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A GEOCHEMICAL REPORT

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on the

HA 1 Claim of the TAS PROPERTY

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VANCOUVER, B.C.

OMINECA MINING DIVISION
BRITISH COLUMBIA

N.T.S. 93 K/16W

by

A.J. Boronowski, B.Sc., F.G.A.C.

Owners: Noranda Exploration Company Ltd.
Goldcap Inc.
Black Swan Gold Mines Ltd.

Operator: Black Swan Gold Mines Ltd.

Contractor: R. Somerville Geological & Mining
Engineering Ltd.

August 7, 1989

LAT. 55 degrees 52' N.
LONG 124 degrees 16' W.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

19,007

TABLE OF CONTENTS

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS	1
INTRODUCTION	2
LOCATION AND ACCESS	2
TENURE	2
HISTORY	2
GEOCHEMICAL SURVEY	6
DETAILED TECHNICAL DATA	7
INTERPRETATIONS	12
STATEMENT OF COST	13
STATEMENT OF AUTHOR'S QUALIFICATIONS	14

APPENDICES

1. GEOCHEMICAL ANALYSIS CERTIFICATES
2. TAS PROJECT DATABASE - DETAIL GEOCHEMICAL REPORT
HA-1 CLAIM - LOCATION, GOLD PPB, COPPER PPM, SAMPLE NO.

FIGURES & MAPS

FIGURE 1	Location Map	3
FIGURE 2	Claim Location Map	4
FIGURE 3	Claim Map	5
FIGURE 4	HISTOGRAM - GOLD PPB	8
FIGURE 5	LINE GRAPH - GOLD PPB	9
FIGURE 6	HISTOGRAM - COPPER PPM	10
FIGURE 7	LINE GRAPH - COPPER PPM	11
MAP 1	Soil Sample Location & Gold values PPB	pocket
MAP 2	Soil Sample Location & Gold Symbols	pocket
MAP 3	Soil Sample Location & Copper values PPM	pocket
MAP 4	Soil Sample Location & Copper Symbols	pocket
MAP 5	Soil Geochemistry HA-1 claim - grid location, drainage, outcrop	pocket

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

A geochemical soil sampling survey was conducted over the eastern portion of the HA-1 claim to determine whether the claim contains economic potential for hosting a porphyry intrusive related Cu-Au deposit. The nearby Mt. Milligan porphyry Cu-Au deposit demonstrates an areomagnetic high anomaly associated with the economic mineralization. An areomagnetic high anomaly is situated on an intensely altered intermediate intrusive which underlies the HA-1 claim. The HA-1 claim is located approximately 40 kilometres north of Fort St. James, B.C. in the Omenica Mining Division.

Soil samples were analyzed for gold and copper. Low values were obtained for both elements. The low results may be due to the deep overburden covering the tested area, which would mask the geochemical nature of the bedrock. Nevertheless four independent gold anomalous areas (Values >5 PPB) were outlined and should be followed-up by a ground examination.

Area 1 occurs in the region of L10800E from 9750N to 1025N and L11000E from 9725N to 1075N. This area is underlain by an intensely altered intermediate intrusive as indicated by a few outcrops discovered in the region. The area contains a coincident copper anomaly.

Area 2 occurs in the region of L11400E from L9425N to L9675N and striking northeast to L11800E and 9800N. The geochemical expression trends parallel to one of the major tectonic directions crossing the area. As well, the geochemical expression parallels the drainage in the immediate area.

Area 3 occurs in the region of L11200E from L10575N to L11400E and L10575N. The anomaly is relatively weak.

Area 4 occurs in the northwestern portion of the survey underlying the region bounded by L10600E - L10675N and L10800E - 10700N. The gold values are generally low. However, the region contains the greatest concentration of anomalous copper values.

The results for copper geochemistry indicated a greater concentration of anomalous copper values (>50 PPM) in the western portion of the surveyed area. Gold anomalous Areas 1 and 4 have coincident copper anomalies. One isolated but clustering copper anomaly occurs on L11800E from L10400N to L10475N.

All of the copper and gold geochemically anomalous areas should be followed-up with a ground examination. Particular attention should be given to the areas with coincident copper and gold anomalies.

INTRODUCTION

A geochemical soil sampling survey was conducted over the HA 1 claim to determine whether the airborne magnetic anomaly underlying the claim indicates a porphyry copper-gold environment similar to the Mt. Milligan prospect.

LOCATION AND ACCESS

The HA-1 claim is located approximately 40 kilometres north of Fort St. James, B.C. and 6 kilometres east of the Germansen Highway (FIGURE 1 & 2). Access to the claim for this geochemical soil sampling survey was by helicopter. Future road access could be established easily to the claim.

The physiography of the HA-1 claim is characterized by pine, spruce and poplar flats. Northeast trending swamps contain willow and alder. The gentle knolled ridges are underlain by granitic rocks. The claim block has been covered with glacial till.

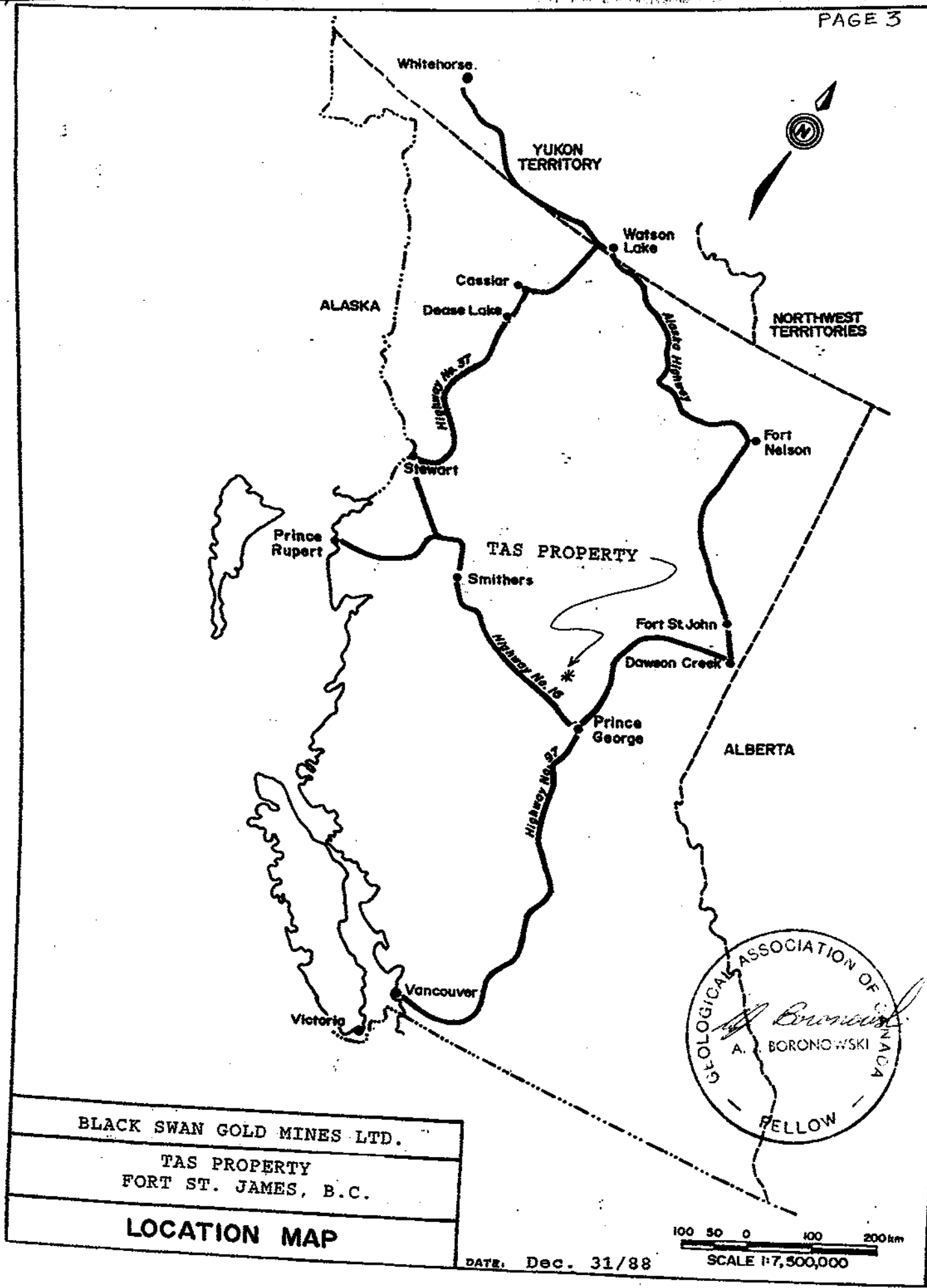
TENURE

The HA-1 claim is not contiguous with the remainder of the TAS property (FIGURE 3).

<u>CLAIM</u>	<u>UNITS</u>	<u>RECORD NUMBER</u>	<u>EXPIRY DATE</u>	<u>AREA</u>
HA-1	18	7705	JUNE 30,1993	450 Ha.

HISTORY

Prior exploration on the HA-1 claim was conducted in the late 1960's by the N.B.C. Syndicate on the HAT claims which were staked by W. Bacon. These claims covered a copper occurrence. VHEM, magnetic, and geological surveys were conducted over the claims. The area was also tested by an airborne geophysical survey flown by Questor in 1981, for BP-Selco. Noranda staked the HA-1 claim in 1987 and conducted preliminary soil sampling on the western half of the HA-1 claim during the same year.



BLACK SWAN GOLD MINES LTD.
 TAS PROPERTY
 FORT ST. JAMES, B.C.
LOCATION MAP

DATE: Dec. 31/88

100 50 0 100 200 km
 SCALE 1:7,500,000

FIGURE 1



TAS PROPERTY
CLAIM LOCATION MAP

Figure 2

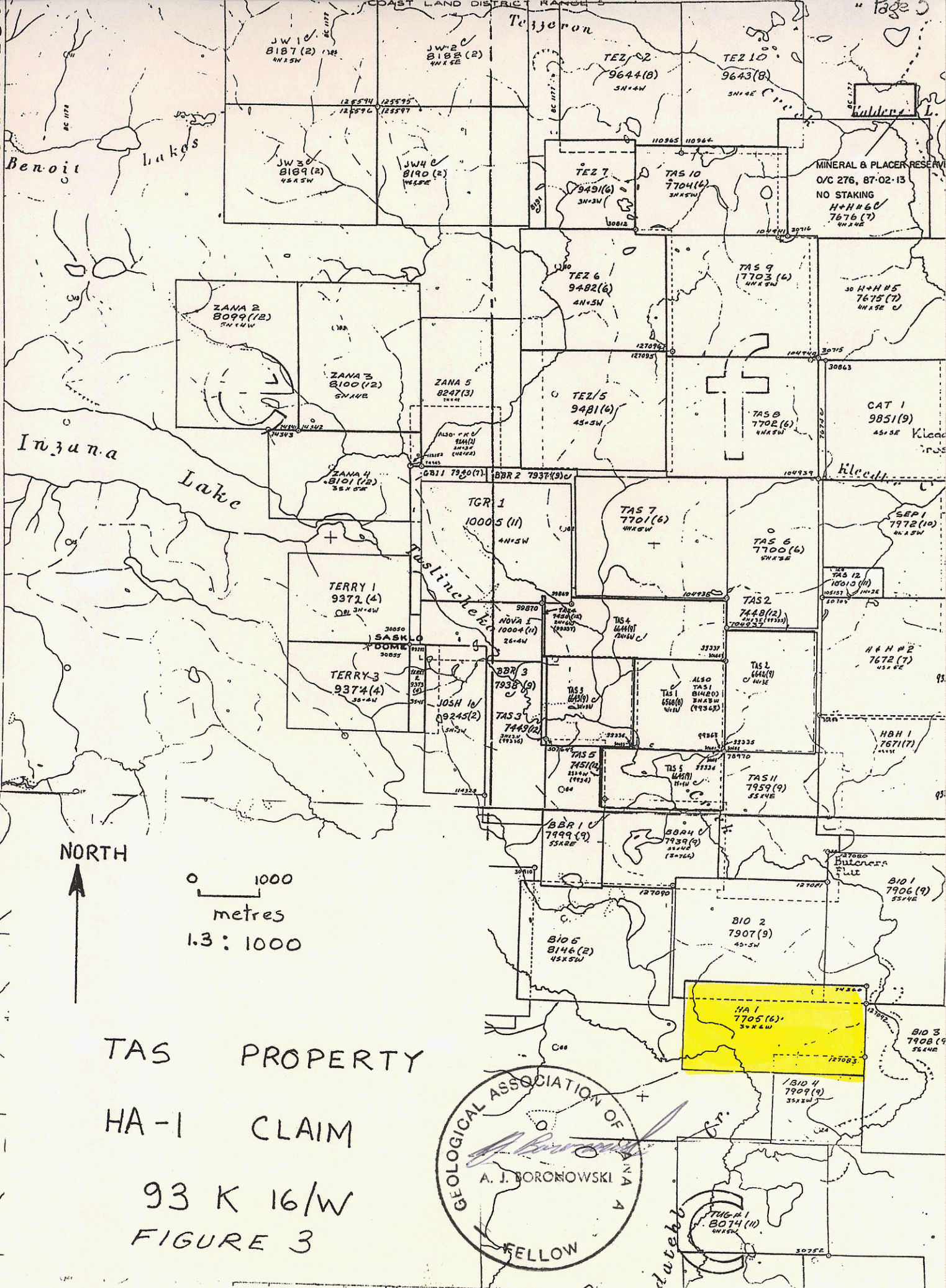
HA 1 CLAIM 93 K/16W



M33K/16W

(FOR PLACER SEE P 93K/16W)

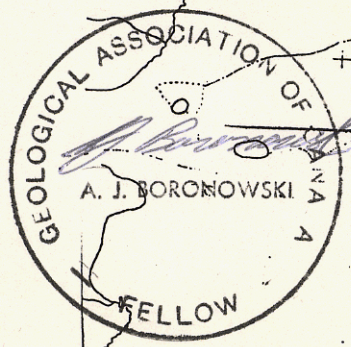
TO WEST SEE MAP 93 K/15 E



TAS PROPERTY

HA-1 CLAIM

93 K 16/W
FIGURE 3



GEOCHEMICAL SURVEY

The soil sampling survey was contracted to Mr. R.C. Day by R. Somerville Geological & Mining Engineering Limited. Mr. R. Day and Mr. B. Bale established the grid, collected the samples, and noted the following data from each sample location: location, soil composition, colour of soil, depth of sample.

A grid was established over the eastern half of the HA-1 claim and control was established with the HA-1 LCP post (figure 3 & Maps 1-5). The baseline was tied into the NOREX (Noranda Exploration) grid at 10,000N and 10,400E. From this location the baseline was extended 1400 metres east. The baseline was established by compass and topofill survey. Crosslines were established at 200 metre spacing along the baseline. The baseline and crosslines were blazed and flagged.

Soil samples were collected at 25 metre intervals along the crosslines and baseline. The stations were flagged with blue and orange ribbon and station locations were noted on water proof Tevlar Tags. Samples were collected using Eijkelkamp soil auger (7 cm. diameter).

A total of 428 B-horizon, soil samples were collected. The most common soil type is a tan colored till which is sandy clay in composition. Samples were collected from a depth between 40 cm. and 80 cm. from surface. Approximately 2% of the collected samples were from swampy ground. These samples were rich in organics and sometimes contained blue-black clay.

The soils were analyzed by Min En Laboratories of North Vancouver for Gold and Copper. The soils were dried at approximately 80 degrees celcius and sieved with a 80 mesh nylon screen. The -80 fraction (0.18 mm.) is used for geochemical analysis.

Copper analysis - (1.0 ppm.)

Decomposition of a 0.200 g. sample is done with concentrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature.

The concentrations of Cu can be determined directly from the digest (dissolution) with conventional atomic absorption spectrometric procedure. A Varian-Techtron, Model AA-5 or Model AA-475 is used to measure elemental concentrations.

Gold Analysis - (1.0 ppb.)

15.0 g. sample is digested with aqua regia (1 part nitric and 3 parts hydrochloric acid). Gold is extracted with MIBX from the aqueous solution. AA is used to determine gold.

DETAILED TECHNICAL DATA

A total of 430 soil samples were collected and analyzed for copper and gold.

The results were plotted on MAPS 1 to 4 found in the pocket of the report. MAPS 1 and 3 contain the sample location and gold and copper values, respectively. MAPS 2 and 4 represent the gold and copper values as linear symbol plots. MAP 5 indicates the grid lines and co-ordinates of the lines.

The data was extracted and presented in the TABLE - Tas Project Database -Detailed Geochemical Report in a descending order for gold values.

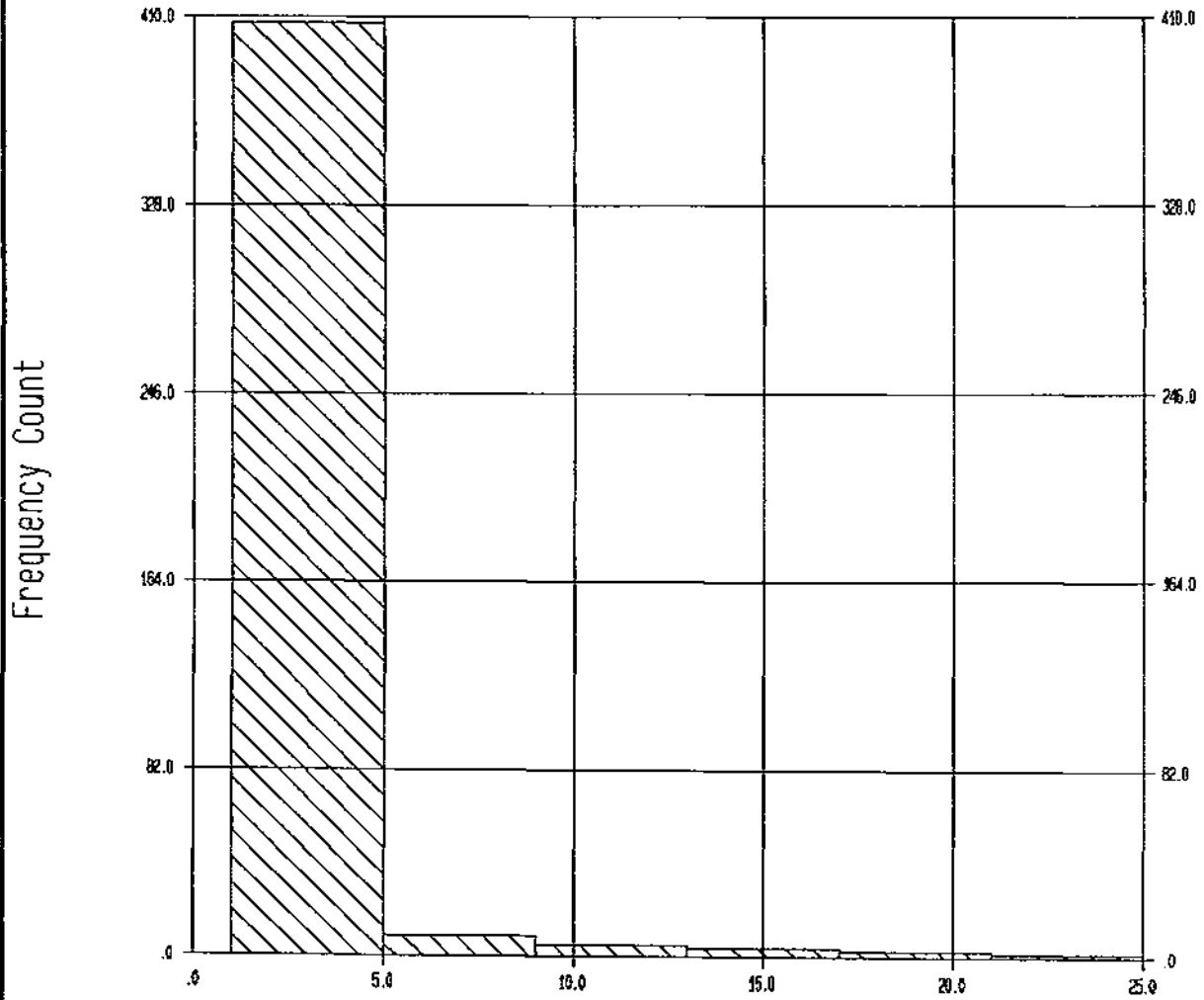
The data was analyzed using a histogram and line graph (FIGURES 4 to 7).

Gold The lowest value is 1.0 ppb. and the highest value is 25.0 ppb. The mean is 2.0 ppb. and the standard deviation is 2.7 ppb. Any value greater than 5.0 ppb. is considered anomalous.

Copper The lowest value is 9.0 ppm. and the highest value is 255.0 ppm. The mean is 34.0 ppm. and the standard deviation is 25.0 ppm. Any value greater than 50.0 ppm. is considered anomalous.

The calculated threshold values are approximately half of those calculated for copper and gold on other portions of the TAS property.

The interpretation of the results are limited due to the limited amount of outcrop. The HA-1 claim is covered by a thick till overburden. Generally, the geochemical gold and copper results indicated four independent anomalous areas



Gold PPB

HA-1 CLAIM TAS PROJECT
GOLD PPB

QUICK-PLOT
GEMCOM Services Inc.

DATE - 07-28-89
TIME - 16:40:17

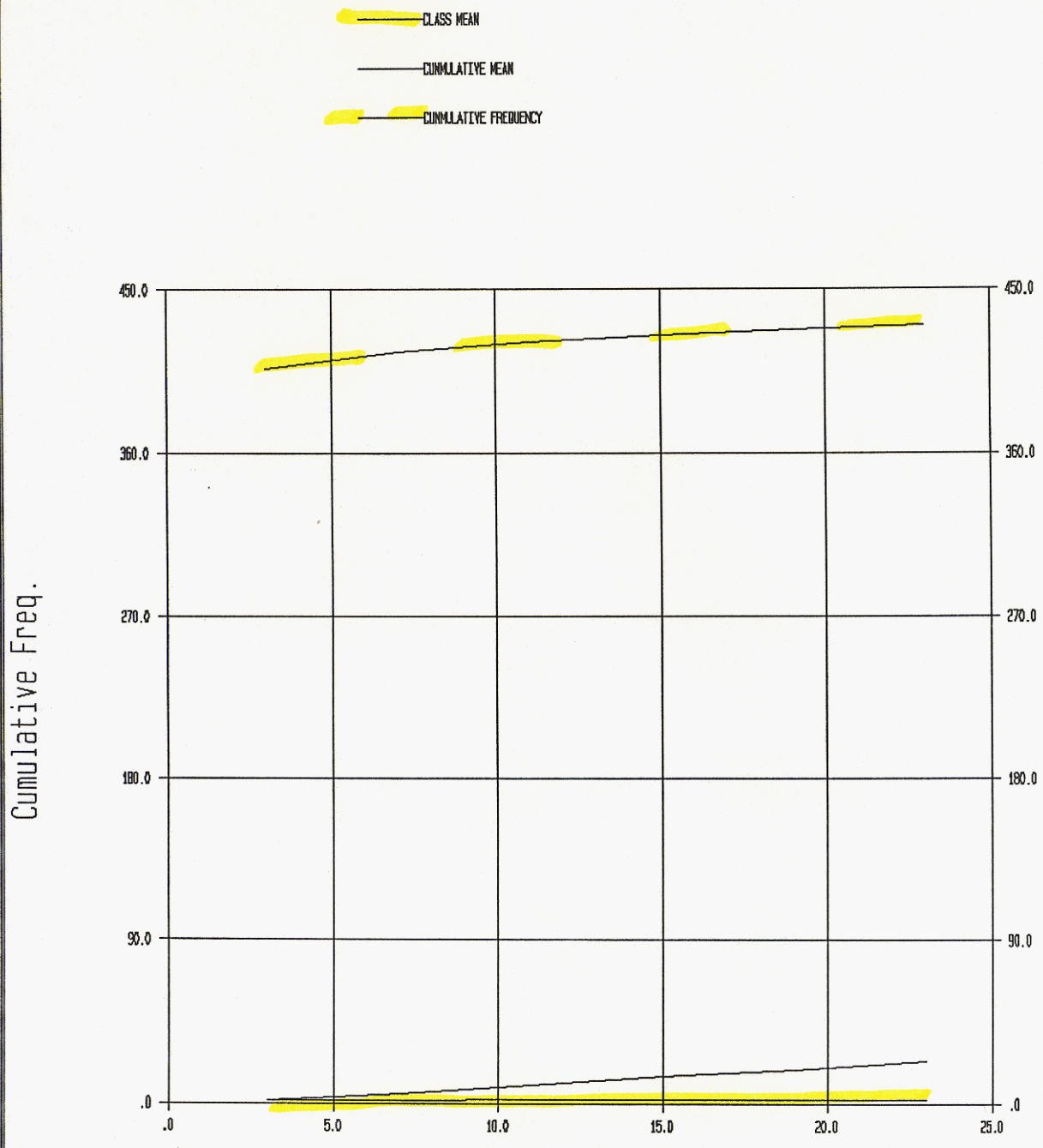
GEMCOM Services Inc.
Vancouver Office

HA-1 CLAIM TAS
AU PPB

HORIZONTAL SCALE - 1 : 12

VERTICAL SCALE - 1 : 12

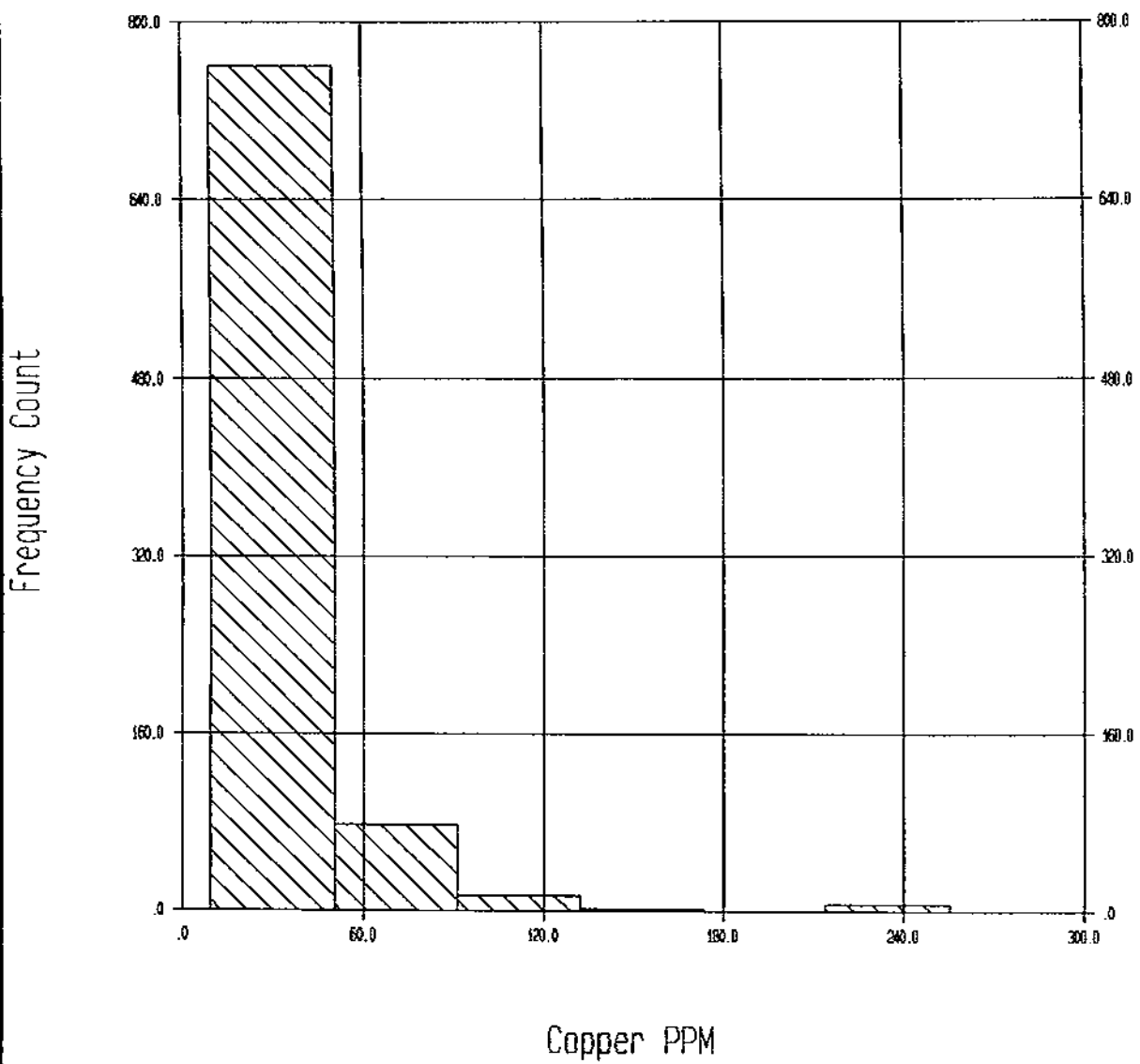
FIGURE 4



Gold PPB

HA-1 CLAIM TAS PROJECT
GOLD PPB

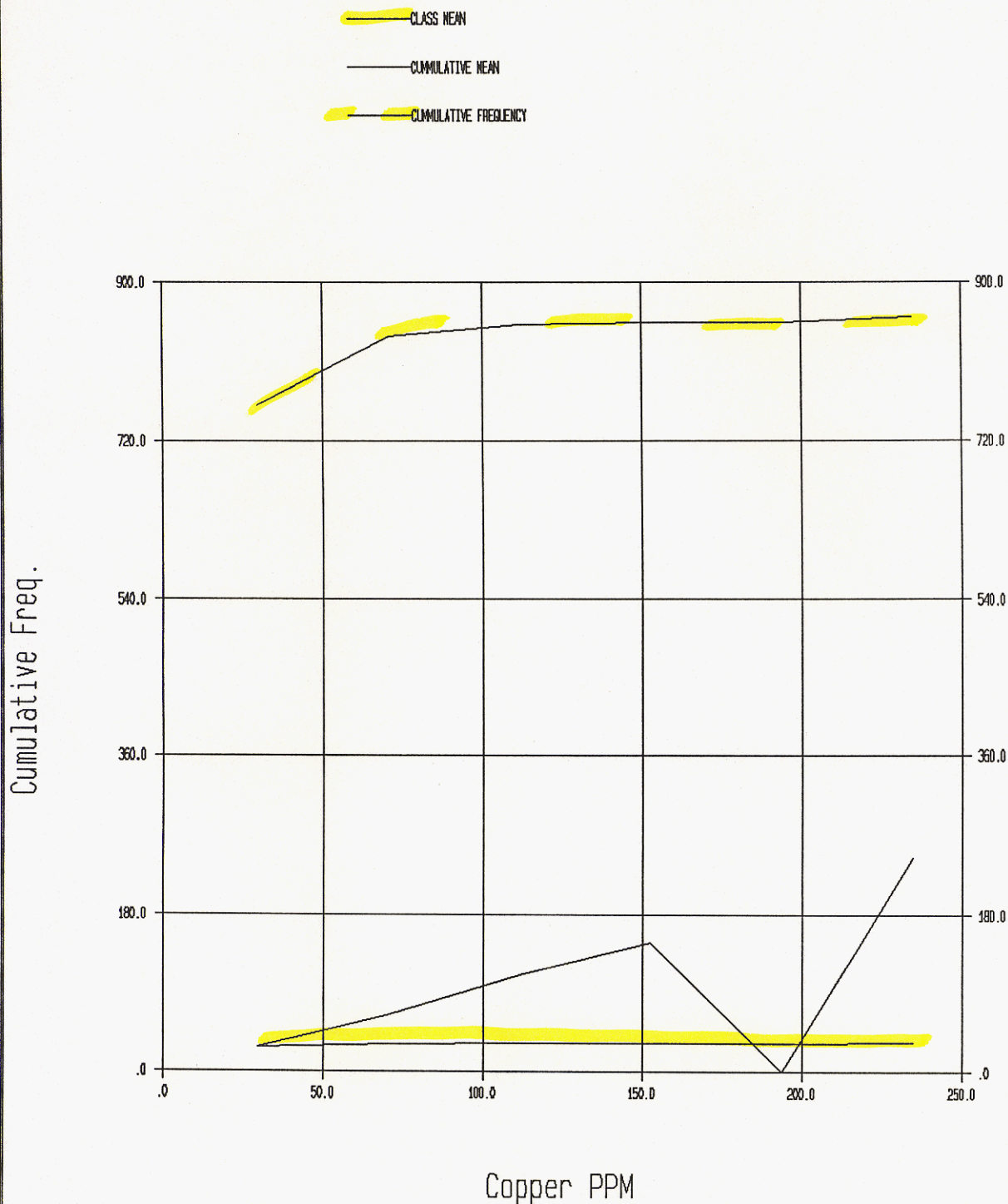
QUICK-PLOT GEMCOM Services Inc.	DATE - 07-28-89 TIME - 17:09:59	GEMCOM Services Inc. Vancouver Office	FIGURE 7
HORIZONTAL SCALE = 1 : 12		VERTICAL SCALE = 1 : 12	



HA-1 CLAIM TAS PROJECT
COPPER HISTOGRAM

QUICK-PLOT GEMCOM Services Inc.	DATE - 07-28-89 TIME - 16:46:07	GEMCOM Services Inc. Vancouver Office	HA-1 CLAIM TAS CU PPM
HORIZONTAL SCALE = 1 : 12		VERTICAL SCALE = 1 : 12	

FIGURE 5



HA-1 CLAIM TAS PROJECT
COPPER PPM

QUICK-PLOT

GEMCOM Services Inc.

DATE - 07-28-89

TIME - 16:48:35

GEMCOM Services Inc.

Vancouver Office

HORIZONTAL SCALE = 1 : 12

VERTICAL SCALE = 1 : 12

FIGURE 6

INTERPRETATIONS

Area 1

Area 1 occurs in the region of L10800E from 9750N to 1025N and L11000E from 9725N to 1075N. This area is underlain by an intensely altered intermediate intrusive as indicated by a few outcrops discovered in the region. The area contains a coincident copper anomaly.

Area 2

Area 2 occurs in the region of L11400E from L9425N to L9675N and striking northeast to L11800E and 9800N. The geochemical expression trends parallel one of the major tectonic directions crossing the area. As well, the geochemical expression parallels the drainage in the immediate area.

Area 3

Area 3 occurs in the region of L11200E from L10575N to L11400E and L10575N. The anomaly is relatively weak.

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Area 4 occurs in the northwestern portion of the survey underlying the region bounded by L10600E - L10675N and L10800E - 10700N. The gold values are generally low. However, the region contains the greatest concentration of anomalous copper values.

The results for copper geochemistry indicated a greater concentration of anomalous copper values (>50 PPM) in the western portion of the surveyed area. Gold anomalous Areas 1 and 4 have coincident copper anomalies. One isolated but clustering copper anomaly occurs on L11800E from L10400N to L10474N.

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ITEMIZED COST STATEMENT

Contract Services

Soil Sampling Survey (430 samples)	\$ 9,820.00
Drafting base map	80.00
Geochemical Analysis	4,622.50
Map reproduction and report typing	200.00
Report Writing 3 days x \$350/day	<u>1,050.00</u>
Sub-total	\$15,772.50
Management Fee (10% of Costs)	<u>1,577.25</u>
TOTAL COST	<u>\$17,349.75</u>

STATEMENT OF AUTHOR'S QUALIFICATIONS

I, Alexander j. Boronowski, B.Sc., 103 - 255 West 1st Street
North Vancouver, B.C. V7M 3G8

do hereby certify that:

1. I am a Geology graduate from the University of British Columbia (B.Sc. 1970).
2. I am a Fellow of the Geological Association of Canada and a member of the Canadian Institute of Mining and Metallurgy.
3. I have practised my profession as a Geologist continuously since graduation in exploration and mining for Cominco Ltd., Texas Gulf Inc., Kidd Creek Mines Ltd., British Columbia Ministry of Mines, and TOTAL Energold Corporation in North America, Mexico, and Europe.
4. My report is based upon information and data supplied by R.Somerville Geological & Mining Engineering Limited.
5. I currently hold stock in Black Swan Gold Mines Ltd. and Gold Cap Inc.

Dated at VANCOUVER, B.C. on this 7th. day of August, 1989.

A.J. BORONOWSKI, B.Sc., F.G.A.C.



APPENDIX 1

GEOCHEMICAL ANALYSIS CERTIFICATES

Pages 1 to 15



MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 9/V/0404/S/G/001

Company: R.SOMERVILLE GEOLOGICAL
Project:
Attn: R.SOMERVILLE

Date: JUN-04-89
Copy 1. R.SOMERVILLE, NORTH VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOILS samples submitted MAY-30-89 by R.SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
600E-9400N	2	15
600E-9425N	1	10
600E-9450N	1	11
600E-9475N	3	69
600E-10025N	1	10

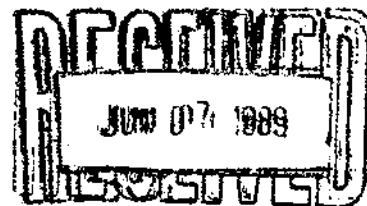
600E-10050N	3	15
600E-10075N	2	32
600E-10100N	2	35
600E-10125N	1	50
600E-10150N	2	32

600E-10175N	2	32
600E-10200N	1	44
600E-10225N	2	20
600E-10250N	1	48
600E-10275N	3	90

600E-10300N	2	87
600E-10325N	2	245
600E-10350N	2	91
600E-10375N	1	42
600E-10400N	1	34

600E-10425N	2	76
600E-10450N	1	28
600E-10475N	2	30
600E-10500N	1	26
600E-10525N	1	30

600E-10550N	1	29
600E-10575N	2	25
600E-10600N	1	122
600E-10625N	2	148
600E-10650N	2	40



Certified by

MIN-EN LABORATORIES

Geochemical Analysis Certificate 9/V/0404/S/S/002

Company: R.SOMERVILLE GEOLOGICAL
Project:
Attn: R.SOMERVILLE

Date: JUN-04-89
Copy 1. R.SOMERVILLE, NORTH VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R.SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
600E-10675N	21	40
600E-10700N	3	125
600E-10725N	1	37
600E-10750N	2	41
800E-9400N	2	22

800E-9425N	1	40
800E-9450N	2	23
800E-9475N	1	36
800E-10025N	18	35
800E-10050N	2	37

800E-10075N	2	36
800E-10100N	4	31
800E-10125N	4	25
800E-10150N	2	35
800E-10175N	1	23

800E-10200N	3	73
800E-10225N	1	88
800E-10250N	1	56
800E-10275N	2	50
800E-10300N	2	48

800E-10325N	1	31
800E-10350N	2	37
800E-10375N	2	44
800E-10400N	1	56
800E-10425N	2	72

800E-10450N	2	28
800E-10475N	1	25
800E-10500N	1	40
800E-10525N	1	22
800E-10550N	2	25

Certified by

Steve Long
MIN-EN LABORATORIES



**MIN-EN
LABORATORIES**

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 9/V/0404/S/G/003

Company: R.SOMERVILLE GEOLOGICAL
Project:
Attn: R.SOMERVILLE

Date: JUN-04-89
Copy 1. R.SOMERVILLE, NORTH VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R.SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
800E-10575N	1	37
800E-10600N	4	24
800E-10625N	1	44
800E-10650N	2	26
800E-10675N	1	25

800E-10700N	7	42
800E-10725N	2	87
800E-10750N	1	45
1000E-9400N	3	47
1000E-9425N	1	23

1000E-9450N	1	36
1000E-9475N	2	40
1000E-9500N	1	26
1000E-9525N	2	35
1000E-9550N	2	36

1000E-9575N	1	32
1000E-9600N	1	31
1000E-9625N	1	34
1000E-9650N	2	36
1000E-9675N	1	25

1000E-9700N	1	31
1000E-9725N	10	15
1000E-9750N	2	22
1000E-9775N	1	40
1000E-9800N	1	25

1000E-9825N	3	30
1000E-9850N	1	32
1000E-9875N	1	34
1000E-9900N	1	29
1000E-9925N	4	78

Certified by

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Geochemical Analysis Certificate 9/V/0404/S/G/004

Company: R.SOMERVILLE GEOLOGICAL
Project:
Attn: R.SOMERVILLE

Date: JUN-04-89
Copy 1. R.SOMERVILLE, NORTH VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SDIL samples submitted MAY-30-89 by R.SOMERVILLE.

Sample Number	AU-FIRE PPR	CU PPM
1000E-9950N	1	125
1000E-9975N	2	36
1000E-10025N	1	35
1000E-10050N	1	29
1000E-10075N	5	44

1000E-10100N	1	25
1000E-10125N	1	22
1000E-10150N	4	32
1000E-10175N	1	16
1000E-10200N	1	33

1000E-10225N	3	57
1000E-10250N	2	37
1000E-10275N	1	51
1000E-10300N	1	34
1000E-10325N	4	45

1000E-10350N	1	34
1000E-10375N	2	21
1000E-10400N	1	16
1000E-10425N	1	22
1000E-10450N	1	27

1000E-10475N	2	15
1000E-10500N	1	60
1000E-10525N	3	16
1000E-10550N	1	16
1000E-10575N	1	30

1000E-10600N	1	20
1000E-10625N	1	26
1000E-10650N	2	37
1000E-10675N	1	92
1000E-10700N	1	50

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Geochemical Analysis Certificate 9/V/0404/S/B/005

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1000E-10725N	2	33
1000E-10750N	1	17
1200E-9400N	1	31
1200E-9425N	3	30
1200E-9450N	2	38

1200E-9475N	2	25
1200E-9500N	1	21
1200E-9525N	3	23
1200E-9550N	1	19
1200E-9575N	1	20

1200E-9600N	2	12
1200E-9625N	1	31
1200E-9650N	5	23
1200E-9675N	2	32
1200E-9700N	2	26

1200E-9725N	1	25
1200E-9750N	3	24
1200E-9775N	2	18
1200E-9800N	1	28
1200E-9825N	1	28

1200E-9850N	2	19
1200E-9875N	3	30
1200E-9900N	2	36
1200E-9925N	1	39
1200E-9950N	2	25

1200E-9975N	4	20
1200E-10025N	1	14
1200E-10050N	2	28
1200E-10075N	1	34
1400E-9400N	2	22

Certified by _____

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VANCOUVER OFFICE:
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TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9/V/0404/S/B/006

Company: R. SOMERVILLE GEOLOGICAL
Project:
Attn: R. SOMERVILLE

Date: JUN-04-89
Copy 1. R. SOMERVILLE, NORTH VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R. SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
1400E-9425N	16	36
1400E-9450N	14	34
1400E-9475N	1	40
1400E-9500N	2	37
1400E-9525N	1	26

1400E-9550N	2	24
1400E-9575N	1	57
1400E-9600N	1	21
1400E-9625N	16	25
1400E-9650N	3	28

1400E-9675N	5	24
1400E-9700N	2	31
1400E-9725N	1	18
1400E-9750N	1	27
1400E-9775N	1	22

1400E-9800N	2	26
1400E-9825N	1	20
1400E-9850N	1	24
1400E-9875N	1	31
1400E-9900N	3	35

1400E-9925N	2	38
1400E-9950N	1	36
1400E-9975N	1	30
1400E-10025N	1	15
1400E-10050N	2	31

1400E-10075N	1	26
1400E-10100N	2	24
1400E-10125N	1	22
1400E-10150N	1	21
1400E-10175N	2	27

Certified by

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NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9/V/0404/S/B/007

Company: **R.SOMERVILLE GEOLOGICAL**
Project:
Attn: **R.SOMERVILLE**

Date: **JUN-04-89**
Copy to: **R.SOMERVILLE, NORTH VANCOUVER, B.C.**

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R.SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
1400E-10200N	3	25
1400E-10225N	25	52
1400E-10250N	2	29
1400E-10275N	1	23
1400E-10300N	2	27

1400E-10325N	2	33
1400E-10350N	3	20
1400E-10375N	1	23
1400E-10400N	1	24
1400E-10425N	2	26

1400E-10450N	1	36
1400E-10475N	2	40
1400E-10500N	1	29
1400E-10525N	3	28
1400E-10550N	2	35

1400E-10575N	5	26
1400E-10600N	2	26
1400E-10625N	3	24
1400E-10650N	1	23
1400E-10675N	2	26

1400E-10700N	1	24
1400E-10725N	4	25
1400E-10750N	2	20
1600E-9400N	3	23
1600E-9425N	2	21

1600E-9450N	2	19
1600E-9475N	1	21
1600E-9500N	2	17
1600E-9525N	1	13
1600E-9550N	10	32

Certified by _____

[Signature]
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VANCOUVER OFFICE:
705 WEST 15TH STREET
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TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9986

Geochemical Analysis Certificate 9/V/0404/S/B/008

Company: **R. SOMERVILLE GEOLOGICAL**
Project:
Attn: **R. SOMERVILLE**

Date: JUN-04-89
Copy 1. R. SOMERVILLE, NORTH VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R. SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
1600E-9575N	1	23
1600E-9600N	2	28
1600E-9625N	2	23
1600E-9650N	1	32
1600E-9675N	2	20

1600E-9700N	1	33
1600E-9725N	3	28
1600E-9750N	1	21
1600E-9775N	1	20
1600E-9800N	2	16

1600E-9825N	2	27
1600E-9850N	1	25
1600E-9875N	1	23
1600E-9900N	1	24
1600E-9925N	1	15

1600E-9950N	2	22
1600E-9975N	3	21
1600E-10025N	2	29
1600E-10050N	2	18
1600E-10075N	3	14

1600E-10100N	2	19
1600E-10125N	1	17
1600E-10150N	1	16
1600E-10175N	2	14
1600E-10200N	4	21

1600E-10225N	2	24
1600E-10250N	1	18
1600E-10275N	1	16
1600E-10300N	1	19
1600E-10325N	2	25

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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 9/V/0404/S/G/009

Company: **R. SOMERVILLE GEOLOGICAL**
Projects:
Attn: **R. SOMERVILLE**

Date: **JUN-04-89**
Copy 1. **R. SOMERVILLE, NORTH VANCOUVER, B.C.**

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R. SOMERVILLE.

Sample Number	AU-FIRE PPR	CU PPM
1600E-10350N	1	28
1600E-10375N	1	25
1600E-10400N	5	22
1600E-10425N	2	48
1600E-10450N	1	30

1600E-10475N	2	28
1600E-10500N	1	26
1600E-10525N	3	29
1600E-10550N	1	27
1600E-10575N	1	26

1600E-10600N	2	36
1600E-10625N	1	23
1600E-10650N	1	22
1600E-10675N	2	26
1600E-10700N	3	25

1600E-10725N	1	60
1600E-10750N	1	43
1800E-9575N	1	20
1800E-9600N	2	32
1800E-9625N	1	31

1800E-9650N	1	21
1800E-9675N	1	21
1800E-9700N	2	22
1800E-9725N	1	22
1800E-9750N	1	12

1800E-9775N	1	29
1800E-9800N	9	30
1800E-9825N	12	18
1800E-9850N	1	21
1800E-9875N	1	17

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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 9/V/0404/S/G/010

Company: **R. SOMERVILLE GEOLOGICAL**
Project:
Attn: **R. SOMERVILLE**

Date: **JUN-04-89**
Copy to: **R. SOMERVILLE, NORTH VANCOUVER, B.C.**

We hereby certify the following Geochemical Analysis of 30 SDIL samples submitted MAY-30-89 by R. SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
1800E-9900N	2	29
1800E-9925N	1	23
1800E-9950N	2	14
1800E-9975N	3	24
1800E-10025N	1	22

1800E-10050N	1	25
1800E-10075N	4	21
1800E-10100N	2	22
1800E-10125N	2	33
1800E-10150N	1	10

1800E-10175N	1	22
1800E-10200N	1	23
1800E-10225N	1	21
1800E-10250N	2	19
1800E-10275N	1	28

1800E-10300N	1	26
1800E-10325N	1	39
1800E-10350N	5	20
1800E-10375N	2	18
1800E-10400N	1	40

1800E-10425N	2	235
1800E-10450N	2	97
1800E-10475N	1	123
1800E-10500N	1	26
1800E-10525N	1	23

1800E-10550N	1	34
1800E-10575N	2	24
1800E-10600N	1	21
1800E-10625N	1	25
1800E-10650N	1	21

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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9821

TIMMINS OFFICE:

33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9/V/0404/S/E/011

Company: R.SOMERVILLE GEOLOGICAL

Date: JUN-04-89

Project:

Copy 1. R.SOMERVILLE, NORTH VANCOUVER, B.C.

Attn: R.SOMERVILLE

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R.SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
1800E-10675N	2	25
1800E-10700N	1	48
1800E-10725N	3	27
1800E-10750N	1	26
1800E-10775N	1	33

1800E-10800N	1	34
BL10000N-400E	1	23
BL10000N-425E	2	28
BL10000N-450E	4	34
BL10000N-475E	1	36

BL10000N-500E	3	49
BL10000N-525E	2	33
BL10000N-550E	2	9
BL10000N-575E	5	20
BL10000N-600E	1	65

BL10000N-625E	1	36
BL10000N-650E	2	28
BL10000N-675E	3	38
BL10000N-700E	1	31
BL10000N-725E	2	32

BL10000N-750E	1	37
BL10000N-775E	1	27
BL10000N-800E	2	27
BL10000N-825E	1	31
BL10000N-850E	1	42

BL10000N-875E	2	66
BL10000N-900E	2	25
BL10000N-925E	1	23
BL10000N-950E	1	47
BL10000N-975E	1	34

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TELEX: VIA U.S.A. 7601087 • FAX (604) 980-9621

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33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 9/V/0404/S/G/012

Company: R. SOMERVILLE GEOLOGICAL
Project:
Attn: R. SOMERVILLE

Date: JUN-04-89
Copy 1. R. SOMERVILLE, NDRTH VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R. SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
BL10000N-1000E	4	28
BL10000N-1025E	2	36
BL10000N-1050E	2	44
BL10000N-1075E	1	61
BL10000N-1100E	1	78

BL10000N-1125E	2	20
BL10000N-1150E	1	20
BL10000N-1175E	1	27
BL10000N-1200E	1	32
BL10000N-1225E	2	39

BL10000N-1250E	4	30
BL10000N-1275E	1	46
BL10000N-1300E	1	24
BL10000N-1325E	1	19
BL10000N-1350E	2	26

BL10000N-1375E	1	24
BL10000N-1400E	2	23
BL10000N-1425E	1	24
BL10000N-1450E	1	16
BL10000N-1475E	5	22

BL10000N-1500E	2	20
BL10000N-1525E	3	36
BL10000N-1550E	2	19
BL10000N-1575E	1	22
BL10000N-1600E	4	19

BL10000N-1625E	1	20
BL10000N-1650E	1	19
BL10000N-1675E	1	24
BL10000N-1700E	1	27
BL10000N-1725E	2	26

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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9821

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33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9/V/0404/S/G/013

Company: **R. SOMERVILLE GEOLOGICAL**
Project:
Attn: **R. SOMERVILLE**

Date: **JUN-04-89**
Copy 1. **R. SOMERVILLE, NORTH VANCOUVER, B.C.**

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R. SOMERVILLE.

Sample Number	AU-FIRE PPR	CU PPM
BL10000N-1750E	2	24
BL10000N-1775E	3	25
BL10000N-1800E	1	29
600E-9500N	2	36
600E-9525N	1	35
600E-9550N	3	43
600E-9575N	1	26
600E-9600N	1	67
600E-9625N	2	73
600E-9650N	1	68
600E-9675N	4	46
600E-9700N	2	77
600E-9725N	1	39
600E-9750N	1	31
600E-9775N	3	29
600E-9800N	3	27
600E-9825N	1	43
600E-9850N	2	28
600E-9875N	3	25
600E-9900N	1	31
600E-9925N	1	28
600E-9950N	3	32
600E-9975N	2	56
800E-9525N	1	21
800E-9550N	3	29
800E-9575N	2	21
800E-9600N	2	35
800E-9625N	1	22
800E-9650N	2	18
800E-9675N	1	71

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TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 887
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 9/V/0404/S/G/014

Company: R. SOMERVILLE GEOLOGICAL
Project:
Attn: R. SOMERVILLE

Date: JUN-04-89
Copy 1. R. SOMERVILLE, NORTH VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOIL samples submitted MAY-30-89 by R. SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
800E-9700N	3	29
800E-9725N	1	24
800E-9750N	20	30
800E-9775N	3	25
800E-9800N	9	32

800E-9825N	2	26
800E-9850N	3	19
800E-9875N	18	53
800E-9900N	2	24
800E-9925N	2	24

800E-9950N	3	29
800E-9975N	2	29
1200E-10100N	1	39
1200E-10125N	2	62
1200E-10150N	1	58

1200E-10175N	4	53
1200E-10200N	3	63
1200E-10225N	2	255
1200E-10250N	1	26
1200E-10275N	1	40

1200E-10300N	3	51
1200E-10325N	2	37
1200E-10350N	1	33
1200E-10375N	1	38
1200E-10400N	2	43

1200E-10425N	1	26
1200E-10450N	1	18
1200E-10475N	2	33
1200E-10500N	1	64
1200E-10525N	1	24

Certified by *[Signature]*



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TELEPHONE (604) 980-5814 OR (604) 988-4524
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33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9/V/0404/S/G/015

Company: **R.SOMERVILLE GEOLOGICAL**
Project:
Attn: **R.SOMERVILLE**

Date: **JUN-04-89**
Copy 1. **R.SOMERVILLE, NORTH VANCOUVER, B.C.**

We hereby certify the following Geochemical Analysis of 10 SOIL samples submitted MAY-30-89 by R.SOMERVILLE.

Sample Number	AU-FIRE PPB	CU PPM
1200E-10550N	4	36
1200E-10575N	14	83
1200E-10600N	2	43
1200E-10625N	1	26
1200E-10650N	1	21

1200E-10675N	3	22
1200E-10700N	2	22
1200E-10725N	1	21
1200E-10750N	2	32
800E-9500N	2	23

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APPENDIX 2

TAS PROJECT DATABASE - DETAIL GEOCHEMICAL REPORT
on the
HA-1 CLAIM - LOCATION, GOLD PPB, COPPER PPM, SAMPLE NO.

Pages 1 to 9

*** R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD.
*** BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION

TAS PROJECT DATABASE - DETAILED GEOCHEMICAL REPORT

EAST	NORTH	AU PPB	CU PPM	SAMPLE NO.
11400.0	10225.0	25.00	52.00	1400E-10225N
10600.0	10675.0	21.00	40.00	600E-10675N
10800.0	9750.0	20.00	30.00	800E-9750N
10800.0	9875.0	18.00	53.00	800E-9875N
10800.0	10025.0	18.00	35.00	800E-10025N
11400.0	9425.0	16.00	36.00	1400E-9425N
11400.0	9625.0	16.00	25.00	1400E-9625N
11200.0	10575.0	14.00	83.00	1200E-10575N
11400.0	9450.0	14.00	34.00	1400E-9450N
11800.0	9825.0	12.00	18.00	1800E-9825N
11600.0	9550.0	10.00	32.00	1600E-9550N
11000.0	9725.0	10.00	15.00	1000E-9725N
11800.0	9800.0	9.00	30.00	1800E-9800N
10800.0	9800.0	9.00	32.00	800E-9800N
10800.0	10700.0	7.00	42.00	800E-10700N
10575.0	10000.0	5.00	20.00	BL10000N-575
11200.0	9650.0	5.00	23.00	1200E-9650N
11400.0	9675.0	5.00	24.00	1400E-9675N
11000.0	10075.0	5.00	44.00	1000E-10075N
11800.0	10350.0	5.00	20.00	1800E-10350N
11400.0	10575.0	5.00	26.00	1400E-10575N
11475.0	10000.0	5.00	22.00	BL10000N-147
11600.0	10400.0	5.00	22.00	1600E-10400N
11600.0	10200.0	4.00	21.00	1600E-10200N
11000.0	10000.0	4.00	28.00	BL10000N-100
10800.0	10100.0	4.00	31.00	800E-10100N
11200.0	9975.0	4.00	20.00	1200E-9975N
10800.0	10125.0	4.00	25.00	800E-10125N
11250.0	10000.0	4.00	30.00	BL10000N-125
11200.0	10550.0	4.00	36.00	1200E-10550N
10800.0	10600.0	4.00	24.00	800E-10600N
11600.0	10000.0	4.00	19.00	BL10000N-160
11000.0	10325.0	4.00	45.00	1000E-10325N
10450.0	10000.0	4.00	34.00	BL10000N-450
10600.0	9675.0	4.00	46.00	600E-9675N
11000.0	9925.0	4.00	78.00	1000E-9925N
11200.0	10175.0	4.00	53.00	1200E-10175N
11400.0	10725.0	4.00	25.00	1400E-10725N
11000.0	10150.0	4.00	32.00	1000E-10150N
11800.0	10075.0	4.00	21.00	1800E-10075N
11000.0	9825.0	3.00	30.00	1000E-9825N
11000.0	10525.0	3.00	16.00	1000E-10525N
10600.0	10275.0	3.00	90.00	600E-10275N
11525.0	10000.0	3.00	36.00	BL10000N-152
11000.0	10225.0	3.00	57.00	1000E-10225N
11775.0	10000.0	3.00	25.00	BL10000N-177
11400.0	10625.0	3.00	24.00	1400E-10625N
11200.0	9425.0	3.00	30.00	1200E-9425N

25/ 7/89

*** R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD.
*** BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION

10600.0	10050.0	3.00	15.00	600E-10050N
11400.0	9650.0	3.00	28.00	1400E-9650N
11200.0	10675.0	3.00	22.00	1200E-10675N
10500.0	10000.0	3.00	49.00	BL10000N-500
10675.0	10000.0	3.00	38.00	BL10000N-675
11400.0	9900.0	3.00	35.00	1400E-9900N
10600.0	9475.0	3.00	69.00	600E-9475N
11600.0	10700.0	3.00	25.00	1600E-10700N
11600.0	10525.0	3.00	29.00	1600E-10525N
11800.0	10725.0	3.00	27.00	1800E-10725N
11400.0	10525.0	3.00	28.00	1400E-10525N
11200.0	9525.0	3.00	23.00	1200E-9525N
11200.0	9875.0	3.00	30.00	1200E-9875N
11400.0	10200.0	3.00	25.00	1400E-10200N
11400.0	10350.0	3.00	20.00	1400E-10350N
11200.0	9750.0	3.00	24.00	1200E-9750N
10600.0	9550.0	3.00	43.00	600E-9550N
10800.0	9950.0	3.00	29.00	800E-9950N
10600.0	9950.0	3.00	32.00	600E-9950N
10600.0	9875.0	3.00	25.00	600E-9875N
10600.0	9800.0	3.00	27.00	600E-9800N
10800.0	9700.0	3.00	29.00	800E-9700N
11600.0	9725.0	3.00	28.00	1600E-9725N
10800.0	9550.0	3.00	29.00	800E-9550N
10800.0	9850.0	3.00	19.00	800E-9850N
10800.0	9775.0	3.00	25.00	800E-9775N
11200.0	10300.0	3.00	51.00	1200E-10300N
11800.0	9975.0	3.00	24.00	1800E-9975N
11000.0	9400.0	3.00	47.00	1000E-9400N
11200.0	10200.0	3.00	63.00	1200E-10200N
11600.0	9400.0	3.00	23.00	1600E-9400N
10600.0	10700.0	3.00	125.00	600E-10700N
11600.0	10075.0	3.00	14.00	1600E-10075N
10600.0	9775.0	3.00	29.00	600E-9775N
10800.0	10200.0	3.00	73.00	800E-10200N
11600.0	9975.0	3.00	21.00	1600E-9975N
11600.0	10600.0	2.00	36.00	1600E-10600N
11400.0	10300.0	2.00	27.00	1400E-10300N
11400.0	10250.0	2.00	29.00	1400E-10250N
11600.0	10050.0	2.00	18.00	1600E-10050N
11600.0	10100.0	2.00	19.00	1600E-10100N
11400.0	10050.0	2.00	31.00	1400E-10050N
11400.0	10100.0	2.00	24.00	1400E-10100N
11600.0	10025.0	2.00	29.00	1600E-10025N
11600.0	10175.0	2.00	14.00	1600E-10175N
11400.0	10175.0	2.00	27.00	1400E-10175N
11600.0	10675.0	2.00	26.00	1600E-10675N
11400.0	10675.0	2.00	26.00	1400E-10675N
11600.0	10325.0	2.00	25.00	1600E-10325N
11600.0	10225.0	2.00	24.00	1600E-10225N
11400.0	10600.0	2.00	26.00	1400E-10600N
11600.0	9600.0	2.00	28.00	1600E-9600N
11600.0	9425.0	2.00	21.00	1600E-9425N
11400.0	10750.0	2.00	20.00	1400E-10750N

*** R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD.
*** BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION

11600.0	9450.0	2.00	19.00	1600E-9450N
11600.0	10425.0	2.00	48.00	1600E-10425N
11600.0	9500.0	2.00	17.00	1600E-9500N
11600.0	9800.0	2.00	16.00	1600E-9800N
11400.0	10425.0	2.00	26.00	1400E-10425N
11600.0	9825.0	2.00	27.00	1600E-9825N
11400.0	10325.0	2.00	33.00	1400E-10325N
11600.0	9950.0	2.00	22.00	1600E-9950N
11600.0	10475.0	2.00	28.00	1600E-10475N
11600.0	9625.0	2.00	23.00	1600E-9625N
11400.0	10550.0	2.00	35.00	1400E-10550N
11400.0	10475.0	2.00	48.00	1400E-10475N
11600.0	9675.0	2.00	20.00	1600E-9675N
10800.0	10075.0	2.00	36.00	800E-10075N
10800.0	10150.0	2.00	35.00	800E-10150N
10800.0	10275.0	2.00	50.00	800E-10275N
10800.0	10050.0	2.00	37.00	800E-10050N
10600.0	10750.0	2.00	41.00	600E-10750N
10800.0	9400.0	2.00	22.00	800E-9400N
10800.0	9450.0	2.00	23.00	800E-9450N
10800.0	10450.0	2.00	28.00	800E-10450N
10800.0	10550.0	2.00	25.00	800E-10550N
10800.0	10650.0	2.00	26.00	800E-10650N
10800.0	10425.0	2.00	72.00	800E-10425N
10800.0	10300.0	2.00	48.00	800E-10300N
10800.0	10350.0	2.00	37.00	800E-10350N
10800.0	10375.0	2.00	44.00	800E-10375N
10600.0	10175.0	2.00	32.00	600E-10175N
10600.0	10225.0	2.00	20.00	600E-10225N
10600.0	10300.0	2.00	87.00	600E-10300N
10600.0	10150.0	2.00	32.00	600E-10150N
10600.0	9400.0	2.00	15.00	600E-9400N
10600.0	10075.0	2.00	32.00	600E-10075N
10600.0	10100.0	2.00	35.00	600E-10100N
10600.0	10575.0	2.00	25.00	600E-10575N
10600.0	10625.0	2.00	148.00	600E-10625N
10600.0	10650.0	2.00	40.00	600E-10650N
10600.0	10475.0	2.00	30.00	600E-10475N
10600.0	10325.0	2.00	245.00	600E-10325N
10600.0	10350.0	2.00	91.00	600E-10350N
10600.0	10425.0	2.00	76.00	600E-10425N
11200.0	9850.0	2.00	19.00	1200E-9850N
11200.0	9900.0	2.00	36.00	1200E-9900N
11200.0	9950.0	2.00	25.00	1200E-9950N
11200.0	9775.0	2.00	18.00	1200E-9775N
11200.0	9600.0	2.00	12.00	1200E-9600N
11200.0	9675.0	2.00	32.00	1200E-9675N
11200.0	9700.0	2.00	26.00	1200E-9700N
11400.0	9700.0	2.00	31.00	1400E-9700N
11400.0	9800.0	2.00	26.00	1400E-9800N
11400.0	9925.0	2.00	38.00	1400E-9925N
11400.0	9550.0	2.00	24.00	1400E-9550N
11200.0	10050.0	2.00	28.00	1200E-10050N
11400.0	9400.0	2.00	22.00	1400E-9400N

25/ 7/89

*** R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD.
*** BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION

11400.0	9500.0	2.00	37.00	1400E-9500N
11000.0	9650.0	2.00	36.00	1000E-9650N
11000.0	9750.0	2.00	22.00	1000E-9750N
11000.0	9975.0	2.00	36.00	1000E-9975N
11000.0	9550.0	2.00	36.00	1000E-9550N
10800.0	10725.0	2.00	87.00	800E-10725N
11000.0	9475.0	2.00	40.00	1000E-9475N
11000.0	9525.0	2.00	35.00	1000E-9525N
11000.0	10725.0	2.00	33.00	1000E-10725N
11200.0	9450.0	2.00	38.00	1200E-9450N
11200.0	9475.0	2.00	25.00	1200E-9475N
11000.0	10650.0	2.00	37.00	1000E-10650N
11000.0	10250.0	2.00	37.00	1000E-10250N
11000.0	10375.0	2.00	21.00	1000E-10375N
11000.0	10475.0	2.00	15.00	1000E-10475N
11800.0	9600.0	2.00	32.00	1800E-9600N
11725.0	10000.0	2.00	26.00	BL10000N-172
11800.0	10375.0	2.00	18.00	1800E-10375N
10800.0	9900.0	2.00	24.00	800E-9900N
10800.0	9825.0	2.00	26.00	800E-9825N
11800.0	10450.0	2.00	97.00	1800E-10450N
11750.0	10000.0	2.00	24.00	BL10000N-175
10800.0	9650.0	2.00	18.00	800E-9650N
11800.0	10425.0	2.00	235.00	1800E-10425N
11050.0	10000.0	2.00	44.00	BL10000N-105
11200.0	10125.0	2.00	62.00	1200E-10125N
11200.0	10325.0	2.00	37.00	1200E-10325N
11200.0	10225.0	2.00	255.00	1200E-10225N
10800.0	9975.0	2.00	29.00	800E-9975N
10800.0	9925.0	2.00	24.00	800E-9925N
11025.0	10000.0	2.00	36.00	BL10000N-102
11800.0	10250.0	2.00	19.00	1800E-10250N
10900.0	10000.0	2.00	25.00	BL10000N-900
10425.0	10000.0	2.00	28.00	BL10000N-425
10525.0	10000.0	2.00	33.00	BL10000N-525
10600.0	9850.0	2.00	28.00	600E-9850N
10725.0	10000.0	2.00	32.00	BL10000N-725
10650.0	10000.0	2.00	28.00	BL10000N-650
10600.0	9625.0	2.00	73.00	600E-9625N
10550.0	10000.0	2.00	9.00	BL10000N-550
10600.0	9700.0	2.00	77.00	600E-9700N
10800.0	9575.0	2.00	21.00	800E-9575N
11800.0	10575.0	2.00	24.00	1800E-10575N
10875.0	10000.0	2.00	66.00	BL10000N-875
10800.0	9600.0	2.00	35.00	800E-9600N
10800.0	10000.0	2.00	27.00	BL10000N-800
10600.0	9500.0	2.00	36.00	600E-9500N
10600.0	9975.0	2.00	56.00	600E-9975N
11800.0	10675.0	2.00	25.00	1800E-10675N
11200.0	10400.0	2.00	43.00	1200E-10400N
11200.0	10700.0	2.00	22.00	1200E-10700N
11225.0	10000.0	2.00	39.00	BL10000N-122
11800.0	9900.0	2.00	29.00	1800E-9900N
11400.0	10000.0	2.00	23.00	BL10000N-140

*** R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD.
*** BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION

11550.0	10000.0	2.00	19.00	BL10000N-155
11800.0	9700.0	2.00	22.00	1800E-9700N
11200.0	10600.0	2.00	43.00	1200E-10600N
11350.0	10000.0	2.00	26.00	BL10000N-135
11200.0	10475.0	2.00	33.00	1200E-10475N
11500.0	10000.0	2.00	20.00	BL10000N-150
11125.0	10000.0	2.00	20.00	BL10000N-112
11200.0	10750.0	2.00	32.00	1200E-10750N
11800.0	10125.0	2.00	33.00	1800E-10125N
11800.0	9950.0	2.00	14.00	1800E-9950N
11800.0	10100.0	2.00	22.00	1800E-10100N
10800.0	9500.0	2.00	23.00	800E-9500N
11000.0	10500.0	1.00	60.00	1000E-10500N
10600.0	9525.0	1.00	35.00	600E-9525N
11000.0	9800.0	1.00	25.00	1000E-9800N
11000.0	10600.0	1.00	20.00	1000E-10600N
11000.0	9775.0	1.00	40.00	1000E-9775N
10600.0	9600.0	1.00	67.00	600E-9600N
11000.0	9575.0	1.00	32.00	1000E-9575N
10600.0	9575.0	1.00	26.00	600E-9575N
11000.0	9600.0	1.00	31.00	1000E-9600N
11000.0	9625.0	1.00	34.00	1000E-9625N
11000.0	10550.0	1.00	16.00	1000E-10550N
11000.0	9700.0	1.00	31.00	1000E-9700N
11450.0	10000.0	1.00	16.00	BL10000N-145
11000.0	10575.0	1.00	30.00	1000E-10575N
11000.0	9675.0	1.00	25.00	1000E-9675N
11800.0	10000.0	1.00	29.00	BL10000N-180
11000.0	10050.0	1.00	29.00	1000E-10050N
11000.0	10200.0	1.00	33.00	1000E-10200N
11650.0	10000.0	1.00	19.00	BL10000N-165
11000.0	10275.0	1.00	51.00	1000E-10275N
11625.0	10000.0	1.00	20.00	BL10000N-162
11675.0	10000.0	1.00	24.00	BL10000N-167
11000.0	10175.0	1.00	16.00	1000E-10175N
11000.0	10125.0	1.00	22.00	1000E-10125N
11700.0	10000.0	1.00	27.00	BL10000N-170
11000.0	10100.0	1.00	25.00	1000E-10100N
11000.0	10025.0	1.00	35.00	1000E-10025N
11000.0	9900.0	1.00	28.00	1000E-9900N
11000.0	10425.0	1.00	22.00	1000E-10425N
11000.0	10450.0	1.00	27.00	1000E-10450N
11000.0	9850.0	1.00	32.00	1000E-9850N
11000.0	9875.0	1.00	34.00	1000E-9875N
11000.0	10300.0	1.00	34.00	1000E-10300N
11000.0	9950.0	1.00	125.00	1000E-9950N
11575.0	10000.0	1.00	22.00	BL10000N-157
11000.0	10400.0	1.00	16.00	1000E-10400N
11000.0	10350.0	1.00	34.00	1000E-10350N
10600.0	10500.0	1.00	26.00	600E-10500N
10600.0	10525.0	1.00	30.00	600E-10525N
10600.0	10550.0	1.00	29.00	600E-10550N
10600.0	10400.0	1.00	34.00	600E-10400N
10600.0	10450.0	1.00	28.00	600E-10450N

*** R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD.
*** BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION

11200.0	10375.0	1.00	38.00	1200E-10375N
11200.0	10350.0	1.00	33.00	1200E-10350N
10600.0	10725.0	1.00	37.00	600E-10725N
11200.0	10150.0	1.00	58.00	1200E-10150N
10800.0	9425.0	1.00	40.00	800E-9425N
10600.0	10600.0	1.00	122.00	600E-10600N
11200.0	10275.0	1.00	40.00	1200E-10275N
11200.0	10250.0	1.00	26.00	1200E-10250N
10600.0	10375.0	1.00	42.00	600E-10375N
11200.0	10725.0	1.00	21.00	1200E-10725N
11200.0	10650.0	1.00	21.00	1200E-10650N
10600.0	10125.0	1.00	50.00	600E-10125N
10600.0	9425.0	1.00	10.00	600E-9425N
10600.0	9425.0	1.00	11.00	600E-9450N
10600.0	10025.0	1.00	10.00	600E-10025N
11200.0	10625.0	1.00	26.00	1200E-10625N
11200.0	10500.0	1.00	64.00	1200E-10500N
11200.0	10450.0	1.00	18.00	1200E-10450N
11200.0	10425.0	1.00	26.00	1200E-10425N
10600.0	10200.0	1.00	44.00	600E-10200N
11200.0	10525.0	1.00	24.00	1200E-10525N
10600.0	10250.0	1.00	48.00	600E-10250N
10800.0	10625.0	1.00	44.00	800E-10625N
10600.0	9825.0	1.00	43.00	600E-9825N
10800.0	10675.0	1.00	25.00	800E-10675N
10800.0	10525.0	1.00	22.00	800E-10525N
10600.0	9900.0	1.00	31.00	600E-9900N
10800.0	10575.0	1.00	37.00	800E-10575N
10600.0	9750.0	1.00	31.00	600E-9750N
11000.0	9450.0	1.00	36.00	1000E-9450N
10600.0	9650.0	1.00	68.00	600E-9650N
11000.0	9500.0	1.00	26.00	1000E-9500N
10600.0	9725.0	1.00	39.00	600E-9725N
10800.0	10750.0	1.00	45.00	800E-10750N
11000.0	9425.0	1.00	23.00	1000E-9425N
10800.0	10500.0	1.00	40.00	800E-10500N
10800.0	9675.0	1.00	71.00	800E-9675N
10800.0	10175.0	1.00	23.00	800E-10175N
10800.0	10225.0	1.00	88.00	800E-10225N
11200.0	10100.0	1.00	39.00	1200E-10100N
10800.0	9475.0	1.00	36.00	800E-9475N
10800.0	9725.0	1.00	24.00	800E-9725N
10800.0	10250.0	1.00	56.00	800E-10250N
10800.0	10400.0	1.00	56.00	800E-10400N
10600.0	9925.0	1.00	28.00	600E-9925N
10800.0	10475.0	1.00	25.00	800E-10475N
10800.0	9625.0	1.00	22.00	800E-9625N
10800.0	10325.0	1.00	31.00	800E-10325N
10800.0	9525.0	1.00	21.00	800E-9525N
11000.0	10625.0	1.00	26.00	1000E-10625N
11600.0	9650.0	1.00	32.00	1600E-9650N
11600.0	9700.0	1.00	33.00	1600E-9700N
11800.0	10225.0	1.00	21.00	1800E-10225N
11800.0	10275.0	1.00	28.00	1800E-10275N

25/ 7/89

R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD.
BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION

11800.0	10325.0	1.00	39.00	1800E-10325N
11600.0	9575.0	1.00	23.00	1600E-9575N
11800.0	10300.0	1.00	26.00	1800E-10300N
11600.0	9850.0	1.00	25.00	1600E-9850N
11600.0	9875.0	1.00	23.00	1600E-9875N
11600.0	9900.0	1.00	24.00	1600E-9900N
11800.0	10175.0	1.00	22.00	1800E-10175N
11600.0	9750.0	1.00	21.00	1600E-9750N
11600.0	9775.0	1.00	20.00	1600E-9775N
11800.0	10200.0	1.00	23.00	1800E-10200N
11600.0	9525.0	1.00	13.00	1600E-9525N
11800.0	10625.0	1.00	25.00	1800E-10625N
11800.0	10600.0	1.00	21.00	1800E-10600N
11800.0	10550.0	1.00	34.00	1800E-10550N
11800.0	10650.0	1.00	21.00	1800E-10650N
11800.0	10700.0	1.00	48.00	1800E-10700N
11400.0	10450.0	1.00	56.00	1400E-10450N
11400.0	10500.0	1.00	29.00	1400E-10500N
11800.0	10475.0	1.00	123.00	1800E-10475N
11800.0	10400.0	1.00	40.00	1800E-10400N
11600.0	9475.0	1.00	21.00	1600E-9475N
11800.0	10500.0	1.00	26.00	1800E-10500N
11400.0	10650.0	1.00	23.00	1400E-10650N
11800.0	10525.0	1.00	23.00	1800E-10525N
11400.0	10700.0	1.00	24.00	1400E-10700N
11600.0	10550.0	1.00	27.00	1600E-10550N
11600.0	10575.0	1.00	26.00	1600E-10575N
11800.0	9675.0	1.00	21.00	1800E-9675N
11600.0	10500.0	1.00	26.00	1600E-10500N
11800.0	9750.0	1.00	12.00	1800E-9750N
11600.0	10450.0	1.00	30.00	1600E-10450N
11800.0	9725.0	1.00	22.00	1800E-9725N
11600.0	10725.0	1.00	60.00	1600E-10725N
11600.0	10750.0	1.00	43.00	1600E-10750N
11800.0	9575.0	1.00	20.00	1800E-9575N
11800.0	9625.0	1.00	31.00	1800E-9625N
11600.0	10625.0	1.00	23.00	1600E-10625N
11600.0	10650.0	1.00	22.00	1600E-10650N
11800.0	9650.0	1.00	21.00	1800E-9650N
11800.0	9775.0	1.00	29.00	1800E-9775N
11600.0	10125.0	1.00	17.00	1600E-10125N
11600.0	10150.0	1.00	16.00	1600E-10150N
11800.0	9925.0	1.00	23.00	1800E-9925N
11800.0	10025.0	1.00	22.00	1800E-10025N
11600.0	9925.0	1.00	15.00	1600E-9925N
11800.0	10150.0	1.00	10.00	1800E-10150N
11800.0	10050.0	1.00	25.00	1800E-10050N
11800.0	9850.0	1.00	21.00	1800E-9850N
11600.0	10350.0	1.00	28.00	1600E-10350N
11600.0	10375.0	1.00	25.00	1600E-10375N
11600.0	10300.0	1.00	19.00	1600E-10300N
11800.0	9875.0	1.00	17.00	1800E-9875N
11600.0	10250.0	1.00	18.00	1600E-10250N
11600.0	10275.0	1.00	16.00	1600E-10275N

25/ 7/89

R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD.
BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION

11100.0	10000.0	1.00	78.00	BL10000N-110
11075.0	10000.0	1.00	81.00	BL10000N-107
11200.0	9925.0	1.00	39.00	1200E-9925N
11200.0	9825.0	1.00	28.00	1200E-9825N
11200.0	9725.0	1.00	25.00	1200E-9725N
11150.0	10000.0	1.00	20.00	BL10000N-115
11200.0	9800.0	1.00	28.00	1200E-9800N
10925.0	10000.0	1.00	23.00	BL10000N-925
11400.0	9475.0	1.00	40.00	1400E-9475N
10850.0	10000.0	1.00	42.00	BL10000N-850
11200.0	10075.0	1.00	34.00	1200E-10075N
10975.0	10000.0	1.00	34.00	BL10000N-975
11200.0	10025.0	1.00	14.00	1200E-10025N
10950.0	10000.0	1.00	47.00	BL10000N-950
11175.0	10000.0	1.00	27.00	BL10000N-117
11200.0	9400.0	1.00	31.00	1200E-9400N
11375.0	10000.0	1.00	24.00	BL10000N-137
11325.0	10000.0	1.00	19.00	BL10000N-132
11000.0	10750.0	1.00	17.00	1000E-10750N
11425.0	10000.0	1.00	24.00	BL10000N-142
11000.0	10675.0	1.00	92.00	1000E-10675N
11000.0	10700.0	1.00	50.00	1000E-10700N
11275.0	10000.0	1.00	46.00	BL10000N-127
11200.0	9625.0	1.00	31.00	1200E-9625N
11200.0	10000.0	1.00	32.00	BL10000N-120
11200.0	9575.0	1.00	20.00	1200E-9575N
11200.0	9500.0	1.00	21.00	1200E-9500N
11300.0	10000.0	1.00	24.00	BL10000N-130
11200.0	9550.0	1.00	19.00	1200E-9550N
11400.0	10125.0	1.00	22.00	1400E-10125N
11400.0	10150.0	1.00	21.00	1400E-10150N
10475.0	10000.0	1.00	36.00	BL10000N-475
11400.0	10075.0	1.00	26.00	1400E-10075N
11400.0	9975.0	1.00	30.00	1400E-9975N
11400.0	10025.0	1.00	15.00	1400E-10025N
10600.0	10000.0	1.00	65.00	BL10000N-600
11800.0	10750.0	1.00	26.00	1800E-10750N
11400.0	10375.0	1.00	23.00	1400E-10375N
11400.0	10400.0	1.00	24.00	1400E-10400N
11800.0	10775.0	1.00	33.00	1800E-10775N
10400.0	10000.0	1.00	23.00	BL10000N-400
11400.0	10275.0	1.00	23.00	1400E-10275N
11800.0	10800.0	1.00	34.00	1800E-10800N
11400.0	9950.0	1.00	36.00	1400E-9950N
10775.0	10000.0	1.00	27.00	BL10000N-775
10750.0	10000.0	1.00	37.00	BL10000N-750
11400.0	9725.0	1.00	18.00	1400E-9725N
11400.0	9600.0	1.00	21.00	1400E-9600N
11400.0	9525.0	1.00	26.00	1400E-9525N
10825.0	10000.0	1.00	31.00	BL10000N-825
11400.0	9575.0	1.00	57.00	1400E-9575N
11400.0	9850.0	1.00	24.00	1400E-9850N
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10625.0	10000.0	1.00	36.00	BL10000N-625

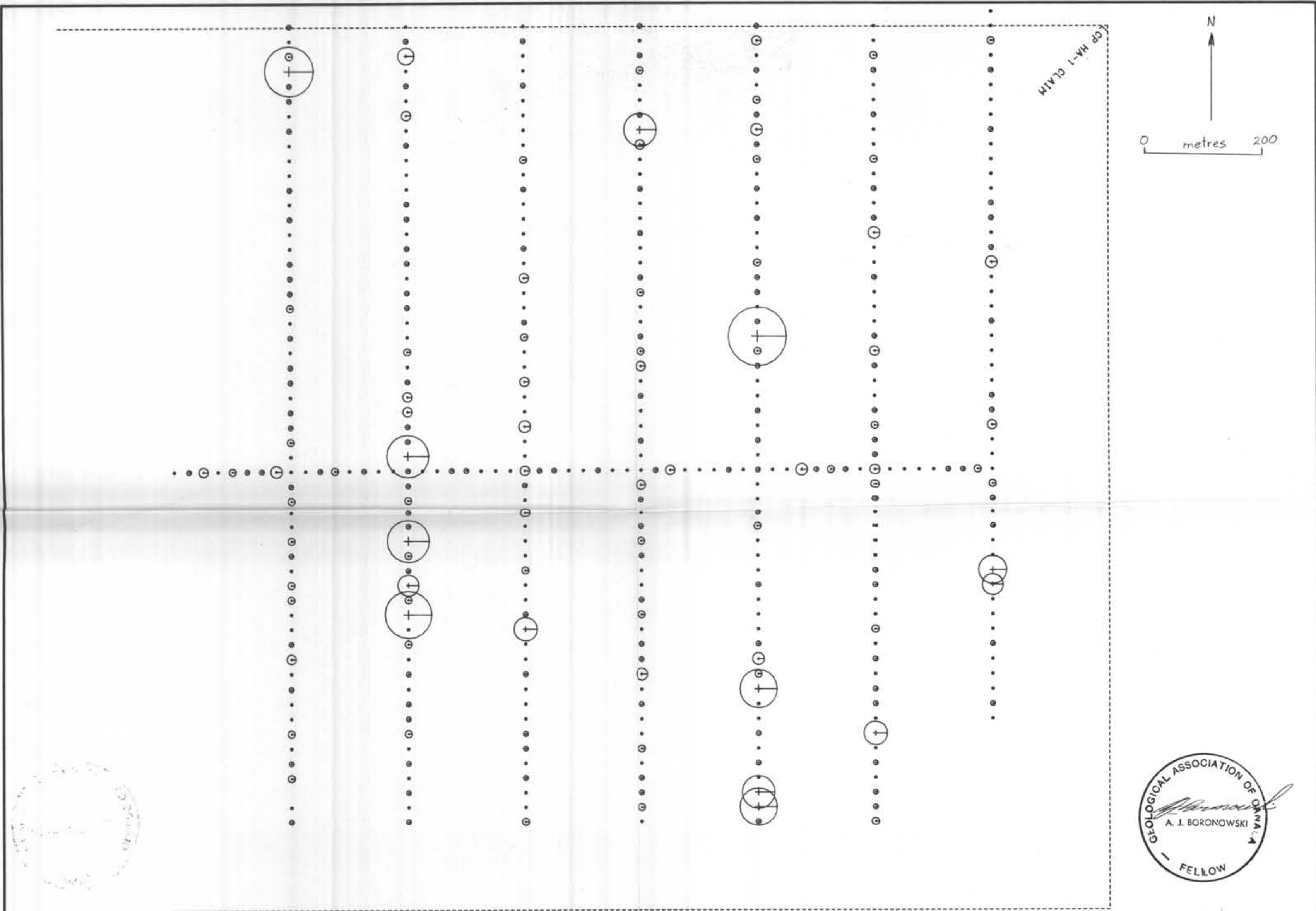
PC-XPLOR VERSION 1.21
Exploration Data Manager
v GEMCOM SERVICES INC.

R. SOMERVILLE
Serial no: 22380
Page : 9

25/ 7/89

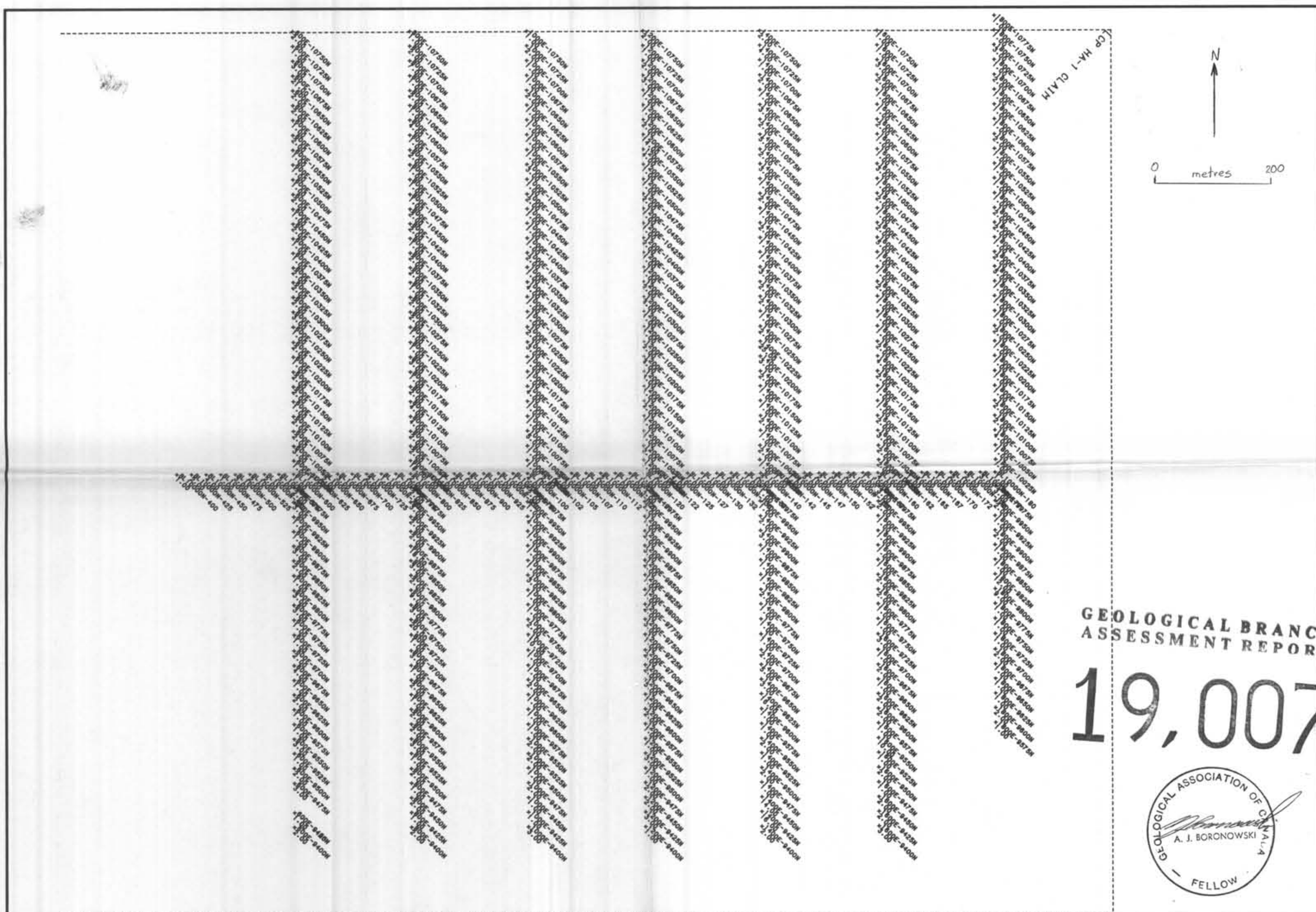
*** R. SOMERVILLE GEOLOGICAL & MINING ENG. LTD. ***
*** BLACK SWAN/GOLDCAP/NORANDA - TAS OPTION ***

11400.0	9825.0	1.00	20.00	1400E-9825N
11400.0	9750.0	1.00	27.00	1400E-9750N
11400.0	9775.0	1.00	22.00	1400E-9775N
10700.0	10000.0	1.00	31.00	BL10000N-700



QUICK-PLOT GEMCOM Services Inc.	DATE = 07-28-89 TIME = 16:31:21	R. SOMMERVILLE ENGINEERING NORTH VANCOUVER OFFICE	HA-1 CLAIM - TAS PROJECT SAMPLE LOCATION GOLD PPB GEOCHEMICAL SOIL SURVEY
HORIZONTAL SCALE = 1 : 5000		VERTICAL SCALE = 1 : 5000	

MAP 2



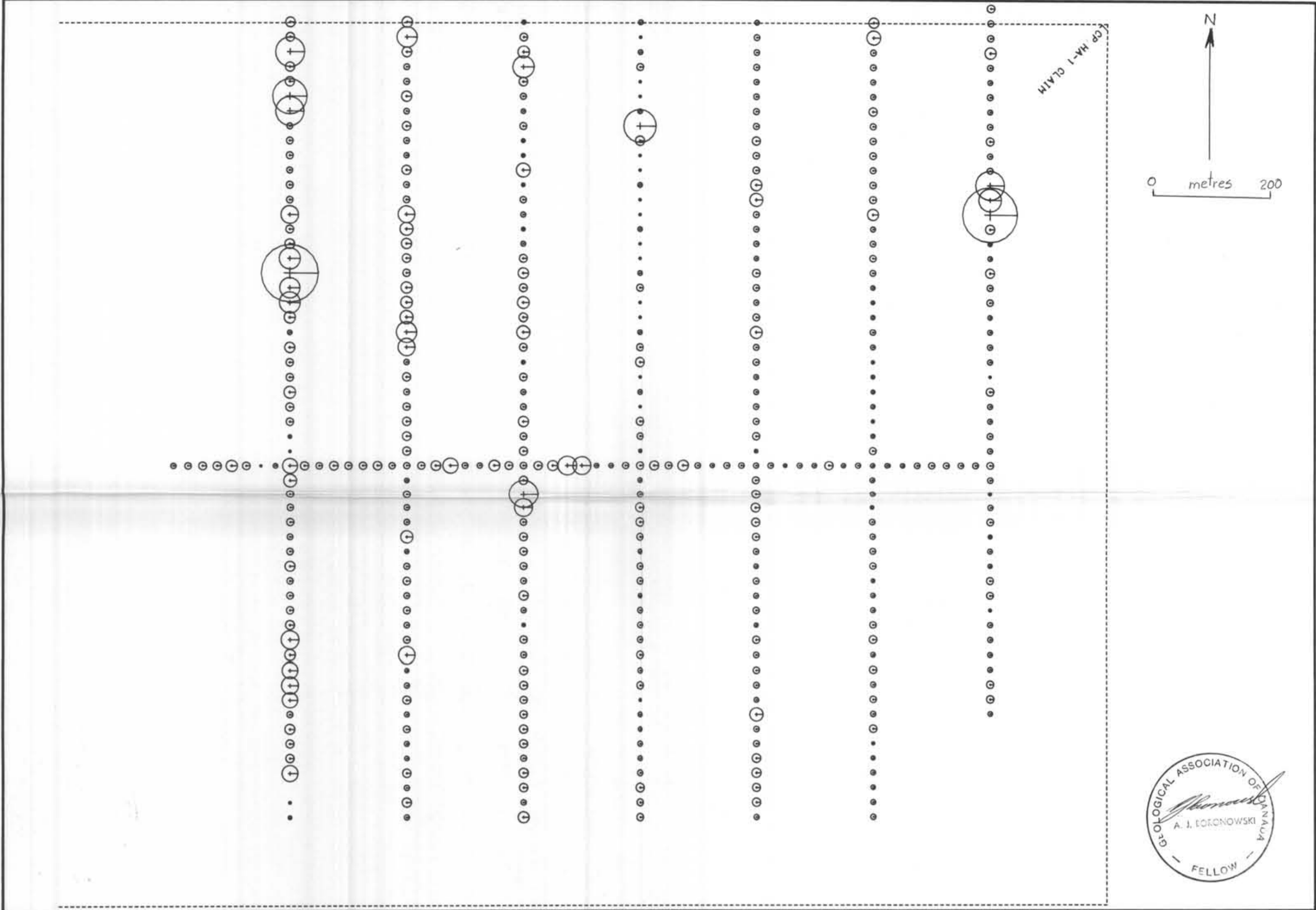
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HORIZONTAL SCALE = 1 : 5000		VERTICAL SCALE = 1 : 5000	

MAP 1

GEOLOGICAL BRANCH
ASSESSMENT REPORT

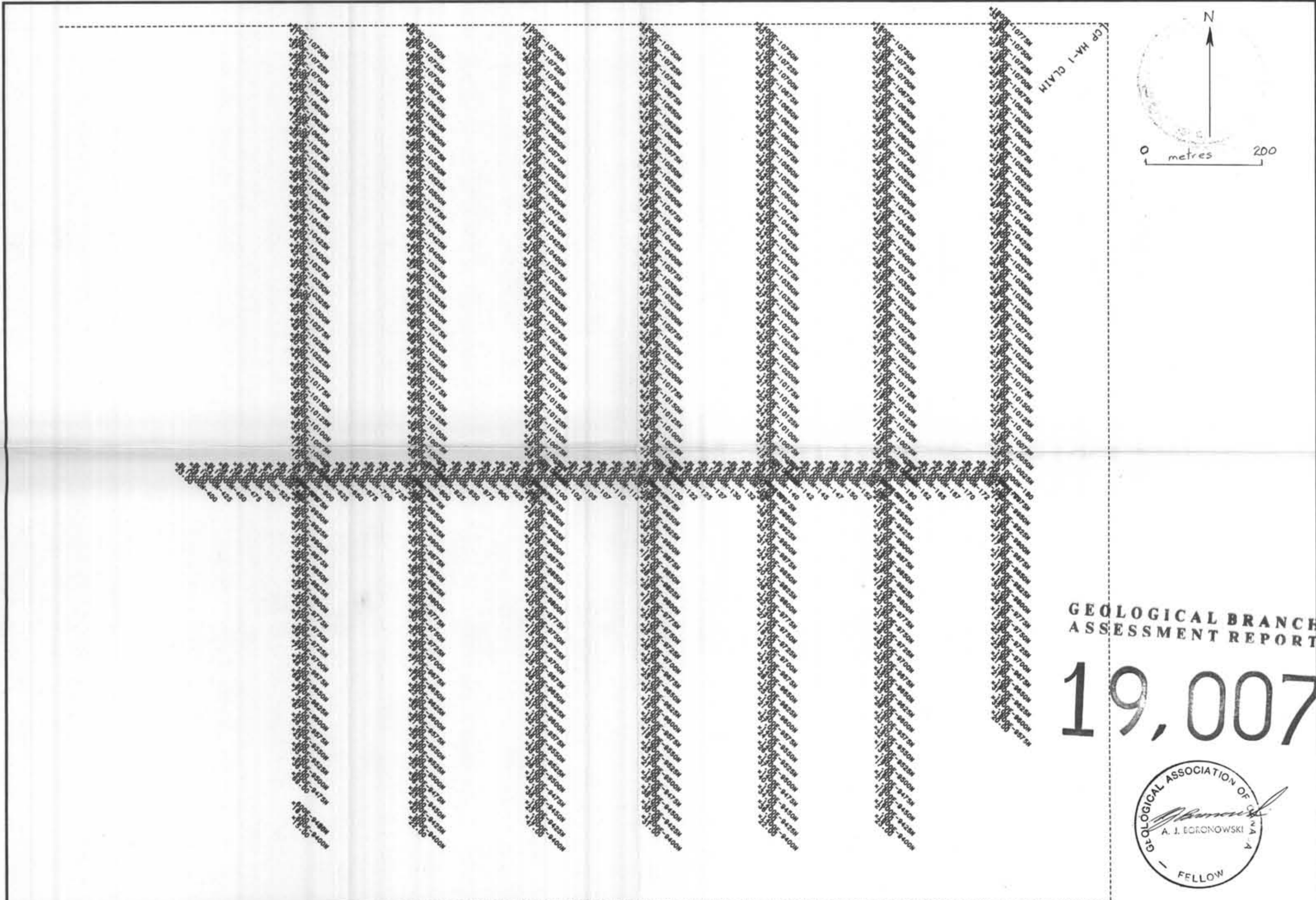
19,007





QUICK-PLOT GEMCOM Services Inc.	DATE = 07-28-89 TIME = 17:17:25	R. SOMMERVILLE ENGINEERING NORTH VANCOUVER OFFICE	HA-1 CLAIM - TAS PROJECT SAMPLE LOCATION COPPER PPM GEOCHEMICAL SOIL SURVEY
HORIZONTAL SCALE = 1 : 5000		VERTICAL SCALE = 1 : 5000	

MAP 4

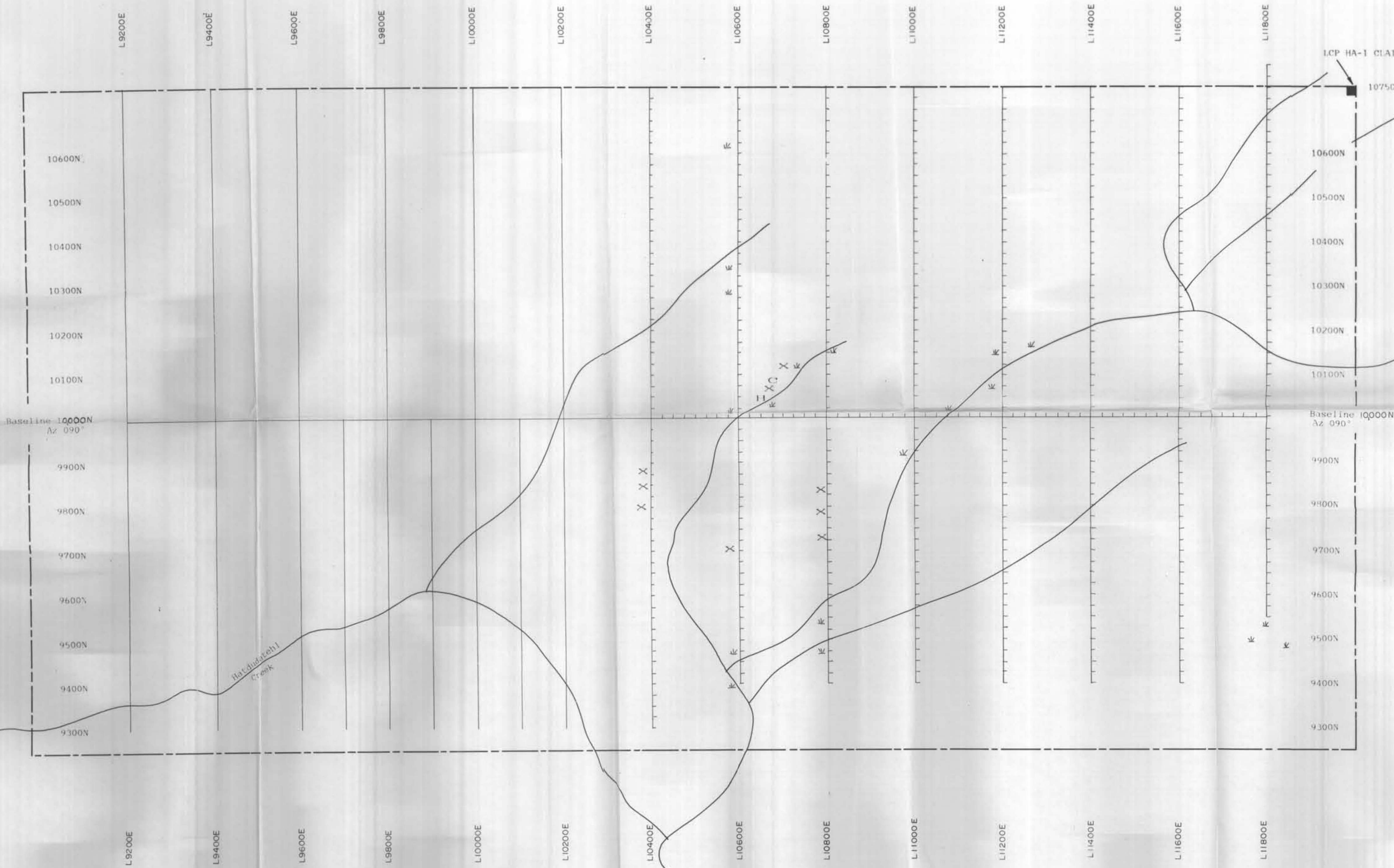


GEOLOGICAL BRANCH
ASSESSMENT REPORT
19,007



QUICK-PLOT GEMCOM Services Inc.	DATE = 07-28-89 TIME = 17:06:07	R. SOMMERVILLE ENGINEERING NORTH VANCOUVER OFFICE	HA-1 CLAIM - TAS PROJECT SAMPLE LOCATION COPPER PPM GEOCHEMICAL SOIL SURVEY
HORIZONTAL SCALE = 1 : 5000		VERTICAL SCALE = 1 : 5000	

MAP 3



Tava Litchyko Creek

LEGEND

- HA-1 claim boundary
- X Outcrop
- H Helicopter pad
- C Camp location

200 100 0 100 200 metres
GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,007

BLACK SWAN GOLD MINES LTD.
HA-1 Claim
SOIL GEOCHEMISTRY
Map No. 5
R. Somerville Geological & Mining Eng. Ltd.
Date: 15/6/89
Scale 1:5000