

REPORT ON  
MAGNETIC AND INDUCED POLARIZATION SURVEY

Jean, Timberland, Soul 1 - 2, Soul Fraction,  
Kinskuch 1 - 3, 5, 7 - 8, Sunshine 1 - 4,  
Ted Fraction, and Ted 1 - 6 Mineral Claims.

Skeena Mining Division

$55^{\circ}39' N - 129^{\circ}22' W$

OWNERS: Mr. James Falconer, Mr. Inge Fiva,  
and Kerr Addison Mines Ltd.,  
405 - 1112 West Pender Street,  
Vancouver 1, B. C.

by

W. M. Sirola, P. Eng.

July, 1970

# 2538

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INTRODUCTION

The Kinskuch 1, 2, 3, 5, 7 and 8 Mineral Claims were optioned from Inge Fiva of Alice Arm, B.C.; the Timberland, Soul 1 and 2, Soul Fraction, Jean, and Sunshine 1 - 4 Mineral Claims were optioned from James Falconer. The Ted 1 - 6 Mineral Claims and the Ted Fraction were staked by Kerr Addison Mines Ltd.

The claim group is located in the Skeena Mining Division on the southeast end of Kinskuch Lake. The nearest village is Stewart, 30 miles northwest.

Kerr Addison Mines began investigation of the claim group on June 28th, 1970 and work was completed on July 25th, 1970. During this period, 21,000 feet of line was established and chained, 21,000 feet of magnetometer survey was completed followed by five line miles of induced polarization survey.

For the purposes of this report, all of the claims are grouped under the name Soul Group Supplimentary.

Certificates of work were not applied for in the case of Kinskuch 1 - 3, and Kinskuch 5, 7 and 8 Mineral Claims because these had been kept in good standing by payment of cash in lieu of work prior to the anniversary date of July 2, 1970.

SCHEDULE OF CLAIMS

<u>Claim No.</u>	<u>Tag No.</u>	<u>Date Staked</u>	<u>Record No.</u>	<u>Licence No.</u>
Jean	649502	Aug. 25/68	33190	84620
Timberland	649501	Aug. 25/68	33191	84620
Soul #1	649504	Aug. 25/68	33193	84620
Soul #2	649503	Aug. 25/68	33194	84620
Soul Frac.	649505	Aug. 25/68	33192	84620
Kinskuch #1	649515	June 23/69	34412	26986
Kinskuch #2	649516	June 23/69	34413	26986
Kinskuch #3	649517	June 23/69	34414	26986
Kinskuch #5	649519	June 23/69	34415	26986
Kinskuch #7	649521	June 23/69	34416	26986
Kinskuch #8	649522	June 23/69	34417	26986
Sunshine #1	649523	July 24/69	34456	84620
Sunshine #2	649526	July 24/69	34457	84620
Sunshine #3	649525	July 24/69	34458	84620
Sunshine #4	649524	July 24/69	34459	84620
Ted Frac.	916106	Apr. 9/70	35237	80380
Ted #1	916107	Apr. 9/70	35238	80380
Ted #2	916105	Apr. 5/70	35239	80380
Ted #3	916104	Apr. 5/70	35240	80380
Ted #4	916103	Apr. 5/70	35241	80380
Ted #5	916102	Apr. 5/70	35242	80380
Ted #6	916101	Apr. 5/70	35243	80380

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

To Wit:

In the Matter of

Magnetic & Induced Polarization Survey of: Jean, Timberland, Soul #1, #2, Soul Fraction, Kinskuch #1, #2, #3, #5, #7, #8, Sunshine #1, #2, #3, #4, Ted Fraction, Ted #1 - #6 inclusive.

I,

~~William M. Simia~~

John C. Lund

of 405 - 1112 West Pender Street, Vancouver 1, B.C.

in the Province of British Columbia, do solemnly declare that the following is a true and accurate statement of costs involved in the survey:

COST STATEMENT

<u>Name</u>	<u>Job</u>	<u>Dates Worked</u>	<u>Total Days</u>	<u>Total Pay</u>
T. LaRose	Geophy. Op'tr	June 26-July 25/70	30	\$ 600.00
W. Gruenwald	" Ass't	" "	30	450.00
D. Brown	" "	" "	30	400.00
N. Jorgensen	" "	" July 6/70	11	146.50
T. Hillier	" "	July 3 - July 25/70	22	293.00
Supervision - 4 days at \$50.00 per day			4	200.00
				<u>\$2,089.50</u>

SUMMARY OF TOTAL COSTS FOR 16-CLAIM GROUP

Wages and Salaries	\$2,089.50
Camp Operation = 127 man-days @ \$10.00/day	<u>1,270.00</u>
	<u>\$3,359.50</u>

APPORTIONMENT OF TOTAL COSTS TO CLAIMS INVOLVED

These costs are intended to cover assessment work for one year on each of the following sixteen (16) claims:

Jean, Timberland, Soul #1, Soul #2, Soul Fraction, Sunshine #1 - #4 inclusive, Ted Fraction, Ted #1 - #6 inclusive.

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 25<sup>th</sup>  
day of August 1970, A.D.

John C. Lund

G. Phillips

A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.

### LINE CUTTING AND CHAINING

A northwest - southeast base line 4,000 feet long was established on a bearing of N55<sup>0</sup>W. Profile lines on 40-foot centres were established by Brunton compass.

The base line and the profile lines were chained and marked with coloured flagging at 100-foot intervals.

### MAGNETIC SURVEY

A magnetic survey was performed on the aforementioned grid using a hand-held Sharpe magcrometer Model ES-180 with a sensitivity of 35 gammas per scale division. Approximately 21,000 feet of traversing was completed on lines 400 feet apart. Readings were taken at 100-foot intervals. The operator holds the instrument in a vertical position in his left hand, faces west, and nulls the magnetic needle by turning a vernier screw at the base of the instrument. The readings obtained are variations in the intensity of the total magnetic field. Diurnal control was exercised by periodic checks at base stations located on the base line.

The magnetic survey indicates that the core of the area surveyed is a comparative magnetic low (700 to 1000 gammas). The

survey is not sufficiently broad to indicate that the area is completely bordered by rocks of higher magnetic intensity but this possibility is suggested by readings in excess of 1000 gammas on the northeast, the south, and to some extent on the northwest portions of the survey. Had it been possible to extend the survey further west, it seems likely that a nearly circular border of higher magnetic readings would have been established.

The central core of lower magnetic readings (less than 1000 gammas) is believed to coincide with sericite-chlorite-pyrite alteration in sedimentary and pyroclastic rocks. It is possible that the lowest magnetic values (less than 700 gammas) indicate underlying sediments but since there is no outcrop, this conjecture can not be substantiated.

Since the area of the magnetic survey is underlain by glacial moraine of undetermined depth, it is not known what contribution the morainal material may have made to the lowering of magnetic values. It seems unlikely however that a change in magnetic values from a low of 600 to 700 gammas to a high of 1400 to 1500 gammas would result from variations in overburden. It is therefore concluded that the peripheral high probably results from some combination of unaltered rock and somewhat more magnetic pyroclastics.

INDUCED POLARIZATION SURVEY

The five mile grid previously described was covered with a portable time-domain induced polarization unit manufactured by Sabre Electronics of Vancouver. This unit weighs approximately 34 pounds and is mounted on a packboard. Power is supplied by a lightweight 12-volt rechargeable battery. By using a D.C. pulse technique, the instrument will supply approximately 500 watts of current.

In this survey, the Wenner configuration of electrodes was used. In this configuration, the distance between the potential electrodes was 200 feet and the distance between the current electrodes was 600 feet. Current is forced into the ground for a period of 4 seconds and the following measurements are made from the various meters: 1) self potential; 2) primary current in milliamperes; 3) impressed voltage in millivolts; 4) I.P. voltage in millivolt-seconds.

From these readings, the apparent resistivity is calculated by the equation  $Z = 2 \frac{\rho}{I} (a) dv$ . A normalized I.P. value is calculated by:  $\frac{I.P.}{dv} \times 100$ .

The purpose of the apparatus is to energize small particles of sulphides which act as tiny leaky condensers. The time rate of decay is then measured and shown as a so-called I.P. value. It is therefore possible to calculate a so-called metal



factor by dividing the I.P. effect by the apparent resistivity.

The I.P. survey on the Kinskuch 1, 2, 3, and 5 Mineral Claims indicated that the I.P. background ranged from one to two milliseconds. The highest value (5 milliseconds) occurred on Line 4SE and a smaller high (3.3 milliseconds) occurred on Line 20SE at the base line. The 4.1 millisecond high at the south end of Line 28SE is very close to the edge of a glacier and insufficient information is available at that location.

The overall distribution of I.P. values suggested that the area surveyed may have the typical pyritic fringe with a low in the centre indicating an almost complete absence of pyrite. With small portable I.P. gear, it is difficult to energize low resistivity ground sufficiently to provide higher I.P. effects than those observed. It has been our experience that where resistivities are in the order of 2000 ohm-feet or more, a sufficient amount of current is available for energizing sulphide particles but where the resistivities are in the order of 1000 ohm-feet or less, much of the current is lost and the I.P. effects are consequently quite low.

In the case of the I.P. anomalies at 4SE and 20SE at the base line, in each case, the resistivities are below 1000 ohm-feet and we therefore have a theoretically favourable combination of low resistivity and a weakly anomalous I.P. effect. What this means in terms of total sulphides remains to be seen. Higher powered equipment (say 2000 watts) would probably produce much stronger I.P. effects.

QUALIFICATIONS OF THE GEOPHYSICAL OPERATOR

The geophysical work was performed by Mr. A. Ted LaRose whose qualifications are as follows:

Frobex Exploration Ltd. -

2 years as field supervisor for airborne radiometric surveys, follow-up ground prospecting and staking, and drill supervision.

Area Mines Limited -

7 years as geophysical party leader for electromagnetic, magnetic and gravity surveys.

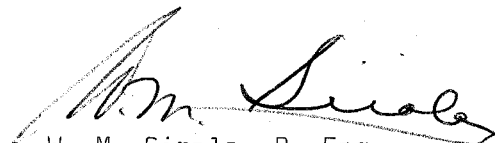
Kerr Addison Mines Limited -

2½ years as party leader on electromagnetic, magnetic, and I.P. surveys.

CONCLUSIONS:

The combination of magnetics and I.P. work have indicated some coincidence between magnetic lows with resistivity lows in the heart of the survey area. The I.P. effects are generally weak but this is not unusual in the light of portable equipment and low resistivity ground.

It is concluded that the area is underlain by a combination of altered sediments and pyroclastics containing small amounts of sulphides.



W. M. Sirola, P. Eng.

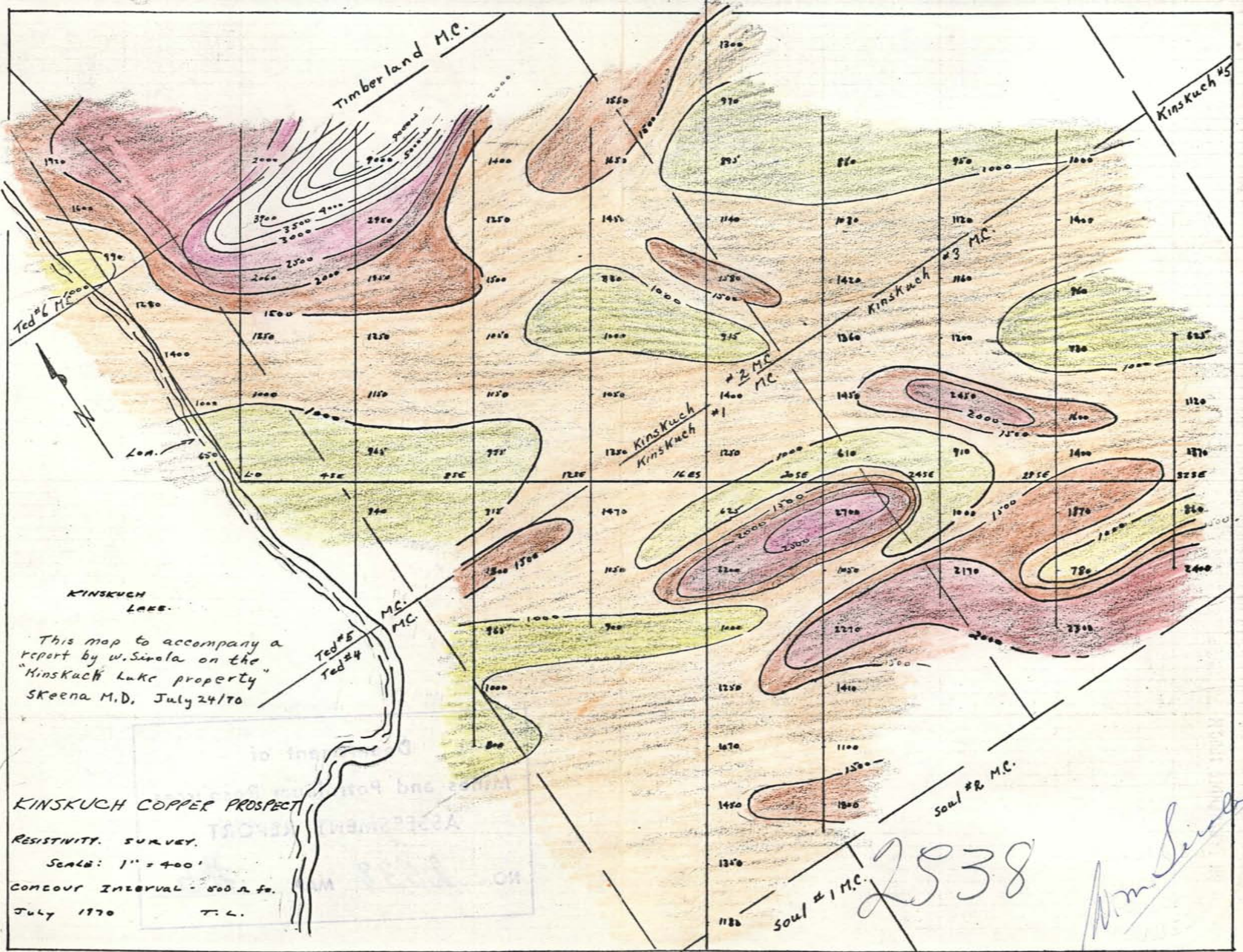
July, 1970.

WMS/lk

SCHEDULE OF ACCOMPANYING MAPS (*rear pockets*)

- |    |    |                    |                |
|----|----|--------------------|----------------|
| #1 | 1) | Key Map            | 1" = 150 miles |
| #2 | 2) | Claim Map          | 1" = 1/2 mile  |
| #3 | 3) | Magnetic Survey    | 1" = 400 feet  |
| #4 | 4) | I. P. Survey       | 1" = 400 feet  |
| #5 | 5) | Resistivity Survey | 1" = 400 feet  |

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2538 MAP.....



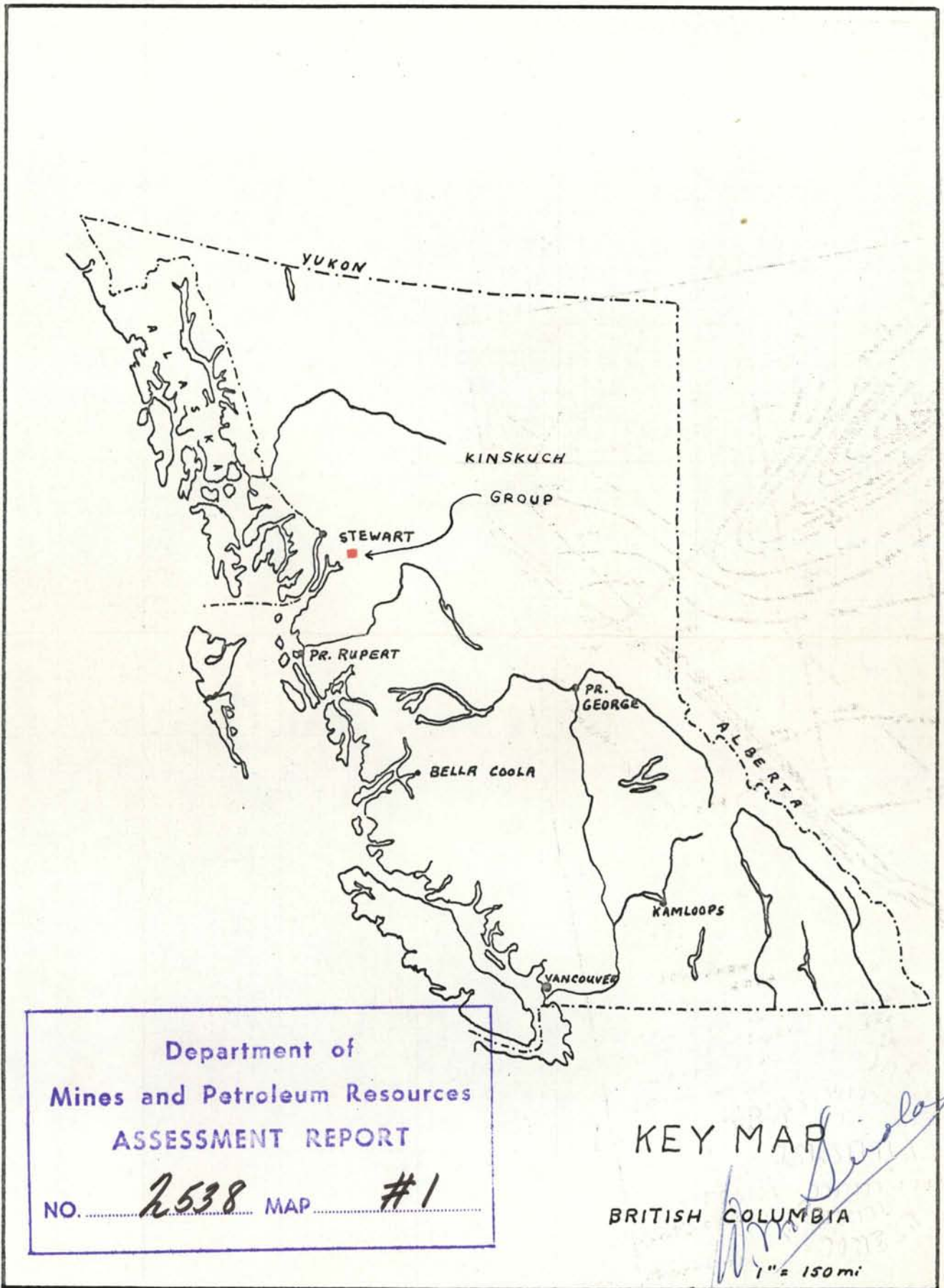
This map to accompany a report by W. Sinola on the "Kinskuch Lake property" Skeena M.D., July 24/70

**KINSKUCH COPPER PROSPECT**

RESISTIVITY SURVEY.  
 SCALE: 1" = 400'  
 CONCORD INTERVAL - 500 A.F.  
 July 1970 T.L.

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*Wm Sinola*



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2538 MAP #1

KEY MAP  
BRITISH COLUMBIA  
1" = 150 mi

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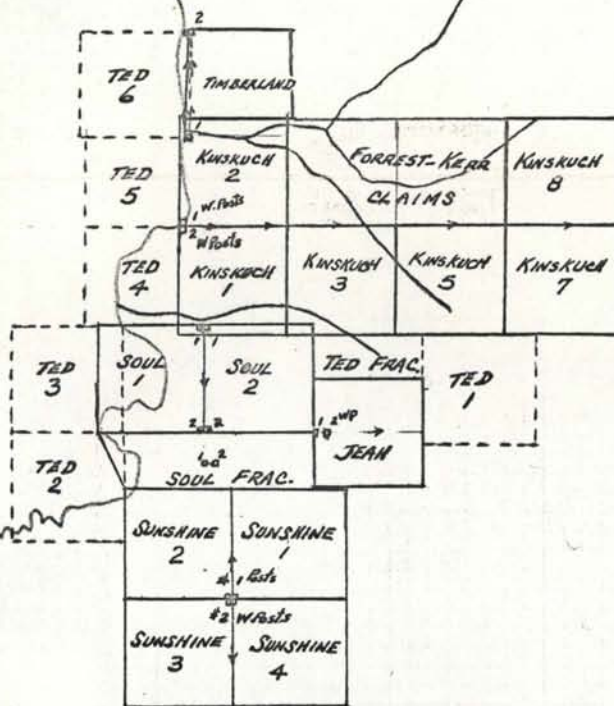
Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 2538 MAP #2



55°40'

KINSKUCH  
LAKE

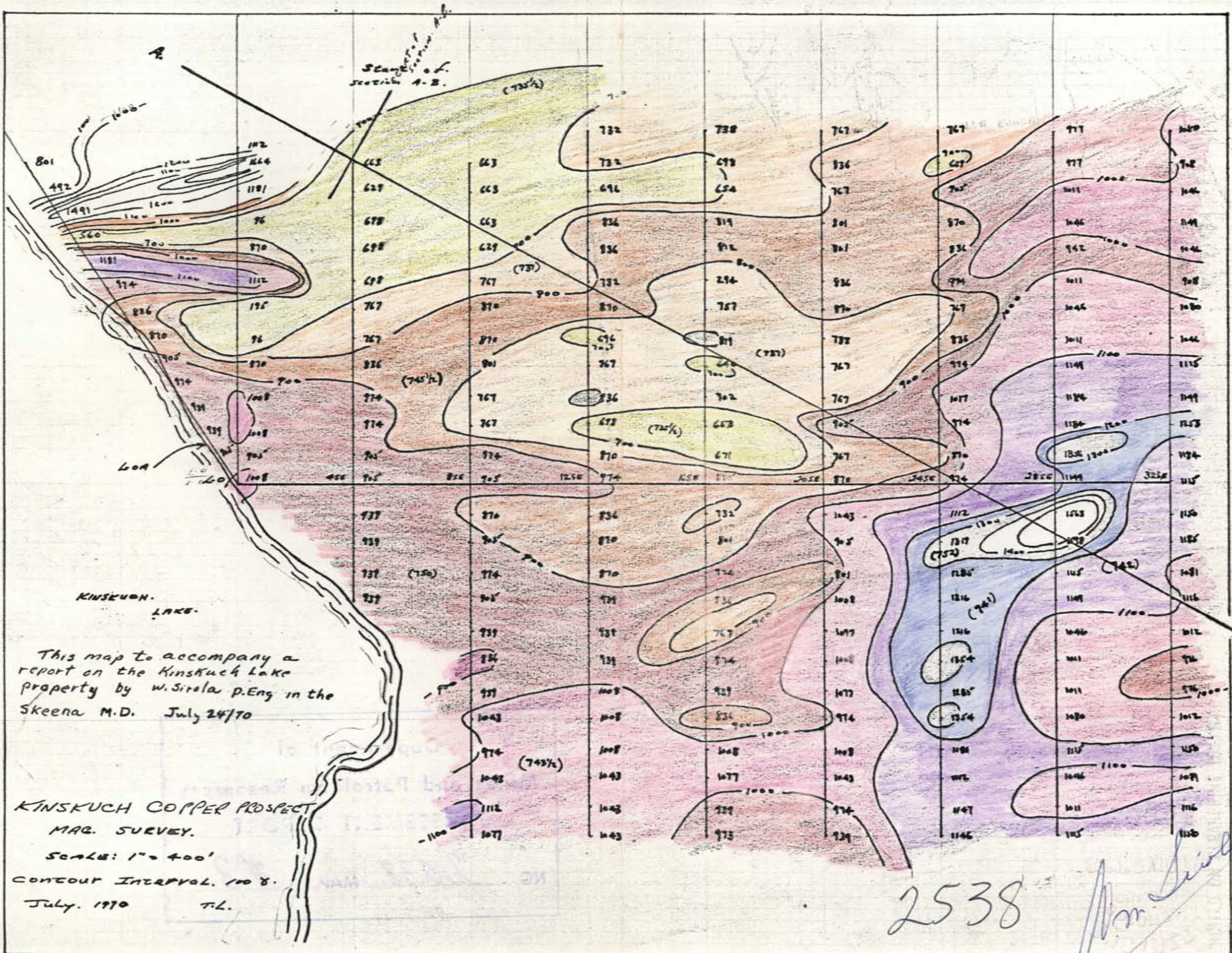


NOTE:

1. STAKED BY TED LAROSE, AS AGENT FOR KERR ADDISON MINES:  
TED Nos. 1-6 INCLUSIVE AND TED FRAC. M.C.
2. PRESENT CLAIMS STAKED OR OWNED BY J. FALCONER, GUNN FIVA AND INGE FIVA: JEAN, TIMBERLAND, SOUL 1 AND 2, SOUL FRACTION, KINSKUCH 1, 2, 3, 5, 7, AND 8, PLUS SUNSHINE 1-4 INCLUSIVE.

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KERR ADDISON MINES LTD.	
KINSKUCH COPPER PROSPECT SKEENA MINING DIVISION, B.C.	
CLAIM MAP	
SCALE: 1" = 1/2 MILE	
J. Falconer	MAR. 23, 1970
	REVISED: APRIL 14, 1970



Section A-B.

KINSKUCH LAKE.

This map to accompany a report on the Kinskuch Lake property by W. Sirola P. Eng. in the Skeena M.D. July 24/70

KINSKUCH COPPER PROSPECT  
MAG. SURVEY.

SCALE: 1" = 400'

CONTOUR INTERVAL 100'

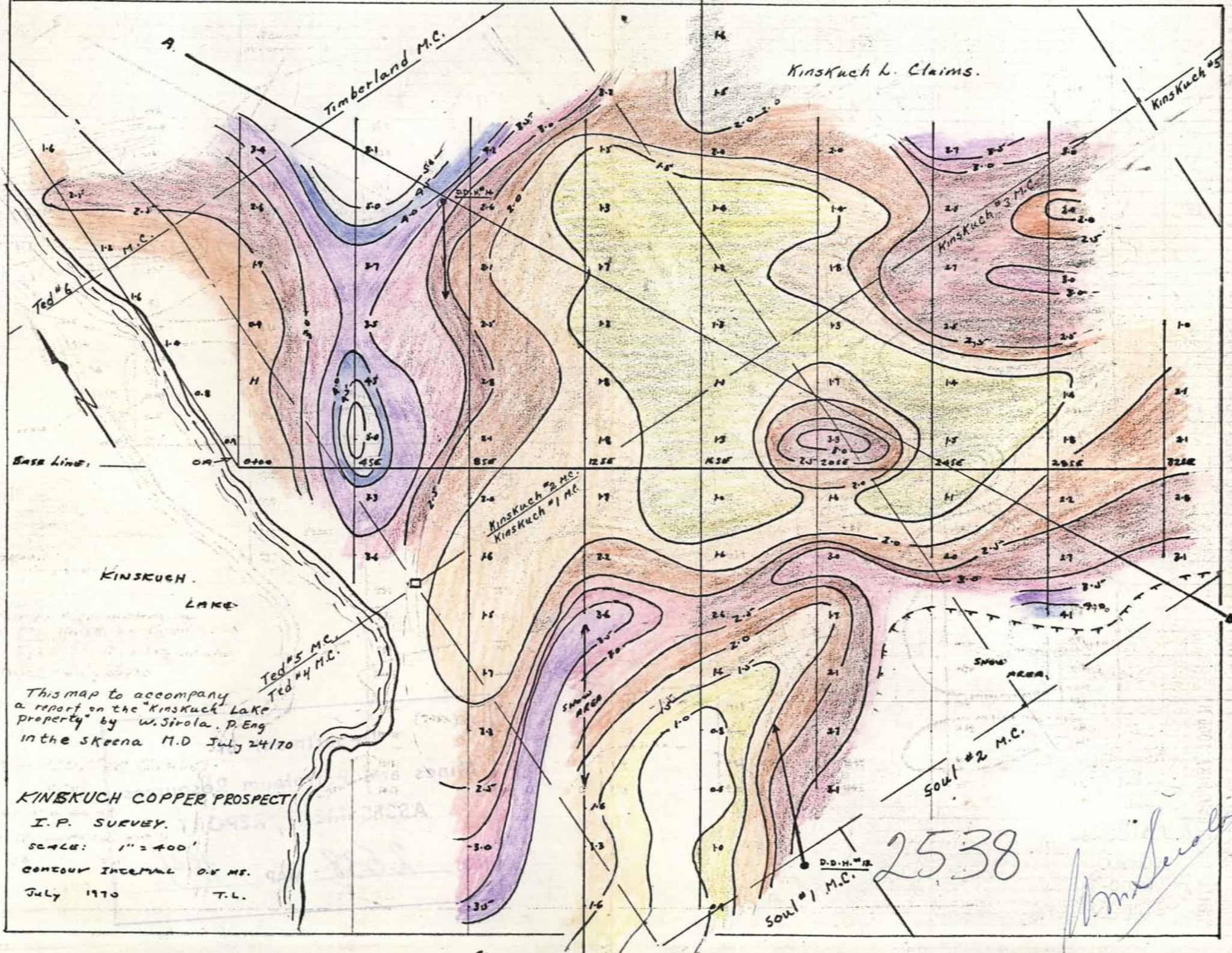
July, 1970

T.L.

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*Wm. Sirola*





This map to accompany  
 a report on the "Kinskuch Lake  
 property" by W. Sirola, P. Eng  
 in the Skeena M.D July 24/70

**KINSKUCH COPPER PROSPECT**  
 I. P. SURVEY.  
 SCALE: 1" = 400'  
 CONTOUR INTERVAL 0.5 MF.  
 July 1970 T.L.

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*W. Sirola*