Mt. Sicker
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LEBEL GEOPHYSICS

Consulting & Contracting

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1) subvertical to south dip
2) cap to 10% pyrite
3) resistivity low and max min conductor caused by shear zone or fault
4) drill on line 38+00E at 21+25S or 31+75S based on geological dips

Mr. A. Davidson
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Dear Alex:

I submit the following evaluation of an induced polarization (I.P.) survey conducted by M.P.H. Consulting Limited and a horizontal loop electromagnetic (HLEM) survey conducted by Peter E. Walcott and Associates on the Corporation Falconbridge Copper Mount Sicker property.

I.P. Survey.

The I.P. survey was conducted in the time domain using a Huntec MIV system with an electrode spacing of 50 metre expanded through four separations.

The survey outlined a chargeability anomaly which starts at 34E, 2+00S and extends easterly to the limit of the survey coverage on line 42E. The anomaly consists of chargeabilities of up to 50 msec versus a background response of 10 msec or less.

The cause of the anomaly varies in width from less than 50 metres on line 34E to 350 metres on lines 40E and 41E. In places, for example on lines 32E and 39E, the southern edge of the causative body has a gentle south dip. Elsewhere, the results indicate that the body's contacts are subvertical.

With the exception of lines 34E and 35E where depths are indicated to 25 metres to 50 metres, the body occurs at shallow depths. Note that the anomalous response obtained on line 34E may be an end effect. In other words, the survey is sensing the end of the body located somewhere between lines 34E and 35E.

The anomaly is not completely uniform. On lines 37E to 41E it exhibits core up to 100 metres wide of modestly higher chargeabilities.

The chargeability anomaly is accompanied by a broad resistivity low. It is likely that the sulphides which cause the anomalous chargeabilities are responsible for the depressed resistivities. However, it is also possible that the resistivity low reflects a unique lithology. ← diorite ?

The broad resistivity low associated with the anomaly encompasses a narrow, 25 metre to 50 metre wide more intense resistivity low, the resistivity of which varies from line to line. In places, this low correlates with the zones of higher chargeability. However, the correlation is not consistent suggesting that the features are caused by different sources. It is estimated that the I.P. anomaly is caused by up to 3% polarizeable sulphides while the core anomaly is caused by up to 10% polarizeable sulphides.

The results of the I.P. survey are summarized as follows:

Line	Main I.P. Anomaly	Core I.P. Anomaly	Resistivity Low
34E	1+62S - 1+87S	-	1+87S - 2+12S
35E	1+75S - 2+25S	-	1+87S - 2+12S
36E	2+50S - 3+00S	-	2+37S - 2+62S
37E	2+50S - 3+50S?	2+50S - 3+00S	2+87S - 2+12S
38E	2+50S - 4+50S	2+50S - 3+50S	3+12S - 3+37S
39E	3+00S - 6+00S	3+00S - 4+00S	3+50S - 4+00S
40E	3+00S - 6+50S	4+00S - 4+50S	4+00S - 4+50S
41E	3+00S - 6+50S	4+62S - 4+87S	4+37S - 4+62S
42E	4+00S - 6+50S	-	4+50S - 5+00S

Anomalous chargeabilities were also obtained at the southends of lines 28E to 35E. These anomaliess are incompletely defined because of the limits of the survey. If all of these anomalies arise from a single body a dislocation in it suggests that a fault exists somewhere between lines 31E and 33E. Moderately anomalous chargeabilities were also obtained on lines 40E to 42E at about 2+00S. Character of these anomalies suggest that they are caused by a very thin and/or short depth extent body.

HLEM Survey

The HLEM survey was conducted with an Apex Max Min II system using a 150 metre coil spacing and frequencies 444 hz, 1777 hz and 3555 hz. One of the anomalies outlined was detailed with a 100 metre coil spacing. The survey detected a series of anomalies which extend from 34E, 1+50S to 44E, 5+50S. The anomalies are almost exclusively out of phase responses at 1777 hz and 3555 hz. At 444 hz the anomalies virtually vanish.

The anomalies define a conductor which varies in width from narrow on lines 43E and 44E to 50 metres on line 38E. The conductor correlates almost exactly with the intense resistivity low detected by the I.P. survey except on line 34E where the two features are displaced by about 50 metres.

The absence of appreciable in-phase response makes quantitative interpretation of the conductor difficult. Interpretations effected on lines 38E (100 metre coil spacing data) and 40E yielded depths of 23 metre and conductances of 0.5 S. The dip of the conductor cannot be reliably ascertained because the positive shoulders of the anomalies, on which dip estimates are based, are non-existent. Dip is indicated to be subvertical relative to terrain or south geographically.

Details of the conductor are summarized as follows:

Location	Width (metres)	Depth (metres)	Conductance (S)
34E, 1+45S	10	-	-
35E, 2+20S	40	-	-
36E, 2+40S	30	-	-
37E, 2+90S	30	-	-
38E, 3+40S	50	23	0.6
39E, 3+90S	30	-	-
40E, 4+15S	15	23	0.5
41E, 4+80S	40	-	-
42E, 4+90S	20	-	-
43E, 5+35S	narrow	-	-

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Conclusions and Recommendations

The I.P. survey detected a large anomaly which varies in width from 25 metres to 350 metres caused by an estimated 3% sulphides. The results indicate that the anomaly has a core which contains up to 10% sulphides.

A narrow resistivity low traverses the I.P. survey. The resistivity low is also reflected by a poor HLEM conductor. The geophysical evidence suggests that the resistivity low and conductor are caused by a structure, such as a fault or shear zone, which is unrelated to the cause of the I.P. anomaly. unlikely

The most favourable location to drill the geophysical anomalies is on line 37E or 38E, as all of the anomalies (main I.P. anomaly, core I.P. anomaly and resistivity low/HLEM anomaly) could be tested by one -45°, 150 metre to 200 metre hole. Possible sites for the hole are at 2+25S or 3+75S. Azimuth of the hole must be determined from geological considerations because dips are not absolutely defined by the geophysical surveys.

I trust that you will find the above comments in order. If I can be of any further assistance to you please do not hesitate to call.

Best regards

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J.L. LeBel, P.Eng.
Consulting Geophysicist