

5854

GEOCHEMICAL REPORT
on the
RN 1-36 MINERAL CLAIMS
of
MINAS DE CERRO DORADO LTD. (N.P.L.)
OMINECA MINING DIVISION, BRITISH COLUMBIA

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5854 MAP

Vancouver, B.C.
March 29, 1976

F. Holcapek, P.Eng.

TABLE OF CONTENTS

	<u>Page</u>
1-00 INTRODUCTION.....	1
2-00 PROPERTY.....	1
3-00 HISTORY.....	1
4-00 GEOGRAPHY.....	2
4-10 Location.....	2
4-20 Access.....	2
4-30 Topography.....	3
4-40 Climate.....	3
4-50 Vegetation.....	3
5-00 GEOLOGY.....	3
5-10 Regional Geology.....	3
5-20 Property Geology.....	4
5-30 Mineralization.....	5
6-00 GEOCHEMICAL SURVEY.....	7
6-10 Method.....	7
6-20 Interpretation.....	8
6-30 Results.....	8
6-31 Anomalous Area I 24W, ON to 8W, ON.....	9
6-32 Anomalous Area II 0W, 20N - 16E, 38N.....	9
6-33 Anomalous Area III 20E, ON - 48E, 18N.....	9
6-34 Other Anomalies.....	9
7-00 CONCLUSIONS.....	10

LIST OF MAPS

- #1 Property Location Map
- #2 Geochemical Values & Contours for Copper in ppm.
- #3 Frequency Distribution Graph
- #4 CLAIM MAP

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1-00 INTRODUCTION:

During September 1975, a program consisting of soil sampling and detailed prospecting was conducted on the property. The purpose of the program was to check the overburden-covered section to the north and west of the outcrop area for buried copper mineralization. The program was conducted by personnel of Agilis Engineering Ltd. under the supervision of the writer.

2-00 PROPERTY:

The property consists of the following contiguous mineral claims:

<u>Claim Name</u>	<u>Recorded number</u>
RN 1-36	124189 - 124224

The claims were staked by Darrell Reinke and are owned by Minas De Cerro Dorado Ltd. (NPL)

3-00 HISTORY:

The copper-molybdenum showings on Drybrough Peak were first located about 1964 and have been held by various parties previous to being staked for Minas De Cerro Dorado Ltd. in April, 1973. Surveys have consisted of

modest programs of geochemical, geological and geophysical testing, very minor trenching and a single diamond drill hole of unknown depth. Except for a 1968 induced polarization survey (Assessment Report 2307) and Geological Survey (Assessment Report 1802) the results of the surveys are not known to the writer.

Important discoveries of gold and copper have been made northwest and southeast of the RN claims. Exploration activity has been at a high level in the Sustut Peak and Toodoggone Lake areas since 1970. During the 1973 field season a property examination of the RN claims on behalf of Minas De Cerro Dorado Ltd. (NPL), was made by personnel of Agilis Engineering Ltd. Work consisted of a claims survey, geological mapping of the entire claims area, sampling of the mineral showings and geochemical and geophysical (magnetometer) surveys on the RN 7, 9, and 11 mineral claims.

4-00 GEOGRAPHY:

4-10 Location:

The RN property is situated 215 miles NNW of Fort St. James and 9 miles north of Thutade Lake. The area is covered by NTS sheet 94E (Toodoggone River). The exact location of the claims is 126 55' W Longitude and 57 12' N Latitude.

4-20 Access:

Access is by float-equipped aircraft to Thutade Lake, 9 miles south or to Toodoggone Lake 12 miles north of

the property, and from there to the property by helicopter. There are scheduled flights during the summer months between Prince George and Johanson Lake or Smithers and Bear Lake. Alternately a gravel and dirt road can be driven from Fort St. James to Johanson Lake, 55 miles southeast of the property.

4-30 Topography:

Topographic relief is gentle over the north half of the property, while that over south half is rugged with elevations of 5,000 to 6,770 feet. Water for exploration purposes is available year-round from small streams which cut the north and southwest claims.

4-40 Climate:

Winters are severe, with snow falling as early as late August and persisting until early June. Rainfall during the summer months is moderate. The best time for exploration is from mid-June to mid-August.

4-50 Vegetation:

Much of the property lies above tree-line and is covered by moss and alpine grass. Steeper slopes and higher areas of Drybrough Peak have no vegetation and are covered by rock rubble. Small clumps of mountain spruce, underbrush and marsh are found along the stream valleys.

5-00 GEOLOGY:

5-10 Regional Geology:

The general geology of the Toodoggone River area as far south as Thutade Lake is outlined in the 1971 volume of

"Geology, Exploration and Mining in B.C.", B.C.
Department of Mines, pp. 63-64.

Stocks of Omineca Granite (Jurassic and Cretaceous) intrude Takla Group volcanics (Upper Triassic-Lower Jurassic) in the Drybrough area, Toodoggone Volcanics (Jurassic) occur to the northwest, Sustut clastics (upper Cretaceous-Early Tertiary) lie to the west and older metamorphic rocks are found several miles to the east of Drybrough Peak.

The Takla Group consists mainly of basaltic flows and pyroclastics including augite porphyries and crystal and lapilli tuffs. Also associated are wedges of white crystalline limestone, some of which may be Palaeozoic in age.

The Omineca Intrusions are medium grained, equigranular, pink to grey quartz monzonite and granodiorite.

5-20 Property Geology:

The two rock types underlying the RN claims are Omineca intrusive rocks and Takla Group volcanics with minor limestone.

The former consists of hornblende and biotite-hornblende syenite and monzonite which vary in color from dark pink to white and green. The intrusive stock is irregular in shape and small dykes commonly cut the volcanics far from the main body, having been guided by a strong pre-intrusive fracture system in the

volcanics. The intrusives and volcanics are rich in magnetite and are locally pyritiferous. Formation of gossans by weathering is common. In several areas chlorite-sericite alteration is associated with mineralized fractures. The Takla Group flows and pyroclastics are the most common underlying rock type. They consist of purple and green andesite, andesite feldspar porphyry and tuff. Fracturing is widespread and chloritization is pervasive. Magnetite is common except in areas of strong pyrite alteration. White limestone units are exposed in the stream bed of claim RN 7: massive, cliff-forming unit in the southwest corner of the claim group. Contact relationships between the limestone and volcanics are not seen. Skarn does not occur between the syenite and the limestone.

5-30 Mineralization:

Sulfide mineral occurrences are found over most of the property, although many appear to be minor. There are two notable occurrences of chalcopyrite and chalcopyrite-molybdenite.

One is located in the NW side of Drybrough Mountain on claim RN 20. It is about 250 feet x 150 feet and is largely hidden by talus. It consists of disseminations and fracture fillings of chalcopyrite and blebs of molybdenite in the intrusive and is associated with fractures in the volcanics. The volcanic-intrusive contact to the west of the showing is exposed over several hundred feet and has no associated mineralization. To the north, and for a short distance to the east it is not mineralized.

Alteration minerals in the form of chlorite, sericite and hematite are associated with the mineralization near the fracture zones. Chip samples over the main mineral zone were taken perpendicular to the fractured and altered fracture zones. One sample (31-1) over 9 feet in width assayed 0.13% copper, 0.010% molybdenum and another 25 feet in width (31-2) assayed 0.10% copper, 0.15% molybdenum.

The second showing of any size is situated 200 feet west of Drybrough Peak and lies totally within volcanic tuffs and andesites. It is related to fracturing and to syenite dykes which occur just to the north and often carry minor chalcopryrite. Malachite is extensive over an area 10 feet x 60 feet and small amounts of chalcopryrite and bornite are sometimes seen. The mineralization, being fracture associated, is largely leached on the surface. The extent of the showing to the north could not be traced along the cliffs and to the south it disappears under talus. A grab sample (26-9) assayed 0.58% copper and 0.36% oz/ton silver. Elsewhere, malachite and chalcopryrite occur in scattered localities as indicated on the map. These occurrences are related to syenite-monzonite dykes and associated fractures in the volcanics. Malachite stained fractures are sometimes seen in the massive intrusive rock. Along the north end of the property a wide gossan occurs in both the intrusive and the volcanics. Malachite occurs in the leached outcrop in two localities, however, pyrite is the only visible sulfide. A two foot wide vein of magnetite, hematite

and minor sphalerite occurs just west of the gossan, situated totally within limestone. A geochemical soil sampling survey and a magnetometer survey were conducted over this zone. Samples of gossanous material were assayed for silver and gold, both of which were very low. Soil samples were assayed for copper and molybdenum the results of which are summarized in the following section.

Structurally, an apparently regional fault zone cuts through the northern part of the property. Pyrite gossans are thought to be related to this fault. Fracturing is moderately strong over most of the exposed outcrop.

6-00 GEOCHEMICAL SURVEY:

A soil survey was conducted over the overburden-covered property, to test for possible buried copper mineralization to the north and west of the outcrop area.

A total of 72,000 feet of baseline and 70,200 feet of cross lines were sampled.

6-10 Method:

Samples were taken on a 400 x 200 foot compass and chain grid. Stations were marked by flagging at 200 foot intervals.

Soil samples were collected from the B horizon at a depth of 6 to 14 inches, using a soil auger. A portion

of the soil obtained was placed into Kraft sample envelopes which were numbered corresponding to the grid location. At each sample location notes were recorded on any data that might enable a better interpretation of the results.

Samples were forwarded to Chemex Ltd., North Vancouver, for analysis. After drying in an electric oven the soil was screened and the minus 80 mesh fraction was digested in hot perchloric-nitric acid mixture. Quantitative analysis for total copper was performed by atomic absorption and reported in parts per million (ppm).

6-20 Interpretation:

The soil sample results were analysed statistically. The data was grouped, percentage and cumulative percentage was calculated and then plotted on arithmetic probability paper.

<u>No. of Sample</u>	<u>Range ppm</u>	<u>Background Value</u>	<u>Percent Total</u>	<u>Anomalous Value</u>	<u>Percent of Total</u>
330	6 - 750	60ppm	72.36%	140	12.90

6-30 Results:

The survey outlined several areas of anomalous copper having distribution. Taken into consideration the presence of widespread chalcopyrite and molybdenite mineralization were the presence of two previously outlined induced polarization anomalies. The distribution of the anomalous geochemical samples does not help in definitely delineating drill targets.

6-31 Anomalous Area I 24W, ON to 8W, ON:

The anomalous area straddles the creek and has peak values located along the slope north of the creek. The outline of the anomaly is erratic and contains 3 centers of highs with intervening areas of background values. Downslope disbursement of copper ions appears to produce the distribution. A northerly trending I.P. anomaly is located in the general area.

6-32 Anomalous Area II 0W 20N - 16E 38N:

Two well-defined copper highs are located in this area. The highs are separated by area of background values. The northern most anomaly is open to the north and east. A shear with a gossan capping is exposed in this area. A northerly I.P. survey has been located in the vicinity of 0W 20N. But the trend of the I.P. anomaly is nearly perpendicular to the geochemical trend. The latter appears to be controlled by drainage.

6-33 Anomalous Area III 20E ON - 48E 18N:

This anomaly appears to follow the volcanic - intrusive contact. It is narrow, less than 200 feet wide and cuts across topography. The maximum value is 460ppm.

6-34 Other Anomalies:

Several small anomalies are located between line and 24W. An I.P. anomaly located at approximately 8W 20N appears to be displaced in respect to the geochemical anomalies. The area is overburden-covered, but the I.P. area is of a lower elevation than the geochemical anomaly.

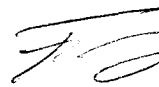
7-00 CONCLUSIONS:

The geochemical survey outlines three areas definitely anomalous in copper.

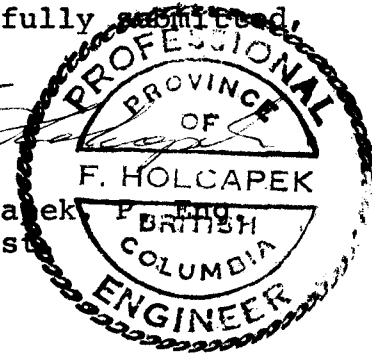
The induced polarization anomalies from previous surveys, although located in the general anomalous area, do not coincide with the geochemical results. Numerous small erratic anomalies indicated are most likely caused by mineralized boulders incorporated in glacial till.

Further detailed investigations are necessary before drill targets can be outlined.

Respectfully submitted,



F. Holcapek
Geologist



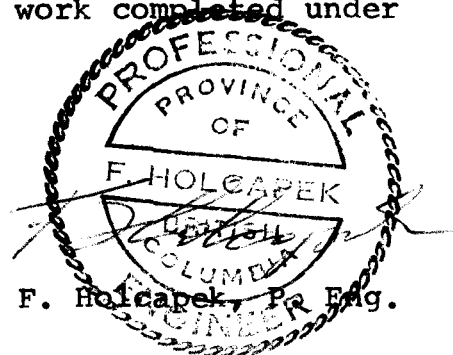
Vancouver, B.C.
March 29, 1976

<u>Range</u>	<u># of Samples</u>	<u>Percent of Samples</u>	<u>Accumulated %</u>
0 - 20	81	24.32	24.32
21 - 40	114	34.23	58.55
41 - 60	46	13.81	72.36
61 - 80	23	6.90	79.26
81 - 100	14	4.20	83.46
101 - 120	9	2.70	86.16
121 - 140	3	0.90	87.06
141 - 160	4	1.20	88.26
161 - 180	4	1.20	89.46
181 - 200	5	1.50	90.96
201 - 220	5	1.50	92.46
221 - 240	4	1.20	93.66
241 - 260	2	0.60	94.26
261 - 280	2	0.60	94.86
281 - 300	3	0.90	95.76
301 +	<u>14</u>	<u>4.20</u>	99.96
	333	99.96	

CERTIFICATION

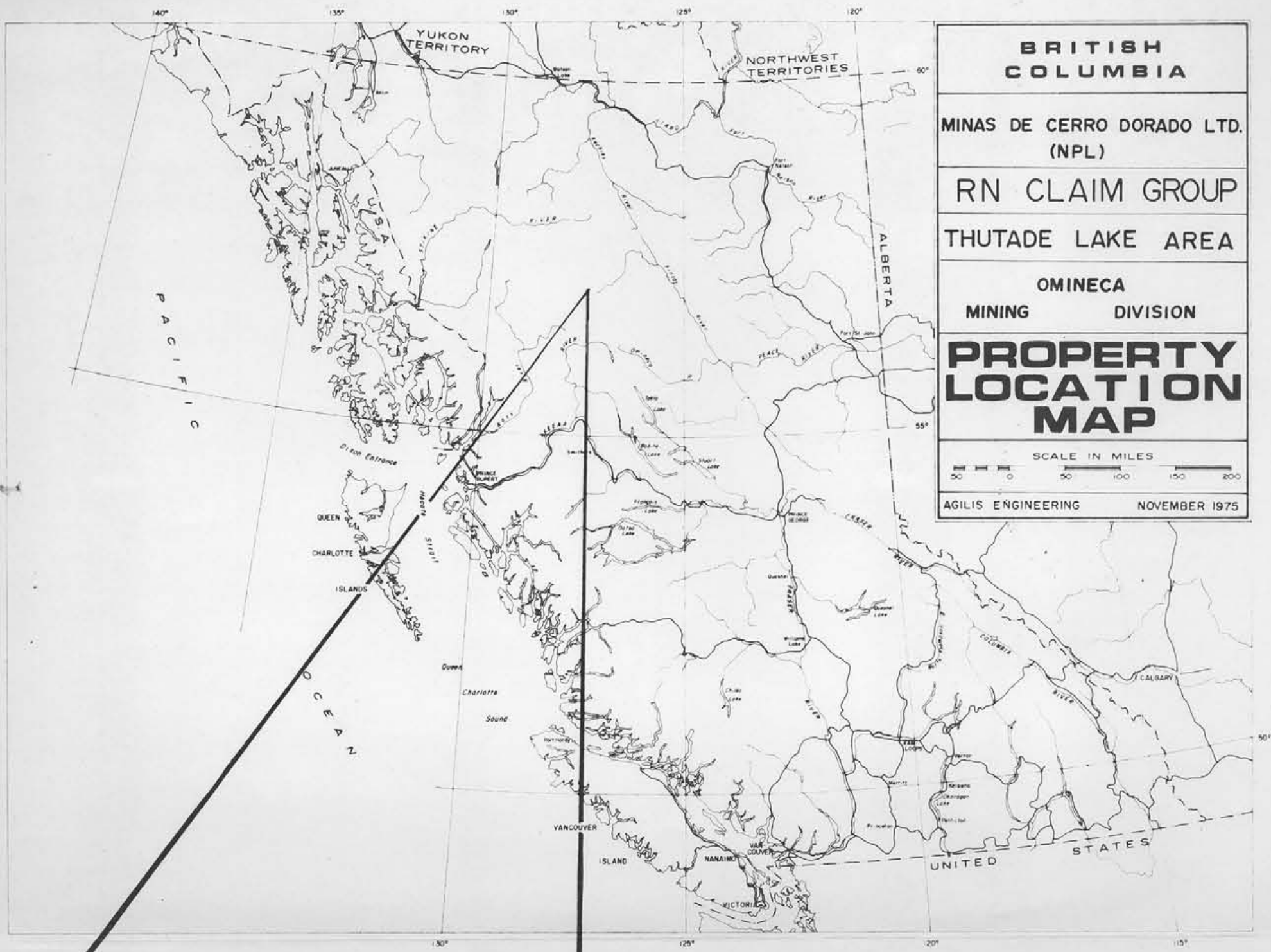
I, Ferdinand Holcapek of 92-10842 152nd Street, Surrey, British Columbia, do hereby certify that:

1. I am a graduate of the University of British Columbia, with a Bachelor of Science Degree in Geology, 1969.
2. Since graduation I have been engaged in mining exploration in Canada, U.S.A., Mexico, Australia and Nicaragua.
3. I am a registered member, in good standing, of the Association of Professional Engineers of British Columbia.
4. The report is based on field work completed under supervision of the writer.



Vancouver, B.C.

March 29, 1976



BRITISH COLUMBIA

MINAS DE CERRO DORADO LTD.
(NPL)

RN CLAIM GROUP

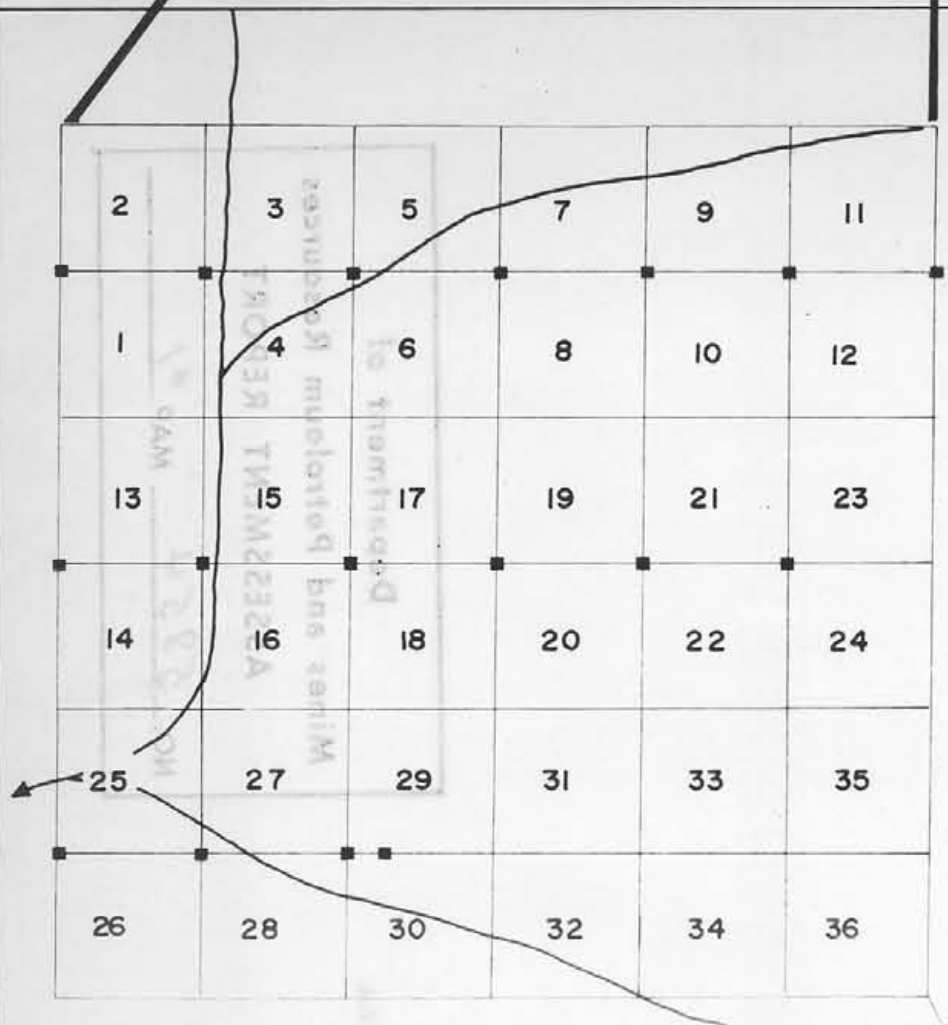
THUTADE LAKE AREA

OMINECA
MINING DIVISION

PROPERTY LOCATION MAP

SCALE IN MILES
0 50 100 150 200

AGILIS ENGINEERING NOVEMBER 1975



RN CLAIM GROUP

SCALE 1" = 2000 feet



THUTADE LAKE 6 MILES

DOMINION OF CANADA:
 PROVINCE OF BRITISH COLUMBIA:
 To Wit:

In the Matter of the geochemical survey on the RN Claim.

I, *Frederica G. Shnay*

of c/o 107- 325 Howe Street, Vancouver, B.C.

in the Province of British Columbia, do solemnly declare that the following personnel were employed and costs incurred in conducting the survey.

Personnel

F.Holcapek- P.Eng.		\$ 500.00
D.Reinke- Party chief	16 days	1090.00
M. Mc Garry-Fieldman	16 days	1090.00
S.Visser- Prospector	16 days	1090.00
F.Shnay- Draughtwoman	11 hours @\$12.50/hour	<u>138.70</u>
		3908.70

Disbursements

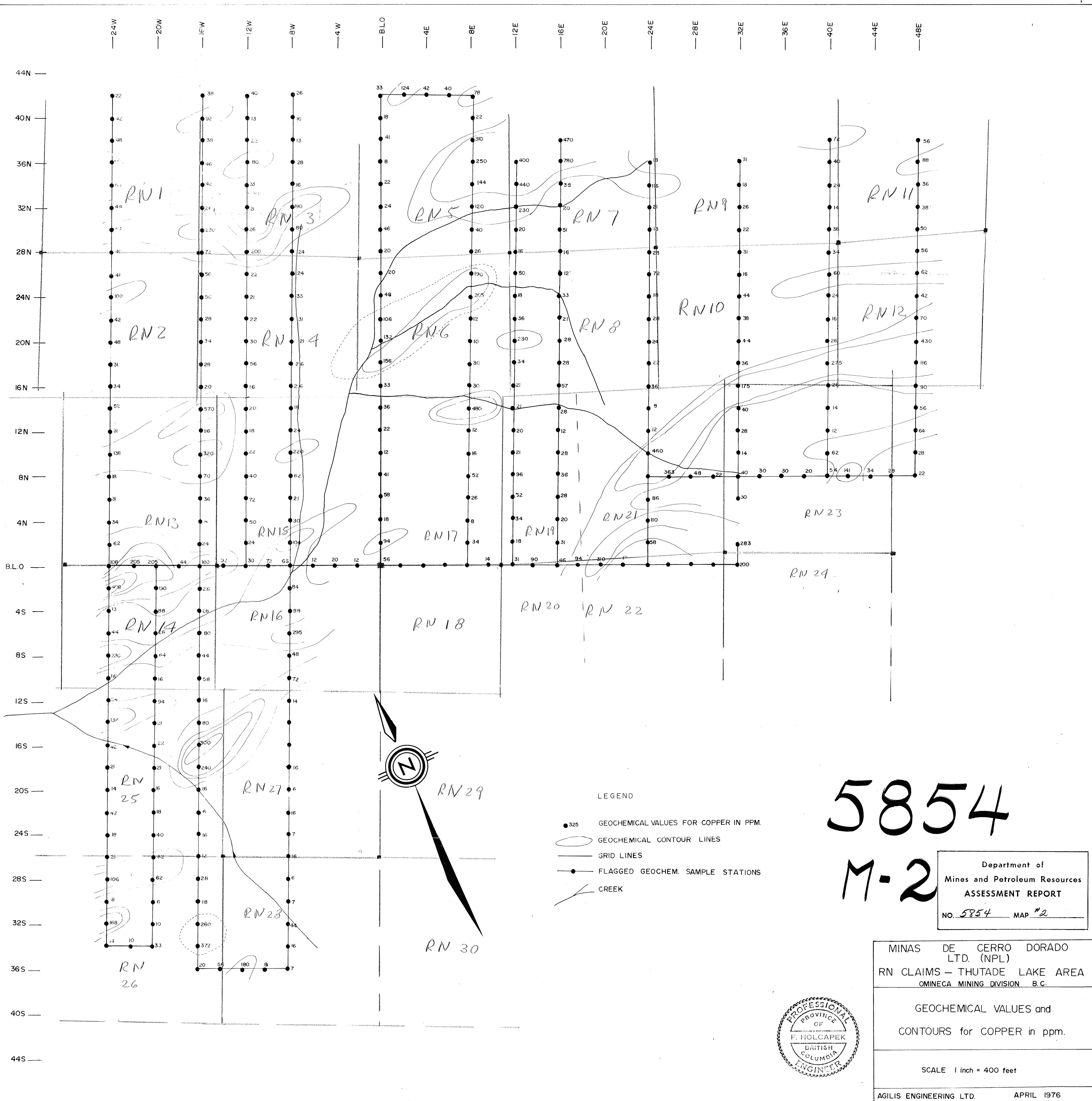
Helicopter charges	\$1968.00	
Geochemical testing	517.54	
Freight charges	67.60	
Air fares	315.30	
Hotel & Meals	560.85	
Field supplies	70.61	
Truck rental plus mileage & gasoline	282.80	
Camp supplies	90.00	
Prints, draughting supplies & miscellaneous charges	35.00	
Typing of report	<u>52.00</u>	
	3398.85	
Plus 20% overhead on disbursements	<u>679.77</u>	<u>4078.62</u>
		<u><u>\$7987.32</u></u>

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the *City*
 of *Vancouver*, in the
 Province of British Columbia, this *29*
 day of *April* *1976*, A.D.

Frederica Shnay

Jill Surran
 A Commissioner for taking Affidavits for British Columbia or
 A Notary Public in and for the Province of British Columbia.
 Sub-Mining Recorder

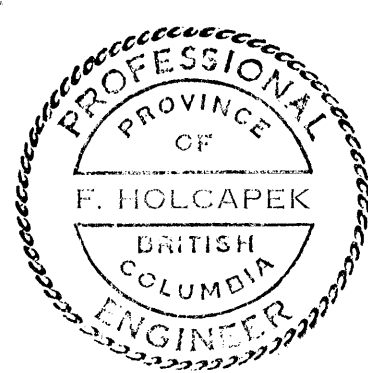


5854
M-2

- LEGEND
- 325 GEOCHEMICAL VALUES FOR COPPER IN PPM.
 - GEOCHEMICAL CONTOUR LINES
 - GRID LINES
 - FLAGGED GEOCHEM. SAMPLE STATIONS
 - X— CREEK

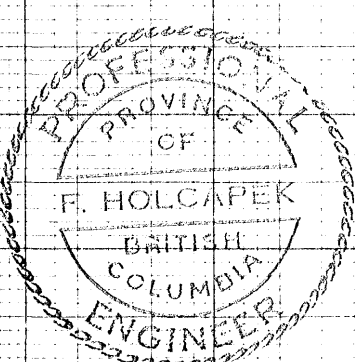
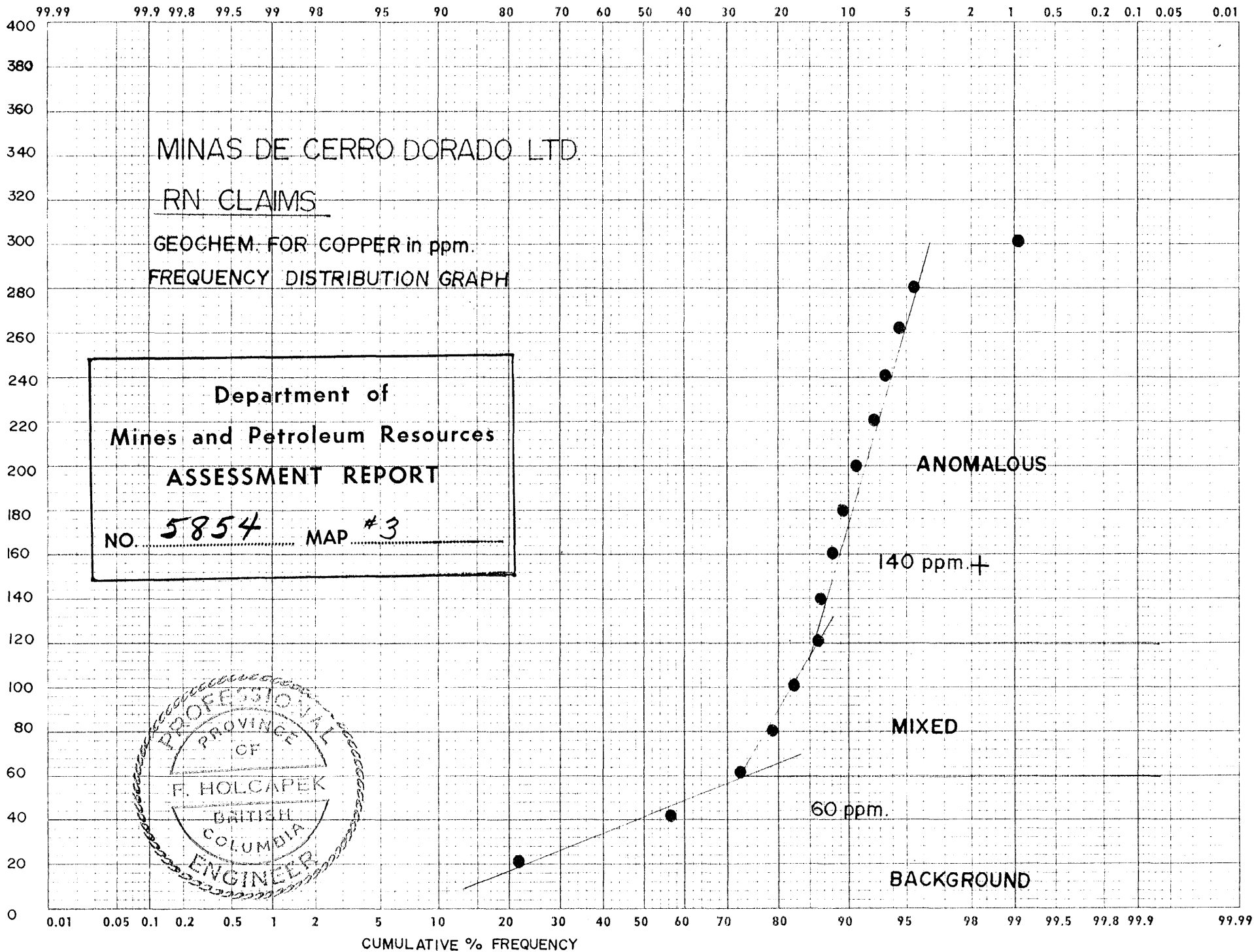
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5854 MAP #2

MINAS DE CERRO DORADO
LTD. (NPL)
RN CLAIMS - THUTADE LAKE AREA
OMINECA MINING DIVISION B.C.



GEOCHEMICAL VALUES and
CONTOURS for COPPER in ppm.

SCALE 1 inch = 400 feet



M 94E/21

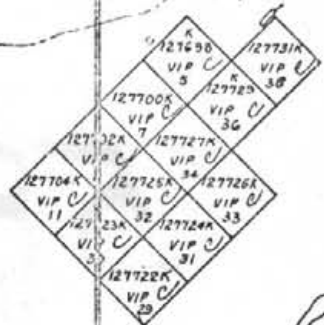


R.N. Claims
MINAS DE CERRO

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
5854



A 12330

A 12312

351

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