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No. 369: ***Pyramid*** Project: Aleut-Quintana-Duval Joint Venture Report on 1975 Drill Programme

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PYRAMID PROJECT
ALEUT-QUINTANA-DUVAL JOINT VENTURE
REPORT ON 1975 DRILL PROGRAMME

by

J. S. CHRISTIE
PROJECT GEOLOGIST
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SUMMARY

Pyramid prospect was given Identified Area status in 1974 as set out in the Aleut-Quintana-Duval Joint Venture. Diamond drilling began in early September 1975 after considerable delay in construction of an access road, and by the end of October 19 shallow holes had been completed for a total footage of 5563 feet.

Geology and hypogene sulphide mineralization at Pyramid are similar to that of porphyry copper deposits at many places throughout the world. As in many other deposits the secondary supergene enrichment process has given rise to a copper enriched chalcocite blanket at Pyramid, which is as thick as 300 feet in some areas.

A mineral reserve estimate has been made using .25% Cu or the projected base of the chalcocite blanket as cutoffs as applicable, and 126 x 10^6 tons grading .403% Cu and .025% Mo have been indicated in a near surface zone consisting largely of chalcocite enriched rock. A large tonnage of even lower grade material is likely at greater depths (more than 150-300 feet beneath present land surface), but very few high grade copper sections have been discovered. Wolfhard (1974), indicated that in his opinion local economic factors were such that at least a small amount of relatively high grade material (30 x 10^6 tons of better than .8% Cu) would be essential to

the feasibility of an open pit mining operation. None has been found. If Wolfhard's figure is correct, as I believe it to be, then it is clear that the presently indicated grade at Pyramid is sub-commercial.

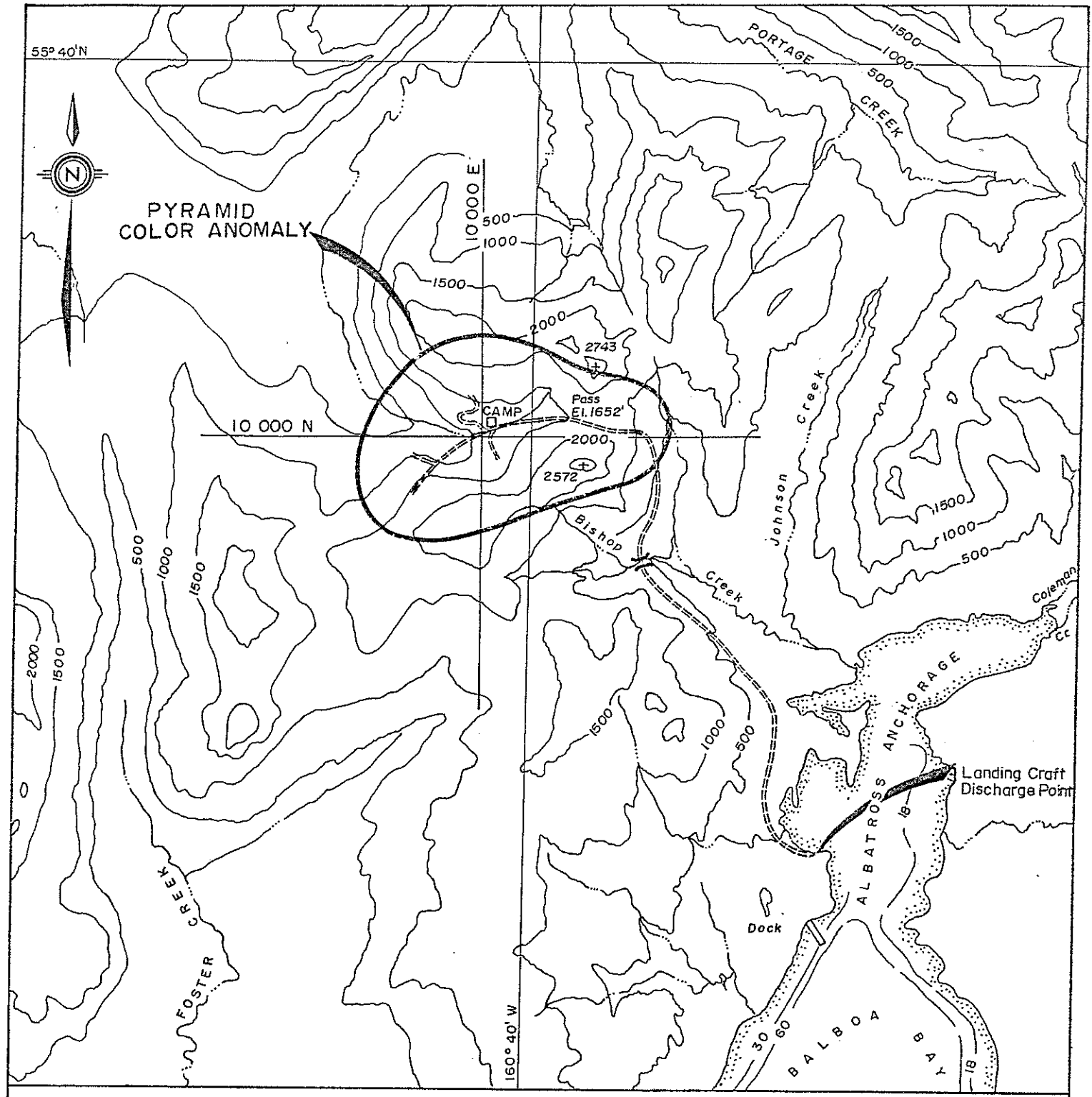
Chances for discovery of enough high grade ore to change the economic outlook are considerably less than at the outset, but some untested areas remain and some faint hope therefore exists. The western extension of the system has not been drilled and room exists for some 49×10^6 tons of chalcocite enriched rock. In addition the system has not been totally delimited to the east. Potential for limited amounts of higher grade material in the vicinity of QP-6 and BBS1-3 (the best 1975 holes) is apparent. It is also possible that 1975 holes QP-13 and BBS1-6 which had very poor recovery in the chalcocite zone, might be significantly upgraded.

The minimum programme at Pyramid in 1976 should consist of 6 diamond drill holes to further explore for higher grade copper mineralization within the areas indicated above. A very preliminary estimated cost for this programme is $250,000 which includes $35,000 for demobilization of drilling equipment from Alaska, and $50,000 for additional drilling contingent on the results of the first 6 holes.

INTRODUCTION

The Aleut-Quintana-Duval Joint Venture originated in 1974, and initial field work consisted of a regional minerals exploration programme covering all withdrawn lands where the Aleuts were entitled to acquire mineral rights by selection. This exploration programme was successful to the extent that a significant copper molybdenum prospect was located near Pyramid Mountain and several other less important prospects were found in the district. The Pyramid Prospect being by far the most important, was designated an Identified Area under terms of the 1974 Joint Venture. Identified Area status has been maintained by virtue of Quintana-Duval's completion of the 1975 work commitment ($50,000) specified in the Joint Venture agreement.

The 1975 programme began in early April when the landing craft Cape Douglas delivered 2 diamond drill rigs and related exploration and camp equipment to the beach near the head of Balboa Bay (Albatross Anchorage) some 5 miles from Pyramid. A small tent camp was established and construction of the Pyramid access road commenced and continued through May 15th, at which time roadbuilding was suspended when deep frost and snow were encountered at higher elevations. Roadbuilding was attempted again in early July but was soon discontinued on account of the extremely soft, wet condition of the ground at that time. In late August the road was finally completed and a tent camp was established at Pyramid. Drilling began during the first week of September and 19 holes had been



QUINTANA MINERALS CORPORATION

PYRAMID PROSPECT

LOCATION MAP
SHOWING ACCESS ROAD

GMC Data Report 369

SCALE
MILE 0

Prepared by: J S C Drawn by: A T K	Date : March 13/75 Revised:	NTS MAP AREA	DRAWING No.

completed when the programme was suspended and the camp and drilling equipment were winterized near the end of October.

LOCATION

Pyramid prospect is located in the mountainous central part of the Alaska Peninsula about 23 miles north of the village of Sand Point on Popof Island, and some 600 miles southwest of Anchorage. The prospect lies between 1000 feet and 2000 feet elevation, about 5 road miles from Pacific Ocean tidewater at Albatross Anchorage, Balboa Bay.

Latitude	53° 37'N, 160° 41'W
Port Moller	C-2, C-3, 1:63,360 sheets

ACCESS

In 1975 a tractor - A.T.V. access road was completed from Albatross Anchorage to the prospect, and the upper 1/3 of this road is passable by 4-wheel drive vehicles. Otherwise access is by helicopter, or by boat from Sand Point and then by foot. Sand Point is served by Reeve Aleutian Airways scheduled flights arriving 3 to 5 times weekly weather permitting. Charter aircraft are available from 2 operators in Sand Point as well as from King Cove and Cold Bay.

Sand Point with a population of about 300 is a centre of operations for 2 commercial fishing companies. Coastal

freighters from Seattle, and a containerized shipping service connecting with Kodiak-Anchorage-Seattle stop regularly at Sand Point. A large general store, post office, cafe, bar and motel serve the community.

CLIMATE

The climate is marine subarctic and clearly more inhospitable in the mountainous region near Pyramid than at nearby Sand Point. Although extreme low temperatures are rare, snow accumulates at the prospect from October through April and accompanying strong winds create a significant wind-chill factor and cause formidable accumulations of drifted snow. Effective drilling and exploration programmes cannot be extended beyond a 6 month season and work can be most efficiently done in the 4 month period June-September inclusive.

TOPOGRAPHY

The prospect is centred on a u-shaped (glaciated) east-west trending valley flanked by rocky peaks and ridges that rise as much as 1500 feet from the valley floor. Talus forms conspicuous overburden on these slopes, and the lower slopes and valley floor typically display thick accumulations of ferricrete cemented talus.

Vegetation consists of sparse moss, grass and flowering plants, with alder below 700 feet elevation. Below 500 feet alder forms thick cover on well drained ground but many gently sloping areas tend to be wet and boggy.

In construction of the Pyramid access road it became apparent that surficial deposits below 500 feet elevation in the vicinity of Albatross Anchorage consist predominantly of sand and clay and little if any rock. Thus solid roadfill is scarce. Above 500 feet slopes tend to be steeper and rock is considerably more abundant thus making good roads possible at least in well drained areas. Above 1000 feet elevation rock is sufficiently abundant to allow good roads in most terrain.

GEOLOGY

Lithology

Mineralized rocks forming the Pyramid prospect include a succession of fine grained clastic sediments intruded by several quartz bearing porphyry stocks and dykes of probable quartz diorite composition. The sediments belong to formations assigned to the Upper Cretaceous and Early Eocene by Burk (1965), and the porphyry intrusives are therefore Eocene or younger. Flinty hornfels has been developed from these sediments within the thermal aureoles of the porphyry bodies, and a strong hydrothermal sulphide system centred on the largest stock is superimposed on both rock types. Late and postmineral intrusive phases occur, and 5 late mineral post-copper breccia pipes containing strong interstitial pyrite are known.

Within the intrusive rocks hydrothermal alteration tends to be extremely pervasive, especially within the quartz-sericite zone, and original textures have been destroyed.

Relicts of feldspar phenocrysts and quartz eyes are all that remain of the primary igneous texture, and inasmuch as quartz eyes vary considerably in size, form, and abundance from place to place, it is possible that the main intrusive body is a complex polyphase pluton. Where primary igneous textures survive such as within the biotite core zone, and beyond the outer limit of pervasive quartz sericite alteration as at 11,500N - 11,500E, a crowded porphyritic texture is apparent. Subhedral plagioclase phenocrysts 2-5 mm in length and rounded quartz eyes are most prominent, while mafics are strongly altered, but have forms suggesting primary hornblende and biotite.

The main intrusive body has been shown to differ in size and shape from that indicated by the preliminary mapping. Most significantly, a large panel of weakly mineralized hornfels centred on Section 8600E has been exposed in a number of bulldozer trenches and roadcuts where well mineralized quartz sericite rock was anticipated.

Several late and postmineral intrusive phases are present and these in general are porphyries characterized by larger subhedral to euhedral plagioclase phenocrysts and more quartz. Textures tend to be less crowded than the early porphyries, and range to include near hypidiomorphic granular varieties.

The breccia pipes contain variously altered and mineralized metasediments as well as premineral and postmineral intrusive clasts. Breccias in the eastern part of the system differ in that they contain clasts of metasediment which

are conspicuously less altered than adjacent rocks suggesting that these clasts have been transported considerable distance within the pipes.

Surface Oxidation And Leaching

Drilling has shown that the depths of oxidation and leaching range from 0 to 450 feet at various localities on the property. The main factors controlling depth of oxidation appear to be a) elevation above local water table b) permeability of rock c) relative abundance of sulphides.

Elevation is clearly an important factor as exposures along the main drainage show little more than surficial oxidation while those on adjacent slopes and ridges are oxidized and partially leached to an average depth of about 100 feet. Permeable rocks such as breccias and sugary textured quartz sericite rocks tend to be more deeply leached than less altered, less porous rocks. High pyrite contents such as in holes QP-2 and QP-3 also clearly contribute to a greater depth of oxidation and leaching.

Alteration

Distinct hydrothermal alteration shells have been mapped about a high intensity core zone containing strong secondary biotite and 3-10% magnetite as fracture fillings and disseminated clots and grains. A ground magnetic survey with interpretation substantiated in part by outcrop, and by 1 drill hole, clearly indicate the position of the core. Minor chalcopyrite and molybdenite mineralization occur in the core, often in association with quartz veinlets, and minor pink k-feldspar is present.

A 200-800 foot wide transition facies separates the core from a broad zone of pervasive quartz sericite alteration which contains subzones having strong quartz veining and silicification. Primary Cu-Mo mineralization and supergene chalcocite enrichment are strongest within pervasive quartz sericite rock of both metasediment and intrusive rock types.

Outward through a narrow transitional facies alteration becomes non-pervasive and sericite in fracture selvage modes grades rapidly to chlorite.

Mineralization

Primary sulphide mineralization shows a zonal arrangement overlapping the silicate alteration shells. Highest total sulphide content (5-10%) overlaps the inner part

of the chlorite zone and the outer part of the quartz-sericite. High pyrite/chalcopyrite ratios (50:1 or more) are associated with low copper grades (<.15% Cu) and very low molybdenum grades (.00x% Mo). Total sulphide content and pyrite/chalcopyrite ratios diminish inward through the quartz sericite zone, and copper grade increases to .3 - .4% Cu. Molybdenite also becomes more abundant inward as intensity of quartz veining increases reaching .03 - .05% Mo in the innermost parts of the quartz sericite zone.

Inward with the first appearance of biotite total sulphide content drops below 1% and both Cu and Mo grades diminish. Within the biotite core beyond the inner limit of sericite, total sulphide content is less than .25% and both Cu and Mo grades are on the order of .00x%.

In general sulphide grain size diminishes inward such that within the most copper rich parts of the system the majority of sulphide is finely disseminated, although a significant part occurs as thin fracture fillings. Thick chalcopyrite filled fractures are extremely rare.

Secondary supergene copper minerals which contribute significantly to grade are chalcocite and covellite, but traces of copper pitch, copper-manganese, copper-carbonate, chrysocolla and cuprite occur. Chalcopyrite is most strongly replaced by the secondary copper minerals but skins of chalcocite also occur regularly on pyrite, and since the sulphides tend to be very fine grained, estimation of copper grade is a problem.

Supergene enriched chalcocite blankets as much as 300 feet thick are indicated in some areas at Pyramid, although the best copper grades are found in the upper 100 feet or so of the chalcocite zone where the highest degree of chalcocite replacement has occurred.

The thickest chalcocite blankets do not coincide exactly with the zones of deepest oxidation, for example in hole BBS1-3 the oxidized zone is only 62 feet thick, but the chalcocite zone exceeds 300 feet in thickness. It is presumed that this situation is one where lateral-down-slope transport of copper has occurred, or alternatively part of the oxidized cap may have been stripped away in the most recent glacial episode. If the latter were the case, the chalcocite blanket at Pyramid is not entirely due to present day conditions.

DRILLING

Canadian Longyear Drilling, under contract to Quintana-Duval, supplied 2 diamond drill rigs for the Aleut programme, a hydraulic Longyear 38 equiped for NQ drilling and a screw-feed Boyles BBS-1 equiped for AQ. The BBS-1 was primarily intended for use on the helicopter supported anomaly programme but became available and was mounted on skids and used to drill 6 holes at Pyramid. The total AQ footage drilled was 1738 feet. The 38 completed 13 holes for a total NQ footage of 3825 feet. The 1975 programme at Pyramid totaled 19 holes for 5563 feet, and drill logs with recovery and assay data are appended.

CORE RECOVERY

Core recovery was not satisfactory in 4 of the 19 holes drilled (QP-10, 11, 13 and BBS1-6). Recovery was especially bad within the chalcocite enriched zones of these holes averaging about 47%, and even less in shorter more highly enriched sections. It is likely therefore that the copper assays reported are lower than the actual grade. It is important to learn the actual grade of these holes and most critically the grade of BBS1-6 and QP-13 which are the only samples available within the eastern part of the system. If for example, the 1975 assays were upgraded by as much as 50% they would substantially change the economic evaluation at Pyramid. It seems unlikely that a 50% upgrade will be realized, but a twin hole for one of BBS1-6 or QP-13 is warranted to make certain of the enriched grade within the chalcocite blanket.

Poor recovery in the above 4 holes appeared to be related to several common causes. All poor recovery sections were in extremely pervasive quartz sericite altered intrusive rocks which are soft, friable, granular, easily washed materials. During the coring operation it appeared that as a result of erosion by the circulating fluid the core was reduced in diameter by the time it reached the core tube, such that it would no longer engage the spring. In addition these rocks all display to some degree horizontal almost penetrative micro-fracturing and the core tended to separate into thin discs which rotate and grind. In many instances only quartz veins and their silicified selvages were recovered, the softer inter-vein material having been completely ground or washed away. It seems

likely that some of the higher grade chalcocite sections were lost in this manner. I have been informed that use of larger diameter HQ core equipment drilled with a 5 foot corebarrel and face discharge bits would likely make a significant difference to recovery in the chalcocite zone.

SAMPLING AND ASSAYING

Samples for assay were obtained by splitting the core with a conventional Longyear coresplitter, coarse crushing to about -4 mesh and then reducing the volume of sample by 50% or 75% with a Jones riffle. This procedure yielded about 2-3 lb. crushed samples depending on core size and recovery, that were amenable to compact packaging and air shipment.

Copper and molybdenum assays were run on all samples shipped, and check assays were made with 2 additional labs, using pulps from the original samples. In addition the sampling procedure was checked and found adequate, by assaying a number of Jones riffle rejects which had been saved at the property.

Composite samples were made up in approximate 50-75 foot intervals and these were assayed for gold and silver. In addition 4 representative composites were selected for 30 element spectrographic analyses (results appended), and a small suite of representative samples are being prepared for reflecting microscope examination.

MINERAL RESERVE ESTIMATE

Sets of cross sections and longitudinal sections were prepared to illustrate the geology and estimate grade and tonnage. They also point to the potential of some areas that as yet have not been drilled.

The reserve estimate was made using .25% Cu or more commonly the projected base of the chalcocite blanket as cutoffs, where applicable. As a result, chalcocite enriched rocks form the bulk of the estimated tonnage, which constitutes a near surface volume ranging from about 150 feet to 300 feet beneath the present land surface.

As detailed in the table below, and illustrated on accompanying sections the near surface reserve at Pyramid is estimated to be 126 million tons grading .403% Cu and .025% Mo. In addition potential exists of another 49 million tons of chalcocite enriched rock of unknown grade in blocks R-S-T, west of the area drilled in 1975. Downslope transport of copper as well as enrichment from overlying leached rocks could combine to give a high enrichment factor in area R-S-T. Hypogene grades of .3% Cu (grade of QP-5) or better can be inferred for at least part of area R-S-T.

The east end of the system remains open as hole QP-9 penetrated only postmineral intrusive and breccia. At least 1 hole is needed east of QP-9 to measure the grade of premineral rock, in what is projected to be a large area of favourable geology.

GEOLOGICAL MINERAL RESERVE

SUMMARY

SECTION	BLOCK	TONS $\times 10^6$	CU GRADE %	MO GRADE %	BASIS OF GRADE ASSIGNMENT
9,000E	A	5.17	.309	.027	Grade of QP-5
	B	5.39	.510	.021	Average of BBS1-3 and QP-4 (27'-221')
9,400E	C	1.38	.390	.027	Grade of QP-6 (213'-323
	D	9.79	.309	.026	Grade of QP-5
	E	15.75	.410	.021	Average of BBS103 and QP-4 (27'-221')
10,000E	F	2.52	.351	.032	Grade of QP-6 (25'-88')
	G	2.92	.596	.029	Grade of QP-6 (88'-213'
	H	5.46	.390	.027	Grade of QP-6 (213'-323
	I	14.1	.450	.036	Grade of BBS1-3 (36'-30
10,400E	J	5.10	.351	.032	Grade of QP-6 (25'-88')
	K	6.58	.596	.029	Grade of QP-6 (88'-213'
	L	8.62	.390	.027	Grade of QP-6 (213'-323
	M	6.41	.330	.031	Average of BBS1-3 and BBS1-5
10,800E	N	5.03	.286	.011	Grade of QP-11 (104'-230') - QP-10 disregard because of poor recovery
11,800E	O	10.67	.360	.014	Grade of BBS1-6 (70.5'-187')
	P	7.55	.480	.025	Grade of QP-13 (168'-248')
12,600E	Q	13.89	.420	.020	Average of BBSa-6 and QP-13
TOTAL		126.33	.403	.025	

Notes: Cutoff grade - .25% Cu
Tonnage factor - 12
Sections - projected ½ distance to adjacent sections E and W.
Core Recovery - very poor in holes QP-10,11, 13 and BBS1-6 - copper assays may be low.

ADDITIONAL GEOLOGICAL POTENTIAL - (no drilling in area)

7200E	R	21.54
8000E	S	18.27
3600E	T	8.98
TOTAL		48.8

- this untested geologically favourable area could contain in the order of 50 million tons of rock that could possibl be strongly enriched with chalcocite. We have no indication of what the grade might be.

EVALUATION AND REMAINING POTENTIAL

Wolfhard 1974, in his Preliminary Evaluation of Pyramid, expressed his opinion that "Operating economics in this part of Alaska are thought to be such that a reasonable tonnage of fairly good grade (say 30 x 10^6 tons @ better than 0.8% Cu) would allow the eventual mining of several hundred million tons of grade greater than 0.25% Cu." In view of recent sharp increases in operating and capital costs even 0.8% Cu may be a low estimate of what would be required to allow a mining operation to begin at the present time.

Pyramid is undoubtedly a legitimate porphyry copper deposit and there is no doubt that it contains a substantial tonnage grading better than .25% Cu. Unfortunately the chances that the required 30 x 10^6 tons of better than .8% Cu will be found are not good. None has yet been found, and the best hole to date (QP-6) contained at best a section 125 feet long which assayed .596% Cu and .029% Mo. Geologically, there is room for about 10 x 10^6 tons of similar grade material around QP-6 although there is hope for a smaller tonnage of higher grade rock on the north, uphill side of QP-6.

If a more optimistic view were taken, the holes drilled to date are widely spread in some areas, and these may have missed relatively narrow shells or areas of better hypogene grade. Perhaps a well mineralized breccia exists and remains undiscovered? Any higher hypogene grade section could be expected to give rise to a well enriched section, if the enrichment process had gone on to the degree seen elsewhere. Small areas of considerably better grade than anything seen to date could conceivably exist.

In addition, as discussed previously there is a chance to upgrade a considerable tonnage of rock in the east part of the system by twinning QP-13 or BBS1-6 and improving recovery. Also the system is open to the east, and a target with about 49 x 10^6 tons potential exists west of the area drilled.

RECOMMENDED MINIMUM PROGRAMME - 1976

A minimum programme for 1976 should consist of at least 6-350 foot holes drilled with HQ equipment, a 5 foot corebarrel, and face discharge bits.

HOLE	CO-ORDINATES	DESCRIPTION
A	11600N-10400E	- to offset Hole QP-6 on the uphill side where greater enrichment could exist.
B	9800N-8000E	- to test the unknown west end of the system. Blocks R-S-T.
C	11400N-14000E?	- to close system on east.
D	--	- twin hole for QP-13 or BBS1-6.
E	10600N-10000E	- offset on QP-6 looking for better hypogene grade.
F	8700N-9400E	- offset on BBS1-3 looking for better hypogene grade.

The preliminary estimated budget required to carry out a 6 hole programme is $250,000 of which $50,000 is contingent, and reserved for additional drilling in the event results from the first 6 holes warrant followup. The budget also includes $35,000 for demobilization of all equipment from Alaska.

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APPENDIX

(1) DIAMOND DRILL LOGS

Holes QP-1 to QP-13 - NQ Core
Holes BBS1-1 to BBS1-6 - AQ Core

Abbreviations

Q	- quartz	Ep	- epidote
Kf	- k-feldspar	Cb	- carbonate
Bi	- biotite	Sul	- sulphate
Chl	- chlorite	Cc	- chalcocite
Cl	- clay	Cv	- covellite
Ser	- sericite	Py	- pyrite
Mag	- magnetite	Cpy	- chalcopyrite
Hem	- hematite	Diss	- disseminated

Explanation of Alteration Log

a) Qualitative
x - indicates presense of a mineral as part of the hydrothermal alteration assemblage.

b) Semi-Quantitative

Cl		Ser	
		F	D
0	2	3	3

Indicates on a scale of 1 to 3 the relative strength of development of hydrothermal mineral phases (F) along fractures and (D) - disseminated.

(2) SPECTROGRAPHIC ANALYSIS RESULTS

DIAMO. DRILL RECORD

Property PYRAMID
Hole No. QP-1 Page No. 1
District ALASKA PEN.
Commenced
Completed

Length 417'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.	Hem
0	13				CASING - 15 feet left in hole	x					x				.5	1	1	x	Tr
13	17	QN 1001	4	100	Quartz diorite porphyry near pervasive quartz sericite alteration but relicts of biotite in cores between fractures. Deep oxidation to 14.														
17	27	1002	10	94	As above - dis. chalcocite up to approx. 2.5% local minor fracture limonite to 25	x					x				.5	1	1	x	Tr
27	37	1003	10	100	As above - slightly more silicified stronger quartz veining	x					x				.5	1	1	x	Tr
37	52	1004	15	94	As above.	x					x				.5	1	1	x	Tr
52	62.5	1005	10.5	99	As above.	x					x				.5	1	1	x	Tr
62.5	73	1006	10.5	97	As above.	x					x				.5	1	1	x	Tr
73	82	1007	9	100	Alteration intensity diminishes.	x					x				.25	1	1	x	Tr
82	92	1008	10	97	Alteration intensity diminishes.	x					x				.25	1	2	x	Tr
92	102	1009	10	71	Numerous relict textures as above but variable alteration intensity	x	x				x				.25	1	2	x	Tr
102	112	1010	10	129	As above.	x	x				x				.25	1	2	x	Tr
112	122	1011	10	97	As above.	x					x				.25	1	2	x	Tr
122	132	1012	10	103	As above.	x					x				.25	1	2	x	Tr
132	142	1013	10	99	As above.	x					x				.25	1	2	x	Tr
142	152	1014	10	102	As above.	x					x				.25	1	2	x	Tr
152	162	1015	10	102	Quartz diorite pervasive quartz sericite alteration, minor relicts. Primary texture feldspar phenocrysts dis. chalcocite.	x					x				1.5	3	5	x	
162	172	1016	10	98	As above	x					x				1.5	3	5	x	
172	182	1017	10	98	As above	x					x				1.5	3	5	x	

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP -1 Page No. 2
District ALASKA PEN.
Commenced
Completed

Length 417'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.	Hem
182	192	QN 1018	10	98	As above.	x					x				1.5	3	5	x	
192	202	1019	10	98	Quartz diorite pervasive quartz sericite alteration. Traces relict biotite. Dis. chalcocite. Quartz veining.	x					x				1	2	3	Tr	Tr
202	212	1020	10	99	As above with more relict igneous texture biotite.	x					x				1	2	3	Tr	Tr
212	222	1021	10	101	As above (216 - 222 fault gouge in several zones)	x					x				1	2	3	Tr	Tr
222	233	1022	10	99	As above.	x					x				1	2	3	Tr	Tr
233	243.5	1023	10.5	92	Alteration more pervasive.	x					x				1.5	2	1	Tr	Tr
243.5	255.7	1024	12.2	80	As above.	x					x				1.5	2	1	Tr	Tr
255.7	263.7	1025	8	124	As above.	x					x				1.5	2	1	Tr	Tr
263.7	274	1026	10.3	102	As above but alteration and quartz veining increasing in intensity. More disseminated chalcocite.	x					x				1.5	2	1	Tr	Tr
274	284	1027	10	96	As above.	x					x				1.5	2	1	Tr	Tr
284	294	1028	10	90	As above.	x					x				1.5	2	1	Tr	Tr
294	304	1029	10	88	Quartz diorite pervasive quartz sericite with only minor traces relict biotite. Strong quartz sulphide veining. Dis. chalcocite as high as ½%.	x					x				1	1	1	Tr	Tr
304	312	1030	8	71	As above but near total destruction of biotite.	x					x				1	1	1	Tr	Tr
312	318	1031	6	89	As above but near total destruction of biotite.	x					x				1	1	1	Tr	
318	328	1032	10	70	As above but more highly silicified.	x					x				1	1	1	Tr	
328	338	1033	10	75	As above - silicified.	x					x				1	1	1	Tr	Tr
338	348	1034	10	84	As above - coxcomb structure along quartz veins.	x					x				1	1	1	Tr	Tr

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP- 1 Page No. 3
District ALASKA PEN.
Commenced
Completed

Length 417'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.	Hem
348	355	QN 1035	7	145	As above - almost total obliteration of primary texture.	x					x				1	1	1	Tr	Tr
355	363	1036	8	53	As above.	x					x				1	1	1	x	Tr
363	373	1037	10	74	As above.	x					x				1	1	1	x	Tr
373	383	1038	10	86	As above.	x					x				1	1	1	x	Tr
383	396	1039	13	92	As above - very intense silicification from 392' on.	x					x				1	1	1	x	Tr
396	406.5	1040	10.5	99	As above - "	x					x				1	1	1	x	Tr
406.5	417	1041	10.5	91	As above - traces of relict biotite and primary texture.	x					x				1	1	1	x	Tr
		AVERAGE		94.54															

DIAMC DRILL RECORD

Property PYRAMID
Hole No. QP -2 Page No. 1
District ALASKA PEN.
Commenced
Completed

Length 553'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.	Hem
0	5				CASING														
5	433				Breccia - quartz - feldspar porphyry - quartz	x					x				15	1	N/A		x
					eyes to 4 mm - strong fracture sericite with															
					quartz veining and silicification - 100% leached															
					with reddish to deep brown and black limonites															
					"live"? Not much rotation or milling in breccia.															
					Estimate 10 - 15% primary sulphide. Traces															
					chalcocite?? in some less altered cores -															
					Strong quartz veins , cut some clasts -															
					Contains pre-mineral (qtz veined) clasts															
					and post-mineral quartz feldspar porphyry															
					clasts. Base leached cap at 433.	x					x								
(433	528)				Partial leaching from 433 to 528. Partial										15	2	100		
433	448	QN 1071	15	48	leaching of pyrite in breccia intersititial														
448	461.5	1072	13.5	76	cavities. Dis. pyrite not leached. Total														
461.5	473	1073	11.5	58	sulphides up to 20%. Trace covellite .														
473	489	1074	16	24	coated chalcopyrite? Trace chalcocite?														
489	504	1075	15	37	Fine MoS_2 associated with quartz veinlets.														
(528	553)				Vugs in breccia almost completely filled	x					x				20	2	100		
504	518	1076	14	50	with intergrowths of quartz & pyrite.	↓					↓				↓	↓	↓		
518	533.5	1077	15.5	46															
533.5	544	1078	10.5	75															
544	553	1079	9	61															
		AVERAGE		52.78		↓					↓				↓	↓	↓		

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP- #3 Page No. 1
District ALASKA PEN.
Commenced
Completed SEPT. 22, 1975

Length 339'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	11				CASING													
11	156				Leached cap strongly fractured quartz,eye porphyry strong quartz veining. Live limonite present. Areas	x				x	x				10+	2	?	
156	169	QN 1092	13	22	of non pervasive recrystallization are greenish gray feldspar porphyry without quartz eyes. Very	x				x	x				7-8		5?	
169	182	1093	13	31	few if any quartz eyes below 43 ft. Possible rock type change.	x				x	x				7-8		5?	
182	196	1094	14	49	From 156 ft. to 196 ft. rock is about 50% leached feldspar porphyry as above. Weak fracture leaching to 205'. Strong chalcocite below 156 ft. Alteration is pervasive sericite clay.	x				x	x				7-8		5?	
196	205	1095	9	41	No chalcopyrite seen - all replaced by chalcocite? Strong MoS_2 locally. Dis. hematite from 196'.	x				x	x				7-8		5?	
205	213	1116	8	66	Partial leaching of pyrite on fractures of dis. pyrite. Pyrite is deeply corroded and tarnished.	x				x	x							
213	221	1117	8	96	Materials previously referred to as chalcocite may be corroded pyrite grains. However some coatings on pyrite do appear to be chalcocite. Unable to identify finely dis, black materials.	x				x	x							
221	228	1118	7	98	Relict porphritic textures are frequently evident. Strong fracture controlled pyrite along steeply inclined fractures is the most striking sulphide	x				x	x							
228	238	1119	10	96	mineralogy. Dis. magnetite is associated with isolated chlorite bearing zones where the original porphyritic igneous texture is most	x				x	x							
238	248	1120	10	97	pronounced. From 250 onwards alteration intensity increases to pervasive quartz sericite and copper content increases accordingly. Finally	x				x	x							
248	257	1121	9	95	dis. black materials may be in part chalcocite and/or covellite. Much pyrite has no tarnish. Strong quartz pyrite veining with some MoS_2.	x				x	x				10	4	10?	
257	266	1122	9	92	From 293' to 298' and 311' to 322' partial leaching with limonite occurs. From 311' onwards rock is extremely	x				x	x							
266	275	1123	9	119	friable and broken and much fracture pyrite is tarnished. Dis. black materials are in large part coatings on pyrite	x				x	x							
275	285	1124	10	31	and may not be chalcocite but covellite may also be present.	x				x	x							

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP- #3 Page No. 2
District ALASKA PEN.
Commenced
Completed SEPT. 22, 1975

Length 339'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
285	295	QN 1125	10	66		x				x	x				10	4	10	
295	306.5	1126	11.5	76														
306.5	317	1127	10.5	61														
317	327	1128	10	68														
327	333	1129	6	87														
					Hole stopped in badly broken caving rock --													
333	339	1130	6	92	strong chalcocite persists.													
		AVERAGE		72.79%													-	

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. OP-#4 Page No. 1
District ALASKA PEN.
Commenced SEPT. 22, 1975
Completed SEPT. 25, 1975

Length 350'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NO
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	8				CASING													
8	16	QN 1131	8	61	8' - 16' Hornfels light grey in color, strongly re- crystallized, contains fracture and dis. pyrite much of which is tarnished and resembles covellite	x					x				2	.5	10	
16	27	1132	11	57	Covellite coated chalcopyrite also present. 16' - 23' brecciated and gougy intrusive - probable fault zone partly leached.													
27	37	1133	10	86	23' onwards quartz feldspar porphyry with much dis. fine grained bluish black chalcocite? covellite? corroded pyrite? alteration.	x				x	x				5	3	?	
37	48	1134	11	98	Seracite clay quartz. Tarnished and corroded pyrite is more likely than chalcocite. Chilled contact at 161' with hornfels.	x					x				5	3		
48.5	54.5	1135	6.5	85	From 161' hornfels as above but darker gray in color and less recrystallized. Tarnished pyrite abundant. Covellite coated	x					x				5	3		
54.5	63.5	1136	9	95	chalcopyrite may also be present but unable to confirm. From 225' onwards hornfels lighter gray in	x					x				5	3		
63.5	72	1137	8.5	29	color and more strongly recrystallized and carries more sulphides. Tarnishing of sulphides less pronounced. MoS_2 present	x					x				5	3		
72	83	1138	11	78	in quartz veinlets. Probable covellite coated chalcopyrite. Chalcopyrite and MoS_2 in quartz veins at 270. Most													
83	94	1139	11	73	of the dis. sulphide is pyrite. Seracite becoming coarser grained. MoS_2 becoming more abundant downwards.	x					x				5	3		
94	105	1140	11	100	From 324' intensity of alteration and	x					x				5	3		
105	115	1141	10	87	recrystallization in hornfels weaken while tarnishing of sulphides increases.													
105	115	1141	10	87		x					x				5	3		
115	124	1142	9	99		x					x				5	3		
124	131	1143	7	88		x					x				5	3		
131	138	1144	7	105		x					x							
138	148	1145	10	98		x					x							

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP #4 Page No. 2
District ALASKA PEN.
Commenced SEPT. 22, 1974
Completed SEPT. 25, 1975

Length 350'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.	ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
148	155.5	QN 1146	7.5	102	x					x							
155.5	168	1147	12.5	103	x					x				3-5	1	50?	
168	174	1157	6	95	x					x						5-25	
174	184	1158	10	92	x					x							
184	193	1159	9	98	x					x							
193	201.5	1160	8.5	106	x					x							
201.5	211	1161	9.5	110	x					x							
211	221.5	1162	10.5	84	x					x							
221.5	231.5	Not															
231.5	238	sampled															
238	248	QN 1163	10	98	x					x							
248	258	Not															
258	268	Sampled															
268	278	QN 1164	10	99	x					x							
278	288	Not															
288	298	Sampled															
298	308																
308	318	QN 1165	10	97													
318	328	Not															
328	335	Sampled															
335	342	QN 1166	7	103													
342	348	Not															
348	350	sampled															

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP 5 Page No. 1
District ALASKA PEN.
Commenced SEPT. 26, 1975
Completed

Length 418'
Bearing
Inclination -90

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	24				CASING													
24	26				Rubbly partly leached bedrock.													
26	38	QN 1178		98	Qtz - feldspar porphyry - strong pervasive qtz - ser	23					33				1	2	1	
38	48	79		99	alt. with qtz veining - MoS_2 - Unidentified black	23					33				1	2	1	
48	58	1180		95	fine grained metallic as in hole QP. 1 - maybe	"					"				1	2	1	
58	68	81		98	in part secondary copper or tarnished pyrite.	"					"				1	2	1	
68	78	82		100	Suspect wolframite - some weakly magnetic.	"					"				1	2	1	
78	88	83		98		"					"				"	"	"	
88	98	84		99		"					"				"	"	"	
98	108	85		98		"					"				"	"	"	
108	118	86		98		33					33				1	2	1	
118	128	87		99		"					"							
128	138	88		100		"					"				"	"	"	
138	148	89		100		23					33				1	2	1	
148	158	1190		95		"					"				"	"	"	
158	168	91		98		"					"				"	"	"	
168	178	92		98		"					"				"	"	"	
178	188	93		95		"					"				"	"	"	
188	198	94		95		"					"				"	"	"	
198	205	95		95		"					"				"	"	"	
205	215	96		95		"					"				"	"	"	
215	223.5	97		95		"					"							
223.5	232	98		95		"					"							
232	243	99		95		"					"							
243	253	1200		98		"					"							
253	263	01		98		"					"							
263	268	02		98		"					"							
268	278	03		?		"					"							
278	288	04		?	Spilled	"					"							
288	298	05		?		"					"							
298	308	06		98		"					"							
308	318	07		98		33					33				1	2	1	
318	328	09		93		"					"				"	"	"	
328	338	1210		95		"					"				"	"	"	
338	348	11		95		"					"				"	"	"	
348	358	12		97		23					33				1	2	1	
358	368	13		97		"					"				"	"	"	
368	378	14		97		"					"				"	"	"	
378	388	15		95		"					"				"	"	"	
388	398	16		95		"					"				"	"	"	

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP 5 Page No. 2
District ALASKA PEN.
Commenced SEPT. 26, 1975
Completed

Length 418'
Bearing
Inclination -90

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
398	408	QN 1217		95		23					33				1	2	1	
408	418	18		95														

DIAMO. DRILL RECORD

Property PYRAMID
Hole No. QP 6 Page No. 1
District ALASKA PEN.
Commenced SEPT. 29, 1975
Completed

Length 323'
Bearing
Inclination

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date OCT. 2/7

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q F	Q D	KF	Bi	Chl. F	Chl. D	Cl. F	Cl. D	Ser. F	Ser. D	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
					Light grey to tan hornfels - 95% leached.																	
26	35	QN 1279		95	As above - cpy strongly replaced by Cc - 65% leached	2	1							2	2				2	.2	1	
35	46	1280			or Cv " - 50% leached	2	1							2	2				2	.4		
46	56	1281			Alteration is pervasive - 50% leached	3	2							2	2				2	.5		
56	68	1282			Quartz sericite with mod 70% leached	2	2							2	2				2	.5		
68	78	1283			to strong quartz veining. 60% leached	1	1							2	2				2	1	.5	
78	88	1284			In most sections hornfels 30% leached	1	1							2	2				2	1	.5	
88	98	1285		↓	is strongly recrystallized 5% leached	1	1							1	2				2	3	1	
98	108	QN 1242		92	to sugary textured quartz 5% leached	1	1							2	2				2.3	2	.5	
108	118	1243		95	sericite rock but finer 2% leached	2	1							2	2				2	1	.5	
118	128	1244		95	grained hornfels relicts 2% leached	1	1							2	2				2	1	.5	
128	138	1245		97	remain. 2% leached Cc or Cv	1	1							2	2				2	1	.5	
138	148	1246		93	↓ 2% leached replacement	1	1							2	2				2	2	.5	
148	157	1247		95	2% leached weakens	1	1							2	2				1.5	2	.5	
157	168	1248		90	Weak to moderately strong 2% leached ↓	1	1							2	2				1.5	2	.5	
168	179	1249		90	MoS_2 associated with 1% leached	2	1							2	2				2	2	.5	
179	190	1250		90	quartz veins throughout 1% leached	1	1							2	2				2	2	.5	
190	201	1251		95	No	1	1							2	2				2	2	.5	
201	213	1252		95	Alteration and quartz further 50% weaker than	2	1							2	2				2	1	1	
213	224	1253		92	vein intensity weaken leaching top	2	1							2	2				2	1	1	
224	235	1254		92	slightly downwards - pyrite	1	1							2	2				2	2	2	
235	248	1255		95	content increases. MoS_2 25% weaker than	1	1							2	2				3	3	5	
248	260	1256		98	appears to increase. top	1	1							1	2				3	3	3	may be
260	273	1257		98		1	1							1	1				3	3	3	apparent
273	284	1258		↓		1	1							1	1				3	3	3	on account
284	294	1259				1	1							1	1				3	3	3	of tarnish
294	306	1260				1	1							1	1				3	3	3	ing above?
306	315	1261				1	1							1	2				3	3	3	
315	323	1262		↓		2	1							2	2				2		3	
					Cpy - chalcopyrite																	
					Cc - chalcocite																	
					Cv - covellite																	

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP 7 Page No. 1
District ALASKA PEN.
Commenced OCT. 5, 1975
Completed OCT. 7, 1975

Length 142'
Bearing
Inclination -90°

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by _____ Date _____

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcv.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Veln	Py/Cpy	Mag.
0	55				CASING	F D												
55	68			95	Ferricrete and deeply leached - hornfels hard and													
68	78	QN 1286		95	dense. Med. to light grey hornfels. Gypsum along	10					11				3	.5	50	
78	97.5			98	sulphide veins. Chalcopyrite and trace secondary	10					11				3	.5	100	
97.5	108	QN 1287		97	copper throughout. Alteration is fracture controlled.	10					11				3	.5	100	
108	133			98	Non-pervasive.													
133	142	QN 1288		98														

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP 8 Page No. ____
District ALASKA PEN.
Commenced ____
Completed ____

Length 159'
Bearing -90°
Inclination ____

Lat. ____
Dept. ____
Elev. ____

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by ____ Date ____

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	43				CASING													
43	103				Leached cap - breccia - contains pervasive quartz - ser. alt. qtz porphyry with quartz veins and hornfelsic rocks - very strong qtz veining in some clasts but some granites and hornfels weakly altered.	x				x	x							
103	113	QN 1289		30	Breccia Partly leached - up to 10% pyrite - disseminated	↓				↓	↓				10±			
113	124	1290		25	and fracture in some of the porphyry clasts - As										↓			
124	134	1291		30	low as ½% pyrite in some clay alt. hornfelsic													
134	144	1292		40	sediment - No copper visible.													
144	159	QN 1293		30														

DIAMO DRILL RECORD

Property PYRAMID
Hole No. QP 9 Page No. 1
District ALASKA PEN.
Commenced
Completed OCT. 8, 1975

Length 202'
Bearing
Inclination -90°

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	58				Leached cap.													
58	78			40	Quartz diorite - local silicification - dark greenish grey				x	x	x				5+	1	-	
78	88	QN 1294		40	Quartz diorite as above.				x	x	x				10	2	-	
88	98	1295		40	Clay alteration more pervasive.				x	x	x				10	2	-	
98	108	1296		40	As above but local silicification more intensive				x	x	x				10	2	-	Frac.
108	138			90	"				↓	↓	↓				5-7	1	-	Frac.
138	148	QN 1297		98	"											1		
148	178			95	From 175' hornfelsic fragments may be xenoliths											1		
178	188	QN 1298		90	as matrix appears to be intrusive - or alternatively											1		
188	202	QN 1299		90	the margin of the intrusive may be brecciated or a breccia pipe?				↓	↓	↓				↓	1		

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP 10 Page No. 1
District ALASKA PEN.
Commenced
Completed

Length 274'
Bearing
Inclination Vertical

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	17				CASING.													
17	38			10	Leached cap - quartz feldspar porphyry.													
38	48	QN 1300		55	QFP as above but only silicified zones recovered.	33					23							
48	58	1301		40		"					"							
58	68	1302		80	Strongest primary and secondary copper on cpy and py	33					23				1	2	1	
68	78	1303		75	- best recovery of qtz-ser. rock.	33					23				1	2	1	
78	88	1304		30	QFP as above but only the	"												
88	98	1305		35	silicified section recovered - softer sericite	STRONG PERVASIVE QUARTZ - SERICITE 1?									1?	2?	3?	
98	110	1306		40	rich sections ground - Tarnished pyrite and/or	PROBABLE BUT RECOVERED ONLY												
110	118	1307		45	secondary copper persists - occasional chalcopyrite	QUARTZ VEIN AND SILICIFIED												
118	128	1308		35	and constant MoS_2 (locally impressive).	MATERIALS.												
128	143	1309		15														
143	156	1310		25														
156	171	1311		45														
171	182	1312		30														
182	193	1313		60														
193	213	1314		15														
213	231	1315		15														
231	243	1316		20	Occasional biotite becoming more common													
243	254	1317		15	downward from 237.													
254	264	1318		20														
264	274	1319		3														

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP 11 Page No. ____
District ALASKA PEN.
Commenced OCT. 12, 1975
Completed ____

Length 294'
Bearing ____
Inclination Vertical

Lat. ____
Dept. ____
Elev. ____

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by ____ Date ____

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	13				CASING.													
13	38				Leached cap - traces py-cc.				x	x	x				2	1	5	
38	48	QN 1320		90	Partly leached - quartz feldspar porphyry to				x	x	x							
48	58	1321		95	about 110 feet.													
58	68	1322		95														
68	83	1323																
83	94	1324		95														
94	104	1325		100		x												
104	115	1326		45	Qtz feld. porphyry.	x			x	x	x				2-3	3	5	
115	121	1327		95					x	x					2	1	5	
121	129	1328		50					x	x								
129	138	1329		75					x	x								
138	145	1330		80	Alt. intensity				x									
145	157	1331		95	increases.													
157	168	1332		98											1-2	1	3?	
168	178	1333		95														
178	189	1334		95														
189	196.5	1335		95														
196.5	202	1336		72	Contact with hfs ≈ 198 - perv. qtz ser. with													
202	211	1337		90	qtz veining.													
211	220	1338		95													2?	
220	230	1339		95														
230	241	1340		95														
241	251	1341		80														
251	259	1342		90														
259	270	1343		40														
270	281	1344		70														
281	294	1345		70														

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP 12 Page No. 1
District ALASKA PEN.
Commenced
Completed

Length 43'
Bearing
Inclination Vertical

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by I. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	24				Ferricrete.													
24	43(end)	QN 1346		95	Porphyry intrusive - strong secondary biotite	x		x							.1	1	.01	x
					and magnetite veining - retrograde chlorite. Weak fracture and dis. cpy													

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. QP 13 Page No. 1
District ALASKA PEN.
Commenced
Completed

Length 301.5'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type LONGYEAR 38
Hole Size NQ
Contractor CANADIAN LONGYEAR

Logged by N. J. DIRCKS
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	38				OVERBURDEN													
67	78			65	Leached (38-133).													
78	88			100														
88	98			100														
98	108			95														
108	118			100														
118	128			100														
128	145			90	Partially leached (133).													
145	157	QN 1347		90		x				x	x				1-3	2	1-3	
157	168	1348		85	" "													
		1348A																
168	188	1349		20	Qtz sericite (intrusive).													
		1349A																
188	198	1350		50														
		1350A																
198	214	1351		20														
		1351A																
214	230	1352		30														
		1352A																
230	248	1353		30														
		1353A																
248	258	1354		65														
		1354A																
258	269	1355		70														
		1355A																
269	278	1356		70														
		1356A																
278	290	1357		75	Breccia (post mineral) - hornfels & intrusive (qtz seric.) fragments; ½ cm-30 cm sized frags - avg. 2-4 cm; abundant (5-10% variable) fracture and inter-fragment drusy pyrite - much with chalcocite coatings.													
290	301.5	1358		100														

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. BBS 1-1 Page No. 1
District ALASKA PEN.
Commenced
Completed

Length 206
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type BBS 1
Hole Size AQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.	Hem
0	11				CASING														
11	136				Leached cap variably altered hornfelsic sediment? Fracture selvage to pervasive quartz sericite alteration - more intensely altered parts sugary textured but fine grained and non porous. Strong fracturing. Original sulphide content as high as 5%. Live liminite present. Relicts of sulphide from place to place in cap.														
136	144	QN 1042	8	83	Sericite selvage alteration in sulphide veinlets.	x					x				5	.5	15		
144	153	QN 1043	9	106	As above.														
153	163	QN 1044	10	93	Alteration slightly more pervasive.	x					x				5	.5	15		
163	173	QN 1045	10	98	Alteration slightly more pervasive.	x					x				5	.5	15		
173	181	QN 1046	8	91	Stronger alteration and re-crystallization. Minor MoS_2 associated with quartz veinlets.	x					x				5	.5	15		
181	193	QN 1047	12	153	As above.	x					x				5	.5	15		
193	206	QN 1048	13	50	As above.	x					x				5	.5	15		
		AVERAGE		96.28															

DIAMC DRILL RECORD

Property PYRAMID
Hole No. BBS 1-2 Page No. 1
District
Commenced
Completed

Length 271'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type BBS 1
Hole Size AQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcv.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.	Hem
0	25				CASING														
25	72				Leached cap. Feldspar porphyry with some quartz eyes. Variable generally pervasive quartz sericite alteration. Local silicification. Live limonite? Minor quartz veining.	x					x				3+	3	N/A		
72	144				Alteration and lithology as above but with only minor leaching and chalocite enrichment. MoS_2 along quartz veinlets. Local copper carbonate stains and thick rims of covellite?chalcocite? on chalcopyrite.	x					x				1.5	1	2		
144	155				Less intensely altered feldspar porphyry. Pervasive sericite clay chlorite on some fractures. Chalcocite present but probably less than in sericite rock.	x			x	x	x				1	1	5		
155	171				Pervasive quartz sericite altered rock with copper carbonate rocks as above.	x					x				1.5	1	2		
172	195				Sericite clay chlorite rock as above. Less intensely altered and less copper.	x			x	x	x				1.5	1	5		
(195	240)				Pervasive quartz sericite altered rock as	x					x				3	3	3		
241	248	QN 1067	7	104	above but pyrite content increasing.														
248	255	QN 1068	7	99	Quartz veining increasing. MoS_2 increasing.														
255	265	QN 1069	10	96	Minor copper carbonate.														
(240	271)			81.59%	Pervasive quartz sericite with heavy	x					x				10	.5	100		
265	271	QN 1070	6	72	Pyrite and quartz veining. Copper grade diminishes with pyrite content increasing														
SAMPLE INTERVALS Average																			
72	79	QN 1049	7	78	and MoS_2 grade increasing.														
79	85.5	QN 1050	6.5	79	Partial to almost total leaching. 258 to 264														
85.5	92	QN 1051	6.5	66															
92	99	QN 1052	7	70															
99	107.5	QN 1053	8.5	42															
107.5	121	QN 1054	13.5	23															

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. BBS 1-2 Page No. 2
District
Commenced
Completed

Length 271'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type BBS 1
Hole Size AQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.	Hem
121	131.5	QN 1055	10.5	73															
131.5	140	QN 1056	8.5	74															
140	149	QN 1057	9	97															
149	159	QN 1058	10	103															
159	169	QN 1059	10	102															
169	179	QN 1060	10	100															
179	189	QN 1061	10	99															
189	199	QN 1062	10	103															
199	204	QN 1063	5	105															
204	215	QN 1064	11	82															
215	229	QN 1065	14	67															
229	241	QN 1066	12	61															
241	248	QN 1067	7	104															
248	255	QN 1068	7	99															
255	265	QN 1069	10	96															
265	271	QN 1070	6	72															
					81.59% Average recovery														

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. BBS1-3 Page No. 1
District ALASKA PEN.
Commenced
Completed SEPT. 22, 1975

Length 303'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type BBS1
Hole Size AQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bl	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	13				CASING													
13	25	QN 1080	12	66	Porphyry intrusive? extremely pervasive quartz sericite alteration and recrystallization. Fracture	x					x				1.5	2	.5?	
25	36	1081	11	52	sulphide leached in part to depth of 62 ft. Chalcocite occurs as dis. grains after sulphide and as fracture coatings. Relict sulphides are pyrite and chalcopyrite. To 72.5 ft. rocks are slightly silicified.	x					x				1.5	2	.5?	
36	47	1082	11	59	From 72.5 ft. onwards alteration is more likely sericite clay although quartz veins and silicified selvages form about 30% of the rock. Relict porphyritic.	x					x				1.5	2	.5	
47	55	1083	8	96	Igneous textures are evident. Strong chalcocite mineralization continues throughout the interval to 131 ft.	x					x				1.5	2	.5	
55	63	1084	8	112	Covellite coats much of the chalcopyrite and may in fact be the mineral which forms dark specks throughout the rock and previously called chalcocite.	x					x				1.5	2	.5	
63	72.5	1085	9.5	87	From 131 onwards silicification with obliteration of original textures is the most common alteration.	x					x				1.5	2	.5	
72.5	82	1086	9.5	77	Much fine grained black material may be chalcocite or deeply corroded pyrite. Minor fault gouge at 235 ft. Section from 131 on may be strongly recrystallized hornfels?	x					x				1.5	2	.5	
82	90.5	1087	8.5	56	Post mineral occasional post copper pyrite veins, and minor MoS_2 along quartz veinlets. Strong quartz sericite alteration. Quartz veining with fine dis. sulphide remains fairly constant for rest of	x				x	x				1.5	2	.5	
90.5	101	1088	10.5	39	hole. Coatings of covellite on chalcopyrite are still present at bottom of hole.	x				x	x				1.5	2	.5	
101	108	1089	7	96		x				x	x				1.5	2	.5	
108	117	1090	9	82														
117	124	1091	7	77														
124	133	1096	9	102														

DIAMC DRILL RECORD

Property PYRAMID
Hole No. BBS1-3 Page No. 2
District ALASKA PEN.
Commenced
Completed SEPT. 23, 1975

Length 303'
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type BBS1
Hole Size AQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.	ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
133	142	QN 1097	9	95	X					X				1.5	2	.5	
142	152	1098	10	90													
152	166.5	1099	14.5	94													
166.5	172	1100	5.5	93													
172	180	1101	8	87													
180	189	1102	9	88													
189	199	1103	10	95													
199	209	1104	10	99													
209	217.5	1105	8.5	87													
217.5	227.5	1106	10	96													
227.5	239	1107	11.5	101													
239	247	1108	8	62													
247	256	1109	9	90													
256	262	1110	6	133													
262	269	1111	7	58													
269	274	1112	5	88													
274	285.5	1113	11.5	95													
285.5	296	1114	10.5	83													
296	303	1115	7	81													
		AVERAGE		84.87%													

DIAMO DRILL RECORD

Property PYRAMID
Hole No. BBS1-4 Page No. 1
District ALASKA PEN.
Commenced
Completed

Length 192
Bearing
Inclination VERTICAL

Lat.
Dept.
Elev.

Drill Type BBS1
Hole Size AQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	8				CASING													
8	14	QN 1148	6	71	Leached cap - partial leaching to 29'.													
14	26	1149	12	38	Argillic altered porphyry intrusive - pyrite is in part deeply corroded and in part bright. Possible traces of chalcocite or covellite.					x	x				3-5	.5	50	
26	39	1150	13	54	As above - traces of chrysocolla. Alteration is extremely pervasive.- silicified clots appear to be relict mafic minerals?													
39	52.5	1151	13.5	19														
52.5	61	1152	8.5	62														
61	74	1153	13	68														
74	86	1154	12	6														
86	97	1155	11	49														
97	106	1156	9	76	As above - traces of chrysocolla on pyrite filled fractures.													
106	116.5)	not			Alteration becoming slightly less pervasive				x									
116.5	121)	sampled			with relicts of chloritized mafics and porphyritic igneous textures. Intrusive may be post copper - late mineral in age?													
121	130	QN 1167	9	63														
130	140)	not																
140	150)	sampled																
150	160	QN 1168	10	104														
160	170)	not																
170	182)	sampled																
182	192	QN 1169	10	92	End of hole													

DIAMO DRILL RECORD

Property PYRAMID
Hole No. BBS1-5 Page No. 1
District ALASKA PEN.
Commenced
Completed OCT. 27, 1975

Length 445 feet
Bearing
Inclination -90°

Lat.
Dept.
Elev.

Drill Type BBS1
Hole Size AQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	21				CASING													
21	165				Leached cap - strongly recrystallized porphyry intrusive - pervasive quartz sericite with stockwork quartz veining - sulphides totally leached.	x				x	x							
					Pervasive qtz-ser. alt. porphyry.													
165	171	QN 1171		90	As above with pyrite (mostly corroded) and minor chalcopyrite with covellite veins - Trace MoS_2.	x				x	x				.5	2	5	
190	199	1172		85	As above - strong tarnishing and corrosion of sulphides - qtz veins are in part vuggy with cockscomb structure.	x				x	x				"	"	"	
219	229	1173		95	As above but quartz veining more intensive.	x				x	x				"	"	"	
249	259	1174		95	As above.	x				x	x				"	"	"	
285	314	--			Post-mineral feldspar porphyry dyke - chilled contacts on quartz veins (329-331) small chilled dyke.				x	x					1	.5	py	x
					From 331 on quartz-sericite altered porphyry as above.													
339	347	1175		80	As above.	x				x	x				.5	2	5	
357	369	1176		75	As above.	"				"	"				"	"	"	
385	403	1177		75	As above.	"				"	"				"	"	"	
					From 403 onwards alteration intensity weakens and relict igneous textures are apparent. At end of hole igneous texture is obvious. Rock is quartz feldspar porphyry with strong secondary biotite in matrix - Retrograde chlorite is present along selvages of late pyrite veins.			x — increasing →			— decreasing →				— decreasing →			
429	439	1178		60														
					End of hole 445'													

DIAMOND DRILL RECORD

Property PYRAMID
Hole No. BBS1-6 Page No. 1
District ALASKA PEN.
Commenced
Completed

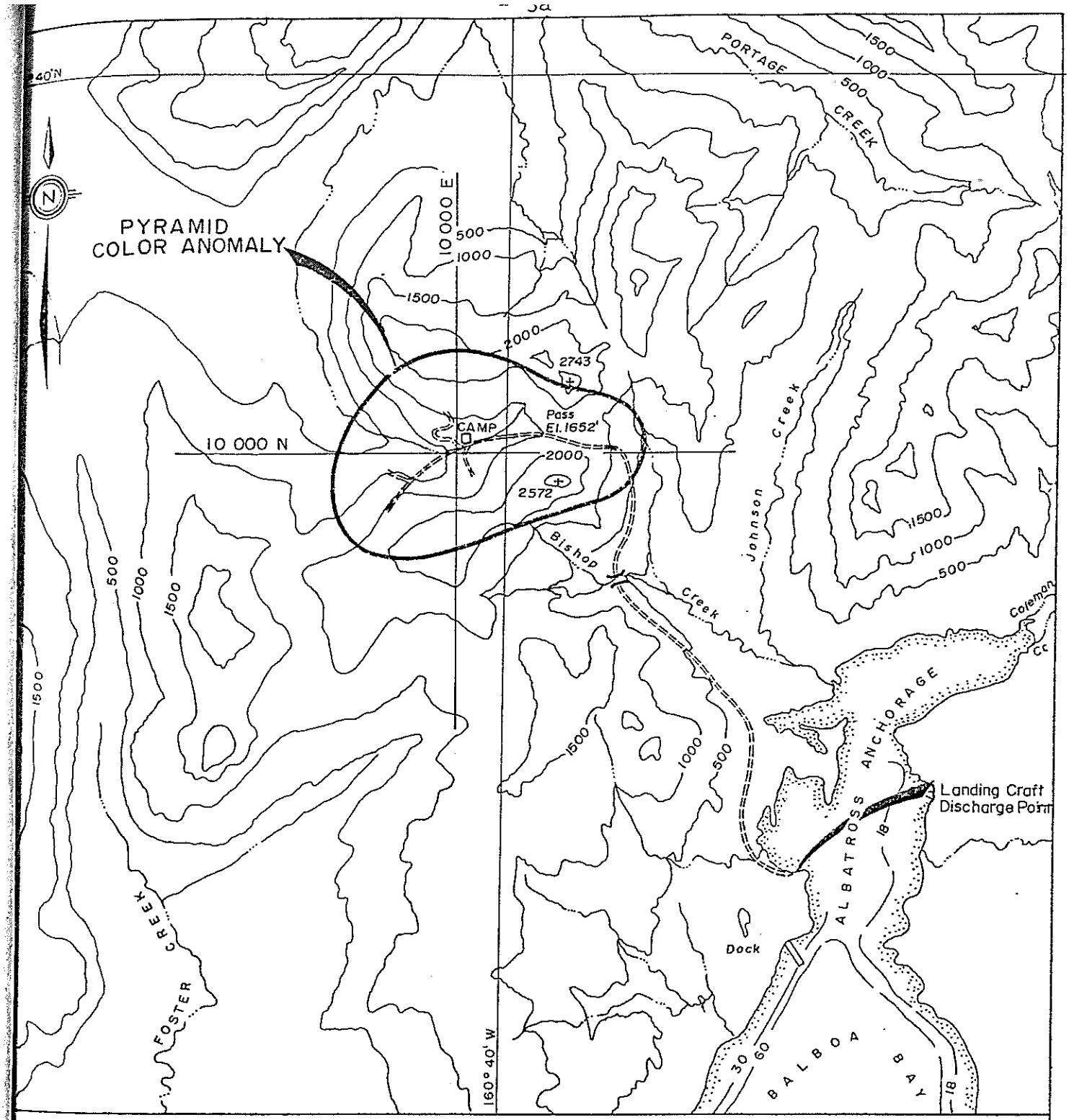
Length 319 ft
Bearing
Inclination Vertical

Lat.
Dept.
Elev.

Drill Type BBS1
Hole Size AQ
Contractor CANADIAN LONGYEAR

Logged by J. S. CHRISTIE
Approved by Date

FOOTAGE From	FOOTAGE To	SAMPLE No.	Length	% Rcy.		ALTERATION Q	KF	Bi	Chl.	Cl.	Ser.	Ep.	Cb.	Sul.	% Sulph.	Diss./ Vein	Py/Cpy	Mag.
0	12				CASING													
12	53				Leached cap - qtz eye porphyry - qtz veining.	23					13							
53	70.5				Partially leached "	"					"							
70.5	81	QN 1219			Traces chalcocite - becoming stronger downward,	"					"				1-2	3	1-3?	
81	93	1220			then diminishing from ≈ 130 ft.	"					"							
93	99	1221			(182-201) Biotite bearing quartz feldspar porphyry dyke.													
99	106	1222		30	(251-274) " " " " " "													
106	119	1223		Avg.	(282-312) " " " " " "													
119	128	1224			- contacts of above dykes chilled on Q.P.													
128	141	1225			Alteration is extremely pervasive quartz													
141	152	1226			sericite in QP.													
152	164	1227																
164	172	1228																
172	187	1229																
187	199	1230																
199	216	1231																
216	226	1232																
226	239	1233		85														
239	249	1234		Avg														
249	259	1235																
259	269	1236																
269	279	1237																
279	289	1238																
289	309	1240																
309	319	1241																



QUINTANA MINERALS CORPORATION

PYRAMID PROSPECT

LOCATION MAP
SHOWING ACCESS ROAD

SCALE
MILE 0

Prepared by: J S C	Date : March 13/75	NTS MAP AREA	DRAWING No.
Drawn by: A T K	Revised:		

GMC Data Report 369


Coal Bluff
Marble Pt
Shingle Pt
Bluff Pt
Herendeen Bay
Bold Bluff Pt
Mine Hbr
Gull I
Crow Pt
Lawrence Valley
Pinnacle Peak
Gravel Pt
Gull Pt
Grass Valley
Deer Valley
Portage Valley
Pyramid Mtn
Mud Bay
Right Head
Little Norway
Waterfall Point
Orzinski Bay
American Bay
Mt Stepo
Chichagof Peak
Elephant Pt
Blunt Point
Windbound Bay
Chichagof Bay
West Cove
Dorenoi Bay
Renshaw Pt
Cathedral Peak
Foster Creek
Foster Camp
Bassett
Monolith Pt
Ballast I
Reef Pt
Albatross Anchorage
San Diego Bay
Guillemot I
Lumber Bay
Beaver Flats
Lefthand Bay
Balboa Bay
Cape Aliaksin
Swedania Point
T 53 S
T 54 S
Karpa I
Scotland Rock
Scotland Point
Crossvald Bay
STRAIT
UNGA
Korovin Island
Village
Henderson I
Korovin Bay
Korovin Strait
Unga Spit
Gull I
West Head
East Head
Range 19
Pirate Cove
High I
Cape Devine
Gorman Strait
White Bluff
North Head
Round I
Coal Harbor
Zachary Bay
Coal Hbr
Quarry Pt
Popof Island
Sand Pt
Dark Cliffs
Andronica Island
Little Egg I
Egg I
Red Cove
UNGA ISLAND
Squaw Harbor
Popof Head
The Whaleback
The Haystacks
Red Mtn
Bloomer Peak
West Nagai Strait

X-RAY ASSAY LABORATORIES

LIMITED

45 LESMILL ROAD DON MILLS ONTARIO 445-5755

Certificate of Analysis

NO. 2373

TO. Min-En Laboratories Ltd.

RECEIVED INVOICE NO.

SAMPLE(S) OF SUBMITTED TO US SHOW RESULTS AS FOLLOWS:

Element	Sens*	Concentration QN 1242-1247+1285	Element	Sens*	Concentration QN 1242-1247+128
Antimony	(4)	ND	Manganese	(1)	FT
Arsenic	(4)	ND	Mercury	(4)	ND
Beryllium	(2)	ND	Molybdenum	(3)	FT
Bismuth	(2)	ND	Nickel	(1)	FT
Cadmium	(4)	ND	Silver	(1)	ND
Cerium	(5)	ND	Tantalum	(5)	ND
Columbium	(4)	ND	Thorium	(3)	ND
Chromium	(4)	ND	Tin	(2)	ND
Cobalt	(3)	ND	Titanium	(2)	LM
Copper	(1)	L	Tungsten	(4)	ND
Gallium	(2)	ND	Uranium	(3)	ND
Germanium	(1)	ND	Vanadium	(2)	FT
Iron	(2)	L	Yttrium	(3)	ND
Lead	(2)	ND	Zinc	(4)	ND
Lithium	(4)	ND	Zirconium	(4)	T

LEGEND

Key To Symbols

H - 10% plus	L - 0.1-1%
MH - 5-15%	TL - 0.05-0.5%
M - 1-10%	T - 0.01-0.1%
LM - 0.5-5%	FT - 0.01% or less
	ND - Not detected

*Sensitivity (limit of detection)

1- 0.0005-0.001%
2- 0.001-0.005%
3- 0.005- 0.01%
4- 0.01 - 0.05%
5- 0.05 - 0.1%

Note: Better sensitivities can be obtained with special techniques, if and when required.

X-RAY ASSAY LABORATORIES LIMITED

DATE Dec. 15, 1975

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X-RAY ASSAY LABORATORIES

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Certificate of Analysis

NO. 2373 Page 3 of 4

TO. Min-En Laboratories Ltd.

RECEIVED INVOICE NO.

SAMPLE(S) OF SUBMITTED TO US SHOW RESULTS AS FOLLOWS:

Element	Sens*	Concentration QN 1219-1224	Element	Sens*	Concentration QN 1219-1224
Antimony	(4)	ND	Manganese	(1)	ND
Arsenic	(4)	ND	Mercury	(4)	ND
Beryllium	(2)	ND	Molybdenum	(3)	FT
Bismuth	(2)	ND	Nickel	(1)	FT
Cadmium	(4)	ND	Silver	(1)	ND
Cerium	(5)	ND	Tantalum	(5)	ND
Columbium	(4)	ND	Thorium	(3)	ND
Chromium	(4)	ND	Tin	(2)	ND
Cobalt	(3)	ND	Titanium	(2)	L
Copper	(1)	L	Tungsten	(4)	ND
Gallium	(2)	ND	Uranium	(3)	ND
Germanium	(1)	ND	Vanadium	(2)	FT
Iron	(2)	L	Yttrium	(3)	ND
Lead	(2)	ND	Zinc	(4)	ND
Lithium	(4)	ND	Zirconium	(4)	T

LEGEND

Key To Symbols

H - 10% plus	L - 0.1-1%
MH - 5-15%	TL - 0.05-0.5%
M - 1-10%	T - 0.01-0.1%
LM - 0.5-5%	FT - 0.01% or less
	ND - Not detected

*Sensitivity (limit of detection)

1-	0.0005-0.001%
2-	0.001-0.005%
3-	0.005- 0.01%
4-	0.01 - 0.05%
5-	0.05 - 0.1%

Note: Better sensitivities can be obtained with special techniques, if and when required.

X-RAY ASSAY LABORATORIES LIMITED

DATE Dec. 15, 1975 CERTIFIED BY D. Hewson

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Certificate of Analysis

NO. 2373

TO. Min-En Laboratories Ltd.

RECEIVED INVOICE NO.

SAMPLE(S) OF SUBMITTED TO US SHOW RESULTS AS FOLLOWS:

Element	Sens*	Concentration QN 1193-1197	Element	Sens*	Concentration QN-1193-1197
Antimony	(4)	ND	Manganese	(1)	T
Arsenic	(4)	ND	Mercury	(4)	ND
Beryllium	(2)	ND	Molybdenum	(3)	T
Bismuth	(2)	ND	Nickel	(1)	FT
Cadmium	(4)	ND	Silver	(1)	ND
Cerium	(5)	ND	Tantalum	(5)	ND
Columbium	(4)	ND	Thorium	(3)	ND
Chromium	(4)	ND	Tin	(2)	ND
Cobalt	(3)	ND	Titanium	(2)	LM
Copper	(1)	TL	Tungsten	(4)	ND
Gallium	(2)	ND	Uranium	(3)	ND
Germanium	(1)	ND	Vanadium	(2)	FT
Iron	(2)	L	Yttrium	(3)	ND
Lead	(2)	ND	Zinc	(4)	ND
Lithium	(4)	ND	Zirconium	(4)	T

LEGEND

Key To Symbols

H - 10% plus	L - 0.1-1%	
MH - 5-15%	TL - 0.05-0.5%	
M - 1-10%	T - 0.01-0.1%	
LM - 0.5-5%	FT - 0.01% or less	
	ND - Not detected	

*Sensitivity (limit of detection)

1- 0.0005-0.001%
2- 0.001-0.005%
3- 0.005- 0.01%
4- 0.01 - 0.05%
5- 0.05 - 0.1%

Note: Better sensitivities can be obtained with special techniques, if and when required.

X-RAY ASSAY LABORATORIES LIMITED

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Certificate of Analysis

NO. 2373 Page 1 of 4

TO. Min-En Laboratories Ltd.,
Specialists in Mineral Environments,
Corner 15th Street and Bewicke ,
705 West 15th Street,
NORTH VANCOUVER, B.C.

RECEIVED Dec. 12, 1975 INVOICE NO. 2373

SAMPLE(S) OF 4 pulps SUBMITTED TO US SHOW RESULTS AS FOLLOWS:

Element	Sens*	Concentration QN 1096-1099	Element	Sens*	Concentration QN 1096-1099
Antimony	(4)	ND	Manganese	(1)	FT
Arsenic	(4)	ND	Mercury	(4)	ND
Beryllium	(2)	ND	Molybdenum	(3)	TL
Bismuth	(2)	ND	Nickel	(1)	FT
Cadmium	(4)	ND	Silver	(1)	ND
Cerium	(5)	ND	Tantalum	(5)	ND
Columbium	(4)	ND	Thorium	(3)	ND
Chromium	(4)	ND	Tin	(2)	ND
Cobalt	(3)	ND	Titanium	(2)	L
Copper	(1)	LM	Tungsten	(4)	ND
Gallium	(2)	ND	Uranium	(3)	ND
Germanium	(1)	ND	Vanadium	(2)	FT
Iron	(2)	L	Yttrium	(3)	ND
Lead	(2)	ND	Zinc	(4)	ND
Lithium	(4)	ND	Zirconium	(4)	T

LEGEND

Key To Symbols

H - 10% plus	L - 0.1-1%
MH - 5-15%	TL - 0.05-0.5%
M - 1-10%	T - 0.01-0.1%
LM - 0.5-5%	FT - 0.01% or less
	ND - Not detected

*Sensitivity (limit of detection)

1-	0.0005-0.001%
2-	0.001-0.005%
3-	0.005- 0.01%
4-	0.01 - 0.05%
5-	0.05 - 0.1%

Note: Better sensitivities can be obtained with special techniques, if and when required.

X-RAY ASSAY LABORATORIES LIMITED

DATE Dec.15, 1975 CERTIFIED BY D. Hewson