83-#235-#11173

6

GEOPHYSICAL REPORT

ON THE

SPROUT CLAIMS 1-3

KAMLOOPS MINING DIVISION

N.T.S. 92I/10E

$50^{o}42'$ $120^{o}43'$

by

J. A. TURNER, GEOLOGIST
H. LIMION, CHIEF GEOPHYSICIST

MARCH 26, 1983

CLAIMS OWNED BY: Newmont Exploration of Canada Limited

WORK DONE BY: Newmont Exploration of Canada Limited

WORK DONE BETWEEN: October 9-13, 1982

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FIGURES

MAPS IN POCKET

SUMMARY

During the fall of 1982, induced polarization and magnetic surveys were carried out by Newmont Exploration of Canada Limited on three gridded areas on their Sprout claims which are located near the village of Savona in southern British Columbia.

The geophysical surveys were conducted over three separate gridded areas which were designated as the Sprout Claims Grid (or Grid 1), the Pat Lake Grid (or Grid 2), and the Small Lake Grid (or Grid 3).

The results of the magnetic survey carried out on the Sprout Claims Grid exhibited rapid variations in the readings from station to station. These magnetic patterns may be interpreted to suggest the presence of a near-surface lithology which may contain varying amounts of magnetite in the rocks.

Examination of the IP chargeability responses over the Sprout Claims Grid indicates consistently low values with none of them exceeding 8 milliseconds. This would suggest that the sulfide content of the underlying rocks is uniformly low.

Results of induced polarization surveys carried out over short lines on the Pat Lake and Small Lake Grids indicated only background chargeabilities were present.

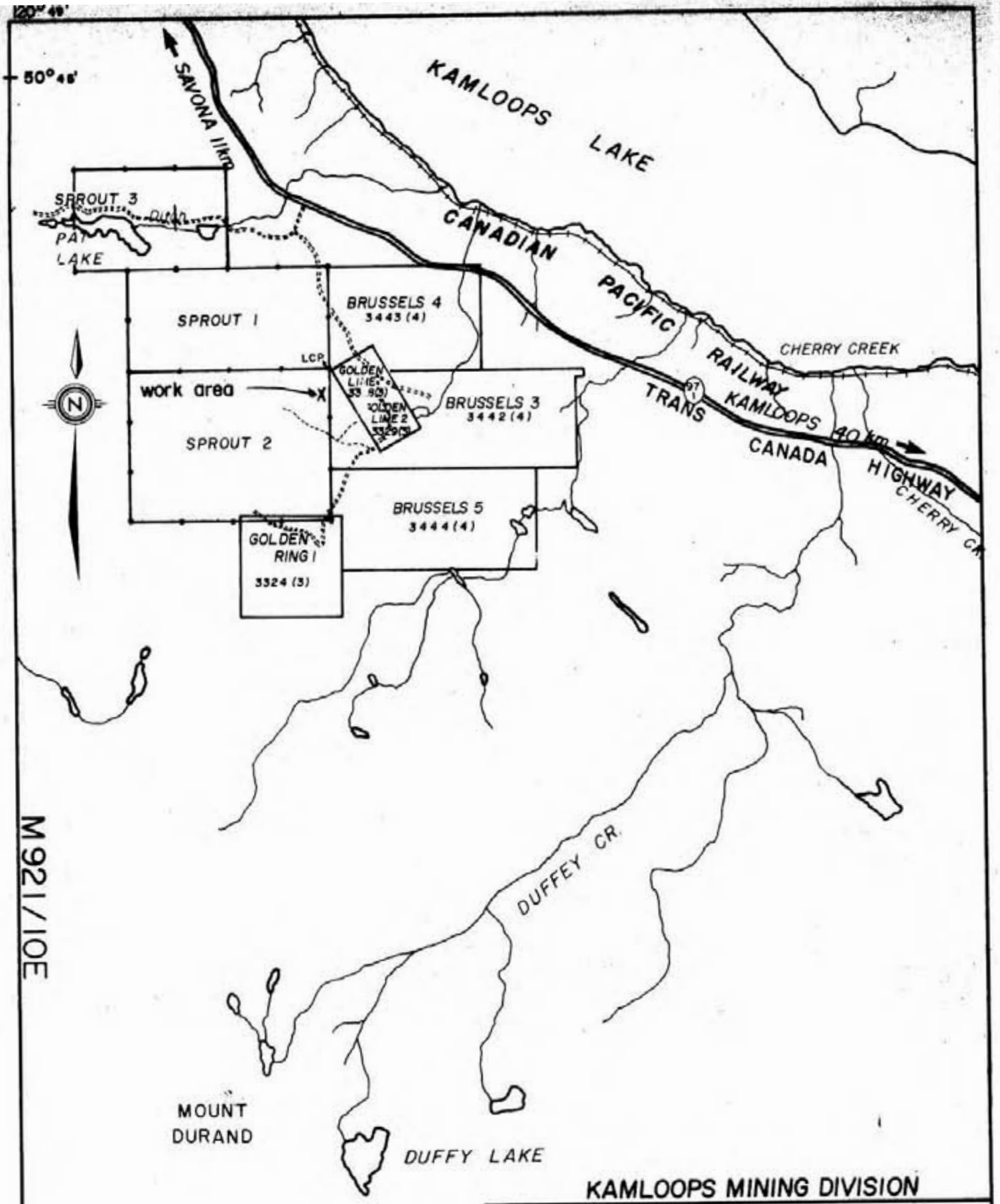
INTRODUCTION

In the summer of 1982, Newmont Exploration of Canada Limited carried out a regional exploration program in the Savona area of south-central British Columbia.

A crew of six carried out the initial reconnaissance mapping and prospecting which resulted in the discovery of a mineralized showing located about 11 km southeast of the village of Savona.

0 80 160 320 kilometres

NEWMONT EXPLORATION OF CANADA LTD.		
INDEX MAP SPROUT CLAIMS		
SCALE 1:8,000,000	LOCATION	DATE October 1982
SURVEY BY	DRAWN BY	NO Fig. 1



KAMLOOPS MINING DIVISION

NEWMONT EXPLORATION OF CANADA LTD.

SPROUT CLAIMS

CLAIM LOCATION MAP

SCALE 1: 50,000	LOCATION M 921/10E	DATE Dec 21, 1982
SURVEY BY J. TURNER	DRAWN BY IAN CASIDY	NO. FIG 2

The mineralization consisted mainly of galena and sphalerite and appeared to be associated with a quartz-carbonate zone in the Nicola volcanics.

Three claims, Sprout 1, 2, and 3, totalling 26 units were staked during May and August 1982 to cover the mineralization and were recorded in Kamloops.

The showing was trenched and sampled and this work was later followed by induced polarization and magnetometer surveys carried over the area of the showing and in the vicinities of Small Lake and Pat Lake.

The geophysical work 1.9 km of magnetometer and 3.3 km of induced polarization surveys) was carried out by a crew of five under the direction of geologist, J. Turner. The work was completed during the period October 9-13, 1982.

LOCATION AND ACCESS

The Sprout 1, 2, and 3 mineral claims form a contiguous block of claims located in N.T.S. map area 92I/10E, and lie approximately 11 km easterly from Savona, in south-central British Columbia.

Access to the claim area from Savona is easterly via the Trans-Canada Highway #1 then southerly on a dirt road through ranching and grazing lands.

PROPERTY DESCRIPTION

The three claims consist of a total of 26 units and were staked using the Modified Grid System. The claims are described as follows:

Claim	No. of Units	Record No	Record Date
Sprout 1	8	4089	June 25, 1982
Sprout 2	12	4093	June 25, 1982
Sprout 3	6	4137	July 30, 1982

PHYSIOGRAPHY AND CLIMATE

The claims lie on the side of a hill within the Nicola Plateau area of central B.C. The elevations on the property range from 640 to 1000 metres above sea level. Pat Lake is located on the south half of the Sprout 3 claim and drains to the east into Kamloops Lake. Small Lake is located in the south west portion of the Sprout 1 claim. The property lies in ranch country where there is both open range land and forested areas. Range land is covered by sage and a few ponderosa pine whereas timbered areas are mostly treed with fir, balsam and ponderosa pine. Outcrop covers about 25% of the claims. The Sprout claims lie within the Cariboo dry belt where summer temperatures range from 15 - 30^{o}C and there is little rainfall. Snow lasts from November to April.

HISTORY

There is no evidence of previous exploratory work having been done on the claims and no mineralized showings had been recorded in the B.C. Mineral Inventory Map covering this specific area.

Newmont's prospecting, geological and geochemical work was carried out on the claim area during May and August in 1982, and the geophysical surveys were carried out in early October of the same year.

GENERAL GEOLOGY

The claims are underlain by a northwesterly-trending sequence of undifferentiated volcanic and sedimentary rocks of the Nicola Group (Upper Triassic). The area was last mapped in 1948 by N.E. Cockfield of the Geological Survey of Canada.

PROPERTY GEOLOGY

The geology of the property is mapped as sequences of the Nicola Group volcanics consisting largely of andesite and its derivatives. Other rock types mapped on the property include trachyte, rhyolite, tuff and quartz-carbonate.

Mineralization consisting of galena, pyrite, chalcopyrite, sphalerite, malachite and azurite appear to be associated with a small quartz-carbonate lens. The overlying rock is the Nicola andesite and the underlying rock is trachyte of unknown age.

SURVEY COVERAGE AND DATA PRESENTATION

The 1.925 km of grid line on grid #1 was surveyed with a Geometrics G-816 proton precession magnetometer. The 220 readings of the earth's magnetic field were taken at 15 or 7½ metre intervals on the grid. All readings are diurnally corrected to the established base station readings.

Induced polarization and resistivity surveys on all three grids were carried out using the pole-dipole electrode array, and two electrode spacings. The I.P. transmitter was an Elliot Model 15A operating on a basic timing of 2 seconds. The receiver was the Crone I.P. receiver, measuring the I.P. decay in standard Newmont units, expressed in milliseconds.

i. Sprout Claims Grid #1 - Induced Polarization Surveys

On line 0N, 160 m in length, a 30 m array consisting of 10 readings at n = 1, 2 was taken. An 25 m array of 20 readings was recorded for n = 1, 2 over a 175 m cross line which was cut between lines 4N and 6N. All readings on the remaining lines were taken on 60 m stations.

ii. Magnetic Survey

Magnetometer readings were recorded at several different intervals (i.e. 12.5, 30, and 60 m stations) on the base line, on lines 2N, 4N and 6N. Readings were also recorded on the cross-line located between lines 4N and 6N.

iii. Pat and Small Lake Grids #2 & #3 - Induced Polarization Survey

All readings taken on the Pat and Small Lake Grids were recorded at 50 m stations for n - 1, 2.

RESULTS OF GEOPHYSICAL SURVEYS

Contoured field data were plotted on maps I.P. 1, 2, 3 and MC1 and are included in the back pocket of this report.

GEOPHYSICAL INTERPRETATION

The three areas are discussed individually:-

a) Sprout Claims

Magnetic readings over the grid show rapid variations from station to station. This implies that there exists a near-surface magnetic lithology. Geological mapping indicates a 0.1% magnetite content in andesite breccia and lapilli tuff. The individual magnetic highs or lows should correlate with near-surface changes in magnetite content.

The I.P. chargeability shows low values, with none exceeding 8 msec. There is no discernible rise. One can conclude that the distribution of sulphide mineralization is uniformly low, and that the mapped concentrations of 0.1% - 0.3% pyrite are representative of the survey area. The resistivity is thought to be a reflection of the depth of cover. The lowest resistivities occur near the baseline from 0-4N. Higher resistivities are recorded near the cliffs, and other regions where bedrock is thought to be closer to surface.

b) Pat Lake

The short I.P. line on the Pat Lake grid does not show any anomalous chargeability above background.

c) Small Lake

The short I.P. line on this project shows no anomalous chargeability above background.

CONCLUSIONS

The Small Lake and Pat Lake geophysical surveys were probably too limited to be able to provide enough information to be useful for geologic mapping or for an accurate assessment of the property.

On the Sprout Claims, the magnetometer surveys carried out produced magnetic patterns which appear to correlate with the variations in the magnetite content in the near-surface rocks.

The consistently low chargeability on the Sprout claims suggests that sulphide content of the underlying rocks is uniformly low.

REFERENCES

Cockfield, W. E.: Geology and Mineral Deposits of the Nicola Map Area, British Columbia, G.S.C. Memoir 249, 1948.

H. Limion

Report by H. Limion
and
J. A. Turner

H. LIMION

STATEMENT OF QUALIFICATIONS

I, Heikki Limion, received my B.A.Sc degree in Engineering Science (Geophysics Option) from the University of Toronto in 1965.

I spent two summers in geophysical field work; one with Hudson's Bay Oil and Gas, and one with INCo Exploration.

In 1965-66 I worked for one year with Hudson's Bay Oil and Gas as a Junior Geophysicist in seismic field work.

From 1967-1976 I worked with INCo Exploration, on ground and airborne geophysical surveys, I supervised airborne geophysical operations for four years, and worked on research and development of airborne geophysical systems. I conducted ground geophysical surveys in Canada, U.S.A., and Brazil.

In 1977 and 1978 I was the head of the geophysics section in the Kenya Department of Mines and Geology. During this time, I was under contract to CIDA (the Canadian International Development Agency).

Since the beginning of 1979, I have held the position of Chief Geophysicist of Newmont Exploration of Canada Limited.

I am a member of the Society of Exploration Geophysicists, the Association of Professional Engineers of Ontario, the Prospectors and Developers Association, and the Canadian Institute of Mining and Metallurgy.

H. Limion

J. A. TURNER

STATEMENT OF QUALIFICATIONS

I, James A. Turner, residing at 14149 17 A Avenue, Surrey British Columbia, state that:

1. I have graduated from the University of British Columbia with a B.Sc. degree in physics with geology in 1973 and further academic work in geological sciences in 1976.

2. I have been employed by Newmont Exploration of Canada Limited, Vancouver, British Columbia as a Project Geologist since 1980.

3. I am a member of the Geological Association of Canada (Cordilleran Section).

4. I supervised the exploration project at the Sprout property during September 4 to October 15, 1982.

J. A. Turner, B.Sc.

COST STATEMENT

1. Personnel

J. Turner	Oct. 9-13	5 days @ $154.40	=	$ 772.00
P. Dunn	Oct. 9-13	5 days @ $ 70.00	=	$ 350.00
P. Rayment	Oct. 9-13	5 days @ $ 65.00	=	$ 325.00
A. Sheldon	Oct. 9-13	5 days @ $ 65.00	=	$ 325.00
		20 days		$1,842.00

2. Truck rental, Maintenance and Fuel = $ 465.80

3. Food

$27.30 x 20 Mandays = $ 546.00

4. Accommodation

18.75/Man/Day = $ 375.00

5. Contract Labour for Geophysics Chief

B. Belanger (of Ryan Exploration, Timmins, Ont.)

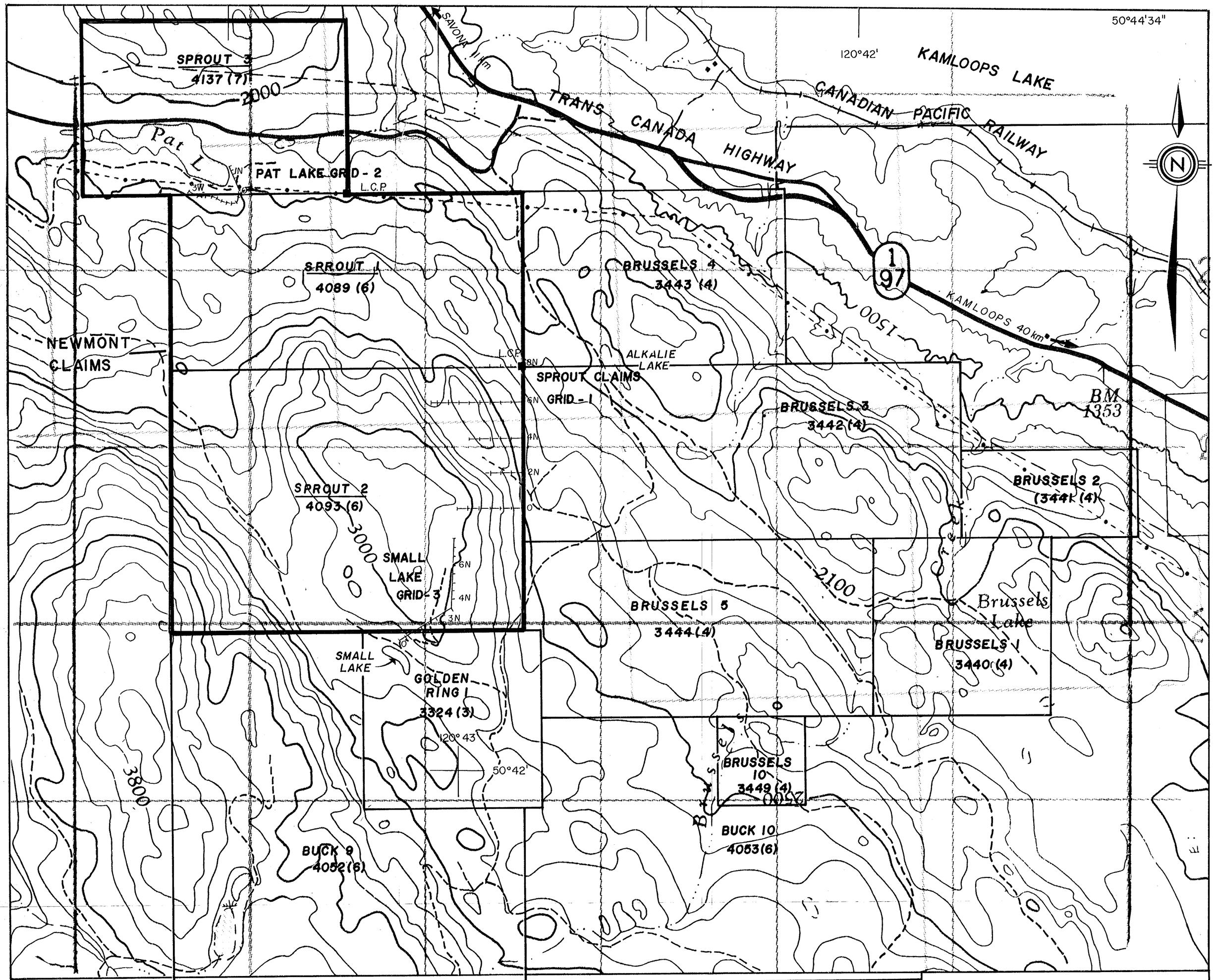
Oct. 9 -	$ 175.00	
Oct. 10 -	$ 175.00	
Oct. 11 -	$ 275.00	
Oct. 12 -	$ 275.00	
Oct. 13 -	$ 275.00	
		= $1,175.00
Travel from Kamloops to Vancouver		= $ 89.00
		$1,264.00

6. Equipment Rental

I.P. transmitter	5 days @ $83.30/day	=	$ 416.50
Magnetometer	5 days @ $15.00/day	=	$ 75.00
2 Reels & 2 pots	5 days @ $ 6.50/day	=	$ 32.50
2 Walkie-talkies	5 days @ $ 5.00/day	=	$ 25.00
			$ 549.00

7. Report Preparation $1,000.00

TOTAL COSTS $6,041.80



LEGEND

- CLAIM OUTLINE INC. NAME, RECORD NO. AND DATE
- L.C.P. LEGAL CORNER POST
- GEOPHYSICAL GRID LINES
- CONTOUR INTERVAL = 100 FEET (3000)

GRID SURVEY BY: Chain & Compass

MAP SURVEY BY: Blowup of Government Topographic Map 92 I 10, 1:50,000 to 1:10,000

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,173

SCALE
0 250 500 750 1000
meters

NEWMONT EXPLORATION OF CANADA LTD.

B.C. PRECIOUS METALS SURVEY - NICOLA AREA

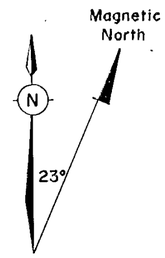
SPROUT CLAIM AREA

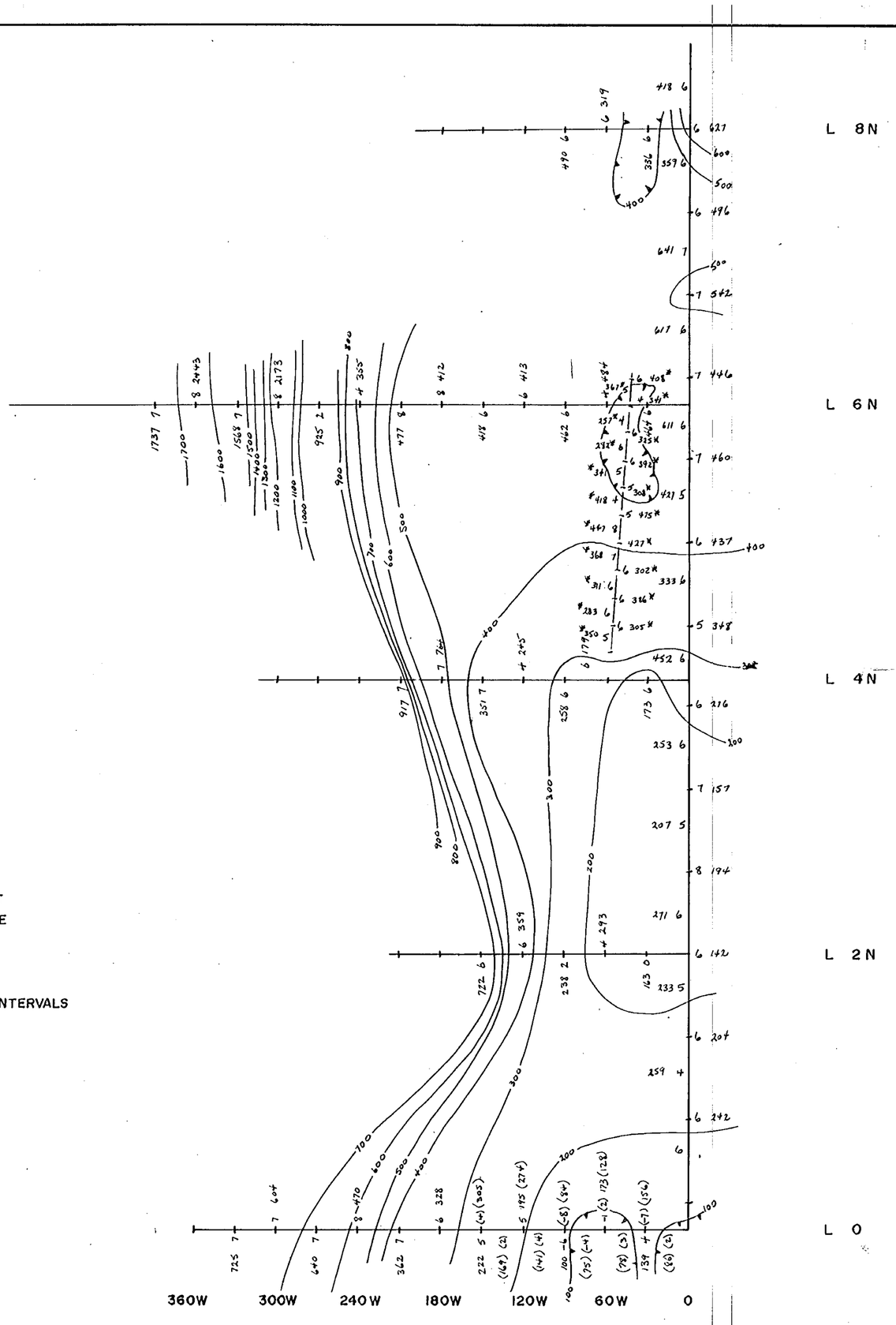
KAMLOOPS MINING DIVISION

LOCATION MAP:

GEOPHYSICS GRID

SCALE:	LOCATION:	DATE:
1:10,000	SAVONA	DEC. 21, 1982
SURVEY BY:	DRAWN BY:	NUMBER:
J. TURNER	I. CASIDY	





LEGEND

ELLIOT MODEL 15A TRANSMITTER
CRONE IP RECEIVER
CHARGEABILITY IN MSEC. IN NEWMONT STANDARD
APPARENT RESISTIVITY IN OHM-METRES
POLE DIPOLE ARRAY A = 60M, 30M, 25M N=1, 2
FOR A= 30 M, READINGS IN BRACKETS (27)
FOR A= 25 M, READINGS WITH ASTERISK 27*
PLOTTING POINT HALFWAY BETWEEN MOVING CURRENT
ELECTRODE AND NEAREST POTENTIAL ELECTRODE
CHARGEABILITY READINGS ARE ONE DIGIT ONLY
FOR N=1, READINGS TO WEST OR SOUTH OF LINE
FOR N=2, READINGS TO EAST OR NORTH OF LINE
CONTOURS OF APPARENT RESISTIVITY AT 100 Ω-M INTERVALS

GEOLOGICAL BRANCH
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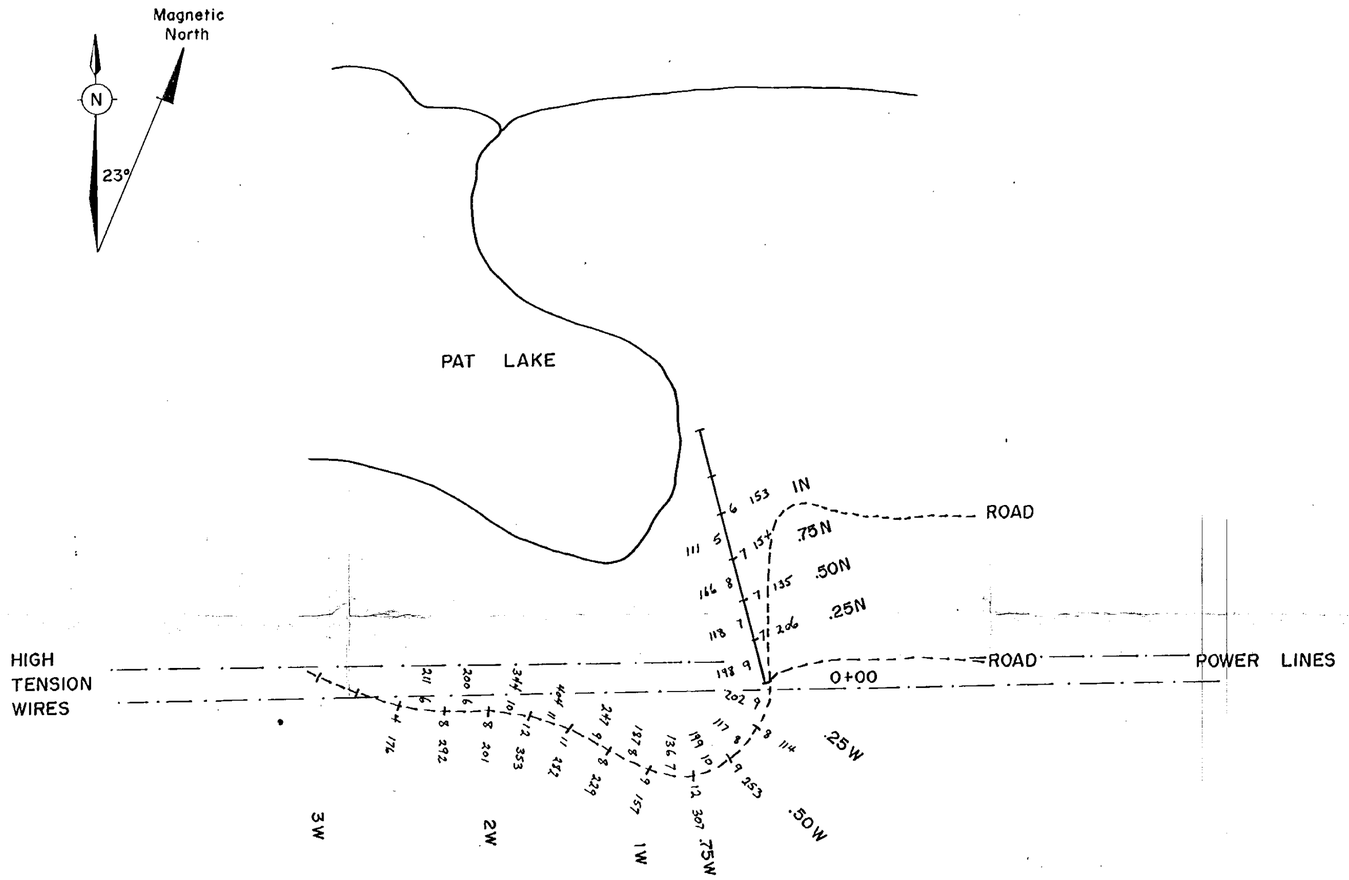
NEWMONT EXPLORATION OF CANADA LTD.

SAVONA PROJECT
SPROUT CLAIMS GRID 1
IP AND RESISTIVITY SURVEY

AREA: KAMLOOPS, B.C.
N.T.S.: 92 I 10
SURVEYED: P.D., B.B.
DATE: OCT. 1982
DRAFTING: L.S., E.C.
SCALE 1:2500

0 100 200 METERS

IP-1



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ASSESSMENT REPORT

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LEGEND

ELLIOT MODEL 15A TRANSMITTER
CRONE IP RECEIVER
CHARGEABILITY IN MSEC. IN NEWMONT STANDARD
APPARENT RESISTIVITY IN OHM-METRES
POLE DIPOLE ARRAY A=50 M, N=1, 2
PLOTTING POINT HALFWAY BETWEEN MOVING CURRENT ELECTRODE AND NEAREST POTENTIAL ELECTRODE
CHARGEABILITY READINGS ARE LESS THAN 13
READINGS FOR N=1 PLOTTED WEST OR NORTH OF LINE
READINGS FOR N=2 PLOTTED EAST OR SOUTH OF LINE

NEWMONT EXPLORATION OF CANADA LTD.

SAVONA PROJECT

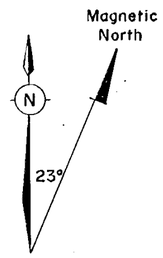
PAT LAKE *GRID 2*

IP AND RESISTIVITY SURVEY

AREA: KAMLOOPS, B.C.
N.T.S.: 92 I 10
SURVEYED: P.D., B.B.
DATE: OCT. 1982
DRAFTING: L.S.
SCALE 1:2500

0 100 200 METERS

IP-2



LEGEND

ELLIOT MODEL 15A TRANSMITTER
CRONE I.P RECEIVER
CHARGEABILITY IN MSEC. IN NEWMONT STANDARD
APPARENT RESISTIVITY IN OHM-METRES
POLE DIPOLE ARRAY A=50 M, N=1, 2
PLOTTING POINT HALFWAY BETWEEN MOVING CURRENT ELECTRODE AND NEAREST POTENTIAL ELECTRODE
CHARGEABILITY READINGS ARE 10 OR LESS

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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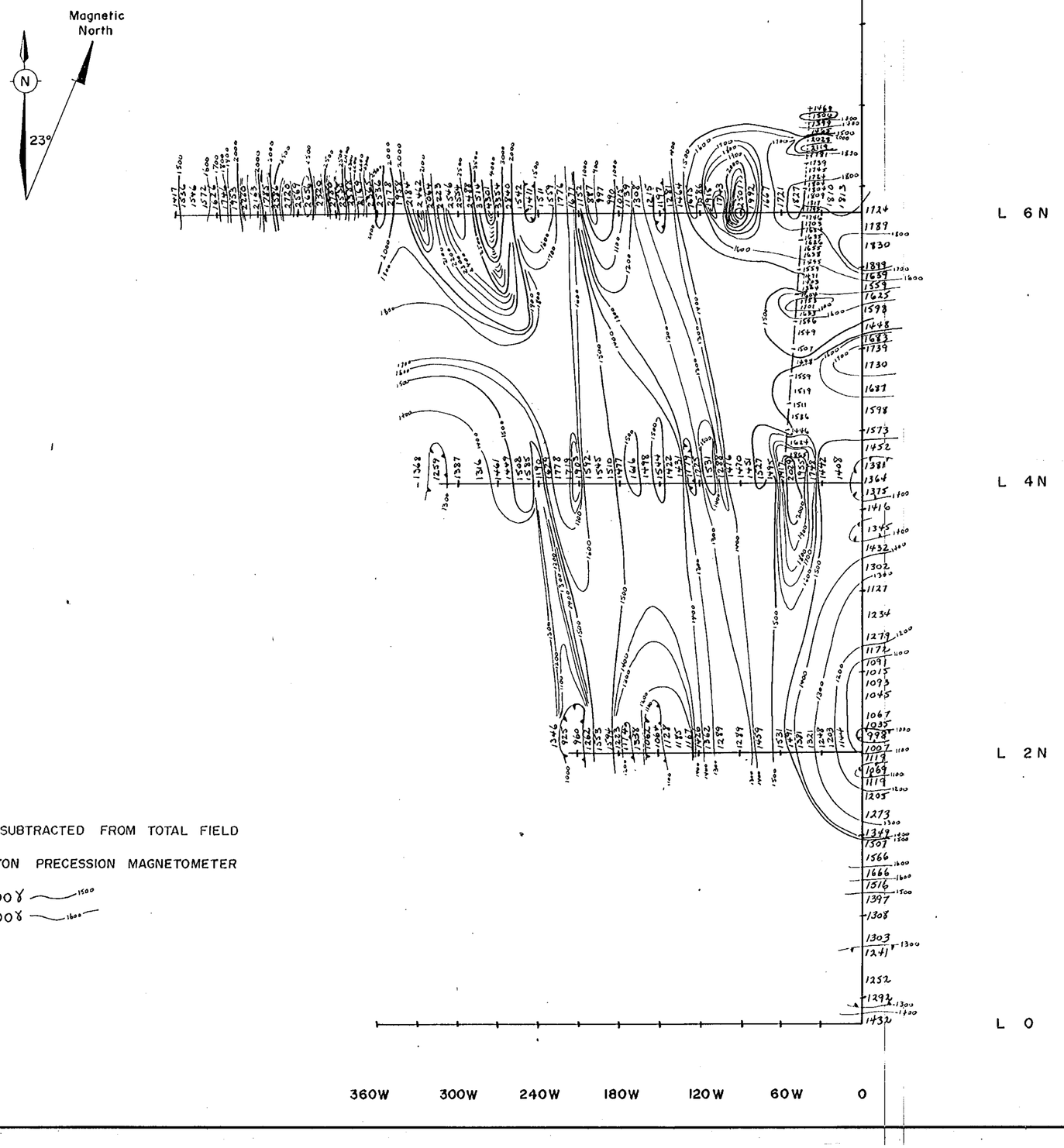
NEWMONT EXPLORATION OF CANADA LTD.

SAVONA PROJECT
SMALL LAKE *GRID 3*
IP AND RESISTIVITY SURVEY

AREA: KAMLOOPS, B.C.
N.T.S.: 92 I 10
SURVEYED: P.D., B.B.
DATE: OCT. 1982
DRAFTING: L.S., E.C.
SCALE 1:2500

0 100 200 METERS

IP-3



LEGEND

READINGS HAVE 56000γ SUBTRACTED FROM TOTAL FIELD

GEOMETRICS G-816 PROTON PRECESSION MAGNETOMETER

CONTOUR INTERVAL 500γ
100γ

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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NEWMONT EXPLORATION OF CANADA LTD.

SAVONA PROJECT
SPROUT CLAIMS **GRID 1**
MAGNETIC SURVEY

AREA: KAMLOOPS, B.C.
N.T.S.: 92 I 10
SURVEYED: P.D., B.B.
DATE: OCT. 1982
DRAFTING: L.S., E.C.
SCALE 1:2500

0 100 200 METERS

MC-1