

COMINCO LTD.
EXPLORATION WESTERN CANADA
NTS: 104 G/2

1988 ASSESSMENT REPORT

GEOCHEMICAL & GEOLOGICAL WORK ON THE MAL CLAIM
LIARD MINING DIVISION, BRITISH COLUMBIA
LATITUDE: 57°12'50"N LONGITUDE: 130°35'00"W
ON BEHALF OF COMINCO LTD

Work Performed: August 11, 1988

APRIL, 1989

M.G. WESTCOTT
I.A. PATERSON

18722

ARIS SUMMARY SHEET

District Geologist, Smithers

Off Confidential: 90.05.12

ASSESSMENT REPORT 18722

MINING DIVISION: Liard

PROPERTY: Mal
LOCATION: LAT 57 12 00 LONG 130 37 00
UTM 09 6340595 402320
NTS 104G02E
CLAIM(S): Mal
OPERATOR(S): Cominco
AUTHOR(S): Paterson, I.A.; Westcott, M.G.
REPORT YEAR: 1989, 15 Pages
COMMODITIES
SEARCHED FOR: Gold
KEYWORDS: Triassic, Andesite, Siltstone, Fuchsite, Pyrite
WORK
DONE: Geochemical
ROCK 8 sample(s) ; AU, AG, CU, PB, ZN
SOIL 40 sample(s) ; AU, AG, CU, PB, ZN
Map(s) - 4; Scale(s) - 1:10 000
MINFILE: 104G

FILMED

LOG NO: 0515	RD.
ACTION:	
FILE NO:	

COMINCO LTD.

EXPLORATION

NTS: 104G/2

WESTERN CANADA

25 April 1989

1988 ASSESSMENT REPORT

GEOCHEMICAL AND GEOLOGICAL WORK ON THE MAL CLAIM

LIARD MINING DIVISION, BRITISH COLUMBIA

LATITUDE: 57°12'50"N LONGITUDE: 130°35'00"W

ON BEHALF OF COMINCO LTD

Work Performed: August 11, 1988

REPORT BY:

MICHAEL G. WESTCOTT

APRIL 25, 1989

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,722

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COMINCO LTD.

EXPLORATION

WESTERN CANADA
27 April 1989

1988 ASSESSMENT REPORT

GEOCHEMICAL AND GEOLOGICAL WORK ON THE MAL CLAIM

SUMMARY

The Mal claim was staked in July 1988 following the discovery of several fine grained silicified boulders which assayed up to 4.389 gm Au/tonne.

Work on the property focused on prospecting and contour soil sampling in the vicinity of a gossanous outcrop suspected to be the source of the boulder. The soil line delineated a 200 m long Au, Ag anomaly located directly below the gossan. Rock samples taken from narrow silicic shears with .15-1.0 m lenses of quartz, fuchsite (2-3%), and pyrite (\leq 20%), yielded gold values of 202-2300 ppb and silver values of 2.0-4.4 ppm. Samples of silicified and pyritized zones associated with fractures and shears in siltstones and wackes, yielded gold values of 180-2640 ppb and silver values of 2.0-7.2 ppm. The latter of the two types of Au, Ag bearing mineralization, is the more continuous and requires additional prospecting.

The total expenditure for work performed on the property in 1988 was \$2289.00

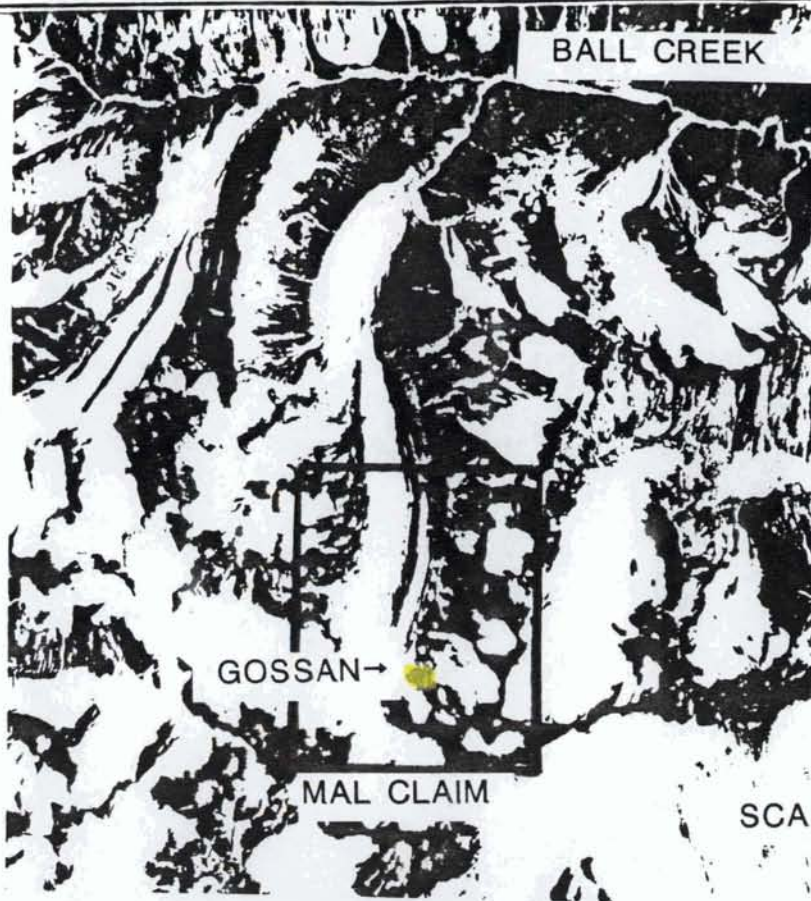
INTRODUCTION

The Mal claim, consisting of 20 units, was staked in mid July, 1988. Staking followed reconnaissance exploration, during which a boulder of a fine grained silicified grey rock containing 2-3% pyrite stringers and 2% fuchsite was sampled. The sample returned values of 7000 ppm As, 3400 ppb Au, and assayed at 4.389 gms Au/tonne.

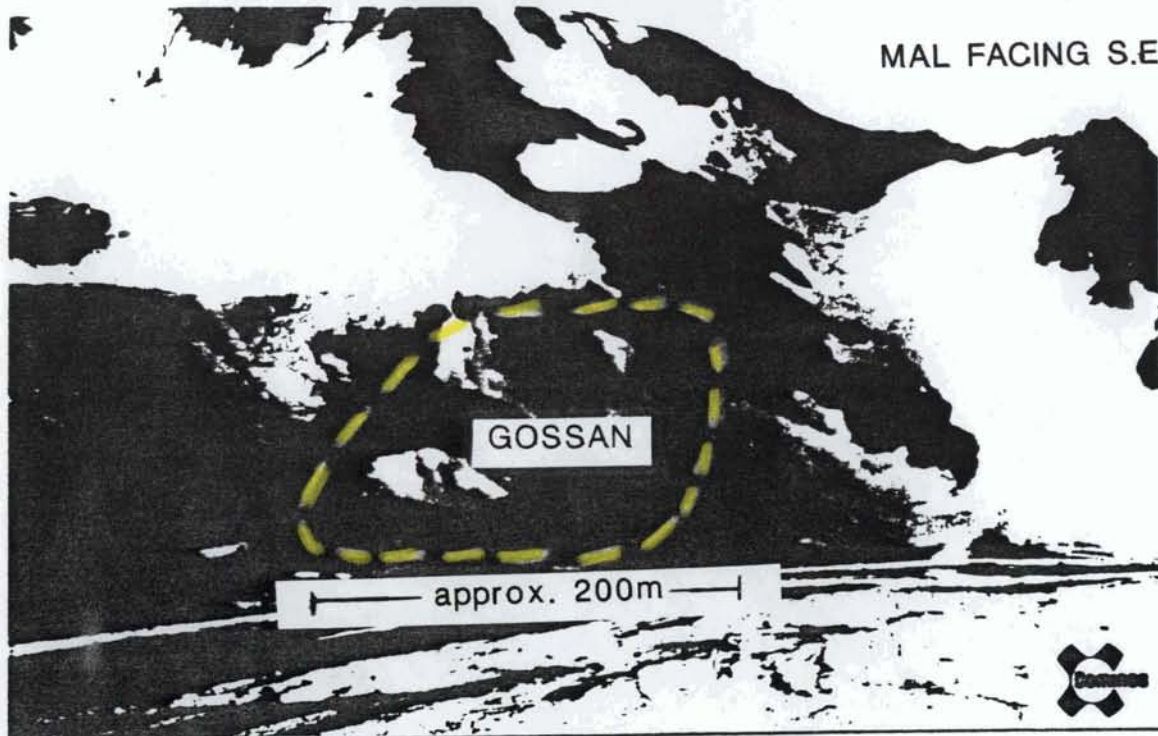
Two man days were spent prospecting and collecting soil samples in the vicinity of a gossanous outcrop suspected to be the source of the forementioned boulder. Personnel involved on the property were I.A. Paterson, M.G. Westcott, and D. Owens.

LOCATION AND ACCESS

The property is located in the Liard Mining Division on N.T.S map 104G/2. The claim extends south and west from the legal corner post located at latitude $57^{\circ}12'50''N$ and longitude $130^{\circ}35'00''W$. The Stewart-Cassiar highway passes 20 km to the east of the property. Access is via helicopter, locally available out of Bronson Creek airstrip 80 km to the southwest.



SCALE 1:62,500



MAL FACING S.E. 1988

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

MAL CLAIM PHOTOS

FIGURE 2

Scale:

Date:

Plate:

2.

PHYSIOGRAPHY

The claim covers a north-south trending valley occupied by a glacier. The glacier abuts steep valley walls to the west, while a moderately sloped ice capped mountain forms the eastern side of the valley. Topography on the claim ranges in elevation from 7000' in the southwest corner to 4600' along the northern claim boundary. No vegetation is present on the property.

TENURE

Due date: July 20, 89
Size: 20 units (5 south x 4 west)
Record #: 4815
Ownership: 100% Cominco Ltd

GEOLOGY

With reference to GSC Map 11-1971 by Souther J.G. (1972), the Mal claim is underlain by a package of Upper Triassic sediments and volcanics, flanked to the west by Jurassic or Cretaceous dioritic intrusives and to the east by Middle-Upper Jurassic sediments and volcanics. Regional structure is dominated by a series of synclines and anticlines, separated in several instances by faults paralleling the NNE trending fold axes.

Examination of property geology focused on an area around a 40 m x 180 m yellow-orange gossan. Three lithologic units were recognized on the property.

Unit 1 is a green porphyritic andesite comprised of 30% white-green feldspar laths, 30% elongate mafic phenocrysts, and a fine green matrix. Several small shears (< 10 cm wide), commonly flanked by 15-30 cm silicified zones are present. Often associated with the shears are 15-100cm long lenses of quartz with 2-5% fuchsite and up to 20% pyrite. Samples from the mineralized lenses have yielded values of 2-3 gms Au/tonnes and 3-6 gms Ag/t.

Unit 2 is a well bedded sedimentary sequence comprised of siltstone, grits, and wackes. Bedding is best defined in the siltstone where it measures 180/25 W and is paralleled by a well developed fracture plane. In the vicinity of the gossan, unit 2 has an exposed thickness of 50-70' and overlies unit 1. The sediments generally coarsen upwards, with the thicker siltstone section being overlain by wackes and grits. A 40 cm wide silicified shear zone with: gouge, breccia, quartz lenses, and 5% pyrite cuts the bedded wacke at an oblique angle. Also exposed in the upper part of the sedimentary succession, and trending oblique to bedding, is a 5 m x 50 m yellow-grey weathering silicified and pyritized zone.

3.

Unit 3 is a maroon andesitic volcanic.

GEOCHEMISTRY

A soil line consisting of 40 samples taken at 25 m intervals, started directly below the gossan and continued 500 m to the north. Eight rock samples were collected in the vicinity of the gossan. Soil samples were analysed for Au, Ag, Cu, Pb and Zn, while rock samples were only analysed for Au, Ag and Cu.

The soil line resulted in identifying a 200 m long Au, Ag anomaly located directly below the gossan. Gold values ranged from 96-600 ppb. Silver values were also continuously anomalous ranging from 1.3-4.4 ppm.

Rock samples taken from both volcanic and sediment hosted mineralization, yielded anomalous gold and silver values. Volcanic hosted silicic shears with small lenses of quartz, fuchsite and pyrite, yielded gold values of 202-2300 ppb and silver values of 2.0-4.4 ppm. Samples of silicified and pyritized zones associated with fractures and shears in the sediments yielded Au values of 180-2640 ppb and silver values of 2.0-7.2 ppm.

CONCLUSIONS AND RECOMMENDATIONS

A gossanous zone centered along the contact between sediments and volcanics has been identified as the source area for anomalous gold and silver values in both rock and soil samples.

A gold-silver soil anomaly, continuous for 200 m, is located directly below the gossan.

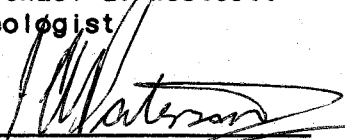
Two styles of gold and silver bearing mineralization have been recognized on the property. (1) Lenses of quartz, fuchsite 2-3%, and pyrite 5-10% are present along thin (10 cm) shears in a porphyritic andesite. The shears, which are commonly flanked by 15-30 cm silicified zones, are not very continuous. Samples of the silicified shears and mineralized lenses have yielded gold values up to 2300 ppb and silver values up to 4.4 ppm. (2) Silicified and pyritized zones associated with fractures and shears in a sedimentary sequence, have yielded values up to 2640 ppb Au and 7.2 ppm Ag.


The best potential for economically significant mineralization is in the sediment hosted, silicified and pyritized zones. These zones, easily recognized by their yellow-grey alteration, are up to 5 m wide and can be traced for up to 40 m. the largest such zone trends up hill, projecting under a small snow covered glacier above the gossan.

4.

Additional prospecting and sampling along sediment hosted silicified and pyritized zones, and along the glacier edges, is recommended.

Report by: 
Michael G. Westcott
Geologist

Endorsed by: 
I.A. Paterson,
Senior Geologist

Approved for
Release by: 
W.J. Wolfe,
Manager, Exploration-
Western Canada

MGW/can

APPENDIX I

STATEMENT OF EXPENDITURES FOR MAL CLAIM

Cominco Ltd incurred the following expenditures during evaluation of the Mal claim.

Salaries

<u>Personnel</u>	<u>Period</u>	<u>Days x Rate</u>	
M.G. Westcott	Aug 11, 1988	1 at \$163.00/day=	\$163.00
D. Owens	Aug 11, 1988	1 at \$100.00/day=	<u>\$100.00</u>
			\$263.00

Analytical costs

40 soil samples: lab preparation	40 at \$1.00=	\$40.00	
Analyses (Au,Ag,Cu,Pb,Zn)		= \$430.00	
8 rock samples: lab preparation	8 at \$3.25 =	\$26.00	
Analyses (Au, Ag, Cu) 8 at	\$12.00	=	<u>\$96.00</u>
			\$592.00

Transportation

Helicopter out of Telegraph Creek			
1.5 hrs. at \$550.00/hr		=	<u>\$825.00</u>
			\$825.00

Domicile

Riversong Lodge Telegraph Creek B.C.			
2man-days at \$60/man-day		=	<u>\$120.00</u>
			\$120.00

Report writing and preparation

3 days at \$163.00/day		=	<u>\$489.00</u>
			\$489.00
			<u>\$2289.00</u>

Total Expenditures

APPENDIX II

Geochemistry Results

MAL PROPERTY 104G/2
1988 SOIL LINE RESULTS

SAMPLE #	LAB #	AU ppb	AG ppm	CU ppm	PB ppm	ZN ppm
79100	10822	20	.4	88	35	135
79101	10823	24	.9	66	36	125
79102	10824	25	.4	81	38	136
79103	10825	600	3.6	71	49	173
79104	10826	110	4.4	64	59	139
79105	10827	96	3.7	56	75	117
79106	10828	160	3.5	84	67	160
79107	10829	262	2.4	142	50	157
79108	10830	180	1.3	77	35	106
79109	10831	236	1.4	122	42	165
79110	10832	242	.6	114	20	143
79111	10833	38	.4	81	24	149
79112	10834	40	.4	88	32	173
79113	10835	10	.4	73	17	142
79114	10836	16	.4	82	27	169
79115	10837	15	.4	86	27	160
79116	10838	30	.4	231	37	164
79117	10839	48	.4	124	31	198
79118	10840	10	.4	65	10	92
79119	10841	10	.5	83	19	96
79120	10842	10	.4	71	12	88
79121	10843	10	.4	91	14	110
79122	10844	10	.5	83	19	100
79123	10845	10	.6	96	21	121
79124	10846	10	.7	97	24	120
79125	10847	10	.7	97	31	112
79126	10848	10	.8	97	26	115
79127	10849	10	.4	90	12	105
79128	10850	10	.4	81	10	97
79129	10851	10	.4	79	13	101
79130	10852	10	.4	79	10	108
79131	10853	10	.4	100	9	107
79132	10854	10	.4	104	18	130
79133	10855	10	.4	104	13	106
79134	10856	10	.4	116	17	121
79135	10857	10	.4	94	11	108
79136	10858	10	.4	142	11	105
79137	10859	10	.4	162	16	130
79138	10860	10	.4	153	7	82
79139	10861	10	.4	157	8	87
79140	10862	10	.4	139	7	84

MAL PROPERTY

1988 ROCK SAMPLE RESULTS & DESCRIPTIONS

Sample #	Lab #	Au ppb	Ag ppm	Cu ppm	As ppm	AuFa g/t	Description
WR88205	14130	202	4.4	36			silicic shear 15 cm wide, host = porphyritic andesite, Py-10%, fuchsite 5%
WR88206	14131	2300	2	39			Qtz. lens in andesite , Py-8%, fuchsite-5%, sample interval 40 cm
WR88207	14132	2240	3.5	44			float, Qtz lenses with 15-20% Py
WR88208	14133	560	2.6	14			well bedded siltstone, silicic zone 50-70 ft thick. Bedding is 180/25 W, sample interval 35 cm, Py-10%
WR88209	14134	180	3.4	6			silicic siltstone, Py 5-10% sample interval 1.5 m.
WR88210	14135	2640	7.2	63			Qtz lenses in wacke, 5% Py sample interval 2 m.
WR88211	14136	672	2	39			float, fine grained silicic rock, 5% py.
WR88212	14137	300	2.1	18			float, silicic sediment, Py-5%.
*PR8171	8170	3400	6.1	35	7000	4.39	Grey silicic rock with 2-3% fuchsite, & Py stringers.
PR8203	8182	226	5.5	21	872		Monolithic breccia with white fine grained clasts.
PR8204	8183	2840	8.7	18	4420	3.771	Pyrite network in felsite (possibly bleached wall rock)

* Discovery Sample

APPENDIX III

Analytical Methods

All analyses were carried out at the Cominco Analytical laboratory in Vancouver.

Au: Aqua regia decomposition followed by solvent extraction and AAS.

Ag: Digestion in 20% HNO₃ followed by AAS

Cu: Digestion in 20% HNO₃ followed by AAS

Pb: Digestion in 20% HNO₃ followed by AAS

Zn: Digestion in 20% HNO₃ followed by AAS

APPENDIX IV

I, Michael G. Westcott of 214-2025 West 1st Avenue, Vancouver, British Columbia, Canada, declare:

- 1) I am a Geologist, residing at the above address.
- 2) I am an associate of the Geological Association of Canada.
- 3) I graduated from the University of British Columbia with a Bachelor of Science (Geology) degree in 1988.
- 4) This report is based on my personal field examination of the property.

Dated at Vancouver, B.C, this
5 day of May 1989.

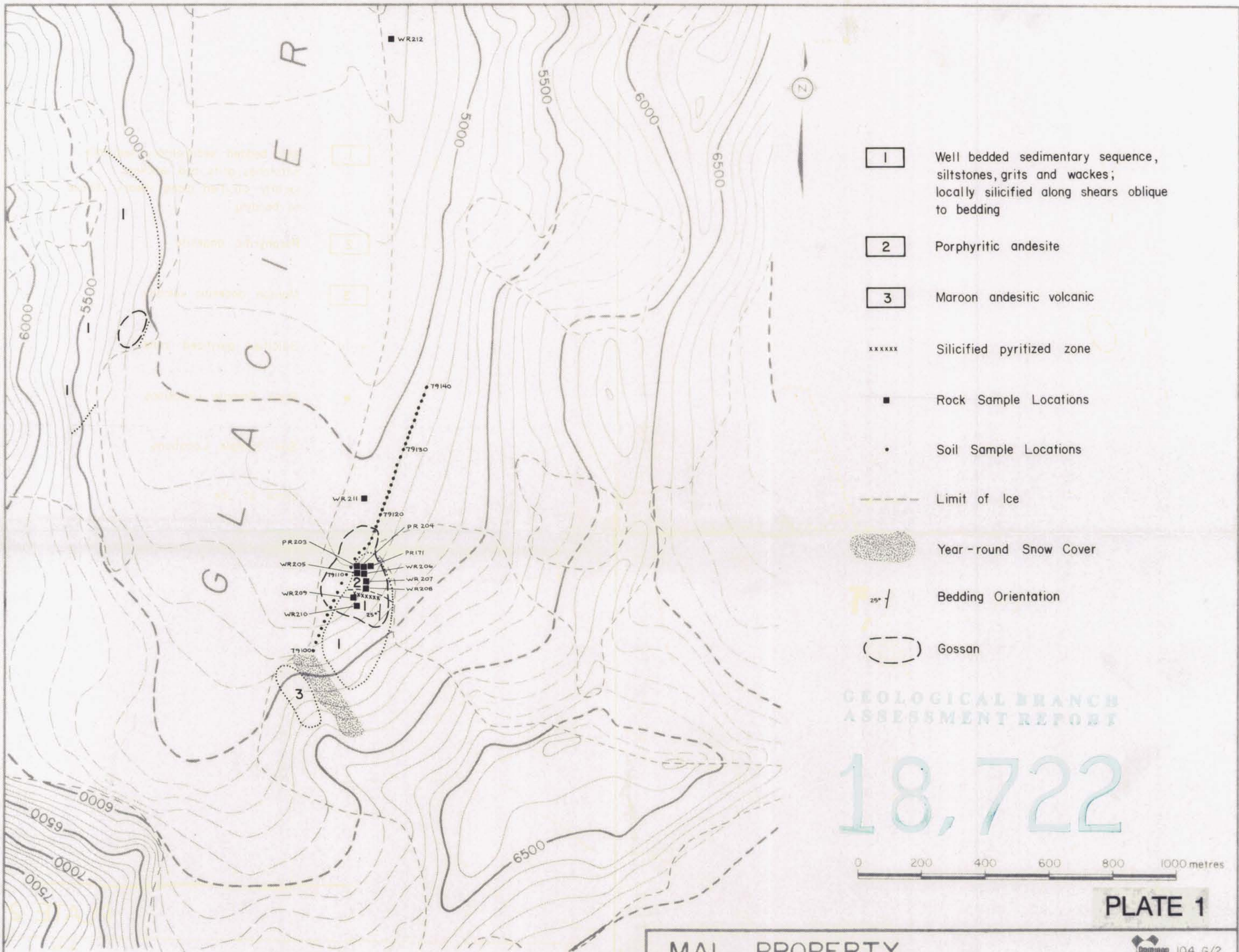


Michael G. Westcott

APPENDIX V

REFERENCES

1. Souther, J.G. 1971. GSC Map 11-1971, Geology of the Telegraph Creek Map Sheet 104G



- 1 Well bedded sedimentary sequence, siltstones, grits and wackes; locally silicified along shears oblique to bedding
- 2 Porphyritic andesite
- 3 Maroon andesitic volcanic
- xxxxxx Silicified pyritized zone
- Rock Sample Locations
- Soil Sample Locations
- Limit of Ice
- Year-round Snow Cover
- Bedding Orientation
- Gossan

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,722

0 200 400 600 800 1000 metres

PLATE 1

MAL PROPERTY

104 G/2

Drawn by	M W	Traced by	a. m. a.
Revised by	Date	Revised by	Date

Sample Locations and Geology

LIARD M.D., B.C.
Scale 1 : 10,000 Date May 3, 1989 Plate

ANNA GEOCHEMISTRY



262/2.4 Gold ppb / Silver ppm

■ Rock Sample

• Soil Sample

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,722

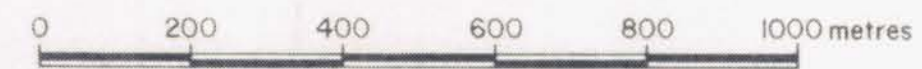
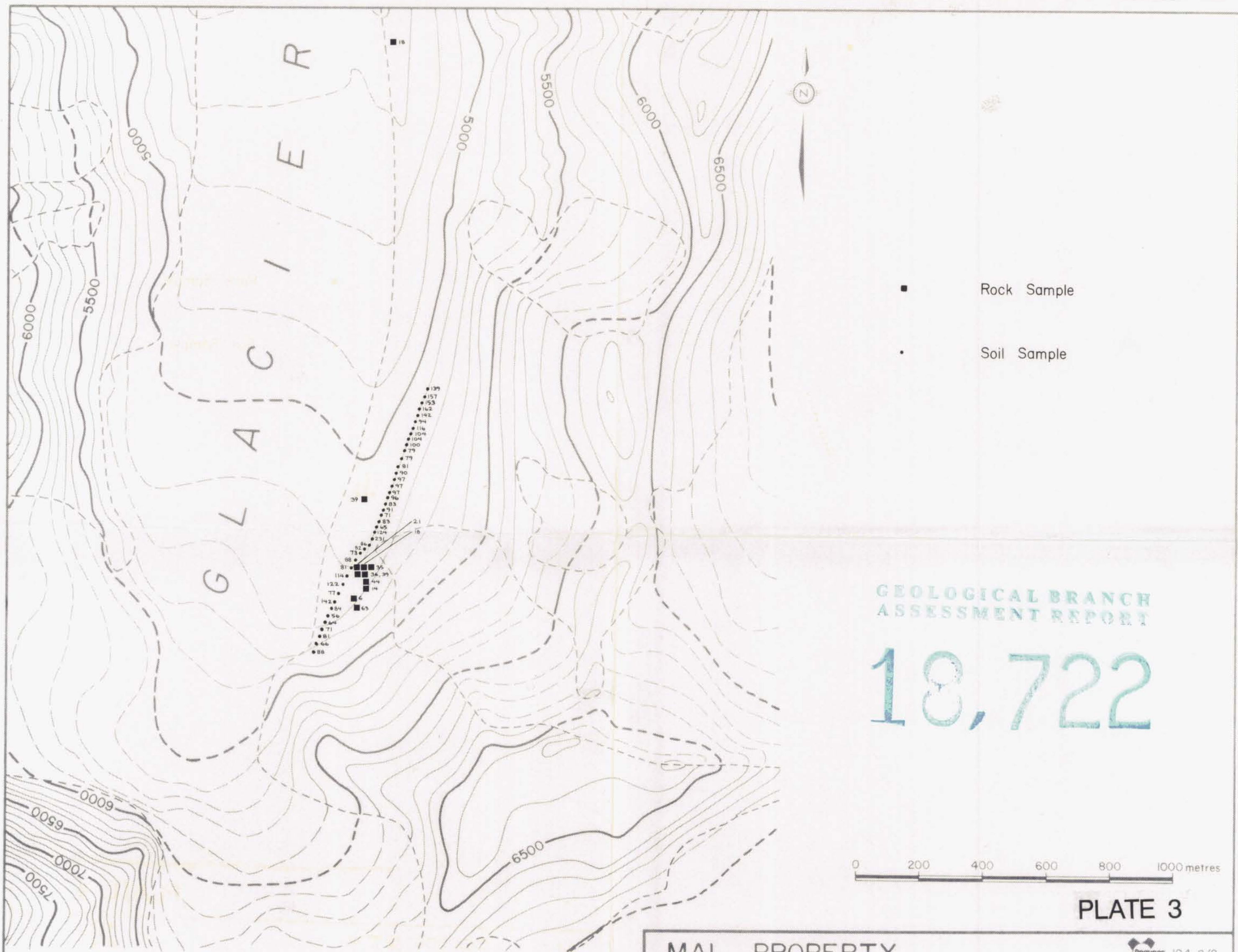


PLATE 2

MAL PROPERTY				104 G/2	
Drawn by:	M.W.	Traced by:	d.m.a.	Au / Ag GEOCHEMISTRY	
Revised by:	Date	Revised by:	Date		
LIARD M.D., B.C.				Scale:	1 : 10,000
				Date:	May 3, 1989
				Plate:	



- Rock Sample
- Soil Sample

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,722

0 200 400 600 800 1000 metres

PLATE 3

MAL PROPERTY

Common 104 G/2

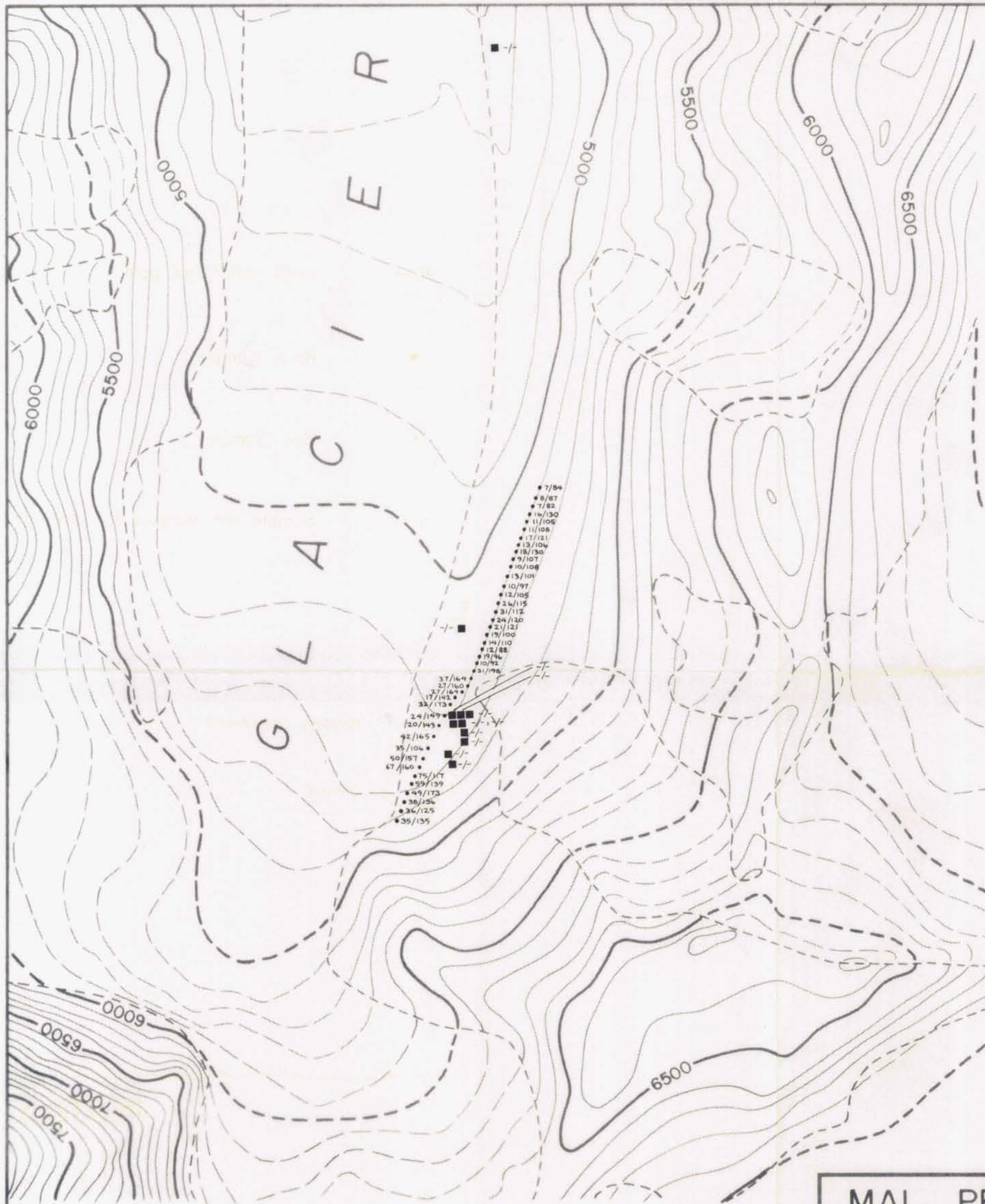
Drawn by M.W. Traced by a.m.a

Revised by Date Revised by Date

Cu GEOCHEMISTRY

LIARD M.D., B.C.

Scale 1: 10,000 Date May 3, 1989 Plate



37/164

Lead ppm / Zinc ppm

■

Rock Sample

●

Soil Sample

-/-

Sample not analysed for elements

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,722

0 200 400 600 800 1000 metres

PLATE 4

MAL PROPERTY

104 G/2

Drawn by:	M.W.	Traced by:	a.m.a.
Revised by:	Date	Revised by:	Date

Pb/Zn GEOCHEMISTRY

LIARD M.D., B.C.

Scale: 1: 10,000

Date: May 3, 1989

Plate: