

LOG NO: 0911	RD.
ACTION:	
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1989 GEOCHEMICAL REPORT  
ON THE  
CANAM 2, 3 and 4Fr CLAIMS

GIANT COPPER PROPERTY

New Westminster Mining Division  
NTS 92H 3

Latitude: 49 degrees 06'N  
Longitude: 121 degrees 01'E

For

Bethlehem Resources Corporation  
860 - 808 West Hastings Street  
Vancouver, B.C. V6C 2X4

by

Ken Hicks Consulting  
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Ken Hicks, B.Sc., FGAC

August 15, 1989

MINING  
GEOCHEMICAL ANALYSIS  
AND  
ASSAY REPORT

19,045

## SUMMARY

The Giant Copper property is located in southern British Columbia approximately 35 km southeast of Hope. A number of deposit types are hosted within the property boundary. Previous exploration has concentrated on the two main zones, the AM and the Invermay which are breccia hosted copper-gold-silver and silver-lead-zinc-copper occurrences, respectively.

Exploration work conducted by previous operators on the property has outlined reserves on the AM breccia of approximately 2,700,000 tons at 1.35% Cu, 0.529 gms Au/ton and 21.77 gms Ag/ton.

The 1989 exploration program by Bethlehem Resources Corporation consisted of detailed grid soil geochemistry north of the AM Breccia, including the CANAM 1Fr, 2, 3 and 4Fr claims. The purpose of the program was to systematically evaluate a large tract of ground using geochemistry to discover additional mineralized breccias. This technique has worked successfully even in areas of relatively thick glacial overburden, such as the No. 1 Anomaly area near the 10 level portal. Trenching of anomalies in this area has discovered a new mineralized breccia.

The program was successful in discovering a number of rock samples highly anomalous in zinc and weakly anomalous in gold.

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## INTRODUCTION

The Giant Copper property is located in southern British Columbia approximately 35 km southeast of Hope. It was acquired by Bethlehem Resources Corporation from Campbell Resources in the spring of 1988 in exchange for a small retained interest in the property.

A number of deposit types are hosted within the property boundary. Previous exploration has concentrated on two main zones, the AM and the Invermay. These zones are breccia hosted copper-gold-silver and silver-lead-zinc-copper shear zone occurrences, respectively.

Published reserves on the AM breccia are approximately 2,700,000 tons at 1.35% Cu, 0.015 oz/ton Au and 0.64 oz/ton Ag. No reserve figures are available for the Invermay zone.

The 1989 field season on the CANAM claims extended from June to August, 1989. Work consisted of approximately 291 rock and soil samples taken from a widely spaced east-west grid.

## LOCATION and ACCESS

The Giant Copper property lies approximately 35 km southeast of Hope and is bounded on the northeast by Manning Park and to the southwest by the Skagit Valley Recreational Area (fig. 1). Approximately 42 km east of Hope along Highway No. 3 a gravel road branches off toward the center of the property. A locked gate is positioned across the road just past a small bridge crossing the Skagit river. From the highway to the No. 15 level workings is approximately a 15 minutes drive along a good gravel road.

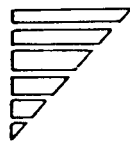
The property lies between elevations 1,310 metres and 1,980 metres above sea level, on the west and southeast slope of Silverdaisy Mountain.

## CLAIMS

A total of 159 located claims (161 units) and eight Crown granted claims comprised the property prior to Bethlehem's acquisition. Bethlehem contracted Amex Exploration Services to stake an additional 4 claims (CANAM 1Fr, 2, 3, 4Fr totaling 34 units, fig. 2) to bring the total land position to 163 claims and 195 units. Claim information is contained within Appendix I.

The Skagit Valley Recreational Area covers approximately 2/3 of the total number of claims on the property. Mining and exploration for minerals in these areas are currently restricted but this area has been targeted as possibly being opened within the near future.

All the claims are located within the New Westminster Mining Division.

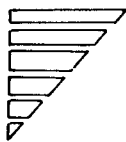
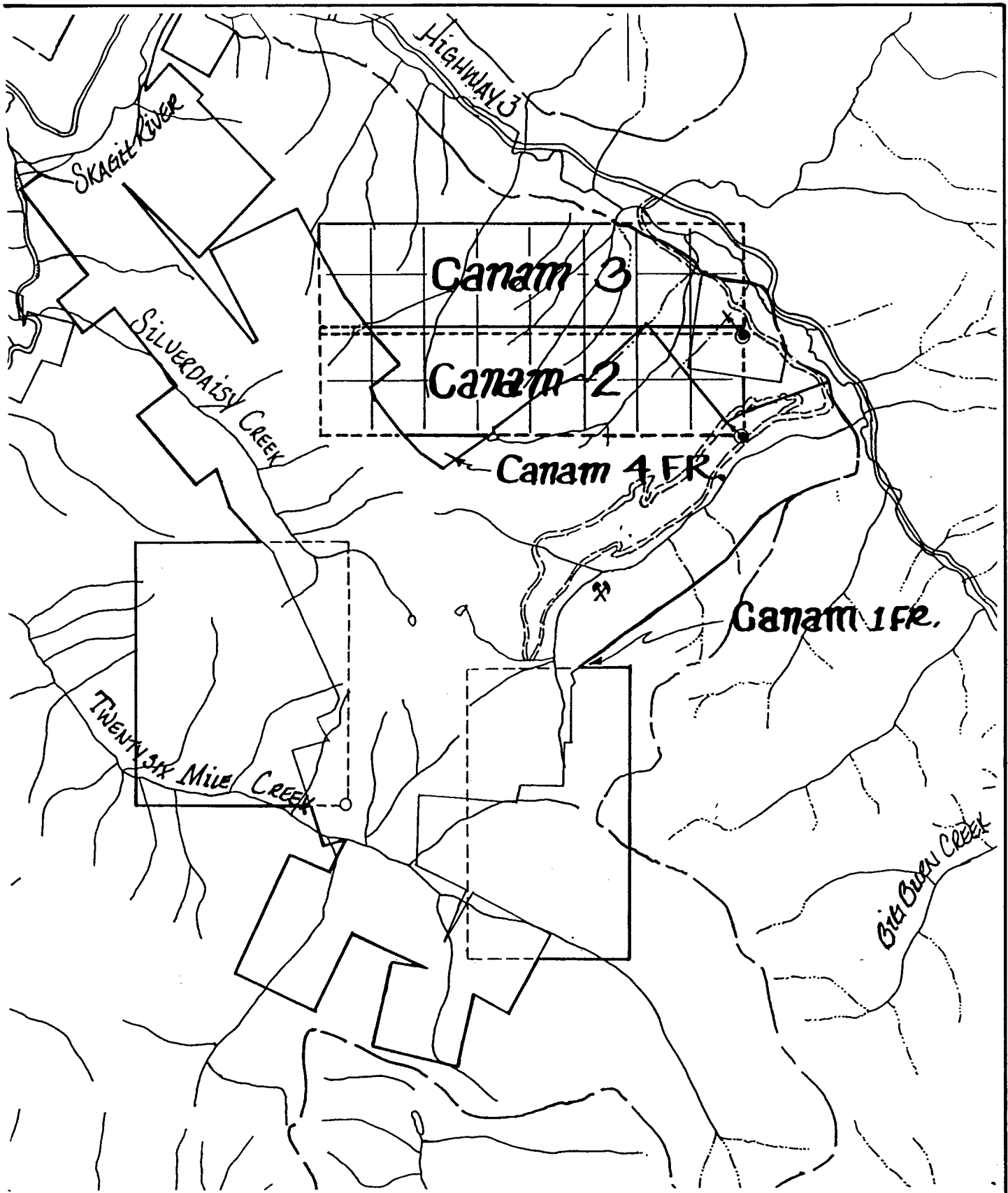


**BETHLEHEM  
RESOURCES  
CORPORATION**

**GIANT COPPER PROJECT**

**LOCATION MAP**

KEN HICKS CONSULTING	DATE :	MAP INDEX N <sup>o</sup> .	SCALE	DRAWING N <sup>o</sup> .
K.H. & L.U.		92H - 3	AS SHOWN	FIG. 1



**BETHLEHEM  
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**GIANT COPPER PROJECT**

**CLAIM MAP**

KEN HICKS CONSULTING	DATE :	MAP INDEX NO.	SCALE	DRAWING NO.
K.H.	Aug 11, 1989	92H 3	1:50,000	FIG. 2

## HISTORY

The Giant Copper property consists of two main groups of claims, the AM and Invermay, which adjoin but were under separate ownership until 1956.

The AM group located on the east slope of Silverdaisy Mountain was staked in 1930 and the Invermay group on the west slope in 1933. Cominco acquired the AM Group in 1930 and actively explored it until 1938. During this time, the Invermay Group was under the control of the Invermay Annex Mining Company Ltd, who actively explored it until 1938. In the 40's the Invermay Group was held by the Invermay Annex Skagit River Development Company Ltd, who retained it until 1956, at which time it was acquired by Canam Copper Company Ltd who merged it with the AM property.

The AM Group was idle from 1938 until the late 40's when it was acquired by J.W. Hefferman and Associates. This organization did some minor work on the property before turning it over in 1949 to a newly formed company, Canam Mining Corporation Ltd. Following another reorganization a new company was formed, Canam Copper Company Ltd (Canam), who carried on development until 1954 when they optioned the group to the American Metal Company. In 1955, Canam optioned the group to Mogul Mining Company who dropped the option in 1957. During the next two years the property was explored by Cominco. When Cominco withdrew in 1959, Canam undertook an exploration and development program until 1963.

In 1964, GM Resources Limited, then known as Giant Mascot Mines limited, optioned the property and in 1966 purchased all the assets of Canam for slightly under 1.1 million shares.

Since the acquisition of the Giant Copper property by GM Resources several seasons of exploration and development work were carried out up to 1972. No work was done on the property until the fall of 1979 when a limited surface drilling program was carried out by GM Resources Ltd.

In 1980, GM Resources Ltd rehabilitated the No. 10 level Adit and diamond drilled the Invermay Breccia and the Camp Breccia

A summary of the drilling and drifting to 1988 are listed below:

### A.M. Breccia

Drifting	4,760 metres	(15,615 feet)
Raising	657	( 2,156 )
Drilling	11,980	(39,300 )

### Invermay Breccia

Drifting	600 metres	( 2,000 )
Drilling	1,525	( 5,000 )
(other) Drilling	300	( 1,000 )

Published reserves on the AM breccia are approximately 2,700,000 tons at 1.35% Cu, 0.015 oz/ton Au and 0.64 oz/ton Ag. No reserve figures are available for the Invermay zone.

## GEOLOGY

The Giant Copper property lies within the Cascades Mountains, a physiographic feature consisting of a north-northwest trending intrusive core flanked by belts of sedimentary and volcanic units (Fig. 3). The property itself is underlain by two sedimentary units separated by the Hozameen Fault. The older Hozameen sediments lie to the west of the fault; the younger, Upper Jurassic Dewdney Creek sediments lie to the east of the fault and are host to the Giant Copper mineralization. Both groups have been intruded by stocks of Cretaceous or Tertiary age diorite and quartz diorite.

The property is underlain by argillites and quartzites of the Dewdney Creek Group that have been intruded by the dioritic Invermay stock. The sedimentary units trend northwest and dip steeply east but are disturbed and brecciated near apophyses and irregularities in the intrusive contact. It appears that the brecciation is related to intrusive emplacement, perhaps having been localized by pre-existing faults or zones of weakness.

A synclinal fold pattern striking and plunging 35 degrees to the north has been observed trending through the AM portion of the property. Surface mapping has shown numerous fold and variations of the normally north striking beds around the fold noses.

Small scale rupturing is apparent on the surface of the property whereas the underground workings show large gouge areas and shear structures which cut through the sediments and intrusives. The gouge zones may extend up to six meters in width with, in many cases undetermined movement. The shear zones in the Invermay stock which range in width from three to thirty centimetres are often well mineralized.

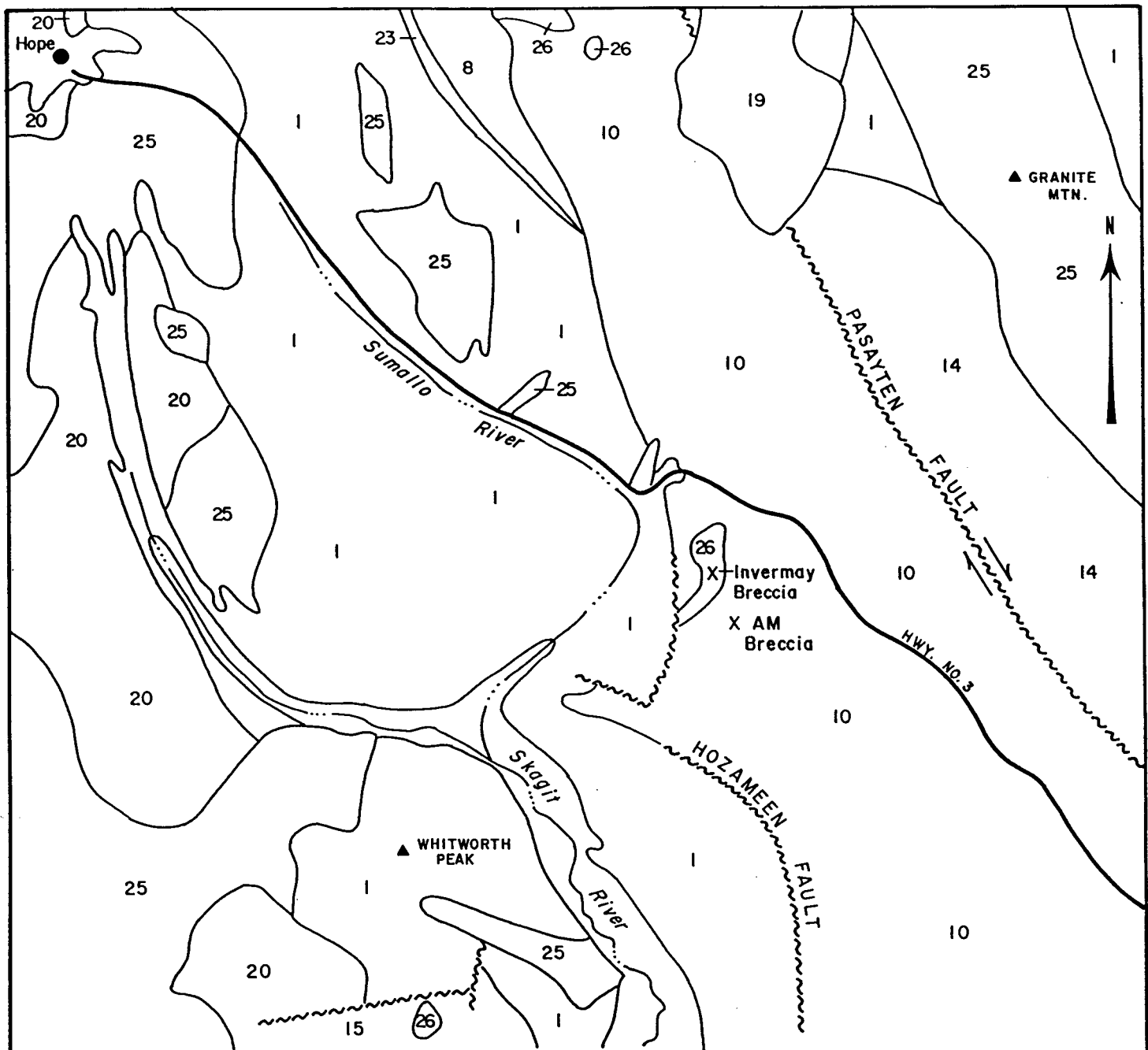
Major fault structures recognized through surface and underground mapping are:

- 1 ) North 20-30 degrees West - These are the regional trend structures as depicted by the Hozameen Fault and are pre-ore and pre-intrusive.
- 2 ) Northeast - These are considered pre-ore faults that were ideal conduits for mineral passage. These faults, which are the most prevalent, vary widely in thickness.
- 3 ) East-west to North 70 degrees West - These are possibly the bounding faults within which the breccias were localized and likely were instrumental in the mineral placement.

Mineralization in the AM breccia can consist of an assemblage of pyrite, chalcopyrite, pyrrhotite with minor amounts of molybdenite, scheelite, galena, sphalerite, magnetite and arsenopyrite. The Invermay mineralization includes galena, jamesonite, pyrite, pyrrhotite and chalcopyrite.

The Giant Copper property contains at least six breccia bodies, two of which are known to have significant base and precious metal mineralization. These can be summarized as follows:





LEGEND

**CARBONIFEROUS**

**1** HOZAMEEN GROUP:  
ARGILLITE, SLATE, PHYLLITE

**JURASSIC**

**8** LADNER GROUP:  
SLATE, GREYWACKE, SCHIST

**10** DEWDNEY CREEK GROUP:  
TUFF, AGGLOMERATE

**CRETACEOUS**

**14** PASAYTEN GROUP:  
ARKOSE, SANDSTONE, ARGILLITE, CONGLOMERATE

**15** SKAGIT FORMATION:  
ANDESITE, RHYOLITE, CONGLOMERATE

**TERTIARY**

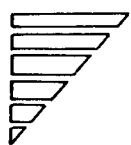
**19** COQUIHALLA GROUP:  
PORPHYRITIC DACITE & RHYOLITE

**INTRUSIVE ROCKS  
JURASSIC & LATER**

**23** CHIEFLY SERPENTINE

**25** GRANITE, GRANODIORITE

**26** QUARTZ DIORITE,  
DIORITE



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**REGIONAL GEOLOGY**  
COMPILED FROM MAPS 737A & 888A

KEN HICKS CONSULTING	DATE :	MAP INDEX NO.	SCALE	DRAWING NO.
K.H.		92H - 3	1" = 4 miles	FIG. 3

- i) the AM breccia is a sedimentary hosted breccia which contains an arcuate nose of high grade copper-gold and silver mineralization on the north edge of the breccia. The central and southern extents of the breccia contain some high grade material but have not been tested as extensively as the north nose.
- ii) the Invermay breccia is situated within the Invermay intrusive stock. High silver values occur along a strong northeasterly trending shear zone which also contains lower grade copper mineralization within a brecciated zone.

## WORK PROGRAM - 1989

### GEOCHEMISTRY

#### Introduction

Beginning in June 1989 Bethlehem Resources Corporation carried out a widespread program of soil and rock sampling on a large area north of the AM breccia in the vicinity of Silverdaisy Mountain (fig. 2). The purpose of the work was to test an area where previous operators had performed cursory prospecting but not a rigorous program of geochemical exploration.

#### Work completed

During a four week period in June and July approximately 291 soil and rock samples were collected on a grid of widely spaced lines approximately 600 feet apart running mine grid east-west. Grid lines were laid out using compass and topofil and correcting for slope between stations. Sample stations were 100 feet apart along the lines. Samples were shipped to Vangeochem Lab Ltd where they were analyzed for Cu, Pb, Zn, Ag, Au and As using Atomic Absorption Spectrophotometry. Analytical techniques are described in Appendix II and assay certificates are contained within Appendix III.

### RESULTS

The results of the soil samples indicate no obvious anomalous geochemical pattern in the area of coverage. However, a small number of rock samples taken from outcrops in the vicinity of Silverdaisy Mountain returned strongly anomalous zinc values and weakly anomalous gold values. These are plotted on the maps contained at the back of the report.

SUMMARY AND CONCLUSIONS

Rock and soil geochemistry has outlined a small number of samples anomalous in zinc and weakly anomalous in gold. These areas should be followed up with detailed sampling to determine the magnitude and extent of the anomalies.

Statement of Expenditures

Geochemical

Personnel

M. Ewanchuk	12 days @ \$120/day	\$1,440.00
I. Currie	12 days @ \$ 80/day	\$ 960.00
E. Paris	12 days @ \$ 80/day	\$ 960.00
M. Leduc	12 days @ \$ 80/day	\$ 960.00
H. Von Stefenelli	12 days @ \$ 80/day	\$ 960.00
M. MacKenzie	2 days @ \$ 80/day	\$ 160.00

Accommodation

62 field man-days @ \$35/man-day \$ 2,170.00

Food

62 field man-days @ \$25/man-day \$ 1,550.00

Truck rental

12 days @ \$60/day (all inc.) \$ 720.00

Consumables (soil bags, flagging, etc.) \$ 387.80

Freight \$ 75.00

Drafting \$ 350.00

Analyses 291 samples @ \$ 15/sample \$ 4,365.00

Telephone \$ 50.00

Office supplies \$ 35.22

Miscellaneous \$ 60.71

-----  
Total Expenditures \$ 15,203.73

ALLOCATION OF ASSESSMENT CREDIT

Expiry Claim Name	Record No.	units	Rec Date	Expiry Date	Req'd unit	Value Work	PAC Wdrl	Years Appld	Years	Date
CANAM 2	3464	16	10/01/88	1989	\$100	\$6400	\$1600	5		1994
CANAM 3	3463	16	10/01/88	1989	\$100	\$6400	\$1600	5		1994
CANAM 4 FR	3462	1	10/01/88	1989	\$100	\$400	\$100	5		1994
		33 units				\$13200	\$3300	5		

STATEMENT OF QUALIFICATIONS

I, Ken Hicks, hereby certify that:

- 1.) I am an independent consulting geologist and sole operator of Ken Hicks Consulting with office at 115-1741 West 10th Avenue, Vancouver, B.C.
- 2.) I am a Fellow of the Geological Association of Canada in good standing.
- 3.) I graduated from the University of British Columbia in May 1982 with a Bachelor of Science degree (Honours) in Geology.
- 4.) I have worked in the field of mineral exploration for the past 10 years.
- 5.) I was engaged as an independent consultant by Bethlehem Resources Corporation of 860 - 808 West Hastings Street, Vancouver, B.C. to design and manage the exploration program outlined in the accompanying report. I have no financial or legal interest in the mineral properties therein described.

Respectfully submitted,

-----*Ken Hicks*-----

Ken Hicks  
Consulting Geologist

APPENDIX I

CLAIMS INFORMATION

Giant Copper Property  
Group: -  
No. of Claims: 4  
Newly Acquired Claims, 1988

<u>CLAIM NAME</u>	<u># OF UNITS</u>	<u>GROUP NAME</u>	<u>AREA</u>	<u>RECORD NO</u>	<u>EXPIRY DAT</u>
CANAM 1 FR	1	-	25.0	3460	Sep.29/89
CANAM 2	16	-	400.0	3464	Oct.01/89
CANAM 3	16	-	400.0	3463	Oct.01/89
CANAM 4 FR	1	-	25.0	3462	Oct.01/89
<hr/>					
TOTAL = 4	34		900 ha		

APPENDIX II

ANALYTICAL METHODS





## VANGEOCHEM LAB LIMITED

MAIN OFFICE AND LABORATORY  
1988 Triumph Street 3  
Vancouver, B.C. V5L 1K5  
(604) 251-5656 FAX: (604) 251-5717

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

Oct 26th, 1988

TO: Ken Hicks  
BETHLEHEM RESOURCES LTD.  
860 - 808 West Hastings St.  
Vancouver, B.C. V6C 2X4

FROM: Vangeochem Lab Limited  
1988 Triumph Street  
Vancouver, British Columbia  
V5L 1K5

SUBJECT: Analytical procedure used to determine gold by fire assay method and detect by atomic absorption spectrophotometry in geological samples.

### 1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

### 2. Method of Extraction

- (a) 20.0 to 30.0 grams of the pulp samples were used. Samples were weighed out using a top-loading balance and deposited into individual fusion pots.
- (b) A flux of litharge, soda ash, silica, borax, and, either flour or potassium nitrite is added. The samples are then fused at 1900 degrees Fahrenheit to form a lead "button".
- (c) The gold is extracted by cupellation and parted with diluted nitric acid.



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1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

(d) The gold bead is retained for subsequent measurement.

### 3. Method of Detection

(a) The gold bead is dissolved by boiling with aqua regia solution, then diluted with deionized water to 10 mls volume.

(b) The detection of gold was performed with a Techtron model AAS Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out on a strip chart recorder. The gold values, in parts per billion, were calculated by comparing them with a set of known gold standards.

### 4. Analysts

The analyses were supervised or determined by Mr. Conway Chun or Mr. David Chiu and his laboratory staff.

A handwritten signature in black ink, appearing to read 'D. Chiu', written over a horizontal line.

David Chiu  
VANGEOCHEM LAB LIMITED

APPENDIX III

ASSAY CERTIFICATES

REPORT NUMBER: 890300 GA

JOB NUMBER: 890300

BETHLEHEM RESOURCES

PAGE 1

SAMPLE #	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	As ppm
139E 226N 800E 100N	17	28	72	.1	10	6
141E 226N 810E 100N	55	36	105	.1	25	15
143E 226N 820E 100N	21	225	114	.2	5	6
145E 226N 830E 100N	21	42	87	.3	10	4
147E 226N 840E 100N	23	34	87	.1	15	9
149E 226N 850E 100N	13	24	46	.1	15	2
151E 226N 860E 100N	16	26	113	.1	20	2
153E 226N 870E 100N	37	29	98	.2	20	8
155E 226N 880E 100N	19	28	97	.3	15	6
159E <del>226</del> 208N 900E 70N	17	26	84	.1	10	nd
159E 208N 900E 72N	26	31	78	.2	5	9
159E 212N 900E 76N	23	30	88	.1	nd	4
159E 214N 900E 80N	14	26	63	.1	10	2
159E 216N 900E 84N	14	26	58	.1	5	1
159E 218N 900E 88N	25	28	81	.5	nd	2
159E 220N 900E 90N	20	28	71	.1	10	3
159E 222N 900E 92N	30	31	133	.1	10	15
159E 224 900E 96N	46	43	188	.3	10	26
159E 226E 900E 100N	19	30	89	.1	20	4
159E 228N 900E 102N	22	29	88	.2	10	3
159E 230N 900E 104N	30	37	138	.5	25	6
159E 232N 900E 108N	30	36	145	.2	25	7
159E 234N 900E 110N	64	43	194	.1	20	5
159E 236N 900E 116N	19	32	121	.3	20	7
159E 238N 900E 120N	24	29	94	.2	10	4
161E 226N 910E 100N	47	41	146	.2	10	24
163E 226N 920E 100N	13	26	65	.1	15	nd
165E 226N 930 100N	30	38	102	.2	25	14
167E 226N 940 100N	38	41	121	.3	15	17
169E 226N 950 100N	19	32	79	.4	nd	2
170E 226N 955 100N	55	41	138	.3	20	26
171E 226N 960 100N	22	35	132	.2	5	6
173E 226N 970 100N	28	33	129	.2	15	8
175E 226N 980 100N	68	42	107	.6	15	23
179E 226N 990 100N	35	35	190	.4	15	15

DETECTION LIMIT

nd = none detected

1 2

-- = not analysed

1 0.1 5

is = insufficient sample

2

# VGC VANGEOCHEM LAB LIMITED

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**BRANCH OF**  
 PASADENA,  
 BATHURST,  
 MISSISSAUGA/  
 RENO, NEVADA

REPORT NUMBER: 890301 6A

JOB NUMBER: 890301

BETHLEHEM RESOURCES

PAGE 1

SAMPLE #	Cu	Pb	Zn	Ag	Au	As
	ppm	ppm	ppm	ppm	ppb	ppm
155 E 226 N 880E 100N	48.	43	94	.2	nd	13

DETECTION LIMIT                      1            2            1            0.1            5            2  
 nd = none detected            -- = not analysed            is = insufficient sample

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BRANCH OFFICE  
PASADENA, NFLD  
BATHURST, N.B.  
MISSISSAUGA, ON  
RENO, NEVADA, U.S.

REPORT NUMBER: 890312 GA

JOB NUMBER: 890312

BETHLEHEM RESOURCES

PAGE 3 OF

SAMPLE #	Co	Pb	Zn	Ag	Au	As
	ppm	ppm	ppm	ppm	ppb	ppm
11# E 204 N 700E 190N	21	20	37	.2	nd	3
11# E 202 N 700E 200N	24	16	62	.1	5	nd
11# E 200 N 700E 220N	15	12	28	.1	5	nd
11# E 198 N 700E 230N	14	16	25	.1	nd	nd
11# E 196 N 700E 240N	26	25	36	.3	nd	nd
11# E 194 N 700E 250N	18	24	34	.3	5	1
11# E 192 N 700E 260N	16	22	47	.2	nd	nd
11# E 190 700E 270N	13	20	65	.1	10	2
11# E 188 700E 280N	33	27	94	.2	10	5
11# E 186 700E 290N	31	29	85	.3	10	3
11# E 184 N 700E 300N	37	26	115	.3	nd	6
120E 202 N 730E 200N	28	38	126	.4	10	7
120E 188 N 730E 280N	41	37	109	.4	5	1
120E 184 N 730E 300N	26	29	68	.3	nd	nd
745E 190N	45	31	108	.6	5	1
R-3	32	42	129	.4	10	32
R-5	43	64	721	.2	10	24
R-6	35	35	94	.3	5	5
R-7	28	30	64	.6	5	1
R-8	32	24	41	.1	5	1
R-9	18	24	20	.3	10	nd
R-10	13	32	57	.5	15	nd
R-11	15	30	60	.4	5	2
R-12	31	34	55	.6	10	20
R-14	33	30	62	.4	5	nd
R-15	39	31	100	.6	15	5
R-16	26	24	56	.3	10	11
R-20A	25	65	152	.1	nd	12
R-21A	30	90	163	.3	5	31
R-22A	90	182	488	1.2	10	150
R-23A	23	44	35	.1	5	15

DETECTION LIMIT                    1            2            1            0.1            5            2  
 nd = none detected            -- = not analysed            is = insufficient sample

REPORT NUMBER: 890330 GA

JOB NUMBER: 890330

BETHLEHEM RESOURCES

PAGE 3 OF

SAMPLE #			Cu	Pb	Zn	Ag	Au	As
			ppm	ppm	ppm	ppm	ppb	ppm
171E	222N	960E 120N	6	9	83	.1	nd	nd
171E	220N	960E 130N	11	25	17	.1	15	3
171E	218N	960E 140N	48	30	95	.5	15	17
171E	216N	960E 150N	18	31	30	.1	nd	14
171E	214N	960E 160N	17	37	24	.3	15	18
171E	212N	960E 170N	5	15	4	.1	nd	2

DETECTION LIMIT  
 nd = none detected

1 2  
 -- = not analysed

1 0.1 5 2  
 is = insufficient sample

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PASADENA, NFLD  
BATHURST, N.B.  
MISSISSAUGA, ON  
RENO, NEVADA, U.S

REPORT NUMBER: 890330 GA

JOB NUMBER: 890330

BETHLEHEM RESOURCES

PAGE 2 OF

SAMPLE #	Cu	Pb	Zn	Ag	Au	As
	ppm	ppm	ppm	ppm	ppb	ppm
141E 208N 810E 190N	23	30	60	.3	5	9
141E 206N 810E 200N	24	30	75	.3	10	8
141E 204N 810E 210N	23	31	107	.4	10	10
147E 236N 840E 50N	27	39	123	.1	nd	17
147E 232N 840E 70N	20	27	68	.2	nd	5
147E 230N 840E 80N	20	26	97	.2	nd	nd
147E 228N 840E 90N	16	23	63	.1	nd	3
147E 224N 840E 110N	14	24	46	.2	nd	4
147E 222N 840E 120N	33	31	83	.4	5	12
147E 220N 840E 130N	23	32	61	.2	10	11
147E 218N 840E 140N	16	29	60	.2	10	6
147E 216N 840E 150N	31	30	59	.5	5	10
147E 214N 840E 160N	9	16	34	.1	nd	nd
147E 212N 840E 170N	27	31	71	.4	nd	13
147E 210N 840E 180N	21	28	63	.3	5	7
147E 208N 840E 190N	21	32	61	.4	5	8
147E 206N 840E 200N	29	29	96	.1	5	6
153E 224N 870E 110N	21	28	100	.4	10	5
153E 222N 870E 120N	27	31	113	.6	15	8
153E 220N 870E 130N	17	24	67	.1	nd	4
153 218N 870E 140N	37	38	125	.4	nd	11
153 216N 870E 150N	22	31	116	.2	nd	9
153 214N 870E 160N	25	30	81	.3	5	9
153 212N 870E 170N	19	29	54	.4	nd	9
165E 232N 930E 70N	22	23	59	.2	10	9
165E 230N 930E 80N	15	24	70	.2	5	5
165E 228N 930E 90N	29	34	82	.2	10	31
165E 224N 930E 110N	13	20	49	.2	nd	3
165E 222N 930E 120N	10	23	67	.2	10	4
165E 220N 930E 130N	24	26	95	.2	5	10
165E 218N 930E 140N	29	30	103	.1	nd	12
165E 216N 930E 150N	52	40	151	.3	5	20
165E 214N 930E 160N	77	48	166	.9	5	27
165E 212N 930E 170N	21	27	81	.3	nd	5
171E 232N 960E 70N	14	24	74	.2	10	9
171E 230N 960E 80N	20	23	81	.2	10	7
171E 228N 960E 90N	48	44	106	.1	nd	17
171E 224N 960E 110N	15	26	94	.1	nd	8

DETECTION LIMIT

1 2

1 0.1 5 2

nd = none detected

-- = not analysed

is = insufficient sample





# VANGEOCHEM LAB LIMITED

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RENO, NEVADA, U.S.A.

REPORT NUMBER: B90332 EA

JOB NUMBER: B90332

BETHLEHEM RESOURCES

PAGE 1 OF 1

SAMPLE #	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	As ppm
124E 155N	57	36	105	.4	30	104
124E 156N	87	38	82	.1	30	49
124E 162N	64	63	135	.2	10	17
124E 172N	68	24	94	.2	10	21
128E 181N	52	24	116	.2	10	13
128E 182N	49	24	85	.1	20	9
128E 183N	65	176	184	.1	30	15
128E 185N	45	65	135	.2	10	4
174E 124E	61	25	87	.3	10	7
90E 214N 550E 140N	15	24	63	.2	5	19
90E 198N 550E 220N	10	24	54	.1	5	18
90E 186N 550E 280N	38	25	60	.1	5	21
90E 184N 550E 290N	35	77	23	.6	5	52
96E 186N 580E 280N	52	607	2391	2.7	20	5
96E 184N 580E 290N	38	91	276	.7	10	32
96E 182N 580E 300N	27	63	144	.5	5	9
153E 230N 870E 80N	38	22	97	.1	5	7

DETECTION LIMIT

nd = none detected

1

2

-- = not analysed

1

0.1

is = insufficient sample

5

2

REPORT NUMBER: 890311 SA

JOB NUMBER: 890311

BETHLEHEM RESOURCES

PAGE 1 OF 2

SAMPLE #			Cu	Pb	Zn	Ag	Au	As
			ppm	ppm	ppm	ppm	ppb	ppm
129E	228N	750E 90N	64	37	209	.9	5	29
96E	214N	580E 170N	24	26	98	.5	5	5
98E	228N	590E 100N	24	15	209	.8	5	nd
98E	226N	590E 110N	75	23	131	.8	5	62
98E	224N	590E 120N	40	23	39	.5	5	3
98E	222N	590E 130N	79	23	105	.6	5	20
98E	220N	590E 140N	45	17	139	.6	10	26
98E	218N	590E 150N	54	20	165	.9	5	33
98E	216N	590E 160N	53	18	68	.6	20	23
98E	214N	590E 170N	46	21	93	.9	5	27
102E	216N	640E 140N	35	10	62	.6	10	103
102E	212N	640E 180N	50	50	97	.3	5	56
102E	210N	640E 190N	62	15	34	.6	5	29
102E	208N	640E 200N	90	24	95	.3	5	45
102E	206N	640E 210N	21	25	114	.9	20	nd
102E	200N	640E 240N	22	14	43	.9	5	38
102E	188N	640E 250N	47	10	30	.9	5	10
102E	196N	640E 260N	36	11	30	.6	10	3
102E	194N	640E 270N	32	22	54	.9	10	22
104E	212N	650E 160N	59	11	54	.8	5	24
106E	212N	660E 160N	59	19	82	.5	5	23
108E	224N	670E 170N	36	15	49	.6	5	35
108E	225N	670E 175N	75	26	98	.9	5	56
108E	204N	670E 240N	73	21	62	.9	10	30
108E	190N	670E 280N	49	19	69	.6	20	38
		700E 150N	97	21	92	.7	10	39
120E	198N	730E 240N	82	18	243	.9	10	22
120E	196N	730E 250N	79	21	61	.7	5	52
120E	194N	730E 260N	61	16	78	.9	5	24
120E	186N	730E 290N	62	21	75	.6	5	42
123E	226N	745E 160N	77	17	86	.7	20	32
123E	224N	745E 170N	30	20	104	.6	5	29
123E	212N	745E 210N	77	18	58	.7	10	38
123E	208N	745E 220N	113	39	156	.9	10	19
123E	204N	745E 230N	61	13	60	.9	5	29
		R-1	30	24	197	.6	10	60
		R-2	25	67	950	.9	5	52
		R-4	49	25	118	1.0	5	133
		R-12	46	22	106	.9	10	41

DETECTION LIMIT

nd = none detected

1 2

-- = not analysed

1 0.1 5 2

is = insufficient sample

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BATHURST, N.B  
MISSISSAUGA, ON  
RENO, NEVADA, U.S.

REPORT NUMBER: 890312 BA

JOB NUMBER: 890312

BETHLEHEM RESOURCES

PAGE 1 OF

SAMPLE #	Co	Pb	Zn	Ag	Au	As
	ppm	ppm	ppm	ppm	ppb	ppm
<del>228N 117 E 90N 690E</del>	64	27	131	.1	nd	3
<del>228N 119 E 90N 700E</del>	35	24	98	.1	nd	nd
<del>228N 121 E 90N 720E</del>	40	25	102	.1	25	nd
<del>228N 123 E 90N 730E</del>	32	28	91	.1	5	nd
<del>228N 125 E 90N 740E</del>	142	36	174	.3	15	nd
<del>226N 119E 100N 700E</del>	39	21	60	.1	5	nd
<del>226N 121 E 100N 710N</del>	28	25	106	.1	20	nd
<del>226N 123 E 100N 720N</del>	53	30	112	.1	20	33
<del>226N 125 E 100N 730N</del>	52	23	185	.3	5	nd
<del>226N 127 E 100N 740N</del>	103	33	111	.1	25	nd
<del>226N 129 E 100N 750N</del>	31	27	72	.2	5	nd
<del>226N 131 E 100N 760N</del>	39	29	130	.2	nd	nd
<del>226N 133 E 100N 770N</del>	35	27	104	.2	10	nd
<del>226N 135 E 100N 780N</del>	42	37	132	.1	5	nd
<del>226N 137 E 100N 790N</del>	23	12	52	.1	10	nd
134.6N 125.8E	35	505	797	10.5	15	31
134.6N 126E	28	196	633	1.8	nd	4
134.6N 126.2E	22	239	625	1.3	5	7
134.8N 125.6E	24	45	171	.3	25	nd
134.9N 125.8E	33	68	356	1.5	10	4
134.8N 126E	37	382	915	5.9	5	17
134.8N 126.2E	32	325	794	3.8	nd	15
134.8N 126.4E	31	295	768	1.2	10	21
135N 125.5E	24	50	136	.4	nd	3
135N 125.8E	53	99	268	.7	5	15
135N 126E	25	33	155	.4	nd	3
135N 126.2E	25	151	494	.4	5	10
135N 126.4E	31	158	490	.5	10	6
135.2N 125.6E	55	88	222	.2	5	23
135.2N 125.8E	30	70	164	.7	5	10
135.2N 126E	29	66	179	.4	10	2
135.2N 126.2E	33	118	427	.3	5	11
135.2N 126.4E	38	122	445	1.0	nd	4
135.4N 125.8E	23	74	184	.3	nd	7
135.4N 126.2E	29	73	161	.5	5	5
226N 112E	55	33	102	.4	10	nd
226N 114E	28	23	80	.2	15	nd
226N 116E	23	23	34	.2	10	nd
226N 118E	32	28	68	.1	5	nd

DETECTION LIMIT

1 2

1 0.1 5 2

nd = none detected

-- = not analysed

is = insufficient sample

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 MISSISSAUGA, C  
 RENO, NEVADA, U

REPORT NUMBER: 890311 GA

JOB NUMBER: 890311

BETHLEHEM RESOURCES

PAGE 2 OF

SAMPLE #	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	As ppm
R-13A	212	110	1738	.9	50	42
R-13	79	24	101	.7	5	50
R-17	41	71	209	1.4	5	31
R-18	26	58	1944	1.5	5	43
R-19	28	50	131	.7	5	24
R-20	28	27	144	.6	5	24
R-21	16	29	345	.4	5	5
R-23	40	46	120	1.0	5	35
R-24	35	24	55	.7	10	9
R-25	41	339	191	1.4	5	16
R-26	35	171	1007	.9	10	32

50

DETECTION LIMIT                      1            2            1            0.1            5            2  
 nd = none detected            -- = not analysed            is = insufficient sample

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BATHURST, N.E  
MISSISSAUGA, ON  
RENO, NEVADA, U.

REPORT NUMBER: B90312 GA

JOB NUMBER: 890312

BETHLEHEM RESOURCES

PAGE 2 OF

SAMPLE #	Cu	Pb	Zn	Ag	Au	As
	ppm	ppm	ppm	ppm	ppb	ppm
226N 120E 160N 700.3AE /	39	30	79	.3	5	97
240E 620N	27	25	59	.3	5	nd
95E 211N 580E 160N	19	16	61	.1	10	45
95E 209N 580E 190N	29	28	54	.3	5	4
95E 206N 580E 200N	38	25	78	.3	15	nd
95E 203N 580E 210N	12	13	33	.1	10	nd
95E 200N 580E 220N	28	29	61	.4	5	29
95E 198N 580E 230N	25	29	67	.4	10	1
95E 196N 580E 240N	15	23	58	.1	10	7
95E 192N 580E 250N	5	9	20	.1	10	nd
95E 190N 580E 260N	22	26	73	.3	5	5
95E 189N 580E 265N	15	35	25	.4	10	nd
95E 187N 580E 275N	32	27	69	.1	5	37
102E 224N 640E 110N	20	22	45	.2	nd	1
102E 222N 640E 120N	40	34	105	.3	25	nd
102E 220N 640E 130N	32	25	69	.3	10	nd
102E 216N 640E 150N	23	26	48	.2	10	1
102E 213N 640E 150N	14	18	21	.2	10	1
102E 210N 640E 170N	60	29	102	.2	15	12
102E 200N 640E 200N	45	33	89	.4	20	5
108E 226N 670E 160N	22	32	73	.3	5	nd
108E 221N 670E 180N	59	28	98	.1	5	nd
108E 218N 670E 190N	30	27	75	.3	nd	5
108E 216N 670E 200N	22	20	59	.2	20	nd
108E 212N 670E 210N	48	25	157	.1	10	nd
108E 209N 670E 220N	45	23	94	.1	5	10
108E 206N 670E 230N	26	28	60	.3	10	10
108E 200N 670E 250N	15	23	25	.1	10	nd
108E 198N 670E 260N	30	36	73	.3	5	7
108E 194N 670E 270N	25	25	73	.1	5	nd
108E 186N 670E 290N	24	24	40	.3	10	nd
108E 184N 670E 300N	44	39	120	.1	nd	1
109E 226N 680E 160N	24	25	61	.1	nd	nd
109E 213N 680E 210N	42	35	70	.4	10	12
109E 184N 680E 300N	29	32	94	.3	nd	1
700E 140N	33	24	101	.1	nd	nd
700E 160N	48	25	59	.1	nd	nd
700E 170N	32	26	57	.3	5	nd
700E 180N	67	26	78	.1	25	nd

DETECTION LIMIT : 2 1 0.1 5 2  
 nd = none detected -- = not analysed is = insufficient sample

REPORT NUMBER: 890330 GA

JOB NUMBER: 890330

BETHLEHEM RESOURCES

PAGE 1 OF 3

SAMPLE #	Cu	Pb	Zn	Ag	Au	As
	ppm	ppm	ppm	ppm	ppb	ppm
R-27A	10	23	28	.2	5	6
R-29A	13	30	56	.1	5	18
R-30	11	20	17	.3	10	2
R-31	24	37	96	.3	5	17
R-32	17	32	24	.2	5	12
R-33	13	41	115	.1	5	45
R-34	15	34	44	.2	5	33
R-35	16	27	22	.2	5	6
R-36	33	35	95	.1	10	15
R-37	21	38	55	.1	5	14
R-38	24	36	59	.2	10	13
R-39	13	23	28	.4	5	5
R-40	14	20	30	.5	5	3
R-41	19	29	34	.6	nd	13
R-42	22	36	54	.7	nd	18
R-43A	14	21	26	.2	10	3
139E N 800E 50N	50	38	147	.1	10	16
139E N 800E 60N	56	40	244	.1	5	14
139E N 800E 70N	62	34	454	.1	nd	7
139E 230N 800E 80N	46	57	174	.3	nd	18
139E 228 N 800E 90N	31	33	93	.1	nd	14
139E 224 N 800E 110N	17	26	70	.1	5	9
139E 222 N 800E 120N	19	30	76	.2	5	11
139E 212 N 800E 170N	24	34	70	.2	5	7
139E 208 N 800E 190N	28	41	79	.4	nd	24
139E 206 N 800E 200N	25	32	63	.5	10	14
141E 236 N 810E 50N	22	21	65	.1	5	1
141E 234 N 810E 60N	54	26	86	.2	10	6
141E 232 N 810E 70N	34	34	136	.3	5	13
141E 230 N 810E 80N	18	24	69	.1	5	10
141E 228 N 810E 90N	11	16	36	.1	5	1
141E 224 N 810E 110N	19	27	72	.1	5	2
141E 222 N 810E 120N	17	29	58	.2	5	7
141E 220 N 810E 130N	15	25	65	.2	nd	6
141E 218 N 810E 140N	18	20	36	.1	nd	7
141E 216 N 810E 150N	12	22	46	.1	5	5
141E 214 N 810E 160N	11	16	29	.3	10	nd
141E 212 N 810E 170N	23	37	89	.2	10	14
141E 210 N 810E 180N	25	33	83	.2	5	13

DETECTION LIMIT  
nd = none detected

1 2  
-- = not analysed

1 0.1 5 2  
is = insufficient sample

# VGC VANGEOCHEM LAB LIMITED

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 RENO, NEVADA, U.S.A.

REPORT NUMBER: 890327 6A

JOB NUMBER: 890327

BETHLEHEM RESOURCES

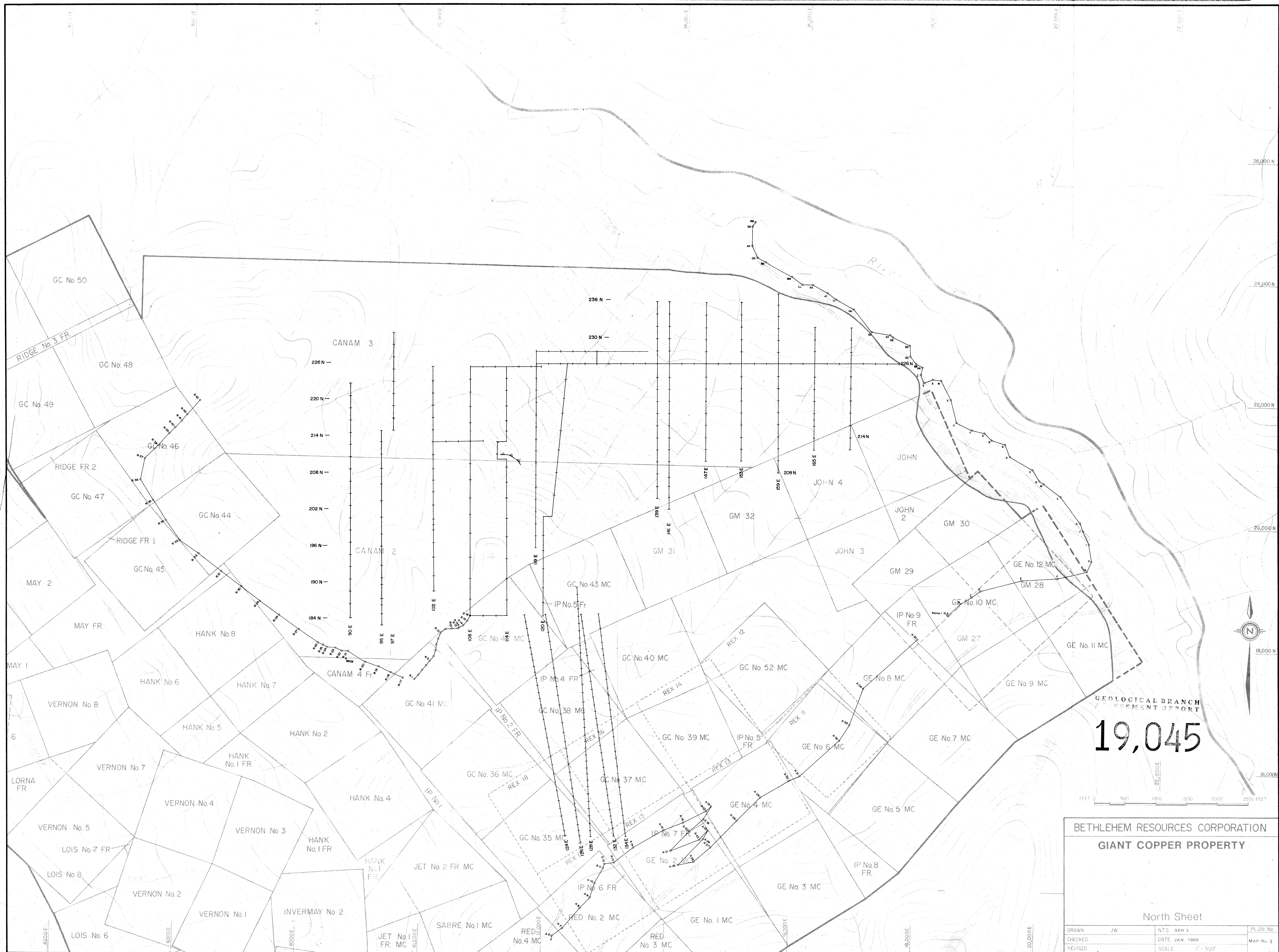
PAGE 1 OF 1

SAMPLE #		Cu	Pb	Zn	Ag	Au	As
		ppm	ppm	ppm	ppm	ppb	ppm
	8028	15	54	1034	1.3	80	28
	660E 160N	56	39	81	.2	10	13
139E	220N	57	34	88	.3	10	18
139E	218N	57	44	95	.1	5	14
139E	216N	76	41	330	.2	40	15
	800E 130N						
139E	214N	84	46	135	.3	40	26
139E	210N	51	40	99	.2	30	14
139E	104N	41	34	75	.3	30	13
141E	102N	68	38	110	.1	20	15
147E	234N	33	30	68	.2	10	9
	800E 140N						
	800E 150N						
	800E 160N						
	800E 180N						
	800E 210N						
	810E 220N						
	840E 60N						

DETECTION LIMIT  
 nd = none detected

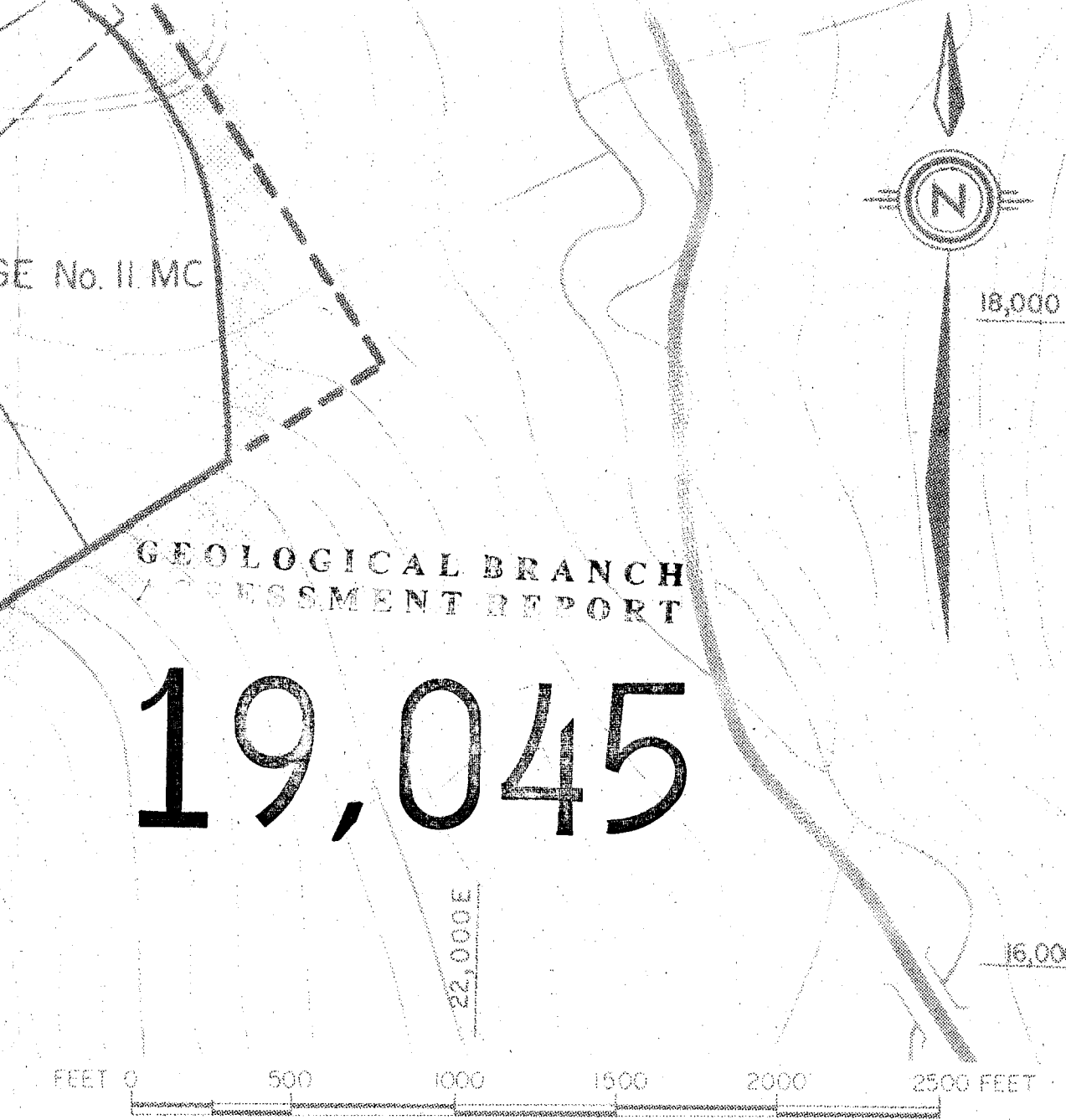
1 2  
 -- = not analysed

1 0.1 5 2  
 is = insufficient sample



GEOLOGICAL BRANCH  
 PREPARATION REPORT

**19,045**

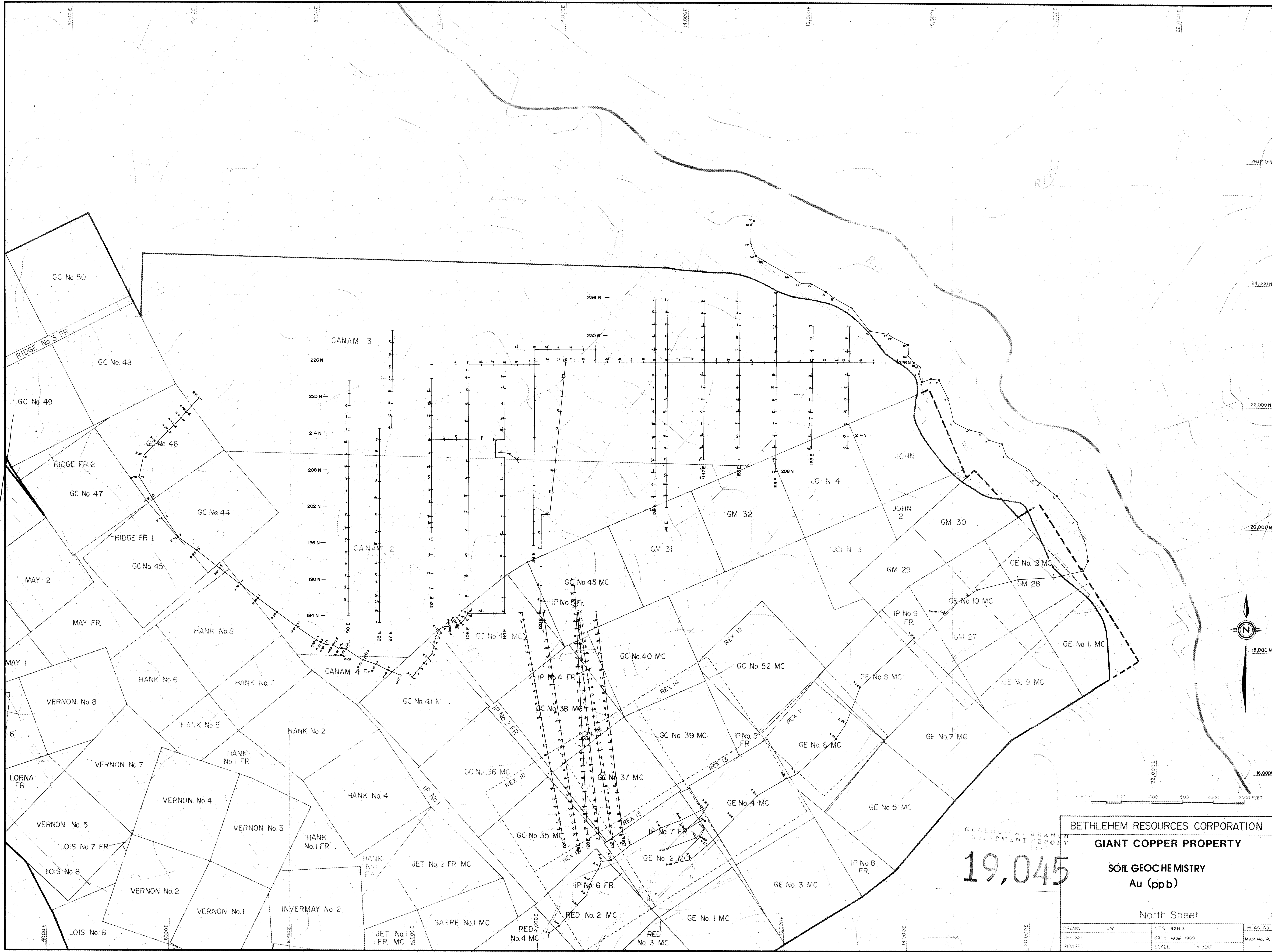


BETHLEHEM RESOURCES CORPORATION  
 GIANT COPPER PROPERTY

North Sheet

DRAWN	JW	NTS	92H 3	PLAN No.
CHECKED		DATE	JAN. 1989	MAP No. 1
REVISED		SCALE	1" = 500'	

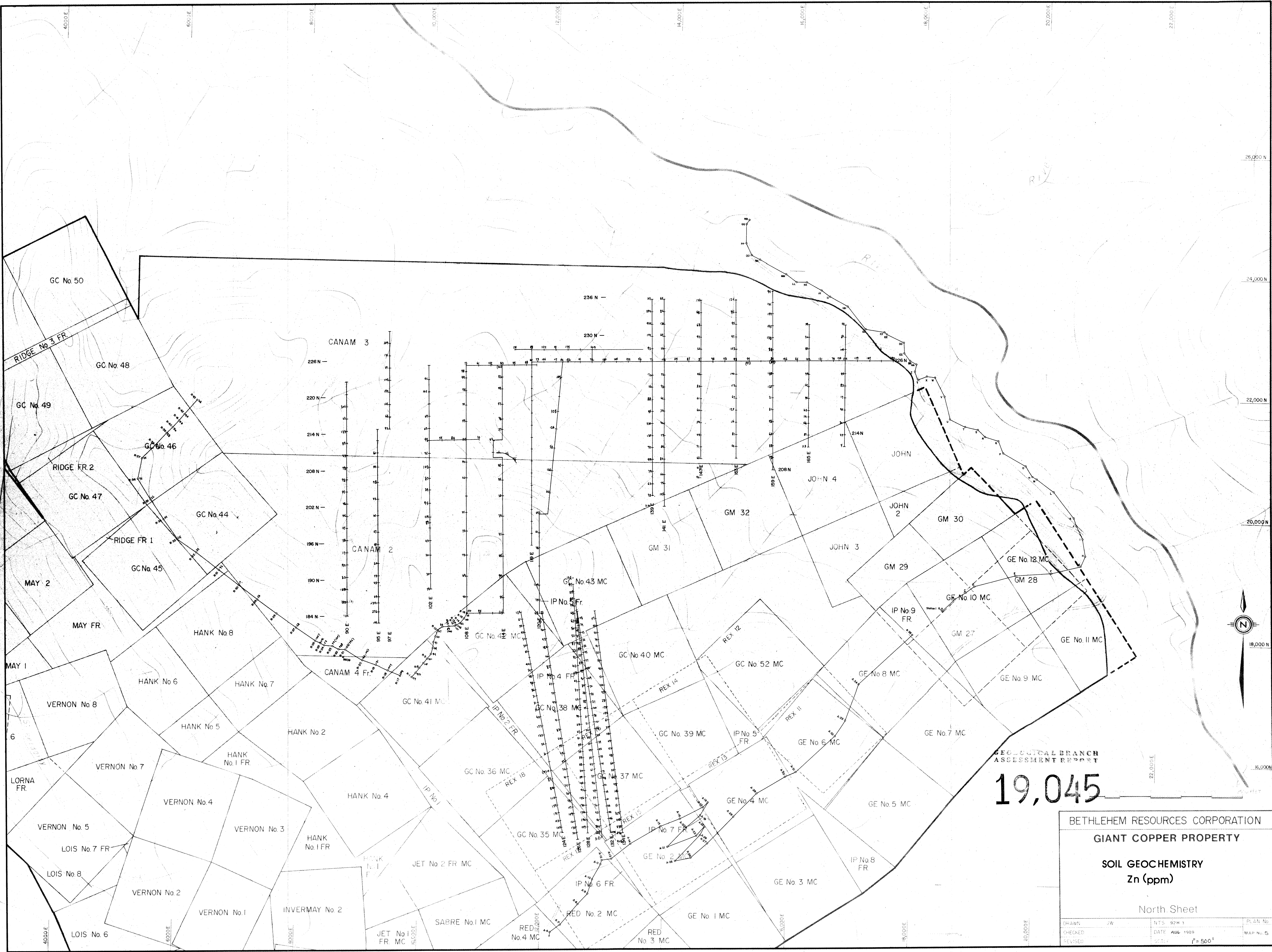




BETHLEHEM RESOURCES CORPORATION  
**GIANT COPPER PROPERTY**  
 SOIL GEOCHEMISTRY  
 Au (ppb)  
 North Sheet

DRAWN	JW	NTS 92H 3
CHECKED		DATE Aug 1989
REVISED		SCALE 1" = 500'

PLAN No. 2  
 MAP No. 2



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

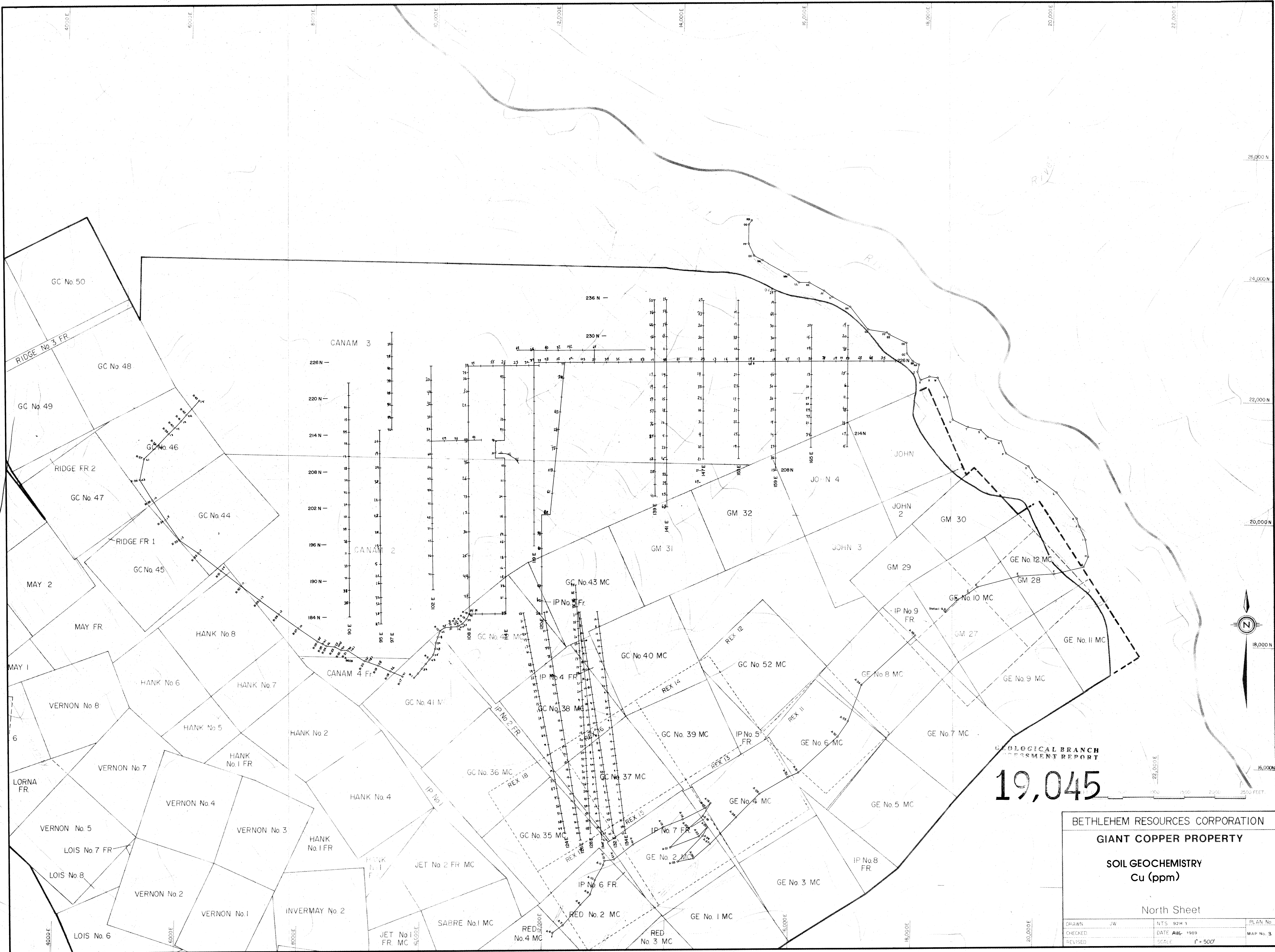
**19,045**

BETHLEHEM RESOURCES CORPORATION  
GIANT COPPER PROPERTY

SOIL GEOCHEMISTRY  
Zn (ppm)

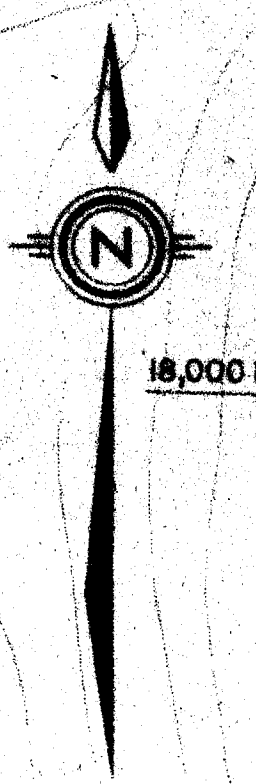
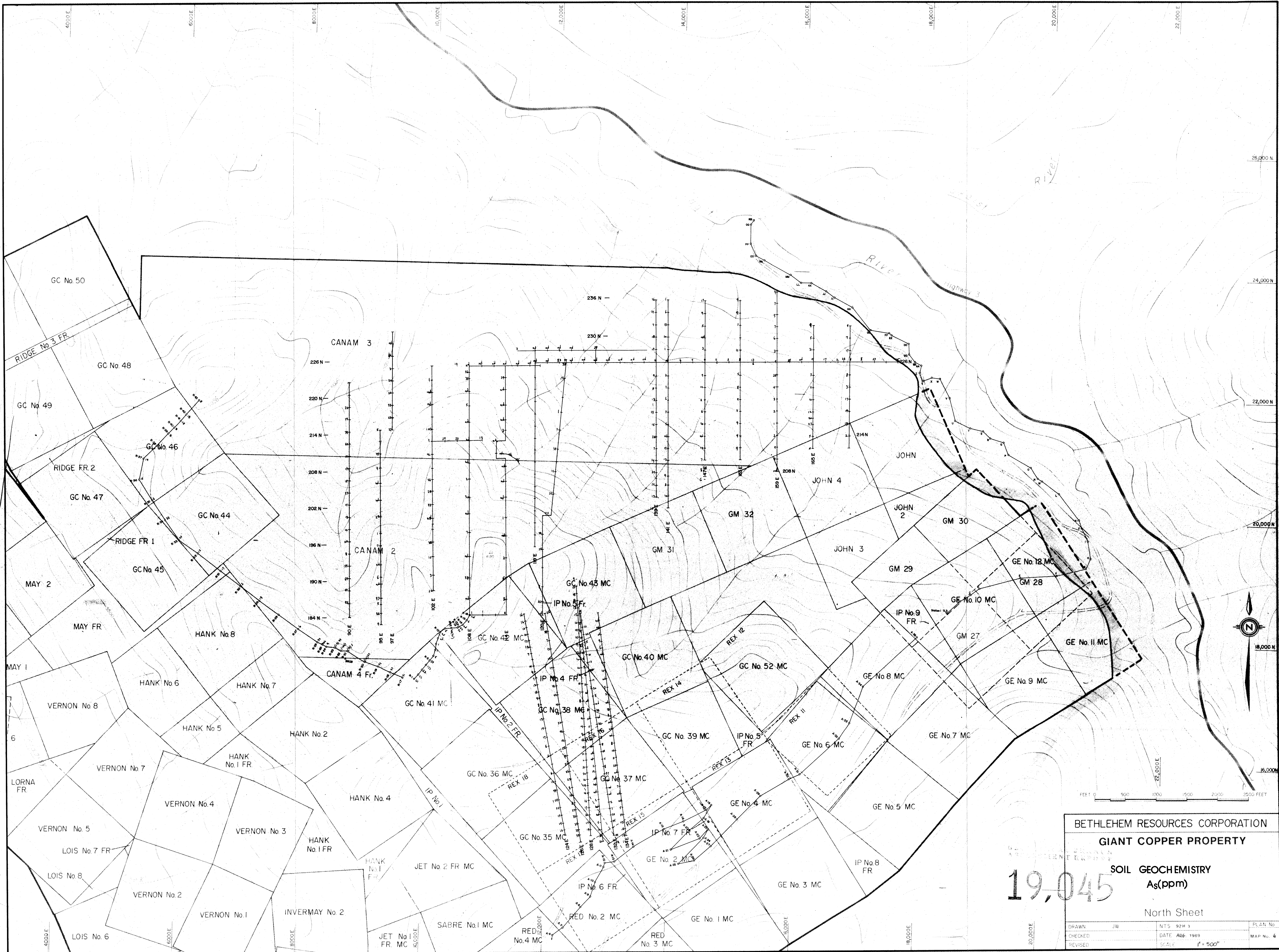
North Sheet

DRAWN	JW	NTS	92H 3	PLAN No.
CHECKED		DATE	AUG 1989	MAP No. 5
REVISED		SCALE	1" = 500'	



GEOLOGICAL BRANCH  
 ASSESSMENT REPORT  
**19,045**

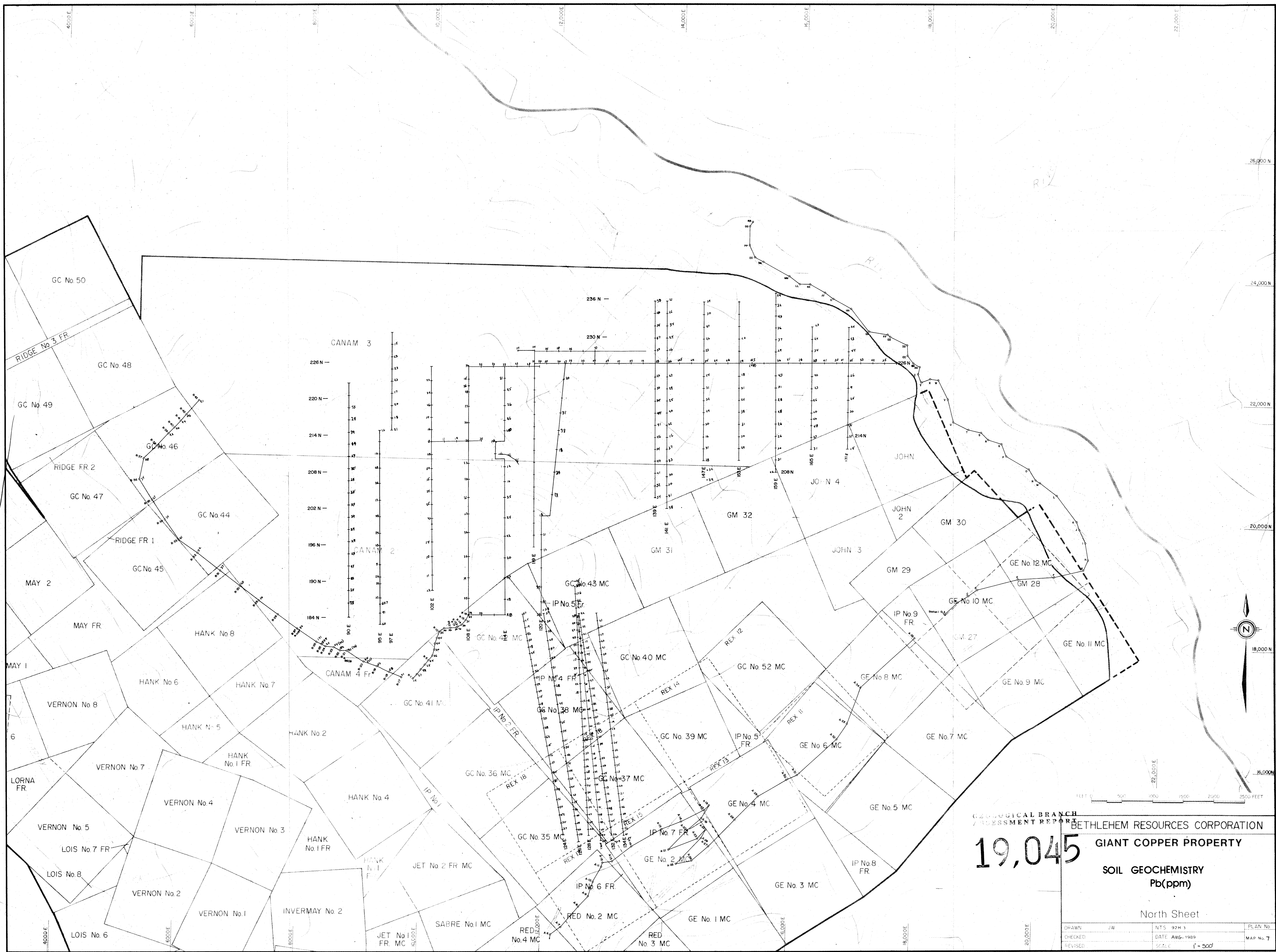
BETHLEHEM RESOURCES CORPORATION			
GIANT COPPER PROPERTY			
SOIL GEOCHEMISTRY			
Cu (ppm)			
North Sheet			
DRAWN	JW	NTS 92M 3	PLAN No.
CHECKED		DATE AUG. 1989	MAP No. 3
REVISED		SCALE 1" = 500'	



FEET 0 500 1000 1500 2000 2500

BETHLEHEM RESOURCES CORPORATION  
**GIANT COPPER PROPERTY**  
 SOIL GEOCHEMISTRY  
 As(ppm)  
 19,045  
 North Sheet

DRAWN	JW	NTS 92H 3	PLAN No.
CHECKED		DATE AUG. 1989	MAP No. 6
REVISED		SCALE 1" = 500'	

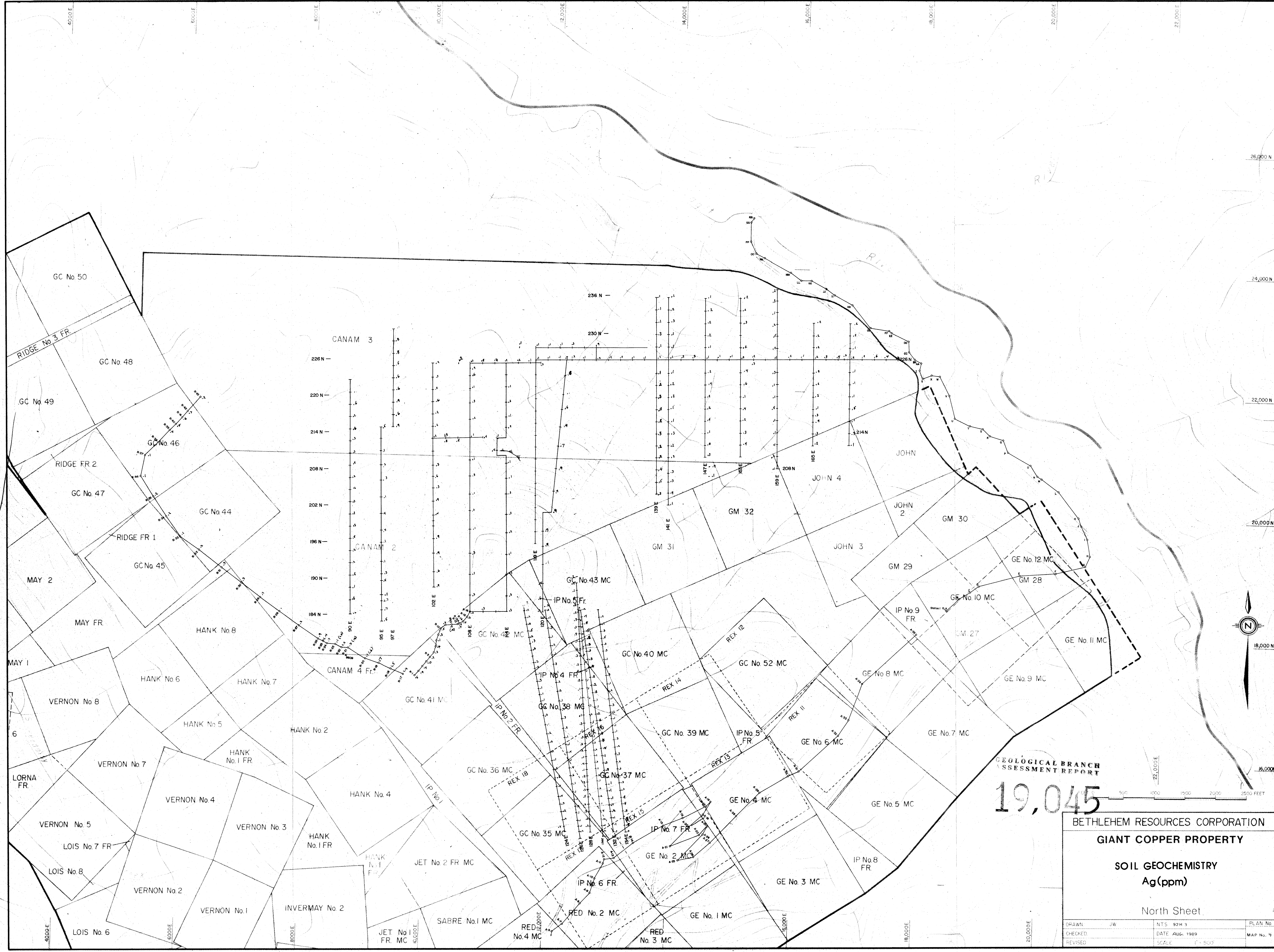


GEOLOGICAL BRANCH  
 ASSESSMENT REPORT

**19,045**

BETHLEHEM RESOURCES CORPORATION  
**GIANT COPPER PROPERTY**  
 SOIL GEOCHEMISTRY  
 Pb(ppm)  
 North Sheet

DRAWN	JW	NTS 92M 3	PLAN No.
CHECKED		DATE AUG-1989	MAP No. 7
REVISED		SCALE 1" = 500'	



19,045

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

BETHLEHEM RESOURCES CORPORATION			
GIANT COPPER PROPERTY			
SOIL GEOCHEMISTRY			
Ag (ppm)			
North Sheet			
DRAWN	JW	NTS 92H 3	PL. AN. No.
CHECKED		DATE Aug. 1989	MAP No. 4
REVISED		SCALE 1" = 500'	