3810

GEOLOGICAL REPORT

ON THE

CHELASLIE PROPERTY

53°28'N 125°32'W

N.T.S. 93F/5E

OMINECA MINING DIVISION, BRITISH COLUMBIA

W. A. HOWELL

under the supervision of

G. E. DIROM P. Eng.

NORANDA EXPLORATION COMPANY, LIMITED

P. O. BOX 2169, SMITHERS, B. C.

MAY 18, 1972 - JUNE 1, 1972

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GEOLOGICAL REPORT

ON THE

CHELASLIE PROPERTY

NORANDA EXPLORATION COMPANY, LIMITED

INTRODUCTION

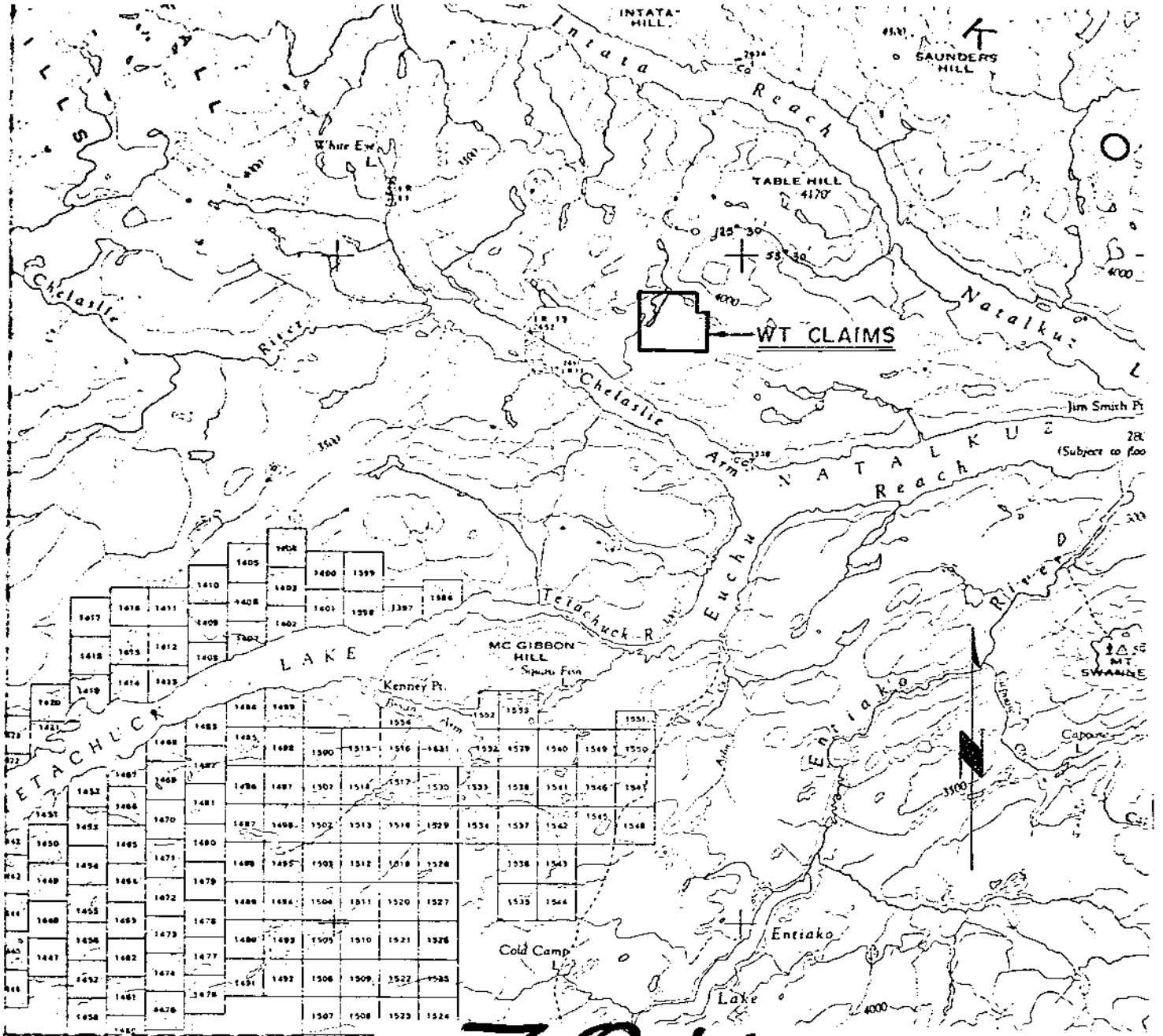
The Chelaslie property, owned by Noranda Exploration Company, Limited, (No Personal Liability), 1050 Davie Street, Vancouver, B.C. is located approximately two and one half miles north of Chelaslie Arm, part of the Aluminum Company of Canada's reservoir, located about thirty two miles southwest of Burns Lake. (See Fig. 1.). Access to the property is by float plane or helicopter.

The topography is rolling hills with localized steep slopes. Relief on the property is approximately seven hundred feet between elevations 3,300 feet and 4,000 feet.

Forty two full sized claims and fifteen fractional claims were staked as the WT claim group by Noranda Exploration Company personnel to cover an area of favourable stream silt geochemical values coincident with previously unmapped Post-Middle Jurassic intrusive rocks (Memoir #324, H.W. Tipper, Geological Survey of Canada, 1963).

During the 1971 field season, line cutting, magnetometer, induced polarization and soil geochemical surveys were carried out in conjunction with reconnaissance mapping and prospecting.

During the 1972 field season, a program of geologic mapping, blasting



3810 M-1

NORANDA EXPLORATION COMPANY LIMITED

LOCATION MAP

W.T. GROUP of MINERAL CLAIMS

OMINECA M.D.

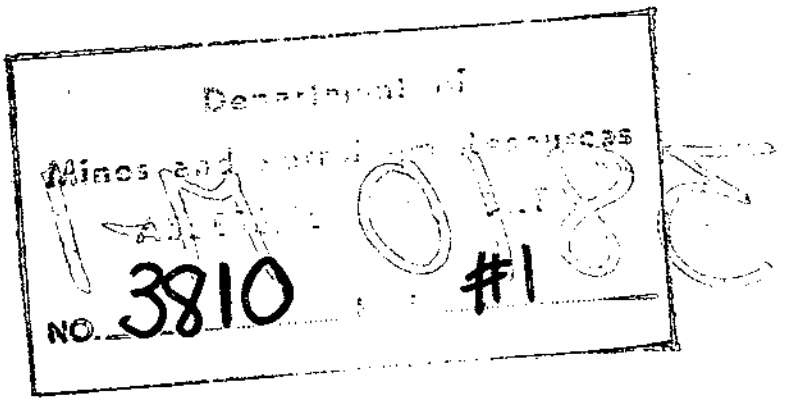
93 F/5E

1" = 4 MILES

FIG. 1

W.A. Howell

C.R. Dixon


Department of
Mines and
NO. 3810
#1

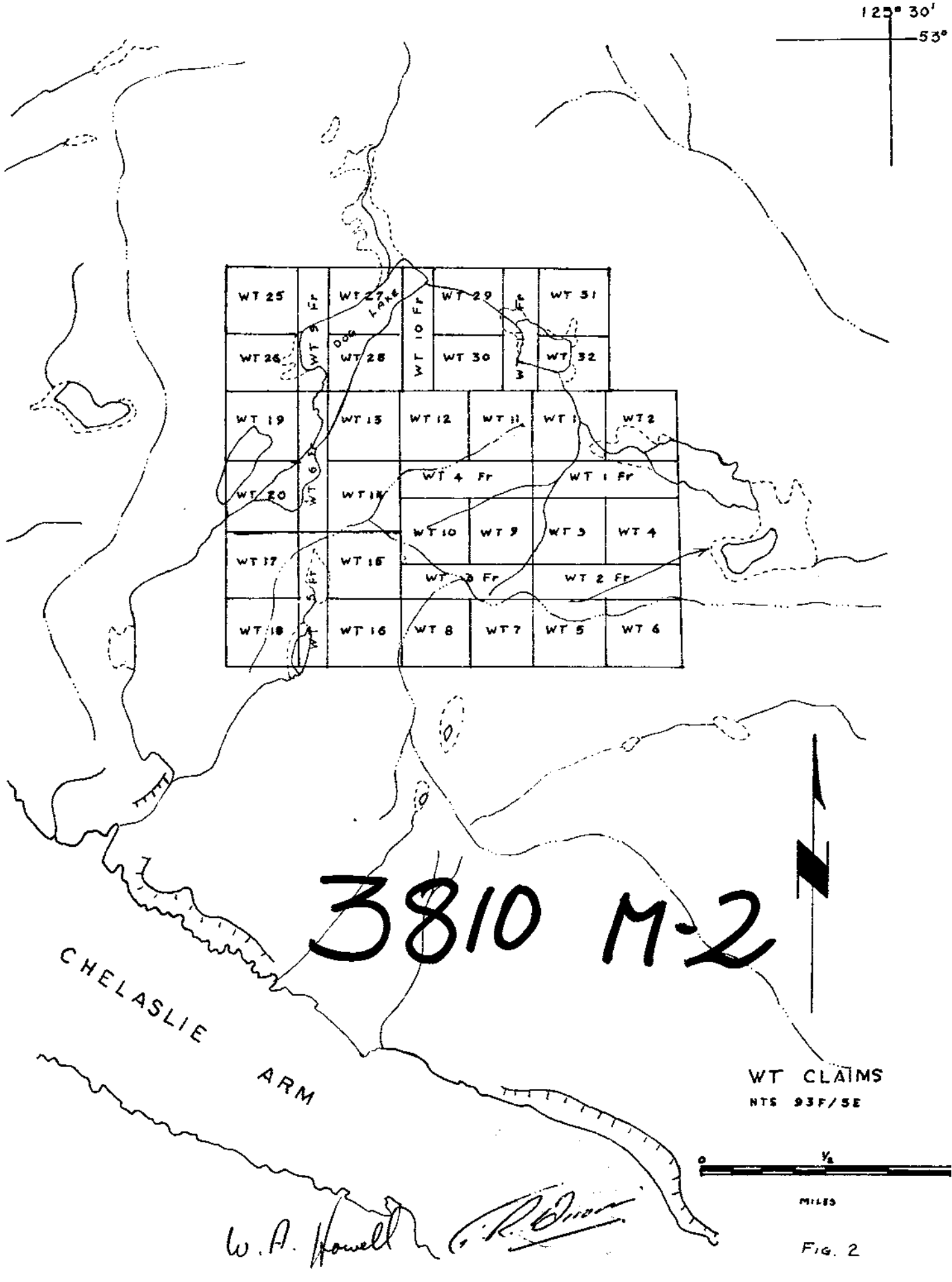
and hand trenching was carried out in an attempt to expand geological information on the areas of coincident or correlatable results of the surveys completed.

Geological mapping was confined mainly to the area covered by the previously established grid.

CLAIMS & OWNERSHIP

Claims	Record No's	Recording Date
WT # 1	89550	July 13/70
WT # 2	89551	"
WT # 3	89552	"
WT # 4	89553	"
WT # 5	89554	"
WT # 6	89555	"
WT # 7	89556	"
WT # 8	89557	"
WT # 9	89558	"
WT #10	89559	"
WT #11	89560	"
WT #12	89561	"
WT #13	99332	June 15/71
WT #14	99333	"
WT #15	99334	"
WT #16	99335	"
WT #17	99593	July 5/71
WT #18	99594	"
WT #19	99595	"
WT #20	99596	"
WT #25	99601	"
WT #26	99602	"
WT #27	99603	"
WT #28	99604	"
WT #29	99605	"
WT #30	99606	"
WT #31	99607	"
WT #32	99608	"
WT # 1 Fr.	89562	July 13/70
WT # 2 Fr.	89563	"
WT # 3 Fr.	89564	"
WT # 4 Fr.	89565	"
WT # 5 Fr.	99619	July 5/71
WT # 6 Fr.	99620	"
WT # 9 Fr.	99623	"
WT #10 Fr.	99624	"
WT #11 Fr.	99625	"

The above claims are held by Noranda Exploration Company, Limited, 1050 Davie Street, Vancouver, B.C.


125° 30'
53°
WT 25
WT 26
WT 27
WT 28
WT 29
WT 30
WT 31
WT 32
WT 19
WT 20
WT 15
WT 14
WT 12
WT 11
WT 1
WT 2
WT 4 Fr
WT 1 Fr
WT 10
WT 9
WT 3
WT 4
WT 17
WT 18
WT 16
WT 8
WT 7
WT 5
WT 6
WT 2 Fr
LAKE
CHELASLIE
ARM
3810 M-2
WT CLAIMS
NTS 93F/5E
0
½
MILES
W. A. Howell
FIG. 2

REGIONAL GEOLOGY

The Nechako map-sheet has been mapped by Dr. H. W. Tipper of the Geological Survey of Canada (Memoir #324, 1963). Dr. Tipper has mapped, in the Chelaslie Arm area, a region largely covered by glacial till with outcropping of Tertiary Endako group basic volcanics, Tertiary/Cretaceous Ootsa group basic to acid volcanics, Jurassic and/or Cretaceous granite, quartz diorite, granodiorite and diorite intrusives, and middle and lower Jurassic Hazelton group intermediate volcanics, volcanic sediments and sediments.

LOCAL GEOLOGY

Bedrock outcrop is not widespread throughout the area of the WT claims. Outcrop is most plentiful on south and west facing slopes, which also have generally steeper slopes. This has been attributed to erosion by Pleistocene glaciers which overrode the area from the southwest.

The intrusive rocks overlain by the WT claims are a medium grained, chloritized and saussuritized biotite, hornblende diorite to quartz diorite and a generally fresher looking, coarser grained biotite diorite. Intrusive rocks were found to outcrop on the east and west sides of Dog Lake and to the immediate south east of Dog Lake. (Fig. 3).

Meta-sediments occur in the southern portion of the map area. These have been mapped as a hornfelsed member and a skarn member. Neither alteration is particularly distinct or well developed.

A quartz orthoclase porphyry latite unit is found sporadically outcropping mainly in the central portion of the map area.

An orthoclase porphyry latite is found primarily in the southern portion of the map area. Outcrop of both the porphyry latite units is not

extensive when found and areas of scattered outcrop and sub-outcrop are suggestive of large dikes and/or sills, although contacts with the host rocks have not been observed.

An andesite unit is found in dikes and as isolated outcrops where its mode of occurrence could not be determined.

An aplite unit is mapped cutting through skarn in the southwestern portion of the map area. This unit is quite indistinctive mineralogically and texturally.

LITHOLOGIES AND CORRELATION OF ROCK UNITS

Unit 1 - A medium grained chloritized and saussuritized biotite hornblende diorite to quartz diorite. Plagioclase crystals are often subhedral and 'dirty' in appearance, the feldspars often have a slight greenish hue. The orthoclase crystals are almost always very anhedral or present as an interstitial mineral. Pink orthoclase appears to have 'flooded' the rock in only a few instances. Mafic minerals are usually chloritic biotite or hornblende. Quartz is almost always present in small amounts and only occasionally is present in sufficient quantities that the rock may be called a quartz diorite. Magnetite is present as a finely disseminated mineral within the mafics. It may be present in quantities sufficient enough to make the rock appreciably attracted by a magnet. Fractures are often epidotized.

Unit 1a - A coarse to medium grained biotite rich diorite. Feldspars are distinctly less altered than Unit 1. Biotite is present as large anhedral masses interstitial to the feldspars. This unit is often observed to have inclusions of a fine grained dark green to black rock assumed to be the country

rock to the intrusive diorite. Inclusions of intrusive rock not dissimilar from Unit 1 are occasionally present also. The inclusions are, in a few places, numerous enough that the rock has been noted as a breccia.

The intrusive rocks on the WT group of claims fall within Dr. Tipper's description of the regional plutonic rocks. He has assigned an age of post-middle Jurassic to these intrusives.

Unit 2 - A quartz orthoclase porphyry latite. Euhedral quartz phenocrysts and euhedral orthoclase crystals up to one-quarter inch in diameter are found in a very fine grained cream coloured to pale green matrix. The pale green matrix has been ascribed by the writer to sericitization of the matrix.

Unit 2a - A uniformly medium to fine-grained variation of Unit 2. Quartz is present in small euhedral crystals. The feldspars are kaolinized with minor chloritized biotite and occasional magnetite also present.

Unit 3 - Orthoclase porphyry latite. Texturally this rock is similar to Unit 2, however, the absence of quartz and the sericitic alteration of the matrix feldspar, distinguishes this unit from Unit 2.

Unit 2 & 3 are felt to be part of the Ootsa Lake group as mapped by Tipper. This group (in part) has been assigned an age of Paleocene (?), Eocene, and Oligocene.

Unit 4 - Andesite. Both fine grained trachytic and uniformly very fine grained aphanitic varieties have been observed. The trachytic variety has plagioclase laths up to three-quarters of an inch in length. Both rock types have been observed in dikes. Spotty outcrop in many places exhibit a spatial relationship which may be caused by dikes but cannot be observed in contact

with the assumed host rock.

No large massive outcrop or distinct flows have been observed. This unit is felt to be most probably part of the Endako group. Tipper describes an occurrence of coarse platy crystals of labradorite up to one and a half inches diameter in a fine grained black groundmass, near Takysie Lake. His textural observations closely parallel those observed, by the writer, in the andesite dikes and outcrop on the WT claims.

Unit 5 - Skarn. The skarn unit is observed in the southern portion of the map area. It is believed to be originally a fine grained dolomitic limestone. A few outcrops of grey dolomite are found with fossiliferous remains of pelecypods preserved as coarse grained calcite. More altered outcrops have been silicified with epidote, diopside, quartz and calcite being the common mineral assemblage observed.

At one location in the southwestern portion of the map area, pelecypod remains had been replaced by pyrrhotite. Very fine grained pyrrhotite was also evident in the almost cryptocrystalline dolomitic host rocks.

Unit 5a - Hornfels. The rocks in this unit have a variable texture, commonly appearing like relict bedding. The rocks are often uniformly very fine grained and silica rich. Fracture surfaces are commonly epidote covered. In some portions of the map area, these rocks often appear slightly bleached on freshly broken surfaces, and have iron stained weathered surfaces. In a few instances the iron staining becomes a crustiform coating of limonite with minor gypsum coating fractures. Sulphide minerals are not observed in this unit with one exception; at grid location 68N 71E fine grained chalcopyrite is

developed over a limited area.

Units 5 & 5a are tentatively correlated with the middle to upper Jurassic Hazelton group.

Unit 6 - Aplite. This aphanitic unit is not extensive and apparently bears no close spatial relationship to the major plutonic bodies mapped. It is possible that this unit is a textural variation of Unit 2 or 3. Its spatial relationship is perhaps more compatible with such an interpretation.

The above correlations with the rock units described on G.S.C. Map #1131A and in G.S.C. Memoir #324 (H. W. Tipper, 1963) are based on a comparison of the lithologies and occurrences described by Dr. Tipper and those observed by the writer.

STRUCTURE

Little structure other than rock contacts could be determined. A northeasterly trend to the andesite dikes was observed with a suggestion also of some minor northwesterly trending dikes. The northeasterly trend is correlated with parallel jointing observed in the plutonic rocks. A northeast trending topographic lineament has been mapped as a fault. Less obvious structural trends are a generally north striking joint and fracture set and a northwest trend to some fractures. The geologic history of the region is fairly complex and without better exposure of outcrop and contacts little more can be positively stated about the structural development of the area.

MINERALOGY

A simple assemblage of sulphide mineralization occurs on the WT claims;

pyrite, chalcopyrite, molybdenite, minor bornite and pyrrhotite in addition to magnetite is found variably dispersed throughout the plutonic rocks and the hornfels-skarn unit.

Pyrite mineralization is variably distributed throughout Units 1 and 1a as disseminations and is locally abundant on fracture faces and in veining.

Chalcopyrite mineralization has been found as disseminations on fracture faces associated with epidote and chlorite and in tiny veinlets and stringers associated with magnetite. The chalcopyrite observed has been restricted to the biotite rich diorite and the skarn/hornfels unit.

Molybdenite mineralization has been observed associated with very fine grained dark coloured biotite rich inclusions within the biotite diorite.

Bornite has been recognized in float thought to be sub-outcrop. It is disseminated through biotite rich diorite along with very fine grains of chalcopyrite.

Magnetite is a common constituent of the plutonic rocks and the andesites. It is found with chalcopyrite on some fracture faces observed in blast debris from the test pitting operation. It has also been observed as a vein constituent in the skarn hornfels unit. It is, however, not an abundant mineral in either of the latter occurrences.

Sulphide mineralization, mostly pyrite, occurs over an area of approximately 3,000 feet by 2,000 feet. Traces of copper mineralization appear most plentiful within the central and southern portions of the sulphide zone. Test pits in this area have shown the underlying rock to be severely leached along fractures. Copper mineralization was not found to be extensive on surface.

RECOMMENDATIONS

The area of known copper mineralization within the sulphide zone should be tested either with a bulldozer trenching program to determine the extent of mineralization in areas where outcrop is limited, or by testing known mineralized areas with a few short diamond drill holes.

Respectfully submitted,

W. A. Howell

Gavin E. Dirom, P. Eng.

July 27th, 1972.

ASSAY RESULTS

	Sample No.	Gold Oz/T	Silver Oz/T	Copper %	Zinc %	Molybdenum %
1.	X 12405	<.005	0.47	0.58	0.08	0.01
2.	X 12406	<.005	0.62	0.28		
3.	X 12404	<.005	0.03	0.02	0.03	< 0.01
4.	X 12403	<.005	0.06	0.03	0.01	0.07
5.	X 12407	<.005	0.06	0.03	< 0.01	< 0.01
6.	X 12410	<.005	0.03	0.01	0.01	< 0.01
7.	X 12408	<.005	0.09	0.04	< 0.01	0.01
8.	X 12409	<.005	0.03	0.02	0.01	0.01
9.	X 12411	<.005	0.20	0.18	0.01	0.01
10.	X 12412	<.005	0.06	0.04	0.01	< 0.01
11.	X 12413	<.005	0.09	0.02	< 0.01	< 0.01
12.	X 12414	<.005	0.29	0.21	0.01	< 0.01
13.	X 12415	<.005	0.12	0.10	0.02	< 0.01
14.	X 12401	<.005	0.06	0.02	0.01	0.01
15.	X 12402	<.005	0.03	0.01	< 0.01	0.01
16.	X 12416			0.01		

STATEMENT OF QUALIFICATIONS

I, WILLIAM A. HOWELL, of the town of Smithers, Province of British Columbia do certify that:

1. I have been an employee of Noranda Exploration Company, Limited since March 1972.

2. I am a graduate of the University of British Columbia with a Bachelor of Science degree in Geology. (1971)

Dated at Smithers this 27th day of July 1972.

W. A. Howell

W. A. HOWELL, Geologist.

CERTIFICATE

I, GAVIN EWAN DIROM, of the Town of Smithers, Province of British Columbia, do certify that:

1. I am a Geological Engineer residing at 52 North 14th Avenue, Smithers, B.C.

2. I am a graduate of the University of British Columbia with a B. A. Sc Degree (1962) in the geophysical option of Geological Engineering and a M. A. Sc Degree (1965) in Geophysics.

3. I am a Member of the Canadian Institute of Mining and Metallurgy.

4. I am a registered Professional Engineer in the Provinces of British Columbia and Ontario.

5. I have been employed as a geologist for Noranda Exploration Company, Limited since June, 1962 and have held the position of District Geologist - Northern B. C. since March, 1967.

Dated at Smithers this 27th day of July, 1972.

GAVIN E. DIROM M.A.Sc., P.Eng.

Form No. Z 1 - 220 WILLSON STATIONERS

Canada

Province of British Columbia

To Wit:

In the Matter of a statement of Exploration Expenses on 18 Mineral Claims situate in the Omineca Mining District and having record numbers 89555, 99593-99596, 99601-99608, 99619, 99620, 99623-99625. Chelaslie Property

I, W.A. Howell, (F.M.C. 109124 issued April 28th, 1972) of P.O. Box 2169, Smithers, B.C. agent for Noranda Exploration Company, Limited (N.P.L.) (F.M.C. 109102 issued April 28th, 1972) of 1050 Davie Street, Vancouver 5, B.C.

~~I,~~ , ~~of~~

~~in the Province of British Columbia~~.

Do Solemnly Declare that the costs of a Geological Survey on the above listed Mineral Claims between May 18th, 1972 and June 1st, 1972 were:

1. LABOUR

W.A. Howell	-	15 man days	@ $36.16/man-day	=	$542.40
B. Burniston	-	15 "	@ $19.29/man-day	=	289.35
J. Sobkowicz	-	6 "	@ $24.00/man-day	=	144.00
G. E. Dirom	-	2 "	@ $50.00/man-day	=	100.00

Total Labour - $1,075.75

2. FIELD COSTS

Camp costs and Room & Board - 38 man-days @ $10.00/man-day - 380.00

3. TRANSPORTATION

Otter aircraft - May 18th & June 1st - 662.50

4. REPORT PREPARATION & DRAFTING

6 days @ $36.16/man-day = $216.96
4 man-days typing & drafting @ $25.00/man-day 100.00
$316.96

Total - 316.96

Total - $2,435.21

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 Smithers
in the Province of British Columbia.
this 1st day of
August A.D. 1972

W. A. Howell

~~A Notary Public in and for the Province of British Columbia~~
A Commissioner for taking affidavits for British Columbia

Dated 19

In the Matter of

Statutory Declaration

Form No. Z 1 - 220 WILLSON STATIONERS

To accompany Geological Report by W.A. Howell, Geologist on the Chelaslie Property, Omineca Mining Division.

Work supervised by G.E. Dirom, P. Eng. Dated July 27, 1972

W.A. Howell

G.E. Dirom

Scale 1" = 400'

3810

M-3

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3810 MAP #3

REVISED June 1972 – Grid	CLAIM MAP
	PROJECT: CHELASLIE (W.T. CLAIMS)
PROJ. Nº 1005	SURVEYED BY: DATE: JUNE 1972
N.T.S. 93E/5E	DRAWN BY: A.P. SCALE: 1" = 400'
DWG. Nº 2A	NORANDA EXPLORATION CO. LTD.
	OFFICE: SMITHERS

LEGEND
3810
M-4
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3810 MAP #4
REVISED
JUNE 1972
GEOLOGY
PROJECT: CHELASLIE
PROJ. Nº 1005
N.T.S. 93E/5F
DWG. Nº 3
SURVEYED BY: W.A. Howell
DATE: JUNE 1972
DRAWN BY: A.P.
SCALE: 1" = 400'
NORANDA EXPLORATION CO. LTD.
OFFICE: SMITHERS
57+00E
75+00E
100+00E
125+00E
44+00N
52+00N
60+00N
64+00N
68+00N
72+00N
76+00N
80+00N
88+00N
92+00N
96+00N
100+00N
104+00N
112+00N
120+00N
PAT LAKE
PUP LAKE