

1985

PART 2

GEOCHEMICAL SOIL SAMPLING REPORT

by

Dr. R.H. Seraphim, P.Eng. and F.Lee, Geologist

on the

CUMONT MINES LTD. PROPERTY

on and around

COPPER MOUNTAIN

49°, 121° SE

Similkameen Mining Division, B.C.

Latitude: 120° 34' W
Longitude: 49° 18' N

Work performed between 12th May and 15th November, 1968.

2nd April, 1969

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. **1985B** MAP.....

INTRODUCTION

Cumont Mines Ltd. conducted a comprehensive investigation of part of its property holdings on and around Copper Mountain situated approximately 12 miles south of Princeton, B.C. during the field season of 1968. This report deals with the geochemical survey carried out as part of the overall exploration. The geochemical survey took place between 12th May and 15th November and was carried out by an average of two men under the direct supervision of the resident geologist, F. Lee, of Western Geological Services Ltd., Vancouver, B.C. The project was directed by Dr. R. Seraphim, P.Eng. who made regular supervisory visits to the property during the survey.

Soil samples were taken at 100 foot intervals along grid lines cut over moderately timbered steeply sloping mountain sides lying between 2,500 and 4,800 feet elevation. The soil overlies the Nicola volcanic series and Copper Mountain - Voight Stocks which are known to contain copper mineralization. A thin veneer of till covers the area in places. Approximately 3,500 samples were collected over 67.8 miles of lines, and 2,094 samples were tested for copper by cold extraction at the base camp on the property. Results of tests have been plotted on grid maps, copies of which are included as part of this report. (See Figs. 3 to 6)

SUMMARY AND CONCLUSIONS

A soil sample survey was carried out between 12th May and 15th November, 1968, over a portion of the Cumont Mines Ltd. property on and around Copper Mountain, Princeton, B.C. The survey for copper mineralization was along grid lines cut over all or a portion of the following claim groups and over other Crown Grants not grouped.

Alabama - Virginia Group

BEM Group

Hamilton Group

Kenley Group

Soil samples were tested at the field camp on the property using the dithizone cold extraction method and approximately 100 of the tested samples were forwarded to Barringer Research Ltd. of Toronto for check purposes.

The results of the survey indicated strongly anomalous zones in the No. 5 to Automatic C.G.s area but only generally weak anomalies of small extent in other parts of the surveyed area. Because of persistent till cover over the BEM claims area the soil survey of these claims must be considered inconclusive.

Further investigation of the No. 5 - No. 18 - Automatic C.G.s area is recommended.

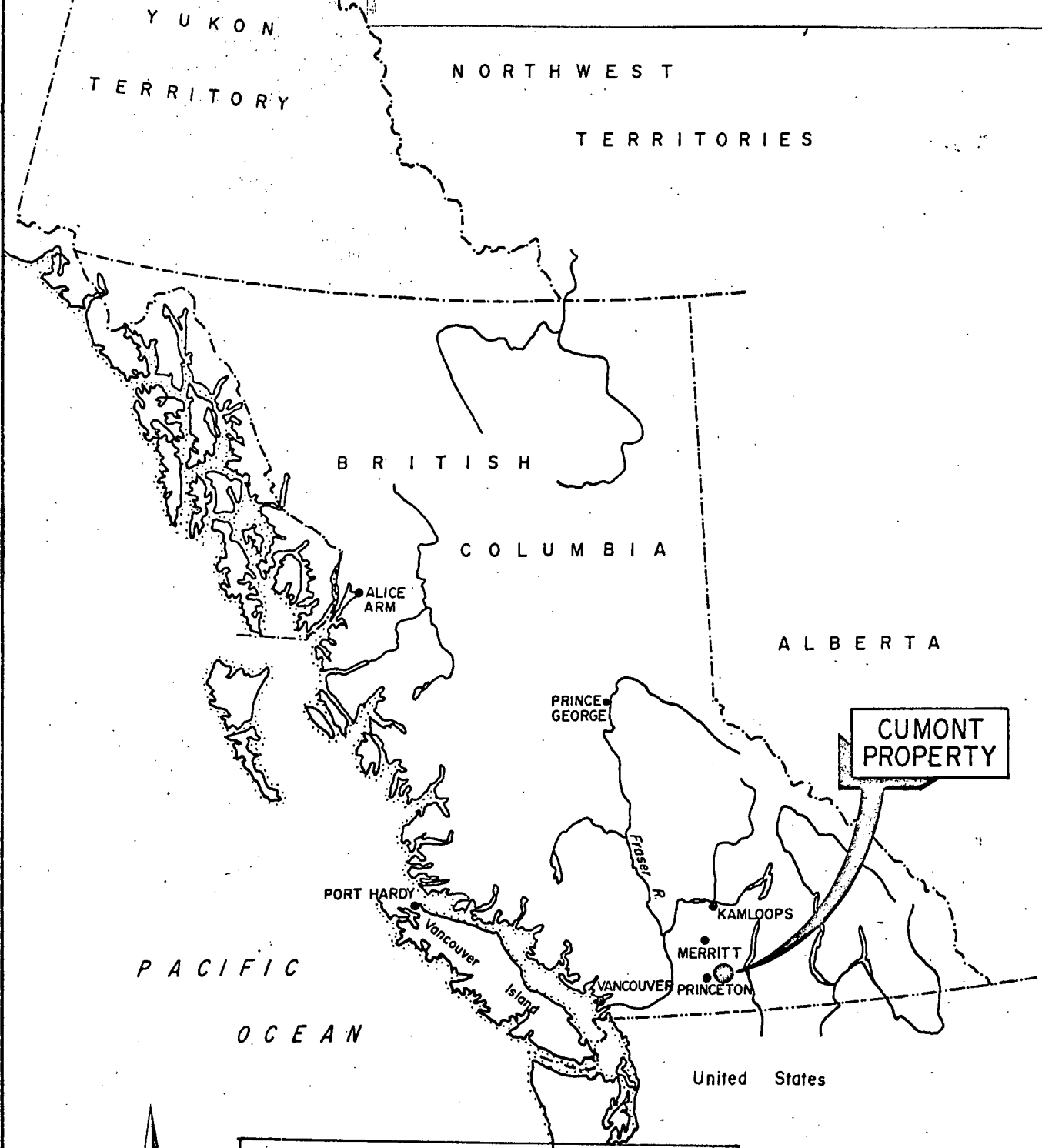
LOCATION AND ACCESS

The Cumont Mines Ltd. holdings are situated on and about Copper Mountain approximately 12 miles south of Princeton, B.C. Princeton is on the South Trans-Provincial Highway. The claim holdings are spread over a wide area but lie chiefly between Kennedy and Voight Mountains to the west and east respectively, and between Combination Creek and Smelter Lakes to the south and north respectively. The country consists of moderately to steeply undulating mountain slopes covered by open pine forests. Elevation varies between 2,500 feet and 4,800 feet.

The company base camp is located on Wolf Creek beside the Copper Mountain road 11 miles south of Princeton at the old Voight Camp "town" site. Elevation is approximately 3,500 feet.

Access to the various parts of the property is by a black top road from Princeton to Copper Mountain and by several four-wheel drive roads throughout the area.

TO ACCOMPANY THE GEOCHEMICAL REPORT BY F. LEE GEOLOGIST &
DR. R. H. SERAPHIM P. ENG., ON THE CUMONT MINES LTD. PROPERTY, ON
AND AROUND COPPER MOUNTAIN, SIMILKAMEEN MINING DIVISION,
DATED 2nd APRIL, 1969.



Department of
Mines and Petroleum Resources
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NO. **19850** MAP **#1**

CUMONT MINES LTD. (N.P.L.)
COPPER MOUNTAIN PROPERTY, PRINCETON, B.C.

INDEX MAP

SCALE: 1"=150 miles Approx.

Apr. 2/69

CLAIMS

Geochemical prospecting was carried out on the following claims and Crown Grants.

Group Name: Alabama-Virginia

<u>Claim Name</u>	<u>Record No.</u>	<u>Claim Name</u>	<u>Record No.</u>
Virginia C.G.	L 2428	Queen J Fr.	11645 H
Automatic Fr. C.G.	L 1775s	Queen I Fr.	11646 H
No. 1 C.G.	L 3349	Queen H Fr.	11643 H
Queen D Fr.	11639 H	Queen G	11642 H
Queen E Fr.	11640 H	Queen G Fr.	11641 H
Queen J	11644 H		

Group Name: Kenley

Kenley C.G. L 3028

Group Name: Hamilton

✓ Copper Cliff C.G. L 1939

Group Name: BEM

BEM 1	12253	BEM 8	12260
BEM 2	12254	BEM 9	12364
BEM 3	12255	BEM 1 Fr.	18184
BEM 4	12256	BEM 6 Fr.	18185
BEM 5	12257	BEM 9 Fr.	18196
BEM 6	12258	Senorita C.G.	L 2001
BEM 7	12259		

Crown Grants not grouped.

<u>Claim Name</u>	<u>Record No.</u>	<u>Claim Name</u>	<u>Record No.</u>
No. 5	L 3354	New Wolf Fr.	L 1777s
/No. 18	L 3288	No. 73 Fr.	L 443s
/No. 18 Fr.	L 2256s	No. 51 Fr.	L 413s
/Nelson Fr.	L 1778s	No. 71	L 415s
New No. 37 Fr.	L 1776	No. 52	L 414s
No. 33	L 3359	No. 70	L 62s
/No. 14	L 3289	No. 50 Fr.	L 417s
No. 69	L 61s	No. 53	L 418s
		/Falum	L 416s

HISTORY

Mineralization was first discovered in the area in 1882, but because of difficulty of access, active prospecting on the Copper Mountain and Voight Stocks did not commence until approximately 1897. Although more exploration work was initially done on the Voight Stock prospects than on those on Copper Mountain, it was the latter area which has been productive. In 1925 production commenced at the Granby Mining Company Ltd. mine on the summit of Copper Mountain, but due to low copper prices the mine was closed down from 1931 to 1936. The mine was reopened in 1937 and again closed in 1956.

Throughout all this period the Voight Stock and surrounding region, together with various parts of Copper Mountain outside the Granby Crown Grants have been intermittently prospected.

In 1966 Newmont Mining Corporation took options on a portion of Kennedy Mountain and later also on the Granby Mine area and began an intensive prospecting programme. This stimulated further interest in the area.

Fort Reliance Minerals Ltd. explored various claims and Crown Grants in the Copper Mountain area from the summer of 1963 until early 1965, and in April 1965 Cumont Mines Ltd. (N.P.L.) was formed to consolidate various holdings and to direct further exploration.

Exploration was continued in 1965 and 1966 with extensive mapping, bulldozer trenching, and diamond drilling. The 1967 work

was limited to a small amount of bulldozer trenching. The 1968 exploration included geological mapping, geochemical and geophysical surveying, trenching, and percussion drilling.

METHOD OF COLLECTING AND TESTING SOIL SAMPLES

Collection:

Samples were taken at 100 feet intervals along 200 feet spaced grid lines cut over the various groups of claims as shown on the accompanying maps (Figs. 3, 4, 5 and 6). Sample interval on the base lines was 200 feet.

During the programme the following men collected the samples: A. Turja, Prospector; L. McIver, Prospector.

The following method of sample collection was used. The humus and top grass was cleared for several inches from around the site and a 1-1/4" hand auger then worked down into the soil for about 15 inches and withdrawn. Only the part of the soil profile having a few rootlets just below the 'A' horizon was kept and bagged, the remainder was discarded. It was often necessary to take more than one auger boring for a sufficient sample. The depth of the sample varied from place to place but the sample in most cases represented the 'B' soil horizon.

Samples were either air dried or dried over a camp oil stove.

Testing of Samples:

Not all samples were tested because of the large number of samples collected and the limited number of personnel available. Instead,

every second sample along each grid line was tested, and where a copper anomaly was recorded the intermediate samples on both sides of the anomalous reading were tested and recorded. This method was adopted on the assumption that an economical ore body would be unlikely to remain undetected using a 200 feet grid pattern, while by testing intermediate samples to give a 100 feet pattern along grid lines over anomalous areas the extent and strength of an anomaly could be reasonably detailed.

The samples were tested at the Cumont base camp on the property by D. Miller, Student, and by F. Lee, Geologist, using the dithizone, cold extraction method. Each sample was tested using 0.5 gm of sieved sample in 5 ml of copper buffer solution with dithizone added always in the order 1+2+4+8 mls. to the end point. If the end point had not been reached after adding of the final 8 ml. the test was repeated using 0.1 gm. of sample material.

All results in terms of total millilitres of dithizone required for neutralization of the solutions were recorded and plotted on the grid tracings for the enclosed maps.

Approximately 100 of the tested samples were randomly selected from in and around anomalous areas and sent to Barringer Research Ltd., Toronto, for checking by cold and hot extraction tests. The Barringer results showed that the field testing can be considered reliable though, as is to be expected, the hot extraction and cold extraction results do not correlate precisely.

DISCUSSION OF RESULTS

General:

Large areas of the property are overlain by till 20 feet or more thick in places. Thus it must be borne in mind that absence of anomalies from a soil sample survey in these areas cannot be considered evidence of absence of mineralization. It might, therefore, appear that sampling the till-covered areas is useless, but the 1968 survey was extended over parts of some of the known till-covered areas for the following reason. The blankets of till tested by the survey do not appear in most cases to be very thick and lie chiefly on the steep sides of Wolf Creek valley. Thus if strong mineralization exists below the till, ground seepage could reveal its presence by impregnating soil downslope from the mineralized site. This possibility was kept in mind during the survey and testing.

Brief comments on each grid follow:

(a) No. 14 - Falun Grid

A few anomalous regions were revealed by the survey. Most were small in extent, generally weak in strength, and in most cases were located at formerly prospected sites. Occasional scattered readings occur on the grid and seem to have no relationship to other anomalies.

Results are consistent with the interpretation from the magnetometer survey and previous prospecting experience that copper

mineralization occurs intermittently along fine, widely-spaced fractures throughout the Voight stock, and is not disseminated throughout the stock. The most attractive known mineralization is in the shear zone at the "No. 14 Shaft".

(b) South Camp Grid

The northern part of this grid lies over moderately well exposed rock but the southern, particularly the south-eastern section, has few outcrops and overburden is mostly till (believed to be thin). Anomalous readings form, in general, isolated small zones.

The northern part of the grid shows no major anomalies, and the southern part also shows little of geochemical interest.

(c) BEM Grids

Outcrop is rare on these claims and much of the area is covered in till. A few small anomalies were located. One interesting feature is the apparently scattered yet persistent anomalous readings in the south-east corner of the claims, on BEM 9. Superimposing the plan over a topographical plan will show that most of these readings occur in a small, winding creek, and that the copper has presumably come from a small source in outcrop near the southern boundary of the claims. Geochemical prospecting in most of the area is inconclusive.

(d) Queen J/I Fr. Grid

Virtually no anomalous readings were recorded in this area despite there being no till cover.

(e) Copper Cliff C.G. Grid

Copper mineralization is known to be present on this Crown Grant, therefore, it was decided to take soil samples along two grid lines on the east valley wall of the Similkameen River, even though till covers most of the area. Highly anomalous readings were registered along the southern end of the line nearest the river and suggested wide mineralization below the thin till cover. Percussion drilling later confirmed copper mineralization, though not of attractive grade.

(f) Kenley C.G. Grid

The little work done on the Kenley C.G. suggests that the eastern half of the Crown Grant is similar to the No. 14 - Falun area. A little copper mineralization was detected by the sampling.

(g) No. 18 - Virginia Grid

The largest and strongest anomalies of the survey were found in this grid.

Three main anomalies were detected of which the strongest occurs on the Virginia C.G. This anomalous area coincides with a large magnetometer anomaly.

The larger of the other two anomalies occurs in the Nelson Fr. - Automatic C.G.s and the smaller in the south-west corner of the No. 18 C.G. The latter, occurring in close proximity to a magnetometer high, was trenched late in the year to reveal patchy copper mineralization in volcanics.

Little is known of the anomalous zone covering the Nelson Fr. - Automatic C.G.s except that its northern portion lies near diorite which is cut by "mine" dykes and which shows no copper mineralization. Its southern portion lies on or close to a mineralized west-trending fault. Further work will be required to determine the significance of this anomaly.

CONCLUSIONS AND RECOMMENDATIONS

The soil survey showed a few anomalous regions on the No. 14 - Falun, Queen J/I Fr., and the South Camp grids. Because of the till cover over the BEM claims geochemical results on the northern grid are inconclusive.

The soil sample survey on the No. 18 - Virginia grid has suggested two areas of interest which should be investigated in greater detail, viz. the No. 5 - No. 18 C.G.s anomalous area and the Nelson Fr. - Automatic C.G.s anomalous area. Further work is warranted in these areas.

2nd. April, 1969.

R. H. DeGroot
Frank Lee

LIST OF PERSONNEL AND DATES EMPLOYED

Total number of men employed: 5

Name and Address	Position	Work Performed	Employed from - to
F. Lee Cumont Camp Princeton	Geologist	Soil testing Supervision Mapping	12 May - 24 Nov.
A. Turja 505-540 Burrard St. Vancouver 1, B.C.	Prospector	Soil Sampling	12 May - 14 June
L. McIver Similkameen Rd. Princeton	Prospector	Soil sampling Line cutting	19 May - 3 Nov.
D. Miller 8th Ave. East Princeton	Student	Soil testing	24 June - 24 Nov.
Miller, 8th Avenue East Princeton	Labourer	Line cutting & marking	1 Sept. - 30 Sept.

CERTIFICATION

I, Dr. R.H. Seraphim, of the City of Vancouver, Province of British Columbia,

HEREBY CERTIFY AS FOLLOWS:

1. I am a geological engineer residing at 4636 West 3rd Ave., Vancouver, B.C., and with office at 427 - 470 Granville St., Vancouver, B.C.
2. I am a registered Professional Engineer of British Columbia. I graduated from the University of British Columbia in 1947, and from Massachusetts Institute of Technology in 1951.
3. I have practiced my profession for 22 years.
4. I have no interest, direct or indirect, in the securities of Cumont Mines Ltd., or in the claims held by Cumont Mines Ltd.
5. I have made examinations of the claim group at approximately monthly intervals during the past year, and have reviewed and discussed the enclosed data with the field staff during these examinations.

DATED at Vancouver, B.C., this 2nd day of April, 1969.


R. H. Seraphim, P. Eng.

CERTIFICATION

I, Thomas Frank Lee,

HEREBY STATE THAT:

1. I am an Australian citizen residing in Vancouver, B.C.
2. I received a Diploma of Civil Engineering in Victoria, Australia, in 1954 and a B.Sc.(Ordinary) in geology at the Melbourne University, Australia in 1959.
3. I am a member of the Geological Society of Australia and a graduate member of the Institution of Engineers, Australia.
4. After three years practice as a structural engineer and one as an assistant office geologist, I spent three field seasons in tropical Australia as a Geologist for The Broken Hill Pty. Co. Ltd. being Officer in Charge for the last two years (1960-61). From 1962 to 1966 I was lecturer in charge of geology at the Bendigo Institute of Technology (late Bendigo School of Mines) and during the field season of 1967 was employed by Bethex Explorations Ltd. as geologist at Alice Arm, B.C. From May 1968 to the present I have been employed by Western Geological Services Ltd. of Vancouver, B.C.

Frank Lee

T.F.Lee, B.Sc., Dip. of C.E., TTTC

CANADA)
)
COUNTY OF YORK)
)
TO WIT)

IN THE MATTER OF a Geochemical Survey on the
properties of Cumont Mines Limited (N.P.L.)

I, Seymour Wisebrot, of the City of Toronto, in the County
of York, make oath and say:

1. That I am Secretary-Treasurer of Cumont Mines Limited (N.P.L.)
and as such have knowledge of the matters deposed of.
2. That a Geochemical Survey has been executed on the Bem Group
area, Princeton, British Columbia, between May 12, 1968 and November 15,
1968, and the following expenses were incurred.

(1) Wages

F. Lee - Geologist - 5 months at \$850/month 30% of time spent supervising geochemical survey	\$1,275
A. Turja - Soil Sampler - 1 month at \$700/month - 100%	700
L. McIvor - Prospector - 5 months at \$600/month 20% of time spent	600
D. Miller - Student - 4 months at \$350/month 10% of time spent	140
F. Miller - Laborer - 1 month at \$425/month linecutting - 100% of time spent	425
	<u>\$3,140</u>

(2) Transportation and Shipping

Estimated at \$5 per day for Lee and Turja. (3) Room & Board Board not supplied to D. Miller, F. Miller and L. McIvor	Nil \$ 450
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(4) Consulting Fee and Field Administration

25% of \$3250	<u>\$ 812</u>
---------------	---------------

TOTAL \$4,402

SWORN before me at the City)
of Toronto, in the County of)
York, this 27th day of June)
1969)



~~A Commissioner for taking
affidavits, etc.~~

A Notary Public in and for
the Province of Ontario.

1985 B

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ASSESSMENT REPORT
1985 B MAP #4
NO. 1985 B

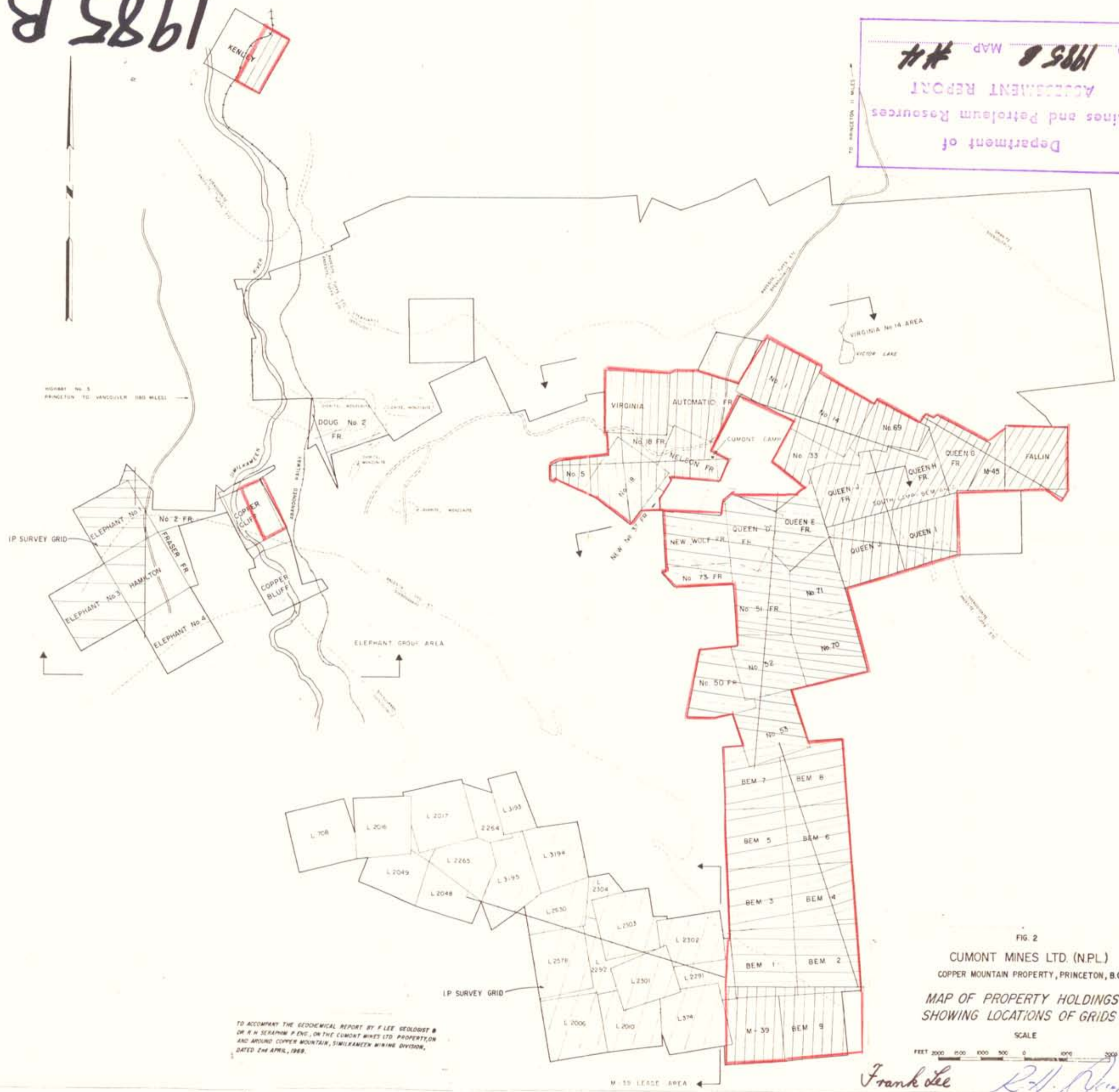
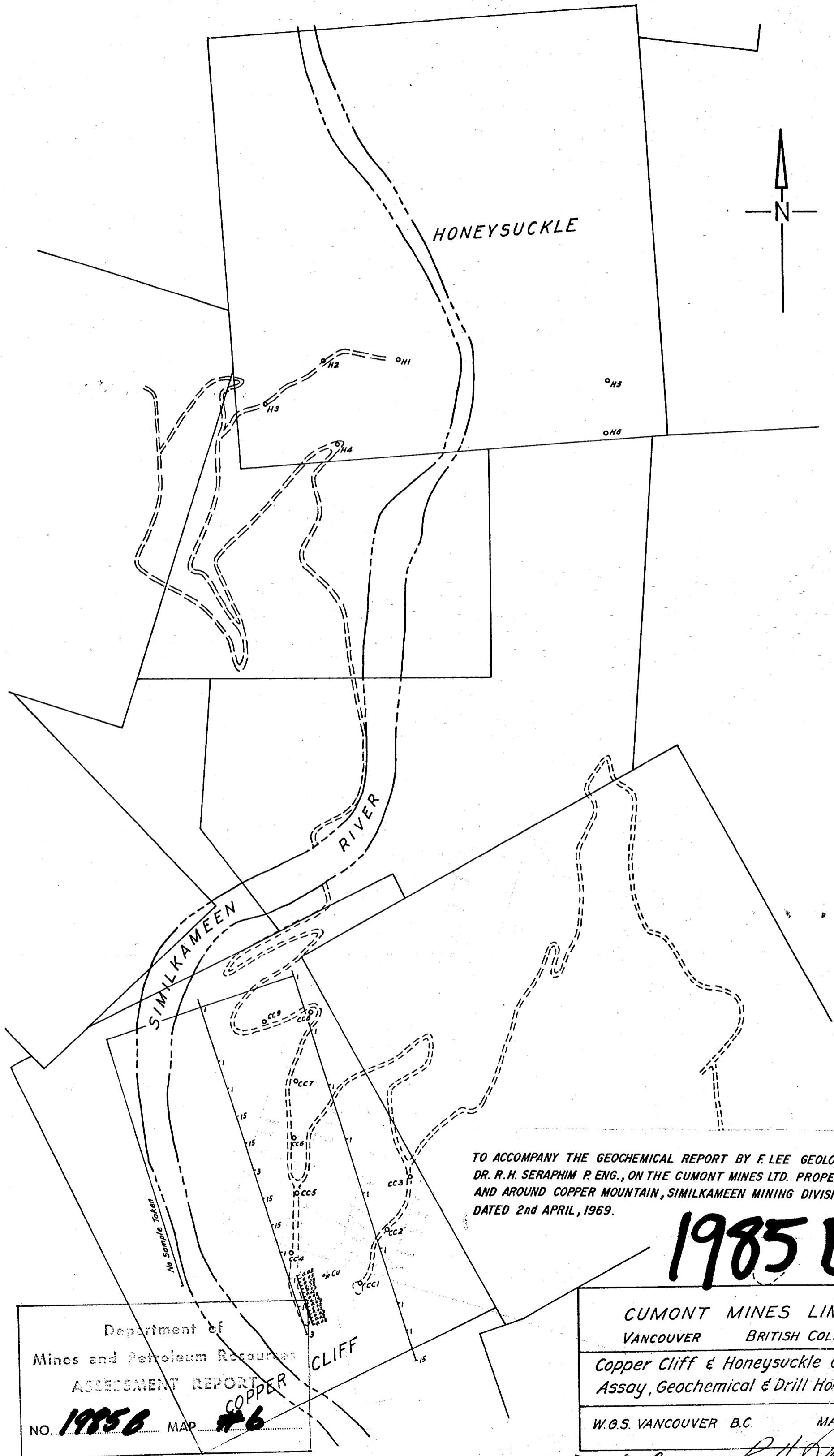


FIG. 2
 CUMONT MINES LTD. (N.P.L.)
 COPPER MOUNTAIN PROPERTY, PRINCETON, B.C.
 MAP OF PROPERTY HOLDINGS
 SHOWING LOCATIONS OF GRIDS
 SCALE

FEET 2000 1500 1000 500 0 500 1000 1500 2000

Frank Lee R.H. Douglas

TO ACCOMPANY THE GEOCHEMICAL REPORT BY F. LEE, GEOLOGIST B OR R.H. SERAPHIN P. ENG., ON THE CUMONT MINES LTD. PROPERTY, ON AND AROUND COPPER MOUNTAIN, SIMILIKAMEEN MINING DIVISION, DATED 24th APRIL, 1985.



TO ACCOMPANY THE GEOCHEMICAL REPORT BY F. LEE GEOLOGIST & DR. R. H. SERAPHIM P. ENG., ON THE CUMONT MINES LTD. PROPERTY, ON AND AROUND COPPER MOUNTAIN, SIMILKAMEEN MINING DIVISION, DATED 2nd APRIL, 1969.

1985 B FIG. 5

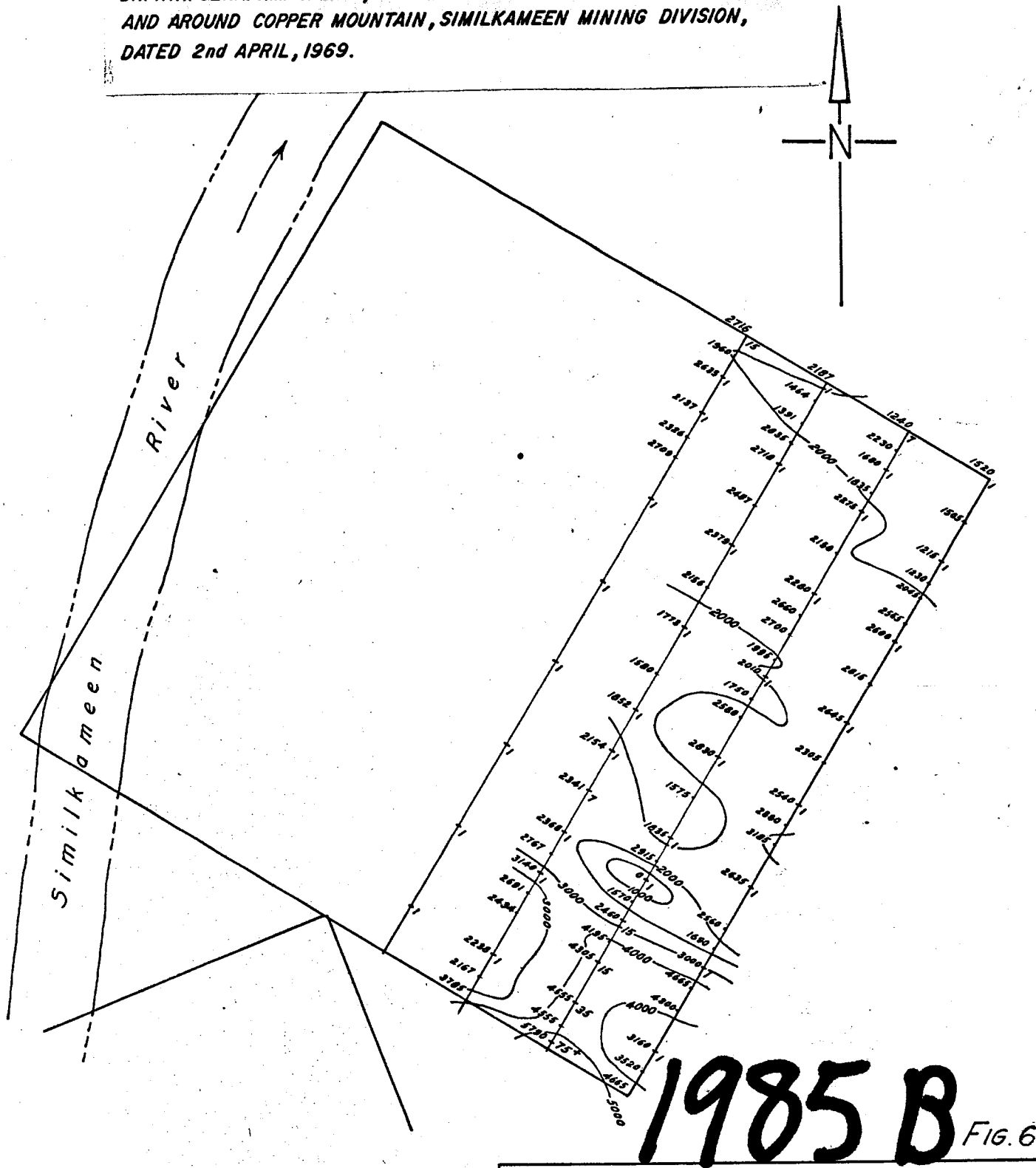
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NO. **1985 B** MAP **COPPER #6**

CUMONT MINES LIMITED
VANCOUVER BRITISH COLUMBIA
Copper Cliff & HoneySuckle Grants
Assay, Geochemical & Drill Hole Plan
W.G.S. VANCOUVER B.C. MARCH 1969

Frank Lee

R. H. Seraphim

TO ACCOMPANY THE GEOCHEMICAL REPORT BY F. LEE GEOLOGIST &
 DR. R. H. SERAPHIM P. ENG., ON THE CUMONT MINES LTD. PROPERTY, ON
 AND AROUND COPPER MOUNTAIN, SIMILKAMEEN MINING DIVISION,
 DATED 2nd APRIL, 1969.



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 Mag. & Geochem.
 (Figures not tied in
 to base station '00')

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NO. **1985 B** MAP **#7**

CUMONT MINES LIMITED
 VANCOUVER BRITISH COLUMBIA

Kenley Crown Grant
 Magnetometer & Geochemical Results

W.G.S. VANCOUVER B.C.

MARCH 1969

Frank Lee R.H. Seraphim

No. 50 FR.

No 53

BEM 7

BEM 8

BEM 5

BEM 6

BEM 3

BEM 4

BEM 1

BEM 2

M-39

BEM 9

L 2304

L 2303

L 2302

L 2292

L 2301

L 2291

L 2010

L 374

Trenches

Trench

Trench

Trench

Trench

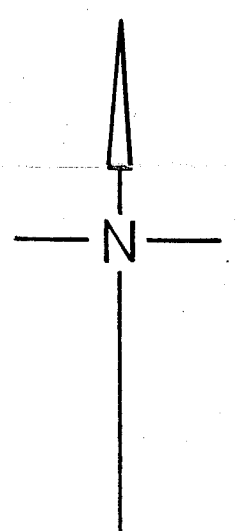
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PLATE 1

1985 B

CUMONT MINES LIMITED

**PRINCETON AREA, BRITISH COLUMBIA
 GRID AND CLAIM LOCATIONS**



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NO. 1985B MAP #2

1985 B

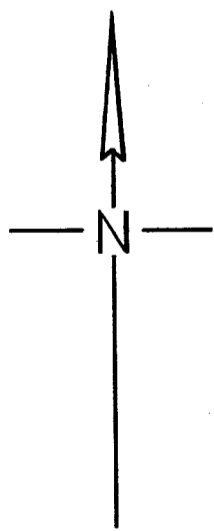
CUMONT MINES LIMITED
VANCOUVER BRITISH COLUMBIA
Soil Sample Results
No. 18, Falun, South Camp Area
Princeton B.C.

Results in ml. of Dithizone Scale: 1"=300'
1968
W.G.S. VANCOUVER B.C. MARCH 1969

To accompany geochemical report by F. Lee, geologist and R.H. Seraphim, P. Eng. on
Cumont Mines Property, Copper Mountain Area, Similkameen Mining Division, B.C. April 2, 1969

Frank Lee R.H. Seraphim Fig. 3

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 NO. **1985 B** MAP # **3**



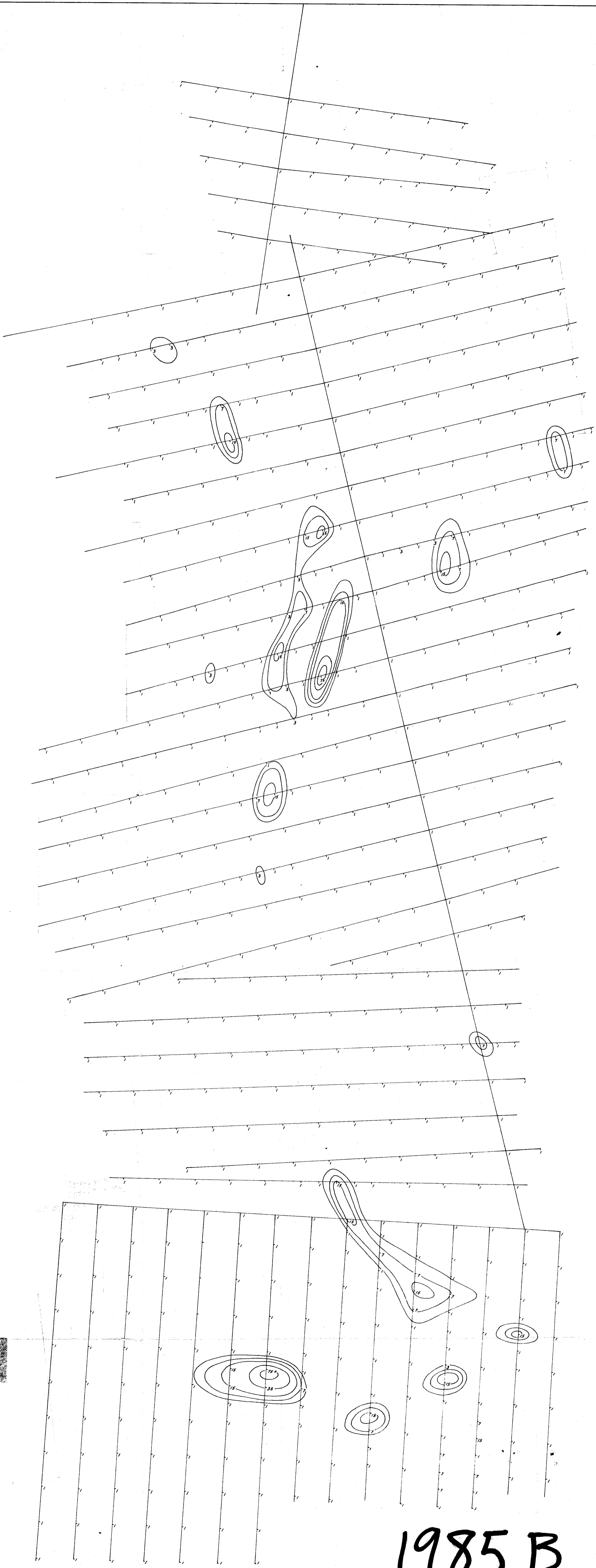
*Soil Sample Results report by F. Lee, geologist and J. H. Scraper, P. Eng.
 on Cumont Mines Property, Upper Alouette Area, Strathcona Mining Division, B.C.
 April 2, 1969*

CUMONT MINES LIMITED
 VANCOUVER BRITISH COLUMBIA

Soil Sample Results
 B.E.M. Group Area
 Princeton B.C.

Results in ml. of Dithizone Scale: 1" = 300'
 1968

W.G.S. VANCOUVER B.C. MARCH 1969



1985 B

F. Lee *Frank Lee*