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REPORT ON  
MERCURY-CARY-DYNASTY DRILLING  
PROJECT AT ENDAKO, B.C.

N.T.S 93-K & 93-F

ATLAS EXPLORATIONS LIMITED

By: K.M. Dawson      Sept.1970

REPORT ON MERCURY-CARY-DYNASTY DRILLING

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July - August, 1970

N.T.S. 93-K & 93-F  
Omineca Mining District

By:

K. M. DAWSON

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# ATLAS EXPLORATIONS LIMITED

330 MARINE BUILDING  
355 BURRARD STREET  
VANCOUVER 1, B.C.

REPORT ON MERCURY-CARY-DYNASTY DRILLING  
PROJECT AT ENDAKO, B.C.  
July - August, 1970

## INTRODUCTION

During the period July 28 - August 23, 1970, five diamond drill holes, totalling 1,526 ft. were put down on the claim groups FORT, BONUS, COUNT and CHESS in the Endako area. These claims are four of the six groups staked by Mercury Explorations Ltd. in 1968 on the basis of geochemical and geological reconnaissance. In 1969 about 100 line-miles of induced polarization surveys were made over and adjacent to the claim groups. Four I.P. anomalies were located, with supporting geological and geochemical evidence, that merited testing by diamond drilling.

I.P. anomalies on FORT, BONUS, COUNT and TAT groups were checked and confirmed by a Seigel I.P. survey crew in the period April 28 to May 16, 1970. A diamond drilling program was conceived, backed jointly by Atlas - Dynasty, and Cary Canadian Mines Ltd.,

and managed by Mercury Explorations Ltd. (N.P.L.). Drilling commenced July 28, 1970 under the supervision of Robert E. Chaplin of Mercury and the writer.

--Selected areas and properties in Endako area were examined and sampled during the course of the drilling program.

#### SUMMARY

1. Minor amounts of molybdenite with pyrite were found in holes F-1 and CH-1 on FORT and CHESS groups, respectively. Quartz monzonite in these two holes showed weak alteration, but little quartz veining or sulfide mineralization.
2. Several basalt dykes and small pyrite veins were noted in Casey alaskite in hole F-2 on the FORT claims. No molybdenite was detected.
3. Fresh Glenannan quartz monzonite containing no sulfides was intersected in hole B-1 on BONUS claims. Only 20.5 feet of core were drilled before hole was stopped due to tricorne fragments impeding coring bit.
4. Bedrock was not reached in hole C-1 on COUNT group, and the hole was stopped at 353 ft. in sandy silt.

5. Anomalous I.P. responses were borne out by the nature of rock and/or overburden encountered in each drill hole, with the exception of D.D.H. B-1.
6. Areas examined and sampled outside of the six claim groups include JODEE claims on Nithi Mtn; CALEDONIA claims on east bank of Nithi River; Amax's OWL and GEL claims south of COUNT group, Lily Lake area southeast of Nithi Mtn; Amax's KEN claims at Tatin Lake; BARB claims near Shovel Lake; Amax's SAM and LORNE claims at Sam Ross Creek, and an outcropping of the Casey-Endako contact south of Savory Stn.

#### RECOMMENDATIONS

1. Economically significant mineralization and alteration was not encountered in diamond drilling therefore neither additional drilling nor other exploratory work appears warranted on the claim groups drilled.
2. Regional geologic work has revealed one area of interest, near Shovel Lake, where additional exploration should be undertaken in the near future.
3. The Dynasty-Atlas interest in the joint venture should be retained until the Shovel Lake area has been adequately explored.

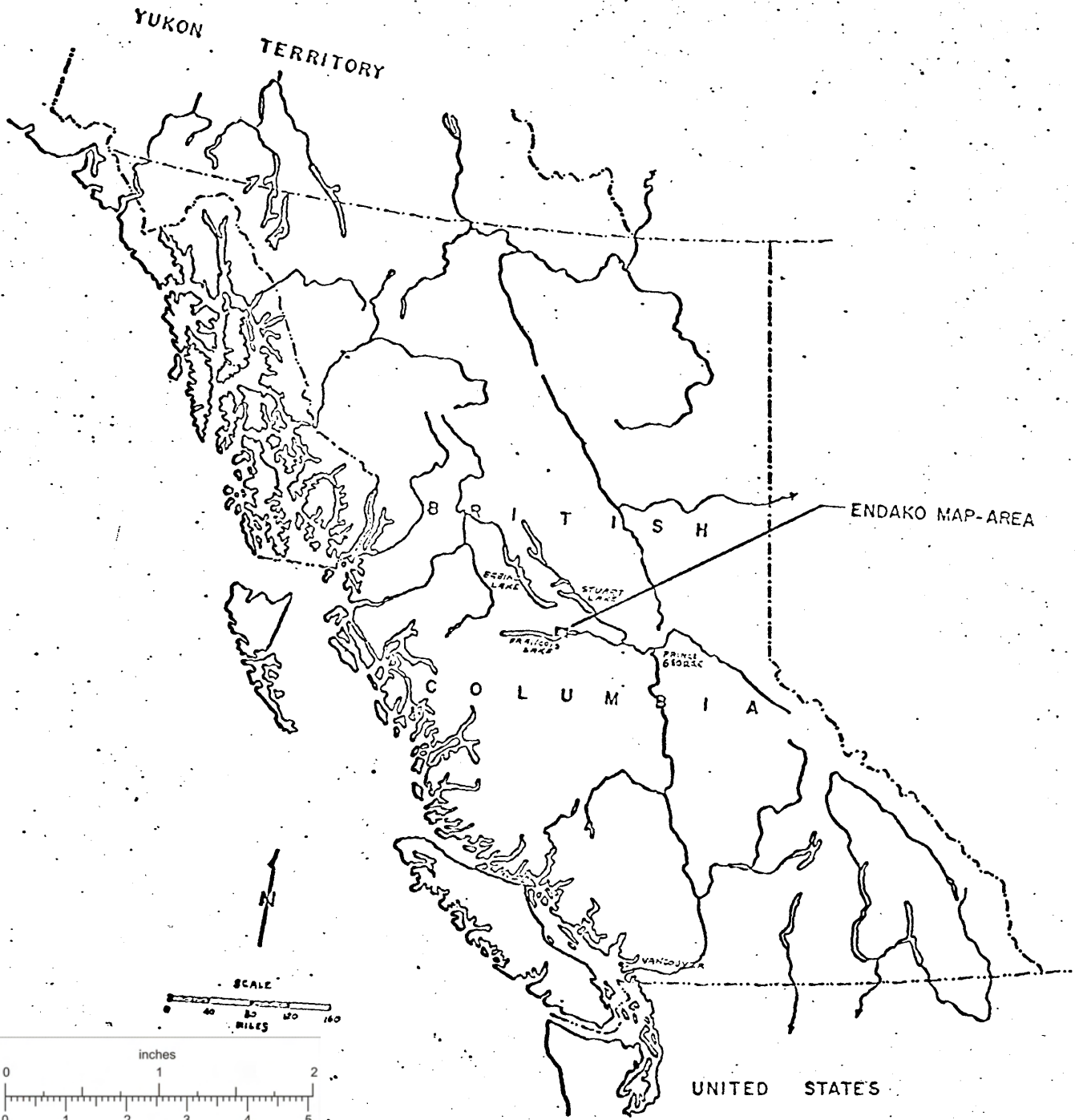


FIGURE 1.

LOCATION OF ENDAKO MAP-AREA



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ACCESS, LOCATION AND PHYSIOGRAPHY

Location of Endako area in central British Columbia is given in Figure 1. The area is centred upon latitude  $54^{\circ}$ N. and longitude  $125^{\circ}$ W. The town of Endako is 100 miles west of Prince George on Highway 16.

Access to claims is attained by gravel automobile roads branching from Highway 16, and logging and diamond drill site roads suitable for four-wheel drive vehicles. In general, road access in Endako area is excellent. A location map of claims and drill holes is given in Figure 2.

The Endako area is in the southern part of the Nechako Plateau and its topography typifies the dissected upland ridges and broad major valleys common to this physiographic unit. The area is bounded on the west by east-trending hills of Savory Ridge which reach an elevation of 4500 ft., the highest in the area. Endako mine, at elevation 3500 ft., occupies the western crest of a broad east-trending ridge which separates Francois Lake to the south from Endako River valley to the north. Twelve miles east of Endako mine stands Nithi Mountain, elevation 4435 ft. Ground elevation drops off eastward to the Nechako Plain south of Fort Fraser. Elevations range from 2197 ft. at Fraser Lake to 4500 ft. at Savory Ridge, but local relief on the claim groups is in the order of 500 ft.

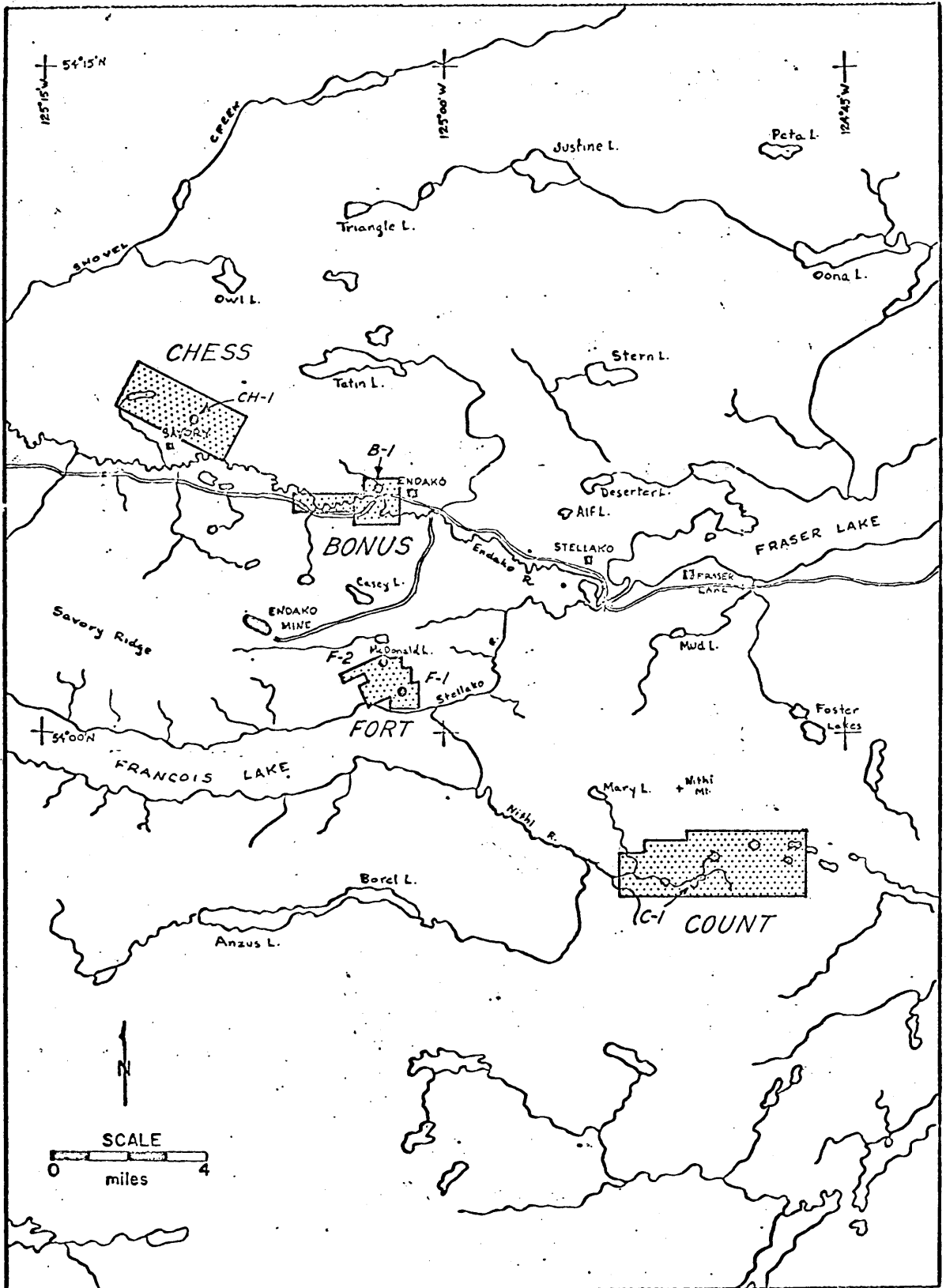
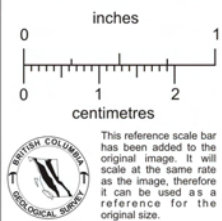


FIGURE 2

# LOCATION MAP OF CLAIM GROUPS & DRILL HOLES



Bedrock is covered by a thick blanket of till, glaciofluvial and glaciolacustrine deposits. Overburden thickness in excess of 200 ft. is common. The deepest overburden known is on COUNT claims, in excess of 353 ft. Bedrock exposure constitutes about 3% of the area.

The climate in Endako area is typified by warm summers, long cold winters, and light precipitation. Snow is expected in the vicinity of Endako mine in October, and winter weather generally commences about the first week in November. Spring breakup comes about the end of April on the large lakes, but snow does not leave the higher areas until the end of May.

#### REGIONAL GEOLOGY

Topley Intrusions, of predominately Late Jurassic age, including seven plutons and one small stock, form approximately 80% of the bedrock in Endako area (See Map 1 Appendix). A small area of the Late Triassic Takla Group volcanic rocks on north shore of Francois Lake is intruded by Topley granite. Endako group volcanic rocks of Eocene age overlie older units in the area.

Topley rocks range from dioritic to granitic in composition, with quartz monzonite predominant. A Table of Formations is given in Table 1. Foliated rocks of the Simon Bay diorite

complex are the oldest members of Topley Intrusions recognized in Endako area. Foliation is mainly of primary origin and conforms to the regional northwest trend of the batholith. The Simon Bay diorite complex is the southwestern extension of a large mesozonal pluton which was intruded along regional northwest zones of weakness in Middle Jurassic time.

The majority of Topley phases were emplaced during a short, almost continuous period of relatively shallow level igneous activity in Late Jurassic time. Limited radiometric data indicate a time span of about 18 million years between emplacement of dioritic phases and the predominantly quartz monzonitic rocks of this stage. The Endako, Nithi, Glenannon, Casey and Francois units were emplaced in a northwest trend which follows a pre-existing grain in older diorites and also represents fracturing and intrusion under northeasterly-directed compression. The sequence of these plutons may represent differentiation of a parental granodioritic magma. Composition of successive intrusions shows enrichment in silica and/or potash, culminating in Francois granite. It is of interest to note that mineral deposits are preferentially associated with earlier phases of the batholith in this case, i.e. Endako and Nithi quartz monzonites, rather than later, granitic differentiates.

The last major period of plutonism recognized in Endako area is represented by Stellako quartz monzonite and granodiorite of Early Cretaceous age. These young intrusions have been emplaced as a broad discordant belt trending north-northeast at right angles to the regional trend of older Topley rocks. Stellako intrusions are more basic than main stage Topley units, and bear no evident genetic relationship to the older rocks although the time lapse between emplacement of the two stages, as shown by radiometric dating, was in the order of only a million years.

#### MOLYBDENITE DEPOSITS OUTSIDE OF ENDAKO MINE AREA

At Nithi Mountain, five miles south of the town of Fraser Lake, widespread low-grade molybdenite mineralization occurs on various claim groups. Rock types, mineralization, alteration and structural setting are similar to that at Endako mine, but degrees of fracturing and mineralization are significantly lower. Canex examined the area in detail, and found the mineral potential, based on 7900 ft. of drilling, an I.P. survey and an extensive soil geochemistry survey, was discouragingly low. Maximum average grades over the mineralized area were found to be in the range of 0.06 to 0.08% MoS<sub>2</sub>, and no higher grade bodies (>.25%) were found.

United Buffadison Mines Ltd. holds 70 claims in the K & S groups near Owl Lake, three miles north of Savory Station. Scattered molybdenite mineralization occurs in Casey alaskite near the intersection of two regional structures; i.e. the northern extension of Casey Lake fault and a zone of fractures and dykes with northeast trend. Over 6000 ft. of diamond drilling in 1965 and 1966 revealed some high-grade intersections, but most mineralization, in the form of small quartz-molybdenite-pyrite veins, is well below ore grade.

Amax's KEN group is located at the northwest end of Tatin Lake, adjoining Buffadison ground on the east. Twelve bulldozer trenches reveal weakly kaolinized to fresh Casey alaskite in which is developed a stockwork of small quartz veins containing minor pyrite and molybdenite. K-feldspar alteration envelopes occur sparsely in the trenches. Overall grade is estimated to be about 0.01 - 0.03% MoS<sub>2</sub>.

Endako Mines' CM group in vicinity of Casey and MacDonald Lakes was drilled in 1967. A few small quartz-molybdenite veins were intersected in four holes.

Amax's SAM and LORNE claims at Sam Ross Creek are located upon small quartz-molybdenite veinlets in relatively unaltered Endako quartz monzonite and porphyritic granite dykes.

Utica Mines Ltd. encountered minor veinlets containing molybdenite and pyrite in diamond drilling on the ROB group southwest of Endako Mine in 1965.

National Explorations Ltd. has diamond drilled and trenched the RON group west of Oval Lake and south of Savory Station where a two-foot wide quartz vein containing minor molybdenite crops out.

Six trenches on Eric Thompson's CALEDONIA claims are located five miles southeast of Nithi River bridge. Coarse-grained porphyritic Topley quartz monzonite is intruded by about eight small basalt dykes and mineralized by four  $\frac{1}{4}$ " - 1" quartz-magnetite-molybdenite veins.

Minor occurrences of molybdenite are common throughout the Endako area. Major concentrations appear to be controlled primarily by intersections of two or more regional structural features. Larger deposits are accompanied by pervasive argillic alteration, and K-feldspar and quartz-sericite-pyrite envelopes about quartz veins.

#### FORT GROUP DRILLING

##### Target Designation

The 26 claims and 6 fractions of the FORT group were staked in the summer of 1968 on a Cu-Mo soil anomaly, an aeromagnetic

low, and favourable host rock (Endako quartz monzonite) intruded by plagioclase porphyry dykes.

An I.P. survey showed two percent frequency effect (P.F.E.) anomalies of 5.0% in a background that varied from 2.5 to 3.5%. Minor resistivity highs are believed to indicate a relative thinning of overburden.

Drill holes F-1 and F-2 were located on the two P.F.E. anomalies, essentially coincident with weak Mo soil anomalies, along the Glenannan Road (See Figure 3).

D.D.H. F-1 Summary

Depth of Overburden: 62 ft.

Ultimate depth of Hole: 343 feet

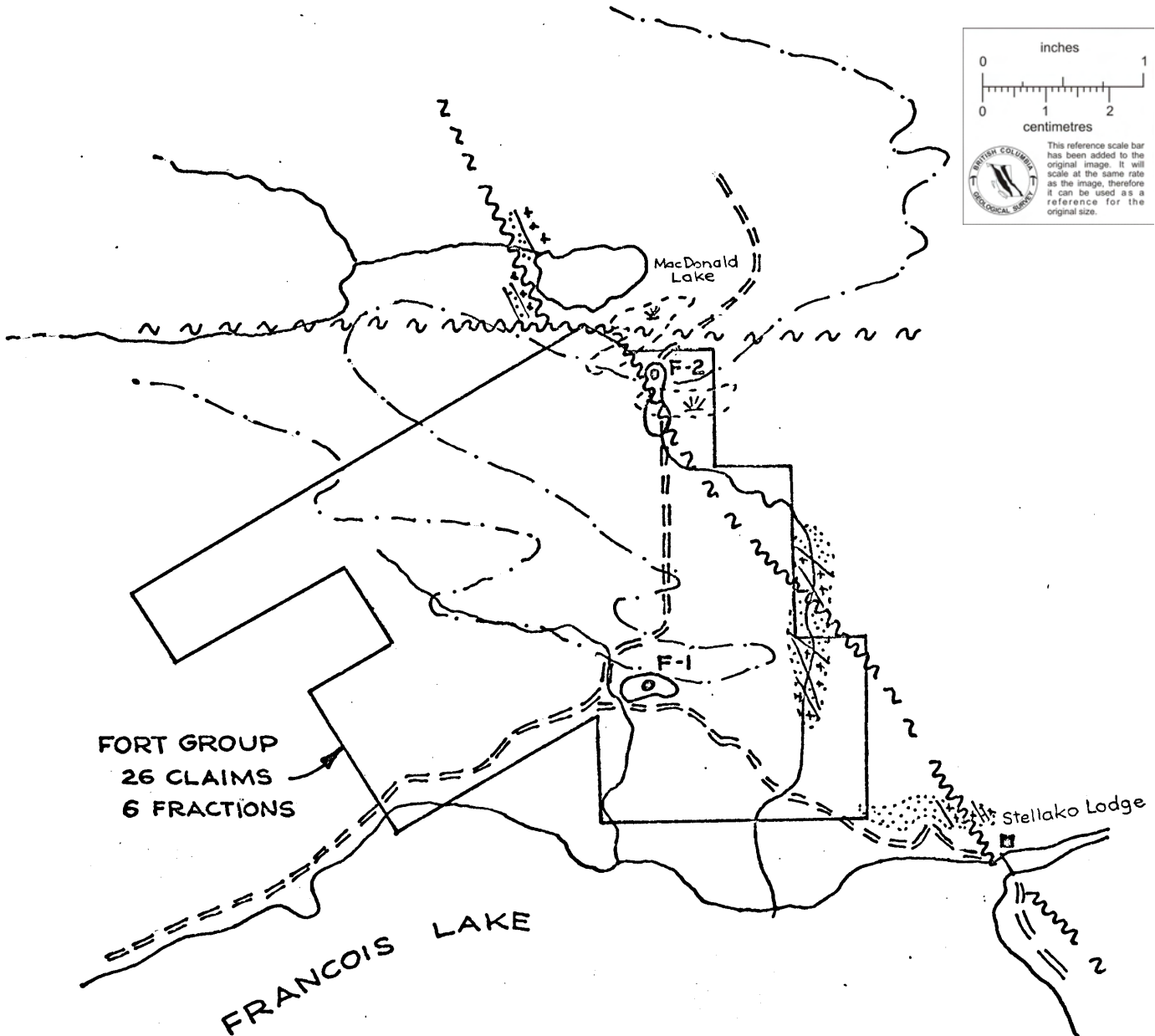
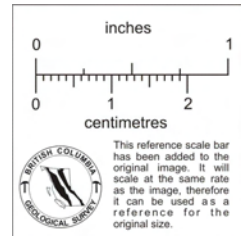
Average core Recovery: 91%

Rock type is medium-grained subporphyritic Endako quartz monzonite throughout the hole. Plagioclase and biotite are generally fresh and unaltered. In zones of fracturing and faulting, cores of plagioclase phenocrysts are altered to a soft green mass of argillic minerals - probably kaolinite plus sericite - whereas rims are fresh and hard. Biotite, and the less abundant hornblende, are partially chloritized in these fractured zones. Red pulverulent hematite fracture-coatings and pseudomorphs of plagioclase and biotite are common throughout the hole.



# FIGURE 3 FORT CLAIMS - DRILL TARGETS

SCALE 1" = 1/2 MILES









**FORT GROUP**  
26 CLAIMS  
6 FRACTIONS

FRANCOIS LAKE

MacDonald Lake

Stellako Lodge

- |   |                     |   |                      |
|---|---------------------|---|----------------------|
|  | Cu-Mo soil anomaly  |  | Endako qtz monzonite |
|  | P.F.E. I.P. anomaly |  | Plag. Porph. dyke    |
|  | Fault and Dyke Zone |  | Outcrop              |

Sparse pyrite mineralization occurs throughout the hole, mainly as hairline fracture-fillings with little or no accompanying vein quartz. Molybdenite occurs with five hairline pyrite fracture-fillings at 225 ft. - 230 ft. but in insufficient amounts to warrant assaying. Other mineralization includes small vuggy calcite veins and fine disseminations of magnetite near inclusions.

About 10 major shear zones were intersected in F-1, indicating that the Casey Lake fault zone may extend one-half mile west of its mapped location, or more likely, that a parallel zone of northwest faulting occurs in the area.

#### Remarks

The drill was set up on F-1 on July 29, 1970, drilling was completed in four-eight hour shifts without any problems, and the drill dismantled on July 31, 1970.

#### D.D.H. F-2 Summary

Depth of overburden: 142 ft.

Ultimate depth of Hole: 417 ft.

Average core Recovery: 89.6%

The principal rock type is fine to medium grained Casey alaskite containing 1-2% biotite. Alaskite is intruded by five fine-grained grey basalt dykes ranging from a few inches to 40 ft. thick. Basalt contains scattered small white plagioclase phenocrysts

and widely-spaced calcite-filled fractures. Plagioclase and biotite in Casey alaskite are generally fresh, but may show weak alteration where the rock is fractured and/or sheared. Plagioclase may be soft and green in this case, and fractures are coated with chlorite and pulverulent red hematite. Alaskite commonly is sheared, brecciated and altered along basalt dyke contacts.

The only mineralization encountered in F-2 is three small pyrite-filled fractures at 378 ft. and 395 ft. No molybdenite was seen.

#### Remarks

The move from F-1 to F-2 started August 1 and was completed August 2. The August 3 day-shift crew, Gutoski: runner, broke off the tricone bit on a boulder at 62 ft. The drill rig was moved one foot, hole F-2A collared, and bedrock intersected at 142 ft. by night-shift crew on August 4. Two 10-ft. lengths of BW casing were broken and one casing shoe worn out in reaming from 117 ft. to 141 ft. The hole was completed at 417 ft. by the August 6 day-shift, and dismantling was completed by the night-shift.

#### BONUS GROUP DRILLING

##### Target Designation

Six miles of reconnaissance I.P. traverses outlined an I.P. zone

2500 ft. by 1500 ft. The zone flanks on aeromagnetic high on the east. Casey alaskite intrudes fresh Glenannan quartz monzonite in the vicinity of the mag. high. A profile along line BLU 9 is interpreted as depicting rocks containing more than 1% by volume conducting material approaching to within a few tens of feet of surface at station 4W.

Drill hole B-1 was collared at 4W on line BLU 9 (Figure 4).

D.D.H. B-1 Summary

Depth of Overburden: 135 ft.

Ultimate depth of Hole: 155.5 ft.

Average core Recovery: 82%

The rock intersected throughout hole B-1 is fresh, coarse grained porphyritic hornblende-biotite Glenannan quartz monzonite. Plagioclase and mafics are unaltered. Joints are coated with chlorite and minor pulverulent hematite.

Sulfide mineralization was not encountered in the hole. A few small carbonate and carbonate-chlorite veins are the only mineralization.

Remarks

The crew moved and set up the drill on B-1 August 7. On August 8 the night-shift (Gutoski: runner) broke off the tricone bit upon hitting bedrock at 133 ft. Crew stood by August 9 and 10

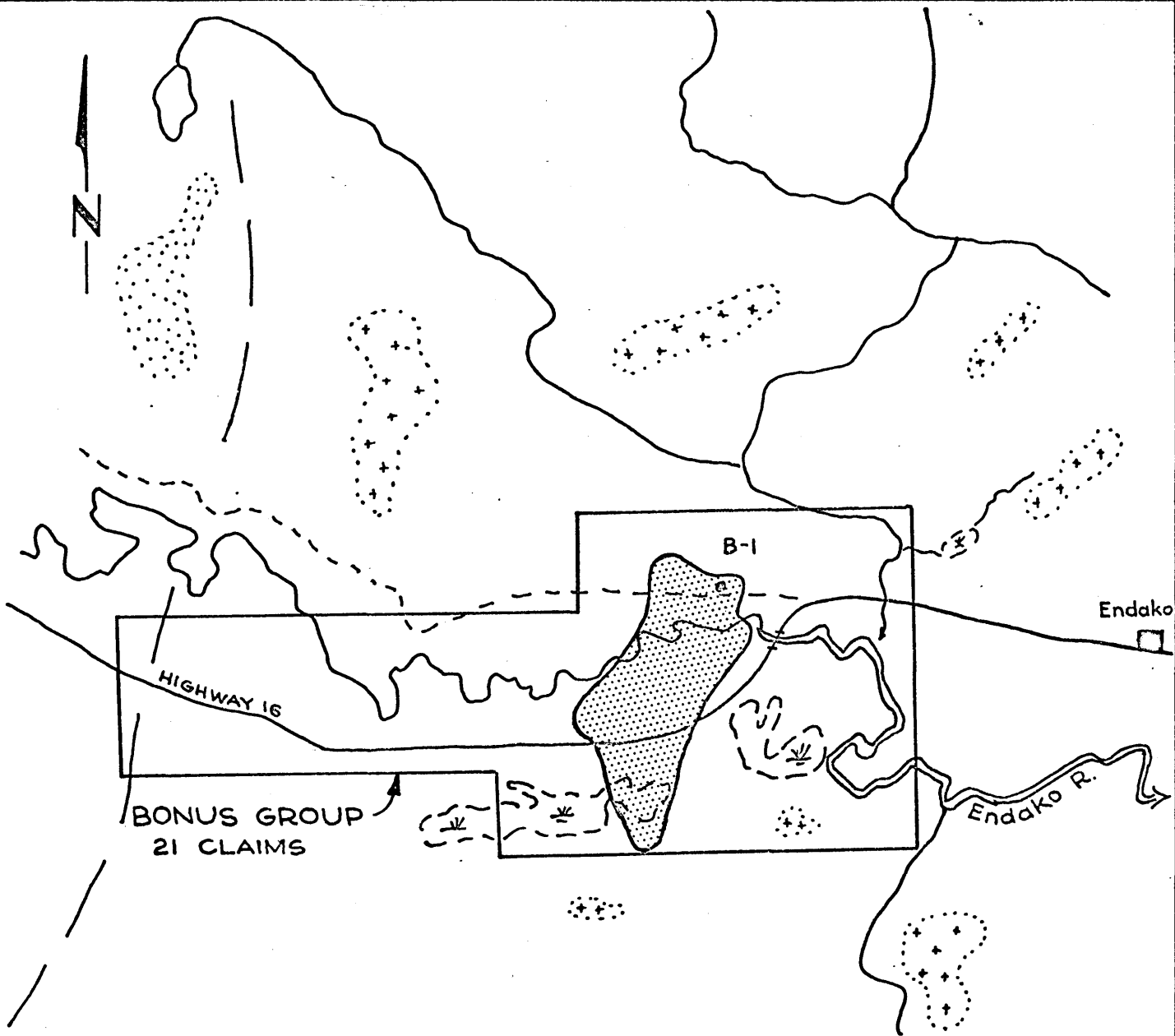




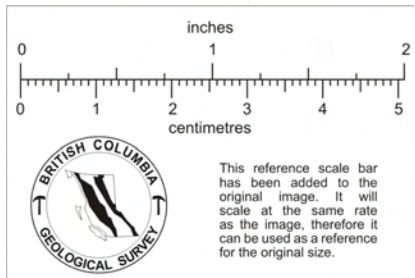


FIGURE 4  
 BONUS CLAIMS - DRILL TARGET  
 Scale 1" = 1/2 Mile

-  casey alaskite
-  glenannan quartz monzonite
-  outcrop
-  P.F.E. I.P. anomaly



waiting for new bits and heavier rods. Night-shift on August 11 (Gutoski: runner) hit bedrock in the new B-1 hole at 135 ft. and lost a wheel from the tricone bit. August 12 day-shift cored 18 ft. in four hours due to tricone fragments impeding the coring bit, and ruined one BQ bit. The night-shift cored 4 feet, then reamed with casing shoe from 135 ft. to 157 ft, ruining 2 BQ bits in reaming. The hole was abandoned August 13.

The 20.5 feet of core recovered in B-1 offers no geologic explanation of the strong I.P. anomaly. The fresh, unmineralized nature of the rock appears to rule out the possibility of any significant sulfide concentrations at the shallow depths indicated on the I.P. profile. Since this profile is near a highway, pipeline, railroad tracks and power line, the possibility that cultural features may have caused the I.P. response cannot be ruled out.

#### COUNT GROUP DRILLING

The claim group lies in the Nithi valley adjoining properties to the north and south with molybdenite in outcrop. The induced polarization survey discovered an anomalous P.F.E. zone about 7000 ft. by 1000 ft. at 030° trend across the claims. A broad P.F.E. profile up to 7.0 is about twice background. Resistivity indicates overburden thins southward. The anomaly was interpreted either as a relatively flat-lying body of conducting

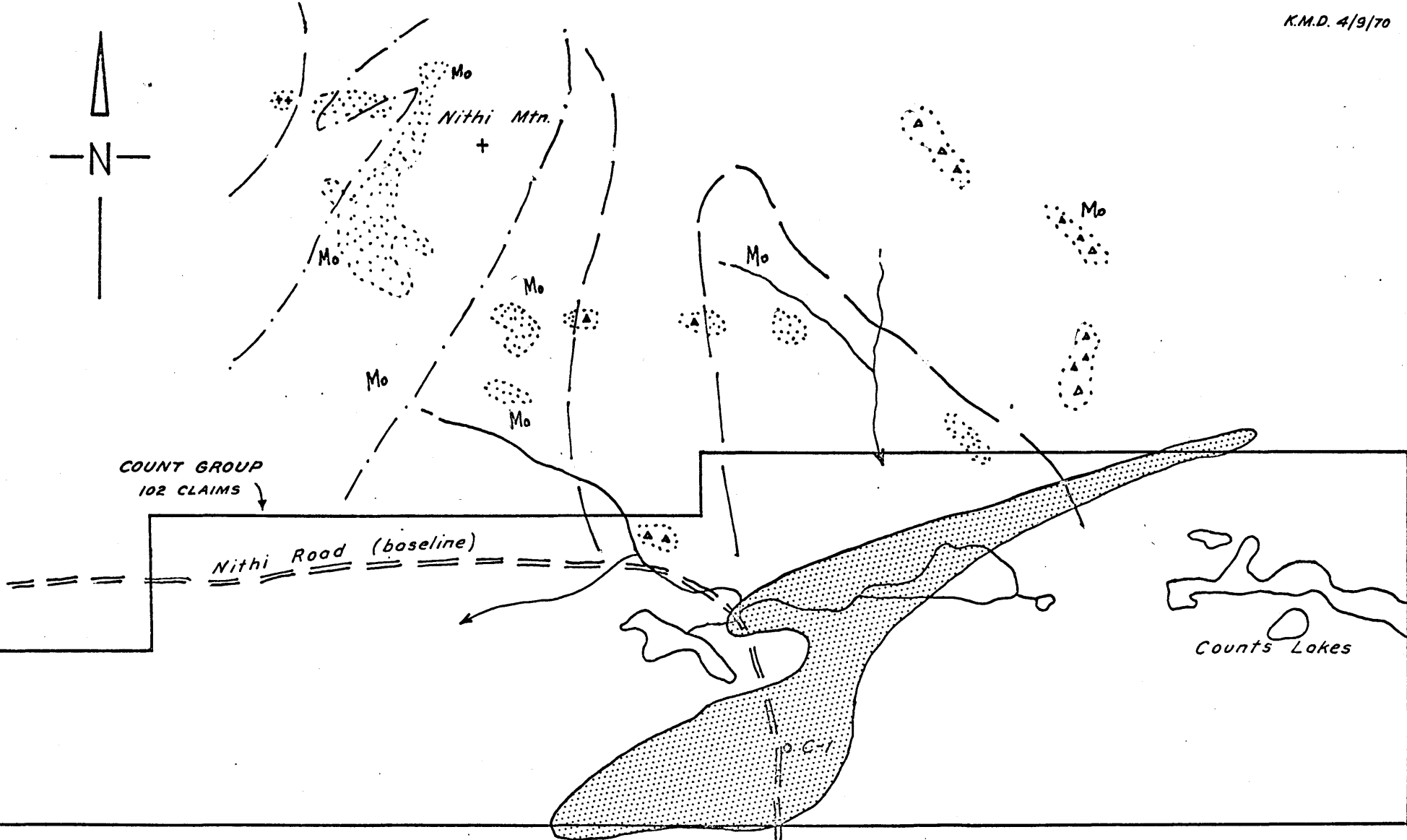



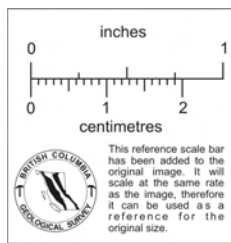

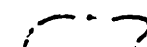



FIGURE 5  
 COUNT CLAIMS - DRILL TARGET  
 Scale: 1" = 1/2 mile

-  Stellako Granodiorite
-  Casey alaskite
-  Nithi quartz monzonite



-  Outcrop
-  Cu-Mo soil anomaly
-  P.F.E. - I.P. anomaly

material at shallow depth, or an overburden effect. Hole C-1 was located at 10N on the Road Line.

D.D.H. C-1 Summary

Depth of overburden: 353 ft.

Ultimate depth of Hole: Same

A thick layer of boulder-free, sandy unconsolidated silt was intersected by hole C-1. The hole was stopped at 353 feet without reaching bedrock.

This great depth of overburden represents either a terrace deposit or a lateral moraine along Nithi Valley, and apparently gave rise to the I.P. anomaly.

Remarks

The move to C-1 started August 13 and was completed August 14. Very good drilling conditions prevailed, and the 353 ft. was drilled in three shifts. The hole was completed by night-shift on August 16.

CHESS GROUP DRILLING

Target Designation

The CHESS group of 48 claims was located along strike from an outcrop of sheared and altered Endako quartz monzonite. Reconnaissance I.P. traverses outlined a weakly anomalous P.F.E. zone elongated in a westerly direction. Resistivity profiles



indicate shallow but widespread overburden. Hole CH-1 was located at the centre of I.P. anomaly 125S on Line 2W (Figure 6).

D.D.H. CH-1 Summary

Depth of Overburden: 20 ft.

Ultimate depth of Hole: 256 ft.

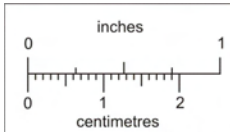
Average core recovery: 91.4%.

The rock intersected throughout hole CH-1 is fresh to weakly kaolinized, medium to coarse-grained porphyritic Glenannan quartz monzonite. Alteration is more intense in jointed and sheared zones, where plagioclase is a soft, dark green mass of kaolinite plus chlorite (?), often pseudomorphed by red, pulverulent hematite. Hornblende and biotite are partially chloritized, but K-feldspar megacrysts are unaltered.

Sulfide mineralization in Glenannan quartz monzonite consists of about a dozen pyrite and pyrite-molybdenite veinlets from hairlines to  $\frac{1}{4}$  inch thick. Most sulfide veins are fracture-fillings with little or no associated quartz veining. Molybdenite occurs in minor amounts with pyrite at 127 ft. and 147 ft., but not in amounts worthy of assaying.

Calcite veinlets are relatively common throughout the hole.

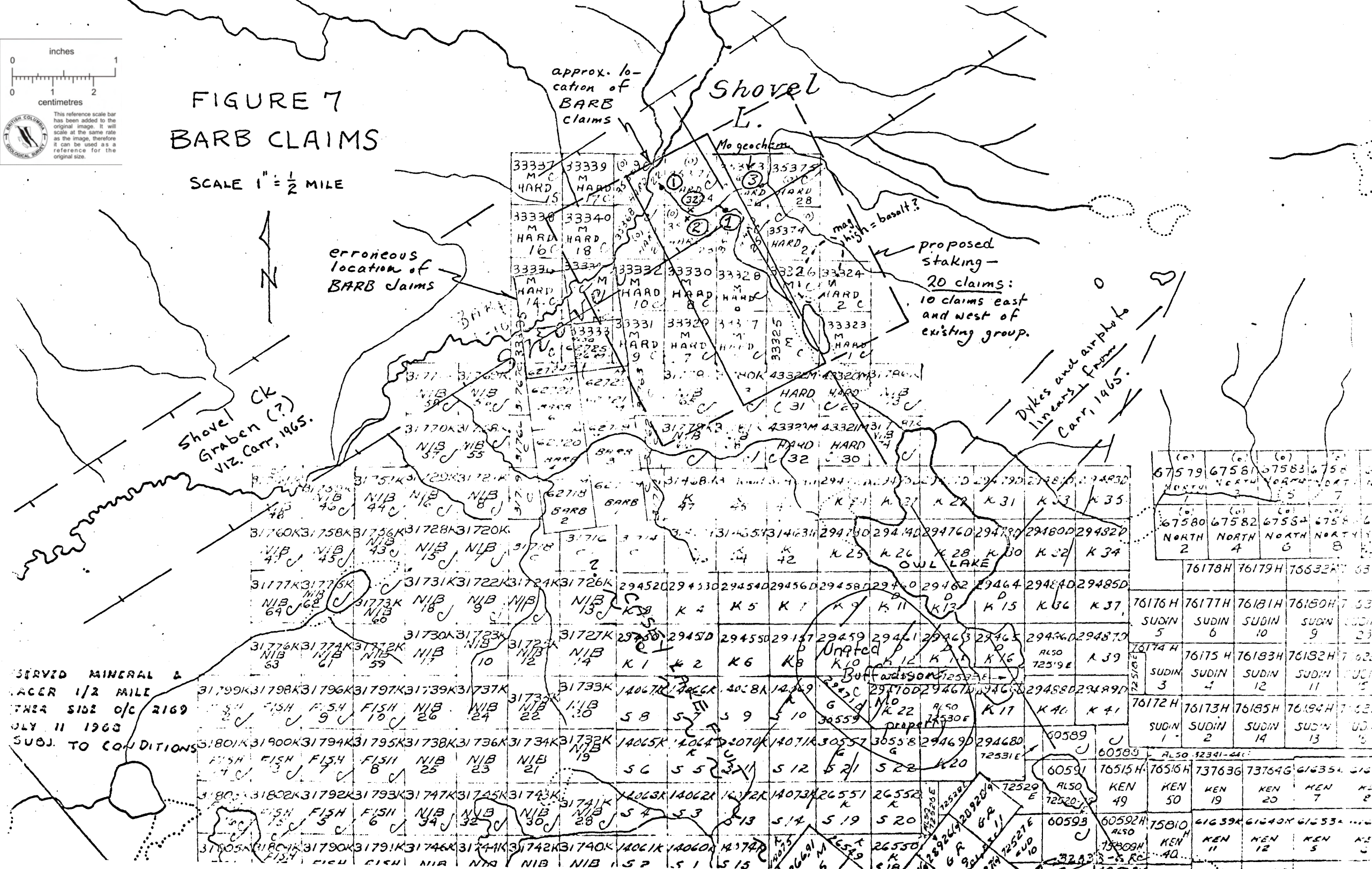
Fractures are coated with chlorite-hematite.



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# FIGURE 7 BARB CLAIMS

SCALE 1" = 1/2 MILE



SERVED MINERAL & LACER 1/2 MILE AREA SIDE o/c 2169 JULY 11 1968 SUBJ. TO CONDITIONS

|             |                |        |        |        |        |
|-------------|----------------|--------|--------|--------|--------|
| (o)         | (o)            | (o)    | (o)    | (o)    | (o)    |
| 67579       | 67581          | 67583  | 67584  | 67585  | 67586  |
| NORTH       | NORTH          | NORTH  | NORTH  | NORTH  | NORTH  |
| 2           | 4              | 6      | 8      | 7      | 5      |
| (o)         | (o)            | (o)    | (o)    | (o)    | (o)    |
| 67580       | 67582          | 67584  | 67585  | 67586  | 67587  |
| NORTH       | NORTH          | NORTH  | NORTH  | NORTH  | NORTH  |
| 2           | 4              | 6      | 8      | 7      | 5      |
| 76178H      | 76179H         | 76632A | 76511  |        |        |
| 76176H      | 76177H         | 76181H | 76180H | 7530   |        |
| SUDIN       | SUDIN          | SUDIN  | SUDIN  | SUDIN  |        |
| 5           | 6              | 10     | 9      | 23     |        |
| 76174H      | 76175H         | 76183H | 76182H | 7602   |        |
| SUDIN       | SUDIN          | SUDIN  | SUDIN  | SUDIN  |        |
| 3           | 4              | 12     | 11     | 15     |        |
| 76172H      | 76173H         | 76185H | 76184H | 7602   |        |
| SUDIN       | SUDIN          | SUDIN  | SUDIN  | SUDIN  |        |
| 1           | 2              | 14     | 13     | 16     |        |
| 60589       | ALSO 32341-44C |        |        |        |        |
| 60591       | 76515H         | 76516H | 73763G | 73764G | 61635A |
| KEN         | KEN            | KEN    | KEN    | KEN    | KEN    |
| 49          | 50             | 19     | 20     | 7      | 8      |
| 60593       | 60592H         | 75810  | 61639K | 61640K | 61633A |
| ALSO 75808H | ALSO 75809H    | KEN    | KEN    | KEN    | KEN    |
| 40          | 40             | 11     | 12     | 5      | 6      |

One fault zone and five smaller shear zones were intersected in core.

The presence of some sulfides, and sheared, altered rock apparently accounts for the weak chargeabilities recorded on the I.P. survey.

Remarks

The drill crew moved to CH-1 on August 17 and set-up on August 18. Good drilling conditions were encountered; 20 ft. of overburden and 236 ft. of core were drilled in four shifts, without any problems. Drilling was completed August 21, and the rig dismantled and moved to Fraser Lake for storage on August 22.

CONCLUSIONS ON DRILLING PROJECT

The minor amounts of sulfides in drill holes F-1 and CH-1, in conjunction with shearing and alteration in host rocks, probably gave rise to the I.P. effects detected in the survey. Molybdenite mineralization was encountered in very minor amounts. The nature and degree of hydrothermal alteration in these two holes was not indicative of significant nearby mineralization. No justification for further drilling or exploration in these areas could be found.

Several basalt dykes and small pyrite veins in hole F-2 may have caused the P.F.E. anomaly on the northern part of the FORT claims. This area probably is underlain by a major fault zone which would also affect its I.P. response. No molybdenite mineralization was detected. The rocks and mineralization are similar to that encountered in Endako Mines drill holes on the CM group to the north and west of F-2, where no significant mineralization or alteration was discovered. No further work in this area is warranted.

Drilling on the BONUS claims was terminated due to drilling problems before the I.P. anomaly could be adequately tested. The fresh and unmineralized nature of the rock encountered does indicate that the strong I.P. anomaly may be due to cultural features.

Drilling on the COUNT claims apparently was located on an overburden I.P. effect. The area does have potential, as the numerous molybdenite occurrences north and south of Nithi testify. No other I.P. anomalies worthy of drilling were detected in the survey, and no further work on the COUNT claims is foreseen.

OUTSIDE EXPLORATION IN ENDAKO AREA

1. Shovel Lake Area

The most significant alteration and mineralization encountered in regional work in Endako area occurs south of Shovel Lake on the BARB Group of 10 mineral claims (Figure 7). Bulldozer trenching and blasting in the creek valley have exposed granite that shows intense sericitic and argillic alteration. A stockwork of quartz-pyrite veins is exposed for about 100 ft. along the open-cut. A soil sample taken from this open-cut ran 32 ppm Mo. No molybdenite mineralization was seen.

The area lies along a linear NNW feature outlined by a chain of small lakes including Shovel Lake and Owl Lake. This lineament is parallel to the Casey Lake fault and may be a major strike-slip fault en echelon with it.

The area is deeply drift covered, and soil geochemical response probably would be of little value other than to detect float dispersion.

The geologic setting, hydrothermal alteration and geochemical response of the Shovel Lake showing warrant

further investigation of the area. Negative factors considered include:

- (1) the property is presently held by Messrs. Foote and McCubbin of Endako, but comes open September 9, 1970, since no assessment work or payment in lieu of, has been submitted to date;
- (2) the area is heavily mantled by overburden, obscuring outcrop and rendering soil and silt geochemistry of little value.

Proposed Program for Shovel Lake Area

In consideration of the above factors, the following program is proposed for the Shovel Lake area:

- (a) The 10 BARB claims should be re-staked upon their expiry date of midnight, September 9th, 1970. 20 additional claims, in two groups of 10 claims each, should be staked east and west of the BARB claims, at that time.
- (b) An induced polarization survey should be run over the three claim location lines, and over three cut lines; an east-west baseline plus two intermediate NS grid lines. Lines need not be cut, only flagged. A total of 10 line-miles of I.P. survey should be done.

(c) Crew for this work should include Robert E. Chaplin plus two assistants. The crew will use Mercury Exploration's Geoscience Frequency - Domain Induced Polarization Unit. Staking and I.P. survey should be accomplished in 5 days.

Cost Estimate

|  |                   |
|--|-------------------|
| I.P. survey; incl. wire, crew wages -<br>10 line-miles @ \$250 | \$2,500.00        |
| Staking costs, 30 claims                                       | 500.00            |
| Camp support: 15 man-days @ \$13                               | 200.00            |
| Supervisor's salary: 5 days @ \$100                            | 500.00            |
| Truck rental and gas   | <u>100.00</u>     |
|  | \$3,800.00        |
| Contingencies, overhead: allow 10%                             | <u>380.00</u>     |
| TOTAL  | <u>\$4,180.00</u> |

Anomalies located on the I.P. survey should be prospected and soil sampled if warranted. A small drilling program should be considered, if I.P. response is favourable.

2. Amax's KEN Claims at Tatin Lake

This property was described previously. It lies 2 miles southeast of Shovel Lake showing, along the NW lineament. Alteration exposed in trenches is not as intense as that on BARB claims, and molybdenite mineralization is sparse.

3. United Buffadison's K & S Claims at Owl Lake

No systematic examination of this property one mile southeast of Shovel Lake was made in 1970, since adequate knowledge had been gained from previous visits during 1965 and 1966. The geology is described previously. The claims occupy an area of structural intersection probably analogous to that at Shovel Lake.

4. Nithi Mountain Area

The geology and potential of this well-known molybdenite area was described previously. The Jodee claims of the Bibby brothers and M. Sherwin were visited, to examine new mineralization in recent trenches. Widely-spaced quartz-pyrite-molybdenite veins in moderately-kaolinized Casey alaskite were exposed in new trenches adjacent to the old TAN showing. Flakes and rosettes of molybdenite occur in weakly kaolinized Nithi quartz monzonite on the Jodee claims on southern slopes of Nithi Mountain. Neither new showing appears to warrant a drilling program, and no deals were discussed with the owners.

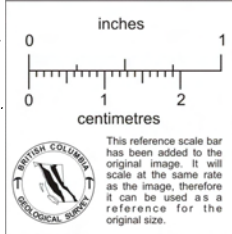
5. Caledonia Claims

This property, owned by Eric Thompson, was visited and sampled, as described previously. (See Location Figure 9). Mineralization and alteration are not economically significant.





FIGURE 8  
 OWL & GEL CLAIMS  
 SCALE 1" = 1/2 MILE



(C) = No ppm

6. Amax's OWL and GEL Claims

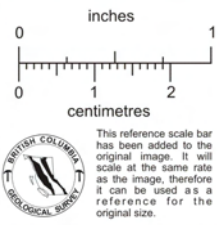
This ground adjoins the COUNT claims on the south. Two soil samples along the road south from Nithi Valley yield 10 ppm Cu in each case, plus 2 and 3 ppm Mo. A small creek containing black organic silt yields a silt Mo value of 34 ppm. A trench in a creek valley beside an old Amax campsite had exposed a barren quartz vein in fresh Casey alaskite. A silt sample below this trench yields 7 ppm Mo. Quartz-molybdenite veins are reported by Canex personnel to occur in quartz diorite south of Casey alaskite. All samples are plotted in Figure 8. No further work appears warranted in this area.

7. Lily Lake Area

This broad area south and east of Nithi Mountain and west of Nechako River was reached by the Lily Lake road south of Fort Fraser (Figure 9.

Southwest of Dorman Lake an outcrop of Casey alaskite was noted that was veined by quartz-feldspar pegmatite. A similar outcrop of Casey alaskite occurs two miles WNW of Milligan Lake.

South of Dorman Lake the predominant rock type is grey, medium-grained biotite granodiorite. Small quartz-epidote



125° 37' 38' 39' 40' 41' 43' COAST DISTRICT RANGE 4 RANGE 5 Fort Fraser 4 m Fort Fraser 6 m Engen 2 m

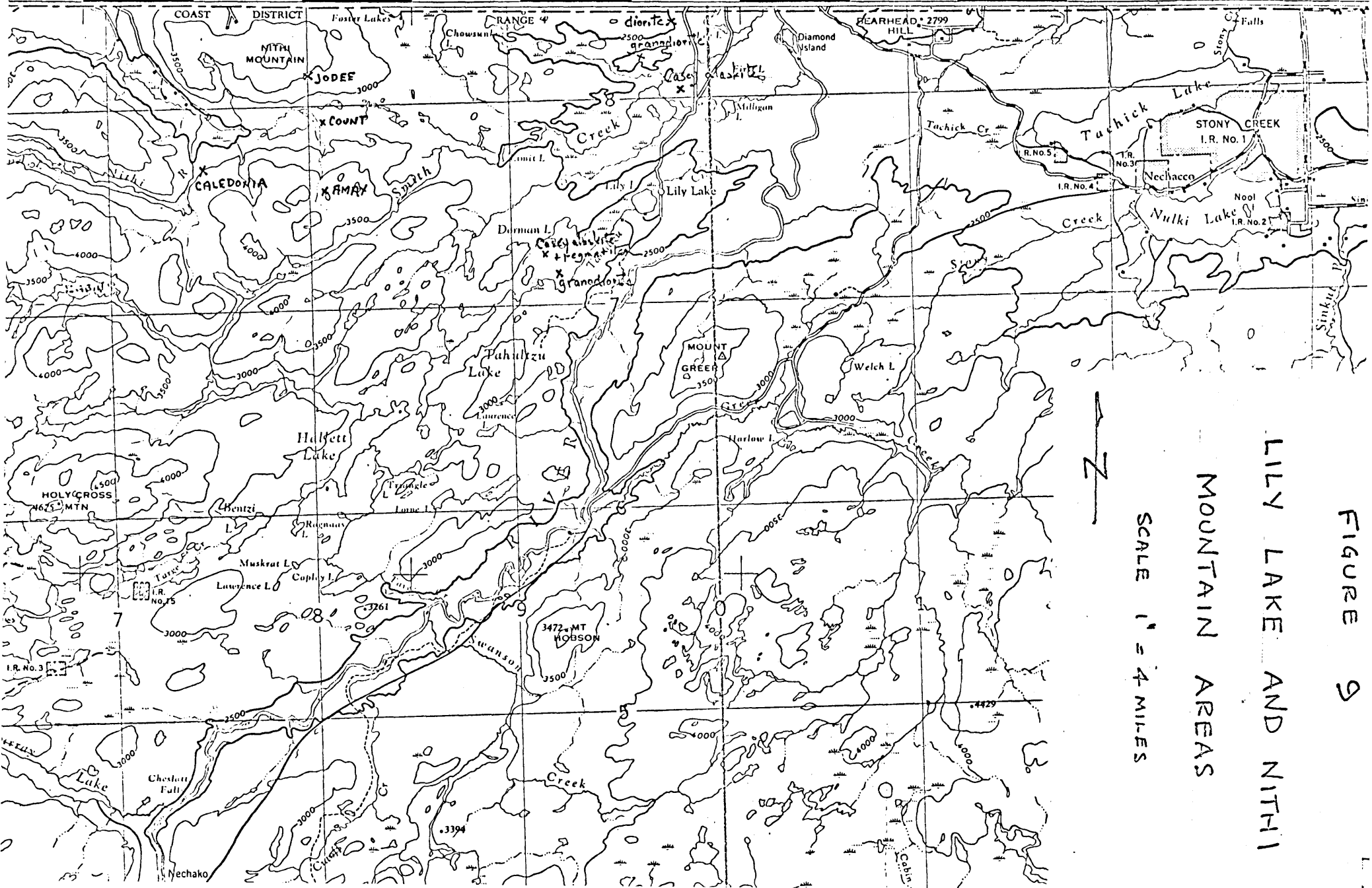


FIGURE 9  
LILY LAKE AND NITHI  
MOUNTAIN AREAS

SCALE 1" = 4 MILES



veinlets with orthoclase envelopes were noted.

Four miles WNW of Milligan Lake an outcrop of granodiorite was observed. The rock is quite similar to granodiorite south of Dorman Lake, but is lower in potash feldspar.

A coarse grained melanocratic diorite was found one and one-half miles west of Leg Lake.

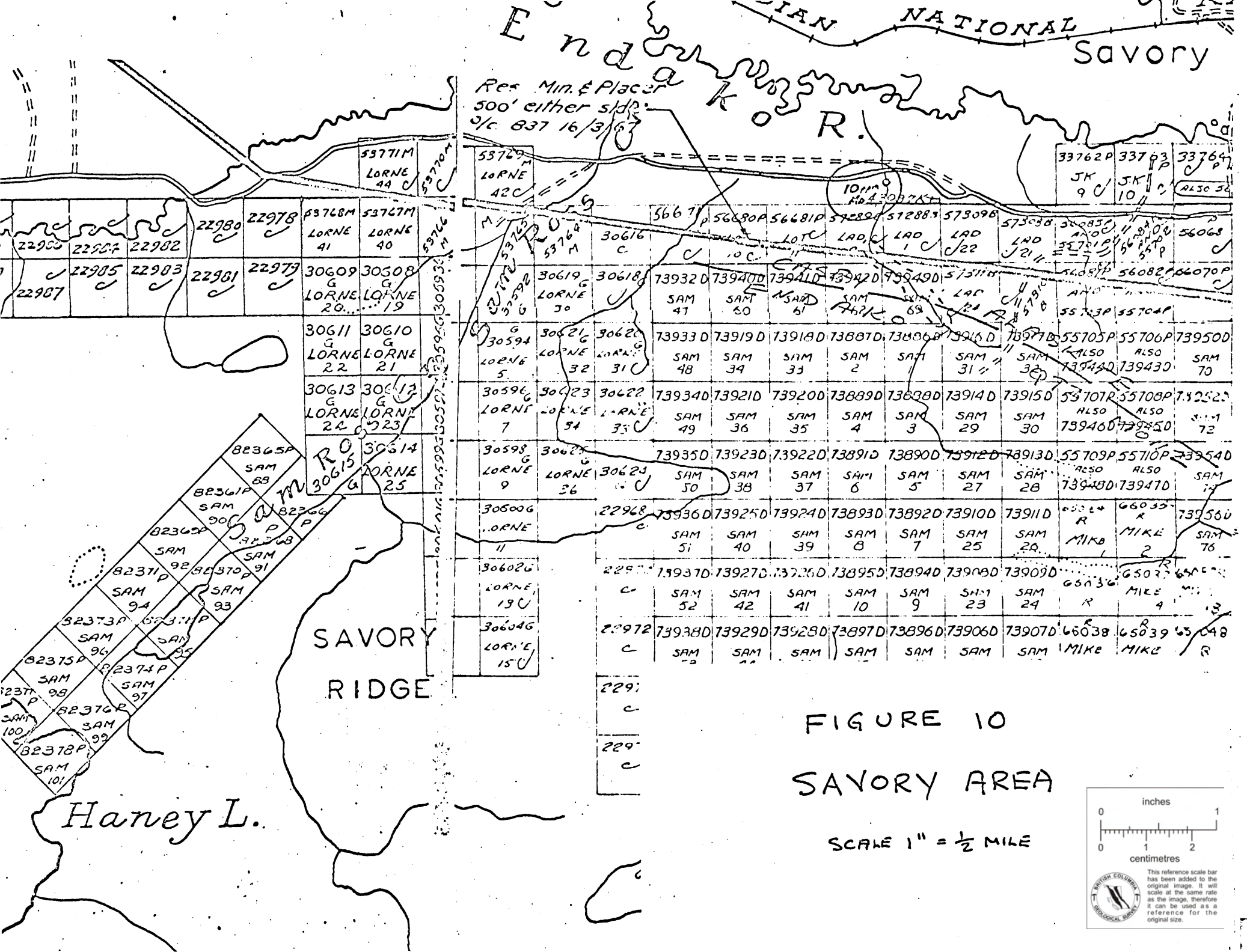
In conclusion, whereas some rocks south of Nithi Mountain contain minor molybdenite mineralization, the rocks observed to the <sup>east</sup> west do not contain alteration or mineralization of economic significance. No further work is warranted in this area.

8. Savory Area - Figure 10

A creek draining the Casey-Endako contact west of Savory Station was silt-sampled and yielded 10 ppm Mo.

The SAM and LORNE groups of Amax at Sam Ross Creek were visited briefly, and no development in addition to that seen in 1967, was noted. The showing was described previously. The sparse nature of exposed mineralization does not appear to warrant any work in the area.





CONCLUSIONS

1. Significant mineralization and alteration was not encountered during the Mercury-Cary-Dynasty drilling program of 1970.
2. Only one area, Shovel Lake, warrants additional work in the Endako area. A program of staking, I.P. survey and prospecting is proposed with follow-up drilling if warranted.

Respectfully submitted,



Kenneth M. Dawson,  
Geologist

September, 1970.

TABLE 1

## Table of Formations - Endako Area

| ERA                     | PERIOD OR EPOCH                        | NAME  | LITHOLOGY  |
|-------------------------|--|---|--|
| CENOZOIC                | RECENT                                 |   | Stream deposits, talus, soil   |
|                         | PLEISTOCENE                            |   | Silt, clay, sand, gravel, till, boulder clay, erratics.  |
|                         | UNCONFORMITY                           |   |  |
|                         | Eocene                                 | Endako Group  | Vesicular and amygdaloidal andesite and basalt flows and related dykes; flow breccia, tuff and conglomerate. |
| UNCONFORMITY, INTRUSIVE |  |   |  |
| MESOZOIC                | LOWER CRETACEOUS                       | Fraser quartz monzonite   | Medium-grained subporphyritic pink biotite-hornblende quartz monzonite.                                      |
|                         | UNCONFORMITY, INTRUSIVE                |   |  |
|                         | LOWER CRETACEOUS                       | Stellako quartz monzonite and granodiorite.   | Medium-grained pink hornblende-biotite quartz monzonite; medium-grained gray hornblende granodiorite.        |
|                         | UNCONFORMITY, INTRUSIVE                |   |  |
|                         | UPPER JURASSIC                         | Cesey alkite  | Coarse-to fine-grained leucocratic pink granite and quartz monzonite.  |
|                         | UNCONFORMITY, INTRUSIVE                |   |  |
| UPPER JURASSIC          | Glenannan granite and quartz monzonite | Coarse-grained porphyritic pink biotite granite; coarse-grained pink biotite-hornblende quartz monzonite. |  |
| UNCONFORMITY, INTRUSIVE |  |   |  |
| UPPER JURASSIC          | Francois granite                       | Medium-grained red biotite granite.   |  |
| UNCONFORMITY, INTRUSIVE |  |   |  |

TABLE 1

## Table of Formations - Endako Area

| ERA      | PERIOD OR EPOCH                   |             | NAME                      | LITHOLOGY   |
|----------|-----------------------------------|-------------|---------------------------|---|
| MESOZOIC | UPPER JURASSIC                    | INTRUSIONS  | Nitni quartz monzonite    | Medium- to coarse-grained subporphyritic pink to gray biotite quartz monzonite.           |
|          | UNCONFORMITY, INTRUSIVE           |             |                           |   |
|          | UPPER JURASSIC                    | INTRUSIONS  | Endako quartz monzonite   | Coarse- to medium-grained subporphyritic pink biotite-hornblende quartz monzonite         |
|          | UNCONFORMITY, INTRUSIVE           |             |                           |   |
|          | LOWER(?) JURASSIC MIDDLE          | TOPLEY      | Simon Bay diorite complex | Foliated diorite, quartz diorite and granodiorite; hybrid gneiss, amphibolite and gabbro. |
|          | UNCONFORMITY, INTRUSIVE           |             |                           |   |
|          | UPPER TRIASSIC AND LOWER JURASSIC | TAKLA GROUP | Menard rhyodacite stock   | Red to purple feldspar-biotite porphyry stock and dykes.                                  |
|          | INTRUSIVE                         |             |                           |   |
|          |                                   |             | Rhyodacite pyroclastics.  | Dark green rhyodacite crystal tuff and breccia.   |



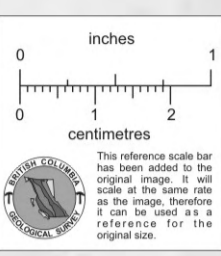
Appendix I - Map 1: Geology of  
the Endako Area



MAP 4  
GEOLOGY  
OF THE  
ENDAKO AREA

LEGEND

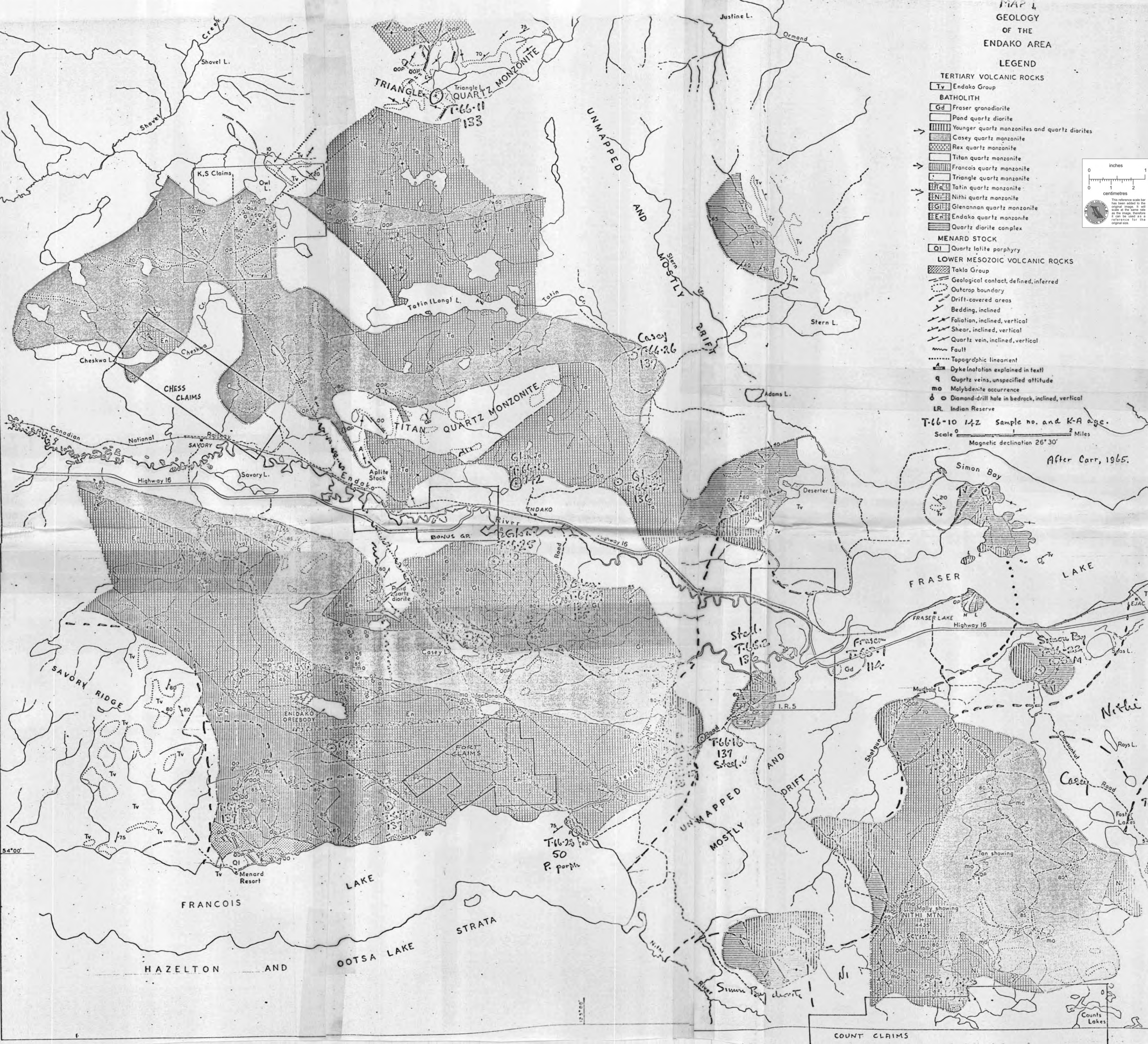
- TERTIARY VOLCANIC ROCKS**
- Tv Endako Group
- BATHOLITH**
- Gd Fraser granodiorite
  - Pand quartz diorite
  - Younger quartz monzonites and quartz diorites
  - Casey quartz monzonite
  - Rex quartz monzonite
  - Titan quartz monzonite
  - Francois quartz monzonite
  - Triangle quartz monzonite
  - Tatin quartz monzonite
  - Nithi quartz monzonite
  - Glenannan quartz monzonite
  - Endako quartz monzonite
  - Quartz diorite complex
- MENARD STOCK**
- Qi Quartz latite porphyry
- LOWER MESOZOIC VOLCANIC ROCKS**
- Takla Group
- Geological contact, defined, inferred
- Outcrop boundary
- Drift-covered areas
- Bedding, inclined
- Foliation, inclined, vertical
- Shear, inclined, vertical
- Quartz vein, inclined, vertical
- Fault
- Topographic lineament
- Dyke (notation explained in text)
- q Quartz veins, unspecified attitude
- mo Molybdenite occurrence
- o Diamond-drill hole in bedrock, inclined, vertical
- LR Indian Reserve



T-66-10 142 Sample no. and K-A age.

Scale 0 1 2 Miles  
Magnetic declination 26° 30'

After Carr, 1965.



54°00'

COUNT CLAIMS



Appendix II - Diamond Drill Logs

# DIAMOND DRILL RECORD,

HOLE NO. F-1

PROPERTY FORT CLAIMS - ENDAKO PROJECT

SHEET NUMBER 1 of 10 SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_ STARTED July 29/70  
 LATITUDE \_\_\_\_\_ DATUM \_\_\_\_\_ COMPLETED July 31/70  
 DEPARTURE \_\_\_\_\_ BEARING \_\_\_\_\_ ULTIMATE DEPTH 343'  
 ELEVATION \_\_\_\_\_ DIP Vertical PROPOSED DEPTH \_\_\_\_\_

| DEPTH FEET | CORE RECOV            | ROCK TYPE AND ALTERATION DESCRIPTION                        | CORE SAMPLE NO. | FOOTAGE | CORE ASSAYS |     |     |     | SLUDGE SAMPLE NO. | FOOTAGE | MINERALIZATION                         |  |  |  |
|------------|-----------------------|---|-----------------|---------|-------------|-----|-----|-----|-------------------|---------|--|--|--|--|
|            |                       |   |                 |         | AG.         | CU. | PB. | ZN. |                   |         |  |  |  |  |
| 0          |                       | Overburden 0-62', casing                                    |                 |         |             |     |     |     |                   |         |  |  |  |  |
|            | Overburden            | Commence BQ (wireline) coring at 62'                        |                 |         |             |     |     |     |                   |         |  |  |  |  |
| 62         | *                     |   |                 |         |             |     |     |     |                   | 62      | Hairline calcite vns. on fractures     |  |  |  |
| 64         | * recovery            | Med. grained subporph. Endako qtz. monzonite. Fresh to weak |                 |         |             |     |     |     |                   |         |  |  |  |  |
| 66         |                       | argillic alteration of plag. -cores of plag. phenos         |                 |         |             |     |     |     |                   | 65      | Hairline, blebs of pyrite on fractures |  |  |  |
| 68         |                       | soft, green. Biotite fresh to partially chloritized.        |                 |         |             |     |     |     |                   | 67      | Tr. pyrite on fractures                |  |  |  |
| 70         | 5                     | Red hematite pseudomorphs after biotite, rarely.            |                 |         |             |     |     |     |                   | 70-73   | Fine diss. magnetite near inclusions   |  |  |  |
| 72         | 83.5                  | Irreg. grey 1/2" feldspathic dyke at 66.5'. Plag.           |                 |         |             |     |     |     |                   |         |  |  |  |  |
| 74         | 62' - 83.5' = 21.5/25 | alteration more intense along small fractures.              |                 |         |             |     |     |     |                   | 73.5    | Hairline pyrite, shearing at 40°       |  |  |  |
| 76         |                       | Vuggy calcite-lined fractures. 75'-84' plag. cores          |                 |         |             |     |     |     |                   | 75.5    | 2 x hairline calcite at 50°            |  |  |  |
| 78         |                       | alteration to green kaolin + red hematite stain.            |                 |         |             |     |     |     |                   | 76.     | Tr. pyrite on fractures.               |  |  |  |
| 80         |                       | Calcite & minor qtz-filled fractures common.                |                 |         |             |     |     |     |                   | 77.     | 1/16" calcite on 60° fract.            |  |  |  |
|            |                       |   |                 |         |             |     |     |     |                   | 78.5    | Hairline pyrite on 90° fra             |  |  |  |
|            |                       |   |                 |         |             |     |     |     |                   | 80.0    | Hairline pyrite on 65° fra             |  |  |  |
|            |                       |   |                 |         |             |     |     |     |                   | 81.5    | Hairline pyrite on 90° fra             |  |  |  |
| 82         |                       | K-spar fresh and unaltered throughout.                      |                 |         |             |     |     |     |                   | 82-83   | 3 x rusty calcite veinlet at 40°-60°.  |  |  |  |

# DIAMOND DRILL RECORD,

HOLE NO.                      F-1

PROPERTY FORT CLAIMS - ENDAKO PROJECT

SHEET NUMBER 2 of 10 SECTION FROM                      TO                      STARTED July 29/70  
 LATITUDE                      DATUM                      COMPLETED July 31/70  
 DEPARTURE                      BEARING                      ULTIMATE DEPTH 343'  
 ELEVATION                      DIP Vertical PROPOSED DEPTH                     

| DEPTH FEET | CORE RECOV   | ROCK TYPE AND ALTERATION DESCRIPTION                                 | CORE SAMPLE NO. | FOOTAGE | CORE ASSAYS |     |     |       | SLUDGE SAMPLE NO.         | FOOTAGE                             | MINERALIZATION |  |  |  |
|------------|--|--|-----------------|---------|-------------|-----|-----|-------|---------------------------|-------------------------------------|----------------|--|--|--|
|            |  |  |                 |         | AG.         | CU. | PB. | ZN.   |                           |                                     |                |  |  |  |
| 84         | Recovery 22/25 = 88.0%<br>BOX 2<br>83.5' - 105.5'<br>Recovery 83.5' - 105.5' | Med. grained Endako Q.M. Fresh to very weak                          |                 |         |             |     |     |       | 84.5'                     | 1/32" calcite at 35°                |                |  |  |  |
| 86         |  | argillic alt. 84'-86': few plag. grains repl.                        |                 |         |             |     |     |       | 86.5'                     | pyrite on 90° fract.                |                |  |  |  |
| 88         |  | by red hematite. Most plag. green cores. Same.                       |                 |         |             |     |     |       | 88.0'                     | Hairline calcite at 15°             |                |  |  |  |
| 90         |  | Fresh Endako Q.M. plag. hard, green & some hematite pseudo's.        |                 |         |             |     |     |       | 89.2'                     | Pyrite on 90° fract.                |                |  |  |  |
| 92         |  | Same   |                 |         |             |     |     |       | 90.1                      | Tr. pyrite on 70° fract. minor Qtz. |                |  |  |  |
| 94         |  | Fresh Endako Q.M. Minor red hematite on fract.                       |                 |         |             |     |     |       | 90.5                      | 1/32" calcite at 25°.               |                |  |  |  |
| 96         |  | Same   |                 |         |             |     |     |       | 93.                       | Hairline calcite at 50°.            |                |  |  |  |
| 98         |  | Fresh med. grained Endako Q.M. Plag. green hard. Tr. hematite stain. |                 |         |             |     |     |       | 98.5'                     | Vuggy 1/16" calcite vn. at          |                |  |  |  |
| 100        |  | Several close-spaced fractures at 99.5'                              |                 |         |             |     |     |       | 99.                       | 1/32" calcite vein at 15°           |                |  |  |  |
| 102        |  | Vuggy calcite-filled fract. // core axis. plag. green, hard.         |                 |         |             |     |     |       | 100.                      | Barren fract. at 20°                |                |  |  |  |
| 104        | Fresh med. grained End. Q.M. Vuggy calcite-filled fract. at 104.5'           |  |                 |         |             |     |     | 101.5 | Small fault, gouge at 20° |                                     |                |  |  |  |
| 106        | plag. cores soft, green; rims white. Biotite fresh.                          |  |                 |         |             |     |     |       |                           |                                     |                |  |  |  |
| 108        | Same   |  |                 |         |             |     |     |       |                           |                                     |                |  |  |  |
| 110        | Weak argillic altn. of plag. pervasive. Sheared zone below.                  |  |                 |         |             |     |     |       | 103.5                     | Shearing, with calcite, at 45°      |                |  |  |  |
| 112        | 2" gouge at 112'. Red hematite in plag. along fract.                         |  |                 |         |             |     |     |       | 108-109                   | 6-barren fract. at 70°              |                |  |  |  |
| 114        | Broken core, Fe stain 112'-114'. No mineralization.                          |  |                 |         |             |     |     |       | 111                       | 1 grain pyrite in fract.            |                |  |  |  |

# DIAMOND DRILL RECORD,

HOLE NO. \_\_\_\_\_

F-1

PROPERTY FORT CLAIMS - ENDAKO PROJECT

SHEET NUMBER 3 of 10 SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_ STARTED July 29/70  
 LATITUDE \_\_\_\_\_ DATUM \_\_\_\_\_ COMPLETED July 31/70  
 DEPARTURE \_\_\_\_\_ BEARING \_\_\_\_\_ ULTIMATE DEPTH 343'  
 ELEVATION \_\_\_\_\_ DIP Vertical PROPOSED DEPTH \_\_\_\_\_

| DEPTH FEET | CORE RECOV | ROCK TYPE AND ALTERATION DESCRIPTION             | CORE SAMPLE NO. | FOOTAGE | CORE ASSAYS |     |     |     | SLUDGE SAMPLE NO. | FOOTAGE | MINERALIZATION      |               |        |          |
|------------|------------|--|-----------------|---------|-------------|-----|-----|-----|-------------------|---------|---------------------|---------------|--------|----------|
|            |            |  |                 |         | AG.         | CU. | PB. | ZN. |                   |         |                     |               |        |          |
| 116        |            | Fresh End. Q.M. Plag. cores hard, green, biotite |                 | fresh   |             |     |     |     |                   | 116     | 4 fract.            | 70            | -85'   | minor ca |
| 118        |            | Same   |                 |         |             |     |     |     |                   |         |                     |               |        |          |
| 120        |            | Vuggy fract. rock fresh. 120'-121' broken core   |                 |         |             |     |     |     |                   | 118.5   | Black gouge.        | Tr. pyrite on | 5      | fract.   |
| 122        |            | Fresh End. Q.M. Diss. pyrite in inclusion        |                 |         |             |     |     |     |                   | 119.5   | Pyrite on 85°       | fract.        | 5      | calc     |
| 124        | Box 3      | Plag. cores soft, green.                         |                 |         |             |     |     |     |                   | 121     | Pyrite, hematite on | fracts.       |        |          |
| 126        | Box 3      | Core broken. Calcite veinlets. Minor rust.       |                 |         |             |     |     |     |                   | 122     | Diss. pyrite in     | inclusions    |        |          |
| 128        | Box 3      | Fresh End. Q.M.                                  |                 |         |             |     |     |     |                   | 123     | Pyrite on 80°       | fracts.       |        |          |
| 130        | Box 3      | Same. Core broken 129'-130'.                     |                 |         |             |     |     |     |                   | 125     | Hairline calcite    | at 10°.       |        |          |
| 132        | Box 3      | Numerous small fract. Plag. white, soft.         |                 |         |             |     |     |     |                   |         |                     |               |        |          |
| 134        | Box 3      | Plag. green, soft. Tr. pyrite.                   |                 |         |             |     |     |     |                   | 129.5'  | Tr. Pyrite on       | fract.        |        |          |
| 136        | Box 3      | Same.  |                 |         |             |     |     |     |                   | 131.5   | 2-pyrite on         | fracts.       | at 70° |          |
| 138        | Box 4      | Fresh Endako Q.M.                                |                 |         |             |     |     |     |                   | 133.    | Calcite veinlets    |               |        |          |
| 140        | Box 4      | Same. Shearing at 140'. Hematite stain.          |                 |         |             |     |     |     |                   |         |                     |               |        |          |
| 142        | Box 4      | Shearing at 142'.                                |                 |         |             |     |     |     |                   | 137.5'  | Pyrite on 80°       | fract.        |        |          |
| 144        | Box 4      | Fresh Endako Q.M.                                |                 |         |             |     |     |     |                   | 139.    | Pyrite on 70°       | fract.        |        |          |
| 146        | Box 4      | Same.  |                 |         |             |     |     |     |                   | 142     | Pyrite on 15°       | fract.        |        |          |
|            |            |  |                 |         |             |     |     |     |                   | 143     | Magnetite grains.   |               |        |          |
|            |            |  |                 |         |             |     |     |     |                   | 144.5   | 2x1/16" calcite     | vns.          | at 2   |          |
|            |            |  |                 |         |             |     |     |     |                   | 145     | Pyrite on 80°       | fract.        |        |          |

105.5'-128'  
 22.5/25=90.0% Rec.  
 128-150.5'  
 22.5/25=90.0% Recovery

# DIAMOND DRILL RECORD,

HOLE NO.                      F-1

PROPERTY FORT CLAIMS - ENDAKO PROJECT

SHEET NUMBER 4 of 10 SECTION FROM                      TO                      STARTED July 29/70  
 LATITUDE                      DATUM                      COMPLETED July 31/70  
 DEPARTURE                      BEARING                      ULTIMATE DEPTH 343'  
 ELEVATION                      DIP Vertical PROPOSED DEPTH                     

| DEPTH FEET | CORE RECOV  | ROCK TYPE AND ALTERATION DESCRIPTION                  | CORE SAMPLE NO. | FOOTAGE | CORE ASSAYS |     |     |     | SLUDGE SAMPLE NO. | FOOTAGE | MINERALIZATION |  |  |                                    |                         |
|------------|---|---|-----------------|---------|-------------|-----|-----|-----|-------------------|---------|----------------|--|--|------------------------------------|-------------------------|
|            |   |   |                 |         | AG.         | CU. | PB. | ZN. |                   |         |                |  |  |                                    |                         |
| 148        | Box 4<br>150.5'   | Broken core 147/5'-150' Plag. green, soft.            |                 |         |             |     |     |     |                   |         |                |  |  | None                               |                         |
| 150        |   | Fresh Endako Q.M.                                     |                 |         |             |     |     |     |                   |         |                |  |  | None                               |                         |
| 152        |   | * Same. Few hairline calcite veinlets.                |                 |         |             |     |     |     |                   |         |                |  |  |                                    | Random hairline calcite |
| 154        |   | Same. Core broken 153'-154'                           |                 |         |             |     |     |     |                   | 155.5   |                |  |  | Pyrite on 80° fract.               |                         |
| 156        |   | Weak kaolinitic altn. plag.-soft green cores          |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 158        |   | Same.   |                 |         |             |     |     |     |                   | 158.5   |                |  |  | Pyrite & 1/32" calcite at 4        |                         |
| 160        | Box 5<br>150.5'-175.5'<br>Recovery 25/25= 100%                            | Core broken 159'-16-'. Weak kaolinitic altn.          |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 162        |   | Core broken, weakly altered 161'-162'                 |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 164        |   | Intensely sheared, granulated core 162'-164'          |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 166        |   | Core broken, weakly altered, small shear 30° at 166'. |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 168        |   | Small shear 40° at 167'. Weak kaolinitic altn.        |                 |         |             |     |     |     |                   | 167.8'  |                |  |  | Pyrite on 70° fract. Minor calcite |                         |
| 170        |   | 169'-173.5' intense shearing, mainly at 45°           |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 172        |   | plag. soft, white, specs. of red hematite             |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 174        |   | stain. No mineralization.                             |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 176        | * Weak shearing, alteration-kaolin & hematite + broken core 173.5'-176.3' |   |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |
| 178        | Box 6   | 4" inclusion at 178'. Endako Q.M. fresh.              |                 |         |             |     |     |     |                   |         |                |  |  |                                    |                         |

Box 6















# DIAMOND DRILL RECORD,

HOLE NO. F-2

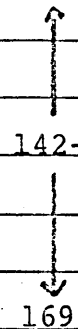
PROPERTY FORT CLAIMS - ENDAKO PROJECT

SHEET NUMBER 1 of 4 SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_ STARTED Aug. 2/70  
 LATITUDE \_\_\_\_\_ DATUM \_\_\_\_\_ COMPLETED Aug. 6/70  
 DEPARTURE \_\_\_\_\_ BEARING \_\_\_\_\_ ULTIMATE DEPTH 417'  
 ELEVATION \_\_\_\_\_ DIP Vertical PROPOSED DEPTH \_\_\_\_\_

| DEPTH FEET | CORE RECOV | ROCK TYPE AND ALTERATION DESCRIPTION   | CORE SAMPLE NO. | FOOTAGE | CORE ASSAYS |     |     |     | SLUDGE SAMPLE NO. | FOOTAGE | MINERALIZATION |  |  |  |
|------------|------------|--|-----------------|---------|-------------|-----|-----|-----|-------------------|---------|----------------|--|--|--|
|            |            |  |                 |         | AG.         | CU. | PB. | ZN. |                   |         |                |  |  |  |
| 0          |            | Overburden 0-142', casing  |                 |         |             |     |     |     |                   |         |                |  |  |  |
|            |            | Commence BQ (wireline) Coring at 142'  |                 |         |             |     |     |     |                   |         |                |  |  |  |
| 140        |            |  |                 |         |             |     |     |     |                   |         |                |  |  |  |
| 150        |            | 142'-169': finegrained gray basalt dyke<br>Scattered small white plag. pheno's Widely spaced joints, mainly calcite-filled                 |                 |         |             |     |     |     |                   |         |                |  |  |  |
| 160        |            | Core broken to 150, blocky to 165'   |                 |         |             |     |     |     |                   |         |                |  |  |  |
| 170        |            | Calcite veins abundant. No sulfides. Basalt appears fresh where not sheared.<br>Shearing 167'-169' parallel to 60° contact with Casey      |                 |         |             |     |     |     |                   |         |                |  |  |  |
| 180        |            | 169-173 Finegrained fresh Casey alaskite. 1-2% Biot. Hem stn.  |                 |         |             |     |     |     |                   |         |                |  |  |  |
| 190        |            | 173-188 basalt dyke. Competant. Wide spaced calcite vns.<br>Few small white plag. pheno's. Shearing  |                 |         |             |     |     |     |                   |         |                |  |  |  |
| 200        |            | 182'-187'<br>Fine-med g'd Casey 188-202. Few joints at 40'-60' with carbonate + chlorite. 201'-202' sheared, brecciated above 40° contact. |                 |         |             |     |     |     |                   |         |                |  |  |  |

Overburden

Basalt  
Basalt  
Casey



142-169 abund. calcite vns 1/16" - 1/8" at 30°-60°. No sulfides.

169 3x1/8" Calcite at 20°-30° Casey.

191 hle carbonate VN at 30°













# DIAMOND DRILL RECORD,

HOLE NO. CH-1

PROPERTY CHESS GROUP - ENDAKO PROJECT

SHEET NUMBER 3 of 4 SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_ STARTED Aug. 19/70  
 LATITUDE \_\_\_\_\_ DATUM \_\_\_\_\_ COMPLETED Aug. 21/70  
 DEPARTURE \_\_\_\_\_ BEARING \_\_\_\_\_ ULTIMATE DEPTH 256'  
 ELEVATION \_\_\_\_\_ DIP Vertical PROPOSED DEPTH \_\_\_\_\_

| DEPTH FEET | CORE RECOV  | ROCK TYPE AND ALTERATION DESCRIPTION   | CORE SAMPLE NO. | FOOTAGE | CORE ASSAYS |     |     |     | SLUDGE SAMPLE NO. | FOOTAGE | MINERALIZATION |                                       |  |  |
|------------|-------------|--|-----------------|---------|-------------|-----|-----|-----|-------------------|---------|----------------|---------------------------------------|--|--|
|            |             |  |                 |         | AG.         | CU. | PB. | ZN. |                   |         |                |                                       |  |  |
|            |             | Plag green, rock competent, rel. unjointed                                       |                 |         |             |     |     |     |                   |         |                |                                       |  |  |
| 170        | 163-187     | Same. Fract at 60° with tr. pyrite.  |                 |         |             |     |     |     |                   | 169     |                | 1 grain pyrite on 60° fract           |  |  |
|            | Box 7       | 177' - 60° fract. with pyrite & rust. Plag green                                 |                 |         |             |     |     |     |                   | 172     |                | 3x 1/16 calcite veins at 45°          |  |  |
| 180        | 24/25=96    | 179' - traces diss pyrite  |                 |         |             |     |     |     |                   | 177     |                | pyrite on 60° fract.                  |  |  |
|            | Box 8       | 185' - 187' shears at 60°-80°, chl & hem stain. Rock soft.                       |                 |         |             |     |     |     |                   | 179     |                | tr. diss pyrite                       |  |  |
| 190        | 209         | 193' close spaced chl. fract's. at 35°   |                 |         |             |     |     |     |                   |         |                |                                       |  |  |
|            | Box 8       | Core broken 196-198' Few fract's. Plag green & hematite stain. No mineralization |                 |         |             |     |     |     |                   |         |                |                                       |  |  |
| 200        | 22/25=88%   | Rock fresh. Few wide spaced fract's.   |                 |         |             |     |     |     |                   |         |                |                                       |  |  |
| 210        | 5           | Same   |                 |         |             |     |     |     |                   |         |                |                                       |  |  |
|            | Box 9       | Calcite veins at 212. Fresh Glenannan qtz monz.                                  |                 |         |             |     |     |     |                   | 212     |                | 3x 1/8"-1/4" calcite veins at 20°-40° |  |  |
| 220        | 23.5/25=94% | 219' - 50° shear, hematite. 221-222 calcite veinlets.                            |                 |         |             |     |     |     |                   | 221-2   |                | 3x calcite hle's 30°-60°              |  |  |
|            | Box 9       | tr. py. on fract. 227' - 1/8" chalcedonic qtz. vn at 45°                         |                 |         |             |     |     |     |                   | 225     |                | tr. pyrite on 68° feet                |  |  |
| 230        |             | Rock fresh   |                 |         |             |     |     |     |                   |         |                |                                       |  |  |
|            |             | Rock fresh except for small silicified shear zones                               |                 |         |             |     |     |     |                   | 233.5   |                | diss py along 70° fract.              |  |  |
| 240        |             | with pyrite or hematite-stained fractures.                                       |                 |         |             |     |     |     |                   | 236-237 |                | 4hle's pyrite along 60-80° fract's.   |  |  |

# DIAMOND DRILL RECORD,

HOLE NO. CH-1

PROPERTY CHESS GROUP - ENDAKO PROJECT

SHEET NUMBER 4 of 4 SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_ STARTED Aug. 19/70  
 LATITUDE \_\_\_\_\_ DATUM \_\_\_\_\_ COMPLETED Aug. 21/70  
 DEPARTURE \_\_\_\_\_ BEARING \_\_\_\_\_ ULTIMATE DEPTH 256'  
 ELEVATION \_\_\_\_\_ DIP Vertical PROPOSED DEPTH \_\_\_\_\_

| DEPTH FEET                  | CORE RECOV | ROCK TYPE AND ALTERATION DESCRIPTION                    | CORE SAMPLE NO. | FOOTAGE | CORE ASSAYS |     |     |     | SLUDGE SAMPLE NO. | FOOTAGE | MINERALIZATION   |                     |                |  |
|-----------------------------|------------|---|-----------------|---------|-------------|-----|-----|-----|-------------------|---------|------------------|---------------------|----------------|--|
|                             |            |   |                 |         | AG.         | CU. | PB. | ZN. |                   |         |                  |                     |                |  |
|                             |            | Small chl. fract's 70-90°. Core fractured, wk chl. alt. |                 |         |             |     |     |     |                   | 248     | Vuggy            | qtz. at 10°         | calcite at 80° |  |
| 250                         |            | of plag. and mafics. Shear zone, breccia ed granite     |                 |         |             |     |     |     |                   | 249     | calcite // core, | minor qtz-pyrit.    |                |  |
|                             |            | 4" wide at 253' - hem & chl. 4" aplite at 15° at 256'   |                 |         |             |     |     |     |                   | 251     | at 90°           | 1/4" calcite at 20° |                |  |
| 260                         |            | End of hole at 256'.                                    |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
| Average core recovery 91.4% |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |
|                             |            |   |                 |         |             |     |     |     |                   |         |                  |                     |                |  |

Box 10  
 232.5-256  
 23.5/25=94

# DIAMOND DRILL RECORD,

HOLE NO. B-1

PROPERTY BONUS CLAIMS - ENDAKO PROJECT

SHEET NUMBER 1 of 1 SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_ STARTED Aug. 8/70  
 LATITUDE \_\_\_\_\_ DATUM \_\_\_\_\_ COMPLETED Aug. 12/70  
 DEPARTURE \_\_\_\_\_ BEARING \_\_\_\_\_ ULTIMATE DEPTH 155.5'  
 ELEVATION \_\_\_\_\_ DIP Vertical PROPOSED DEPTH \_\_\_\_\_

| DEPTH FEET | CORE RECOV  | ROCK TYPE AND ALTERATION DESCRIPTION  | CORE SAMPLE NO. | FOOTAGE | CORE ASSAYS |     |     |     | SLUDGE SAMPLE NO. | FOOTAGE                           | MINERALIZATION |  |  |  |
|------------|-------------|---|-----------------|---------|-------------|-----|-----|-----|-------------------|-----------------------------------|----------------|--|--|--|
|            |             |   |                 |         | AG.         | CU. | PB. | ZN. |                   |                                   |                |  |  |  |
| 0          |             | Overburden to 135' Casing.  |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
| 0.5        |             | Commence BQ (wireline) coring at 135'   |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
| 134        |             | Lost tricone wheel at 135', ruined 3 bits drilling through it. Hole abandoned at 155.5' |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
| 136        |             | Fresh, coarse-grained porphyritic hb-biot Glenannan Qtz monz.                           |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
| 138        |             | 135'-136' biot-hb inclusions with magnetite. Pink Kspar                                 |                 |         |             |     |     |     | 138'              | 1/8" calcite vn. at 20°           |                |  |  |  |
| 140        |             | Phenos, fresh mafics and white plagioclase. Core broken to 138'                         |                 |         |             |     |     |     | 140'              | joints, 1/8" calcite at 15°       |                |  |  |  |
| 142        |             | Core broken 141'-142'. Joints at 10°-20°, minor calcite vns. Rock fresh                 |                 |         |             |     |     |     | 140.5'            | small calcite vns. at 20°         |                |  |  |  |
| 144        |             | Core broken 143'-145'. Joints at 10°-30°, Rock fresh                                    |                 |         |             |     |     |     | 143'              | 1/8" calcite at 15°               |                |  |  |  |
| 146        |             | 145'-147' joints at 20°-30° coated with chlorite, carbonate, hematite stain.            |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
| 148        |             | Core jointed, broken. Joints coated with chlorite, hematite.                            |                 |         |             |     |     |     | 148'              | 1/8" carbonate-chlorite vn at 10° |                |  |  |  |
| 150        |             | Fresh unjointed Glen.QM. Kspar pole pink to white. Plag. rel. abund.                    |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
| 152        |             | Kspar megacrysts 151-152'. Joints at 30' - minor chlorite                               |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
| 154        |             | Fresh rock. Kspar megacrysts. Inclusions at 153', 154'.                                 |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
| 156        |             | Fresh coarse g'd por.hb-biot Glen.QM. End of hole at 155.5'                             |                 |         |             |     |     |     | 155'              | 1/8" chlorite-calcite vn at 20°   |                |  |  |  |
|            | End of Hole |   |                 |         |             |     |     |     |                   |                                   |                |  |  |  |
|            |             | Average core recovery=82%   |                 |         |             |     |     |     |                   |                                   |                |  |  |  |

Box 1 135' - 155.5'  
 20.5/25 = 82% Recovery







Endako Project } Silt  
Soil Samples

Aug 31/10

- ① Shovel 1. - 1st E. trib above BARB showing in canyon - silt.  
1 ppm Mo
- ② Shovel 2. - 2nd trib above canyon - silt.  
3 ppm Mo
- ③ Shovel 3 - main ck 1/2 mi below showing, near Shovel Ck. - silt  
1 ppm Mo
- ④ BARB N. face - soil on decomposed rock in canyon. hematite  
altin + qtz-py veining. Host rock shows Kad + ser. altin.  
32 ppm Mo
- ⑤ BARB S face - soil on decomposed rock, opened by  
bulldozer cut. Rusty, argillic silted rock, no vis. min.  
2 ppm Mo
- ⑥ AMAX Count - trench in Casey (?) with barren qtz on. near old  
Amax pumps to S of COUNT claims. Silt.  
7 ppm Mo
- ⑦ COUNT RD - Creek draining from W across rd near S  
border claim group - small creek, black mud.  
Nithi + Casey float on road nearby. Silt.  
34 ppm Mo
- ⑧ SAVORY - Silt from small ck 1/2 mi W of Endako  
Rd + Gun - drained Casey - Endako contact. Creek  
dry. Sandy sample.  
10 ppm Mo