

UMEX

UNION MINIERE EXPLORATIONS
AND MINING CORPORATION LIMITED

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5000

ASSESSMENT REPORT

on

Geochemical Soil Surveys for
Arsenic, Copper, Silver, Gold, and Antimony

103G/4E

MINERAL CLAIMS

BELLA	1-22	Record Nos.	37837-37842, 37847-37862
MARINO	1-18		37863-37880
BELLA	23-24		38577-38578

Queen Charlotte Islands
Skeena Mining Division, British Columbia

N.T.S. 103G/4E

53° 05' North Latitude
131° 42' West Longitude

by

Alfred A. Burgoyne, M.Sc., P.Eng.

WORK DATES: April 24 to May 10, 1974

DATE: June 4, 1974

OWNER: UNION MINIERE EXPLORATIONS AND
MINING CORPORATION LIMITED

Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 5000 MAP.....

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ASSESSMENT REPORT

INTRODUCTION

The Bella and Marino claims are located twelve miles south-southeast of Sandspit, B.C. A gravel road extends south from Sandspit to within three miles of the claims. Access to the property is by helicopter from this aforesaid point.

The Bella 1-22 and Marino claims were recorded in May and June 1973; the Bella 23-24 were recorded in May 1974. The location of the claims and the grid lines are illustrated on Figures 1 and 5 to 9.

This report is to cover assessment requirements for the following claims:

<u>Claim Name</u>	<u>Record Numbers</u>	<u>Group</u>
Bella 1 to 6	37837-37842)	
Bella 7 to 22	37847-37862)	Group I - Bella
Marino 1 to 18	37863-37880)	
Bella 23 to 24	38577-38578	Group II - Bella

Soil sampling and grid location commenced on April 24 and terminated on May 10, 1974.

The field work was directed by Mr. P. Master, M.Sc. (Geology), who in turn was under the supervision of Mr. A. Burgoyne, P.Eng. Soil sampling and grid location in the field was done by P. Master, H. Holm, B. Bagnall, R. Joly, and I. Stott.

GEOLOGY

The area is underlain by rocks of eugeosynclinal origin that are included in the regional tectonic unit known as the Insular Belt or Trough. The Insular Belt includes those rocks that parallel and form the complete western edge of the Cordillera of B.C. and Southeast Alaska.

In the general region of the property this part of the Queen Charlotte Islands are underlain by sedimentary sequences of the Cretaceous Honna and Haida Formations which include conglomerate, arkosic grits, shale, glauconitic sandstone, and various types of siltstone. The Bella and Marino claims are directly underlain by Jurassic Yakoun Formation that is variably comprised of agglomerates, tuffs, conglomerate, volcanic sediments and minor coal. Cretaceous intrusive plugs composed of quartz monzonite to granodiorite occur on the east

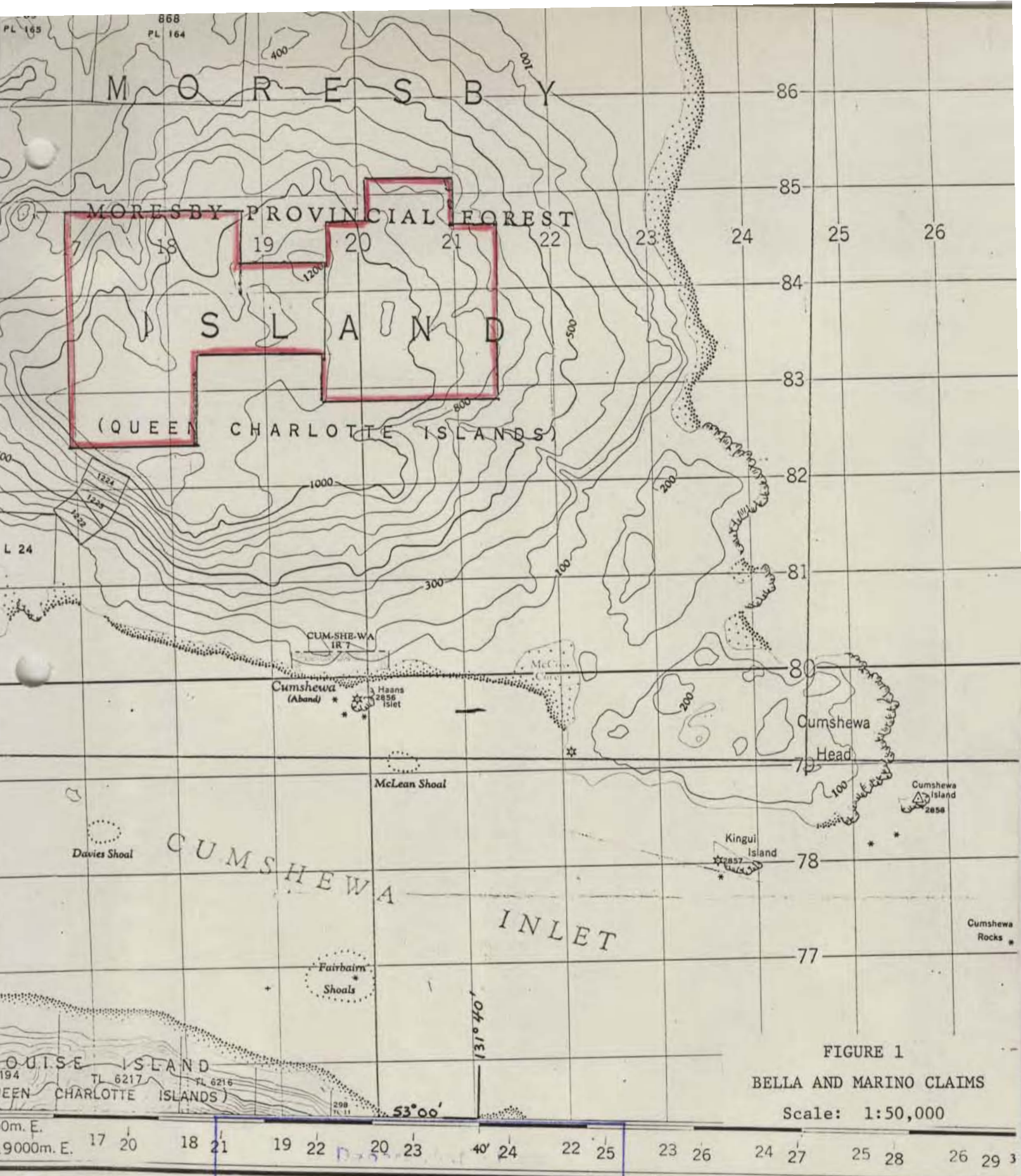


FIGURE 1
 BELLA AND MARINO CLAIMS
 Scale: 1:50,000

Mines and Resources
 ASSESSMENT REPORT
 NO. **5000** MAP # **1**
CUMSHEWA
 QUEEN CHARLOTTE DISTRICT
 BRITISH COLUMBIA
 SCALE 1:50,000 ÉCHELLE

side of Moresby Island - their origin and emplacement probably being related to the northwest trending Sandspit Fault which delineates the east side of Moresby Island.

For a complete description of the geology of the Queen Charlotte Islands, the reader should refer to Bulletin No. 54 of the B.C. Department of Mines and Petroleum Resources, by Sutherland-Brown.

GRID CONTROL

A flagged baseline was established by using an east-west claim location line on the Bella claims. This line was extended by chain and compass to the eastern edge of the Marino claims. The base line was flagged at 100 foot intervals. Crosslines were placed perpendicular to the base line in north-south directions by chain and compass. These crosslines were flagged at 100 foot intervals and their separation varied from 200 feet to 800 feet.

SAMPLE COLLECTION

A total of 549 soils were collected on the Bella claims and analysed for copper, silver, arsenic, and gold. A total of 317 soils were collected on the Marino claims and analysed for copper, arsenic, and antimony. Results are also given for samples taken on some lines peripheral to the claims. However, the cost to collect and analyse these soils is not included in this report nor in the soil totals given.

Approximately 25.9 miles of line were flagged and soil sampled.

At each sample location, which was at 100 or 200 foot intervals along the crosslines and at 200 foot intervals along the base line, a pit was dug with a shovel to a depth of 16 inches or less, depending on the soil development. A sample was taken from the B soil horizon. The soil development for the surveyed area is:

- Ao Organic litter 3 to 6 inches thick, but thicker in swampy areas.
- A1 Humus, black in color, 3 to 6 inches, but up to 4 feet thick in swampy areas.
- B Yellow to orange in color, poorly developed, much clay, iron oxide minerals, several inches to 2 feet in thickness.
- C Weathered bedrock and glacial gravels.

ANALYTICAL TREATMENT

The soil samples were analysed by Bondar-Clegg, geochemical laboratories in North Vancouver, B.C. The samples were dried in their respective bags at a temperature of 120^oF and sieved through a -80 mesh nylon screen.

For copper and silver analyses, 0.5 gram portions were placed in culture tubes and digested in 2 mls of aqua regia for about two hours. The samples were bulked to a specific volume with deionized water and then asperated into an atomic absorption spectrophotometer for analysis.

For gold analysis, 10 grams of sample was fused in a flux consisting of silica, soda, litharge, and borax. The resulting gold bead was then dissolved in aqua regia and the gold content was determined by atomic absorption.

For arsenic analysis, 0.10 grams of sample was placed in a culture tube and digested in 2 mls of a perchloric-nitric acid mixture. Arsenic was liberated from solution by zinc metal as arsine gas which was in turn complexed in a silver diethyl dithiocarbamate-pyridine solution. The arsenic was thus determined colorometrically.

For antimony analysis, 5 grams of sample were compressed into a small pellet and the antimony content was determined by X-ray fluorescence.

RESULTS

Arsenic

A plot of arsenic values versus cumulative frequency is illustrated in Figure 2 and a contoured plot of all arsenic soil values is given in Figure 5.

From the cumulative frequency versus arsenic content three discrete arsenic populations are apparent. Population 1 from <10 ppm to 35 ppm is a background content probably not related to arsenic (arsenopyrite) mineralization. Population 2 extends from 35 to 80 ppm and population 3 is from +90 ppm. The 80-90 ppm is a zone of overlap. Population 2 and 3 are thought to represent arsenopyrite mineralization and are classified as probable and definitely anomalous, respectively.

From inspection of Figure 5, which has been contoured at the 35 and 80 ppm intervals, there are many single and double value anomalies scattered over the property. These are not thought to be of economic significance. On the Bella 1, 2, 4, 5, 6, 12, 16 and Marino 3 and 4 claims there are a series of arsenic soil anomalies which vary in size from 200-400 feet in width and from 200-1000 feet in length and on geological evidence trend in a northeast direction. This

latter group of anomalies could be of economic significance in that they are defining discontinuous zones of arsenopyrite mineralization.

Copper

A plot of copper values versus cumulative frequency is illustrated in Figure 3 and a contoured plot of all copper soil values is illustrated in Figure 6.

In Figure 3 two discrete copper populations are present. Population 1 is from 2 to 25 ppm and population 2 is from +30 ppm. The 25-30 ppm range is a zone of overlap between the two populations. Population 1 is thought to be caused by background copper content whereas population 2 is considered anomalous and is related to traces of copper mineralization.

Most copper soil anomalies of +30 ppm are represented only by one or two anomalous values and are thus really only spot highs and are not of significant size. One anomaly on line 2E on the Bella 4 mineral claim is known to be related to traces of chalcopyrite mineralization. On Figure 6 the copper soil results have been contoured at the 30 and 15 ppm values. It should be noted that most of the +30 ppm anomalous copper areas coincide with anomalous arsenic values.

Silver

A plot of silver values versus cumulative frequency is illustrated in Figure 4 and a contoured plot of all silver soil values is illustrated on Figure 7.

In Figure 4 two and possibly three silver populations are present. Population 1 is from <0.1 to 0.7 ppm and is considered to represent background silver content. Population 3 is considered anomalous and contains values in excess of +1.3 ppm and is possibly related to sparse amount of silver mineralization. Population 2 is from 0.7 to 1.3 ppm and maybe a discrete population or possibly a zone of overlap between the first and third.

On Figure 7 the silver soil results have been contoured at the 0.7 and 1.3 ppm intervals. Anomalous silver areas (+1.3 ppm) are of restricted and erratic size and are represented by a few anomalous values. One anomaly on line 2E on the Bella 4 mineral claim is known to be related to sparse silver mineralization. Most of the anomalous silver values coincide with anomalous arsenic values.

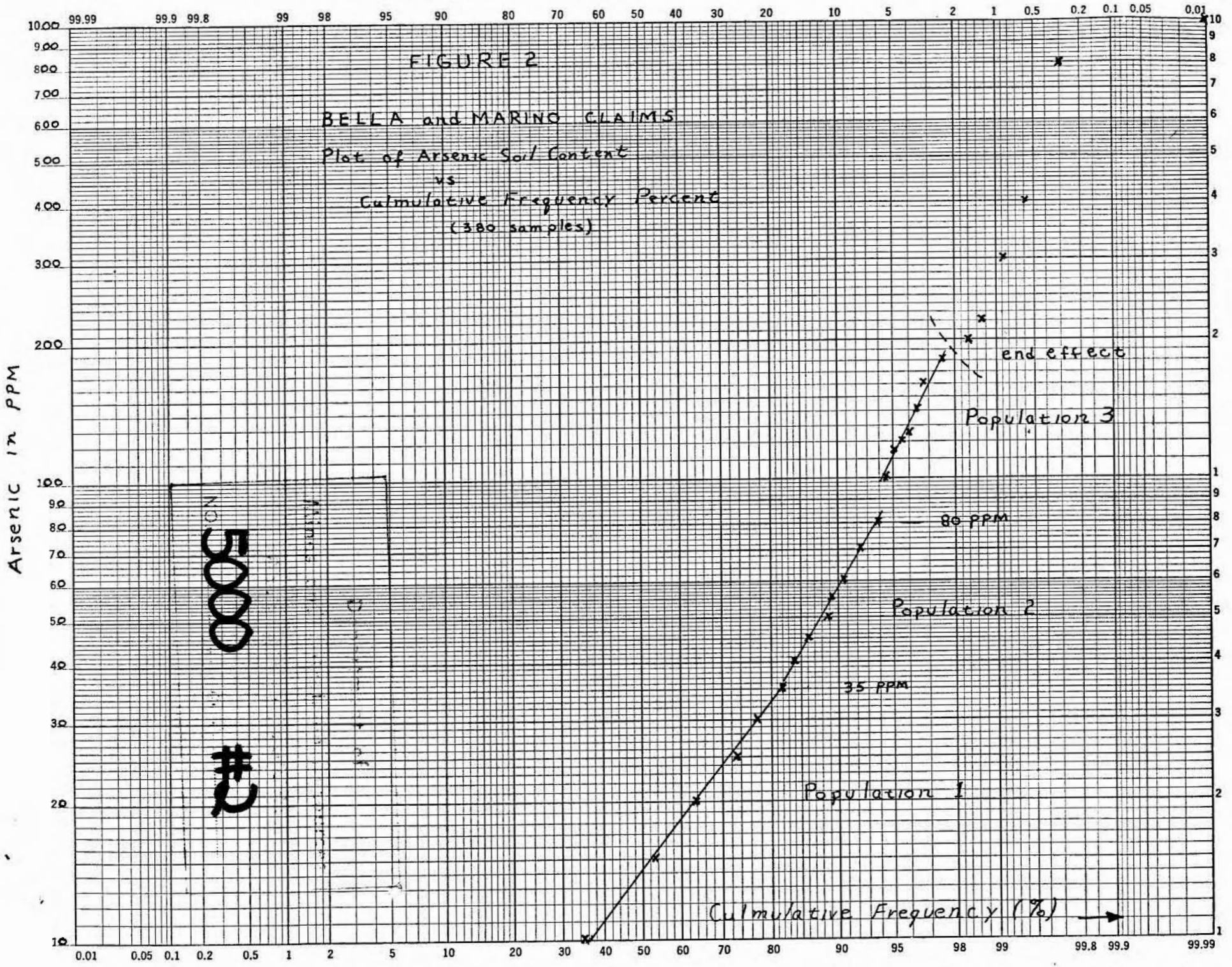
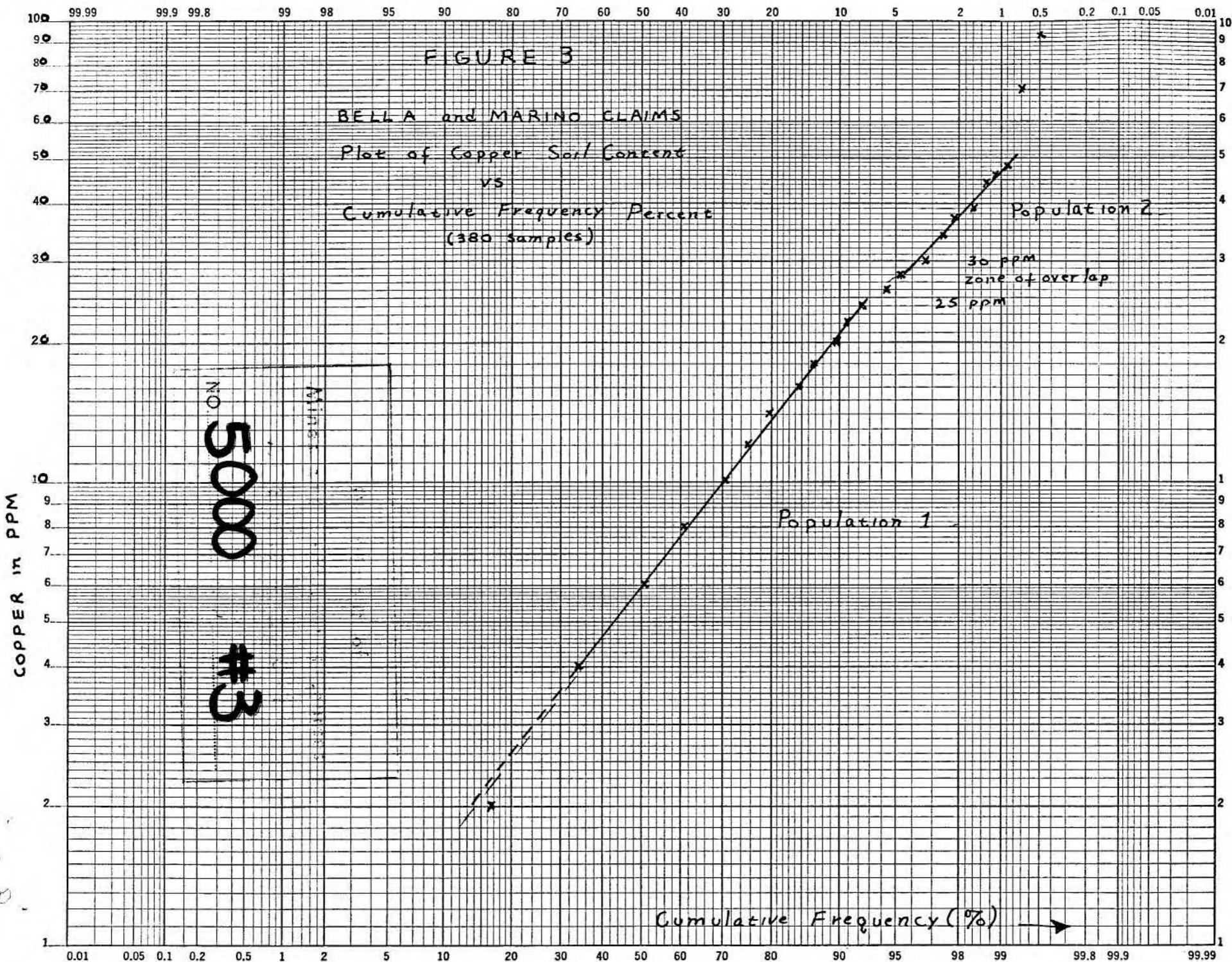
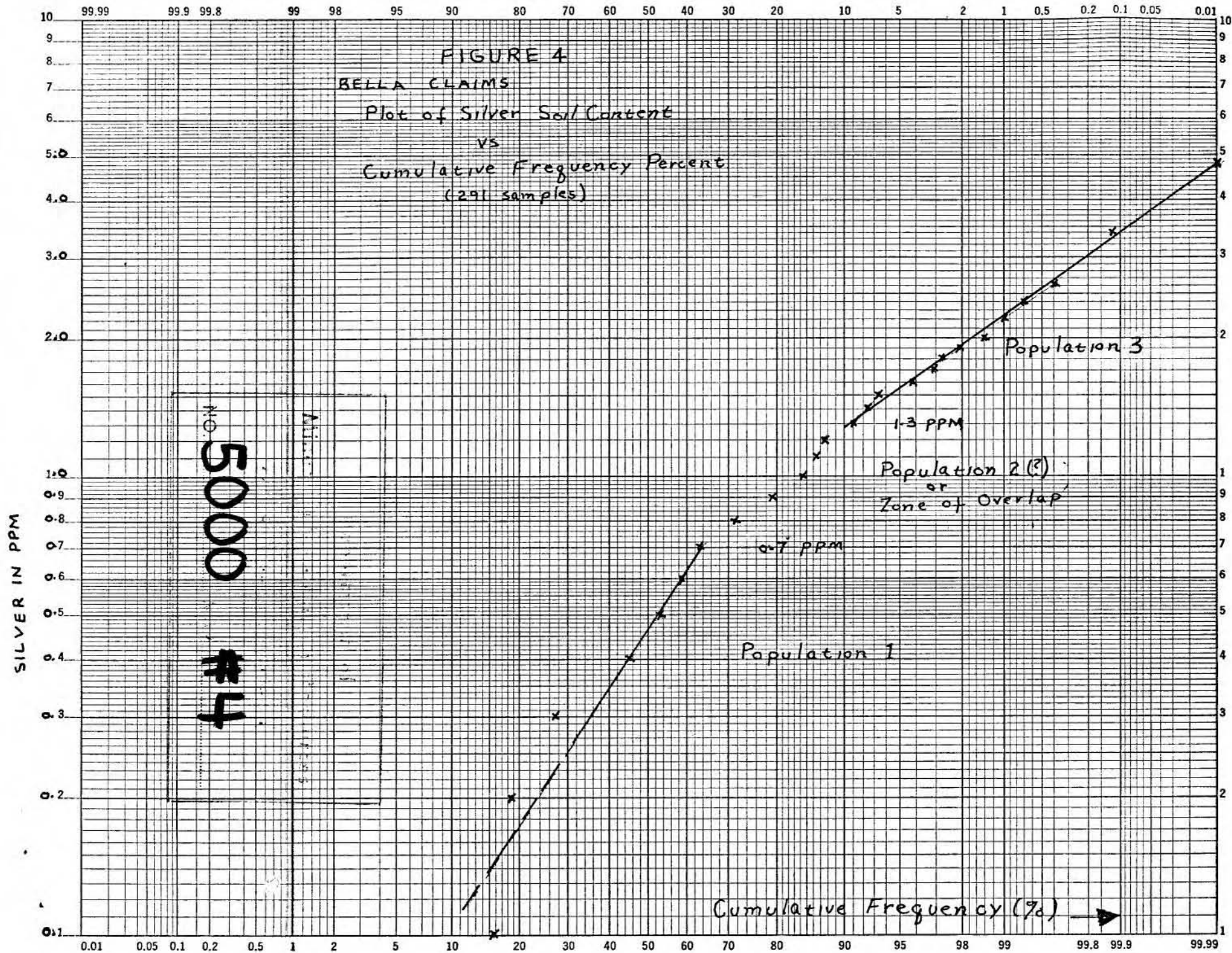


FIGURE 3

BELLA and MARINO CLAIMS
 Plot of Copper Soil Content
 vs
 Cumulative Frequency Percent
 (380 samples)





Gold

A contoured plot of all gold soil values is given in Figure 8. No cumulative frequency statistical treatment has been completed on the gold data as most values are less than the analytical sensitivity of 10 parts per billion.

Those values that are equal or in excess of 50 ppb are considered of possible economic significance and are designated anomalous. All anomalous areas are restricted to one or two sample location points. Most of the anomalous gold values coincide with anomalous arsenic values.

Antimony

The antimony soil results obtained from the Marino claims have been plotted on Figure 9. A cumulative frequency-concentration study of the data reveals two distinct populations. Population 1 is from <1 to 5 ppm and population 2 is from 6 to 15 ppm. Approximately 88% of the values are contained in population 1. The significance of the two populations can only be speculated upon. Soil samples taken over known antimony mineralization fall into population 1 and do not reveal or express anomalous values. The cause of the two antimony populations may be related to lithology, soil type, overburden composition, or possibly to analytical interference during analysis.

CONCLUSIONS AND RECOMMENDATIONS

Several well defined arsenic soil anomalies are present on the Bella Claims. These arsenic anomalies have associated but of restricted areal extent, copper, silver, and gold anomalous values.

The larger and better defined arsenic soil anomalies should be investigated for gold/silver mineralization by bulldozer trenching and/or diamond drilling.

Respectfully submitted,

Alfred A. Burgoyne

Alfred A. Burgoyne, M.Sc., P.Eng.

APPENDIX I

Statement of Expenditures on Bella 1-22, Marino 1-18 Mineral Claims
(Group I - Bella)Geochemical Soil Surveys for Arsenic, Copper, Silver, Gold, and Antimony and
Placement of Lines.

Labour - Field

P. Master - April 24, 25, 26, 27, 28, 1974 @ \$60/day	\$ 300.00
H. Holm - April 24, 25, 26, 27, 28, 29, May 4, 5, 10 @ \$40/day	\$ 360.00
B. Bagnall- April 23-30, May 1-10 (17½ days) @ \$33/day	\$ 577.00
R. Joly - April 23-30, May 1-10 @ \$25/day	\$ 450.00
I. Stott - April 23-30, May 1-10 @ \$21/day	\$ 378.00

Labour - Office (reports and drafting)

A. Burgoyne - 3 days @ \$75/day	\$ 225.00
P. Master - 5 days @ \$60/day	\$ 300.00
B. Bagnall - 5 days @ \$33/day	\$ 165.00

Analytical Costs

Bella Claims - 522 soils for Cu, Ag, As, Au @ \$5.84/sample	\$ 3,048.48
Marino Claims - 317 soils for Cu, As, Sb @ \$5.42/sample	\$ 1,718.14

Helicopter Support

9.5 hours @ \$263/hour	\$ 2,498.50
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Vehicle Cost

Rental of Pickup for 5 days @ \$20/day	\$ 100.00
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Freight Costs

Soil Sample Shipment @ \$90	
Camp Equipment - Vancouver to Sandspit, return @ \$295	
Local Freight Charges @ \$60	\$ 445.00

Air Fares

5 men Vancouver to Sandspit, return	\$ 430.00
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Accommodation Charges

Groceries, Meals, Room	
69 man days @ \$11/day	\$ 759.00

Secretarial, Reproductions, Communications

	\$ 150.00
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TOTAL

	\$11,904.12
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Apply \$10,000 to Group I - Bella

Bella 1 to 8, 15, 16	- 2 years for each of these claims.
Bella 9 to 14, 17 to 22	- 1 year for each of these claims.
Marino 1 to 18	- 1 year for each of these claims.

APPENDIX II

Statement of Expenditures on Bella 23 and 24 Mineral Claims (Group II - Bella)
Geochemical Soil Survey for Arsenic, Copper, Silver, and Gold and Placement
of Lines.

Labour - Field

P. Master - May 2, 1974 @ \$60/day	\$ 60.00
H. Holm - May 2, 3, 6 @ \$40/day	\$ 120.00

Labour - Office

A. Burgoyne - 1/2 day	\$ 40.00
P. Master - 1/2 day	\$ 30.00

Analytical Costs

27 soils @ \$5.84/sample	\$ 157.68
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Miscellaneous Costs

	\$ 25.00
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TOTAL	<u>\$ 432.68</u>
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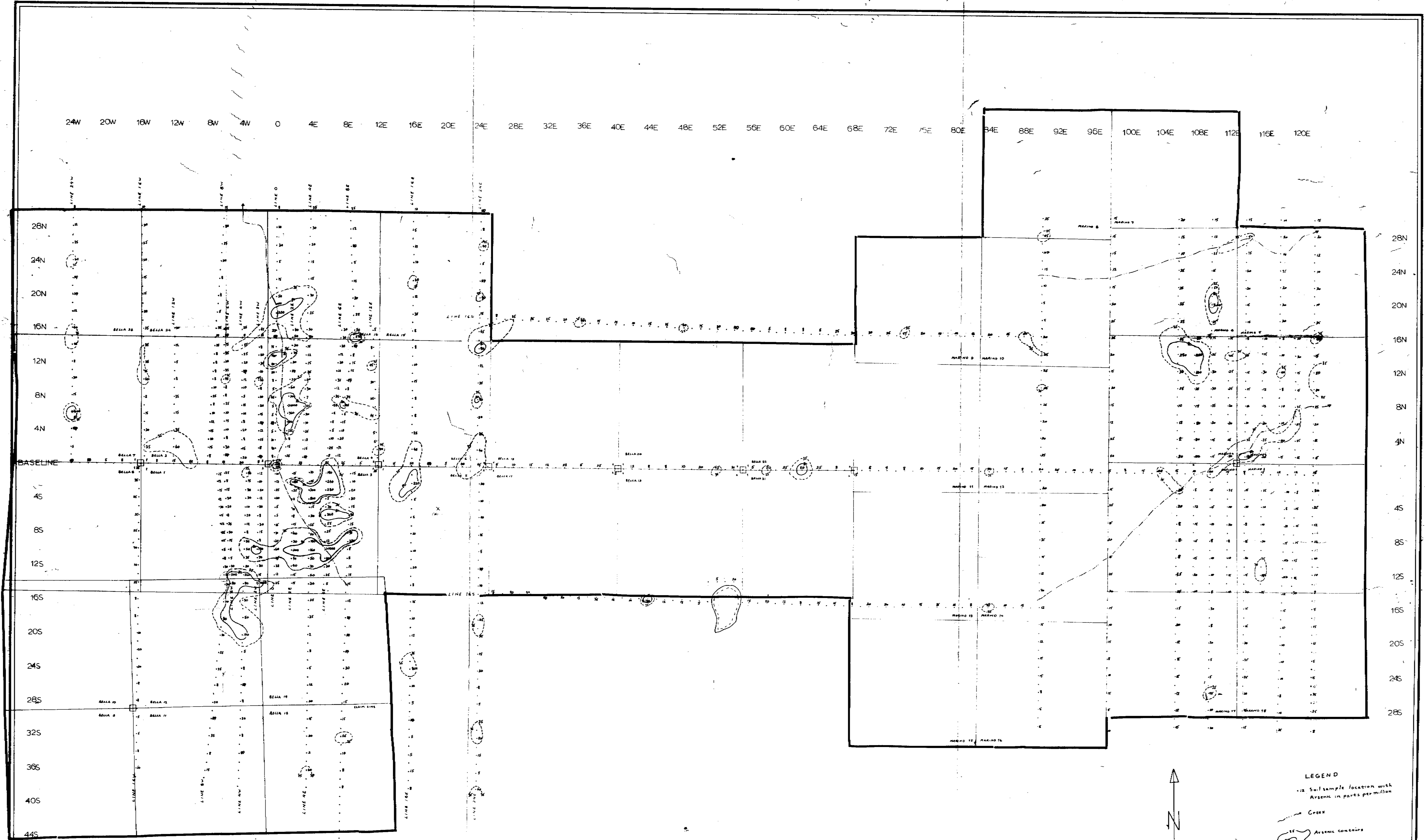
Apply \$400 to Group II - Bella

Bella 23 and 24 claims - 1 year for each of these claims.

Declared before me at the *Lely*
of *Samouwer*, in the
Province of British Columbia, this *13th*
day of *June* *1974*, A.D. *Alfred A. Burgoyne*

[Signature]
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

SUB-MINING RECORDER



LEGEND
 • Soil sample location with Arsenic in parts per million
 --- Creek
 ○ Arsenic contours

FIGURE 5

5000 M5

Division of BELLA-MARINO CLAIMS
 Resources
 Arsenic in B soil horizon
 #5

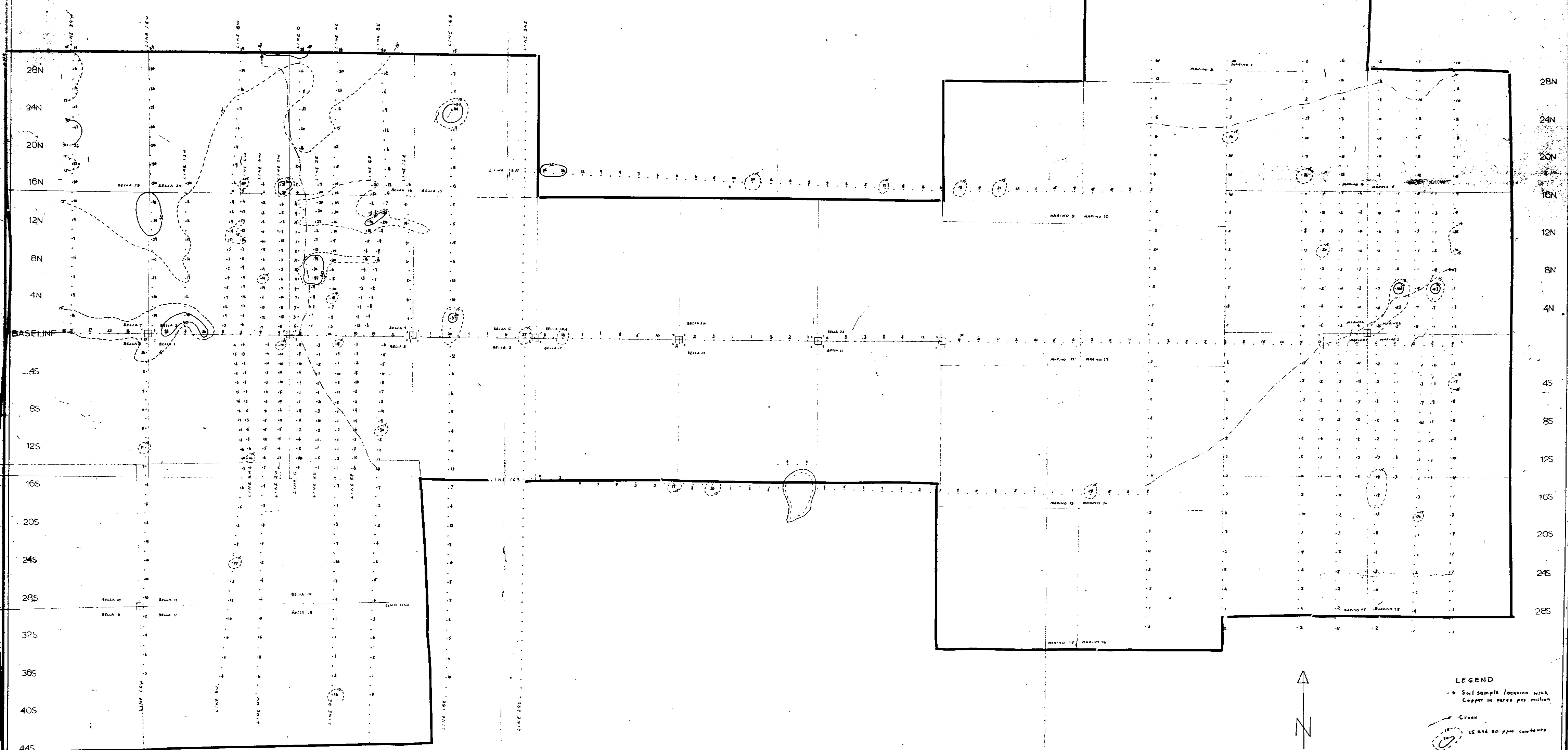
Scale: 0 100 200 feet

To accompany report dated June 4, 1974 by Alfred A. Burgoyne, P.Eng., on the Bella and Marino claims, twelve miles south-southeast of Sandspit, Skeena Mining Division, B.C.

Alfred A. Burgoyne

UMEX CORPORATION LTD.
 DRAWN BY DATE MAY 1974 CHECKED BY DWG No

24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E 48E 52E 56E 60E 64E 68E 72E 76E 80E 84E 88E 92E 96E 100E 104E 108E 112E 116E 120E



LEGEND
 • Soil sample location with
 Copper in parts per million
 --- Creek
 15 and 30 ppm contours

FIGURE 6

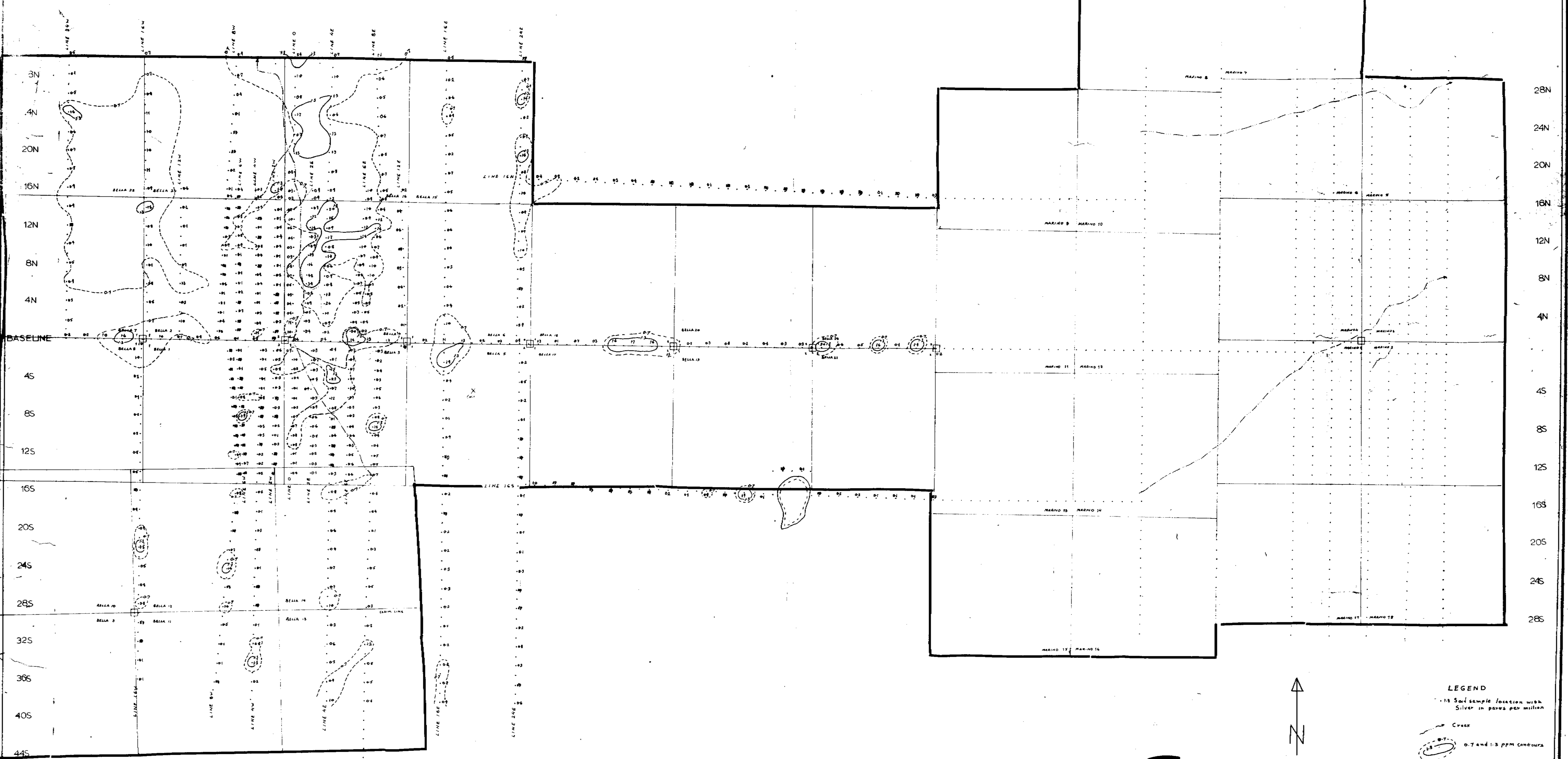
5000
M6

BELLA - MARINO CLAIMS	
Department of Mines and Technical Surveys NO. 5000 #6	
Copper in B soil horizon	
Scale: 0 400 800 feet	
UMEX CORPORATION LTD.	
DRAWN BY DATE SURVEYED BY	DWG No

To accompany report dated June 4, 1974 by Alfred A. Burgoyne,
 P.Eng., on the Bella and Marino claims, twelve miles south-
 southeast of Sandspit, Skeena Mining Division, B.C.

Alfred A. Burgoyne

24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E 48E 52E 56E 60E 64E 68E 72E 76E 80E 84E 88E 92E 96E 100E 104E 108E 112E 116E 120E



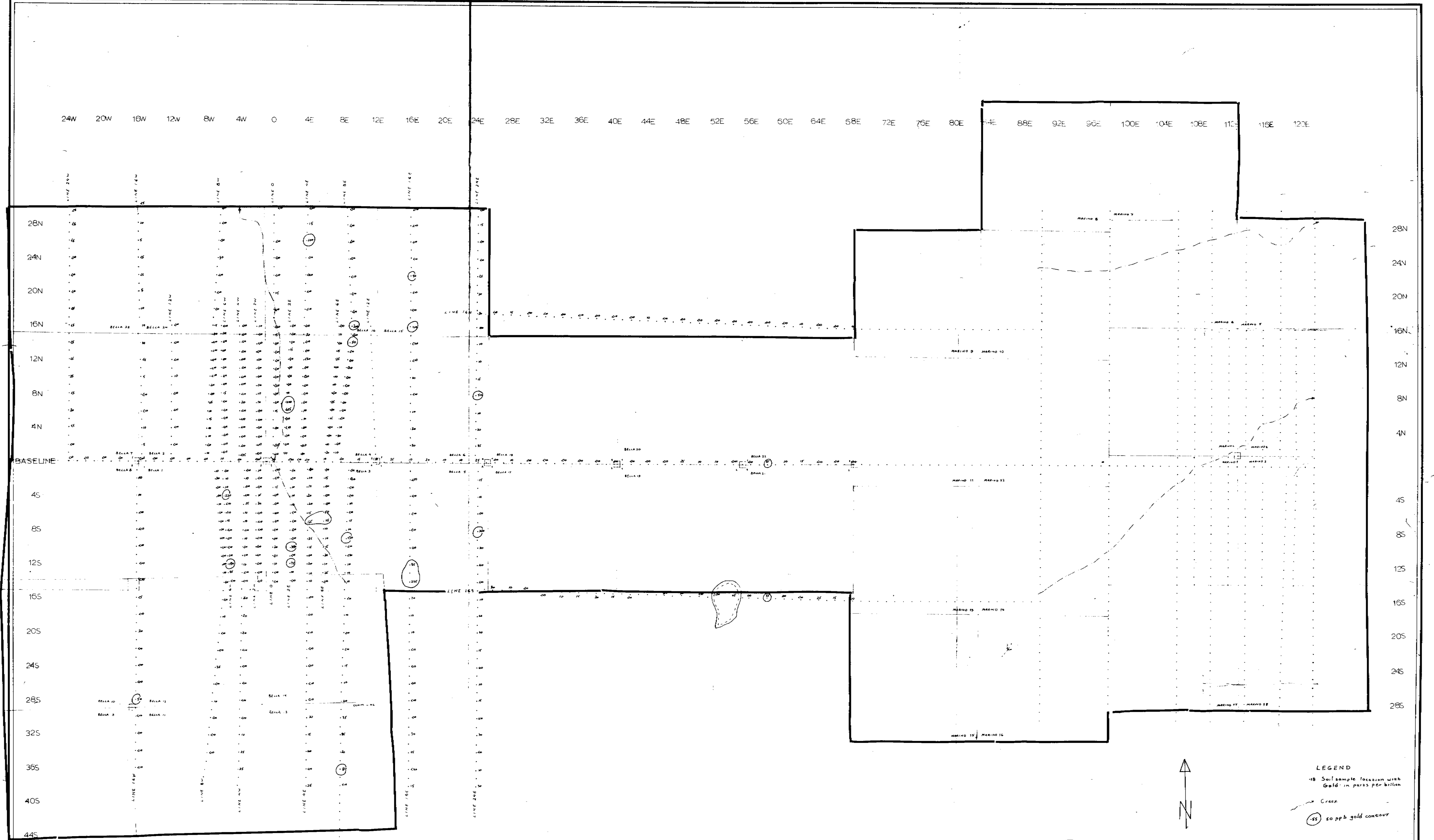
5000
M7

LEGEND
 - Soil sample location with Silver in parts per million
 - Creek
 - 0.7 and 1.3 ppm contours

FIGURE 7

Bella-Marino Claims	
Silver in B soil horizon	
5000	#7
Scale: 0 400 800 feet	
UMEX CORPORATION LTD.	
DESIGNED BY: Alfred A. Burgoyne	DWG. No.
DATE:	
SURVEYED BY:	

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**5000
M8**



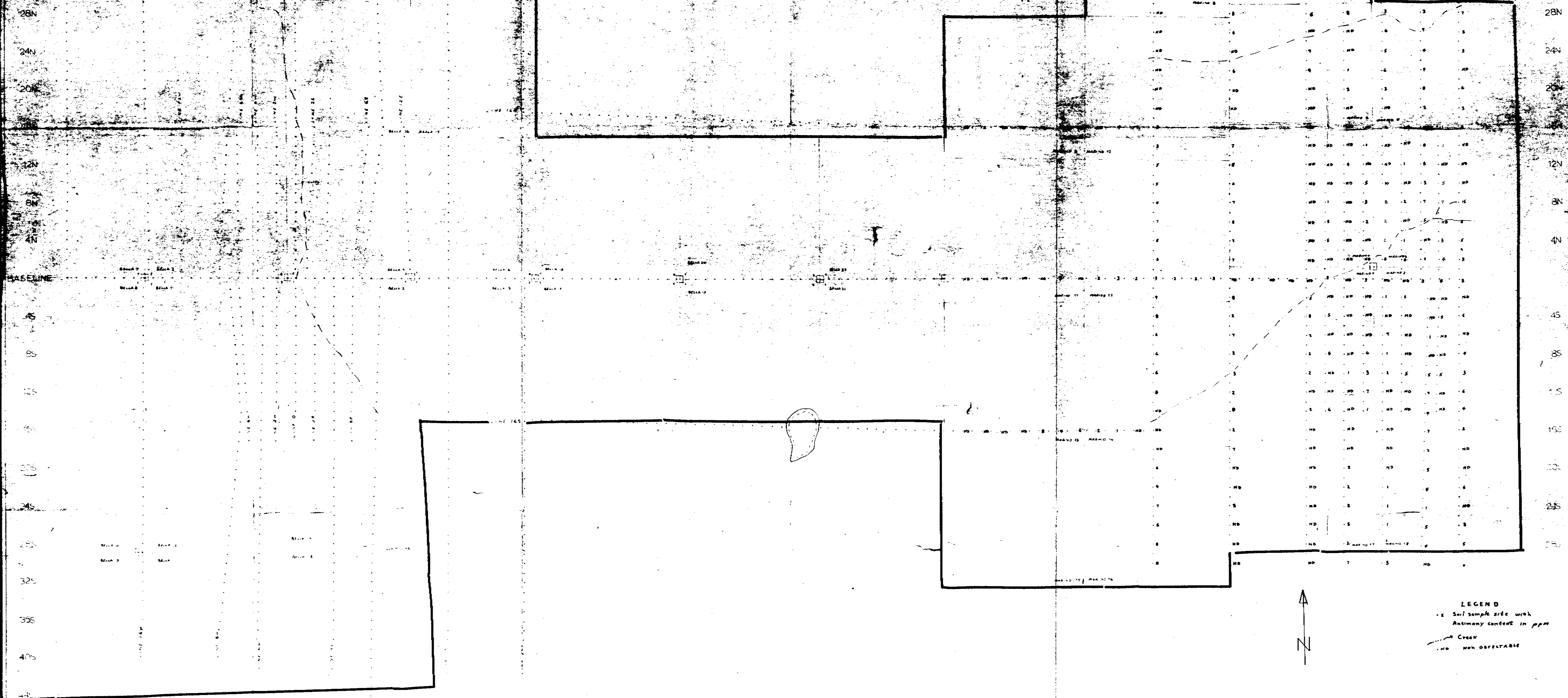
LEGEND
 *18 Soil sample location with Gold in parts per billion
 --- Creek
 (50) 50 ppb gold contour

FIGURE 8

BELLA - MARINO CLAIMS	
Mineral Resources REPORT NO. 5000	Gold in B soil horizon #8
Scale: 0 100 200 feet	
UMEX CORPORATION LTD.	
Drawn by: Alfred A. Burgoyne	DWG No:
Date: May, 1979	Surveyed by:

To accompany report dated June 4, 1974 by Alfred A. Burgoyne, P.Eng., on the Bella and Marino claims, twelve miles south-southeast of Sandspit, Skeena Mining Division, B.C.

24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E 48E 52E 56E 60E 64E 68E 72E 76E 80E 84E 88E 92E 96E 100E 104E 108E 112E 116E 120E



LEGEND
 • Soil sample site work
 Antimony content in ppm
 --- Creek
 ND Non Detectable



5000
M9

FIGURE 9
 Division of BELLA-MARINO CLAIMS
 Mineral Resources
 SAMPLING REPORT Antimony in B Soil Horizon
 5000 MAP #9

To accompany report dated June 4, 1974 by Alfred A. Burgoyne, P.Eng., on the Bella and Marino claims, twelve miles south-southeast of Sandspit, Skeena Mining Division, B.C.

Alfred A. Burgoyne

1" = 400'
 UMEC CORPORATION LTD.