

BETHLEHEM COPPER CORPORATION

Suite 2100 Guinness Tower, 1055 West Hastings Street, Vancouver, B.C. V6E 2H8

Telephone 682-5211

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April 2, 1979.

Dr. W. J. McMillan,
Geological Division,
Mineral Resources Branch,
Ministry of Energy, Mines and Petroleum Resources,
Victoria, British Columbia,
V8V 1X4

Dear Bill,

Please find enclosed with this letter, maps, a drilling report, and rotary chip samples from our drilling north of Mamit Lake. The sedimentary rock in this section has been assigned to the Eocene Coldwater Formation on the basis of lithology.

The rotary chips generally appear to be too coarse grained to be useful hosts for a pollen analysis but I have forwarded a representative sample of the entire drilling section in ten foot intervals for your study. If more sample is required for any particular section, we have additional cuttings stored in our warehouse.

I hope the upcoming field season provides you with fine weather, cold beer and lots of outcrop.

Yours very truly,

BETHLEHEM COPPER CORPORATION



John Bellamy,
Chief Geologist.

/mg.

ROTARY DRILLING REPORT
on the
G.C. 7 MINERAL CLAIM
MAMIT LAKE AREA
NICOLA MINING DIVISION

| | |
|------------------------|--------------------|
| N.T.S. Sheet - 92I/7W | UTM Grid - Zone 10 |
| Latitude - 50°26.3'N | North - 5589450 |
| Longitude - 120°48.8'W | East - 655250 |

BETHLEHEM COPPER CORPORATION
Suite 2100 - Guinness Tower
1055 West Hastings Street
Vancouver, B.C. V6E 2H8

February 21, 1979

R. J. Nethery, P.Eng.

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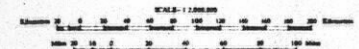
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| GP-79-2-9 | Geological Plan - Sheet 2 | 1: 10,000 |
| GP-79-2-29 | I.P. Survey - Chargeability - Sheet 2 | 1: 10,000 |

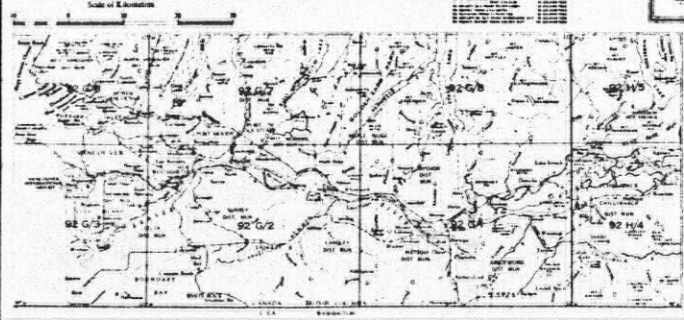
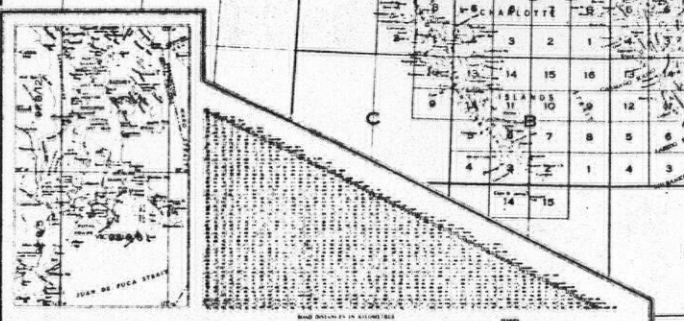
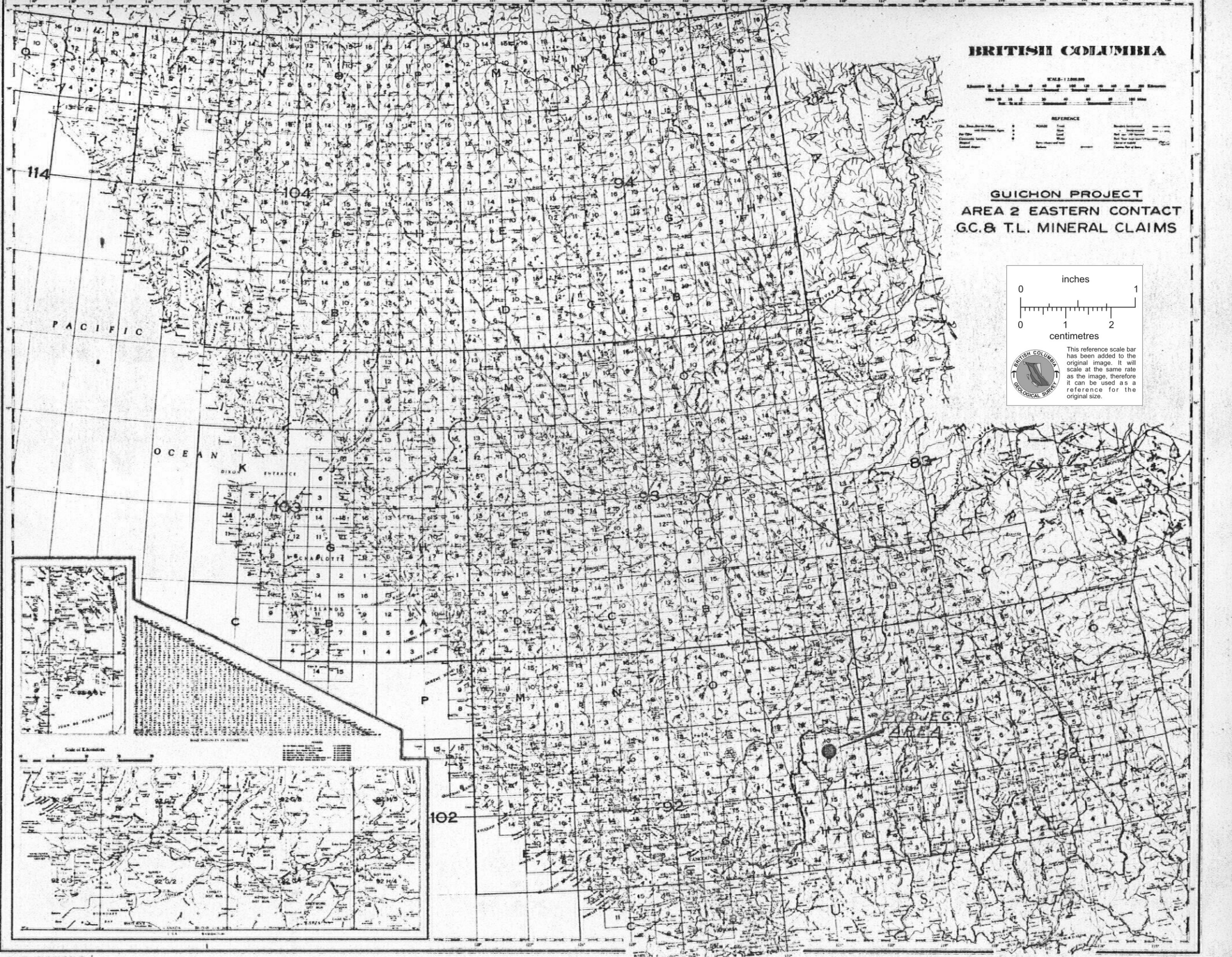
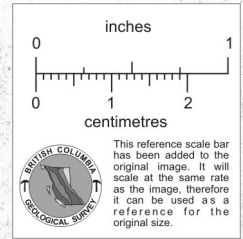
BRITISH COLUMBIA



REFERENCE

| Symbol | NAME | Symbol | NAME |
|----------|----------|----------|----------------|
| [Symbol] | Highway | [Symbol] | Water |
| [Symbol] | Railroad | [Symbol] | Island |
| [Symbol] | Boundary | [Symbol] | Settlement |
| [Symbol] | Contour | [Symbol] | Spot Elevation |

GUICHON PROJECT AREA 2 EASTERN CONTACT G.C. & T.L. MINERAL CLAIMS



SECTION A - SUMMARY OF WORK

INTRODUCTION

During the period from early May to mid-August 1978, Bethlehem Copper Corporation conducted, on behalf of the Guichon Joint Venture, a program of geological mapping, rock and soil geochemical sampling and analysis and induced polarization and EM surveys in the area of the eastern flank of the Guichon Batholith contact from Mamit Lake on the south to Tunkwa Lake on the north. The results of this program were detailed in the "Geological, Geophysical and Geochemical Report on the G.C. 1-12 and T.L. 1-12 Mineral Claims" by R. J. Nethery, P.Eng. dated August 18, 1978. That report drew attention to a geophysical anomaly located on the G.C. 4 to 7 mineral claims centred at grid co-ordinates 190+00N and 49+50W and the results of a rotary drill hole testing the anomaly are contained herein.

LOCATION AND ACCESS

The drill hole was located on the west side of the Guichon Creek valley some 4.6 km north of Mamit Lake - Geographic co-ordinates were $50^{\circ}26.3'$ latitude and $120^{\circ}48.8'$ west longitude with the UTM Grid Reference being Zone 10, 5589450 North and 655250 East.

Access to the drilling area was by a gravel road which leaves the Logan Lake - Merritt highway at a point some 5.0 km north of Mamit Lake and proceeds approximately .6 km west to the drill site.

The location of the drill site and the four mineral claims that comprise the property is detailed on drawing nos. GP-79-2-2 and GP-79-2-5 which are appended in Section E.

TOPOGRAPHY AND PHYSICAL ENVIRONMENT

The claims are primarily located on the western flank of the Guichon Creek valley in an area of generally moderate relief. Elevations range from 975 m in the valley floor to 1310 m on the west side of the claim block.

Guichon Creek is the major drainage course through the area and it flows southward to Mamit Lake.

The area is located within the Interior dry belt and as such experiences low annual precipitation rates averaging 35 cm.

A large portion of the claim area has moderate forest cover with the predominant species being lodgepole pine and douglas fir.

MINERAL TITLE

The property, located in the Nicola Mining Division, is comprised of four modified grid claims totalling 60 units and covering an area of 1500 hectares. The details of these mineral claims are listed below:

| <u>Claim Name</u> | <u>No. of Units</u> | <u>Record No.</u> | <u>Date Recorded</u> | <u>Expiry Date</u> |
|-------------------|---------------------|-------------------|----------------------|--------------------|
| G.C. 4 | 16 | 273(6) | June 24, 1977 | June 24, 1979 |
| G.C. 5 | 9 | 274(6) | June 24, 1977 | June 24, 1979 |
| G.C. 6 | 20 | 275(6) | June 24, 1977 | June 24, 1979 |
| G.C. 7 | 15 | 276(6) | June 24, 1977 | June 24, 1979 |

The location of these mineral claims is detailed on drawing nos. GP-79-2-2 and GP-79-2-5.

ROTARY DRILLING

Triumph Drilling Ltd. of Burnaby was engaged to carry out the work which was located on coincident I.P. and EM anomalies at grid co-ordinates 190+00N and 49+50W. They utilized a Wellen H.T.D. 1000 Drill Rig mounted on a Kenworth chassis and equipped with a

450 CFM X 350 PSI Schram Compressor and a Wheatley 5 X 6 mud pump.

Drilling commenced on December 10, 1978 and was curtailed on December 20 due to mechanical problems and the Christmas season. Work recommenced January 4, 1979 and on February 7 the hole reached 274.3 m (900') and was terminated. The first 66.1 m of drilling encountered glacial drift and the remaining 208.2 m of the hole was in Eocene Coldwater sediments. These sediments consisted mainly of sandy mudstone and shale. A log of the drill chips which includes spot copper and molybdenum assays is appended in Section D. All samples were also checked by scintillometer for possible radioactivity but the results were negative. The location of hole no. ML-R-78-1 is shown on drawing nos. GP-79-2-5, GP-79-2-9 and GP-79-29.

CONCLUSIONS AND RECOMMENDATIONS

The I.P. anomaly indicated by the 1978 survey had a finite depth of 120 m while the EM anomaly from the follow-up survey at co-ordinates 190+00N and 49+50W had variable depth foci from 240 to 270 m.

The drilling confirmed that the EM anomaly was related to a conductive sedimentary bed in the Coldwater formation. The reason for the twice background I.P. anomaly is not known as the drill related evidence was inconclusive.

The late age Coldwater formation is not a known mineral bearing strata and as the assay results were negative, no further testing is recommended for this area.

Respectfully submitted,



R. J. Nethery, P.Eng.

SECTION D

- DRILL HOLE DATA

Drill Hole Log for Hole No. ML-R-78-1

Assay Report

DRILL HOLE LOG

BETHLEHEM COPPER CORPORATION

SHEET No. 1

| | | | | | | | | | |
|-----------|-------------------------------------|-----------|----------------|-------------|----------|------------|--|-----------|-------------------|
| Property | Gilchrist Project - G.C. #7 M.C. | Hole No. | ML-R-78-1 | Bearing | - | Elevation | 994 m A.S.L. | Logged by | R.J. Nethery |
| District | Nicola M.D. | Length | 274.3 m (900') | Dip | Vertical | Overburden | 66.1 m (217') | Date | February 15, 1979 |
| Commenced | December 10, 1978 | Latitude | 190+00N | Hor. Comp. | - | Recovery | | | |
| Completed | February 7, 1979 | Departure | 49+50W | Vert. Comp. | 274.3 m | Purpose | Rotary hole to test coincident IP and EM anomalies | | |

| DESCRIPTION | SULPHIDES | OXIDES | OTHERS | FROM | TO | SAMPLE No. | % Cu. | % Mo. | Oz. Au. | Oz. Ag. | % RECOVERY |
|--|--------------|------------------------|--------|------------|------------|------------|-------|-------|---------|---------|------------|
| Chips are black shale and mudstone | pyrite - | very minor limonite | | 217 240 | 240 250 | | .01 | .002 | | | |
| - fine blebs and short stringers of pyrite (1%) are common 217-290 | | | | 250 260 | 260 270 | | | | | | |
| throughout | | | | 270 280 | 280 290 | | | | | | |
| Sediment now slightly softer with a higher percentage of coarse fragments (silt to sand size), could be called a sandy mudstone or siltstone | | | | 290 300 | 300 310 | | .01 | .002 | | | |
| | | | | 310 320 | 320 330 | | | | | | |
| 290-410 | | | | 330 340 | 340 350 | | .01 | .003 | | | |
| Indurated sandy mudstone | 1% pyrite | | | 350 360 | 360 370 | | | | | | |
| | | | | 370 380 | 380 390 | | .01 | .001 | | | |
| | | | | 390 400 | 400 410 | | | | | | |
| Got mixture of dark shale-like chips grading to grey indurated mudstone | | | | 410 420 | 420 430 | | .02 | .001 | | | |
| - Could be classified as an arkosic shale, also has calcite and 15 to 20% authigenic minerals in dark varieties | | | | 430 440 | 440 450 | | | | | | |
| 410 - 480 | | | | 450 460 | 460 470 | | | | | | |

DRILL HOLE LOG

BETHLEHEM COPPER CORPORATION

SHEET No. 2

| Property | Hole No. | Logged by | Date | FROM | TO | SAMPLE No. | % Cu. | % Mo. | Oz Au. | Oz Ag. | % RECCV. |
|---|-----------|---------------|-------------------|--|------------|------------|-------|-------|--------|--------|----------|
| Eastern Contact Guichon Project | ML-R-78-1 | R. J. Nethery | February 15, 1979 | | | | | | | | |
| DESCRIPTION | | | | SULPHIDES | OXIDES | OTHERS | | | | | |
| ↓ Variety of light and dark shales which appear to be mostly massive - Texture of sediments is variable but the shales are mostly coarse in nature (i.e. silty to sandy) (480-600) | | | | ↓ Pyrite generally 1% or less | | | | | | | |
| | | | | | 470 480 | 480 490 | | | | | |
| | | | | | 490 500 | 500 510 | | | | | |
| | | | | | 510 520 | 520 530 | .02 | Nil | | | |
| | | | | | 530 540 | 540 550 | | | | | |
| | | | | | 550 560 | 560 570 | | | | | |
| | | | | | 570 580 | 580 590 | | | | | |
| | | | | | 590 600 | 600 610 | | | | | |
| ↓ Now mostly fine sand sized particles, arkosic in composition, some chlorite, fragments angular to subangular (600-900) | | | | ↓ Pyrite 1% or less | | | | | | | |
| | | | | | 610 620 | 620 630 | | | | | |
| | | | | | 630 640 | 640 650 | | | | | |
| | | | | | 650 660 | 660 670 | | | | | |
| | | | | | 670 680 | 680 690 | | | | | |
| | | | | | 690 700 | 700 710 | | | | | |
| | | | | | 710 720 | 720 730 | | | | | |

FEB 22 1979 EA.

BETHLEHEM COPPER CORPORATION LTD.

ASHCROFT, B. C.

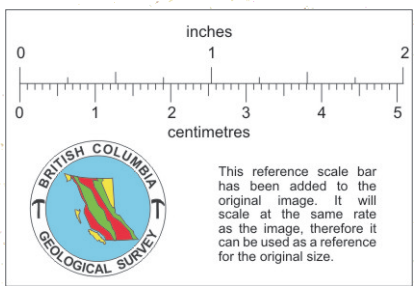
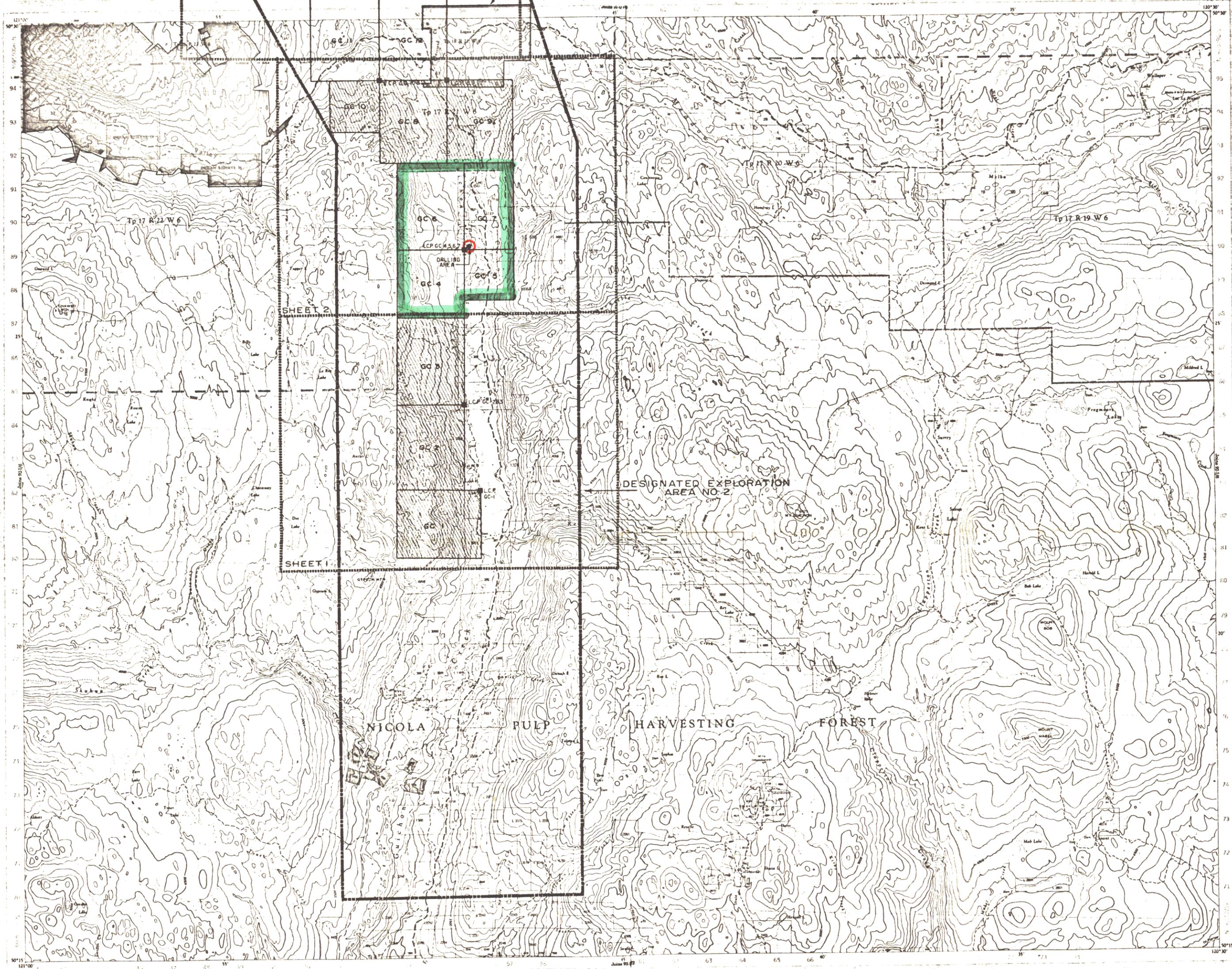
GEOLOGY - Summary of Percussion spot checks

February 21

1979

| SAMPLE No. | DESCRIPTION | OZS. PER TON | | | PER CENT | | | | | | |
|------------|-------------|--------------|--------|--------|----------|---------|--|--|--|--|--|
| | | GOLD | SILVER | COPPER | MO. | SULPHUR | | | | | |
| ML 78-1 | 245 - 250 | | | .01 | .002 | | | | | | |
| | 300 - 305 | | | .01 | .002 | | | | | | |
| | 345 - 350 | | | .01 | .003 | | | | | | |
| | 375 - 380 | | | .01 | .001 | | | | | | |
| | 415 - 420 | | | .02 | .001 | | | | | | |
| | 520 - 525 | | | .02 | Tr | | | | | | |
| | 750 - 755 | | | .04 | .001 | | | | | | |
| | 790 - 795 | | | .01 | .001 | | | | | | |
| | 795 - 800 | | | .01 | .001 | | | | | | |
| | 825 - 830 | | | .01 | .001 | | | | | | |
| | 845 - 850 | | | .01 | .001 | | | | | | |
| | 865 - 870 | | | .01 | .001 | | | | | | |
| | 895 - 900 | | | .01 | Tr | | | | | | |
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_____ ASSAYER



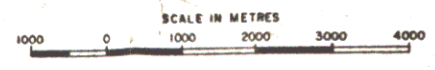
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50%
 OF ORIGINAL SCALE

CLAIMS EXPIRED IN 1978

BETHLEHEM COPPER CORPORATION
 HIGHLAND VALLEY OPERATIONS

SHEET INDEX

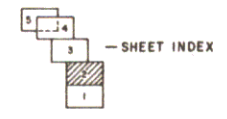
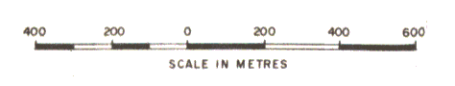
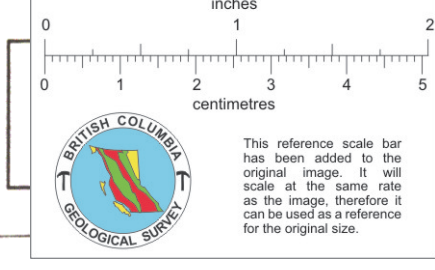
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| 92-1/11 | 92-1/10 |
| 92-1/8 | |



| DATE REVISED | BY | REVISION - EXPLORATION |
|--------------|----|------------------------|
| | | DRAWN BY - |
| | | CHECKED - E.A. |
| | | APPROVED - |
| | | DATE - JAN / 1977 |
| | | SCALE - 1:50,000 |



| | |
|---|----------------------------|
| TITLE - GUICHON PROJECT AREA 2 - EASTERN CONTACT LOCATION PLAN - AREA 2 | |
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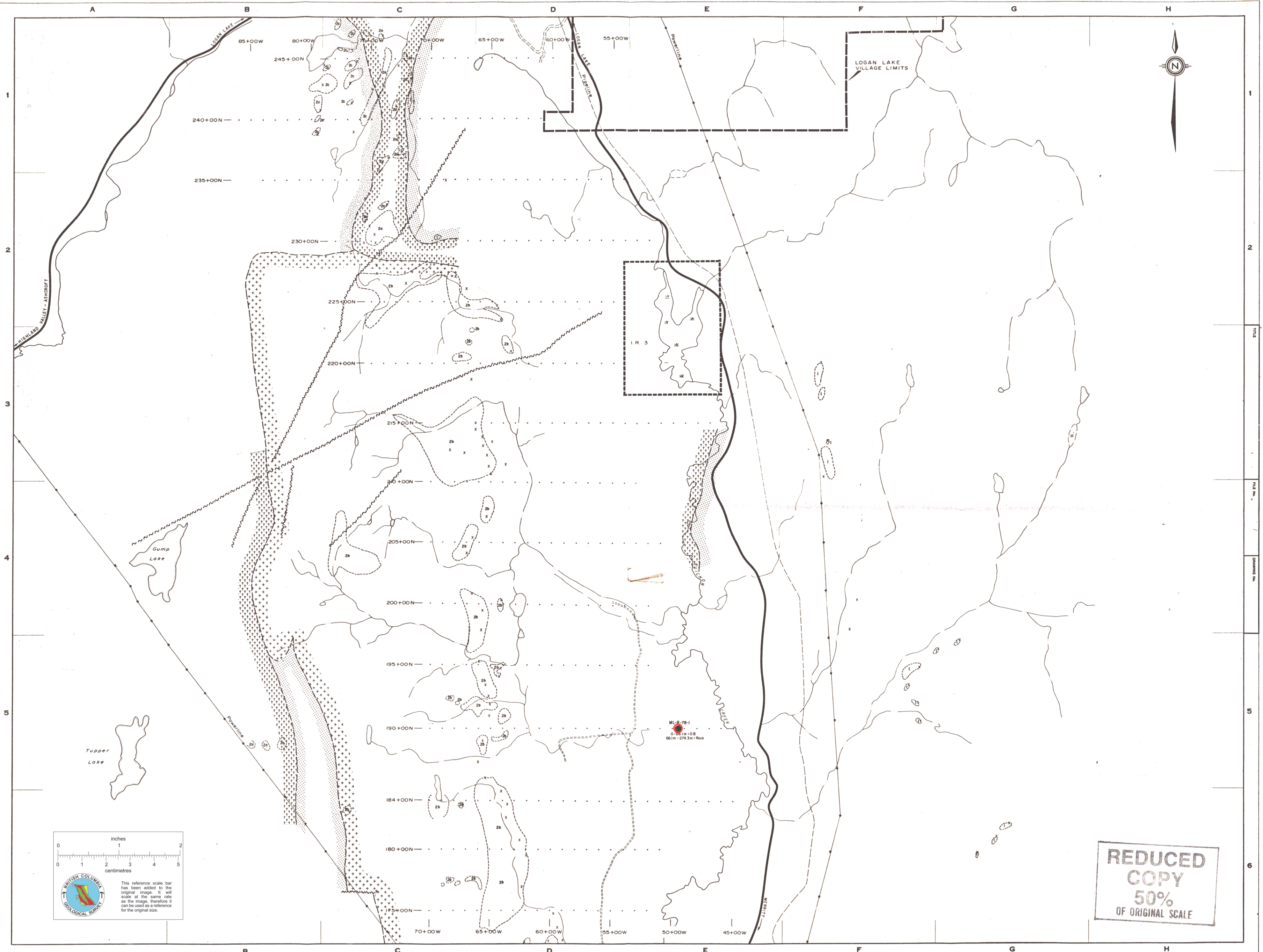


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| | | DESIGNED BY - |
| | | CHECKED - E.A. |
| | | APPROVED - |
| | | DATE - JAN / 1978 |
| | | SCALE - 1:10,000 |

Bethlehem Copper
 BRITISH COLUMBIA

| TITLE - GUICHON PROJECT AREA 2 - EASTERN CONTACT MINERAL CLAIMS | |
|---|------------------|
| FILE NUMBER - | DRAWING NUMBER - |
| SHEET 2 | GP-79-2-5 |

REDUCED COPY
 33%
 OF ORIGINAL SCALE



MIOCENE or EARLIER
 Rhyolite, andesite, basalt, & associated tuffs, breccias & agglomerates

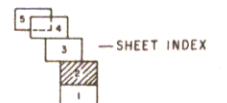
JURASSIC
 Guelph Formation
 Includes Guelph quartz diorite in the north plus some granite & gneiss

UPPER TRIASSIC
 Nicola Group
 Metavolcanics, greenstone & lesser sediments

GUICHON BATHOLITH
 Hybrid Phase
 Border rock of varying composition & texture; fine grained diorite to quartz diorite grading to medium grained diorite to quartz diorite in areas more distant from contact

GUICHON BATHOLITH
 Gump Lake Phase
 Gneiss to intermediate intrusive rocks

FAULT
 CONTACT
 OUTCROP
 SOIL SAMPLE
 ROCK SAMPLE



| DATE REVISION | BY | DEPT. - EXPLORATION |
|---------------|----|---------------------|
| | | DRAWN BY - |
| | | CHECKED - E.A. |
| | | APPROVED - |
| | | DATE - MAY / 1978 |
| | | SCALE - 1:10,000 |



TITLE - GUICHON PROJECT
 AREA 2 - EASTERN CONTACT
 GEOLOGICAL PLAN

FILE NUMBER - SHEET 2
DRAWING NUMBER - GP-79-2-9