

83-#809 - 11631

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 94D/3E

ASSESSMENT REPORT

ON

GEOLOGICAL MAPPING, ROCK SAMPLING

MOT 1 (Rec.No. 3049)

MINERAL CLAIM

OMINECA MINING DIVISION

56°5'N

127°5'W

Work Dates

July 20 - August 5, 1983

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

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**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**11,631**

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EXPLORATION

WESTERN DISTRICT

ASSESSMENT REPORT

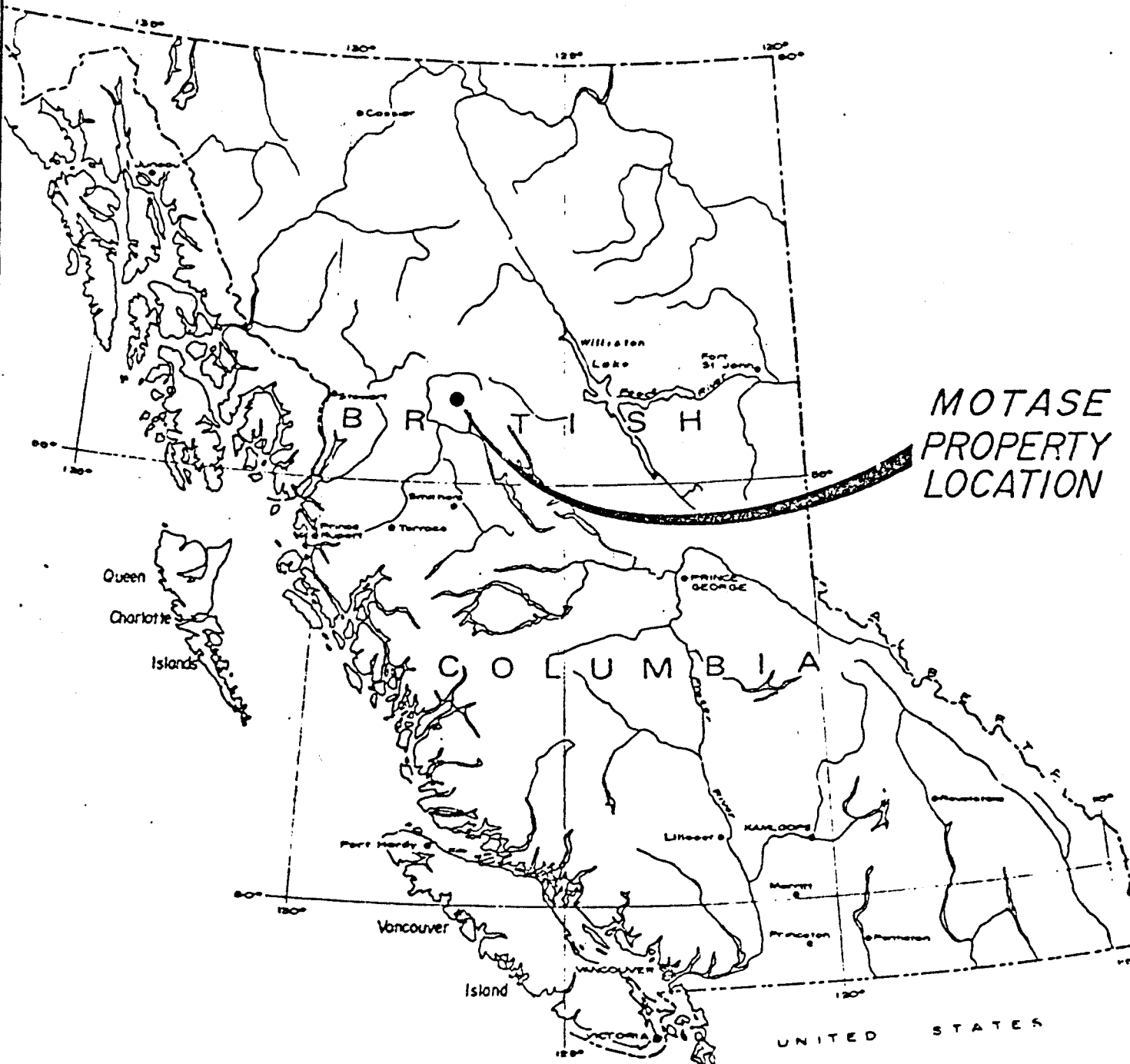
MOT 1 MINERAL CLAIM

INTRODUCTION

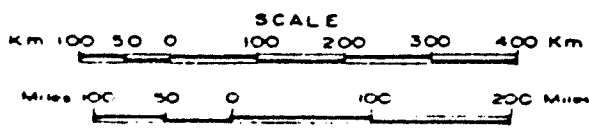
The property consists of 5 claims (92 units): MOT 1,2,3,5 and 9 mineral claims, all owned by Amoco Canada Petroleum Company Ltd. The property is situated in the Omineca Mining Division (see Fig. 1,2) 110 km NE of Hazelton and 20 km west of the B.C. Railway tracks in the Driftwood River valley. Access is by plane to Motase Lake, 4 km east of the claims or by helicopter from Smithers: flight time being 50 minutes. Most of the claims, and all the showings are located above tree level in rugged terrain. Elevations range from 1200 to 2100 m above sea level. Relevant claim posts for the neighbouring claims, (FC 13,15 and PEAK 1 claims) were located and their position carefully measured with chain and compass. The two FC claims were found to be located entirely within MOT 1 (staked later) except for the extreme southwestern corner of FC#15 which overlaps the PEAK 1 claims. The position of these two claims as found in the field is 1.3 km north of the position plotted on claim sheet 94D/3E. Work on the MOT 1 claim was the principal part of a larger geology/sampling program including the FC #13 claims and was done between July 20 and August 5, 1983 by A.M. Pauwels and W.E. Wiley, both geologists. The cost of the program is detailed in Appendix I.

HISTORY

The property was first staked by H. Huestis in 1943. Mr. Huestis prospected the claims and found several gold-showings mainly on FC #13. The property was optioned by Noranda in 1962 and work consisted of EM, magnetic surveys and drilling (5 holes, EX). Noranda dropped the option in late 1962 and eventually all claims lapsed except FC #13 and 15.



MOTASE  
PROPERTY  
LOCATION

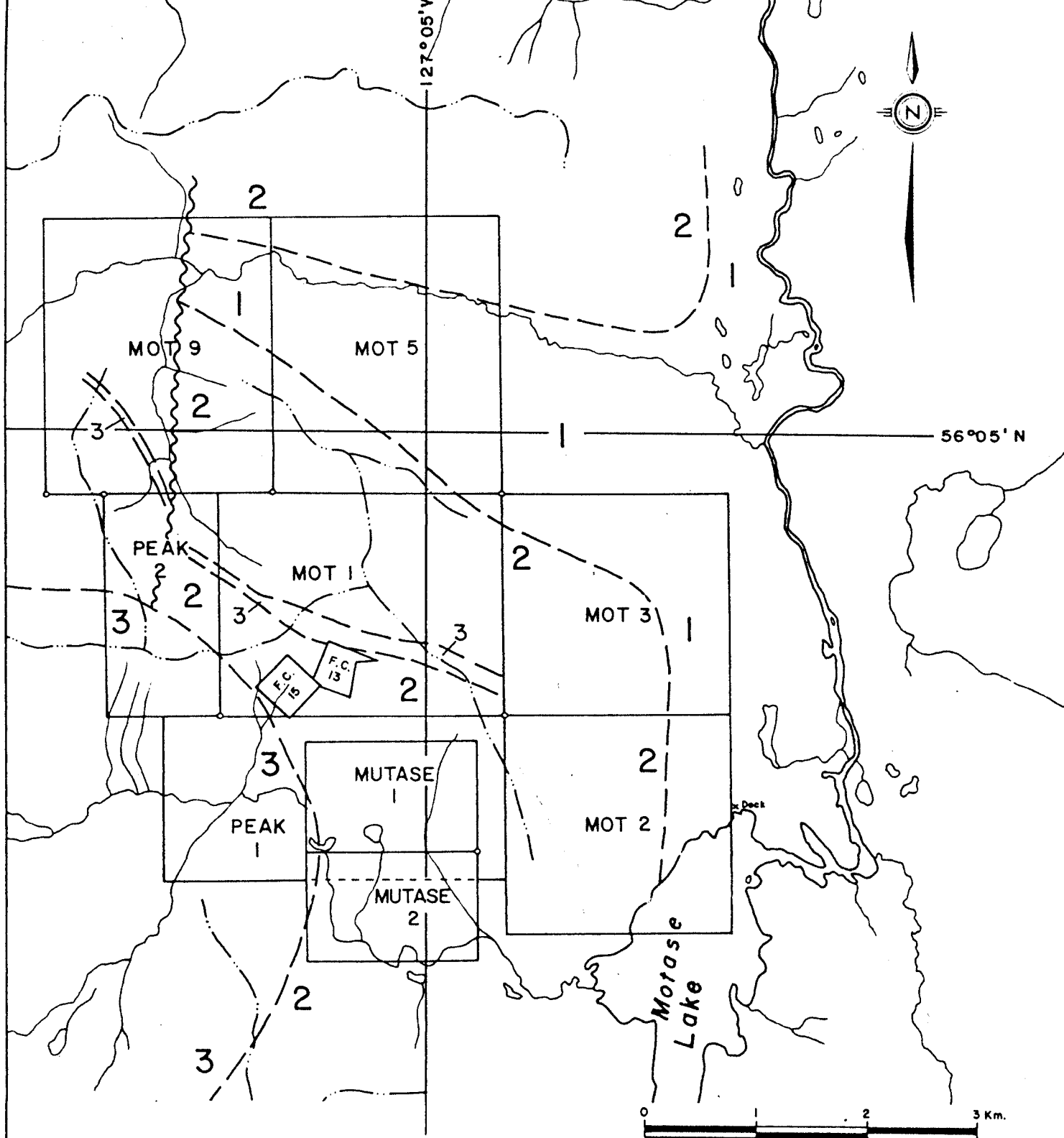


NTS  
CORONCA 94D-3E

Drawn by: AMP		Traced by: JPS	
Revised by	Date	Revised by	Date
<i>J. Smith</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  
MUTASE 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.

Scale: 1 : 50,000

Date: Oct. 3, 1983

Plate: 2

94 D/3

2.

In 1973 the RIM claims staked by Canadian Superior Explorations covered the same area: no account of their work has been found. In 1980 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 on MOT 1 claim.

#### 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 claim 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 MOT 1 claim and to sample all possible mineralized exposures. Detailed mapping/sampling was done on two showings, initially located by H. Huestis;: the Huestis zone and the Moran zone (see Fig. 4). Prospecting was done over the whole claim (see Fig. 3). One sample was taken from the Goudridge zone, rugged terrain prevented additional sampling.

The main rock type consists of sediments of the Bowser group. These 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 near the top of the ridge in the central part of the claim. This porphyry is characterized by large plagioclase phenocrysts (2 cm long) and 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, chalcopyrite and some

\* Assessment Report 8844, Nelnyk 1980, Soil Geochemistry

3.

arsenopyrite. 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).

Three zones of mineralization are defined on the MOT 1 claim. Each is characterized by a concentration of mostly thin quartz veins. The three zones are the Huestis zone, part of which is on the FC #13 claim, the Moran zone and the Goudridge zone. Few quartz veins occur outside these three zones (see Fig. 3).

#### 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 3 and 4. 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 Procedure

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% HNO<sub>3</sub> solution and analyzed by atomic absorption spectrophotometry. <sup>3</sup>Molybdenum was also determined by atomic absorption: 0.5 grams of pulp was decomposed in a HNO<sub>3</sub> - HClO<sub>4</sub> 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. Only low metal values were found in altered rocks and in most of the quartz vein samples. Two chip samples from the Goudridge and Moran showings gave gold assays over 0.1 oz/T Au. They are:

MOT 1: 0.347 oz/T Au over 3 m: Goudridge zone

MOT 23G: 0.770 oz/T Au over .1m: Moran zone.

CONCLUSIONS AND RECOMMENDATIONS


Mapping and sampling on the MOT 1 claim showed that gold mineralization is confined to parts of thin quartz veins. Some high gold assays merit further exploration efforts.

Report by:



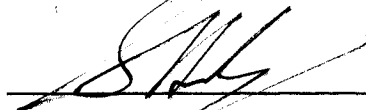
A.M. Pauwels  
Project Geologist

Endorsed by:



M.J. Osatenko  
Senior Geologist

Approved for  
Release by:



G. Harden  
Manager, Exploration  
Western District



APPENDIX I  
EXPENDITURES

1. Mobilization/Demobilization -	<u>\$</u>	* 75%
		to MOT 1
A. Pauwels/travel July 20,21, August 4,5, @ \$229/day	916.00	
W.E. Wiley, travel July 20,21 August 4,5 @ \$229/day	916.00	
Helicopter Charter: Okanagan Heli- copers - 3 trips Smithers→ property	2,872.60	
Float plane Charter: Central Mountain Air - Smithers → Motase Lake	858.00	
Travel expenses (airfares, motel/food car rental, freight for camp gear)	1,041.13	
Radio Communications	540.88	
	<u>7,144.61</u>	
		\$ 5,358.46
2. Work on MOT 1 Claim		
A. Pauwels 7 days @ \$229		1,603.00
W. Wiley 11 days @ \$229		2,519.00
Analysis/Assays		
48 chip samples for Cu,Pb,Zn,Ag,Au,Mo, W @ \$15.05		722.40
24 chip samples assayed for Au/Ag @14.75		354.00
Shipping samples Smithers→ Vancouver		47.00
Food 18 man days @ \$15/day		270.00
Camping gear/fuel		530.40
Report: drafting, typing, copies		377.50
A. Pauwels report/maps: 2 days @ \$229/day		458.00
		<u>\$12,239.76</u>

\* Work at Motase Lake included work outside MOT 1 claim.  
Mob/demob costs are charged 75% to MOT 1: 75% of field  
time at Motase was spend on MOT 1.

15 December 1983



A.M. Pauwels  
Project Geologist

APPENDIX II

ROCK SAMPLES, ANALYSIS, ASSAYS

TABLE OF ANALYSES

SAMPLE	ROCK TYPE	METERS WIDTH	Au <sup>1</sup> ppb	Au <sup>2</sup> oz/T	Ag <sup>1</sup> ppm	Ag <sup>2</sup> oz/T	Pb ppm	Zn ppm	Cu ppm	Mo ppm	W ppm
MOT 1	qv+	3m	+10,000	0.346	6.0	0.47	79	74	165	171	--
MOT 2	qv		20		3.5		17	42	41	6	5
MOT 9	Arg	6.0	<10		.6		8	95	43	<2	-
MOT 10	Arg	6.0	40		7.9		8	110	104	3	-
MOT 11	qv	2.0	<10		.4		<4	45	79	5	10
MOT 12	Greywacke	6.0	<10		<.4		6	69	56	2	50
MOT 13	qv	9.0m along	80		1.6		79	201	104	7	-
MOT 13	greywacke	6.0	60		.4		6	55	105	52	-
W-1-7	qv	1.6m	20		4.6		69	47	33	16	+600
W-2-2	Arg		<10		1.0		6	49	152	4	-
W-2-3	qv	1.0m	148	0.003	24.8	0.66	58	19	8	20	9
W-2-4	sil rx+sulfide	grab	30		3.6		21	26	72	16	25
W-3-1	fspar Por	23m grab	<10		1.8		15	42	107	12	-
W-3-4	sil rock	8m grab	236	0.010	1.7	0.12	39	32	42	112	40
W-3-5	qv	0.6m	<10		1.5		18	79	39	4	7
W-3-6	sil zone	2.0 grab	634	0.026	8.3	0.22	73	3470	316	<2	-
W-3-7	sil zone	6.0 grab	42		6.6		49	172	58	<2	-
W-3-9	sil zone	8.0	20		6.4		47	147	96	25	2
W-3-10	sil zone	8.0	20		.9		17	168	81	30	2
W-3-11	sil zone	4.0	1400	0.042	1.1	0.18	105	151	44	9	6
W-3-12	sil zone	6.0	372	0.020	1.2	0.10	56	124	63	<2	8
W-4-1	rusty Arg	grab	22		<.4	<	<4	70	88	9	-
MOT 20	qv	0.5	<20		<.4		9	43	6		30
MOT 21	qv	grab	60		.5		23	72	18		-
MOT 22	Gr + qv	3.8	200		9.1		659	155	57		-
MOT 23A	bleached sed	4.0	30		1.9		71	100	110		-
MOT 23B	qv+gouge+Gr	2.5	1362	0.050	14.0	0.53	1135	209	151		-
MOT 23C	Gr	3.5	184	0.010	5.8	0.31	500	263	134		-

1. Geochemical determination

2. Assay determination

<u>SAMPLE</u>	<u>ROCK TYPE</u>	<u>METERS WIDTH</u>	<u>Au<sup>1</sup></u> <u>ppb</u>	<u>Au<sup>2</sup></u> <u>oz/T</u>	<u>Ag<sup>1</sup></u> <u>ppm</u>	<u>Ag<sup>2</sup></u> <u>oz/T</u>	<u>Pb</u> <u>ppm</u>	<u>Zn</u> <u>ppm</u>	<u>Cu</u> <u>ppm</u>	<u>Mo</u> <u>ppm</u>	<u>W</u> <u>ppm</u>
MOT 23D	GR, some qv	6.0	588	0.020	5.2	0.20	258	220	104		< 2
MOT 23E	qv	1.5	104	0.003	2.4	0.20	1561	121	17		< 2
MOT 23F	Gr	2.9	336	0.007	3.2	0.24	778	332	117		< 2
MOT 23G	gouge	0.1	+27000	0.770	96.2	2.91	14140	420	841		40
MOT 23H	Gr + gouge	4.0	120	0.006	4.0	0.25	360	191	66		< 2
MOT 23I	Granite	6.0	80	0.004	1.9	0.16	59	172	62		20
MOT 23J	Gr + gouge	4.0	324	0.010	5.9	0.23	276	59	37		< 2
MOT 23K	gouge	0.25	1296	0.030	75.8	2.17	1342	187	643		< 2
MOT 23L	Gr	5.75	1340	0.034	15.5	0.67	630	221	522		< 2
MOT 23M	Gr	2.0	40	0.003	6.4	0.40	292	57	28		< 2
MOT 23N	gouge + qtz	0.25	3050	0.072	9.9	0.51	1869	67	1026		< 2
MOT 23O	gr	7.75	1680	0.032	3.7	0.23	180	194	247		< 2
MOT 23P	Arg	6.0	142	0.007	2.5	0.15	123	252	99		< 2
MOT 23Q	qv	4.0	60	0.004	1.1	0.16	16	156	83		8
MOT 23R	qv	5.0	1788	0.050	4.9	0.33	38	23	89		< 2
MOT 23S	qv	3.5	< 10		< .4		5	13	6		< 2
MOT 23T	Gr	1.5m	942	0.033	4.6	0.12	236	85	86		< 2
MOT 24	qv	10cm grab North of ridge	102		2.2		85	366	205		< 2
DEL 2	qv	0.4	6770		16.4		1643	313	123	5	2
DEL 3	qv	0.8	240		16.5		161	42	46	9	2

Remarks: all chip samples except where otherwise noted  
all widths of quartz veins, true width except samples MOT 23 A to T

1. Geochemical determination
2. Assay determination

APPENDIX III

STATEMENT OF QUALIFICATIONS

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

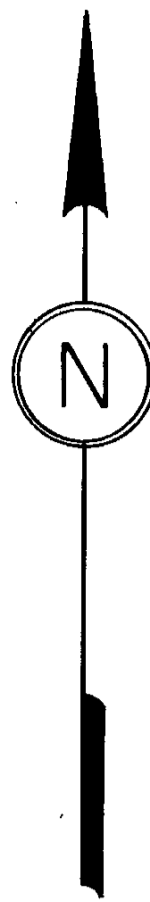
1. Graduated from State University of Ghent, Belgium with a B.Sc., Geology in July, 1970.
2. Have been engaged in mineral exploration as a Geologist:
  - In Ontario from September, 1970 until April, 1972 with Union Miniere Exploration and Mining Corporation Limited.
  - In British Columbia and Yukon 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.



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A.M. Pauwels  
Project Geologist

6 December 1983



**HUESTIS ZONE**  
Area of Detailed Sampling/Mapping

MOT 3 to 18 (Rock Samples)  
W.1.1 to 3.9 (Rock Samples)  
See Figure 4

**MORAN ZONE**

MOT 23A to T (Rock Samples)  
See Figure 4

**GOUDRIDGE ZONE**

FC 15  
(COMINCO)

FC 13  
(COMINCO)

MOT 1  
(AMOCO)

PEAK 1  
(COMINCO)

MUTASE 1  
(LIVINGSTONE)

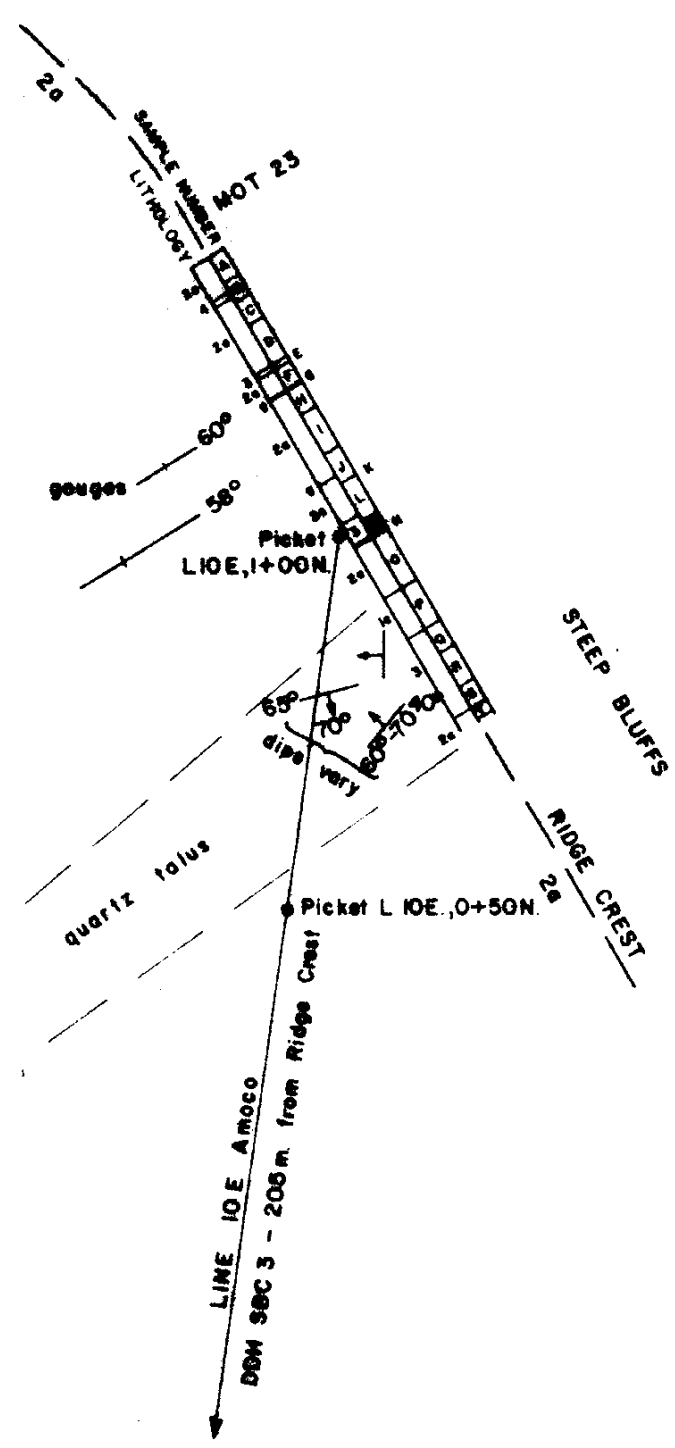
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**  
  
**11,631**



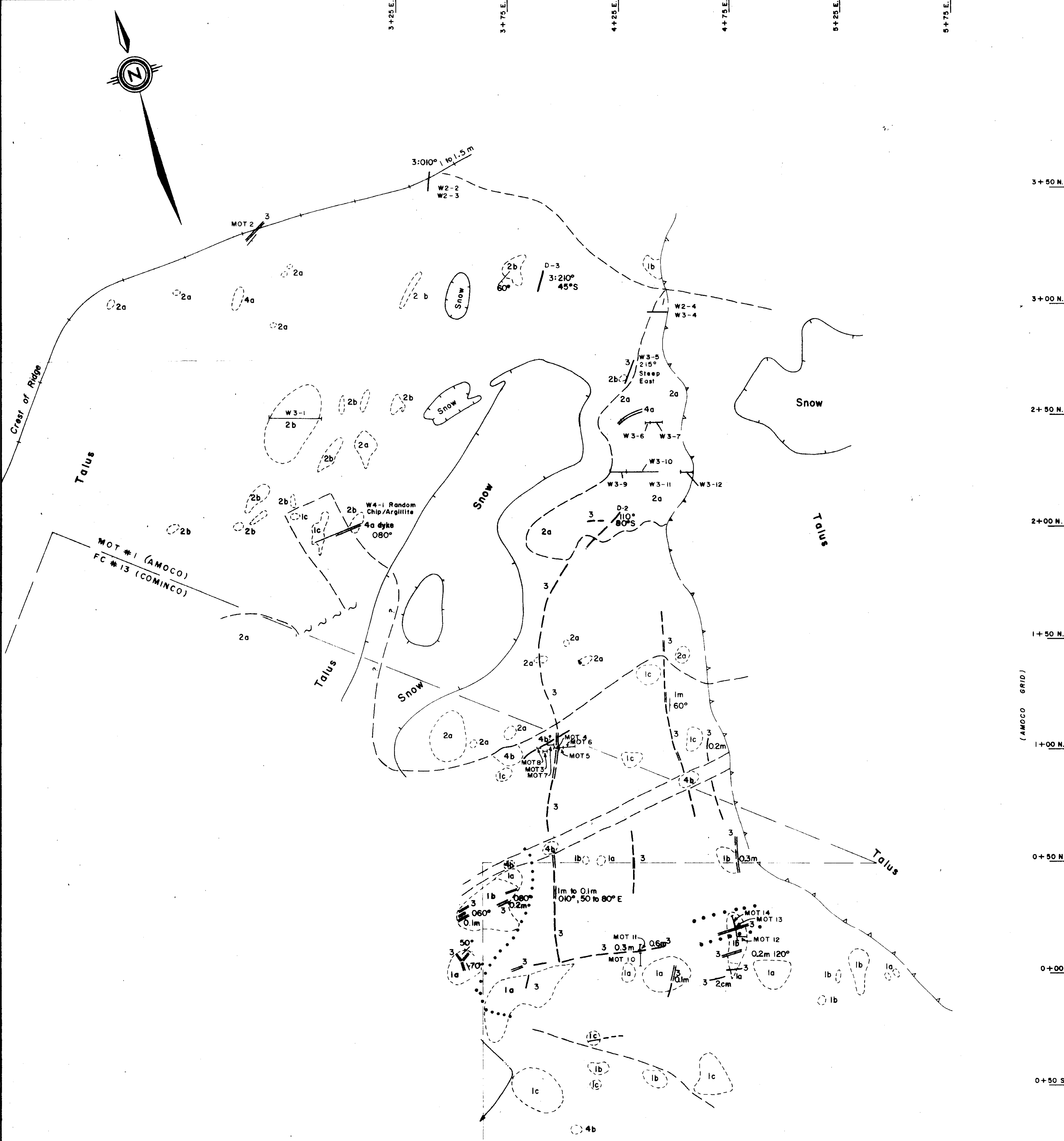
LEGEND	
	MOT 1 CHIPSAMPLE LOCATION
	CLAIM BOUNDARY
	CLAIM POST
	CLAIM POSTS LOCATED WITH CHAIN AND COMPASS
	CREEK
	CREST OF RIDGE
	GRANITE / SEDIMENT, CONTACT

This map includes chip sample locations outside Moran and Huestis zones.

<b>MOTASE LAKE</b>			94 D/3
Drawn by: A.M.P.	Traced by: g.m.b.		
Revised by: Date	Revised by: Date	<b>Showings / Claims</b> OMINECA M.D., B.C.	
AM P.U.P.S. Dec. 6/83	<i>G. P. Smith</i>		
Scale: 1:2,500	Date: August, 1983	Plate	3



MORAN ZONE



HUESTIS ZONE

LEGEND

- CHIP SAMPLE LOCATION
- OUTCROP
- GEOLOGICAL CONTACT - ASSUMED, OBSERVED
- QUARTZ VEINS
- PERVASIVE ALTERATION, BLEACHING, PYRITE
- RIDGE CREST
- SNOWFIELD
- TALUS BOUNDARY
- FAULT

?	4b	GRANDIORITE, DYKES, SILLS
?	4a	FELSPITE, 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

11,631



MOTASE LAKE		N.T.S. 940-3	
Drawn by AMP/NEW	Traced by AMB/JPS	MORAN-HUESTIS ZONE	
Revised by Date	Revised by Date	GEOLOGY - SAMPLING	
		OMINECA M.D., B.C.	
		Scale 1:1,000	Date SEPT, 1983
		Plate 4	