REPORT ON
GROUND GEOPHYSICAL SURVEY
ZAVITZ AND HINCKS TOWNSHIPS
LARDER LAKE MINING DIVISION

FOR

PAN ORE GOLD MINES LIMITED

BY

BARRINGER RESEARCH LIMITED

304 CARLINGVIEW DRIVE

METROPOLITAN TORONTO

REXDALE, ONTARIO

SEPTEMBER 1973.

LIST C

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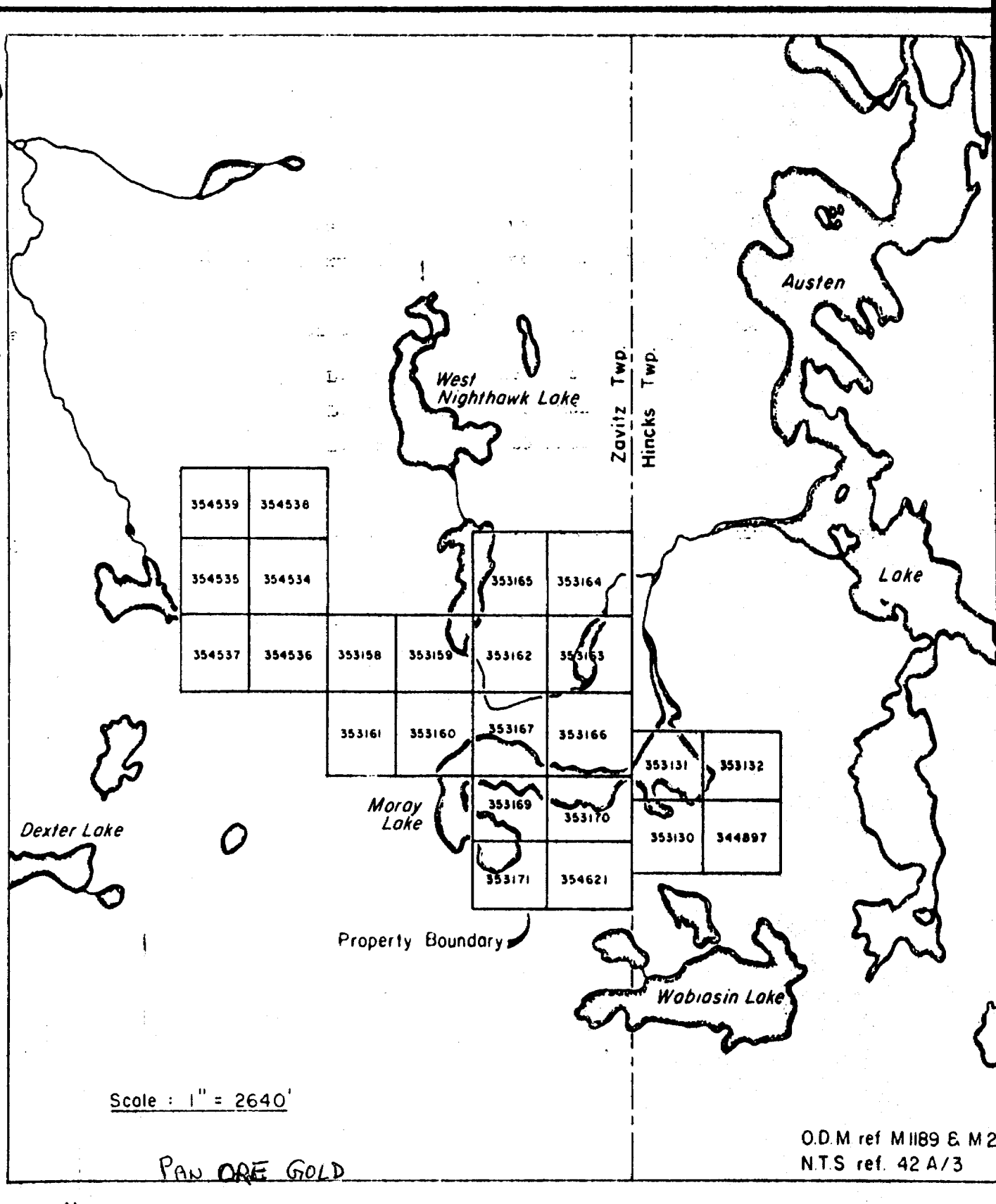
LIST OF DRAWINGS

DWG. No.	TITLE	SCALE
5-344-1	Locality Plan (follows page 1)	
5-344-2	Geophysical Coverage Plan (follows page 2)	1" = 1000'
5-344-3A & B	Total Intensity Magnetics	1" = 200'
5-344-4A & B	Induced Polarization and Resistivity Profiles, n = 1	1" = 200'
5-344-5A & B	Induced Polarization and Resistivity Profiles, n = 2	1" = 200'
5-344-6	Induced Polarization and Resistivity Sections	1" = 400'
5-344-7B	VLF Electromagnetic Survey	1" = 200'
5-344-8B	Horizontal Loop EM Survey	1" = 200'


Austen
West Nighthawk Lake
Zavitz Twp.
Hincks Twp.
Loke
354539
354538
354535
354534
354537
354536
353158
353159
353165
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353162
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353161
353160
353167
353166
353131
353132
353169
353170
353130
344897
353171
354621
Moroy Lake
Dexter Lake
Property Boundary
Wabiosin Lake
Scale : 1" = 2640'
PAN ORE GOLD
O.D.M ref M1189 & M2
N.T.S ref. 42 A/3
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1. INTRODUCTION

1.1 GENERAL

During the period from May 28th to July 8th, 1973, both dates inclusive, a ground geophysical survey was carried out by Barringer Research Limited on a group of 24 claims in Zavitz and Hincks Townships, west of Matachewan, Ontario. The purpose of the survey was to map the occurrence of massive sulphides as well as disseminated mineralization near an ultrabasic intrusive.

The following report describes the results of the geophysical survey. Bound with the report are the geophysical maps.

1.2 PROPERTY

The property consists of 24 claims around Moray Lake in Zavitz and Hincks Townships, 31 miles west of Matachewan, Ontario, by road. The claims are in the Larder Lake Mining Division, and are numbered L344897, L353130-32, L353158-67, L353169-71, L354534-39, and L354621, all numbers are inclusive.

1.3 LOCATION AND ACCESS

The property is located west of Matachewan, around Moray Lake. Access is by Highway 566 west from Matachewan and then by logging and forestry access roads. Another access is provided by forestry access and logging roads going south from Pine Street in Timmins. Both sets of roads form a continuous summer road system. The distance by road from Timmins is approximately 45 miles.

Parts of the property have been logged recently. The topography is variable.

Reference: Topographic map NTS 42A/3E Peterlong Lake.

1.4 PREVIOUS WORK

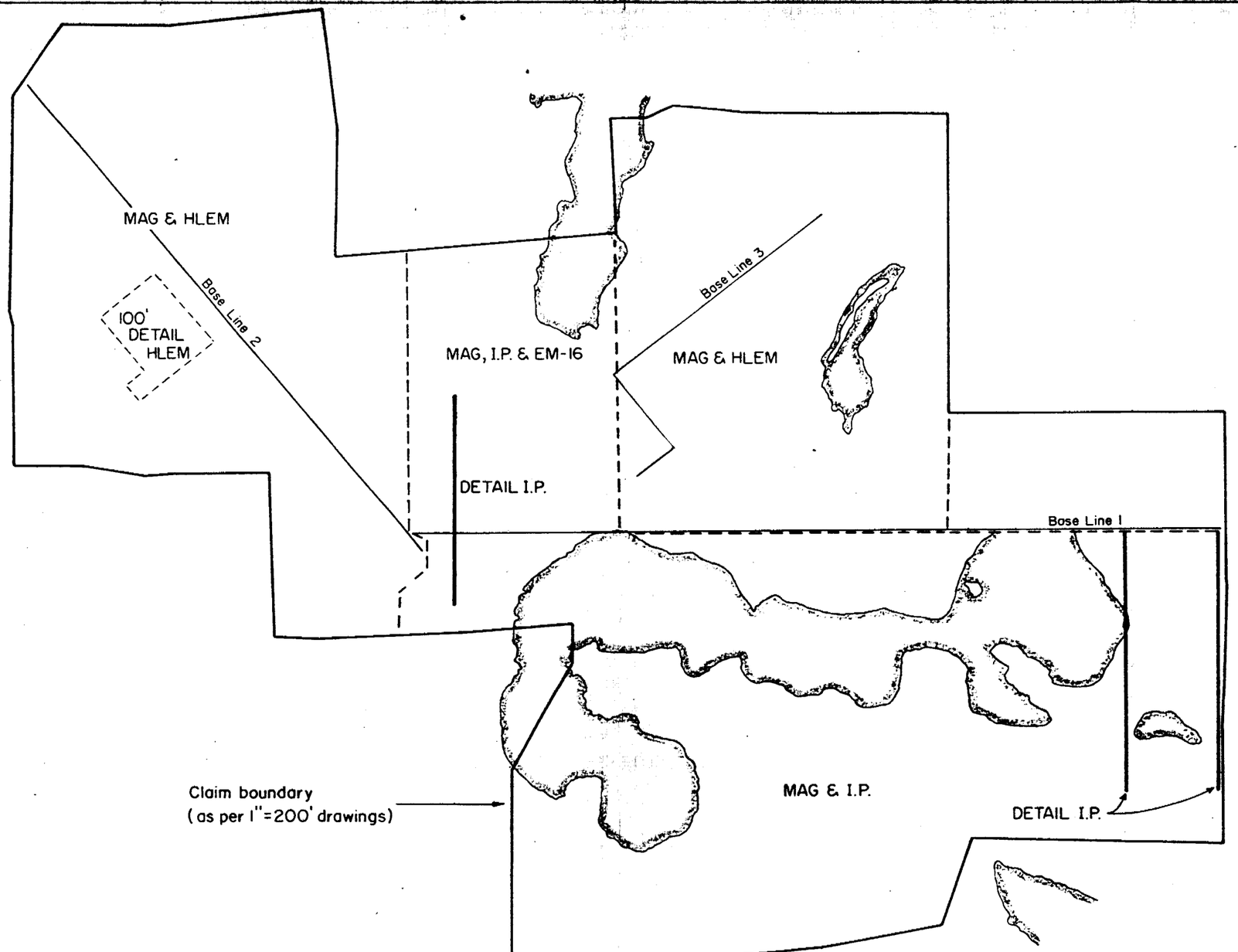
Parts of the property have been previously investigated with magnetic and electromagnetic methods. Noranda Exploration Company Limited conducted a ground magnetic survey in 1964-65 over the easterly part of the present property as well as further east to and beyond Austen Lake. Five claims immediately northwest of Moray Lake were similarly investigated during the summer of 1965. The geophysical work was followed by drilling eight diamond drill holes. Some copper mineralization was encountered together with graphite, pyrrhotite, and pyrite. In 1964 Voyager Exploration Limited and Silvermague Mining Limited conducted a vertical loop electromagnetic survey over parts of the northwestern claims of the present property. A conductor was located and explored with six drill holes. Both massive and disseminated pyrrhotite and pyrite mineralization was found, with some copper mineralization.

Reconnaissance, and recently in more detail, government geological mapping has been carried out. The outcrops are generally few and very small.

1.5 GEOPHYSICAL SURVEY

The geophysical work consisted of four different types of survey, induced polarization, total field magnetics, horizontal loop electromagnetics, and VLF electromagnetics.

The south part of the property, where samples of an ultrabasic intrusive rock had assayed interesting amounts of nickel mineralization, was covered with induced polarization. The magnetic survey covered the entire property with a 200 foot line spacing. The horizontal loop survey was carried out over the northwest and northeast portions of the claims group. The VLF-EM work was over a small portion in the centre, northwest of Moray Lake. This latter part was also covered by the induced polarization technique. For an outline of the coverage see Dwg. No. 5-344-2.



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PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

GEOPHYSICAL COVERAGE PLAN

JULY 1973	Scale 1"=1000'	DWG. 5-344-2

The magnetic survey covered 38.75 line miles with 2036 readings plus an additional 310 readings for detail. The reconnaissance phase of the induced polarization survey encompassed 362 readings with two electrode separations and an additional 65 readings of detail, for a total of 7.35 line miles with two to four electrode separations. The horizontal loop EM survey covered 9.64 line miles with the 300 foot coil separation, 459 stations, and 0.52 line miles, or 51 stations, with the 100 foot reference cable. The VLF-EM-16 survey covered 2.22 line miles with 239 stations.

1.6 SURVEY CONTROL

The grid was cut by a crew under supervision of Mr. Ralph Allerston of Timmins, Ontario, under separate contract. The main base-line was cut east-west on the north side of Moray Lake. Two auxiliary base lines were also cut at angles to the main one in order to cover the northwest and northeast parts of the property and thereby take into account changes in geological strike. The lines were cut with a nominal spacing of 200 feet and chained and picketed with a nominal 100 foot station interval.

1.7 PERSONNEL

The geophysical surveys were carried out by a crew led by Mr. George Young, Senior Geophysical Operator with Barringer Research, under supervision of Roger Caven, P. Eng., Senior Geophysicist.

2. SURVEY PROCEDURES

The magnetic survey was carried out over the survey lines using two Barringer GM102 proton precession magnetometers, measuring the earth's total magnetic field to the nearest 10 gamma intensity value. The station interval was 100 feet except in areas of rapid change where intermediate stations were read also. The base lines were tied to a common base and corrected so that each line intersection became a control station for correcting diurnal variations.

The induced polarization survey covered the part of the grid situated south of the main base line as well as the central section to the north of it. The latter portion was also covered by the VLF-EM16 survey. Alternate lines were surveyed. The induced polarization survey utilized a pole-dipole electrode array, the measuring, or potential, dipole of which was 200 feet, referred to as the 'a' spacing. The current pole was situated to the south at the potential dipole throughout in order to make line to line correlation possible.

The reconnaissance IP work was done with n = 1, and 2, for a potential dipole to current pole distance of 200 and 400 feet respectively. The detail survey used n = 3, and 4, i.e. dipole to pole separations of 600 and 800 feet, respectively, for greater depth penetration. The detail work together with appropriate parts of the regular survey is shown in the form of pseudosections with all data compatible.

The potential dipole and the current pole move in unison along the survey lines, while the second or "infinity" current pole is fixed at a distance which is sufficiently large so as not to affect significantly the current distribution of the moving current pole. Commonly this distance is at least 10 times the 'na' spacing from the nearest survey point on the grid.

A 2.5 kW transmitter-generator unit was employed for this survey.

The VLF-EM survey used a Ronka EM 16 unit which measures both the inphase and the quadrature components of the magnetic field of the radio waves transmitted by the VLF submarine communications stations.

The carrier wave from the NAA, station at Cutler, Maine, operating at an assigned frequency of 17.80 kHz, and 1000 kW output, was received for the measurements. Station interval along the lines was 50 feet.

The horizontal loop EM survey used a McPhar VH-EM unit operated in the coplanar horizontal loop mode with a reference cable. Two frequencies, 600 Hz and 2400 Hz, were used and the inphase and quadrature components of the secondary field were read as percentages of the primary field. For the regular survey a 300 foot reference cable was used, and the 100 foot cable for the detail work. Station interval was 100 feet, and 50 feet, respectively for the two coil separations.

3. DESCRIPTION OF THE INSTRUMENTATION

3.1 INDUCED POLARIZATION SYSTEM

The induced polarization system used is the time-domain system. The DC-pulse or time-domain approach to the induced polarization method comprises of passing direct current through the ground which builds up charges on the interfaces between metallic minerals and electrolytes. The current is switched off and the redistribution of these charges is measured as a voltage decay (referred to as "overvoltage" or I.P. effect) at the ground surface. Comparison of this secondary voltage (V_s) with the primary voltage (V_p) when the current is on provides a measure of the chargeability of the sub-surface.

The system consists of a generator set, a transmitter and receiver. The generator set, consisting of an engine driven alternator and voltage regulator, provides the primary power at 120V AC - 400 Hz to the transmitter. The transmitter contains the circuitry and front panel controls to step up and convert the primary AC voltage to a rectangular low frequency waveform, the amplitude of which can be selected by the operator for application to the ground. The transmitter also contains switching circuitry for the current. The current is applied to the ground for 2.0 seconds and it is switched off for 2.0 seconds. The polarity of current is reversed after each pulse.

The generator set and the transmitter are manufactured by Huntec Limited of Toronto, and are available as 2.5 or 7.5 kW units. The receiver is the Newmont designed N IV manufactured by Crone Geophysics Limited, Mississauga, Ontario. The receiver contains its own power supply and has an SP buckout, manual and automatic. After the primary voltage between the potential electrodes has been determined, the receiver automatically integrates the secondary voltage between 0.45 and 0.90 seconds (M) as well as between 0.90 - 1.35 seconds (N) after the termination of each primary current pulse for six consecutive pulses (3 complete cycles), compares the sum to the primary voltage measurement and displays a readout directly in milliseconds on a meter.

The applied current is measured on the transmitter and the apparent resistivity for the given electrode array calculated from the current (Ig) and primary voltage (V_p) and factor applicable to the electrode array employed.

In most environments the measurement of the chargeability can be repeated to an accuracy of 5 - 10% or better, depending on the power rating and ground resistivity.

3.2 TOTAL FIELD MAGNETOMETER

The proton precession, or nuclear precession, magnetometer measures the earth's magnetic fields' total intensity regardless of direction. For the measurement the magnetic spins of the hydrogen nuclei, protons, of the fluid in the sensory head are aligned in one direction by the polarizing current in the sensory coil. The polarizing current is terminated abruptly and the proton spin-axes deviate, precess, from the imposed alignment under the influence of the external, or earth's magnetic field. The precession frequency is directly proportional to the intensity of the external field. The precession frequency is measured and converted to gammas of field strength. The measurement is thus absolute, and no instrumental drift need to be accounted for. The diurnal variations in the earth's field have to be corrected for to bring all measurements to a common point in time and space.

The Barringer GM102 magnetometer is a proton precession instrument measuring the field to the nearest 10 gamma.

3.3 VLF EM

The VLF-EM system utilizes very low frequency radio waves in the range 15 - 25 kHz. It differs from the common electromagnetic systems used in geophysical exploration with frequencies from about 300 Hz to 5000 Hz in that the VLF frequencies are much higher and the transmitter is very far away. Although the method of measuring is that of a tilt angle system the transmitter is several wavelengths away and we have to consider wave propagation rather than quasi-stationary electromagnetic fields.

The combination of high frequencies and a far removed transmitter favours structural features and low conductivities.

The Ronka EM 16 measures both the inphase and quadrature components of the magnetic vector associated with the VLF transmissions. It is tuned to the transmitter frequency by means of a plug-in crystal-controlled tuning circuit.

3.4 HORIZONTAL LOOP EM SYSTEM

The horizontal loop EM system used in this survey forms part of the McPhar VHEM (Vertical - Horizontal EM) system. In the horizontal loop mode the transmitter and receiver coils are both held horizontal and coplanar. This instrument measures the inphase and quadrature components of the secondary magnetic field in the presence of a primary excitation at two frequencies, 600 Hz and 2400 Hz. The readout is in percentage of the primary field obtained by the use of a reference cable. Three coil separations are possible with the VHEM system by means of 100, 200, and 300 foot long cables. The longest cable provides the deepest penetration, but also measures over a larger volume of the sub-surface. The 100 foot cable is normally used to detail the near surface extent of conductors found with one of the longer cables. Both frequencies are normally used in order to improve the interpretability of the data.

4. DATA REDUCTION AND PRESENTATION OF THE RESULTS

The magnetic data is presented as isomagnetic contours of the total field intensity in gammas, with the reading at each station as shown. The scale is 1:2400.

The induced polarization and resistivity data is presented in the form of profiles, one set for each separation in the reconnaissance survey, while the detail work and corresponding reconnaissance work is shown in the form of pseudosections. The horizontal scale for the profiles is 1:2400, and the vertical scales 1 inch = 20 milliseconds for the chargeability and 1 inch = 2000 ohm-metres for the apparent resistivity. The pseudosections are presented at a scale of 1:4800.

The EM 16 values are shown as profiles of inphase and quadrature readings at a horizontal scale of 1:2400 and a vertical scale of 1 inch = 20%.

The horizontal loop EM results are also shown as profiles at a horizontal scale of 1:2400 and a vertical scale of 1 inch = 20%. Both frequencies are shown on the same plan. In addition the EM 16 data has been passed through a Fraser filter and the resulting profiles are shown on the horizontal loop EM plan to provide continuity for interpretation. The scales are the same for all EM data.

5. KNOWN GEOLOGY

Most of the area is underlain by Precambrian metavolcanics, with some acidic rocks mainly as dykes and small stocks. Serpentinized peridotites occur south of Moray Lake.

Sulphide mineralization, both massive and disseminated, has been found in several places on the property, as well as graphite. Although copper has been encountered in previous drill cores most sulphides have been barren pyrrhotite and pyrite. The copper in one drill hole in the northwest part was in disseminated form near a small massive pyrrhotite occurrence. Gold mineralization has also been reported from this property.

In conjunction with the geophysical survey a geological investigation was also conducted and will be reported on separately.

6. INTERPRETATION

6.1 GENERAL

The mineralization known and expected on the property surrounding Moray Lake was both disseminated and massive. South of Moray Lake the occurrence of serpentinized peridotite with minor nickel brought the possibility of a Texmont type mineral deposit, in particular since these peridotites are thought to be similar to those at Texmont. In order to test this possibility an induced polarization survey was carried out here. The mineralization here was expected to be disseminated. Asbestos has also been found associated with the ultramafic rock.

To the northwest of Moray Lake, approximately in the centre of the property, there is a small felsic intrusive, and dykes of the same material. Grab samples from this feature have assayed significant amounts of gold and silver. The area over the intrusive was covered with VLF-EM and induced polarization. The former method was employed to outline structural features and the IP to test for mineralization.

In the northwest and northeast horizontal loop EM was employed to locate conductors which were expected to correlate with known showings and previous work.

In addition the magnetic survey was carried out to correlate magnetic features with results from the EM and IP and aid in the interpretation of the geology.

The induced polarization technique is unique among geophysical methods in that it is able to detect both massive and disseminated sulphide mineralization. It does not depend entirely on the contrast in conductivity between the mineralized zone and the host rock, as the electromagnetic induction methods do. The induced polarization effect comes from the physical phenomenon of build-up of electrical charges at the interfaces between metallic sulphides and fluids in pore-spaces in the rock under the influence of a current applied to the ground. When this primary current is interrupted the accumulated charges dissipate and in the process set up secondary currents which can be measured.

The ratio between the secondary and primary currents is the chargeability measure. In the practical case the voltages are measured rather than the currents themselves, but the chargeability remains the same. Although initially the induced polarization method was devised to detect low grade dissemination of copper sulphides it has been found that some metallic oxides, such as magnetite, metals in the native state, and graphite also give IP effects. Due to the nature of crystal arrangement in a massive sulphide body this also gives a measurable chargeability. The amplitude and type of IP anomaly is dependent upon the average mineral content in a volume of rock as well as the size of the mineral grains. Very fine grain mineralization usually gives a higher chargeability value than a coarse grained deposit of the same average grade. Concentration of the mineralization within a small volume, such as occurs in a massively mineralized zone lowers the resistivity to an appreciable degree. The resistivity measurements are obtained at the same time as the chargeabilities (Section 3.1, above). Sulphide concentrations as low as one percent or less can be successfully mapped with IP provided that this mineral content occurs over a volume of rock which is comparable in size with the volume measured. The volume of the subsurface which is used for each reading depends upon the separation between the electrodes, and can therefore be adjusted to fit the exploration problem at hand.

6.2 MAGNETIC SURVEY

Previous magnetic surveys covering part of the present property were carried out on lines 400 feet apart. The large features stood out well, but the picture was not sufficient to aid in the interpretation of the geology. In the present survey the magnetic field was measured on lines which were spaced 200 feet apart and with a station spacing of 100 feet except in places of rapid change where intermediate readings also were obtained. In addition the southwest corner was also covered where no previous data existed.

It can be seen that there is a large difference in the magnetic intensities between the southwesterly part of the grid and the part to the north. In the former part the ultramafic rocks, serpentinized peridotites, are highly magnetic and provide large contrast to their surroundings.

Two main strike directions emerge, one east-northeast, and the other east-southeast. The remainder of the property shows relatively little contrast. There are occasional highs but they have a small aerial extent.

The difference, however, is not one of intensity alone, but also as far as geological strike directions are concerned, both the mapped and interpreted ones. In the southeast and immediately to the north at Moray Lake the strike direction appears to be east-southeasterly although locally confused by diabase dykes, particularly immediately east of Moray Lake. Further to the north and northwest the strike curves around in the shape of a U.

The aeromagnetic map (G291 Rev.) of the area has a magnetic low which may be interpreted as an intrusive of lower magnetic susceptibility than the area to the south. The flexure in the strike direction would then constitute the remains of a domed structure. This interpretation is borne out by reported volcanic flow tops pointing southeast on the easterly flank (Preliminary geological map ODM P810 Peterlong Lake Area) as well as observed strike directions obtained (top directions not seen) in the recent geological mapping by Mrs. M. L. Halladay, P. Eng., Barringer Research Limited, Senior Geologist.

Similarly, the apparent west-southwest strike in the extreme southwestern corner may be due to a doming around a granite intrusive to the south.

There are several faults interpreted on this property parallel to regional faults. The conflict between the east-southeasterly strike noted earlier and the U-shaped one to the north can be explained by assuming block faulting along the major structures, as well as some lateral displacements. An east-northeasterly fault would seem to fit the best in this respect.

The small localized magnetic highs on the north side are caused by a variety of different sources. Some coincide with pyrrhotite mineralization, others with acidic rocks, and yet others with ultramafic rocks. Two notable occurrences of magnetic acidic rocks can be mentioned. One is the most westerly magnetic high on Lines 38NW to 46NW, which is mapped as a quartz porphyry.

The other one is a small granitic stock centred on Line 8E at about 10N. While it is magnetically distinct in a north-south direction no such discrimination is possible to the east or the west where it blends in with other rock types, which, although of entirely different chemical composition, i.e. basic, nevertheless have similar magnetic susceptibilities. The porphyry stock is distinguishable by the resistivities obtained during the induced polarization survey.

Even though a characteristic magnetic susceptibility does not appear to be a property of any one rock type, some of the dacites approximate this condition as interpreted in the northeastern part of the grid.

The magnetic highs associated with the peridotites south of Moray Lake show a zoning or segregation within the rock. There are parts of this ultramafic rock, such as on the peninsula jutting into the west end of Moray Lake, where we have ultramafic in outcrop yet the magnetic signature is a relative low. A sample from a peridotite further south on Line 26E/28S is highly magnetic.

The scarcity of outcrop in the area makes it difficult to obtain sufficient data on the extent of the peridotite and thus the relative amount of zoning for comparison with the magnetics.

6.3 INDUCED POLARIZATION SURVEY

The central part of the grid, north of Moray Lake, where a small acid intrusive and appendant dykes had been found to carry values in gold and silver was covered by the induced polarization method. The resistivity values, particularly at n = 1 (Dwg. No. 5-344-4B) indicate the position of the stock. Over this rock type there is a very slight increase in chargeability values, persisting to depth and thus indicating the possibility of some mineralization. Except for the anomaly on Line 16E at 12N, the chargeability values appear to be background. If economical type mineralization, gold and/or silver were present, then there are no detectable amounts of associated sulphide mineralization. The situation at the aforementioned anomaly Line 16E/12N is different in that the chargeability is appreciably higher and increases with depth.

It coincides rather well with a mapped acidic dyke at station 11+50N.

To the south of the granite intrusive there is another IP anomaly occurring on Line 4E, station 2S at n = 1, near surface, but extends over three lines, 0, 4E, and 8E at n = 2, i.e. at greater depth. A pseudosection at Line 4E shows a polarizable body widening and improving in quality with depth. The magnetic survey shows that the host rock is unlikely to be acidic, but has features similar to metavolcanics further east on the north shore of Moray Lake where IP anomalies are also present and indicated by drilling to be due to massive sulphides, mostly barren, as well as graphite. The relationship, except for magnetics, is, however, not clear.

The induced polarization anomalies on Lines 34E to 44E on the north side of Moray Lake are very strong. They follow a stratigraphic trend bearing east-south-east. Drilling carried out by Noranda Explorations Limited encountered massive sulphides, and large amounts of graphite. Although drilling was carried out near Line 44E where the anomaly is somewhat weaker than on Line 40E, say, it is still considered that the source is the same all through on the evidence of the magnetics.

At the north end of Lines 60E and 64E there is a strong IP anomaly. No record of previous investigations in the vicinity have been seen. Magnetically this part of the grid is different from its surroundings, probably due to the influence of basic dykes. It is, however, worth noting that the part of the anomaly west of the dykes, i.e., on Line 60E is associated with relatively low resistivity, similar to the behaviour at the anomaly on Lines 34E to 44E north of Moray Lake.

On Line 68E an intense IP anomaly at station 20S appears to be related to an occurrence of massive sulphides, mainly pyrite, which was drilled by Noranda. A continuation of this anomaly can be followed to Line 56E.

The induced polarization anomalies on Lines 60E and 68E have also been investigated in detail and the pseudosections are shown (See Dwg. No. 5-344-6). The sources have the characteristics of vertical or near vertical sheet like bodies of polarizable material, in this case sulphides and/or graphite. On Line 68E/ 20S the strong anomaly appears to be the one drilled by Noranda, although their drill location has not been confirmed conclusively.

The anomaly on Line 60E/16S is similar to the previous one and is a logical extension to it although weaker. Further north on Line 60S at station 4S there is another similar anomaly which was noted above.

Further south and west there are several strong chargeability anomalies which coincide well with the magnetic highs interpreted as being due to segregation within the peridotites. The intensities of the chargeabilities vary a great deal as does the form of the anomalies. The coincidence of magnetic and IP anomalies suggest that the sources are closely related if not the same. No known drilling has been carried out on the peridotites here.

Pyke, D. R., (1973: Peterlong Lake Area, Districts of Timiskaming and Sudbury; Ontario Div. Mines, Prelim. Map P. 810, Geological Series, scale 1 inch to 1 mile. Geology 1972) described the sulphide minerals at the Texmont Mine as consisting of pyrite, pyrrhotite, pentlandite, and minor millerite, which occur as fine dissemination or as blebs up to half an inch in maximum dimension. The deposit occurs as lenses that are near, but not at the base of a body of serpentinized peridotite. Spinifex texture is locally developed near the base of the peridotite and close to the ore zones.

The presence of pyrrhotite and pentlandite would contribute to the magnetic intensity and all the minerals in a disseminated form would be highly chargeable.

In view of the possible similarity between the Texmont deposit as described and the geophysical expression obtained over the peridotites at Moray Lake it is recommended that further investigation be undertaken, preferably by drilling.

6.4 VLF - EM 16 SURVEY

The EM 16 survey was carried out on a small part of the grid north of Moray Lake, the area where the porphyry stock is located as well as at least one acidic dyke. The aim was to locate weak conductors associated with the intrusion.

A number of conductors were indeed located but only short ones except south of the main baseline on Lines 00, 4E, and 8E, where longer conductors coincide with the induced polarization anomalies.

In order to better observe the EM 16 anomalies the inphase data was treated with a Fraser filter (D. C. Fraser: Contouring of VLF - EM Data, Geophysics Vol. 34, No. 6, December 1969, pp 958-967).

The filtered data in profile form has been shown on Dwg. No. 5-344-8B together with the horizontal loop profiles. The positive peaks represent the conductors. An evaluation of these conductors has been made by observing the quadrature response. A poor conductor is one which usually accompanies a wet shear or a lithologic contact which is unmineralized.

6.5 HORIZONTAL LOOP ELECTROMAGNETIC SURVEY

The horizontal loop survey was carried out with two frequencies. The lower frequency is less sensitive to poor conductors than the higher one. Overburden effects are thus distinguishable. In each of the northwest and northeast grids there is one good conductor, but both are confined essentially to one line and appear to have been investigated by surface workings and the northwest one also by drilling. Barren sulphides were found to be the cause. Voyager found a very weak vertical loop conductor continuing north and south from the anomaly on the northwest grid. Along the south extension a drill hole intersected disseminated copper mineralization at a shallow depth but this was apparently not followed up. A detail survey with a 100 foot reference cable was done adjacent to the good conductor to outline an extension. These results are shown in inset of Dwg. No. 5-344-8B.

The conductor on the northeast grid was not investigated further.

Apart from some weak anomalies equally discontinuous, the horizontal loop EM only shows noise and overburden. The trend of the noise appears to reflect geologic strike in the same direction as the magnetic interpretation but no particular significance is attached to this.

7. CONCLUSIONS AND RECOMMENDATIONS

The comprehensive magnetic survey brought out a wealth of detail. From the discontinuity in magnetic susceptibility and hence magnetic intensity it can be expected that the rock units may be equally discontinuous.

On the basis of the magnetics the property has been divided into two blocks separated by an east-northeast fault. To the north the structure takes on a U-shape around an intrusive which has been inferred from aeromagnetics. The magnetics on the south block is dominated by magnetic segregations or zoning in serpentinized peridotites.

Several faults have been interpreted from the magnetics.

The induced polarization survey focused the attention on three different groups of responses. One is a set of conductors with massive or near massive pyrite-pyrrhotite mineralization often with graphite located in a belt trending east-southeast through Moray Lake. These have been tested by drilling by Noranda Exploration Limited at least in part. No further recommendation is made at present, but if new evidence would be forthcoming this would be subject to change. The second group consists essentially of a single IP anomaly Line 16E/12N, where the chargeability is not very high but interesting in view of a reported sample assaying gold and silver. Without accessory sulphides these metals by themselves would not produce an important IP response. Therefore, if this anomaly proves to be interesting it is recommended that the investigation be continued to the west into the felsic intrusive where a very slight increase in chargeability was noted.

The third group of induced polarization responses was obtained over the peridotites in the southwest. These anomalies coincide well with the magnetic responses except at a few points where the magnetic response is slightly lower and yet the IP is high. On the other hand the IP responses are only moderately good, and even poor over other magnetic highs along the interpreted peridotites. It must, however be stressed that because of scarcity of outcropping peridotite much of its extent is inferred from the magnetics.

From the magnetics it was interpreted that the peridotites would be zoned with a concentration of magnetic minerals, magnetite or magnetic sulphides, in relatively confined lenses. While magnetite as the dominant mineral would give high magnetic intensities in small amounts, the IP response would be relatively moderate. Magnetic sulphides on the other hand are of lower magnetic susceptibility than magnetite, so larger concentrations would be needed to produce the same magnetic intensity, and furthermore their IP responses would be higher. Low magnetic intensity with moderate IP, or chargeability, could mean the absence of magnetite and lower concentration of pyrrhotite. In addition, the serpentinization process also produces a chargeable body, the response of which is variable.

In as much as there appears to be a possibility that the combination of high magnetic intensity and high chargeability response might indicate sufficient nickel sulphides to make such a zone economically interesting it is recommended that the IP anomalies over the peridotites be tested by drilling.

The EM 16 survey did indicate some conductors, the most interesting ones coinciding with induced polarization anomalies.

The horizontal loop EM survey showed two good conductors and some weak ones, but all short. The good anomalies both appear to have been tested by surface excavation and one by drilling. Barren sulphides occurred in both. The reported copper mineralization on the northwest grid does not have an EM response of such nature that it could be interpreted. On the basis of the geophysical results to date no drilling can be recommended. On the other hand the known copper mineralization cannot be ignored. The disseminated nature would necessitate investigation by the induced polarization technique, and this is recommended.

The following drill holes of approximately equal priority are recommended:

1. Collar at Line 16E/10 + 50N, bearing grid north, -45°, length 250 feet.
2. Collar at Line 16E/28S, bearing grid south, -45°, length 400 feet.
3. Collar at Line 36E/22S, bearing grid north, -45°, length 350 feet.

If holes 2 and 3 prove interesting, the following holes may also be desirable:

4. Collar at Line 16E/33S, bearing grid south, -45°, length 300 feet.
5. Collar at Line 28E/28S, bearing grid south, -45°, length 400 feet.

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Senior Geophysicist.

REGISTERED PROFESSIONAL ENGINEER
Roger J. Cavén
PROVINCE OF ONTARIO

900

GEOPHYSICAL – GEOLO
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey: Electromagnetic

Township or Area: Zavitz and Hincks

Claim holder(s): Pan Ore Gold Mines Ltd.

Author of Report: Roger Caven

Address: 304 Carlingview Drive, Rexdale, Ont.

Covering Dates of Survey: July 1 - July 8, 1973 (linecutting to office)

Total Miles of Line cut: 38.75

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	20
--Magnetometer	
--Radiometric	
--Other	
Geological	
Geochemical	

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

Magnetometer _____ Electromagnetic _____ Radiometric _____ (enter days per claim)

DATE: Sept. 5, 1973 SIGNATURE: Roger Caven (Author of Report)

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)	
L	353158	1/3 not covered
L	353161	1/3
L	353162	
L	353163	1/3
L	353164	1/3
L	353165	1/4
L	353166	1/2
L	353167	1/3
L	354534	
L	354535	
L	354536	
L	354537	
L	354538	
L	354539	1/4

If space insufficient, attach list

Area of claims not covered = 2 3/3

14 X 20 = 280 ÷ (14 + 2) = 17.5 days per claim

TOTAL CLAIMS: 14

OFFICE USE ONLY

PROJECTS SECTION

Res. Geol. _____ Qualifications _____

Previous Surveys _____

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 459 Number of Readings _____

Station interval 100 foot

Line spacing 400 foot

Profile scale or Contour intervals 1" = 20%
(specify for each type of survey)

MAGNETIC

Instrument _____

Accuracy - Scale constant _____

Diurnal correction method _____

Base station location _____

_____

ELECTROMAGNETIC

Instrument McPhar VH EM

Coil configuration Horizontal Coplaner

Coil separation 300' & 100'

Accuracy ± 2%

Method: ☐ Fixed transmitter ☐ Shoot back ☒ In line ☐ Parallel line

Frequency 2400 Hz & 600 Hz
(specify V.L.F. station)

Parameters measured In-phase and quadrature phase

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION – RESISTIVITY

Instrument _____

Time domain _____ Frequency domain _____

Frequency _____ Range _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

File 2.1290

RECEIVED

SEP 10 1973

PROJECTS SECTION

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey EM 16

Township or Area Zavitz and Hincks

Claim holder(s) Pan Ore Gold Mines Ltd.

Author of Report Roger Caven

Address 304 Carlingview Drive, Rexdale, Ont.

Covering Dates of Survey June 19 - 20, 1973 (linecutting to office)

Total Miles of Line cut 38.75

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic 20
--Magnetometer
--Radiometric
--Other
Geological
Geochemical

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

Magnetometer ____ Electromagnetic ____ Radiometric ____ (enter days per claim)

DATE: Sept. 5, 1973 SIGNATURE: Roger Caven Author of Report

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

L 353159 3/4 not covered

L 353160 1/2

L 353161 3/4

L 353158

353162
353165
353166
353167

Cveled claims (4) not covered / No Credits

Area of claims not covered = 1 3/4

4 X 20 = 80 ÷ (4 + 1 3/4) = 15.2 days per claim

TOTAL CLAIMS 4

If space insufficient, attach list

OFFICE USE ONLY

PROJECTS SECTION

Res. Geol. L.D. Qualifications

Previous Surveys

Checked by date

GEOLOGICAL BRANCH

Approved by date

GEOLOGICAL BRANCH

Approved by date

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 239 Number of Readings 239

Station interval 50 foot

Line spacing 400 foot

Profile scale or ~~Contour intervals~~ 1" = 20% (specify for each type of survey)

MAGNETIC

Instrument

Accuracy - Scale constant

Diurnal correction method

Base station location

ELECTROMAGNETIC

Instrument Ronka EM 16

Coil configuration

Coil separation

Accuracy ± 1%

Method: ☒ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency VLF Tx NAA, Cutler, Maine, 17.8 kHz (specify V.L.F. station)

Parameters measured In-phase and quadrature phase

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION – RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

Type of electrode

File 2.1290

RECEIVED
SEP 10 1973
PROJECTS SECTION

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey: Magnetic

Township or Area: Zavitz and Hincks

Claim holder(s): Pan Ore Gold Mines Ltd.

Author of Report: Roger Caven

Address: 304 Carlingview Drive, Rexdale, Ont.

Covering Dates of Survey: June 6 - June 30, 1973 (linecutting to office)

Total Miles of Line cut: 38.75

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	
--Magnetometer	40
--Radiometric	
--Other	except (X) marked
Geological	claims/20 days each
Geochemical	

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

Magnetometer ______ Electromagnetic ______ Radiometric ______ (enter days per claim)

DATE: Sept. 5, 1973 SIGNATURE: Roger Caven
Author of Report

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)	
L	344897	1/4 not covered
L	353130	
	~~353131~~	
L	353132	1/4
L	353158	1/3
L X	353159	1/4
L	353160	
L	353161	
L	353162	
L	353163	1/4
L	353164	
L	353165	
L	353166	1/4
L	353167	1/2
L X	353169	1/3
L X	353170	1/4
L	353171	
L	354534	
L	354535	
L	354536	
L	354537	
L	354538	
L	354539	
L	354621	

TOTAL CLAIMS 23

If space insufficient, attach list

Crossed claims not covered / No Credits
Area of Claims not covered = 2 2/3
23 X 40 = 920 ÷ (23 + 2) = 36.8 days per claim.

OFFICE USE ONLY

PROJECTS SECTION

Res. Geol. ______ Qualifications 2.1049

Previous Surveys 63.3073 not for assessment credits

Checked by ______ date ______

GEOLOGICAL BRANCH ______

Approved by ______ date ______

GEOLOGICAL BRANCH ______

Approved by ______ date ______

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 2346 Number of Readings 2346

Station interval 100 feet (detail at 50 feet)

Line spacing 200 feet

Profile scale or Contour intervals 50 gamma

(specify for each type of survey)

MAGNETIC

Instrument Barringer GM 102 Proton Magnetometer

Accuracy - Scale constant ± 10 gamma

Diurnal correction method Base Station Looping

Base station location Line 00 (Junction of Base Lines 1, 2 and 3)

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 -- RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

Type of electrode

W.553

HINCKS Twp.

Cleaver Twp.

McNeil Twp.

Zavitz Twp.

Argyle Twp.

Montrose Twp.

Nighthawk R.

Hincks L.

McWilliams L.

Esker Cr.

Austen L.

Dakis L.

Little Esker L.

Whitefish R.

353173 353174 353175 353131 353132 353130 344897

373965 373966 374218 374219 374217 373483 373309 373310 374019 264436 374018 373484 373302 373485 373308 373307 373306

RF. L.R. 104

REG. PLAN M-234

1M 2M 3M 4M 5M 6M

90M 91M 92M 93M 94M 95M

THE TOWNSHIP OF HINCKS

DISTRICT OF TIMISKAMING

LARDER LAKE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	P
CROWN LAND SALE	C.S.
LEASES	L
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

NOTES

400' Surface rights reservation around all lakes and rivers.

MINING LANDS
DATE OF ISSUE
SEP 10 1973
MINISTRY OF NATURAL RESOURCES

2.1290

PLAN NO - M.223

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

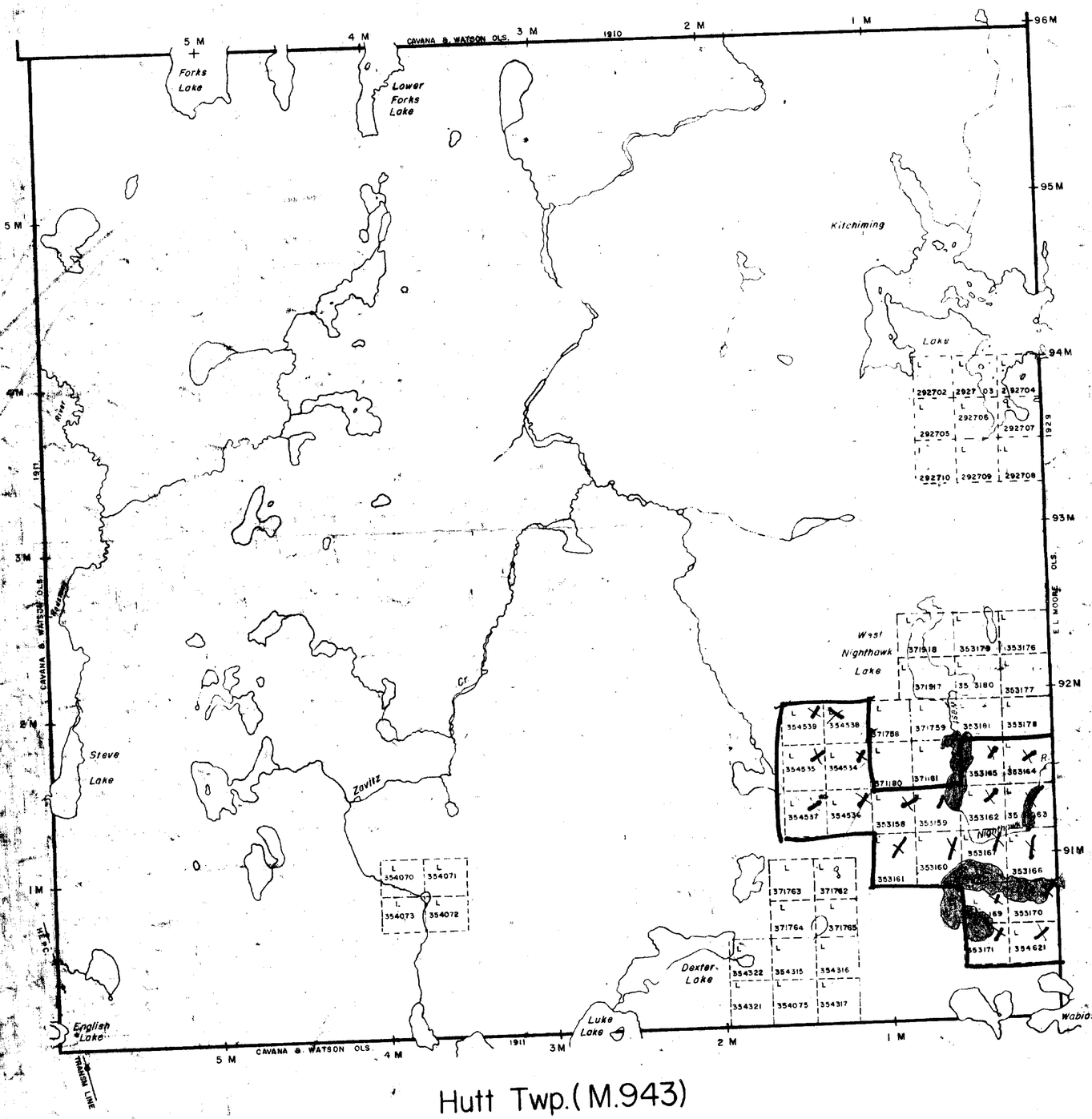
W.553

42A03SE0113 2.1290 HINCKS

200

TRIM LINE

Geikie Twp.(M.320)



THE TOWNSHIP
OF

ZAVITZ

DISTRICT OF
SUDBURY

LARDER LAKE
MINING DIVISION

SCALE: 1 INCH 40 CHAINS

LEGEND

PATENTED LAND
CROWN LAND SALE
LEASES
LOCATED LAND
LICENSE OF OCCUPATION
MINING RIGHTS ONLY
SURFACE RIGHTS ONLY
ROADS
IMPROVED ROADS
KING'S HIGHWAYS
RAILWAYS
POWER LINES
MARSH OR MUSKEG
MINES
CANCELLED

NOTES

400' SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS.

MINING LANDS
DATE OF ISSUE
SEP 10 1973
MINISTRY
OF NATURAL RESOURCES

PLAN NO. M. 1189

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

2.1290

TRIM LINE

ZAVITZ TOWNSHIP

HINCKS TOWNSHIP

West Nighthawk Lake

Austen Lake

L. 354539 | L. 354358

L. 354535 | L. 354534

L. 354537 | L. 354536 | L. 353158 | L. 353159 | L. 353162 | L. 353163 | L. 353165 | L. 353164

L. 353161 | L. 353160 | L. 353167 | L. 353166 | L. 353131 | L. 353132

L. 353169 | L. 353170 | L. 353130 | L. 344897

L. 353171 | 354621

Moray Lake

Dexter Lake

Wabiasin Lake

HUTT TOWNSHIP

MONTROSE TOWNSHIP

Upper Redwing Lake

Scale 1" = 1/2 mile

from ODMNA maps:
M1189, M223, M943 & M237

NTS ref: 41P/14 & 15
42A/2 & 3

N

A

ONTARIO

QUEBEC

James Bay

50°

LOCATION

TIMMINS

KIRKLAND LAKE

MATACHEWAN

GOGAMA

NEW LISKEARD

SAULT STE. MARIE

SUDBURY

NORTH BAY

OTTAWA

45°

Lake Superior

Lake Huron

Georgian Bay

Lake Michigan

USA

TORONTO

Lake Ontario

St Lawerence River

Lake Erie

85°

80°

75°

Scale 1" = 100 miles

REGISTERED PROFESSIONAL ENGINEER
Roger J. Cavén
PROVINCE OF ONTARIO

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

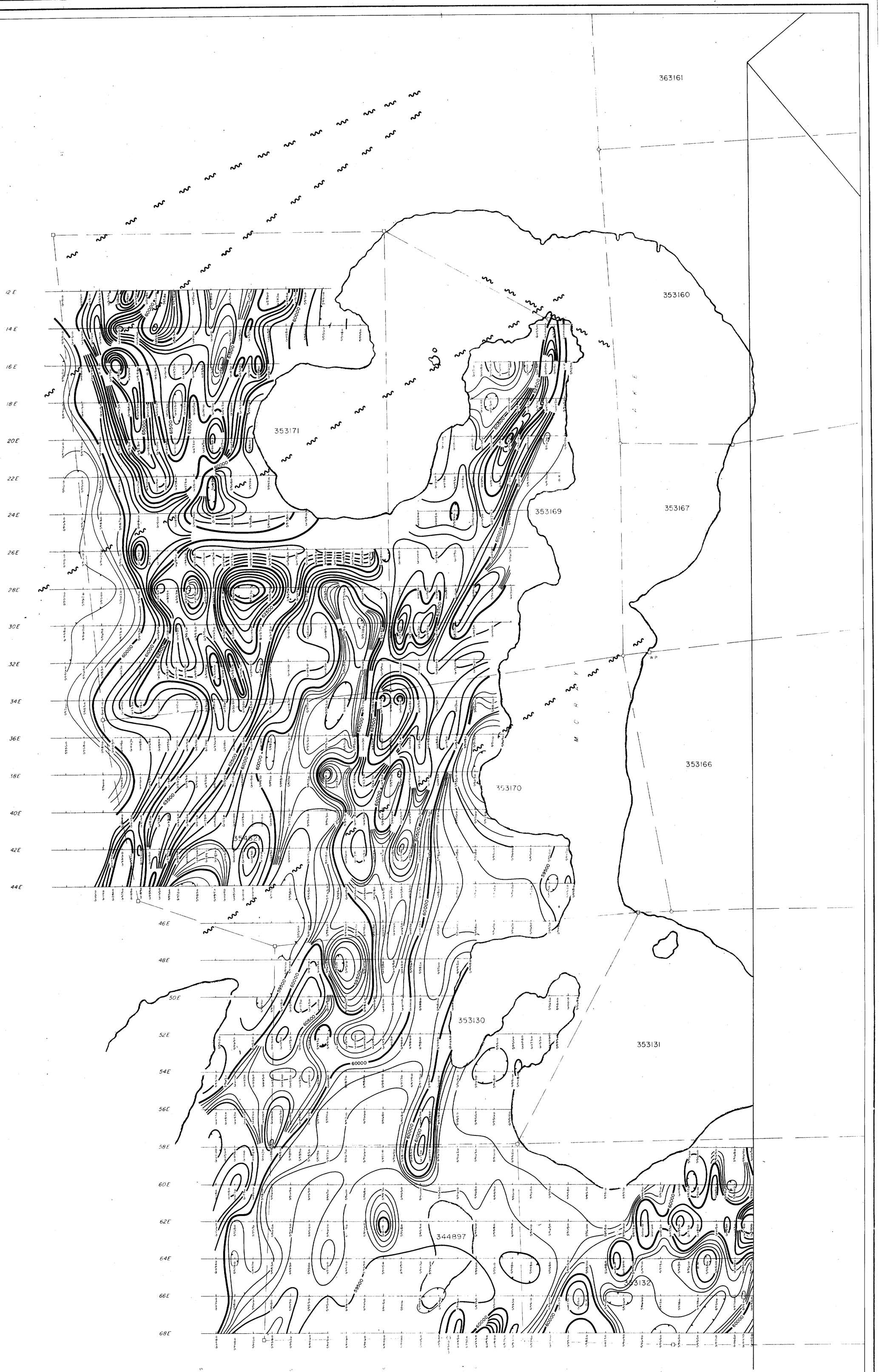
PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

LOCALITY PLAN

JULY 1973 | DWG. 344-1

42A03SE0113 2.1290 HINCKS



NTS ref 42A/3E

2.1290

LEGEND

Contour interval — 50 gammas

- 2500 gamma contour
- 500 gamma contour
- 100 gamma contour
- 50 gamma contour
- Depression
- Claim post-located, unlocated
- Fault

INDEX

A B

Registered Professional Engineer — Province of Ontario — Roger J. Cavén

Work undertaken by

HARRINGER RESEARCH LTD., Toronto, Canada

PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

TOTAL INTENSITY MAGNETICS

JULY 1973 | Scale 1" = 200' | DWG 5-344-3A

42A03SE0113 2.1290 HINCKS

230

PAN-ORE GOLD MINES LIMITED

REGISTERED PROFESSIONAL ENGINEER

INDEX

LEGEND

Contour interval — 50 gammas
2500 gamma contour
500 gamma contour
100 gamma contour
50 gamma contour
Depression
Claim post - located, unlocated
Fault

1240

NTS ref 42A/3E

Base Line 3

Base Line 1

MORAY LAKE

353170 353166 353163 353164 353165 353162 353167 353160 353159 353161 353158 354534 354539 354537

44E 42E 40E 38E 36E 34E 32E 30E 28E 26E 24E 22E 20E 18E 16E 14E 12E 10E 8E 6E 4E 2E 00

44NE 42NE 40NE 38NE 36NE 34NE 32NE 30NE 28NE 26NE 24NE 22NE 20NE 18E 16E 14E 12E 10E 8E 6E 4E 2E 00

50 NW 48 NW 46 NW 44 NW 42 NW 40 NW 38 NW 36 NW 34 NW 32 NW 30 NW 28 NW 26 NW 24 NW 22 NW 20 NW 18 NW 16 NW 14 NW 12 NW 10 NW 8 NW 6 NW 4 NW 2 NW 00

Base Line 2

NTS ref. 42 A/3E 2 1290

LEGEND

Chargeability profile scale 1" = 20 milliseconds

Resistivity profile scale 1" = 2000 ohm-meters

□ ○ Claim post - located, unlocated

I.P. anomaly - excellent

I.P. anomaly - good

C ∞ C na P a P

plotting point

Electrode Configuration

INDEX

A B

250

REGISTERED PROFESSIONAL ENGINEER — R. J. Cavén — PROVINCE OF ONTARIO

Roger J. Caven

Work undertaken by: BARRINGER RESEARCH LTD, Toronto, Canada

PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

INDUCED POLARIZATION & RESISTIVITY PROFILES

n=1 POLE-DIPOLE ARRAY a=200'

JULY 1973 | Scale: 1" = 200' | DWG.5-344-4A

NTS ref 42A/3E   2.1290

LEGEND

- Chargeability profile scale 1" = 20 milliseconds
- Resistivity profile scale 1" = 2000 ohm meters
- Claim post – located, unlocated
- I.P. anomaly – good
- I.P. anomaly – excellent

C ∞ C na P a P — plotting point

Electrode Configuration

A — N

INDEX

A B

42A03SE0113 2.1290 HINCKS

260

REGISTERED PROFESSIONAL ENGINEER — Roger J. Cavén — PROVINCE OF ONTARIO

Work undertaken by: Roger J. Cavén

BARRINGER RESEARCH LTD, Toronto, Canada

PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

INDUCED POLARIZATION & RESISTIVITY PROFILES

n=1 POLE-DIPOLE ARRAY a=200'

JULY 1973	Scale: 1" = 200'	DWG. 5-344-4B

2.1290

363161

353160

353171

353169

353167

353166

353170

354621

353130

353131

344897

353132

L A K E M O R R A Y

W.P.

BASE LINE No.1 (bearing 90°T)

12E 14E 12 E 14 E 16 E 18 E 20E 22E 24E 26E 28E 30E 32E 34E 36E 38E 40E 42E 44E 46E 48E 50E 52E 54E 56E 58E 60E 62E 64E 66E 68E

30 S 25 S 20 S 15 S 10 S 5 S

20,700 27,400

NTS ref 42A/3E

2.1290

Electrode Configuration

C ∞ C na P a P plotting point

N

LEGEND

Chargeability profile scale 1"= 20 milliseconds

Resistivity profile scale 1"= 2000 ohm-meters

Claim post – located, unlocated

I.P. anomaly - excellent

I.P. anomaly - good

INDEX

A B

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Roger J. Cavén REGISTERED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO

PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

INDUCED POLARIZATION & RESISTIVITY PROFILES

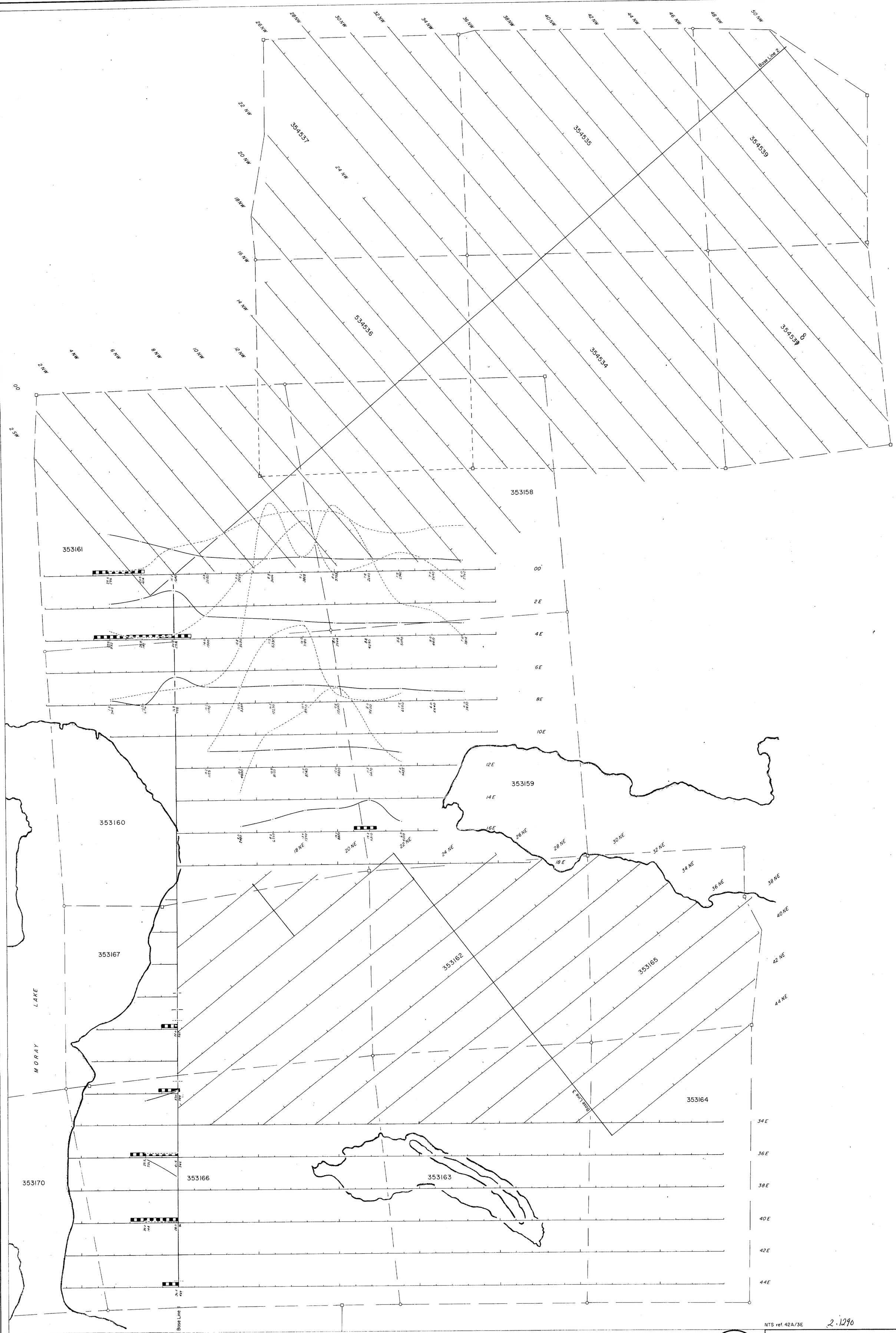
n=2 POLE-DIPOLE ARRAY a=200'

JULY 1973 | Scale: 1" = 200' | DWG. 5-344-5A

42A03SE0113 2.1290 HINCKS

270

2.1290



Electrode Configuration

C P a P
C na
plotting point

LEGEND

- Chargeability profile scale 1" = 20 milliseconds
- Resistivity profile scale 1" = 2000 ohm-meters
- Claim post – located, unlocated
- I.P. anomaly – excellent
- I.P. anomaly – good

INDEX

B
A

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada

REGISTERED PROFESSIONAL ENGINEER
Roger J. Caron
PROVINCE OF ONTARIO

PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

INDUCED POLARIZATION & RESISTIVITY PROFILES

n=2 POLE-DIPOLE ARRAY a=200'

JULY 1973 | Scale: 1" = 200' | DWG. 5-344-5B

2,1290

42A03SE0113 2.1290 HINCKS

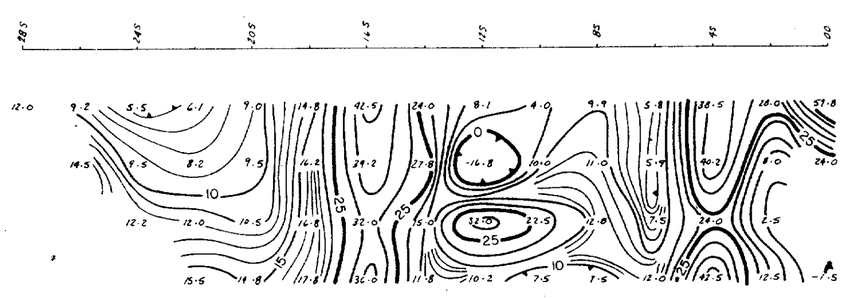
CHARGEABILITY

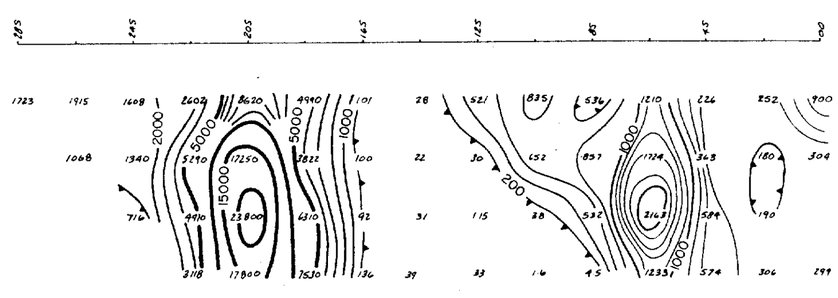
MILLISECONDS

APPARENT RESISTIVITY

OHM-METERS

LINE 60E





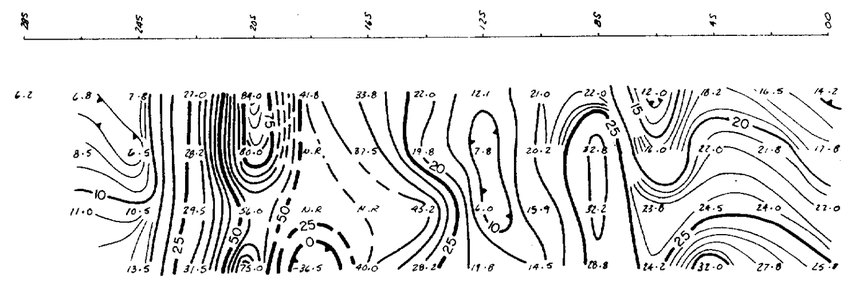
n=1

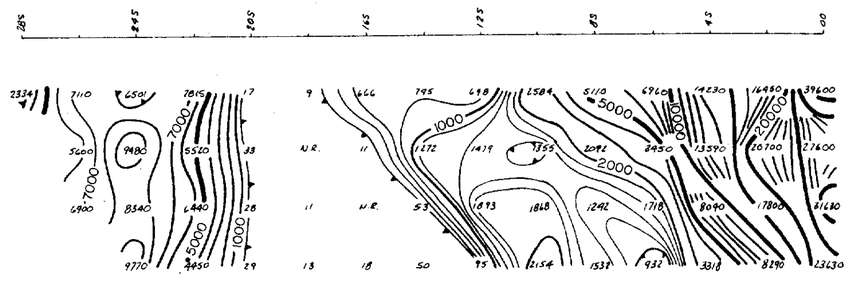
n=2

n=3

n=4

LINE 68E





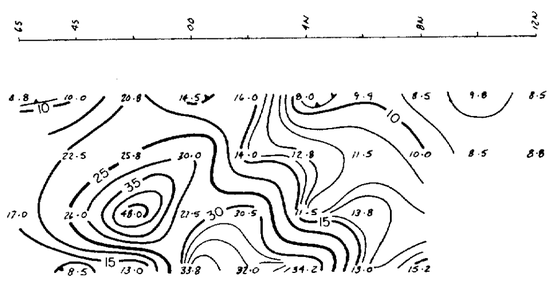
n=1

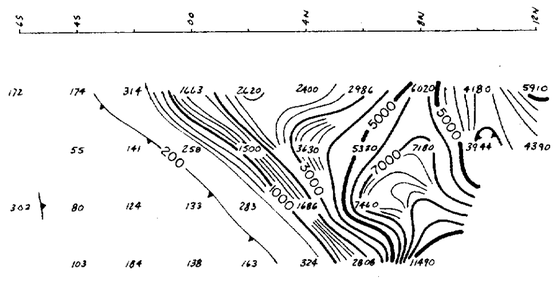
n=2

n=3

n=4

LINE 4E





n=1

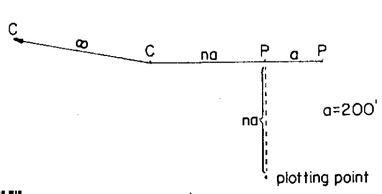
n=2

n=3

n=4

Contour interval — 1 millisecond
25 millisecond contour
5 millisecond contour
1 millisecond contour
Depression

Contour interval–200 ohm-meters
5000 ohm-meter contour
1000 ohm meter contour
200 ohm meter contour
Depression



CONFIGURATION

Work undertaken by
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REGISTERED PROFESSIONAL ENGINEER
Roger J. Cavén
PROVINCE OF ONTARIO

PAN-ORE GOLD MINES LIMITED

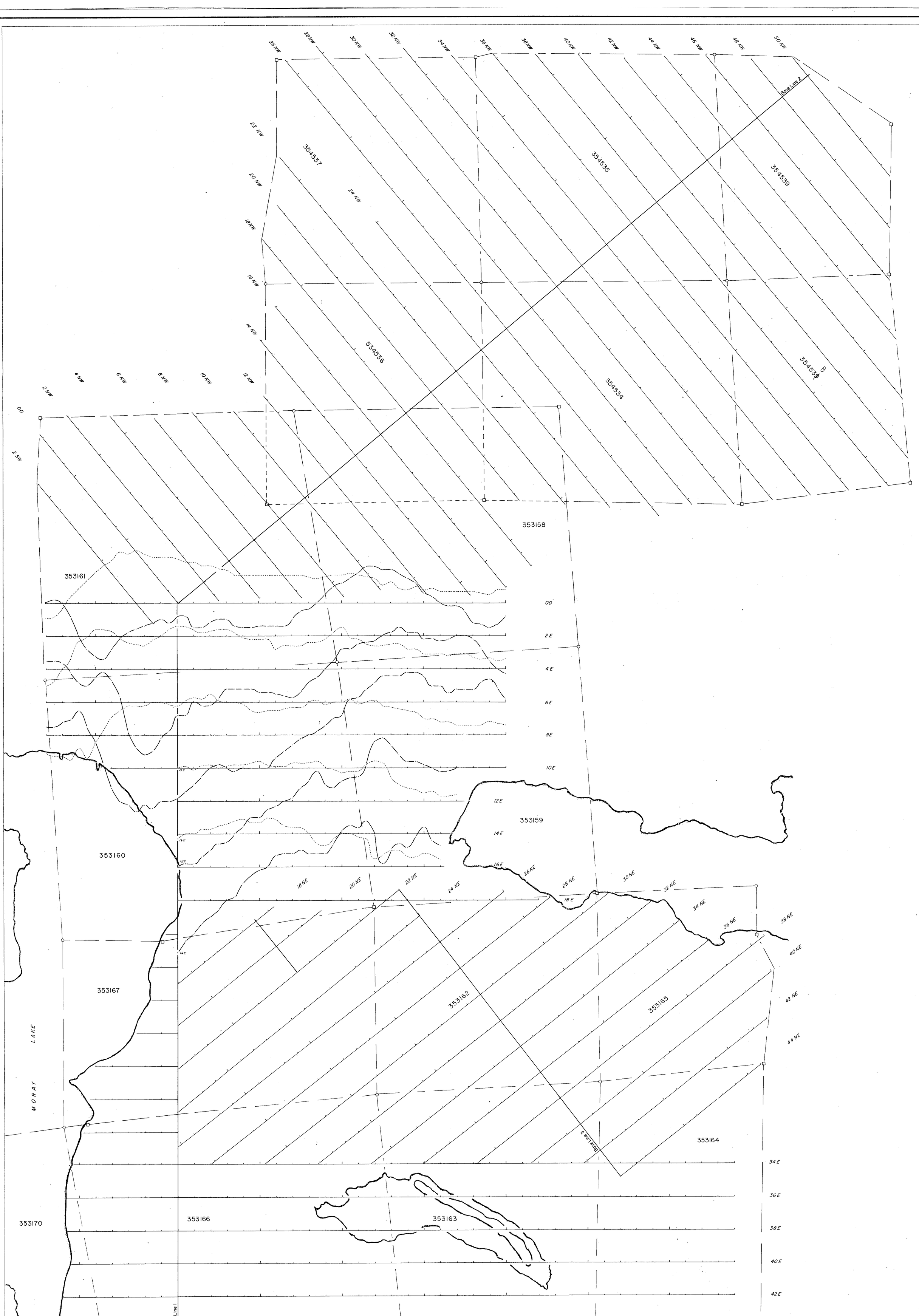
ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

INDUCED POLARIZATION & RESISTIVITY SURVEY
POLE-DIPOLE ARRAY

JULY 1973	Scale 1"= 400'	DWG. 5-344-6

2.1290

2.1290



LEGEND

In-phase profile scale 1"= 20%

Quadrature profile scale 1"=20%

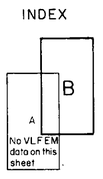
Plotting configuration

Claim post-located, unlocated

Transmitter: NAA, 17.8kHz; Cutler, Maine; bearing 109°30'

Readings taken with operator facing north

INDEX



109°30'

42A03SE0113 2.1298 HINCKS

300

Work undertaken by:

BARRINGER RESEARCH LTD, Toronto, Canada

REGISTERED PROFESSIONAL ENGINEER
Roger J. Cavés
PROVINCE OF ONTARIO

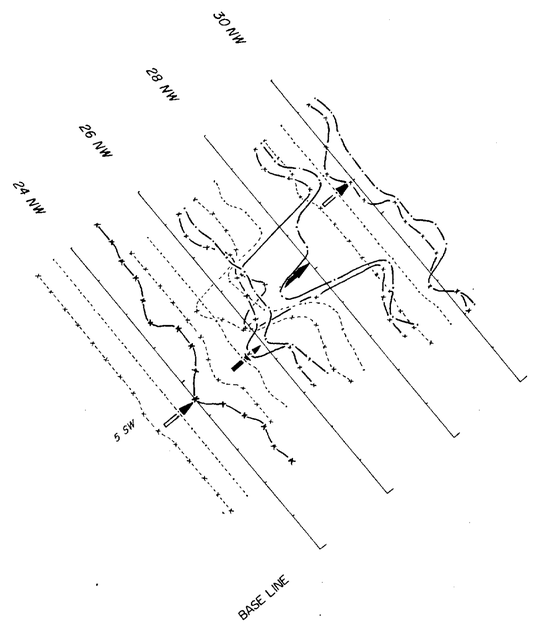
2.1290

PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

VLF ELECTROMAGNETIC SURVEY

JULY 1973 | Scale: 1" = 200' | DWG.5-344-7B



DETAIL EM-100'COIL SEPARATION

NTS ref 42A/3E

2.1290

LEGEND

EM conductor — good, weak, poor

Conductor axis

IN-PHASE QUADRATURE

600 Hz profile scale 1"=20%
2400 Hz profile scale 1"=20%
} 300' Coil separation

Plotting configuration (Plotting point at midpoint of coil separation)

VLF filtered In-Phase profile Scale 1"=20%

Claim post — located, unlocated

INDEX

Work undertaken by:
BARRINGER RESEARCH LTD., Toronto, Canada

REGISTERED PROFESSIONAL ENGINEER
Roger J. Cavén
PROVINCE OF ONTARIO

PAN-ORE GOLD MINES LIMITED

ZAVITZ & HINCKS TOWNSHIPS, ONTARIO

HORIZONTAL LOOP EM SURVEY

FREQUENCY 600 & 2400 Hz, COIL SEPARATION 300 & 100'

JULY 1973 | Scale : 1" = 200' | DWG.5-344-8B

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