

ASSESSMENT REPORT
GEOLOGICAL REPORT

McDuck, McCOPE, McDOW, McMUL NO.1 AND McMUL NO. 2 CLAIMS

BLACKHORN MOUNTAIN, CHILCOTIN AREA, BRITISH COLUMBIA
CLINTON MINING DIVISION
92N 10W

CO-ORDINATES

51° 34' 30" NORTH LATITUDE
124° 47' 30" WEST LONGITUDE

OWNERS OF CLAIMS

Thelma Waugh		John Berryere
11548-140th Street	and	9916-138th Street
Surrey, B.C.		Surrey, B.C.

OPERATOR

Paul McDonald
908-9500 Erickson Drive
Burnaby, B.C.

CONSULTANT

Harold M. Jones, P.Eng.
721-602 West Hastings Street
Vancouver, B.C.

AUTHOR

Harold M. Jones, P.Eng.

September 4, 1984

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

12,691

HAROLD M. JONES, P.ENG.
CONSULTING GEOLOGIST

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SUMMARY

Between August 15-22, 1984, a crew of one geologist and one field assistant explored the Mc Group of claims, located on Blackhorn Mountain in the Clinton mining division.

Work consisted of prospecting the claims, searching for extensions of known mineralized veins, conducted reconnaissance geological mapping, and rock sampling of mineralized occurrences.

Their work indicates that several veins are present on the claims, all of which carry variable values in gold. Topography, glacial moraines, talus and ice fields prevent tracing any one vein.

It is concluded that while interesting gold values are present in some veins, their widths and lengths are too restricted to offer an economic target for future exploration. It was recommended that the area in general should be examined for the possibility of widespread, low grade gold mineralization. Geology and structure in this area are favourable for this type of mineralization.

INTRODUCTION

At the request of the property owners, G.A. Noel & Associates Inc. conducted a geological reconnaissance of the Mc Group. The purpose of the work was to assess the potential of the property for hosting a vein-type gold deposit, and to complete one year's assessment work. The work was conducted by a crew of one geologist and one field assistant between August 15-22, 1984.

Location and Access 51° 34' 30" North Latitude
 124° 47' 30" West Longitude

The Mc Group is located on Blackhorn Mountain in the Clinton mining division. The claims are 37 km south-southwest of Tatla Lake and 160 km west of Williams Lake. They are centred 3 km due south of the peak of Blackhorn Mountain.

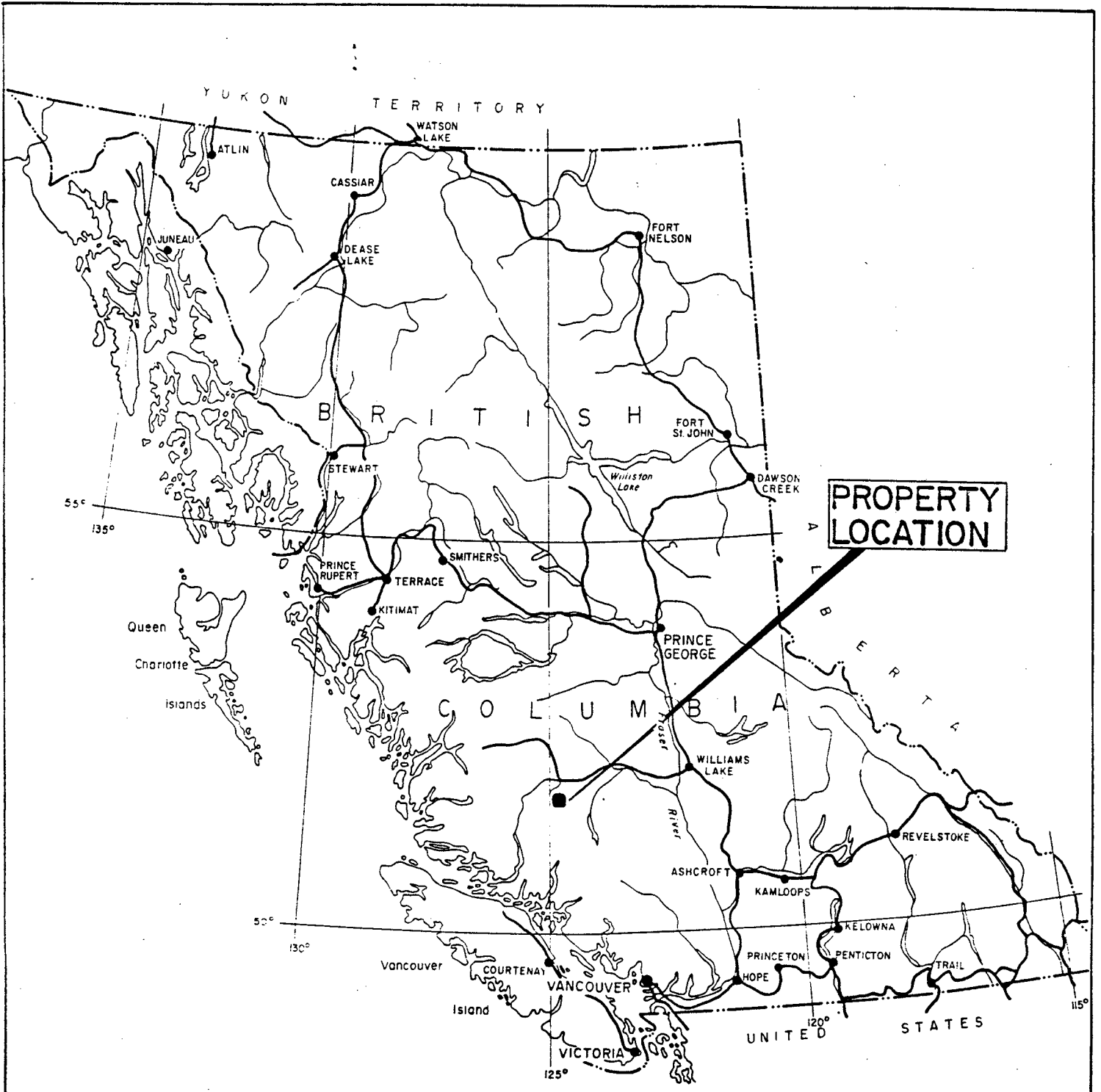
The property is accessible by 243 km of road from Williams Lake to Tatla Lake, then 24 km by road to Bluff Lake. At Bluff Lake, White Saddle Helicopters may be chartered for a 15 minute flight to the property.

Topography and Vegetation

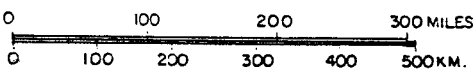
The topography is characterized by steep, rugged slopes dissected by rubble, snow and ice filled cirques and gulleys. The claims are entirely above timber line. Below approximately 1600 m slopes are well forested. Elevations range from 1800 m to 2300 m.

Property

The Mc Group consists of five claims totalling twenty



**PROPERTY
LOCATION**



PAUL McDONALD		
G. A. NOEL & ASSOCIATES INC.		VANCOUVER, B.C.
MC GROUP LOCATION MAP BLACKHORN MOUNTAIN AREA CLINTON M.D., B.C.		
SCALE : AS SHOWN		SEPT. 1984
H. M. JONES		
		FIG. 1

units. They are:

Claim Name	Record No.	No. of Units	Date of Record
McDuck Gold	395	6	August 30, 1979
McCope	866	6	August 25, 1980
McDon	867	6	August 25, 1980
McMul No. 1	868	1	August 25, 1980
McMul No. 2	869	1	August 25, 1980

For convenience, the above claims are being referred to as the Mc Group.

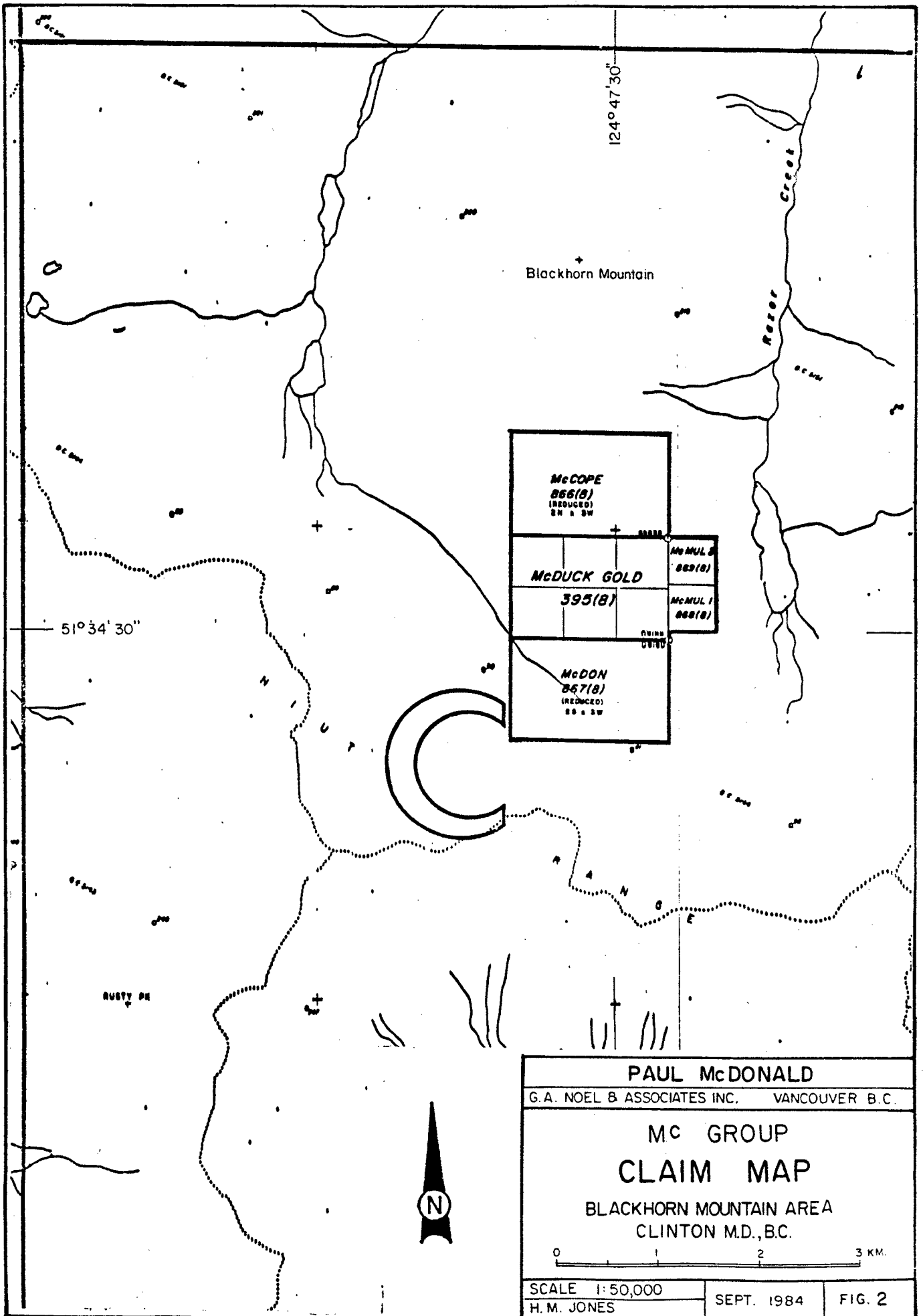
McDuck Gold claim is owned by Mr. John Berryere, 9916-138th Street, Surrey, B.C. The remainder are owned by Thelma Waugh, 11548-140th Street, Surrey, B.C.

History

Gold veins on Blackhorn Mountain were first located in 1936. Subsequent prospecting between 1936 and 1939 uncovered a number of other quartz veins occurring at scattered locations on Blackhorn Mountain.

Homathko Gold Mines, between 1937-39 trenched a number of vein occurrences and drove a short adit and cross-cut on the better showing. They processed 3.5 tons of ore through a small mill and recovered, by amalgamation, \$275 in gold (approximately 2.3 oz/ton gold, average grade of milled ore).

Several holes, totalling 600 m, were diamond drilled to test areas of interest. The location of these holes and their results are unknown to the writer.



PAUL McDONALD
 G. A. NOEL & ASSOCIATES INC. VANCOUVER B.C.

**MC GROUP
 CLAIM MAP**

BLACKHORN MOUNTAIN AREA
 CLINTON M.D., B.C.

0 1 2 3 KM.

SCALE 1:50,000
 H. M. JONES

SEPT. 1984

FIG. 2

Other than prospecting, no work was conducted on the claims since 1939. The present owners have conducted limited prospecting and sampling from 1979 to the present.

GEOLOGY

General Geology

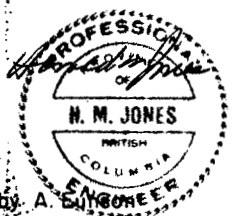
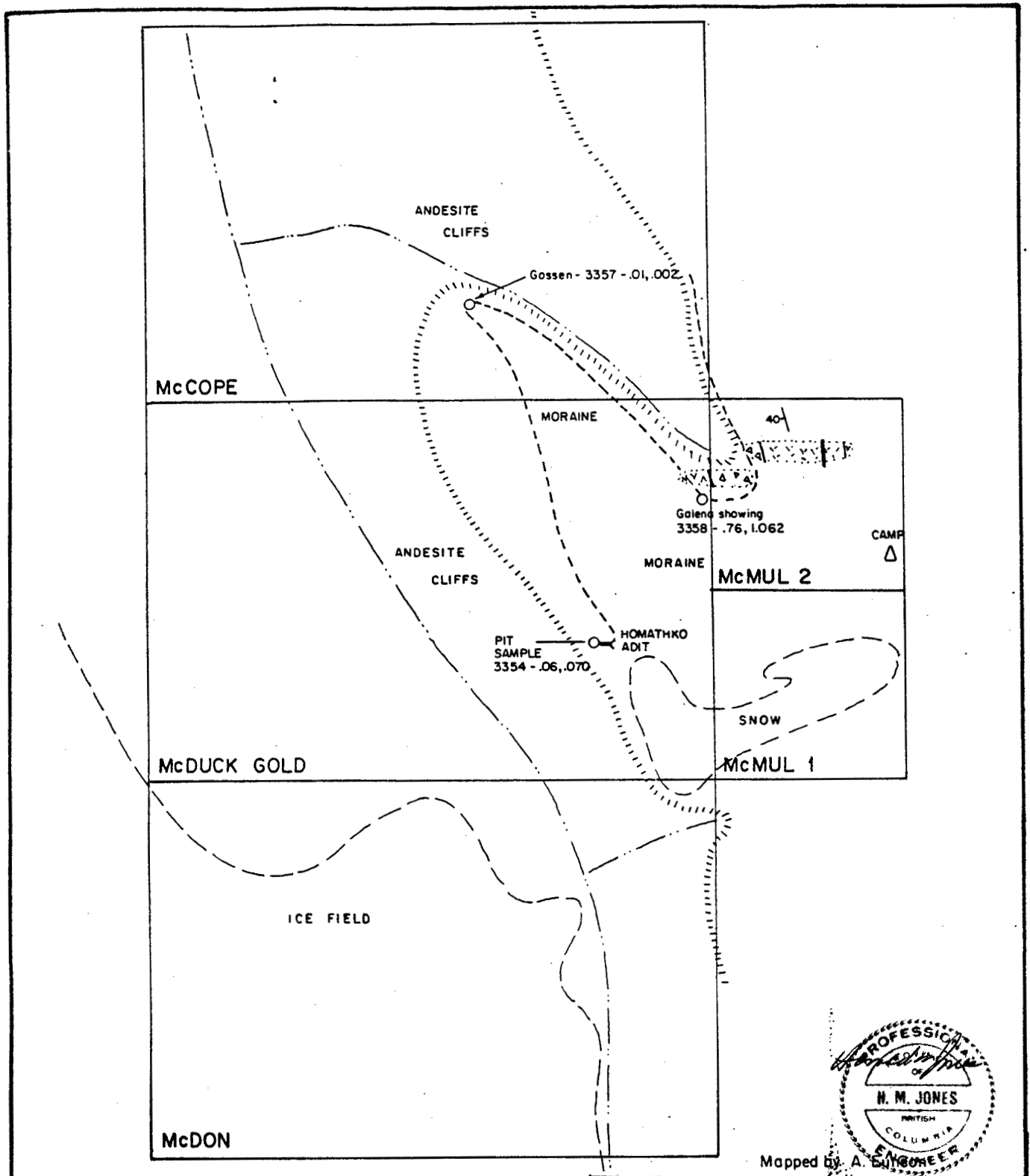
The Mc claim group is located on the eastern flank of the Coast Range mountains in a very structurally disturbed area. Geology by Tipper (1969) indicates several low angle thrust faults trending northwesterly through Blackhorn and Razorback mountains. Two of these thrust faults approximately bound the claims enclosing a block of Upper Triassic volcanics and sediments.

This fault block is comprised of andesitic breccia, tuff and flows, and minor shale and limestone. To the west of the fault block are metamorphized equivalents of the above; to the east are younger Upper Triassic sediments.

Local Geology

Geological mapping and prospecting is difficult on the Mc claim group due to extremely steep topography, snow fields and moraines. Because of these physical problems, reconnaissance mapping was restricted to the eastern part of the property at the base of the steep to cliff-forming terrain.

Outcrop and talus observed along the base of the cliffs appears to be all andesite, which in part is sheared and chloritic. These rocks all contain disseminated pyrite. Local areas on the cliffs show iron staining.



Mapped by A. S. SINGER

LEGEND

- | | | | |
|--|--------------------------------|--|----------------------|
| | FELSITE DYKE | | CLIFF BASE |
| | VOLCANIC BRECCIA | | TRAVERSE |
| | ANDESITIC TUFF | | GLACIER OR ICE FIELD |
| | ANDESITE | | SAMPLE LOCATION |
| | .06, .070 Ag oz/ton, Au oz/ton | | OUTCROP |
| | RIDGES | | |



PAUL McDONALD

G. A. NOEL & ASSOCIATES INC. VANCOUVER B.C.

**MC GROUP
PROPERTY GEOLOGY**

BLACKHORN MOUNTAIN AREA
CLINTON M.D., B.C.

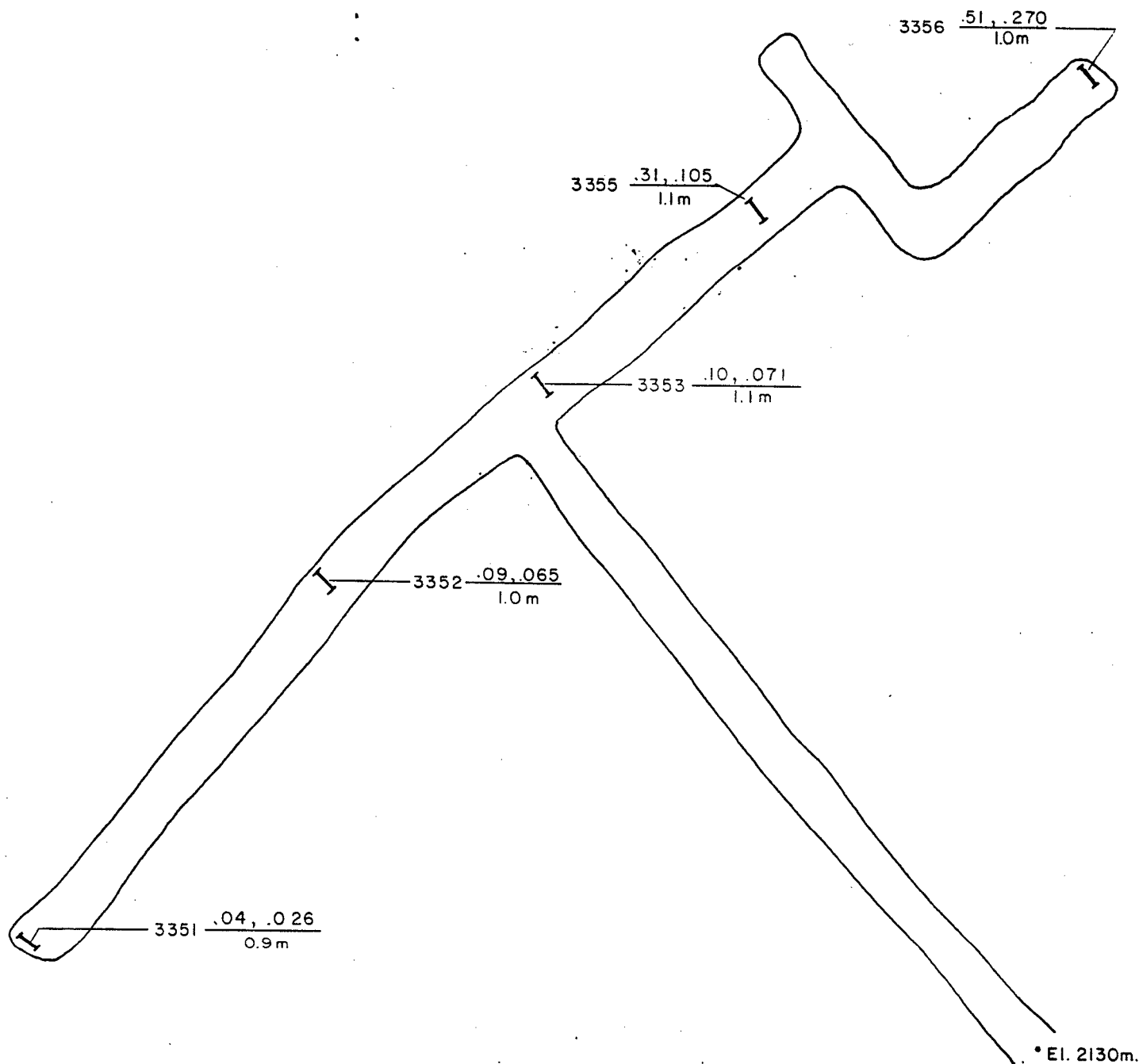


SCALE 1:15,000

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SEPT. 1984

FIG. 3

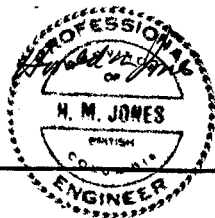


* El. 2130m.

Mapped by A. Eunson

LEGEND

3351 $\frac{.04, .026}{0.9m}$ Sample no. $\frac{Ag\ oz/ton, Au\ oz/ton}{Length}$



PAUL McDONALD

G. A. NOEL & ASSOCIATES INC. VANCOUVER B.C.

**MC GROUP
ADIT SAMPLING**

BLACKHORN MOUNTAIN AREA
CLINTON M.D., B.C.

0 5 10 15 metres

SCALE 1:250

H. M. JONES

SEPT. 1984

FIG. 4

An east-west traverse was run on the McMul No. 2 claim to examine the geology to the east of the cliffs. This area was found to be andesitic tuffs overlain by volcanic breccia and andesite flows. Several felsite dykes were noted in the tuffaceous section.

It was hoped, by mapping, that the known mineral showings might be traced across the property, or at least extended in length. Unfortunately, due to either glacial debris or cliffs, the zones could not be followed.

Four mineral occurrences were located:

1) **Adit** - located on McDuck Gold claim

A 33 m long adit was driven northwesterly to intersect a northeast striking, steeply northwest dipping vein. From the adit, drifting followed the vein 30 m to the southwest and 28 m to the northeast (See Figure 4). The vein varies from about 0.3 m to 1 m in width. It is mineralized with pods and disseminations of arsenopyrite, sphalerite, chalcopyrite and galena. Wall rocks are sheared andesite.

Sampling by others indicated that the vein carried significant values in gold. During the current field work, five samples were cut from the underground workings to check on previous results (See Samples & Assays, also Figure 4).

2) **Pit above adit** - Located on McDuck Gold claim approximately 25 m above the adit.

A 28 m, northeast trending trench exposes a narrow quartz vein in a chloritic, limonitic shear zone in

andesite. Attitude of the shear is N50E/50NW. At the southwest end of the trench an open space produced from drag folding or warping along the shear was filled by quartz, forming a "pocket" 2 m wide. The vein narrows rapidly southwest of the cut and may be traced for 100 m along a cliff face, after which cliffs prevent following it any further. This section of the vein pinches and swells from 1 cm to 20 cm, averaging about 5 cm. It is mineralized with pods of pyrite, arsenopyrite, bornite and chalcopyrite.

One sample was cut across the quartz "pocket", which contains pyrite, arsenopyrite and sphalerite (?) as fine bands and disseminations. The "pocket" also includes chloritic unreplaced bands of wall rock.

- 3) **Gossan Zone** - Located on McCope claim approximately 950 m N20W from adit.

This is one of several gossanous zones observed along the cliffs, but in this case it is accessible. It consists of limonitic, pyritiferous, sheared andesite exposed over about 25 m in length and 8 m in width. The zone is well mineralized, containing about 10 percent pyrite. There is no quartz veining in the zone.

- 4) **Galena showing** - Located on McDuck claim approximately 500 m N35E from the adit.

A quartz vein, attitude N23E/49°NW is exposed in a small pit 2 m wide. At the southwest wall of the pit, the vein is 25 cm wide, but pinches out to a fracture in width on

the northeast wall. Country rock is sheared andesite similar to that in the adit.

The vein, vuggy in part, is mineralized with pyrite and galena.

SAMPLES AND ASSAYS

Eight samples were collected from the property. They are:

Sample No.	Location	Type	Width (m)	Assays		Remarks
				Oz/Ton Au	Oz/Ton Ag	
3351	Adit	Chip	0.9	0.026	0.04)	Qtz with chlorite & sericite alt'd bands, diss py, aspy
3352	Adit	Chip	1.0	0.065	0.09)	
3353	Adit	Chip	1.1	0.071	0.10)	
3355	Adit	Chip	1.1	0.105	0.31	Qtz with py, gal Limonitic quartz
3356	Adit	Chip	1.0	0.270	0.51	
3354	Trench above adit	Chip	1.2	0.070	0.06	Qtz with fine bands aspy, diss py, aspy sph
3357	Gossan	Grab	-	0.002	0.01	Qtz with chloritized andesite, abundant py
3358	Galena showing	Grab	-	1.062	0.76	Qtz with abundant coarse py, gal, fine sph.

The vein samples (3251-53, 55 and 56) returned lower assays than those taken by others (McConnell 1982, Way 1983). This can partly be attributed to the above samples being taken over wider intervals and include some pyritiferous wall rock (obviously not gold bearing). The results may also indicated an erratic nature to gold mineralization in the vein.

DISCUSSION

The veins observed during the examination appear to be very restricted as to mineable widths and lengths, thus severely restricting the tonnage potential of the property. It would appear that the presently known veins do not offer a very encouraging exploration target.

There is no evidence that the property has been considered as hosting a low grade, bulk tonnage-type gold deposit. Literature references refer to narrow quartz and calcite veinlets being common throughout sheared areas within the andesites, and that pyrite, at least, is ubiquitous.

The property warrants a detailed examination for the presence of widespread, low grade gold mineralization. Due to the extreme topography, this work will require personnel familiar with mountaineering techniques.

CONCLUSION

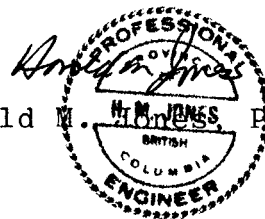
The gold potential of the vein deposits on the Mc Group appear to be very limited as to their tonnage potential, although grades to 1 oz/ton gold are present. It is concluded that additional work is warranted to assess the property for possible area of widespread low grade mineralization.

RECOMMENDATION

It is recommended that the property owner, if possible, option the property to a major company, since work on the claims and the surrounding area are costly due to the need for experienced mountaineers and helicopter support.

Respectfully submitted,

Harold M. Jones, P. Eng.



REFERENCES

- B.C.M.M. ANNUAL REPORTS - 1937, pp. F 3-F6
- 1938, pp. F29-37
- 1938, pp. A72
- McCONNEL, G.W. (1982) Geological Report, McDuck, McDon, McCope, and McMul Claim Group, private report for claim owners.
- TIPPER, H.W. (1968) Mesozoic and Cenozoic Geology of the Northeast Part of Mount Waddington Map-Area (92N), Coast District, British Columbia, G.S.C. paper 68-33.
- WAY, P. (1983) Geological Report on McDuck, McDon, McCope, McMul 1 and McMul 2 claims - private report for claim owners.

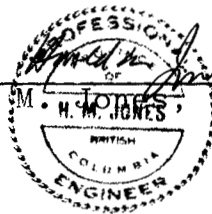
CERTIFICATE

I, Harold M. Jones, of the City of Vancouver, British Columbia, do hereby certify that:

1. I am a Consulting Geological Engineer with offices at 721-602 West Hastings Street, Vancouver, British Columbia.
2. I am a graduate of the Univeristy of British Columbia in Geological Engineering, 1956.
3. I have practised by profession as a Geological Engineer for over 25 years.
4. I am a member of the Association of Professional Engineers of British Columbia, Registration No. 4681.
5. I have not examined the subject property but have reviewed the data listed under references in this report. Mr. A. Eunson, Geologist, conducted the field work under my direction.

DATED AT VANCOUVER, BRITISH COLUMBIA, this 4th day of September, 1984.

Harold M. H. M. JONES, P. Eng.



CERTIFICATE

I, Andrew C. Eunson, with business and residential address at 2034 Dunbar Street, Vancouver, British Columbia, do hereby certify that:

1. I am a consulting geologist.
2. I am a graduate of the University of Manitoba (B.Sc. in Geology, 1979).
3. From 1979 to 1984 I was engaged in mineral exploration in Canada as a geologist for a number of companies.
4. I examined the Blackhorn Mountain claims from August 15 to August 22, 1984.

Respectfully submitted,

G.A. Noel & Associates Ltd.

A.C. Eunson
Andrew C. Eunson, B.Sc.
Vancouver, Canada

APPENDIX I

**HAROLD M. JONES, P.ENG.
CONSULTING GEOLOGIST**

APPENDIX I

Statement of Expenditures

Wages:

A. Eunson-geologist		
- August 15-22, 1984		
7.5 days @ \$150/day	\$ 1,125.00	
R. Ney-Field Assistant		
- August 15-21, 1984		
6.5 days @ \$110/day	715.00	
		\$ 1,840.00

Transportation:

Vehicle rental - Budget Truck	\$ 394.73	
- Gas	137.71	
Helicopter - White Saddle Air See	776.00	
		\$ 1,308.44

Camp Supplies: Food, etc. \$ 289.44

Field Supplies: Flagging, etc. \$ 51.57

Assays: Rock - 8 @ \$15.25/sample \$ 122.00

Report and Map Preparation:

Report	\$ 400.00	
Drafting	75.00	
Secretarial	119.20	
		\$ 594.20

\$ 4,205.65

=====



APPENDIX II

HAROLD M. JONES, P.ENG.
CONSULTING GEOLOGIST

ACME ANALYTICAL LABORATORIES LTD.

DATE RECEIVED AUG 23 1984

852 E. HASTINGS, VANCOUVER B.C.

PH: (604)253-3158 COMPUTER LINE:251-1011

DATE REPORTS MAILED

Aug 29/84

ASSAY CERTIFICATE

SAMPLE TYPE : ROCK - CRUSHED AND PULVERIZED TO -100 MESH.

AG & AU BY FIRE ASSAY

ASSAYER

D. Toye

DEAN TOYE, CERTIFIED B.C. ASSAYER

G.A.NOEL

PROJECT# P.MCDONALD

FILE# 84-2266

PAGE# 1

SAMPLE	AG** OZ/T	AU** OZ/T
3351	.04	.026
3352	.09	.065
3353	.10	.071
3354	.06	.070
3355	.31	.105
3356	.51	.270
3357	.01	.002
3358	.76	1.062