

83-#811 - 11630

COMINCO LTD.

EXPLORATION
NTS 94D3E

WESTERN DISTRICT

ASSESSMENT REPORT

ON

GEOLOGICAL MAPPING, ROCK SAMPLING

FC#13, Rec. No. 14533

MINERAL CLAIM

OMINECA MINING DIVISION

56°5'N 127°5'W

Work Dates: July 20 - August 5, 1983

By: A.M. Pauwels, B.Sc.
5 December 1983

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,630

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3 - Claims/Drill Holes 1/2,500	In pocket
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ASSESSMENT REPORT

FC NO. 13 MINERAL CLAIM

INTRODUCTION

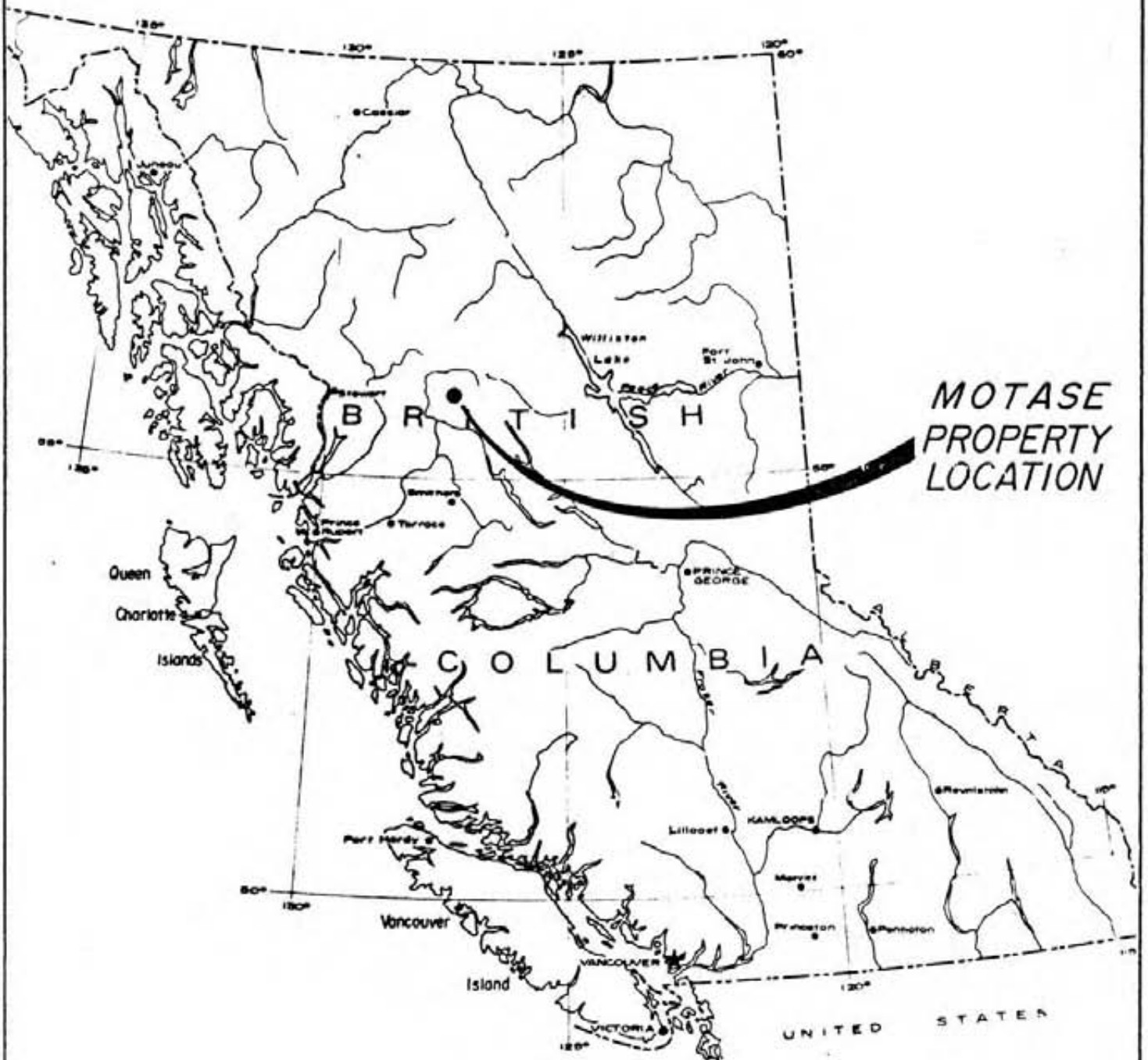
The property consists of two claims: FC#13 and 15. Both claims were originally staked in 1961 and acquired by Cominco from Bethlehem Copper Corporation in 1982. The property is situated in the Omineca Mining Division (see Fig. 1, 2) 110 km NE of Hazelton and 20 km west of the B.C. Railway tracks in the Driftwood River Valley. Access is by plane to Motase Lake, 4 km east of the claims or by helicopter from Smithers: flight time being 50 minutes. The claims are located above tree level on a south facing slope at an elevation of 1600 to 1800 m above sea level. The topography on the two claims is not severe but rugged cliffs are situated just north of the claims. Relevant claim posts for the claims were located and their position was carefully measured with chain and compass in relation to the neighbouring claims (MOT 1, PEAK 1 and MUTASE claims). The two claims are entirely surrounded by the MOT 1 claim (see Fig. 3) except for the extreme southwestern corner of FC#15 which overlaps the PEAK #1 claim. The position of these two claims as found in the field is 1.3 km north of the position plotted on claim sheet 94D3E.

Work on the FC#13 claim was part of a larger geology/sampling program on the MOT 1 claim and was done from July 20 to August 5, 1983 by A.M. Pauwels and W. Wiley, both geologists. The cost of the total program is detailed in Appendix I. The portion of total expenditures allocated to work on the FC#13 was obtained by proportioning the expenditures according to time spent on FC#13.

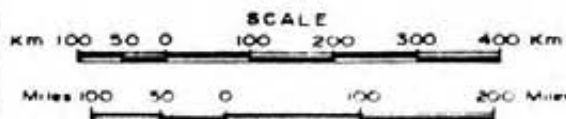
HISTORY


The property was first staked by H. Huestis in 1948. Mr. Huestis prospected the claims and found several gold bearing quartz veins, one of which occurs on FC#13: the Huestis showing. The claims were restaked in 1961 by Bethlehem Copper Corporation and optioned by Noranda in 1962. Noranda did EM and magnetic surveys and drilled 5 short EX holes in 1962. Noranda dropped the option in late 1962 and eventually all claims lapsed except FC#13 and 15.

In 1973 the RIM claims staked by Canadian Superior Explorations covered the same area; no account of their work has been found. In 1981 Amoco restaked the same area (MOT claims) and did extensive soil geochemistry, geological mapping and diamond drilling. Their drilling was done a short distance (250 to 500 m) east of the FC#13 claim.



**MOTASE
PROPERTY
LOCATION**

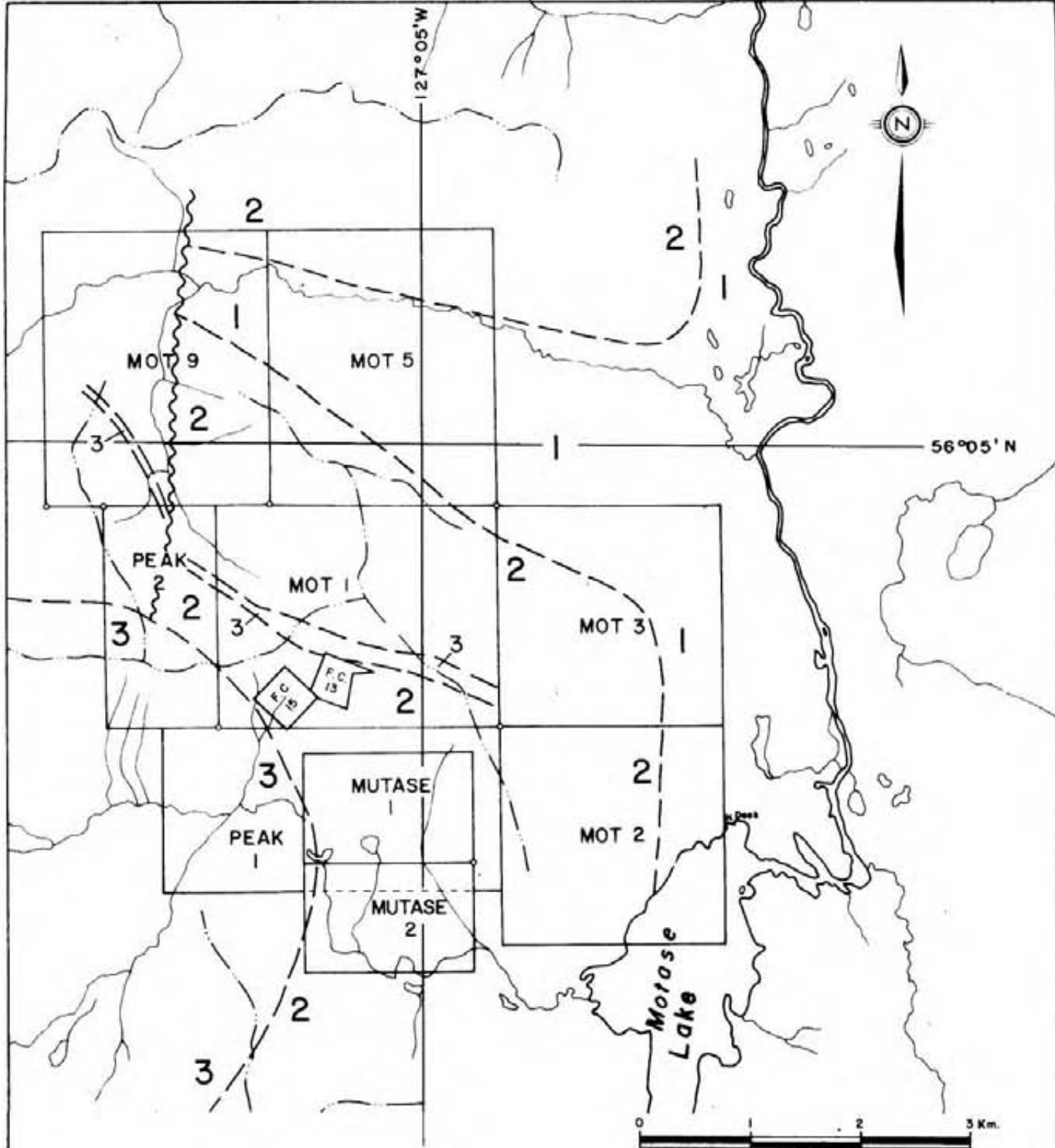


NTS
 94D-3E

Drawn by: AMP		Traced by: JPS	
Revised by	Date	Revised by	Date
<i>[Signature]</i>			

**MOTASE PROPERTY
LOCATION MAP
OMINECA M. D., B. C.**

Scale: 1:9,000,000 Date: NOV., 1983 Plate: 1



OWNERS

COMINCO
AMOCO
LIVINGSTONE

CLAIMS

FC 13,15, PEAK 1,2
MOT 1,2,3,5,9
MOTASE 1,2

GEOLOGY

BOWSER GROUP	3	FELDSPAR PORPHYRY
HAZELTON GROUP	2	ARGILLITE, GREYWACKE CONGLOMERATE
	1	ANDESITE TUFF, FLOW



Drawn by: W E W		Traced by: a.m.b.	
Revised by	Date	Revised by	Date
a.m.b.	Nov. '83		

LOCATION / GEOLOGY
MOTASE LAKE PROPERTY

OMINECA M.D.

94 D/3

Scale: 1 : 50,000

Date: Oct. 3, 1983

Plate: 2

REGIONAL GEOLOGY

Geology is shown on Figure 2. The area is underlain by Bowser group (Upper Jurassic to Cretaceous) sediments. These sediments vary from carbonaceous argillites and greywackes to quartz conglomerates. Just north of the claims the Bowser group unconformably overlies andesites of the Jurassic Hazelton group. All these rocks are intruded by feldspar porphyry sills and later granodiorite sills.

GEOLOGICAL MAPPING

The objective of this summer's work was to determine the geological environment and type of gold mineralization on the FC#13 claim and to sample all possible mineralized exposures as well as the old drill core from Noranda holes.

Detailed mapping was done on the claim (Figure 4) at a scale of 1/1000. The main rock type consists of sediments of the Bowser group. From observations outside the claim it is clear that the sediments have a northwesterly strike and dip gently to the southwest (30-50°). On the claim the sediments consist of massive fine grained black argillite, greywackes (light coloured with subrounded pebble and argillite fragments) and light coloured coarse pebble conglomerates. These rocks are intruded by a feldspar porphyry sill that outcrops on the northern edge of the claim. This porphyry is characterized by large plagioclase phenocrysts (2 cm long) but has small amounts of disseminated pyrite. This feldspar porphyry weathers to a light brown colour. Quartz veins, mostly striking in a N 10° E direction and dipping vertical to very steeply east, cut both porphyry and sediments. A few quartz veins strike in an easterly and northeasterly direction, all dipping steeply east to southeasterly. Quartz veins contain white quartz, a few vugs and have a small amount of disseminated sulphides; pyrite, lesser sphalerite and chalcopyrite. Weakly sericitized medium grained granodiorite dykes cut the quartz veins. These dykes and sills strike and dip in many different directions and keep their attitudes only a short distance along strike. Most dykes are thin (0.5 to 5 m).

Pervasive alteration is found around some of the quartz veins. A small area of pervasive bleaching and pyritization, measuring 80 x 40 m is developed in argillite around the Huestis zone. Smaller envelopes (0.5 to 5 m) of bleaching/pyrite were noted around other quartz veins.

ROCK SAMPLING

Chip samples were taken of larger quartz veins and of altered rocks near quartz veins. Location and length of the samples is documented on Figure 4. Old drill core from Noranda holes was also sampled and assayed. Most of the core was still at the site in boxes. Determining footages was possible with the help of the old drill logs and using split and unsplit sections as reference. Hole 4 was the exception, as all core was dumped out of the boxes. Three samples, with no reference to footages were taken from that hole. All samples were initially analyzed for Cu, Pb, Zn, Ag, Au, Mo and W at Cominco's laboratory at 1486 E. Pender Street, Vancouver. Better grade samples were assayed for Au and Ag at Chemex Laboratories, North Vancouver.

Analytical Procedures

The same method was used for analyzing copper, silver, lead and zinc. After several stages of crushing and splitting, 0.5 gr of -200 mesh material (pulp) was decomposed in a 20% HNO₃ solution and analyzed by atomic absorption spectrophotometry. For gold determination 5 grams of pulp was decomposed in aqua regia, subjected to solvent extraction and analyzed by atomic absorption spectrophotometry. Molybdenum was also determined by atomic absorption: 0.5 grams of pulp was decomposed in a HNO₃ - HClO₄ solution. Tungsten was determined by colorimetric methods on a 0.5 gram pulp sample fused with pyrosulphate. Limits of detection are: 10 ppb for gold, 0.4 ppm for silver, 4 ppm for lead, 1 ppm for zinc and copper and 2 ppm for tungsten.

Fire assays were done on 10 grams of pulp. The sample was fluxed with a precisely weighed amount of silver and fused in a furnace where precious metals were separated in a bead. The bead was separated from the rockslag and silver and gold were determined by weighing. Limit of detection is 0.003 oz/ton.

Results

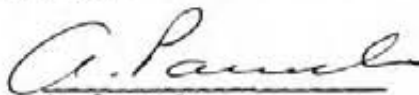
Results of the rock samples are tabulated in Appendix II (Tables 1 and 2). Only low metal values were found in altered rocks and in most of the quartz vein samples. One outstanding value is MOT 18 sample where fire assay gave 0.27 oz/ton Au and 2.53 oz/ton Ag over a true width of 2 m.

In the drill holes high gold and silver values are associated with intercepts of quartz veins. The most outstanding values are in hole N-1 where 0.33 oz/ton Au were found from 30.8' to 68.8' (30', 9.1 m).

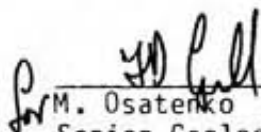
CONCLUSIONS AND RECOMMENDATIONS

Mapping and sampling on the FC#13 claim showed that gold mineralization is confined to parts of thin quartz veins. Some high gold assays from surface and from old drill holes merit further exploration efforts.


Signed:


A. Pauwels
Project Geologist

Approved:


M. Osatenko
Senior Geologist

Approved
for Release:



G. Harden
Manager, Exploration
Western District

APPENDIX I

Expenditures

	<u>Total</u>	<u>Portion to FC# 13 (25%)</u>
<u>1. Mobilization/Demobilization</u>		
A. Pauwels Preparation/travel) July 21, 22 August	916.00	229.00
W. Wiley Travel) 4,5 1983 @ \$229/day	916.00	229.00
Travel expenses (airfares, food, car rental)	1,040.13	260.00
Helicopter charter: Okanagan Helicopter, 3 trips Smithers - Property	2,872.60	718.15
Float plane charter: Central Mountain Air Smithers → Property	858.00	214.50
Radio, Communications	540.00	135.22
<u>2. Work on FC#13 Claim</u>		
A. Pauwels 5 days @ \$229/day		1,145.00
W. Wiley 1 day @ \$229/day		229.00
Analysis 34 samples @ \$15.05 (analysis for Cu, Pb, Zn, W, Mo, Au, Ag)		511.05
Assays 23 samples for Au, Ag, @ \$14.75		339.00
Shipping samples Smithers → Vancouver		50.00
Food - 6 mandays @ \$15/day		90.00
Camping/gear/fuel		200.00
Drafting/Copies		200.00
Report, A. Pauwels 1 day @ \$229/day		229.00
		<u>\$4,778.92</u>

Work at Motase Lake included work outside FC#13 claim
25% of mobilization/demobilization was allocated to FC#13.

Signed: 

 A.M. Pauwels
 Project Geologist

APPENDIX II

ROCK SAMPLES, ANALYSIS, ASSAYS

TABLE I

TABLE OF ANALYSES

Sample	Rock Type	Meters Width	Au ¹ ppb	Au ² oz/T	Ag ¹ ppm	Ag ² oz/T	Pb ppm	Zn ppm	Cu ppm	Mo ppm	W ppm
MOT 3	Arg	1.5	42		1.5		44	36	72	< 2	2
MOT 4	qv	0.5	770	0.030	14.2	0.47	451	17	13	168	< 2
MOT 5	Arg	1.6	236	0.008	1.5	0.15	133	92	92	4	2
MOT 6	Arg	5.0	170	0.010	1.3	0.09	23	64	89	< 2	-
MOT 7	Arg	3.5	522	0.040	4.1	0.30	231	278	211	< 2	-
MOT 8	qv+wall Rx	2.0	1720	0.098	25.6	0.64	2330	133	124	8	-
MOT 15	bleached seds	3.1	468	0.020	.8	0.12	25	52	66		
MOT 16	qv	3.0	722	0.028	11.5	0.41	176	458	132		2
MOT 17	bleached seds	8.0	760	0.032	6.5	0.29	592	162	110		-
MOT 18	qv	2.0	4420	0.270	92.4	2.53	2170	832	382		8

Remarks: All chip samples
All widths of quartz veins, true width

1. Geochemical determination
2. Assay determination

TABLE II RE-ANALYSIS JF 1962 DRILL CORE

The core from the 1962 drilling was resampled and analyzed. The sample was based on split and unsplit core as markers were illegible and the core mixed in some instances. The elements Pb, Zn, Cu, Mo and W were included in the analysis but are not included in the table to allow additional information.

Hole #	Feed From-To	Au ¹ ppb	Au ² oz/T	Ag ¹ ppm	Ag ² oz/T	Remarks
N - 1	9-22.5	< 10		.5		Not split
	22.5-34.3	700	0.048	25.0	0.85	Split
	34.3-38.8	64	< 0.003	50.7	1.44	Not split
	38.8-42.7	+16000	0.676	107.1	3.82	Split
	42.7-46.6	76	0.010	1.6	0.23	Not split
	46.6-61.0	+45000	0.244	31.3	0.92	Split
	61.0-68.8	+15000	0.460	10.4	0.56	Not split
N - 2	10-17.5	8800	0.262	4.3	0.60	Rusty chert pebble seds.
	17.5-18.5	2000	0.052	4.3	0.31	Split core
	18.5-19.5	1164	0.040	118.0	3.76	Broken or split core
	19.5-25.5	40		< .4		Intrusive rusty altered
	25.5-29.5	< 10		< .4		Intrusive fresher
	29.5-32.0	< 10		.7		Qtz pebble congl.
	32.0-37.0	32		6.7		sst. or greywacke
N2A	?	170	0.042	28.5	0.98	Core mixed up and partly separated by Aluminum foil. Sampling was done on base of 2 layers separated by the foil.
	?	160	0.022	17.2	0.68	
N - 3	0.0- 8.5	< 10		< .4		Footages are those intact in the box. Core after 30.0 was lying loose on ground.
	8.5-18.0	< 10		< .4		
	18.0-20.5	< 10		< .4		
	20.5-30.0	< 10		< .4		
	20.0-	< 10		< .4		
N - 4	?	1620	0.052	14.2	0.51	All core on ground. Selected apparently split core as a separate sample.
	?	1960	0.036	7.9	0.20	
	?	2380	0.090	56.1	1.61	

1. Geochemical determination
2. Assay determination

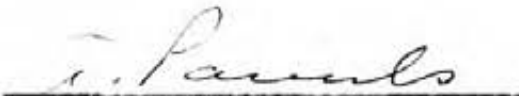
FIELD NUMBER	HOLE No.	DRILL INTERVAL		As	Ht As	Ag	Pb	Zn	Cu	Mo	W
		FROM	TO	PPB	GRAM	PPM	PPM	PPM	PPM	PPM	PPM
N-1-A		9.0	22.5	<10	5	.5	114	1530	146	<2	8
N-1-B		22.5	34.3	700	5	25.0	379	1290	1200	7	100
N-1-C		34.3	38.8	64	5	50.7	504	E28700	774	3	<2
N-1-D		38.8	42.7	E16000	5.0	107.1	E10390	E19900	3640	7	4
N-1-E		42.7	46.6	76	5	1.6	188	1470	265	<2	2
N-1-F		46.6	61.0	E45000	5.0	31.3	9090	E18200	1194	5	<2
N-1-G		61.0	68.8	E15000	5.0	10.4	3370	2280	499	2	<2
N-2-A		10.0	17.5	8800	5	13.6	1980	3080	288	<2	200
N-2-B		17.5	18.5	2000	5	4.3	487	778	250	3	6
N-2-C		18.5	19.5	1164	5	116.0	3770	E13000	725	7	8
N-2-D		19.5	25.5	40	5	<.4	35	456	21	<2	10
N-2-E		25.5	29.5	<10	5	<.4	13	311	20	<2	2
N-2-F		29.5	32.0	<10	5	.7	66	646	39	<2	4
N-2-G		32.0	37.0	32	5	6.7	216	894	391	6	6
N-2AA				170	5	28.5	1660	3120	147	<2	260
N-2AB				160	5	17.2	1134	2270	387	2	2
N-3-A		0.0	8.5	<10	5	<.4	11	77	19	4	<2
N-3-B		8.5	18.0	<10	5	<.4	<4	77	16	2	<2
N-3-C		18.0	20.5	<10	5	<.4	<4	167	88	2	<2
N-3-D		20.5	30.0	<10	5	<.4	<4	84	37	<2	<2
N-3-E				<10	5	<.4	<4	107	27	<2	<2
N-4-A				1620	5	14.2	744	9490	381	<2	<2
N-4-B				1960	5	7.9	814	1380	249	<2	<2
N-4-C				2380	5	56.1	7660	5870	465	<2	<2

APPENDIX III

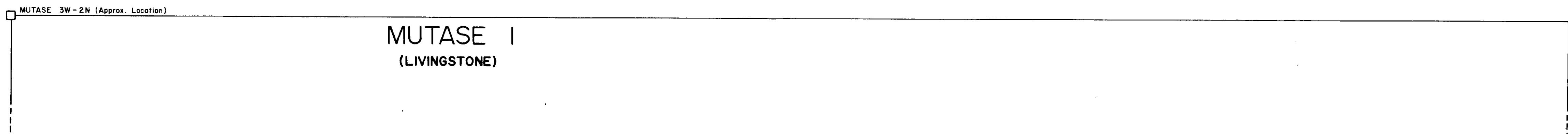
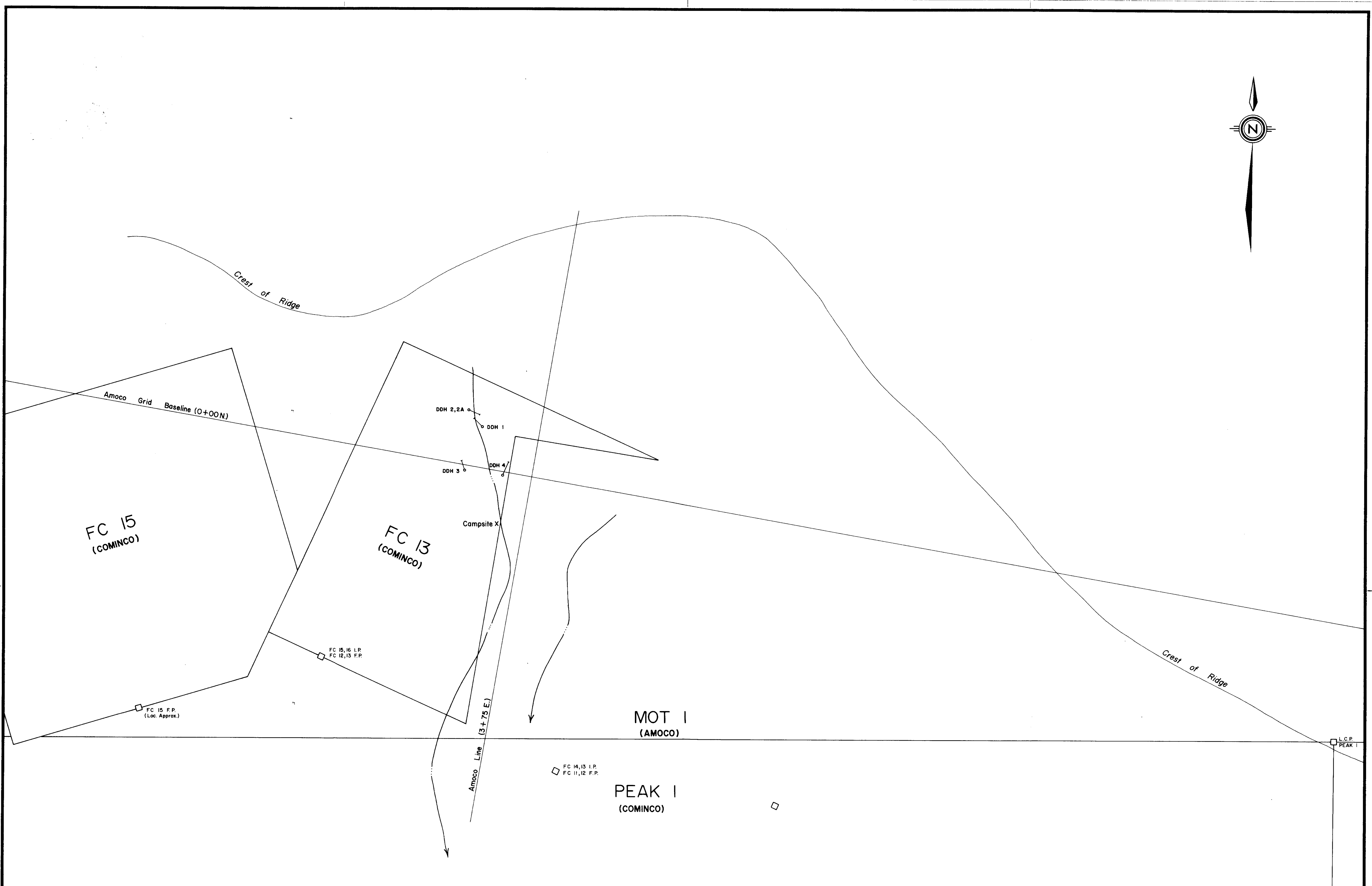
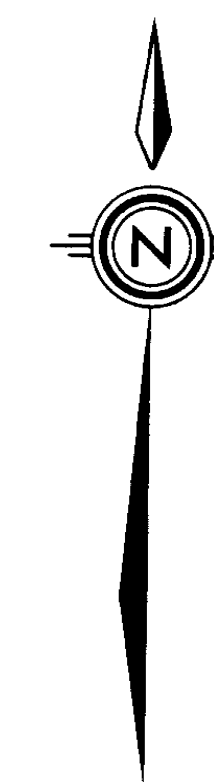
STATEMENT OF QUALIFICATIONS

Andre M. Pauwels, 4900 Mariposa Court, Richmond, B.C., hereby declare that I:

1. Graduated from State University of Ghent, Belgium with a B.Sc., Geology in July, 1970.
2. Have been engaged in mineral exploration as a Geologist:
 - In Ontario from September, 1970 until April, 1972 with Union Miniere Exploration and Mining Corporation Limited.
 - In British Columbia and Yukon Territories since May, 1972 until December, 1980 with Union Miniere Exploration and Mining Corporation Limited.
 - With Bethlehem Copper Corporation from January until May 1, 1981.
 - Presently with Cominco Ltd. since May 1, 1981.
3. Was engaged from 1970 until present in numerous geochemical, geophysical and drilling programmes for mineral exploration in Ontario, British Columbia, the Yukon Territories, Arizona and Peru.
4. Am a Fellow of the Geological Association of Canada.

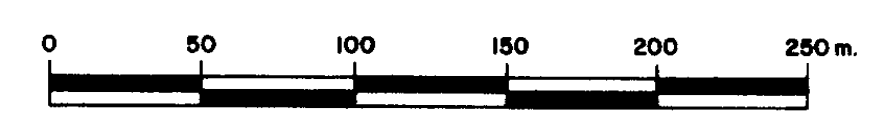

A.M. Pauwels
Project Geologist


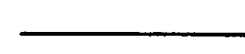

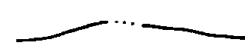

6 December 1983



GEOLOGICAL BRANCH
ASSESSMENT REPORT

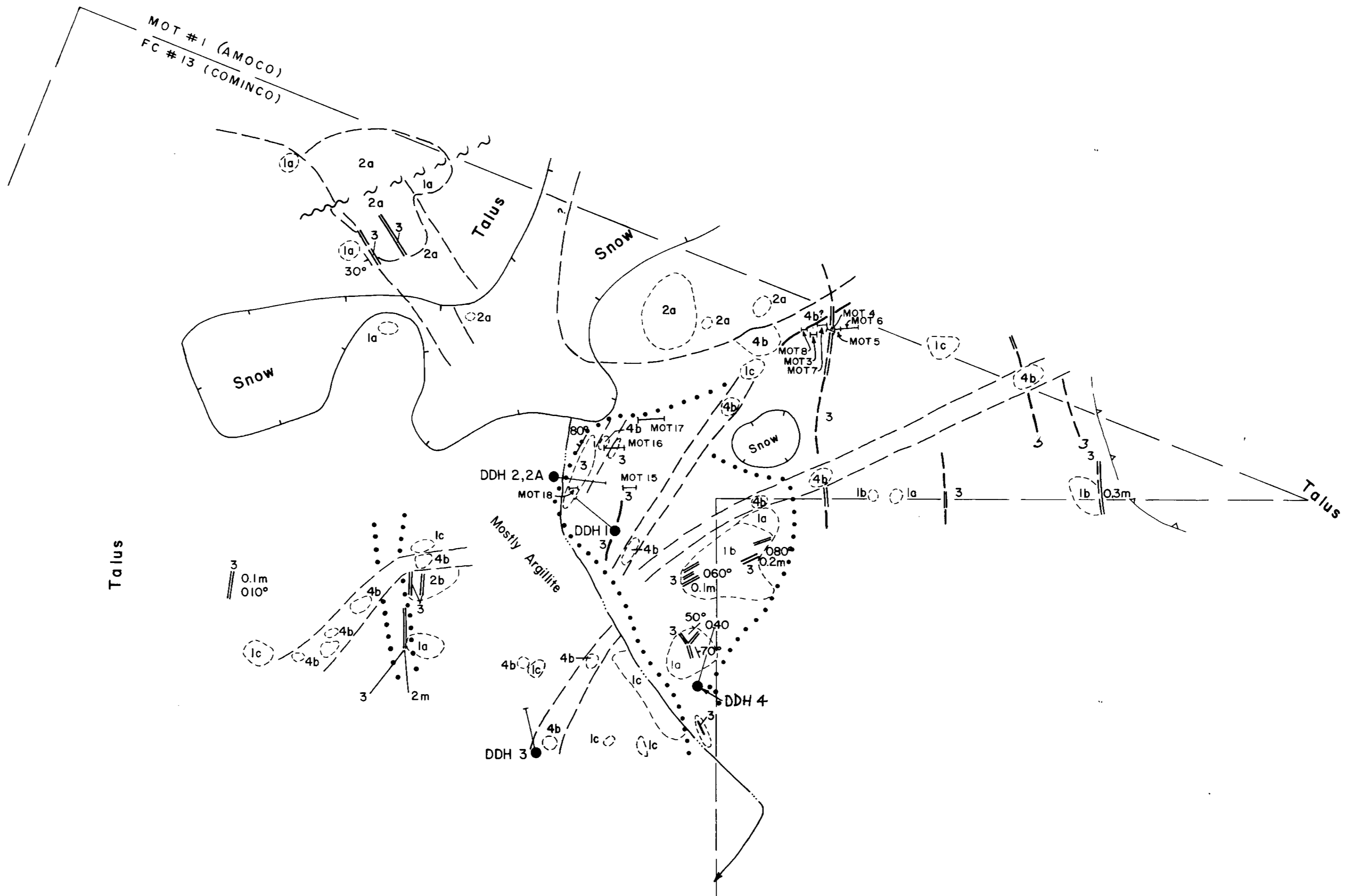
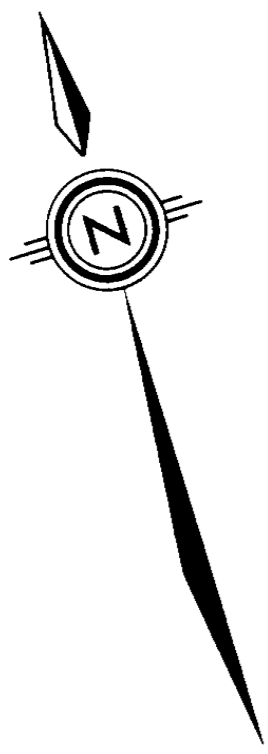
11,630



- LEGEND**
-  DDH 1,2,3,4 - NORANDA, 1962
 -  CLAIM BOUNDARY (located by chain and compass)
 -  CLAIM POST
 -  CREEK
 -  CREST OF RIDGE

MOTASE LAKE		94 D/3	
Drawn by: A.M.P.	Traced by: a.m.b.		
Revised by: []	Date: []	Revised by: []	Date: []
Scale: 1:2,500		Date: Nov., 1983	Plate: 3

CLAIM MAP
FC 13,15, PEAK 1, MOT 1



HUESTIS ZONE

LEGEND

- 0-3
W3-1, MOT14 CHIP SAMPLE LOCATION
- OUTCROP
- GEOLOGICAL CONTACT — ASSUMED, OBSERVED
- QUARTZ VEINS
- PERVASIVE ALTERATION, BLEACHING, PYRITE
- RIDGE CREST
- SNOW SNOWFIELD
- TALUS BOUNDARY
- FAULT

- 4b GRANODIORITE, DYKES, SILLS
- 4a FELSITE, DYKES, SILLS
- 3 QUARTZ VEINS
- 2b FELDSPAR PORPHYRY
- 2a GRANITE
- 1c ARGILLITE
- 1b GREYWACKE
- 1a CONGLOMERATE

- DDH 4 DIAMOND DRILL HOLE 1963
- 0+50N COORDINATES FROM 1983 AMOCO GRID
- CLAIM BOUNDARY (located with chain and compass)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,630



MOTASE LAKE		94 D/3	
Drawn by: AMP/WEW	Traced by: AMB/GPS		
Revised by: [Signature]	Revised by: [Signature]	Date:	Date:
		HUESTIS ZONE GEOLOGY - SAMPLING	
		OMINECA M.D.	
Scale: 1 : 1,000	Date: Sept., 1983	Plate: 4	

2+50 N
2+00 N
1+50 N
1+00 N
0+50 N
0+00
0+50 S

(AMOCO GRID)