N.T.S. 92-P-9

REPORT ON THE
WESAKU PROPERTY
1968

S. H. Pilcher Van., B.C.

REPORT

ON THE

WESAKU PROPERTY

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P.N. 123

N.T.S. 92-P

KAMLOOPS M.D.

S. H. Pilcher

Vancouver, B.C.
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INTRODUCTION

Summary of Work

This report covers work done on the Wesaku property during the 1968 field season. The work is a continuation of an exploration project on claims originally staked northwest of Little Fort, B.C. in 1966 to cover a molybdenum anomaly which was revealed during a silt and soil sampling program.

During the 1967 season five miles of road were constructed, a grid was cut with lines spaced at 200-foot intervals, soil samples were collected at 200-foot intervals along the grid lines and analyzed for molybdenum, geology was mapped over the central part of the grid area, 800 feet of trenching was blasted, and a small amount of Self-potential and E.M.-16 work was done in the vicinity of the showings. (See 1967 report)

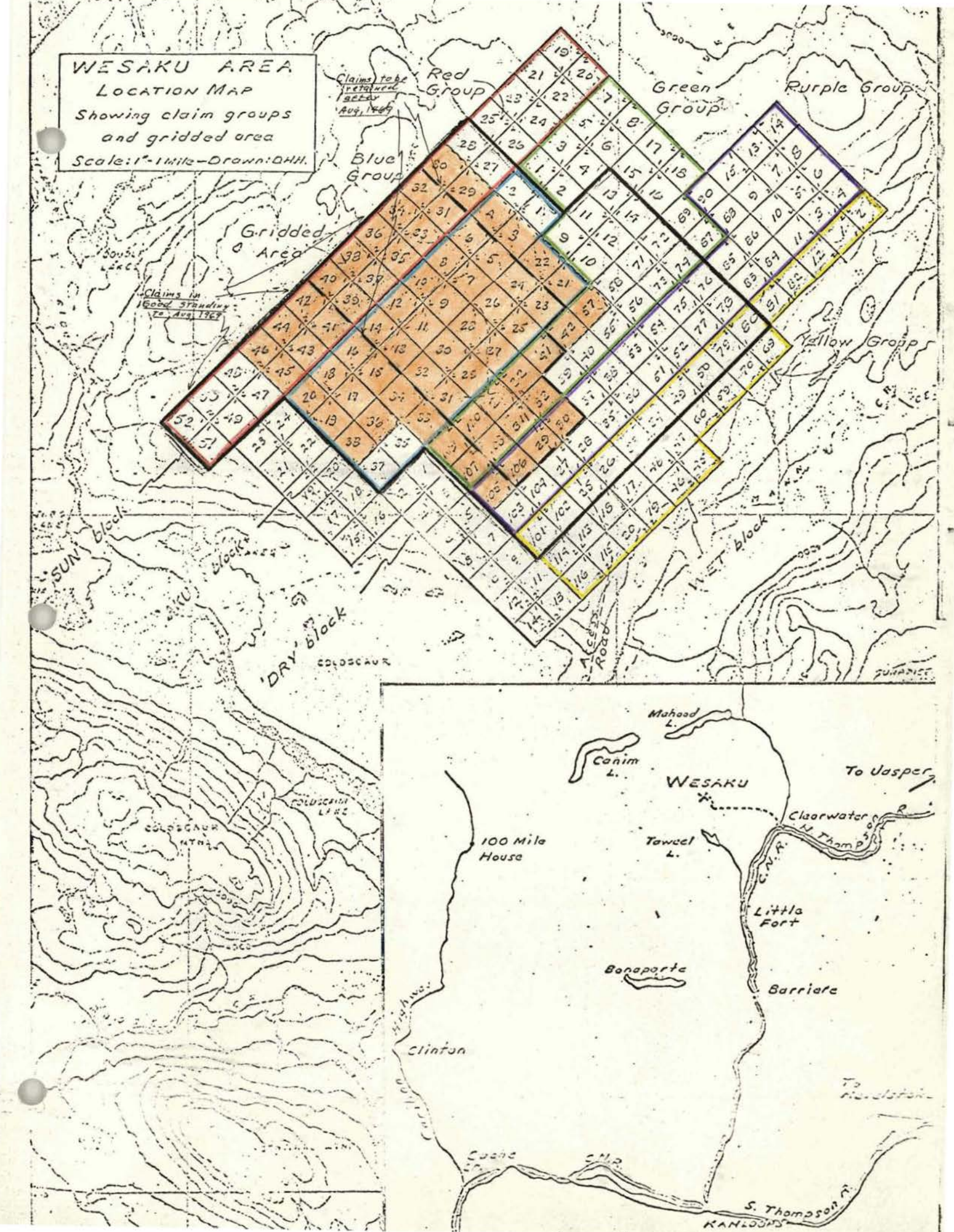
In 1968, during the period July 20 to October 11, five diamond drill holes (totalling 2731 feet) were completed, the core was logged and sampled, detailed mapping of the grid was extended to the south and west, and several small geochemical soil anomalies located outside the main anomalous zone were investigated. The crew consisted of three drillers, the writer, and one assistant. Drilling was done by S. & H. Drilling Company.

Claim Status

Assessment work from the 1967 season was filed on a block of 120 claims (figure 1). These claims are in good standing until August of 1969.

Aku 1 - 38

Sun 9 - 14
27 - 52


WESAKU AREA
LOCATION MAP
Showing claim groups
and gridded area
Scale: 1" - 1 mile - Drawn: OHH.
Claims to be retained better Aug. 1969
Red Group
Blue Group
Green Group
Purple Group
Yellow Group
Gridded Area
Claims in good standing to Aug. 1969
SUN block
WET block
DRY block
COLDSCAUR
Mahood L.
Canim L.
WESAKU
To Jasper
Clearwater
N. Thompson R.
100 Mile House
Tawcel L.
C.N.R.
Little Fort
Bonaparte
Barriere
Clinton
To Kamloops
Cache Cr.
S. Thompson R.
KAMLOOPS

Wet 21 - 22
25 - 42
49 - 58
71 - 80
101 - 110

The work done in 1968 will be applied to a central block of forty claims (figure 1) for a period of five years. Assessment work from the 1969 season will probably be applied to the same forty-claim group.

GEOLOGY

General

A detailed description of the geology of the area is included in the 1967 report. No significant changes in regards to the geology or to the extent, intensity, and distribution of known mineralization were revealed during the mapping and drilling in 1968.

Surface mapping in 1968 was concentrated in the eastern part of the grid for the purpose of locating the eastern contact of the medium-grained leucocratic quartz monzonite and the contact between the biotite quartz monzonite and argillite. The positions of these contacts as shown in figures 2 and 3 are based almost entirely on scattered float and they are therefore questionable.

The grid area consists primarily of medium- to coarse-grained biotite quartz monzonite containing a central somewhat irregular shaped mass of medium-grained leucocratic quartz monzonite. The few contacts observed between these rock types are sharp and relatively undisturbed. A small body of fine-grained leucocratic quartz monzonite crops out within the medium-grained leucocratic quartz monzonite and the two are gradational over a few tens of feet. Several small and irregular shaped masses and dykes of similar fine-grained material cut the biotite quartz monzonite farther to the west. The contacts there are sharp and undisturbed.

The latest igneous activity is represented by dykes of aplite, quartz-feldspar porphyry, and leucocratic granite. The dykes cut both the leucocratic and the biotite quartz monzonite. Textural and compositional similarity indicate a very close genetic relation between the leucocratic quartz monzonite and the later dykes.

Field relations indicate the following igneous sequence.

1. Biotite quartz monzonite.
2. Leucocratic quartz monzonite.
3. Leucocratic granite.
4. Aplite
5. Quartz-feldspar porphyry
6. Aplite.

Contact relations suggest a somewhat passive rather than a strongly forceful emplacement of all the igneous rocks. This is shown by a lack of brecciation and other disruptive features along the observeable contacts.

Numerous aplite dykes and the several bodies of fine-grained quartz monzonite extending for several thousand feet west of the main mass of leucocratic quartz monzonite suggest that a body of the finer grained material may extend beneath the biotite quartz monzonite along that trend. Intersections of the fine-grained quartz monzonite in drill holes 2 - 5 (figure 4) suggest that rock may also underlie a considerable portion of the medium-grained leucocratic material.

At the northwest edge of the mapped area near Patricia Creek, the porphyry and granite dykes and relatively high concentration of aplite dykes suggest proximity to a center of late magmatic activity.

Structure

Major structures trend roughly north-south and east-west. Most of the north-trending structures strike either north-south or N.20°W. and are represented by air photo lineaments, creeks, elongate swampy drainages, a few aplite dykes, a few quartz-molybdenite veinlets, and a few known faults.

East-west structures vary in strike from E.-W. to N.70°W. and are expressed by fine fracturing throughout the map area and by occasional air photo lineaments which have no apparent topographic expression. Most of the known quartz-molybdenite veinlets, most of the aplite dykes, and portions of the porphyry dykes occupy structures of this trend.

A few strong lineaments cut the area on bearings of N.30°E., N.45°E., and N.50°W. but no similarly oriented structures have been seen during the mapping.

Air photo study reveals several possible concentric lineament patterns, the larger of which is about 8,000 feet in diameter and centered near the northeast end of the 30 S. baseline at the intersection of a N.50°W. and a N.30°E. lineament. A second pattern, about 4,000 feet in diameter, is centered about 1,000 feet north of Camp Lake near the intersection of a N.45°E. and a N.-S. lineament. At the present time the validity and possible significance of these patterns is not known.

Mineralization

Known mineralization consists of very fine-grained molybdenite filling hairline to 1/4 inch fractures, most of which have a general east-west trend. A few trend north-south. In some fractures the molybdenite occurs alone and in others it is accompanied by quartz and/or pyrite. Quartz is more common in the wider fractures and in these the molybdenite tends to be

coarser grained. A few scattered flakes of molybdenite also occur as disseminations in the aplite and fine-grained quartz monzonite.

Widely scattered, east-west trending molybdenite veinlets occur throughout the outcrop area of leucocratic quartz monzonite. At the showing the fracturing is more intense than observed elsewhere, however their maximum density there is only about two or three per foot. This zone of more intense fracturing is about 600 feet wide and is known to extend along strike for about 2,000 feet (figures 2 and 3). All drilling in 1968 was done to test this zone at depth.

Drill hole #1 penetrated medium-grained leucocratic quartz monzonite beneath trench D. Total molybdenum values ranged from 0.01% to 0.04% and averaged about 0.02% for 500 feet. Consistently lower values in the trench (average 0.01%) indicate a considerable amount of surface leaching.

Hole #2 was drilled to test the same zone farther east and at greater depth. Below 70 feet the rock was all the fine-grained monzonite with only occasional molybdenite-bearing fractures. No core was assayed.

Hole #3 apparently penetrated a contact zone between the three rock types and contained the best mineralization. The biotite quartz monzonite averaged 0.04% total molybdenum over 180 feet, and the medium grained leucocratic monzonite averaged 0.02% over 120 feet. Mineralization died out in the fine-grained leucocratic quartz monzonite at the bottom of the hole.

Hole #4 was drilled to intersect a prominent N.20°W. trending lineament along which are several strong geochemical anomalies (see figure 9, 1967 report). This hole collared in biotite quartz monzonite and passed into fine-grained quartz monzonite at a depth of about 400 feet. The core was generally barren though zones of fairly intense alteration were encountered.

Hole #5 was entirely in the biotite quartz monzonite except for one dyke of the fine-grained monzonite. Total molybdenum values averaging 0.04% were present in the biotite quartz monzonite in the vicinity of the dyke. Elsewhere the core was essentially barren.

Alteration

In most outcrops throughout the map area the biotite quartz monzonite as well as the leucocratic quartz monzonite are relatively fresh. A fairly restricted bleaching and iron staining is present in some parts of the trenches. This bleaching is probably a surface feature caused by attack by acid surface waters in proximity to oxidizing pyrite.

The most pronounced alteration, as seen in the core, is related to barren fault and fracture zones and contacts and it shows no relationship to mineralization. The rock in the vicinity of faults tends to be bleached, a result of intense sericitization and kaolinization of feldspar. Biotite is completely replaced by sericite and pyrite. Minor amounts of disseminated pyrite, hematite, and epidote may also be present. With increasing kaolinization and shearing the rock becomes soft and crumbly and original textures are destroyed. The bleached zones have intersected widths of up to 20 feet and may be surrounded by similar widths of slight to moderate chloritization. A similar alteration is present in the vicinity of some contacts but here the bleaching tends to be splotchy and intermixed with irregular zones of intensely chloritized rock.

Intense chloritization is present around a few fracture zones and thin envelopes of chlorite are not uncommon surrounding narrow individual fractures.

Some quartz-molybdenite veinlets are surrounded by thin zones of bleaching; most, however, show no alteration effects.

On some sections of drill holes 4 and 5 the feldspar in the biotite quartz monzonite has been completely replaced by an unknown dark green mineral. This type of alteration seems to be related to contacts with the fine-grained quartz monzonite.

Elsewhere in the core the alteration is generally slight and consists of partial chloritization of biotite, a slight bleaching of feldspar, and a pale green alteration of feldspar (probably incipient sericitization and chloritization). A few narrow zones of intense pink coloration to the feldspar may reflect some secondary K-spar.

A detailed thin-section study of the alteration will be made in the near future.

Geochemistry

The area is somewhat outstanding in the widespread and relatively high molybdenum values in its soils (figure 9, 1967 report). The main anomalous zone is about one mile long and about 2,000 feet in width. The central portion of this zone coincides roughly with the outcrop area of leucocratic quartz monzonite. The widely scattered molybdenite veinlets present throughout this rock are apparently the source of this large anomaly. Solution and redistribution by surface waters, concentration along swampy drainages and variations in depth of overburden probably account for the large variations in values within the main anomaly.

Smaller isolated anomalies to the west and northwest of the main anomaly were examined and found to be associated with drainages or small irregular bodies and dykes of aplite, fine-grained quartz monzonite, porphyry, or pegmatite, some of which do contain occasional flakes of disseminated molybdenite. No interesting concentrations of molybdenite were found in any of these areas.

CONCLUSIONS AND RECOMMENDATIONS

In view of certain similarities in geologic features of the major molybdenum deposits in the Cordillera some generalizations can be made regarding those features which appear to be most favorable (see appendix 1). The strict use of these features as criteria for economic molybdenum mineralization in other areas is questionable; however at the present time this is the only data available on which to evaluate the potential of a prospect. A tabulation of the proposed favorable features or their lack at Wesaku is given below.

Favorable

1. A silica- and potash-rich intrusive phase (leucocratic quartz monzonite) with associated molybdenum mineralization.
2. Presence of irregular masses of aplitic material and of dyke of aplite, quartz porphyry, and granite.
3. Trace amounts of disseminated molybdenite in some of the later igneous phases.

Unfavorable

1. Apparent lack of structures related to forceful late acidic intrusive activity (radial, concentric, domal fracturing, intrusive breccia).
2. Lack of widespread quartz veining.
3. Lack of widespread pyrite mineralization.
4. Apparent lack of any widespread alteration.
5. Lack of any strongly mineralized float.
6. Confinement of known mineralization to a weak fracture set which has no apparent relation to late intrusive activity.

In all the deposits considered, except for Endako, the molybdenum mineralization is confined primarily to roughly annular fracture zones peripheral to exposed late acid plugs, to cracked hood zones over buried plugs, or to breccias located above buried cupolas or other irregularities along the flanks of larger stocks. These fracture and breccia zones are evidently the result of repeated oscillations of magma.

At Wesaku the central mass of leucocratic quartz monzonite seems to represent a core of late magmatic segregation, possibly partly metasomatic in origin, rather than a forcefully intruded plug. The contacts, where observed, are tight and exhibit no significant signs of related fracturing or brecciation, late magmatic or hydrothermal activity, or mineralization. The contact areas between the leucocratic and biotite quartz monzonite are therefore not favorable sites for annular type mineralization.

The known mineralization is confined to a weak fracture set which has no apparent relation to late intrusive activity and, based on the known structural controls of economic molybdenum mineralization described above, the potential of the mineralized zone is minimal. This is substantiated by the low values encountered during the drilling.

The most promising of the remaining possibilities is for buried hood-type mineralization in a fracture or breccia zone overlying a deeply buried plug or cupola and closely related to the latest igneous phases, the aplite and quartz porphyry. Unfortunately at the present time not even a vague surface evidence has been found to suggest the location or even the presence of a late plug or cupola. The one possibility is the relatively high concentration of aplite dykes along with the porphyry and granite dykes at the northwest part of the map area near Patricia Creek.

Based on the above considerations, six drill holes are recommended for 1969 (figure 3). These total about 2,800 feet.

The mineralized fracture zone will be further tested on its eastern end by a 300-foot extension of hole #5 into the projected contact area and on its western end by a 500-foot hole (#6). Hole #7 will test the weakly fractured leucocratic quartz monzonite at depth in the vicinity of the porphyry dyke in the chance that the dyke may indicate proximity to a late plug at depth. Holes #9 and #10 are proposed for similar reasons, #9 to cut across most of the obvious structures and #10 to probe at greater depth.

Hole #8 is planned to test an area containing high geochemical values, weak molybdenite-bearing fractures, and a few scattered pieces of bleached quartz monzonite.

The drill program as planned is fairly conservative. There are certainly possibilities of a hood zone type of mineralization at depth, but because of a lack of surface indications of such, if present it is the writer's opinion that without some more definite indications to use to restrict the target area, a larger program of deep drilling to prospect for such mineralization is not justified.

S. H. Pilcher

Vancouver, B.C.
March, 1969

GENERAL COMMENTS ON SEVERAL MOLYBDENUM DEPOSITS

Some generalizations can be made concerning similarities in the geology of the Boss Mountain, Alice Arm (Lime Creek Pluton), Lucky Ship, Glacier Gulch, Endako, Climax (Urad and Henderson included), and the Questa deposit.

In all cases molybdenum mineralization shows a very close genetic relationship to acid stocks or plugs (quartz monzonite to granite). Some areas have a complex intrusive history as shown by series of dykes, stocks, and plugs, the later ones becoming more acid and indicating periodic expulsion from a magma chamber which was actively undergoing differentiation. Molybdenite is concentrated in the late silica- and potash-rich fractions. Disseminated molybdenite in late aplite, and potash feldspar in the still later quartz-molybdenite veins indicate a close relationship between igneous and hydrothermal processes. This relationship is also shown by intermittent periods of quartz-molybdenum mineralization and igneous activity (intrusion of aplite, rhyolite, and quartz-feldspar porphyry dykes).

The mineralization is controlled by structures directly related to forceful intrusive activity. The structures consist of zones of stockwork fracturing or breccias located in hood zones or around the margins of the intrusives. Endako may be the one exception in that the fracturing and mineralization seem to be related to deep-seated faults which also appear to have controlled the emplacement of the associated intrusives.

The fractured hood and contact zones were favorable areas for the migration and deposition of late volatiles and siliceous molybdenum-bearing fractions. For these deposits to form it was therefore essential that potentially favorable structures were present at the proper time in the

differentiation sequence. The best areas appear to be where there were oscillations, pulsations, and repeated advances and withdrawals of the magma, resulting in intense fracturing and several periods of mineralization.

In some deposits the mineralization is primarily quartz, molybdenite, and pyrite. In those deposits which have had several stages of mineralization the mineralogy tends to be more complex and may include fluorite, calcite, bismuth sulphides, scheelite, wolframite, tetrahedrite, galena, sphalerite, chalcopyrite, and arsenopyrite. Locally there tends to be a rough zoning developed, consisting of an inner barren zone of intense silicification, an intermediate zone of quartz, molybdenite, pyrite veins, and an outer zone of pyrite and/or quartz veins. Pyritic halos extending outward for several thousand feet are not uncommon. At Climax tungsten forms a zone peripheral to the molybdenum zone. Regionally molybdenum mineralization may be centrally located in respect to copper and lead-silver mineralization.

The alteration features associated with these deposits are varied and cannot be easily generalized. In many the alteration predates the mineralization and seems to be more related to intrusive stages rather than directly to periods of mineralization. Some is deuteric in nature rather than strictly late hydrothermal. It would, however, seem appropriate to consider all the alteration as features related to the ore-forming process. A brief description of the alteration related to each deposit is given below.

Climax

The most pronounced alteration feature is a feldspathic alteration characterized by the development of orthoclase which was introduced prior to, during, and following the mineralization. In general,however, it predates the mineralization and it accompanied and followed very closely the final movements

of the magma. The orthoclase replaces plagioclase, microcline, and parts of the finer grained groundmass. Sericite, hydromica, and allophane have also developed.

Questa

Most of the alteration is pre-ore. It began with a blanket propylitization in the surrounding volcanics. Later a halo type propylitic alteration developed in the vicinity of the intrusives. In the mine area aplite flooding and intrusion was followed by strong localized silicification and blanket sericitization and kaolinization in the intrusive and volcanic rocks. Later a strong and widespread kaolinization developed. Local alteration around veins and mineralized shears consists of minor silicification, sericitization, and kaolinization in igneous rocks and strong biotization of volcanic rocks.

Boss Mountain

Four stages of alteration have been recognized which all appear to be genetically related to the deposit.

1. Garnet-Hornblende - Present in mylonite zones around periphery of Boss Mountain stock.
2. Biotite - Secondary biotite, the result of potash metasomatism, is present in a zone several thousand feet wide peripheral to the Boss Mountain stock. It is present around the centers of mineralization and is most intense near the breccias.
3. Microperthite-chlorite-sericite-pyrite - This alteration is present in varying intensity throughout the Boss Mountain stock and also within the breccias and stringer zone. It is closely associated with quartz veins.

4. Chlorite-Talc - This alteration is confined to the vicinity of shear zones.

Varying amounts of pyrite are present in a zone about 3,000 feet wide surrounding the Boss Mountain stock.

Alteration unrelated to the mineralization includes propylitization and a post-mineral zeolite, calcite, clay assemblage present along fractures.

Lucky Ship

Alteration minerals include quartz, K-spar, carbonate, pyrite, and a talcose mineral. The silicification is the most intense type and is present as an annular ring around the periphery of the plug. Pyrite occurs as an irregular annular halo around the silicified rock. The talcose alteration is restricted to minor shears.

Alice Arm

Secondary biotite, pyrite, and chlorite are present throughout the stock and may be deuteric. The area inside the elliptical shaped zone of mineralization shows the most intense alteration, consisting of a nearly complete replacement by quartz and K-spar. Minor biotite, sericite, and pyrite are also present. Rounded porphyroblasts of K-spar also occur within the mineralized zone.

Glacier Gulch

The alteration is variable in type and intensity. It is controlled by stockwork fracturing but the distribution within the stockwork is not uniform. The two main types identified include:

1. Sericite, carbonate with variable pyrite and K-spar. This type is spatially and genetically related to the mineralization. It is accompanied by bleaching.
2. Amphibole, biotite, chlorite, magnetite. These minerals are mainly pre-mineral and restricted to hairline fractures.

Endako

Potash metasomatism of varying intensity occurs throughout the ore-body and shows a general relationship to the mineralization. Some secondary biotite is also present. The rock has undergone some silicification and sericitization adjacent to the quartz veins. Kaolinite is locally intense in and along fault and slip zones. A greenish alteration of plagioclase is common along some fractures and fault zones. This alteration is a result of replacement by varying amounts of kaolinite, carbonate, sericite, chlorite, and biotite. Calcite and other carbonates are present as veins and disseminations. The areas of most intense alteration do not appear to have been favorable for mineralization.

Conclusions

Based on the geologic features described above economic molybdenum minerally in the Cordillera can be said to generally form in hood and contact zones around acid stocks and plugs which have been forcefully intruded. The hood zone type mineralization tends to form larger tonnages and to be more intense.

Possible surface indications over a buried mineralized hood zone above a plug, stock, or cupola within a larger igneous mass might include any or all of the following.

1. Proximity to areas of late epizonal type acid plutons.
2. Aplite, rhyolite, quartz-feldspar dykes.
3. Quartz veining.
4. Concentric, radial, and domal fractures, at least part of which are filled by acid dykes or quartz veins.
5. Intrusive breccias.
6. Widespread pyrite, secondary biotite and/or K-spar, and possibly silicification and tungsten mineralization.
7. Central location with respect to a zonal base metal pattern.

The possibility of a structural control of the plutons and associated alteration and molybdenum mineralization by lineament and/or deep-seated fault intersections has not been discussed in the published literature, however the possibility should be studied.

S. H. Pilcher

Vancouver, B.C.
March, 1969

DIRECT FIELD COSTS

1968

Drilling - 2731 feet (av. $7.50/ft.)	$20,480
Geological and Supervision	2,850
Field Crew	1,500
Board (2 men)	380
Equipment and Supplies	531
Hotel and Meals	219
Transportation	416
Assays	297
	$26,673

1969 (Anticipated)

Drilling - 2800 ft. at $7.50/ft.		$21,000
Geological and Supervision		750
Field Crew		--
Board		150
Equipment and Supplies		500
Hotel and Meals		200
Transportation		500
Assays		500
Road Repair or Helicopter		2,500
		$26,100
	+ 10%	$28,700

APPENDIX III

PROPERTY WESAKU

HOLE NUMBER 1

SHEET NUMBER 1

SECTION FROM 0 TO 500

DIAMOND DRILL RECORD

LOCATION: LAT 32,383
DEP 31,015
ELEVATION OF COLLAR 5,395
DATUM =S.L.
DIRECTION AT START: BEARING 195°
DIP 45°

STARTED September 1, 1968
COMPLETED September 8, 1968
ULTIMATE DEPTH 500'
PROPOSED DEPTH 500'

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Percent Recovery	No. of min. fract.		Core Missing
Entire Hole	Rock - Leucocratic quartz monzonite,	0	25	13.5	52	57		0- 2.4
	Equigranular, medium grained, light	25	50	22.8	92	57		14.7-16
	brownish pink in colour. Consists of	50	75	24.8	99	103		17.6-18.5
	50% quartz, 48% Feldspar, 1 - 2%	75	100	24.8	99	55		23.1-25
	biotite with minor to traceamounts	100	125	24.8	99	103		32.1-34.3
	of pyrite & hematite.Minerals are	125	150	24.8	99	130		66.5-68.8
	generally anhedral, grain size	150-	175	21.5	86	97		70 -71
	averages as follows:	175	200	20.9	84	124		190-191.2
	Quartz 0.10" , Feldspar 0.15",	200	225	24.4	97	51		192.2-193.
	biotite 0.05"	225	250	24.7	98	57		197.7-198.6
	Throughout core (except as noted	250	275	24.8	99	29		202.2-202.8
	below) feldspar is generally fresh and	275	300	24.6	98	62		
	clear, and biotite only slightly chloritized.	300	325	24.7	99	58		
	A few plagioclase xtls. are altered	325	350	24.5	98	75		
	pale green	350	375	22.5	98	45		
		375	400	24.6	98	45		
	Mineralization Molybdenite occurs in	400	425	24.8	99	26		
	tiny veinlets (0.02" - 0.04") with or	425	450	24.7	99	6		
	w/o quartz and pyrite. Almost all is	450-	475	24.7	99	29		
	very fine grained (microcrystalline)	475	500	24.2	97	36		
	Some is merely a coating on				96 Ave.			

N. M. P. - FORM A

PROPERTY

HOLE NUMBER 1

SHEET NUMBER 2

SECTION FROM 0 TO 62

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Sample No.	Total Mo.		
	hairline fractures. Throughout the	0	20	17'	55602	0.01		
	hole 99% of mineralized fractures	20	40	19.6	55603	0.01		
	cut core at 70 - 90° (main E-W	40	60	20	55604	0.015		
	set). A few intersect at 25°.	60	80	20	55605	0.02		
	Pyrite is present with the	80	100	19.8	55606	0.02		
	quartz and molybdenite or by itself	100	120	20	55607	0.025		
	in tight microscopic fractures.	120	140	19.8	55608	0.035		
	It also occurs partly replacing	140	160	20	55609	0.025		
	biotite and intergrown with small	160	180	14	55610	0.02		
	aggregates of hematite.	180	200	15	55611	0.04		
		200	220	18	55612	0.025		
0-2.4	Casing	220	240	19.8	55613	0.02		
2.4-8.8	Rock bleached and iron stained	240	260	19.9	55614	0.02		
	Spars partly bleached. Biotite chl. and ser.	260	280	20	55615	0.02		
25-45	rock pale reddish brown - due to	280	300	19.6	55616	0.04		
	FeOx stain on spars. Biotite	300	320	19.9	55617	0.03		
	mod. chl. - partly repl. by pyrite	320	340	19.8	55618	0.02		
38.5	1/2" aplite @ 60°	340	360	19.4	55619	0.025		
39.3	1/2" aplite @ 30°	360	380	19	55620	0.02		
7.8	1/4" qtz. vn @ 90°	380	400	19.9	55621	0.025		
N. M. - FORM A		400	420	19.8	55622	0.02		

PROPERTY

HOLE NUMBER 1

SHEET NUMBER 3

SECTION FROM 91 TO 203

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Sample No.			
91 - 92.4	Spars mottled pale green and brown.	420	440	19.8	55623	0.01		
	biotite partly chl.	440	460	19.8	55624	0.015		
92.4 - 93	Spars heavily bleached (kaolinized)	460	480	19.8	55625	0.02		
	around moly fracture.	480	500	19.2	55626	0.02		
108-119	Spars mottled pale green, and							
	yellowish brown and pink. Biotite							
	compl. ser.							
113.2 - 113.9	Spars int. bleached around narrow							
	fract. - cuts core @ 75°							
125.4	1/2" aplite @ 90°							
139.3	2" aplite @ 60°							
147.8-148.4	Biotite mod. ser.							
152.6-153.3	Aplite @ 40°							
155.5-156.2	Aplite @ 50°							
160.6-164	Spars pale yellowish brown to white - partly							
	bleached. Chl. and epidote along fract.							
181.8 - 203	Fault zone, rock extremely altered. Spars							
	completely bleached - white to brown opague. Biotite							
	altered to ser. Some epidote and chl. along fracts.							
	Rock soft and crumbly.							

N. M. P. - FORM A

PROPERTY

HOLE NUMBER 1

SHEET NUMBER 4

SECTION FROM 203 TO 341.4

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
203-214	Same as per 182-203 but alteration weaker.							
215.8-16.6	Spars bright pink, biotite compl. ser.							
218.8-19.5								
245-247	Spars bleached along barren fractswhich nearly parallel core biotite compl. ser.							
247-252	Biotite mod. chl.							
252-256.5	Alteration as per 245-247							
256.5-274	Biotite mod. to compl. chl.							
263.5	3" Aplite @ 40°							
284.6-286.6	Clay-filled fract. @ 10°							
287.5-288.5	Moly fract. @ 7°							
288.8	Clay-filled fract @ 20°. Spars bleached up to 1" from fract.							
292.9-295.5	Spars int. kaol. biot. compl. ser.							
306.8	1/4" aplite @ 60°							
313.3	1/2" aplite @ 50°							
319.4-319.8	Aplite @ 30°							
325.5-331	Spars sl. bleached, biotite chl.							
	Biotiee chl.							

N.M.P.-FORM A

PROPERTY

HOLE NUMBER 1

SHEET NUMBER 5

SECTION FROM 341.4 TO 466.3

DIAMOND DRILL RECORD

LOCATION: LAT.

DEP.

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
341.4-342.2	Spars int. bleached, biotite int. ser.							
324.2-353	Biotite mod. ser.							
346.7	2" aplite @ 30°							
353-368	Zone of intermixed fresh q.m. and							
	q.m. with sl. bleached spars and chl.							
	biotite. Some spars altered							
	green (chl ?). Minor epidote							
	along fracts.							
390.4	1/2" aplite @ 20°							
394-395.5	aplite @ 75°							
398.6	1" aplite @ 75°							
416.5-422.5	Spars sl. altered - some bleaching							
	and some alt. pale green. Biotite							
	chl. Epidote along fracts.							
423.5-424.1	Aplite @ 40°							
422-426.5	Chl-filled fracts @ 5°							
437-438	Chl-filled fracts @ - 5-15°							
441.2-442.3	Aplite @ 40°							
447-448	Aplite @ 30°							
456.9-457.4	Alt. as per 416.5 - 422.5							
	Mafic xn. @ 20° Chl-filled fracts @ 20°							

PROPERTY

HOLE NUMBER 1

SHEET NUMBER 6

SECTION FROM 466.3 TO 500

DIAMOND DRILL RECORD

LOCATION: LAT.

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
487-490.5	Several chl-filled fracts @ 35°							
490.5-92.5	Spars mod. to int. bleached. Biotite chl. and ser.							

N.M.B.-FORM A

PROPERTY WESAKU

HOLE NUMBER

SHEET NUMBER 1

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT. 32,775
DEP 31,485

ELEVATION OF COLLAR 5,281

DATUM S.L.

DIRECTION AT START: BEARING 195°
DIP 56°

STARTED September 11, 1968

COMPLETED September 23, 1968

ULTIMATE DEPTH 827'

PROPOSED DEPTH 1000'

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Percent Recovery	No. of min. fract.
0 - 11.5	Overburden & casing	11.5	25	13.2	53	4
11.5 - 81.6	Medium-grained leucocratic quartz	25	50	24.6	98	5
	monzonite as per hole #1.	50	75	21.5	86	4
11.5-13.5	Spars bleached & iron stained. Biotite	75	100	24.5	98	5
	compl. ser.	100	125	24.7	99	9
13.5-30	Biotite sl. chl., spars sl. bleached	125	150	24.8	99	5
30 -67	Biotite compl. chl., spars sl. bleached	150	175	24.8	-	5
	tr. py.	175	200	24.8	-	12
31.2	tr. py.	200	225	24.8	-	0
67 - 72	Spars int. bleached, biotite compl. ser.,	225	250	24.8	-	10
	minor epidote	250	275	24.5	98	22
72-81.6	Splotchy chloritic & bleached zones	275	300	24.7	99	12
79.6	3" band of epidote	300	325	24.8	99	20
81.6 - 82.6	Fine-grained leucocratic quartz	325	350	24.4	98	10
	monzonite. Ext. alt. - spars	350	375	24.7	99	3
	compl. bleached, biotite compl. ser.	375	400	24.7	99	6
82.6 - 84.8	Medium-grained leucocratic	400	425	24.2	97	7
	quartz-monzonite, spars int.	425	450	24.8	99	3
	bleached biot. compl. ser. Minor epidote	450	475	24.7	1	2
	& py.	475	500	24.2	97	
84.8 - end	Fine-grained leucocratic quartz monzonite.	500	525			

N.M.P.-FORM A

PROPERTY

HOLE NUMBER 2

SHEET NUMBER 2

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
84.8 - 89.5	Splotchy bleaching, chl., epidote	525	550	24.8	99		1	
89	1/4" qtz. vg. @ 70°	550	575	24.8			6	
89.5 - 100	Biot. sl. chl., spars. sl. bleached	575	600	24.7			5	
100 - 105	Spars int. bleached, biotite compl.	600	625	24.7			4	
	ser., some diss. py. & epidote	625	650	24.8			5	
108 - 110	Irreg. seams peg. qtz.	650	675	24.8			0	
128 - 131	Splotchy bleached - chl. zone	675	700	24.8			5	
166.5 - 17'	" " " "	700	725	24.8			7	
153 - 167	Irreg. seams peg. qtz.	725	750	24.8			6	
237.6 - 247	Weak chl.	750	775	24.7			5	
243.8	1" aplite @ 45°	775	800	24.8			14	
245	2" " @ 70°	800	827	26.8			4	
245.1	1" " @ 10°				97 ave.			
247	1" " @ 20°							
255.8 - 263	Rock highly jointed. Jts. chl. - filled							
264 - 275.5	Spars sl. bleached, heavily bleached							
	along qtz. no. & epidote vgs.							
270.2 - 274	Several epidote vglets @ 30 - 65°							
275.5 - 288	Splotchy chl. - kaol. zone minor							
	epidote.							
320 - 346	Biotite chl.							

PROPERTY

HOLE NUMBER 2

SHEET NUMBER 3

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
326 - 326.5	Clay - filled frs. parallel core. Contain							
334 - 338	clay & chl. Rock sl. bl. in vicinity							
343 - 346								
336.2	1" aplite @ 70°							
338	" " @ 75°							
338.3	" " @ 70°							
370 - 371.5	Clay-filled frs. parallel core. Rock sl. bl. & int. chl. in vicinity							
362 - 401.5	Rock chl. - biotite chl. & splotches of gn. chlorite.							
375 - 376	Clay filled frs. parallel core							
38-0 - 385	" " " "							
401.5 - 408.5	Rock. sl. bleached							
408.5 - 450	Rock mod. chl. - chl. splotches & chl. biotite.							
408 - 410	Clay-filled frs at 0 - 20°							
414 - 416	"							
417 - 420	"							
419.3	1" aplite @ 75°							
420	3" aplite							
421	3" aplite							

N. M. P. - FORM A

PROPERTY

HOLE NUMBER

SHEET NUMBER 4

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
458 - 458.6	Several chl. filled frs @ 20°							
466 - 466.5	" " " " "							
483 - 485	Mod. to int. fr. - mostly parallel.							
486.5 - 492	to core. Lt. to Mod. chl. & bleaching							
493.5 - 495								
480 - 483	Light splotchy chl., biotite chl.							
495 - 501	" " " " "							
" 511.5	Epidote vglet @ 10°							
520 - 537	Light splotchy chl.							
537 - 548	Light splotchy chl., - some bleaching &							
	epidote.							
552 - 560	" " " "							
575 - 585	Mod. splotchy chl.							
580 - 598	Int. bleaching							
598 - 613	Mod. bleaching minor chl. & epidote							
621 - 633	Ext. bleaching -minor epidote along frs.							
622 - 624	Heavy epidote							
633 - 647	Int. bleaching, splotchy chl., epidote							
	along frs.							
677.6	2" aplite @ 70°							
684.3	1" " @ 90°							

PROPERTY

HOLE NUMBER 2

SHEET NUMBER 5

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
696.2	2" aplite @ 65°							
691 - 693	Med. bleaching.							
704.7	1" aplite @ 90°							
720.6 - 722.1	aplite @ 45°							
731.2 - 731.7	aplite @ 60°							
741 - 743	" @ 70°							
745.3 - 746	" @ 85°							
746 - 747.6	sl. bl.							
773.5 - 773.7	aplite @ 50°							
757 - 759	sl. bl.							
761 - 765	"							
768 - 771	"							
781.6 - 781.8	Aplite @ 65°							
790.5 - 801	Sl. gn. alt. this section has							
	up to 10% biotite in spots.							
824 - 827	Sl. gn. alt.							

PROPERTY NESAKU

HOLE NUMBER 3

SHEET NUMBER 1

SECTION FROM ____ TO ____

DIAMOND DRILL RECORD

LOCATION: LAT 32,399 DEP 31,830

ELEVATION OF COLLAR 5,287

DATUM S.L.

DIRECTION AT START: BEARING 195° DIP 45

STARTED September 25, 1968

COMPLETED September 30, 1968

ULTIMATE DEPTH 502

PROPOSED DEPTH 500

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Percent Recovery	No. of Min. Fract.
0 - 10	Overburden & casing	0	25	7.6	50	4
10 - 20	Leucocratic quartz monzonite as	25	50	15.0	60	19
	per hole #1. Sl. iron staining	50	75	22.0	86	26
	tr. py. Sl. gn. alt. of spars.	75	100	24.6	98	34
20 - 142	Medium to coarse-grained	100	125	24.8	99	45
	biotite quartz monzonite	125	150	24.8		24
	contains 8 - 10% biotite	150	175	24.6		9
20 - 90	Biotite rel. fresh. Spars dark	175	200	24.8		20
	green. tr. py. assoc. with	200	225	24.9		38
	biotite	225	250	24.9		24
40.5	2" qtz. vg. @ 70°, ribboned with	250	275	24.8		11
	mo seams, surrounded by 3"	275	300	24.7	98	16
	zone of bl. spars.	300	325	24.8	99	15
41	2" aplite	325	350	24.7	98	24
55	1" qtz. vg. @ 70° ribboned	350	375	24.8	99	11
	with mo, coarse blebs py.	375	400	24.7	98	6
90 - 107.5	Spars ~ int. bleached, tr. epidote	400	425	24.8	99	7
	Biot. compt. alt. to ser.,	425	450	24.8		5
	minor chl. tr. diss. py.	450	475	24.8		12
107.5 - 142	Sl. gn. coloration to spars	475	502	24.8		11
115.5 - 116.1	Medium grained leuco. qtz. - monzonite				94 Ave.	

N.M.P.-FORM A

PROPERTY

HOLE NUMBER 3

SHEET NUMBER 2

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT.

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Sample No.	Total Mo.
116	3/4" qtz. vg. @ 70°, ribboned with mo.	0	20	3.0	55627	0.01
126.2 -127.6	Aplite @ 60°	20	40	11.0	55628	0.04
137.1- 138.6	" " 20°	40	60	10.9	55629	0.06
139	1" aplite @ 50°	60	80	17.6	55630	0.04
139.5	3" " @ 40°	80	100	18.7	55631	0.045
145.6 -145.9	3" " @ 50°	100	120	19.8	55632	0.05
147 - 148	Aplite @ 50°	120	140	19.9	55633	0.05
142 - 150	Very coarse biotite quartz monzonite	140	150	19.2	55639	0.03
	spars up to 0.4", biotite to 0.2"	160	180	19.8	55635	0.045
	contains 10% plus biotite.	180	200	19.4	55636	0.025
	Boundaries gradational	200	220	19.9	55637	0.01
142 - 149.7	Rock rel. fresh	220	240	19.6	55638	0.03
149.7 - 150	Spars int. bleached, biotite compl.	240	260	19.9	55639	0.02
	ser.	260	280	19.8	55640	0.01
156 - 182.6	Medium-grained biotite quartz	280	300	19.9	55641	0.02
	monzonite as per 20 - 142'	300	320	19.6	55642	0.01
151 - 151.6	Aplite @ 40°	320	340	19.6	55643	0.02
159.7-162.1	Green aplitic dyke @ 55°	340	360	19.7	55644	0.01
150 - 155	Spars prominent pink, plagio.					
	pale green, tr. epidote					
155 - 175.4	Spars int. alt. dark gn.					

PROPERTY

HOLE NUMBER 3

SHEET NUMBER 3

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
175.5-175.9	Aplite @ 60°							
175.9 -178.5	K-spars prominent pink, plagio. sl. gn. Biotite compl. ser. tr. epidote. This alt. is assoc. with qtz. vg & stockwork carrying mo. & py.							
182.6 - 191.5	Leuco. quartz monzonite. Int. gn. alt. of spars. Splotchy & bleached along frs. tr. diss. hem. Some biotite chl. contact. with biotite q.m. sharp @ 40 - 60°.							
191.5 - 193.5	Biotite quartz monzonite							
193.5 - 300	Leuco. quartz monzonite - medium to fine grained. Small shreds biotite 1-2%. Splotchy dark green & pale bleached zones.							
212 - 225	Gn. alt. to spars. Frequent diss. hem. Moly frs. contain qtz. & coarse mo.							
225 - 258	Q.M. rel. fresh.							

N. M. P. - FORM A

PROPERTY

HOLE NUMBER 3

SHEET NUMBER 4

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
258 - 275	Very sl. gn. coloration to spars							
270 - 271.5	Several frs. parallel to core. FeOx stain & sl. bl. of spars in vicinity.							
274.6 - 275	Several chloritic frs. parallel to core							
275 -282	Int. gn. alt. of spars							
282 - 285	Sl. " " " "							
285 - 315.3	Rock. rel. fresh							
275 - 284.5	Several frs. parallel to core these contain feOx, py, chl. & epidote							
300 - end	Fine-grained leuco quartz monzonite as per #2, 85' - end							
301.5 - 306	Several frs. parallel core. These contain minor hem. Spars bl. in surrounding 1/2"							
315.3 - 316.8	Gn. alt. of spars							
325 - 333	Splotchy green & bleached zones							
336 - 359	Sl. - mod. bl. spars							
369 - 375	Mod. gn. spars							

N. M. P. - FORM A

PROPERTY

HOLE NUMBER 3

SHEET NUMBER 5

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT.

DEP.

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
375 - 383	Mod. - Int. gn. spars							
383 - 385	Sl. gn. spars.							
394 - 405	" " "							
405 - end	Rock rel. fresh. Biot. sl. chl.							
	with tr. py. & hem. associated							
	tr. hem. throughout core.							
431.6 - 433.5	Several frs. parallel core.							
437 - 440	" " " " Spars. sl. bleached							
	in vicinity.							
498 - 502	Aplite - contact irreg. Some							
	diss. clots hem.							

N. M. P. - FORM A

PROPERTY WESAKU

HOLE NUMBER 4

SHEET NUMBER 1

SECTION FROM ____ TO ____

DIAMOND DRILL RECORD

LOCATION: LAT 32,414 DEP 31,832

ELEVATION OF COLLAR 5,286

DATUM S.L.

DIRECTION AT START: BEARING 15° DIP 45°

STARTED September 30, 1968

COMPLETED October 5, 1968

ULTIMATE DEPTH 500

PROPOSED DEPTH 500

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Percent Recovery	No. of Min. Fracs.
0 - 67	Overburden & Casing	0	25	-	-	-
67 - 191	Biotite quartz monzonite	25	50	2	8	-
0 - 98.2	Spar int. gn. alt. Biotite	50	75	5	20	4
	fairly fresh	75	100	12	48	4
98.2 - 103	Biotite destroyed, sl. - mod.	100	125	15	60	3
	bleaching, some gn. coloration	125	150	23	92	3
	to spars.	150	175	22	88	2
103 - 125	Int. gn. alt. to spars. Mo	175	200	17	68	0
	frs. in this section contain	200	225	23	92	
	py. & some show evidence of	225	250	21	84	
	movement - slicks & smearing	250	275	18	72	
	out of mo.	275	300	21	84	
125 - 140	Rock crumbly & clayey. Spars opaque	300	325	22	88	
	wt. to pale gn. Biotite chl.	325	350	15	60	
140 - 145	Spars int. dark gn.	350	375	19	76	
145 - 147	Spars pink	375	400	17	68	2
147 - 148	Rock crumbly, spars wt. to pale	400	425	23	92	8
	gn. biotite compl. ser.	425	450	22	88	6
148 - 155	Spars int. gn. alt.	450	475	21	84	6
155 - 156	Rock crumbly & clayey. Spars opaque	475	500	17	68	4
	wt. to pale gn. Biotite chl.				71 Ave.	

PROPERTY

HOLE NUMBER 4

SHEET NUMBER 2

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Sample No.	Total Mo		
166 - 167	As above bot biotite alt. to	400	420	18'	55645	0.01		
	sericite	420	440	19'	55656	0.01		
167 - 175	Rock a pale greenish mass							
	of clay, containing remnant qtz.							
	xtls.'							
171 - 171.5	Greenish - gray basalt							
175 - 183	Spars int. gn. alt. Biotite							
	fairly fresh.							
183 - 190	Extreme alt. as per 167 - 175							
190 191	Rock crumbly, spars. wt. to pale							
	gn., biotite compl. ser.							
191 - 197	Basalt, a fr. gr. uniformly black							
	rock - fresh & hard for most							
	part, tiny spars 1-2 mm visible							
	tr. diss. py. cuts q.m. at							
	one locality at 55°							
197 - 198	Biotite quartz monzonite							
	crumbly & clayey. Spars opaque							
	wt. to pale gn. Biotite chl.							
198 - 199	Basalt.							
199 - 201	Biotite Q.M. - altered as per 197 - 198							

PROPERTY

HOLE NUMBER 4

SHEET NUMBER 3

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
201 - 206.7	Basalt							
206.7 - 209	Biotite Q.M., - granulated & chloritic.							
	Heavily seamed with dark green							
	chlorite.							
209 - 215.5	Basalt							
215.5 - 222	Biotite Q.M., - crumbly, spars							
	wt. to pale gn., biotite compl. ser.							
222 - 232	Basalt							
232 - 390	Biotite Q.M.							
232 - 237	Rock crumply, spars wt. to pale gn.							
	biotite compl. ser.							
237 - 245.5	Biotite fresh, spars alt. dark							
	gn.							
245.5 - 246.5	Alt. as per 232 - 237							
246.5-248.5	Alt. as per 237 - 245							
248.5 -251	Alt. as per 232 - 237							
251 - 258	Alt. as per 237 - 245							
258 - 285	As per 237 - 245. Most spars							
	int. Kao. - some pale gn. Biotite							
	destroyed. Some hematite? Staining							
	of spars. Minor epidote, tr. py.							

PROPERTY

HOLE NUMBER 4

SHEET NUMBER 4

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT.

DEP.

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
260.5 - 261	Barren qtz. vg.							
285 - 287	Intermixed aplite & biotite q.m.							
	Aplite fresh, spars in q.m. alt.							
	dark gn.							
287 - 290	Alt. as per 258 - 285							
290 - 293.5	Rock crumbly & clayey. Spars opaque wt.							
	to pale gn., biotite chl.							
293.5 - 365	Alt. as per 258 - 285							
304 - 334	Alt. as per 237 - 245							
334 - 339	Spars int. kaol., biotite chl.							
339 - 342	Alt. as per 232 - 237							
343 - 357	Biotite dark, probable chl., spars							
	dk. gn., Lt. gn. & some opaque wt.							
321 - 321.5	Aplite							
325	1" aplite @ 55°							
333-334	Several 1/2 - 1" aplites @ 40 - 65°							
342.7 - 343	Aplite							
356	1" Aplite @ 20°							
357 - 367	Alt. as per 232 - 237							
367 - 384	Alt. as per 237 - 245							
384 - 386	Alt. as per 232 - 237							

PROPERTY

HOLE NUMBER 4

SHEET NUMBER 5

SECTION FROM ____ TO ____

DIAMOND DRILL RECORD

LOCATION: LAT ____ DEP ____

ELEVATION OF COLLAR ____

DATUM ____

DIRECTION AT START: BEARING ____ DIP ____

STARTED ____

COMPLETED ____

ULTIMATE DEPTH ____

PROPOSED DEPTH ____

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
386 - 390	Alt. as per 237 - 245							
390 - 433	Leucocratic quartz monzonite -							
	med. fn. grained.							
400 - 402]	Rock bleached along sections up							
405 - 406]	to 2" long. Cut by thin mo frs. @ 30 - 60°							
411-413.5]	No qtz. Core also cut by thin							
419 - 420]	chl. - filled frs. which nearly parallel							
	core. These contain traces of							
	mo. & py.							
433 - 437	Biotite quartz monzonite.							
433 - 434	Alt. as per 237 - 245							
434 - 435	Biotite black - prob. chloritic, spars							
	soft - heavily kaol., rock crumbly							
435 - 437	As above but biotite destroyed							
	spars compl. kaol.							
437 - 444	Leuco. quartz monzonite. Sl. bleaching							
444 - 448.5	Biotite quartz monzonite - Rock							
	ext. alt. - mass of clay, epidote,							
	& remnant qtz.							
448.5 - 450	Leuco. quartz monzonite							
450 - 451.5	Biotite quartz monzonite. Alt. as per 237 - 245.							

PROPERTY

HOLE NUMBER 4

SHEET NUMBER 6

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
451.5 - end	Leuco quartz. monzonite							
463 - 467	Rock bleached & soft.							

PROPERTY ...SAKU

HOLE NUMBER 5

SHEET NUMBER 1

SECTION FROM ... TO ...

DIAMOND DRILL RECORD

LOCATION: LAT 32,429
DEP 32,254

ELEVATION OF COLLAR 5,274

DATUM S.L.

DIRECTION AT START: BEARING 195°
DIP 45°

STARTED

COMPLETED October 6, 1968

ULTIMATE DEPTH October 10, 1968

PROPOSED DEPTH 402
500

DEPTH FEET	FORMATION
0 - 19	Casing
19 - 69	Biotite quartz monzonite, medium grained
0 - 26	Some iron staining along frs.
19 - 24	Rock rel. fresh, sl. gn. alt. of spars
24 - 39	Biotite destroyed, spars pale gn.
39 - 48.5	Rock rel. fresh
48.5 - 51	Alt. as per 24 - 39
51 - 55	Rock rel. fresh
55 - 56	Alt. as per 24 - 39
56 - 65	Biotite destroyed, spars dark gn.
65 - 68	" " , spars Lt. gn. to opaque wt.
68 - 69	Biotite chl., spars bleached to pale gn.
69 - 125	Leuco. quartz monzonite, Sl. bleaching along frs. cutting core at 20 - 40°
88 - 94	Heavy chl.
100.5	Chl. - filled fr. @ 15°
104 - 107	" " frs. @ 5 - 10°.
125 - End	Biotite quartz, monzonite, medium grained
125 - 129.5	Biotite destroyed, spars Lt. gn. to wt.
129.5 - 131	Spars dark gn.

FROM	TO	WIDTH OF SAMPLE	Percent Recovery	Number of Min. Frac.
19	25	5'	83	7
25	50	21.0	84	16
50	64	18.7	98	16
69	98	23.0	80	0
98	121	22.8	99	1
121	148	24	88	13
148	172	23.7	99	5
172	197	23.5	94	7
197	220	22.7	98	10
220	244	23.7	99	9
244	268	23.7	99	11
268	292	23.7	99	10
292	316	23.0	96	9
316	339	22.8	99	5
339	364	24	96	3
364	388	23.7	99	6
388	402	13.5	96	0
			94 Ave.	

PROPERTY

HOLE NUMBER 5

SHEET NUMBER 2

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Sample No.	Total Mo.
131 - 133	Biotite fresh, spars dark gn.	20	40	16'	55651	0.05
133 - 134	Biotite destroyed, spars pale gn.	40	60	18'	55652	0.04
134 - 136	Biotite fresh, spars dark gn.	60	69	7.5'	55653	0.04
136 - 137	Biotite destroyed, spars pale gn.	125	148	20'	55654	0.04
137 - 139.5	Biotite fresh, spars dark gn.					
139.5 - 145	Biotite destroyed, plagioclase? med. gn., K-spars bright orange - red.					
145 - 149	Biotite fresh, spars dark gn.					
146 - 146.5	Aplite @ 35°					
151 - 153.5	Biotite destroyed, spars pale gn.					
153.5 - 154	" fresh, " dark gn.					
154 - 155.5	" destroyed, " pale gn.					
155.5 - 156	" destroyed, spars dark gn.					
156 - 157.5	" " , spars pale gn.					
157.5 - 162	Biotite chlorite, spars dark gn.					
162 - 163.5	" fresh, " " "					
163.5 - 167	Rock rel. fresh, sl. gn. color. to spars.					
167 - 168	Biotite fresh, sparsdark gn.					
168 - 169	Biotite destroyed, spars bleached					
169 - 180	Biotite fresh, spars dark green.					
168	2" aplite @ 70°					

N. M. P. - FORM A

PROPERTY

HOLE NUMBER 5

SHEET NUMBER 3

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
169.5 - 169.9	Irreg. Aplite							
180 - 180.5	Biotite destroyed, plagioclase? med.							
	green, K-spar orange - red.							
180.5 - 183	Rock int. bleached & soft.							
183 - 185.5	Same as above but. rock still hard							
184.5 - 185	3 - 5% diss. py.							
185 - 197	Biotite fresh - spars show sl. dark							
	gn. coloration							
197 - 219	Rock rel. fresh.							
199.5	Barren fr. @ 25° spars repl. by							
	hematite? up to 1" from fr.							
200.5	Barren fr. @ 75°. Hematite? as above							
201.5	1" aplite @ 35°							
207.2	2" "							
219 - 220.	Roc k int. bleached & soft. Some diss.							
	hematite?							
220	1" aplite @ 50°							
221	1/2" aplite @ 55°							
	" " @ 45°							
	Sl. dark gn. coloration to spars							

PROPERTY

HOLE NUMBER

SHEET NUMBER

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING

DIP

STARTED

COMPLETED

ULTIMATE DEPTH

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
228.5 - 229	Spars bright pink							
249	2" aplite @ 70°							
254 - 254.8	Several frs. @ 50°. Spars pale gn., pink, & red-brown in vicinity							
259 - 260	Aplite @ 25°							
264	1" aplite @ 80°							
272 - 273	Ext. bleaching							
273 - 273.5	Spars bright pink							
275.7	3/4" Qtz. vg @ 40°							
279.6	1" aplite @ 45°							
283 - 287	Several frs. @ 65- 70°. These are surrounded by 1" zones at bright pink spars							
294.3	2" aplite @ 50°							
312 - 313.5	Biotite fresh, spars dark gn.							
313.5 - 316.5	Biotite destroyed - spars pale gn to opaque wt.							
305	1/4" qtz. vg. @ 10° - surrounded by 1" zone of pink spars							
316.5 - 319	Section contains mod to int. bleaching. tr. diss. hematite.							

PROPERTY

HOLE NUMBER 5

SHEET NUMBER 5

SECTION FROM ... TO ...

DIAMOND DRILL RECORD

LOCATION: LAT ... DEP ...

ELEVATION OF COLLAR ...

DATUM ...

DIRECTION AT START: BEARING ... DIP ...

STARTED ...

COMPLETED ...

ULTIMATE DEPTH ...

PROPOSED DEPTH ...

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
320 - 329.2	Spars pale gn. to opaque wt.							
	some hematite? staining of spars							
329.5 - 331	Spars soft & int. bleached. Biotite							
	rel. fresh.							
331 - 350	Spars dark gn.							
330	Several 1/4 - 1/2" qtz. vg. with mo.							
333	1/2" qtz. vg. @ 25°. Contains central							
	ribbon of mo.							
333.5	1" aplite @ 40°.							
336 - 336.4	Aplite @ 60°							
350 - 350.5	Spars soft & int. bleached. Biotite							
	rel. fresh.							
350.5 - 353	Spars dark gn.							
353 - 361	Biotite destroyed, spars bleached.							
361 - 369.5	Spars show sl. dark gn. coloration.							
369.5 - 387	Int. dark green coloration to spars							
387 - 389.5	Spars pale gn. to opaque int.							
389.5 - 402	Biotite destroyed, spars dark gn.							
394	1" aplite @ 50°.							

INVENTORY LIST - WESAKU CAMP - 1968

2 - Propane fridges
1 - Propane cook stove
1 - Oil water heater
1 - Small propane heater
1 - Oil heater
4 - Airtight wood heaters
5 - Coleman lanterns
1 - Small water pump for camp supply - (Need new hose)
12 - Beds
1 - Drafting table
1 - Bak-Pak fire tank
1 - Fire extinguisher
2 - #2 First aid kits
3 - Pack boards
4 - Packsacks
1 - 3-burner Coleman stove
1 - Drum fuel pump
1 - Stanley level (24")
1 - Hack saw
1 - Hand saw
1 - 24" swede saw
2 - Picks
1 - 24" square
4 - Shovels
3 - Brooms
3 - Axes
1 - Claw hammer
2 - Washtubs
1 - Washboard
1 - Mirror
5 - Washbasins
1 - 10 X 12 tarp
2 - Sets goggles
3 - Sheets 1/2" plywood

10 - 6" Stove pipes (spare)
3 - Large thermos bottles
10 - lbs. Nails (assorted)
Assorted bread pans
2 - Garbage cans
17 - Forks, 14 Knives, 13 Tablespoons, 26 Teaspoons
2 - Water pails
2 - Roast pans
2 - Dish pans
2 - Large pots
5 - Small pots
1 - Coffee pot
1 - Tea pot
3 - Fry pans
2 - Dippers
1 - Egg beater
1 - Strainer
1 - Spatula
1 - Wall can opener
1 - Sharpener
10 - Bowls (large)
2 - Platters
8 - Cups
13 - Plates
18 - Soup bowls
11 - Saucers
10 - Desert bowls
3 - Butcher knives
7 - Caketins
14 - Pie plates
1 - Griddle
36 - rolls orange flagging
18 - Gunny sacks
600' Safety fuse
1/2 roll Primacord
1 - Box caps

1 - Roll polyethelene
45 - Ax coreboxes
100' - 1" Plastic hose
1 - Roll Plastic window screen
1 - Roll Roofing paper
Plastic sample bags and ties - plenty
1/2 - Tank Propane
1/2 - Drum Stove oil
1/2 - Gal. Naptha
4 - Cans Raid
12 - Rolls Toilet paper
2 - Axe handles
5 - Hammer handles
22 - 5 oz. Cans Off
4 - Cans Mistovan
4 - Rolls Wax paper
24 - Cans Lime
1 - Gal. Bleach
11 - Qt. cans Outboard motor oil
1 - 5-gal. Gas can with spout
2 - Propane regulators

Need: 1 Carpenters brace
500' Linen hose for water supply

INVENTORY LIST - IN STORAGE AT LOY JIM'S, LITTLE FORT

10 - Pk. Mixed Dry Cereal

50 - Rolls Toilet paper

2 - Boxes Kleenex

24 - 3 lb. Pk. Instant skim milk powder

12 - 48 oz. Cans Jam

10 - 24 oz. Cans Jam

7 - Jars Peanut Butter

24 - 15 oz. Jars Ketchup

3 - 5 lb. Cans Syrup

1 - 10 lb. Can "

24 - Cans Pink salmon

6 - 48 oz. Jars Sweet Pickles

10 - 32 oz. " " "

22 - 28 oz. Cans Fruit Cocktail

20 - 15 oz. " " "

3 - 12 oz. Cans White corn

17 - 14 oz. Cans Peas

5 - 14 oz. Cans Beets

1 - 14 oz. Can Green beans

1 - " " " Lima beans

24 - 19 oz. Cans Apple juice

24 - 48 oz. " " "

24 - 20 oz. " Tomato juice

48 - 19 oz. " " "

48 - 48 oz. " " "

24 - 19 oz. Cans Tomatoes

36 - 46 oz. Cans Orange juice

12 - 48 oz. Cans Apple-lime juice

24 - 48 oz. Cans Grapefruit juice

36 - 6 pk. of 6 oz. Cans Assorted juices

6 - 3 lb. 8 oz. pk. Pancake mix

50 - 10 lb. bags Sugar

29 - 2 pk. boxes dried soup

MAP REF. NO.: NTS 92-P 16

FIGURE 2

PATRICIA LAKE

4560'

PIN LAKE

PIN CREEK

PATRICIA CREEK

RAB LAKE

CAMP LAKE

LASKO CREEK

COLDSCAUR FLATS

ROD L.

EXPLANATION

- Leucocratic Granite
- Quartz Feldspar Porphyry
- Leucocratic Quartz Monzonite (Fine Grained)
- Leucocratic Quartz Monzonite (Medium Grained)
- Biotite Quartz Monzonite
- Biotite Hornblende Granodiorite
- Argillite
- Aplite Dyke

FRACTURES

- F Barren
- H Hematite Filled
- Q Quartz Filled
- Mo Molybdenite Quartz Veinlet
- Feox Limonite Filled
- Molybdenite Float
- Scattered Molybdenite Veinlets
- Numerous Molybdenite Veinlets
- Fault
- Topographic Lineament (From Air Photos)
- Diamond Drill Holes - 1968
- Detailed Mapping
- Reconnaissance Mapping
- Reconnaissance Not Mapped

-500 0 500 1000 1500 2000 2500 3000 3500 4000 4500

SCALE: 1 INCH TO 500 FEET

COMPANY . . FALCONBRIDGE NICKEL MINES LTD.

PROPERTY . . WESAKU

LOCATION . . CLEARWATER, B.C.

WORKING PLACE . . GRID AREA

TYPE OF MAP . . GEOLOGIC

BASED ON . . FIELD MAPPING 1967, 1968

DATE . . JAN 1968 9

DRAWN BY . . S. PILCHER

DATE OF WORK . . 1967, 1968

MAP REF. NO. 92-P-16

FIGURE 3

NO OUTCROP

APPROX. OUTLINE OF MAIN MINERALIZED ZONE

CAT ROAD

SPUR ROAD

MAIN ROAD

Camp Lake

Lasko Lake

Doan Creek

Gate Creek

EXPLANATION

- ANDESITE
- ARGILLITE
- APLITE
- LEUCOCRATIC GRANITE
- QUARTZ FELDSPAR PORPHYRY
- LEUCOCRATIC QUARTZ MONZONITE (FINE-GRAINED)
- LEUCOCRATIC QUARTZ MONZONITE (MEDIUM-GRAINED)
- BIOTITE QUARTZ MONZONITE
- BIOTITE — HORNBLENDE QUARTZ MONZONITE
- APLITE DYKE
- BARREN FRACTURE
- MOLYBDENITE VEINLET
- MOLYBDENITE VEINLET SYSTEM
- MOLYBDENITE FLOAT
- SCATTERED MOLYBDENITE VEINLETS
- NUMEROUS MOLYBDENITE VEINLETS
- THIN SECTION LOCATION AND NUMBER
- KNOWN FAULT
- PROBABLE FAULT
- LINEAMENT (POSSIBLE FAULT)
- EM-16 CROSSOVER (POSSIBLE FAULT)
- DIAMOND DRILL HOLE, 1968
  - ALTERED ZONE
  - TOTAL MO 0.02 AND GREATER
- PROPOSED DRILL HOLE, 1969

COMPANY FALCONBRIDGE NICKEL MINES LTD

PROPERTY WESAKU

LOCATION CLEARWATER B.C.

WORKING PLACE CENTRAL PORTION OF MAIN GRID

TYPE OF MAP GEOLOGY

BASED ON

DATE JAN. 1969

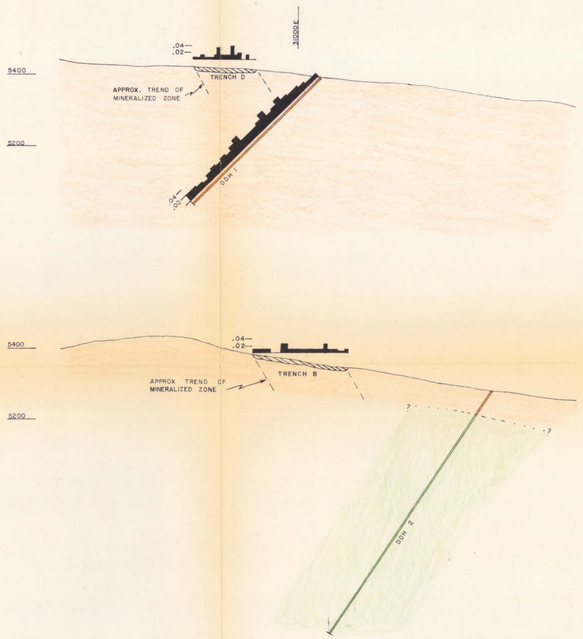
DRAWN BY DHH SHP

DATE OF WORK AUG.-SEPT., 1967, 1968

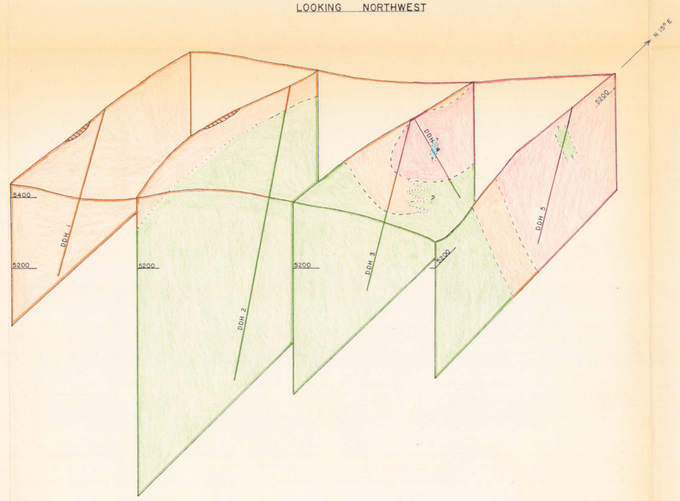
MAP REF. NO.: 92-P-16

FIGURE 4

VERTICAL SECTIONS THROUGH DRILL HOLES
LOOKING N 75° W



ISOMETRIC VIEW OF DRILL SECTIONS
LOOKING NORTHWEST



EXPLANATION

- LEUCOCRATIC QUARTZ MONZONITE (FINE—GRAINED)
- LEUCOCRATIC QUARTZ MONZONITE (MEDIUM—GRAINED)
- BIOTITE QUARTZ MONZONITE
- ANDESITE

— — — — — — ASSAYS INDICATE TOTAL MO.

SCALE: 1 INCH TO 200 FEET

COMPANY . . FALCONBRIDGE NICKEL MINES LTD.
PROPERTY . . WESAKU
LOCATION . . CLEARWATER, B.C.

WORKING PLACE . . MAIN SHOWING
TYPE OF MAP . . GEOLOGIC SECTIONS
BASED ON . . SURFACE MAP AND DRILL CORE

DATE . . DEC. 1968
DRAWN BY . . S. PILCHER
DATE OF WORK . . 1968

B.C.I.L.-742 - F.N.M.