2958

SUMMIT OILS LTD.

REDTOP CREEK PROPERTY

GEOPHYSICAL REPORT

on an

INDUCED POLARIZATION SURVEY

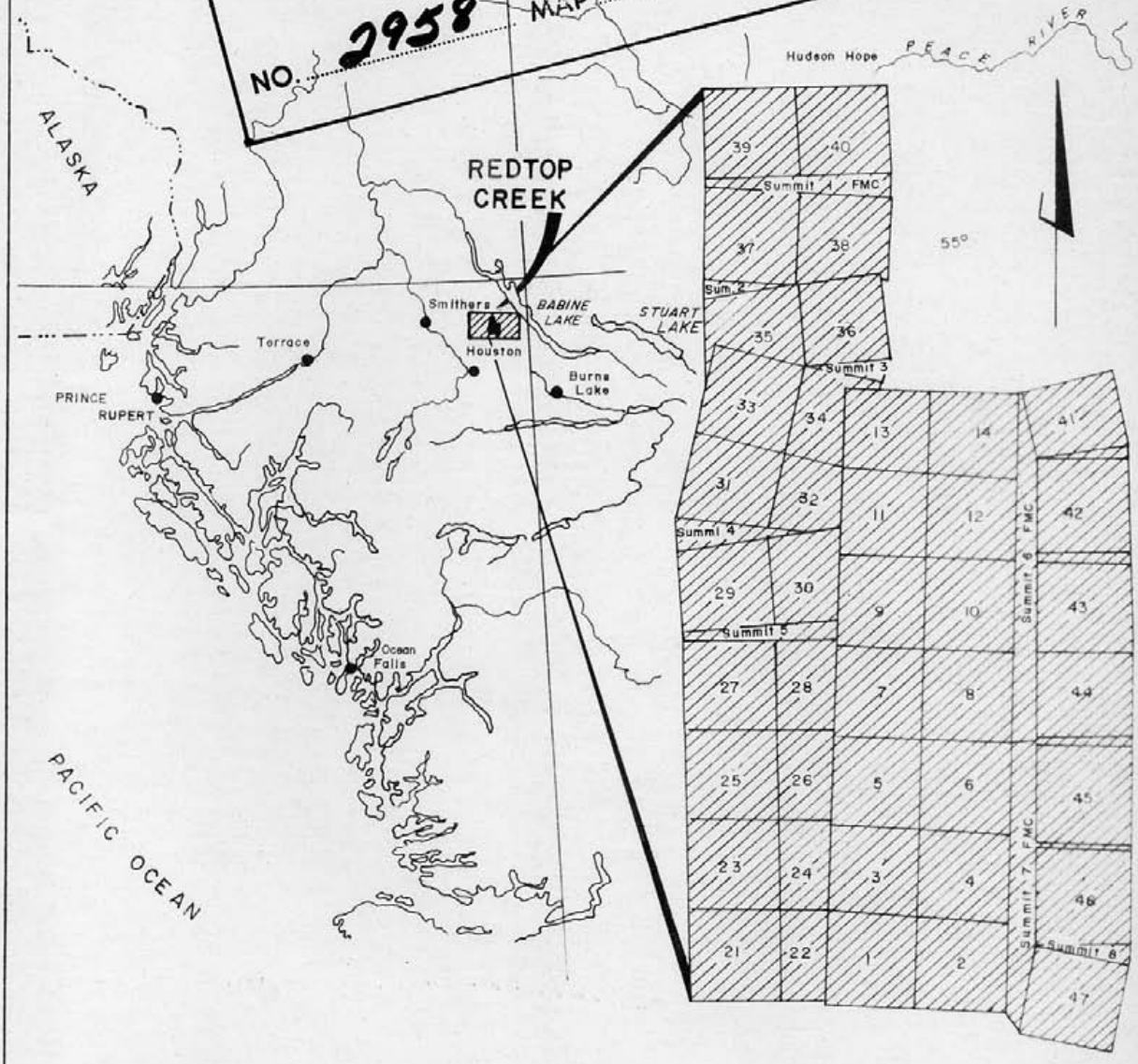
by

TRI-CON EXPLORATION SURVEYS LTD.

September 1970

C O N T E N T S

I L L U S T R A T I O N S



SUMMIT OILS LIMITED

REDTOP CREEK

LOCATION AND CLAIMS MAP

SCALE LOCATION MAP 1" = 40 MILES - CLAIMS MAP 1" = 3000 FEET approx.

Tri-Con
EXPLORATION SURVEYS LTD.

Fig. 1

N.G.B. and A.N.S. Sept. 10, 1970

INTRODUCTION

From July 23 to August 4, 1970 a program of induced polarization surveying was conducted over a group of claims known as the Redtop Creek Property, Omineca Mining Division, Province of British Columbia by Tri-Con Exploration Surveys Ltd., on behalf of Summit Oils Ltd.

A previous ground magnetometer survey over this claim group, which was undertaken to examine a reconnaissance copper geochemical target, located a strong north-south magnetic trend which was disected by intersecting northwest-southeast and northeast-southwest fault zones. The induced polarization survey was conducted along the magnetic trend to try and delineate a chargeable body indicative of sulphide mineralization.

LOCATION AND ACCESS

The group of claims covered by this report is centered at latitude 54° 36' N and longitude 126° 19' W some eight miles north of Topley, B.C. N.T.S. 93L/9

Access is by all weather road from Topley, B.C.

THE PROPERTY

The Redtop Property consists of 41 full-sized claims and 8 Fractions listed as follows:

Summit Fraction 1-4	77572 - 77575
Summit Fraction 5-8	77576 - 77579
Summit 1-8	68553 - 68560
Summit 9-14	68561 - 68566
Summit 21-28	68567 - 68574
Summit 29-40	68575 - 68586
Summit 41-47	68587 - 68593

SURVEY SPECIFICATIONS

The induced polarization survey was conducted along a previously established grid which consisted of east-west traverse lines flagged at 100 foot intervals, turned off every 500 feet from a north-south baseline.

The Induced Polarization Survey

The induced polarization survey was conducted with a Hewitt 1KW I.P. transient pulse type unit deployed in the Wenner electrode configuration with an "a" spacing and traverse interval of 200 feet. In the pulse (also known as time domain) method a steady direct current is impressed into the ground for a few seconds, abruptly terminated for a short time (usually equal to the length of pulse time) and then a steady current is impressed in the reverse direction for a few seconds and then abruptly terminated for a few seconds. This is one cycle which can be repeated. A fraction of a second after each cessation of the current pulse the decay voltage is integrated and measured. The current and total integrated primary voltage and total integrated decay voltage are then recorded for the given number of cycles. From these three measurements the chargeability in millivolts/volt and apparent resistivity in ohm-feet are calculated. The values calculated are then plotted at the center position of the array for a given set of readings.

DATA PRESENTATION

Some 15 line miles of induced polarization surveying were conducted. The results accompany this report as contour maps drawn at a scale of 1 inch equals 500 feet and are presented as follows:

Figure 3 - Chargeability; contour interval-one millivolt/volt

Figure 4 - Resistivity; contour interval-100 onm-feet

Figure 5 - Interpretation Map

The results of additional induced polarization detail surveying over the primary anomalous area are illustrated in Figure 2.

DISCUSSION OF RESULTS

The induced polarization resistivity data (Figure 4) shows moderate variations from a low of some 110 ohm feet to a high of some 1690 ohm feet. In general the moderate changes in resistivity can be attributed to the physical characteristics of the overburden and variations in the depth to bedrock. The principle resistivity feature located is a resistivity ridge defined by the 500 ohm-feet-contour. It is elongated in a north-south direction and appears to be related in a complex way to the previously located fault systems along the western flank of the magnetic ridge. (Figure 5)

The chargeability data, (Figure 3) varies from a background of some 1.5 millivolts/volt to a high of some 9 mv/v. In general, because of the low background the chargeability values which can be considered anomalous are as follows:

2-3 mv/v - possibly anomalous
3-5 mv/v - anomalous
5 and above - definitely anomalous

Five zones of interesting chargeability values were located and are discussed as follows:

Anomaly #1 is the largest, some 2300 feet in length, 300 feet in width and attains a maximum value of some 9 mv/v. Additional induced polarization detailing with "a" spacings of 100 and 300 feet was completed over lines 15N, 20N and 25N. The results are shown in profile form on Figure 2. The magnetic intensity profiles for each line are also illustrated on Figure 2. The principle observation of the profile data is that the percentage per volume of chargeable material is increasing with depth. This is very evident on line 20N. The data from the 100 foot "a" spacings on lines 15N and

20N indicates that the chargeability material, most probably sulphide mineralization, extends to within at least 50 feet of the topographic surface and may extend to the surface of the bedrock. On the other hand the 300 foot "a" spacing data shows a general increase in response across all three lines 15N, 20N and 25N and on line 25N it shifts the peak response some 300 feet to the west to coincide with a small magnetic peak of some 5890 gammas situated on the flanks of the magnetic ridge. The coincidence of the two responses may possibly indicate the presence of pyrrhotite mineralization.

Anomalies 2a and b occur at the western inflection point of the magnetic ridge and may be a southern extension of anomaly #1.

Anomaly 3 appears to be of limited dimensions but is situated in a small magnetic embayment in the magnetic ridge.

Anomalies #4 and 5 are in an alignment parallel to an interpreted fault shown on Figure 5. It is interesting to note that the chargeability data in general is biased in a NE-SW and a NW-SE direction parallel to the interpreted faults.

CONCLUSION

The induced polarization survey located three particularly interesting chargeability anomalies (#1, #2 and #3) and two of apparent lesser significance (#4 and #5). The induced polarization anomalies occur along the western flank of a magnetic ridge and appear to be associated with interpreted NW-SE and NE-SW faults. A previous reconnaissance soil sampling program also shows interesting copper values in the general area of the induced polarization anomalies.

RECOMMENDATIONS

A minimum footage diamond drill program to test anomalies #1, #2 and #3 is suggested as follows:

(1) To test anomaly 1 a hole should be collared at 20N-39W drilled due west at an angle of -45° for a length of 500 feet.

(2) To test anomaly 2 a hole should be collared at 5S-43W drilled due west at an angle of -45° for a length of 500 feet.

(3) To test anomaly 3 a hole should be collared at 40N-36W drilled due east at an angle of -45° for a length of 500 feet.

Respectfully submitted,
TRI-CON EXPLORATION SURVEYS LTD.

Glen E. White
Chief Geophysicist

C E R T I F I C A T I O N

TO WHOM IT MAY CONCERN:

I, GLEN ELMO WHITE, of the City of Richmond in the Province of British Columbia, hereby certify:

1. That I am a Geophysicist and reside at 112 - 641 Gilbert Road, Richmond, B.C.
2. That I studied Geophysics and Geology and graduated from the University of British Columbia with the degree of Bachelor of Science.
3. That I have been engaged in Mining Exploration for eight years.
4. That I do not have, nor do I expect to receive, either directly or indirectly, any interest in the property, or in the securities of Summit Oils Ltd.
5. That this report is based on information derived from an Induced Polarization survey carried out by Tri-Con Exploration Surveys Ltd.

Dated this 10th day of September 1970.

G. E. White, B.Sc.
Chief Geophysicist

STATEMENT OF QUALIFICATIONS

Name: WHITE, Glen E.

Profession: Geophysicist

Education: B.Sc. Geophysics - Geology
University of British Columbia.

Professional Associations: Associate member of Society of Exploration Geophysicists.
Active member B.C. Society of Mining Geophysicists

Experience: Pre-Graduate experience in Geology-Geochemistry-Geophysics with Anaconda American Brass.

Two years Mining Geophysicist with Sulmac Explorations Ltd. and Airborne Geophysics with Spartan Air Services Ltd.

One year Mining Geophysicist and technical Sales Manager in the Pacific north-west for W.P. McGill and Associates.

Two years Mining Geophysicist and supervisor Airborne and Ground Geophysical Divisions, with Geo - X Surveys Ltd.

Presently Chief Geophysicist Tri-Con Exploration Surveys Ltd.

Active experience in all Geologic provinces of Canada.

A P P E N D I X

Instrument Specification

INDUCED POLARIZATION

A Instrument

(a) Type - Transient Pulse Prospecting Equipment
(b) Make - Hewitt Enterprises 200
(c) Size - 13¼"W x 15½"L x 9½" Deep

B Specifications

(a) Transmitter
  (i) 1,000 Watt nickle cadnium battery supply
  (ii) operation mode 2 seconds on, 2 seconds off, 2 seconds reverse
    4 seconds on, 4 seconds off, 4 seconds reverse
  (iii) Cycles .5, 1, 2, 3, 4. selected on switch.
  (iv) Timing - solid state logic circuitry
  (v) Current Ranges 10, 50, 100, 500, 1,000, 5,000, milliampere

(b) Receiver
  (i) Solid State
  (ii) dV and I.P. solid state memory storage.
  (iii) dV ranges 10, 50, 100, 1,000, 1,500 millivolts
  (iv) I.P. ranges .1, .5, 1.0, 5, 10, 15, millivolts
  (v) Self-potential-direct dial reading from polartometer
  (vi) A.C. filtering-low pass active filter
  (vii) Transient delay period .4 seconds
  (viii) Integrating period 1.2 seconds
  (ix) Power supply-four 9 volt transistor radio batteries.

C Survey Procedure
(i) Wenner, pole-dipole or schlumberger array

D Data Presentation
(i) chargeability percent chargeability in milliseconds or $\frac{\text{millivolts}}{\text{volt}}$
(ii) Resistivity - ohmn - feet
(iii) Self-potential-millivolts often not used

CERTIFICATE

I, William G. Stevenson, DO HEREBY CERTIFY:

- That I am a Consulting Geological Engineer with offices at Suite 209 Stock Exchange Building, 475 Howe Street, Vancouver 1, B.C.
- That I am a graduate of the University of Utah 1946, with a B.Sc. Degree.
- That I am a registered Professional Engineer in the Association in British Columbia.
- That I have practised my profession for 22 years.
- That I have no direct, indirect or contingent interest in the Summit Mineral Claims or in the securities of Summit Oils Ltd. nor do I intend to receive any such interest.
- That I have reviewed a report dated September 10, 1970 based on work conducted by Tri-Con Exploration Surveys Ltd. under the supervision of Glen E. White, B.Sc., Chief Geophysicist.

DATED at Vancouver, British Columbia this th day of September 1970.

W. G. STEVENSON & ASSOCIATES LIMITED
Consulting Geologists

W. G. Stevenson, P. Eng.

Right of Way

Creek

Redtop

Holmes Creek

50 W 40 W 30 W 20 W 10 W 0 W

50 N 45 N 40 N 35 N 30 N 25 N 20 N 15 N 10 N 5 N Base Line 0 5 S 10 S 15 S 20 S 25 S 30 S 35 S

1

2

ASTRO

MAGNETIC

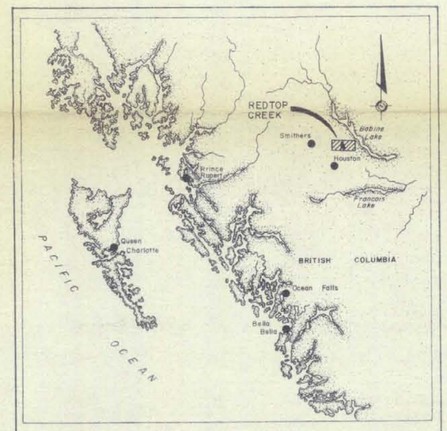
27°

L E G E N D

- Survey Line, Station and Reading
- Contour Line - Contour Interval 1 millivolts/volt
- 1 2 Areas of Interest
- Creek
- Swamp
- Trail
- Main Road
- Boundary of Summit Claims
- INSTRUMENT: Hewitt KEW 200 (IKW)
- ARRAY - WENNER - a = 200'

CHARGEABILITY KEY

6	millivolts/volt
5	millivolts/volt
4	millivolts/volt
3	millivolts/volt
2	millivolts/volt



LOCATION MAP

SCALE 1 INCH = 80 MILES

M-3

2958

SCALE 0 500 1000 FEET

1" = 500'

NOTE: To Accompany Geophysical Report on REDTOP PROPERTY, Omineca Mining Division. by: Glen E. White - Chief Geophysicist. Sept. 10, 1970.

SUMMIT OILS LIMITED

REDTOP CREEK AREA

OMINECA MINING DIVISION - BRITISH COLUMBIA, CANADA

GEOPHYSICAL MAP

INDUCED POLARIZATION-CHARGEABILITY (millivolts/volt)

Tri-Con EXPLORATION SURVEYS LTD.

INTERPRETED by: G.E. White

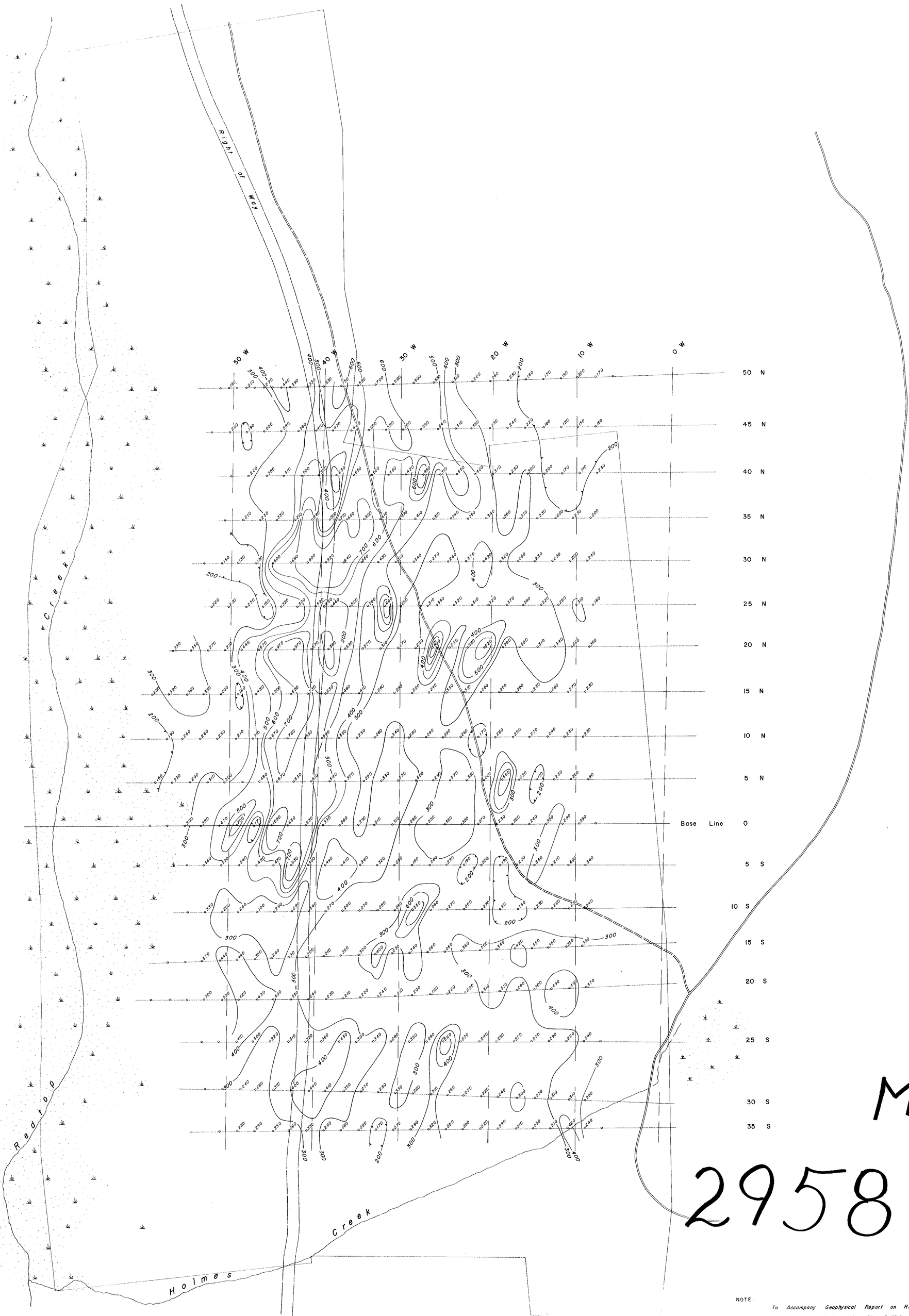
DRAFTED by: N. Grant-Brown, A.N. Schamper

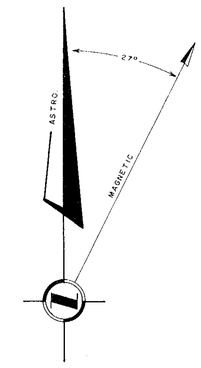
Fig. 3

Sept. 10, 1970 REVISED

PROJECT No. 112

FILE 84e

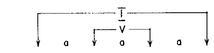




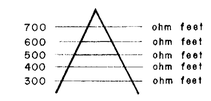
L E G E N D

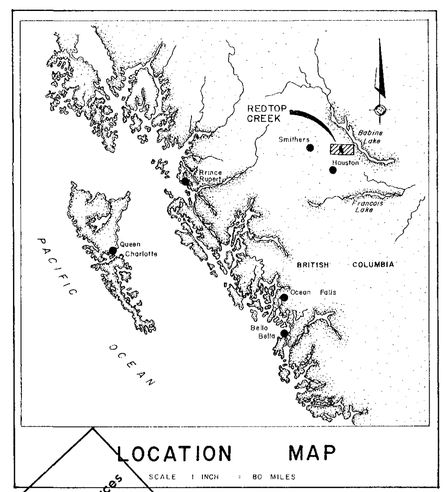
- Survey Line, Station and Reading
- Contour Line - Contour Levels at 200, 300, 400, 500, 600 and 700 ohm feet
- Depression
- Creek
- Swamp
- Trail
- Main Road
- Boundary of Summit Claims

ARRAY - WENNER - a = 200'



RESISTIVITY KEY





LOCATION MAP
SCALE 1 INCH = 80 MILES

M-4

2958

Department of Mines and Petroleum Resources
ASSESSMENT REPORT #4
NO. 2958 MAP

SCALE 500 0 500 1000 FEET
1" = 500'

SUMMIT OILS LIMITED
REDTOP CREEK AREA
OMINECA MINING DIVISION - BRITISH COLUMBIA, CANADA.

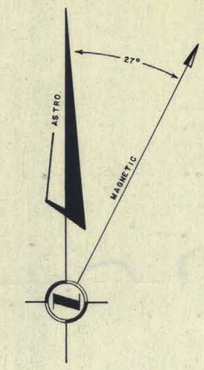
GEOPHYSICAL MAP
INDUCED POLARIZATION - RESISTIVITY (ohm feet)

Tri-con EXPLORATION SURVEYS LTD.

INTERPRETED by: G.E. White
DRAFTED by: N. Grant-Brown, A.N. Schampier
Fig. 4

Sept. 10, 1970 | REVISED | PROJECT No- 112 | FILE 84a

NOTE:
To Accompany Geophysical Report on REDTOP PROPERTY, Omineca Mining Division. by: Glen E. White - Chief Geophysicist. Sept. 10, 1970.



Right of Way

Creek

Redtop

Holmes Creek

Base Line

D.D.H. 3

D.D.H. 1

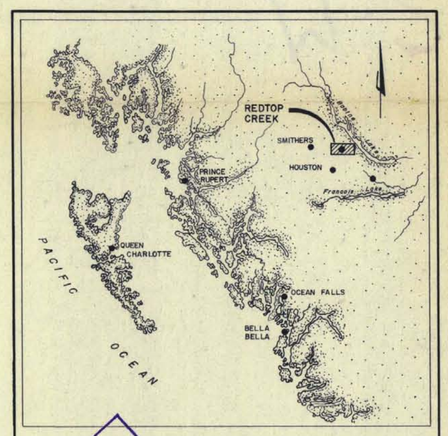
D.D.H. 2

a

b

L E G E N D

- 4 — Chargeability Peak
- 3 — Chargeability High Trend
- 2 — Magnetic Trend
- 1 — Magnetic Peak
- Magnetic Depression
- Contour Line
- Creek
- Trail
- Swamp
- Road
- Boundary of Summit Claims
- Fault



LOCATION MAP
SCALE 1 INCH = 80 MILES

SCALE 500 0 500 1000 FEET
1" = 500'

SUMMIT OILS LIMITED
REDTOP CREEK AREA
OMINECA MINING DIVISION - BRITISH COLUMBIA, CANADA.

GEOPHYSICAL MAP
INTERPRETATION MAP

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Sept. 10, 1970.

Tri-Con EXPLORATION SURVEYS LTD.
INTERPRETED by: G.E. White
DRAFTED by: N. Grant-Brown, A.N. Schampier
Fig. 5
Sept. 10, 1970 | REVISED
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