LYELL E.Z. EXPLORATIONS

Queenstown

Report on

MOORES VALLEY

AFMAG

Report N° GP. 23

April '59

Copy for Mr. G. Hall

376002 GP23

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25th March, 9

To: Mr. G.F. Hudspeth.

Report on the AFMAG Survey in Moore's Valley

Low field strengths throughout the period of the summer field season made it impossible to use the AFMAG equipment except on a limited basis. The fields were strong enough to use it on only a few nights and even fewer days. The measurements made were entirely on the southern portion of the Moore's Valley Grid.

As shown on the accompanying map, measurements were made on the following lines:

Line 20+00 N
24+00 N
28+00 N
32+00 N
36+00 N
44+00 N

Baseline 1

The east-west grid lines were completed first, and only small variations were obtained. However, all of the dip-angles measured were in the south-west direction. Such a consistent direction for the field usually indicates a large conductivity feature; in order to locate the conductor, the southern part of the baseline was surveyed and a crossover obtained at station 11 N.

The AFMAG results on the baseline indicate that the depth to the top of the conductor is as much as several hundred feet. The fact that the curve does not tend to return to zero past the crossover would indicate that it has considerable depth extent. A long strike length is indicated by the

widespread influence of the conductor upon the AFMAG fields. The results over this conductor are similar to those obtained elsewhere over long shear zones or faults. On the basis of this, and the geologic setting, a detailed induced polarization survey has been carried out over this conductor to determine the possible presence of metallic minerals.

While the amount of work done was limited due to low natural field strengths enough has been completed to show that, given high enough fields, the AFMAG would be perfectly suited to reconnaissance geophysical surveying in Tasmania. The extended depth of exploration and portability of the equipment are particularly useful in areas similar to Moore's Valley. Since no cut lines are required traverses could be made entirely across open ground, to determine at the onset any areas of particular interest.

The most immediate need is obviously a greater knowledge of the behavior of the fields. Since the fields in this part of the world are so dissimilar to what our experience elsewhere had lead us to expect, observations throughout the year are required. Plans to carry out these observations have already been formulated. Only when the detailed behavior of the fields in Australia, Tasmania particularly, is known can the potential usefulness of AFMAG here be determined.

P.G. HALLOF

52 N

44 N

36 N

32 N

28 N

20 E

20 W 15 W 10 W 5 W 5 E 10 E 15 E

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Joins Plan S4 Sheet 12a

376004

5 cm

Reference
140 cps ——
480 cps - - - -

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59-266

MOORES VALLEY 002

Survey			Scale	
Geology			Hor. 200 ft. to 1 inch	S 4
Geophysics	J.S., P.H.	Mar '59	Vert. 20° to 1 inch	Sheet No. 12
Geochemistry				
Drawn	J.S., P.H.	Mar '59		
Traced	J.G.	Mar '59		

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Joins Plans S4 Sheet 12

376005

5 cm

References
140 cps
480 cps

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MOORES VALLEY

003

			Scale
Survey			Hor. 200 ft. to 1 inch
Geology			Vert. 20° to 1 inch
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