Induced Polarization and Resistivity Survey
of the
East West Resources Property
Hemlo - Marathon Gold Region
Seeley Lake Claim Map Area
Pic River Area
Ontario

RECEIVED
DEC 28 1983
MINING LANDS SECTION

by

Robert S. Middleton Exploration Services Inc.
Box 1637, TIMMINS, Ontario. P4N 7W8
October, 1983
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<td></td>
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INTRODUCTION
An induced polarization and resistivity survey was carried out over the EAST WEST RESOURCE CORPORATION property between September 14 and September 24, 1983 along east-west trending lines at 120 metre spacings. A survey was carried out in order to delineate zones of the disseminated sulphides within felsic pyroclastic (tuffs) and to verify two weak EM conductors in the north-east end corner of the property. The disseminated sulphides which characterize the Hemlo gold deposits are not conductors and therefore the IP technique was required.

A geological and mapping and prospecting program along with a magnetometer survey was carried out in July and August, 1983 and this work has been filed for assessment credit with the Ministry of Natural Resources, Coster, I., and Maser, M. (1983).

LOCATION AND ACCESS
The EAST WEST claim group is located near the Pic River, Ontario (in the north central portion of Geological MAP 2099, Bamoos Lake Sheet (Milne (1967)). The western boundary of the claim group is situated about one km east of the Pic River between mileage markers 18 and 19.

Indirect road access to the EAST WEST property is provided by gravel road which links mileage marker 16 on the Pic River to highway #17 opposite the Marathon turn off - a distance of 4 miles. A 2 mile boat trip is necessary to reach mileage marker
18 approximately 1/3 of a mile from the southwest boundary of the EAST WEST claim group.

Direct air access to the EAST WEST property is provided by helicopter from a base on highway No. 17 5 miles southwest in a direct line distance.

PROPERTY

The 12 contiguous mining claims included in the EAST WEST property, encompass approximately 480 acres of mining land. The claims are registered with the Ministry of Natural Resources, Mining Recorders Office in Thunder Bay. The claims, recorded in the names of the three stakers, are listed below.

<table>
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<tr>
<th>CLAIM NUMBERS</th>
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<th>ANNIVERSARY DATE</th>
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<td>TB 661874-661879</td>
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These claims are held in trust by Ingamar Explorations Limited for EAST WEST RESOURCE CORPORATION.

TOPOGRAPHY AND VEGETATION

Terrain in the Pic River area is occasionally very rugged. Ridge-valley type topography is common in the metavolcanic rock areas. Some hills attain elevations of up to 380 meters above the level of Lake Superior.

Scattered outcrop comprises approximately 25% of the
CLAIM INDEX MAP
EAST-WEST RESOURCE CORP.
SEELY LAKE AREA
THUNDER BAY MINING DIVISION, ONT.
property. The terrain is rugged in the northeast and southwest portion of the property where rolling hills provide vertical relief of up to 70 meters. Metavolcanic rocks and iron formation are fairly resistant and form most of the outcropping, while metasedimentary rocks, particularly the shales, are eroded in most places. Between outcrops, overburden is quite shallow, with exceptions being the northeast and southwest corners of the claim group.

A thick forest cover of spruce, birch, minor jackpine, poplar, and cedar abound on the property. Low areas, swamps and creek valleys are thick with tag alders.

PREVIOUS WORK

Sporadic exploration activity has been conducted in the Pic River area from the early 1900's until as recently as 1975, prior to the Hemlo gold camp staking rush. Various programs have been conducted to evaluate several prospects in the area, including:

1) Copper sulphide zones within the Port Coldwell Alkaline Complex

2) Copper-nickel mineralization associated with mafic intrusive rocks in Goodchild Lake area

3) Base metal mineralization in the metavolcanics approximately 300 m southeast from the southeast corner of the EAST WEST property.

Exploration activity in the area during the 1960's and 70's
was directed at the acid metavolcanic-metasemimentary sequence for massive sulphide deposits, and is summarized below:

1) 3/4 mile east of mileage marker 16 on the Pic River.
   2 miles South of the East West property.
   Pyritic rhyolite in pit.
   Trace copper, nickel and gold.

2) 1965 Seeley Mining Corporation (Sutherland, H.H. (1965), file 63.1755)
   2 miles east of mileage marker 20 on the Pic River.
   Adjacent to or overlapping the east boundary of the East West property.
   Ground geophysical surveys on an east-west grid direction - EM and magnetometer. Five anomalous zones were defined and recommended for drilling.
   A 700' long vein with chalcopyrite, pyrite and pyrrhotite is reported to have been observed adjacent to one of the anomalies (Sutherland, H.H. (1965), file 63.1755).
   No record of further work is documented.

3) Irish Copper Mines Ltd. (Zurowski, M. (1965), file 63.1690)
   Located along the Pic River between mileage markers 16 and 19. 1965 Preliminary ground EM and magnetic surveys completed during 1965. One EM anomaly
associated with sulphide mineralization. Other EM anomalies deduced to be due to overburden effects.

2 miles south-west of the East West property.

Magnetic anomalies on west side of the Pic River deduced to represent magnetically susceptible minerals in the alkalic complex.

4) 1971 **Kerr Addison Mines Ltd.** (1971, diamond drill assessment File 23)

2 miles East of mileage marker 19 on the Pic River.

Adjacent to and overlapping the southeast corner of the East West property.

Ground geophysical surveys.

9 short DDH's – maximum 205' on EM targets.

Rhyolite, greywacke, and graphitic tuff intersected.

Disseminated sulphides in rhyolite yielded values in gold and base metals.

1 DDH contained 20% of a green mineral (fuchsite?).

Disseminated sulphides intersected in rhyolite and graphitic tuff.

Anomalous values in copper, zinc, and gold obtained.

Best values: .12 oz 1 ton Au / 5'.

3% zinc also reported.

5) **Shell Minerals of Canada Ltd.** (1975)

Airborne helicopter EM and magnetic survey over the
entire acid metavolcanic-metasedimentary sequence.

Survey covers all the EAST WEST property.

Numerous airborne EM anomalies were detected over the acid metavolcanics (rhyolite breccia) along the east and north margins of the unit but also within and along the west margin.

Several clusters of airborne EM anomalies occur within the East West claim group. A prominent series of anomalies lie along and overlap the east boundary of the property. A band of anomalies trends east-west through the south sector of the N 1/2 of the property and into the adjoining properties on the east and west.

The southeast corner of the claim group also contains clusters of EM anomalies.


Lake bottom sediment sampling was conducted over the area in 1967 and the results were released in G.S.C. Open File Report 746. The general area is indicated as being moderately anomalous.
in zinc, copper, lead and mercury.

SURVEY STATISTICS AND SURVEY DATES

The IP resistivity survey was carried out on east-west trending lines between September 14 and September 24, 1983. These lines were spaced at 120 metre intervals and readings were taken every 40 metres. A dipole-dipole array was used with an "a" spacing of 40 metres and readings taken at n=1 and n=2. This resulted in a total number of readings of 531 for a single "n" spacing or 1062 readings for both "n" spacings.

Detailed profiling with a 20 metre "a" spacing was done on several lines to define chargeability anomalies outlined in the first survey in September. This detailing was done in the second week of October, 1983, resulting in a further 123 readings at n=1 for a total of 246 readings for both "n" spacings.

A five man crew consisting of Bryan Belanger, Stuart Winchester, Howard McGowan, Mike Tremblay and James Lariviere carried out these surveys.

REGIONAL GEOLOGY

The details of the geology of the EAST WEST RESOURCE property have been described by Coster, I. and Maser, M. (1983). The western portion of the property consists of massive rhyolites which trend in a north-south direction. The central portion is mainly underlain by felsic (rhyolitic) tuffs whereas the eastern
**BASIC TO INTERMEDIATE METAVOLCANICS AND METASEDIMENTS***

2a. Dark green, fine-to-medium-grained massive and gneissic amphibolite.
2b. Dark green, coarse-grained massive and gneissic amphibolite.
2c. Light green amphibolite and sausuritic metavolcanic rocks.
2d. Pillow lava.
2e. Amygdular, spherulitic or variolitic lava.
2g. Flow banded lava.
2h. Tuff, slate, garnetiferous chlorite schist, greywacke.
2j. Chlorite schist.
2k. Banded iron formation.
2m. Hybrid hornblende gneiss.
2n. Lamprophyre.
2p. Rhyolite.
2q. Biotite paragneiss.

**ACID METAVOLCANICS AND METASEDIMENTS***

1a. Rhyolite, porphyritic rhyolite, rhyolitic breccia.
1b. Sericite schist.
1c. Slate, iron formation, tuff.
1d. Greywacke, tuff.
1e. Complex of metavolcanic rock and intrusive alkalic gabbro, syenite and granitic dikes.

**GENERAL AREA GEOLOGY**

From QDM Mop 2099
October 1970
"l"scale
N.T.S.: File: M-2
margin of the property is underlain by metasediments composed of siltstone, graywackes and argillites. These rocks may be a regional extension of the volcanic stratigraphy found at the Hemlo gold deposits 15 miles to the southeast of the property. Sericite alteration occurs within the pyritic tuffs and earlier work has outlined anomalous gold values within the pyritic tuffs specifically at 260 south/670 east (2972 ppb gold) and at 126 south/695 east (1673 ppb gold). These samples represent quartz material in pyritic tuff and fine grained silicious pyritic tuff respectively.

A felsic granodiorite type intrusion trends north 20° east and occurs within the massive rhyolite unit in the southwest quadrant of the property. This intrusive appears hybridized and contains biotite and hornblende and appears to be somewhat metamorphosed. The intrusive is shaped like a dyke but follows the general strike of the rocks.

SURVEY PROCEDURES - INSTRUMENTATION

The IP and Resistivity Survey was carried out using time domain equipment along 120 metre line spacings with readings taken at 40 metre intervals. The transmitter was a Scintrex IPC-8 250 watt unit. The receiver was a Crone N-IV (Newmont type) and a single time window was read after the shut off of the pulse. The signal transmitted into the ground via steel stake electrodes was a 2 second on, 2 second off square wave pulse.
The voltage was measured via non polarizing, copper sulphate filled, porous pot electrodes. The array used was a dipole-dipole array with an "a" spacing of 40 metres with readings taken at n=1 and n=2. Contoured results of the chargeability and resistivity values for both "n" spacings are given on the maps at the back of this report, see Figures 4,5,6 and 7.

INTERPRETATION

A north-south trending anomaly with values on base line 0 up to 140 milliseconds but generally outlined by the 20 millisecond contour extends from base line 0 to line 7 + 20 south along an axis located at 600 east. This anomaly follows the contact between rhyolitic fine tuffs and rhyolitic crystal lapilli tuff as mapped by Coster, I., and Maser, M. (1983). This horizon contains fine grained pyrite and a green mineral which looks like fuchsite but may be a green mica like that occurring in the Hemlo gold deposits. A portion of this horizon which correlates with the IP anomaly has been classified as a silicious volcaniclastic by Coster and Maser. Anomalous gold (geochemical) values have been identified in the rhyolitic crystal lapilli tuff section along the east side of this IP anomaly. A single isolated 75 millisecond anomaly occurs on line 2 + 40 south at 7 + 20 east. This anomaly is the closest anomalous chargeability zone to the anomalous geochemical gold values.
A chargeability anomaly of up to 54 milliseconds occurs between base line 0 and 2 + 40 south starting at 8 + 00 east and continuing south eastward to 10 + 00 east on line 2 + 40 south. This anomaly follows the eastern portion of the rhyolitic crystal lapilli tuff horizons and again outlines the zone of disseminated pyrite mineralization which should be explored for gold mineralization.

East of the second IP anomaly originating at 10 + 00 east on base line 0 is a broad zone of high chargeability values with isolated sections up to 100 milliseconds or more. This general zone correlates with argillitic metasediments containing sections of disseminated pyrite.

A chargeability anomaly of up to 85 milliseconds occurs on line 7 + 20 south at 10 + 40 east and this anomaly also occurs within the rhyolitic crystal lapilli tuff immediately below (stratigraphically) the metasedimentary horizons. Another IP anomaly of importance up to 64 milliseconds occurs at 10 east 10 + 80 south at the contact between intermediate lapilli tuffs and metasediments.

A broad zone of high chargeability values occurs between 12 + 00 south and 17 + 00 south in the region of 3 + 00 to 5 + 00 east. A value of 24 milliseconds occurs within this broad chargeability high on line 14 + 40 south at 5 + 00 east and correlates with a section of massive rhyolite.
DETAILED I.P. PROFILING

Detailed profiling was done over parts of anomalous chargeability zones previously outlined by an IP survey carried out in September 1983 using a "n" spacing of 40 m. In the detailed survey a "n" spacing of 20 metres with "a" = 1 and 2 was used to get a better definition of the anomalies. This survey work was done on October 14 - 18, 1983 using a 4 man crew consisting of Brian Belanger, James Lariviere, Mike Tremblay and Howard McGowan.

Four lines were read as part of the detailed survey, 120S, 240S, 720S and 1440S. A Crone 250 watt battery transmitter and Crone IP receiver IV was used.

Anomalies were redefined on Line 120S at 600E and 880E. On line 240S a continuation of the anomaly associated with the pyritic tuff was obtained at 5 + 80E, however, a flanking 14 millisecond anomaly occurs at 5 + 20E. Another anomaly on line 240S occurs at 900E, 1000E and 1090 - 1130E. On 720S a 27 millisecond anomaly occurs at 5 + 00E and 20 millisecond anomaly occurs at 9 + 60E. This latter anomaly coincides with a 60 - 85 millisecond peak obtained with n=1, a=40 m. but is shifted 40 m. west.

On line 14 + 40S, a 48 millisecond peak occurs at 4 + 10E which was originally a 24 millisecond broad peak with n=1, a=40 m. A narrow near surface feature within a broader area of pyritization is interpreted to occur here and this should be tested by a shallow drill hole.
CONCLUSIONS AND RECOMMENDATIONS

Diamond drilling is recommended to test eight different sites on the property and these diamond drill holes are listed in the table below:

<table>
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<tr>
<th>Hole No.</th>
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<th>Azimuth</th>
<th>Dip</th>
<th>Depth feet</th>
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<tr>
<td>1</td>
<td>L.120S/780E</td>
<td>270°</td>
<td>-50°</td>
<td>850'</td>
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<tr>
<td>2</td>
<td>L.120S/1060E</td>
<td>270°</td>
<td>-50°</td>
<td>1000'</td>
</tr>
<tr>
<td>3</td>
<td>L.240S/740E</td>
<td>270°</td>
<td>-50°</td>
<td>600'</td>
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<tr>
<td>4</td>
<td>L.480S/740E</td>
<td>270°</td>
<td>-50°</td>
<td>600'</td>
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<tr>
<td>5</td>
<td>L.720S/1100E</td>
<td>270°</td>
<td>-50°</td>
<td>600'</td>
</tr>
<tr>
<td>6</td>
<td>L.960S/1170E</td>
<td>270°</td>
<td>-50°</td>
<td>450'</td>
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<tr>
<td>7</td>
<td>L.1080S/1180E</td>
<td>270°</td>
<td>-50°</td>
<td>600'</td>
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<td>8</td>
<td>L.1440S/540E</td>
<td>270°</td>
<td>-50°</td>
<td>450'</td>
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<td>9</td>
<td>L.1320S/920E</td>
<td>270°</td>
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<td><strong>Contingency</strong></td>
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<td></td>
<td></td>
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<td><strong>6150'</strong></td>
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The following budget is proposed to cover the drilling, mobilization, supervision, assaying and core splitting:
BUDGET
for
EAST WEST RESOURCES

(a) Mobilization & Pad Cutting 14,000.
(b) Drilling $25./ft x 6150 153,750.
(c) Supervision, logging 24,000.
(d) Assaying 10,000.
(e) Subsistence and transportation 10,000.

Sub Total 211,750.

(f) Contingency 20,000.

Total $231,750.

Drilling of these targets could be carried out in both winter and summer months since it would be more convenient to airlift the drill to the different collar locations using a Bell 206 Long Ranger helicopter or an A-Star helicopter. This procedure would save breaking new roads into the area and the drill could be transported from the Pic River at a point where a gravel road connects Trans Canada highway No. 17 at the Marathon exit, (i.e.) within 2 1/2 miles of the EAST WEST property.

Respectfully submitted:

Robert S. Middleton Exploration Services Inc.
REFERENCES

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Airborne Helicopter EM and Magnetic Survey, 3 map sheets 1" = 1/4 mile, assessment file 2.2011

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1965
Report on the E.M. Survey conducted over the property of Seeley Mining Corporation, assessment file No. 63.1755

Zurowski, M.
1965
Report on the geophysical surveys on the property of Irish Copper Mines Ltd., Seeley Lake Area, assessment file No. 63.1690.

1982-1983
Several issues of: The Northern Miner; The George Cross Newsletter
CERTIFICATION


1) I am a member in good standing of:
   a) Geological Association of Canada (FGAC)
   b) The Association of Professional Engineers of Ontario
   c) European Association of Exploration Geophysicists
   d) Society of Exploration Geophysicists
   e) Canadian Institute of Mining and Metallurgy

2) I am a graduate of the Michigan Technological University, Houghton, Michigan, U.S.A. with a B.S. degree in Applied Geophysics obtained in 1968, and an M.S. degree in Geophysics in 1969.

3) I have been practising my profession in Canada, occasionally in the United States, Central America, Europe and South Africa for the past 14 years.

4) I have no direct interest in the properties, leases or securities of East West Resource Corporation nor do I expect to receive any.

5) The attached report is a product of:
   a) Data listed in the references.
   b) Assessment work files - Ministry of Natural Resources, Toronto, Ontario.
   c) Discussions with colleagues who have worked in the area.
   d) My personal acquaintance with the Hemlo area which I have examined and reported on for other companies.
   e) My involvement in exploring gold throughout the Canadian Shield, in Nevada, U.S.A. and in Central America.
   f) A personal visit to the property.

Dated this 23rd day of October, 1983, TIMMINS, Ontario

The IPC-8/250W is a portable battery-powered transmitter for time domain Induced Polarization and D.C. Resistivity operation. It is designed primarily for use with Scintrex remotely-triggered I.P. and D.C. resistivity receivers.

In operation, the IPC-8/250W transmitter lends itself to all types of electrode arrays and especially provides a new speed of operation for dipole-dipole arrays.
TECHNICAL DESCRIPTION OF
IPC-8 250W TRANSMITTER

POWER:
250 W max.

OUTPUT: VOLTAGE:
150 V to 850 V in 5 steps, 1.4 ratio

OUTPUT: CURRENT:
1.5 A max.

METER: RANGES:
0 — 0.5 A F.S. and 0 — 1.5 A F.S. ± 3%

CYCLE:
1:1:1:1 on:off:reverse:off

1, 2, 4 secs.

PULSE DURATIONS:
1, 2, 4 secs.

POWER SOURCES:
8 GC 660-1 lead-acid gel-type batteries 24 V at 12 Ah
or external 24 V D.C.
1 penlite battery Eveready E 91 or equivalent

POWER REQUIREMENTS FOR CHARGER:
115/230 V, 50 to 400 Hz, 100 W

DIMENSIONS AND WEIGHTS:
Transmitter pack and two battery packs:
5½ x 12 x 18" (14 x 30 x 46 cm)
35 lbs (15.5 kg)

Charger:
5½ x 12 x 6" (14 x 30 x 15 cm)
12 lbs (5.5 kg)

OPERATING TEMPERATURE:
—30°C to +55°C
Induced Polarization Receiver

NEWMONT DESIGNED - PULSE TYPE N-IV

A rugged I.P. Receiver designed for Simplicity of Operation and Reliability in the field.
CRONE-NEWMONT I.R. - IV RECEIVER

SPECIFICATIONS

- Dimensions: Instrument — 31 x 27 x 16 cm; 12" x 11" x 6"  
  Shipping Box — 38 x 33 x 22 cm; 15" x 13" x 8.5"
- Weight:  
  Instrument — 4 kg.; 9 lbs.  
  With shipping box — 8 kg.; 18 lbs.
- Battery Power Supply: Standard Throw Away Batteries  
  - 5 of "C" cells, 1.5 volt each, 60MA drain, Eveready types  
    E93 or 1035  
  - One 9 volt transistor battery for S.P. buckout, #216  
  Battery life — 3 months to 6 months
- Primary Voltage "Vp": .0005 to 60 volts, accuracy ± 5%  
- Standard receivers set for 2.0 seconds on, 2.0 seconds off current cycle  
  Off period must be greater than 1.8 seconds  
- Chargeability M and N readings directly in milliseconds

- Both M and N readings are automatically corrected to the Newmont 33M1 Standard. M and N readings  
  should be the same with a normal polarization decay. Unequal readings indicates the presence  
  of inductive coupling and then the N reading should be used.
- Both M and N readings are taken for 3 current cycles (6 samples) then they are automatically averaged  
  and stored for direct read out.
- Self Potential: Automatic buckout effective when SP less than .6 Vp  
  Manual buckout — 0 to 1.0 volts calibrated (>1.0 volts uncalibrated)  
  Fine SP buckout for low signal levels
- Pot Resistance Check: Check of potential contacts on millisecond meter; Green - good contact,  
  Orange - marginal contact (M-N readings are accurate, Vp and resistivity readings have error),  
  Red - nil or unacceptable contact.
- Input Impedance: 300,000 Ohms
- Noise Filters:  
  30 DB At 50 or 60 Hz (factory set)  
  30 DB/Octave above 8 Hz  
  6 DB/Octave above 35 Hz
- Automatic Time Lock to ground signal
- Amplifier drift correction by one control
**Report of Work**

**Ministry of Natural Resources**

**Geophysical, Geological, Geochemical and Expenditures**

**File: 661853**

**The Mini**

**Township or Area:** Seeley Lake Area

**Prospector's Licence No.:** T836

**Address:** P.O. Box 1637

**Survey Company:** R.S. Middleton Exploration Services

**Date of Survey (from to):** Oct 83 – Dec 83

**Total Miles of line Cut:** 19.16

**Type of Survey(s):** Induced Polarization, Induced Anomaly Explorations

**Claim Holder(s):**

**Name and Address of Author (of Geo-Technical report):**

**Name and Address:** R.S. Middleton, P.O. Box 1637, Timmins, Ontario

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### Credits Requested per Each Claim in Columns at right

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<tr>
<td>GB 601879</td>
<td>15</td>
</tr>
</tbody>
</table>

---

**Man Days**

- **Geophysical:**
  - Electromagnetic
  - Magnetometer
  - Radiometric
  - Other

- **Geological:**

- **Geochemical:**

**Complete reverse side and enter total(s) here**

**Airborne Credits**

- **Electromagnetic**

- **Magnetometer**

- **Radiometric**

- **Other**

**Total Expenditures**:

**Expenditures (excludes power stripping)**

**Type of Work Performed**

- **Performed on Claim(s):**

**Calculation of Expenditure Days Credits**

<table>
<thead>
<tr>
<th>Total Expenditures</th>
<th>Total Days Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>15</td>
</tr>
</tbody>
</table>

**Total Mural number of mining claims covered by this report of work:**

**Certification Verifying Report of Work**

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

**Name and Address of Person Certifying:**

**Date Certified:**

**Certification:**

**For Office Use Only**

**Date Recorded:**

**Mining Recorder:**

**Date Recorded:**

**Recorded Holder or Applicant Signature:**

**Date:**

**Recorded:**

**Mineralized:**

---

**Man Days per Claim**

<table>
<thead>
<tr>
<th>Mining Claim</th>
<th>Exp. Days Cr.</th>
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</thead>
<tbody>
<tr>
<td>GB 601853</td>
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<tr>
<td>GB 601854</td>
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<tr>
<td>GB 601855</td>
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</tr>
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<td>GB 601856</td>
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<td>GB 601857</td>
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<td>GB 601858</td>
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<tr>
<td>GB 601874</td>
<td>15</td>
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<tr>
<td>GB 601875</td>
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</tr>
<tr>
<td>GB 601876</td>
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<tr>
<td>GB 601877</td>
<td>15</td>
</tr>
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<td>GB 601878</td>
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</tr>
<tr>
<td>GB 601879</td>
<td>15</td>
</tr>
</tbody>
</table>

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**Expenditures (excludes power stripping)**

**Type of Work Performed**

- **Performed on Claim(s):**

**Calculation of Expenditure Days Credits**

<table>
<thead>
<tr>
<th>Total Expenditures</th>
<th>Total Days Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>15</td>
</tr>
</tbody>
</table>

---

**Total number of mining claims covered by this report of work:**

**Certification Verifying Report of Work**

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

**Name and Address of Person Certifying:**

**Date Certified:**

**Certification:**

**For Office Use Only**

**Date Recorded:**

**Mining Recorder:**

**Date Recorded:**

**Recorded Holder or Applicant Signature:**

**Date:**

**Recorded:**

**Mineralized:**
To: Geophysics

Mr. R. Bayley.

Comments

- Okay - put a legend on describing units which were measured.

☑ Approved  ☐ Wish to see again with corrections

Date: 13/2/84  Signature: [Signature]

To: Geology - Expenditures

Comments

☐ Approved  ☐ Wish to see again with corrections

Date:  Signature:

To: Geochemistry

Comments

☐ Approved  ☐ Wish to see again with corrections

Date:  Signature:

To: Mining Lands Section, Room 6462, Whitney Block.  (Tel: 5-1380)
ASSESSMENT WORK BREAKDOWN

1. Type of Survey: Induced Polarization

2. Township or Area: Sec. 8, Lake Area

3. Numbers of Mining Claims Traversed by Survey:
   - TB 661853 - 858 inclusive.
   - TB 661874 - 879 inclusive.
   - Total 12 claims

4. Number of Miles of Line Cut: 

5. Number of Stations Established: 5310

6. Make and type of Instrument Used: RX. CREWE Mk. IV TA. Survey LP-8

7. Scale Constant or Sensitivity

8. Frequency Used and Power Output

9. Summary of Assessment Credits (details on reverse side)

   Total 8 hour Technical Days (Include Consultants, Draughting etc.) 65.5

   Total 8 hour Line-Cutting Days

   Calculation:
   \[
   \frac{65.5 \times 7}{12.0} = \frac{458.5}{12.0} = \frac{38.2}{12.0} \]

   The dates listed on this form represent working time spent entirely within the limits of the above listed claims. \(\checkmark\) Check

   If otherwise, please explain:

Dated: Dec 16/83

Signed: [Signature]

Note: (A) * Complete only if applicable.
(B) Complete list of names, addresses and dates on reverse side.
(C) Submit separate breakdown for each type of survey.
(D) Submit in duplicate.
ASSESSMENT WORK BREAKDOWN

1. Type of Survey: Induced Polarization

2. Township or Area: Sec. 13, Lake Area

3. Numbers of Mining Claims Traversed by Survey:
   - TB.66:1853 - 858 inclusive.
   - TB.66:1874 - 879 inclusive.

   Total: 12 claims

4. Number of Miles of Line Cut: 531.4 miles 123 @ 90 m

5. Number of Stations Established: 531 @ 40 m

6. Make and type of Instrument Used: RX. Crown Mk IV. TA. Scintrex IPC-8

7. Scale Constant or Sensitivity

8. Frequency Used and Power Output

9. Summary of Assessment Credits (details on reverse side)

   Total 8 hour Technical Days (Include Consultants, Draughting etc.): 651.5
   Total 8 hour Line-Cutting Days

Calculation:

\[
\frac{165.5 \times 7}{12} = \frac{458.5}{12} = 38.2
\]

The dates listed on this form represent working time spent entirely within the limits of the above listed claims. Check
If otherwise, please explain

Dated: Dec. 16/83

Signed: [Signature]

Note:
(A) * Complete only if applicable.
(B) Complete list of names, addresses and dates on reverse side.
(C) Submit separate breakdown for each type of survey.
(D) Submit in duplicate.
**Type of Survey(s):** Induced Polarization

**Township or Area:** Seeley Lake Area

**Claim Holder(s):** Jurasmar Exploration

**Survey Company:** KAYAK EXPLORATIONS

**Author of Report:** R.S. MIDDLETON

**Address of Author:** P.O. Box 4637, Timmins, ON

**Covering Dates of Survey:** Sept 14 - November 4/83

**Total Miles of Line Cut**

<table>
<thead>
<tr>
<th>SPECIAL PROVISIONS</th>
<th>DAYS per claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geophysical</td>
<td></td>
</tr>
<tr>
<td>- Electromagnetic</td>
<td></td>
</tr>
<tr>
<td>- Magnetometer</td>
<td></td>
</tr>
<tr>
<td>- Radiometric</td>
<td></td>
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<tr>
<td>- Other</td>
<td></td>
</tr>
<tr>
<td>Geological</td>
<td></td>
</tr>
<tr>
<td>Geochemical</td>
<td></td>
</tr>
</tbody>
</table>

**AIRBORNE CREDITS** (Special provision credits do not apply to airborne surveys)

Magnetometer  Electromagnetic  Radiometric

<table>
<thead>
<tr>
<th>DATE:</th>
<th>DEC 16/83</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIGNATURE:</td>
<td>Author of Report or Agent</td>
</tr>
</tbody>
</table>

**Res. Geol.**

| Qualifications: | This file |

**Previous Surveys**

<table>
<thead>
<tr>
<th>File No.</th>
<th>Type</th>
<th>Date</th>
</tr>
</thead>
</table>

**TOTAL CLAIMS**

837 (5/79)
**GEOPHYSICAL TECHNICAL DATA**

**GROUND SURVEYS** – If more than one survey, specify data for each type of survey

<table>
<thead>
<tr>
<th>Number of Stations</th>
<th>Number of Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 m, 521</td>
<td>40 m, 1042, 40 m</td>
</tr>
<tr>
<td>20 m, 123</td>
<td>246</td>
</tr>
</tbody>
</table>

- **Station interval:** 40 m, 20 m
- **Line spacing:** 120 m

- **Profile scale:**
- **Contour interval:** 15 m/sec

**MAGNETIC**

- **Instrument:**
- **Accuracy:** Scale constant
- **Diurnal correction method:**
- **Base Station check-in interval (hours):**
- **Base Station location and value:**

**ELECTROMAGNETIC**

- **Instrument:**
- **Coil configuration:**
- **Coil separation:**
- **Accuracy:**
- **Method:**
  - Fixed transmitter
  - Shoot back
  - In line
  - Parallel line
- **Frequency:** (specify V.L.F. station)
- **Parameters measured:**

**GRAVITY**

- **Instrument:**
- **Scale constant:**
- ** Corrections made:**
- **Base station value and location:**
- **Elevation accuracy:**

**INDUCED POLARIZATION**

- **Method:**
  - Time Domain
  - Frequency Domain
- **Parameters**
  - On time: 9 sec
  - Off time: 2 sec
  - Delay time: 0.45 sec
  - Integration time: 45-90 sec
- **Power:** 250 W
- **Electrode array:** Dipole - Dipole
- **Electrode spacing:** 40 & 30 m
- **Type of electrode:** Steel Stakes
SELF POTENTIAL

Instrument ____________________________________________ Range ____________________________
Survey Method ____________________________________________
Corrections made ____________________________________________

RADIOMETRIC

Instrument ____________________________________________
Values measured ____________________________________________
Energy windows (levels) ____________________________________________
Height of instrument ____________________________________________ Background Count __________________________
Size of detector________________________________________________
Overburden ________________________________________________
(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey ____________________________________________
Instrument ____________________________________________
Accuracy ____________________________________________
Parameters measured ____________________________________________
Additional information (for understanding results) ____________________________________________

AIRBORNE SURVEYS

Type of survey(s) ____________________________________________
Instrument(s) ____________________________________________ (specify for each type of survey)
Accuracy ____________________________________________ (specify for each type of survey)
Aircraft used ____________________________________________
Sensor altitude ____________________________________________
Navigation and flight path recovery method ____________________________________________
Aircraft altitude ____________________________________________ Line Spacing __________________________
Miles flown over total area ____________________________________________ Over claims only __________________________
GEOCHEMICAL SURVEY - PROCEDURE RECORD

<table>
<thead>
<tr>
<th>Numbers of claims from which samples taken</th>
</tr>
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<tbody>
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<tr>
<th>Total Number of Samples</th>
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<table>
<thead>
<tr>
<th>Type of Sample (Nature of Material)</th>
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<tbody>
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<tr>
<th>Average Sample Weight</th>
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<thead>
<tr>
<th>Method of Collection</th>
</tr>
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<table>
<thead>
<tr>
<th>Soil Horizon Sampled</th>
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<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Horizon Development</th>
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<table>
<thead>
<tr>
<th>Sample Depth</th>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Terrain</th>
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<tr>
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</table>

<table>
<thead>
<tr>
<th>Drainage Development</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Estimated Range of Overburden Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As (circle)

Others

Field Analysis (tests)
Extraction Method
Analytical Method
Reagents Used

Field Laboratory Analysis
No. (tests)
Extraction Method
Analytical Method
Reagents Used

Commercial Laboratory (tests)
Name of Laboratory
Extraction Method
Analytical Method
Reagents Used

Sample Preparation
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis

<table>
<thead>
<tr>
<th>General</th>
</tr>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th>General</th>
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</table>
The said MINING CLAIMS situated in the SEELEY LAKE AREA and more particularly described as:

<table>
<thead>
<tr>
<th>claim number</th>
<th>recording date</th>
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</thead>
<tbody>
<tr>
<td>TB-661874</td>
<td>October 15, 1982</td>
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<td>TB-661876</td>
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<td>TB-661878</td>
<td>October 15, 1982</td>
</tr>
<tr>
<td>TB-661879</td>
<td>October 15, 1982</td>
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<tr>
<td>TB-661853</td>
<td>October 15, 1982</td>
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<tr>
<td>TB-661854</td>
<td>October 15, 1982</td>
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<td>TB-661855</td>
<td>October 15, 1982</td>
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<tr>
<td>TB-661856</td>
<td>October 15, 1982</td>
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<tr>
<td>TB-661857</td>
<td>October 15, 1982</td>
</tr>
<tr>
<td>TB-661858</td>
<td>October 15, 1982</td>
</tr>
</tbody>
</table>
**ASSESSMENT WORK BREAKDOWN**

1. **Type of Survey**: Induced Polarization

2. **Township or Area**: Sec 32, Lake Area

3. **Numbers of Mining Claims Traversed by Survey**:
   - TB 661853 - 858 inclusive
   - TB 661874 - 879 inclusive
   - Total: 12 claims

4. **Number of Miles of Line Cut**
   - Flown

5. **Number of Stations Established**
   - 123 @ 40 m

6. **Make and type of Instrument Used**
   - RX Cronex MK IV, TA Scintrex IFC-8

7. **Scale Constant or Sensitivity**

8. **Frequency Used and Power Output**

9. **Summary of Assessment Credits** (details on reverse side)
   - Total 8 hour Technical Days (Include Consultants, Draughting etc.)
     - 65.5
   - Total 8 hour Line-Cutting Days

**Calculation**

\[
\text{Technical \times 7 = 458.5} + \text{Line-cutting \div 12 = 38.2} \text{ Assessment credits per claim}
\]

The dates listed on this form represent working time spent entirely within the limits of the above listed claims. Check

If otherwise, please explain

Dated: ____________________  Signed: ____________________

**Note:**
(A) * Complete only if applicable.
(B) Complete list of names, addresses and dates on reverse side.
(C) Submit separate breakdown for each type of survey.
(D) Submit in duplicate.
Assessed

Approved Reports of Work sent out

Notice of Intent filed

Approval after Notice of Intent sent out

Duplicate sent to Resident Geologist

Duplicate sent to A.F.R.O.
Mrs. Audrey Hayes  
Mining Recorder  
Ministry of Natural Resources  
P.O. Box 5000  
Thunder Bay, Ontario  
P7C 5G6

Dear Madam:

We have received reports and maps for a Geophysical (Induced Polarization) survey submitted on Mining Claims TB 661853 et al in the Area of Seeley Lake.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the Report of Work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours very truly,

J.R. Morton  
Acting Director  
Land Management Branch  
Whitney Block, Room 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone:(416)965-1380

D. Kinvig:mc  

cc: Ingamar Explorations  
    Cedar Hill  
    Connaught, Ontario  
    P0N 1A0
Ingamar Explorations
Cedar Hill
Connaught, Ontario
P0N 1A0

Dear Sirs:

RE: Geophysical (Induced Polarization) Survey submitted on Mining Claims TB 661853 et al in the Area of Seeley Lake.

Enclosed is a copy of our letter dated March 26, 1984 requesting additional information for the above-described survey.

Unless you can provide the required data by July 3, 1984, the mining recorder will be directed to cancel the work credits recorded on December 22, 1983.

For further information, please contact Mr. Ray Pichette at (416)965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch
Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-1380

S. Hurst: cc: Mining Recorder
Thunder Bay, Ontario

Encls:
March 26, 1984

Ingamar Explorations
Cedar Hill
Connaught, Ontario
PON 1AO

Dear Sirs:

RE: Geophysical (Induced Polarization) Survey
submitted on Mining Claims TB 661853 et al
in the Area of Seeley Lake

Enclosed are the plans, in duplicate, for the above-mentioned
survey. Please have the author of the report include a legend
on each map describing the units which were measured during
this survey, and return all maps to this office as soon as
possible.

For further information, please contact Mr. F.W. Matthews at
(416)965-6918.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch
Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-6918

M.E. Anderson:mc

cc: Mining Recorder
Thunder Bay, Ontario
July 5, 1984

Mr. Roy Pichette
Ministry of Natural Resources
Room 6643
Whitney Block
Queens Park
Toronto, Ontario  M4A 1W3

RE: File 2.6238 East West  Our Project M-2

Please find enclosed 2 sets of IP-Resistivity maps to replace the set that is missing.

Yours Sincerely,

RSM/mt

Encl.

cc: M. Hibbard, Ingamar Explorations
<table>
<thead>
<tr>
<th>J.P.</th>
<th></th>
<th>J.P.</th>
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<tbody>
<tr>
<td>TB-661853</td>
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<td></td>
</tr>
<tr>
<td>661858</td>
<td></td>
<td>661879</td>
</tr>
</tbody>
</table>

D.K.
INDUCED POLARIZATION
THE COMMON BORE DIPOLE-DIPOLE ARRAY
PLOTTING POSITIONS

EQUIPMENT USED

TX - Scintrex 250 watt
RX - Crone Mk IV Newmont type

DETAIL IP chargeability readings $n, B$

REVISIONS
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC

CLIENT
EAST-WEST RESOURCES

TITLE EAST-WEST PROPERTY
HEMUD-SEELY LAKE AREA
THUNDER BAY MINING DIVISION, ONT.

RESISTIVITY No DETAIL IP

DATE: 
DRAWN: 
APPROVED: 

MODEL: 890275
SCALE: 1:5000
STYLES: 44 50/85

ADDENDAM 12
Instruments: Tx: CRONE 250w
Rx CRONE Mk IV
Array: Dipole - Dipole
"A" Spacing: 20 metres
Reading: N-1 & N-2

ROBERT S. MIDDLETON
EXPLORATION SERVICES INC
for EAST-WEST RESOURCE

Details:

File H