GEOLOGICAL REPORT

Claims N.M. 1 (21994), M.T. 1 (26832)
M.T. 2 (26833), M.T. 3 (26834)
M.T. 11 Fr. (27220), M.T. 12 Fr. (27221)
M.T. 14 Fr. (27279), M.T. 15 Fr. (27280)
N.M. 6 Fr. (21998, Birthday Fr. (14997)

Greenwood Mining Division,
British Columbia.

N.T.S. 82E/2E
Longitude 118° 41'W
Latitude 49° 05' N

Mascot Mines & Petroleum Limited
900 - 837 West Hastings Street
Vancouver, B.C.

Calgary, Alberta
April 16, 1981

W. G. Hainsworth, P. Eng.
Consulting Geologist

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MAPS

INTRODUCTION

Upon request from Mascot Mines & Petroleum Limited of Vancouver, British Columbia, the writer undertook to map, examine and report on specific claims under the company's control in the Greenwood Mining Division of British Columbia.

The specific claims had been held by the company for a period in excess of seven years.

The writer spent three days mapping the claims (November 5, 6 and 7, 1980) and three and one-half days preparing the map and report (April 13, 14, 15 and 16, 1981).

LOCATION & ACCESS

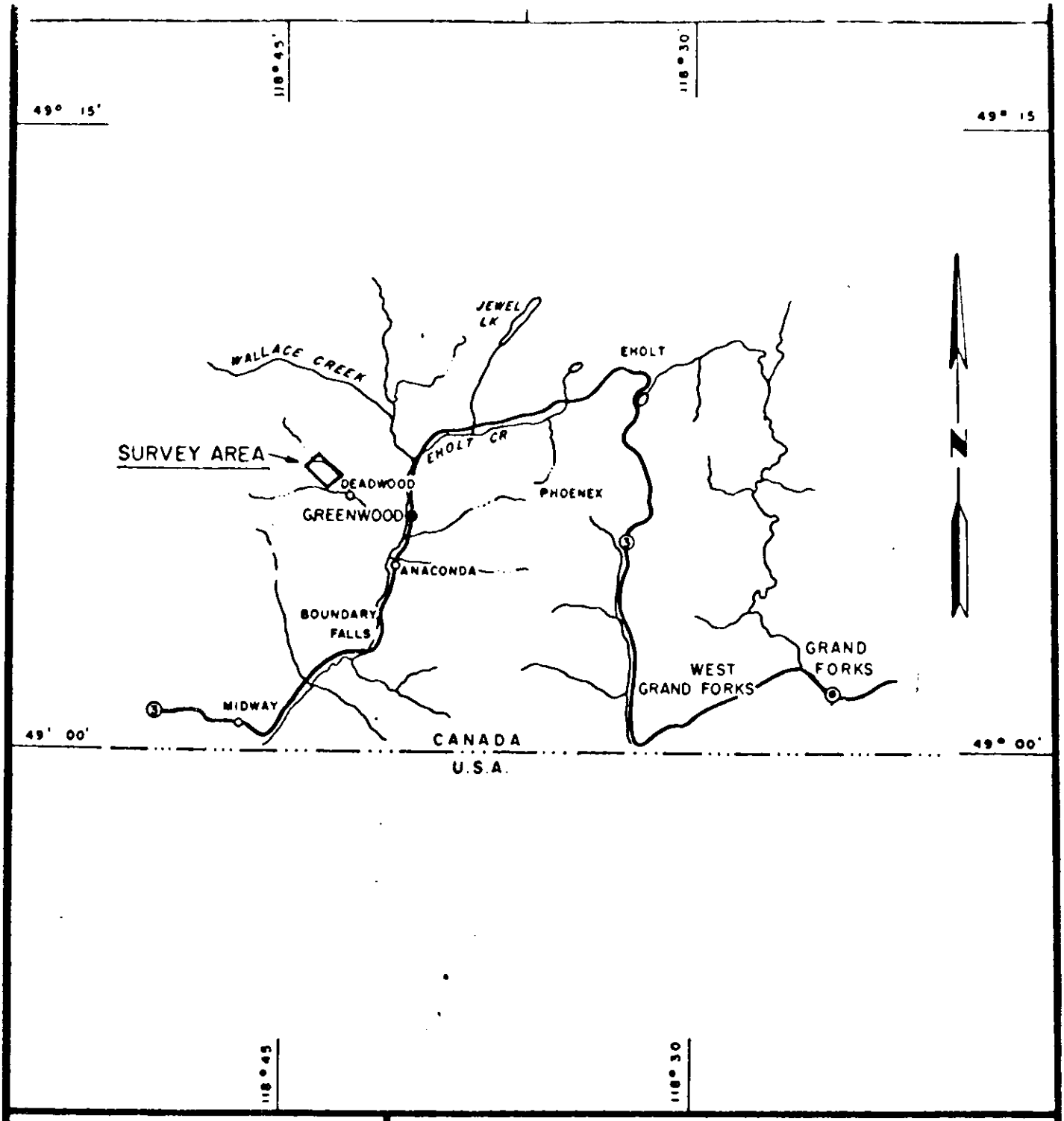
The specific claims of Mascot Mines & Petroleum Limited are located five kilometers west-northwest of the city of Greenwood, British Columbia. It is in the Greenwood Mining Division of that province and is within N.T.S. 82 E/2E. Co-ordinates of the central point of the claims are:

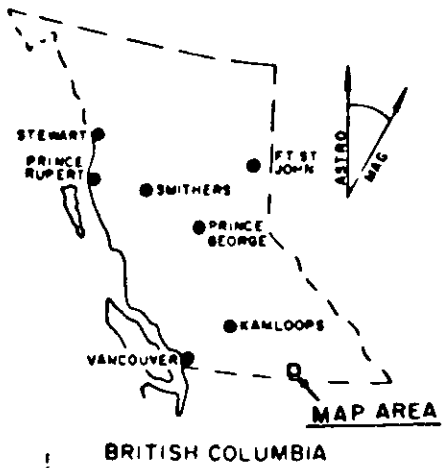
Longitude - 118°41' West

Latitude - 49°05' North

Access is by a good gravel road leading off from the south entrance of Greenwood.

Reference should be made to Plate 1 showing the location of the claims with respect to the Province of British Columbia and with respect to the City of Greenwood.





MASCOT MINES AND PETROLEUM LIMITED

LOCATION MAP

GREENWOOD AREA, B. C.

0 5 10 km

SCALE 1:253 440

TO ACCOMPANY REPORT BY
W.G. HAINSWORTH P. ENG.
April, 1981

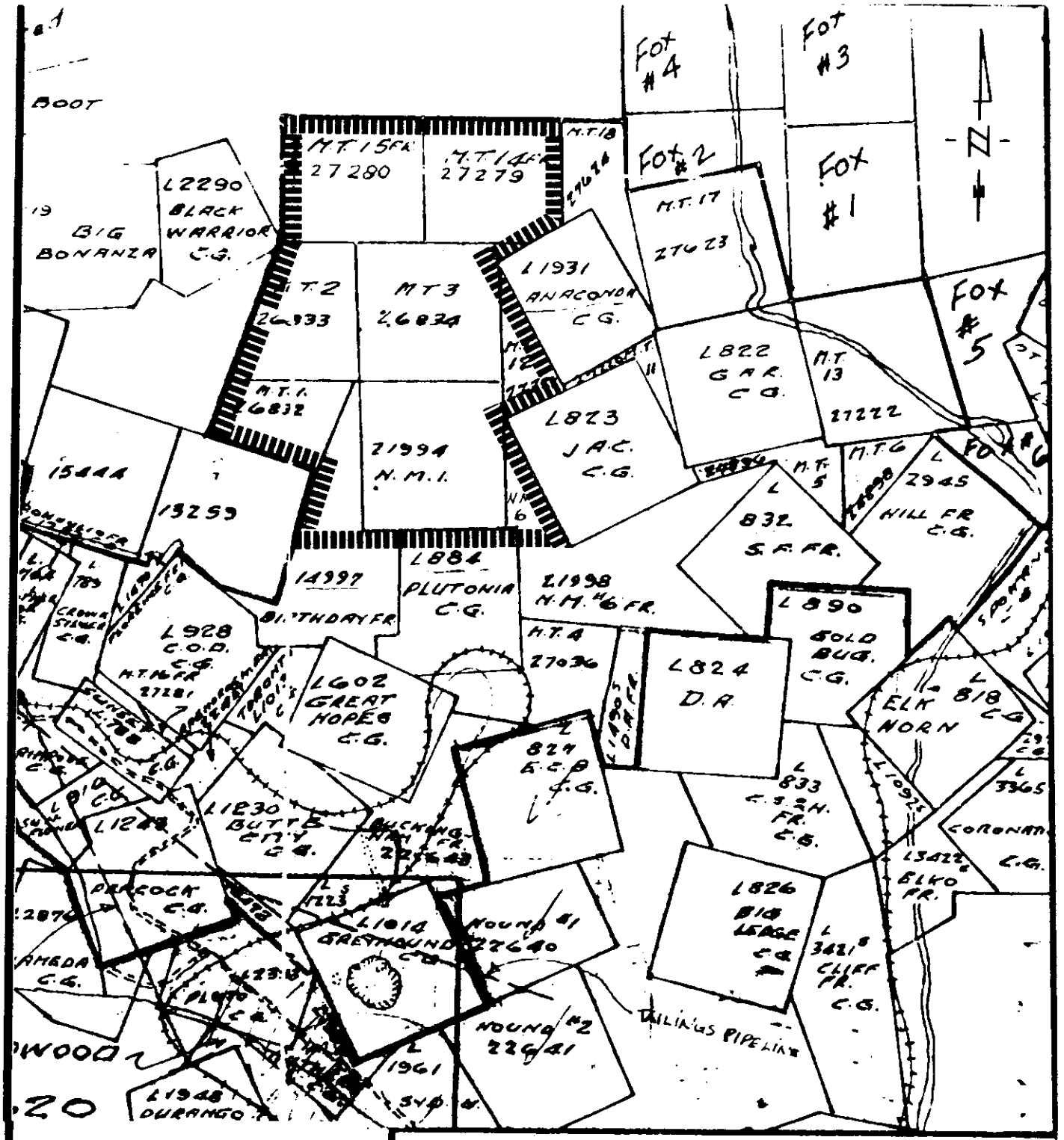
PLATE 1

PROPERTY

The present owner of the 46 claims which include crown grants, mineral leases, mineral claims and fractional claims is Mascot Mines & Petroleum Limited of Vancouver, B.C. The claims ("specific claims") alluded to in this report form a contiguous part of the above claim group and are:

CLAIM NAME	RECORD NUMBER
N.M. 1	21994
M.T. 1	26832
M.T. 2	26833
M.T. 3	26834
M.T. 11 Fr.	27220
M.T. 12 Fr.	27221
M.T. 14 Fr.	27279
M.T. 15 Fr.	27280
N.M. 6 Fr.	21998
Birthday Fr.	14997

Location of these claims is shown on Plate 2 as taken from the Mining Recorders Claim sheet.



LEGEND

▮▮▮▮▮▮▮▮▮▮▮▮ - CLAIM AREA INVOLVED IN REPORT

MASCOT MINES AND PETROLEUM LIMITED

LOCATION MAP
CLAIMS AREA

GREENWOOD AREA, B. C.

0 0.5 1 km

SCALE - 1:18000

TO ACCOMPANY REPORT BY W. G. HAINSWORTH P. ENG. April, 1981

PLATE 2

HISTORY AND ECONOMIC ASSESSMENT OF THE CLAIMS

The specific claims form part of a larger group of claims which include the previous two producers of the Greenwood area - that is, the Motherlode open pit and underground, and the Greyhound open pit.

The Motherlode was developed from 1898 to 1918 through a series of glory holes and underground stopes on five levels. During its lifetime some 3,800,000 tons of ore produced 68 million pounds of copper and 620 thousand ounces of silver and 150 thousand ounces of gold. Later production from pillars and ore remnants (1957 to 1962) produced 650,000 tons of ore yielding 6,500,000 pounds of copper, 50,000 ounces of silver and 12,500 ounces of gold.

The Greyhound did some open pitting in 1970 which provided 202,500 tons of ore yielding 1,108,000 pounds of copper, 9,300 ounces of silver and 410 ounces of gold. No record was kept of earlier underground operations.

Since the 1970 operation at the Greyhound there has been no active production from any of the prospective mineralized areas within the camp.

The presence of copper and precious metals in this area has been well demonstrated by past production records and known occurrences of unmined mineralized sections. Present metal prices, particularily precious metals, make an economic assessment of the whole group, in particular the specific claims, a necessity.

APPROACH

A taped baseline utilizing a hip chain and Brunton compass was laid out on a north bearing originating from the northeast corner claim post of the Greyhound Crown granted claim (L1014). At a point 1,158 meters (3,800 feet) north from the originating point, traverse lines were laid out at 60.9 meters (200 feet) spacing along the baseline. At these identified traverse points lines were run east and west on compass bearing for specific distances. Geological notes were made of all encountered rock exposures while other features such as geographical or physical points were also noted.

In all some ten lines were run east and west of the baseline for a total line length of 11,005 meters (36,100 feet) including the baseline.

The time taken for this mapping operation was 3 days. The writer was the only individual involved in the geological claim survey.

The area examined by the survey consisted of the following ten claims:

Claim Name	Registration No.	Estimated % Investigated
N.M. 1	21994	100
M.T. 1	26832	100
M.T. 2	26833	100
M.T. 3	26834	100
N.M. 6 Fr.	21998	15
M.T. 11	27220	25
M.T. 12	27221	100
M.T. 14 Fr.	27279	60
M.T. 15 Fr.	27280	60
Birthday Fr.	14997	50

It should be noted that soil cover was extensive in the eastern claims thus affecting the geological examination. In all there was little more than 3% of rock exposure in this particular area. The western portion of the claims was covered by an north-south trending ridge with shallow soil cover. Lateral movement from tranverse lines along this ridge was abundant in order to verify continuity of the formations.

STRATIGRAPHIC COLUMN

The following stratigraphic column has been adopted following the field mapping and with reference to government literature:

Quaternary - Surface Cover
Cretaceous - Nelson Intrusive
(10) Quartz Diorite
Triassic - Brooklyn Formation
(6) Limestone (massive, brecciated)
(5) Skarned Limestone
(4) Conglomerate (limestone, Sharpstone)
Permian - Knob Hill Formation
(2) Andesite Tuff
(3) Andesite
(7) Quartzite
(8) Chert

DESCRIPTION OF FORMATIONS

CRETACEOUS - Nelson Intrusive

Quartz Diorite (10)

A small body of medium grained quartz diorite was observed in the north east sector of the area mapped. As with the bulk of the mapping the three exposures were limited in extent but the grouping was such as to suggest a small plug in this particular area.

The intrusive is normally of medium grain, light pink in colour with magnetite and biotite forming the bulk of the mafic minerals. No pyrite or other mineral was noted in any of the exposures. Alteration of the intrusive often takes the form of weak epidotization.

Nelson intrusive outcroppings are quite numerous to the north, east and south of the claims area. As a consequence, the formation mapped on the claims is thought to be an offshot of this larger batholith.

TRIASSIC - Brooklyn Formation

The Brooklyn Series is considered to be younger than the underlying Knob Hill Series. On the property this formation consists of several types of conglomerates and various types of limestone with alterations. In many locations, erosion has created valleys in this series with a resulting side wall effect of older rocks. In the area under examination the elevated ridge lying along the western portion of the claims exposes large areas of older rocks near the top while the sidehill carries more of the resist and skaarnitized limestone.

Several instances of a brecciated (sharpstone) conglomerate were observed. In contrast to other researchers of the district geology the association of these specific conglomerate beds with massive or bedded limestone deposits was not identified. The narrow elongated lenses were however related to skarnitized limestone.

LIMESTONE (6)

Few exposures of unaltered limestone beds were observed on the mapped claims. This is likely due to the erosional effect created on the side hill

which erased most of the less resistant limestone in contrast to the more resistant limey skarn beds. At the base of the hill, almost parallelling the baseline, a narrow band of limestone has been identified and traced for several hundreds of meters.

Generally, the limestone is massive, grayish-white to light gray in colour and of fine grain. Bedding is very difficult to distinguish in the exposures. The gray colour is associated with slightly argillaceous beds. Several small exposures of white brecciated limestone beds were noted but these normally lay interbedded with larger skarn units. In very few instances was pyrite evident. No copper or other minerals were observed.

CONGLOMERATE (4)

This formation has been referred to in the area as Sharpstone Conglomerate. Three isolated and unrelated occurrences were mapped within the claims.

The rock varies from a light brown to dark green with fragments of angular chert or quartz enclosed in a fine grained calcareous matrix. The green colour is normally imparted to the formation by chlorite alteration.

Two of the exposures lay close to the underlying Knob Hill formations.

Like the limestone, the formation was deficient of any mineralization.

SKARN FORMATIONS (5)

The most predominant formation on the claims is skarnified limestone beds. The eastern slope of the ridge on the western boundary of the claims is made up of skarn exposures or skarn talus debris. Epidote-chlorite skarn is the best developed but brownish-red garnetiferous skarns have been identified. The alteration varies in intensity and this development often placed it at the authors discretion to assign the rock under examination as either limestone with minor alteration or weak skarn. In the majority of cases it was allocated to the latter classification. Because of this judgement, the skarn formations exceed the limestone formations in quantity exposures throughout the claims.

Pyrite is weakly present in a good number of instances while entirely absent in an equal number of cases. In only one instant was mineral other than pyrite observed. In a sidehill cut on line 43 north, a trench exposes heavy magnetite with light traces of chalcopyrite and local heavy patches of pyrite all contained within a skarn zone. A chip sample cut by the writer along twenty feet of the exposure assayed:

Sample No. 0587--Gold 0.001 oz/ton; Silver 0.03 oz./ton and Copper 0.01%.

Underlying this particular exposure was andesite with patches of apatite scattered throughout while a light green limestone bed was exposed further up the hillside.

In other areas in the district the skarn horizon has been recognized as being a productive (copper-gold) development. However, its productivity has been dependant upon the intensity of alteration of the limestone beds

brought on by their proximity to intrusive bodies such as the Nelson quartz diorite (Greyhound) and a later resulting shatter effect (Motherlode and Greyhound) to allow the perculation of mineralizing solutions. In the property under examination no large breccia zones were identified.

KNOB HILL FORMATION

The Knob Hill Formation, Permian in age, is composed of cherts, andesites, andesitic tuffs and quartzites. The formation underlies all units in the area save the quartz-diorite intrusive bodies. The formations present their greatest exposures near the tops of ridges where their more resistant qualities has preserved them while eliminating the weaker overlying Brooklyn formations.

CHERT (8)

Exposures of this formation show a dense, very fine grained, siliceous rock varying in colour from light gray to gray-black. A lengthy band of this formation trends north along the ridge at the western boundary of the claims. Locally, it has minor amounts of pyrite but no other mineralization was observed. Isolated narrow bands of the formation have been identified down the ridge slope.

ANDESITE (3) - ANDESITE TUFFS (2)

These formations outcrop near the top of the ridge (andesite) and at the base of the slope (flows and tuffs). Smaller isolated occurrences occur in the flats. Trend of the elongated lenses is roughly north-south.

The andesites are fine to medium grained, light gray to green, with often relict salmon or olivene coloured feldspar phenocrysts and iron stained remnant pits from the pyrite. The fine-grained pyroclastics expose massive, dense, dark to light green coloured exposures with an occassional trace of pyrite. Alteration of both flow and pyroclastic has been by chlorite and epidote which normally impart the degree of green colour to the formation. A minor amount of magnetite was associated with the andesites. The tuff formations often break off as slabs.

QUARTZITE (7)

This unit is not in strong display throught the claims. In fact, it was identified in only four locations. At several exposures it is interbedded with chert formations and may be a phase of the chert. Seldom is mineralization associated with the quartzite.

It appears as a light to dark gray, hard, fine grained formation.

STRUCTURE

The sedimentary formations of the Brooklyn Series and the sedimentary-volcanic formations of the Knob Hill Series are stratigraphically oriented almost north-south. Although few dips were obtained during the survey, they did show a westerly orientation.

Surface linears tend to show variations extending from southwest-northeast through to northwest-southeast. Strongest of these is in the northwest-southeast quadrant. Sheer cliffs developed in certain areas of

the ridge are likely expressions of weak strike faulting within the formations which combined with glacial action, developed the present structures.

The fracture pattern shows two definite sets of slips almost at right angles. The strongest set lies in the 190^{o} - 205^{o} range with an attitude varying from vertical to moderately northwest. Coincidentally, shearing structures developed on the property also lie within this bearing. The second set of fracturing is contained within the 110^{o} - 125^{o} azimuth sector and has a tendency to dip slightly in either direction from the vertical.

DETAILED TECHNICAL DATA AND INTERPRETATION

The purpose of the geological investigation was to determine the present economic viability of the specific claims under investigation. Should the claims continue to be held as an integral part of the complete Motherlode-Greyhound claim block? Or would their release have little effect on the Mascot holdings?

The results of the investigation are shown in Plate 3, a 1:2000 geological map of the specific claims. Elaboration has been made of the different rock formations encountered under Description of Formations.

During the examination particular attention was directed towards conditions known to exist at the Motherlode and the Greyhound showings. Intense brecciation plus heavy mineralized skarn and the proximity of acid intrusives were factors of particular purpose. Nowhere within the specific claims were these criteria in strong evidence. Brecciation where observed covered no large areas and was weak in mineral. Faulting, often a contributor to localized brecciation, was not observed in any degree of strength or continuity.

Skarnification of the limestone beds is general throughout the surveyed area. However the alteration effect was usually light to medium with little accompanying mineralization save for minor to trace amounts of pyrite. In one location magnetite in the skarn was extremely heavy and was accompanied by moderate amounts of pyrite and traces of chalcopyrite. As noted in the report assay results of a sample chipped from this particular showing were weak in the precious metals and the copper content.

The presence of Nelson quartz diorite exposures in the north eastern section of the surveyed area did not seemingly have any effect on the degree of skarnification or mineralization to closeby formations. Although accepted as exposures of a single large plug the intrusive outcroppings could have been isolated, individual dykes. The area is largely drift-covered therby offering little opportunity to check continuity.

It is concluded on the basis of the geological examination that the specific claims offer weak opportunity for economic deposits of gold and/or copper mineralization. The geological guidelines for mineral deposition in the district are not apparent within this claim grouping. It is recommended that future attention be paid more to the other claims within the Mascot holdings other than these specific claims.

ITERMIZED COST STATEMENT

Greenwood Mapping - November 4 to 7, 1980

Accomodation	=	$ 71.40
Meals	=	45.58
Equipment Rental & Purchase (Hip chain, Survey thread, Flagging)	=	75.00
Mileage Charges (Calgary to Greenwood and return plus daily trips) 1562 km. @ 25¢/km	=	390.50
Field mapping: 3 days @ $275/day	=	825.00
Report and Map Preparation 3.5 days @ $275/day	=	962.50
Drafting: 10 hours @ $15/hr.	=	150.00
Assaying 1 sample	=	10.00
		$2529.98

QUALIFICATIONS

I, W. G. Hainsworth, Professional Engineer of Calgary, Alberta do hereby certify:

(1) That I am a Consulting Geologist residing at 2310 Carleton Street, S.W. Calgary, Alberta.

(2) That I am a graduate of the University of Western Ontario, London, Ontario, Bachelor of Science Degree.

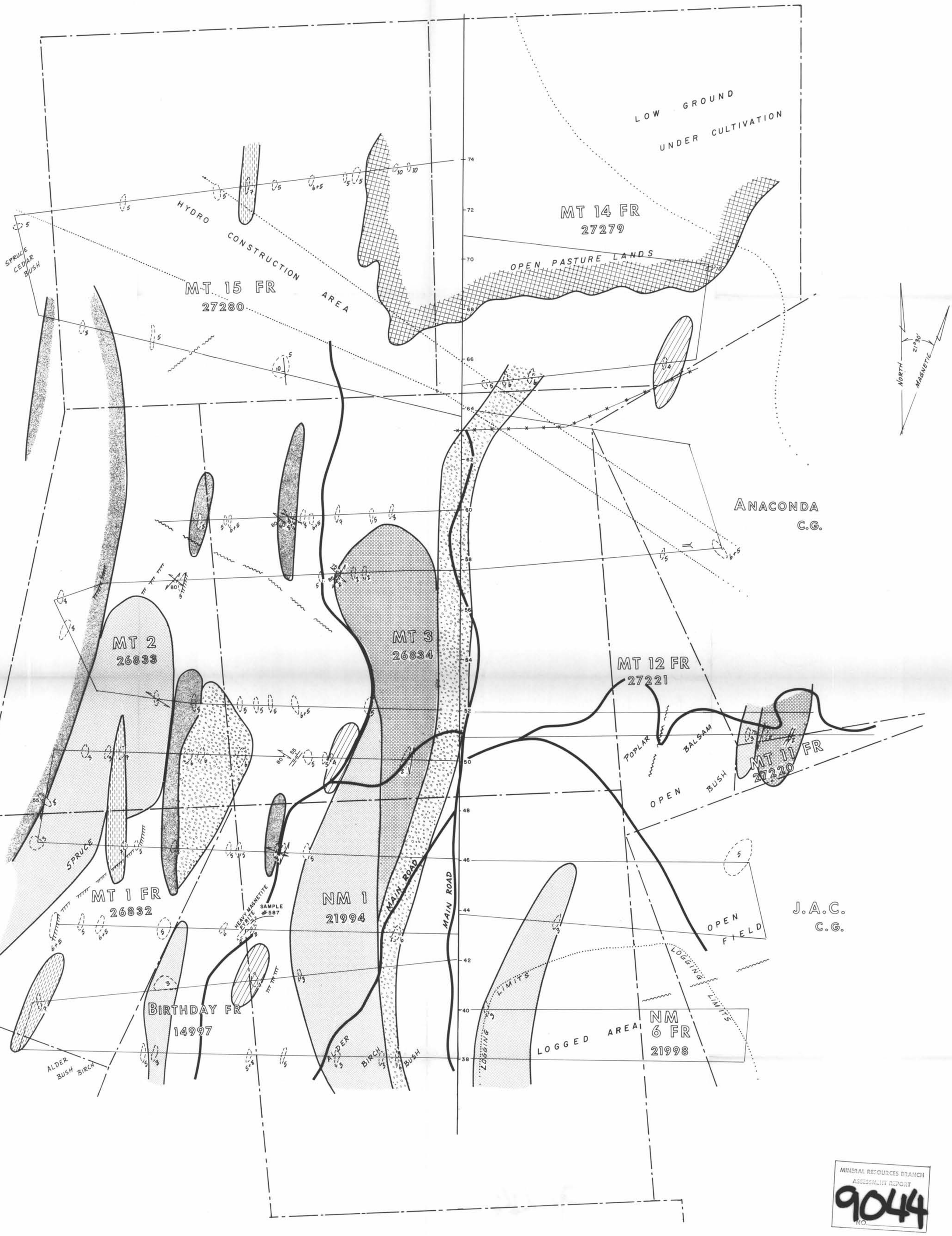
(3) That I have practiced my profession for 30 years.

(4) That I have been a continuous member of the Association of Professional Engineers of British Columbia since 1965 and have Professional Geologist Certification with the Association of Professional Engineers Geologists and Geophysicists of Alberta.

(5) That I have no financial interest, direct or indirect, in Mascot Mines and Petroleum Limited, that I do not expect to obtain any such interest, nor do I have any interest, direct or indirect in said property.

(6) That the information contained in this assessment report is based on examination of all pertinent maps, reports and other data relevant to the property and a property visit made on November 5, 6, and 7, 1980 for the purpose of geologically mapping the claims.

W. G. Hainsworth, P. Eng.



LEGEND

- 2 ANDESITE TUFF
- 3 ANDESITE
- 4 CONGLOMERATE
- 5 SKARN LIMESTONE
- 6 LIMESTONE
- 7 QUARTZITE
- 8 CHERT
- 10 QUARTZ DIORITE

SYMBOLS

- BUSH ROAD
- CLIFF
- TOPOGRAPHIC LINEAR
- STRIKE WITH DIP
- FRACTURING WITH DIP
- SHEARING
- ROCK EXPOSURE
- GEOLOGICALLY INFERRED CONTACT
- ADIT
- FENCE

MASCOT MINES AND PETROLEUM LIMITED
VANCOUVER, B.C.

GEOLOGY OF
SPECIFIC GREENWOOD B.C. CLAIMS

SCALE 1:2000

TO ACCOMPANY REPORT BY W.G. HAINSWORTH, P. Eng.

FIG. 3