



GEOLOGICAL REPORT

GRIZZLY GROUP OF CLAIMS 1 - 15  
LOCATED 23 MILES DUE EAST OF MILE 68  
ON CANADA TUNGSTEN ROAD

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MAP SHEET 95 - E - 12  
LATITUDE  $61^{\circ} 32' N$   $127^{\circ} 34' W$   
N.W.T.

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REPORT PREPARED BY R.D. WALTON UNDER  
THE SUPERVISION OF D.H. JAMES P. ENG.  
ON THE BASIS OF FIELD WORK PERFORMED

AUGUST 7th - 18th, 1966

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TABLE OF CONTENTS

Introduction	1
Summary and Conclusions	1
Ownership of Claims	1
Location and Access	1
Topography	1
Timber, Water, and Power	1
History	2
Note on Map Grid	2
Note on Figure I	2
General Geology	2
Geology of Claims	2
Geological Notes	6
Statement of Expenditures	13
Certificate	15
Maps: Geology Outcrop 1" = 1320'	
Geology Interpretation 1" = 1320'	
Slope Face Sketches 1" = 1320'	Fig. 1
Sketch Map Geology Ex. 56 Area 1" = 200'	Fig. 2
Sketch Map Geology Ex. 113 & 45 Areas	Fig. 3

## INTRODUCTION

During the period 7 - 18 August, 1966 inclusive R.D. Walton of 3318 W. 13th. Avenue, Vancouver 8, B.C. assisted by G. Marchant of Vancouver, B.C. geologically mapped all accessible areas of the "Grizzly" Group 1-15. This work was done on behalf of Bralorne Pioneer Mines Ltd. of Vancouver, B.C. under the supervision of Mr. D.H. James, P. Eng. whose certificate is appended to this report.

## SUMMARY & CONCLUSIONS

Although several showings of fair grade mineralization occur on the "Grizzly" Group there is no indication that any of these is of sufficient extent to be of economic interest. Therefore, considering the lack of potential and the remoteness of the area it is recommended that no further work should be performed on the "Grizzly" Group.

## OWNERSHIP

The "Grizzly" Group 1-15 is owned by Bralorne Pioneer Mines Ltd. of 320-355 Burrard Street, Vancouver 1, B.C.

## LOCATIONS & ACCESS

Centered at Latitude  $61^{\circ}32'N$ , Longitude  $127^{\circ}34'W$  the closest point on a road is Mile 68 on the Canada Tungsten Highway which lies 23 miles due west. Access to the property was by helicopter based at Watson Lake, Y.T.

## TOPOGRAPHY

Within the claims area there is approximately 2000' of relief, the valley floors being at 6000' a.s.l. and the highest ridge at 8000' a.s.l. Much of the area is extremely precipitous, most of the ridge crests being untraversable and affording few helicopter landing areas.

## TIMBER, WATER AND POWER

The claims are situated entirely above timberline, useful timber being about 1 mile distant in the valley to the North.

There is abundant water for any mining purpose within the claims area.

There is no electricity grid nearer than the Whitehorse area.

## HISTORY

It is probable that the showings on the "Grizzly" Group were noted by prospectors in the 1950's but no physical work is thought to have been done in this area.

## NOTE ON THE MAP GRID

Although the maps are divided into 1 mile squares, co-ordinates are given in inches. Thus the common point of "Grizzly" Claims 4, 5, 6, & 7 is 5.11 N 6.55E.

## NOTE ON FIGURE I

The hill slope sketches of Figure I are rough drawings made from a distance of about half a mile and the geology shown does not correlate closely with the exposure map. The diorite contact is drawn as a straight line on both sketches as it appears to be a fault.

## GENERAL GEOLOGY

This is reported in a Geological Survey of Canada Paper 64-52 dated 1965, entitled "Flat River, Glacier Lake, and Wrigley Lake, District of MacKenzie and Yukon Territory."

The "Grizzly" Group 9-16 is located on the N.W. contact of a S.E. trending pluton of length 20 miles and width 10 miles. The rock types composing the pluton are described by the G.S.C. (unit 35): Quartz Monzonite, Granodiorite, minor Granite and Diorite. The country rock (G.S.C. unit 18) is composed of impure limestone of Cambrian age.

## GEOLOGY OF THE CLAIMS

The following rock types are represented:

- Mineralization
- Skarn
- White Chert
- Diorite (other facies)
- Diorite (white facies)
- Limestone

The limestone was not subdivided in any way. Typically it resembles the "Honeycomb" limestone of the Canada Tungsten Mine area. Where unmetamorphosed it is a dark purplish colour on the fresh surface, but usually weathers to a buff or grey colour. Banding is typically well developed although usually only to be observed on the weathered surface.

Band width varies from 1 m.m. to 4 c.m. banding being due to differences in silica content.

On the map two divisions of the diorite are recognized:

1. The "white facies" type.
2. "Other facies" which is composed mainly of a distinctive greenish type of diorite.

The "white facies" type is typically holocrystalline, of granitic texture, being composed of 15% - 30% mafic phenocrysts of both hornblende and biotite of size up to 0.5 c.m. set in a groundmass of white to grey felspar with a quartz content of 5%. The mafic constituents are typically very fresh. Jointing is well developed though of various trends.

The "distinctive greenish type of diorite" is typically holocrystalline and is composed of mafics of up to 0.5 c.m. size set in fine grained groundmass of hornblendes and felspar. The total mafic content is from 30% - 40%.

White chert is well developed on the "Grizzly" Group, where mapping shows it to be spatially related to the diorite contact and thus it is almost certainly produced by metamorphism of the limestone.

Skarn is of 3 types:

(a) Siliceous pyroxene skarn - typically dark green in colour. It occurs adjacent to the main diorite contact and on Claim No. 3. Significant lead-zinc mineralization is restricted to this rock type.

(b) Epidote skarn is weakly developed in a few localities in the main diorite contact area.

(c) Garnet skarn - This, although it occurs in place in several localities on the "Heather" Group was only noted in float on the "Grizzly" Group.

Mineralization consists of major sphalerite and galena with occasional minor chalcopyrite. Pyrrhotite and pyrite are locally strongly developed. None of the samples spectrographically examined showed the presence of significant quantities of tungsten.

#### STRUCTURE

The "white facies" diorite contact strikes N.E. across the S.E. boundary of the claims. On claims 7 & 11, a tongue, widening to the north, of the "green facies" diorite

lies either on or close to the "white facies" diorite - country rock contact. The diorite contact is paralleled by a zone of metasomatism and minor intrusion which narrows steadily from  $\frac{1}{2}$  mile in the N.E. to almost nil width on claim 10 in the extreme S.W. This zone contains most of the showing of note.

The Line B1 - B2 indicates a synclinal axis of S.W. trend which appears to be the only major fold axis in the general area of the property: dips on the "Grizzly" Group in the limestone are from  $45^{\circ}$ - $70^{\circ}$  N.W. As on the "Heather" Group, dips in the immediate vicinity of the diorite contact are disturbed and usually parallel the contact indicating forceful intrusion.

Micro folding was not observed on the "Grizzly" Group but on the adjacent "Heather" Group was noted at 2 localities, where plunges are N.W. at  $40^{\circ}$ .

A strong fault possibly a major thrust was observed at co-ordinates. 4.8N 5.35E.

#### MINERALIZATION

In general mineralization is closely related to the diorite contact and occurs in pyroxene skarn zones, none of which show any evidence of being of dimensions such as to be of economic interest.

#### Mineralized Areas are:

(1) Exposure 10 - A gossan zone was noted at 200' @  $S84^{\circ}E$  from exposure 10. This gossan zone was inaccessible, but float from this zone was examined and found to contain weak galena mineralization. The dimensions of the zone are approximately 200' x 100'.

(2) Exposure 11 - A pyroxene skarn zone with galena mineralization (1% Pb) strikes approximately N-S, possibly paralleling a weak fracture system developed in the vicinity. The boundaries of the mineralized zone are very indefinite but only a few tens of square feet of mineralization appear to occur.

(3) Exposure 45 - On the Diorite contact an irregular very weak gossan zone is developed over a width varying from 100' - 200'. This zone extends up the slope for at least 500'. Galena is sporadically developed with grade up to 1%, but the average grade is very low.

(4) Exposure 44 - (See Figure 3.) In this area a 10' wide pyroxene skarn zone of undetermined dip is seen in contact with the western contact of a N.W. striking diorite dyke.

Sample 3870 -- Au, :Tr. oz: Ag, 0.1 oz: Cu, 0.03%:  
Pb, 1.69%: Zn, 1.78%.

The above chip sample was taken across a representative section. Grade appears to fall as distance from the dyke contact increases and it is unlikely that any significant extension exists beneath the talus cover to the S.W.

(5) Exposure 56 and 58 Area. (See Figure 2). Here 2 isolated exposures of pyroxene skarn lie within the zone of metamorphism adjoining the diorite contact.

In Exposure 56 strikes in the skarn parallel the long axis of the outcrop (S60°W) while in Exposure 58 strikes are N5°E.

Sample 3872 30' over the best section of Exposure 56 assayed:

Au, Tr.: Ag, Tr.: Cu, 0.01%: Pb, 0.57%: Zn, 0.20%. Most of the outcrop is entirely barren however, although there are sporadic higher grade sections.

Sample 3871 10' Exposure 58 assayed:

Au, Tr.: Ag, 0.3oz: Cu, 0.02%: Pb, 5.18%: Zn, 6.90%. This sample is typical of the exposure 58 outcrop.

It does not seem probable that either exposure is part of an extensive zone of mineralization.

(6) At exposure No. 61, in talus, close to a moraine there is considerable highly mineralized float over an area of 200' x 100'. Pyroxene skarn with galena, sphalerite and the small quantities of chalcopyrite occurs.

(7) Exposure 75. On a diorite-limestone contact a band of pyroxene skarn 3' thick is exposed over 100' strike length. A 50' thickness of pale green skarn adjoins the pyroxene skarn zone to the N.W. The pyroxene skarn carries very weak galena and sphalerite mineralization while the adjoining zone is unmineralized.

(8) Exposure 105. A 30' x 10' exposure of mostly barren pyroxene siliceous skarn with strikes trending S55°W. This outcrop was thought to be too low grade to warrant sampling.

(9) Exposure 113 Area - see Figure 3. In this area 2 samples were taken of discontinuous mineralization in siliceous pyroxene skarn zones. The outcrops of skarn close to the outcrop tested by sample 3873, are almost completely barren, while the zone tested by sample 3874 dies out sharply about 15' south of the point sampled and to the north the extension position is covered by some hundred of feet of talus.

GEOLOGICAL NOTES - GRIZZLY GROUP CLAIMS 1 - 15

Exposure  
No.

- 1 Black and white weathering, limestone - finely banded. Strike  $N60^{\circ}E$  Dip  $55^{\circ}N$ .
- 2 Exposure No. 1 lies 50' at  $N60^{\circ}W$ . Igneous rocks - greenish colour - 3 m.m. qtz. eyes.
- 3 Exposure No. 1 lies 100' at  $N60^{\circ}W$ . Black argillaceous limestone - Strike  $S45^{\circ}E$   $55^{\circ}E$ .
- 4 Contact of black limestone and leuco-diorite.
- 5 Joints in leuco-diorite - Strike  $N12^{\circ}W$  Dip  $50^{\circ}E$ .
- 6 Leuco-Diorite - Strong jointing - strike  $N45^{\circ}E$  Dip  $70^{\circ}S$ .
- 7 Grey Limestone - strike  $N40^{\circ}E$  Dip  $70^{\circ}S$ .
- 8 Grey Limestone - 1 - 4 m.m. banding - strike  $S70^{\circ}E$  Dip  $80^{\circ}N$ .
- 9 Diorite - 50% felspar phenocrysts up to  $\frac{1}{2}$  cm. size and qtz. blebs in grey matrix. Pale green skarn on contact. Contact strikes  $S30^{\circ}E$  at 6600' elevation.
- 10 Exposure 8 lies 400' at  $N10^{\circ}W$ . Limestone - Strike  $S45^{\circ}E$  Dip  $70^{\circ}N$ . From 10. 200' @  $S84^{\circ}E$  and 300' higher in elevation - gossan zone - float from this zone is of pyroxene skarn with weak galena mineralization.
- 11 Pyroxene skarn with weak galena (1% lead). Joints strike  $N65^{\circ}E$  Dip  $80^{\circ}N$ . Exposure is 200' from No. 10 exposure.
- 12 Buff weathering limestone. Strike  $S25^{\circ}E$  Dip  $75^{\circ}N$ .
- 13 7025' Elevation. Light weathering limestone. Strike  $S35^{\circ}E$  Dip  $40^{\circ}N$ . Vertical joints with limonite coating - Strike  $090^{\circ}$ .
- 14 Finely banded grey and buff weathering - buff limestone - Strike  $S40^{\circ}W$  Dip  $65^{\circ}N$ .
- 15 White limestone - Strike  $S50^{\circ}W$  Dip  $50^{\circ}S$ .
- 16 Finely banded buff and grey weathering - white limestone - Strike  $S20^{\circ}W$  Dip  $70^{\circ}S$ .
- 17 Black and white limestone - banding of 1-4 cm. size - Strike  $S35^{\circ}W$   $80^{\circ}N$ .
- 18 Elevation 6825' - limestone - Strike  $S12^{\circ}E$  Dip  $45^{\circ}W$ .

Exposure  
No. \_\_\_\_\_

- 19 Grey Limestone.
- 20 7100' Grey Limestone.
- 21 Grey Limestone - Strike S35°W Dip 80°W.
- 22 Black Limestone with buff bands (1-4 cm.) scale. Strike S20°W Dip 70°W.
- 23 6500' Elevation Black Limestone - 1 m.m. to 1 cm. banding.
- 24 Fault Zone Trend S50°W - considerable limonite. This zone seen from distance only.
- 25 Porphyry - 50' wide dyke.
- 26 Finely banded "honeycomb" limestone - Strike S55°E Dip 85°W.
- 27 Dark Cream Weathering - Black Limestone - Strike S85°W Dip 20°N.
- 28 Grey and buff - grey weathering limestone - 1 cm. scale banding - Strike N40°E Dip 55°W.
- 29 Limestone - buff weathering "honeycomb" type - purplish black on fresh face.
- 30 Rhyolite Dyke with adjoining gossan with weak development of pyrrhotite 200' x 100' stain zone - No economically important minerals present. Dyke contacts - Strike N70°E.
- 31 Black, light buff weathering limestone. Strike N60°E Dip N50°S. Drag folding - plunge N40°W 30°.
- 32 Irregular rhyolite intrusive - white weathering. Joints Strike N50°E Dip 80°N and Strike N20°E Dip 40°E - 1% Po.
- 33 Grey weathering-black limestone - Strike 090° Dip 30°N - fine siliceous bands.
- 34 Grey weathering - black limestone as 33. Strike S20°W Dip 30°W.
- 35 As 34 but 1" - 3" banding on weathered surface - Strike S10°W Dip 30°W.
- 36 Black limestone - buff weathering - Strike 180° Dip 40°W.
- 37 1 m.m. - 2 cm. buff and grey weathering bands. Limestone Strike S20°W Dip 25°W.
- 38 Leuco-diorite - 0.2 cm. chloritized mafics in feldspar matrix. 10% - 20% quartz. Joints Strike N20°W Dip 60°W.

Exposure  
No.

- 39 Limestone - Diorite contact. Whitish limestone 1 cm. - 4 cm. banding. Contact Strike  $N30^{\circ}E$  Dip  $80^{\circ}W$ .
- 40 6100' Elevation - White, white weathering limestone. Strike  $N25^{\circ}E$  Dip  $80^{\circ}W$ .
- 41 Contact white Cherty Limestone and black, black weathering limestones.
- 42 White Chert - Strike  $N50^{\circ}E$  Dip vertical.
- 43 4' dyke. Up to  $\frac{1}{2}$  cm. size feldspar phenocrysts in greenish groundmass - 10% mafics. Strike of dyke  $S65^{\circ}W$   $85^{\circ}W$ .
- 44 Irregular Contact - limestone intrusive - slight gossan with very weak galena.
- 45 Intrusive as above - weak pyroxene skarn on contact - unmineralized.
- 46 Irregular mass of black limestone on diorite contact. Diorite 25% mafics - hornblende phenocrysts up to  $\frac{1}{2}$  cm. size - 15% quartz. Contact Strike  $N40^{\circ}E$  Dip vertical.
- 47 Diorite - Joints strike  $N60^{\circ}E$  Dip  $70^{\circ}E$ .
- 48 Diorite.
- 49 6075' Elevation. Float in creek bottom. Galena in pyroxene skarn.
- 50 Diorite - hornblende and biotite 30%. Feldspar phenocrysts to 0.2 cm. size.
- 51 Diorite - very strong joints - Strike  $S30^{\circ}W$  Dip  $45^{\circ}E$ .
- 52 Diorite - Strong jointing - Strike  $N60^{\circ}E$  Dip  $70^{\circ}W$ .
- 53 6900' Elevation - Diorite - Strong jointing - Strike  $N80^{\circ}E$  Dip  $85^{\circ}W$ .
- 54 Diorite - Xenoliths more abundant than in above exposures. Some Xenoliths to 12" x 6" size.
- 55 Diorite - Coarse - 30% mafics - hornblende biotite ratio higher than in above exposures. Jointing strike  $S10^{\circ}W$  Dip  $85^{\circ}W$  and strike  $S40^{\circ}E$  Dip  $80^{\circ}N$ .
- 56 Pyroxene skarn - slight galena - See large scale sketch map.
- 57 No exposure of this number - omitted by error.

Exposure  
No.

- 58 Sample 3871 for detail - see large scale sketch map. Skarn and limestone on diorite contact.
- 59 Diorite - contact facies and siliceous limestone. A little skarn with galena, sphalerite and pyrite - Dips in limestone - Strike S50°W Dip 40°S.
- 60 Diorite - Joints Strike S50°W Dip 50°S.
- 61 Float. Much mineralized float in this area. Galena, sphalerite with traces of chalcopyrite.
- 62 Rhyolite? 40% felspar phenocrysts in glassy grey matrix. Strong jointing N60°W 80°S.
- 63 White, white weathering limestone - Jointing strike N50°S Dip 60°S.
- 64 As 63 but very fine siliceous bands occur at 2 cm. intervals - Strike S65°W Dip 40°N.
- 65 Rhyolite? Felspar phenocrysts in dark glassy matrix. Marginal facies of diorite? Strong jointing - Strike N25°W Dip - vertical. 20' uphill a much coarser type with 10% quartz eyes.
- 66 Gully trending S45°W divides - Diorite to N. from chert to S.
- 67 6225' El. White chert - Strike S40°W Dip 70°S.
- 68 Diorite - 1 cm. size grey felspar phenocrysts in dark green groundmass of mafics and felspar - jointing - Strike S20°W Dip 85°W.
- 69 White, white weathering siliceous limestone. Strike S50°W Dip 55°W.
- 70 Diorite - dark green matrix with up to 1 cm. size felspar phenocrysts. Jointing strike S15°W Dip 85°W.
- 71 No exposure of this number - omitted by error.
- 72 Buff weathering white limestone. Strike S70°W Dip 55°E.
- 73 15' x 5' patch of gossan. Epidote skarn with a little galena and sphalerite.
- 74 Diorite - white facies. 2 m.m. hornblendes in grey and white felspar matrix. Contact with slightly coarser facies trends S50°W, 80°E.

Exposure  
No. \_\_\_\_\_

- 75 3' thick skarn zone with sphalerite and galena (both very weak) in diorite of white facies type. 50' of unmineralized skarn occurs to N. of 3' thick zone.
- 76 Diorite - white facies type. Jointing strike S30°W Dip 60°S.
- 77 Chert. Strike S60°W Dip 80°S.
- 78 White chert. Jointing strike S35°W Dip vertical.
- 79 Chert 1 m.m. - 1 cm. banding - buff and black weathering bands one 10' wide irregular dyke of diorite of dark matrix facies type. Strike in chert S40°W Dip 70°S.
- 80 Diorite of greenish groundmass facies and metamorphosed limestone. Gossan fragments at foot of outcrop. Gossan fragments are of green pyroxene skarn with sphalerite. Joints trend strike S60°W Dip 80°N. Strike S30°E 80°W.
- 81 20' x 10' skarn zone with weak sphalerite. Outcrop trends S40°W.
- 82 White weathering purplish limestone.
- 83 Diorite of dark matrix type with included band of black and white - 1 m.m. - 1 cm. banded limestone. Strike N40°E Dip 60°N.
- 84 Pyroxene skarn float with sphalerite (Zn 10%).
- 85 Diorite (dark matrix type) - jointing Strike N70°E Dip 85°N.
- 86 Greyish dark chert. Strike S35°W Dip 85°S.
- 87 Black and white weathering banded limestone. Strike N40°W Dip 80°E.
- 88 White chert. Strike N 50°E. Dip 55°N.
- 89 88 - 89 Alternating diorite, limestone and chert. (All white weathering) at 89 (Elevation 5900') chert strike S70°E Dip 60°N.  
Looking at section 89 from other side of valley, section is seen to consist of dykes with strike parallelling contour and dips into the hill at 30°. Upper part of hill above 89 nearly all chert - a few narrow dykes only.
- 90 White chert with a little skarn of irregular outline. Strike S35°W Dip 65°N.

Exposure  
No.

- 91 Diorite of dark matrix type. Jointing Strike S60°W.  
Dip vertical.
- 92 White limestone 1 m.m. - 1 cm. scale banding. Strike S30°W.  
Dip 55°N.
- 93 Fault in limestone and chert. Strike S75°W Dip 70°S.
- 94 Diorite. White felspar phenocrysts in greenish matrix.  
150' above edge of Talus-Contact swings sharply South.
- 95 White weathering limestone banding on 1 cm. scale.  
Strike S50°W Dip 70°W.
- 96 4' diorite dyke-irregular trend - pale skarn with brown  
garnets in immediate contact area.
- 97 Skarn. Pale green - 20% brownish garnets. Strike 180°  
Dip 55°E.
- 98 Skarn dark green - unmineralized.
- 99 Diorite.
- 100 Diorite - white facies -  $\frac{1}{2}$  cm. hornblende phenocrysts in  
white felspar groundmass. Jointing strike 180° Dip 55°E.
- 101 Diorite - white facies. Jointing strike S55°W Dip 40°E.
- 102 Diorite - white facies. Jointing strike S50°W Dip 80°E.
- 103 Bluish, white weathering limestone. Strike S40°W Dip 30°W.
- 104 Gossan on diorite contact 30' x 5'. Garnet-epidote skarn.
- 105 Skarn and diorite - 30' x 10' - skarn of siliceous and  
pyroxene types, mostly quite barren. Skarn zones trend  
S55°W.
- 106 Diorite - white facies type.
- 107 White chert - outcrop trends S35°W.
- 108 White chert a 30' wide band with limestone immediately  
uphill.
- 109 White limestone with weak development of brown garnets to  
1 cm. size. Strike 000° Dip vertical.
- 110 White limestone. Diorite as west of outcrop. Limestone  
Strike S45°W Dip 85°W.

Exposure  
No.

- 111 Diorite jointing strikes S50°W. Dip vertical.
- 112 Almost entirely white, banded limestone. Some chert and minor diorite.
- 113 9' thickness of brown weathering skarn zone. Sample 3374 a chip covering the best material.
- 114 Diorite-white facies type.  $\frac{1}{2}$  cm. hornblende phenocrysts 20%  
10% quartz. Jointing strike N20°W Dip vertical.
- 209 Diorite.

STATEMENT OF EXPENDITURES GRIZZLY GROUP 1-15

AUGUST 1st TO SEPTEMBER 15th 1966

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SALARIES

D.H. James 2 days	120.00	
R.D. Walton $\frac{1}{2}$ of 1-6 Aug.+15%	111.29	
7-18 Aug.+15%	445.16	
6 days in Sept.+15%	317.24	
G. Marchant $\frac{1}{2}$ of 4-6 Aug.) +15%	55.64	
7-18 Aug.)+15%	222.57	
	<u>222.57</u>	\$ 1,271.90 ✓

SUPPLIES

Groceries $\frac{1}{2}$ of \$239.43	119.71	
Camping Equip. $\frac{1}{2}$ of \$40.00	20.00	
	<u>139.71</u>	139.71 ✓

AIR FARES

2 air fares Vancouver-Watson Lake return @ \$140.00 each, $\frac{1}{2}$ of	<u>140.00</u>	140.00 ✓
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TAXI FARES

\$30.20 - $\frac{1}{2}$ of	<u>15.10</u>	15.10
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TRUCK ON CANTUNG ROAD

256 miles @ 13¢ per mile and 2 days @ \$10 per day - $\frac{1}{2}$ of	<u>26.64</u>	26.64
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MAPS

Reproduction and enlargements \$94.36 - $\frac{1}{2}$ of	<u>47.18</u>	47.18 ✓
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MOTEL AND MEALS

\$55.20 - $\frac{1}{2}$ of	<u>27.60</u>	27.60 ✓
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HELICOPTER

$\frac{1}{2}$ cost of move to Grizzly Group 5 hrs, 25 mins. @ \$130 per hour.	351.50 ✓	
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$\frac{1}{2}$ cost of move Grizzly Group to Heather Group, 4 hrs. 30 mins. at \$130 per hr.	292.50	
$\frac{1}{2}$ cost of move Heather Group to Watson Lake, $3\frac{1}{2}$ hrs. @ \$130 per hour	<u>227.50</u>	
Total Helicopter:		871.50

ASSAYS

5 quantitative and 2 spectrographic analyses	<u>103.75</u>	103.75
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TOTAL COSTS

\$ 2,643.38

Note on Costs:

As equal field time was spent on both the Grizzly Group, N.W.T. and the Heather Group, costs have been split equally between the two groups.

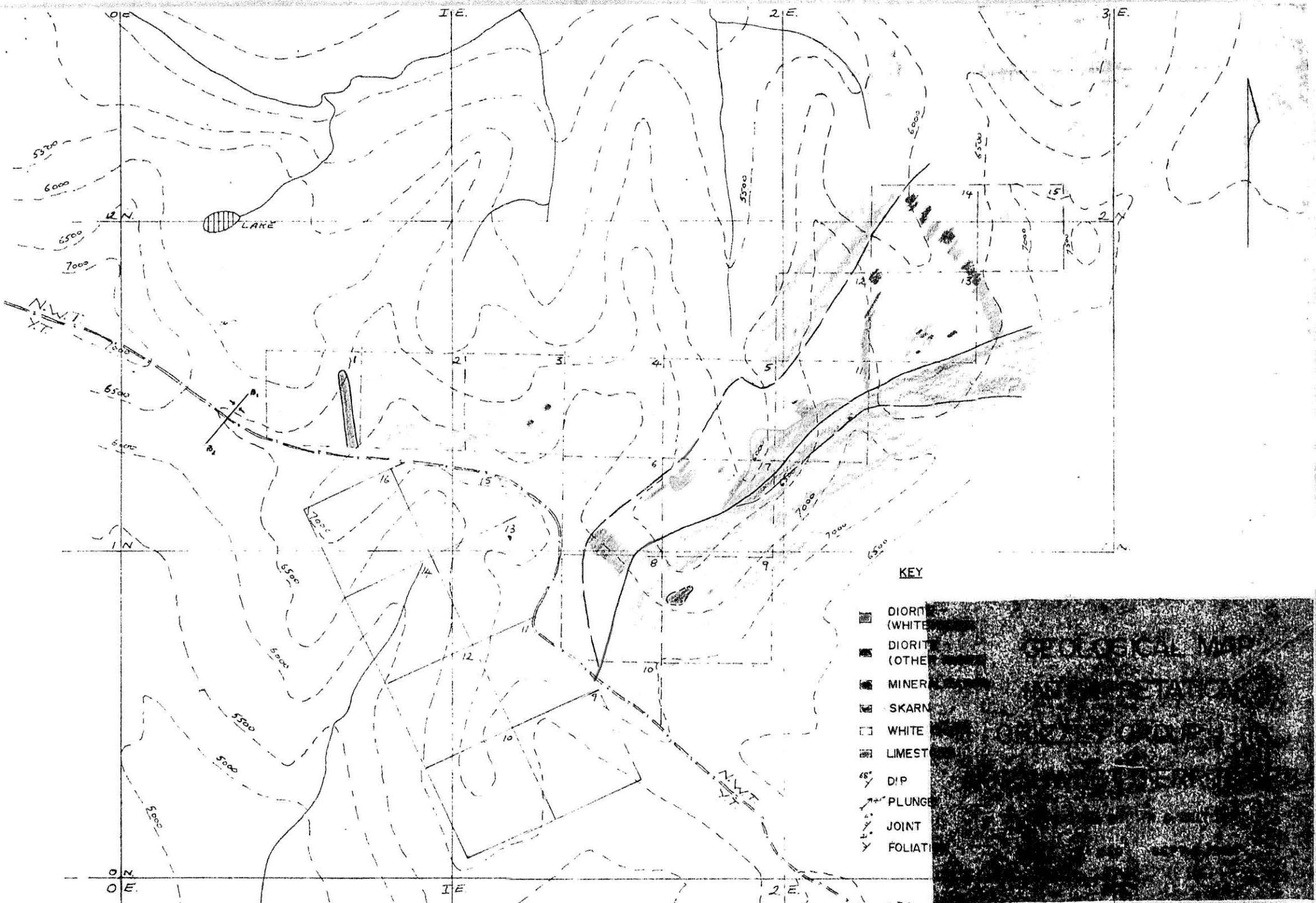
CERTIFICATE

I, Donald H. James, of Vancouver, B.C. hereby certify:

1. That I am a registered Professional Engineer in the Province of British Columbia.
2. That I hold the degrees of B.A.Sc. in Mining Engineering (U.B.C. 1948) and M.Sc. in Geology (Queen's 1950) and that I have been employed in these fields since graduation.
3. That I am exploration manager for Bralorne Pioneer Mines Ltd. one of the participants in the Norquest Joint Venture.
4. That I visited the area reported on by Mr. R.D. Walton, outlined the work to be done, and supervised the program.
5. That Mr. Walton is a graduate in Geology (B.Sc. University of London, 1953), that I have been acquainted with his professional work for three years, and that I consider him fully competent to do the work.

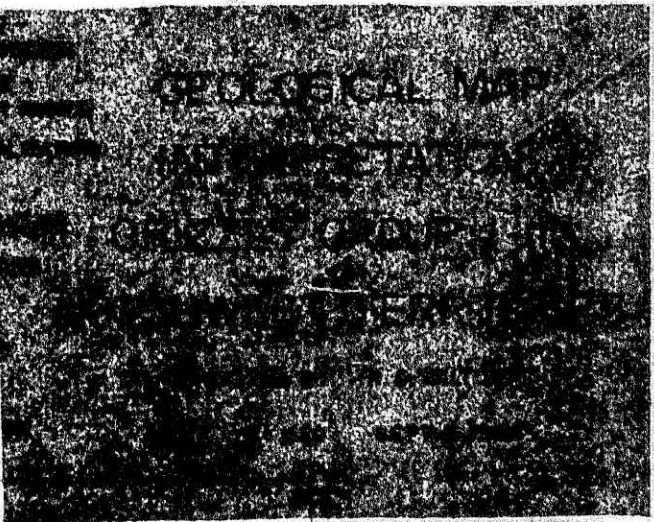
320 - 355 Burrard Street  
Vancouver, B. C.

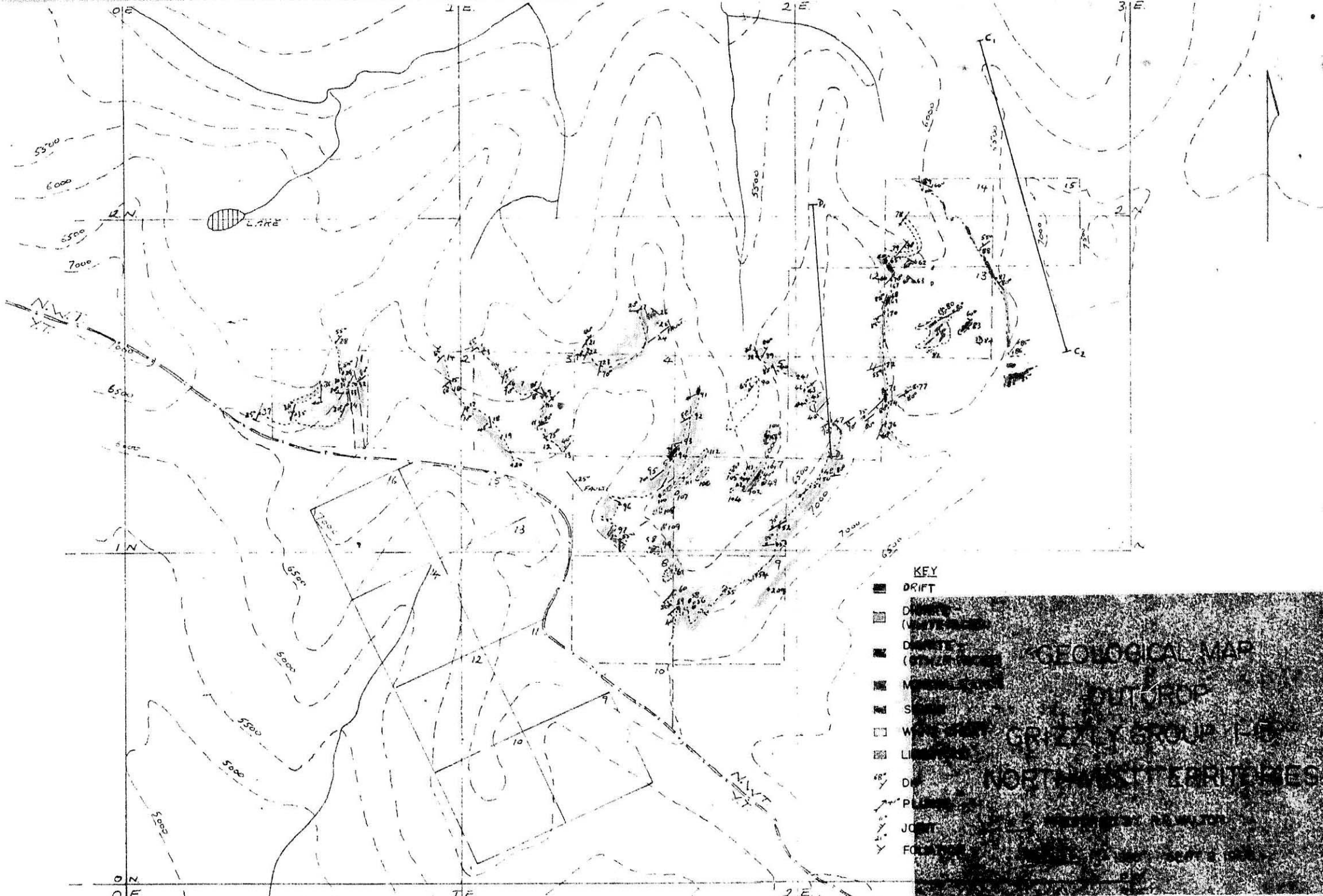
  
D.H. James, P. Eng.



KEY

- DIORITE (WHITE)
- DIORITE (OTHER)
- MINERALIZATION
- SKARN
- WHITE LIMESTONE
- 45° DIP
- 70° PLUNGE
- ~ JOINT
- Y FOLIATION

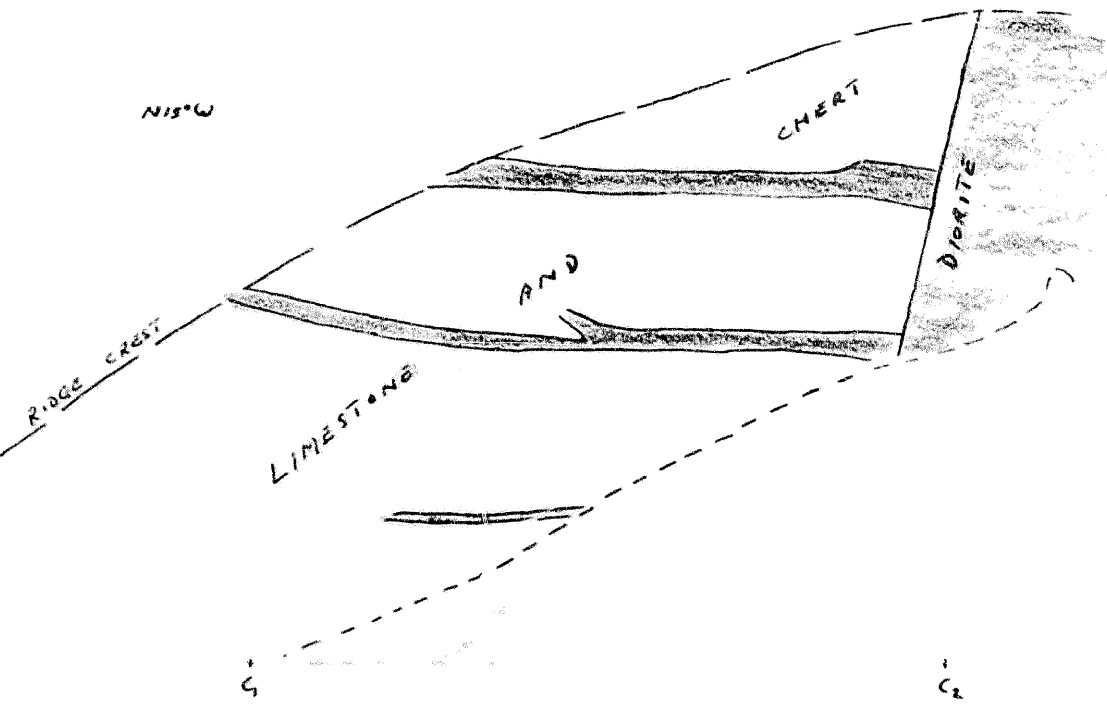




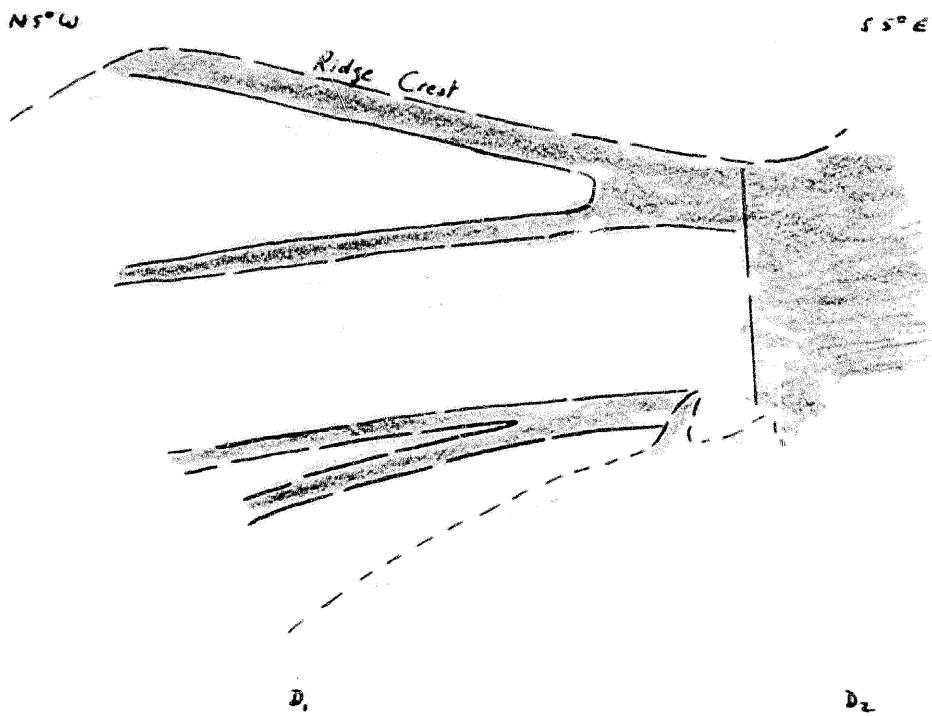
KEY

- DRIFT
- D. (unconformity)
- D. (stratigraphic)
- M. (unconformity)
- S. (unconformity)
- W. (unconformity)
- L. (unconformity)
- D. (unconformity)
- P. (unconformity)
- J. (unconformity)
- F. (unconformity)

GEOLOGICAL MAP  
 OF THE  
 GREAT GREY GROUP IN THE  
 NORTHWEST TERRITORIES






SKETCH OF SLOPE IN C<sub>1</sub>-C<sub>2</sub> AREA.

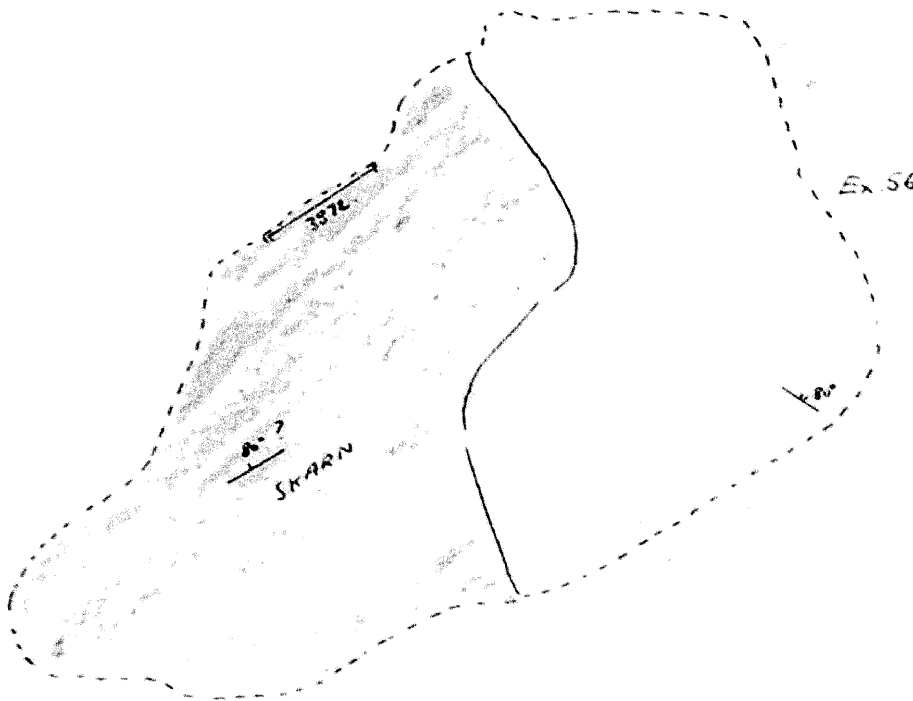
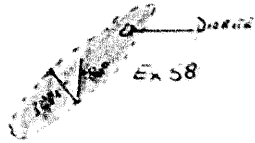






SKETCH OF SLOPE IN D<sub>1</sub>-D<sub>2</sub> AREA.

KEY.

-  TALUS
-  CHERT and LS.
-  DIORITE.

SLOPE FACE SKETCHES  
 A.D.W. 26 Sept 66  
 1" = 1320'



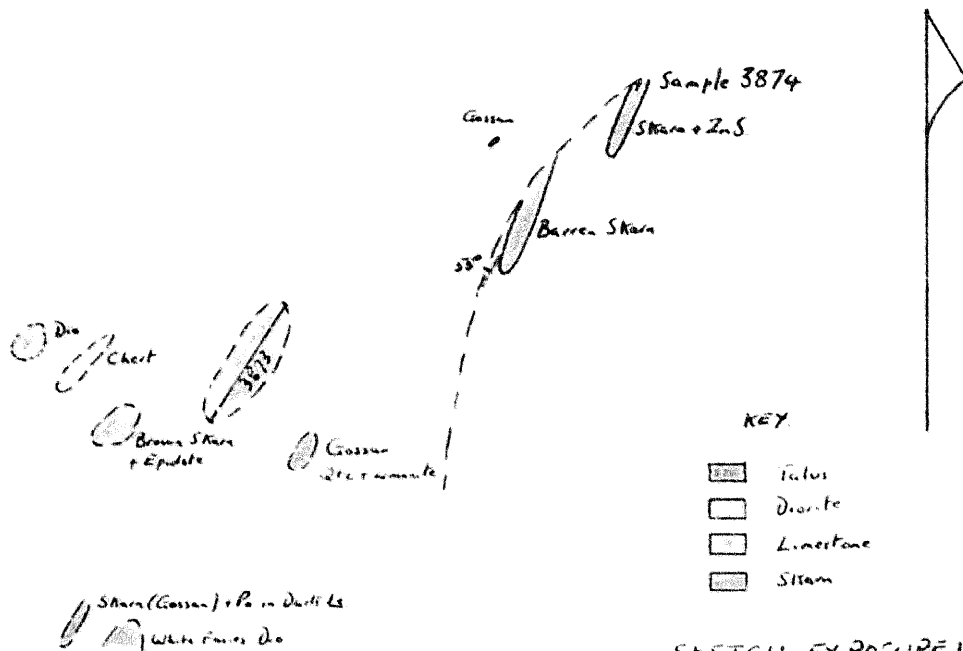
- KEY
-  TALUS
  -  SKARN
  -  LIMESTONE
  -  DORITE
  - Sample

SKETCH EXPOSURE 56 AREA

ROW 26 Sept 66

1"=200'

Assays	Au	Ag	Cu	Pb	Zn
3871	Tr	0.3	0.02	5.18	6.90
3872	Tr	Tr	0.01	0.57	0.20

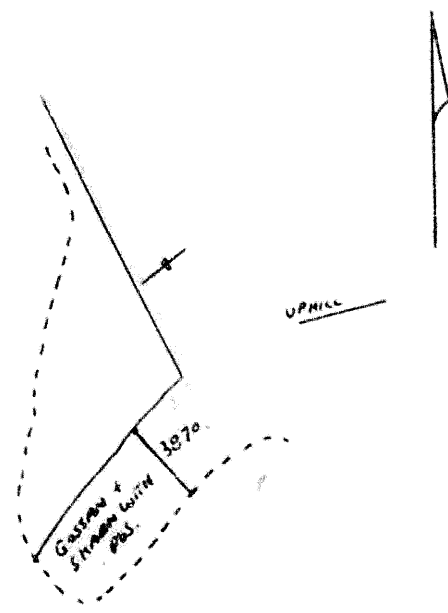


SKETCH. EXPOSURE 113 AREA

R.D.W. 26 Sept 66  
1" = 40'

Assays:

	Au	Ag	Cu	Pb	Zn	
3873	Tr	Tr	0.01	0.29	0.26	9' vertical
3874	Tr	18	0.02	1.38	4.04	30' horizontal



SKETCH EXPOSURE 45 AREA

R.D.W. 26 Sept 66  
1" = 20'

KEY AS ABOVE

Assay:	Au	Ag	Cu	Pb	Zn
3870	Tr	0.1	0.03	1.69	1.78

# Transwest Helicopters Ltd.

**RECEIVED**  
 1966

Vancouver International Airport  
 VANCOUVER, BRITISH COLUMBIA

LORNE PIONEER MINES LIMITED  
 VANCOUVER, B.C.

Office - Airport 278-8955  
 Residence 988-1348

September 4, 1966

In Account with  
 Northwest Ventures Ltd  
 c/o Lorne Pioneer Mines Ltd  
 Vancouver B.C.

Invoice

Date	Ticket No	Flight Time	Rate	Amount
Aug 6/66	1467	2:45	\$130.00	\$356.00
Aug 7/66	1468	2:40	130.00	347.00
Total				= 703.00

**P.A.I.D.**  
 SEP 22 1966

ORIGINAL	
DATE	SEP 22 1966
TO	MR. [unclear]
FROM	Transwest Helicopters Ltd.
REMARKS	CHARGE NORQUEST - Another copy

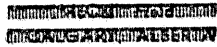
*MR. [unclear] OK.*  
 Another copy

# Transwest Helicopters Ltd.

RECEIVED

OCT 19 1966

DORALDNE PIONEER MINES LIMITED  
VANCOUVER, B. C.



Vancouver International Airport  
VANCOUVER, BRITISH COLUMBIA

Office - Airport 278-8955  
Residence 988-1348

In Account with  
Norquest Mines Ltd  
Watson Lake Y.T.

October 9 1966

## INVOICE

Date	Ticket No.	Flying Time	Rate per Hour	Charge
August 19	11193	<u>4:30</u>	\$130.00	\$585.00

*O.K.*  
*R. Dewalter*

ORIG.	
COPIES	
PRICES OK	
GOODS RECEIVED	
CASH PAID	
APPROVED FOR PAYMENT	
CHARGE	

**Canada**

Province of British Columbia

To Wit:

**In the Matter of**

**I,** DONALD H. JAMES, of VANCOUVER,  
in the Province of British Columbia.

**Do Solemnly Declare that**

costs of doing geological mapping on the Grizzly  
1-15 mineral claims in the District of MacKenzie  
as recorded in the books of Bralorne Pioneer Mines  
Limited, are as follows:

SALARIES and wages	\$1,271.90
Supplies	139.71
Air fares to Watson Lake	140.00
Taxi and truck	41.74
Maps, enlargements	47.18
Motel and meals	27.60
Helicopters	351.50
	292.50
Assays	103.75
	<hr/>
<b><u>TOTAL</u></b>	<b><u><u>\$2,415.88</u></u></b>

**And** I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

**Declared** before me  
at Vancouver  
in the Province of British Columbia.  
this 24<sup>th</sup> day of  
February A.D. 1967

*DH James*

*[Signature]*

