

3865

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

CUL #1 to #30 CLAIM GROUP

(Record No. 102647 to 102676 incl.)

OMINECA MINING DIVISION

55°20'N 124°53'W

93N/7W

for

CALICO SILVER MINES LTD.

by

Department of
Mines and Petroleum Resources

ASSESSMENT REPORT

NO. 3865 MAP

G.C. GUTRATH, P. Eng.

ATLED EXPLORATION MANAGEMENT LTD.

August, 1972

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Geochemical Soil Sample Distribution Graph.

Geochemical Report #71-16-001

Certificate of Assay #3177

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Personnel

GEOLOGICAL AND GEOCHEMICAL REPORT ON THE
CUL #1 to #30 CLAIMS
OMINECA MINING DIVISION

INTRODUCTION

This report is based on an exploration program consisting of linecutting, geochemical soil and silt sampling and geological mapping completed on the Cul Claim Group between August 9 and August 17, 1972 by Atled Exploration Management Ltd. under the supervision of G. C. Gutrath, P. Eng.

SUMMARY

The Cul Group of 30 claims is in the Omineca Mining Division 3 miles east of Ahdatay Lake in the Nation Lakes area of north-central B. C.

The claims are underlain by Takla Group volcanic rocks that are primarily of andesite and basalt composition. A large amount of granodiorite float occurs in the northwest corner of the claim group indicating a stock. There are no outcrops in the northern half of the claim group.

Chalcopyrite and secondary malachite and azurite occur in a calcite-quartz breccia zone that can be traced for 100 feet; it is approximately 20 feet wide, and dips steeply.

The footwall of the zone across a width of 6 feet assays 1.40% Copper. The center of the zone assayed 0.27% copper and the hanging wall assayed 0.24% copper giving a weighted average over 14 feet of 0.26% copper. The zone carries only a trace of silver and gold.

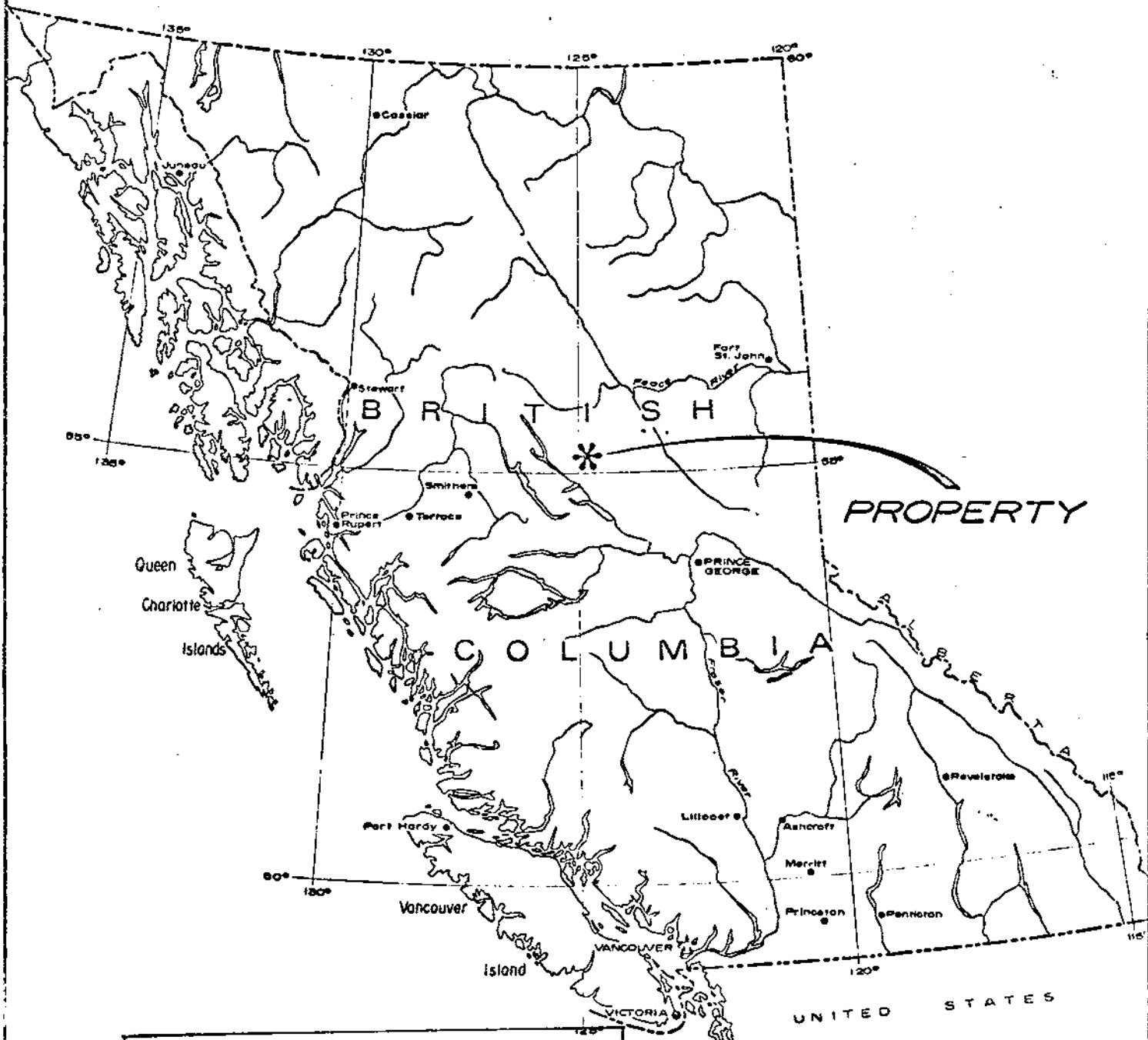
Minor amounts of finely disseminated chalcopyrite are found in outcrops on the east side of the property.

The geochemical soil sampling survey indicated background copper values of 60ppm, threshold anomalous values of 100ppm and very anomalous values to be in excess of 200 ppm. The most significant anomalous values are found in the northern part of the property where there are no outcrops to determine the cause of the anomalies.

CONCLUSION

The geological mapping has located a copper mineralized zone on the Cul #17 and #18 claim that by itself is of little economic importance. However, the mapping located relatively wide spread pyrite mineralization associated with minor chalcopyrite indicating the possibilities of a much more significant deposit in the general area. The copper anomalous soil values in the northerly part of the claim group could be associated with an intrusive and it is a favourable indication of more widespread copper mineralization.

It is concluded that the property warrants more detailed exploration and a continuing program is recommended.



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **3865** MAP **#1**

CALICO SILVER MINES LTD.
 LOCATION MAP
CUL CLAIMS
 OMINECA M.D., B.C.
 SCALE 1"=136 MILES

GEOGRAPHY

Location

The property is located in the Nations Lake area of north central B.C. 6 miles north of Tchentlo Lake and 3 miles east of Ahdalay Lake.

Co-ordinates of the property are latitude 55°20'N and longitude 124°53'W.

Access

Access to the property is by helicopter from Fort St. James a distance of 60 miles to the southeast. Float planes can be landed on Ahdalay Lake.

The nearest road access is 26 miles to the east where the Manson Creek - Fort St. James road crosses the Nations River.

Topography

The claims cover the western portion of a domed hill that ranges in elevation from a low of 3,800 feet to a rounded peak of 4,500 feet.

Vegetation

The upper part of the hill is covered by a thick stand of balsam and spruce interspersed with swampy areas. There are numerous wind-falls in this area. The lower slopes are covered by jackpine forest and grassy swampland.

Water

There is ample water anywhere on the property for drilling and there is an adequate supply of water in the general area for any future mill requirements.

CLAIMS

The Cul #1 to #30 mineral claims (record No. 102647 to 102676) are in the Omineca Mining Division.

The claims were located on August 7 and 8th, 1971 and are owned by Calico Silver Mines Ltd.

A number of the claim posts have been surveyed into the Grid System but the entire claim group has not been surveyed.

GEOLOGY

Survey Completed

A total of 67,300 feet of line was chain and compass surveyed as a control grid for geological mapping and soil sampling.

The outcrop geology was mapped on a scale of 1 inch equals 200 feet. Because of the lack of outcrop in the northern part of the claim group special attention was given to the float distribution in order to determine the general extent of the geological units.

General

(Geological Survey of Canada: Map 884A, Takla by J.E. Armstrong and Map 876A Manson Creek by J.E. Armstrong 1 inch. = 4 miles.)

The Cul Group is located in a north to northwesterly trending belt of copper triassic and Jurassic volcanic rocks of the Takla Group that are bordered on the west by the Pinchi fault zone and the Cache Creek Group of Permian age. On the east the belt is bordered by Cache Creek Group volcanics and related sediments.

This belt of volcanics and sedimentary rocks has been intruded by the Omineca granitic complex of upper Jurassic age. The inferred contact of the main intrusive mass is located approximately 1 mile southeast of the Cul Group. Another large stock is located 8 miles to the northeast of the Cul Group and a smaller stock of the same age is located in the Klamle Lake area 2 miles to the northeast. A younger stock of syenite composition is located 12 miles to the southeast of the claim group along the contact of the Takla Group and Omineca intrusion.

Property

The Cul Group is underlain by volcanic rocks and minor related sediments of the Takla Group. The volcanic series is composed of andesites and basalts.

The andesites are dark green to grey, fine grained to aphanitic with augite and hornblende porphyritic phases. In the area of the sulphide mineralization on Cul Claim #17 the andesites are weakly dioritized. To the south there is a lighter coloured phase that may

be dacitic in composition.

The basalt is black, aphanitic with amygdaloidal and porphyritic phases. The basalt is fairly wide spread on the property and may be in part dikes rather than flows.

There is a considerable area of angular to subangular granodiorite float in the northwest corner of the property. This intrusive has not been found in outcrop, but may be the cause of the distinct topographic doming centered in the area of station 42N on the baseline.

The mineralized zone on the Cul #17 and #18 mineral claims consists of chalcopyrite, pyrite, hematite and secondary malachite and azurite in a calcite-quartz breccia zone. The zone strikes N 75°W and dips 65° to 80° to the south. The overall width of the zone is approximately 20 feet and is made up of a better mineralized footwall and hanging wall zone. The zone can be traced for 100 feet before it is masked by overburden to the east and is possibly terminated by a fault to the west. Minor amounts of finely disseminated chalcopyrite with from 1% to 3% pyrite in the weakly altered andesite peripheral to the main mineralized zone.

Disseminated chalcopyrite and pyrite occur in a small outcrop of weakly epidotized basalt at station 50E on line 6N. Malachite, pyrite and chalcopyrite are disseminated in the basalts that outcrop in the creek between line 18N and 10N at 50 east.

Sampling

The mineralized zone on the Cul #17 and #18 mineral claim was sampled as follows:

<u>No.</u>	<u>Description</u>	<u>Width</u>	<u>Cu%</u>
#57727C	Footwall zone	6'	1.40%
#57728C	Low grade panel of weakly altered andesite between H.W. and F.W. zones.	10'	0.27%
#57729C	Hanging wall zone, oxidized, brecciated	4'	0.24

A composite of the three samples assayed a trace in gold and silver.

GEOCHEMISTRY

Survey Performed

A total of 88 soil samples were collected at 200 foot intervals on lines 3000 feet apart. This limited survey was performed to see if soil sampling would be a useful exploration technique in an area of extensive glacial overburden.

The samples were taken from the "B" soil horizon which had a distinctive brownish orange colouration at depths varying from 6 inches to 1 foot. The samples were taken with a grub-hoe and stainless steel trowel and were collected in kraft paper bags.

The samples were analysed by Vancouver Geochemical Laboratories Ltd., 1521 Pemberton Avenue, North Vancouver, B. C. using the following procedure:

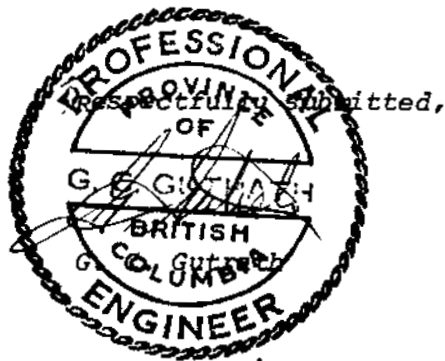
- Samples sifted to -80 mesh
- Mesh weigh used 0 - 50 g.
- Final volume 10 ml.

- Method of analysis: Instrumental - Atomic absorption
- Extraction: Hot HClO_4 - HNO_3 Digestion
- Detection: Techtron AA₄ and AA₅
- Supervising chemist: L. Nicol.

Survey Results

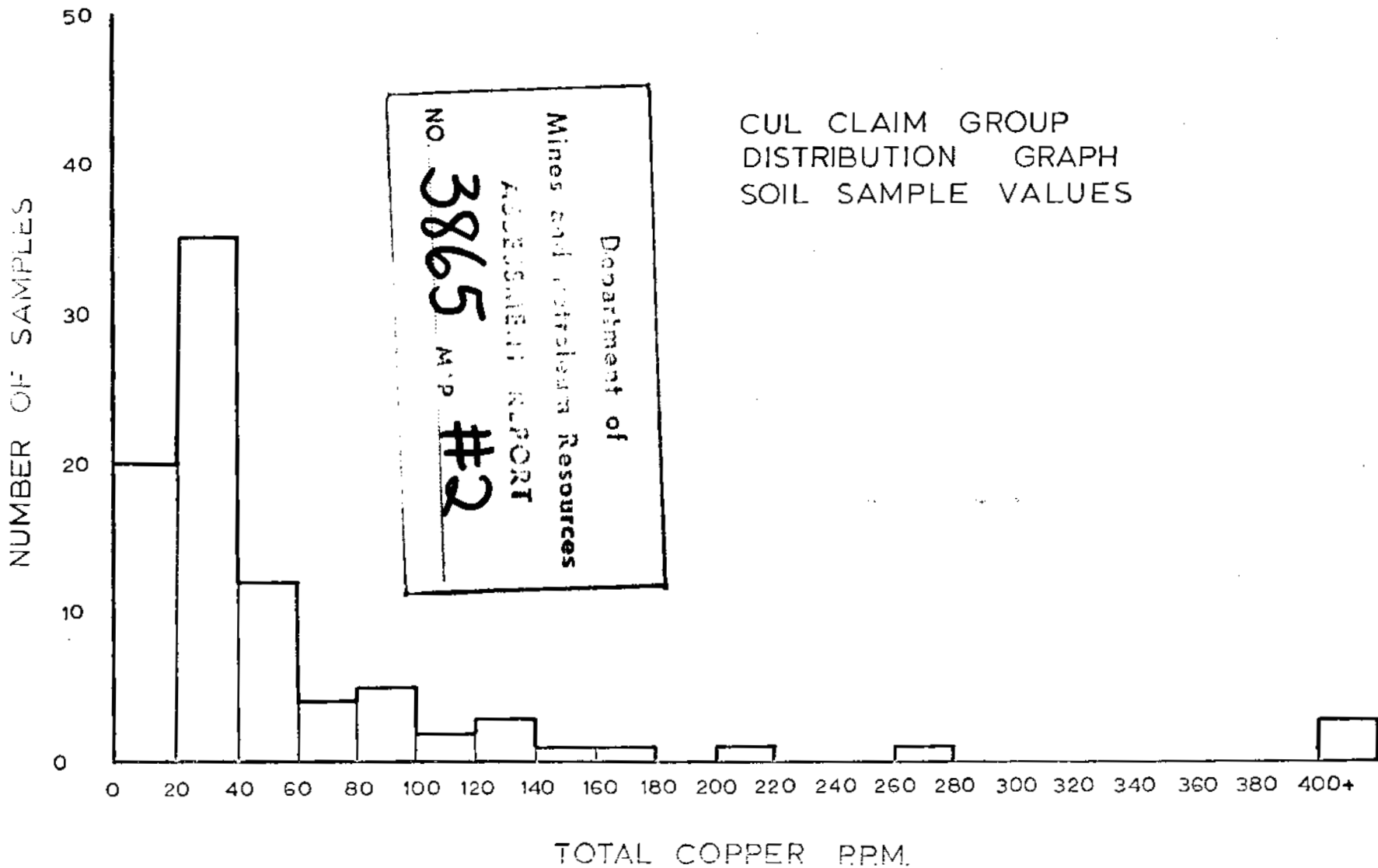
The background for the survey area is 60 ppm. copper with threshold anomalous values of 100 ppm. copper and very anomalous values would be over 200 ppm. copper.

The highest soil value of 2720 ppm. copper was on line 30N-32W with anomalous values, both to the east and west of this point, giving an anomalous zone approximately 800 feet long. There are a number of erratic high values on the east end of line 30N. There are no outcrops on line 30N to determine the cause of the anomaly.



APPENDIX A

Geochemical Soil Sample Distribution Graph
Geochemical Report #71-16-001
Certificate of Assay #3177



Vancouver Geochemical Laboratories Ltd.

1521 PEMBERTON AVENUE NORTH VANCOUVER, B.C., CANADA TELEPHONE 604-988-2172

GEOCHEMICAL ANALYTICAL REPORT

REPORT No. 71-16-001 DATE August 19, 1971
SAMPLES SUBMITTED BY G. Cutrath COMPANY Atled Exploration Management Ltd.
SHIPPED VIA Greyhound Lines FROM Smithers, B. C.
REPORT ON 88 samples for Cu DATE SAMPLES ARRIVED August 17, 1971

CUL GROUP * * CALICO SILVER

COPIES OF THIS REPORT SENT TO:

TRANSMITTED BY:

- (1) Vancouver Office - 508 - 850 W. Hastings Mail
Vancouver, B. C.
(2) Attn: Mr. G. Cutrath
(3) _____

SAMPLES SIFTED OR GROUND TO -80 MESH WEIGHT USED 0.50 g
FINAL VOLUME 10 ml ALIQUOT USED n/a

* * *

METHOD OF ANALYSIS: Instrumental - Atomic Absorption

EXTRACTION: Hot HClO₄ - HNO₃ Digestion

DETECTION: Techtron AA4 and AA5

SAMPLES ASSIGNMENT: (a) PREPARED SAMPLES: filed
(b) REJECTS: discarded

* * *

ANALYST(S) G. A., S. L. TYPIST hi.

SUPERVISING CHEMIST L. Nicol CHECKED BY C. CHIN

COSTS:

SHIPPING CHARGE	\$	4.50
SAMPLE PREPARATION	\$	17.60
ANALYSIS	\$	88.00
OTHER	\$	---
TOTAL	\$	110.10

SPECIALIZING IN TRACE ELEMENT ANALYSIS

Vancouver Geochemical Laboratories Ltd.

1521 PEMBERTON AVENUE

NORTH VANCOUVER, B.C. CANADA

TELEPHONE 604-988-2172

71-16-001

COMPANY Atled Expl. Management REPORT No. PAGE 1 OF 3

MARKING	Cu				MARKING	Cu			
CN + 12 E	32								
14	8				CN + 34 W	29			
16	29				36	26			
18	44				40	30			
20	23				42	13			
22	112				CN + 44 W	14			
24	45				3CN + 0 E	16			
26	78				2	132			
28	25				4	210			
30 E	17				6	92			
14 W	55				8	65			
16	50				10	24			
18	32				12	275			
20	28				14	23			
22	38				16	76			
24	38				18	98			
26	95				20	56			
28	28				22	445			
30	28				24	32			
CN + 32 W	36				3CN + 26 E	160			

REMARKS

All values are reported in parts per million unless specified otherwise. All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

Vancouver Geochemical Laboratories Ltd.

1521 PEMBERTON AVENUE

NORTH VANCOUVER, B.C. CANADA

TELEPHONE 604-988-2172

71-16-001

COMPANY Atled Expl. Management REPORT No.

PAGE 2 OF 2

MARKING	Cu				MARKING	Cu			
30N + 28 E	63								
30 E	132				30N + 38 W	38			
2 W	35				42	40			
4	17				30N + 44 W	51			
6	23				30S + 00	38			
8	36				2 E	35			
10	38				4	24			
12	42				6	14			
14	21				12	14			
16	42				14	14			
18	31				16	15			
20	97				18	19			
22	41				20	26			
24	58				22	27			
26	37				28	22			
28	53				30 E	16			
30	132				2 W	19			
32	2720				8	6			
34	615				10	20			
30N + 36 W	163				30S + 12 W	26			

REMARKS

All values are reported in parts per million unless specified otherwise. All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

Vancouver Geochemical Laboratories Ltd.

1521 PEMBERTON AVENUE

NORTH VANCOUVER, B.C. CANADA

TELEPHONE 604-988-2172

71-16-001

COMPANY Atled Explo. Management

REPORT No.

PAGE 3 OF 3

MARKING	Cu	Remarks	MARKING		Remarks
30S + 14 W	17				
18	32		30S + 32 W		Swamp
20	26		34		"
24	73		38		"
26	48		40		"
28	22		30S + 42 W		Swamp
30	28				
36	22				
40	103	organic			
30S + 44 W	17				
The following nos. have no samples					
ON + 8 E		Swamp			
30S + 8 E		"			
10		"			
24		"			
26 E		"			
4 W		"			
6		"			
16		"			
30S + 22 W		Swamp			

REMARKS

All values are reported in parts per million unless specified otherwise. All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

CREST LABORATORIES (B.C.) LTD.

1068 HOMER STREET
VANCOUVER 3, B.C.
PHONE 688-2586

CREST LABORATORIES LTD.
7911 ARGYLL ROAD
EDMONTON 82, ALBERTA
PHONE 469-2391

CERTIFICATE OF ASSAY

TO Atled Exploration Management, COL Group
508 - 850 West Hastings Street,
Vancouver, B.C.

Sept. 7, 1971

Lab No. 3177

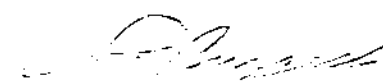
I hereby certify THAT THE FOLLOWING ARE THE RESULTS OF ASSAYS MADE BY US UPON THE HEREIN DESCRIBED SAMPLES.

MARKED	GOLD		SILVER	COPPER	Percent	Percent	Percent	Percent	Percent	Percent	TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent							
57727 C	---		---	1.40							
57728 C	---		---	0.27							
57729 C	---		---	0.24							
57727 - 29 C	trace	---	trace	---							

NOTE:

Rejects Retained One Month
Pulps Retained Three Months
Unless Otherwise Arranged.

Gold calculated at \$ per ounce

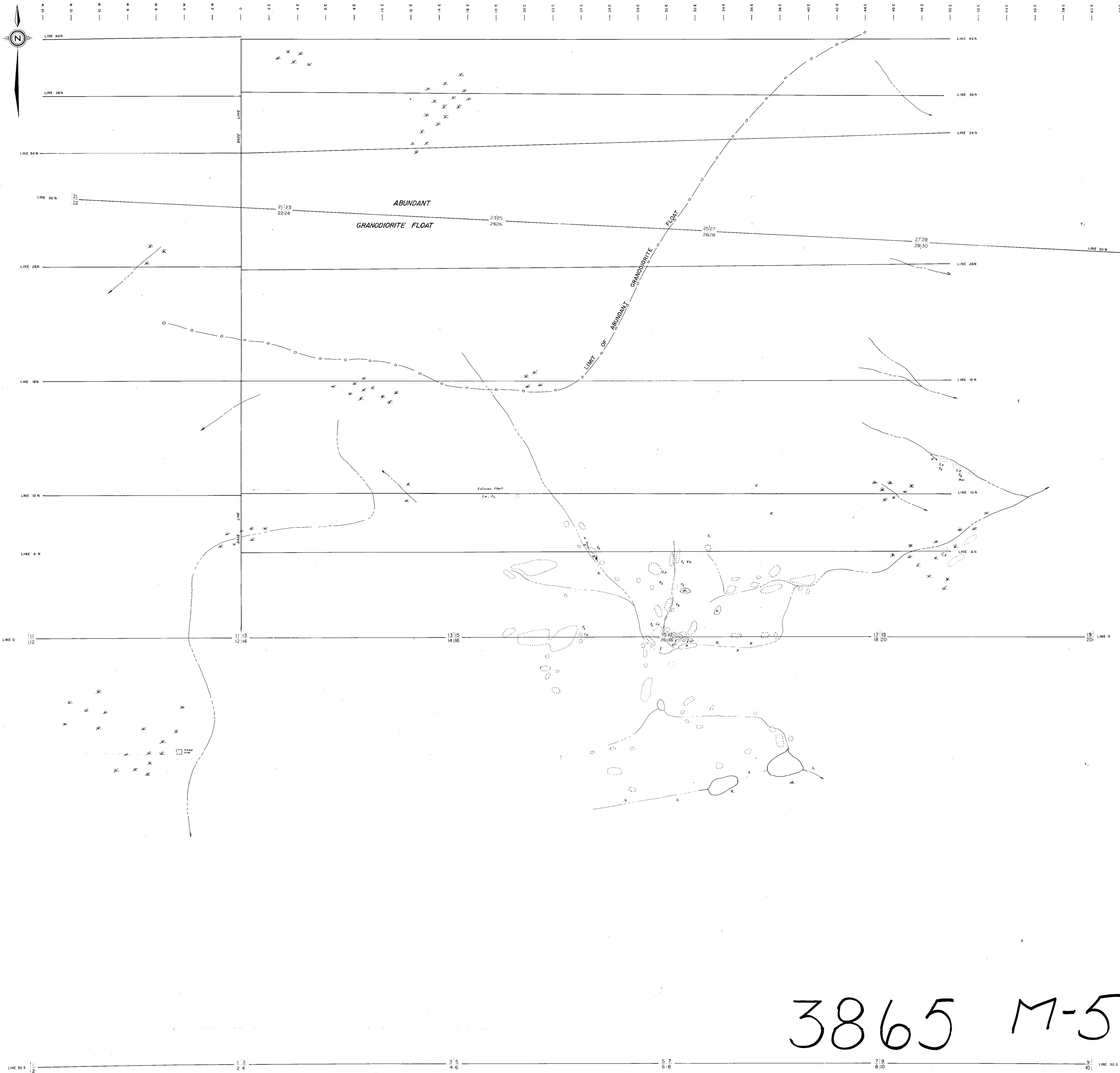

Registered Assayer, Province of British Columbia

APPENDIX B

Personnel

PERSONNEL

1. G. Gutrath, P. Eng., Geologist
Overall supervision, geology and report.
2. J. R. Lerner, Field supervision, geology
Linecutting and soil sampling
3. K. Astring, Technician, B.C.I.T.
Linecutting and soil sampling.

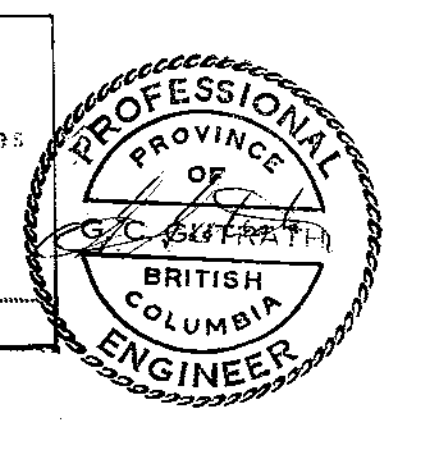


3865 M-5

LEGEND

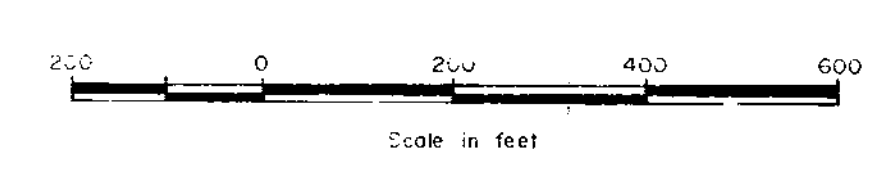
- Volcanics: basalts, andesites with light coloured phases and micaceous laminations
- ▨ Copper mineralogical zone: chalcocite, pyrite, hematite, malachite and azurite
- Shallow alluvium
- Javelin alluvium
- Cp Chalcocite
- Mst Malachite
- Py Pyrite
- Swampy area
- Outline of outcrop
- Road
- Creek

Department of
Mines and Petroleum Resources
ASSIGNMENT REPORT
NO. 3865 MAP # 5



CALICO SILVER MINES LTD.
VANCOUVER, B.C.
CUL CLAIM GROUP
GEOLOGY MAP

OMNECA MINING DIVISION
DATE: AUGUST, 1972
DRAWN BY: JRL





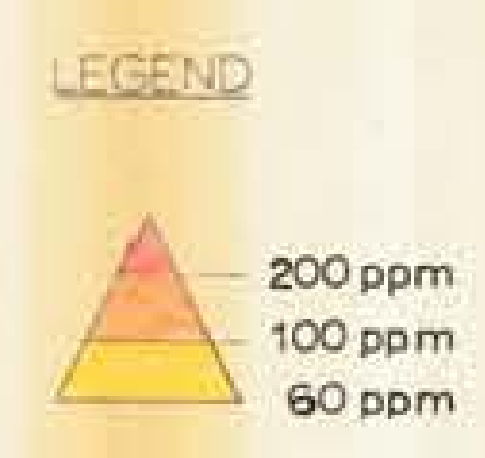
2325
2426



11 12 13 14 15 16 17 18 19 20

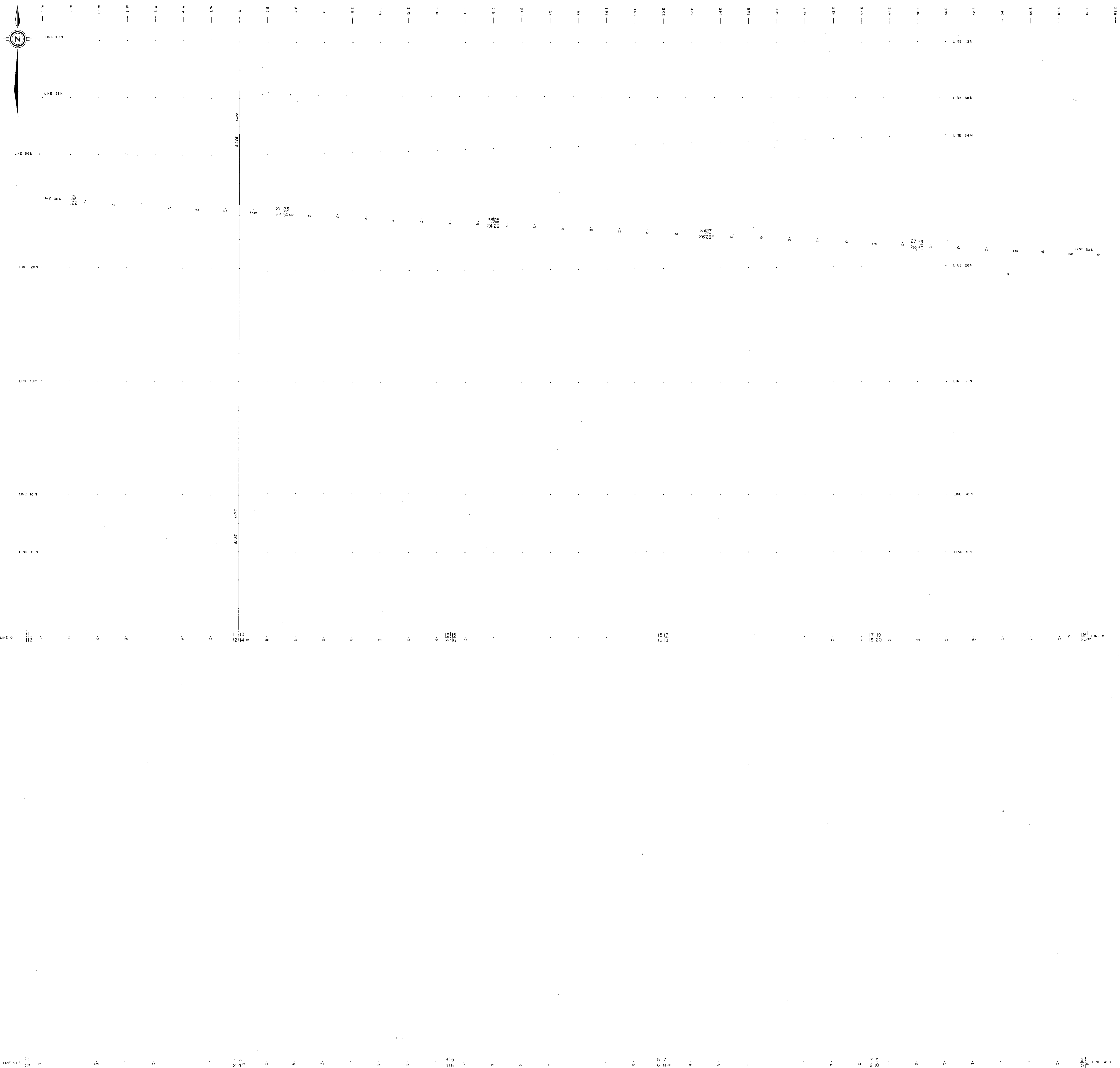
3865 M-4

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3865 MAP #4

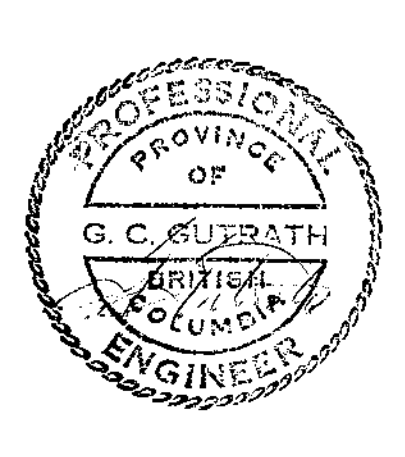


CALICO SILVER MINES LTD.
VANCOUVER, B.C.
CUL CLAIM GROUP
GEOCHEMICAL SURVEY - COPPER
CONTOUR MAP

DATE: 4-15-72 DRAWN BY: J.R.L.



Department of
 Mines and Petroleum Resources
 PROVINCE OF
 BRITISH COLUMBIA
 G. C. KILBATH
 REGISTERED
 ENGINEER
 NO. 3865 MAP #3



3865 M-3

CALICO SILVER MINES LTD.
 VANCOUVER, B.C.

CUL CLAIM GROUP
GEOCHEMICAL SURVEY - COPPER
VALUES MAP

OMNICA MINING DIVISION ATLED EXPLORATION MANAGEMENT LTD. N.T.S. 93-N-7
 DATE AUGUST, 1972 DRAWN BY JRL

Scale in feet
 0 200 400 600