

92P/1W  
Preliminary Geochemical - Geological  
Report on the HOOP CLAIMS -  
120°27'-120°24'W x 51°12.5'-51°09'N  
NTS 92P-1W, for Pickands Mather & Co.  
by G. Dodd under supervision of  
H.J. Wahl, P. Eng., October 5-9, 1972

4633

# 4633

PICKANDS MATHER & CO.

EXPLORATION REPORT

(Preliminary)

HOOP CLAIMS (92P-1W)

<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. <u>4633</u> MAP _____</p>
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Field Work by:

George Dodd, Geologist

August 15, 1973

Supervision by:

H.J. Wahl, P. Eng.

PICKANDS MATHER & CO.

EXPLORATION REPORT (Preliminary)

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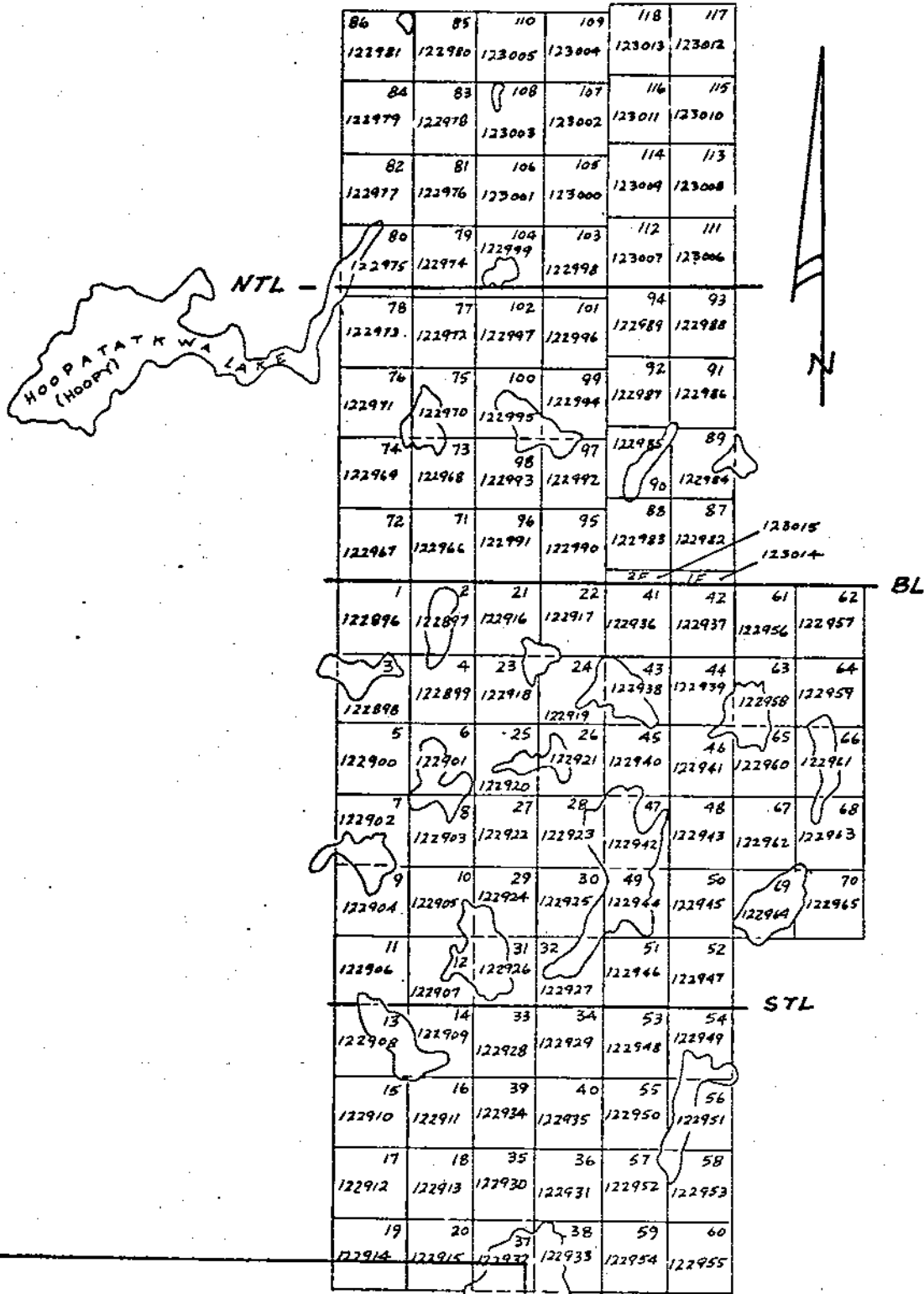
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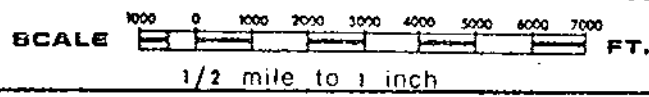
#1 Claim map

#2 Geology "



Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. **4633** MAP #1

PICKANDS MATHER & CO.  
 VANCOUVER B.C.  
 MIDDLE BELT PROJECT  
 HOOP CLAIMS  
 (RECORD NUMBERS)  
 SCALE: 1" = 1/2 MI.  
 DATE: Aug. 1973  
 REVISIONS  
 NO.



PICKANDS MATHER & CO.

EXPLORATION REPORT (Preliminary)

PROPERTY: Hoop Claims (92P-1W)  
PERIOD: October 3 to October 12, 1972  
DATE: August 15, 1973  
FIELD WORK BY: George Dodd, Geologist  
SUPERVISION BY: H. J. Wahl, P. Eng.

SUMMARY

A substantial area showing Cu-Mo anomalous sediment samples was identified by a regional geochemical program begun in August, 1972. This area is located just east of Hoopatatkwa Lake and aggregates some 10 square miles.

Initial follow-up sampling has traced the sediment anomalies into the nearby overburdened areas which continue to show anomalous levels of Cu-Mo in soils within certain areas of the claims.

The property is underlain by Jurassic Age intrusive rocks of the Thuya batholith considered favorable for large tonnage disseminated copper deposits of the porphyry-type.

To more precisely enlarge upon the encouraging results received to date, a complete program of line cutting, soil geochemistry, ground magnetometer survey and geological mapping is recommended.

INTRODUCTION

A regional sediment sampling program initiated by Pickands Mather & Co. in August, 1972, detected an area some 15 miles square, showing anomalous Cu-Mo content. This area lies just east of Hoopatatkwa Lake and extends south to Adler Lake. Once fill-in sampling had defined a more precise area, the 120-claim Hoop Group was staked to cover the anomalous centers. This report covers geochemical follow-up work done in October, 1972, subsequent to the staking of certain of these claims.

Ownership:

Pickands Mather & Co.  
 Suite 216 - 475 Howe Street  
 Vancouver 1, B. C.

Property Description:

118 full-sized claims being the Hoop Nos. 1 through 118 inclusive; Record Nos. 122896 through 123013 inclusive.

2 fractional claims being the Hoop Nos. 1 and 2 Fractions; Record Nos. 123014 and 123015 respectively.

Date staked: October 4-9, 1972

Date recorded: October 16, 1972

Date assessment  
 work due: October 16, 1973

Location:

Perimeter of Property: 120°27' - 120°24W

51°12.5' - 51°09'N

N.T.S. Number: 92P-1W

Mining Division Kamloops, British Columbia

Access: The claims lie some 30 air miles north of Kamloops. Access is by float plane to Hoopy Lake. From Hoopy Lake, a helicopter is required to reach the extremities of the claim.

Topography:

Elevations vary from 4,700 to 5,000 feet above sea level. The terrain is part of a plateau surface characterized by low rolling hills, many of which are glacial drumlins with intervening depressions being small ponds or swamps. The timber varies from mature open stands of spruce and pine to young thickets of the same species. A number of areas of blow-downs are present which impede foot travel. The overburden could be locally quite thick, as few outcrops were observed, except for scarps of plateau basalts.

## EXPLORATION

### Previous Exploration:

There has been none by Pickands Mather & Co. prior to this report. No work is recorded in the assessment files, and no signs of staking or prospecting were observed in or around the claimed area.

### Survey Control:

Claim staking was done from a central E-W base line for control. A blaze line cut in August was used for control in the northern sector of the property. Claim location lines were blazed and chained. After the claiming procedures were completed, the locational lines were used to guide soil sampling and check geological work. It was anticipated that the initial soil geochemistry would establish anomalous soil regions to guide future exploration work.

### Geochemical Work:

Soil samples were collected with grub hoes at 200-foot intervals along claim location lines, from depths of 6" to 10". The target soil horizon was the "B" level where this was developed. If no B horizon was present, samples were collected from the "A" level. Samples were placed in high wet strength kraft envelopes and shipped to:

Min-En Laboratories  
705 West 15th Street  
Corner 15th Street and Bewicke  
North Vancouver, B. C.

The samples were screened to -80 mesh, and a 1 gram sample weight was analyzed by an atomic absorption spectrograph, after a hot  $\text{HNO}_3$  digestion.

### Results of Geochemical Survey:

The results of this initial survey must be considered tentative. Nonetheless, a large number of areas, representing consecutive groupings of samples, have shown anomalous levels of Cu-Mo in soils.

These are:

Northern Sector - between 2nd BL and north end of claims: some 22 separate areas ranging in length from 200 to 1,000 feet in length along the sample lines were located. The magnitudes of these values are from 100 to a maximum of 650 ppm Cu. Inspection of the data suggests that background for Cu is 0-70 ppm, with probable threshold values being 70-100 and values in excess of 100 Cu being considered anomalous.

Central and Southern Sectors - some eleven consecutive groupings of samples along the survey lines show lengths up to 3,000 feet showing anomalous Cu-Mo levels in soils. Background levels for Mo are considered to be 0-5 ppm, with threshold and anomalous levels at 6-15 and 16+ respectively. A broad zone of anomalous Mo values (just north of Dagger Lake) with erratic Cu results, shows an apparent relationship to a WNW trending linear.

#### Test Pits of Geochemical Highs:

Four test pits were blasted (current work) over high Cu values in soils located by geochemical follow-up work done in September, prior to claim staking and this current investigation. The pits were sunk to a final depth of 5 feet, which was insufficient to reach bedrock in all instances.

#### GEOLOGY

The only geological data for the area is GSC Memoir 363, Geology of the Bonaparte Map Area, British Columbia, by R.B. Campbell and H.W. Tipper. The map accompanying this publication (1" = 4 miles) shows the Hoop claims to be underlain by hornblende-rich intrusive phases (diorites, granodiorites, monzonites, gabbros and hornblendites) of the Thuya Batholith. Potassium-argon age dates indicate an age of 194 to 198 m.y. for the Thuya intrusives.

A variety of intrusive rock types were observed during geological inspection of the claim lines. These sample sites are identified on the accompanying map, and petrographic descriptions are to be found in the appendix.

The rock types observed in association with anomalous levels of Cu and Mo suggest an environment favorable for intrusive-type disseminated Cu-Mo deposits. The term intrusive-type refers to porphyry copper deposits which occur solely within batholithic intrusive masses as exemplified by the Highland Valley, Gibraltar and Endako deposits.

#### Structure:

Aside from normal jointing, such outcrops as were observed, were devoid of any features suggestive of major structural elements. Air photo study shows a number of linears intersecting near the center of the claim group. The significance of these features is unknown at present.




CONCLUSIONS

1. Anomalous sediment values have been partially localized to areas in soils which also show anomalous metal content.
2. Test pits to a depth of 5 feet over Cu-anomalous soils did not encounter bedrock, suggesting that 5 feet is a minimal overburden depth.
3. While no signs of mineralization or favorable alterations were observed in the random outcrops located by the field work, the rock types present could be favorable for large tonnage disseminated copper deposits.
4. The combination of favorable geologic setting, anomalous metal contents for Cu-Mo in soils over sizeable areas, and the masking effect of extensive glacial cover in an area of poor drainage requires that a more extensive work program be undertaken to evaluate the potential of this prospect.

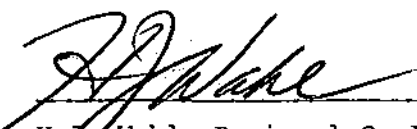
RECOMMENDATIONS

1. That the entire claimed area be covered by a picket-line grid to provide control for geologic mapping, ground magnetometer and soil geochemical surveys.
2. Contingent on the development of favorable results from said surveys, that IP surveys be utilized to establish bedrock conductivity of any geochemically anomalous areas resulting from this work.
3. Contingent on 1 and 2, that test drilling be performed on targets developed by the foregoing work.

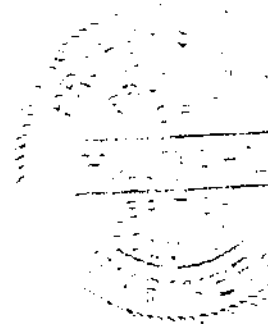
Submitted by:

  
 \_\_\_\_\_  
 George Dodd, Geologist

Approved by:

  
 \_\_\_\_\_  
 H. J. Wahl, Regional Geologist  
 P. Eng., British Columbia 8990
Attachments:

- (1) Hoop Claims Location Map 1" = 1/2 mile.



Attachments: (Continued)

- (2) Hoop Claims, Geology, Geochemistry, Photogeology, 1" = 1/4 mile.
- (3) Geotec Consultants Ltd., Petrographic Report for Pickands Mather & Co., November 16, 1972.

References:

- (1) GSC Memoir 363, Geology of Bonaparte Lake Map Area, British Columbia, by R.B. Campbell and H.W. Tipper, 1972.
- (2) Aeromagnetic Map 5223, Louis Creek 1" = 1 mile (1968)

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APPENDIXStaff and Labor Statistics:

The names and addresses of personnel who were employed on this work are:

George Dodd (geologist) \$850/month  
Apt. 206, 6821 Arcola Street, Burnaby, B.C.

Barry KriECK (field assistant) \$700/month  
#113 - 10567 150th Street, Surrey, B. C.

A.R. Polmer )  
Abe Wall ) - Contract field men furnished by:

Alrae Engineering Ltd.  
846 West Hastings Street  
Vancouver, B. C.

STATEMENT OF EXPENDITURESHOOP CLAIMS 1972Soil Sampling:

<u>Total Days</u>	<u>Rates</u>	<u>Personnel</u>	<u>Dates</u>
4.5	$\frac{850}{30} \times 4.5 = \$127.50$	G. Dodd	Oct. 5-8, 1/2 Oct. 9, 1972
4.5	$\frac{700}{30} \times 4.5 = 105.00$	B. Kriek	Oct. 5-8, 1/2 Oct. 9, 1972
2	$\frac{1100}{30} \times 2 = 73.33$	A. Pollmer	Oct. 6, 8, 1972
<u>11 days</u>	<u>\$305.83</u>	<u>Total Labor</u>	

Assays:

415 samples for Cu, Mo @ \$1.65/ea. = \$684.75

Blasting of Test Pits:

1/2 day on October 11, 1972

G. Dodd  $\frac{850}{30} \times 0.5 = \$ 14.17$

B. Kriek  $\frac{700}{30} \times 0.5 = 11.67$

A. Wall  $\frac{1100}{30} \times 0.5 = 18.33$

A. Pollmer  $\frac{1100}{30} \times 0.5 = 18.33$

Total Labor \$ 62.50

Powder and Supplies: 129.37

Total Blasting Expenses \$191.87

Accommodations:

\$25/day/man at Hoopy Lodge

\$125.00	for 5 days, G. Dodd
125.00	" 5 " , B. Kriek
62.50	" 2½ " , A. Pollmer
12.50	" ½ " , A. Wall
<u>\$325.00</u>	<u>Total Accommodations</u>

Transportation:Local ferry, Okanagan Helicopters CF-CRH, Bell 47 G3B1

\$510.00	1:30 hrs., 5 October 1972, ferry to and from Hoopy Lodge.
131.25	1:15 hrs., 6 October 1972, ferry to and from Hoopy Lodge.
<u>\$641.25</u>	<u>Okanagan Waybills #50552-53</u>

Mobilization and Demobilization, West Coast Air Services:Coast Air Services

\$ 63.85	Kamloops - Hoopy Lake, one way in
63.85	Hoopy Lake - Kamloops, one way out
<u>\$127.70</u>	<u>Ticket Nos. F-26119, F-26107</u>

TOTAL GEOCHEMICAL SURVEY COSTS

\$ 305.83	Wages and Salaries
684.75	Assaying
270.82	Pro-rata accommodations
641.25	Helicopter Charter
63.85	One Way Mobilization
<u>\$1,966.50</u>	<u>Total Survey Costs</u>


SURFACE BLASTING

\$ 62.50	Labor
54.18	Pro-rata accommodations
129.37	Powder and Supplies
63.85	One way mobilization
<u>\$ 309.90</u>	<u>Total Surface Blasting</u>

DISTRIBUTION OF EXPENDITURES

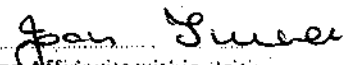
<u>Geochemical Charges:</u>	\$1,966.50
Claims covered:	Hoop Nos. 1- 20 (20)
	21- 40 (20)
	41- 60 (20)
	61- 70 (10)
	87-118 (32)
	1F & 2F ( 2)
	<u>104 Claims</u>

Certified true and correct:

  
 H. J. Wahl, P. Eng.  
 British Columbia, 8990

Declared before me at the City  
 of Vancouver, in the  
 Province of British Columbia, this 16  
 day of October 1973, A.D.



  
 A Commissioner for taking Affidavits within British Columbia or  
 A Notary Public in and for the Province of British Columbia Sub-mining Recorder

STATEMENT OF QUALIFICATIONS

GEORGE J. DODD

I, George J. Dodd, am a graduate of the University of British Columbia, having received a Bachelor of Science Degree in Geological Science in June, 1971.

Prior to my graduation, I was employed by Orequest Exploration Syndicate of Vancouver (1969) performing soil sampling, claim staking and line cutting. In 1970, I was a summer employee of the Geological Survey of Canada, engaged in a geological mapping project in the N.W.T.

Upon graduation, I was employed variously by Newconex Canadian Exploration Ltd., The Geological Survey of Canada and latterly by Orequest Exploration Syndicate. My duties during these employments covered various types of technical surveys related to mineral exploration.

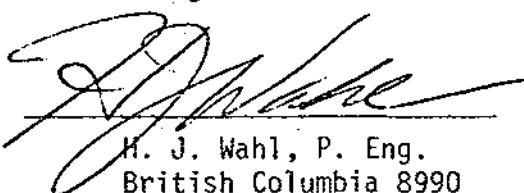
For the past two summers (1972/73), I have been employed as Exploration Geologist for Pickands Mather & Co., participating in and supervising various company exploration projects related to a regional exploration program in central British Columbia.

I am fully conversant with the technical procedures related to the surveys being reported herein.

Date: Aug 16, 1973

  
George J. Dodd

Certified true and correct:

  
H. J. Wahl, P. Eng.  
British Columbia 8990

GD 15-R

A fine grained, dark grey, slightly porphyritic diorite. Minor iron oxide stain on fracture faces.

## Mineralogy:

plagioclase [andesine] [albite]	- 62%
hornblende	- 15
biotite	- 15
quartz	- 5
pyroxene pseudomorphs	- 2
sphene, apatite	- 1
magnetite	- tr.

## Textures:

A fine grained, slightly porphyritic hypidiomorphic-granular mosaic comprised of various-sized euhedral to anhedral plagioclase, hornblende and biotite crystals. A few large pyroxene crystals are pseudomorphically replaced by hornblende. Plagioclase crystal boundaries are commonly marked by micro granular albite rims. Hornblende crystals are often ragged and partially replaced by bladed biotite. The coarser grained hornblende crystals are unevenly distributed throughout the mosaic. Minor myrmekitic texture in plagioclase crystals.

## Alteration:

Mild, albite and silica replacement of plagioclase constituents. Strong evidence for pyroxene, hornblende, biotite, deuteric alteration.

## Discussion:

Mild deuteric alteration of a fine grained diorite.

GD 16-R

A medium to coarse grained buff grey diorite. Specimen characterized by uniform sized, evenly distributed, 'blocky' mafic constituents.

#### Mineralogy:

quartz	- 3%
orthoclase	- 10
plagioclase [andesine] [albite]	- 58
hornblende	- 10
biotite	- 10
epidote	- 3
sericite	- 4
carbonate	- tr.
magnetite	- 2
sphene	- tr.

#### Textures:

A medium grained, hypidiomorphic-granular mosaic comprised of various-sized interlocking twinned plagioclase crystals and ragged, corroded amphibole [mainly hornblende] - biotite crystal aggregates as well as pseudomorphic hornblende crystals. Orthoclase and minor quartz interstitially related to the major mineral constituents. Some of the mafic constituents contain 'felted' recrystallized biotite. Opaque blebs of magnetite are concentrated in and around mafic aggregates.

#### Alteration:

Mild sericite-albite replacement of plagioclase.  
Hornblende to biotite deuteric alteration.

#### Discussion:

Magnetite probably derived as a by-product of pyroxene-hornblende-biotite deuteric alteration.



GD 17-R-1      A fine grained, buff-colored granite. Specimen characterized by a salt and pepper texture, round equigranular, fine grained quartz grains and a large rectangular-shaped biotite 'clot'. Very minor fine grained pyrite.

Mineralogy:

quartz	- 20%
orthoclase, microcline	- 15
plagioclase [albite]	- 59
biotite	- 4
chlorite	- 1
magnetite	- 1
pyrite	- tr.

Textures:

A fine grained, hypidiomorphic granular, interlocking mosaic comprised of subhedral and anhedral tabular-shaped plagioclase, microcline and orthoclase crystals interstitially connected by rounded and wedge-shaped quartz grains. The quartz grains exhibit moderate strain features. Minor bladed biotite is sparsely distributed throughout the section. Some orthoclase crystals are poikilitic.

Alteration:

Minor albite alteration of plagioclase.

Discussion:

Rock specimen possibly represents a residual magmatic quartzo-feldspathic dyke phase [?].

GD 17-2-R      A medium grained, buff-grey quartz diorite. Mild iron oxide stain on fracture faces.

Mineralogy:

quartz	- 8%
microcline	- 2
plagioclase [andesine]	- 71
hornblende	- 8
biotite	- 7
sericite	- 3
sphene	- 1

Textures:

A medium grained, hypidiomorphic-granular mosaic comprised of subhedral and anhedral rectangular shaped plagioclase crystals interlocked with subhedral and anhedral, tabular and bladed crystals of hornblende and biotite. Subrounded to angular quartz is interstitially related to the other rock constituents. Plagioclase crystals are generally zoned and twinned. Hornblende and biotite frequently occur intermixed [i.e.] biotite partially replacing hornblende in a ragged, corroded aggregate. Myrmekitic textures often exhibited along feldspar crystal boundaries.

Alteration:

Very mild sericite-albite alteration. Minor silica replacement of feldspar as evidenced by myrmekitic textures. Noticeable hornblende to biotite deuteric alteration.

Discussion:

Unaltered quartz diorite.

GD 20-r

A fine to medium grained, light grey porphyritic, altered quartz diorite. Specimen characterized by a marked foliation.

#### Mineralogy:

quartz	-	15%
plagioclase [andesine]	-	65
hornblende	-	6
biotite	-	5
sericite	-	4
epidote	-	3
sphene	-	1
clay	-	1

#### Textures:

Fine to medium grained sub porphyritic textured mosaic comprised of various-sized tabular and rectangular shaped, corroded plagioclase crystals along with fine grained subhedral and anhedral prisms and blades of hornblende and biotite separated by a fine grained silica matrix. Plagioclase crystals are often flecked by sericite and clay minerals.

#### Alteration:

Mild silicification [?]. Minor sericite-clay alteration of plagioclase. Hornblende-biotite deuteric alteration.

#### Discussion:

Possible quartz diorite porphyry dyke or partial silicification of a dioritic rock mass. Foliation suggests a silica alteration of a fine grained diorite.

GD-27-R

A medium grained, buff colored granodiorite. Specimen characterized by two distinct sizes of mafic minerals.

#### Mineralogy:

quartz	- 10%
plagioclase [andesine]	- 72
hornblende	- 5
biotite	- 5
epidote	- tr.
sericite	- 3
clay	- 3
sphene	- 2

#### Textures:

A medium grained, hypidiomorphic-granular mosaic comprised of subhedral to anhedral, tabular and rectangular-shaped plagioclase crystals interstitially related with subrounded quartz crystals. Orthoclase occurs as seams and closed interstitial wedge-shaped grains interstitially connecting quartz and plagioclase. Plagioclase crystals are frequently zoned and twinned.

#### Alteration:

Very weak sericite-clay alteration of plagioclase. Hornblende-biotite deuteric alteration.

#### Discussion:

Unaltered granodiorite

GD-33-R

A medium to coarse grained, greenish grey granodiorite. Specimen characterized by various-sized, blocky, mafic crystals and subrounded open interstitial quartz. Trace of iron stain on fracture faces.

Mineralogy:

quartz	- 12%
plagioclase [andesine]	- 62
orthoclase	- 10
hornblende	- 4
biotite	- 5
chlorite	- 2
sericite	- 3
epidote	- tr.
sphene	- 2

Textures:

Coarse grained, hypidiomorphic-granular mosaic comprised of various-sized subhedral to anhedral zoned plagioclase crystals and ragged euhedral and subhedral prisms and tabular plates of hornblende and biotite interstitially connected by subrounded quartz and orthoclase crystals. Large biotite plates are frequently poikilitic. Quartz grains are clear, fracture free and strained.

Alteration:

Very weak sericite replacement of plagioclase.

Discussion:

Unaltered granodiorite.

GD-34-R

A medium-grained, buff-colored slightly bleached granodiorite. Very similar to GD-33-R. Mafic minerals less blocky in this case.

## Mineralogy:

quartz	- 11%
orthoclase	- 8
plagioclase [andesine]	- 68
hornblende	- 3
biotite	- 5
chlorite	- 1
sericite	- 3
epidote	- tr.
sphene	- 1

## Textures:

Medium grained, hypidiomorphic-granular mosaic. Equivalent to GD-33-R. Slight increase in flecked sericite.

## Alteration:

Weak sericite replacement of plagioclase. Minor chloritization of biotite. Standard hornblende-biotite deuteric alteration.

## Discussion:

Finer grained equivalent to GD-33-R although slight increase in sericite alteration in this case.

GD-35-R

A fine to medium grained, buff colored granodiorite. A finer grained equivalent to GD-33-R. Buff color attributed to mild iron stain.

Mineralogy:

quartz	- 10%
orthoclase	- 8
plagioclase [andesine]	- 63
biotite	- 6
hornblende	- 2
chlorite	- 2
sericite	- 3
epidote	- 1
clay	- 3
sphene	- 2

Textures:

A fine to medium grained hypidiomorphic granular mosaic characterized by various-sized, subhedral and anhedral zoned plagioclase crystals along with ragged prisms and plates of hornblende and biotite interstitially related to fine grained subrounded quartz and orthoclase crystals. A few biotite grains poikilitically enclose quartz grains. Some of the quartz grains occur as recrystallized aggregates.

Alteration:

Minor sericite replacement of plagioclase. Mild silicification [?].

Discussion:

Fine grained variety of GD-33-R.

Hoop.  
LO-485

A fine to medium grained monzonite. Specimen characterized by uniform-sized, evenly distributed mafic crystals. Vague foliation noted.

Mineralogy:

quartz	- 15%
orthoclase	- 15
plagioclase	- 52
biotite	- 10
hornblende	- 5
sericite	- 1
zircon, sphene	- 1
magnetite	- 1

Textures:

Various sized, ragged, corroded plagioclase, biotite and hornblende crystals randomly oriented in a fine grained, equigranular quartzo-feldspathic matrix. Mafic crystals are often poikilolitic and appear to be partially replaced by matrix constituents.

Alteration:

Partial deuteric alteration of primary feldspar and mafic constituents by quartzo-feldspathic matrix.

Discussion:

Rock specimen possibly represents an acid intrusive dyke phase.



Hoop  
LO-70S

A fine to medium grained, grey, mafic rich diorite.

Mineralogy:

quartz	- 2%
plagioclase [andesine]	- 59
hornblende	- 25
biotite	- 10
clay	- 2
sericite	- 1
zircon, sphene	- tr.
magnetite	- 1

Textures:

A medium-grained hypidiomorphic-granular mosaic comprised of fine to coarse grained, ragged, subhedral and anhedral prisms and plates of hornblende and biotite interstitially related to a feldspathic matrix. The feldspar crystals are typically subhedral to anhedral and partially replaced by albite and silica. Minor myrmekitic textures.

Alteration:

Moderate albite-silica deuteric alteration of primary feldspar constituents. Hornblende-biotite deuteric alteration.

Discussion:

Moderate deuteric alteration in a mafic rich diorite.

Haap  
L56 Oct

A fine to medium grained, greyish white, slightly porphyritic altered granodiorite. A potassium feldspar vein crosscuts the specimen.

Mineralogy:

quartz	- 12%
microcline	- 10
plagioclase	- 65
biotite	- 4
hornblende	- 2
sericite	- 2
epidote	- tr.
chlorite	- 2
sphene	- 1
magnetite, iron oxide	- 2

Textures:

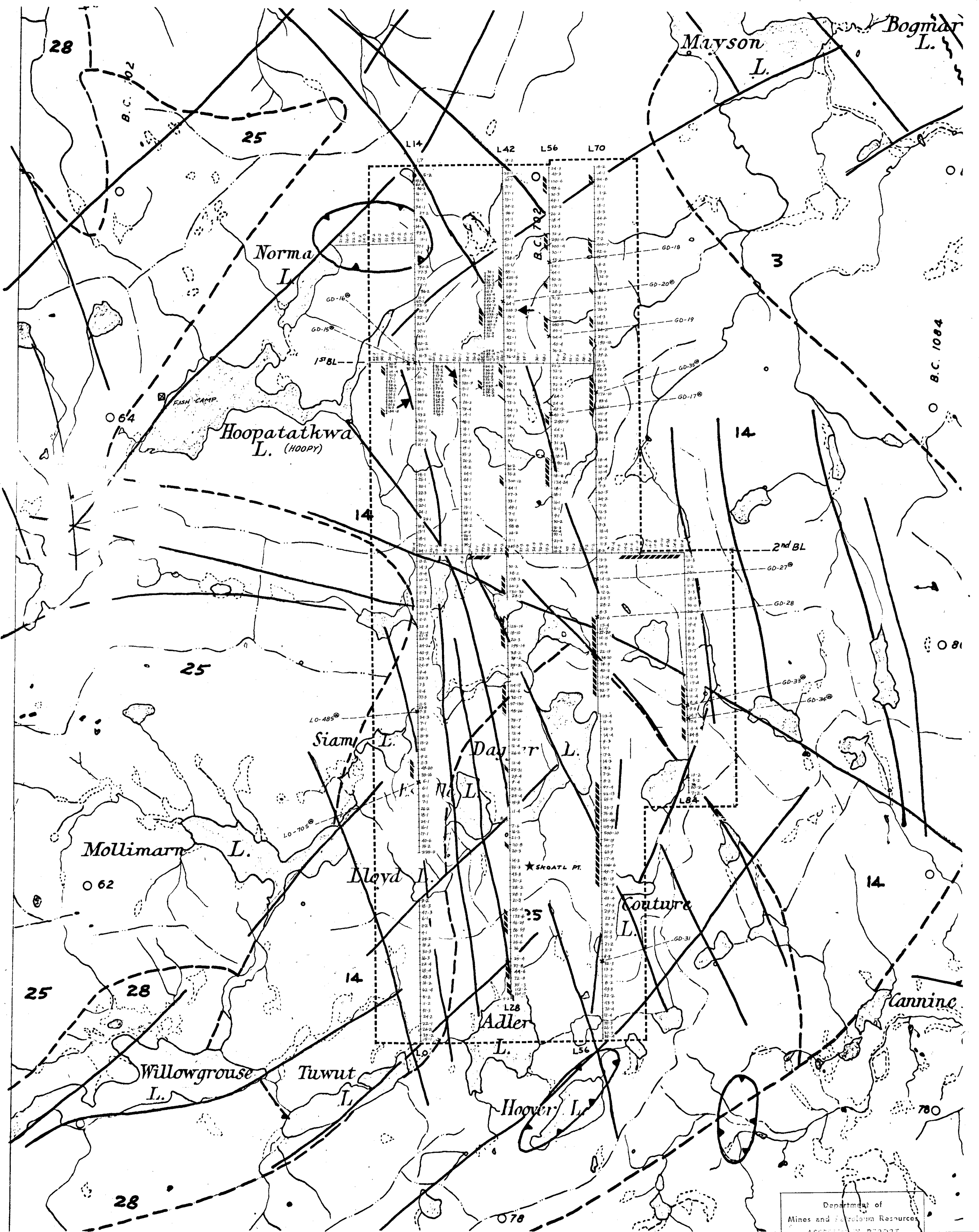
A porphyritic textured mosaic produced by various-sized, corroded, subhedral and anhedral plagioclase and microcline crystals along with ragged tabular biotite plates enclosed in a fine grained, equigranular quartzo-feldspathic matrix. The large 'phenocryst-like' crystals are frequently distorted and fractured.

Alteration:

Moderate silicification and potassic alteration. Minor chlorite and sericite replacement of primary constituents.

Discussion:

Localized shearing with subsequent silica and potassic alteration.



**LEGEND**

x — ROCK SAMPLE LOCATION & No.  
 ⊗ DENOTES PETROGRAPHIC REPORT

SOIL SAMPLE LOCATION AND RESULT IN PPM  
 ANOMALOUS SOIL ZONES  
 > 100 Cu  
 > 5 Mo



ARROW SHOWING TEST-PIT LOCATION (HIGH SOIL VALUES)

- 28 PLEISTOCENE
- 25 TERTIARY BASALTS
- 14 JURASSIC INTRUSIVE (THUYA)
- 3 PERMIAN - CACHE CREEK GROUP

PHOTOLINEARS

Department of  
 Mines and Petroleum Resources  
 ADDRESS: 1111 BROADWAY  
 NO. 4633 MAP #2  
 SCALE 1" = 1/4 MILE TO 1 INCH

PICKANDS MATHER & CO. S.C.  
**MIDDLE BELT PROJECT**  
 92P-1W.1  
 HOOP CLAIM GROUP  
 RESULTS OF INITIAL FOLLOW-UP

SCALE: 1" = 1/4 MI.	REVISIONS
DATE: Nov. 1972	
NO. 72-2	

**4633-192**

*August 15, 1973  
 R. P. [Signature]*