**EXPLORATION** 

WESTERN DISTRICT

NTS: 92-I/7

#### GEOPHYSICAL REPORT

ON

# INDUCED POLARIZATION AND RESISTIVITY SURVEYS

G U M P PROPERTY

MAMIT LAKE AREA, NICOLA M.D., B.C.

LATITUDE : 50°23'N

LONGITUDE : 120°51'W

FIELD WORK PERFORMED: June 3 - July 11, 1982

CLAIMS: BUCK 1,2,3 and 5000 fraction,

ANTLER 1,3,5, LAKE 1,2, ELF 3,4,5,6 and SCORE 1

OWNER AND OPERATOR : COMINCO Ltd.

GEOLOGICAL BRANCH ASSESSMENT REPORT

10,944

SEPTEMBER 1982

J. KLEIN

# TABLE OF CONTENTS

|                  |  | Page |
|------------------|--|------|
| INTRODUCTION     |  | 1    |
| INDUCED POLARIZA | ATION AND RESISTIVITY SURVEYS                                  | 1    |
| PRESENTATION OF  | DATA   | 2    |
| DISCUSSION OF RE | ESULTS   | 2    |
| CONCLUSIONS      |  | 3    |
| REFERENCES       |  | 4    |
|                  |  |      |
| APPENDIX I       |  |      |
| APPENDIX II      |  |      |
| APPENDIX III     |  |      |
|                  |  |      |
| PLATE 227-82-    | -1 LOCATION PLAN Scale 1:250,000                               |      |
| 227-82-          | -2 CLAIM AND GRID PLAN Scale 1:50,000                          |      |
| 227-82-          | CHARGEABILITY CONTOUR PLAN, n=1 of N Grid Scale 1:10,000       |      |
| 227-82-          | RESISTIVITY CONTOUR PLAN, n=1 of N Grid Scale 1:10,000         |      |
| 227-82-          | -5 CHARGEABILITY CONTOUR PLAN, n=1 of S Grid<br>Scale 1:10,000 |      |
| 227-82-          | -6 RESISTIVITY CONTOUR PLAN, n=1 of S Grid                     |      |
| 227-82-          | -7-20 PSEUDOSECTIONS   |      |

EXPLORATION

WESTERN DISTRICT

NTS: 92-I/7

#### GEOPHYSICAL REPORT

ON

#### INDUCED POLARIZATION AND RESISTIVITY SURVEYS

G U M P PROPERTY

MAMIT LAKE AREA, NICOLA M.D., B.C.

#### INTRODUCTION

During the period June 3 - July 11, 1982, approximately 49.6 km of reconnaissance scale multiseparation, induced polarization and resistivity survey work was completed over portions of the GUMP property. This I.P./Res. work was conducted by a COMINCO Ltd. crew under the direction of Mr. I. Jackisch, geophysicist.

The GUMP property is located in the Mamit Lake Area of B.C., some 12 km SSW of Logan Lake. Plate 1 shows the general location of the property and Plate 2 shows the location of the survey lines with respect to the claims.

The objective of this survey, which is a continuation of surveys conducted in 1980 and 1981, was to map the existence of any sulphides and other polarizable sources in the grid area.

This report describes procedures used for this survey, presents the data and discusses the results.

#### INDUCED POLARIZATION AND RESISTIVITY SURVEYS

Two Huntec MK IV I.P. receivers and one Scintrex IPR-11 receiver in combination with a Huntec 7.5 kw motor generator/transmitter were used on the GUMP survey. Readings were taken in the time domain using a 2 second current ON/2 second current OFF alternating square wave signal. A delay time of 120 milliseconds and total integration time of from 120 msecs. to 1020 msecs. were used for the Huntec MK IV receivers to measure the I.P. effect. A delay time of 330 msecs. and an integration time of 180 msecs. (from 330-510 msecs.) were used for the IPR-11 receiver. Chargeability values are given in units of milliseconds for the MK IV receiver data and in mV/V for the IPR-11 results.

The survey was of a regional reconnaissance nature with survey lines 400 meters apart. A pole dipole electrode array was used with an "a" spacing of 100 meters and "n" separations of 1 to 6. The current electrode was kept to the east or west of the potential dipole, as indicated in the pseudosections.

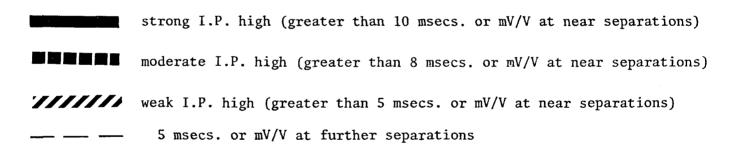
The apparent resistivity values are given in units of ohm meters and were calculated from the relation:

apparent resistivity =  $(V/I) \cdot K$ ,

where V is the voltage across the measuring dipole during the current on period (I), and K is a geometrical factor dependent on the "a" spacing and "n" separation.

#### PRESENTATION OF DATA

The induced polarization survey results are plotted in pseudosection format on accompanying Plates 227-82-7 to 227-82-20. The chargeability response has been categorized on the sections in the following manner (which are the same as for the previous surveys on this property):-



The chargeability and resistivity results for the first separation are also shown on Plates 227-82-3 to 6, tied in to some of the data collected during 1981.

## DISCUSSION OF RESULTS

The 1982 results do not reveal any strong anomalies. The South and North grids reveal some weak trends similar to those revealed during the 1980 and 1981 surveys. These most likely reflect different phases of the Guichon batholith. One weak anomaly is centered at Line 68S, Station 1000E. This is a rather shallow feature.

A single line anomaly at Line 52S, Station 600W doesn't reflect itself on Line 48S (1981 survey). This anomaly appears also to reflect a source of shallow depth extent.

The north grid anomaly along Line 800S, Station 200E most likely reflects a mineralized vein or shear. The weak anomaly at Line 16N, Station 1000E is open to the south but appears closed to the north near the powerline.

#### CONCLUSIONS

Portions of the GUMP property were surveyed with multiseparation (n=1 to 4 or 6) time domain I.P. during the summer of 1982. Two types of receivers were used: Huntec M-4 and Scintrex IPR-11.

On the first separation chargeability contour plans, which include some data from the previous surveys, are zones of weak chargeability increase indicated. These zones most likely reflect a facies change of the Guichon Batholith.

No anomalies of obvious interest were detected.

Report by:

Chief Geophysicist

Approved by:

Manager, Exploration

Western District

JK/jel

#### Distribution:

| Mining Recorder  | (2) |
|------------------|-----|
| <u> </u>         |     |
| Western District | (1) |
| Vernon Office    | (1) |
| Administration   | (1) |
| Geophysics       | (2) |

# REFERENCES

JACKISCH, I., 1981

Geophysical Report on an I.P. Survey, GUMP Property, Mamit Lake Area, dated

19 October 1981

JACKISCH, I and

SCOTT, A.R., 1981 :

Geophysical Report on an I.P. Survey,

GUMP Property, Mamit Lake Area, dated

24 April 1981

KLEIN, J., 1981

Geophysical Report on an I.P. and

Resistivity Survey on the GUMP Property,

Mamit Lake Area, Nicola and Kamloops

M.D., dated 23 December 1981

SCOTT, A.R., 1981

Geophysical Report on I.P. and Magnetics

Surveys, GUMP Property, Highland Valley

Area, dated 10 February 1981

### APPENDIX I

IN THE MATTER OF THE B.C. MINERAL ACT

AND IN THE MATTER OF A GEOPHYSICAL PROGRAM

CARRIED OUT ON PORTIONS OF BUCK 1,2,3 AND 5000 FRACTION,

ANTLER 1,3,5, LAKE 1,2, ELF 3,4,5,6 and SCORE 1

ON THE GUMP PROPERTY

LOCATED IN THE MAMIT LAKE AREA, NICOLA MINING DIVISION, B.C.

OF THE PROVINCE OF BRITISH COLUMBIA, MORE PARTICULARLY

N.T.S.: 92-I/7

## STATEMENT

- I. JAN KLEIN, OF THE CORPORATION OF RICHMOND, IN THE PROVINCE OF BRITISH COLUMBIA, MAKE OATH AND SAY:-
- 1) THAT I am employed as a geophysicist by COMINCO Ltd. and as such have a personal knowledge of the facts to which I hereinafter depose;
- 2) THAT the annexed hereto and marked as "Appendix II" to this statement is a true copy of expenditures incurred on geophysical survey on the GUMP Property;
- THAT the said expenditures were incurred for the purpose of mineral exploration of the above-noted claims between the 3rd day of June and the 11th day of July, 1982.

Signed:

J. Mlein

Chief Geophysicist

# APPENDIX II

# STATEMENT OF EXPENDITURES

# GUMP PROPERTY

(INDUCED POLARIZATION AND RESISTIVITY SURVEY EXECUTED FROM JUNE 3 to JULY 11, 1982)

49.6 LINE KILOMETERS @ \$ 1,000/KM =

\$ 49,600.00

## APPENDIX III

# CERTIFICATION

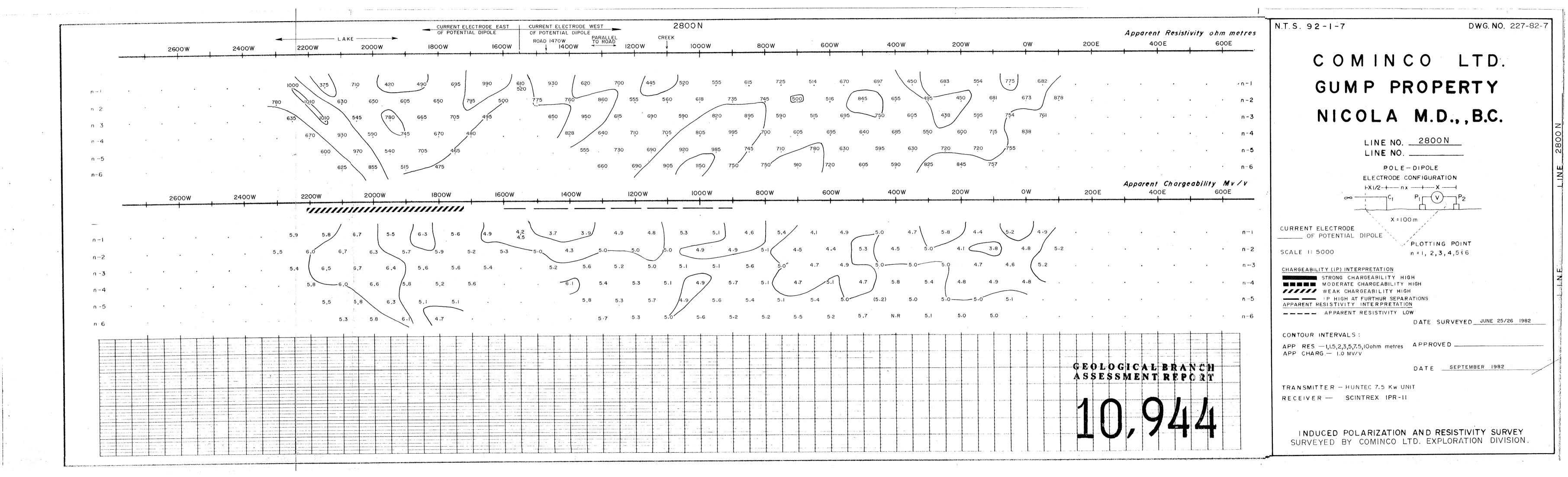
I, JAN KLEIN, of 4371 Coventry Drive, in the Corporation of Richmond, in the Province of British Columbia, do hereby certify:-

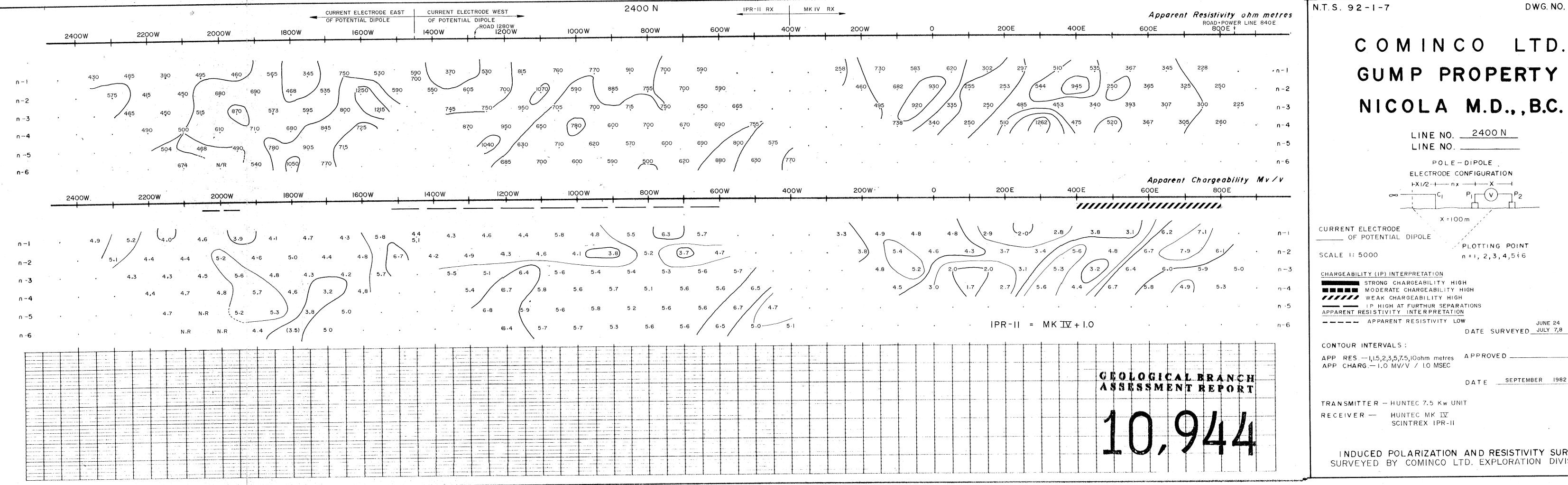
- 1) THAT I graduated from the Technological University of Delft
  Netherlands in 1965 with a M.Sc. in Geophysics;
- THAT I am a member of the Association of Professional Engineers of the Province of British Columbia, the Society of Exploration Geophysicists of America, and the British Columbia Geophysical Society:
- THAT I have been practising my profession for the past seventeen years.

Signed:

Chief Geophysicist







COMINCO LTD. GUMP PROPERTY

DWG. NO. 227-82-8

LINE NO. 2400 N LINE NO. \_\_\_\_\_ POLE - DIPOLE ELECTRODE CONFIGURATION X = 100 m \_\_\_\_\_ OF POTENTIAL DIPOLE PLOTTING POINT n = 1, 2, 3, 4,5 § 6 CHARGEABILITY (IP) INTERPRETATION STRONG CHARGEABILITY HIGH MODERATE CHARGEABILITY HIGH IIIIII WEAK CHARGEABILITY HIGH IP HIGH AT FURTHUR SEPARATIONS APPARENT RESISTIVITY INTERPRETATION ---- APPARENT RESISTIVITY LOW DATE SURVEYED JULY 7,8 APP RES. - I, I.5, 2, 3, 5, 7.5, 10 ohm metres APPROVED \_ APP CHARG: - 1.0 MV/V / 1.0 MSEC DATE SEPTEMBER 1982

INDUCED POLARIZATION AND RESISTIVITY SURVEY SURVEYED BY COMINCO LTD. EXPLORATION DIVISION.

