

# 3252

GEOPHYSICAL REPORT

ON THE

JOW CLAIMS ELECTROMAGNETIC SURVEY

ON BEHALF OF

CANNON-HICKS ASSOCIATES LTD.

BY

G. GUTRATH, P. ENG.

and

P. NIELSEN, B.Sc., GEOPHYSICIST

ATLED EXPLORATION MANAGEMENT LTD.

Claims: JOW # 1 to 20 inclusive  
Record No's. 93844-93863 inclusive

Mining Div. Omenica

Location: Two miles west of Morice Lake  
53°N 127°E

93 E / 13 W

Date: September 15, 1971

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3252 MAP



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Personnel and Cost Statement

Engineer's Certificate

#1 *Electromagnetic survey*

REPORT ON ELECTROMAGNETIC SURVEY

JOW CLAIMS, MORICE LAKE, OMENICA MINING DIVISION

for: CANNON-HICKS ASSOCIATES LTD.

INTRODUCTION

On August 18, 1971, Atled Exploration Management Ltd. on behalf of Cannon-Hicks Associates Ltd. executed a CRONE JEM Electromagnetic Survey over some JOW claims, southwest of Morice Lake, Omenica Mining Division, B. C.

The purpose of the investigation was to determine if an exposed vein containing significant lead, zinc and silver values was of economic value and, hopefully, to spot diamond drill targets.

Access to the property was by way of a truck over a good gravel road from Houston to Morice Lake and then by helicopter across the lake and up to the summit of a mountain; elevation 6700 feet.

Six lines, totalling 5000 feet were surveyed using a station interval of 50 feet and a coil separation of 200 feet.

Extremely strong gusting winds, sleet, snow and rain hampered the survey. Glaciers and precipitous cliffs determined the extent of the coverage.

GEOLOGY

The property is situated on a high mountain plateau and is surrounded by large cirques, glaciers and ravines. Quartz veins and stringers containing massive argentiferous galena and sphalerite over widths up to 30 feet strike N30°E, and cut a monzonite plug which, in turn, intrudes Hazelton volcanic rocks, thought to be mainly andesites.

Hand trenches have exposed massive mineralization which, although somewhat leached, responded favourably to a conductivity test using an ohm-meter. Best values appeared to exist

continued:

## GEOLOGY (cont'd)

in trenches through or in close proximity to the intrusive rock. Overburden thicknesses were minimal and vegetation was totally absent over the survey area.

## THE SURVEY

Lines were laid out using the chain and compass method with marked flagging tied to rocks being used as survey stations. A baseline along the vein of interest ran from 2+00S to 14+00N and crosslines 2S, 0, 2N, 4N, 8N and 10N were installed from station 4E to 4W.

The instrument used was a CRONE JEM "shootback" electromagnetic unit incorporating frequencies of 480 Hz and 1800 Hz, and a coil separation of 200 feet. This instrument consists of two transceivers and coils which are hand held with no physical connection between them. One operator transmits while the other receives noting the dip angle for both frequencies. The roles are then reversed, and both dip angles for both frequencies are then added to arrive at the resultant dip angle. The results are then profiled and interpreted to ascertain such parameters as width, conductivity, depth, dip and length of the conductive body. Anomalous responses are usually greater than  $\pm 4$  degrees resultant dip angles. High to low frequency ratios, null widths and noise levels are a further qualitative indication as to the cause of responses.

## PRESENTATION OF THE DATA

The high and low frequency resultant dip angle readings were taken midway between the two "in-line" E.M. coils and were plotted and profiled north of the traverse line when these values were negative, and south of the line when positive. The readings and line locations are shown in plan in Figure 1 on a scale of 1" = 200 feet and 1" = 20° resultant dip angle.

## DISCUSSION OF RESULTS

A high noise level, due to extremely strong winds, making coil orientation somewhat tenuous was encountered. A study of the profiles indicates that all resultant dip angles less than  $\pm 3^{\circ}$  are not

continued:

DISCUSSION OF RESULTS (cont'd)

interpretable and are classified as noise. No attempt to contour this data has been made nor is it advisable to do so.

Line 2S

This line occurs at least 150' in elevation below Line 0, the eastern half traverses a rock bluff.

The profile suggests that the conductor observed on Line 0 is terminated at, or slightly to the north of, Line 2S. A narrow band of disseminated or quartz-filled sulphides could exist at Station 2+00W.

Line 0

Although surface indications show an easterly-dipping vein of massive sulphides, the E.M. response suggests the likelihood of a flat-lying lens-type conductor, whose upper surface is between 75 and 80 feet below surface. The conductor appears to be due to massive, highly inter-connected material whose width along this line is 125 feet from Station 0+25E to 1+00W. No dip information is evident from the profile.

Lines 2N, 4N,  
8N & 10N.

Some disturbance in the profiles is evident, but the amplitudes are too low to be interpreted.

CONCLUSIONS AND RECOMMENDATIONS

The CRONE JEM Survey has confirmed that conductive massive sulphides do exist on the property, especially in the vicinity of an exposed vein of galena and sphalerite on Line 0+00 near the baseline.

There appears to exist a flat-lying conductor whose lateral dimensions could be up to 400 feet long by 150 feet wide. Depth to the upper surface might be 100 feet. Other veins containing quartz and stringers of sulphides probably are present through and along strike from this feature.



A large deposit of massive material, primarily sphalerite could exist on the property, but cannot be detected by electromagnetics.

continued:

CONCLUSIONS AND RECOMMENDATIONS (cont'd)

It is recommended that no further electro-magnetics be carried out on this particular structure.

Should the size of the conductor be envisaged as being economically interesting, then it should be drilled. The drill should be capable of drilling angular holes to at least a depth of 200 feet, although the first hole could be a vertical one collared at Line 0+00, Station 0+50W.

Respectfully,  
  
  
G. C. Gatrath, P.Eng.  
Atled Exploration Management Ltd.

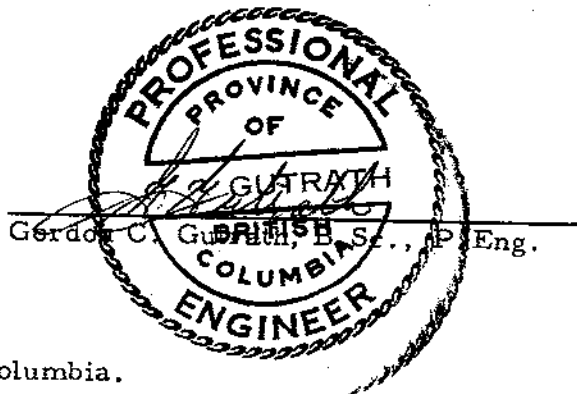
P. P. Nielsen, B.Sc., Geophysicist,  
Atled Exploration Management Ltd.

September 15, 1971

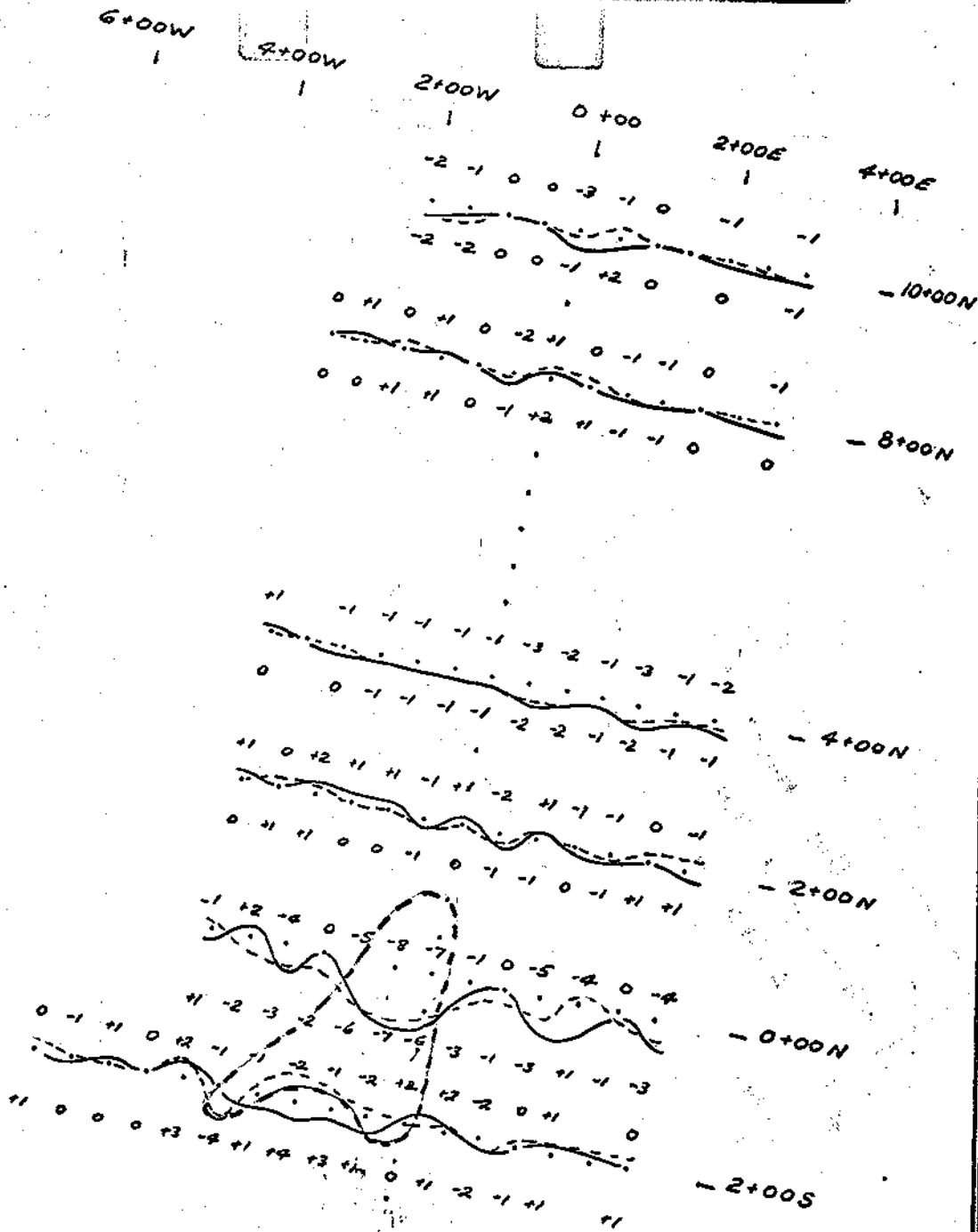
ENGINEER'S CERTIFICATE

I, Gordon C. Gutrath, of 5550 Rugby Street, in the Municipality of Burnaby, in the Province of British Columbia, do hereby certify:-

1. that I am a consulting geologist with a business address of 508-850 West Hastings Street, Vancouver 1, B.C.
2. that I am a graduate of the University of British Columbia where I obtained by B.Sc. in geological science in 1960,
3. that I am a registered Professional Engineer in the Geological Section of the Association of Professional Engineers of the Province of British Columbia,
4. that I have practised my profession as a geologist for the past ten years, and
5. that I have no interest, direct or indirect, in the property with which this report is concerned, nor do I expect to receive any such interest; and I have no direct or indirect interest in the Jow Claim Group.



September 15, 1971  
Vancouver, British Columbia.



**LEGEND**

(---) - E.M. CONDUCTOR  
POSSIBLE LATERAL  
SIZE

STATION  
- B.M. PROFILES  
HI FREQ RESULTANT  
DIP ANGLE IN  
DEGREES  
LOW FREQ.  
RESULTANT  
DIP ANGLE  
IN DEGREES



CANNON-HICKS ASSOCIATES LTD.	
JOW MINERAL CLAIMS	
ELECTROMAGNETIC SURVEY	
DATE - SEPT. 1, 1971	INSTR: - CRONE JEM.
PROFILE SCALE: - 1" = 20° DIP ANGLE	
ATLED EXPLORATION MANAGEMENT LTD.	
Scale 1 in. = 200 ft.	



APPENDIX "A"

PERSONNEL AND COST STATEMENT

ELECTROMAGNETIC SURVEY

JOW CLAIM GROUP

APPENDIX "A"

PERSONNEL AND COST STATEMENT

1)	<u>Personnel Supervision:</u> G.C. Gutrath <u>Field Supervision:</u> P.P. Nielsen, (geophysicist-operator) Technician: K. Austring (3.5 days @ \$175.00/day)	\$ 602.50
2)	<u>Mobilization-Demobilization</u> (a) Truck \$43.00 (b) Helicopter \$630.00	\$ 673.00
3)	<u>Food and Camp Equipment</u>	\$ 155.00
4)	<u>Report Compilation</u>	\$ 50.00
		<hr/>
		<u>\$1,480.50</u>

