	140.00	-.9
456	-.9	-.9	-.9	100.00	-.9
457	-.9	-.9	-.9	95.00	-.9
458	-.9	-.9	-.9	100.00	-.9
459	-.9	-.9	-.9	90.00	-.9
460	-.9	-.9	-.9	80.00	-.9
461	-.9	-.9	-.9	130.00	-.9
462	-.9	-.9	-.9	70.00	-.9
463	-.9	-.9	-.9	85.00	-.9
464	-.9	-.9	-.9	110.00	-.9
465	-.9	-.9	-.9	125.00	-.9
466	-.9	-.9	-.9	105.00	-.9
467	-.9	-.9	-.9	-.90	-.9
468	-.9	-.9	-.9	120.00	-.9
469	-.9	-.9	-.9	-.90	-.9
470	-.9	-.9	-.9	200.00	-.9
471	-.9	-.9	-.9	110.00	-.9
472	-.9	-.9	-.9	140.00	-.9
473	-.9	-.9	-.9	160.00	-.9
474	-.9	-.9	-.9	120.00	-.9
475	-.9	-.9	-.9	120.00	-.9
476	-.9	-.9	-.9	160.00	-.9
477	-.9	-.9	-.9	130.00	-.9
478	-.9	-.9	-.9	85.00	-.9
479	-.9	-.9	-.9	85.00	-.9
480	-.9	-.9	-.9	130.00	-.9
481	-.9	-.9	-.9	95.00	-.9
482	-.9	-.9	-.9	100.00	-.9
483	-.9	-.9	-.9	70.00	-.9
484	-.9	-.9	-.9	80.00	-.9
485	-.9	-.9	-.9	120.00	-.9
486	-.9	-.9	-.9	145.00	-.9
487	-.9	-.9	-.9	110.00	-.9
488	-.9	-.9	-.9	85.00	-.9
489	-.9	-.9	-.9	130.00	-.9
490	-.9	-.9	-.9	75.00	-.9
491	-.9	-.9	-.9	100.00	-.9
492	-.9	-.9	-.9	160.00	-.9
493	-.9	-.9	-.9	110.00	-.9
494	-.9	-.9	-.9	140.00	-.9
495	-.9	-.9	-.9	110.00	-.9
496	-.9	-.9	-.9	85.00	-.9
497	-.9	-.9	-.9	-.90	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971

* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
498	592127.6	3361393.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	55.0	-.9	-.9
499	593231.2	3361353.7	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
500	594383.1	3361394.6	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	66.0	-.9	-.9	-.9	1.0	-.9	20.0	-.9	-.9
501	595574.6	3361446.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
502	596915.5	3361474.7	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
503	581684.9	3359682.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	29.0	-.9	-.9	-.9	4.0	-.9	30.0	-.9	-.9
504	583005.6	3359729.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	7.0	-.9	30.0	-.9	-.9
505	584088.3	3359748.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
506	585270.4	3359770.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	54.0	-.9	-.9	-.9	10.0	-.9	30.0	-.9	-.9
507	586383.4	3359760.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
508	587535.7	3359781.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	105.0	-.9	-.9	-.9	3.0	-.9	80.0	-.9	-.9
509	588707.2	3359833.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	88.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
510	589243.7	3359842.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	86.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
511	589820.1	3359832.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
512	590972.0	3359873.7	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	4.0	-.9	30.0	-.9	-.9
513	592104.1	3359914.0	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	4.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
514	593286.6	3359906.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
515	594408.4	3359966.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	5.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
516	595611.0	3359949.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
517	596723.9	3359949.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
518	597925.4	3359991.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
519	582962.7	3358219.2	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	54.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
520	584075.1	3358248.8	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	75.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
521	585286.6	3358291.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
522	586340.4	3358259.9	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
523	587552.1	3358293.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	58.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
524	588704.1	3358324.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
525	589816.7	3358343.7	20	3.50	-.9	-.9	-.9	-.9	-.9	-.9	70.0	-.9	-.9	-.9	5.0	-.9	23.0	-.9	-.9
526	590969.6	3358325.1	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	3.0	-.9	35.0	-.9	-.9
527	592061.4	3358393.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
528	593243.8	3358396.0	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	58.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
529	594415.4	3358447.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
530	595607.3	3358470.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
531	596878.4	3358515.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
532	586373.3	3361457.4	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	43.0	-.9	-.9	-.9	3.5	-.9	27.0	-.9	-.9
533	595453.3	3365492.6	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	-.9	-.9	20.0	-.9	-.9
534	603886.3	3367350.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	18.0	-.9	-.9	-.9	-.9	-.9	25.0	-.9	-.9
535	588678.6	3367634.2	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	27.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
600	595541.0	3371769.3	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	400.0	-.9	-.9	-.9	16.0	-.9	40.0	-.9	-.9
601	592630.7	3368340.5	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	140.0	-.9	-.9	-.9	1.5	-.9	22.0	-.9	-.9
602	591558.3	3367736.5	20	1.70	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	1.5	-.9	25.0	-.9	-.9
H001	573961.1	3371657.5	10	-.90	70.0	1500.0	1.0	.7	15.0	300.0	70.0	5.0	1.5	700.0	-.9	70.0	15.0	20.0	100.0
H002	574279.8	3371619.2	10	-.90	70.0	1000.0	1.0	.3	15.0	200.0	70.0	5.0	1.0	500.0	-.9	100.0	15.0	15.0	150.0
H003	575829.2	3367723.5	10	.50	100.0	1500.0	1.0	.5	15.0	200.0	70.0	7.0	1.5	700.0	-.9	70.0	20.0	15.0	150.0
H004	576172.8	3373016.7	10	-.90	50.0	1000.0	-.9	1.5	10.0	70.0	50.0	3.0	.7	700.0	-.9	30.0	15.0	15.0	70.0
H005	578236.0	3365913.1	10	-.90	70.0	1500.0	1.0	.7	15.0	300.0	70.0	5.0	1.5	500.0	-.9	70.0	15.0	20.0	100.0
5415	581925.8	3379206.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	31.0	-.9	-.9	-.9	1.5	-.9	15.0	-.9	-.9
5906	592419.1	3381426.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	1.0	-.9	20.0	-.9	-.9
6181	596038.7	3380710.9	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	28.0	-.9	-.9	-.9	2.0	-.9	22.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
498	-.9	-.9	-.9	130.00	-.9
499	-.9	-.9	-.9	120.00	-.9
500	-.9	-.9	-.9	120.00	-.9
501	-.9	-.9	-.9	9.00	-.9
502	-.9	-.9	-.9	55.00	-.9
503	-.9	-.9	-.9	80.00	-.9
504	-.9	-.9	-.9	130.00	-.9
505	-.9	-.9	-.9	110.00	-.9
506	-.9	-.9	-.9	130.00	-.9
507	-.9	-.9	-.9	100.00	-.9
508	-.9	-.9	-.9	115.00	-.9
509	-.9	-.9	-.9	100.00	-.9
510	-.9	-.9	-.9	110.00	-.9
511	-.9	-.9	-.9	120.00	-.9
512	-.9	-.9	-.9	100.00	-.9
513	-.9	-.9	-.9	120.00	-.9
514	-.9	-.9	-.9	60.00	-.9
515	-.9	-.9	-.9	70.00	-.9
516	-.9	-.9	-.9	80.00	-.9
517	-.9	-.9	-.9	65.00	-.9
518	-.9	-.9	-.9	120.00	-.9
519	-.9	-.9	-.9	-.90	-.9
520	-.9	-.9	-.9	-.90	-.9
521	-.9	-.9	-.9	80.00	-.9
522	-.9	-.9	-.9	110.00	-.9
523	-.9	-.9	-.9	100.00	-.9
524	-.9	-.9	-.9	100.00	-.9
525	-.9	-.9	-.9	300.00	-.9
526	-.9	-.9	-.9	100.00	-.9
527	-.9	-.9	-.9	90.00	-.9
528	-.9	-.9	-.9	105.00	-.9
529	-.9	-.9	-.9	100.00	-.9
530	-.9	-.9	-.9	100.00	-.9
531	-.9	-.9	-.9	110.00	-.9
532	-.9	-.9	-.9	130.00	-.9
533	-.9	-.9	-.9	90.00	-.9
534	-.9	-.9	-.9	-.90	-.9
535	-.9	-.9	-.9	40.00	-.9
600	-.9	-.9	-.9	280.00	-.9
601	-.9	-.9	-.9	70.00	-.9
602	-.9	-.9	-.9	100.00	-.9
H001	.5	150.0	20.0	-.90	150.0
H002	.5	150.0	15.0	-.90	100.0
H003	.5	100.0	20.0	-.90	150.0
H004	.5	70.0	15.0	-.90	150.0
H005	.5	150.0	20.0	-.90	150.0
5415	-.9	-.9	-.9	100.00	-.9
5906	-.9	-.9	-.9	90.00	-.9
6181	-.9	-.9	-.9	125.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
6182	596799.4	3379834.6	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
6277	605098.3	3372982.4	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	58.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6367	573375.5	3372182.7	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	20.0	-.9	20.0	-.9	-.9
6368	573625.4	3371536.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	1.5	-.9	20.0	-.9	-.9
6369	573866.7	3370820.4	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
6370	574255.9	3370159.2	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	54.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6371	574332.7	3369189.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	1.0	-.9	15.0	-.9	-.9
6372	574973.8	3368894.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	58.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6373	575081.7	3368411.7	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	3.0	-.9	23.0	-.9	-.9
6374	575396.3	3367479.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6375	575750.5	3367115.2	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	41.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6411	575879.4	3366573.8	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	37.0	-.9	-.9	-.9	2.0	-.9	28.0	-.9	-.9
6412	576683.0	3366642.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	47.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
6413	577682.9	3366290.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
6414	577841.8	3365730.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	51.0	-.9	-.9	-.9	4.0	-.9	20.0	-.9	-.9
6415	577875.4	3364957.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	55.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6416	577889.7	3364143.8	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6417	577962.3	3363411.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6418	578097.0	3363098.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	43.0	-.9	-.9	-.9	2.0	-.9	35.0	-.9	-.9
6419	578268.2	3362410.2	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	28.0	-.9	-.9
6420	578392.3	3361570.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
6421	578646.3	3360696.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
6422	579291.3	3360183.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6423	579363.5	3359471.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6424	579583.3	3358843.6	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6425	579763.3	3358214.7	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	50.0	-.9	-.9	-.9	20.0	-.9	25.0	-.9	-.9
6426	579747.0	3357449.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	40.0	-.9	-.9	-.9	20.0	-.9	25.0	-.9	-.9
6427	580257.7	3356663.9	20	3.00	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	3.5	-.9	30.0	-.9	-.9
6428	580319.1	3356001.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
6429	580967.7	3355289.5	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6500	572083.4	3358160.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	55.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
6501	572338.5	3357782.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6502	572555.3	3357323.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	58.0	-.9	-.9	-.9	2.0	-.9	23.0	-.9	-.9
6503	572623.1	3356859.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	3.0	-.9	23.0	-.9	-.9
6504	572820.4	3356379.8	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	49.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
6506	572964.7	3356087.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
6507	573121.0	3355675.7	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
6508	573275.4	3355373.5	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
6539	577333.2	3368084.7	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
6541	578762.2	3368185.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	66.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6542	580032.9	3368250.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	52.0	-.9	-.9	-.9	2.0	-.9	-.9	-.9	-.9
6543	580817.6	3368268.1	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6544	581571.2	3368354.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9
6567	580989.9	3354029.6	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	46.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6568	580274.2	3353488.0	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	4.0	-.9	30.0	-.9	-.9
6569	580370.4	3352538.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6570	580622.9	3351187.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6571	581024.4	3350397.7	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	32.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
6572	580879.2	3349052.5	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	30.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
6182	-.9	-.9	-.9	155.00	-.9
6277	-.9	-.9	-.9	120.00	-.9
6367	-.9	-.9	-.9	100.00	-.9
6368	-.9	-.9	-.9	110.00	-.9
6369	-.9	-.9	-.9	100.00	-.9
6370	-.9	-.9	-.9	80.00	-.9
6371	-.9	-.9	-.9	100.00	-.9
6372	-.9	-.9	-.9	95.00	-.9
6373	-.9	-.9	-.9	100.00	-.9
6374	-.9	-.9	-.9	105.00	-.9
6375	-.9	-.9	-.9	80.00	-.9
6411	-.9	-.9	-.9	120.00	-.9
6412	-.9	-.9	-.9	90.00	-.9
6413	-.9	-.9	-.9	105.00	-.9
6414	-.9	-.9	-.9	105.00	-.9
6415	-.9	-.9	-.9	130.00	-.9
6416	-.9	-.9	-.9	90.00	-.9
6417	-.9	-.9	-.9	110.00	-.9
6418	-.9	-.9	-.9	85.00	-.9
6419	-.9	-.9	-.9	90.00	-.9
6420	-.9	-.9	-.9	90.00	-.9
6421	-.9	-.9	-.9	100.00	-.9
6422	-.9	-.9	-.9	70.00	-.9
6423	-.9	-.9	-.9	90.00	-.9
6424	-.9	-.9	-.9	-.90	-.9
6425	-.9	-.9	-.9	100.00	-.9
6426	-.9	-.9	-.9	100.00	-.9
6427	-.9	-.9	-.9	110.00	-.9
6428	-.9	-.9	-.9	120.00	-.9
6429	-.9	-.9	-.9	140.00	-.9
6500	-.9	-.9	-.9	100.00	-.9
6501	-.9	-.9	-.9	125.00	-.9
6502	-.9	-.9	-.9	100.00	-.9
6503	-.9	-.9	-.9	80.00	-.9
6504	-.9	-.9	-.9	125.00	-.9
6506	-.9	-.9	-.9	80.00	-.9
6507	-.9	-.9	-.9	85.00	-.9
6508	-.9	-.9	-.9	105.00	-.9
6539	-.9	-.9	-.9	140.00	-.9
6541	-.9	-.9	-.9	150.00	-.9
6542	-.9	-.9	-.9	-.90	-.9
6543	-.9	-.9	-.9	-.90	-.9
6544	-.9	-.9	-.9	70.00	-.9
6567	-.9	-.9	-.9	110.00	-.9
6568	-.9	-.9	-.9	130.00	-.9
6569	-.9	-.9	-.9	70.00	-.9
6570	-.9	-.9	-.9	80.00	-.9
6571	-.9	-.9	-.9	100.00	-.9
6572	-.9	-.9	-.9	70.00	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	X	Y	IV	AG	B	BA	BE	CA	CO	CR	CU	FE	MG	MN	MO	NI	PB	SC	SR
6644	586225.2	3351287.3	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	39.0	-.9	-.9	-.9	2.0	-.9	40.0	-.9	-.9
6645	587474.7	3350309.3	20	2.00	-.9	-.9	-.9	-.9	-.9	-.9	156.0	-.9	-.9	-.9	2.0	-.9	40.0	-.9	-.9
6646	587910.8	3349808.6	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	58.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
6677	578442.2	3366615.3	20	2.50	-.9	-.9	-.9	-.9	-.9	-.9	108.0	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.9
6678	579258.6	3367646.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	3.0	-.9	-.9	-.9	-.9
6680	582603.9	3379072.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	2.0	-.9	24.0	-.9	-.9
6781	587416.1	3357553.6	20	-.90	-.9	-.9	-.9	-.9	-.9	-.9	172.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
6782	587862.0	3356497.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
6783	587755.0	3355242.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	4.0	-.9	25.0	-.9	-.9
6784	588387.6	3354312.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
6785	588773.6	3353273.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	34.0	-.9	-.9	-.9	3.0	-.9	40.0	-.9	-.9
6787	589770.2	3352544.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	1.0	-.9	30.0	-.9	-.9
6788	590315.6	3351482.3	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	44.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6789	590660.7	3350511.9	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	56.0	-.9	-.9	-.9	2.0	-.9	30.0	-.9	-.9
6790	590864.6	3349655.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	36.0	-.9	-.9	-.9	5.0	-.9	30.0	-.9	-.9
6791	591350.9	3349126.8	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	26.0	-.9	-.9	-.9	3.0	-.9	25.0	-.9	-.9
6792	590440.2	3357919.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	58.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
6793	591414.5	3357328.4	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	42.0	-.9	-.9	-.9	3.0	-.9	30.0	-.9	-.9
6794	592106.6	3356400.1	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	48.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6795	592618.2	3355564.6	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	106.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6821	593881.5	3354924.5	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6822	594633.2	3353998.3	20	1.00	-.9	-.9	-.9	-.9	-.9	-.9	24.0	-.9	-.9	-.9	2.0	-.9	25.0	-.9	-.9
6823	595765.5	3353462.8	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	60.0	-.9	-.9	-.9	2.0	-.9	20.0	-.9	-.9
6825	596810.6	3352239.2	20	1.50	-.9	-.9	-.9	-.9	-.9	-.9	38.0	-.9	-.9	-.9	3.0	-.9	20.0	-.9	-.9

TABLE AD-27

DUNKLE AREA - SNOOPY PROJECT RAA 1971
* UNKNOWN ANALYTICAL TECHNIQUE

SOIL GEOCHEM DATA
RESULTS SHOWN IN PPM
-.9 VALUE REPRESENTS NOT ASSAYED OR BELOW DETECTION LIMIT

ID	TI	V	Y	ZN	ZR
6644	-.9	-.9	-.9	80.00	-.9
6645	-.9	-.9	-.9	180.00	-.9
6646	-.9	-.9	-.9	110.00	-.9
6677	-.9	-.9	-.9	100.00	-.9
6678	-.9	-.9	-.9	90.00	-.9
6680	-.9	-.9	-.9	130.00	-.9
6781	-.9	-.9	-.9	250.00	-.9
6782	-.9	-.9	-.9	160.00	-.9
6783	-.9	-.9	-.9	110.00	-.9
6784	-.9	-.9	-.9	90.00	-.9
6785	-.9	-.9	-.9	160.00	-.9
6787	-.9	-.9	-.9	80.00	-.9
6788	-.9	-.9	-.9	100.00	-.9
6789	-.9	-.9	-.9	120.00	-.9
6790	-.9	-.9	-.9	120.00	-.9
6791	-.9	-.9	-.9	100.00	-.9
6792	-.9	-.9	-.9	120.00	-.9
6793	-.9	-.9	-.9	-.90	-.9
6794	-.9	-.9	-.9	100.00	-.9
6795	-.9	-.9	-.9	140.00	-.9
6821	-.9	-.9	-.9	-.90	-.9
6822	-.9	-.9	-.9	70.00	-.9
6823	-.9	-.9	-.9	-.90	-.9
6825	-.9	-.9	-.9	90.00	-.9

APPENDIX E

GEOPHYSICS

By David A. Smith, Consulting Geophysicist

TABLE OF CONTENTS

GEOPHYSICS

INTRODUCTION AND SUMMARY

The geophysical program was conducted in two phases. The first phase tested for characteristic signatures over known deposits and their extensions, and the second phase tested anomalous reconnaissance targets selected during the course of the study.

Geophysical surveys consisted of very low frequency electro-magnetics (VLFEM), horizontal loop electro-magnetics (HLEM), magnetics, induced polarization (IP), resistivity, and controlled source audio-magneto-tellurics (CSAMT). A total of 28.7 line miles of data was acquired.

VLFEM, HLEM, IP, and magnetics did not detect the known gold and silver veins in the test areas. Electro-magnetic anomalies were found that could indicate sulfide occurrences of other types. CSAMT may have detected a deep anomaly below a mineralized drill hole intercept on the Jupiter-Mars vein. Electro-magnetics, IP, and magnetics indicated sulfide anomalies are present in three reconnaissance areas tested during the 1983 study.

Test sites were selected for gold-bearing quartz veins, silver-base metal sulfide quartz veins, and quartz-antimony veins. Test surveys were conducted on patented claims, so that any resulting anomalies could be drilled and their sources identified. Antimony deposits within reasonable distance of Kantishna area are all on unpatented claims, and were not tested.

The test program was begun on the Jupiter-Mars grid (fig. E-1). Definitive anomalies were not developed over either the Jupiter-Mars or Banjo Mine structures. Anomalies were revealed approximately 1,000 ft south of the Jupiter-Mars structural zone in an area covered by alluvium. Previously unmapped sulfide float was found in the vicinity of the anomalies during subsequent detailed mapping along the grid lines.

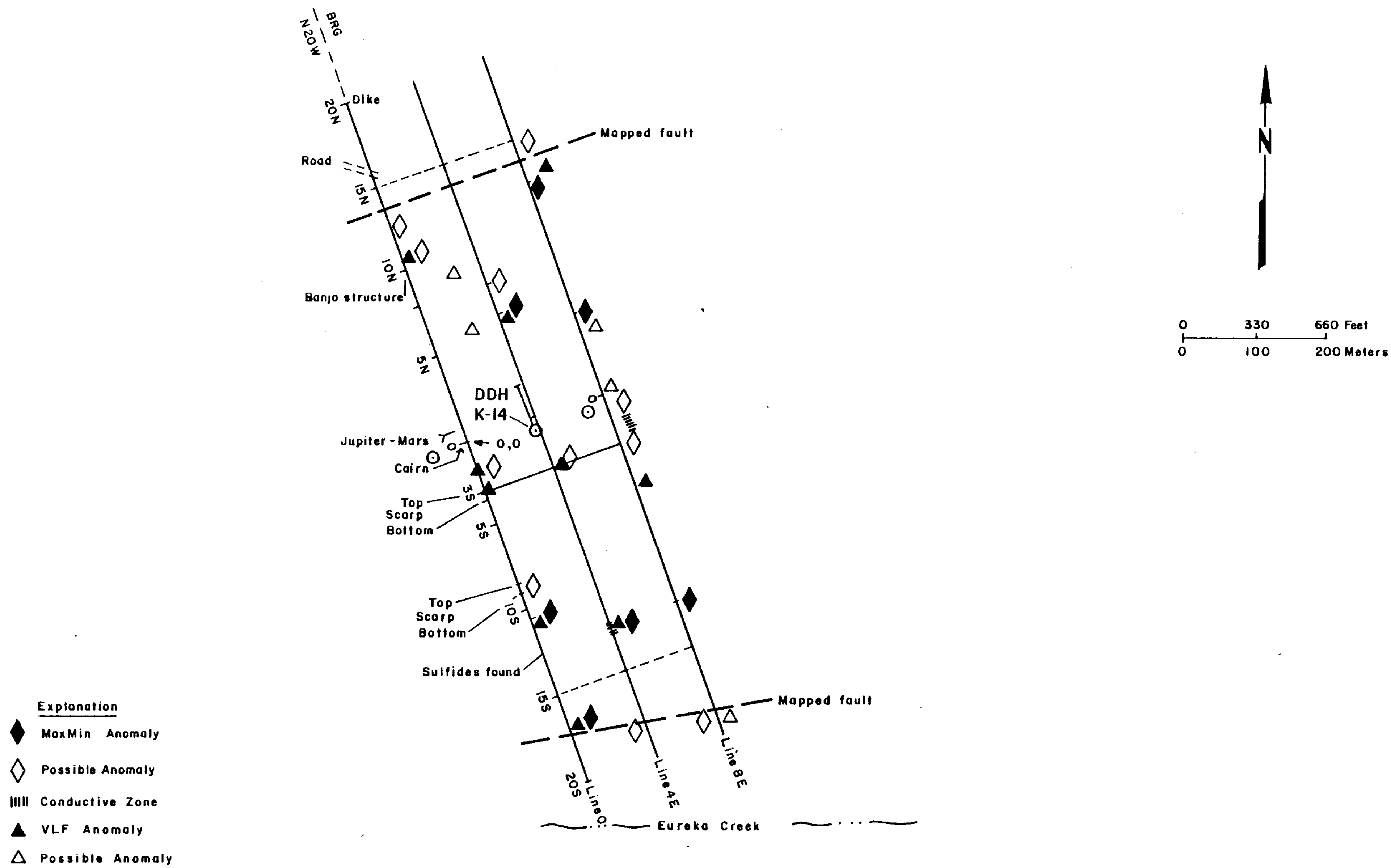


Figure E-1 - Jupiter-Mars Grid, Geophysical Anomalies

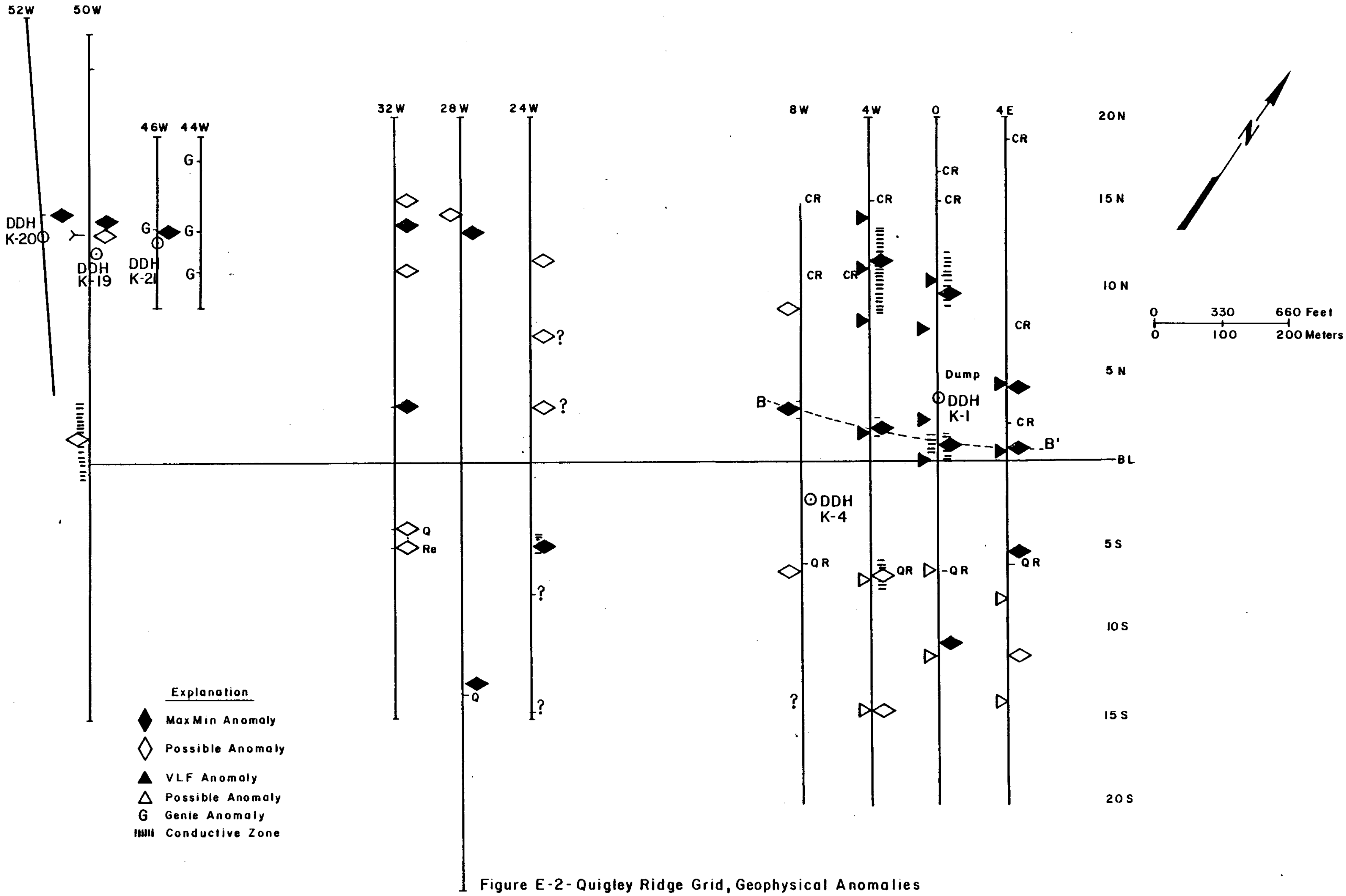


Figure E-2- Quigley Ridge Grid, Geophysical Anomalies

Table E-1 - Amount of Geophysical Survey Coverage in Line Feet

Sites	Line Survey	VLF(1)	HL(2)		MAG	IP(3)	CSAMT(4)
			MM	Genie			
Test							
Jupiter-Mars	12,000	14,000	12,000	1,600	12,000	0	4,000
Quigley Ridge	34,000	12,000	32,000	6,900	16,000	800	0
Reconnaissance							
Red Dirt	10,500	0	7,000	10,500	10,500	0	0
Canyon Creek	4,000	0	0	4,000	4,000	0	0
Alpha Ridge	3,000	0	0	3,000	0	0	0
Lloyd Prospect	1,200	0	0	0	0	1,200	0
PROGRAM TOTAL	64,700	26,000	51,000	26,000	42,500	2,000	4,000
Line Miles	12.3	4.92	9.66	4.92	8.05	0.38	0.76

Total exclusive of line survey: 28.7 line miles.

(1) VLF: very low frequency EM
(2) HL: horizontal loop MM: max-min
(3) IP: induced polarization/resistivity
(4) CSMAT: controlled source audio/magneto tellurics

The test phase was continued on the Quigley Ridge area. Again, correlative geophysical response was not obtained over known mineralization. Numerous weak anomalies were found, and some structural information was gained from the surveys. A conductive structure was delineated parallel to and approximately 50 ft north of the Red Top vein.

During geophysical testing, reconnaissance geologic mapping was completed along the trend of the Spruce Creek Sequence and potential massive sulfide terrain in the Birch Creek Schist. Mapping revealed several prospective sulfide targets amenable to testing by geophysical methods. Subsequent geophysical traverses over these areas produced significant anomalies.

MaxMin and Genie electro-magnetic methods produced valid anomalies at acceptable rates of progress and were chosen for reconnaissance traverses. CSAMT, although clearly useful on the Jupiter-Mars grid, was too slow to justify cost.

An induced polarization/resistivity anomaly on Quigley Ridge Line 4W (fig. E-2), was tested by drilling with inconclusive results. One reconnaissance line was run on the Lloyd Prospect and results indicate a sulfide anomaly.

The amount of line coverage by each geophysical method is shown in table E-1.

DISCUSSION OF RESULTS

Banjo-Jupiter/Mars Area

The Jupiter-Mars grid consisted of three lines, as shown on figure E-1. Traverses were made over all three lines by very low frequency electromagnetics (VLFEM), horizontal loop electro-magnetics (HLEM), and magnetometer. In addition, CSAMT was run on line 4E. Fill-in lines 2E and 6E were run on Topofil controlled VLFEM traverses.

VLFEM and HLEM anomalies, shown on figure E-1, are somewhat erratically distributed north of the base line. There is little, if any, correlation with the geology of Banjo Mine workings, and none with the Jupiter-Mars adit and brecciated structure.

South of the base line, there are two, and possibly three, HLEM anomalies that could be significant. The conductivity thicknesses are approximately 5 mhos, sufficiently high to indicate a sulfide source. The two anomalies at 12+00S on Lines 4E and 8E suggests a short strike length feature (short strike dimensions are freqently indicative of non-graphite sources). Geochemical samples along the grid lines near the geophysical anomalies were anomalous in silver, copper, lead, and zinc.

CSAMT resistivity readings shown in figure E-3 provide support for the HLEM anomalies and resolve some HLEM ambiguity. CSAMT indicates the presence of the Jupiter-Mars breccia zone not detected by HLEM. The HLEM interpretation at Station 12S on Line 4E could be interpreted as an edge effect of conductive flatlying alluvium or as a vertical bedrock conductor. CSAMT resistivity indicates that the anomaly is caused by a near surface vertical resistivity low that thickens with depth. This is a more valid and significant anomaly than the HLEM interpretation. The area is covered by alluvium and the anomaly correlates with the projection of the Spruce Creek Sequence-Birch Creek Schist contact.

There is a moderate resistivity low in the CSAMT pseudo-sections near Station 0, that may correlate with the Jupiter-Mars breccia zone or associated mineralization. The material causing the low resistivity values is interpreted to extend downward, starting 200 to 300 ft below the surface. Drill hole K-14 may have overdrilled the conductive part of the zone, but would have penetrated the more resistive (leached?) upper portion.

Erratic magnetic readings, figures E-4, E-5, and E-6, are somewhat similar to VLFEM and HLEM responses in the north half of the grid. A strong magnetic high at 19N on Line 0, is associated with a basalt dike. Many of the anomalies indicate small, near-surface sources and may be caused by isolated mafic rocks, or cultural responses from rails and pipes in

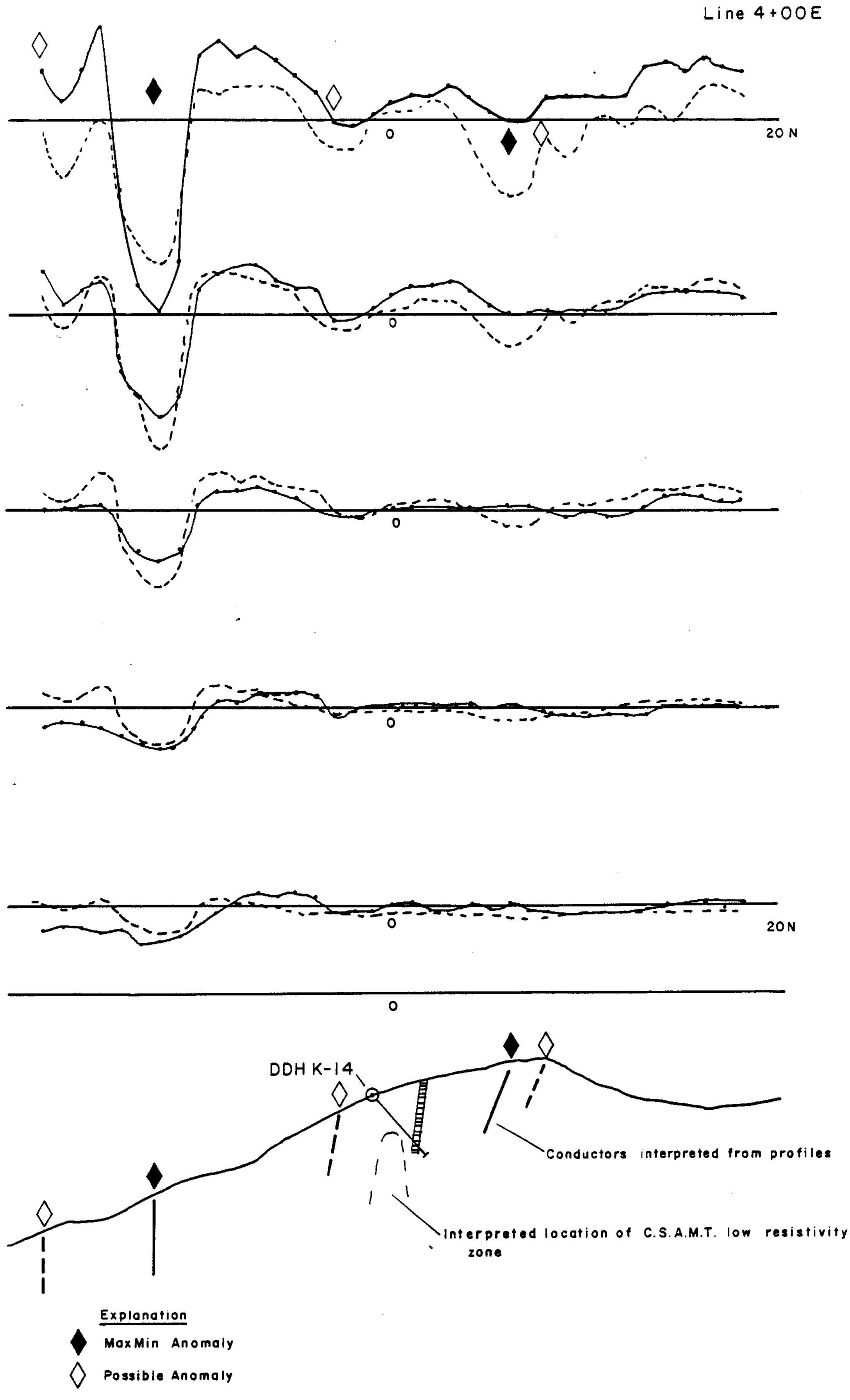


Figure E-3-Jupiter-Mars Grid, Line 4+00E

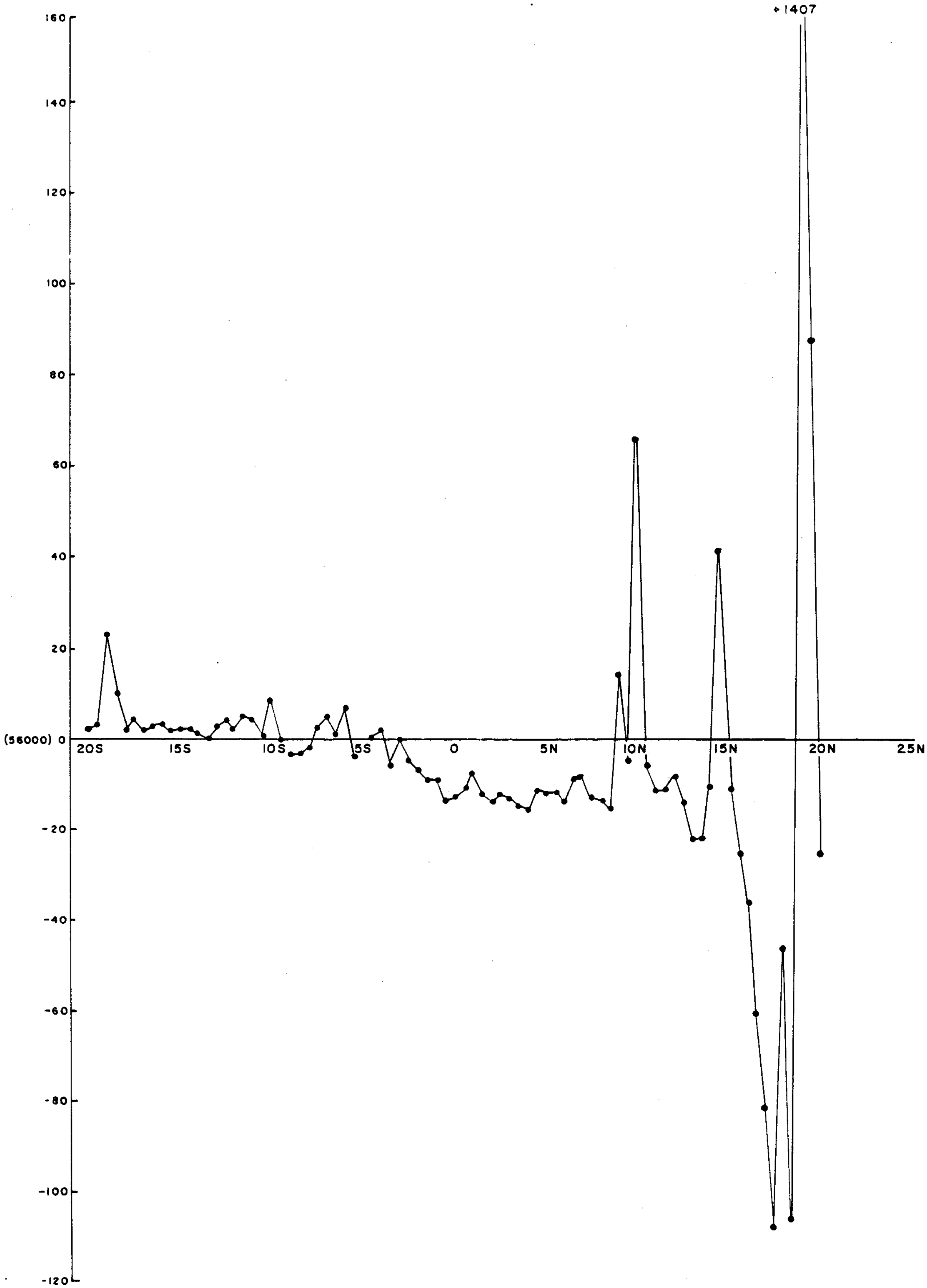


Figure E-4-Jupiter-Mars Grid, Magnetometer Profile, Line O

Line 4 E

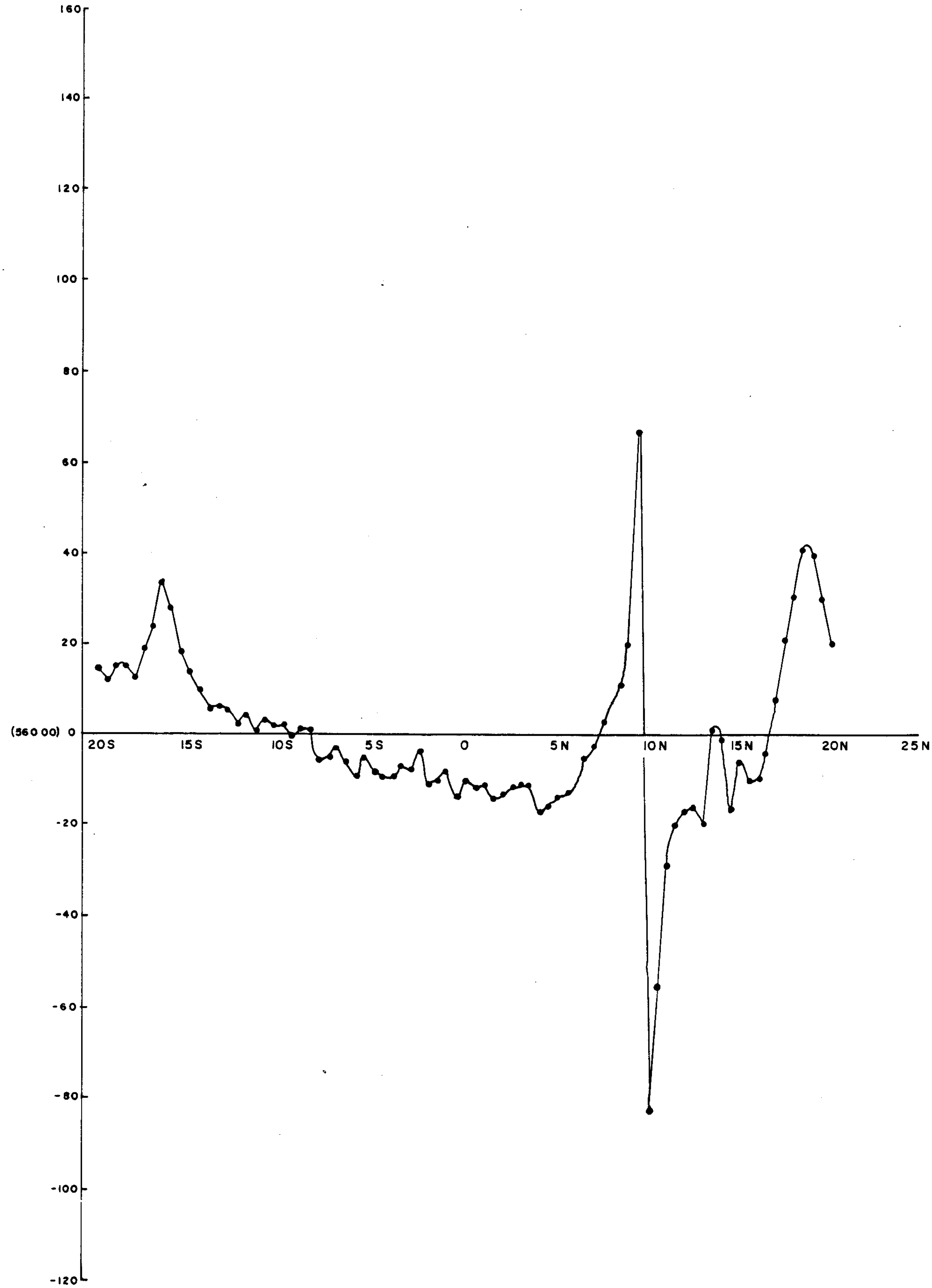


Figure 5 - Jupiter - Mars Grid, Magnetometer Profile, Line 4E

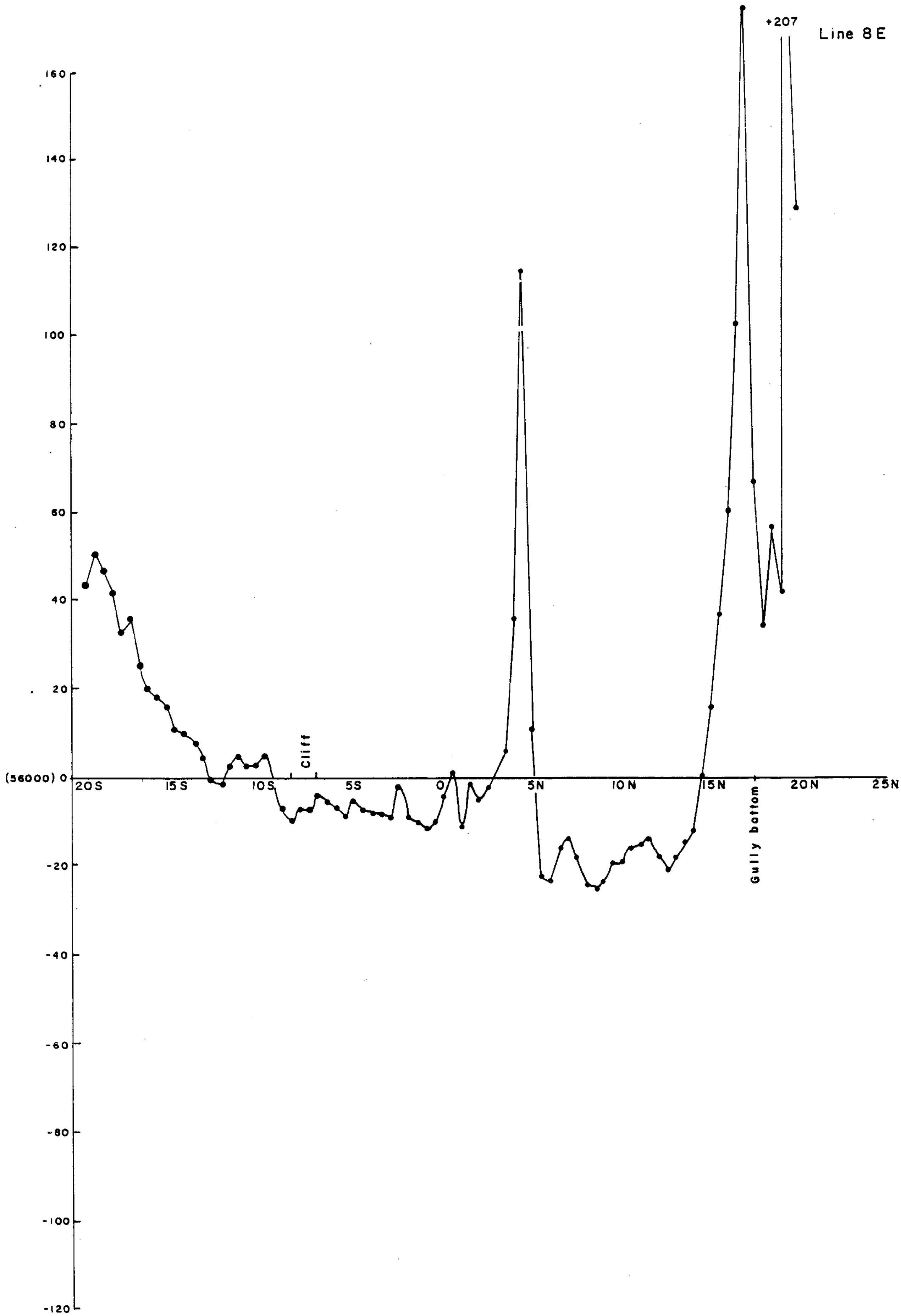


Figure E-6 - Jupiter - Mars Grid, Magnetometer Profile, Line 8 E the Banjo Mine workings. Strong magnetic features, on the south end of the line suggest that closer line spacing might assist in deciphering structural interpretation. Magnetic and EM anomalies show little correlation.

Quigley Ridge

The initial set of lines, 4W through 8W, produced HLEM and VLFEM conductors that indicates known graphitic lithology. One conductor, labeled B-B' on figure E-2, appears to be a relatively strong, continuous zone lying between the Little Annie and Gold Dollar veins. Numerous conductors caused mutual interference along each line, and prevented determinations of conductor attitude. Conductor B-B' could be interpreted as a near vertical vein, or the edge of a conductive layer dipping gently northwestward.

IP was run on Line 4W for comparison with HLEM. The IP results are moderately supportive of the horizontal loop anomaly. A high chargeability/low resistivity zone was found at the same point on the line. An interpretation could be made that a gently dipping (relative to the sloping surface) graphitic bed is the correct explanation, rather than a mineralized near-vertical structure.

Drill hole K-4 encountered a shear zone that could terminate the graphitic schist unit and cause an edge effect anomaly. The shear zone could also enhance the edge effect.

The remainder of the HLEM anomalies on the Quigley Ridge grid are of minor interest except for those on lines 44W through 52W.

The anomalies on lines 44W to 52W are shown in plan view on figure E-7. During the field phase it was thought that these anomalies were located over the top of the Red Top workings, and that their source was Red Top mineralization. Re-plotting of the anomalies relative to the mine shows that the anomalies occur about 50 ft north of the mineralization. Before this relationship was known, holes K-19 through K-21 were drilled. The results and associated anomalies for K-19 and K-20 are shown on figures E-8 and E-9, respectively. Drill hole K-19 was collared about 200 ft back

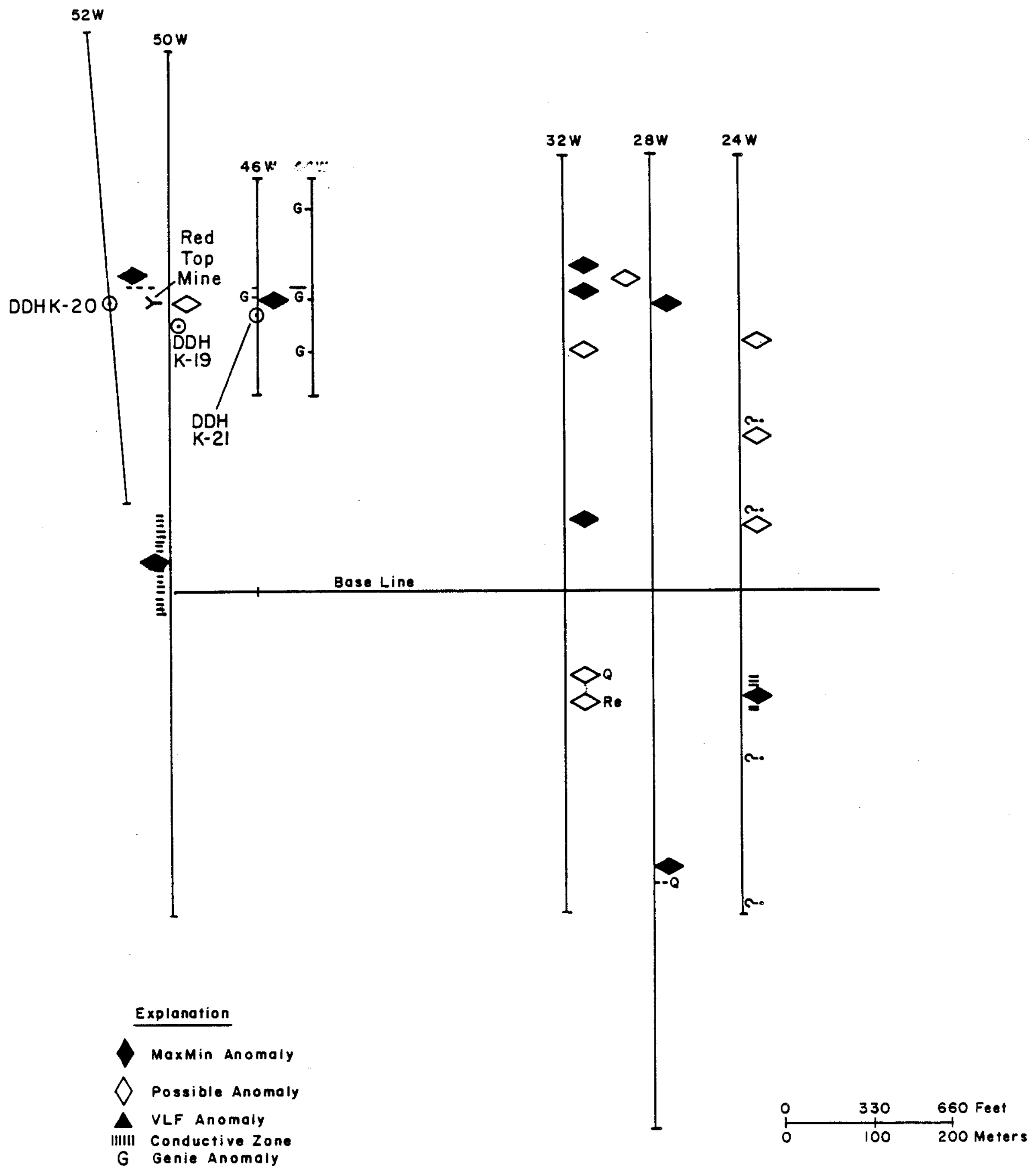


Figure E-7-Quigley Ridge Grid, Red Top Anomalies

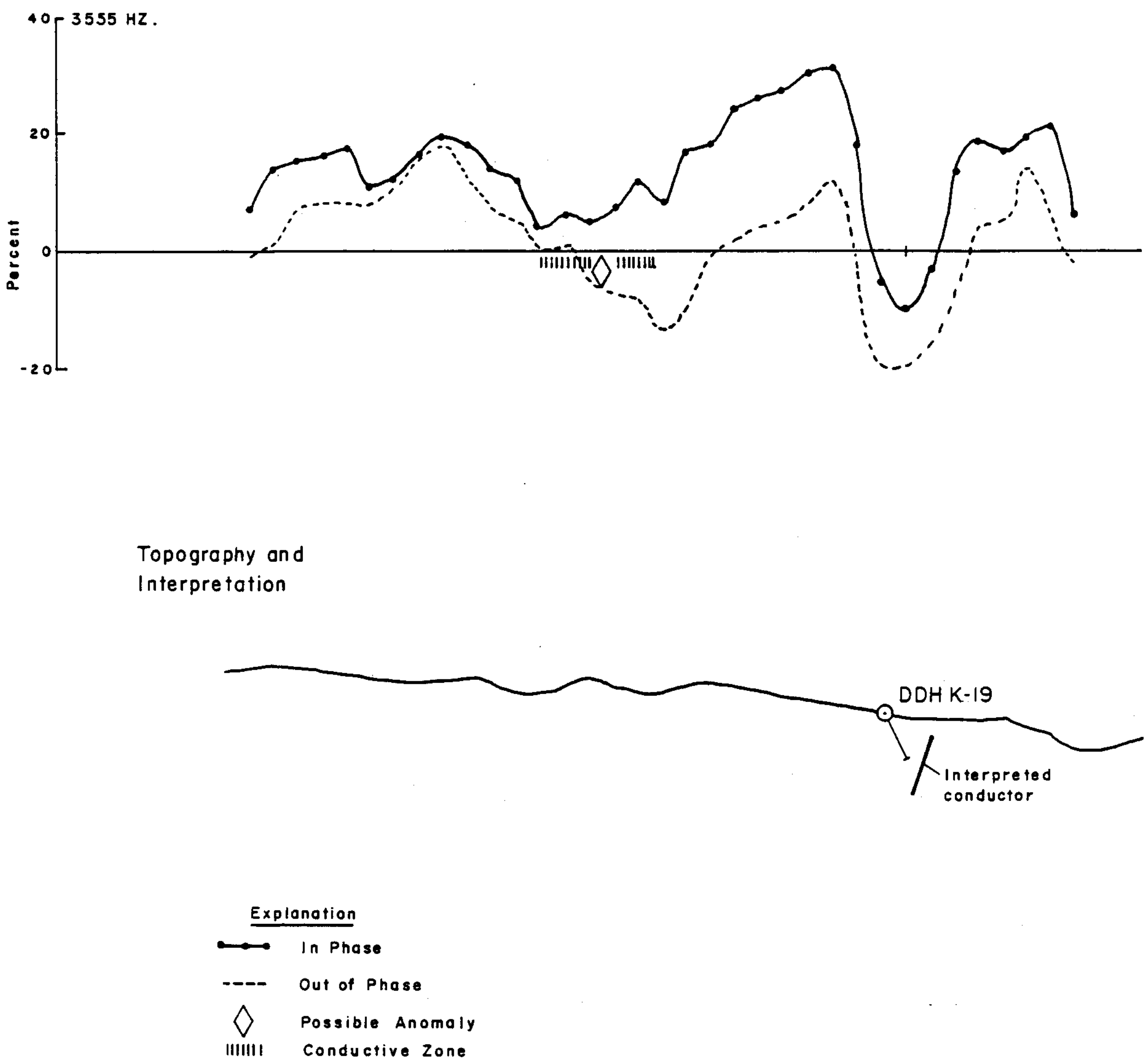
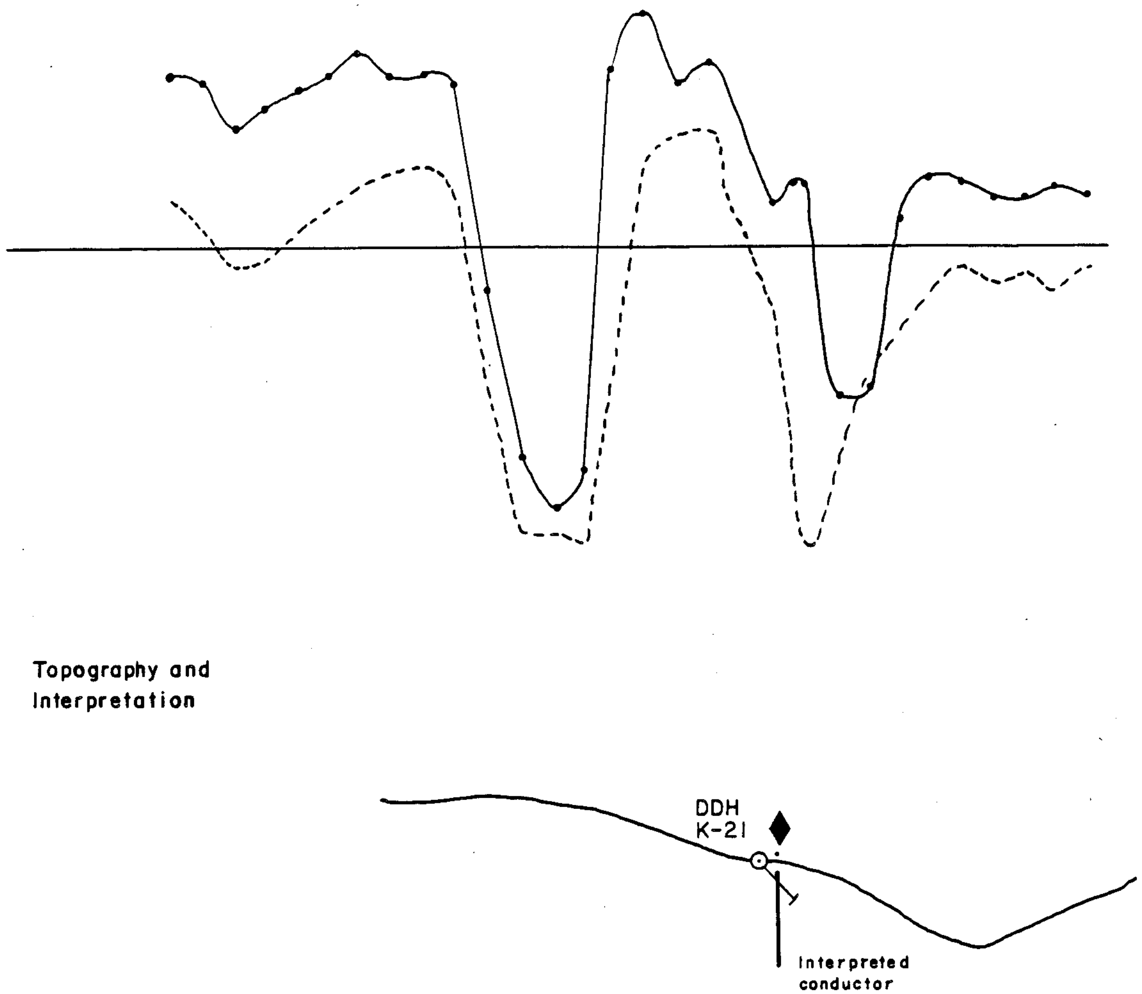


Figure E-8 - Quigley Ridge Area, Max Min II E.M., Line 50 W.



Explanation

In Phase

Out of Phase

Max Min Anomaly

Figure E-9- Quigley Ridge Area, Max Min II E.M., Line 46 W.

from the surface projection of the HLEM anomaly. The drill hole intercepted the Red Top vein and was stopped short of the conductor.

Drill hole K-21 was spotted to intercept the source of the anomaly near surface, and may have overdrilled the vein, as the vein was not intersected. It is probable that the vein is offset to the south and could be intersected by drilling an additional hole 100 to 200 ft south of K-21.

Drill hole K-20 intersected a weakly mineralized structure that may not have been the Red Top vein. It also was collared to intersect the anomaly and may have overdrilled the vein.

If the association of the mineralized vein and the conductor is proved by subsequent drilling, the anomalies located about 50 ft north of the Red Top vein can be used to guide further exploration along strike.

Mineralogy of the Red Top Deposit suggests that IP/resistivity should detect the vein. However, IP lateral resolution is inadequate to distinguish the vein from graphite because the two sources are one a-spacing (50 ft) apart. An a-spacing of 50 ft might be useful in a reconnaissance mode array for some of the area, but probably would not be practical for the entire Quigley Ridge area.

RECONNAISSANCE

Red Dirt

Three lines at 800 ft line separation were surveyed across the strike of the oxidized structural trend of the Red Dirt Prospect. MaxMin (HLEM) survey was run over Line 0 as shown on figure E-10 and all three lines were traversed with Genie (HLEM) and magnetics.

Electro-magnetic and magnetic profiles indicate source bodies of widths less than 20 ft. The tops of most sources are within 20 ft of surface. There appears to be little, if any correlation of anomalies from line to line, which implies limited or variable continuity along strike. A line separation of 200

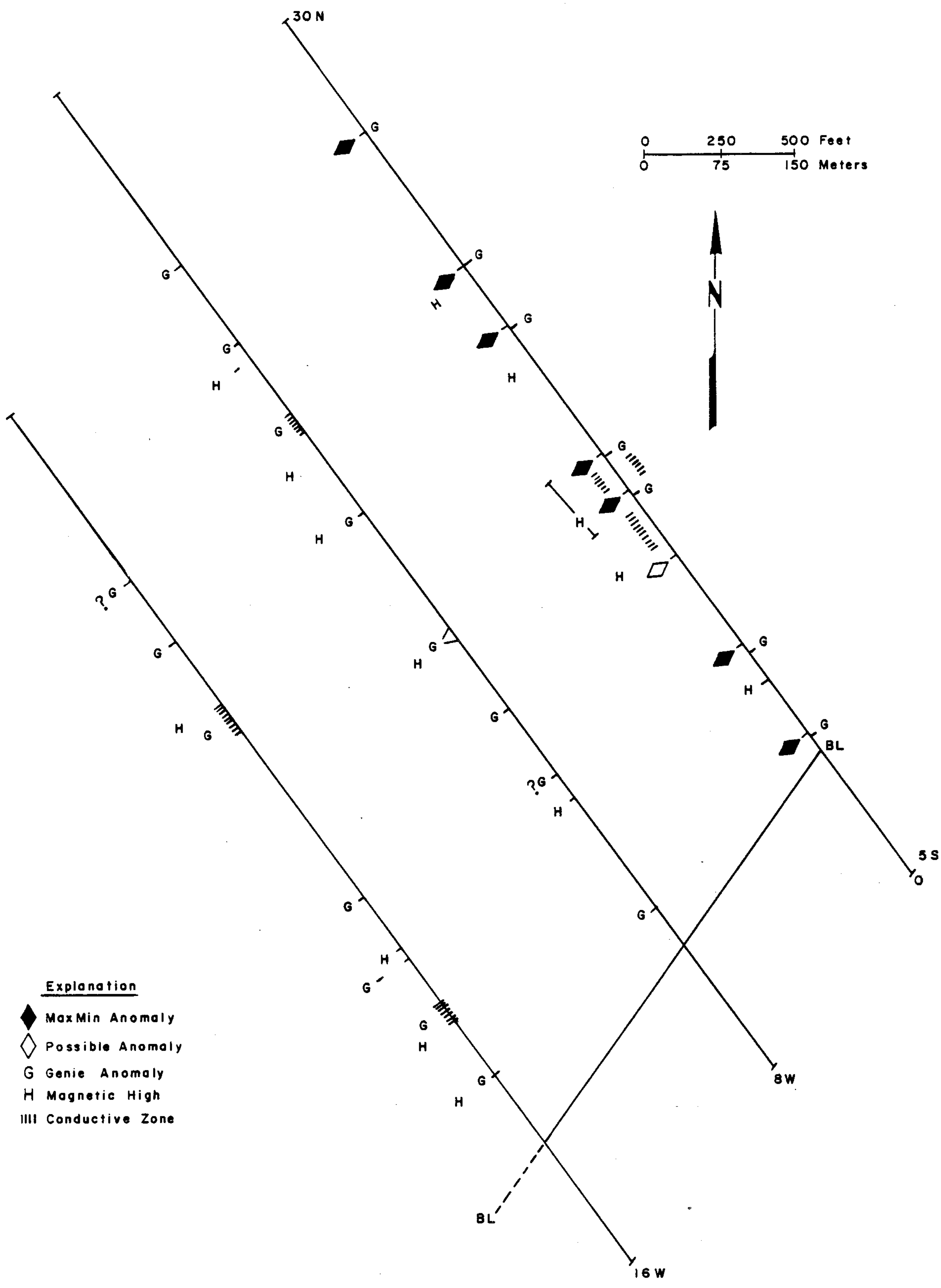


Figure E-10-Red Dirt Grid

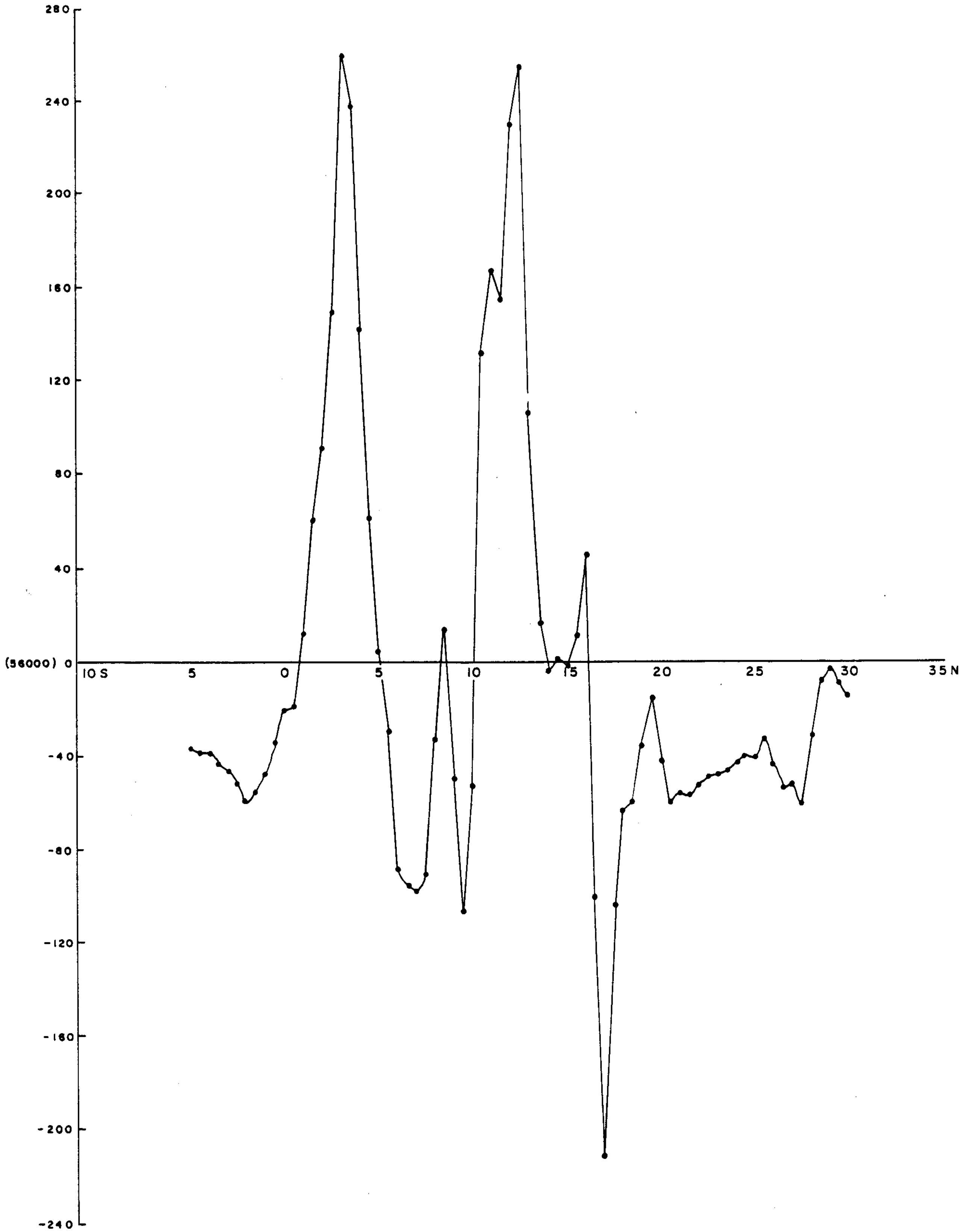


Figure E-11-Red Dirt Area, Magnetometer Profile, Line O

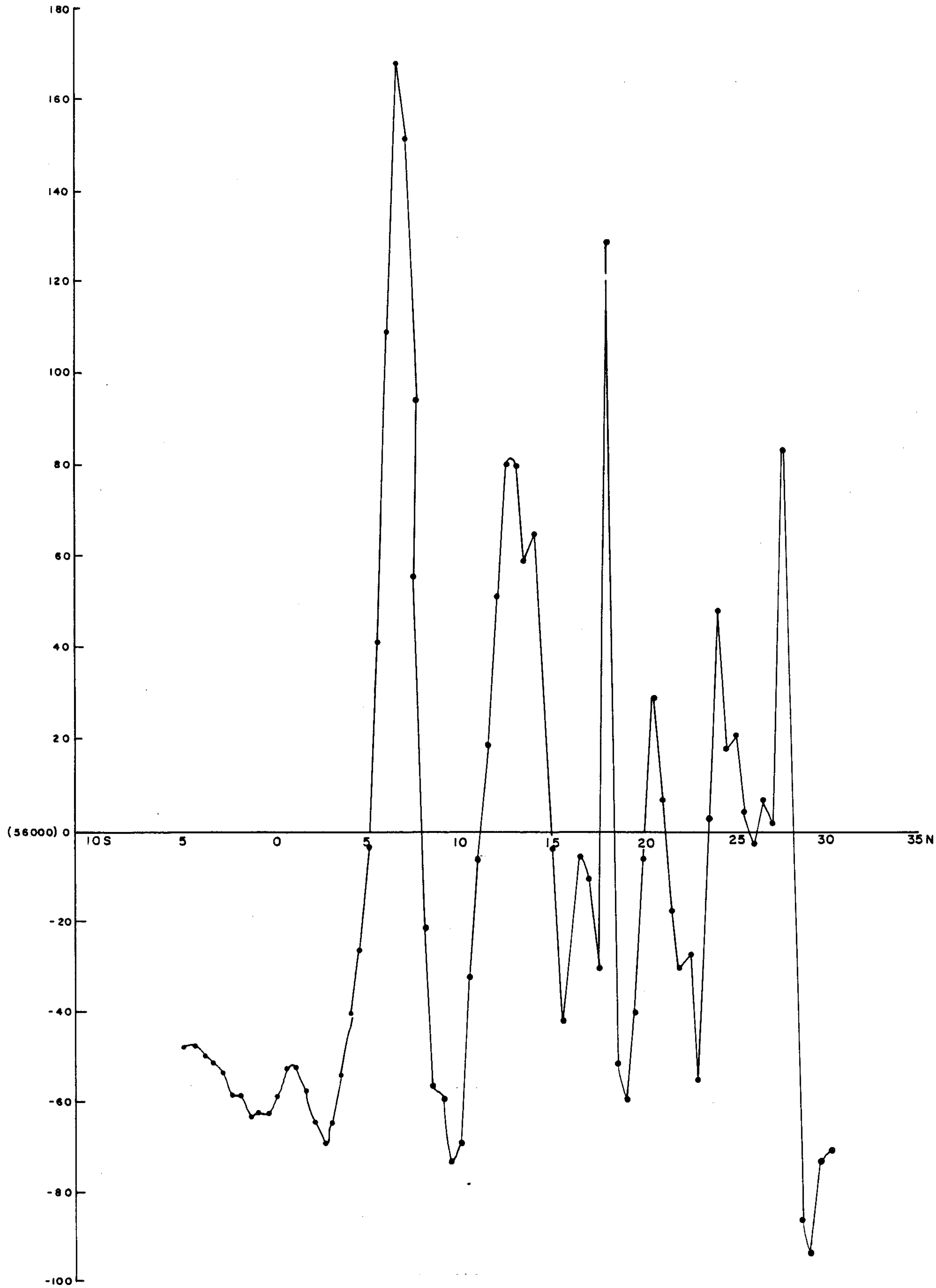


Figure E-12- Red Dirt Area, Magnetometer Profile, Line 8 W.

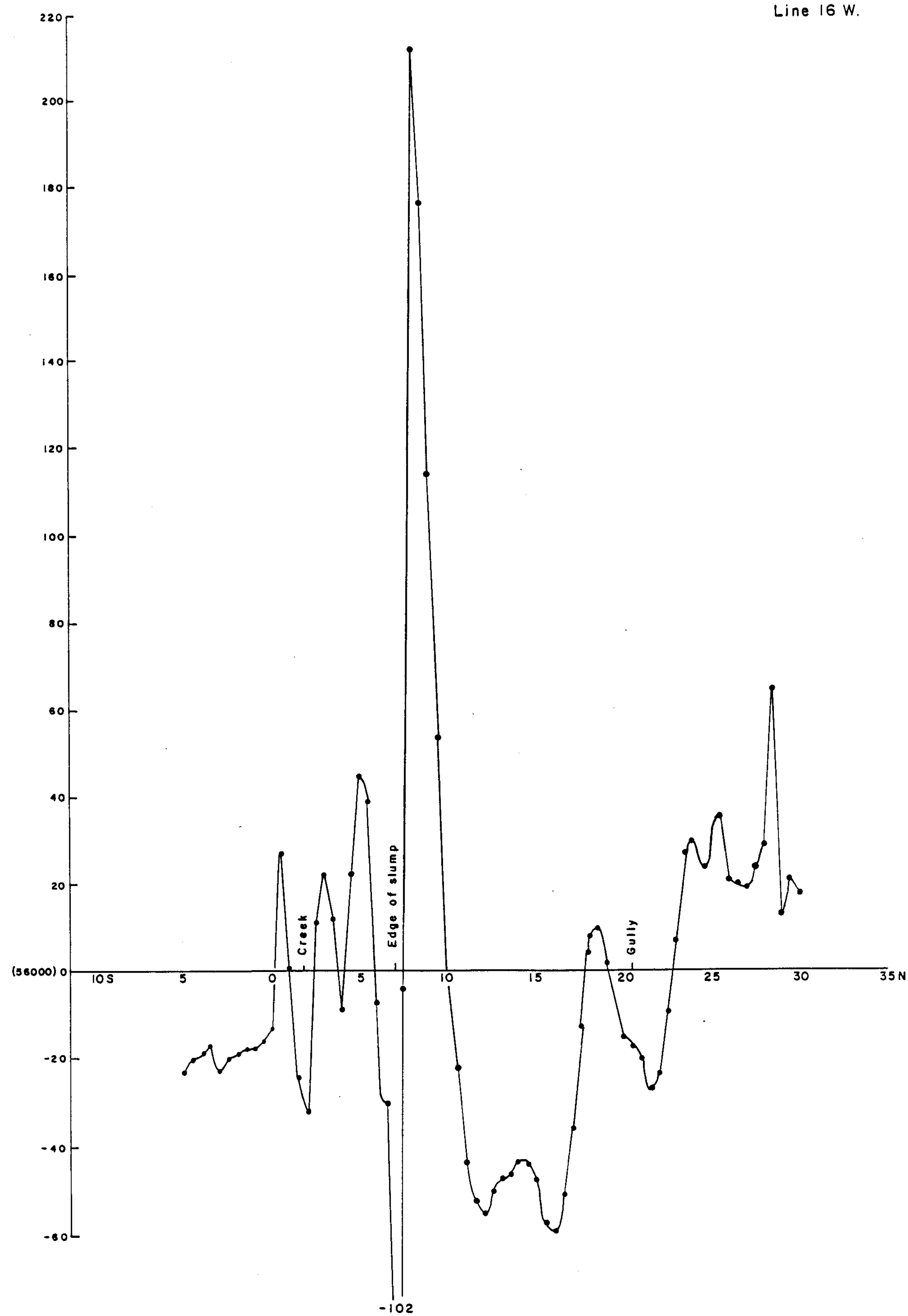


Figure E-13 - Red Dirt Area, Magnetometer Profile, Line 16 W.

ft or less would be necessary to define the conductors along strike, and a-spacings of 100 ft or less would be necessary for anomaly resolution. The north and south ends of the profiles seem to have reached background values. The anomalous area is open along strike. Most of the conductors have magnetic response.

Conductivity values of the anomalies are in the range of massive sulfides and graphitic zones. The abundant magnetic response indicates sulfide sources. Profiles are shown on figures E-11, E-12, and E-13.

Canyon Creek

Two lines were surveyed with the Genie horizontal loop system and magnetics. Strongly anomalous response was obtained on both lines with each method. The traverse lines are too widely separated for correlation, of the anomalies. The electro-magnetic anomalies are typical of massive sulfide sources, and the magnetic response precludes graphite as being the conductor.

Lloyd Prospect

A time domain IP/resistivity line was run across the outcropping mineralized zone. Results show a distinct zone of high chargeability in the vicinity of station 2+00W in resistive rocks. Based on 13 data points it can be inferred that the responsive mineralization diminishes or dips to the west, and persists or becomes more near-surface to the east. Low resistivity values at station 1+00E suggest possible fault control below the creek.

The association of the visible sulfides with the IP response established this zone as a valid anomaly.

Alpha Prospect

Three grid lines were surveyed over the Alpha Prospect (fig. E-14). All three lines were run with the Genie (HLEM) system at an a-spacing of 200 ft. No response was obtained. Line 0 was re-run with MaxMin (HLEM) at an a-spacing of 400 ft, again with no response.

DESCRIPTION OF SURVEY

A Zonge GDP-12 system was selected to run induced polarization/resistivity, as well as fixed source/ground loop electromagnetics (in the CSAMT model). MaxMin II and Genie systems, capable of horizontal and vertical loop operation, were used for electro-magnetic surveys. GeoMetrics G856 proton precession magnetometers were selected because their accuracy exceeds that of fluxgate systems. In addition, this system has computerized diurnal filtering capabilities.

Instrumentation

Zonge General Data Processor (GDP) - 12

The GDP is field programmable to handle IP as well as electro-magnetic surveys. IP can be determined with any of a number of systems in frequency, time, or phase mode configurations. The requirement of fixed source/ground loop electro-magnetics, strictly interpreted, would imply the use of a Turam-type system. In a practical sense, for the closely-spaced, near-surface geophysical targets anticipated (and subsequently found) in the study area, a Turam-type system has no advantage over a moving coil HLEM system. A technique which is eminently suitable for the purpose of obtaining high lateral resolution, needed in the Kantishna area, is audio magnetotellurics (AMT). AMT lateral resolution versus depth is much greater than that provided by Turam or HLEM systems. For mineral exploration, AMT using a fixed, controlled transmitting source (CSAMT), seems the most practical. Thus, the use of CSAMT in place of a Turam provided more interpretation and modelling capabilities.

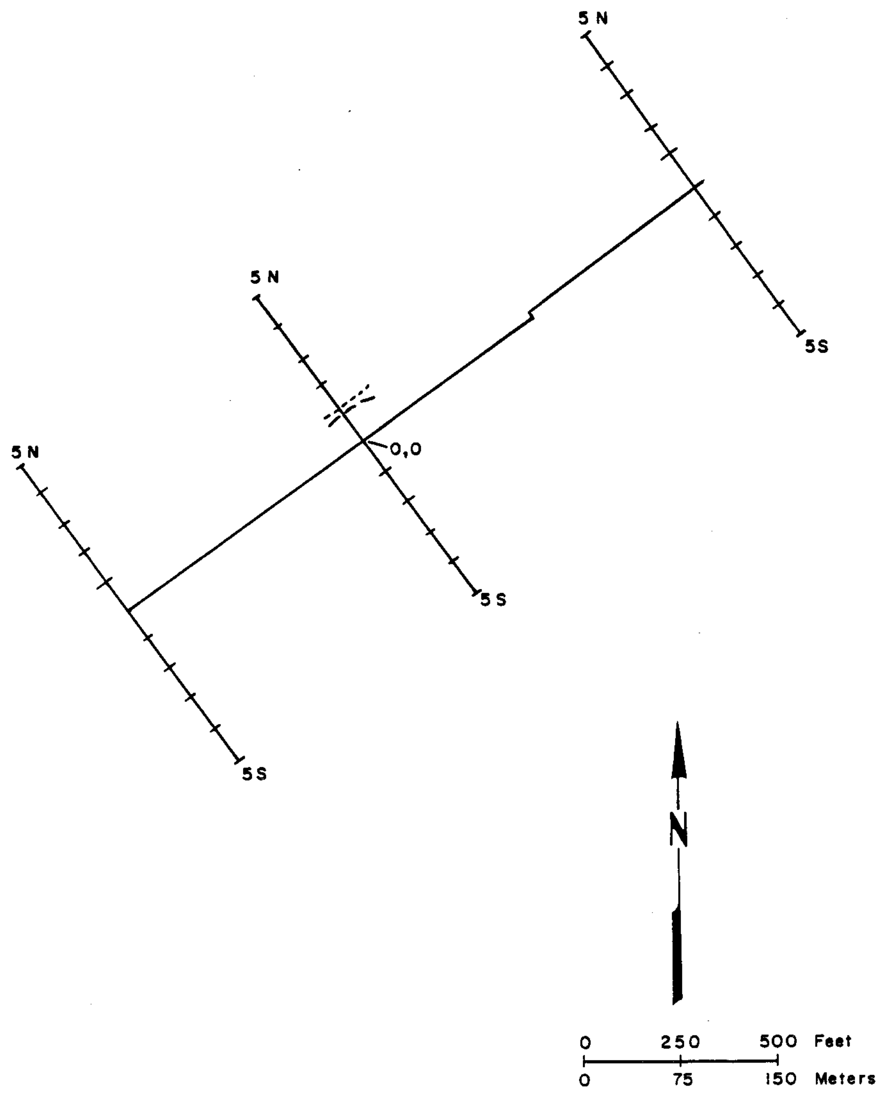


Figure E-14- Alpha Mine Grid

The GDP is capable of operating as an IP and a CSAMT system. This advantage seemed to outweigh the disadvantages of system complexity and reduced portability (compared to simpler IP systems). Although only one CSAMT line was run, the information obtained compared to HLEM data alone showed that the GDP in the CSAMT mode could be very useful for defining the narrow, low conductivity, deep or closely spaced targets in the area.

Horizontal and Vertical Loop Systems

MaxMin II

The MaxMin II electro-magnetic system has generally been considered to be the leading horizontal loop instrument since its introduction about 1974. It generates five frequencies of high quality data at coil spacings of 100 ft to 1,000 ft. Reliable data at multiple frequencies and coil spacings enables more definitive interpretation to be made over a given target than with any other horizontal loop system generally available. The system is also capable of operating in the vertical loop mode. Vertical loop operation was not required.

The main disadvantage of the MaxMin system, or of any conventional horizontal loop instrument, is the rigorous line surveying required to extract the maximum value from the data. The Genie system, recently developed by Esso Canada and Scintrex, Inc., was first available for U. S. rental in July, 1983. The principle of operation is to measure the ratio of responses simultaneously at two frequencies, a procedure which reduces measurement noise. A low frequency reference signal allows operator adjustment of the coil positions along line, obviating the rigorous surveying required in other HL methods.

The main disadvantage of the system is its susceptibility to atmospheric electrical noise, and a limited coil separation (maximum 200 ft at Kantishna) because of weak signal. The former limitation prevented operations during one day of mild thunderstorm activity on Quigley Ridge, and the latter could be a problem when looking for deeply buried targets.

Magnetics

A pair of GeoMetrics G856 magnetometers were used for magnetic measurements. The G856 has the capability of storing the field readings for later data reduction on a micro-computer. Accuracy is approximately plus or minus 1 gamma. There are no disadvantages to the proton magnetometers compared to fluxgate systems for Kantishna-type operations.

Very Low Frequency Electro-Magnetics (VLFEM)

Very low frequency (VLF) radio transmissions originate from U. S. and foreign government stations in various parts of the world. The frequencies used lie between 15 and 25 kHz, which are very high frequencies for geophysical electro-magnetic surveys. Frequencies of this range have limited penetration into the earth, but respond to low-order conductors such as faults, shear zones, or lithologic contacts. Thus they often provide a means to map near surface covered structural zones as a guide to follow-up by more definitive techniques.

A Phoenix VLF-2 unit was used for all VLFEM readings. This instrument measures the tilt angle and the amplitude, or field strength, of the magnetic component of the transmitted signal. Although a number of VLFEM systems are available, the VLF-2 is the most practical because any transmitting station within reach may be tuned in by the use of a binary coded digital tuning circuit. Other systems require insertion of individual crystals for each station, or have other operating and interpretive drawbacks.

The VLFEM method of surveying is inexpensive, and often so useful for structural mapping that it is normally used as a first-pass technique in comprehensive geophysical programs.

The main disadvantages of VLFEM, in addition to the near-surface limitation, are that the transmitting stations must be oriented more or less along the strike of the structure to be detected, and operations are subject to the transmitting schedule of the station. The stations shut down for maintenance on a published schedule which may be worked into the daily planning of a survey, but the strength of the signal transmitted is often lowered unpredictably below a useful level, and is also degraded at times by naturally occurring solar flares. The strength of the signal is also a function of the distance from the transmitter, and the Kantishna Mining District is at nearly the limit for stations along strike: Cutler, Maine; Annapolis, Maryland; Yosamai, Japan; or Moscow, Russia. Consequently the VLF work progressed more slowly than usual, and was not continued after the initial Jupiter-Mars and Quigley Ridge lines were surveyed.

Field Procedures

The test lines on the Jupiter-Mars grid were slope chained at 50 ft station intervals. The survey notes include actual distances and slope in percent grade between stations. To facilitate computer plotting of the survey grids, the Quigley Ridge lines were slope chained at 50 ft intervals. Percent grade and actual slope distances were still noted to facilitate horizontal loop operation and data reduction. Reconnaissance lines were also slope chained at 50 ft intervals. The resulting maps were corrected to true horizontal distances.

Distance was surveyed with chain and plumb bob and slope percent grade with Suunto S-PC inclinometers. Initial line direction was established by compass; continuation of the line was done by back sighting on survey stakes.

VLF

VLF readings were taken at 50 ft station intervals. All transmitting stations in the appropriate direction were used at various times of the surveys; only Yosamai, Japan, produced consistently useful signals.

Magnetics

One of the magnetometer pairs was used in a fixed position as a base station, the second unit was used along line at 50 ft station intervals. The two sets of data were merged in a computer program, which filters line data for diurnal fluctuations in magnetic background.

CSAMT

The controlled source transmitter for AMT measurements was located on Spruce Peak, about 5 miles northeast of Jupiter-Mars line 4 East, where the only CSAMT measurements of the program were made. The transmitting dipole was about 6,000 ft in length; the readings were taken at 100 ft station intervals with the AMT coil and a 100 ft receiver dipole. Frequencies of 128, 256, 512, 1028, and 2048 Hz were read.

IP

One line, Quigley Ridge line 4 West, was surveyed with IP/resistivity instrumentation. The line was first tested with the GDP-12 system, in the resistivity/phase mode. The equipment malfunctioned and an Elliot R10A time domain receiver was used to complete the survey. Valid IP chargeabilities were obtained, and the resistivity readings repeated those of the GDP survey to normal field accuracy.

The IP configuration used for both sets of readings was identical, the electrodes were left in place between surveys. A 7-electrode dipole-dipole array was used with an a-spacing of 100 feet, to an n of 6.

TABLE E-2

Figures E15-E85

LINE PROFILES

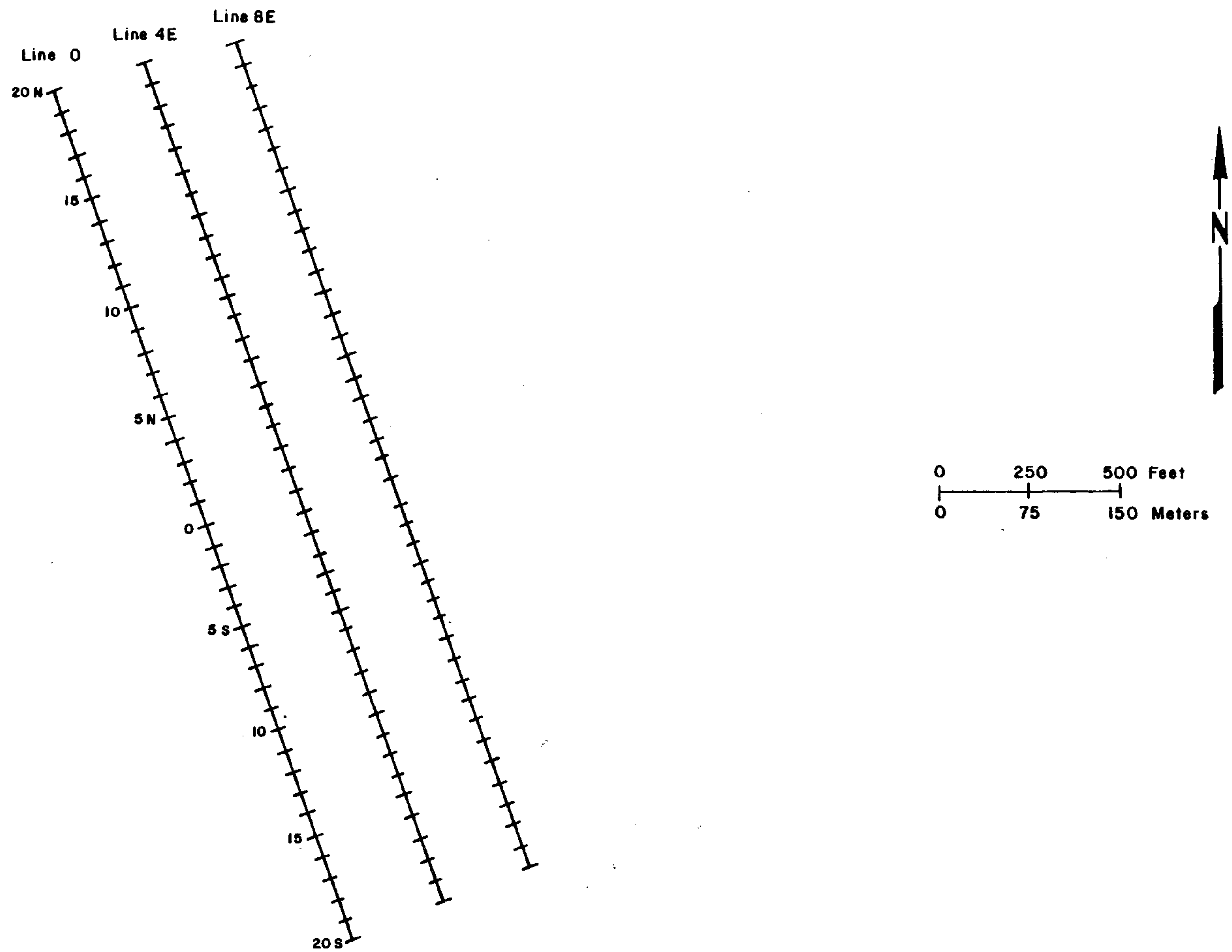


Figure E-15 Jupiter - Mars Grid

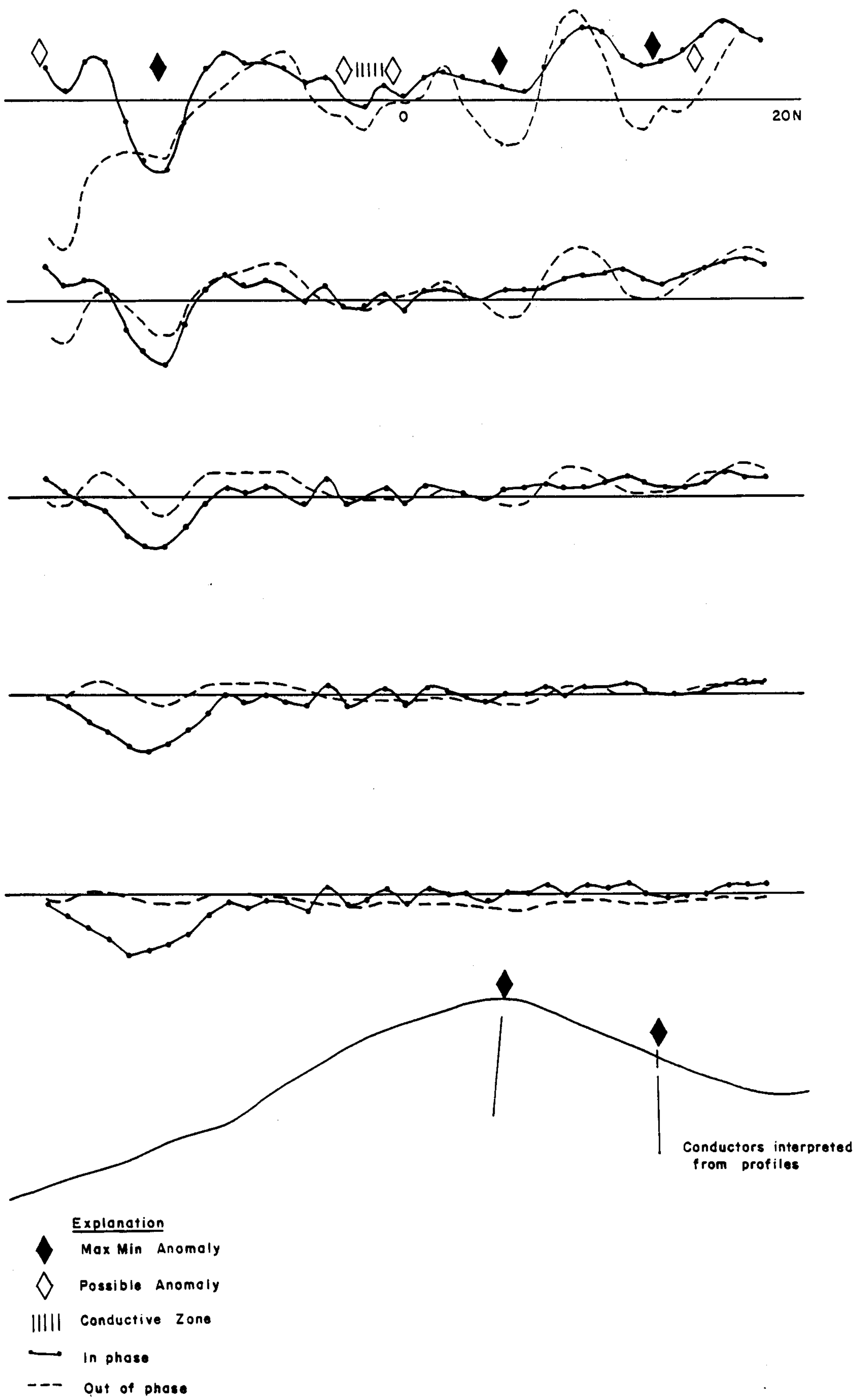


Figure E-16 Jupiter-Mars Grid, Line 8+00 E

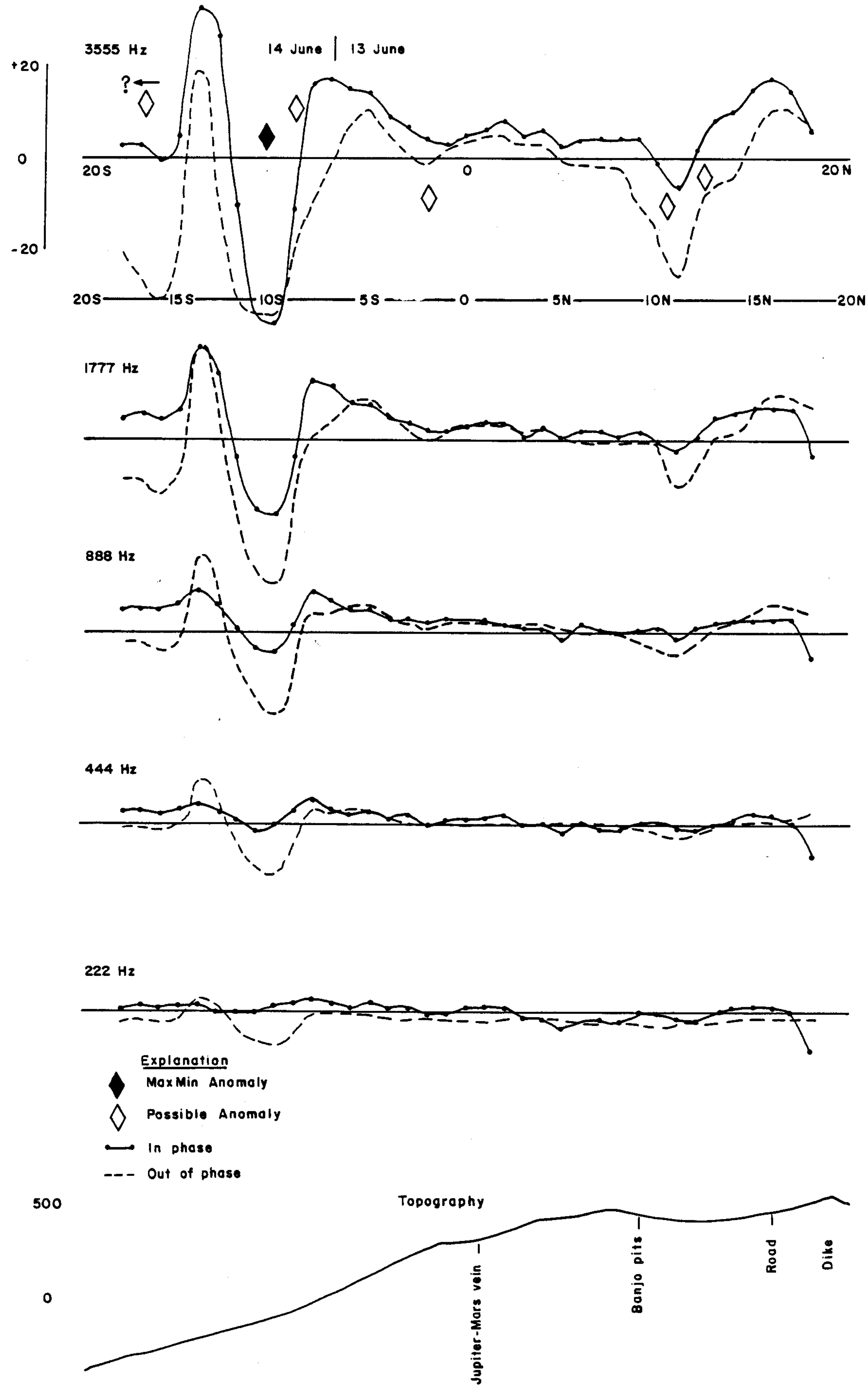


Figure E-17 Jupiter-Mars Grid, MaxMin EM, Line O

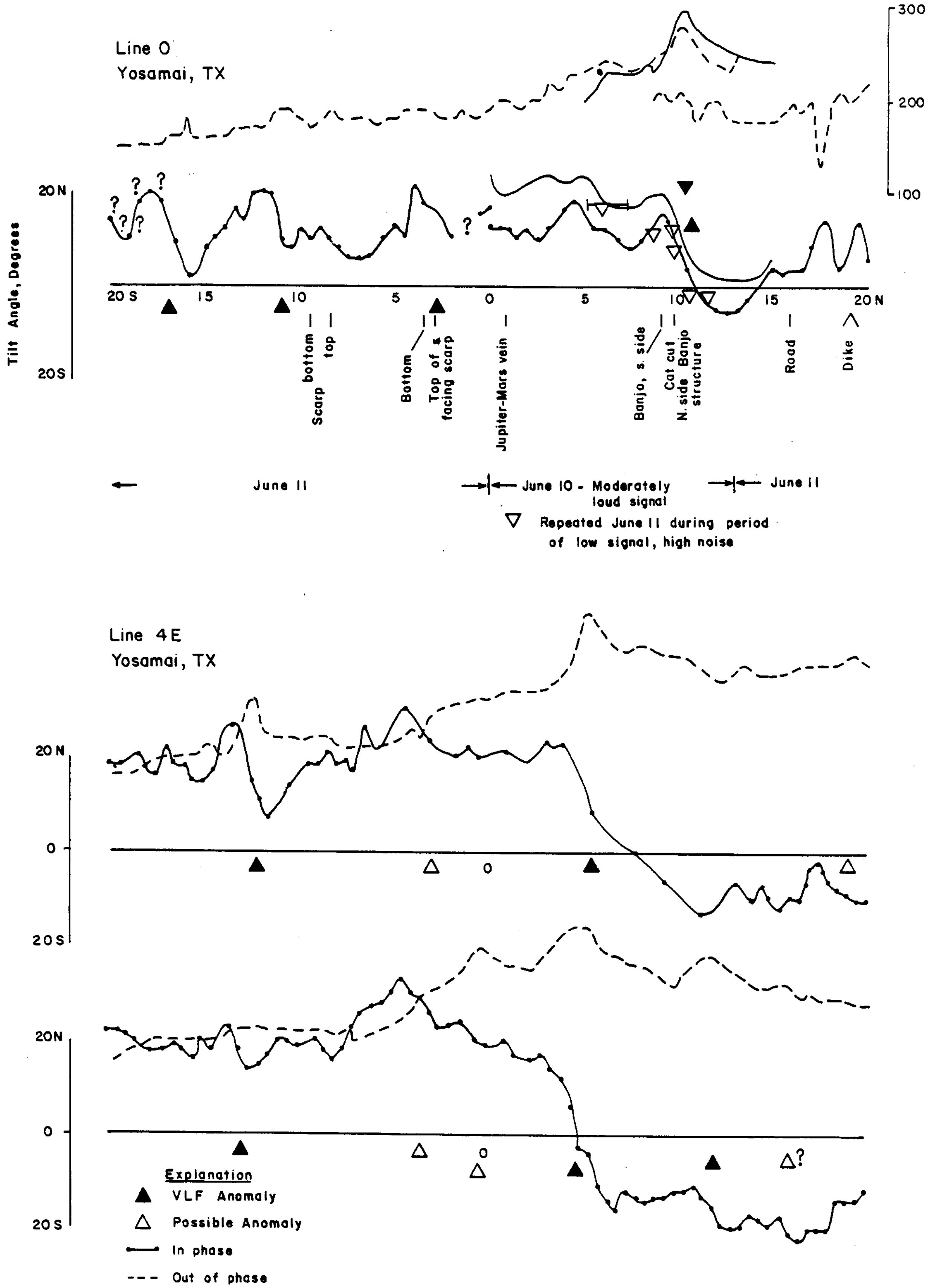


Figure E-18 Jupiter-Mars Profiles, Lines O and 4E

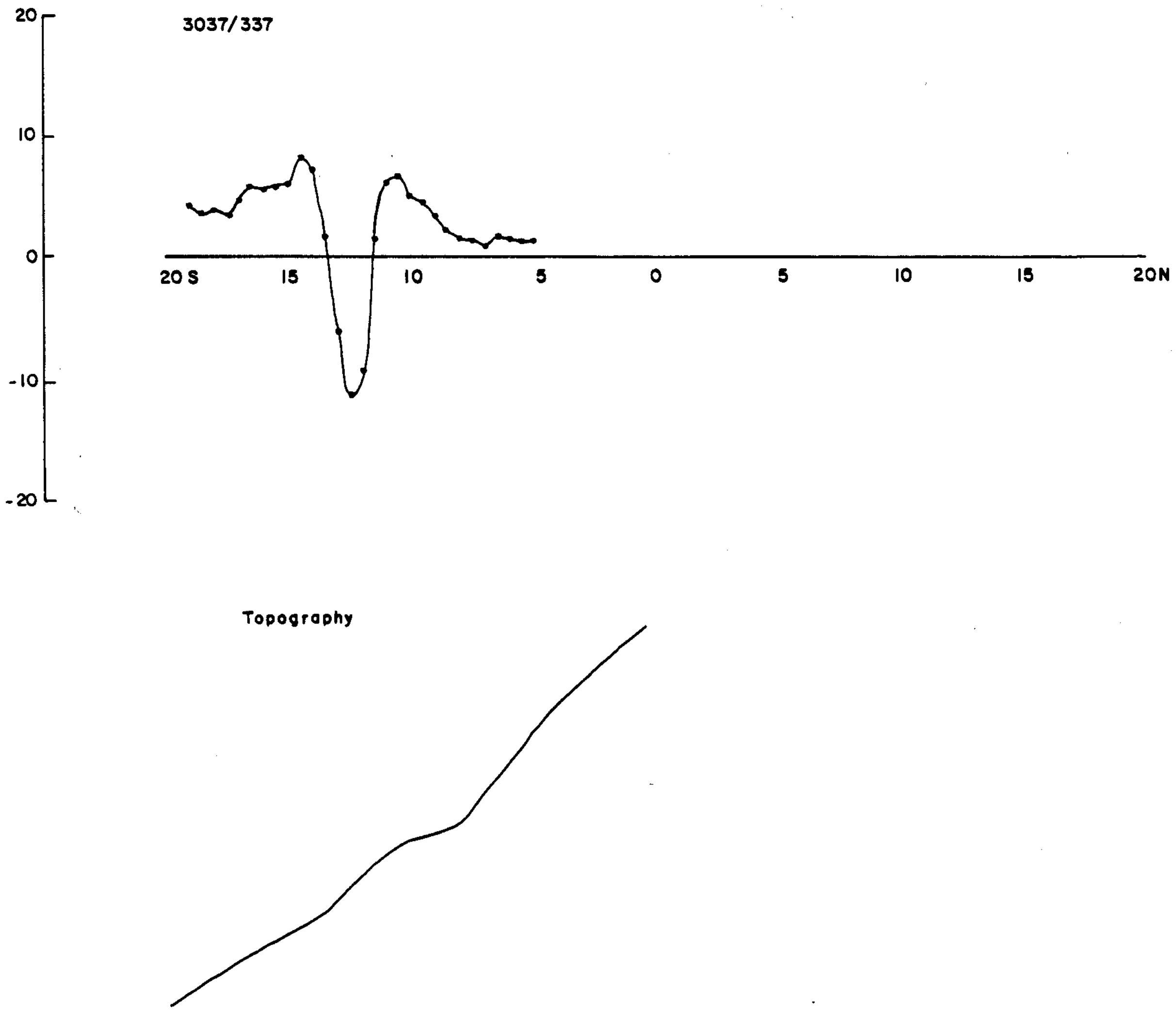
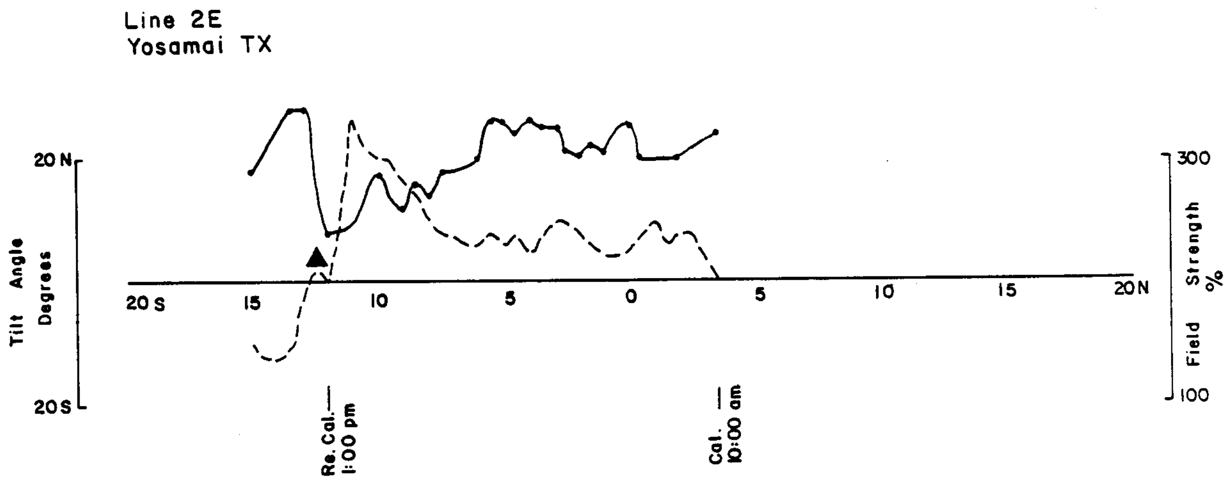
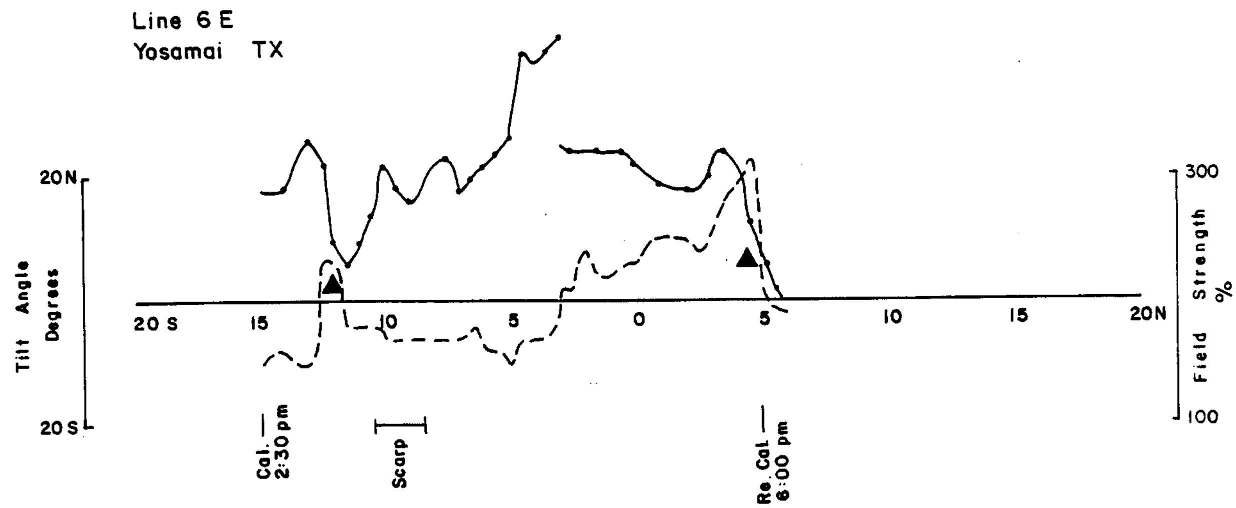


Figure E-19 Jupiter-Mars Grid, Genie EM System, Line 4+00 E





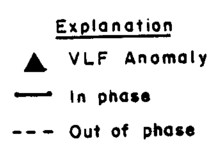


Figure E-20 Jupiter-Mars Grid, VLF, Lines 2E and 6E

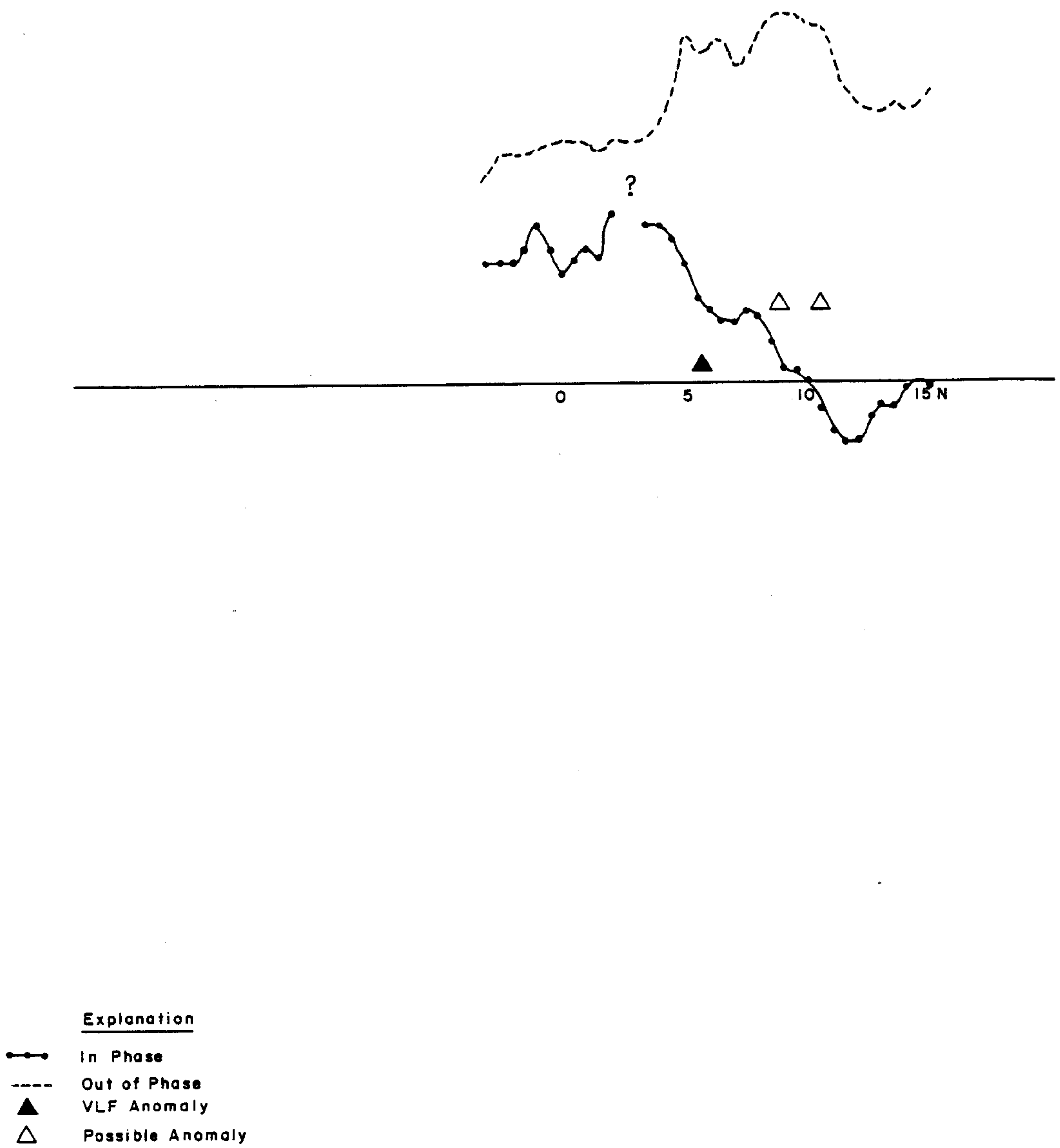


Figure E-21 - Jupiter-Mars Area, V.L.F. Topofil, Line 2 E.

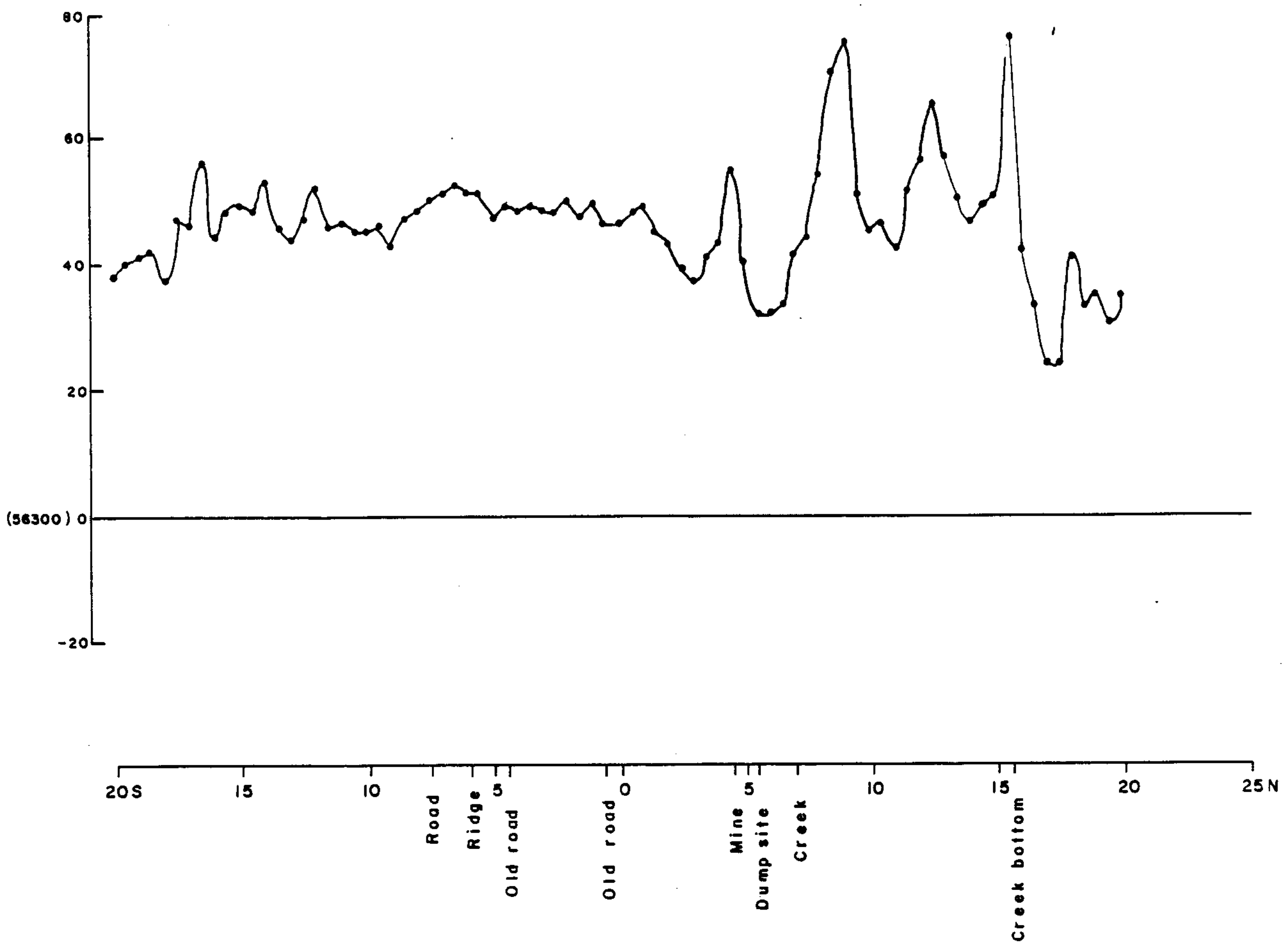


Figure E-22-Quigley Ridge Area, Magnetometer Profile, Line O

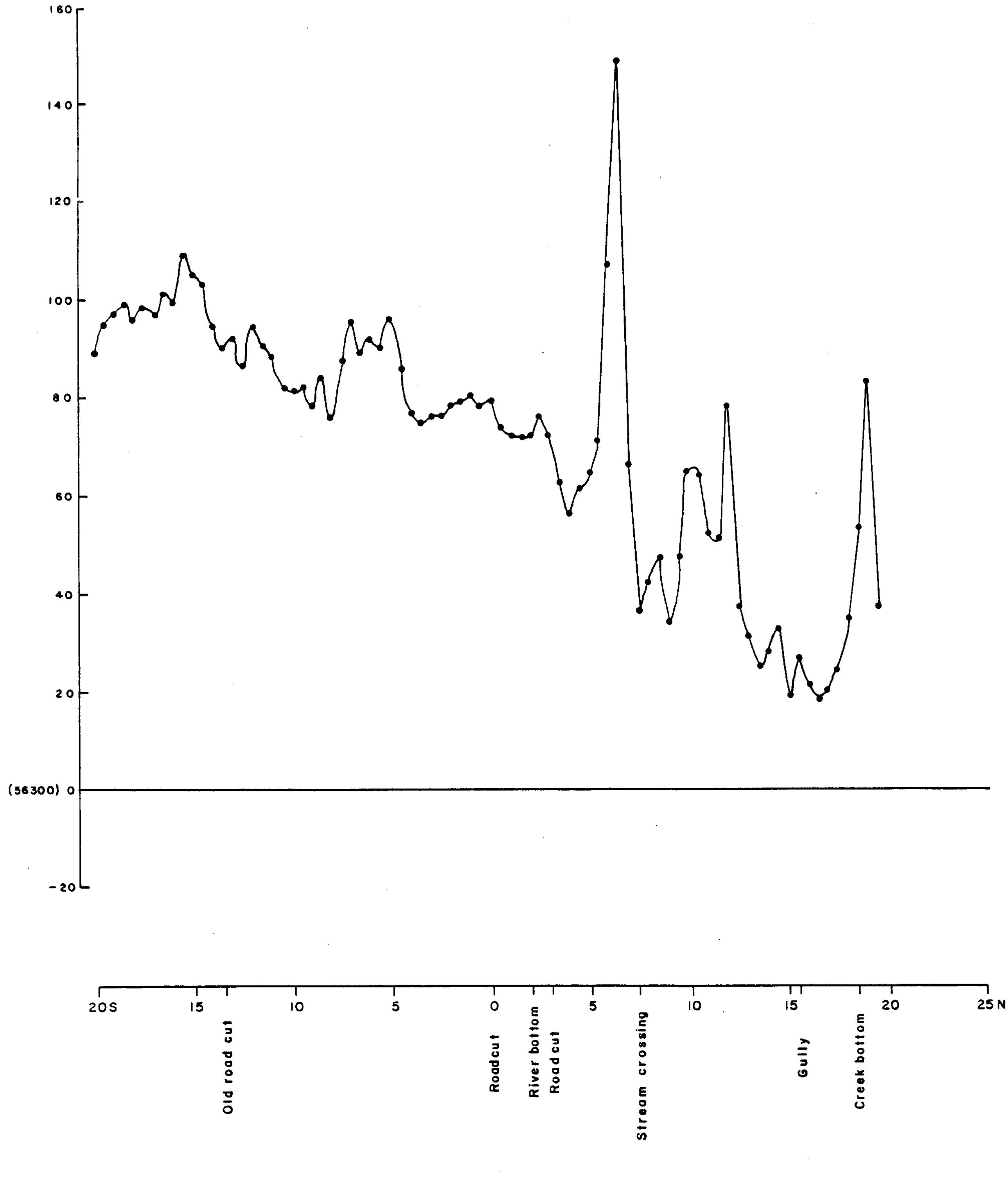


Figure E-23-Quigley Ridge Area, Magnetometer Profile, Line 4 E.

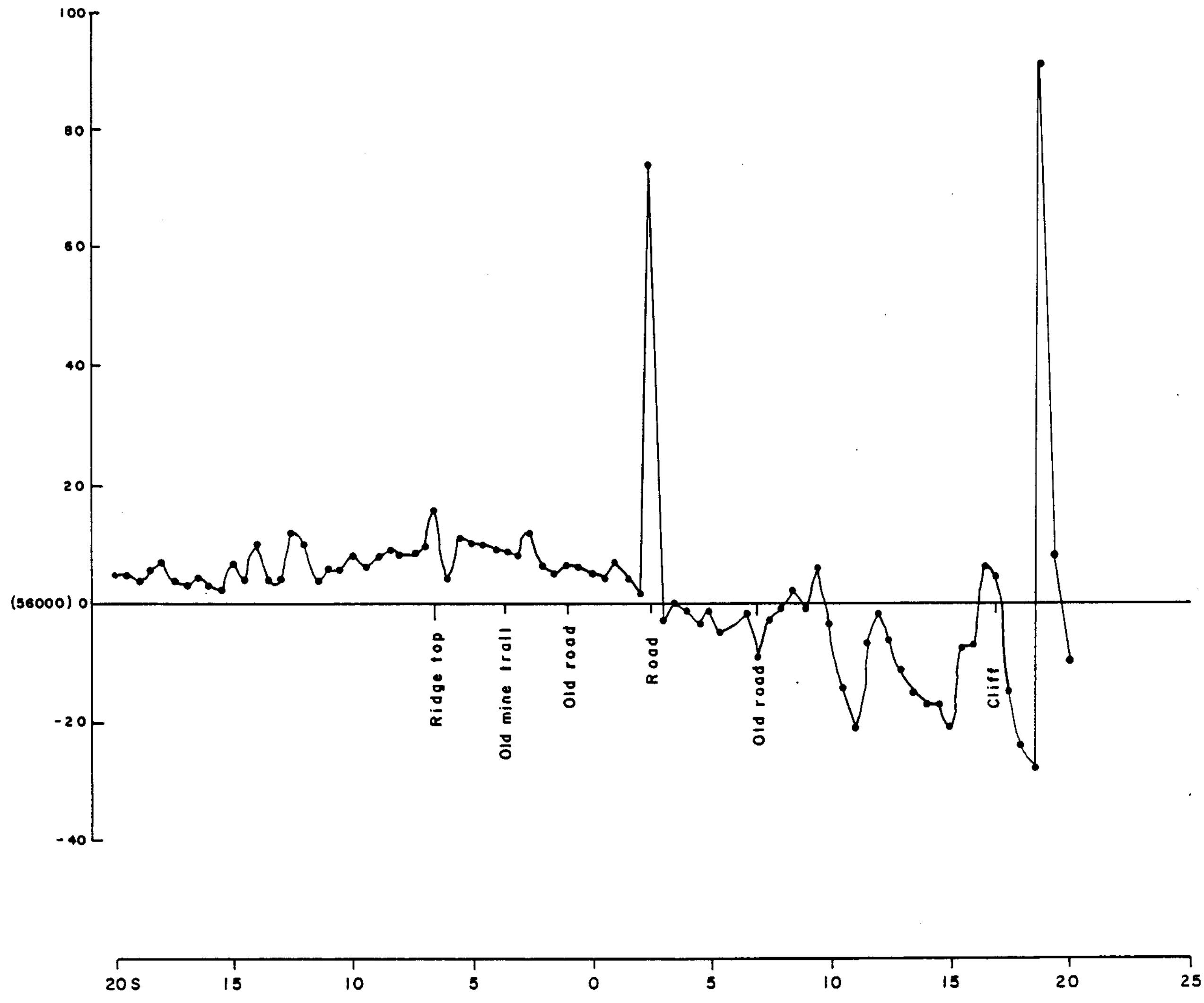


Figure E-24-Quigley Ridge Area, Magnetometer Profile, Line 4 W.

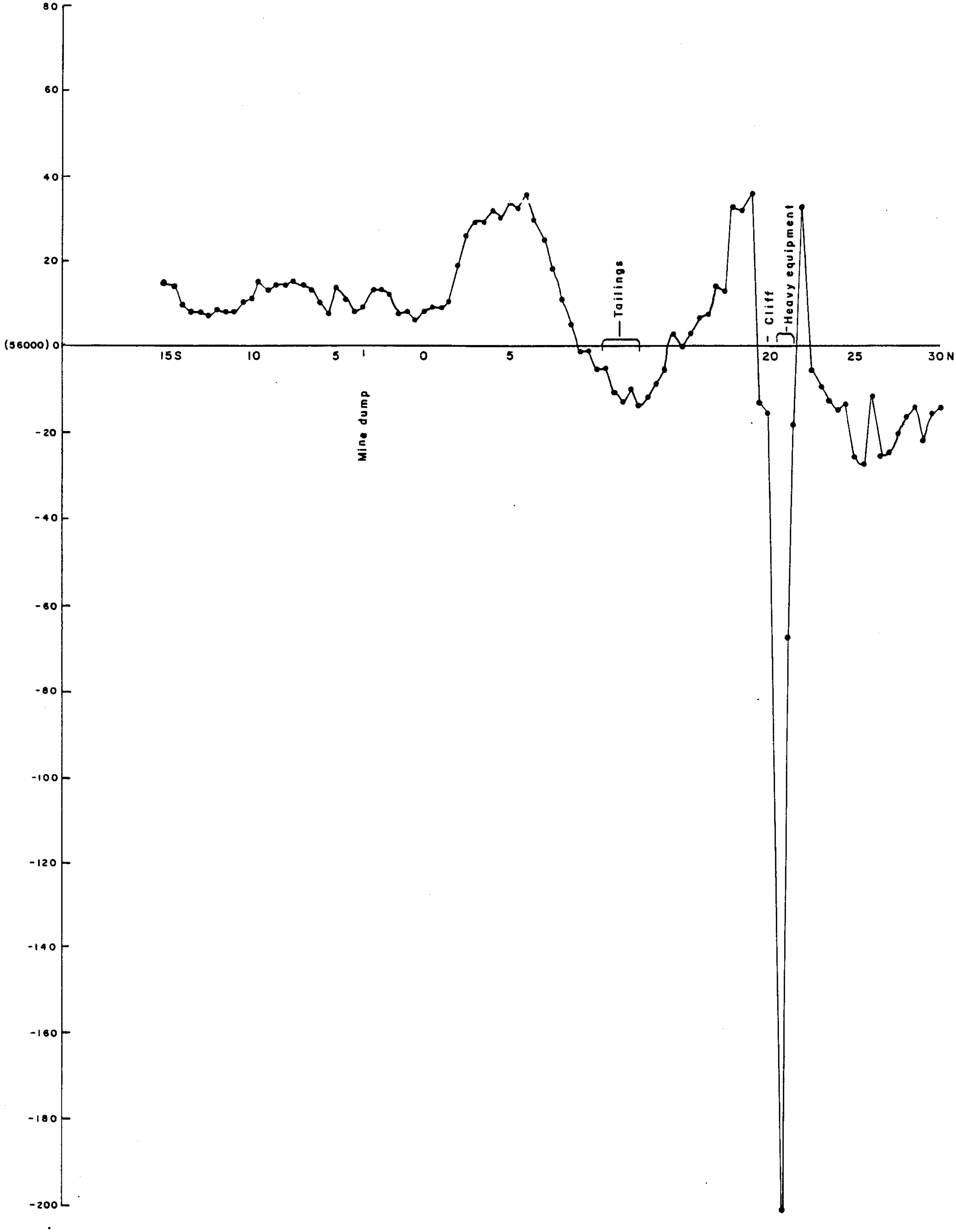


Figure E-25- Quigley Ridge Area, Magnetometer Profile, Line 50 W.

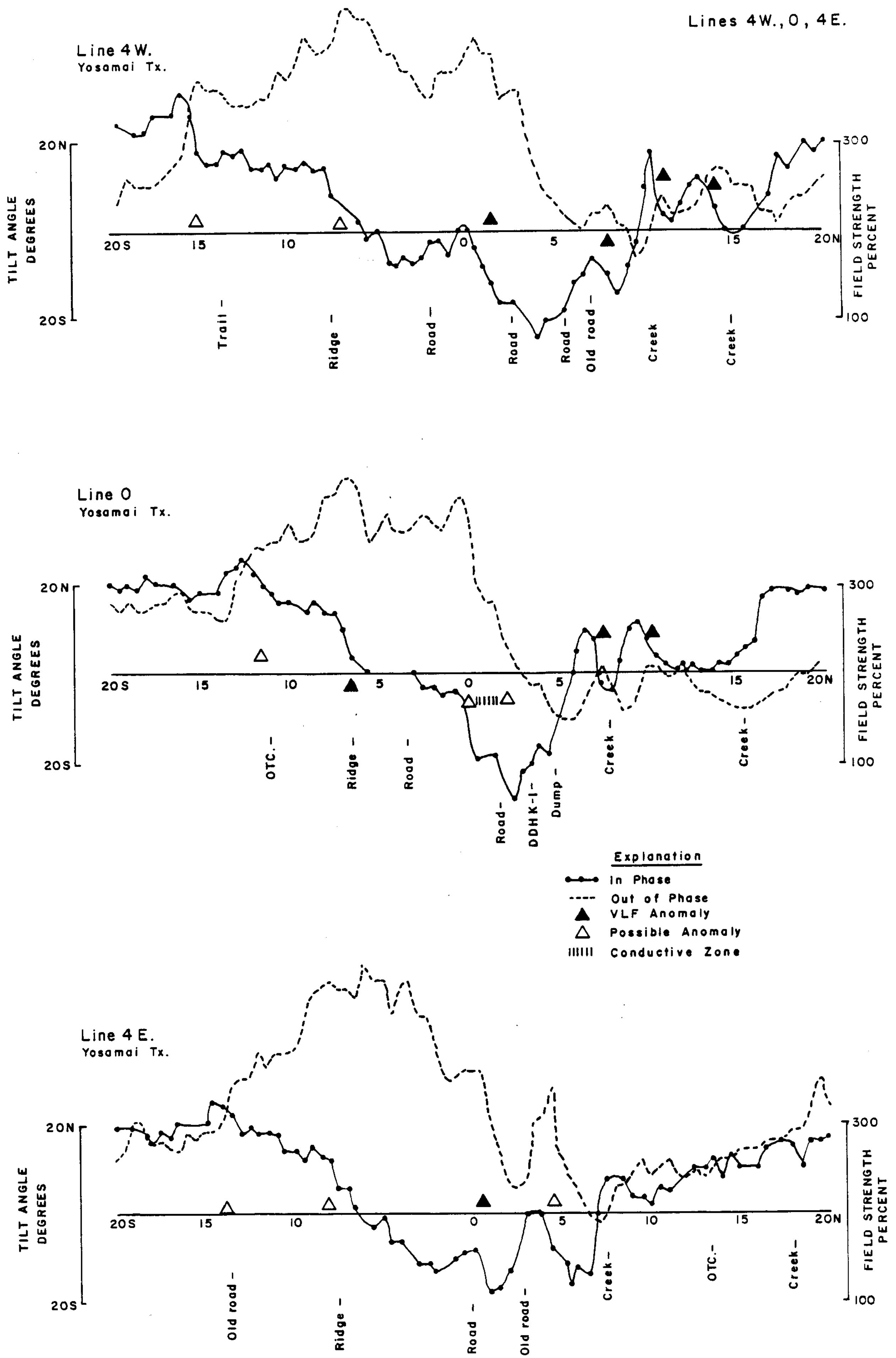


Figure E-26-Quigley Ridge Area, V.L.F., Lines 4W., O, 4E.

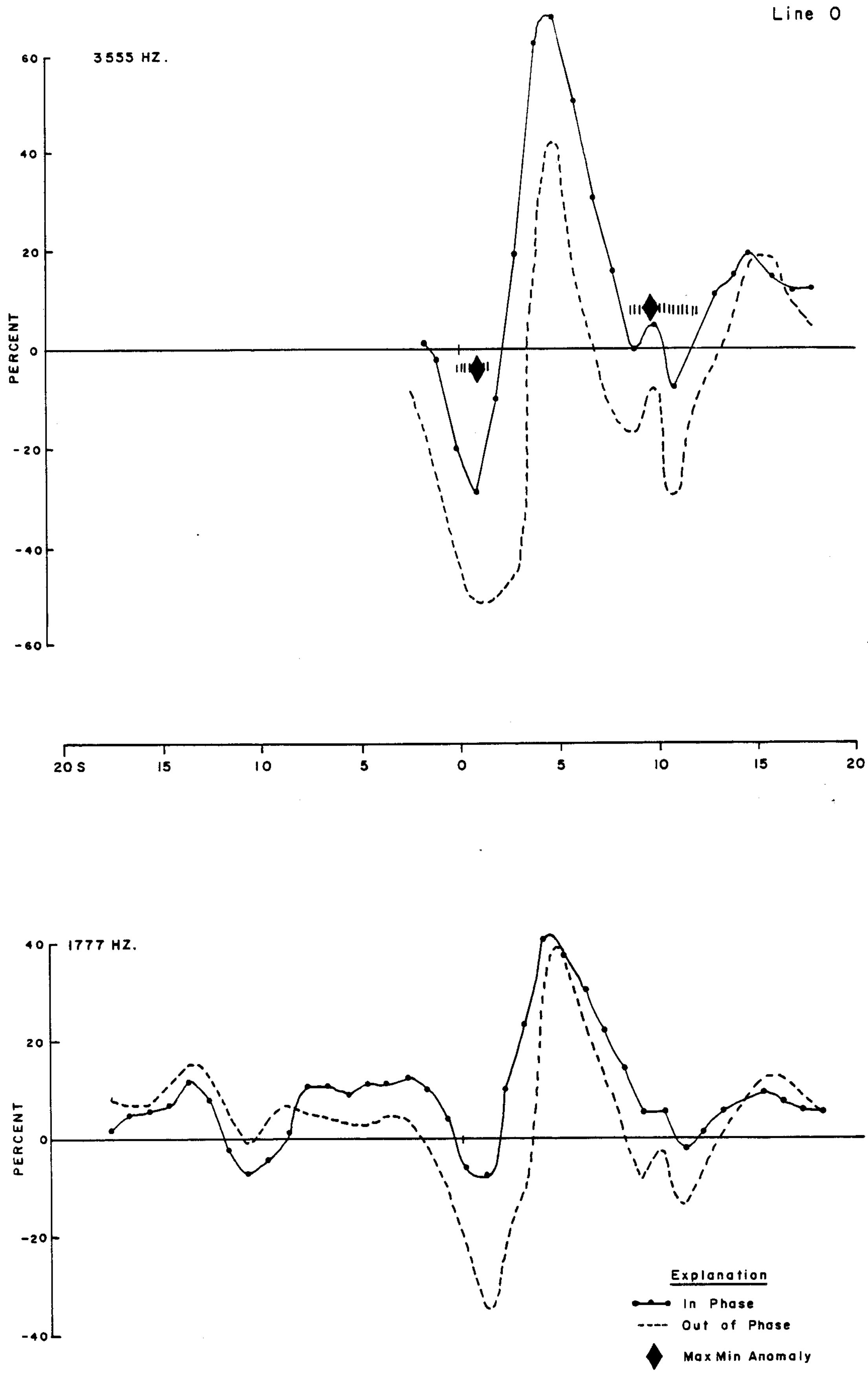


Figure E-27-Quigley Ridge Area, Max Min II E.M., Line O

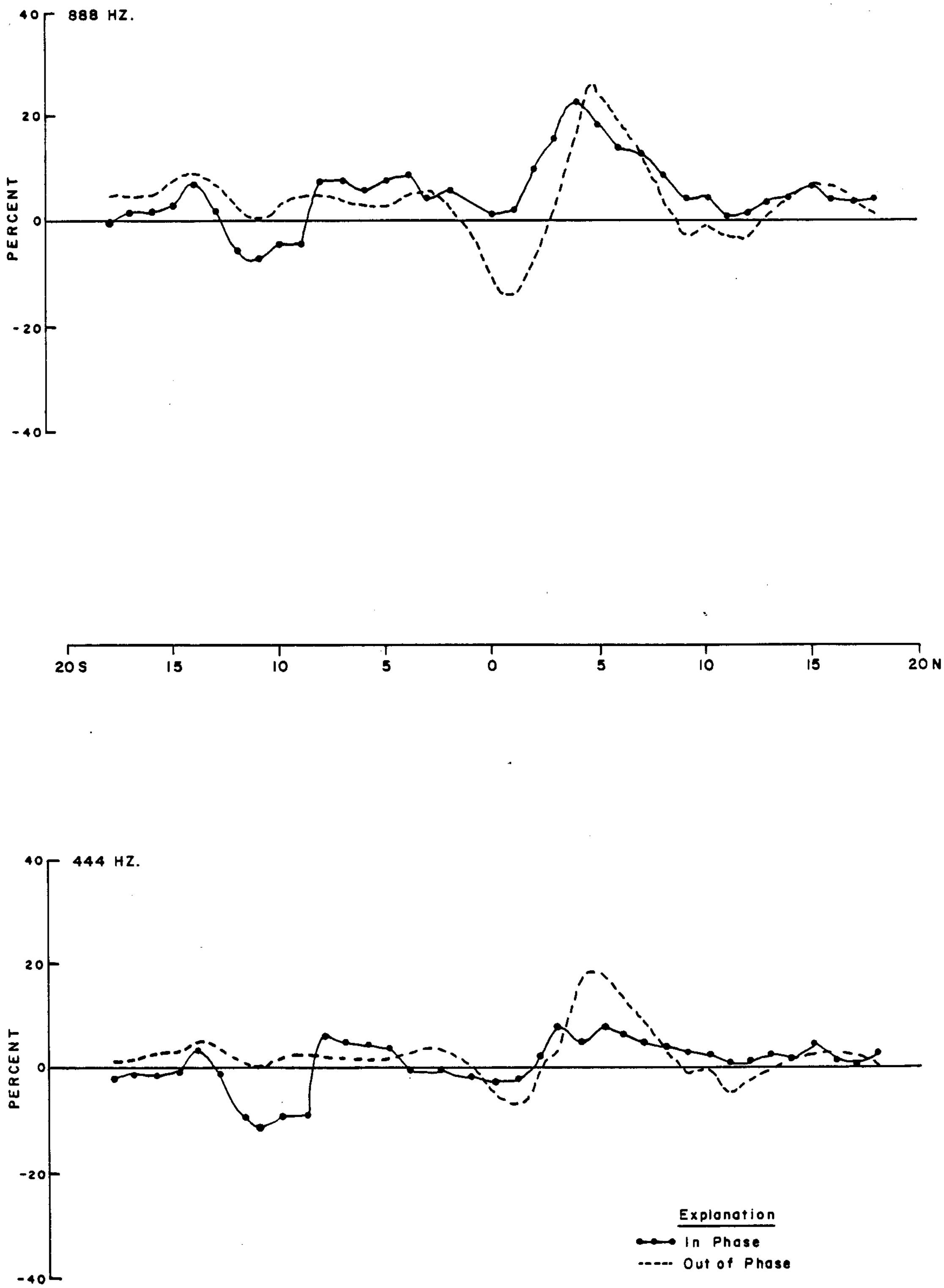


Figure E-28- Quigley Ridge Area, MaxMin II E.M., Line O

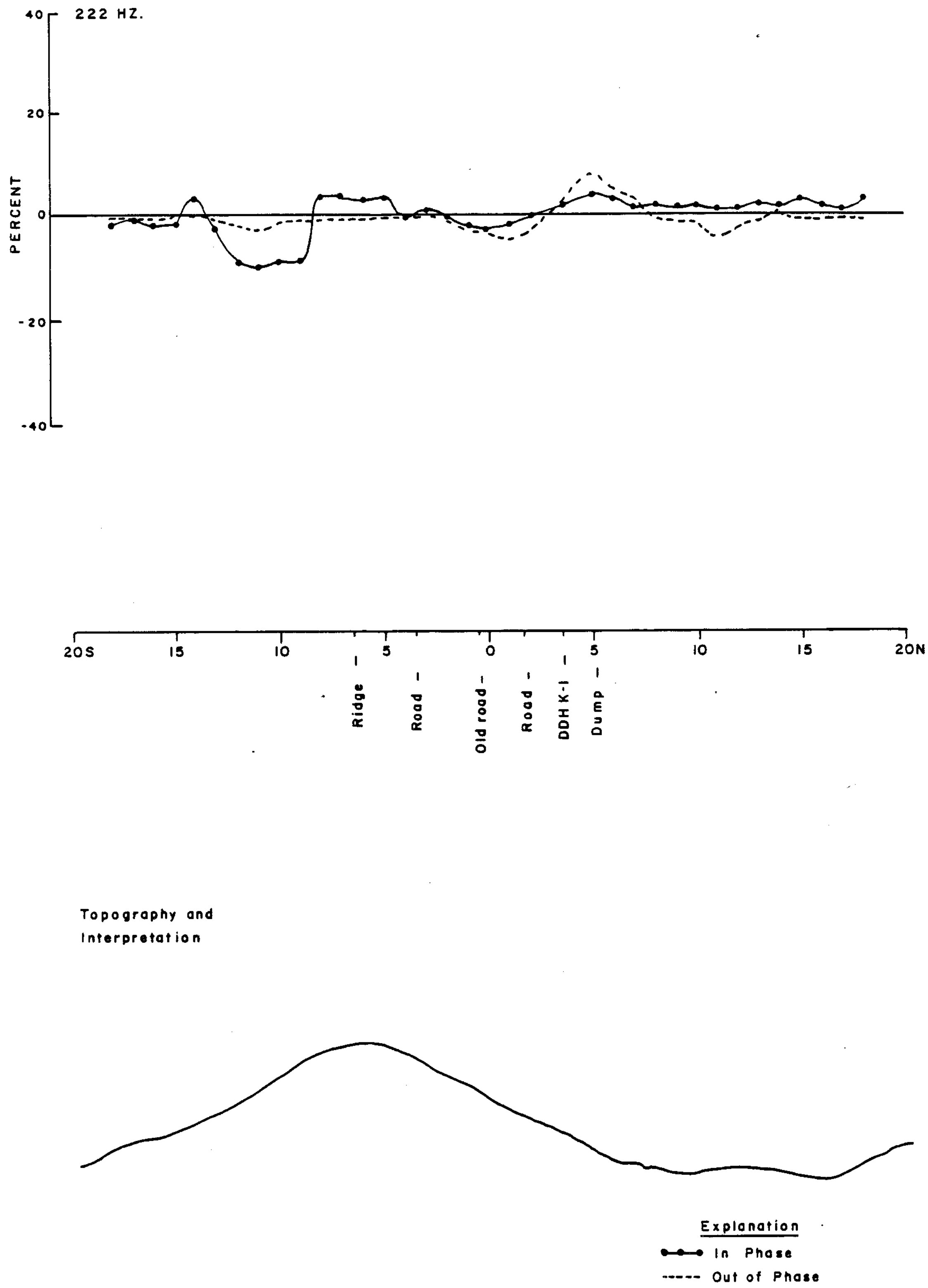


Figure E-29-Quigley Ridge Area, Max Min II E.M., Line O

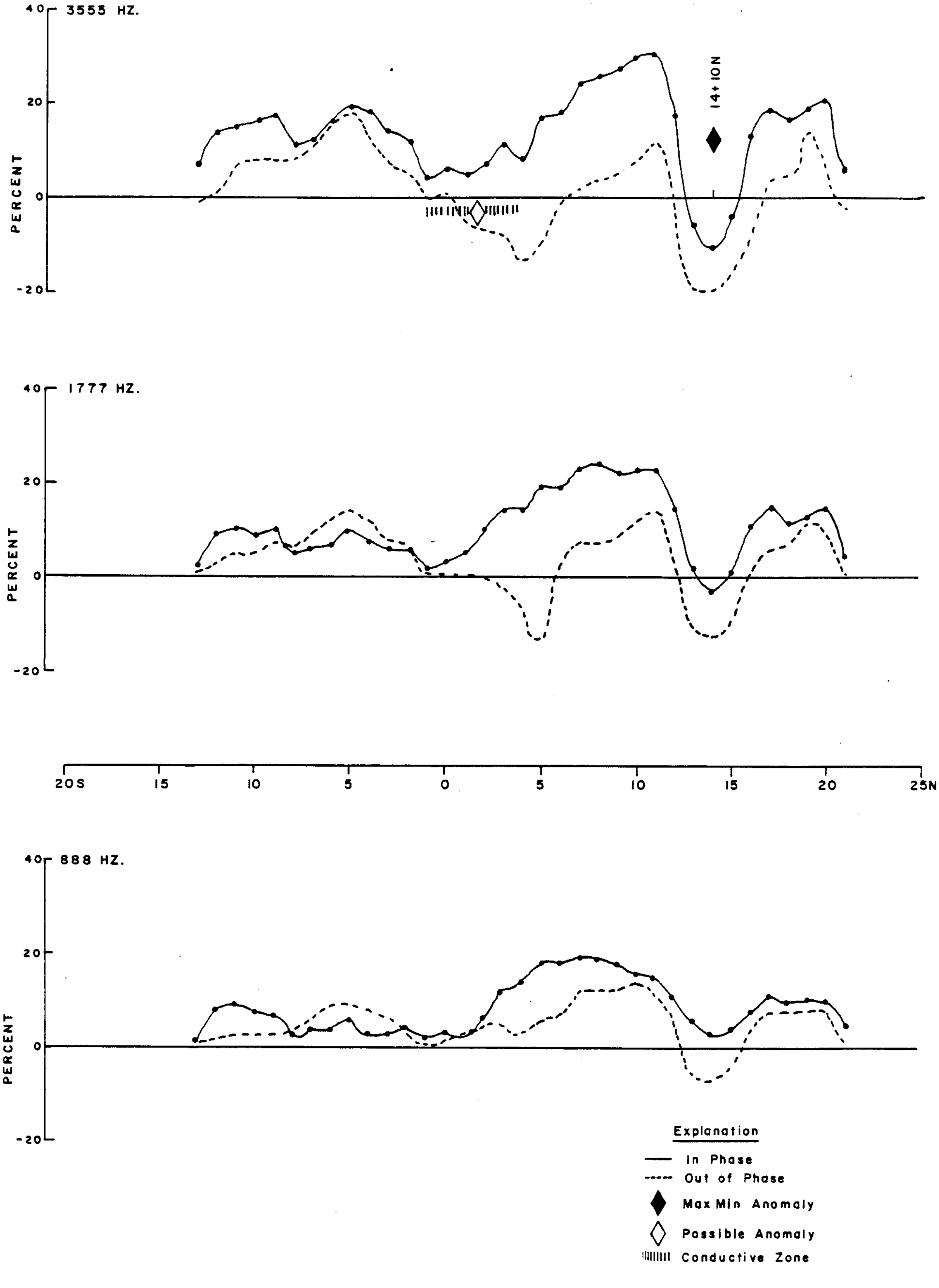


Figure E-30-Quigley Ridge Area, Max Min II E.M., Line 50 W.

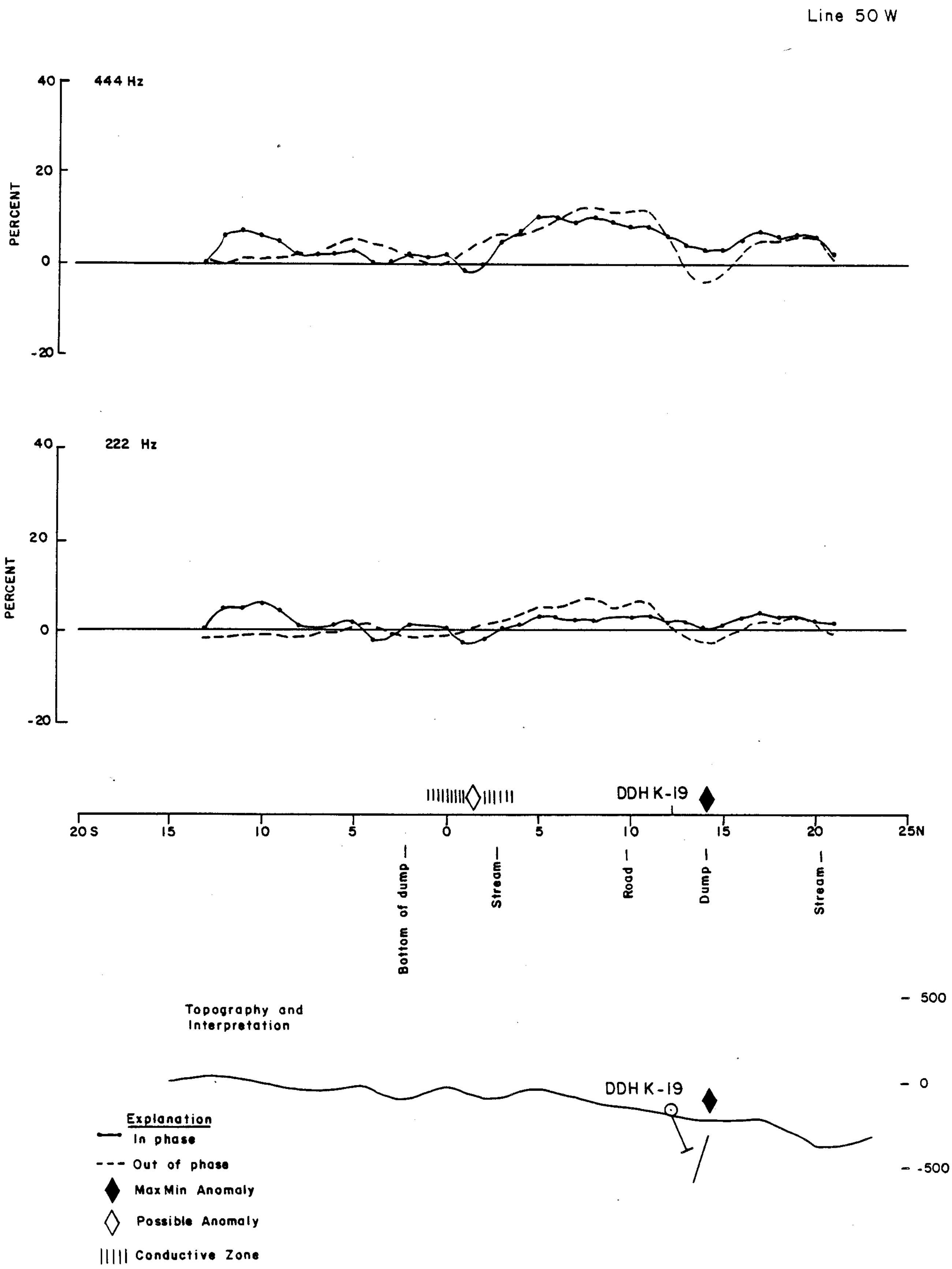


Figure E-31 Quigley Ridge Area, MaxMin II EM, Line 50W

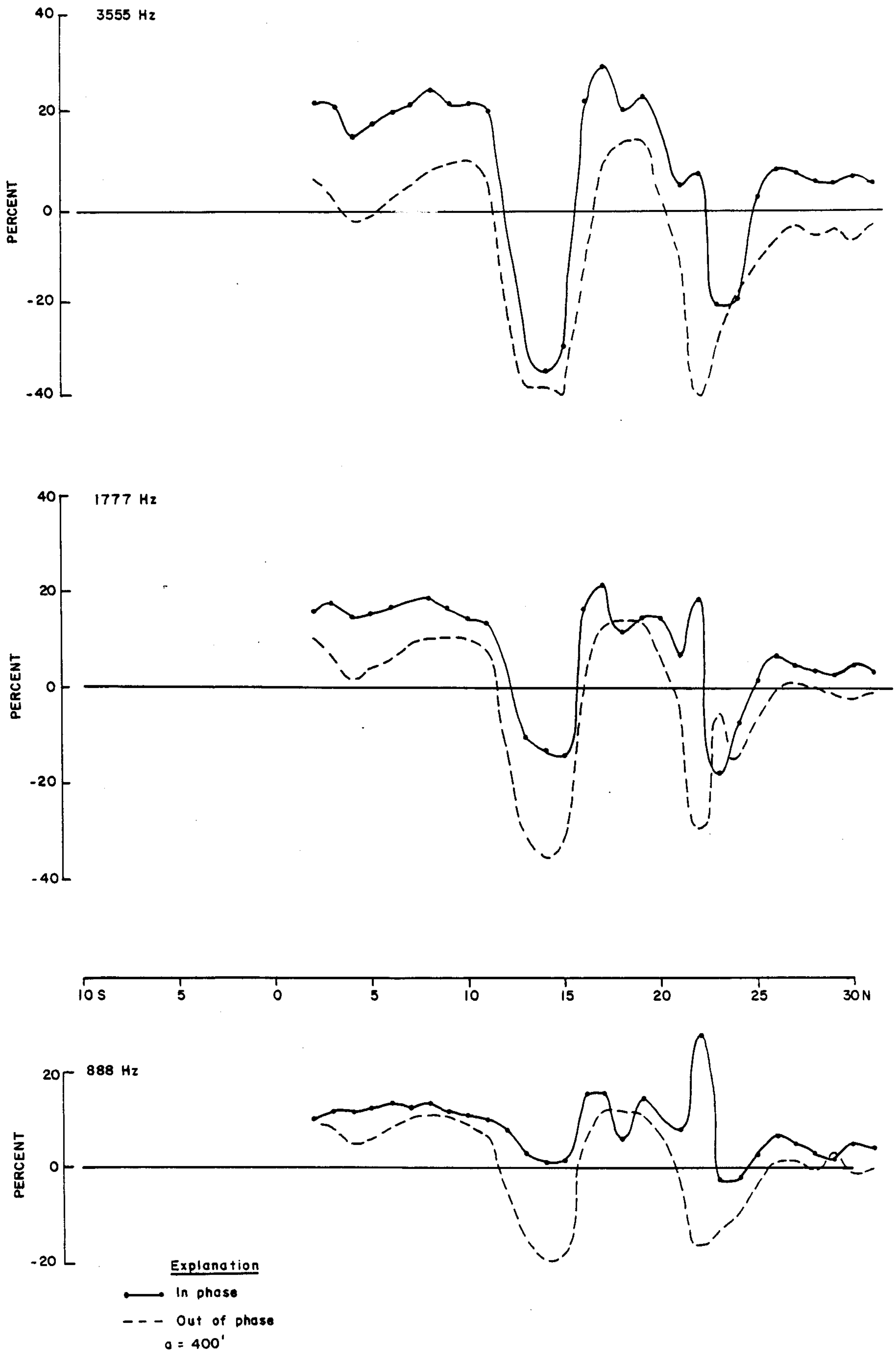


Figure E-32 Quigley Ridge Area, MaxMin II EM, Line 46W

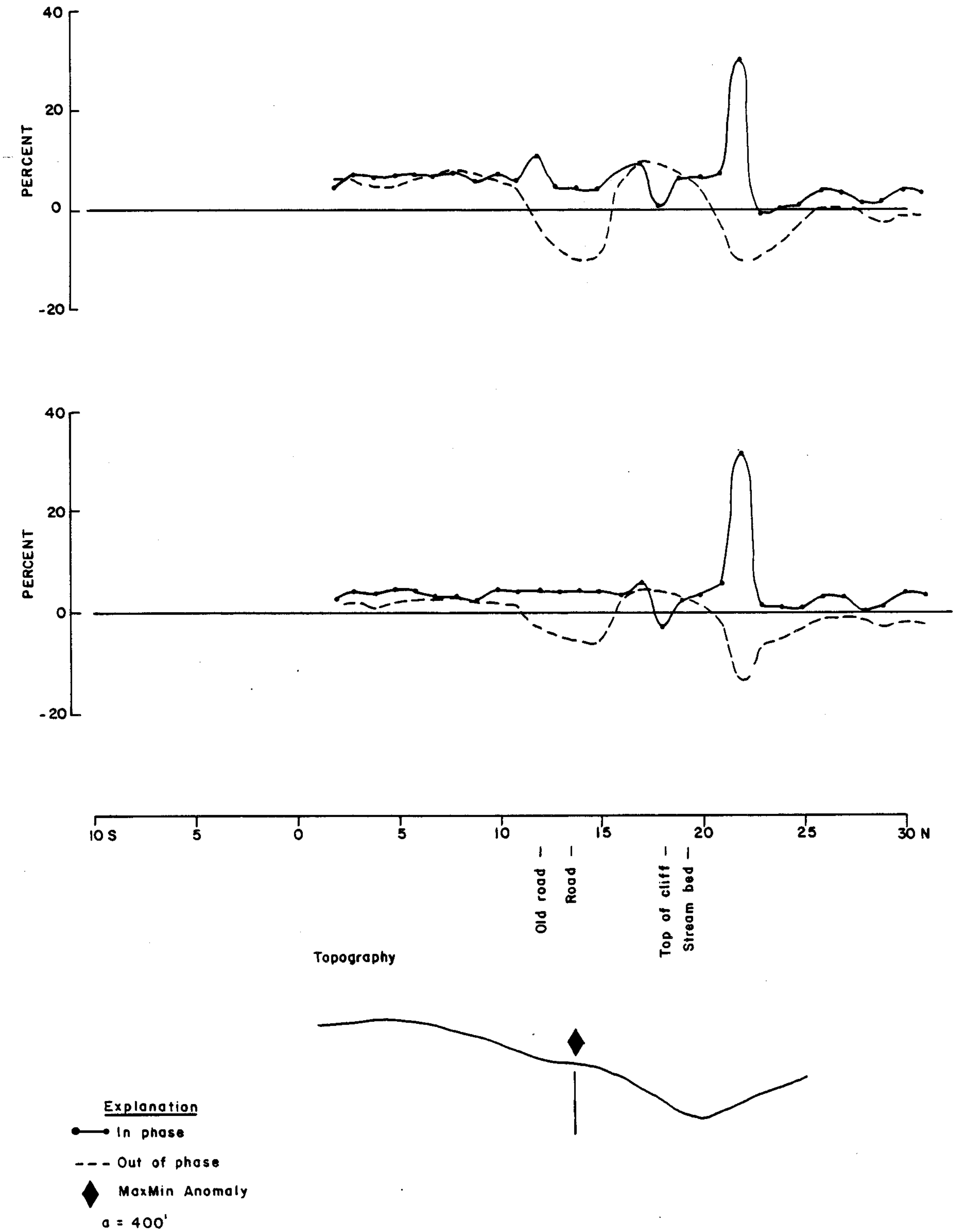


Figure E-33 Quigley Ridge Area, MaxMin II EM, Line 46 W

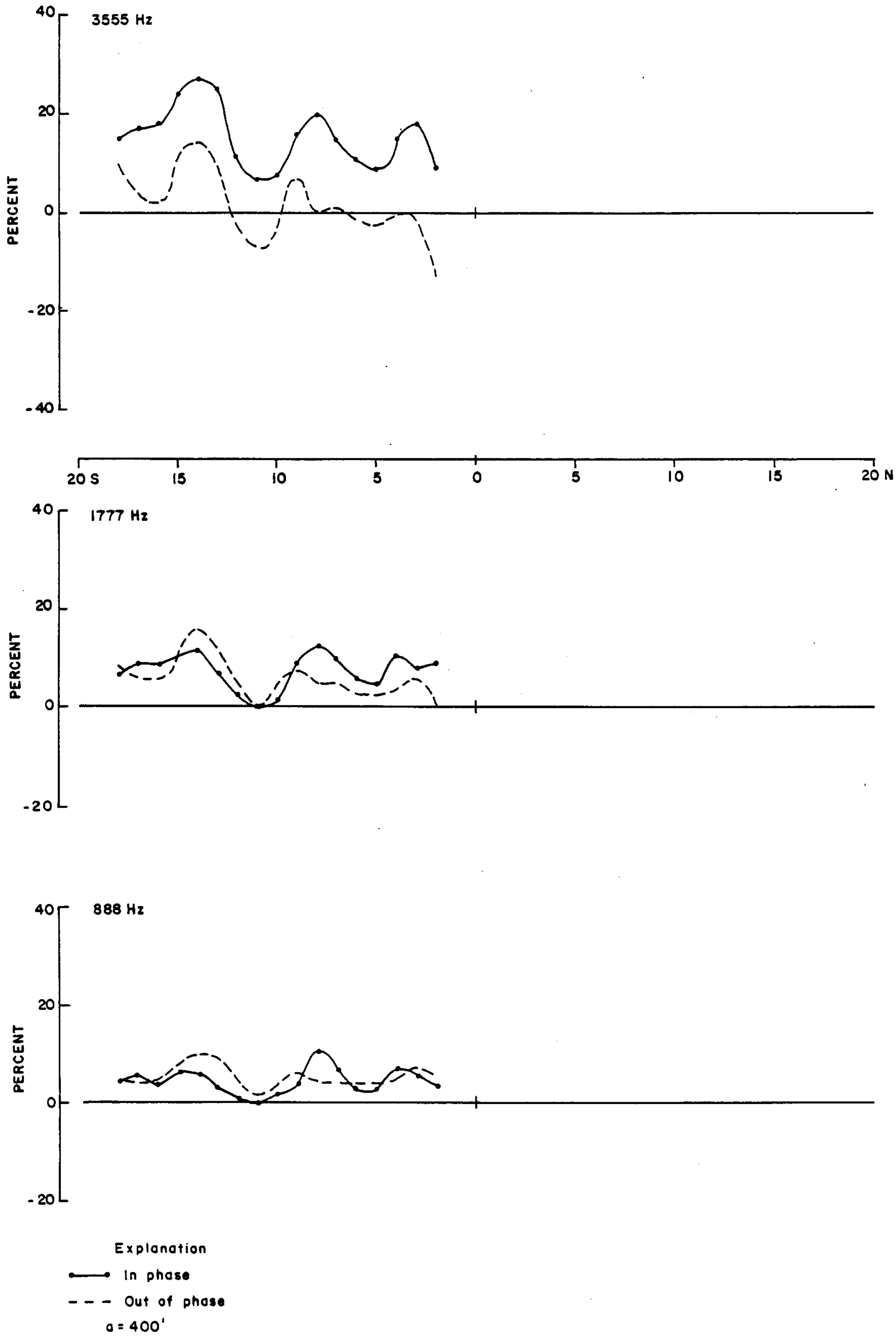


Figure E-34 Quigley Ridge Area, MaxMin II EM, Line O

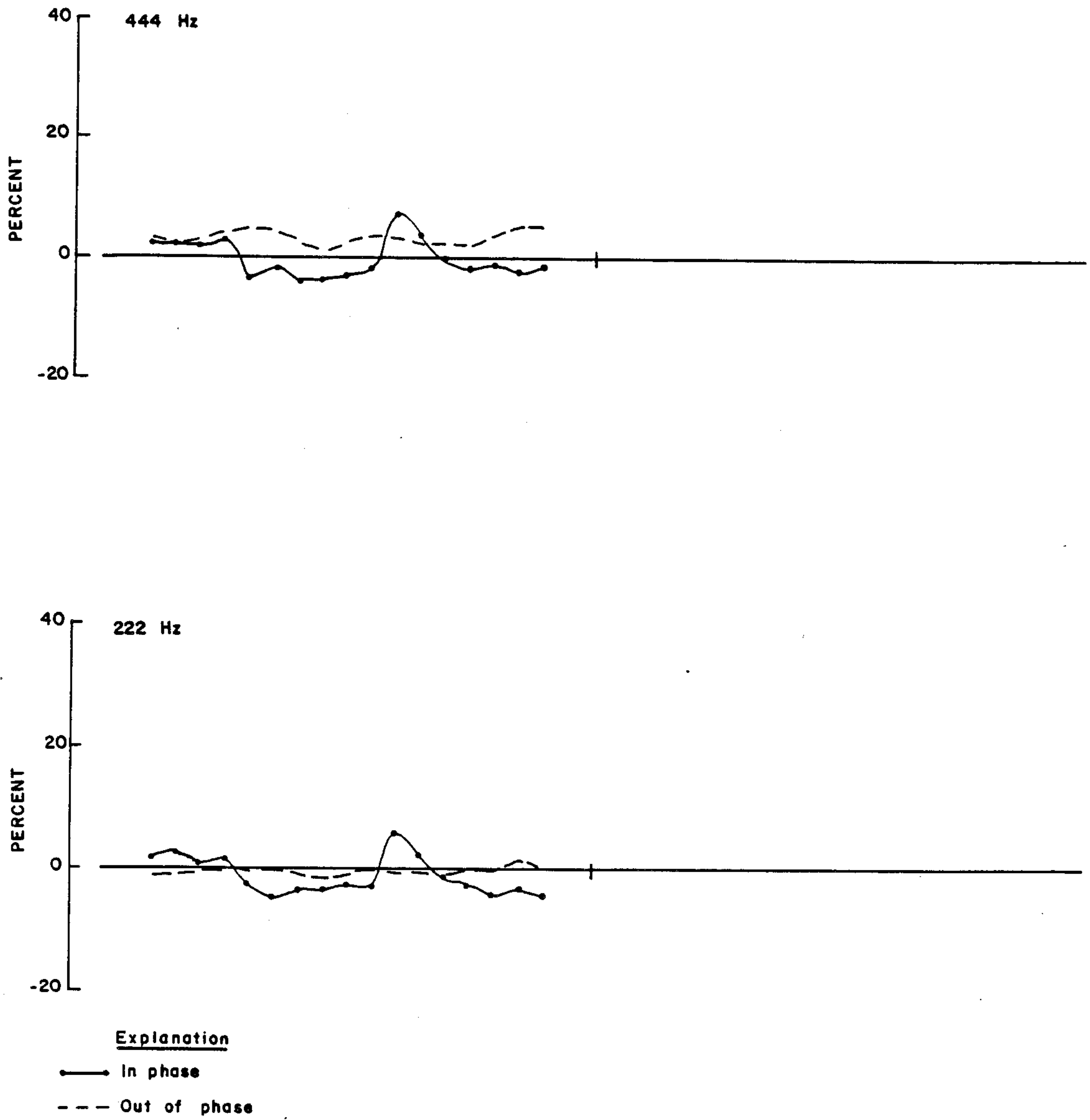


Figure E-35 Quigley Ridge Area, MaxMin II EM, Line O

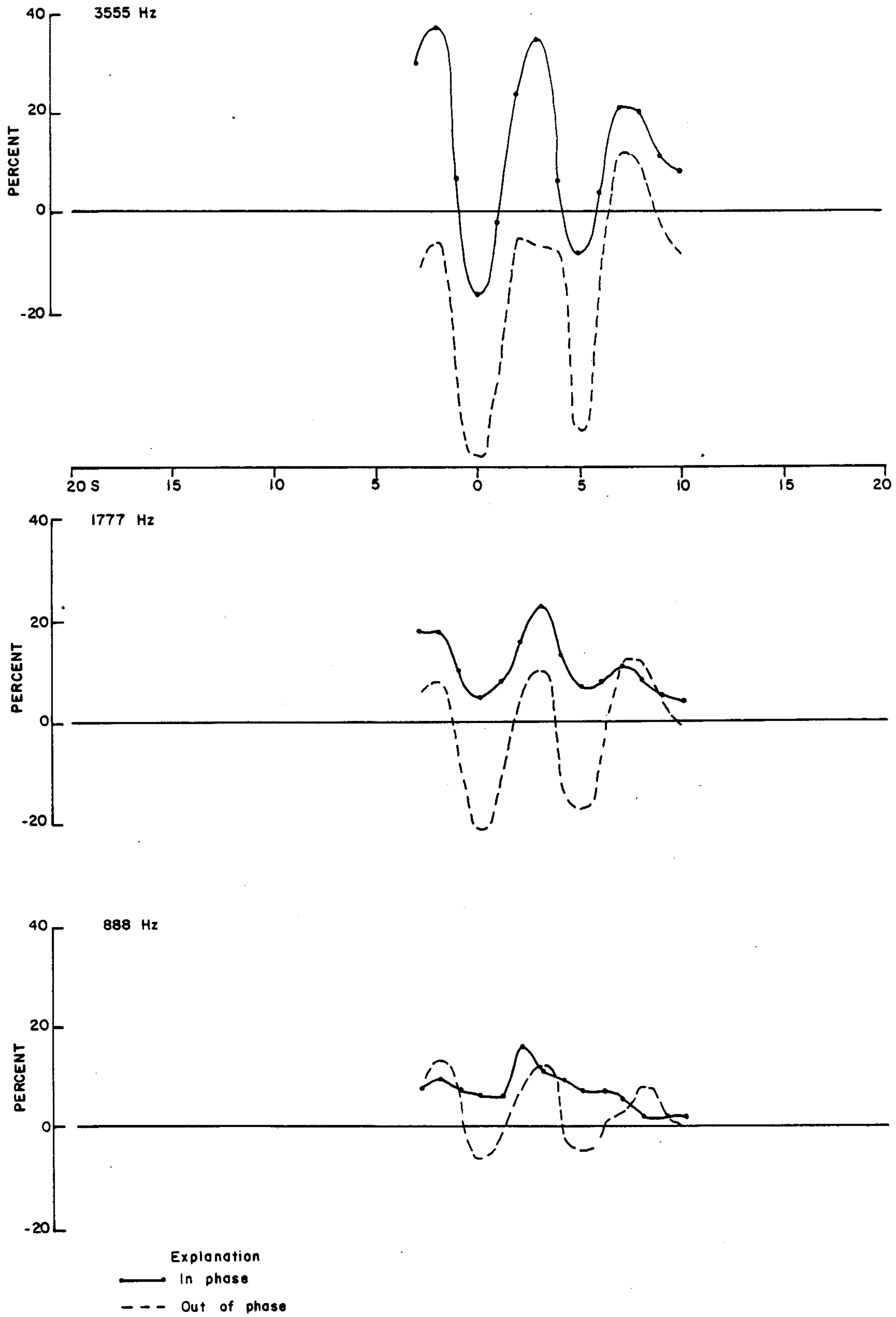


Figure E-36 Quigley Ridge Area, MaxMin II EM, Line 4+00 E

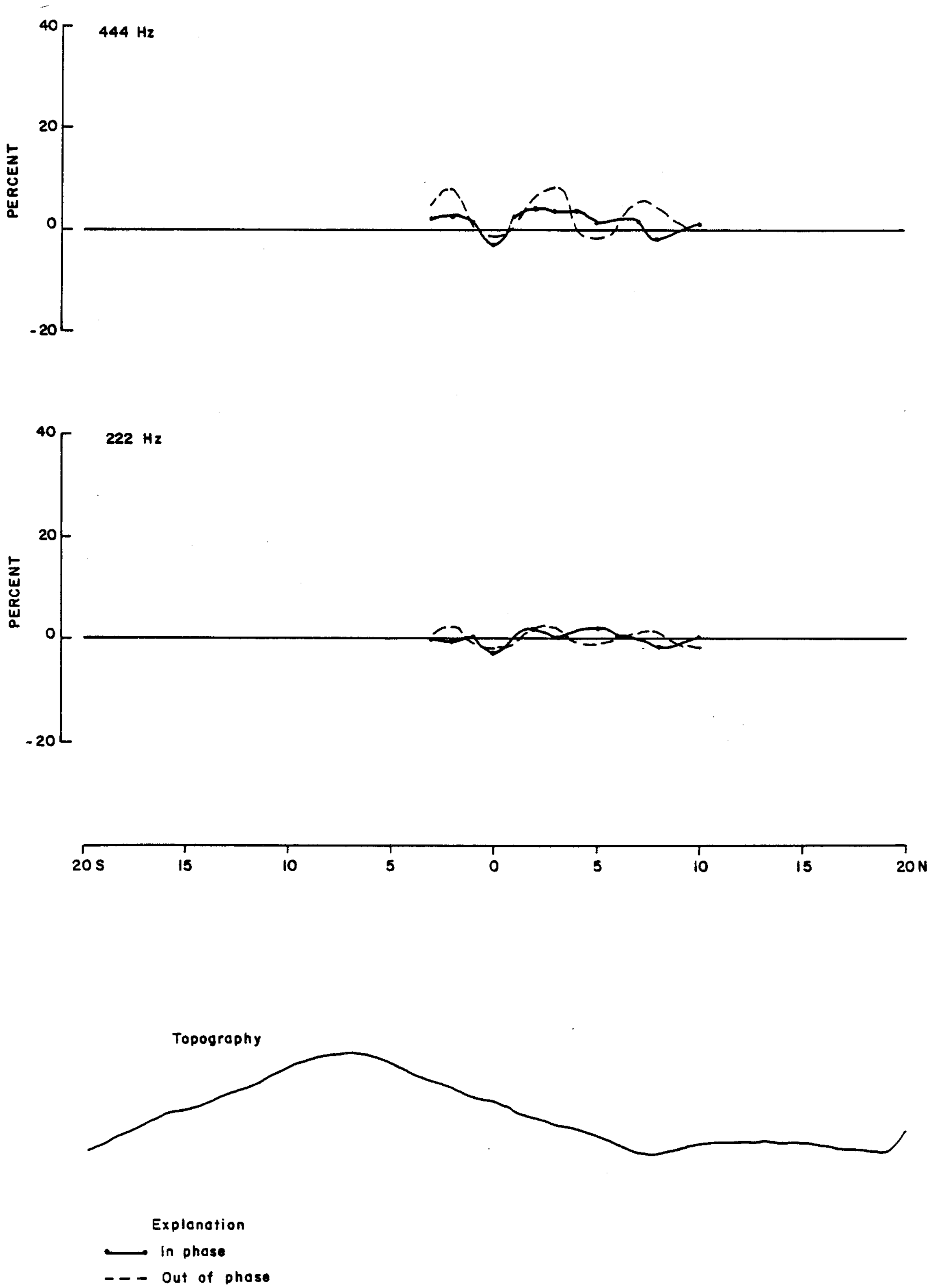


Figure E-37 Quigley Ridge Area, MaxMin II EM, Line 4+00E

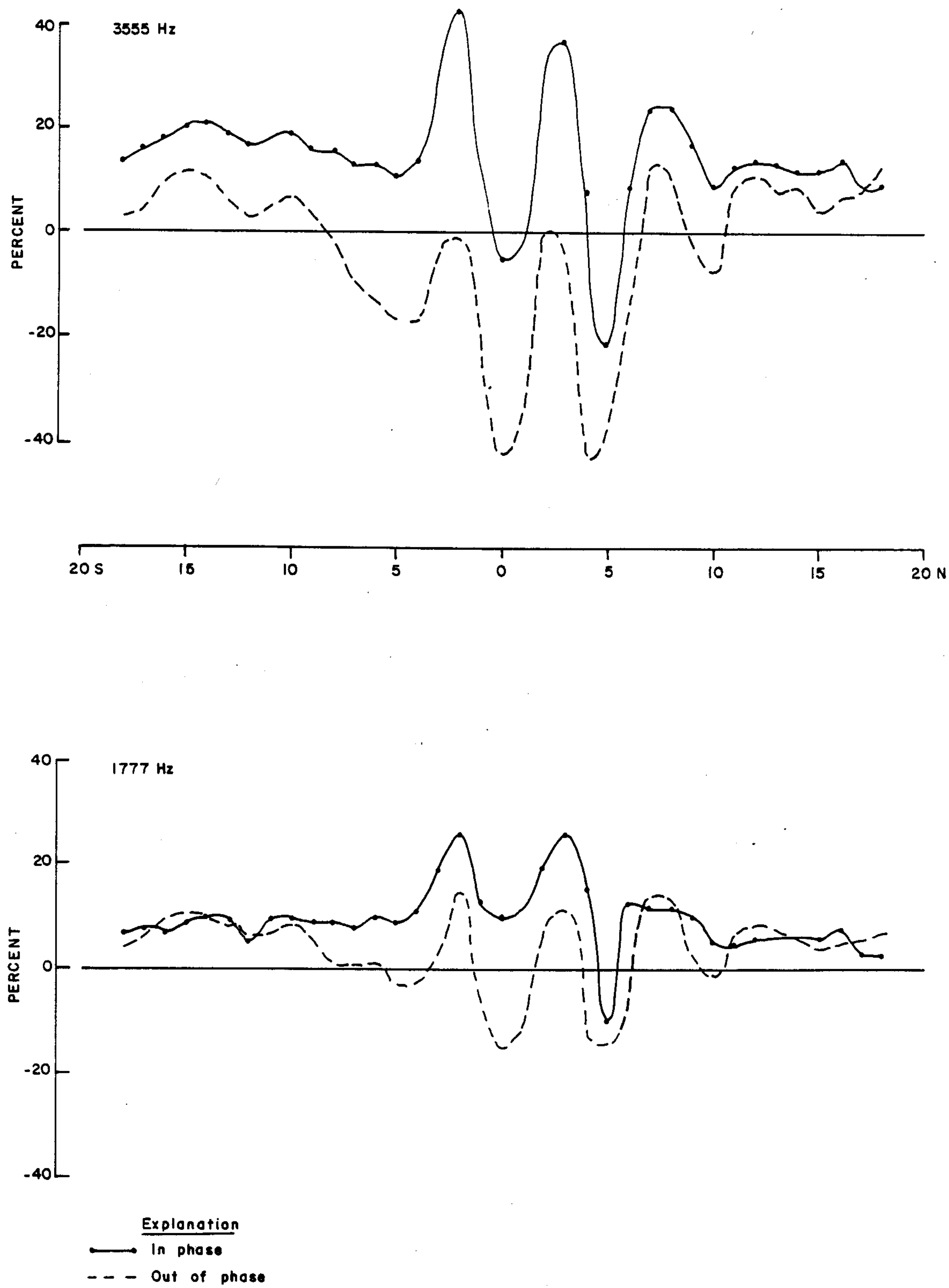


Figure E-38 Quigley Ridge Area, MaxMin II EM, Line 4+00 E

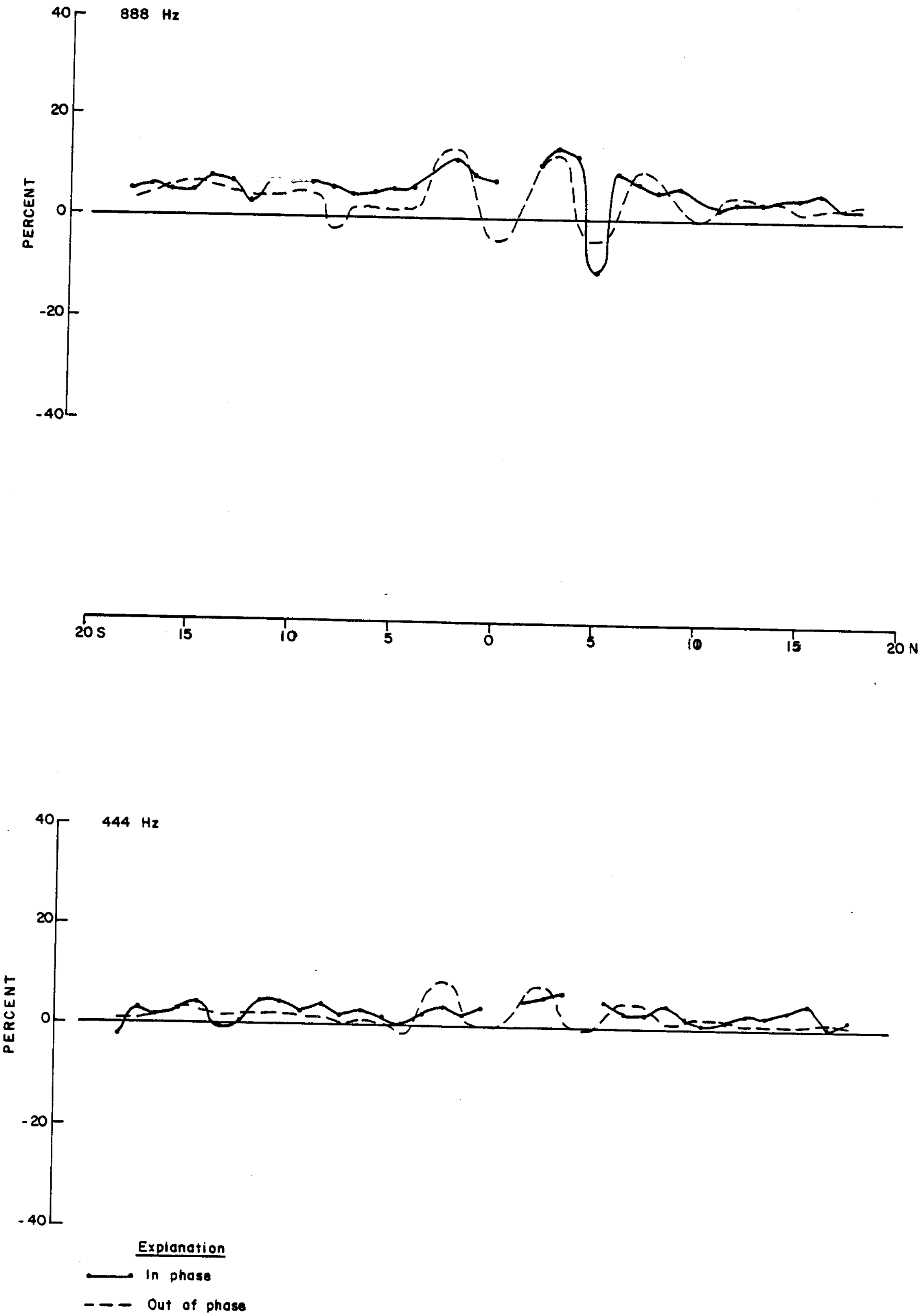


Figure E-39 Quigley Ridge Area, MaxMin II EM, Line 4+00 E

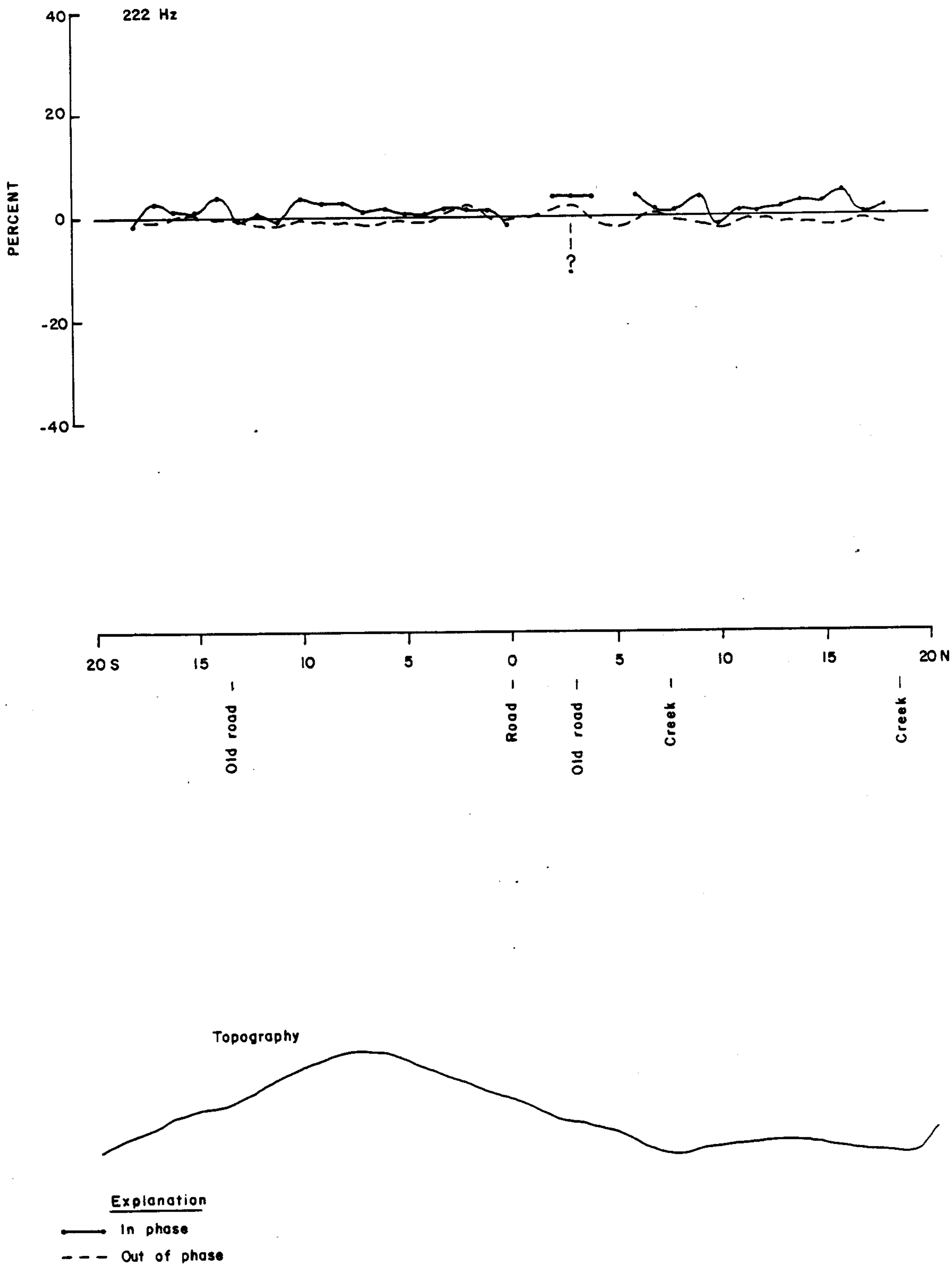


Figure E-40 Quigley Ridge Area, MaxMin II EM, Line 4+00 E

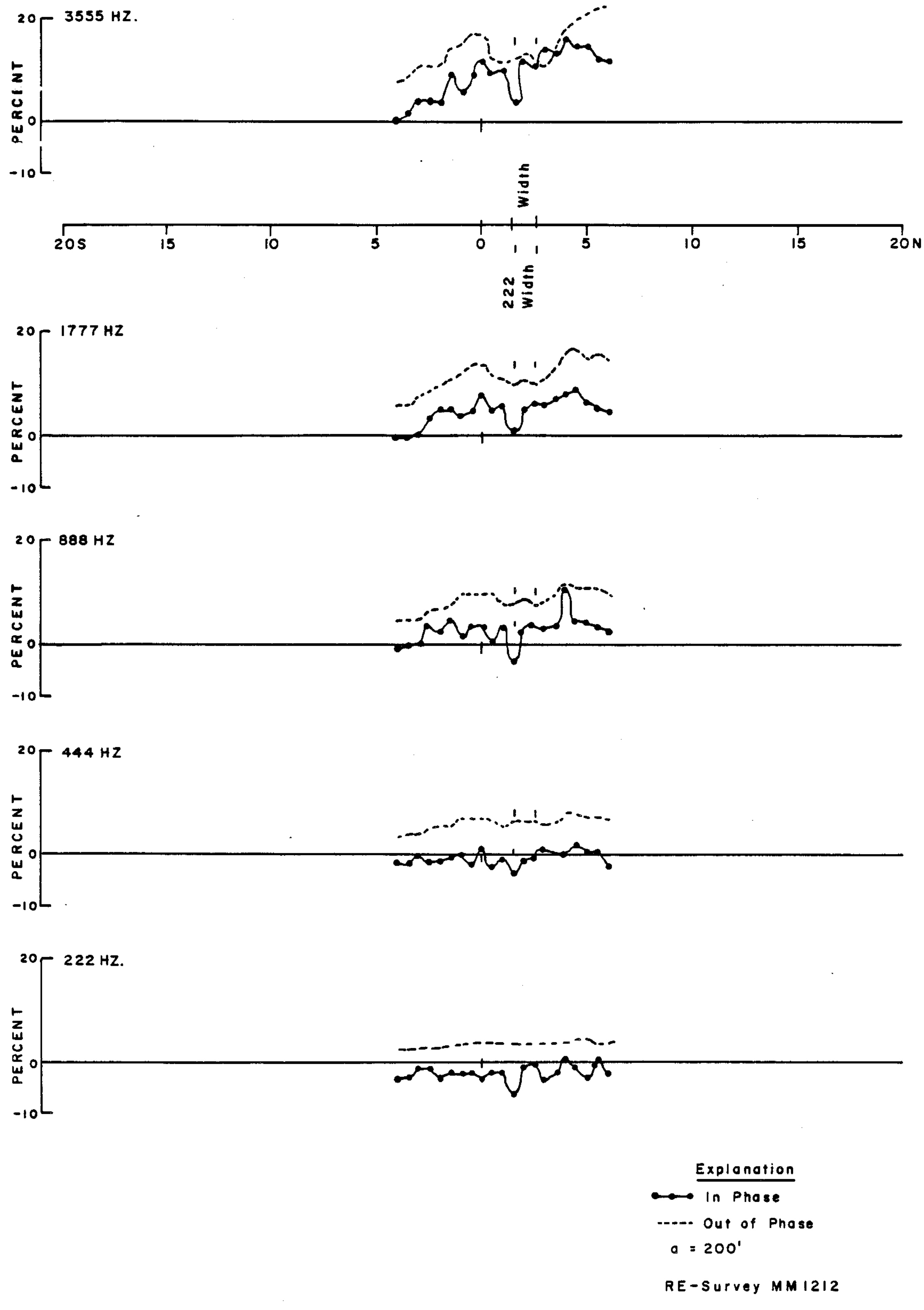


Figure E-41-Quigley Ridge Area, Max Min II E.M., Line 4+00 W.

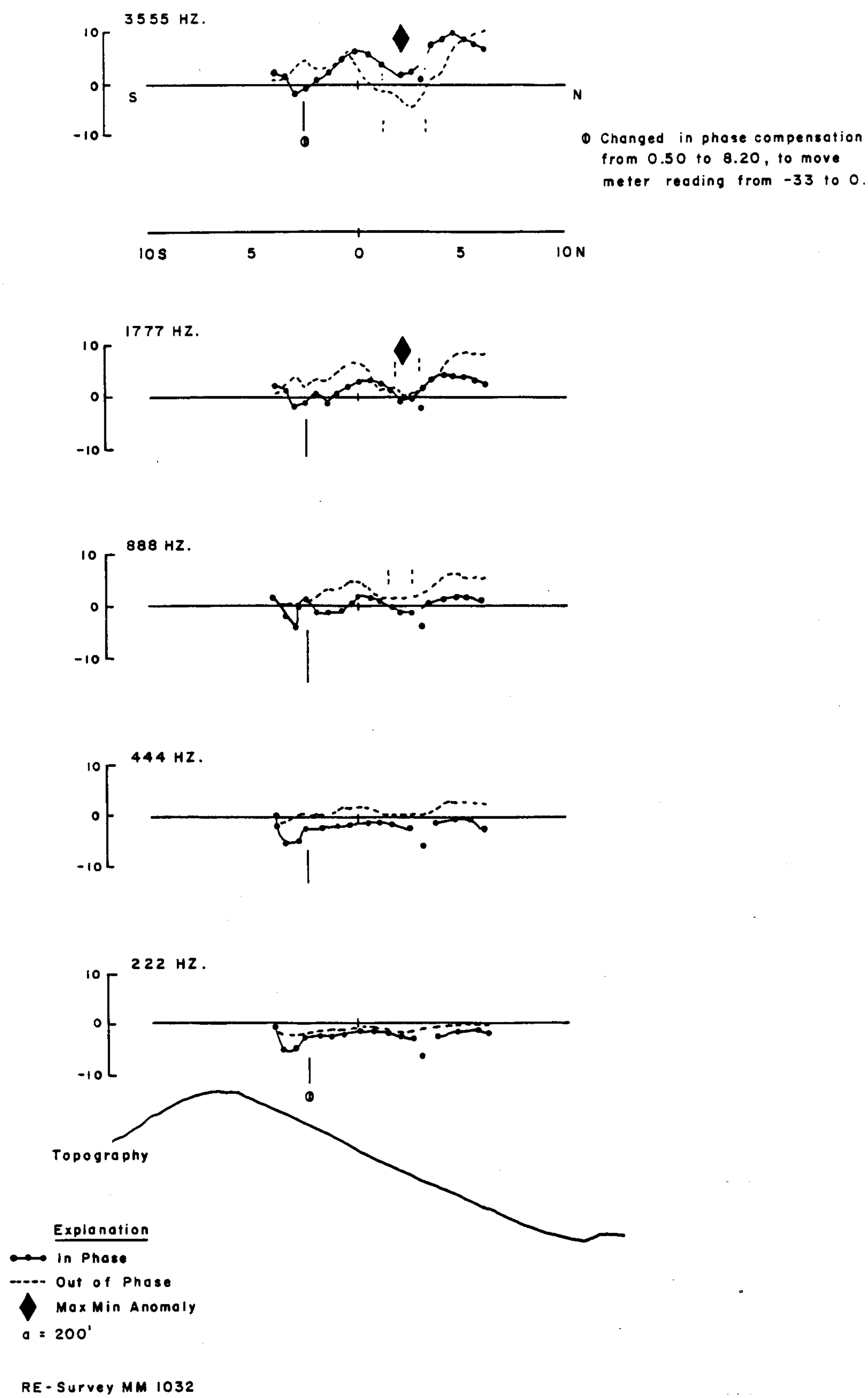


Figure E-42-Quigley Ridge Area, Max Min II E.M., Line 4+00 W.

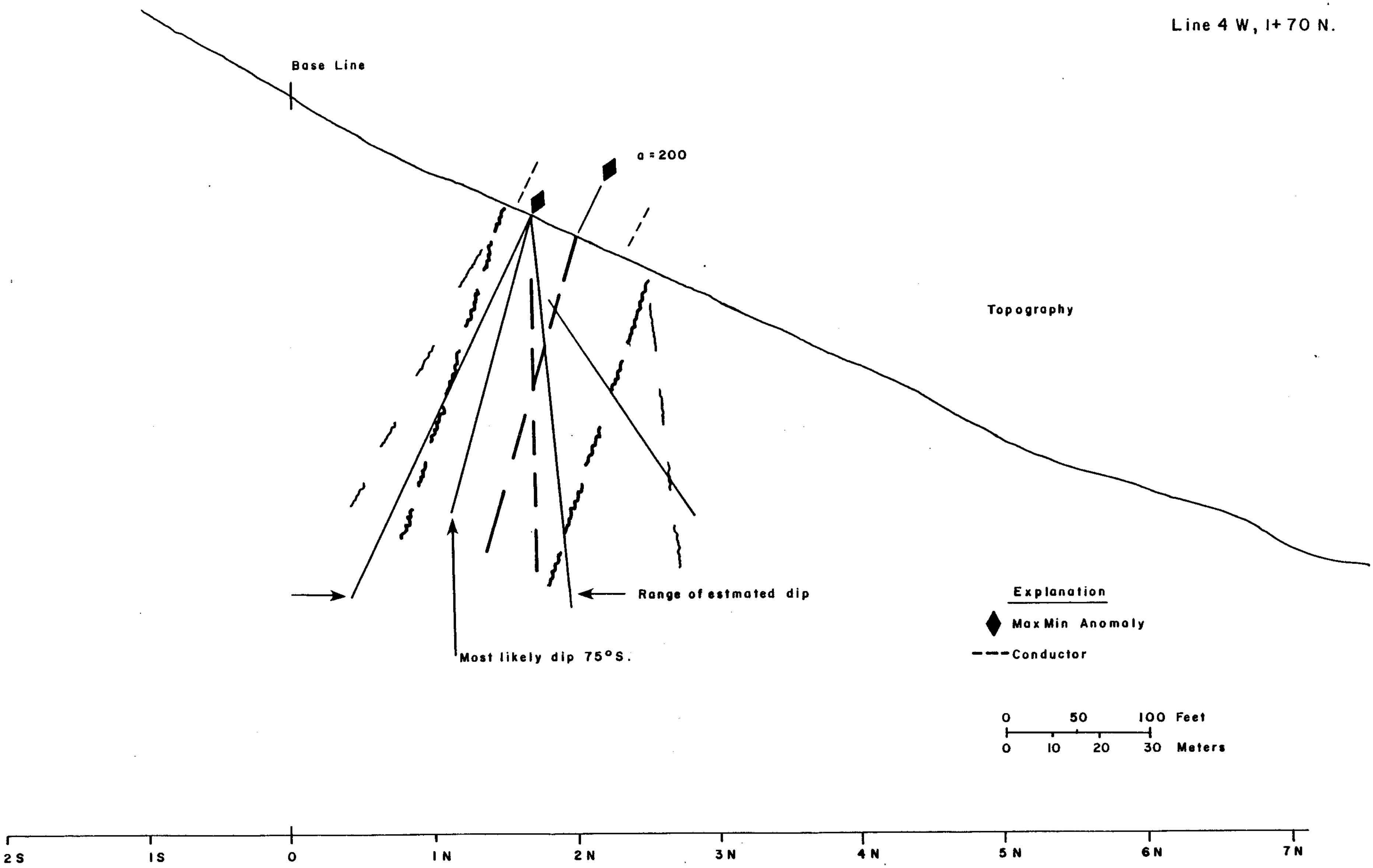


Figure E-43-Quigley Ridge Area, Anomaly Interpretation, Line 4 W., 1+70 N.

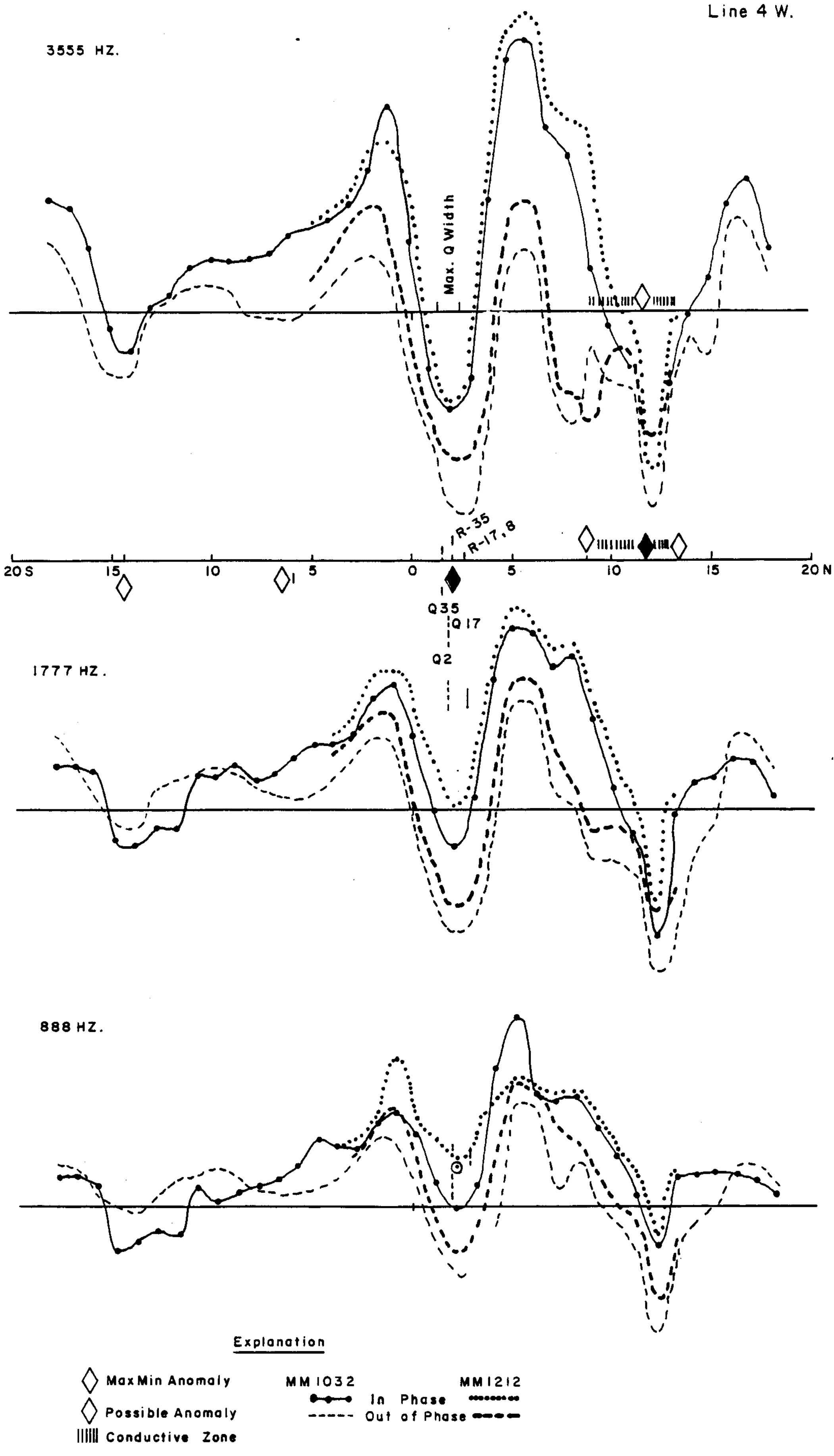


Figure E-44 - Quigley Ridge Area, Max Min II E.M. Profile, Line 4 W.

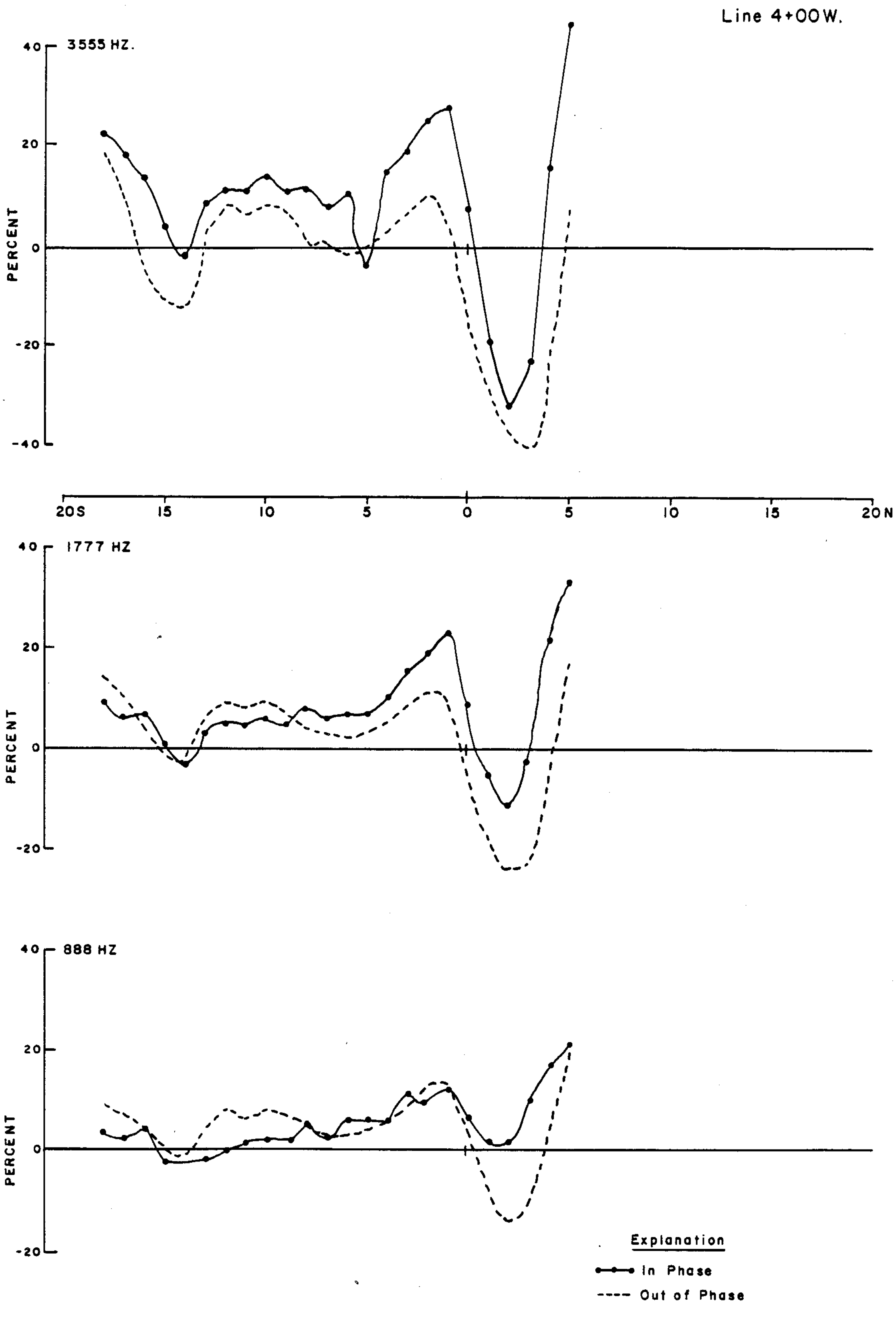


Figure E-45-Quigley Ridge Area, MaxMin II E.M., Line 4+00 W.

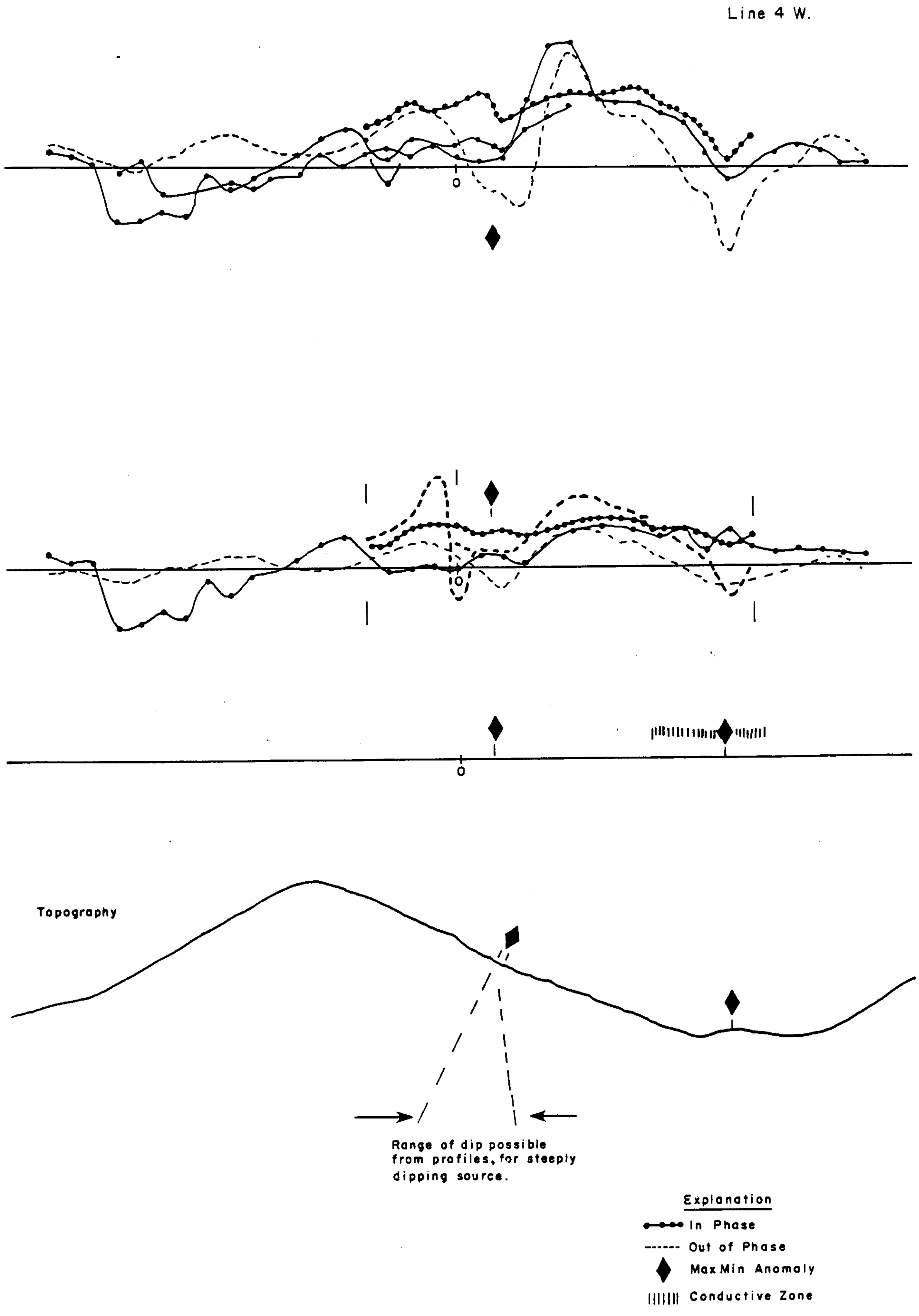
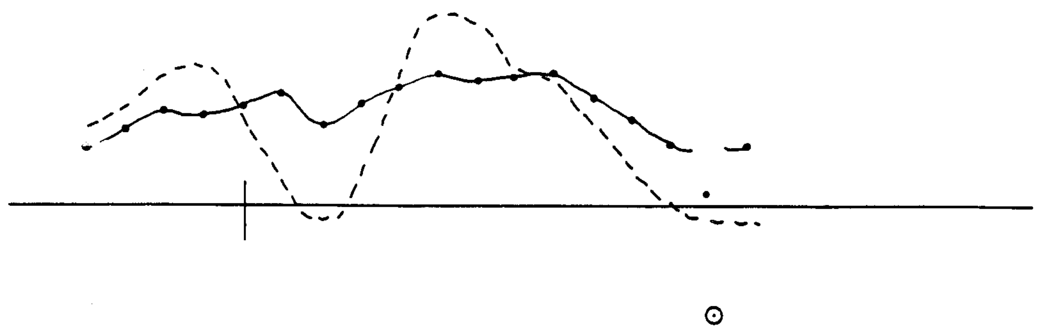


Figure E-46 · Quigley Ridge Area, Max Min II E.M., Line 4 W.

Line 4 W.



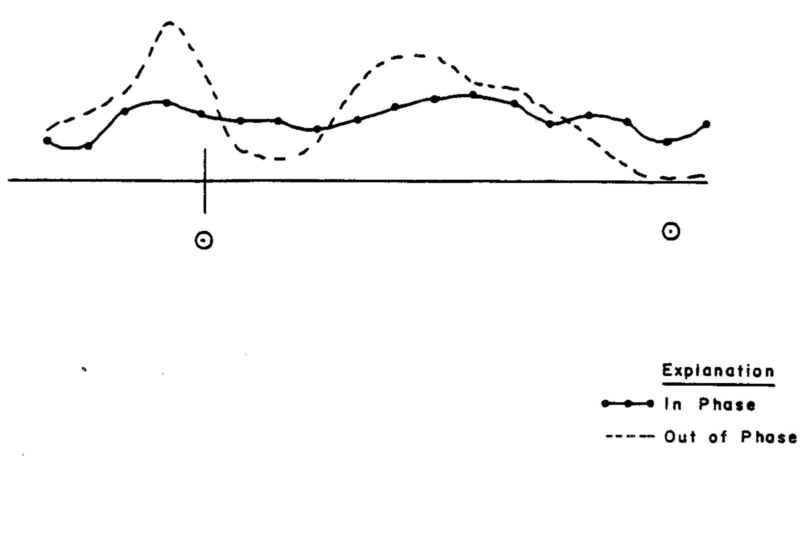


Figure E-47-Quigley Ridge Area, Max Min II E.M., Line 4 W.

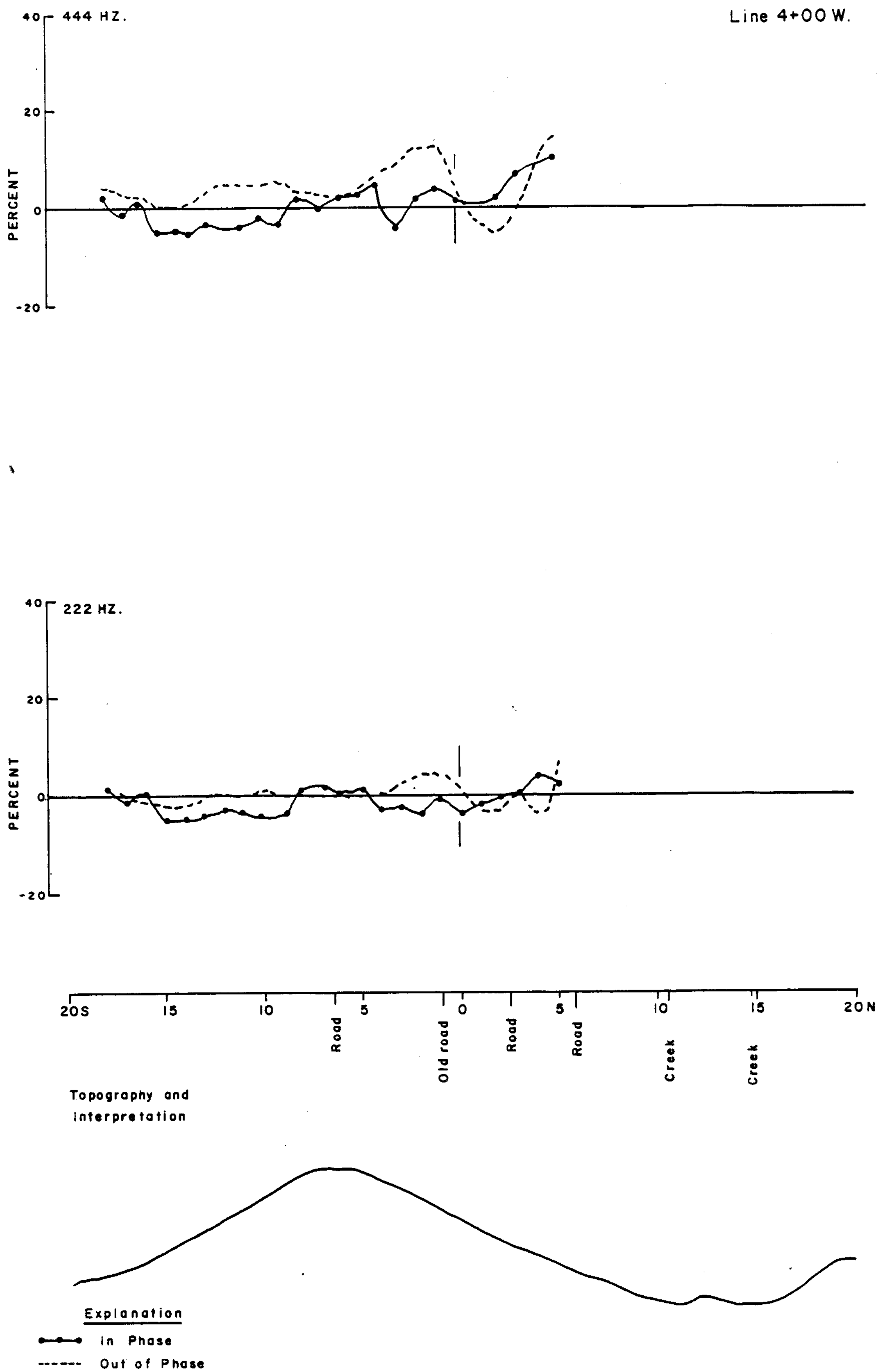


Figure E-48- Quigley Ridge Area, MaxMin II E.M., Line 4+00 W.

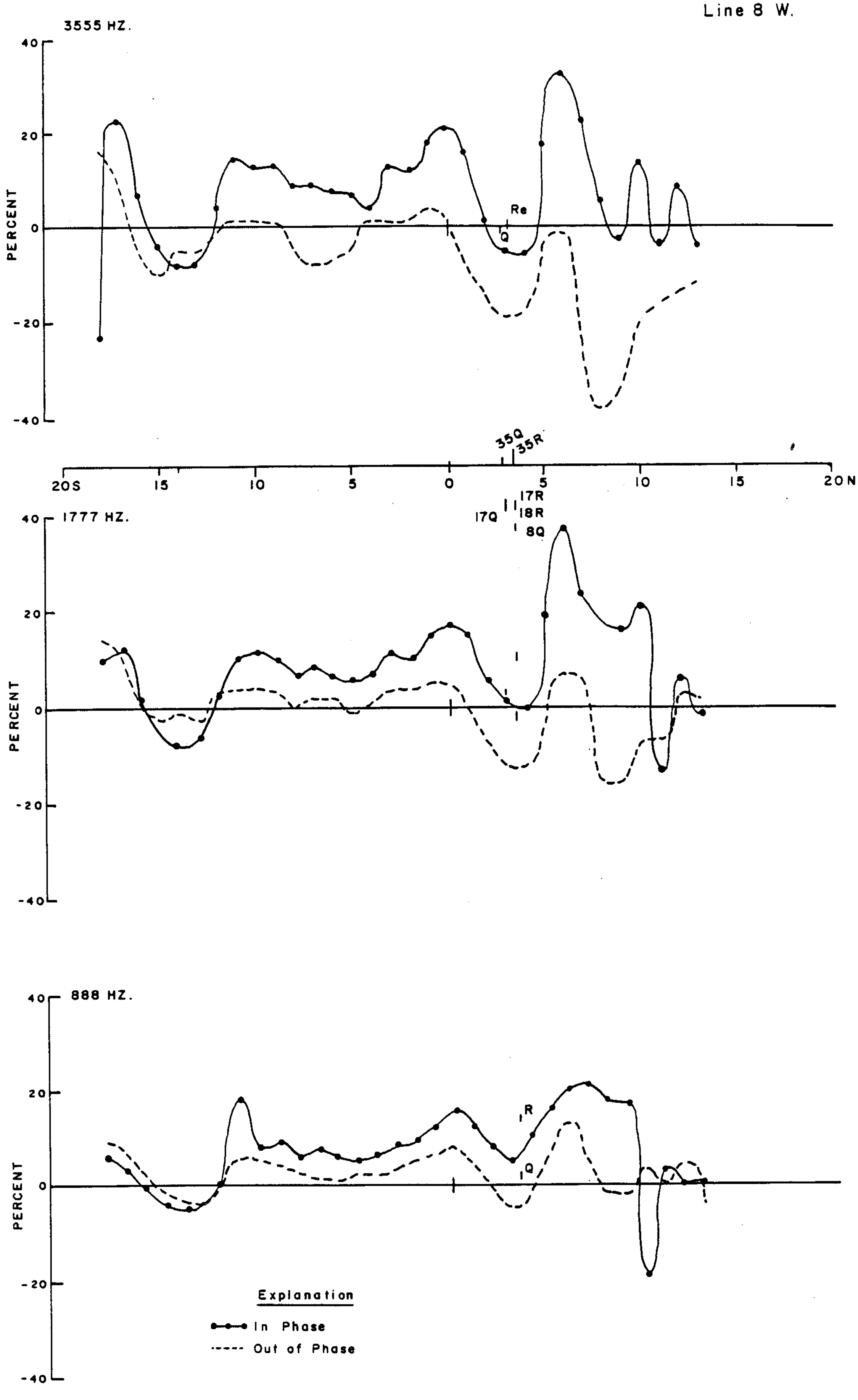


Figure E-49-Quigley Ridge Area, MaxMin II E.M., Line 8 W.

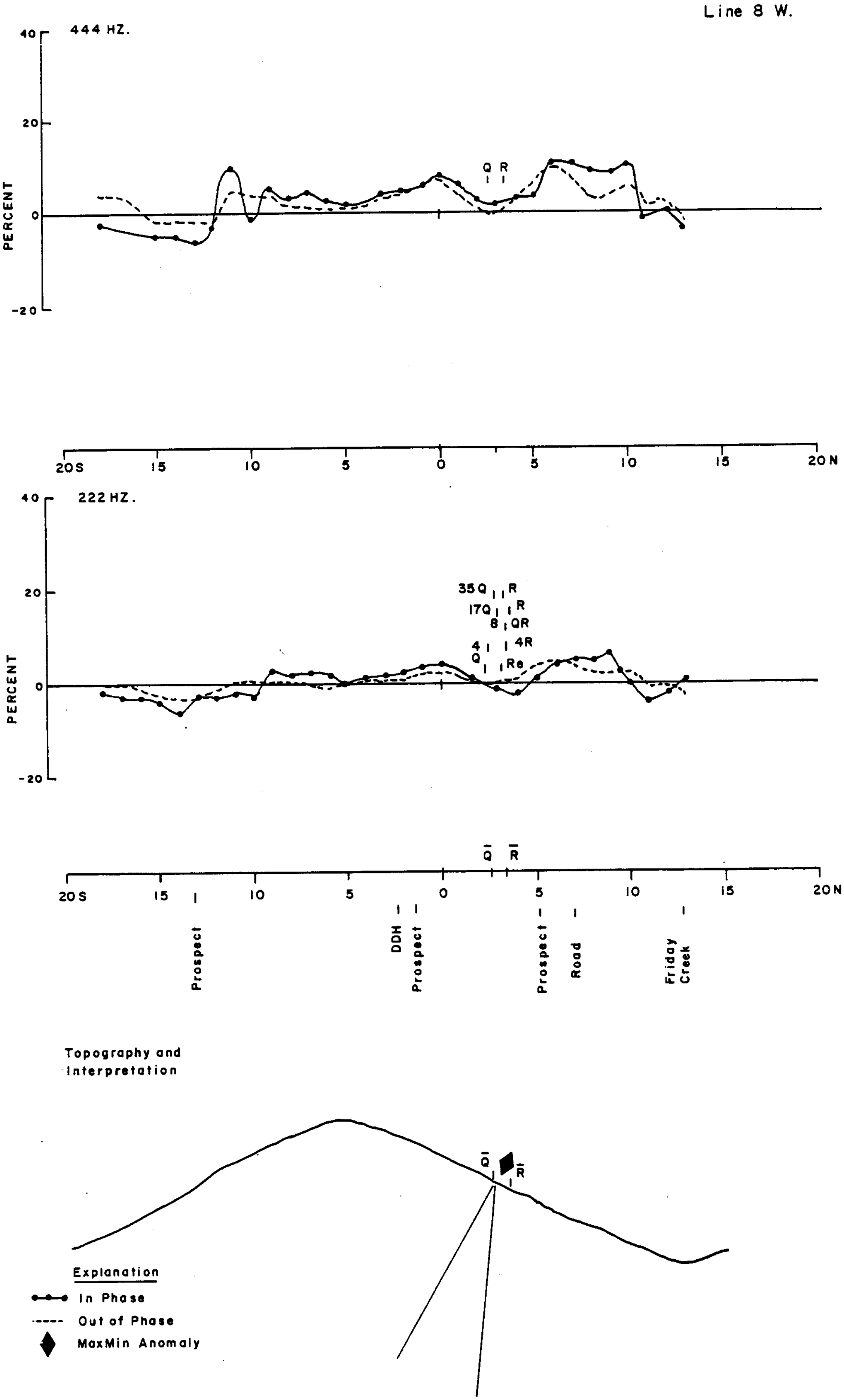


Figure E-50-Quigley Ridge Area, MaxMin II E.M., Line 8 W.

Line 24+00 W.

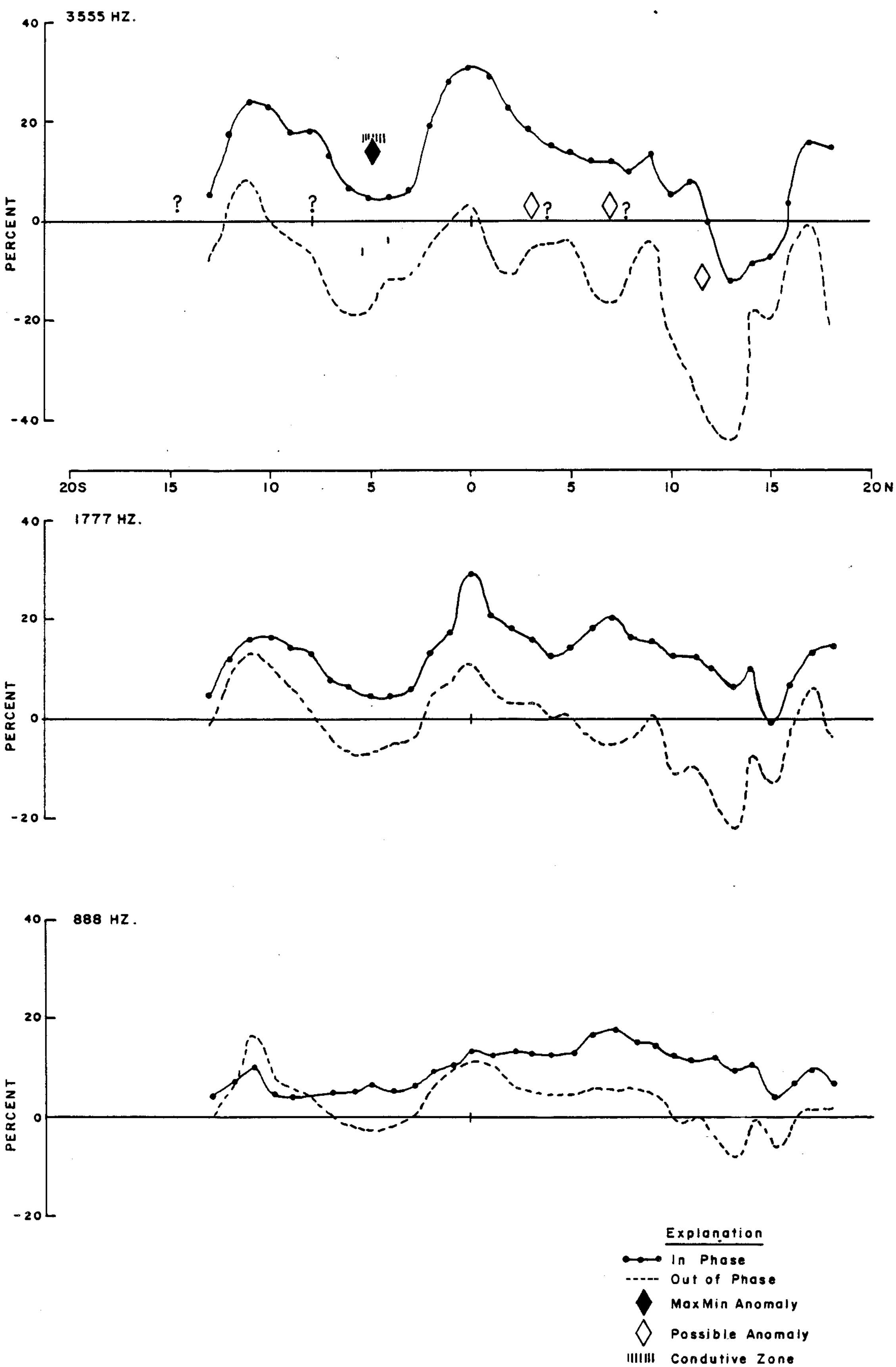


Figure E-51- Quigley Ridge Area, MaxMin II E.M., Line 24+00 W.

Line 24 W.

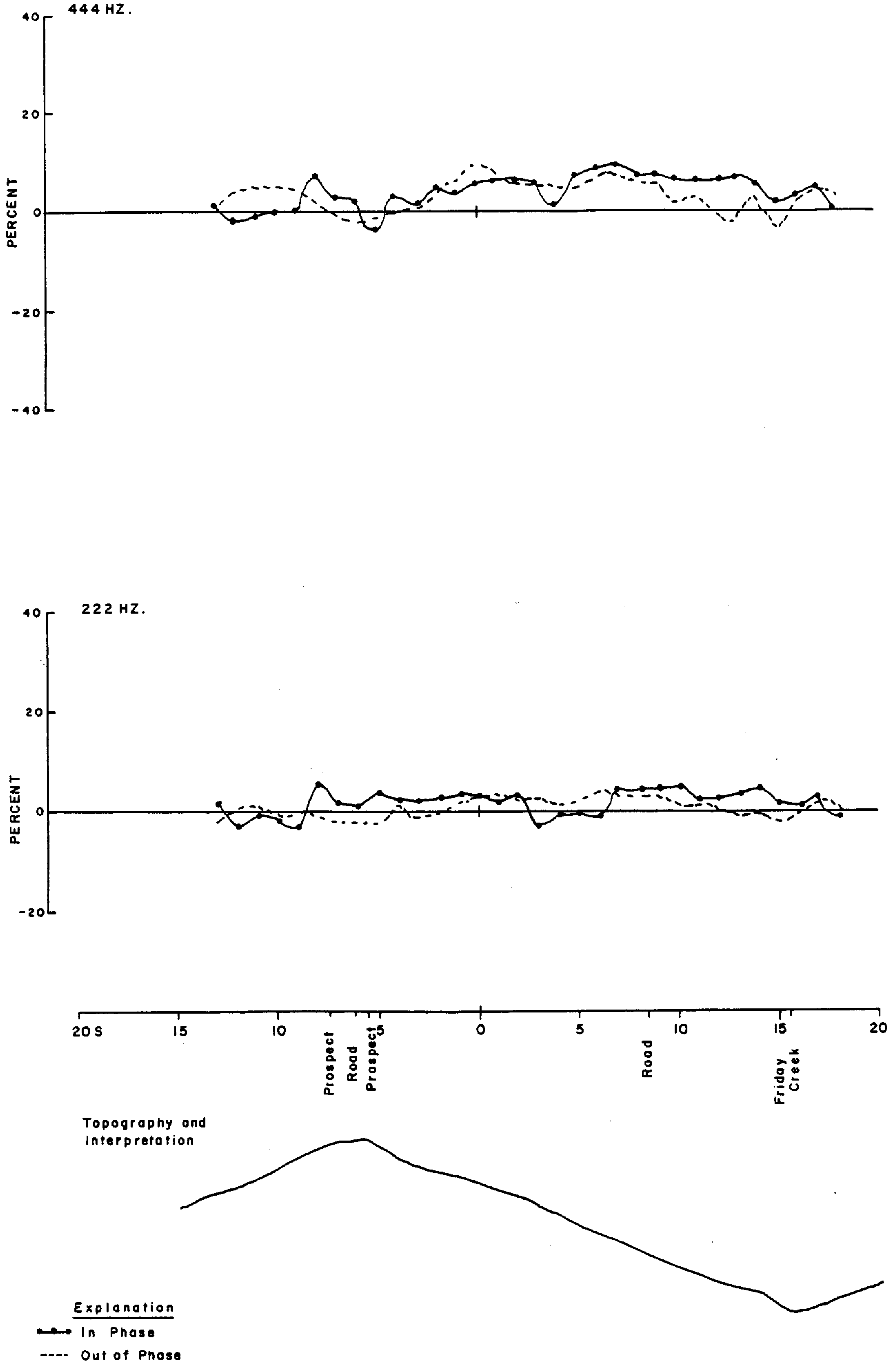


Figure E-52-Quigley Ridge Area, Max Min II E.M., Line 24 W.

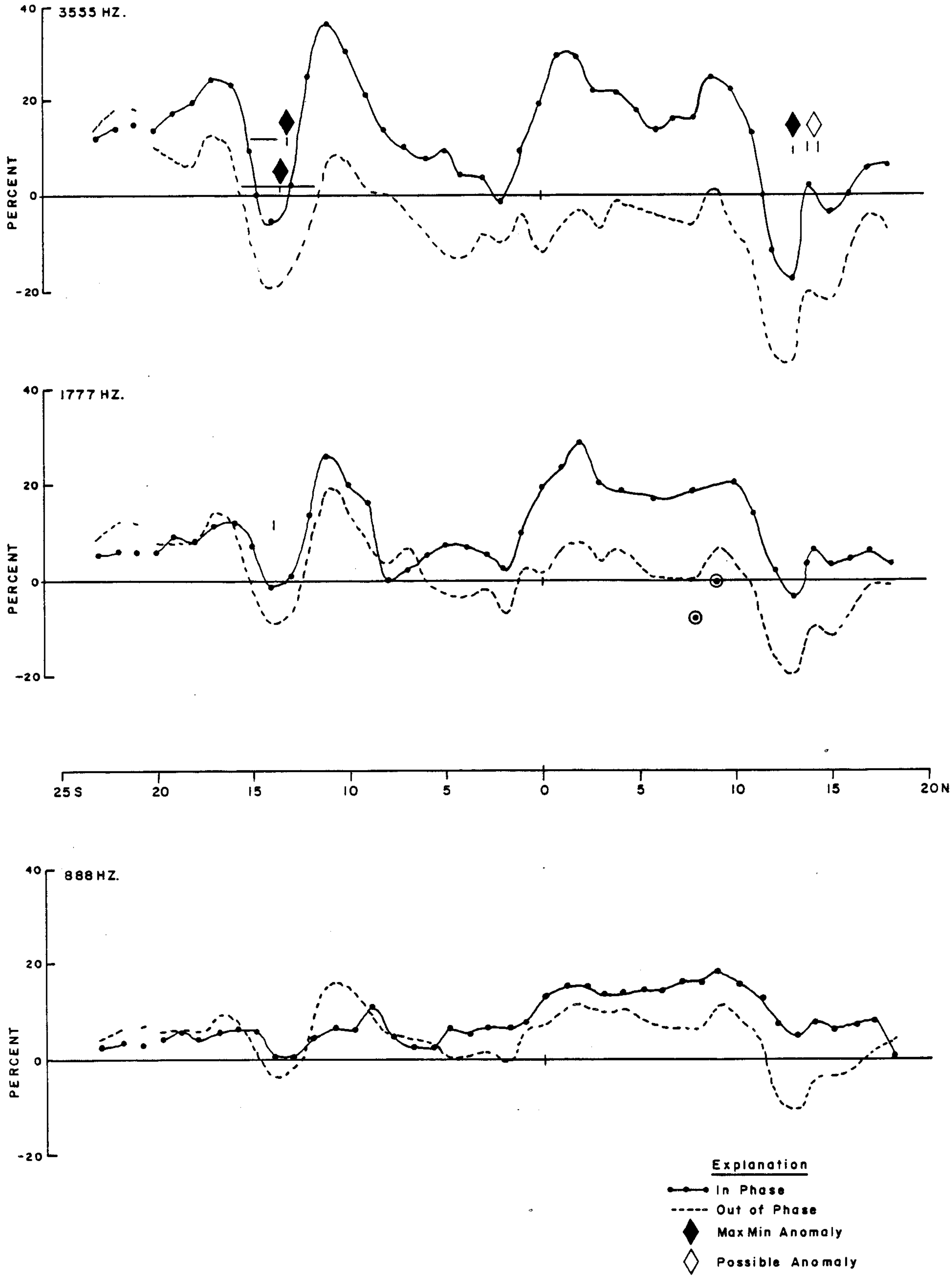


Figure E-53-Quigley Ridge Area, MaxMin II E.M., Line 28+00W.

Line 28+00 W.

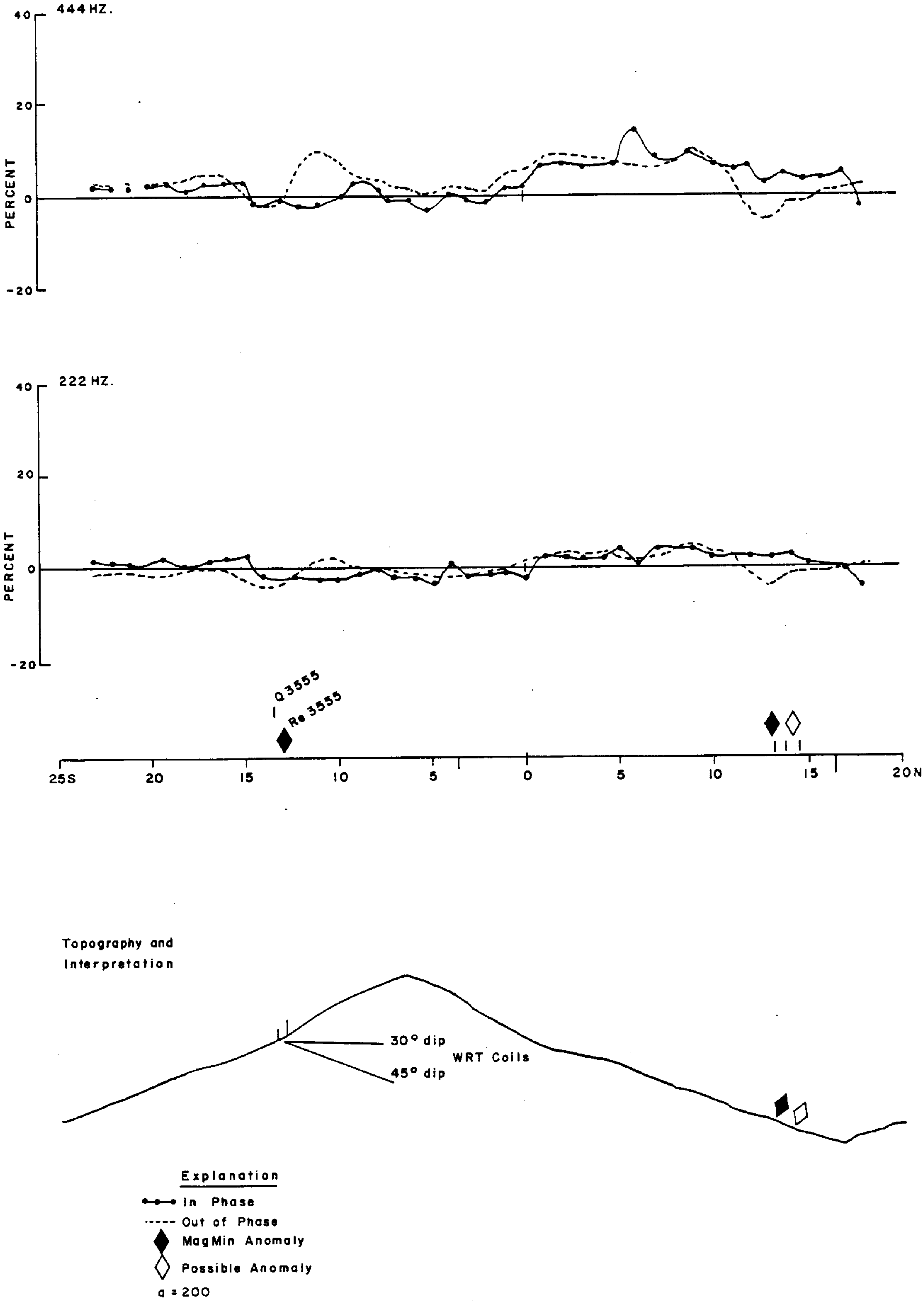


Figure E-54-Quigley Ridge Area, MaxMin II E.M., Line 28+00W.

Line 28+00 W.

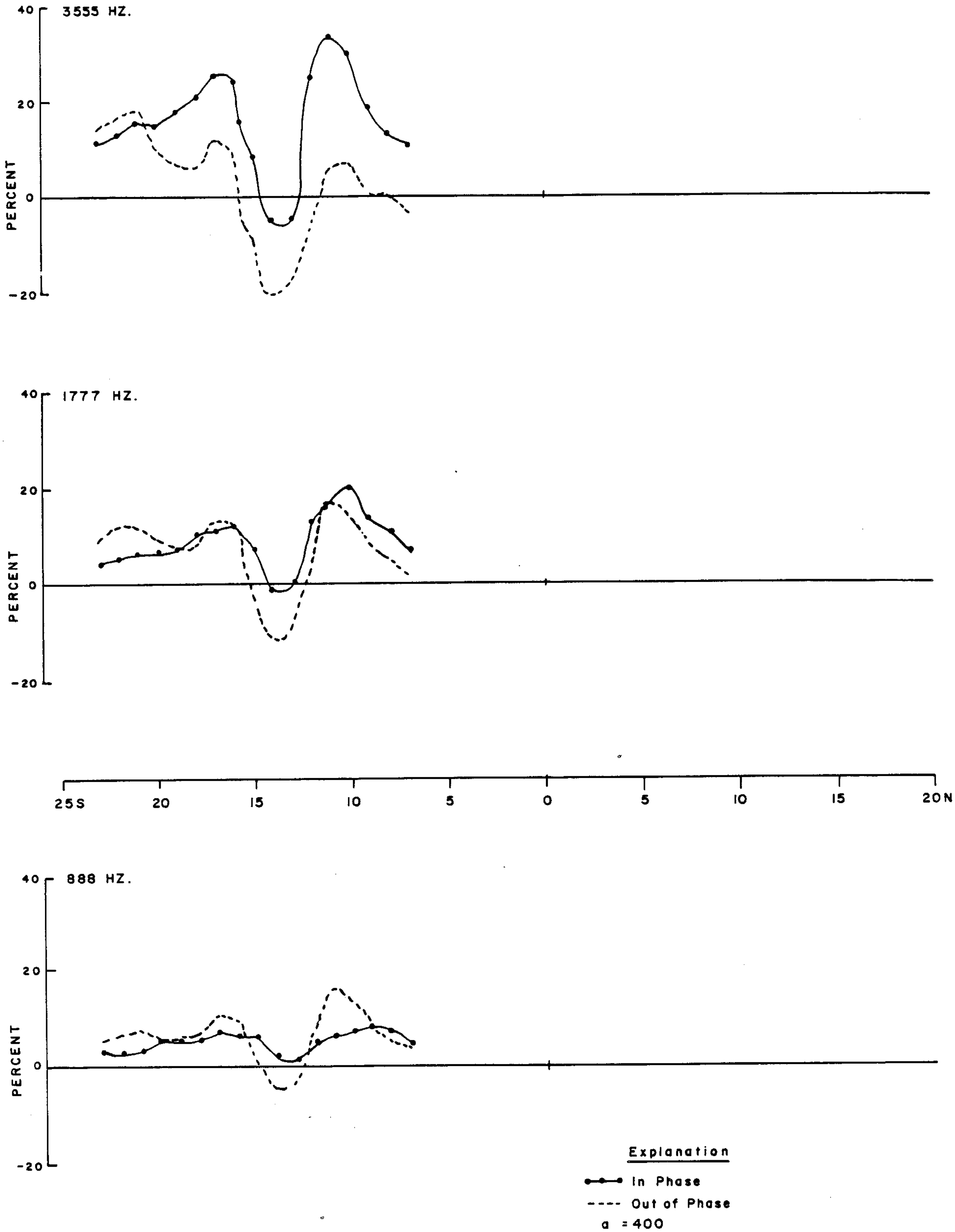


Figure E-55-Quigley Ridge Area, MaxMin II E.M., Line 28+00W.

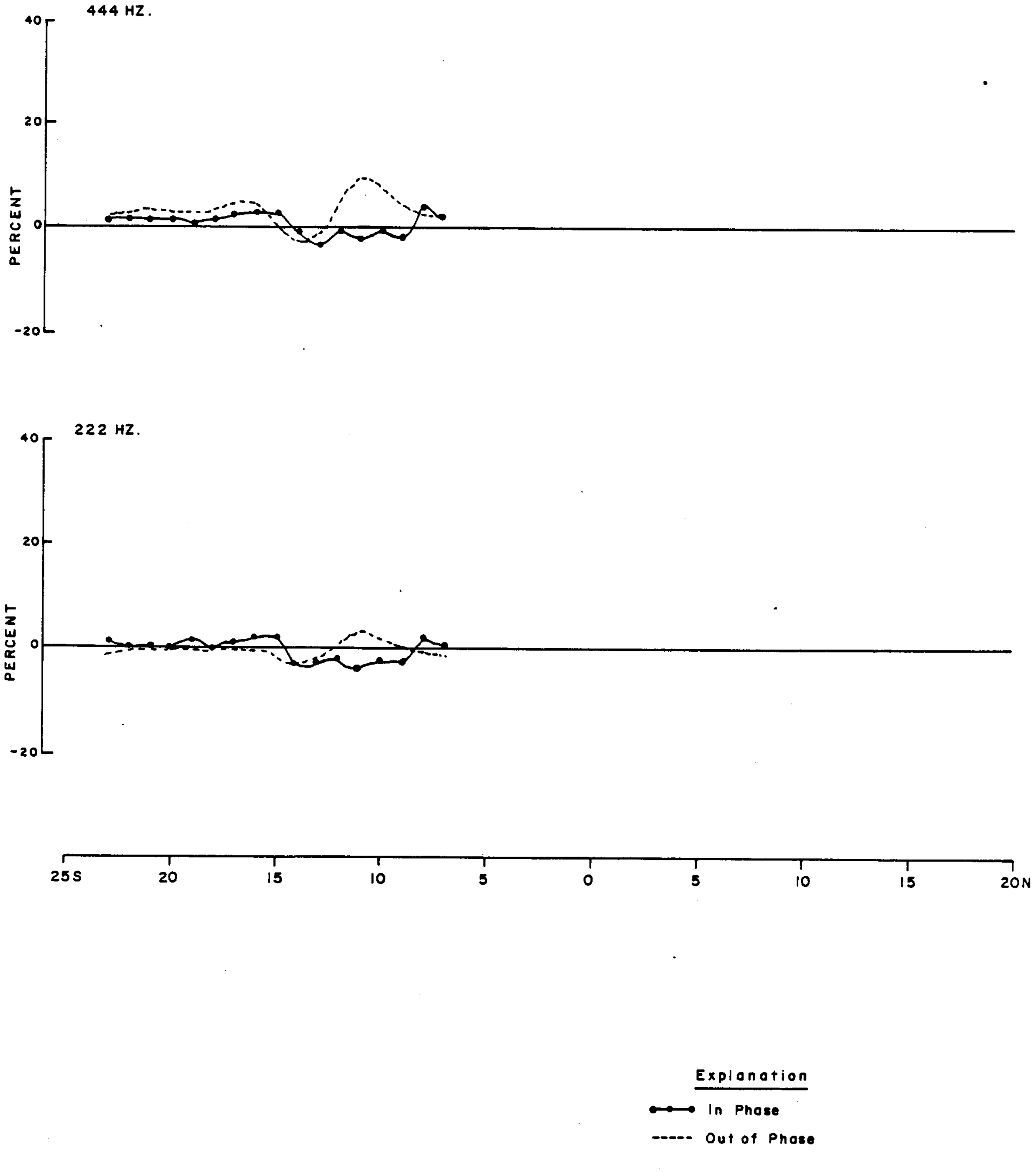


Figure E-56 -Quigley Ridge Area, MaxMin II E.M., Line 28 W.

Line 32+00 W.

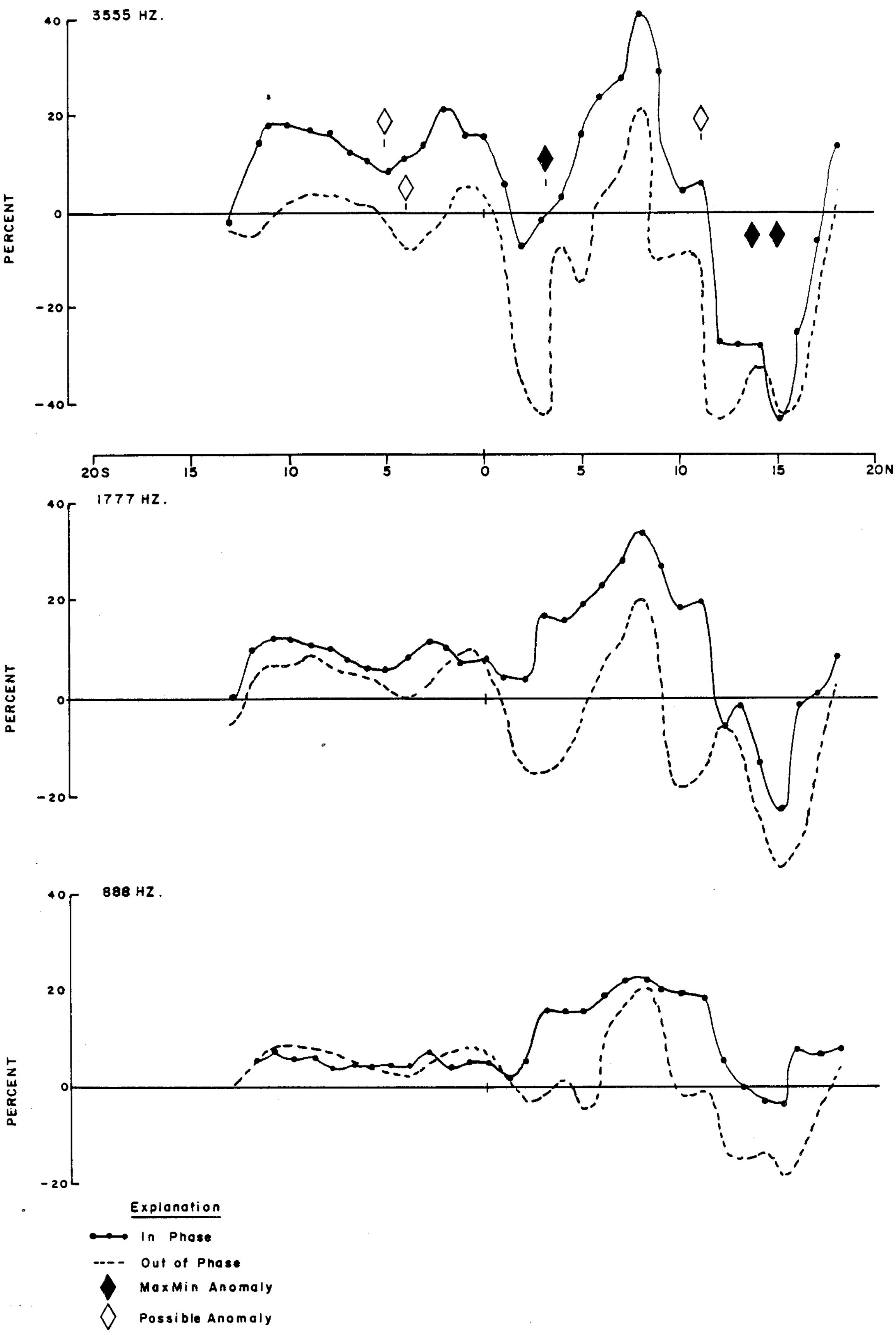


Figure E-57-Quigley Ridge Area, MaxMin II E.M., Line 32+00W.

Line 32+00 W.

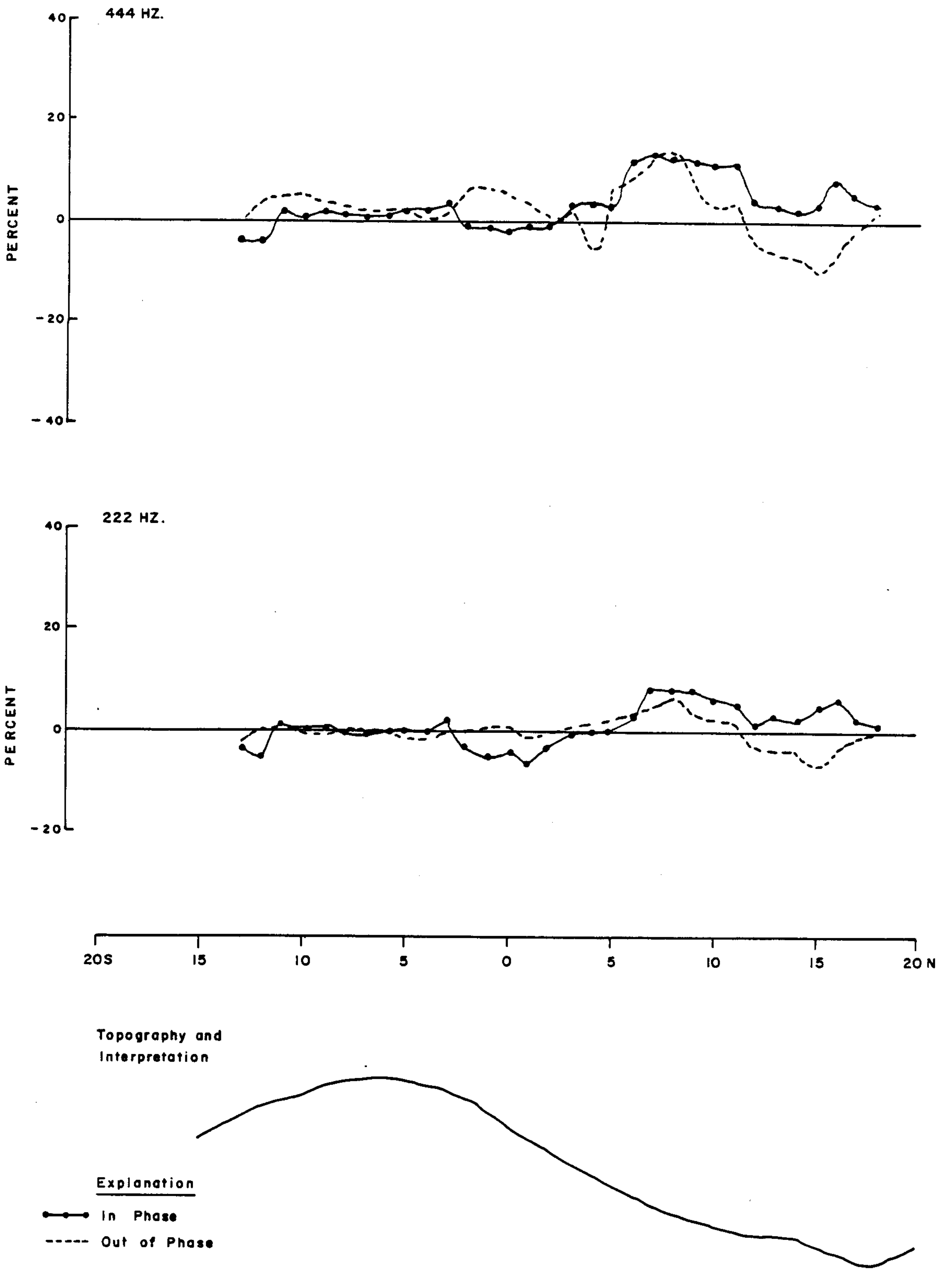


Figure E-58-Quigley Ridge Area, MaxMin II E.M., Line 32+00W.

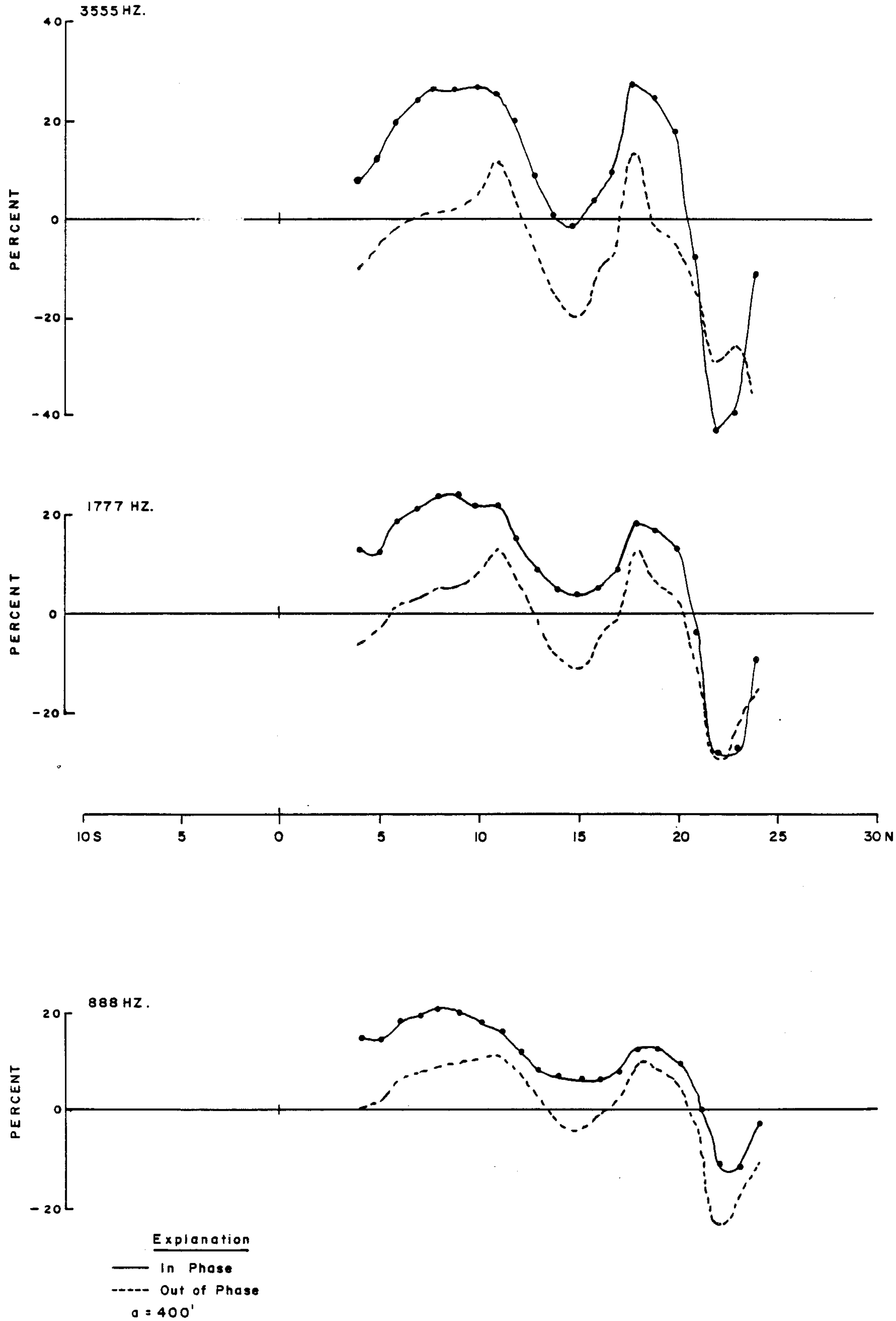


Figure E-59-Quigley Ridge Area, Max Min II E.M., Line 52 W.

Line 52 W.

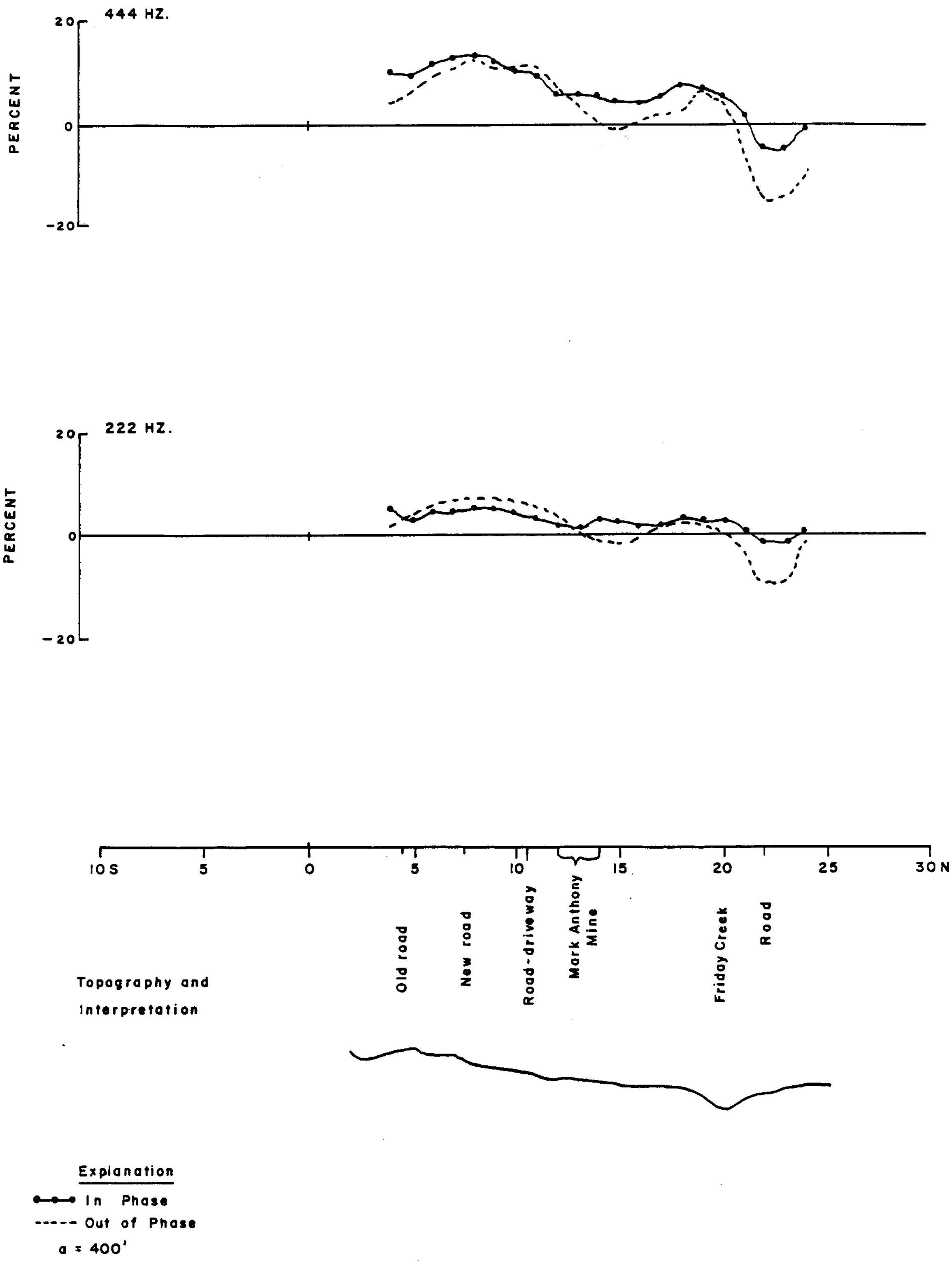


Figure E-60-Quigley Ridge Area, MaxMin II E.M., Line 52 W.

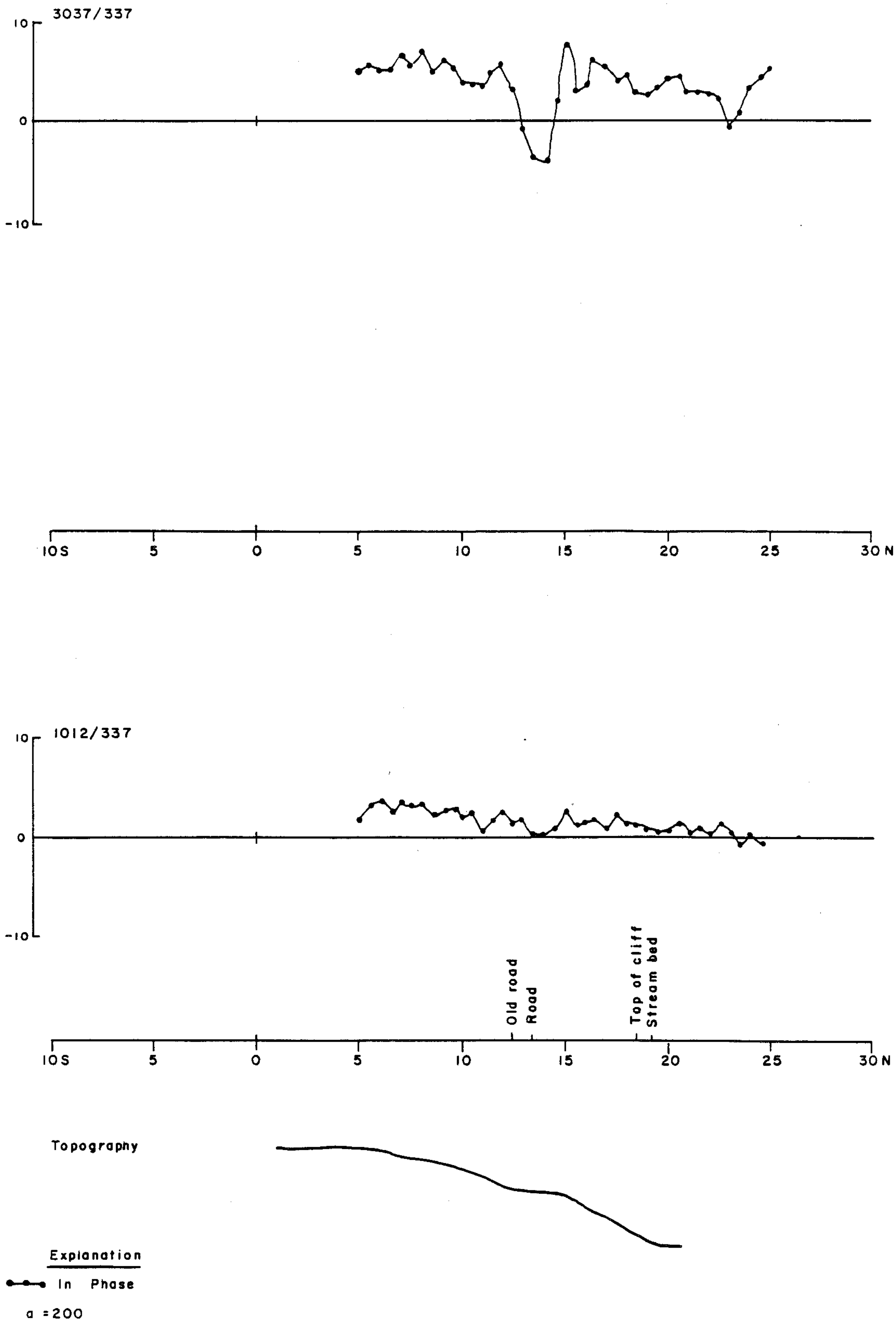


Figure E-61-Quigley Ridge Grid, Genie E.M., Line 46 W.

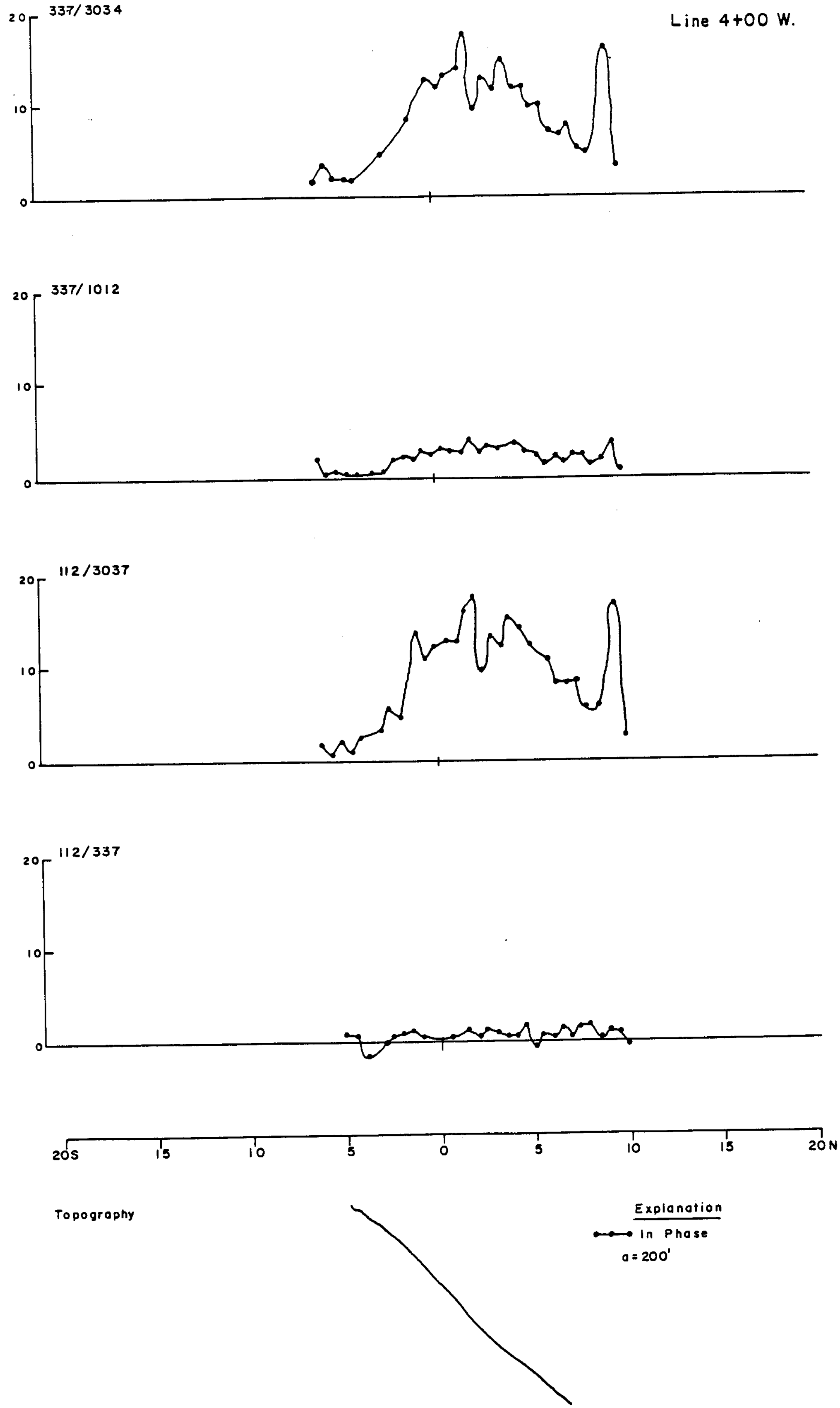


Figure E-62- Quigley Ridge Area, Genie E. M., Line 4+00 W.

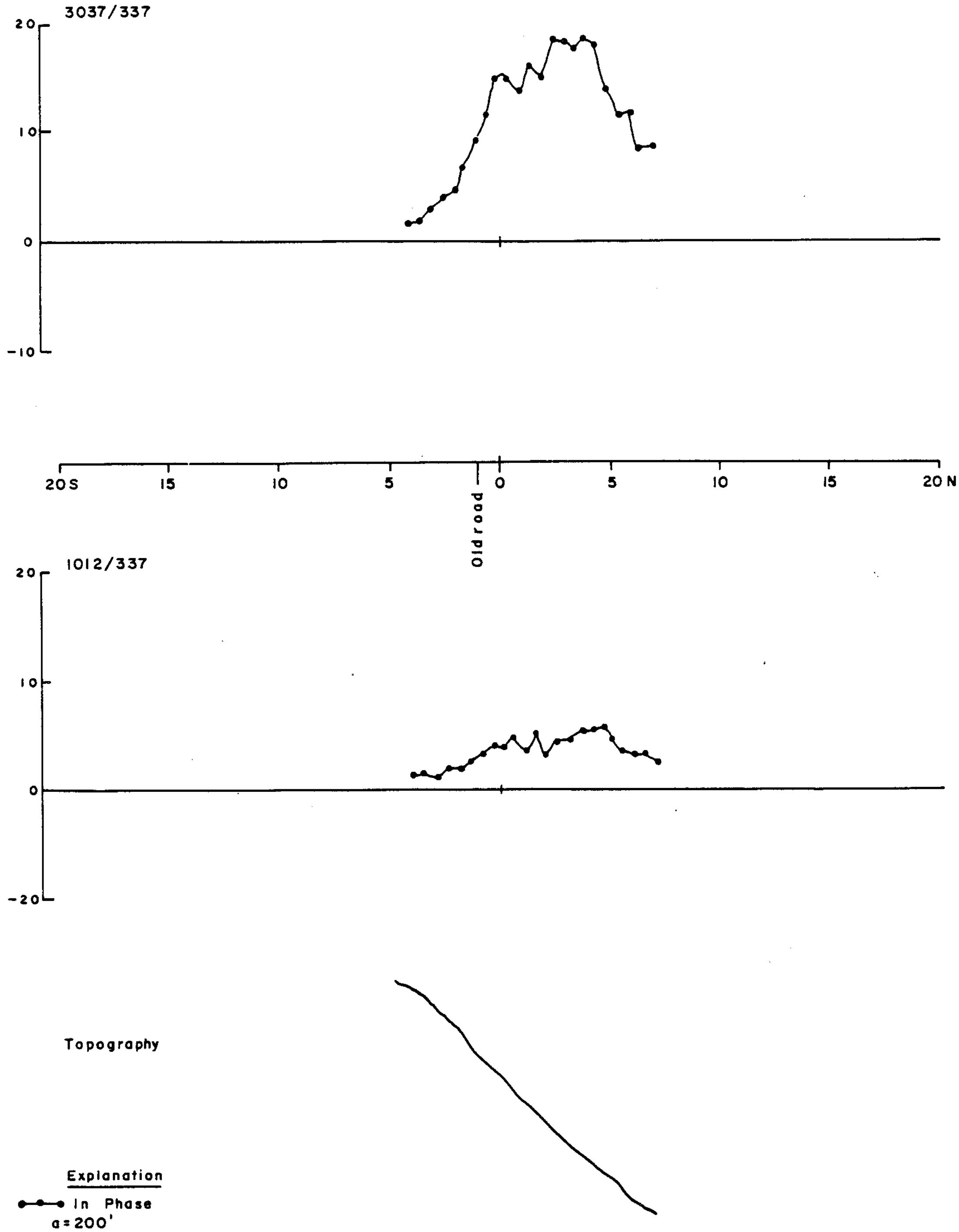


Figure E-63 - Quigley Ridge Grid, Genie E.M., Line 4 W.

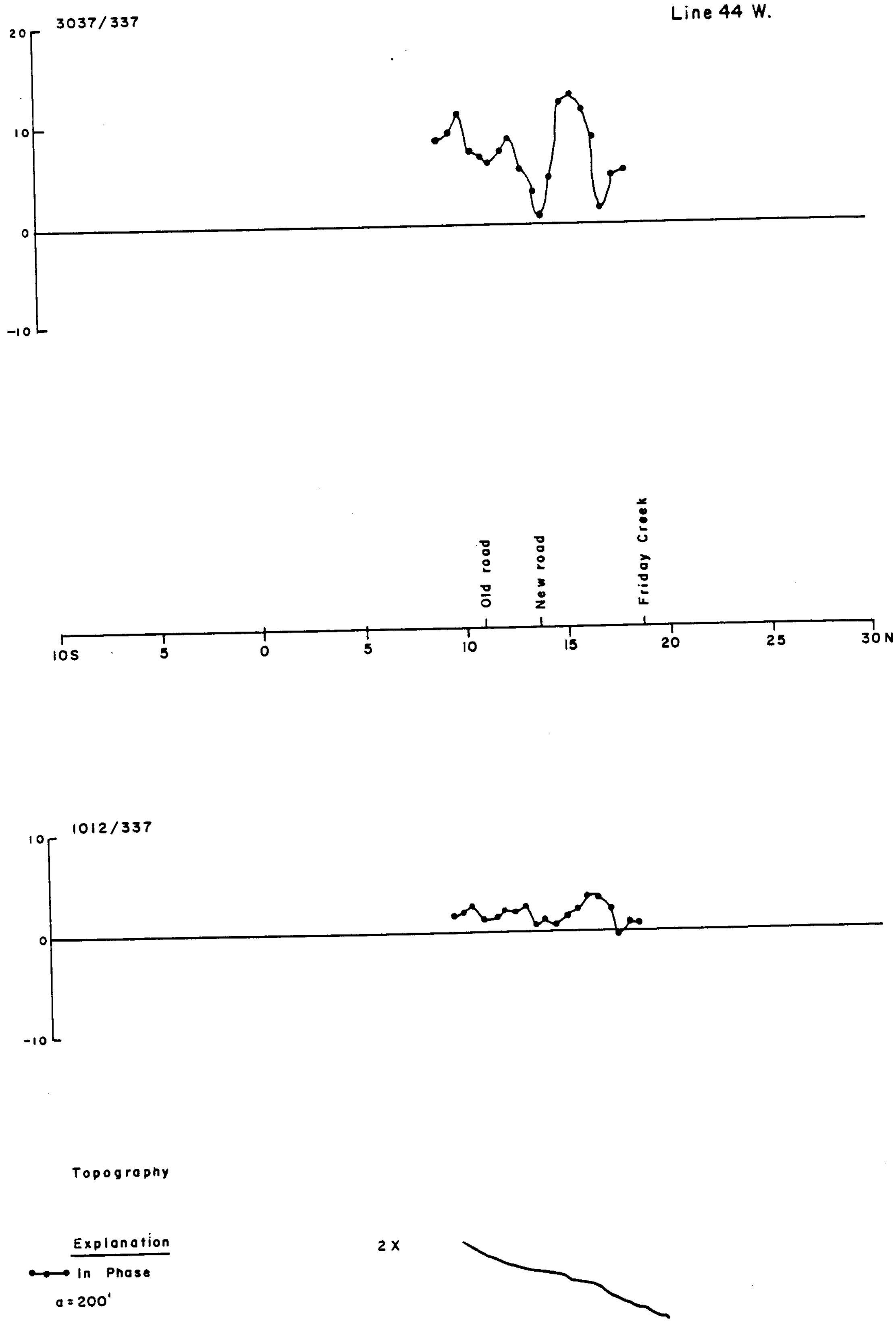


Figure E-64-Quigley Ridge Grid, Genie E.M., Line 44 W.

Line 52 W.

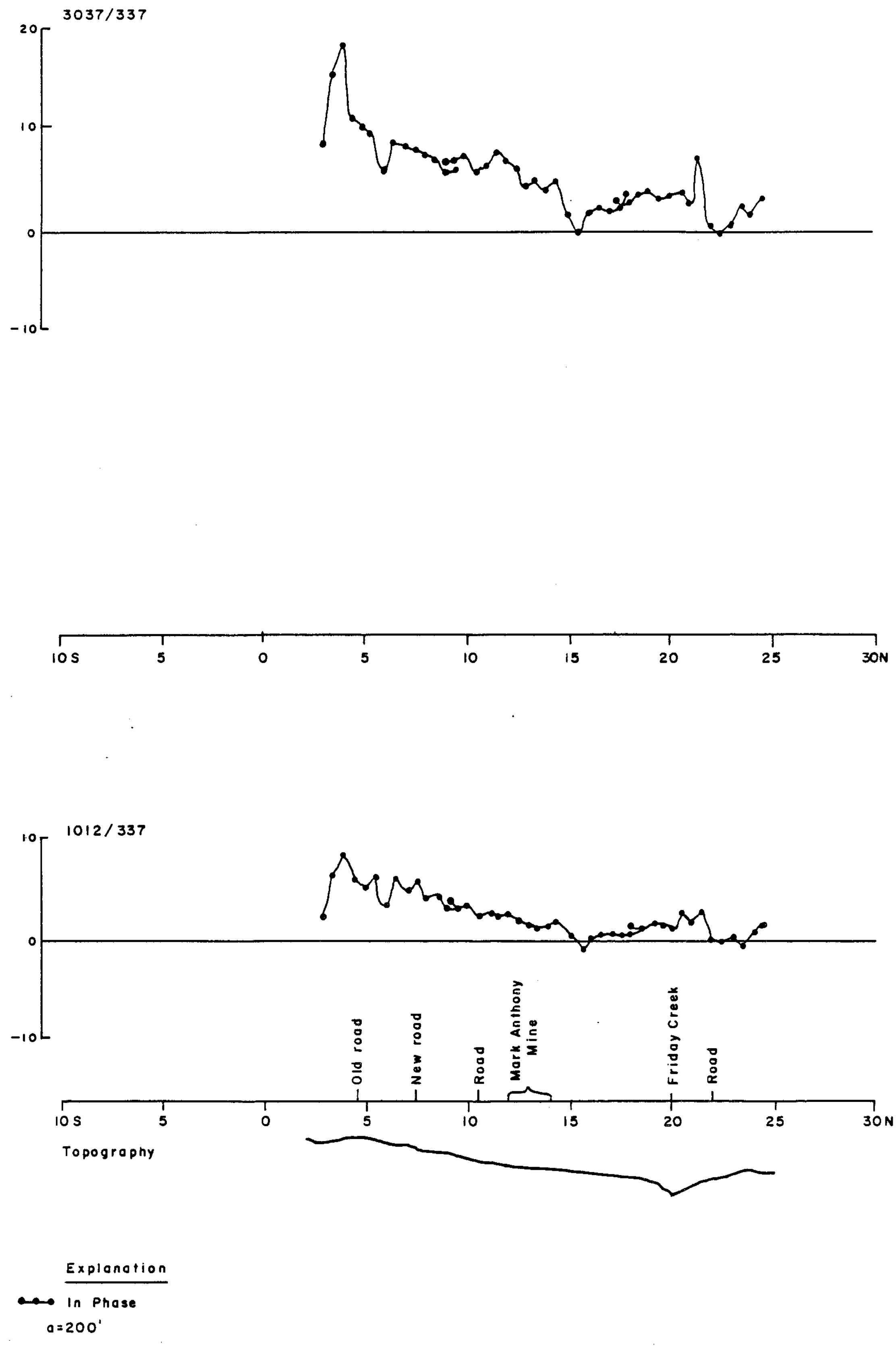


Figure E-65-Quigley Ridge Grid, Genie E.M., Line 52 W.

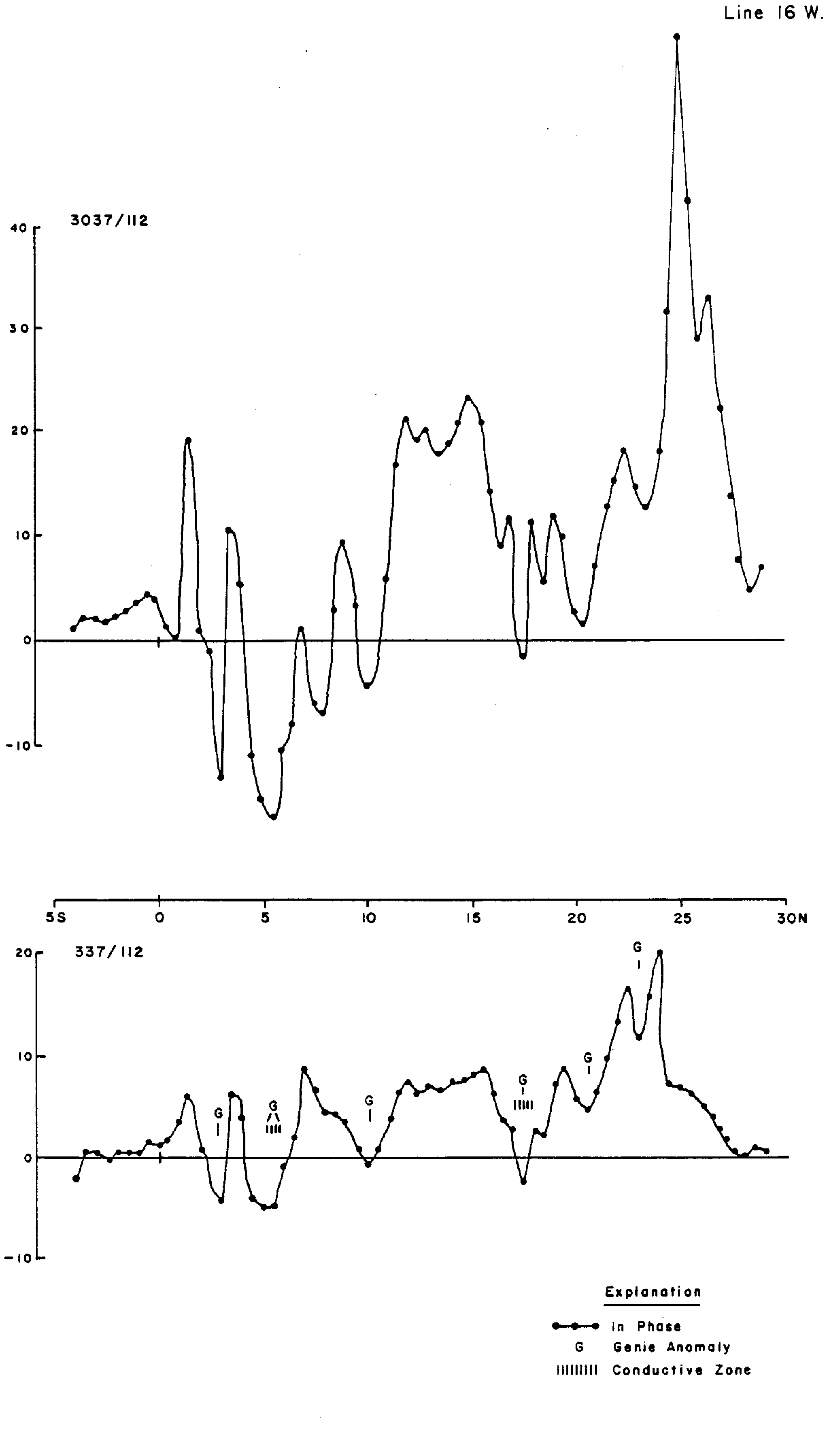


Figure E-66-Red Dirt Grid, Genie E.M., Line 16 W.

Line 0+00

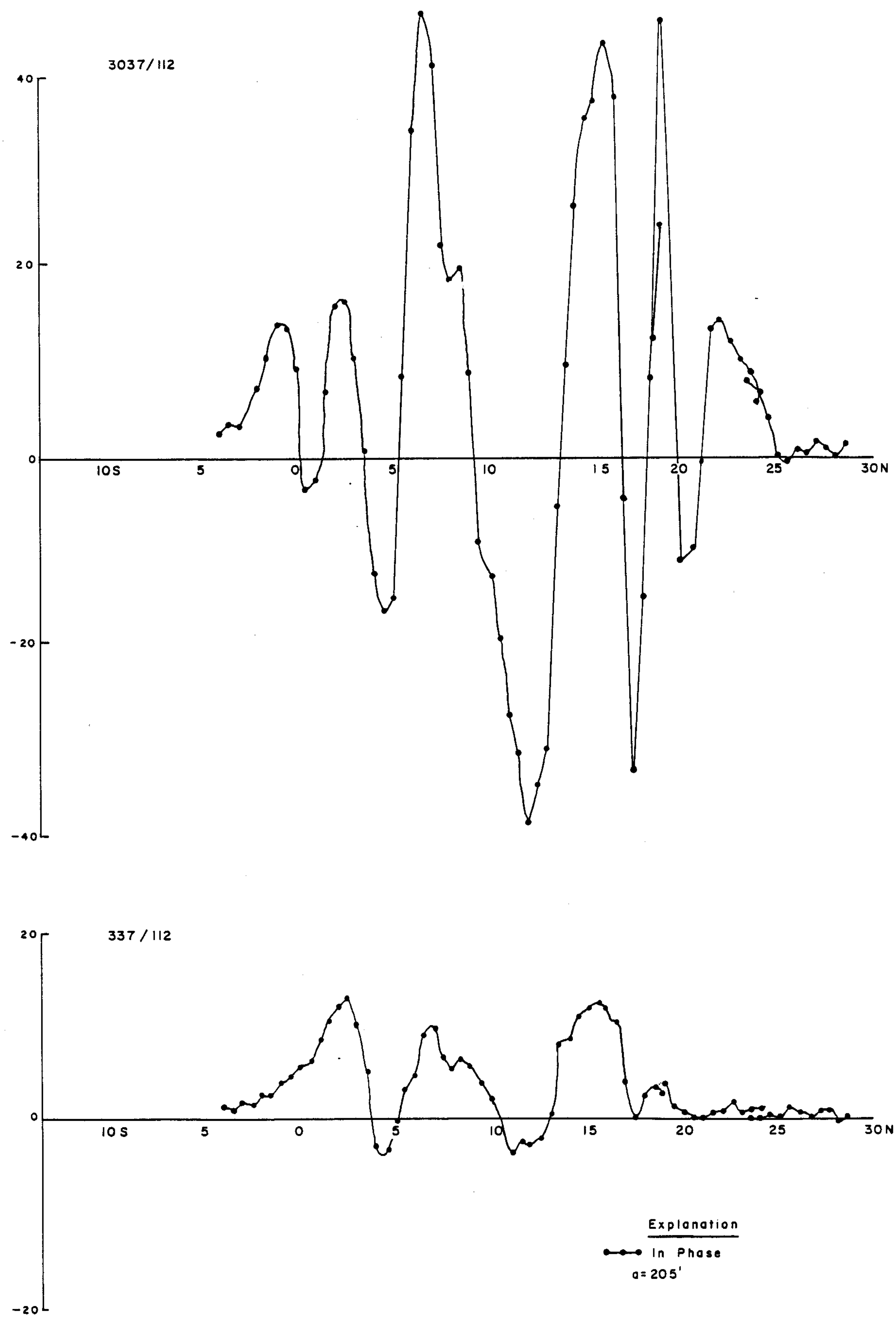


Figure E-67-Red Dirt Area, Genie E.M., Line 0+00

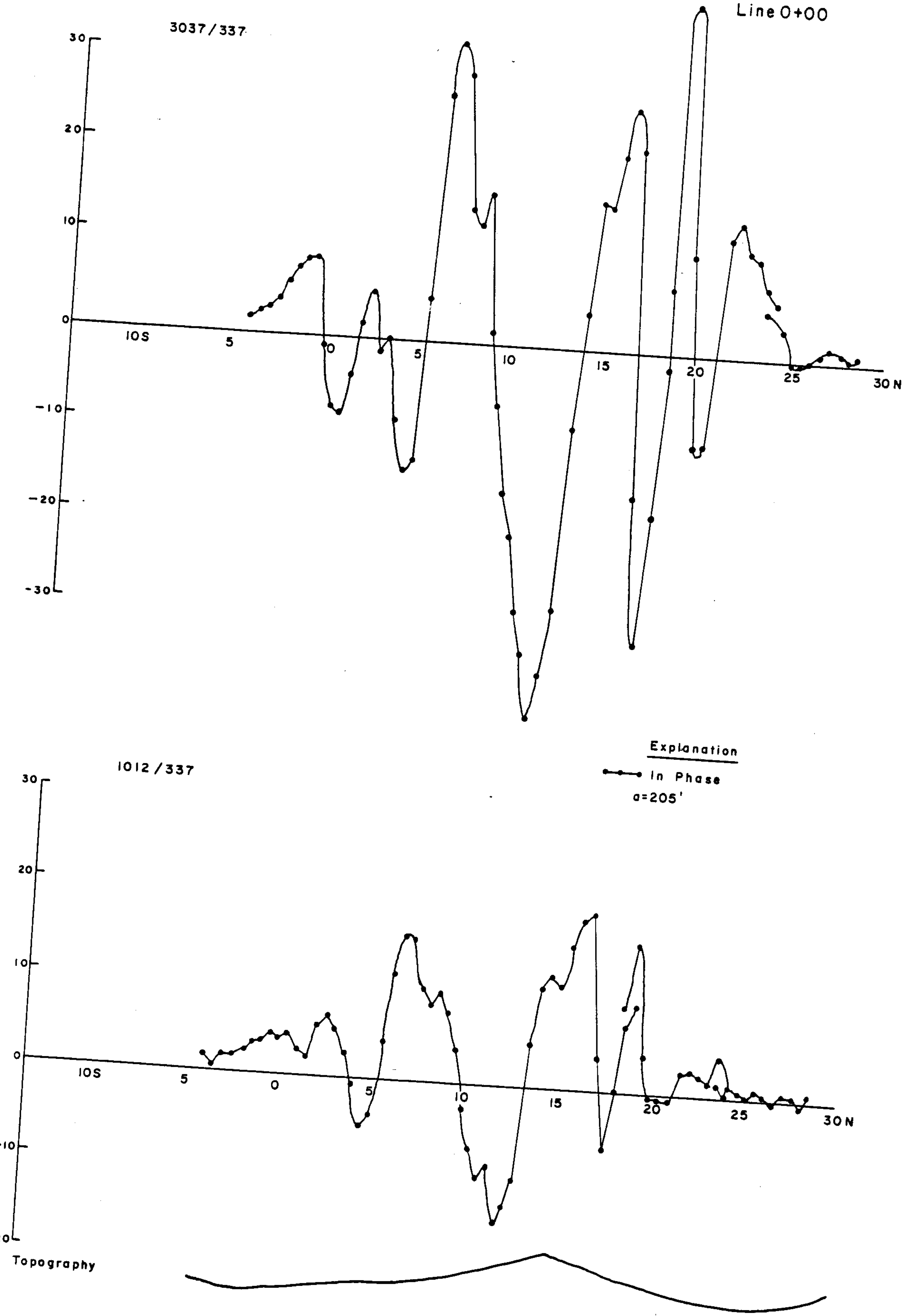


Figure E-68 - Red Dirt Area, Genie E.M., Line 0+00

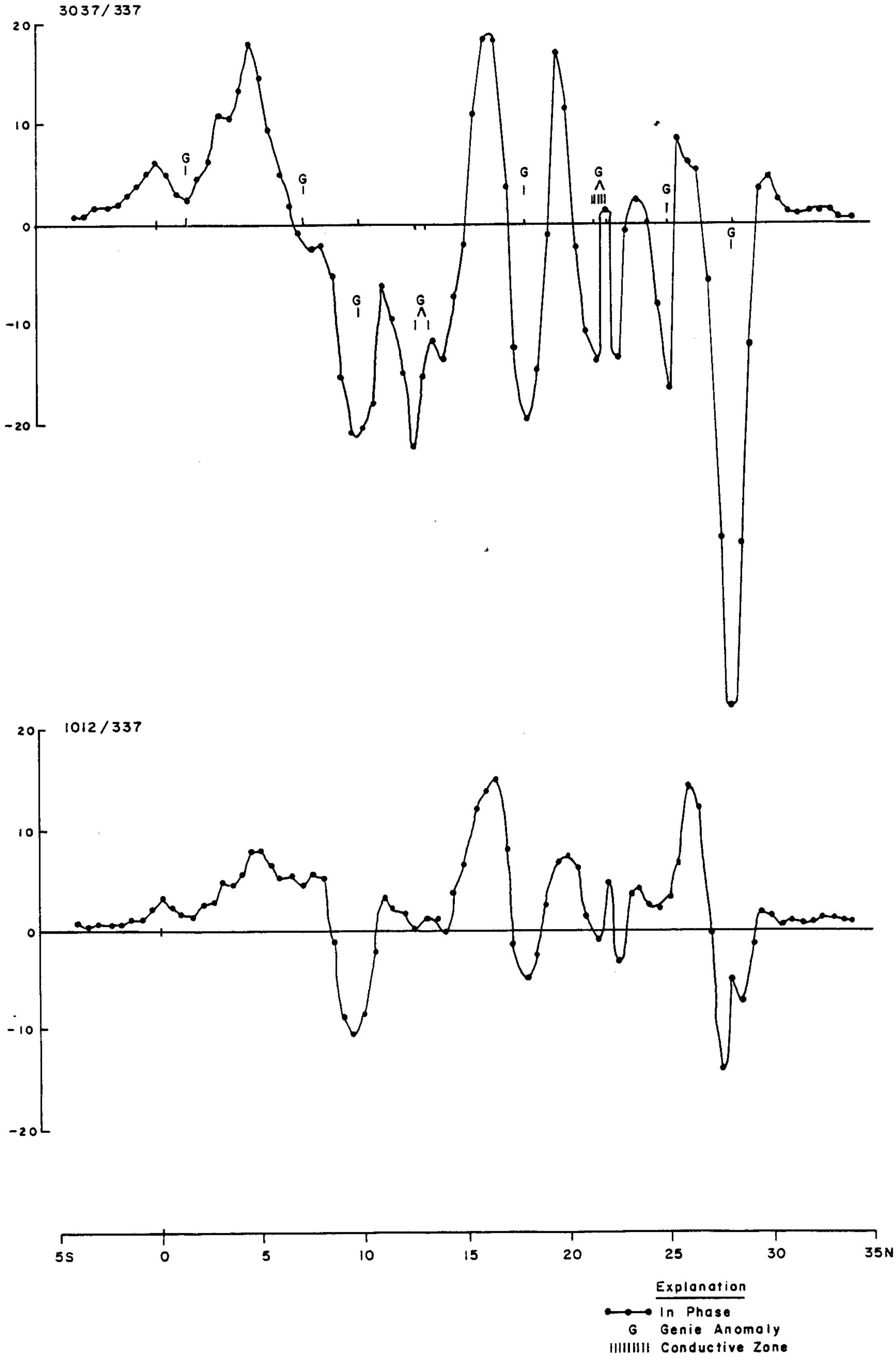


Figure E-69-Red Dirt Area, Genie E.M., Line 8+00 W.

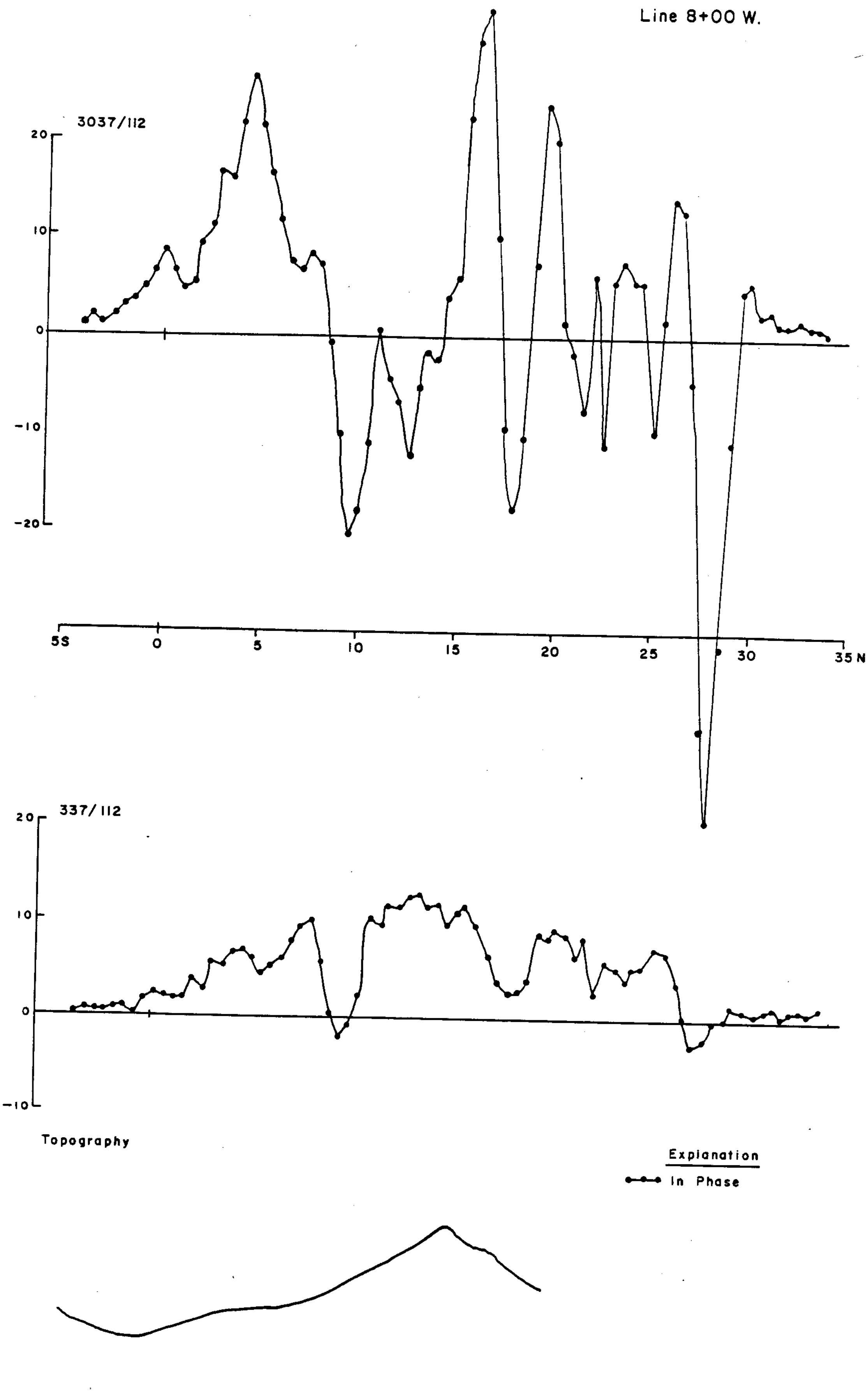


Figure E-70-Red Dirt Grid, Genie E.M., Line 8+00 W.

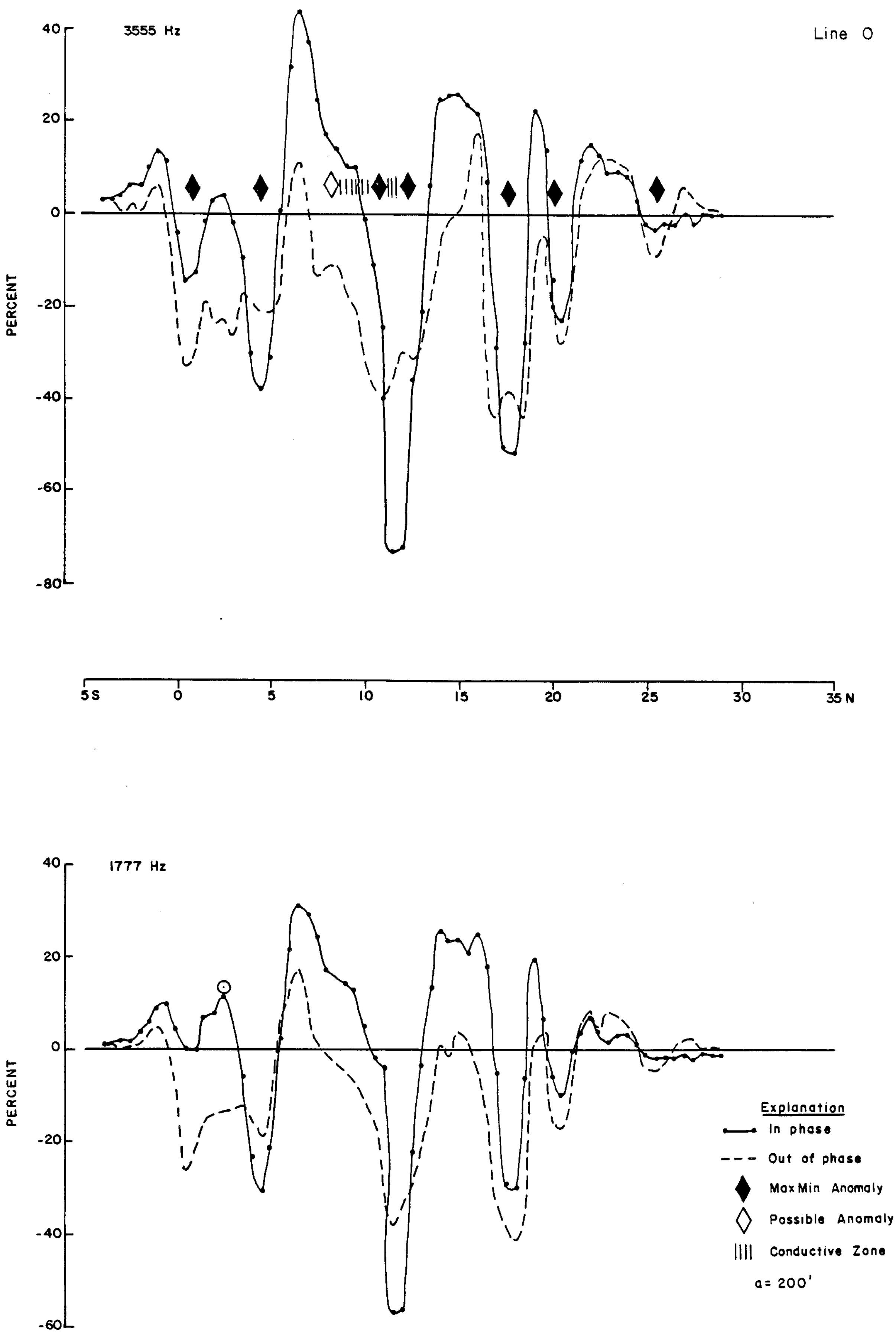


Figure E-71 Red Dirt Grid, MaxMin II EM, Line O

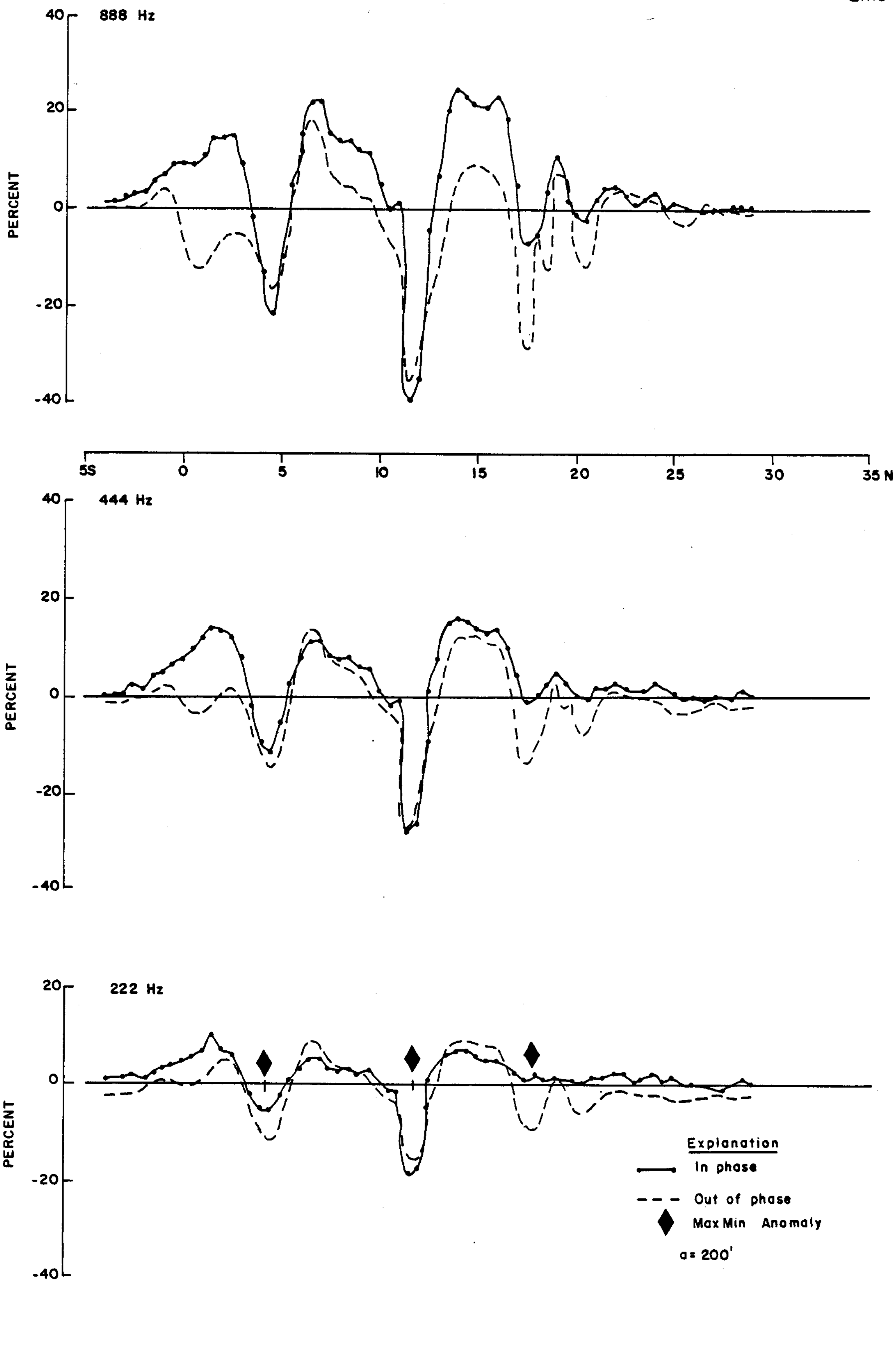


Figure E-72 Red Dirt Grid, MaxMin II EM, Line O

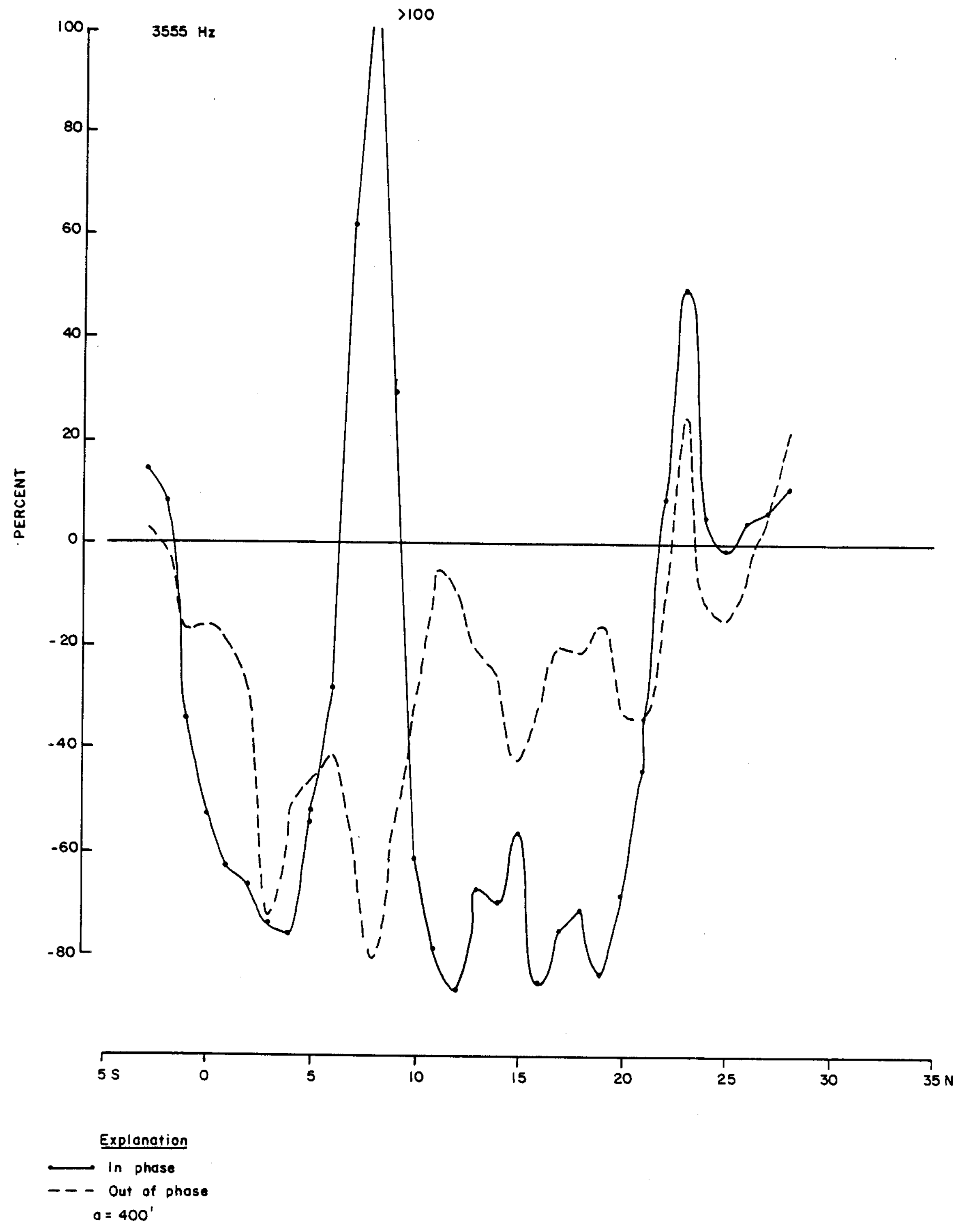


Figure E-73 Red Dirt Grid, MaxMin II EM, Line O

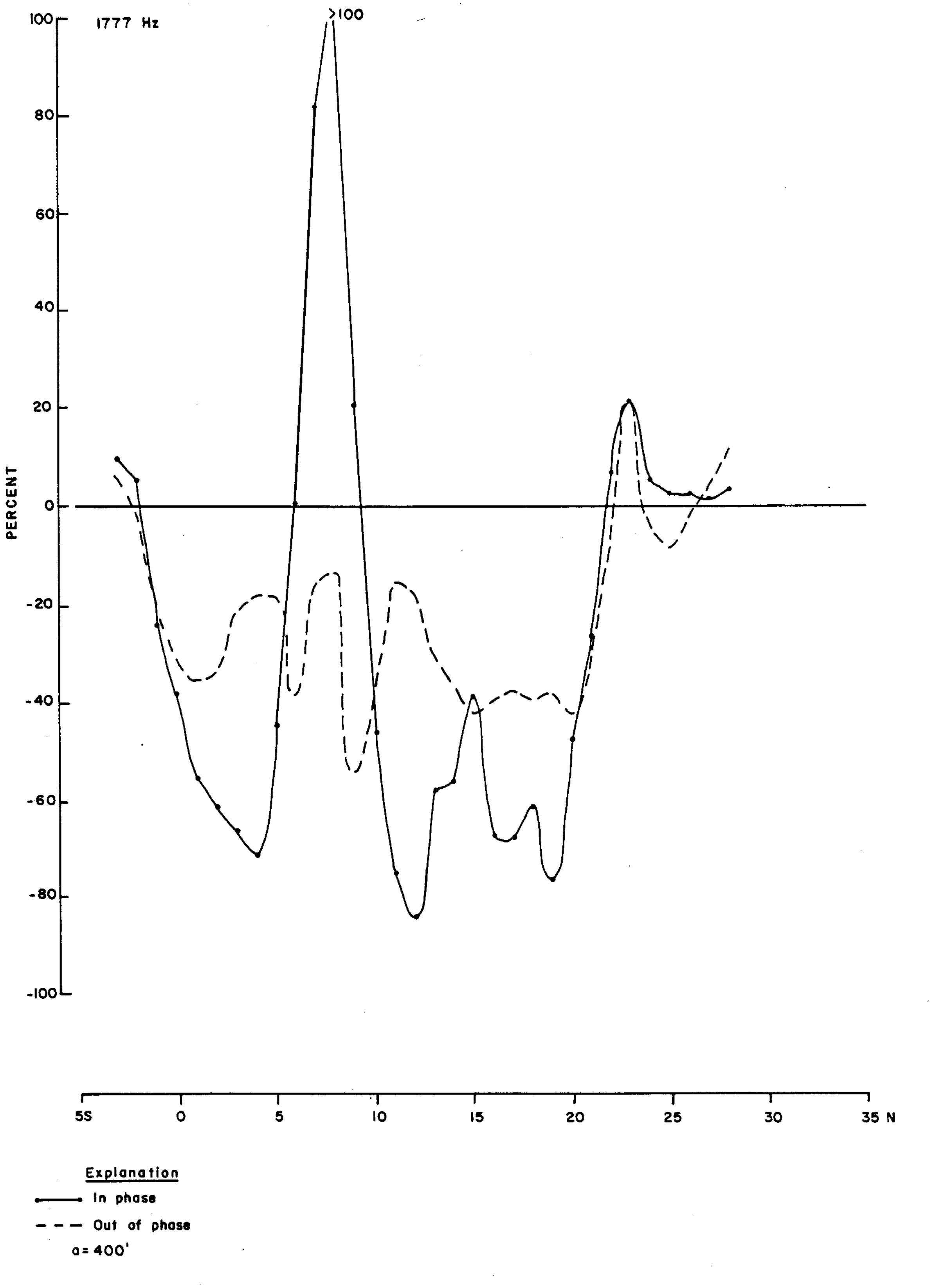


Figure E-74 Red Dirt Grid, MaxMin II EM, Line O

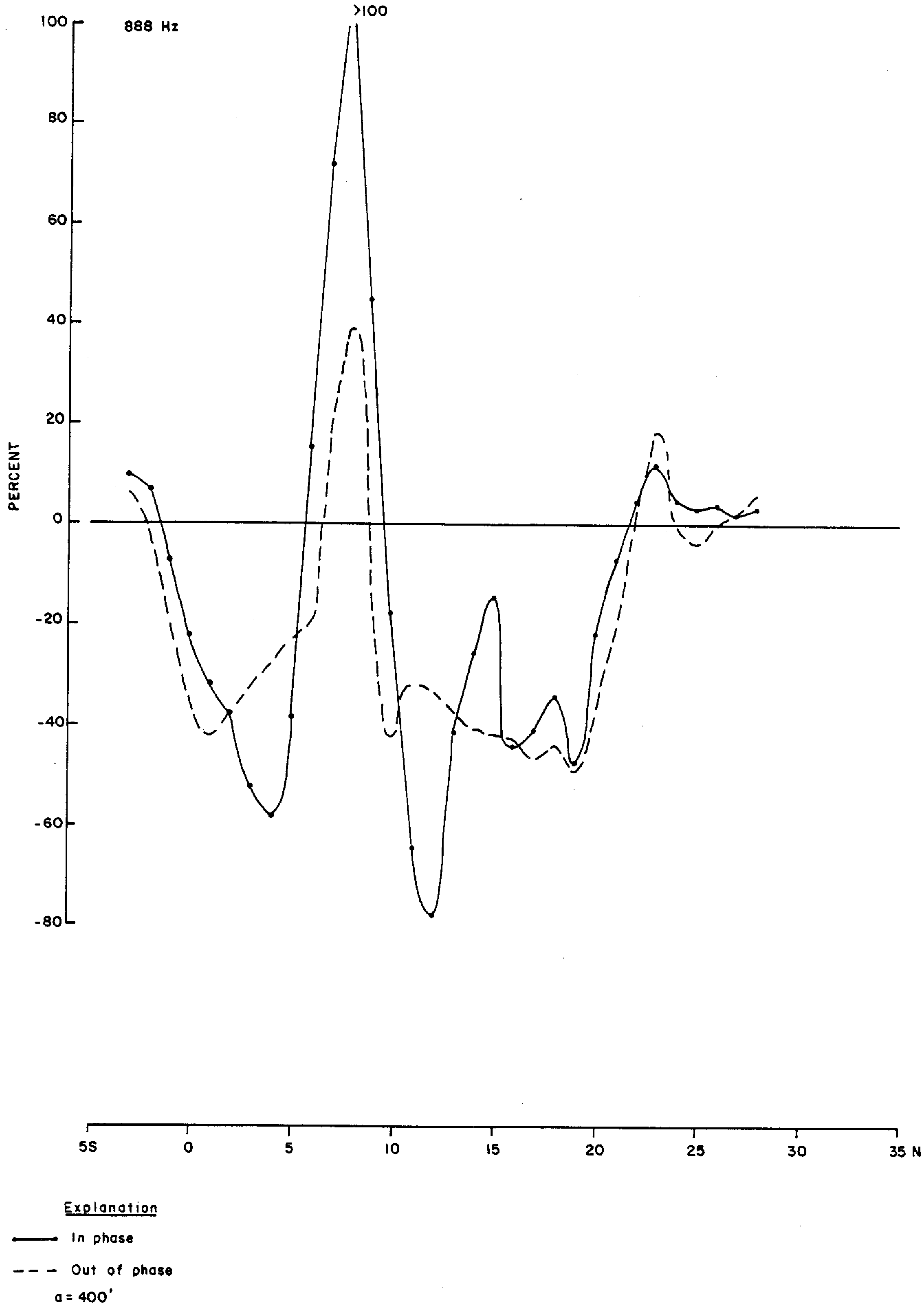


Figure E-75 Red Dirt Grid, MaxMin II EM, Line O

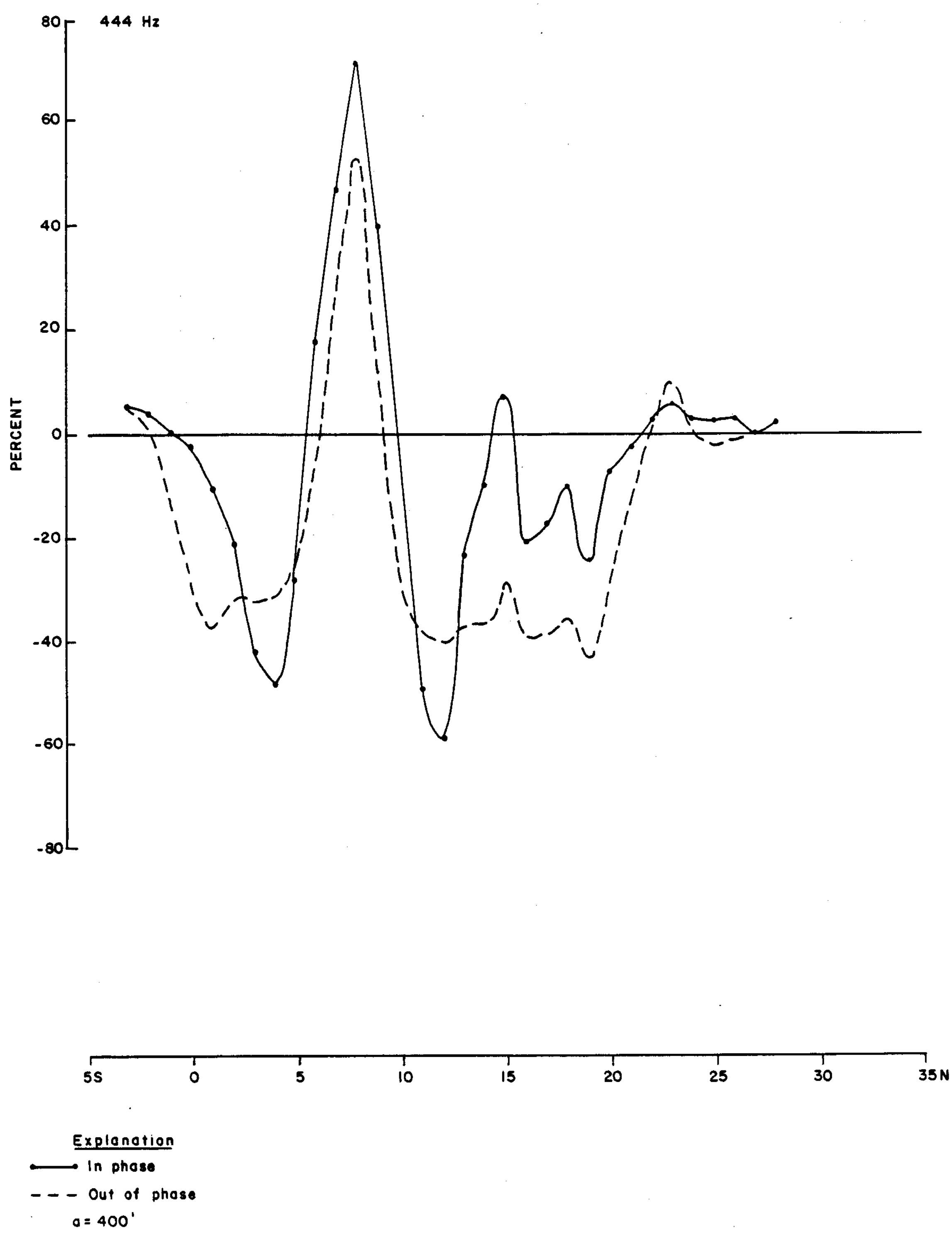


Figure E-76 Red Dirt Grid, MaxMin II EM, Line O

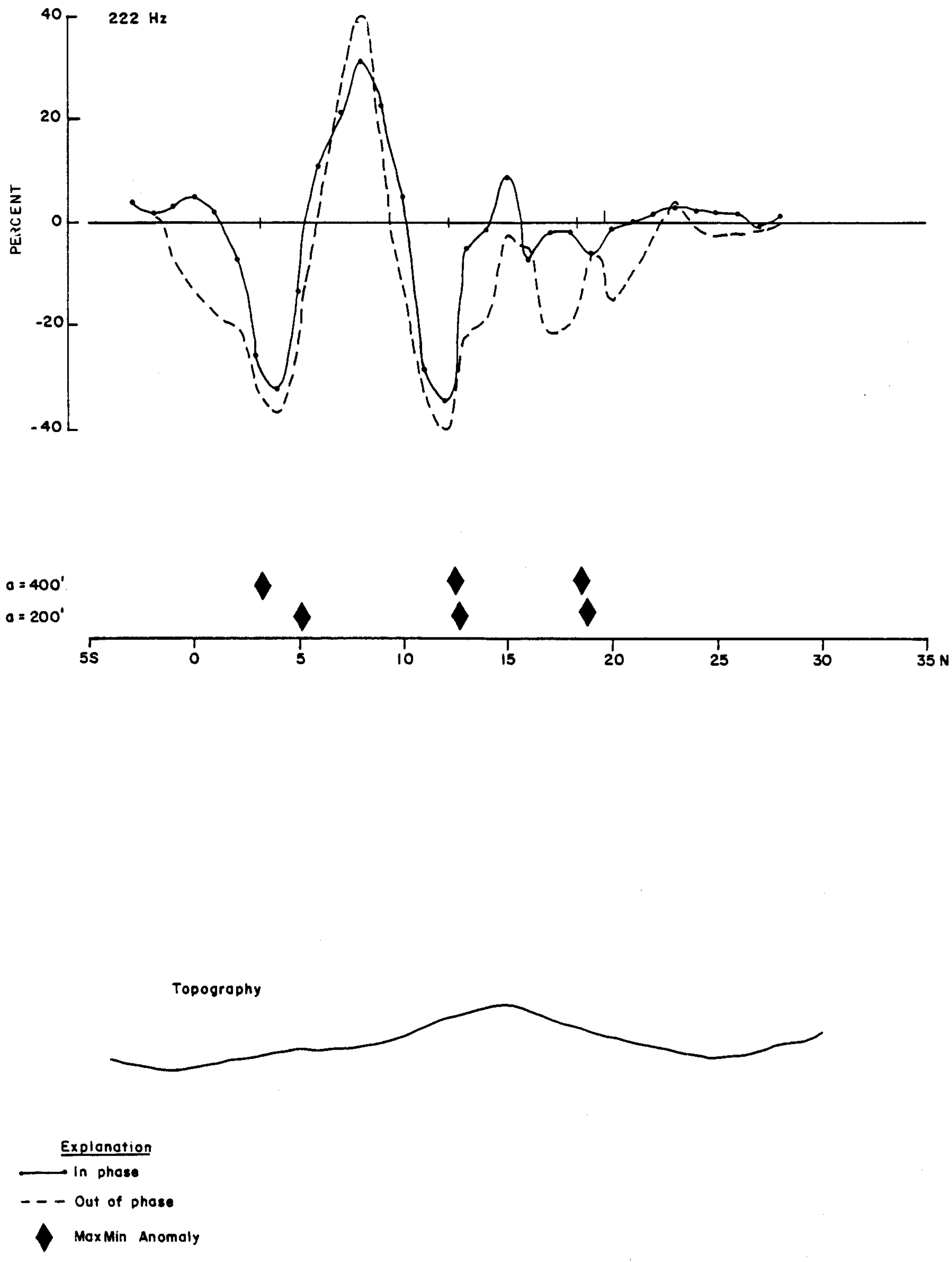


Figure E-77 Red Dirt Grid, MaxMin II EM, Line O

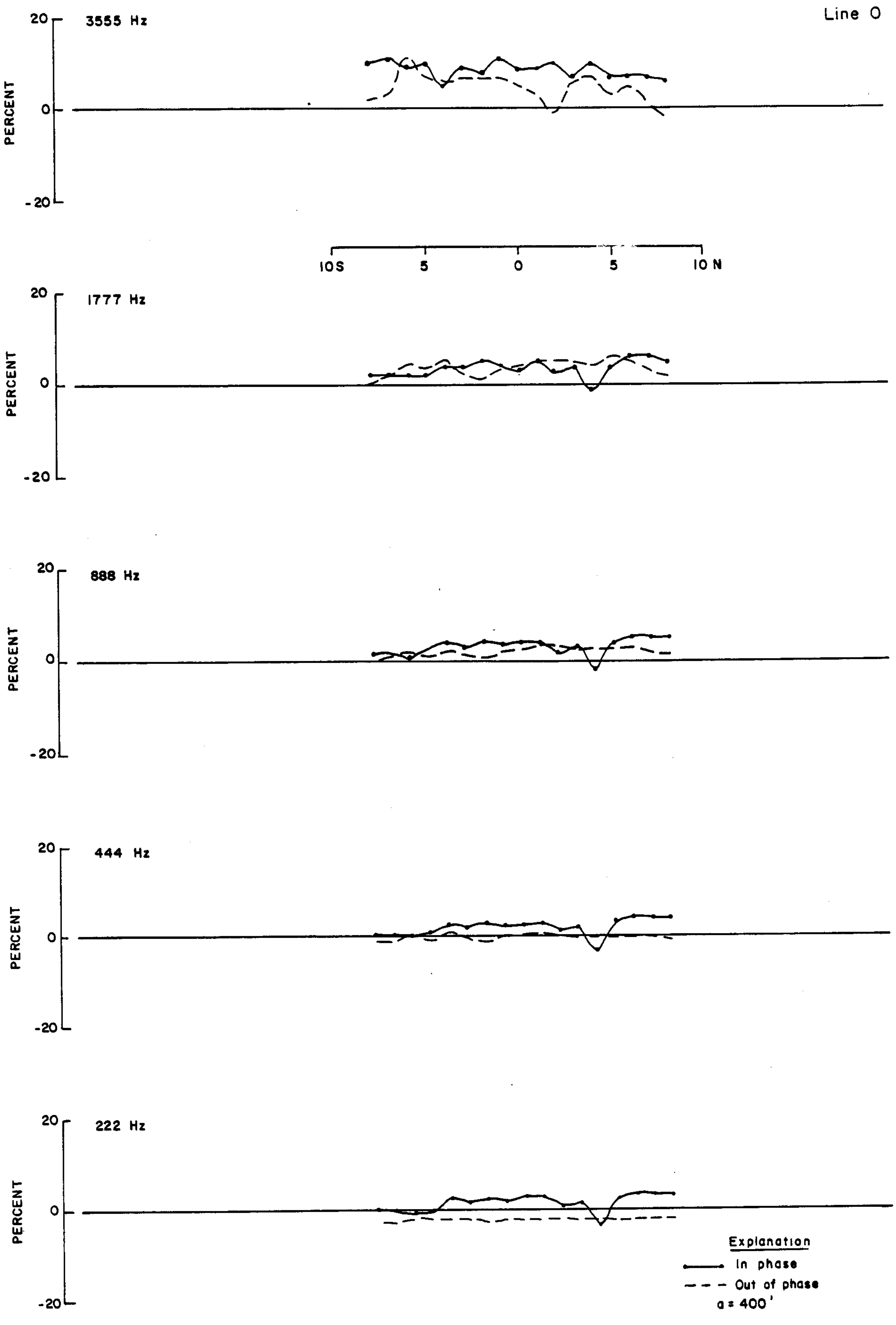


Figure E-78 Alpha Ridge Grid, MaxMin II EM, Line O

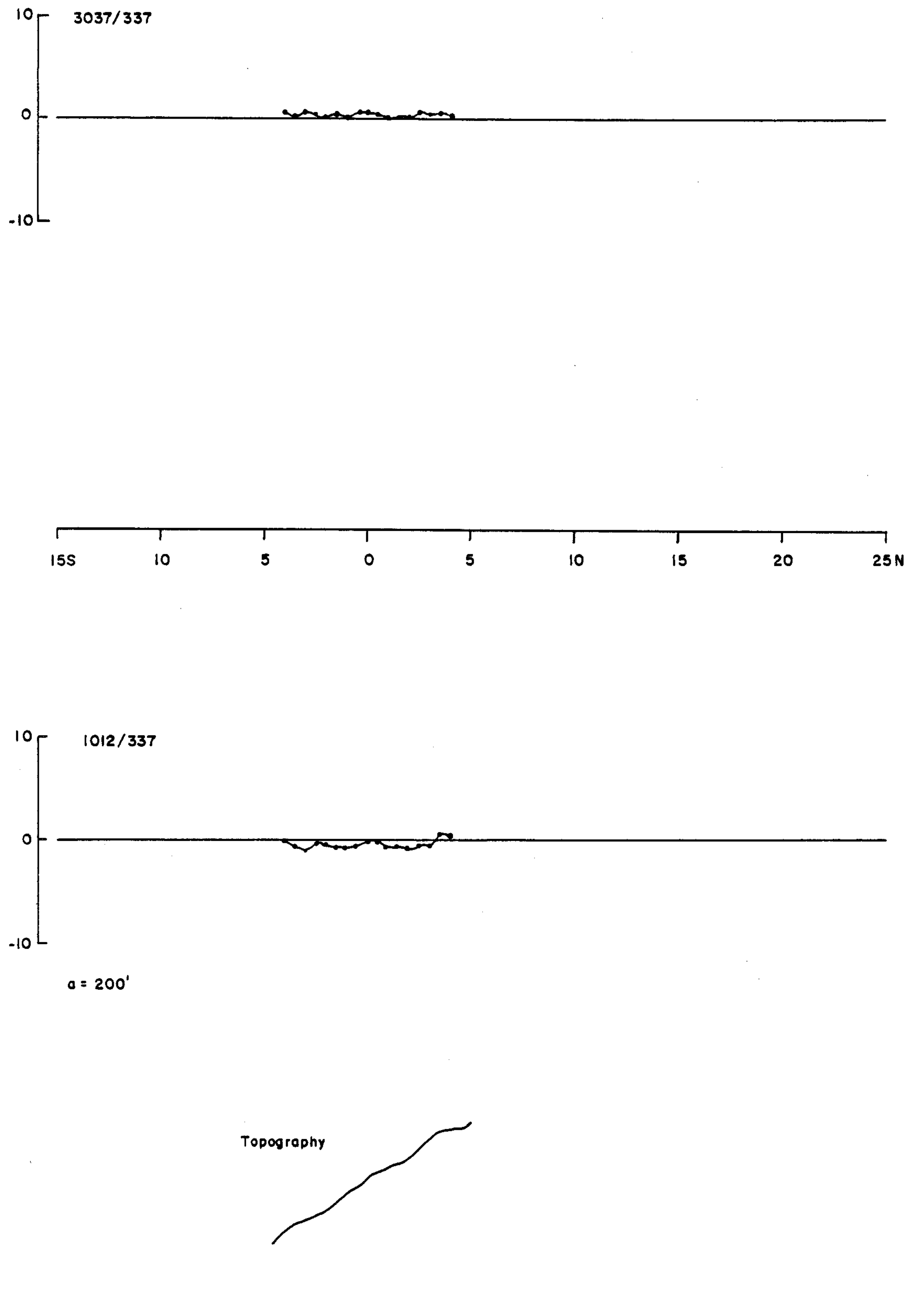


Figure E-79 Alpha Ridge Grid, Genie EM, Line O

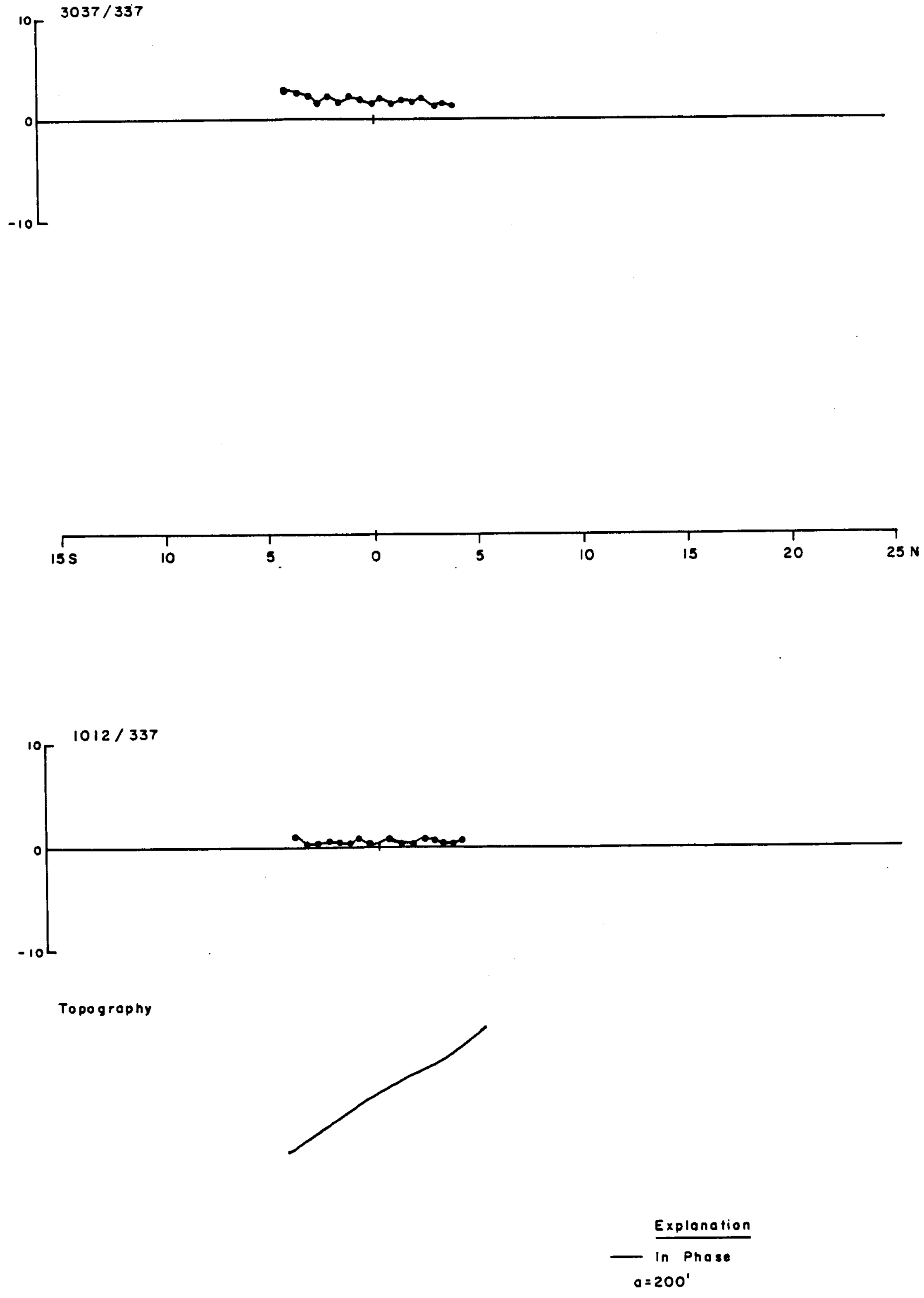


Figure E-80-Alpha Ridge Grid, Genie E.M., Line 10+81 E.

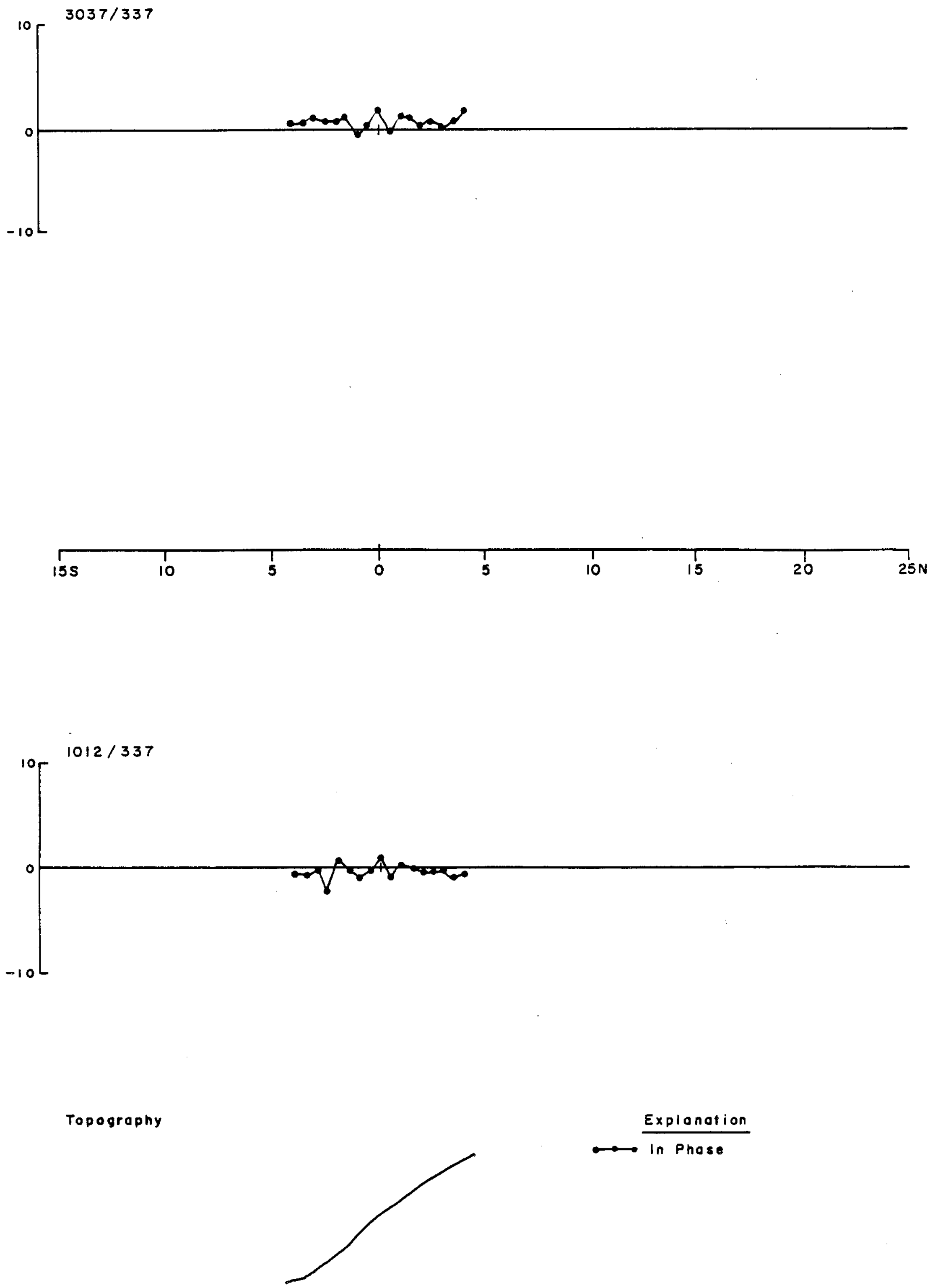


Figure E-81-Alpha Ridge Grid, Genie E.M., Line 7+50 W.

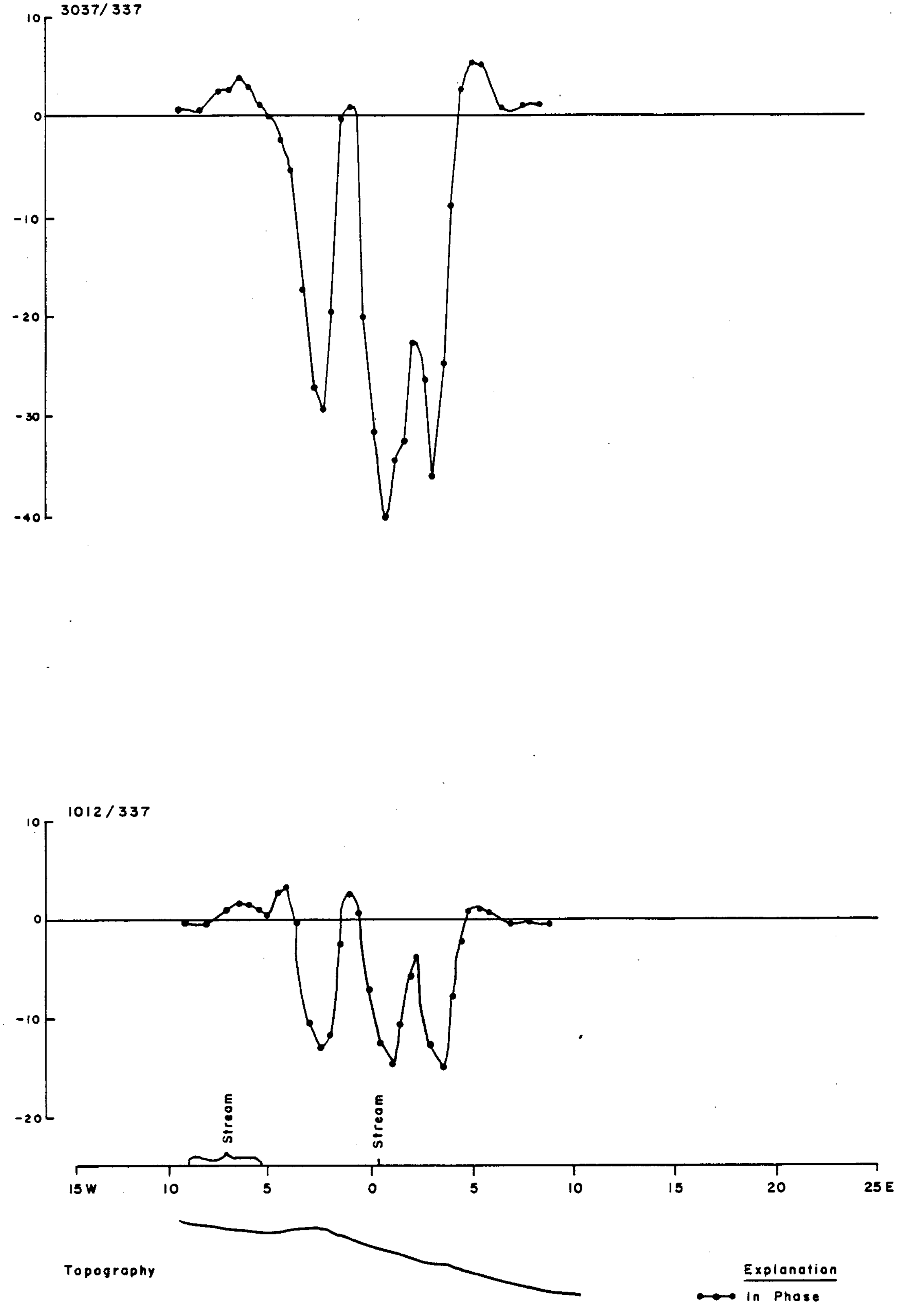


Figure E-82- Canyon Creek, Genie E. M., Line No. 2

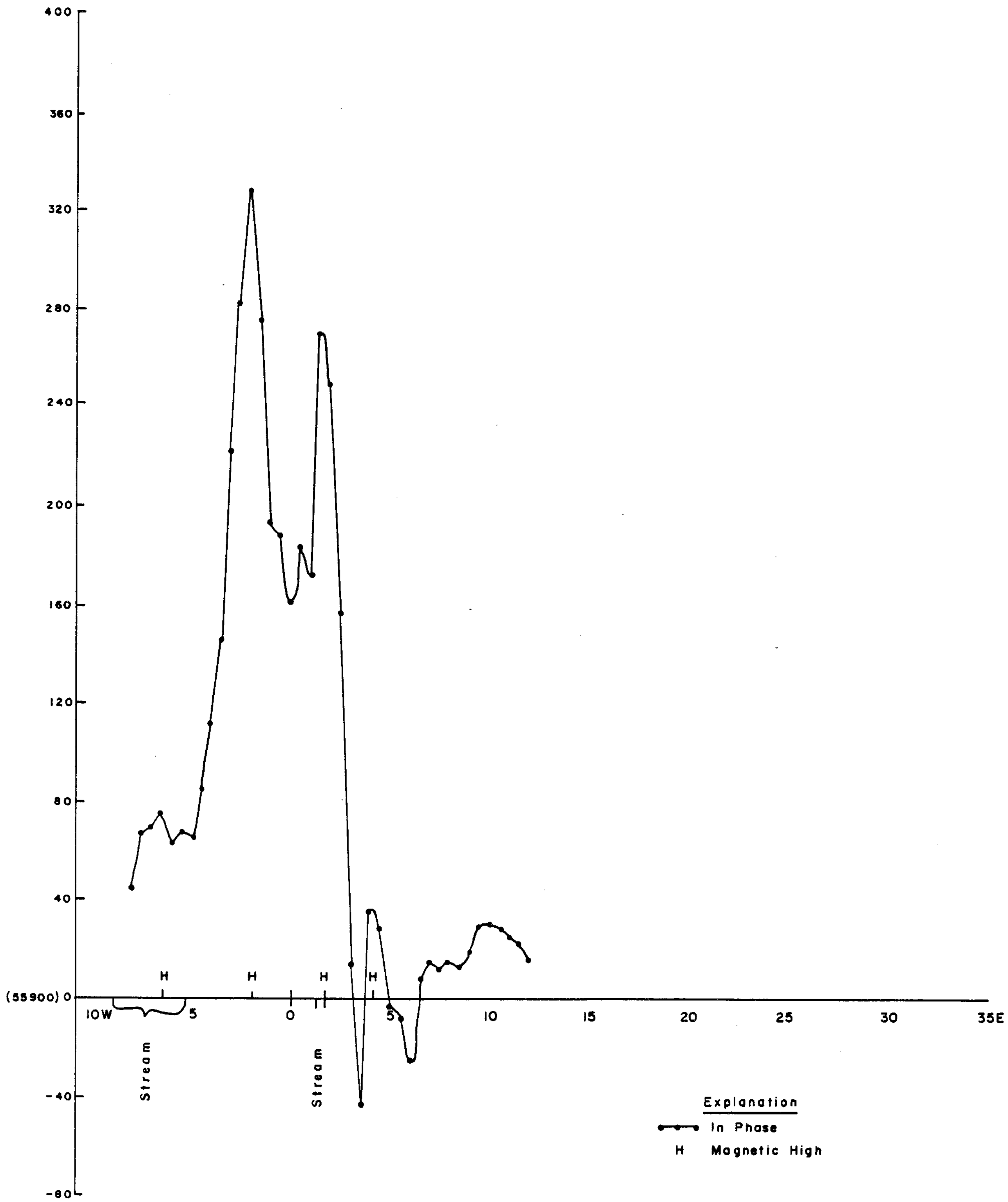


Figure E-83-Canyon Creek Area, Magnetometer Profile, Line No. 2

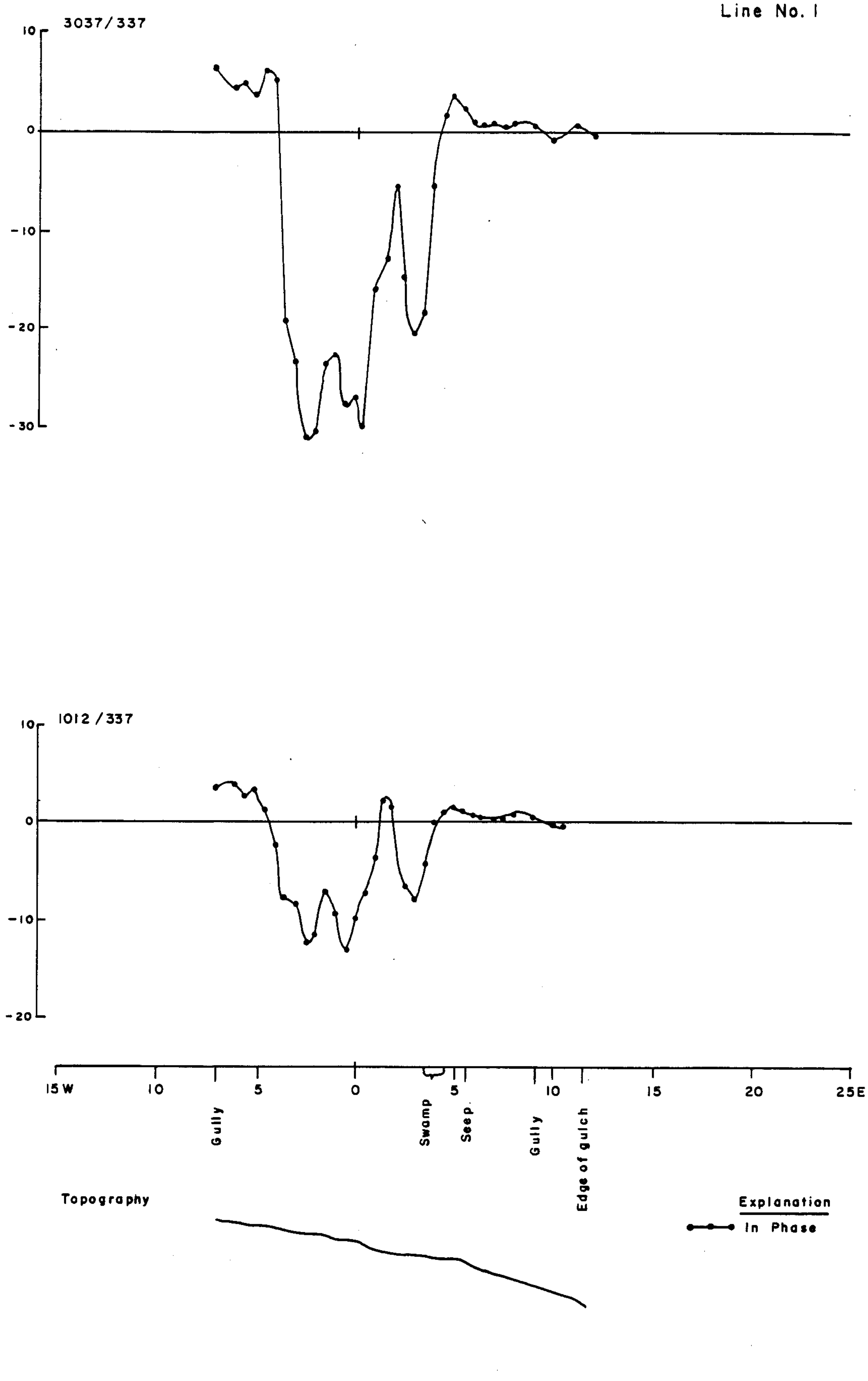


Figure E-84- Canyon Creek Grid, Genie E. M., Line No. 1

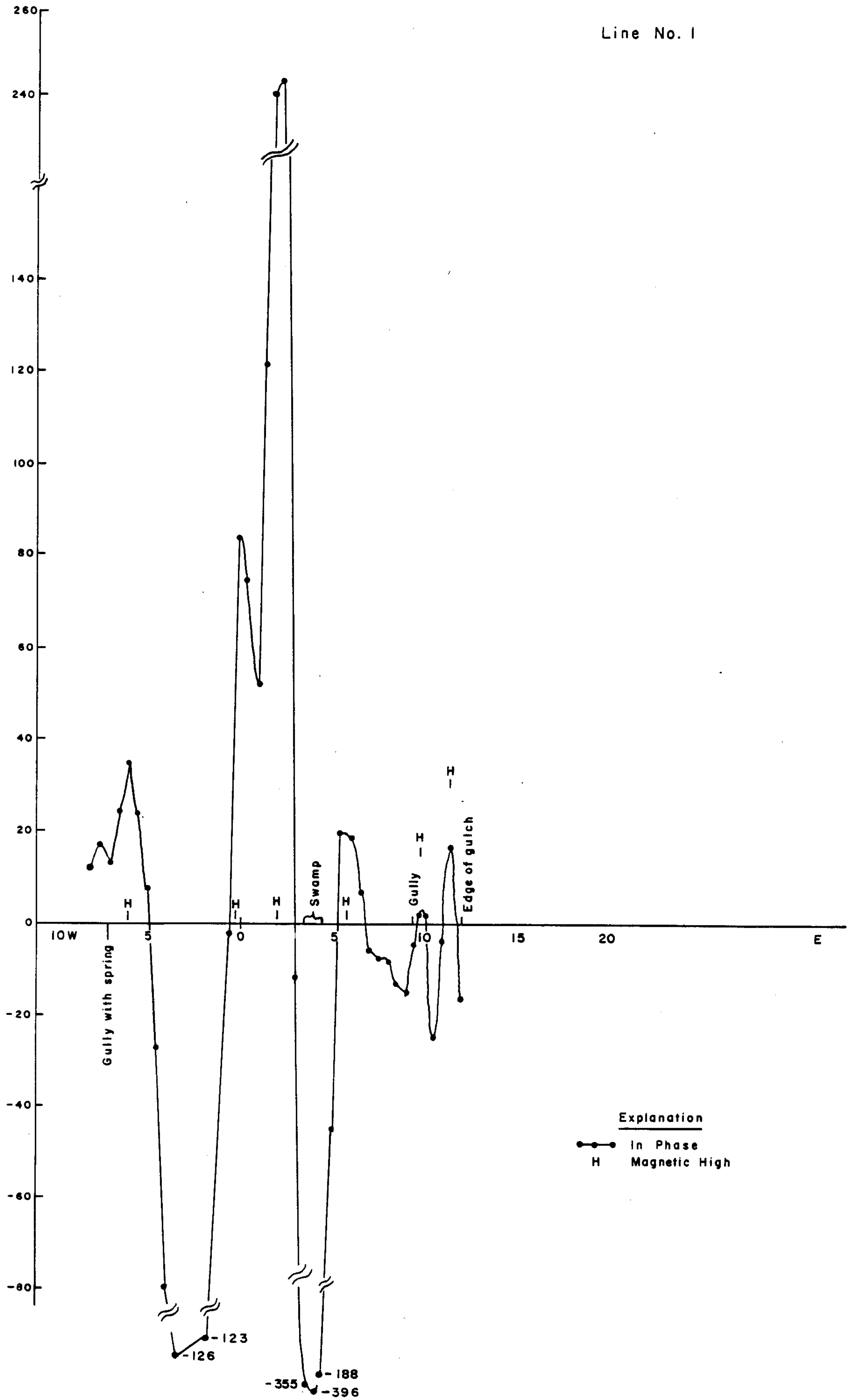


Figure E-85- Canyon Creek Area, Magnetometer Profile, Line No. 1

APPENDIX F

SURVEYING

TABLE OF CONTENTS

SURVEYING

Surveying during the project was performed to locate patented claim corners, diamond drill holes, cable tool sampling sites, placer test pits, establish grids for mapping and geochemical/geophysical surveys, and tie in various monuments and sample locations. Plates K-17 and D-2 show the location of various surveyed points, and list the corresponding state coordinates.

Surveys of patented claim corners were not intended to establish legal boundaries of the claims. In some cases the original corners could not be found. There is also some uncertainty in the actual coordinates of some of the corners surveyed because of an apparent discrepancy in the original survey of one of the U.S. mineral monuments.

PRIMARY SURVEY CONTROL KANTISHNA PROJECT

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
VABM Bound	3 473 293. 55	358 140. 69		Vertical angle Elevation bench mark
VABM Elorado	3 474 776. 77	341 866. 30	3246	Vertical angle Elevation bench mark
VABM Moon	3 515 119. 17	409 299. 55		Vertical Angle Elevation bench mark
VABM Antim	3 553 883. 35	407 097. 27	4649	Vertical angle Elevation bench mark
USLM-1700	3 488 052. 85	340 198. 18	1823.77	United States location monument
USLM-2196	3 559 183. 52	439 251. 16	2410.2	United States location monument
USMM-360	3 488 768. 38	354 238. 16	2389.57	Control point
CP-3	3 489 026. 30	347 225. 05	3099.38	Control point
CP-4	3 484 368. 55	340 632. 42	1622.21	Control point
CP-5	3 490 958. 70	343 523. 78	2833.42	Control point
CP-6	3 485 278. 55	349 128. 84	2667.63	Control point
CP-7	3,497 056. 48	359 028. 55	3619.63	Control point
CP-8	3 494 618. 97	359 132. 76	3778.21	Control point
CP-9	3 497 002.72	372 381. 81	4329.02	Control point Glacier Peak
CP-10	3 508 065. 66	372 276. 79	3161.59	Control point
CP-11	3 487 083. 47	388 061. 23	2688.54	Control point at Spruce Creek
CP-11A	3 486 983. 03	387 963. 62	2695.8	Control point
CP-11B	3 483 463. 54	384 272. 45	2257.8	Control point
CP-12	3 502 221. 77	385 751. 12		Control point Spruce Peak
CP-13	3 543 087. 71	412 945. 21	3624.03	Control point
CP-14	3 560 974. 53	431 548. 18	3601.75	Control point
CP-16	3 513 405. 50	355 235. 01	1897.16	Control point
CP-17	3 512 179. 91	351 328. 98	1889.36	Control point
T.P. 17-A	3 506 929. 08	353 867. 45	2436.51	Turning point

PRIMARY SURVEY CONTROL JUPITER-MARS AREA

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
JM-1	3 491 092. 49	355 713. 13	3121.83	4+00E 3+00S
JM-2	3 490 947. 22	355 340. 40	2988.28	0+00E 3+00S
JM-3	3 491 210. 16	355 287. 26	3072.20	0+00E 0+00N
JM-4	3 491 982. 81	354 936. 30	3234.77	0+00E 0+50N
JM-5	3 493 032. 56	354 527. 20	3287.4	0+00E 20+00N
JM-6	3 493 156. 78	354 903. 46	3191.7	4+00E 20+00N
JM-7	3 493 275. 14	355 333. 58	3027.3	8+00E 20+00N
JM-8	3 489 448. 31	355 912. 07	2450.3	0+00E 20+00S
JM-9	3 489 602. 53	356 296. 95	2530.3	4+00E 20+00S
JM-10	3 489 758. 37	356 655. 29	2567.2	8+00E 20+00S
B-31	3 492 036. 70	354 897. 95	3208.6	4x4 post in rock cairn
B-32	3 491 898. 44	354 715. 77	3131.5	Near adit
B-33	3 491 664. 38	354 653. 22	3036.8	Adit
B-34	3 491 456. 02	354 471. 90	2905.7	Adit near mill

PRIMARY SURVEY CONTROL LITTLE ANNIE AREA

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
K-1	3 489 339. 70	345 820. 76	2541.9	Drill Hole
K-2	3 488 420. 65	345 546. 68	2872.8	Drill Hole
K-3	3 488 556. 97	345 435. 05	2798.4	Drill Hole
K-4	3 488 892. 88	345 639. 34	2652.6	Drill Hole
K-5	3 487 263. 87	344 073. 46	2786.75	Drill Hole
K-6	3 487 331. 23	344 042. 58	2736.44	Drill Hole
K-7	3 486 978. 96	344 227. 96	2909.0	Drill Hole
K-8	3 488 364. 41	348 963. 49	2464.6	Drill Hole
K-9 and K-10	3 488 739. 69	349 331. 71	2567.6	Drill Hole
K-11	3 489 167. 62	348 035. 49	2900.7	Drill Hole
K-12	3 491 390. 19	355 923. 59	3299.2	Drill Hole
K-13	3 485 886. 91	345 560. 02	2212.5	Drill Hole
K-14	3 491 259. 12	355 633. 98	3204.3	Drill Hole
K-15	3 487 126. 01	342 389. 34	2473.4	Drill Hole
K-16	3 491 086. 21	355 097. 45	2990.8	Drill Hole
K-17	3 485 802. 11	342 101. 13	2158.9	Drill Hole
K-18	3 489 174. 02	353 010. 30	2432.9	Drill Hole
K-19	3 487 247. 33	341 198. 97	1954.3	Drill Hole
K-20	3 487 183. 27	340 924. 36	1837.5	Drill Hole
K-21	3 487 521. 19	341 481. 98	2063.9	Drill Hole
K-22-22B	3 489 398. 79	345 992. 37	2555.4	Drill Hole

KANTISHNA PROJECT PLACER TESTS

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
P-1	3 481 589. 84	343 339. 85	1653.4	Test Pit #1
P-2	3 482 639. 07	341 962. 80	1639.3	Test Pit #2
P-3	3 482 937. 80	341 668. 55	1634.9	Test Pit #3
P-4	3 488 309. 43	337 844. 62	1562.6	Test Pit #4
P-5	3 487 477. 10	338 613. 96	1560.3	Test Pit #5
P-6	3 489 031. 58	354 843. 76	2360.0	Test Pit #6
P-7	3 489 153. 48	354 685. 54	2395.4	Test Pit #7
P-8	3 489 311. 33	354 442. 12	2466.5	Test Pit #8
P-9	3 488 530. 21	353 067. 75	2281.5	Test Pit #9
P-10	3 487 560.	340 120.		Test Pit #10
P-11	3 487 880.	340 350.		Test Pit #11
P-12	3 484 233. 34	340 806. 85	1623.4	Test Pit #12
P-13	3 489 583. 28	391 063. 90	2476.2	Test Pit #13
P-14	3 489 634. 92	391 245. 52	2486.1	Test Pit #14
P-15	3 488 359. 41	389 976. 07	2461.8	Test Pit #15
P-16	3 487 998. 72	389 786. 80	2457.2	Test Pit #16
P-17	3 485 662. 57	390 289. 79	2316.5	Test Pit #17
P-18	3 493 526. 29	377 233. 12	2805.9	Test Pit #18
P-19	3 493 593. 02	377 242. 73	2808.5	Test Pit #19
P-20	2 494 508. 75	377 211. 94	2810.0	Test Pit #20
P-21	3 492 905. 72	379 023. 92	2755.8	Test Pit #21
P-22	3 492 866. 19	379 167. 69	2738.8	Test Pit #22
P-23	3 483 178. 38	384 520. 40	2197.5	Test Pit #23
P-24	3 483 461. 87	384 617. 44	2197.7	Test Pit #24

KANTISHNA PROJECT PLACER TESTS

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
P-25	3 478 301. 51	368 748. 35	1944.7	Test Pit #25
P-26	3 480 841. 56	371 028. 97	2093.1	Test Pit #26
P-27	3 481 589. 84	343 339. 85	1748.5	Test Pit #27
P-28	3 483 463. 54	384 272. 45	2257.8	Test Pit #28

KANTISHNA PATENT CLAIM SEARCH

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
5	3 487 847. 88	842 025. 97	2092.9	Unmarked rough cut 4 x 4
6	3 988 096. 37	342 061. 90	2024.5	Rotten 6 x 6 (Red Top #?) Spike and lath
7	3 487 716. 71	343 145. 12	2321.4	Pipe with 4 x 4 wired to it (Star Lode 3?)
8	3 438 039. 50	343 502. 55	2389.0	2" pipe 2' above ground
9	3 488 146. 43	343 653. 98	2403.8	Spike and lath
10	3 488 666. 11	344 259. 45	2395.9	Martha Q #2 Cor pipe with 4x4 wired to it (Friday #3)?
12	3 487 190. 92	341 663. 75	2176.5	1½" pipe w/ 4x4 post Star Lode Cor #4
13	3 486 997. 08	341 104. 02	1859.5	4x4 post (#4 Red Top)? set spike
14	3 487 480. 48	340 702. 42	1803.2	4x4 post (#1 Red Top)? set spike
15	3 487 606. 70	342 123. 02	2176.1	Pipe 2' above ground
16	3 486 687. 56	340 456. 86	1701.8	3" round stake
17	3 486 071. 40	342 702. 25	2364.9	4x5 Post scribed S1702-1?
18	3 489 499. 22	347 497. 42	2972.6	4x4 post in cairn
19	3 489 362. 40	346 476. 31	2740.4	4x4 post in ground
11	3 487 704. 50	341 415. 52	2053.1	Set spike and lath
20	3 489 147. 71	346 601. 13	2818.4	4x4 post
21	3 488 595. 63	346 592. 26	2979.6	Rock cairn 3'x3'x2½'
22	3 486 983. 51	343 852. 87	2847.1	4x4 in rock cairn
23	3 486 780. 02	343 588. 86	2811.4	Rock cairn 3'x3'x1'
24	3 487 122. 61	342 487. 48	2488.8	4x4 post wired to 1½" pipe
25	3 489 942. 42	347 734. 83	2966.2	4x4 post
26	3 489 633. 26	346 213. 57	2617.5	2" diameter post

KANTISHNA PATENT CLAIM SEARCH

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
B-1	3 489 229. 23	354 594. 59	2451.27	Lath at SE Cor Silver King
B-2	3 489 391. 65	352 986. 90	2552.64	Lath at NW Cor Silver King
B-3	3 489 222. 86	352 780. 53	2507.61	4x4, NW Cor Eureka Lode
B-4	3 489 164. 24	352 215. 82	2506.75	4x4 post
B-5	3 488 401. 01	351 710. 66	2264.91	Lath, SW Cor Merry Widow
B-6	3 488 814. 88	353 152. 45	2317.8	Lath, SE Cor Merry Widow
B-7	3 491 801. 67	355 121. 93	3262.6	4x4 post
27	3 488 416. 93	344 898. 66	2618.5	Polly Wonder Cor #3, lath
28	3 487 494. 96	343 716. 45	2560.6	Polly Wonder Cor #4, lath
29	3 487 193. 17	343 329. 33	2637.7	Francis Cor #2, lath
30	3 488 020. 73	343 246. 09	2295.2	Rock cairn
31	3 488 115. 70	394 511. 90	2670.2	Cor #2 Little Maud, lath
B-7	3 491 801. 67	355 121. 93	3262.6	4x4 post
B-8	3 491 919. 70	355 293. 51	3356.4	4x4 in rock cairn
B-9	3 491 357. 97	355 423. 39	3188.4	Rock 2x6x30 in rock cairn
B-10	3 491 210. 16	355 237. 26	3072.2	Rock cairn
B-11	3 491 250. 31	355 177. 50	3050.1	4x4 in rock cairn
B-12	3 491 609. 67	353 915. 38	3055.7	4x4 post near road
B-13	3 491 215. 05	353 822. 82	2873.6	4x4 post
B-14	3 490 794. 36	353 928. 19	2752.5	4x4 post
B-15	3 490 994. 46	353 678, 42	2858.4	Cor #2 NW of Jupiter-Mars, lath
B-16	3 491 056. 90	355 375. 15	3055.1	Cor #4-SE Cor Jupiter-Mars Cor #1 SW of Chloride, lath

KANTISHNA PATENT CLAIM SEARCH

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
B-17	3 491 569. 40	355 062. 56	3150.3	Cor #3-NE of Jupiter-Mars Cor #2-NW of Chloride
B-18	3 491 631. 77	356 587. 44	3432.8	4x4 in rock cairn near open cut
B-19	3 491 355. 66	356 527. 17	3303.1	4x4 post in rock cairn
B-20	3 489 633. 49	354 369. 33	2515.5	Rock cairn
B-21	3 491 588. 98	356 759. 65	3427.7	Chloride Cor #4, lath
B-22	3 492 072. 72	358 853. 40	3550.7	Chorine Cor #1, lath
B-23	3 492 104. 90	356 446. 05	3415.7	Waterloo Cor #2, Lath
B-24	3 491 986. 99	356 326. 13	3478.5	4x4 in rock cairn
B-25	3 492 649. 20	358 686. 37	3349.8	Chlorine Cor #2, lath
B-26	3 493 073. 89	360 125. 76	2640.8	Chlorine Cor #3, Lath
B-27	3 493 217. 44	360 160. 27	2650.6	4x4 in rock cairn 26x6x16 stone
B-28	3 492 248. 91	357 939. 15	3281.7	Waterloo Cor #3, lath
B-29	3 492 206. 04	357 915. 56	3299.0	Post in cairn
B-30	3 491 735. 49	358 249. 68	3364.9	Waterloo Cor #4, lath
TP-1	3 491 955. 33	358 783. 12	3521.5	Turning point
TP-2	3 492 136. 06	358 578. 04	3503.9	Turning point
TP-3	3 492 141. 22	359 119. 93	2624.9	Turning point
B-35	3 491 116. 07	352 018. 38	3289.5	4x4 post in rock cairn
B-36	3 491 124. 13	351 644. 91	3268.1	Doherty Cor #4, lath
B-37	3 490 756. 26	352 114. 71	3109.4	5x5 post in rock cairn scribed Cor #1 Doherty
B-38	3 489 565. 18	351 221. 10	2688.2	Doherty Cor #2, Lath
B-39	3 489 450. 87	351 090. 75	2663.4	Post in rock cairn w/ old post at base

KANTISHNA PATENT CLAIM SEARCH

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
B-40	3 490 029. 49	350 860. 87	2870.5	Pittsburg Cor #4, lath
B-41	3 489 372. 02	349 868. 02	2777.3	Pennsylvania Cor #4. Old 4x4 w/ iron pipe.
B-42	3 486 474. 95	344 216. 96	2707.5	Cor #4 Silver Pick, new 3x3 in airn
B-43	3 486 701. 02	345 187. 37	2543.4	lath
B-44	3 487 836. 51	345 125. 05	2892.4	Cor #2 Silver Pick, lath
B-45	3 487 633. 41	344 866. 33	2872.9	Cor #3 Little Maud, lath
B-46	3 487 363. 62	345 595. 48	2661.9	Cor #3 Silver Pick, lath
B-47	3 488 136. 51	346 825. 71	2763.1	3x3 post (old)
B-48	3 488 286. 66	346 677. 09	2868.2	Cor #3 Darling Lode, lath
B-49	3 488 367. 54	346 621. 74	2921.4	4x4 in rock cairn, Cor #4 Gold King
B-50	3 488 585. 91	348 100. 33	2746.1	Post in large rock cairn, Gold King #1
B-51	3 489 344. 36	347 903. 05	2956.15	East Gold King Cor #3, lath
B-52	3 486 549. 54	348 627. 28	2122.37	Sulphide Cor #1, lath
B-53	3 485 815. 59	347 315. 95	2148.0	Sulphide Cor #2, lath
B-54	3 486 058. 20	347 198. 59	2097.9	Water Level Cor #1, lath
B-55	3 486 818. 29	349 038. 53	2164.4	Round post in cairn on bench above creek
B-56	3 486 623. 56	348 993. 70	2118.8	Lath
B-57	3 487 082. 02	348 772. 17	2275.8	Lath
B-58	3 487 227. 62	347 726. 30	2363.8	Keystone Cor #2 Broken 4x4 w/ spike-lath
B-59	3 489 965. 46	349 463. 86	2939.7	Post in cairn Old post beside it.
B-60	3 490 349. 71	349 169. 04	3002.1	Blue Bell Cor #2, lath

KANTISHNA PATENT CLAIM SEARCH

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
B-61	3 490 134. 22	349 135. 36	2910.2	4x4 in ground
B-62	3 489 774. 83	349 341. 45	2832.8	Blue Bell Cor #2, lath
B-63	3 489 506. 37	349 505. 35	2809.7	Pittsburgh Cor #3 5/8" rebar, Lath
B-64	3 489 924. 74	350 735. 91	2839.9	Doherty Cor #3, cairn w/new post and old post
B-65	3 488 944. 08	349 723. 04	2646.5	Pittsburgh Cor #2 5/8" rebar, lath
B-66	3 488 856. 51	350 216. 10	2571.2	Pennsylvania Cor #1 4x4 in ground, lath
B-67	3 488 019. 08	348 961. 37	2431.6	Pennsylvania Cor #2 lath
B-68	3 488 518. 40	348 628. 62	2630.0	Pennsylvania Cor #3 lath
B-69	3 487 735. 16	347 391. 99	2558.5	Keystone Cor #3, rebar w/4x4 Lath
B-70	3 487 228. 68	347 726. 37	2362.2	Keystone Cor #2, Lath B-58
B-71	3 487 026. 89	348 424. 58	2238.3	Sulphide Cor #4, old post
B-72	3 488 975. 90	351 596. 11	2497.7	Merry Widow Cor #3, lath
B-73	3 490 478. 69	353 990. 74	2666.5	Jupiter-Mars Cor #1, lath
B-74	3 485 658. 34	345 013. 20	2250.1	cairn-Cor #3 Water Level
32	3 486 525. 54	342 573. 88	2463.0	Martha Q Cor #5 lath
33	3 486 314. 27	342 333. 97	2319.6	Francis Lode Cor #1 lath
34	3 486 708. 67	342 055. 86	2272.1	Star Lode Cor #4 lath
35	3 486 071. 71	342 702. 30	2360.2	Old post scribed S1702, Silver Pick N^{O} 2 Cor #1
36	3 485 831. 11	342 689. 61	2317.0	Francis Cor #4, lath
37	3 485 517. 79	343 131. 11	2402.7	Silver Pick N^{O}2 Cor #4, lath
38	3 483 956. 45	341 937. 96	1636.3	Lucky Strike Cor #1, lath
39	3 483 642. 46	342 490. 76	1762.9	Lucky Strike Wit. Cor to Cor #4, lath
40	3 485 199. 12	341 423. 76	1764.6	Galena Cor #3, lath

KANTISHNA PATENT CLAIM SEARCH

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
41	3 485 681. 94	341 068. 25	1704.2	Galena Cor #2, lath
42	3 485 154.61	335 621. 58	3049.7	Whistler Cor #1 Bright Cor #2 Stone S1708 or S1706
43	3 485 699. 83	335 391. 24	2885.9	Whistler Cor #4 Schist stone scribed S1706
44	3 486 855. 45	366 322. 64	2097.8	Bright Light Lode Cor #4, lath
45	3 486 360. 73	336 646. 59	2272.4	Bright Light Cor #1 Schist stone scribed S1706
46	3 484 960. 89	343 161. 49	2230.3	Lucky Strike Cor #2, Lath
47	3 484 509. 21	343 556. 37	2104.0	Lucky Strike Cor #3, lath
TCP #1	3 481 447. 92	341 811. 27	1692.33	
USLM 2196	3 559 183.52	439 251. 16	2410.2	United States location monument
1-2196-SL	3 558 868. 19	439 609. 06	2401.9	Cor #1 Stampede Lode
1-2196-SP	3 559 818. 53	439 565. 55	2155.2	Cor #1 Stampede Placer

QUIGLEY RIDGE GEOCHEM AND GEOPHYSICS SURVEY CONTROL

	STATE PLANAR COORDINATES			
STATION	NORTHING	EASTING	ELEVATION	REMARKS
QG-1	3 488 591. 56	345 363. 85	2774.6	8W 0+00
QG-2	3 488 367. 65	345 032. 26	2688.6	12W 0+00
QG-3	3 488 143. 55	344 700. 94		16W 0+00
QG-4	3 488 087. 53	344 618. 10	2679.1	17W 0+00
QG-5	3 487 919. 49	344 369. 58	2726.2	20W 0+00
QG-6	3 487 695. 40	344 038. 06	2659.4	24W 0+00
QG-7	3 487 471. 51	343 707. 10	2567.1	28W 0+00
QG-8	3 487 247. 34	343 375. 04	2606.1	32W 0+00
QG-9	3 487 022. 99	343 044. 17	2665.2	36W 0+00
QG-10	3 489 005. 47	345 083. 55	2515.3	8W 5+00N
QG-11	3 488 781. 54	344 752. 30	2485.2	12W 5+00N
QG-12	3 488 557. 47	344 420. 82	2463.0	16W 5+00N
QG-13	3 488 501. 85	344 337. 84	2489.7	17W 5+00N
QG-14	3 488 333. 81	344 089. 44	3583.1	20W 5+00N
QG-15	4 588 168. 03	344 201. 48	2578.5	20W 5+00N
QG-16	3 487 437. 38	342 764. 03		36W 5+00N
QG-17	3 487 661. 39	343 095. 40		32W 5+00N
QG-18	3 487 885. 67	343 426. 74		28W 5+00N
QG-19	3 488 109. 81	343 757. 96		24W 5+00N
QG-20	3 487 199. 31	344 373. 08	2897.7	24W 6+00S
QG-21	3 486 892. 63	344 098. 64	2892.8	28W 7+00S
QG-22	3 486 585. 58	343 822. 35	2838.0	32W 8+00S
QG-23	3 486 195. 76	343 603. 06	2684.9	36W 10+00S
QG-24	3 489 832. 61	344 518. 83	2260.5	8W 15+00N

QUIGLEY RIDGE GEOCHEM AND GEOPHYSICS SURVEY CONTROL

	STATE PLANAR COORDINATES			
STATION	NORTHING	EASTING	ELEVATION	REMARKS
QG-24	3 489 832. 61	344 518. 83	2260.5	8W 15+00N
QG-25	3 489 160. 03	342 635. 47	2071.7	27+50W 20+00N
QG-33b	3 488 482. 68	342 539. 63	2058.2	32W 15+00N
QG-26	2 487 746. 02	347 406. 97	2562.9	4E 18+50S
QG-27	3 487 380. 47	347 150. 87	2423.4	0+00 20+00S
QG-28	3 487 164. 45	346 809. 60	2374.9	4W 20+00S
QG-29	3 486 935. 85	346 489. 85	2287.4	8W 20+00S
QG-30	3 485 677. 13	344 981. 75	2266.8	27+50W 22+00S
QG-31	3 489 353. 82	342 902. 57	2157.1	24W 20+00N
QG-32	3 489 117. 25	342 662. 35	2071.0	28W 19+50N
QG-33a	3 488 891. 34	342 254. 70	2000.1	32W 20+00N
QG-34	3 486 457. 16	344 882. 58	2545.58	24W 15+00S
QG-35	3 486 020. 46	344 238. 40	2552. 63	32W 15+00S
QG-36	3 487 963. 37	341 451. 40	1942.2	44W 16+50N
QG-37	3 488 830. 15	340 578. 71	2150.8	46W 29+00N
QG-38	3 488 623. 76	340 220. 98	2019.0	50W 29+00N
QG-39	3 488 189. 21	340 133. 18	1812.5	52W 26+00N
QG-40	3 487 248. 99	341 917. 41	2284.1	44W 8+00N
QG-41	3 486 454. 95	342 195. 78	2311.5	46W 0+00N
QG-42	3 486 223. 31	341 869. 33	2124.2	50W 0+00N
QG-43	3 485 259. 33	342 612. 52	2174.7	52W 15+00S
QG-44	3 486 465. 90	341 500. 19	1980.6	52W 4+00N
QG-45	3 487 695. 28	348 884. 04	2393.6	16E 27+50S

QUIGLEY RIDGE GEOCHEM AND GEOPHYSICS SURVEY CONTROL

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
QG-46	3 487 914. 46	349 258. 64	2293.5	20E 27+50S
QG-47	3 488 135. 92	349 644. 91	2393.8	24E 27+50S
QG-48	3 488 329. 54	350 014. 72	2491.3	28E 27+50S
QG-49	3 488 584. 65	348 310. 41	2701.2	16E 15+50S
QG-50	3 488 841. 36	348 592. 17	2655.8	20E 15+50S
QG-51	3 489 111. 38	348 961. 16	2534.0	24E 15+50S
QG-52	3 489 372. 37	349 338. 81	2758.5	28E 15+50S
QG-53	3 489 308. 68	346 423. 98	2732.5	480.06 0+00 (Base line)
QG-54	3 489 263. 87	346 357. 71		4+00E 0+00
QG-55	3 489 039. 81	346 026. 35		0+00 0+00
QG-56	3 488 815. 52	345 694. 67		4+00W 0+00
QG-57	3 490 884. 43	345 251. 78	2467.4	4+00E 20+00N
QG-58	3 490 667. 22	344 857. 26	2390.1	0+00 20+00N
QG-59	3 490 442. 96	344 519. 62	2519.3	4+00W 20+00N
QG-60	3 488 178. 51	345 652. 57	2959.1	8+00W 5+00S
QG-61	3 487 954. 82	345 311. 18	2889. 6	12W 5+00S
QG-62	3 487 506. 50	344 648. 74	2885. 8	20W 5+00S

QUIGLEY RIDGE SURVEY CONTROL LITTLE ANNIE AREA

	STATE PLANAR COORDINATES			
STATION	NORTHING	EASTING	ELEVATION	REMARKS
A-1	3 458 818. 49	345 549. 25	2636.5	Miscellaneous control points
A-2	3 488 634. 92	345 631. 98	2797.4	Miscellaneous control points
A-3	3 488 577. 91	345 574. 70	2829.5	Miscellaneous control points
A-4	3 488 470. 09	345 534. 33	2842.4	Miscellaneous control points
A-5	3 488 457. 72	345 399. 49	2821.6	Miscellaneous control points
A-6	3 488 561. 26	345 374. 97	2788.4	Miscellaneous control points
A-7	3 488 570. 65	345 313. 49	2779.9	Miscellaneous control points
A-8	3 488 568. 09	345 221. 72	2754.0	Miscellaneous control points
A-9	3 488 514. 56	345 154. 81	2734.9	Miscellaneous control points
A-10	3 488 512. 58	345 681. 06	2860.0	Miscellaneous control points
A-11	3 488 341. 05	345 579. 50	2899.6	Miscellaneous control points
A-12	3 487 965. 80	345 395. 87	2899.9	Miscellaneous control points
A-13	3 488 502. 62	345 971. 73	2919.7	Miscellaneous control points
A-14	3 488 264. 29	345 737. 71	2961.9	Miscellaneous control points
A-15	3 488 697. 84	345 885. 07	2820.0	Miscellaneous control points
A-16	3 488 753. 14	346 027. 60	2365.4	Miscellaneous control points
A-17	3 488 912. 19	345 929. 77	2793.1	Miscellaneous control points
A-18	3 488 733. 10	345 791. 73	2770.6	Miscellaneous control points
A-19	3 488 897. 26	345 897. 33	2739.1	Miscellaneous control points
A-20	3 488 899. 82	345 771. 36	2695.5	Miscellaneous control points
A-21	3 439 356. 72	345 743. 19	2512.8	Miscellaneous control points
A-22	3 489 404. 57	345 758. 80	2493.4	Miscellaneous control points
A-23	3 439 136. 88	345 926. 36	2530.5	Miscellaneous control points
A-24	3 489 408. 08	345 814. 23	2505.6	Miscellaneous control points

QUIGLEY RIDGE SURVEY CONTROL LITTLE ANNIE AREA

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
A-25	3 489 435. 32	345 920. 46	2491.9	Miscellaneous control points
A-26	3 489 119. 40	345 621. 40	2568.5	Miscellaneous control points
A-27	3 489 521. 40	346 009. 53	2512.7	Miscellaneous control points
A-28	3 489 528. 60	346 067. 59	2555.6	Miscellaneous control points
A-29	3 489 600. 39	346 103. 98	2581.4	Miscellaneous control points
A-30	3 489 489. 85	346 155. 78	2603.1	Miscellaneous control points
A-31	3 489 570. 69	346 315. 97	2659.1	Miscellaneous control points

RED DIRT GEOCHEM AND GEOPHYSICS SURVEY CONTROL

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
RD-1	3 559 977. 63	417 714. 12	3587.2	0 30+00N
RD-2	3 557 083. 83	419 637. 00	3503.7	0 5+00S
RD-3	3 559 529. 16	416 954. 32	3635.9	8W 34+00N
RD-4	3 556 441. 14	419 193. 87	3355.2	8W 5+00S
RD-5	3 558 426. 81	416 949. 27	3682.9	16W 28+00N
RD-6	3 555 762. 89	418 738. 35	3064.4	16W 5+00S

CANYON CREEK GEOCHEM AND GEOPHYSICS SURVEY CONTROL

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
CY-1	3 541 332. 73	399 794. 75	3588.1	#1 Line 8+00W
CY-2	3 542 285. 35	401 520. 52	3310.8	#1 Line 12+00E
CY-3	3 538 913. 22	399 050. 50	3424.0	#2 Line 10+00W
CY-4	3 539 374. 49	400 979. 91	3217.6	#2 Line 10+00E

ALPHA RIDGE GEOCHEM AND GEOPHYSICS SURVEY CONTROL

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
AR-1	3 481 008. 07	333 994. 40	3201.2	7+50W 5+00N
AR-2	3 481 859. 14	334 322. 73	3301.1	0+00E 10+00N
AR-3	3 482 089. 22	335 501. 34	3067.4	10+81E 5+00N
A-4	3 480 223. 16	334 523. 29	2887.5	7+50W 5+00S
A-6	3 480 266. 24	335 387. 92	2765.1	0+00E 10+00S
AR-6	3 481 271. 01	335 987. 26	2770.1	10+81E 5+00S
AR-8	3 481 145. 85	334 841. 44	3067.7	Adit

GLEN CREEK GEOCHEM AND GEOPHYSICS SURVEY CONTROL

	STATE PLANAR COORDINATES			
STATION	NORTHING	EASTING	ELEVATION	REMARKS
GC-1	3 493 242. 72	379 283. 24	2772.5	IP Line 0+00
GC-2	3 493 746. 51	378 725. 50	2867.1	0+0 7_50N
GC-3	3 492 568. 45	379 885. 24	2832.9	0+0 9+50S
GC-4	3 493 838. 32	382 089. 10	3715.6	1N South/East
GC-5	3 494 961. 34	330 576. 02	2846.6	1N North/West
GC-6	3 495 601. 98	383 614. 33	3586.2	2N South/East
GC-7	3 496 687. 77	382 008. 48	3182.1	2N North/West

CARIBOU CREEK SURVEY CONTROL

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
CC-1	3 515 567. 40	392 777. 19	2564.8	
CC-2	3 514 673. 33	390 605. 75	2488.1	
CC-3	3 513 887. 57	388 889. 43	2410.9	First stream into Caribou Cr.
CC-4	3 514 231. 01	387 894. 69	2351.7	
CC-5	3 514 055. 70	386 084. 41	2331.3	Rock cairn (camp)
CC-6	3 513 546. 92	385 273. 50	2263.3	
CC-7	3 512 921. 75	384 048. 01	2249.4	Post in cairn
CC-8	3 512 691. 46	383 044. 34	2192.1	
CC-9	3 512 124. 33	379 799. 78	2088.0	North of creek
CC-10	3 511 841. 58	376 764, 68	2034.8	North of creek
CC-11	3 511 858. 02	373 875. 17	1884.3	N30°W 350' to confluence of Last Chance Creek and Caribou Creek
CC-12	3 512 224. 54	372 106. 50	2113.4	North of creek (high on slope)
CC-13	3 512 089. 99	369 698. 36	1932.5	North of creek
CC-14	3 511 597. 52	367 667. 87	1859.0	S65°W 350' to confluence of Snowshoe Creek and Caribou Creek
CC-15	3 511 866. 60	365 044. 39	1732.3	
CC-16	3 511 171. 56	362 855. 61	1677.64	
CC-17	3 512 373. 68	362 269. 79	1615.11	30' north of creek in sharp bend
CC-18	3 511 734. 95	358 816. 31	1646.2	
CC-19	3 511 718. 31	356 992. 63	1592.3	Claim post
CC-20	3 511 881. 12	356 173. 73	1545.9	
CC-21	3 512 365. 52	353 884. 41	1576.7	
CC-22	3 513 496. 58	352 031. 18	1444.7	

CARIBOU CREEK SURVEY CONTROL

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
CC-23	3 515 540. 06	350 415. 21	1540.4	
CC-24	3 518 178. 34	348 976. 68	1455.9	
CC-25	3 520 655. 74	348 638. 75	1308.3	
CC-26	3 522 682. 40	348 053. 80	1287.9	

GLACIER CREEK SURVEY CONTROL

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
GC #1	3 511 879. 98	346 711. 95	1579.6	GL-1
GC #2	3 513 858. 85	345 933. 26	1522.2	GL-2
GC #3	3 515 906. 31	344 919. 42	1467.2	GL-3

PRIMARY SURVEY CONTROL

DUNKLE PROJECT AREA

	STATE PLANAR COORDINATES			
STATION	NORTHING	EASTING	ELEVATION	REMARKS
T-10(A)	3 368 820. 70	561 183. 47	3345.17	
VABM Bull	3 379 524. 83	584 166. 12	3498.5	Vertical angle elevation bench mark
TP-1	3 383 563. 85	574 094. 33	2826.82	Turning point
TP-2	3 386 849. 75	577 205. 40	2725.7	Turning point
CP-1	3 387 118. 18	593 702. 20	3347.74	Control point
CP-2	3 390 447. 25	593 039. 10	3196.14	Control point
CP-3	3 387 986. 55	589 953. 17	3311.99	Control point

PRIMARY SURVEY CONTROL DUNKLE PROJECT AREA

STATION	STATE PLANAR COORDINATES NORTHING	EASTING	ELEVATION	REMARKS
D-1	3 393 821. 54	594 825. 59	2874.6	5S 1200W
D-2	3 393 501. 12	594 458. 11	2894.5	10S 1200W
D-3	3 388 435. 67	591 826. 93	3171.8	65S 200E
D-4	3 388 949. 07	592 010. 57	3144.8	60S Base Ln
D-5	3 389 182. 33	593 645. 19	3172.3	DDH ?
D-6	3 395 097. 40	589 082. 75	2947.0	Mag Ln #2 North
D-7	3 395 015. 26	590 125. 09	2927.3	Mag Ln #1 North
D-8	3 390 002. 52	589 087. 72	3096.63	Mag Ln #2 South
D-9	3 390 019. 75	590 094. 01	3107.03	Mag Ln #1 South
D-10	3 387 071. 25	596 005. 91	3342.6	Soil Ln #1 East
D-11	3 389 760. 64	593 503. 65	3147.2	Soil Ln #3 North
D-12	3 387 133. 48	593 435. 84	3305.5	Intersection Soil Lns #3, #1
D-13	3 393 849. 63	595 579. 96	2855.8	Soil Ln #2 North
D-14	3 388 301. 50	595 405. 60	3168.64	Soil Ln #2 South
D-15	3 383 563. 85	574 094. 33	2826.82	Silver King
D-16	3 385 280. 14	575 775. 99	2718.7	Liberty
D-17	3 386 335. 15	577 438. 50	2652.8	Lacrota
D-18	3 386 223. 61	577 898. 31	2589.3	Eagle
D-19	3 388 521. 52	579 307. 63	2815.2	Dunkle
D-20	3 395 959. 48	582 679. 93	3079.2	Nimrod
D-21	3 392 969. 04	585 120. 01	2848.3	Nimbus