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April '79

PHOENIX GEOPHYSICS LIMITED

REPORT ON THE INDUCED POLARIZATION AND RESISTIVITY SURVEY ON THE MT. SICKER PROPERTY VICTORIA MINING DIVISION, B.C. FOR SEREM LIMITED

PRELIMINARY

1. INTRODUCTION

An Induced Polarization and Resistivity survey has been carried out over part of the Mt. Sicker Property for SEREM Limited. The property is located within the Victoria Mining Divsion, about 10 kilometers northwest of Duncan on Vancouver Island, B.C. The approximate centre of the property is situated at 48°52' north latitude and 123°46' west longitude.

Access to the property is north on the Somenos Road from Highway #18, then northwest on to the Mt. Prevost Road. A network of old mining and logging roads lead to various parts of the claim group.

The purpose of the IP survey was to explore for indications of ore extensions around the old mine workings and to investigate areas of similar geological conditions for new mineral occurrences.

Field work was carried out by Mr. Alex B. Walcer, Senior Field Supervisor for Phoenix Geophysics Limited. The survey was carried out in April, 1979. A Phoenix IPT-1, IPV-1 frequency domain IP system was used for the survey. Operating frequencies were 0.3 and 5.0 Hz.

2. DESCRIPTION OF CLAIMS

SEREM Limited is the recorded owner of the following listed claims under the terms of an option agreement with Mount Sicker Mines Ltd.

LIST OF CLAIMS

Crown Granted Mineral Claims

Name	Lot No.	Owner
Estelle	53-G	SEREM LTD.
Westholme	54-G	"
Blue Bell	51-G	"
Moline Fraction	50-G	"
Acme	4-G	"
Tony	18-G	"
Hellena	47-G	"
Westholme Fraction	59-G	"
Dixie Fraction	21-G	"
Golden Rod	44-G	"
Donagan	18-G	"
XL	19-G	"
Donald	63-G	"
Muriel Fraction	108-G	"
Doubtful Fraction	87-G	"
Thelma Fraction	85-G	"
Imperial Fraction	86-G	"
Herbert Fraction	20-G	"
Phil Fraction	110-G	"
NT Fraction	43-G	"

Name	Lot No.	Owner
Magic Fraction	41-G	SEREM LTD.
Richard III	39-G	"
Key City	37-G	"
Lenora	35-G	"
Tyee	36-G	"
International Fraction	60-G	"

Recorded Mineral Claims	Record No.	
C.F. Group #1-8 inclusive	N14150-N14157	"
C.F. Group #13-18 inclusive	N14162-N14167	"

3. PRESENTATION OF RESULTS

The Induced Polarization and Resistivity results are shown on the following enclosed data plots. The results are plotted in the manner described in the notes preceding this report.

Line	Electrode Interval	Dwg. No.
12W	30 M	IP
0+00	60 M	
0+00	30 M	
0+00	30 M	
4E	30 M	
8E	60 M	
8E	60 M	
8E	30 M	
16E	30 M	
20E	30 M	
28E	60 M	
32E	60 M	
32E	30 M	

Line	Electrode Interval	Dwg. No.
32(a)E	60 M	IP
36E	60 M	
40E	60 M	
44E	60 M	
48E	60 M	
52E	60 M	
56E	60 M	
60E	60 M	
64E	60 M	
68E	60 M	

Also enclosed with this report is Dwg. I.P.P. , a plan map of the Mt. Sicker Grid at a scale of 1:2500 metric. The definite, probable and possible Induced Polarization anomalies are indicated by bars, in the manner shown on the legend, on this plan map as well as on the data plots. These bars represent the surface projection of the anomalous zones as interpreted from the location of the transmitter and receiver electrodes when the anomalous values were measured.

Since the Induced Polarization measurement is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length; i.e. when using 60 M electrode intervals the position of a narrow sulphide body can only be determined to lie between two stations 60 M apart. In order to definitely locate, and fully evaluate, a narrow, shallow source it is necessary to use shorter electrode intervals. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while the centre of the indicated anomaly probably corresponds fairly well with source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

The grid and claim information shown on Dwg. I.P.P.   has been taken from maps made available by the staff of SEREM LTD.

4. DESCRIPTION OF GEOLOGY

The Mt. Sicker property straddles Big Sicker Mountain and part of Little Sicker Mountain, Victoria Mining Division, Vancouver Island, B.C.

Big Sicker Mountain is a little over 700 M high. The ~~flats~~ FLANKS slope between 10° and 30° and are heavily treed.

The property centers on an old underground mine which has been worked sporadically by various companies since the turn of the century. The initial discovery was made in 1897, with development and mining beginning on the Tyee Claim in that year. Work on the Lenora claim began in 1898, and the two claims were amalgamated by the Lenora Mount Sicker Mining Company in 1900. Mining continued until 1907. Another company shipped a few tons from the Richard III claim in the same period.

Development and exploration work were done by Ladysmith-Tidewater Smelters Ltd., in 1926-29 and by Sheep Creek Mines Ltd., in 1939-40.

From 1943-47 Twin J Mines produced copper and zinc concentrates from the consolidated group. In 1949-52 Vancouver Island Base Metals rehabilitated the mine, with some production.

Some surface mining was done by the original principals of Mt. Sicker Mines Ltd. in 1964, and the company was formed shortly thereafter. From that time until 1974 various operators explored the property, doing surface mapping and diamond drilling. In 1967 an attempt was made to extract copper from dump material by heap leaching, but it did not prove feasible.

Ore in the old mine occurred as two orebodies, more or less parallel and trending east-west. It was of massive sulphide type, containing principally copper and zinc, with minor lead and significant gold and silver. Barite is a major constituent of some ore and may be of economic interest. To ~~data~~ date, production has been 305,787 tons of ore running about 33% Cu, 7.5% Zn, 0.13 ou. Au and 2.75 ou. Ag.

Orebodies occur within the mid to upper paleozoic Sicker Group, associated with schists believed to be derived from acid volcanics. They were similar to those now being mined by Western Mines at Buttle Lake, and are hypothesized to be of Kuroko type.

Hopes of finding more ore on Mount Sicker are based on two possibilities. One is that there may be ore remaining in or near the old mine. Old mine plans and reports show a few occurrences of massive sulphides which were not exploited or followed up, and several references are made to "low grade" disseminated type mineralization that was not of much interest in the early days. However, no specific information is available about what remains in the old mine area.

The other possibility is that there may be similar deposits elsewhere on the property. Many mineral occurrences have been found, and rocks similar to the host rocks in the mine are widespread on the flanks of Big Sicker Mountain.

5. DISCUSSION OF RESULTS

The Induced Polarization and Resistivity survey consisted of a limited amount of orientation surveying in the vicinity of the old workings followd by a number of reconnaissance lines to the east.

The orientation work was carried out in the vicinity of the Lenora openings and the Tyee shaft~~s~~ where considerable massive sulfide ore has been previously mined. Graphitic schist has been mapped in both these locations in close proximity to the known sulfides. Metal pipes and tracks probably exist in some of the old workings. Both the pipes and graphite would be expected to contribute to the recorded IP effect.

A specimen of the graphitic schist tested in the Phoenix laboratory, had a Frequency effect of   and a resistivity of   . While these results are anomalous, the FE is significantly lower and the resistivity higher than normally obtained from graphitic schist. Possibly some of the carbonaceous material was not graphite.

The resistivities associated with the IP anomalies are moderate to moderately high in magnitude. The frequency effects are of low to moderate magnitude. The anomalies are not typical of the response that would be expected from large conductive massive sulfide bodies. However, smaller bodies with their response averaged in with the country rock, could result in anomalous conditions similar to those recorded. Detail ~~survey~~ SURVEYING with shorter dipoles would better define the shallow source anomalies.

A line by line discussion of the survey results follows:

Line 12W, Dwg. IP

A moderate magnitude IP anomaly centred at 0+00 has an estimated depth to the source of 15 M. The Lenora No.1 and No.2 Adits are located 50-60 M east of the grid line.

Line 0+00, Dwgs. IP -2,-3,-4

The 60 M dipole survey outlines a generally shallow IP anomaly between 60S and 120N. The anomalous pattern could reflect a single source or two separate IP sources. There is a suggestion of a stronger source at depth beneath 90N.

In order to further investigate the nature of the source, the line was resurveyed with shorter 30 M dipoles (see Appendix). This detail suggests two separate anomalies, both with some indicated depth to the top at the source. The northerly anomalous zone occurs between 30N and 90N. The depth to the source is estimated to be 30-45 M. The second anomaly is located between 0+00 and 30S. It has an indicated depth of about 15 M.

A northern portion of Line 0+00 was also surveyed with 30 M dipoles. A wide zone of weak IP effects was located, extending south from 570N, and extending beyond the IP coverage at 450N. The strongest IP effects occur between 510N and 540N. The source is shallow and the results similar to those usually recorded from ~~sparesely~~ SPARSELY disseminated metallic material.

Line 4E, Dwg. IP -5

Line 4E was surveyed from 420N to 690N with 30 M dipoles. A very weak shallow anomaly extends south from 540N to 450N. Somewhat stronger IP effects associated with much lower resistivities occur~~s~~ between 450N south to the end of the survey coverage at 420N.

Line 8E, Dwg. IP -6,-7,-8

The 60 M dipole survey outlined a well defined shallow anomaly with moderate magnitude frequency effects between 0+00 and 120N. Subsequent detailing with 30 M dipoles better defined the anomaly with the source now located between 30N and 90N. Outcroppings of black graphitic schist have been mapped in the vicinity of this anomaly.

Further to the north, a very weak IP anomaly was outlined between 360N and 480N. The associated resistivities are relatively high suggesting sparsely disseminated metallics.

<u>Line 16E</u>, Dwg. IP -9

A weak IP anomaly with an estimated depth of 30-60 M occurs between 45S and 15N. Very weak effects extend south to 90S. Resistivity lows on either side of the anomaly do not correlate with the stronger frequency effects and may reflect ~~faults~~ SHEAR ZONES.

<u>Line 20E</u>, Dwg. IP -10

A weak shallow IP anomaly centred at 30S correlates with a moderate magnitude resistivity low. Surrounding resistivities are high and probably reflect the gabbro rocks mapped in this vicinity.

Very weak IP effects occur at the north end of the IP grid. The anomaly is incomplete.

<u>Line 28E</u>, Dwg. IP -11

A weak but well defined IP anomaly occurs between 0 and 60S. Depth to the source is estimated to be about 30 M.

Very weak IP effects occur north of 180N. The anomaly is incomplete to the north.

<u>Line 32E</u>, Dwgs. IP -12 & -13

Two IP anomalies were located on Line 32E.

The southerly anomaly is located between 0+00 and 60N. It may extend south at depth to 60S. The pattern is complex and may consist of two sources; one shallow centred at 30N and a deeper source to the south. This anomaly was detailed with 30 M dipoles. The shallow portion was better defined with the centre at about 45N. The possible deeper source would be beneath the detection limit of the 30 M dipoles.

The second anomaly is located between 180N and 300N. Frequency effects are of moderate magnitude and a resistivity low centred at 210N correlates with the southern part of the higher frequency effects. There is a possibility of a limited size source of higher metal content located at a depth of about 30 M.

Line 32(a)E, Dwg. IP -14

A low magnitude IP anomaly associated with moderately high resistivities was located between 0+00 and 120N. It may extend further north to 180N; however, the metallic mineral content would be lower. The anomaly is shallow relative to the dipole interval and may have limited depth extent.

Line 36E, Dwg. IP -15

A shallow low magnitude anomaly similar to the anomaly on Line 32(a)E was located between 60S and 60N on Line 36E. There is a suggestion primarily from the resistivity data that a deeper anomaly could exist beneath 0+00. The indicated depth would be about 120 M. The source could be better located and evaluated using shorter electrode intervals (see Appendix).

Line 40E, Dwg. IP -16

A weak IP anomaly with a shallow source occurs between 0+00 and 120S. Associated resistivities are relatively high. Again, the source could be better located and evaluated using shorter electrode intervals.

Very weak IP effects were recorded north of 120N and extend beyond the survey grid. Resistivities are high.

Line 44E, Dwg. IP -17

The IP coverage from Line 44E to Line 69E shifts to the north and does not extend south to the base line.

A very weak IP anomaly centred at 120N has an estimated depth to the source of 30 M. Resistivity levels are moderately high.

A complex IP anomaly, which may have more than one source, extends north from 300N to beyond the survey grid at 540N. Associated resistivities are variable suggesting either variations in metallic sulfide content within the anomaly or moe than one source.

Line 48E, Dwg. IP -18

A very weak deep anomaly occurs at the south end of Line 48E and is incomplete. The location of the anomaly as presently defined, is centred at 90N at an estimated depth of 100 M.

A second anomaly extends north from 420N to beyond the survey grid at 540N. The pattern is complex and difficult to interpret because the data is incomplete. It could consist of more than one source. The anomaly could be better evaluated if measurements with shorter electrode intervals were made.

Line 52E, Dwg. IP -19

A well defined weak anomaly with a shallow source occurs between 300N and 420N. An increase of resistivities with depth suggests a limited depth extent of the anomaly. Weakly anom alous IP effects extend north from 420N to beyond the grid coverage.

Line 56E, Dwg. IP -20

Very weak IP effects were recorded from 300N to the end of the IP coverage. The frequency effect data suggests a depth to the source of about 30 M.

Line 60E, Dwg. IP -21

A well defined, complex IP anomaly was located between 300N and 420N. It either dips to the south or consists of a second deeper source to the south.

Line 64E, Dwg. IP -22

A very weak shallow anomaly with limited depth extent occurs between 300N and 420N. An increase of frequency effect with depth is believed to be primarily a function of increased resistivity.

Line 68E, Dwg. IP -23

A very weak complex anomaly associated with moderate resistivities occurs between 240N and 420N. There is a suggestion of a second deeper source centred at about 210N.

6. SUMMARY AND CONCLUSIONS

Over 300,000 tons of massive sulfide ore ~~has~~ have been mined from the Mt. Sicker property since the turn of the century. The orebodies are centred on the Tyee shaft and extend westwards toward the Lenora workings and eastwards towards the Richard III shaft area. Two complex parallel orebodies strike east-west in the Sicker Group schists, which are believed to derive from acid volcanics.

Pipe and track probably exist in some of the old workings. A weakly anomalous graphitic schist occurs close to the sulfides. Both these factors would contribute to the recorded IP effect. The graphitic schist, if sufficiently continuous, could act as a useful horizon marker.

Very weak-to-moderate magnitude IP anomalies associated with moderate to moderately high resistivities occur on all IP grid lines. None of the anomalies display the typical response expected from large, shallow, very massive sulfide deposits. However, within the anomalous zones, there could exist small massive sulfide deposits or larger deep deposits. Confirmatory detail IP surveying could help determine the nature of the IP source (see Appendix).

Multiple source IP anomalies are not always obvious because of the averaging inherent in the IP method. Some of the anomalous patterns are complex and could have more than one source.

The anomalies listed below are considered primary targets, however, any of the anomalies could be important if they correlate with other favourable conditions i.e. anomalous to other geophysical methods, geology, anomalous geochemical values, etc.

8E, 60N - Good definition - moderate magnitude - apparently shallow source - nearby graphitic schist.

28E, 30S - Good definition - weak magnitude - about 30 M depth to the source.

32E, 45N & 210N - Northern anomaly at 210N may have more concentrated source at depth. Southern anomaly at 45N complex and may consist of more than one source.

36E, 0+00 - Possible deep source beneath shallow anomaly.

44E, North End of Line - Complex anomaly - probably multiple source - about 30 M depth at 390N, apparently shallow at 510N.

48E, North End of Line - Complex possible multiple source anomaly.

60E, 360N - Well defined complex pattern - moderate magnitude - probable multiple source.

68E, 240N-420N - Complex anomaly with possible shallow and deep source.

PHOENIX GEOPHYSICS LIMITED

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Philip G. Hallof,
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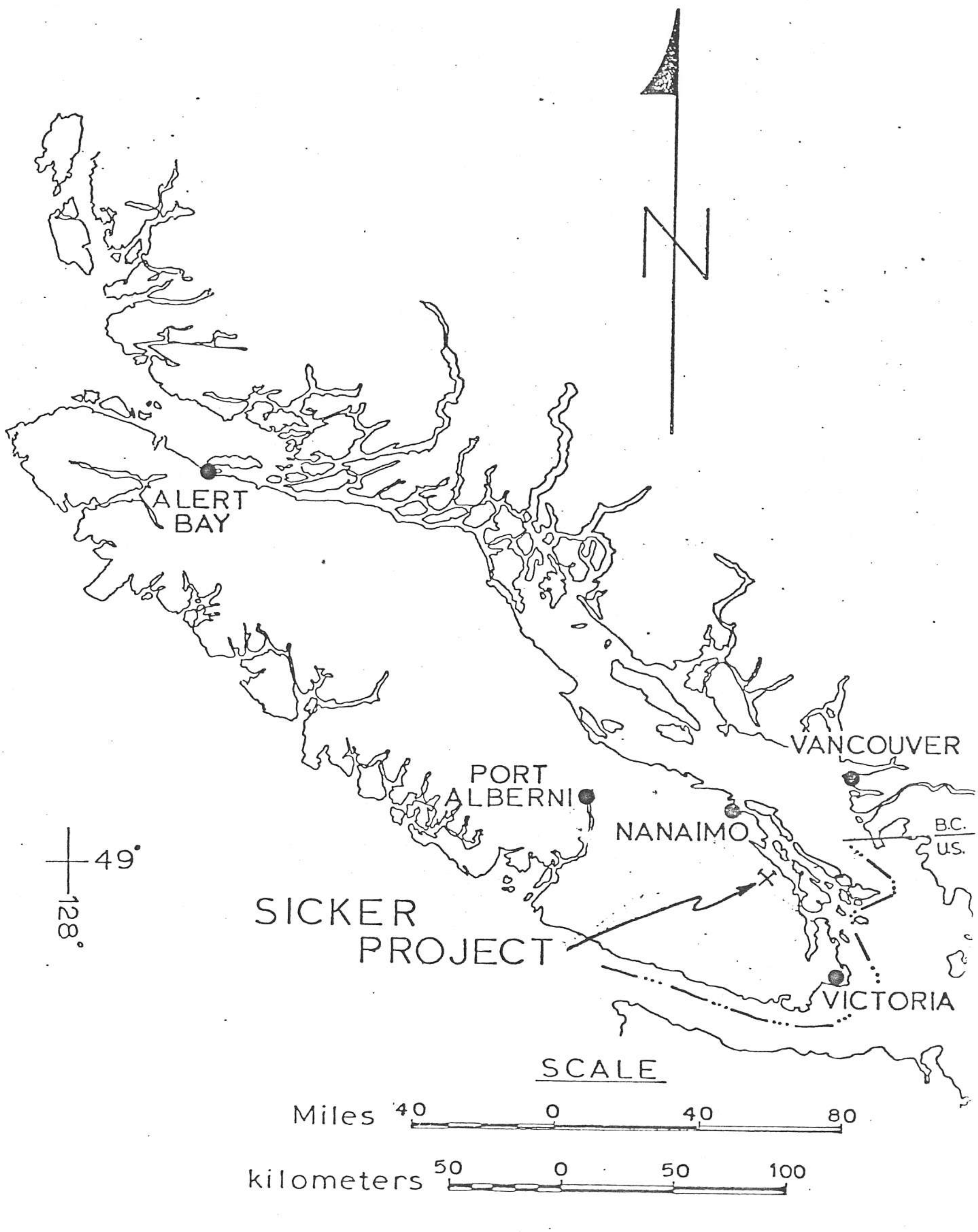
DATED:

Location Map

Fig. 1



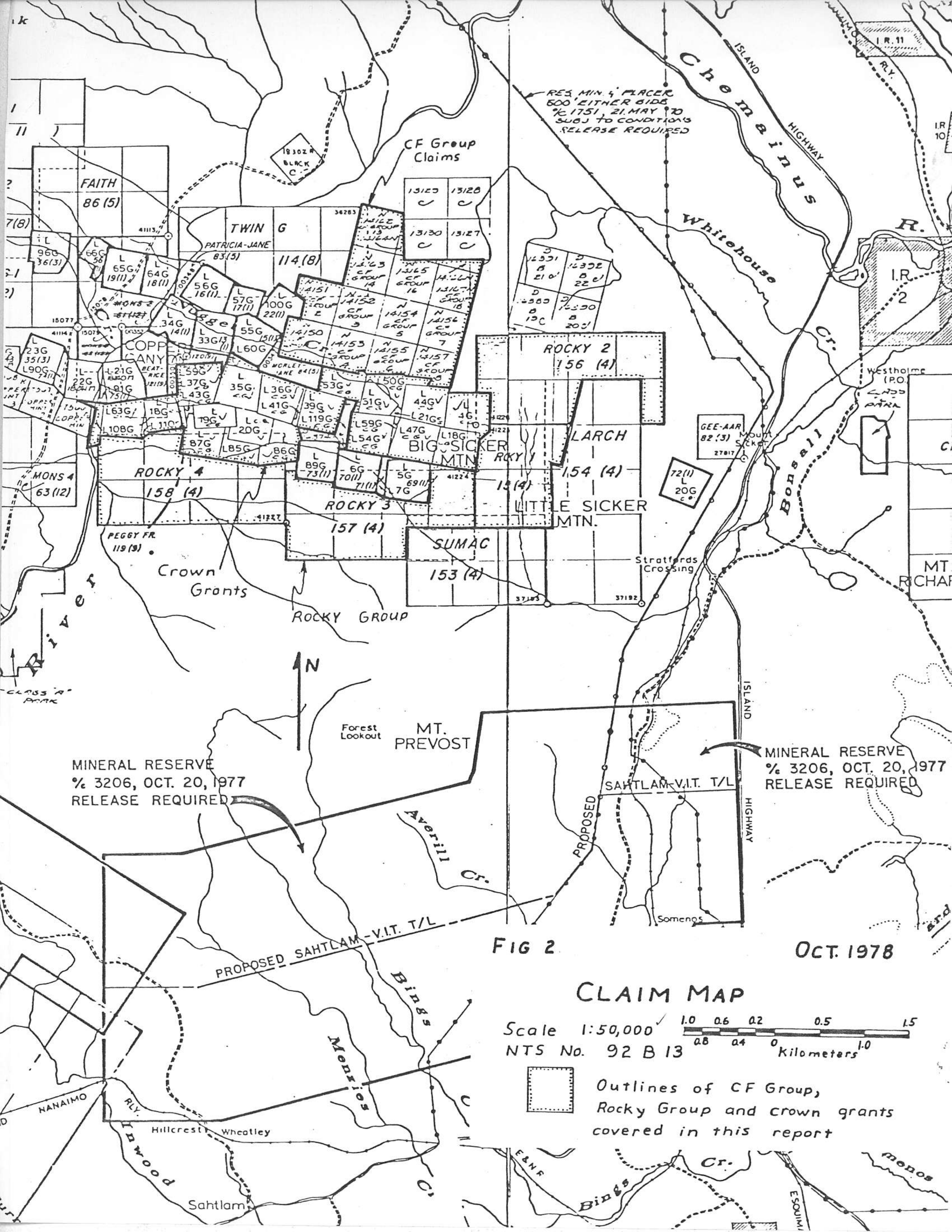
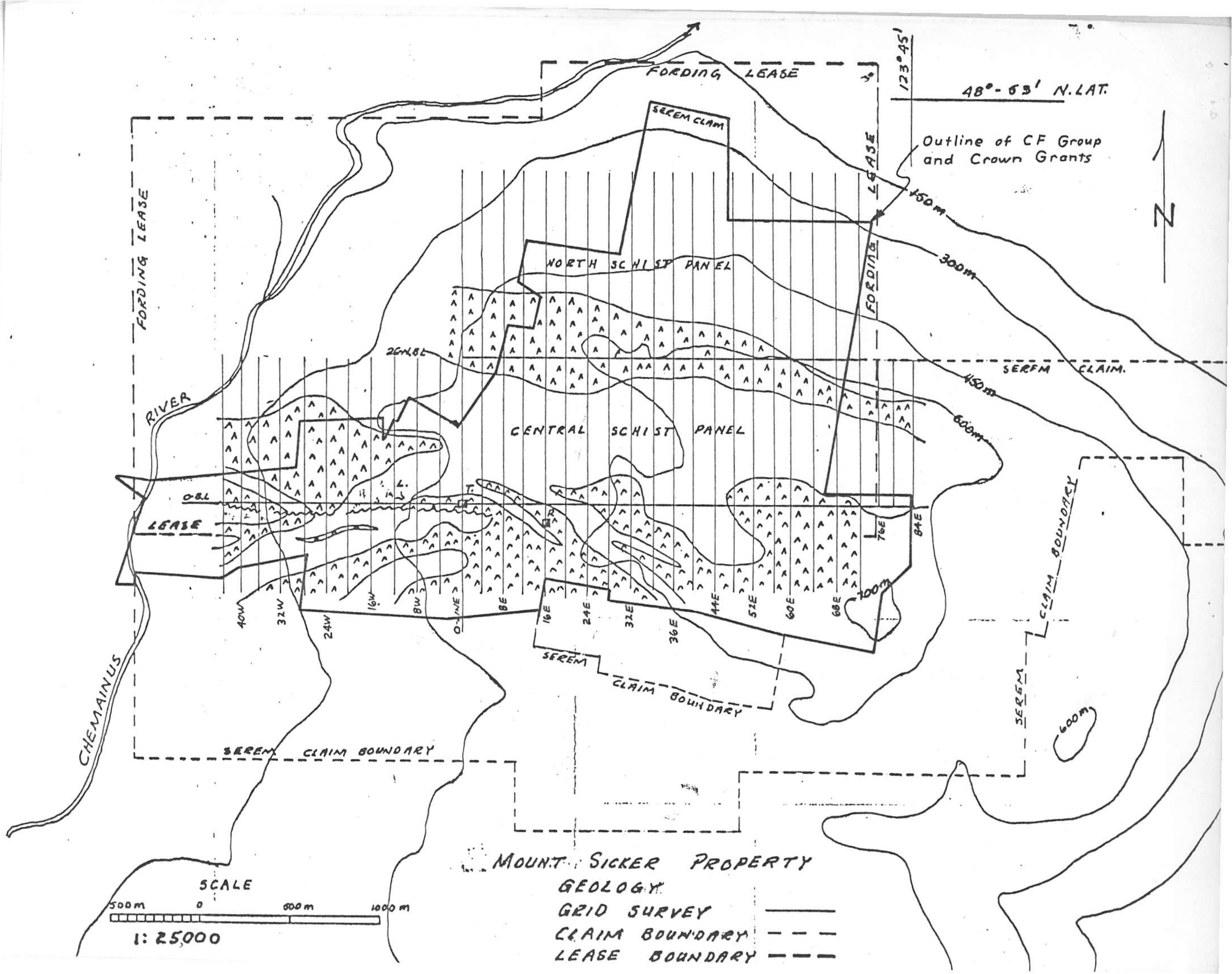


FIG 2 OCT. 1978

CLAIM MAP


FORDING LEASE
SEREM CLAIM
123°45'
48°-53' N. LAT.
Outline of CF Group and Crown Grants
N
LEASE
FORDING
150m
300m
450m
600m
700m
600m
NORTH SCHIST PANEL
CENTRAL SCHIST PANEL
SEREM CLAIM.
RIVER
CHEMAINUS
LEASE
O.B.L
40W
32W
24W
16W
8W
0-LINE
8E
16E
24E
32E
36E
44E
52E
60E
68E
76E
84E
SEREM CLAIM BOUNDARY
SEREM CLAIM BOUNDARY
SEREM CLAIM BOUNDARY
MOUNT SICKER PROPERTY
GEOLOGY
GRID SURVEY
CLAIM BOUNDARY
LEASE BOUNDARY
SCALE
500m
0
500m
1000m
1: 25,000