APPENDIX 21

ELECTRICAL LOGGING OF DIAMOND DRILL HOLES - MOINA.

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GENERAL.

Time domain electrical induced polarisation (pole-dipole) logging was carried out down drill holes SMD 13, 15, 16, 21 and 22. The drill holes were logged as an aid to interpretation of surface gradient array induced polarisation, to provide information on the core rocks, and to look away from the drill holes. The data was obtained as part of the search for massive pyrrhotite.

SMD 9 which intersected pyrrhotite rich skarn could not be logged because of a blockage down the hole.

Where possible the steel drill hole casing was removed and replaced with flexible plastic agricultural drainage pipe which has small slots which should enable electrical contact with surrounding rocks. Considerable difficulties were encountered in logging the holes. Very low resistivities and negative chargeabilities were often encountered within the plastic casing caused by either electro-magnetic coupling or overcharging (even though currents were generally kept to 0.1 amp). Similar problems were encountered near the bottom of holes. In drill holes SMD 16, 21 and 22 erratic (mainly negative) and unstable chargeabilities rendered this data unplottable, although the resistivity was stable and was plotted.

A pole-dipole array was used to control the rock volume/distance from hole measured and avoids complicated geometric factors and earth-air interface problems. For simplicity a "Three Array" spacing (potential electrode spacing = potential to current electrode spacing) was used. Graphical plots of the data obtained for each hole are attached.

SMD 13.

Because of caving only the bottom section of the hole was logged. Coupling occurred near the bottom and instability rendered charge-ability data almost useless.

Rock type	Resistivity (Ωm)	Chargeability (ms)	
siltstone and sandstone	200-500 (very low)	5?	(background)
		25	(where pyritic)

SMD 15.

Overcharging/coupling problems were encountered at the top (plastic casing) and the bottom of the drill hole. Resistivity data was