2442
part 2

REPORT ON
INDUCED POLARIZATION AND RESISTIVITY SURVEY
SAM CLAIM GROUP
FOR
ENDAKO MINES LIMITED (N.P.L.)
BY
CANADIAN AERO MINERAL SURVEYS LIMITED
Project No. 032

REPORT ON

INDUCED POLARIZATION AND RESISTIVITY SURVEY

SAM CLAIM GROUP

FOR

ENDAKO MINES LIMITED (N.P.L.)

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PROJECT NO. 032

OTTAWA, ONTARIO,
January 12, 1970.

K. Hendry, B.Sc.,
Geophysicist.

<u>T A B L E O F C O N T A C T</u>

Accompanying this Report:- (Rear)

#6 - One Plan Map at the scale of 1" = 1000'.

#7 - One Profile Presentation Map at the scale of 1" = 400'.

REPORT ON
INDUCED POLARIZATION AND RESISTIVITY SURVEY
FOR
ENDAKO MINES LIMITED (N.P.L.)

I. INTRODUCTION

During the period from November 5 until November 11, 1969, Canadian Aero Mineral Surveys Limited carried out an induced polarization and resistivity survey for Endako Mines Limited (N.P.L.) on a property several miles north and west of the mine site known as the Sam claim group.

The survey was carried out by K. Hendry, B.Sc., geophysicist for Canadian Aero Mineral Surveys Limited.

II. SURVEY PROCEDURES

A 3 electrode array was used throughout the survey with spacings of a = 200' and a = 400'. The infinite electrode was maintained at least 2000' from the nearest of the other electrodes. Data is plotted halfway between the closest potential electrode (P1) and "travelling" current electrode (C1).

EQUIPMENT

A Geoscience transmitter and receiver were used throughout the survey. The transmitter is powered by a standard 400 cycle per second generator capable of 2.5 kw. The frequencies used were 3.0 c.p.s. (high frequency) and 0.3 c.p.s. (low frequency).

The transmitter (Model 5280) entirely designed and manufactured by Geoscience Inc., is capable of 2.0 amps output. The unit functions as a constant current source at frequencies of 0.1, 0.3, 1.0, 3.0, 10.0 c.p.s.

The receiver is the Phase-Lock Model also designed and manufactured by Geoscience Inc. It is independent of the transmitter and employs several stages of filtering of 60 cycle (powerline) and ground noise. It functions as a sensitive potentiometer to measure the voltages received from the sender and compare the high frequency resistivity to the low frequency resistivity. The comparison is read directly in units of percent frequency effect (P.F.E.). The first reading (3.0 cps) at each station is used to obtain the apparent resistivity. Thus the apparent resistivity is an A.C. resistivity. The difference between the two is small at the frequencies used (about 6%) but increases as the frequency goes up.

Electrode drying and component changes due to heat cause drifts which are measured as % deviations at the transmitter and receiver. These values enter the calculations as corrections for the observed P.F.E.

III. DISCUSSION OF RESULTS

Three lines were run on this area.

Line 1

No significant features were apparent in the data obtained on line 1. Part of the data was rendered useless due to receiver malfunction. This includes the south part of line 1 at a = 400' only.

Line 2

Two readings at the south end of line 2 are above background. Their significance is not known as snow and steep slopes halted the survey. Further work is needed to determine the extent of the "anomaly".

Data was also lost on this line due to receiver malfunction. The a = 400' data between the swamp and station no. 949 was not useable. (P.F.E. only).

Line 3

Two "highs" were recorded centering at stations no. 1462 and station no. 998. Values are only slightly above background. 1.9 - 2.2% as 1.0 - 1.6% background. The resistivity values at no. 1462 drop and a calculation of "Metal-Factor" for that station results in a value of 30 units. It is not a strong anomaly but should not be overlooked. There may be some connections between line 2 and line 3 as the two zones are approximately opposite one another along the hill.

The second zone at no. 998 is less interesting with values of only 2.1% and no change in the resistivity.

IV. CONCLUSIONS

Two zones of slightly anomalous readings were intersected on lines no. 2 and no. 3. There may be some relationship as they both occur along the same hill.

V. RECOMMENDATIONS

No drilling would be recommended due to the small amount of information. More detail over the two zones on lines 2 and 3 and possibly in-between would determine the extent and depth of the anomalous material.

Respectfully submitted,

K N Hendry

K. Hendry, B.Sc.,
Geophysicist.

OTTAWA, ONTARIO,
January 12, 1970.

APPENDIX I

Survey time spent on Sam Mineral claims by:

Geophysicist	K.N. Hendry	6 days at $100.00/day
Helper	Jeff Barker	6 days at $25.00/day
Draftsman	Don Fitzsimmons	2 days at $60.00/day

Two additional helpers were supplied by Endako Mines Limited.

APPENDIX II

NAME: K. N. Hendry BIRTH DATE: July 27, 1944

POSITION: Geophysicist NATIONALITY: Canadian

EDUCATION

School - Carleton University

Major - Geology, 1967

Degree - B.Sc.

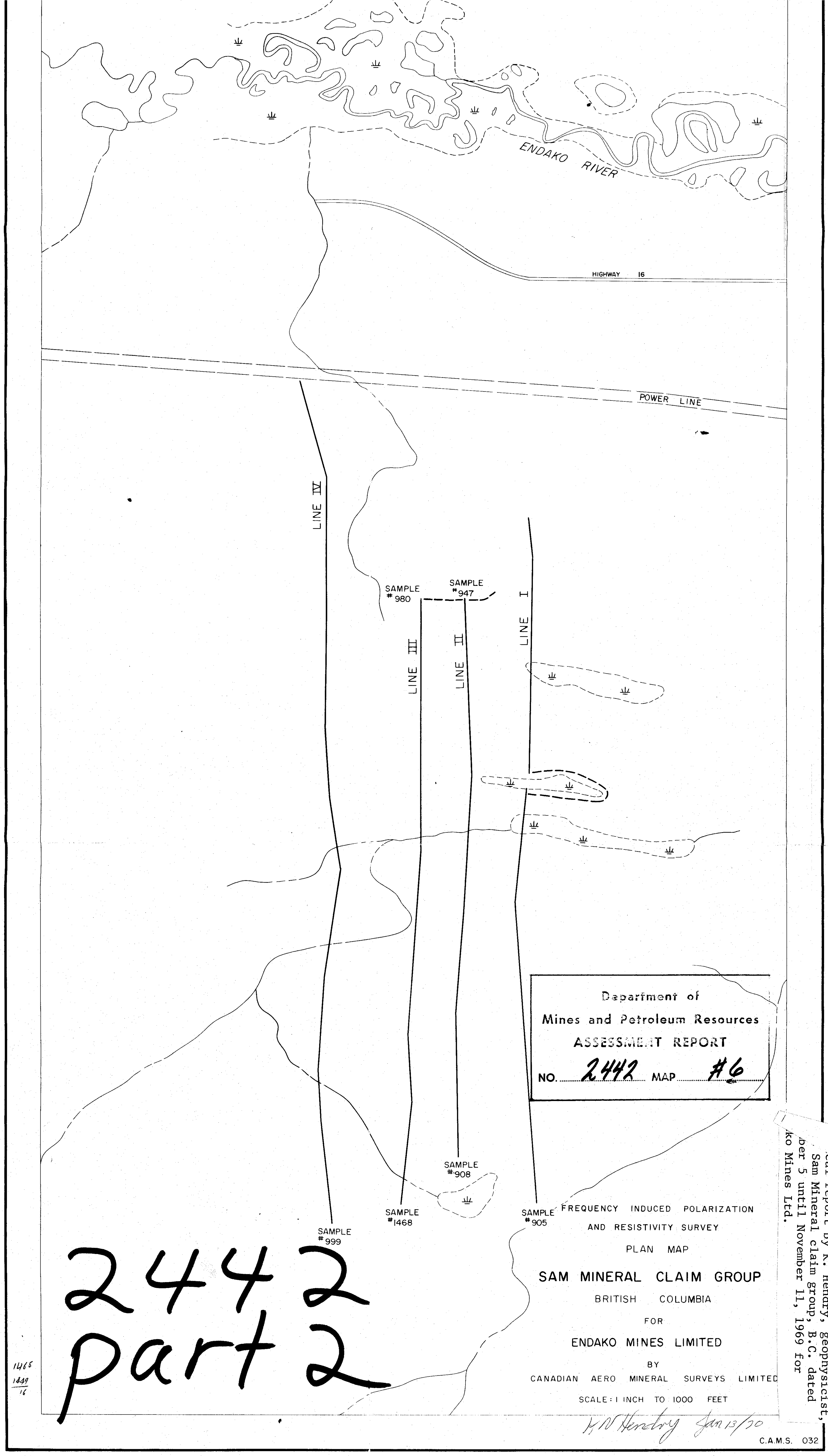
Pre-Canadian Aero Experience:

1. Summer job 1964, Hollinger Consolidated Gold Mines Limited. Geological mapping as an assistant.
2. Summer job 1965, Quebec Department of Natural Resources. In charge of geochemical aspect of Project Grenville near Chibougamau, PQ. with 6 crews.
3. Summer job 1966, Cominco Limited. In charge of camp on Cornwallis Island doing geochemistry, geology, I.P. (done by others) and core drilling.

EXPERIENCE:

Mr. Hendry joined Canadian Aero Mineral Surveys Limited in 1967 as field geophysicist. He was immediately sent to the U.S. where he was in charge of crews conducting I.P. surveys in the southwest states including Wyoming, Texas, New Mexico and Arizona where he was based. In 1969 Mr. Hendry returned to Canada and was engaged in I.P. surveys in British Columbia and the Yukon over a wide variety of targets.

The majority of experience he obtained was with the time domain I.P. system but he also obtained frequency I.P. experience in Tucson, Arizona. He is familiar with theoretical interpretation of I.P. through contact with experienced geophysicists of Canada and Arizona.



ENDAKO RIVER
HIGHWAY 16
POWER LINE
LINE IV
LINE III
LINE II
LINE I
SAMPLE #980
SAMPLE #947
SAMPLE #908
SAMPLE #1468
SAMPLE #999
SAMPLE #905
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2442 MAP #6
FREQUENCY INDUCED POLARIZATION AND RESISTIVITY SURVEY
PLAN MAP
SAM MINERAL CLAIM GROUP
BRITISH COLUMBIA
FOR
ENDAKO MINES LIMITED
BY
CANADIAN AERO MINERAL SURVEYS LIMITED
SCALE: 1 INCH TO 1000 FEET
K N Hendry Jan 13/70
C.A.M.S. 032
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.cal report by K. Hendry, geophysicist,
. Sam Mineral claim group, B.C. dated
ber 5 until November 11, 1969 for
ko Mines Ltd.

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2442 MAP #7

LEGEND

RESISTIVITY P.F.E.

o——o a=200' o——o

x——x a=400' x——x

CURRENT ELECTRODE TO NORTH
NOTE: LINES NOT SPACED TO SCALE

Geological report by K. Hendry, geophysicist, on the Sam Mineral claim group, B.C. dated November 5 until November 11, 1969, for Endako Mines Ltd.

FREQUENCY - INDUCED POLARIZATION
AND RESISTIVITY SURVEY
PROFILE PRESENTATION

SAM MINERAL CLAIM GROUP

BRITISH COLUMBIA

FOR

ENDAKO MINES LIMITED

BY

CANADIAN AERO MINERAL SURVEYS LIMITED

SCALE: 1 INCH TO 400 FEET

K.W. Hendry Jan 13/70

C.A.M.S. 032