

1745

Report On The
Electromagnetic Survey
on the
AXE Mineral Claims
of

Noranda Exploration Company, Limited

by

B.O. Brynelsen, P. Eng.

J.T. Walker

Kalco Property
British Columbia

Similkameen Mining Division
49° - 120° S.E.

Date Started

November 8, 1968

Date Completed

November 25, 1968

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 1745 MAP

Report on the Electromagnetic Survey
on the
AXE Group, Mineral Claims
of the
Kalco Property
Noranda Exploration Company, Limited

INTRODUCTION:

The AXE Group, Mineral Claims referred to in this report lie approximately ten air miles south 16° west of Princeton, British Columbia. Access to the property is by Provincial Highway Number 3. The highway passing through the south east corner of the claim group approximately fourteen road miles south of Princeton.

The claim group consists of 16 contiguous mineral claims, AXE 1 to 16 in the Similkameen Mining Division optioned to Noranda Exploration Company, Limited by Kalco Valley Mines Limited. The Electromagnetic Survey described in this report was carried out in an attempt to locate conductive zones possibly associated with mineralization. The survey was carried out under the direction of B.O. Brynelsen, P. Eng. with supervision by J.T. Walker.

GENERAL GEOLOGY:

Rocks in the vicinity of the claim group consist of Nicola Group Volcanics and sedimentary rock, intruded by Copper Mountain Intrusives and overlain by Princeton Group Volcanics and sedimentary rock on the south and west.

GRID PREPARATION:

Ground control of the electromagnetic survey was maintained by development of a single north-south base line following the claim location line and establishing east-west grid lines crossing the base line at 400 ft. intervals. Stations were picketed at 100 ft. intervals along the grid lines. This work was carried out by a line cutting contractor during the period November 8 to 18, 1968. A total of 12.42 miles of line was established including the base line.

NORANDA EXPLORATION COMPANY, LIMITED

LOCATION MAP

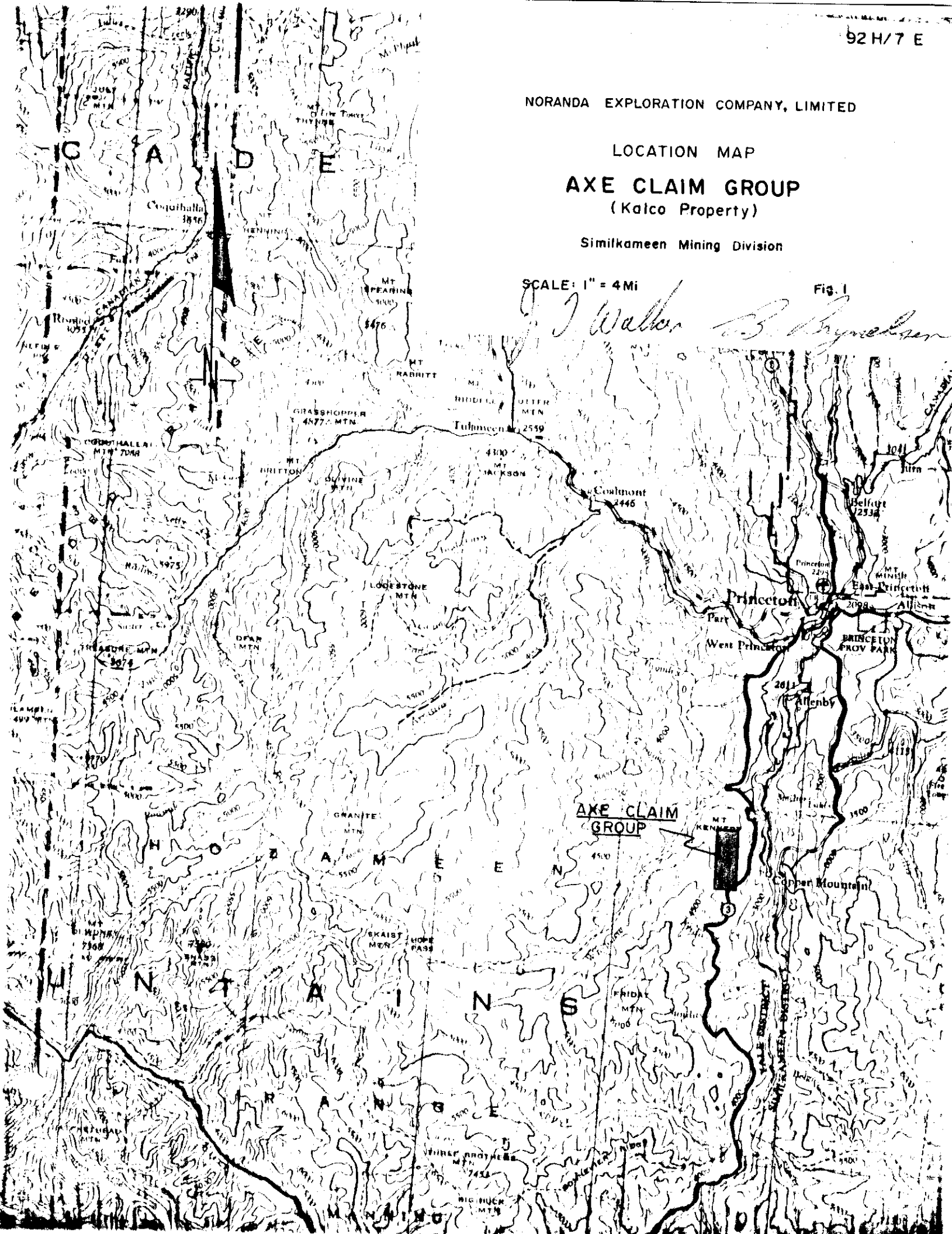
AXE CLAIM GROUP (Kalco Property)

Similkameen Mining Division

SCALE: 1" = 4 Mi

Fig. 1

J. Walker *B. Rynelien*



ELECTROMAGNETIC SURVEY:

Method:

The electromagnetic survey, carried out on this property, utilized J.E.M. transceivers owned by Noranda Exploration Company, Limited and manufactured by Crone Geophysics Ltd., Toronto. The In Line "shootback" method was employed throughout the survey.

The theory of the method and operation of the equipment is described by Duncan Crone in Mining Geophysics, Volume 1, Society of Exploration Geophysicists, pp. 151-155. The method is patented. A brief description of the equipment and operating method is given here. The equipment consists of two identical units, each unit consisting of a tuned coil with attached inclinometer, connected by cable to a transmitter-receiver amplifier box, earphones are connected to the receiver circuit of the amplifier. The unit is powered by a 12 Volt dry battery.

Two operators, each carrying a unit, are required to conduct a survey. They are designated "chief" and "helper". While surveying, the operators travel in line along a single grid line maintaining a constant separation of 200 feet. To take a reading the chief orients his coil in a plane 15° off vertical and aimed coaxially along the line toward the helper. Maintaining this coil orientation the chief's transmitter is turned on. The helper with his unit on receive determines the horizontal direction of the transmitted signal. The receiver coil is then held in a horizontal plane and tilted about a horizontal axis perpendicular to the direction of the transmitted signal. The coil is tilted until a signal null is observed in the earphones. The tilt angle of the coil at the null position is read on the inclinometer and is recorded as the helper reading in degrees positive or negative. To obtain the chief reading, the above procedure is repeated with the helper transmitting and the chief receiving. The algebraic sum of the chief and helper readings is calculated and recorded as the resultant reading. This resultant reading is plotted at the station mid way between the operators.

Throughout this survey readings were taken at 100 foot intervals along the grid lines with a constant coil separation of 200 feet. The survey was carried out using a frequency of 1800 Hz. Anomalous zones were re-run using a frequency of 480 Hz. The survey covered 56,500 ft. of line.

The survey was carried out by P. Brown and B. Camsell, both employees of Noranda Exploration Company, Limited and trained as J.E.M. operators by J.T. Walker under the direction of B.O. Brynelsen, P. Eng.

PRESENTATION OF RESULTS:

Results of this survey are plotted in Figure 2 of this report, a plan map showing claim boundaries at a scale of one inch equals 400 ft. The resultant dip angle of null in degrees is plotted at each station. The readings on each grid line are profiled using a vertical scale of one inch equals 40 degrees. Readings at a frequency of 1800 Hz are profiled by continuous line, readings at a frequency of 480 Hz are profiled by dotted line. Zones of conductivity are outlined in dashed line.

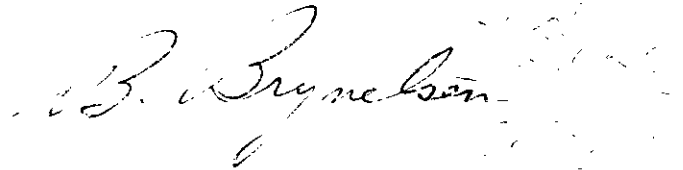
DISCUSSION OF RESULTS:

The results of the survey indicate two anomalous zones, A and B. In addition five moderate to poor narrow conductors are indicated. The anomalous zones have been re-run using a frequency of 480 Hz. The ratio of the response of 480 Hz to 1800 Hz is in the range 0.25 to 0.35 in the anomalous areas. Both the 1800 Hz response (-18° to -27°) and the response ratio (0.3) suggest these zones to be moderate to good conductors. The predominantly negative character of the profiles over the south half of the grid indicates a widespread low conductivity generally associated with ionic conduction within the overburden.

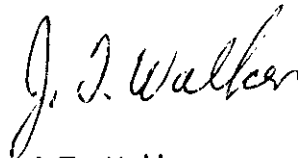
RECOMMENDATIONS AND CONCLUSIONS:

Two moderate to strong conductive zones are indicated by the Electromagnetic Survey. Further testing of these zones by Induced Polarization methods will aid in classifying the nature of the conductor. A significant Induced Polarization response over the conductive zones would warrant further investigation by drilling or trenching.

Respectfully submitted,

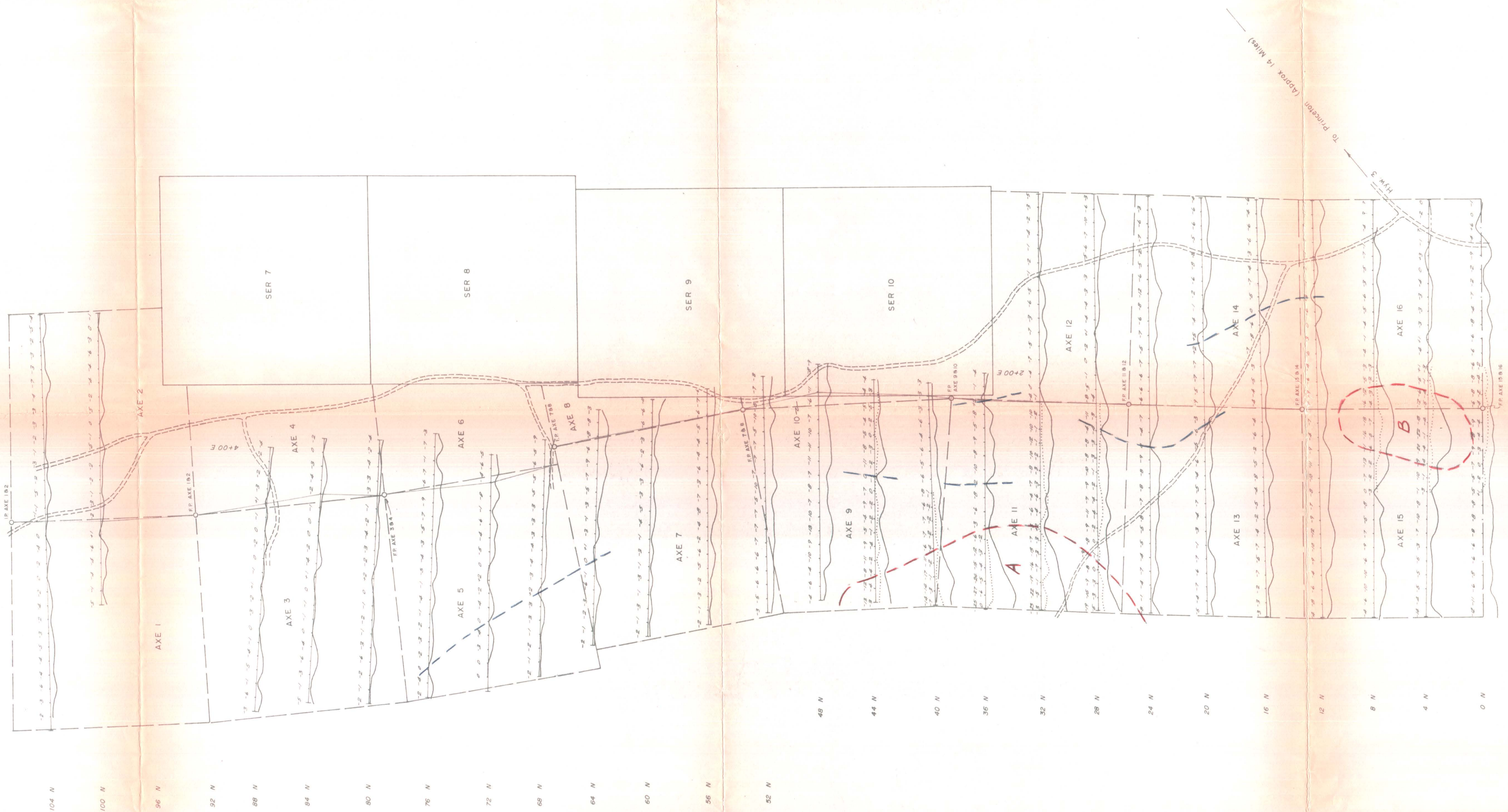


B.O. Brynelsen, P. Eng.



J.T. Walker
Geophysical Co-ordinator

January 22, 1969



Department of
Mines and Petroleum Resources
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 NO. **1745** MAP **2**

LEGEND
 Frequency 1800 Hz (solid line)
 Frequency 480 Hz (dashed line)
 Conductive Zones (red dashed circle)
 Narrow Conductors (thin dashed line)



To accompany Report on Electromagnetic Survey by B.O. Brynheisen P.Eng., and J.T. Walker, Geophysical Co-ordinator on the AXE Claim Group of the Kalso Property. Similkameen Mining Division. Dated, Jan. 22, 1968.

B.O. Brynheisen
J. T. Walker

1745

REVISED	AXE CLAIM GROUP
	ELECTROMAGNETIC SURVEY
	SHOWING J.E.M. PROFILES
	Cal. Separation - 200 Ft
	Vertical Scale: 1" = 40'
PROJECT: KALCO PROPERTY	
PROJ. NO. SURVEYED BY: P. Brown & B. Comert DATE: Nov. 1968	
N.T.S. 92 H/7 E. DRAWN BY: P. McFeely SCALE: 1" = 400 feet	
DWG. NO.	NORANDA EXPLORATION CO. LTD.
	OFFICE: VANCOUVER