ARIS SUMMARY SHEET

District Geologist, Vancouver — Off Confidential: 94.11.22

ASSESSMENT REPORT 23145 — MINING DIVISION: Lillooet

PROPERTY: Pemberton
LOCATION: LAT 50 26 00 LONG 122 51 00
UTM 10 5586604 510653
NTS 092J07W

CAMP: 033 Pemberton District

CLAIM(S): Owl 1, 3, 4, 6, 7
OPERATOR(S): Cominco
AUTHOR(S): Hall, D
REPORT YEAR: 1993, 8 Pages
COMMODITIES SEARCHED FOR: Copper,Molybdenum/Molybdenite
KEYWORDS: Triassic,Takla Group,Volcanics,Alteration,Pyrite,Chalcopyrite
WORK DONE: Geophysical
IPOL 7.2 km
Map(s) - 3; Scale(s) - 1:50 0001,1:20 000,1:5000
RELATED REPORTS: 04958
MINFILE: 092JSE018

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EXPLORATION

WESTERN CANADA

NTS: 92J/7W

ASSESSMENT REPORT

I.P./RESISTIVITY SURVEY

ON THE

PEMBERTON PROPERTY

LATITUDE: 50° 25' N 26'

LONGITUDE: 122° 47' W 51'

LILLOOET MINING DISTRICT, B.C.

CLAIMS COVERED : OWL 1,3,4,6,7

TIME PERIOD: OCT. 4-7, 1993

OCT. 1993

DAVID HALL

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LIST OF PLATES

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EXPLORATION WESTERN CANADA

REPORT

ON

I.P./RESISTIVITY SURVEY

ON THE PEMBERTON PROPERTY

I INTRODUCTION

During the time period Oct. 4-7, 1993, an Induced Polarization/Resistivity [I.P./Res.] survey was carried out on the Pemberton Property by Scott Geophysics Ltd. on behalf of Cominco Ltd. A total of 7.2 line kilometres of I.P./Res. survey was completed.

The purpose of this survey was to test for indications of sulphides in a geological environment favourable to porphyry Cu/Mo deposits, but where the ground surface is predominantly covered by overburden and outcrop is minimal.

This report discusses the geophysical equipment and procedures, then presents and interprets the results.

GEOLOGY

The property overlies a roof pendant consisting of Triassic andesite volcanics and lesser sediments bordered on the east by the 70 million year old diorite/quartz diorite/granodiorite/tonalite Scuzzy Pluton and on the west by an older Coast Plutonic Complex quartz diorite. The pendant is intruded by several small diorite/quartz diorite/granodiorite plugs of unknown age.

PROPERTY HISTORY

In May, 1993 an in-house Cominco Ltd. geophysical crew carried out an I.P./Res. survey on the Pemberton Property to the south of Owl Lake. At this time it was not possible to complete the survey, which consisted of two recconnaissance lines to the north of Owl Lake, due to snow conditions.

LOCATION AND ACCESS

The Pemberton Property is located 12 km north of Pemberton, B.C., at latitude 50°25'N, longitude 122°47'W, on N.T.S. 92J/7. Access to the property for this survey was by helicopter from a base near Pemberton.

II GEOPHYSICAL SURVEYS

EQUIPMENT AND PROCEDURES

A Scintrex IPR12 multi-channel time domain receiver and a Scintrex IPC7 2.5 kw transmitter were used for the I.P./Res. survey. A pole/dipole electrode array was used, with the current electrode to the south of the potential electrodes. The standard 2 second ON/OFF alternating square wave was transmitted.

The IPR12 receiver determines I.P. response by measuring a number of chargeability windows of specific time widths. The chargeabilities plotted on the accompanying pseudosections are the values for the time interval 690 to 1050 milliseconds after transmitter shutoff. This is approximately equivalent to the total chargeability value measured by the Huntec Mark 4 receiver.

The resistivity values [R] are in units of ohm-metres [ohm-m] and are calculated from the formula:

$$R = \frac{V\,K}{I} \qquad \text{where } K = 2\pi an[n+1] \quad a=100m\ ,\ n=1,2,3,4$$

V = voltage at receiver [volts]
I = transmitter current [amperes]

The survey procedure is described as follows. The transmitter is stationary and connected to the movable current electrode [pair of stainless steel rods] by well insulated wire on small, easily carried spools. The I.P. receiver moves along the line and for each current location is connected to the ground by a nonpolarizing electrode [porous pot containing CuSO4] at points 100, 200, 300, 400 and 500 metres from the current electrode. As the IPR12 is a multi-channel receiver readings of n=1-4 can be taken simultaneously. After a set of readings is taken at a particular current station the whole array moves 100 metres and the process is repeated. This continues until the line is finished. At this point the wire carrying the current has been laid out the full length of the line and must be wound in before the next line can be started.

PRESENTATION OF RESULTS

The I.P./Resistivity data is presented in pseudosection form on Plate 400-93-7, with chargeability and apparent resistivity plotted at a scale of 1:5000 for each survey line. Apparent resistivity is in units of ohm-metres, chargeability values are in units of millivolts/volt [mV/V].

Chargeability anomaly bars are categorized as strong [>20 mV/V], moderate [10-20 mV/V], and weak [7-10 mV/V]. These bars are plotted on the pseudosections to highlight anomalous chargeability zones.

III INTERPRETATION

Line 1 displays a weakly anomalous chargeability response at depth from 900N to 1300N. Resistivities range from 200 ohm-metres to over 8000 ohm-metres.

The I.P. response is stronger and more extensive on Line 2. Chargeabilities are anomalous from 100N to 1800N and reach values of 15 to 17 mV/V over 800 metres on n=4.

Generally, resistivities of less than 1000 ohm-metres are associated with the highest chargeability response on both lines while resistivities from 1000 to 8000 ohm-metres are associated with background levels of chargeability.

IV CONCLUSIONS

Scott Geophysics Ltd. surveyed 7.2 km of I.P./Resistivity on behalf of Cominco Ltd. on the Pemberton Property during the period October 4 to 7, 1993.

The zone detected did not have a chargeability response indicative of significant concentrations of disseminated sulphides.

Report by : David C. Hall
David C. Hall,
Geophysicist

Approved for Release by : J.M. Hamilton, P.Eng/P.Geo
Manager, Exploration
Western Canada

Distribution:

[2] Mining Recorder
[1] M. Casselman- Geologist, Western District
[1] Western District, Central Files
[1] Geophysics File, Vancouver, B.C.

APPENDIX I

IN THE MATTER OF THE B.C. MINERAL ACT

AND IN THE MATTER OF A GEOPHYSICAL PROGRAMME

CARRIED OUT ON THE PEMBERTON PROPERTY

LOCATED 12 KMS NORTH OF PEMBERTON, B.C.

IN THE LILLOOET MINING DISTRICT OF THE

PROVINCE OF BRITISH COLUMBIA,

MORE PARTICULARLY

N.T.S. 92J/7

S T A T E M E N T

I, David C. Hall, of 3476 W. 22nd Avenue, in the City of Vancouver, 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 annexed hereto and marked as "Exhibit A" to this statement is a true copy of expenditures incurred on a geophysical survey on the Pemberton Property;

3. That the said expenditures were incurred from Oct. 4-7, 1993, for the purpose of mineral exploration on the above noted property.

David C. Hall

David C. Hall
Geophysicist
Cominco Ltd.

Dated this 19 day of November, 1993
at Vancouver, B.C.

APPENDIX II - EXHIBIT "A"

STATEMENT OF EXPENDITURES

PEMBERTON PROPERTY - OCTOBER, 1993

1.	INVOICE FROM SCOTT GEOPHYSICS LTD.	$ 5874.50
2.	HELICOPTER COSTS	$ 3025.80
3.	REPORT WRITING, DRAFTING	$ 1780.00
	TOTAL	$ 10680.30

APPENDIX III

CERTIFICATION OF QUALIFICATIONS

I, DAVID C. HALL, of 3476 W. 22nd Avenue, in the City of Vancouver, in the Province of British Columbia, do hereby certify:

i. THAT I graduated with a B.Sc. in Geophysics from the University of Manitoba in 1976.

ii. THAT I have been actively practising Geophysics from 1976 to 1993, and am presently an employee of Cominco Ltd.

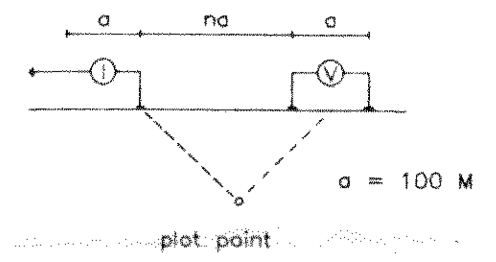
David C. Hall

David C. Hall, B.Sc.
Geophysicist

November, 1993


COMINCO LTD.
OWL LAKE PROPERTY, PEMBERTON AREA, B.C.
LINE 1
INDUCED POLARIZATION SURVEY (Pole-Dipole Array)
SCOTT GEOPHYSICS LTD. Scintrex IPR-12
Oct/93 Pulse Rate: 2 sec
current electrode south of receiving electrodes (heading N)
Mx Chargeability is for interval 690 to 1050 msecs after shutoff
Line 1 heads northwest from NW corner of Owl Lake
CHARGEABILITY (millivolts/volt)
RESISTIVITY (ohm-m)
METERS
Contour levels

Pole-Dipole Array



STRONG IP RESPONSE >20 mV/V

MODERATE IP RESPONSE 10-20 mV/V

WEAK IP RESPONSE 7-10 mV/V

Scale 1:5000

50 0 50 100 150 200 250 300 (meters)

Contour Interval: Chargeability – 2.5 mV/V
Resistivity – logarithmic

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,145

PEMBERTON PROPERTY

LILLOOET M.D., B.C.

NTS 92 J/7

Drawn by | Traced by | Revised by | Date | Revised by | Date

Induced Polarization Survey

CHARGEABILITY / RESISTIVITY PSEUDOSECTIONS

Scale 1 : 5000 | Date October 1993 | Plate 400-93-7

122°45'

50°25'

OWL 1

OWL 7

OWL 6

OWL 3

OWL 4

Owl Lake

OWL 5

OWL 2

OWL 8

LILLOOET RIVER

Birkenhead River

B.C. RAIL

PEMBERTON

99

0 1 2 3 Km.

N

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,145

92 J/7

PEMBERTON PROPERTY

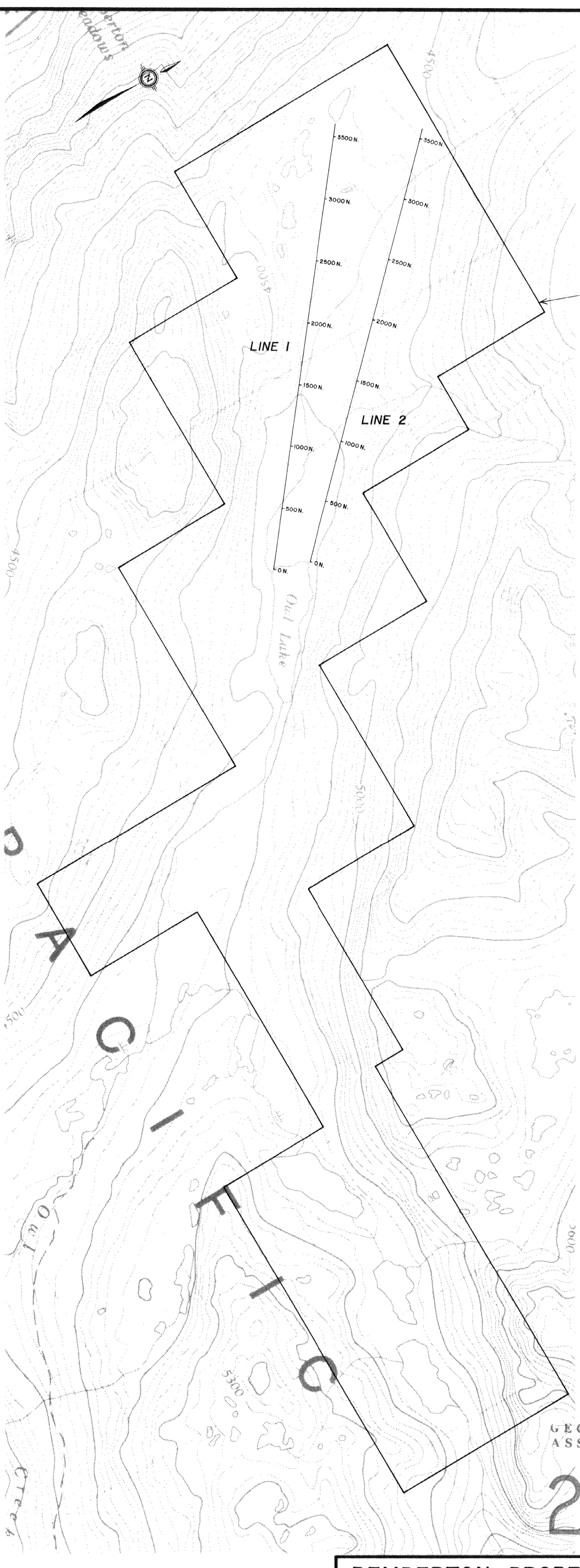
Cominco

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

Location and Claim Map

Scale: 1:50,000 | Date: Mar. 1993 | Plate: 400-93-1

D.E.L. 152



0 500 1000 1500 2000 metres

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,145

PEMBERTON PROPERTY

92 J/7

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

CLAIM and I.P./RES. GRID MAP

LILLOOET M.D., B.C.

Scale: 1 : 20,000 | Date: Oct. 21, '93 | Plate 400-93-8

Deskin 1015