PACIFIC IRON ORE CORPORATION

(OP-5)  Best/King Bay

Fraser Contouring of VLF-EM Data

-Level 1-

Fourbay Lake Area (G-2543)
Patricia Mining Division-30-Ontario

NAD 83, Zone 15
Map Reference: 52 J02/SW & SE
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Access</td>
<td>1</td>
</tr>
<tr>
<td>Location</td>
<td>1</td>
</tr>
<tr>
<td>Mineral Commodities</td>
<td>1</td>
</tr>
<tr>
<td>Geophysical Survey</td>
<td>4</td>
</tr>
<tr>
<td>Discussion</td>
<td>4</td>
</tr>
<tr>
<td>Interpretation</td>
<td>5</td>
</tr>
<tr>
<td>Results and Conclusions</td>
<td>5</td>
</tr>
<tr>
<td>Figure BST-1: Location Map</td>
<td>2</td>
</tr>
<tr>
<td>Figure BST-2: Detail</td>
<td>3</td>
</tr>
<tr>
<td>Map BST-1: Property Base Map</td>
<td>Pocket</td>
</tr>
<tr>
<td>Map BST-2: VLF-EM Fraser Filter- Level 1 Data Values</td>
<td>Pocket</td>
</tr>
<tr>
<td>Map BST-3: VLF-EM Fraser Filter- Level 1 Data Contours</td>
<td>Pocket</td>
</tr>
</tbody>
</table>
**INTRODUCTION:**

This is a continuous exploration evaluation of Pacific Iron Ore Corporation’s (OP-5) BEST/KING BAY property in the Sturgeon Lake area of Northwestern Ontario.

The property evaluation is a geophysical survey using Geonics Limited’s VLF-EM 16 instrument and doing the Fraser Filtering Contouring of the VLF-EM data (D.C. Fraser, 1969). The contouring is ‘Level 1’ which will be followed by ‘Level 2’. This Level will provide a 3rd dimension assisting in the final geological interpretation.

**ACCESS:**

The Best/King Bay property is located about 24 km south of the Community of Savant Lake, a CNR terminal and about 210 km NW of the City of Thunder Bay (Figure 1).

Access to the claim group is by highway #599, running NE from Ignace on Trans Canada highway #17, a distance of 103 km. A seasonal gravel road – Six Mile junction - off #599 (east side) goes to the NW corner of the west end of the property – a distance of 11 km. The property is also accessed by boat and float plane in the summer time, and snowmachine in winter.

**LOCATION:**

The property is located in Fourbay Lake Area (Plan G.2543) in the Patricia Mining Division (30) of Ontario. Work was performed on a contiguous block of mining claims 3016655, -656 and -657 and 4209710; including mining leases PA475230, -231, -232, -233, and -234; PA487247, -248, -249, -250, -251, -252, -253 and -254, and PA437022.

The UTM co-ordinate of the property is 657500m E by 5545000 m N, NAD 83, Zone 15.

**MINERAL COMMODITIES:**

The primary minerals are gold and silver; however, copper and zinc are present in the geological environment. The gold is hosted in a blue-black quartz veins (BBQ). Gold assays, reported in this area, can run as high as 30 ounces per ton.
Figure BST-1. (OP-5) BEST / KING BAY LOCATION MAP

ONTARIO PROPERTIES

Datum: NAD 83, Zone 15
GEOPHYSICAL SURVEY:

The Fraser Filtering Contouring is derived from the geophysical VLF-EM survey of 66.75km of line at a spacing of 100m with 25m station readings totalling 2,685 readings. The surveyed area is 7.2 square km – 3.6km east by 2.0km south.

Specification and description of the instrument:

- Geonics Limited’s VLF-EM 16.

- Measured Quantity – Inphase (IP) and quad-phase (QP) components of vertical magnetic field as a percentage of horizontal primary field (i.e. tangent of the tilt angle and ellipticity).

- Sensitivity – Inphase: +/-150% and Quad-phase: +/-40%

- Resolution: +/-1%

- Output: Nulling by audio tone. The Inphase indication is by a mechanical optical inclinometer and the quadphase from a graduated dial.

- Operating Frequency: 15-25 kHz (15-30 kHz optional) VLF radio dial. Station selection is done by means of plug-in crystals.

- Operator Controls: On/Off switch, battery test push button, station selector switch, audio volume control, quadrature dial and inclinometer mounted on the side of the instrument.

- Power Supply: 6 ‘AA’ batters

- Dimensions: 53 x 21.5 x 28cm

- Instrument Weight: 1.8kg

VLF-EM stands for ‘Very Low Frequency Electromagnetic’. The VLF-transmitting stations communicate with submarines having a vertical antenna. The antenna current is vertical which creates a concentric horizontal magnetic field around them. When these magnetic fields meet a conductive bodies (i.e. massive sulphides), there will be secondary fields radiating from these bodies. This instrument is a sensitive receiver which measures the vertical components of these secondary fields.

The VLF-transmitting station used is Cutler, Maine, U.S.A. (NAA). The station co-ordinate is 67W17 - 44N39. The transmitter is found on the property to be at an azimuth of 100 degrees, readings at a 010 degree azimuth – facing north.
DISCUSSION:

The VLF-EM field data can be exceedingly difficult to interpret because a large geologic noise component from the relatively high-transmitted frequency (although called very low frequency) can yield useless data unless special care is taken both in survey procedure and data presentation.

The contouring of VLF-EM data is a manipulation procedure which transforms noisy non-contourable data into less noisy contourarable data. The manipulation transforms the zero-crossings into peaks and smoothing the low-passes. The procedure takes the formal graphic format of display to a contoured topographical looking like map.

The manipulation of VLF-EM data is referred to as ‘Fraser Filtering’. The technique is described by D.C. Fraser in his paper “Contouring of VLF-EM Data”, Geophysics, Vol. 34, No. 6. (December 1969), pp. 958-967.

INTERPRETATION:

The purpose of the VLF-EM survey and the Fraser Filtering of the data is one of the tools being used in the interpretation of the Best/King Bay gold-bearing environment. The attached plan covers about 35% of the property area.

At this time, it is premature to do an appropriate interpretation of the Fraser Filtering results; however, in the southeastern quadrant of the map, tight folding is observable in an easterly-westerly direction – tight isoclinal folding. This bears out in field observations at the Armstrong/Best and Mac-Read showings. Also, ghosting of northwesterly parallel fault/shear structures are noticeable towards the western half of the contoured map.

RESULTS and CONCLUSIONS:

As mentioned above, it is premature to make an appropriate interpretation of the filtering data; however, the procedure works very well and does correlate with noted field observations. The second filtering will provide the 3rd dimensional aspect. When this data is combined with the topographical, magnetic, geological (geology, trenching, assays and drill holes) surveys, an appropriate interpretation can be provided. Bear in mind, the geological and structural complexity of the property and surrounding Sturgeon Lake area.

This report and maps will be followed by other overlying documents in 2009.
