

11/3

TABLE OF CONTENTS

	Page
INTRODUCTION.....	1
WORK SUMMARY.....	1
GENERAL GEOLOGY AND PHYSIOGRAPHY.....	1
METHOD OF SURVEY.....	3
THE METHOD.....	3
GEOCHEMICAL AND ELECTROMAGNETIC MAPS.....	6
CONCLUSION.....	6
RECOMMENDATION.....	6

MAPS

ELECTROMAGNETIC & GEOCHEMICAL MAPS # 3

LOCATION MAP # 1

MEMORANDUM

TO Chief Gold Commissioner.....
Parliament Buildings.....
Victoria, B. C.....

FROM

Court House, Prince Rupert, B. C.

November 24 19 67

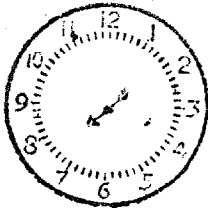
SUBJECT How Nos. 1 - 12 Mineral Claims

OUR FILE A19

YOUR FILE 166 Skeena

Referring to your letter of November 8 in connection with the Geochemical Report submitted for the above Claims the sentence that is obscure on the Report should read as follows:

NOV 27 '67 PM

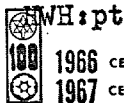


".....but when a conductor is present the components are unequal, thus causing a cross-over effect from positive on one side of the conductor to negative on the other side of the same conductor."

11396

H. W. Harding
MINING RECORDER

DEPT. OF MINES
AND PETROLEUM RESOURCES



CENTENARY OF THE UNION OF THE COLONIES OF VANCOUVER ISLAND AND BRITISH COLUMBIA UNDER THE NAME BRITISH COLUMBIA.
CENTENARY OF THE CONFEDERATION OF CANADA.

GEOCHEMICAL REPORT
TMM AND ELECTROMAGNETIC ANALYSIS
HOW GROUP, SKEENA M.D.

for

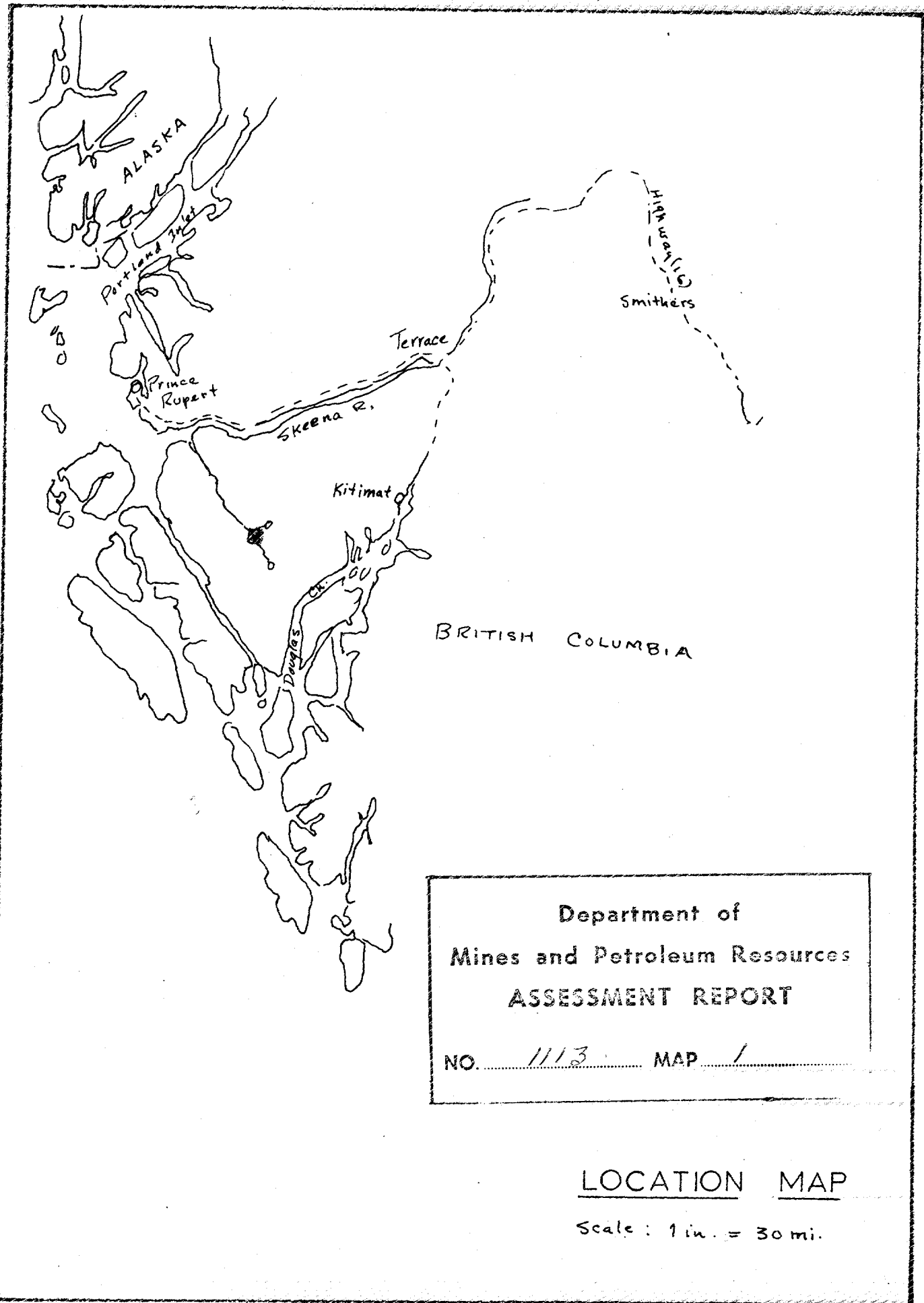
STRATO EXPLORATION & DEVELOPMENT LTD.
VANCOUVER, B.C.

by

TOM ROLSTON ELECTRONIC
SERVICES
BURNABY, B.C.

Date: June 8, 1967

By: C.B.Selmsier, P. Eng.



ALASKA

Portland Inlet

Prince Rupert

Terrace

SKEENA R.

Kitimat

Douglas Cr.

Highway 16

Smithers

BRITISH COLUMBIA

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1113 MAP 1

LOCATION MAP

Scale: 1 in. = 30 mi.

GEOCHEMICAL SURVEY
TIN AND ELECTROMAGNETIC ANALYSIS
ECSTALL RIVER AREA

June 8, 1967

INTRODUCTION:

These surveys were done on the HOW group on the Ecstall River, British Columbia. The claims are situated 45 miles southeast of Prince Rupert. This river flows northerly through a glaciated valley for 35 miles where it joins the Skeena River near the British Columbia coast line. The area is serviced by aircraft or may be reached with a small craft at high tide.

WORK SUMMARY:

The survey was accomplished from May 23 to 29 inclusive in 1967. Two men carried on the observation and the survey was supervised by Mr. Tom Roiston. He has worked as a technician for mining companies for some 8 years. The sampling and the electromagnetic observations were done at the same time.

The chemical analysis was done by Geo Cal Limited under the supervision of Mr. C. B. Selmsler, P. Eng. This was a cold analysis for the heavy mineral content of the samples. The 250 samples took a day and a half to analyze. The results of this survey has been recorded and mapped to show the correlation of the geochemistry with the geophysics.

GENERAL GEOLOGY AND PHYSIOGRAPHY:

This area is situated in the coastal ranges of northwestern British Columbia. The elevations range from the valley floor at less than 100 feet a.s.l. to over 2,000 feet on the mountain slopes. Peaks are

recorded at more than 4,000 feet.

Prominent effects of valley glaciation are in evidence. These include U shaped valleys and cirques with moraines both terminal and axial in relief. The valley of the Escalante River has a braided drainage pattern with numerous gravel bars.

The precipitation in this area is very heavy with 130-200 inches of rainfall annually. This includes wet heavy snowfalls in the winter. The growth on the valley slopes includes spruce, fir, hemlock and cedar trees, showing a typical rain forest area.

The main geological sequence includes older andesites, breccias, tuffs, greywacke and argillites of the Middle Jurassic Hazelton group. These have been intruded with the coast intrusions of Upper Cretaceous age. These include hornblende diorites, quartz diorites and migmatites.

The sulphide in this region are found in shear zones and drag folds in the greenstones near the diorite dikes. These are often in an echelon relationship oriented in a north to south direction.

The rocks in this region strike generally north and dip east at fairly high angles. This condition is displayed by the quartz biotite schists and the interbedded argillite, limestone, and granite gneiss. Some hornblende occurs in bands in the eastern part of the area.

The mineralization consists of pyrite, sphalerite, chalcopyrite and some pyrrhotite and galena. A typical assay of ore found in the district assays:

Iron	42.3%
Sulphur	48.4%
Copper	0.6%
Zinc	2.6%
Silver	0.55 oz. per ton
Gold	0.01 oz. per ton

METHOD OF SURVEY:

The instruments consisted of a pair of JEM Crone electro-magnetometers which were read at 2 frequencies 400 Hz and 1600 Hz. The readings are in angles both positive and negative, which gives the angle between the in-phase and out-of-phase components of the electromagnetic field. Normally, without a conductor present, this angle is 0, but when a conductor is present the components are unequal, thus causing a component.

The samples were taken in sample bags from the layer beneath the humus layer. These consisted of loam and silts. These samples were tested in a cold condition in a dithizone solution of 0.01% in xylene in the presence of a buffer of ammonium citrate with its ph value adjusted to 8.75.

THE METHOD:

In a sense, all chemical investigations of rocks, soil, water and vegetable matter can be called geochemical prospecting. The term has, however, in later years, been closely linked to the tracing down of metal traces in soil and water.

There are two main types of traces to follow. These are the primary and secondary traces. We are dealing here with the secondary trace which is found in the soil. The primary trace found in the rock itself can only be tested directly by assaying the mineralized rocks. In

the secondary trace we are dealing with oxidized material that is continuously being released from the original deposit and washed through the surrounding media.

At the original site of the deposit, oxidation takes place on the surface of the minerals. The oxides thus formed are very slightly soluble in the ground water, and continuously carried away. Because they are only slightly soluble the concentration is very low and the metal ions are easily given up to the media through which the water flows.

This "filtering" effect of the soil, actually a chromatographic effect, will result in concentration zones around the deposit. The shape of these zones will depend upon the topography of the area, the waterflow, and the type of soil that is present.

Most elements, even those called rare elements, are found evenly distributed as traces in all types of soils. This even distribution is upset when a large deposit of minerals keeps supplying the ground water with a particular type of one or more metal ions.

When this happens, the "back ground" value for the area suddenly jumps to several times its normal value.

There are several causes for false anomalies. In more remote areas these consist of; ashes from forest fires, smelter smoke drifting over areas being sampled, bogs with high humus content, slopes facing south (high evaporating rate of water). Also the anomaly will be weakened if the oxidation is taking place under deep overburden and with 50 feet of overburden the capillary action is not strong enough to bring the products to the surface.

In the chemical test using the Total Heavy Minerals method, 100 milligrams of soil is tested from each sample. This soil sample has

been collected below the humus layer and all stones, coarse sands and humus material has been sifted out of the sample. A trace clay is the best sample source.

In cold extraction, only 7% of the available metal ions in the sample will react in the test. It takes 1 microgram of metallic ions to turn 1 milliliter of Dithizone to blue, when 5 milliliters of buffer has been used. To turn the Dithizone purple, will take 2 micrograms of metallic ions and to turn it red will take 3 or more micrograms. This illustrates how sensitive this test is for minerals such as Zinc, Lead, Copper, Silver and Gold.

All samples, which turned purple or red were sampled again using 300 milligrams of sample for the amount of Copper present. This test is accurate to the nearest 10 parts per million of Copper in the sample.

One fact must be remembered in taking the sampling and that is that environment influences the amount of metallic ion that is being extracted from the sample. The amounts of sampled ions change from season to season at the same location. It can well change too, if the sample is allowed to dry out, because the clay lattice is cemented together, thus changing the amount of surface that is available.

The buffer used in these tests is Ammonium Citrate. It is very important to keep the ph value of this buffer at an exact figure. At a ph value of 8.65 50% of the Dithizone and 50% of Dithizonates will be in the solvent layer. Even slight departures from this ph value will have great effect on the results.

The Xylene used in the tests is not only chemically pure but is free of all metallic ions. This is done by treating the solution with Dithizone and then distilling it.

GEOCHEMICAL AND ELECTROMAGNETIC MAPS:

There are several metallic lineaments which can be followed on the geochemical map. These are located in the following places:

R (450 p.p.m.) in Claims Nos 8 and 1

P (300 p.p.m.) in Claims Nos 1 and 3

The G and B values are considered as background.

There are small electromagnetic anomalies to be found on the Electromagnetic Map. These are located in the following places:

Positive anomalies in Claims Nos 1, 10, 4 and 3.

Negative anomalies in Claims Nos 1, 3, 4 and 10.

CONCLUSION:

The best correlation can be made on Nos 1 and 3 and the lack of mineralization is LGS and LNW. Another correlation exists in the south part of No 10 and there is an exact correlation LGS and LNW. From the low values of the electromagnetic values this mineralization must be in very small veins or disseminated.

RECOMMENDATION:

That a limited amount of induced polarization survey be carried out over the correlating locations before drilling. This will allow for more accurate spotting of holes or trenching, prospecting, etc.

Respectfully submitted,
C. B. Selmer
C. B. Selmer, P. Eng.
Chief Geophysicist

CERTIFICATE OF QUALIFICATIONS

The formal education of the author consists of undergraduate studies at Union College, Schenectady, N. Y., in engineering and science, with a degree conferred as B. Sc. Graduate study was taken at McGill University and at the University of Toronto in mining geology and geophysics with a degree conferred as M. Sc. He is qualified both in engineering geology and geophysics as a professional engineer.

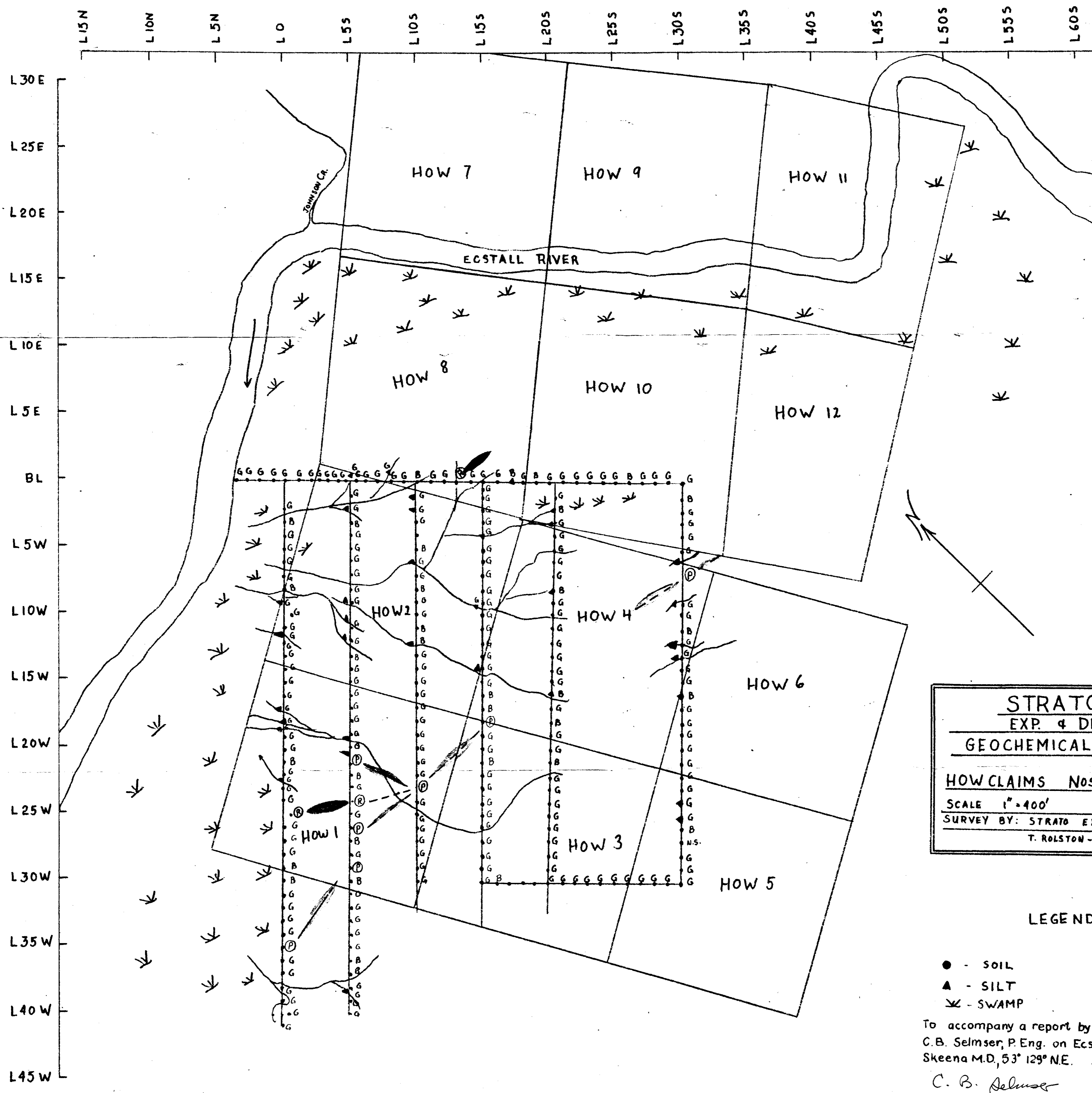
The author has had some twenty years' experience in the fields of geology and geophysics doing exploration work throughout Canada. He has also worked for a short period of time in the Transvaal region of South Africa.

The author has been a member of the Association of Professional Engineers of Ontario, Alberta and British Columbia for the past 14 years. He is at present an active member of the Association of Professional Engineers of British Columbia with certificate No. 4683.

His knowledge of the property outlined in this report has been gained from the surveys. Reference has also been made to government reports and pertinent texts.

The author has no financial interest in this property other than the survey work, and is acting wholly as a consultant to the interested principal. Any remuneration received has been for expenses incurred doing the survey and for his professional services.

C. B. Selmsor
C. B. Selmsor, P. Eng.



STRATO
 EXP. & DEV. LTD.
GEOCHEMICAL SURVEY
 HOW CLAIMS Nos. 1-12
 SCALE 1"=400' MAY 23 - 29, 1967
 SURVEY BY: STRATO EXP. & DEV. LTD.
 T. ROLSTON - ELECTRONIC SERVICES

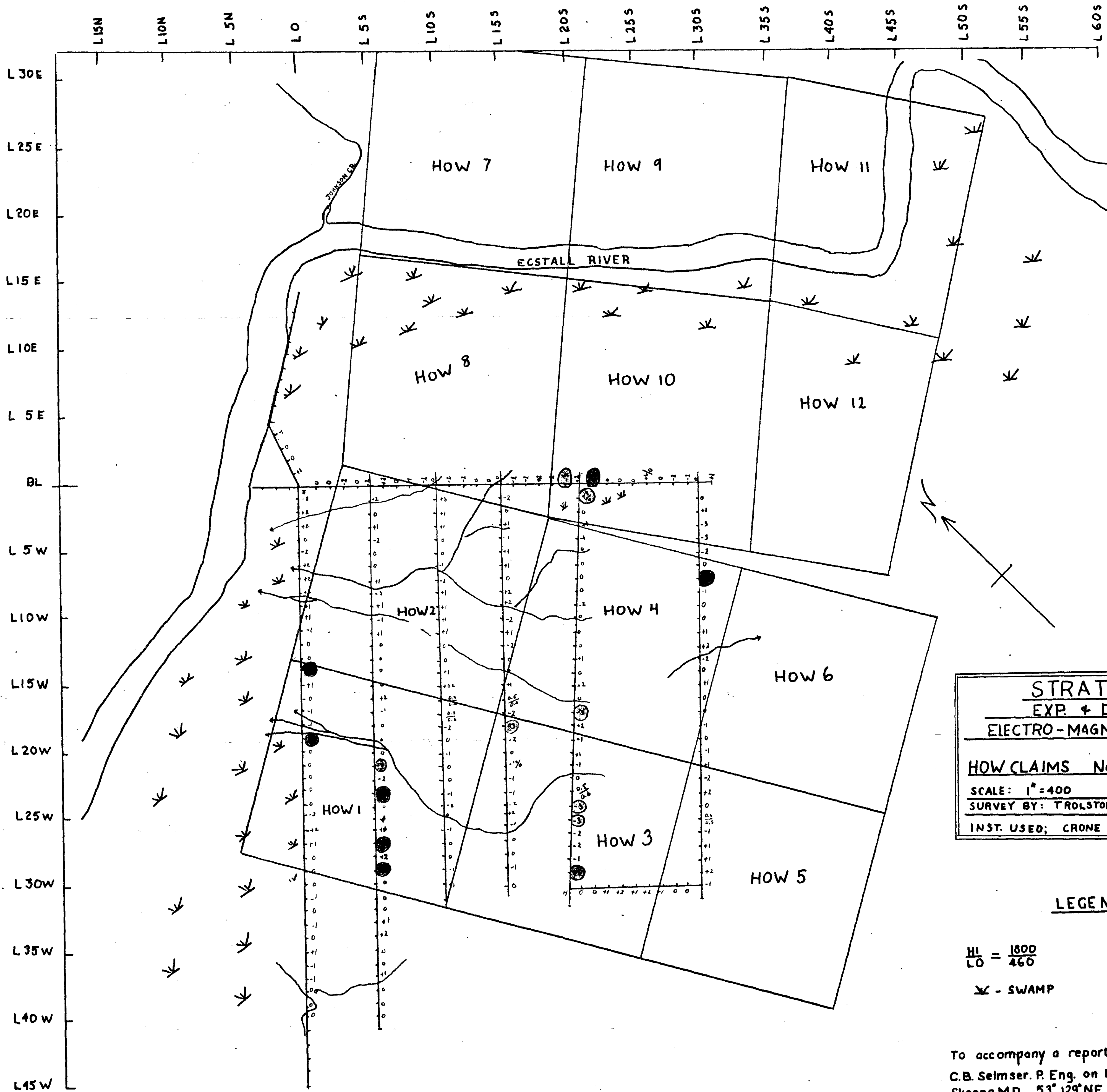
LEGEND

- - SOIL
- ▲ - SILT
- * - SWAMP
- G - 100 ppm.
- B - 150 ppm.
- ⊕ - 300 ppm.
- ⊗ - 450 ppm.

To accompany a report by:
 C. B. Selmser, P. Eng. on Ecstall r.
 Skeena M.D., 53° 129° NE. JUNE 8, 1967

C. B. Selmser

111



STRATO
EXP. & DEV. LTD
ELECTRO-MAGNETIC SURVEY
HOW CLAIMS Nos. 1-12
 SCALE: 1" = 400 MAY 23 - 29, 1967
 SURVEY BY: TROLSTON-ELECTRONIC SERVICES
 INST. USED: CRONE JEM DUAL FREQ.

LEGEND

HI = 1800
 LO = 460
 X - SWAMP

To accompany a report by:
 C.B. Selmsler, P. Eng. on Ecstall r.
 Skeena M.D. 53° 12' NE JUNE 8, 1967
 C. B. Selmsler

1113