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Eureka Mountain Property

Report on E.M. Survey

by

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Index

Introduction	1
General Discussion of the Area	2
Discussion of the Results	2
Conclusions	3
Data	4 - 8
Financial Statement	9
E.M. Profile Plot	10
E.M. Profile Overlay	10-A

Introduction

The Eureka Mountain property is situated about 5 miles north of Crooked Lake in Cariboo Mining Division. Owners are Eric Scholtes and Jim Carson of William's Lake. A horizontal loop electromagnetic survey was carried out over parts of two claims, EN2 and EN3, between July 8th and July 24th, 1968. The project was considerably delayed by rainy weather.

A base line was established running N 04° E for 2000 feet. Grid lines were marked off every 100 feet and stations were established every 200 feet along these lines. Readings were taken every 100 feet at a frequency of 1600 c.p.s. first with 200 feet and then with 300 feet separation between the transmitter and receiver. The instrument (SE-600 V.H.E.M.-Seigel) was reliable throughout the survey; however, error limits of $\pm 2\%$ are assumed as the terrain made coplanar alignment difficult. These factors can be seen in the accompanying profile plots.

General Discussion of the Area

The survey was performed across an east-facing talus slope near the base of Eureka Peak. The depth of overburden is not known. Bedrock consists in part of intrusive gabbro and in part of volcanic rock and more acid intrusives.

Discussion of Results

From the results of this E.M. survey, two possible conductive zones have been observed.

Conductor A: located on lines 5S-4S-3S running from L-5S-15E to L-3S-55W. On the southern two lines (5S-4S) the zone is picked up with 300 feet spacing but only slightly on the 200 feet. As it nears line 3S it becomes shallower and is picked up on the 200 feet readings. This zone appears only slightly more conductive than the country rock and seems to dip vertically or from 90° - 70° to the North-East.

Conductor B: located on lines 2S-1S running from L-2S-35W to L-1S-60W. This is the most pronounced of the anomalous zones with estimated width of sixty feet on L-2S and narrowing to ten or twenty on L-1S. The strike appears parallel to Conductor A and dip again seems to be 90° - 70° N.E. An estimated depth to the top of the conductor would be ninety feet. The depth

estimates are made assuming a zero level along the plane of the slope which is approximately twenty degrees above horizontal.

Conclusions

A contact zone between gabbro and volcanic rocks is known in the region of the surveyed area. It seems unlikely that the conductive zones obtained with the Horizontal Loop E.M. would be due to this feature. There are two other possible causes: shallow regions in the talus or mineralized zones in the rock beneath the talus. Conductor A correlates with a zone of sulfide mineralization in outcrop along strike from the conductor and may represent a continuation of this zone. Conductor B runs parallel to Conductor A and possibly indicates another mineralized zone similar to that along strike from Conductor A.

Data for 200 foot separation

<u>Line</u>	<u>Station (Rr. location)</u>	<u>In Phase</u>	<u>Quadrature</u>
1N	1E	+15	+ 2
1N	0	+18	- 6
1N	1N	+13	+ 2
1N	2W	+ 8	+ 2
1N	3W	+17	- 2
1N	4W	+13	- 9
1N	5W	+21	-15
1N	6W	+ 6	- 4
1N	7W	+ 3	+ 2
1N	8W	+13	+ 4
1N	9W	+ 3	- 2
0	0	+18	+10
0	1W	+21	+ 9
0	2W	+18	+13
0	3W	+15	- 1
0	4W	+12	- 3
0	5W	+13	+ 2
0	6W	+ 8	+ 6
0	7W	+ 7	- 5
0	8W	+11	- 6

<u>Line</u>	<u>Station (Rr. location)</u>	<u>In Phase</u>	<u>Quadrature</u>
1S	0	+18	+ 6
1S	1W	+13	+ 5
1S	2W	+12	+ 3
1S	3W	+13	+ 2
1S	4W	+ 7	+ 5
1S	5W	- 2	+ 2
1S	6W	+ 7	- 6
1S	7W	+ 5	- 2
2S	0	+ 3	+ 4
2S	1W	- 2	+ 6
2S	2W	-16	- 6
2S	3W	-15	+12
2S	4W	+ 3	+ 4
2S	5W	- 2	+ 3
2S	6W	- 2	- 3
2S	7W	- 5	- 7
3S	0	+24	+ 7
3S	1W	+11	+10
3S	2W	+11	+ 2
3S	3W	+ 8	+10
3S	4W	- 3	+12
3S	5W	+ 1	+13
3S	6W	- 6	- 4

<u>Line</u>	<u>Station (Rr. location)</u>	<u>In Phase</u>	<u>Quadrature</u>
4S	0	+13	+ 4
4S	1W	+ 8	+ 4
4S	2W	+19	- 4
4S	3W	+18	- 2
4S	4W	+23	+ 2
5S	4E	+20	+ 2
5S	3E	+17	- 2
5S	2E	+26	- 6
5S	1E	+29	- 5
5S	0	+20	+ 2
5S	1W	+18	+ 2
5S	2W	+13	+ 4
5S	3W	+13	+ 2

Results of 300' separation

<u>Line</u>	<u>Station (Rr. location)</u>	<u>In Phase</u>	<u>Quadrature</u>
0	0	+28	- 7
0	1W	+11	- 5
0	2W	+ 9	-13
0	3W	+13	- 8
0	4W	+28	- 2
0	5W	+13	- 8
0	6W	+15	- 4
1S	0	+18	+ 4
1S	1W	+18	+ 2
1S	2W	+13	+ 2
1S	3W	+ 5	- 4
1S	4W	+ 3	- 8
1S	5W	+ 5	-10
2S	0	+ 8	+ 1
2S	1W	0	+ 2
2S	2W	- 6	+ 3
2S	3W	+ 3	+ 6
2S	4W	+10	+ 3
2S	5W	-10	- 8

<u>Line</u>	<u>Station (Rr. Location)</u>	<u>In Phase</u>	<u>Quadrature</u>
3S	0	+ 8	+ 4
3S	1W	+28	- 4
3S	2W	+ 6	- 1
3S	3W	+18	+ 2
3S	4W	+13	- 1
4S	0	+11	+ 2
4S	1W	- 2	+ 7
4S	2W	+ 6	- 3
4S	3W	+ 6	- 2
5S	4E	+18	-13
5S	3E	+ 3	- 2
5S	2E	+ 9	- 1
5S	1E	+23	-10
5S	0	+ 3	+ 2

EUREKA MOUNTAIN

Financial Statement

Advances:	July 1	\$ 400.00
	July 24	\$ <u>200.00</u>
		\$ 600.00

Expenses:

Instrument (SE-600 V.H.E.M.)	\$	220.00
Shipping and Insurance	\$	27.35
Meals	\$	30.00
Motel Room (2 nights)	\$	26.00
Mileage on car	\$	120.00
Material for report (paper, typing, etc.)	\$	<u>40.00</u>
	\$	463.35
Less Advance	\$	<u>600.00</u>
Sub Total	\$	<u>-136.65</u>

Salaries:

Mr. D.J. Misener - Geophysicist 17 1/2 full days + 2 travel days at \$50.00 per day	\$	925.00
Mr. W. Gillies - Helper 16 full days + 1 travel day at \$25.00 per day	\$	<u>412.50</u>
Total Salary	\$	1337.50
Less Sub Total	\$	<u>136.65</u>
TOTAL COST OF E.M. SURVEY	\$	<u>1200.85</u>

1. I, Donald James Misener, am a geophysicist residing at 2310 Cornwall Street, Vancouver, B.C.
2. I have a B.A.Sc. in Engineering Physics from the University of Toronto.
3. I possess two years experience in the fields of geophysical exploration and interpretation.
4. I have no interest in the Eureka Mountain property, either actual or contemplated.

D. James Misener, B.A.Sc.

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August 1, 1968