

The purpose of the survey was to delimit the area of observed sulphide mineralization and investigate the area of the survey grid for evidence of massive sulphide bodies.

Field work was carried out during the period October 3 to October 15, 1977. This work was supervised by Mr. John Marsh, a Crew Leader with Phoenix Geophysics Limited. His certificate of qualification is appended to this report.

A McPhar frequency domain IP system operating at 0.3 and 5.0 Hz was used for the survey.

2. DESCRIPTION OF CLAIMS

The Kena Claim Group consists of the following claims:

KENA 1-15 inclusive Record Nos. 15323 - 15337 inclusive

KENA 16-32 inclusive Record Nos. 15643 - 15659 inclusive

Anniversary date for the claims is November 5. The claims are held under an option agreement with Corbin J. Robertson, 601 Jefferson Street, Cullen Center, Houston, Texas 77002.

3. PRESENTATION OF RESULTS

The Induced Polarization and Resistivity results are shown on the following data plots in the manner described in the notes preceding this report.

<u>Line No.</u>	<u>Electrode Interval</u>	<u>Dwg. No.</u>
40E	300 feet	IP 5087-1
48E	300 feet	IP 5087-2
56E	300 feet	IP 5087-3
64E	300 feet	IP 5087-4

<u>Line No.</u>	<u>Electrode Interval</u>	<u>Dwg. No.</u>
72E	300 feet	IP 5087-5
80E	300 feet	IP 5087-6

Also enclosed with this report is Dwg. I.P.P. 3038, a plan map of the Kena Claim Grid at a scale of 1" = 400'. The definite, probable and possible Induced Polarization anomalies are indicated by bars, in the manner shown on the legend, on this plan map as well as on the data plots. These bars represent the surface projection of the anomalous zones as interpreted from the location of the transmitter and receiver electrodes when the anomalous values were measured.

Since the Induced Polarization measurement is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length; i.e. when using 300' electrode intervals the position of a narrow sulphide body can only be determined to lie between two stations 300' apart. In order to definitely locate, and fully evaluate, a narrow, shallow source it is necessary to use shorter electrode intervals. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while the centre of the indicated anomaly probably corresponds fairly well with the source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

The grid, claim and topographic information shown on Dwg. I.P.P. 3038 has been taken from maps made available by the staff of Quintana Minerals Corporation.

4. DESCRIPTION OF GEOLOGY

The description of general geology was obtained from G.S.C. Memoir #308 by H.W. Little.

The Kena Claim Group is underlain by andesitic volcanics of the Lower Jurassic Rossland formation, which has been intruded by porphyritic rocks thought to be part of the Nelson batholith. Most of the volcanic rocks have been altered to chlorite or sericite schist, and locally contain up to 5% finely disseminated pyrite and subordinate amounts of chalcopyrite.

5. DISCUSSION OF RESULTS

An interpretation of the subsurface resistivity levels is shown on the accompanying plan, Dwg. Misc. 3039. With this interpretive technique, the dominant underlying resistivity level is projected to the surface. The contoured presentation can be useful in outlining some geological formations, rock alteration, and generally determining strikes and trends.

The resistivity profiles are spaced at 800' intervals. This relatively wide spacing makes line to line correlation uncertain and some generalization was necessary in producing this contoured presentation.

The contoured resistivity presentation shows a core of moderate magnitude values flanked by higher resistivities to the northeast and southwest. This core strikes northwest through the survey grid and swings more northerly in the vicinity of Line 48E. The stronger Induced Polarization effects correspond approximately with the lower resistivities.

The IP survey has outlined an extensive area of relatively high frequency effects in a moderate to high resistivity environment. The

anomalous zone is wide, about 1500 feet on Line 56E and Line 64E. The depth to the top of the source is shallow relative to the 300' electrode interval; the actual depth can be determined by making measurements with shorter electrode intervals. The IP effects are strongest on Line 48E to Line 72E. On either end of the grid, the resistivities increase and the frequency effects remain moderately high. The lowest resistivities encountered occur at the northeast end of Line 48E. There is some reduction in percentage frequency effect with the lower resistivities, however, the IP effects remain moderately anomalous. The most northerly frequency effect readings were unobtainable due to noise.

Most of the IP zone suggests a disseminated metallic source in a moderately resistive rock unit. There is no evidence of any significant volume of massive sulphide mineralization, with the possible exception of the north end of Line 48E. The line would have to be extended, and the measurements repeated with shorter electrode intervals, in order to investigate this possibility.

Two partial magnetometer profiles were measured on Line 64E and Line 72E. There is no apparent magnetic anomaly of any significant magnitude on these lines. This would suggest that disseminated magnetite does not contribute significantly to the recorded IP effect.

6. SUMMARY AND RECOMMENDATIONS

The Induced Polarization and Resistivity survey has outlined an anomalous IP zone characterized by relatively high frequency effects in a moderate magnitude resistivity environment. The results suggest a disseminated metallic mineral source.

Over most of the survey grid, there is no evidence of a large massive sulphide body. A possible exception is at the north end of Line 48E where lower resistivities were encountered. This anomalous IP zone is incomplete to the north. However, with the relatively large 300' electrode interval used for the survey, the inherent averaging with the IP method could make small massive sulphide bodies of less than 20' difficult to detect.

Within the anomalous IP zone, there are variations in magnitude of both resistivity and frequency effect. Any further testing of the anomalous zone should include all anomalous environments.

In all cases, the IP anomaly was not completely delineated. Consideration should be given to extending these lines, and particularly Line 48E where the measurements at the north end terminate in low resistivities.

A list follows of a number of anomalous locations within the IP zone. Testing at these zones would investigate the various anomalous environments located by the survey. If favourable results are obtained, consideration should be given to surveying the intermediate 400' spaced lines and to continue the survey on strike to delimit the anomaly extent.

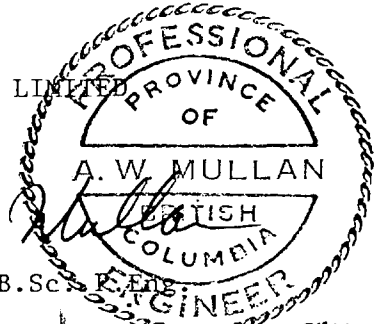
<u>LOCATION</u>	<u>COMMENTS</u>
2+50S, 40E	High resistivity, high frequency effect.
6+00S, 48E	Moderate resistivity, high frequency effect.
0+50S, 48E	Low resistivity.
10+00S, 56E	Moderately-low resistivity, high frequency effect, correlating geochemistry.
14+00S, 64E	Moderate resistivity, moderate frequency effect, correlating geochemistry.

<u>LOCATION</u>		<u>COMMENTS</u>
9+50S,	64E	Moderately-low resistivity, high frequency effect.
3+50S,	64E	Moderately-high resistivity, high frequency effect.
7+00S,	72E	Moderate resistivity, high frequency effect, correlating geochemistry.
15+00S,	80E	Moderate resistivity, moderate frequency effect, high correlating geochemistry.

PHOENIX GEOPHYSICS LIMITED

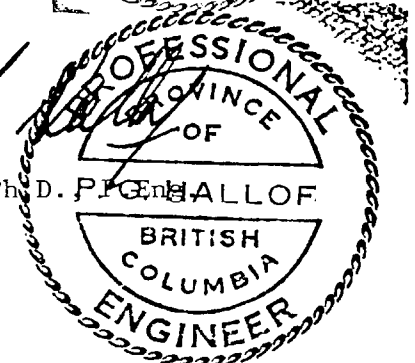
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Dated: November 23, 1977