N.T.S.:- 32 D/4

Latitude: 49 10'

Longitude:80 00'

SUPPLEMENTAL
REPORT ON A TEST INDUCED POLARIZATION
ON THE NETTIE LAKE PROPERTY
KIRKLAND LAKE AREA, ONTARIO

F.J. SHARPLEY

MARCH 1992

TABLE 0

Property Name:

Location, Access and Mining Division:

Claims:

Agreements:

Regional and Local Geology:

Work Performed:

Exploration Targets:

Recommended Work Project:

References and Selected Bibliography:

Instrument Specifications:

MAPS (Addendum)

Location Map: 1 : 3,000,000

Property Map: 1"= 1/2 mile

Topographic Map: 1 : 50,000

Geology Map:

Grid Map: 1"= 1/4 mile

Outcrop Map: 1"= 1/4 mile

MAPS (in pocket)

Compilation Map: 1"= 400 feet

N.T.S.:- 32 D/4

Latitude: 49 10′

Longitude:80 00′

REPORT ON A TEST INDUCED POLARIZATION ON THE NETTIE LAKE PROPERTY KIRKLAND LAKE AREA, ONTARIO

JVX LTD.

MAY 1990

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MEDICI RESOURCES LIMITED

Property Name: Kirkland Lake Airport

Location, Access, and Mining Division:

The property is located 5 miles northeast of Kirkland Lake, Ontario in the west central part of Morrisette Township, in the Larder Lake Mining Division of Ontario.

The property is accessible via the paved airport road. A truck road gives access to the central part of the property via Nettie Lake or Joyce Lake.

Claims: 62 contiguous non-patented claims

L-982706
L-1014963 to L-1014964
L-1015711 to L-1015720 inclusive
L-1015955 to L-1015956
L-1016304 to L-1016319 inclusive
L-1047138 to L-1044740 inclusive
L-1047143 to L-1044747 inclusive
L-1048504 to L-1048505
L-1110517 to L-1110532 inclusive
L-1136998 to L-1137000 inclusive
L-1137076 to L-1137077

Agreements: Soocana Explorations Limited has earned a 7.9% interest in the claims by spending $200,000. This interest is carried to an expenditure of $1.2 million.

Regional and Local Geology:

The property is situated along a northwest splay fault off the northern flank of the Kirkland Lake-Larder Lake Fault Zone. This fault named the Morrisette Creek fault marks the southwest boundary between the Blake River felsic volcanic basin and the Kinojevis Group of basaltic volcanic rocks and the Kewagama Group of sedimentary rocks. Quartz-feldspar porphyry dikes occur within the basalts.

Work Performed:

Work carried out in 1988 consisted of a line cut-grid at 200 foot intervals over 41 claims. The surveys carried out on this grid consisted of 62 line miles of magnetometer survey on the 200 foot lines. Geoprobe surveyed 35 line miles of Maxi-probe EM survey on 400 foot lines. A total of 947 gold, copper and arsenic in humus samples were analysed. A total of 61 rock samples were analysed for gold, copper and arsenic. A total of 62 line miles of geology was mapped on the 400 foot lines.

Teck in 1990 carried out 8 km of IP in three profiles on lines 16E, 48E and 64E.

Gold Fields Canadan Mining Ltd collected 85 humus samples and 19 rock samples on lines 36E, 40E, 44E, 48E, 52E and 56E in 1990 that were analysed using the neutron activation method.

Exploration Targets:

The targets for gold exploration are as follows:

(1) The Morrisette Creek Fault is a zone of pyritization, shearing, brecciation, carbonatization, silicification between felsic and mafic volcanics and arkosic sediments. Two Geoprobe EM anomalies within this shear zone have strike lengths of 2000 feet and 3000 feet that warrant diamond drilling.

(2) The Black River Fault has an adjacent gold in humus anomaly ranging from 100 to 480 ppb Au over a strike length of 1500 feet with associated Geoprobe EM anomalies that warrants drilling.

(3) The Quartz-Feldspar Porphyry Dikes have associated pyritization and quartz veining with gold in humus anomalies varying fromm 100 to 298 ppb Au that warrant diamond drilling.

Recommended Work Project:

A program of 1,500 feet of diamond drilling in three hole is recommended to test the the zones of mineralization, alteration and zones of anomalous geochemistry and conductivity as indicated above.

Burlington Ontario
February 12,1992

F Sharpley

Fred J. Sharpley

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86-4807: 02-36....39
86-4908: 02-72....76

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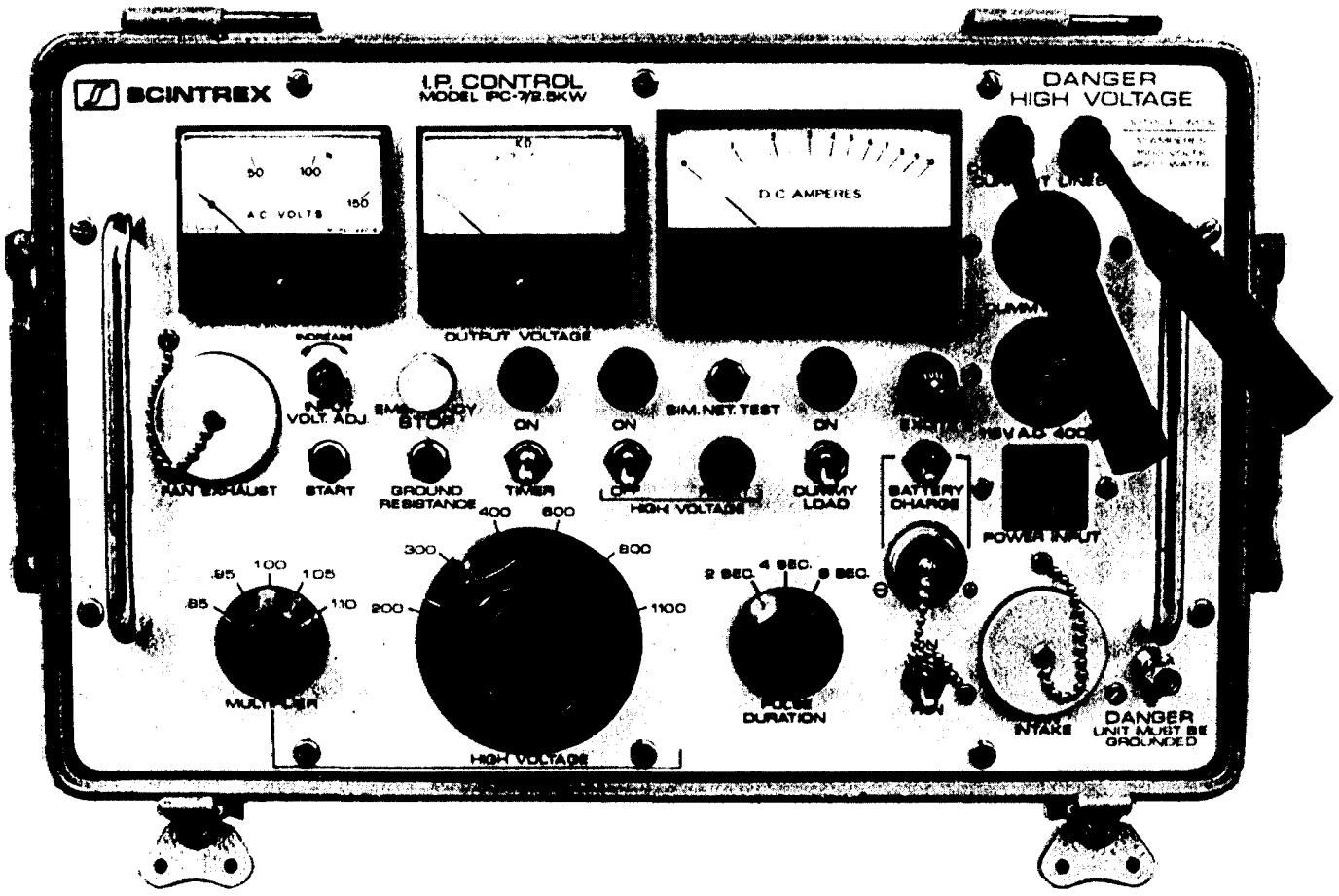
SCINTREX IPC-7/2.5kW Induced Polarization and Commutated DC Resistivity Transmitter System



Function

The IPC-7/2.5 kW is a medium power transmitter system designed for time domain induced polarization or commutated DC resistivity work. It is the standard power transmitting system used on most surveys under a wide variety of geophysical, topographical and climatic conditions.

The system consists of three modules: A Transmitter Console containing a transformer and electronics, a Motor Generator and a Dummy Load mounted in the Transmitter Console cover. The purpose of the Dummy Load is to accept the Motor Generator output during those parts of the cycle when current is not transmitted into the ground, in order to improve power output and prolong engine life.

The favourable power-weight ratio and compact design of this system make it portable and highly versatile for use with a wide variety of electrode arrays.

Features

Maximum motor generator output, 2.5 kW; maximum power output, 1.85 kW; maximum current output, 10 amperes; maximum voltage output, 1210 volts DC.

Removable circuit boards for ease in servicing.

Automatic on-off and polarity cycling with selectable cycling rates so that the optimum pulse time (frequency) can be selected for each survey.

The overload protection circuit protects the instrument from damage in case of an overload or short in the current dipole circuit.

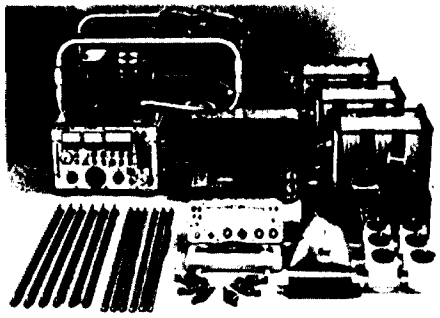
The open loop circuit protects workers by automatically cutting off the high voltage in case of a break in the current dipole circuit.

Both the primary and secondary of the transformer are switch selectable for power matching to the ground load. This ensures maximum power efficiency.

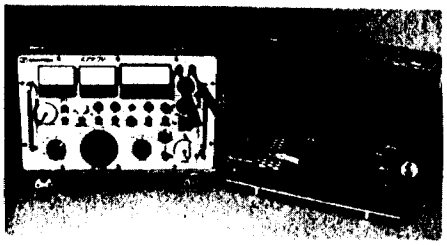
The built-in ohmmeter is used for checking the external circuit resistance to ensure that the current dipole circuit is grounded properly before the high voltage is turned on. This is a safety feature and also allows the operator to select the proper output voltage required to give an adequate current for a proper signal at the receiver.

The programmer is crystal controlled for the very high stability required for broadband (spectral) induced polarization measurements using the Scintrex IPR-11 Broadband Time Domain Receiver.

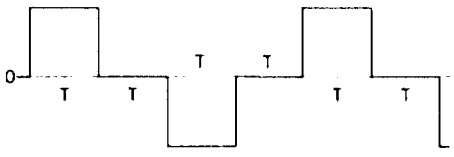
Technical Description of IPC-7/2.5 kW Transmitter System



Complete 2.5kW induced polarization system including motor-generator, reels with wire, tool kit, porous pots, simulator circuit, copper sulphate. IPR-8 receiver, dummy load, transmitter, electrodes and clips.



IPC-7 / 2.5kW transmitter console with lid and dummy load.



Time Domain Waveform

Transmitter Console	
Maximum Output Power	1.85 kW maximum, defined as VI when current is on, into a resistive load
Output Current	10 amperes maximum
Output Voltage	Switch selectable up to 1210 volts DC
Automatic Cycle Timing	T:T:T:T; on:off:on:off
Automatic Polarity Change	Each 2T
Pulse Durations	Standard: T = 2,4 or 8 seconds, switch selectable Optional: T = 1,2,4 or 8 seconds, switch selectable Optional: T = 8,16,32 or 64 seconds, switch selectable
Voltage Meter	1500 volts full scale logarithmic
Current Meter	Standard: 10.0 A full scale logarithmic Optional: 0.3, 1.0, 3.0 or 10.0 A full scale linear, switch selectable
Period Time Stability	Crystal controlled to better than .01%
Operating Temperature Range	-30°C to +55°C
Overload Protection	Automatic shut-off at output current above 10.0 A
Open Loop Protection	Automatic shut-off at current below 100 mA
Undervoltage Protection	Automatic shut-off at output voltage less than 95 V
Dimensions	280 mm x 460 mm x 310 mm
Weight	30 kg
Shipping Weight	41 kg includes reusable wooden crate
Motor Generator	
Maximum Output Power	2.5 kVA, single phase
Output Voltage	110 V AC
Output Frequency	400 Hz
Motor	4 stroke, 8 HP Briggs & Stratton
Weight	59 kg
Shipping Weight	90 kg includes reusable wooden crate

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Geophysical and Geochemical Instrumentation and Services

SCINTREX IPR-11 Broadband Time Domain IP Receiver

Operator using the IPR-11

The microprocessor-based IPR-11 is the heart of a highly efficient system for measuring, recording and processing spectral IP data. More features than any remotely similar instrument will help you enhance signal/noise, reduce errors and improve data interpretation. On top of all this, tests have shown that survey time may be cut in half, compared with the instrument you may now be using.

The IPR-11 Broadband Time Domain IP Receiver is principally used in electrical (EIP) and magnetic (MIP) induced polarization surveys for disseminated base metal occurrences such as porphyry copper in acidic intrusives and lead-zinc deposits in carbonate rocks. In addition, this receiver is used in geoelectrical surveying for deep groundwater or geothermal resources. For these latter targets, the induced polarization measurements may be as useful as the high accuracy resistivity results since it often happens that geological materials have IP contrasts when resistivity contrasts are absent. A third application of the IPR-11 is in induced polarization research projects such as the study of physical properties of rocks.

Due to its integrated, microprocessor-based design, the IPR-11 provides a large amount of induced polarization transient curve shape information from a remarkably compact, reliable and flexible format. Data from up to six potential dipoles can be measured simultaneously and recorded in solid-state memory. Then, the IPR-11 outputs data as: 1) visual digital display, 2) digital printer profile or pseudo-section plots, 3) digital printer listing, 4) a cassette tape or floppy disk record, 5) to a microcomputer or 6) to a modem unit for transmission by telephone. Using software available from Scintrex, all spectral IP and EM coupling parameters can be calculated on a microcomputer.

The IPR-11 is designed for use with the Scintrex line of transmitters, primarily the TSQ series of current and waveform stabilized models. Scintrex has been active in induced polarization research, development, manufacture, consulting and surveying for over thirty years and offers a full range of time and frequency domain instrumentation as well as all accessories necessary for IP surveying.

Major Benefits

Following are some of the major benefits which you can derive through the key features of the IPR-11.

Speed up surveys.

The IPR-11 is primarily designed to save you time and money in gathering spectral induced polarization data.

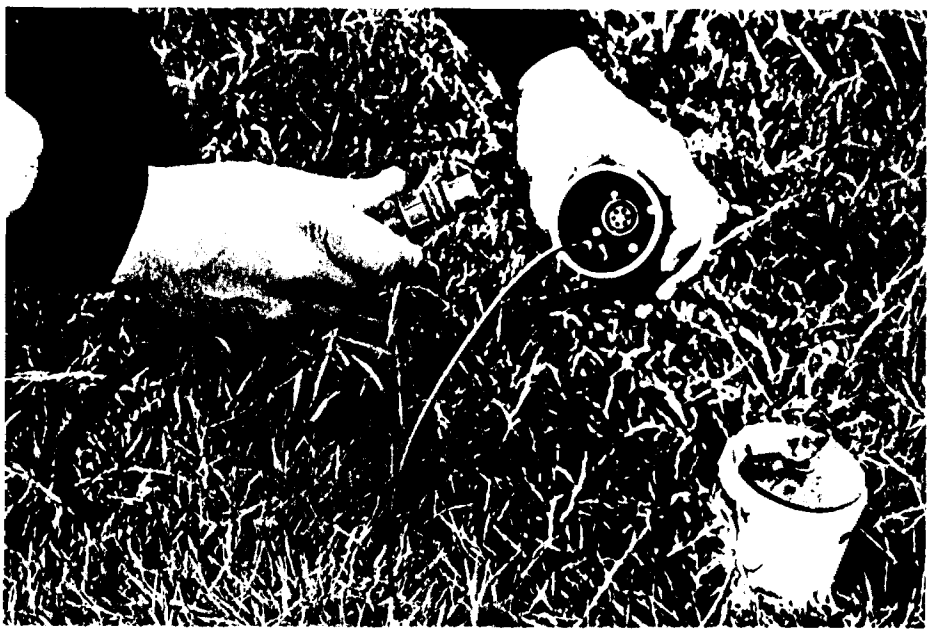
For example, consider the advantage in gradient, dipole-dipole or pole-dipole surveying with multiple 'n' or 'a' spacings, of measuring up to six potential dipoles simultaneously. If the specially designed Multidipole Potential Cables are used, members of a crew can prepare new dipoles at the end of a spread while measurements are underway. When the observation is complete, the operator walks only one dipole length and connects to a new spread leaving the cable from the first dipole for retrieval by an assistant.

Simultaneous multidipole potential measurements offer an obvious advantage when used in drillhole logging with the Scintrex DHIP-2 Drillhole IP/Resistivity Logging Option.

The built-in, solid-state memory also saves time. Imagine the time that would be taken to write down line number, station number, transmitter and receiver timings and other header information as well as data consisting of SP, Vp and ten IP parameters for each dipole. With the IPR-11, a record is filed at the touch of a button once the operator sees that the measurement has converged sufficiently.

The IPR-11 will calculate resistivity for you. Further time will then be saved when the IPR-11 data is dumped to a field computer in your base camp for processing. If no computer is available in the field then data can be output directly to a printer which will plot your data in profile or pseudo-section format. The same printer can also be used to make one or more copies of a listing of the day's results. If desired, an output to a cassette tape recorder or floppy disk drive can be made. Or, the IPR-11 data memory can be output directly into a modem, saving time by transmitting data to head office by telephone line.

If the above features won't save as much time as you would like, consider how the operator will appreciate the speed in



High production rates are obtained using Multidipole Potential Cables which permit measurement of six dipoles simultaneously.

taking a reading with the IPR-11 due to: 1) simple keyboard control, 2) resistance check of six dipoles simultaneously, 3) fully automatic SP buckout, 4) fully automatic Vp self ranging, 5) fully automatic gain setting, 6) built-in calibration test circuits, and 7) self checking programs. The amount of operator manipulation required to take a great deal of spectral IP data is minimal.

Compared with frequency domain measurements, where sequential transmissions at different frequencies must be made, the time domain measurement records broadband information each few seconds. When successive readings are stacked and averaged, and when the pragmatic window widths designed into the IPR-11 measurement are used, full spectral IP data are taken in a minimum of time.

Improved interpretation of data.

The quasilogarithmically spaced transient windows are placed to recover the broadband information that is needed to calculate the standard spectral IP parameters with confidence. Scintrex offers its SOFTII software package which can take the IPR-11 outputs and generate the following standard spectral IP parameters: zero-time chargeability, M; time constant, TAU; and exponent, C.

Interpretability of spectral IP data are improved since time domain measurements are less affected by electromagnetic coupling effects than either amplitude or phase angle frequency domain measurements, due to the relatively high frequencies used in the latter techniques. In the field, coupling free data are nearly always available from the late time windows. Then, in the base camp or office, the Scintrex SOFTII software package may be used to resolve the EM component for removal from the IP signal. The electromagnetic induction parameters may also be interpreted in order to take advantage of the information contained in the EM component.

A further advantage of the IPR-11 in interpreting spectral IP responses is the amount of data obtainable due to the ability to change measurement windows and to allow for different transmitter pulse times.

Enhance signal/noise.

In the presence of random (non-coherent) earth noises, the signal/noise ratio of the IPR-11 measurements will be enhanced by $\sqrt{N}$ where N is the number of individual readings which have been averaged to

Major Benefits

arrive at the measurement. The IPR-11 automatically stacks the information contained in each pulse and calculates a running average for Vp and each transient window. This enhancement is equivalent to a noise decrease of $\sqrt{N}$ or a power increase of N. Since N can readily be 30 or more (a 4 minute observation using a 2 second on/off waveform), the signal/noise improvement realized by the IPR-11 cannot be practically achieved by an increase in transmitter power. Alternatively, one may employ much lower power transmitters than one could use with a non-signal enhancement receiver.

The automatic SP program bucks out and corrects completely for linear SP drift; there is no residual offset left in the signal as in some previous time domain receivers. Data are also kept noise free by: 1) automatic rejection of spheric spikes, 2) 50 or 60 Hz powerline notch filters, 3) low pass filters and 4) radio-frequency (RF) filters. In addition, the operator has a good appreciation of noise levels since he can monitor input signals on six analog meters, one for each dipole.

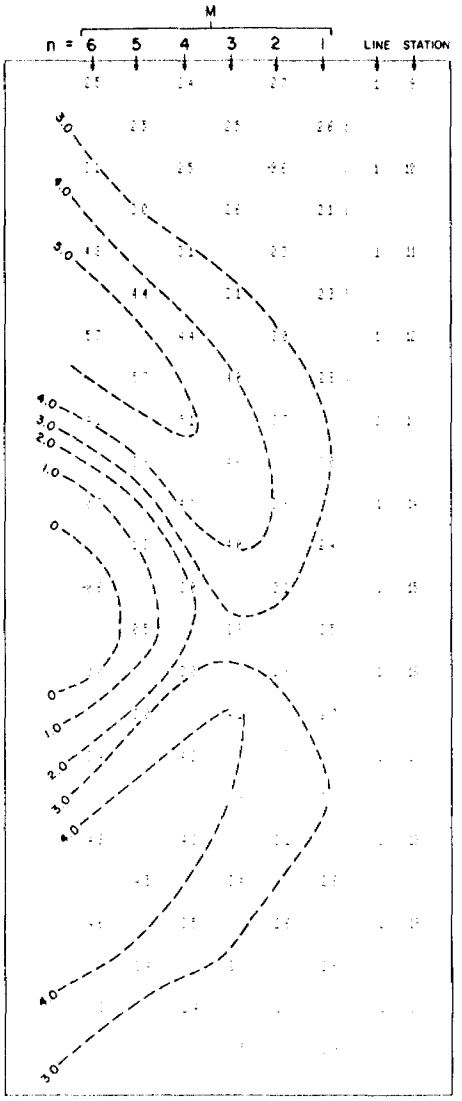
Observations can usually be made using the self-triggering feature of the IPR-11. The internal program locks into the waveform of the signal received at the first dipole (nearest a current electrode) and prevents mistriggering at any point other than within the final 2.5 percent of the current on time. In particularly noisy areas, however, synchronization of the IPR-11 and transmitter can be accomplished either by a wire link or using a high stability, Optional Crystal Clock which fits onto the lid of the instrument.

Reduce Errors.

The solid-state, fail-safe memory ensures that no data transcription errors are made in the field. In base camp, data can be output on a digital printer and/or some magnetic media such as floppy disks or cassette tapes and played back onto a digital printer for full verification. The fact that the IPR-11 calculates resistivity from recorded Vp and I values also reduces error.

The self check program verifies program integrity and correct operation of the display, automatically, without the intervention of the operator. If the operator makes any one of ten different manipulation errors, an error message is immediately displayed.

The Multidipole Potential Cables supplied by Scintrex are designed so there is no possibility of connecting dipoles to the wrong input terminals. This avoids errors in relating data to the individual dipoles. The internal calibrator assures the operator that the instrument is properly calibrated and the simple keypad operation eliminates a multitude of front panel switches, simplifying operation and reducing errors.



Pseudo-section printout on a digital printer. Chargeability data are shown for the sixth transient window (M_5) for the dipole-dipole array and six 'n' spacings. Line number and station number are also recorded. The contours have been hand drawn. Resistivity results can be plotted in a similar manner.

Features

Six Dipoles Simultaneously. The analog input section of the IPR-11 contains six identical differential inputs to accept signals from up to six individual potential dipoles. The amplified analog signals are converted to digital form and recorded with header information identifying each group of dipoles. Custom-made multi-dipole cables are available for use with any electrode array.

Memory. Compared with tape recording, the IPR-11 solid-state memory is free from problems due to dirt, low temperature, moving parts, humidity and mechanical shock. A battery installed on the memory board ensures memory retention if the main batteries are low or if the main batteries are changed. The following data are automatically recorded in the memory for each potential dipole: 1) receiver timing used, 2) transmitter timing used, 3) number of cycles measured, 4) self potential (SP), 5) primary voltage (Vp) and 6) ten transient IP windows (M). In addition, the operator can enter up to seventeen, four digit numerical headers which will be filed with each set of up to six dipole readings. The operator must enter at least four headers: line number, station number, current amplitude, and the K-factor. Other headers can include, for example, operator code, date, etc.

In the standard data memory, up to 200 potential dipole measurements can be recorded. Optional Data Memory Expansion Blocks can be installed in the IPR-11 to increase memory capacity in blocks of about 200 dipoles each to a total of approximately 800 dipoles.

Memory Recall. Any reading in memory can be recalled, by simple keypad entry, for inspection on the visual display. For example, the operator can call up sequential visual display of all the data filed for the previous observation or for the whole data memory.

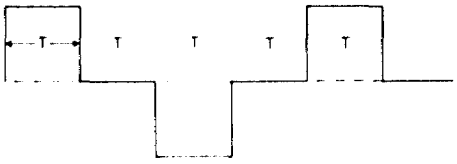
Carefully Chosen Transient Windows. The IPR-11 records all the information that is really needed to make full interpretations of spectral IP data, to remove EM coupling effects and to calculate EM induction parameters. Ten quasilogarithmically spaced transient windows are measured simultaneously for each potential dipole over selectable total receive times of 0.2, 1.0, 2.0 or 4.0 seconds.

After a delay from the current off time of t, the width of each of the first four windows is t, of the next three windows is 6t and of the last three windows is 12t. The smallest t values are 3, 15, 30 or 60 milliseconds. Thus, for a given dipole, up to forty different windows can be measured by using all four receive times. The only restriction is, of course, that the current off time must exceed the total measuring time. Since t is as low as 3 milliseconds and since the first four windows are narrow, a high density of curve shape information is available at short times (high frequencies) where it is needed for confident calculation of the EM coupling parameters.

Calculates Resistivity. The operator enters the current amplitude and resistivity geometry K-factors in the header with each observation. If the K-factors remain the same, only a code has to be entered with each observation. Then, using the recorded Vp values, the IPR-11 calculates the apparent resistivity value which can be output to the computer, printer, etc.

Normalizes for Time and Vp. The IPR-11 divides the measured area in each transient window by the width of the window and by the primary voltage so that values are read out in units of millivolts/volt (mils).

Signal Enhancement. Vp and M values are continuously stacked and averaged and the display is updated for each two cycles. When the operator sees that the displayed values have adequately converged, he can terminate the reading and file all values in memory.

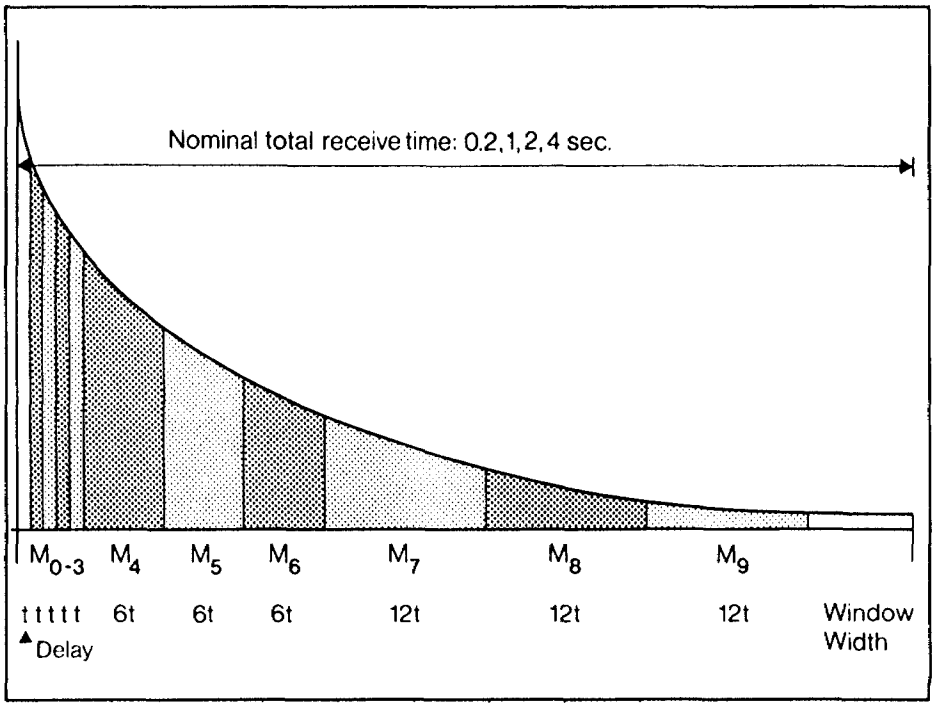


Time domain IP transmitted waveform

Vp Integration. The primary voltage can be sampled over 50 percent or more of the current on (T) time, depending on the transmit and receive programs selected. The integrated results is normalized for time. Long Vp integration helps overcome random noise.

Digital Display. Two, four digit LCD displays are used to display measured or manually entered data, data codes and alarm codes.

Automatic Profile Plotting. When connected to a digital printer with an industry standard RS-232C, 7 bit ASCII serial data port, data can be plotted in a base camp. The IPR-11 is programmed to plot any selected transient window and resistivity



IPR-11 Transient Windows

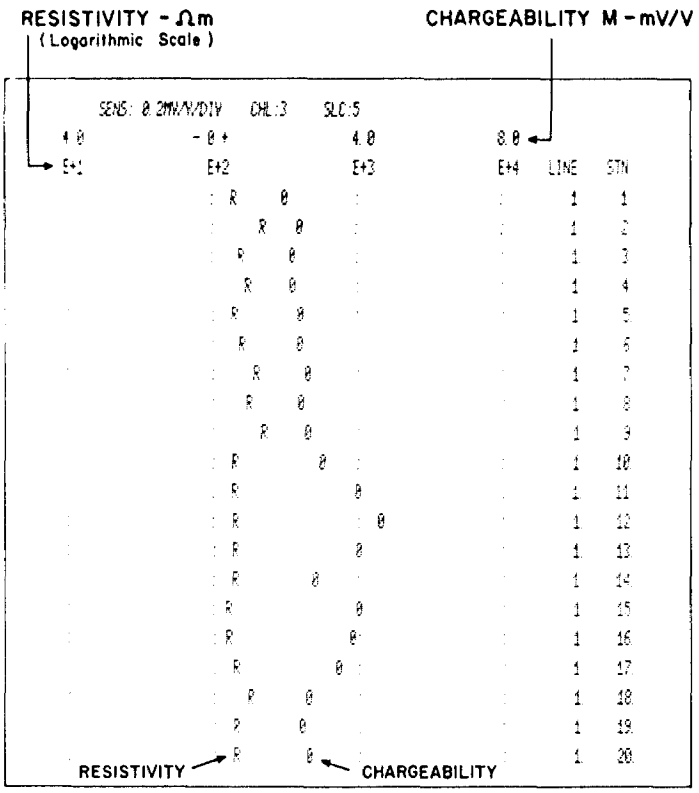
Features

in pseudo-section or profile form. In the profile plot, the scale of resistivity is logarithmic with 10 to 100,000 ohm-metres in four decades with another four decades of overrange both above and below. The chargeability scale is keypad selectable. In the pseudo-section plot, any one chargeability window can be presented in conventional pseudo-section form.

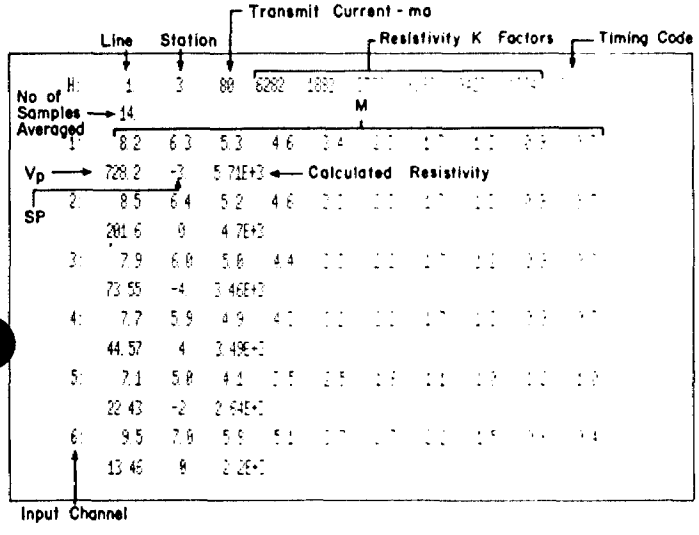
Printed Data Listing. The same digital printer can be used to print out listings of all headers and data recorded during the day's operation. Several copies can be made for mailing to head office or for filing in case copies are lost. Baud rate is keypad selectable at 110, 300 or 1200 baud, depending on the printer used.

Store Data. Data may be output from the IPR-11 and stored in computer compatible form in a microcomputer, on an independent floppy disk drive or on cassette tape, provided that these devices have the commonly available RS-232C, 7 bit ASCII serial interface.

Modem. Data in the IPR-11 memory can be output directly into a modem near the field operation and transmitted by telephone through a modem terminal in head office, where data can be output directly onto a computer, digital printer or digital storage device. In this way a geophysicist in head office can receive regular transmissions of data to improve supervision



Profile printout on a digital printer. R is resistivity on a logarithmic scale while Ø is one transient window (M_5) on a linear scale.



Data listing output on a dot-matrix printer. Header information is shown in the first two lines. In this case, data are for Line 1, Station 3. Transmitted current is 80mA. Next are the resistivity K-factors for the six dipoles. 8292 indicates that receive and transmit times are each 2 seconds. The last header item records that fact that 14 cycles were stacked. Following the header are the geophysical data for six dipoles which were measured simultaneously. For each dipole, the values for the 10 transient windows are shown on one line. The next line shows Vp and Sp in mV and resistivity. 5.71 E + 3 indicates that the calculated resistivity is 5.71 x 10^3 ohm-metres.

Features

and interpretation of the data from field projects and no output device other than the modem is required in the field.

External Circuit Check. Six analog meters on the IPR-11 are used to check the contact resistance of individual potential dipoles. Poor contact at any one electrode is immediately apparent. The continuity test uses an AC signal to avoid electrode polarization.

Self Check Program. Each time the instrument is turned on, a check sum verification of the program memory is automatically done. This verifies program integrity and if any discrepancy is discovered, an error code appears on the digital display. Part of the self check program checks the LCD display by displaying eight ones followed sequentially by eight twos, eight fours and eight eights.

Manipulation Error Checks. Alarm codes appear on the digital display if any of the following ten errors occur: tape dump errors, illegal keypad entry, out of calibration or failed memory test, insufficient headers, header buffer full, previous station's data not filed, data memory full, incorrect signal amplitude or excessive noise, transmit pulse time incorrect, and receiver measurement timing incorrect.

Internal Calibrator. By adjustment of the function switch, an internal signal generator is connected across the inputs to test the calibration of all six signal inputs for SP, Vp and all M windows simultaneously. If there is an error in one or more parameters, an alarm code appears on the display. The operator can then scan all parameters of all input channels to determine where the error is.

Automatic SP Correction. The initial self potential buckout is entirely automatic - no adjustment need be made by the operator. Then, throughout the measurement, the IPR-11 slope correction software makes continual corrections, assuming linear SP drift during two transmitted cycles. There is no residual SP offset included in the chargeability measurement as in some previous time domain receivers.

Automatic Vp Self Ranging. There is no manual adjustment for Vp since the IPR-11 automatically adjusts the gain of its input amplifiers for any Vp signal in the range 100 microvolts to 6 volts.

Spheric Noise Rejection. A threshold, adjustable by keypad entry over a linear range of 0 to 99, is used to reject spheric pulses. If a spheric noise pulse above the set threshold occurs, then the IPR-11 rejects and does not average the current two cycles of information. An alarm code appears on the digital display. If the operator continues to see this alarm code, he can decide to set the threshold higher.

Powerline and Low Pass Filter. An internal switch is used to set the IPR-11 for either 50 or 60 Hz powerline areas. The notch filter is automatically switched out when the 0.2 second receive time is used since the filters would exclude EM signals.

RF Filter. An additional filter in the input circuits ensures that radio-frequency interference is eliminated from the IPR-11 measurement.

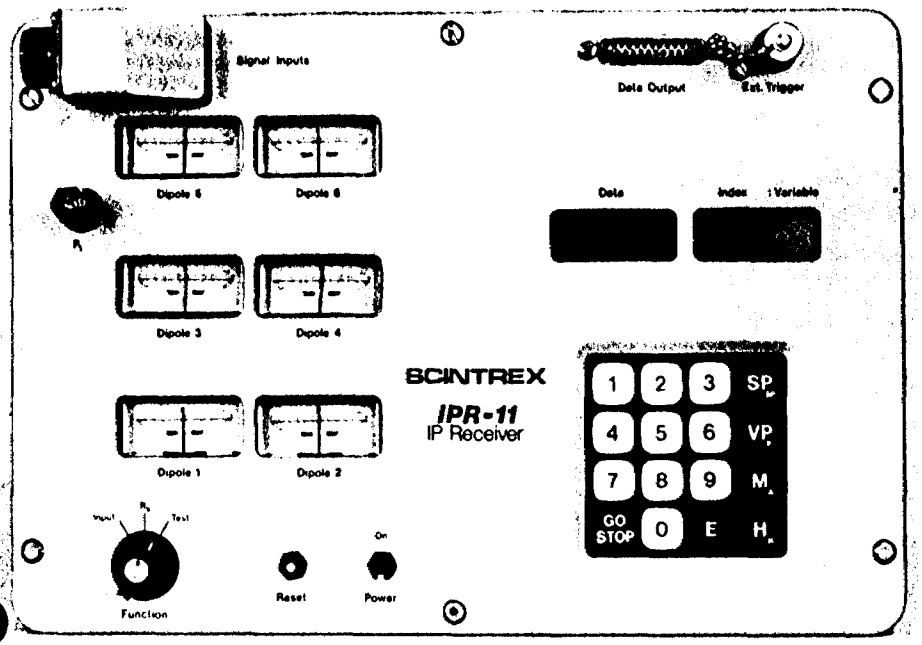
Input Protection. If signals in excess of 6V and up to 50V are applied to any input circuit, zener diode protection ensures that no damage will occur to the input circuits.

Synchronization. In normal operation, the IPR-11 synchronizes itself on the received waveform, limiting triggering to within 2.5% of the current on time. However, for operation in locations where signal/noise ratios are poor, synchronization can be done by using the Optional Crystal Clock which can be installed in the lid of the IPR-11.

Software for EM Coupling Removal. In transient measurements, the EM coupling component occurs closest to the current off time (i.e. it is primarily in the early windows). Thus, it is usually possible to obtain coupling-free IP data simply by using the later windows of the IPR-11 measurement program. If, however, full spectral information is desired, the data from the early windows must be corrected for the EM component. This can be done with confidence using a computer and the Scintrex SOFT II programs.

Software for Spectral IP Parameters. Using the chargeability data from the ten quasilogarithmically spaced IPR-11 windows, a computer and the Scintrex SOFT II programs, spectral IP parameters can be calculated. The basis for this calculation as well as for the EM coupling removal calculation is discussed in a technical paper by H.O.Seigel, R.Ehrat and I.Brcic, given at the 1980 Society of Exploration Geophysicists Convention, entitled "Microprocessor Based Advances in Time Domain IP Data Collection and In-Field Processing".

Operation



In relation to the efficiency with which it can produce, memorize, calculate and plot data, the IPR-11 is quite simple to operate, using the following switches and keypad manipulations.

Power On-Off. Turns the instrument on or off.

Reset. Resets the program to begin again in very poor signal/noise conditions.

Function Switch. Connects either the potential dipoles or the internal test generator to the input amplifiers or connects the external circuit resistance check circuitry to the potential dipoles.

Keypad. The ten digit and six function keys are used to: 1) operate the instrument, 2) enter information, 3) retrieve any stored data item for visual display, and 4) output data on to a computer, digital printer, digital storage device or modem. Examples of some of these manipulations, most of which are accomplished by three key strikes, follow. E is the general entry key.

A concise card showing the keypad entry codes is attached inside the lid of the IPR-11.

Example 1. Keying 99E commands the battery test. The result is shown on the digital display.

Example 2. Keying 90E tells the IPR-11 to use the 0.2 second receive time. 91, 92 and 94 correspond to the three other times.

Example 3. Keying 12M results in the display of the chargeability of the first dipole, window number 2. Similarly, 6SP or 4Vp would result in the display of the SP value of the sixth dipole or Vp of the fourth dipole respectively.

Example 4. Keying NNNNH, where N is any variable digit, records an item of header information. Seventeen such items can be entered with each file of up to six dipoles of data.

Example 5. 73E, 74E or 75E are used to output the data from the memory to the computer, digital printer or modem at 110, 300 or 1200 baud respectively.

IPR-11 Options

The following options are available for purchase with the IPR-11:

Multidipole Potential Cables. These cables are custom manufactured for each client, depending on electrode array and spacings which are to be used. They are manufactured in sections, with each section a dipole in length and terminated with connectors. For each observation, the operator need only walk one dipole length and connect a new section, in order to read a new six dipole spread. There is no need to move the whole spread. The connectors which join the cables are designed so that there is no possibility of connecting the wrong dipole to the wrong input amplifier. The outside jacket of these cables is flexible at low temperatures. About 5 percent extra length is added to each section to ensure that the cable reaches each station.

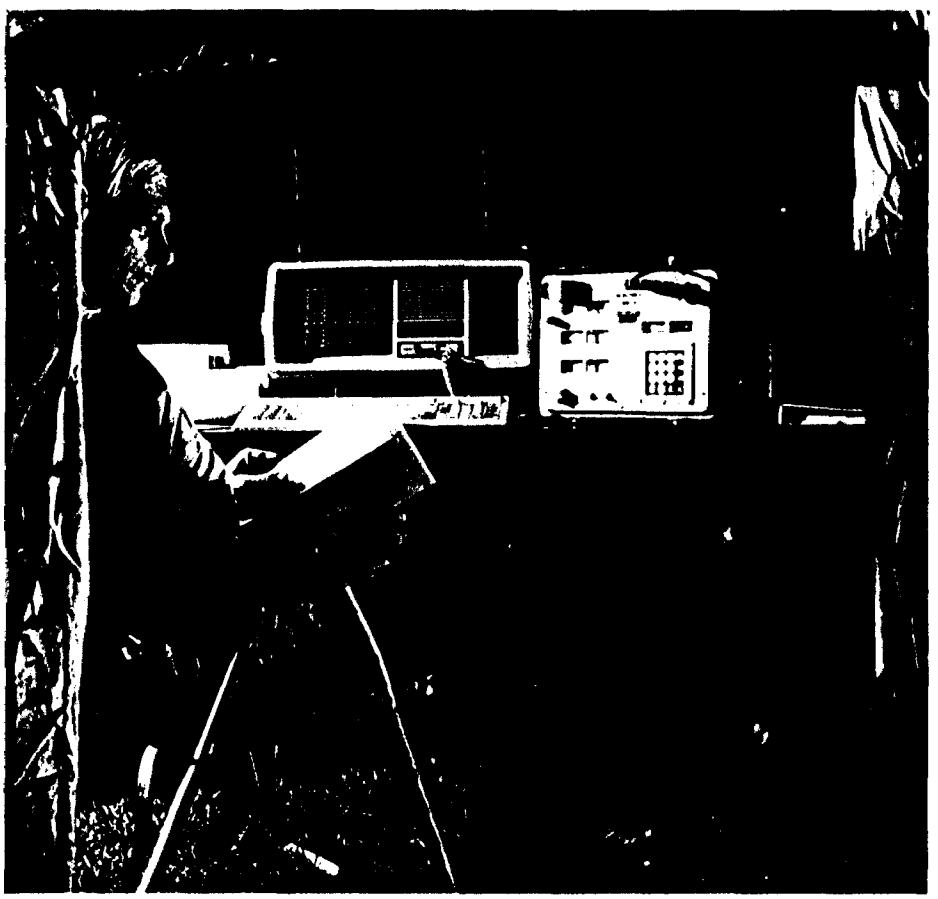
Field Wire Adaptor Kit. Depending on the survey method used, it may be preferable to connect the potential electrodes to the IPR-11 using standard single conductor wire rather than the Multidipole Potential Cables. When using the Field Wire Adaptor Kit each wire can be terminated on an individual binding post on a multi-pin receptacle. In this way, a set of electrodes are connected to the IPR-11 which can either lead or lag the current electrodes while advancing along a survey line.

Data Memory Expansion Blocks. The standard data memory of the IPR-11 allows for data for up to 200 dipole measurements to be recorded, assuming a common header for six dipoles. Up to three additional memory blocks can be installed in the instrument, each of about 200 dipole capacity.

Crystal Clock. Scintrex can provide a high stability clock to synchronize the IPR-11 with a similar clock in the TSQ series of transmitters. This option is, however, only required for work in extremely noisy and/or low signal environments.

Software. Scintrex offers its SOFT II software package for EM coupling removal, calculation of EM induction factors and calculation of the same spectral IP parameters as are in common use in frequency domain IP measurements.

Peripheral Devices. A number of printers, digital storage devices and modem units are available on the market which are compatible with the IPR-11. Scintrex stocks several of these peripheral devices which we would be pleased to supply and/or recommend other suitable equipment for your particular application.



Data can be transferred directly from the IPR-11 into an inexpensive personal computer which can use the SOFT II Programs to calculate spectral IP parameters, carry out other calculations, display data graphically on a video display and plot data.

IPR-11 SOFT II Time Domain Induced Polarization Data Processing and Spectral Analysis Software Package

The IPR-11 SOFT II Software Package comprises a cost effective series of programs designed to help you benefit from the fully automatic treatment of IP data collected by the IPR-11 Receiver. The following features describe what you can do with the SOFT II package running on an IBM PC or compatible computer.

Enter data many ways. The easiest way to use the SOFT II package is to enter data directly from the IPR-11 to the computer. This can be done in the field, resulting in data stored on floppy disks. Subsequent data processing may be done to ensure that data quality is high and to provide the possibility to immediate checking of anomalous conditions. Data can also be entered manually from data listings.

Data can be edited. Errors in header information such as line number, station number, resistivity constants and timing codes can be corrected. Data may be re-ordered for plotting. Dummy stations may be inserted if required.

Store data on floppy disks. Once in the computer, data is stored on a floppy disk. This increases the efficiency of data processing and management as well as transportation and long term storage. No longer will you have to sort through bulky paper records or scan through long tape recordings to access the data you need. A copy of a disk can easily be made to eliminate the possibility of loosing data in transportation.

Printouts can be formatted. Considerable time and effort are saved with the automatic tabulating and plotting programs. When compared with the plots directly output to the printer from the IPR-11, the SOFT II computer generated printouts and plots are more readable and of a quality more suitable for final reports.

Plot observed decay curves. IPR-11 decay curves can be plotted to provide a rapid means of ensuring data quality.

Compute spectral IP parameters. The SPCTRM program of the SOFT II package calculates the Cole-Cole spectral parameters. These parameters may be used to give information about the concentration and grain size of the IP responsive metallic mineralization in the subsurface. This may allow differentiation of sources of similar amplitude of IP response but which have different mineral textures. The standard example of such differentiation would be between sulphide mineralization and graphitic horizons.

Remove EM coupling. Depending upon the electrode array, electrode spacing, resistivity, and IP measuring time (or frequency), IP data may contain a component which is electromagnetically induced. The SPCTRM program may be used to calculate the residual EM effect and output a listing of parameters describing the EM contribution.

Plot and contour pseudo-sections. Like any dedicated software controlled device, the intelligence of the IPR-11 is limited. While it can adequately plot data listings and profiles directly on a simple printer, the pseudo-section printer plots can sometimes be erroneous. This occurs when an electrode array other than dipole-dipole has been used, since the IPR-11 can only plot this one array in pseudo-sections. Also, if more than one receive time or transmitted pulse time have been recorded for given station, the IPR-11 cannot sort the data.

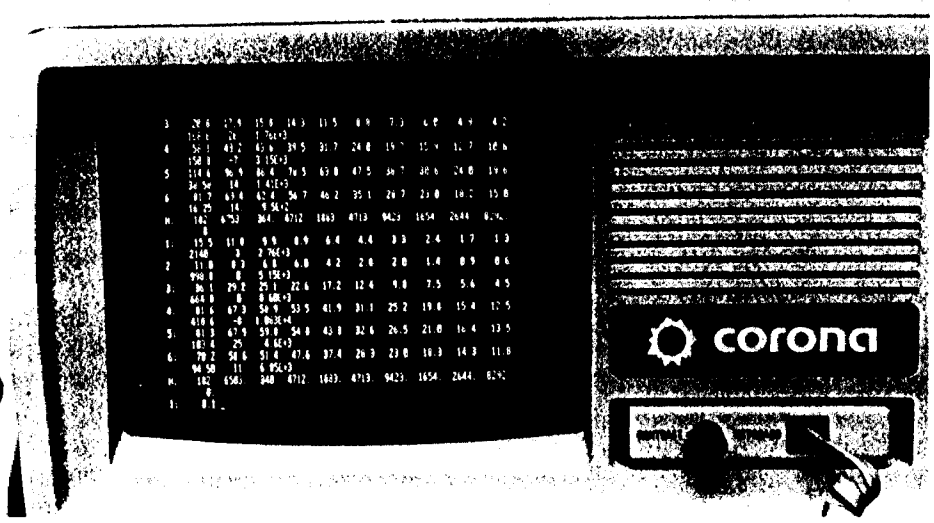
These inconveniences are removed when the SOFT II package is used with a microcomputer, since the software includes programs to sort, reformat and correctly plot pseudo-sections.

Two different programs in SOFT II can be used to plot pseudo-sections. PSEUDO posts that data at the correct plotting point for a dipole-dipole array so it may be hand contoured. CONTOUR draws contoured pseudo-sections for dipole-dipole or pole-dipole arrays on a dot-matrix printer or a pen plotter.

Runs on commonly available hardware. The SOFT II programs have been designed to run on microcomputer hardware which is readily available in many countries. The recommended system is as follows: 1) IBM PC or XT with 512K bytes of RAM, 2) 8087 math co-processor, 3) Two 5-1/4" flexible disk drives, 4) monochrome monitor, 5) parallel interface (for printer) 6) one or more serial interfaces, (2 suggested if a pen plotter is used), and 7) Epson FX-85 dot-matrix printer.

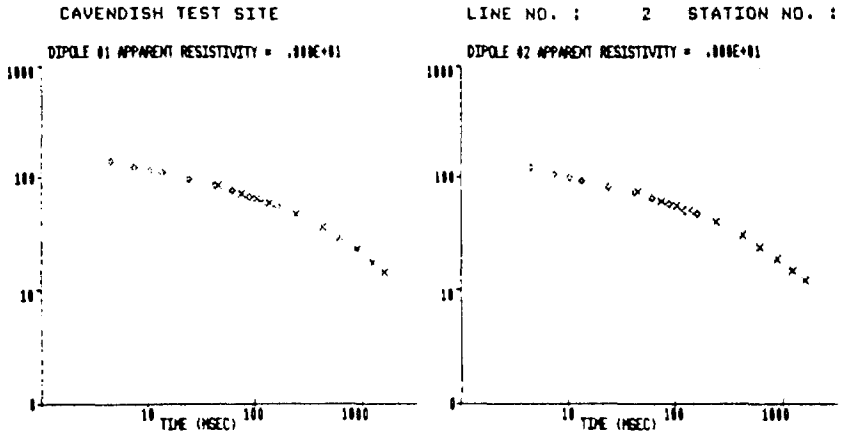
Other IBM compatible microcomputers using the PC/MS-DOS Version 2.1 or 3.0 Operating System may be used. Scintrex will be pleased to advise in this regard.

Complete with manual and diskettes. The SOFT II package consists of three program diskettes and a user's guide. The manual provides clear step-by-step instructions for running the package, as well as sample outputs and information on the microcomputer hardware and operating system.

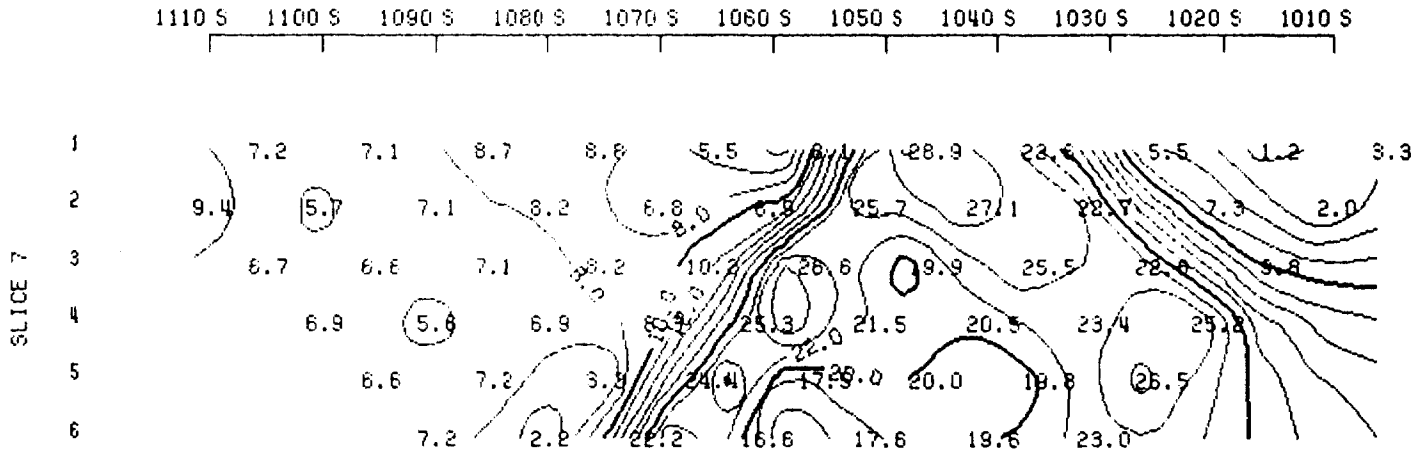


When the IPR-11 SOFT II software is used with an IBM PC or compatible computer data can be reviewed, edited, processed and archived.

IPR-11 SOFT II Time Domain Induced Polarization Data Processing and Spectral Analysis Software Package



The IPR-11 SOFT II allows plotting of chargeability decay curves for any given dipole in log-log space. This provides an excellent means of data quality control and visual determinations of the character of curve shapes to be made.



SOFT II application programs plot and contour pseudo-sections automatically.

LINE NO. : 351

Station	Dipole	Vp	Apparent Resist.	M7	Cole-Cole Parameters M-IP	TAU-IP	C-IP	M-EM	TAU-EM	Fit/IP	Fit/EM
1458	1	5205.0	4457.0	11.6	391.53	.30	.10	2.88	.100	.70	4.54
	2	1028.0	3520.0	24.1	382.30	10.00	.20	2.04	.100	.48	1.41
	3	406.8	3483.0	20.9	343.01	10.00	.20	3.35	.100	.41	3.46
	4	139.1	2370.0	24.8	394.57	10.00	.20	4.07	.100	.69	3.44
1459	1	6114.0	3893.9	11.8	404.96	.10	.10	2.56	.100	.69	4.59
	2	1369.0	3440.0	24.2	385.27	10.00	.20	2.97	.100	.42	2.01
	3	501.9	3151.0	23.8	379.63	10.00	.20	5.82	.030	.71	2.51
	4	189.2	2370.0	24.2	387.90	10.00	.20	7.75	.030	.96	3.33

Spectral analysis summary generated by the SPCTRM program of the SOFT II applications package and output on a digital printer. Header information is shown at the top of the printout. In this case, data are for Line 351 and Stations 1458 and 1459. Dipoles 1 thru 4 are listed for each station. At Station 1458, Dipole 1 has the following values: Vp is 5205.0 mV, Apparent Resistivity is 4457.0 ohm-metres and M7 is a chargeability slice of 11.6 mV/V taken approximately half way through the measured decay. Next are the Cole-Cole parameters, M-IP is 391.53 mV/V and TAU-IP is 0.30 seconds, C-IP is 0.10, M-EM is 2.88 mV/V and TAU-EM is 0.100 seconds. The Fit/IP and Fit/EM values describe the root mean square deviations between fitted curves and measured values.

Technical Description of the IPR-11 Broadband Time Domain IP Receiver

Input Potential Dipoles	1 to 6 simultaneously.
Input Impedance	4 megohms.
Input Voltage (Vp) Range	100 microvolts to 6 volts for measurement. Zener diode protection up to 50V.
Automatic SP Bucking Range	± 1.5 V.
Chargeability (M) Range	0 to 300 mV/V (mils or 0/00)
Absolute Accuracy of Vp, SP and M	Vp; ± 3% of reading for Vp > 100 microvolts. SP; ± 3% of SP bucking range. M; ± 3% of reading or minimum ± 0.5m V/V.
IP Transient Program	Ten transient windows per input dipole. After a delay from current off of t, first four windows each have a width of t, next three windows each have a width of 6t and last three windows each have a width of 12t. The total measuring time is therefore 58t. t can be set at 3, 15, 30 or 60 milliseconds for nominal total receive times of 0.2, 1, 2 and 4 seconds.
VP Integration Time	In 0.2 and 1second receive time modes; 0.51sec. In 2 second mode; 1.02sec. In 4 second mode; 2.04 sec.
Transmitter Timing	Equal on and off times with polarity change each half cycle. On/off times of 1, 2, 4 or 8 seconds with ± 2.5% accuracy are required.
Header Capacity	Up to 17 four digit headers can be stored with each observation.
Data Memory Capacity	Depends on how many dipoles are recorded with each header. If four header items are used with 6 dipoles of SP, Vp and 10 M windows each, then about 200 dipole measurements can be stored. Up to three Optional Data Memory Expansion Blocks are available, each with a capacity of about 200 dipoles.
External Circuit Check	Checks up to six dipoles simultaneously using a 31Hz square wave and readout on front panel meters, in range of 0 to 200k ohms.
Filtering	RF filter, spheric spike removal; switchable 50 or 60Hz notch filters, low pass filters which are automatically removed from the circuit in the 0.2 sec receive time.
Internal Calibrator	1000 mV of SP, 200 mV of Vp and 2.43 mV/V of M provided in 2 sec pulses.

Technical Description of the IPR-11 Broadband Time Domain IP Receiver

Digital Display	Two, 4 digit LCD displays. One presents data, either measured or manually entered by the operator. The second display: 1) indicates codes identifying the data shown on the first display, and 2) shows alarm codes indicating errors.
Analog Meters	Six meters for: 1) checking external circuit resistance, and 2) monitoring input signals.
Digital Data Output	RS-232C compatible, 7 bit ASCII, no parity, serial data output for communication with a computer, digital printer, digital storage device or modem.
Standard Rechargeable Power Supply	Eight rechargeable NiCad D cells provide approximately 15 hours of continuous operation at 25°C. Supplied with a battery charger, suitable for 110/230V, 50 to 400 Hz, 10W.
Disposable Battery Power Supply	At 25°C, about 40 hours of continuous operation are obtained from 8 Eveready E95 or equivalent alkaline D cells. At 25°C, about 16 hours of continuous operation are obtained from 8 Eveready 1150 or equivalent carbon-zinc D cells.
Dimensions	345 mm x 250 mm x 300 mm, including lid.
Weight	10.5 kg, including batteries.
Operating Temperature Range	-20 to +55°C, limited by display.
Storage Temperature Range	-40 to +60°C.
Standard Items	Console with lid and set of rechargeable batteries, RS-232C cable and adapter, 2 copies of manual, battery charger.
Optional Items	Multidipole Potential Cables, Data Memory Expansion Blocks, Crystal Clock, SOFT II Programs, Printer, Cassette Tape Recorder, Disk Drive or Modem.
Shipping Weight	25 kg includes reusable wooden shipping case.

At Scintrex we are continually working to improve our line of products and beneficial innovations may result in changes to our specifications without prior notice.

SCINTREX

222 Snidercroft Road
Concord Ontario Canada
L4K 1B5

Telephone: (416) 669-2280
Fax: (416) 669-5132
Telex: 06-964570

Geophysical and Geochemical
Instrumentation and Services

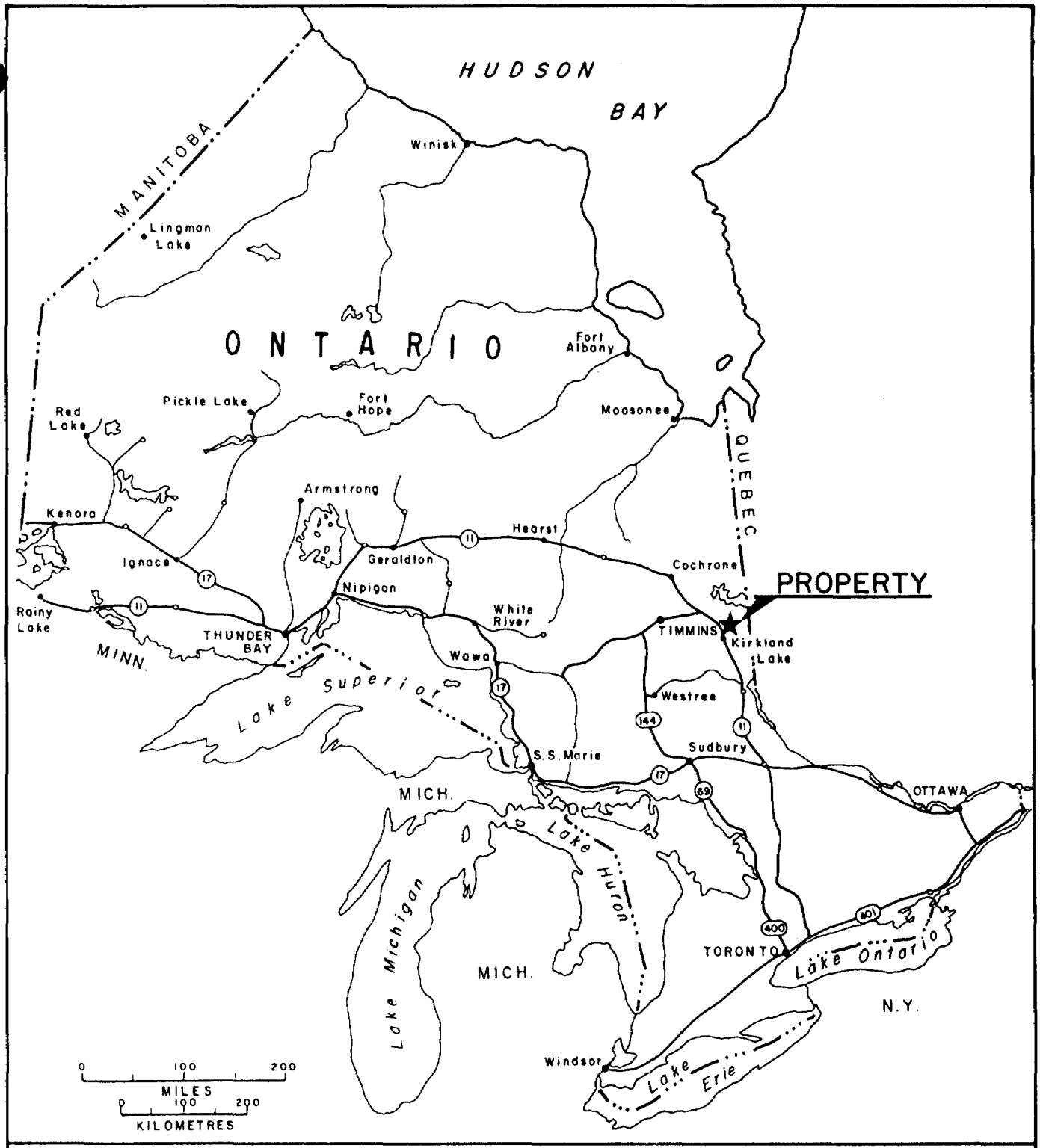


Fig. I

MEDICI RESOURCES LTD.

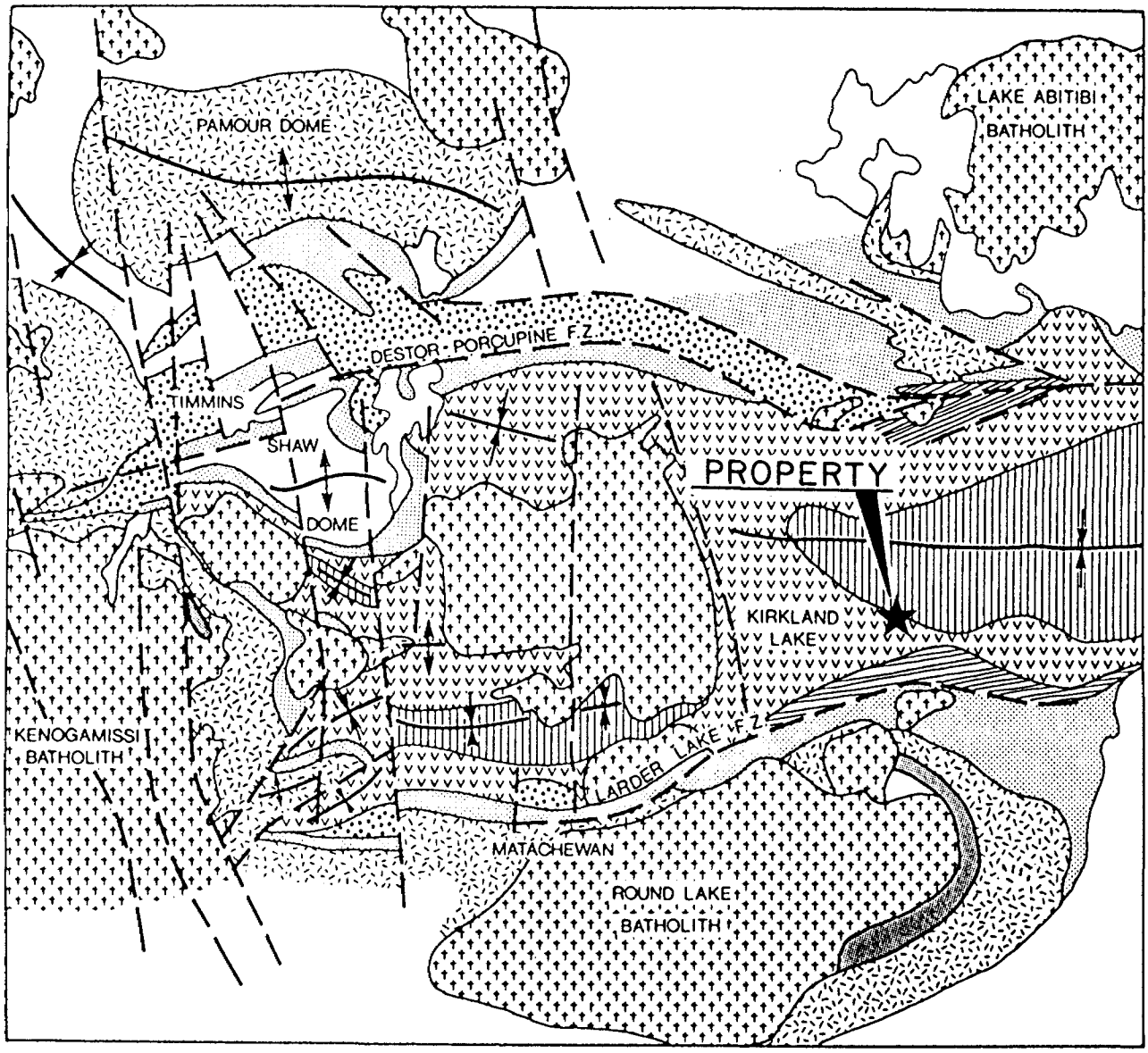
AIRPORT RESERVE PROJECT

MORRISETTE TWP., ONTARIO

LOCATION MAP

APRIL, 1989

F. J. SHARPLEY



Geology of the Timmins-Kirkland Lake area (after Jensen 1978).

LEGEND

UPPER SUPERGROUP

- Alkalic Volcanics (Timiskaming Group)
- Calcalkalic Volcanics (Blake River Group)
- Tholeiitic Volcanics (Kinojevis Group)
- Komatiitic Volcanics (Stoughton Roquemaure Group and Larder Lake Group)

LOWER SUPERGROUP

- Sedimentary Rocks (Porcupine Group)
- Calc-alkalic & Tholeiitic Volcanics (a. Skead & Catherine Group) (b. Hunter Mine Group)
- Komatiitic Volcanics (Wabewawa Group)

0 12 Mi
0 20 Km

Fig. 3

MEDICI RESOURCES LTD.

AIRPORT RESERVE PROJECT

MORRISETTE TWP., ONTARIO

GEOLOGICAL MAP

APRIL, 1989 F. J. SHARPLEY

JVX Ltd.
60 West Wilmot Street, Unit 22, Richmond Hill, Ontario, Canada L4B 1M6 Tel: (416) 731-0972

REPORT ON A TEST INDUCED POLARIZATION ON THE NETTIE LAKE PROPERTY KIRKLAND LAKE AREA, ONTARIO

1. Introduction

Between May 26th and 29th, 1990, a test Time Domain Spectral Induced Polarization/Resistivity survey was conducted by JVX Ltd. on behalf of Teck Explorations Limited on the Nettie Lake Property, in Morrisette Township, near Kirkland Lake, Northern Ontario. The objective of the IP survey was to locate any chargeability response coincident with the Blake River and Morrisette Creek Faults.

The IP survey employed the pole-dipole array with six potential dipoles (n=1 to 6) and a dipole spacing of 100 feet. Three lines, L-16E, L-48E, and L-64E, were surveyed for a total production of 7900 feet.

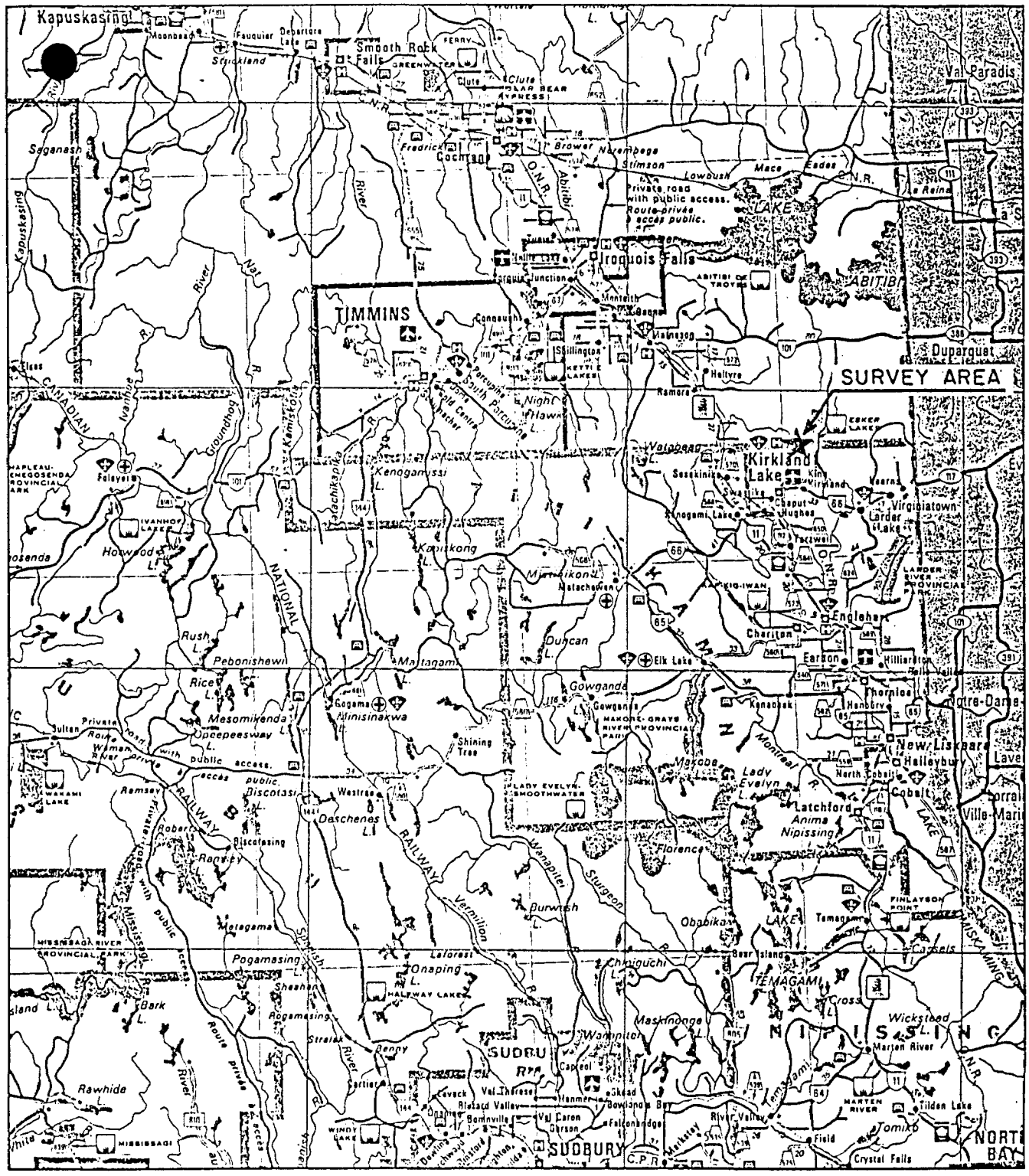
Figure 1 shows the location of the survey area at a scale of 1:1,600,000. The property is about 8 km north-northeast of Kirkland Lake and lies within the boundaries of the Larder Lake Mining Division at latitude 48°13'N and longitude 79°58'. The area may be found on NTS map sheet 32 D/4. The grids are easily reached by gravel roads off Ontario Provincial Highway 66 from King Kirkland.

Mr. Joe Mihelcic, JVX Ltd., was the Geophysicist/Party Chief and operated the IP receiver and compiled the data on-site with a Corona microcomputer. The transmitter operator was Mr. Frank Mihelcic. Local lads were hired as field assistants.

The survey employed the the Scintrex IPR-11 time domain microprocessor-based IP receiver and the Scintrex IPC-7/2.5 kW time domain transmitter powered by a motor generator.

The survey data were archived, processed and plotted with a Corona PC-400 microcomputer using an Epson FX-80 dot matrix printer. The system was configured to run JVX' proprietary software, a suite of programmes that was written specifically to interface with the IPR-11 receiver. At the conclusion of each day's data collection, data resident in the receiver memory was transferred, via serial communication link, to the computer - thereby facilitating editing, processing and presentation operations. All data was archived on floppy disk.

2.14416



LOCATION MAP

TECK EXPLORATIONS LIMITED

NETTIE LAKE PROPERTY

KIRKLAND LAKE AREA, ONTARIO

IP/RESISTIVITY SURVEY

Scale : 1 : 1,600,000

In the Toronto office the data were ink-plotted in pseudosection formats on a Nicolet Zeta drum plotter interfaced to an IBM compatible microcomputer. The pseudosections were then photo-reduced to 1:2400 onto vellum.

2. Discussion of Results

Chargeability anomalies are represented on the pseudosections by anomaly bars that take the following form:

═══════ very strong chargeability high; > 30 mV/V and well defined

_____ strong chargeability high; 20 - 30 mV/V and well defined

____ ____ moderate chargeability high; 10 - 20 mV/V

_ _ _ _ _ weak chargeability high; 5 - 10 mV/V

. . . . . very weak chargeability high; < 5 mV/V and poorly defined

A similar scheme describes the resistivity anomalies.

If a given IP anomaly has a resolvable peak then the dipole in which the peak value occurs is indicated by the notation "n=1" or "n=4", etc., beside the anomaly bar. The dipole in which the peak IP response occurs suggests in a very qualitative sense the depth to the top of the source. The location of the notation with respect to the anomaly bar represents the interpreted centre of the source body. The numerical value of the chargeability amplitude (MIP) of the peak response and the time constant range value (L(ong),M(edium),or S(hort)) are shown beside the IP anomaly bar. L(ong), M(edium) and S(hort) indicate values between 30 and 100 s, 1 and 10 s and .01 and .3 s respectively.

The test survey on the three lines of the Nettie Lake grid returned no pronounced anomalies that are coincident with the major faults. The majority of the chargeability variations are of low amplitude and can be ascribed to resistivity changes associated with the move from wet swampy areas to higher drier ground.

The only anomalies of note which appear to have a legitimate bedrock source lie on L-16E. The anomalies at the south end of the line are well defined and have moderate amplitude. The anomaly at station 400S lies just to the south of a Geoprobe resistivity low and a gold humus geochemical anomaly. The IP anomaly at station 900S is coincident with a weak Geoprobe resistivity low. At the north end of the survey line at station 2200N there is a very weak IP anomaly. A rise in the chargeability values at station 700N to 2 mV/V from a background of 1 mV/V is coincident with the northern branch of the Morrisette Creek Fault, however the amplitude is low and may simply be a local electrode effect. The resistivity measurements returned low values coincident with the fault.

If there are any questions with regard to the survey or the reporting please contact the undersigned at JVX Ltd.

Respectfully submitted,

JVX LIMITED

Neil Fiset, B.Sc. Qual - 2.13190
Geophysicist

Blaine Webster, B.Sc. Qual. 2.2328
President

Ontario

900

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Mining Lands Section
Geoscience Approvals Section
159 Cedar Street, 4th Floor
Sudbury, Ontario
P3E 6A5

Toll Free: 1-800-465-3880
Telephone: (705) 670-7264
Fax: (705) 670-7262

March 12, 1992

Our File: 2.14416
Your File: W9180-05081

Mining Recorder
Ministry of Northern Development
and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

SUBJECT: APPROVAL OF ASSESSMENT WORK SUBMITTED ON MINING CLAIMS L 1015715 ET AL MORRISETTE TOWNSHIP.

The deficiencies within your report of work (W9180-05081) have been rectified.

The assessment work credits for the Geophysical survey, section 14, Mining Act Regulations, submitted on the above work report have been approved as of March 9, 1992.

The enclosed Assessment credit form supersedes the one filed as part of the Notice of Deficiency dated February 4, 1992.

Please indicate this approval on your records.

Yours sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Branch
Mines and Minerals Division

TAA/jl
Enclosures:

cc: Assessment Files Office
Toronto, Ontario

Resident Geologist
Kirkland Lake, Ontario

ASSESSMENT WORK CREDIT

FILE NUMBER: 2.14416
DATE: March 12, 1992
RECORDER'S REPORT NUMBER: W9180-05081

RECORDED HOLDER: Medici Resources Limited

CLIENT NUMBER: 169389

TOWNSHIP OR AREA: Morrisette Township.

1) Assessment Credit for Geophysics Survey over 10 mining claims.

Total Assessment Credit claimed: $7,500.00

Level of Assessment Credit to be Approved on March 9, 1992 is $ 7,500.00

CLAIM NO.	VALUE OF ASSESSMENT WORK DONE ON CLAIM	VALUE APPLIED TO THIS CLAIM	VALUE ASSIGNED FROM CLAIM
L 1047138	$ 900.00	$ 0.00	$ 900.00
L 1047145	$ 950.00	$ 0.00	$ 950.00
L 1047146	$ 650.00	$ 0.00	$ 650.00
L 1048504	$1150.00	$ 0.00	$1150.00
L 1015715	$ 600.00	$ 0.00	$ 600.00
L 1015716	$1200.00	$ 0.00	$1200.00
L 1016311	$ 600.00	$ 0.00	$ 600.00
L 1016312	$ 700.00	$ 0.00	$ 700.00
L 1016315	$ 375.00	$ 0.00	$ 375.00
L 1016316	$ 375.00	$ 0.00	$ 375.00
L 1110524	$ 0.00	$ 1200.00	$ 0.00
L 1110525	$ 0.00	$ 1200.00	$ 0.00
L 1110528	$ 0.00	$ 1200.00	$ 0.00
L 1110529	$ 0.00	$ 1200.00	$ 0.00
L 1110530	$ 0.00	$ 1200.00	$ 0.00
L 1137000	$ 0.00	$ 1500.00	$ 0.00
101 CLAIMS	$ 7500.00	$ 7500.00	$ 7500.00

Ontario Ministry of Northern Development and Mines

After Recording Claim

Mining Act

W 9180.05081

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.14416

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s)		Client No.
Medici Resources Limited		T-5222/69389
Address		**Telephone No.**
25 Grenville Street, Suite 2103, Toronto M4Y2L5		416-360-3894
Mining Division	**Township/Area**	**M or G Plan No.**
Larder Lake	Morrisette	G-3217
Dates Work Performed From: May 26/90	To: May 29/90	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	Induced Polarization
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

RECEIVED
JAN 15 1992
MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs $ 7500

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
JVX Ltd	60 West Wilmot Street, Unit 22
	Richmond Hill ON L4B 1M6
Blaine Webster	~~27 Blue Spruce Lane, Thornhill Ont. L3T 5K~~ same as above.

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date	Recorded Holder or Agent (Signature)
	11/5/91	F Sharpley

Certification of Work Report

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

Name and Address of Person Certifying

F.J. Sharpley, 2372 Sinclair Circle, Burlington ON L7P 3C3

Telepone No.	Date	Certified By (Signature)
416-335-9609	11/5/91	F Sharpley

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
$7500.00	November 08, 1991		RECEIVED LARDER LAKE MINING DIVISION NOV 8 1991
	Deemed Approval Date 4/5 February 06 1992	Date Approved	
	Date Notice for Amendments Sent		TIME 11:26 am

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	L 1015715	1	1000	0	1000	
	1016312	1	1000	0	1000	
	1016315	1	1000	0	1000	
	1016316	1	1000	0	1000	
	104 7138	1	1000	0	1000	
	104 7145	1	1000	0	1000	
	104 7146	1	1000	0	1000	
	104 8504	1	500	0	500	
	111 0524			1200		
	111 0525			1200		
	111 0528			1200		
	111 0529			1200		
	1110530			1200		
	1137000			1500		
	14		7500	7500	7500	
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

(03/91)

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature	Date

Ontario

Ministère du Développement du Nord et des mines

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

DOCUMENT No. W 9180 • 05081

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain		
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type I. P.	7500	
			7500
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		7500

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs Total partiel des coûts indirects		
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) **Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles**		

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as T. Shrapley Agent (Recorded Holder, Agent, Position in Company) I am authorized to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ (titulaire enregistré, représentant, poste occupé dans la compagnie) je suis autorisé à faire cette attestation.

Signature	Date
T. Shrapley	11/5/91

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

Medici Resources LimitedLIMITED
25 Grenville Street, Suite 2103
Toronto ON
M4Y 2X5
Tel: 416-360-3894

November 05,1991

Mining Recorder
Larder Lake Mining Division
Ontario Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Re: Assessment Work
Larder Lake Mining Division
Claims: 6 - Morrisette Township, Ontario

L 1110524 to L 1110525
L 1110528 to L 1110530 inclusive
L 1137000

Dear Sir:

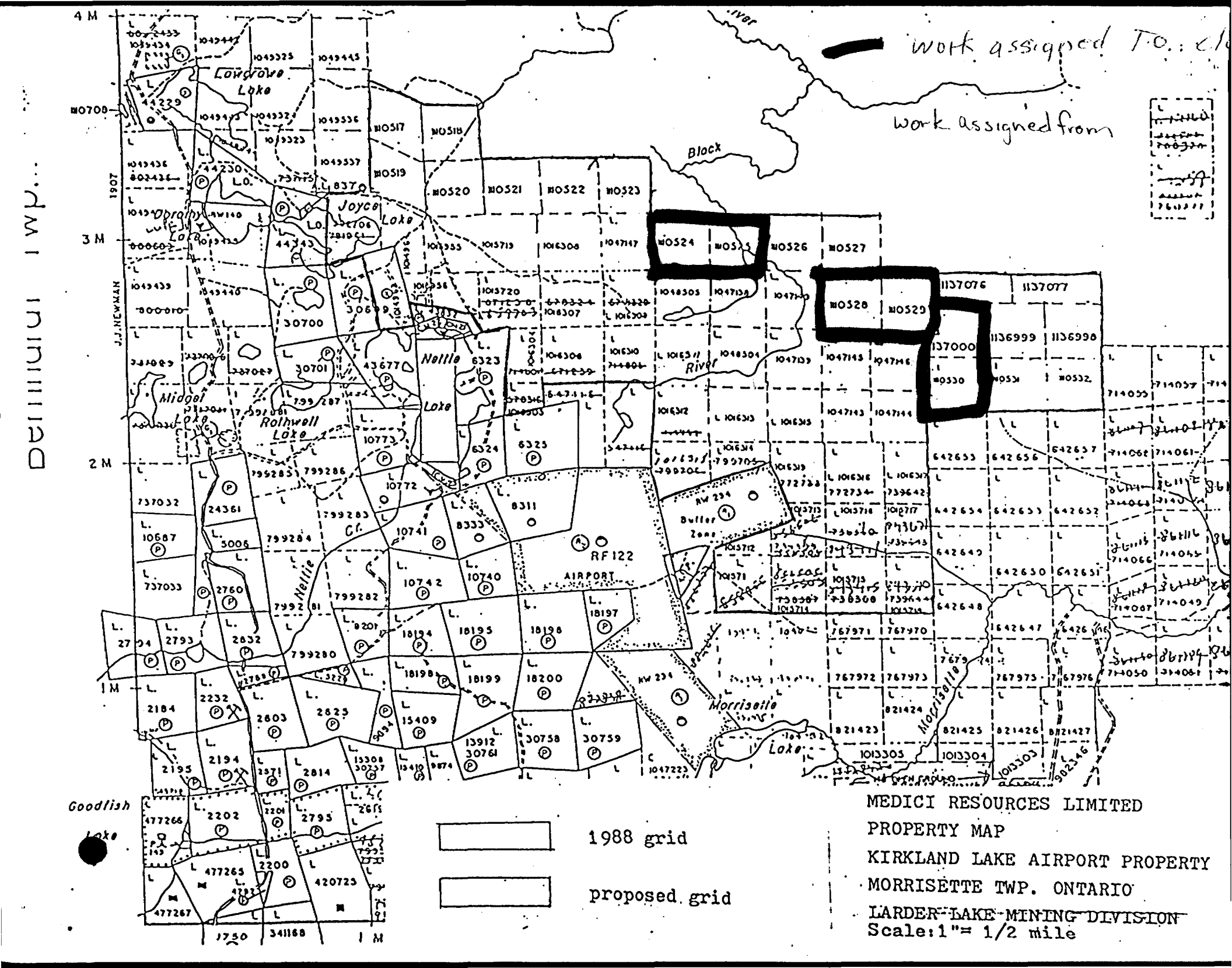
Enclosed is a Report of Work Conducted After Recording Claim for the above 6 claims in Morrisette Township. Two copies of the Report on Geophysical Surveys by Blaine Webster of TVX Ltd. are enclosed.

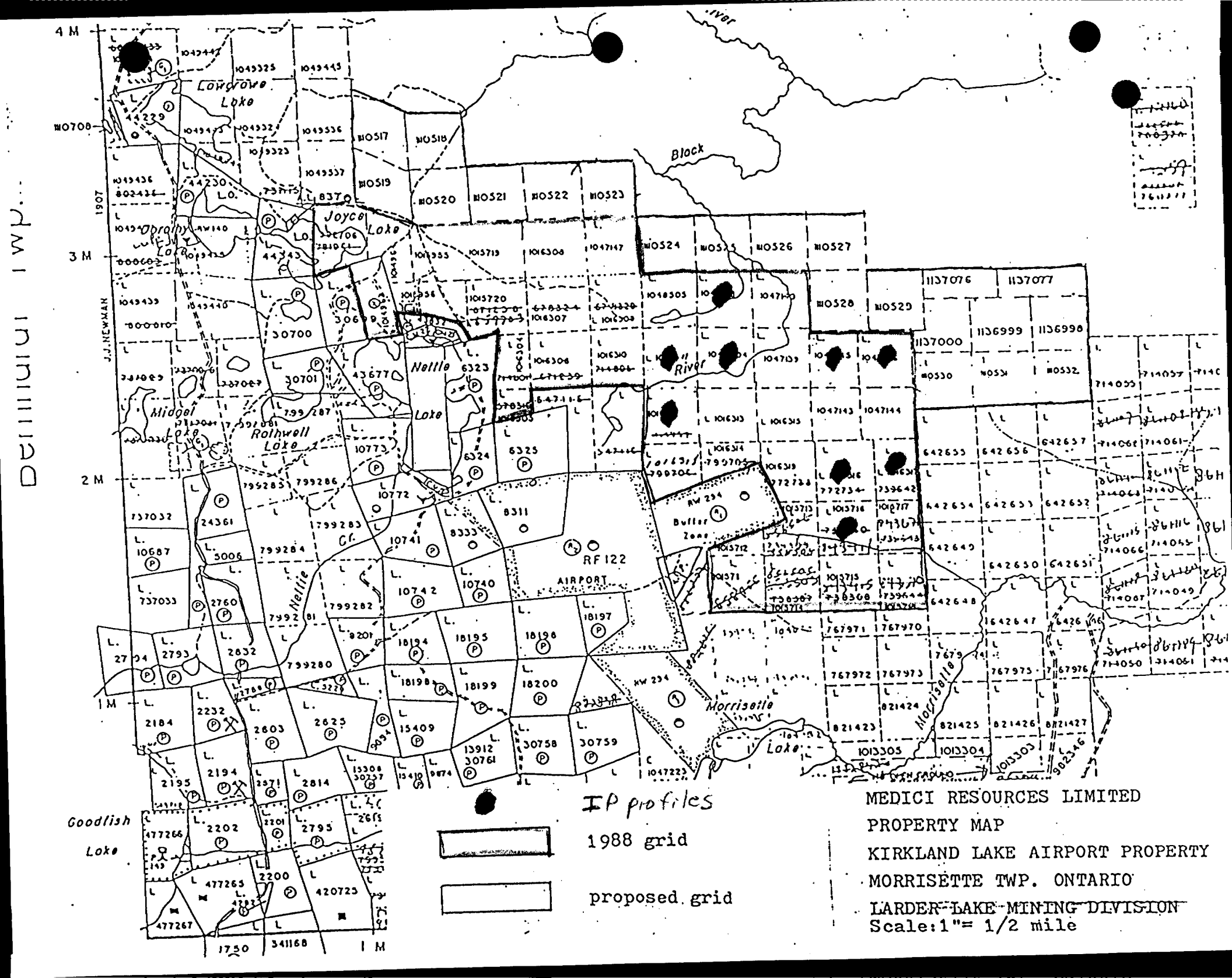
Your attention to this matter is greatly appreciated.

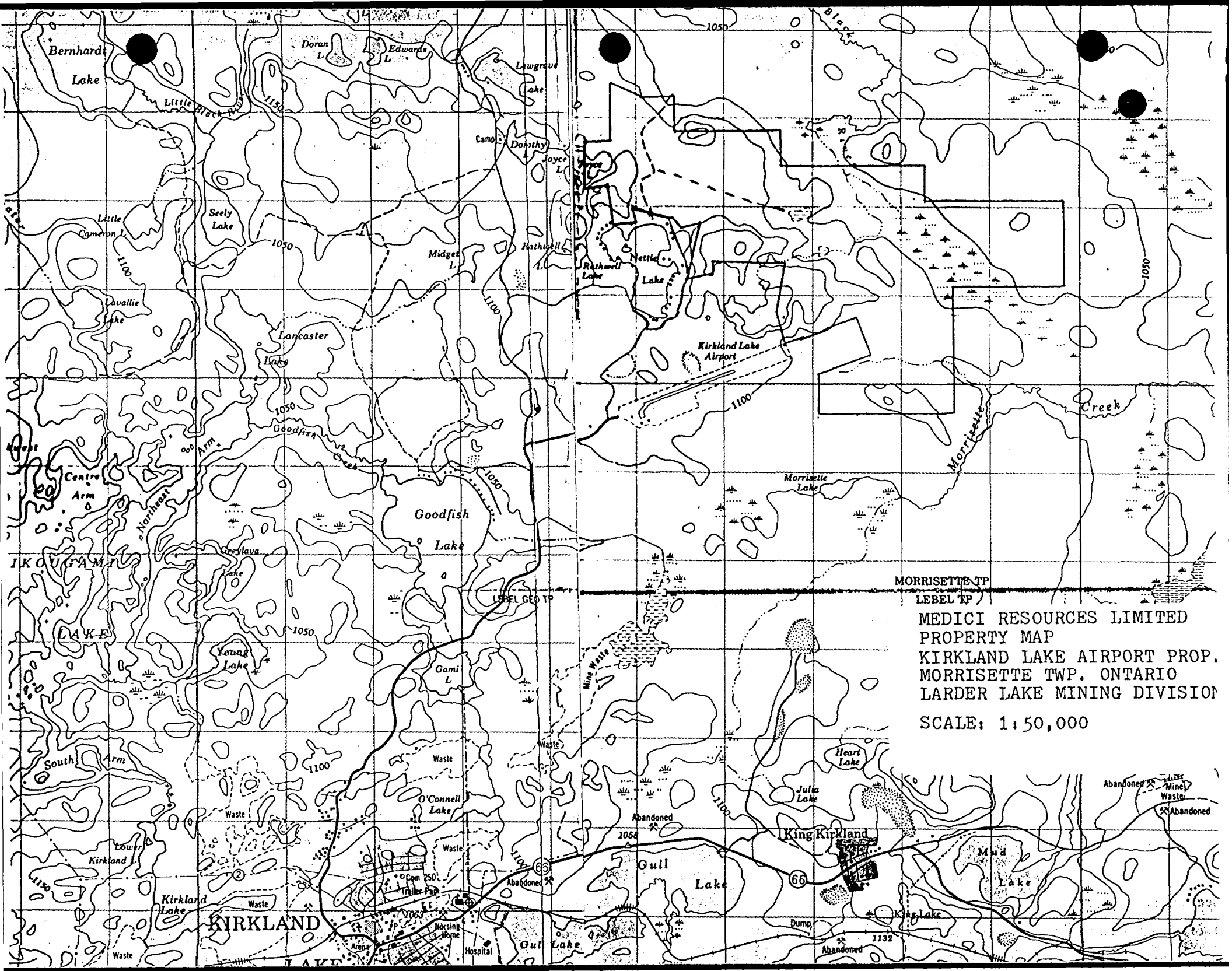
Your truly,

Medici Resources Limited

F.J. Sharpley
Agent


work assigned to: cl
work assigned from
Lowrowe Lake
Joyce Lake
Block River
Nellie Lake
Midget Lake
Rothwell Lake
Nellie Cr.
RF 122
AIRPORT
Buffer Zone
Morrisette Lake
Goodfish Lake
4 M
3 M
2 M
1 M
1907
J.J. NEWMAN
MORRISETTE TWP.
1988 grid
proposed grid
MEDICI RESOURCES LIMITED
PROPERTY MAP
KIRKLAND LAKE AIRPORT PROPERTY
MORRISETTE TWP. ONTARIO
LARDER LAKE MINING DIVISION
Scale: 1"= 1/2 mile


4 M
3 M
2 M
1 M
Lowrowe Lake
Joyce Lake
Block River
Nellie Lake
Midgol Lake
Rothwell Lake
Nellie Cr.
RF 122
AIRPORT
Buller Zone
Morrisette Lake
Goodfish Lake
J.J. NEWMAN
1907
Morrisette Twp.
IP profiles
1988 grid
proposed grid
MEDICI RESOURCES LIMITED
PROPERTY MAP
KIRKLAND LAKE AIRPORT PROPERTY
MORRISETTE TWP. ONTARIO
LARDER LAKE MINING DIVISION
Scale:1"= 1/2 mile


MEDICI RESOURCES LIMITED
PROPERTY MAP
KIRKLAND LAKE AIRPORT PROP.
MORRISETTE TWP. ONTARIO
LARDER LAKE MINING DIVISION
SCALE: 1:50,000
MORRISETTE TP
LEBEL TP
LEBEL GEO TP
KIRKLAND
KIRKLAND LAKE
Bernhardt Lake
Little Black River
Doran L
Edwards L
Lawgrove Lake
Camp
Dorothy L
Joyce L
Seely Lake
Little Cameron L
Midget L
Rathwell L
Rathwell Lake
Nettie Lake
Kirkland Lake Airport
Lancaster Lake
Goodfish Creek
Goodfish Lake
Morrisette Creek
Morrisette Lake
Centre Arm
Northeast Arm
Greylava Lake
IKOUGAMI LAKE
Young Lake
Gami L
Mine Waste
South Arm
O'Connell Lake
Lower Kirkland L
Heart Lake
Julia Lake
Abandoned
King Kirkland
Gull Lake
Mud Lake
King Lake
Dump
Com 250
Trailer Park
Arena
Norsing Home
Hospital
Waste
1050
1100
1150
1058
1132

Instrument Specifications

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY
S R O – SURFACE RIGHTS ONLY
M.+ S - MINING AND SURFACE RIGHTS

	Description	Order No	Date	Disposition	File
R1	Section 36/80	NRW 20/79	5 3 79	S R & M R	160705
R2	Section 36/80	NRW 56/80	3-1 80	M R O.	160705

SAND and GRAVEL

(G1) GRAVEL FILE 46122

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON

NOTES

Surface rights on Mining Claim L 10772 temporarily withdrawn File: 43155

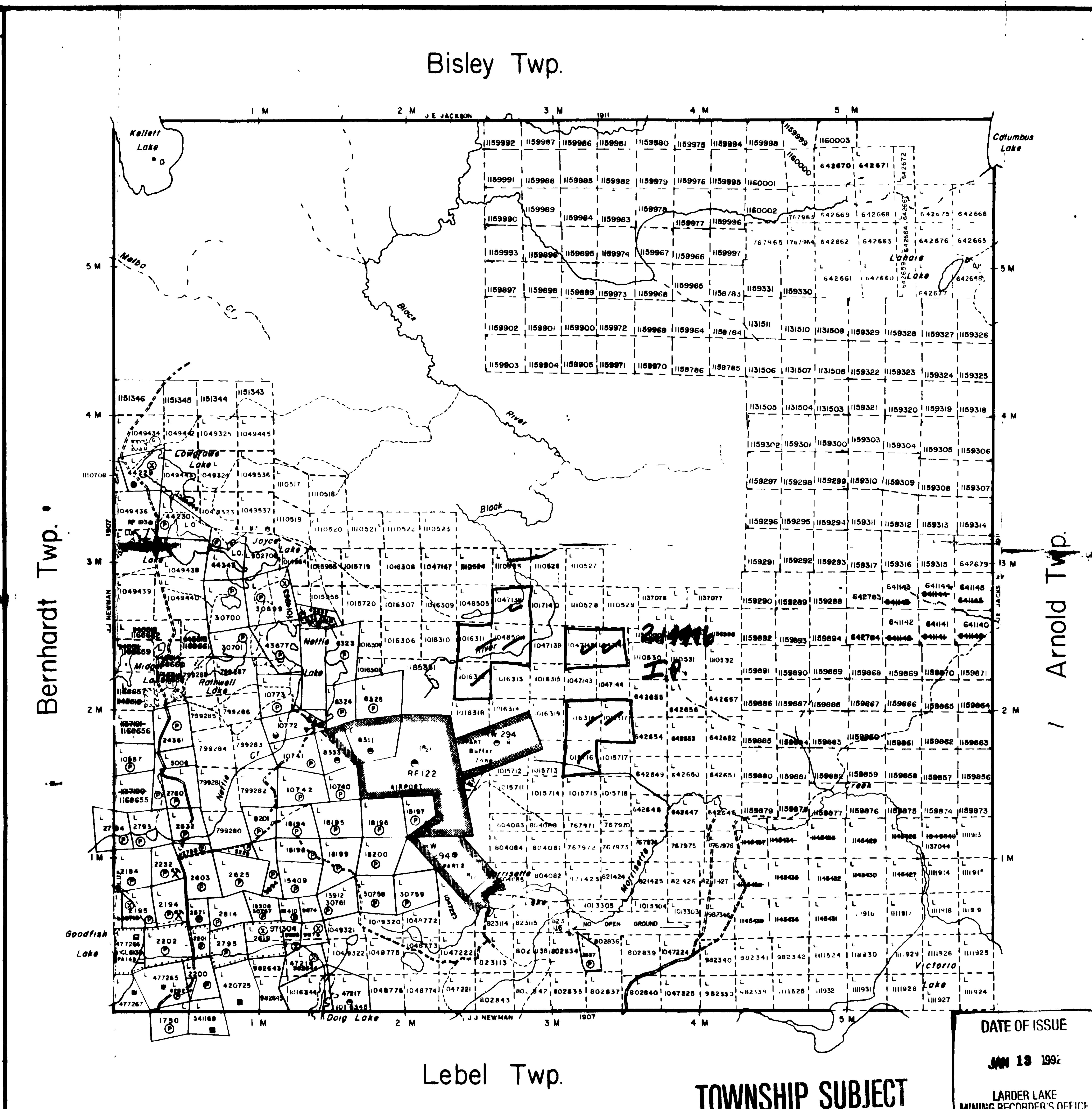
Mining Claims outlined thus ▭ are subject to rights and privileges granted by Mining Court Order — April 1, 1946. File: 19697

NOTICE OF FORESTRY ACTIVITY

THIS TOWNSHIP / AREA FALLS WITHIN THE TIMISKAMING MANAGEMENT UNIT AND MAY BE SUBJECT TO FORESTRY OPERATIONS. THE MNR UNIT FORESTER FOR THIS AREA CAN BE CONTACTED AT: P.O. BOX 129 SWASTIKA, ONT. P0K 1T0 705-642-3222

32D04NW0305 2.14416 MORRISETTE

200



TOWNSHIP SUBJECT TO FORESTRY OPERATIONS

DATE OF ISSUE
JAN 13 1992
LARDER LAKE MINING RECORDER'S OFFICE

LEGEND

HIGHWAY AND ROUTE No.
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES ETC
LOTS MINING CLAIMS PARCELS ETC
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT SURFACE & MINING RIGHTS	(P) or ●
SURFACE RIGHTS ONLY	◓
MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	(L) or ■
SURFACE RIGHTS ONLY	⬒
MINING RIGHTS ONLY	⬓
LICENCE OF OCCUPATION	L O. or ▼
ORDER IN COUNCIL	OC
RESERVATION	(R)
CANCELLED	⊗
SAND & GRAVEL	(G)

NOTE MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT R S O 1970 CHAP 380 SEC 63 SUBSEC 1

SCALE 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

TOWNSHIP 2.14416

MORRISETTE

M.N.R. ADMINISTRATIVE DISTRICT
KIRKLAND LAKE
MINING DIVISION
LARDER LAKE
LAND TITLES / REGISTRY DIVISION
TIMISKAMING

Ontario
Ministry of Natural Resources
Land Management Branch

Date JANUARY 1985
Number G-3217

CIRCULATED FEB. 26, 1990

Joyce L.

Nettie L.

Rathwell L.

MEDICI RESOURCES LIMITED
GRID MAP
KIRKLAND LAKE AIRPORT PROP.
MORRISETTE TWP. ONTARIO
LARDER LAKE MINING DIVISION

SCALE: 1"= 1/4 mile

SELF POTENTIAL

AKE AIRPORT

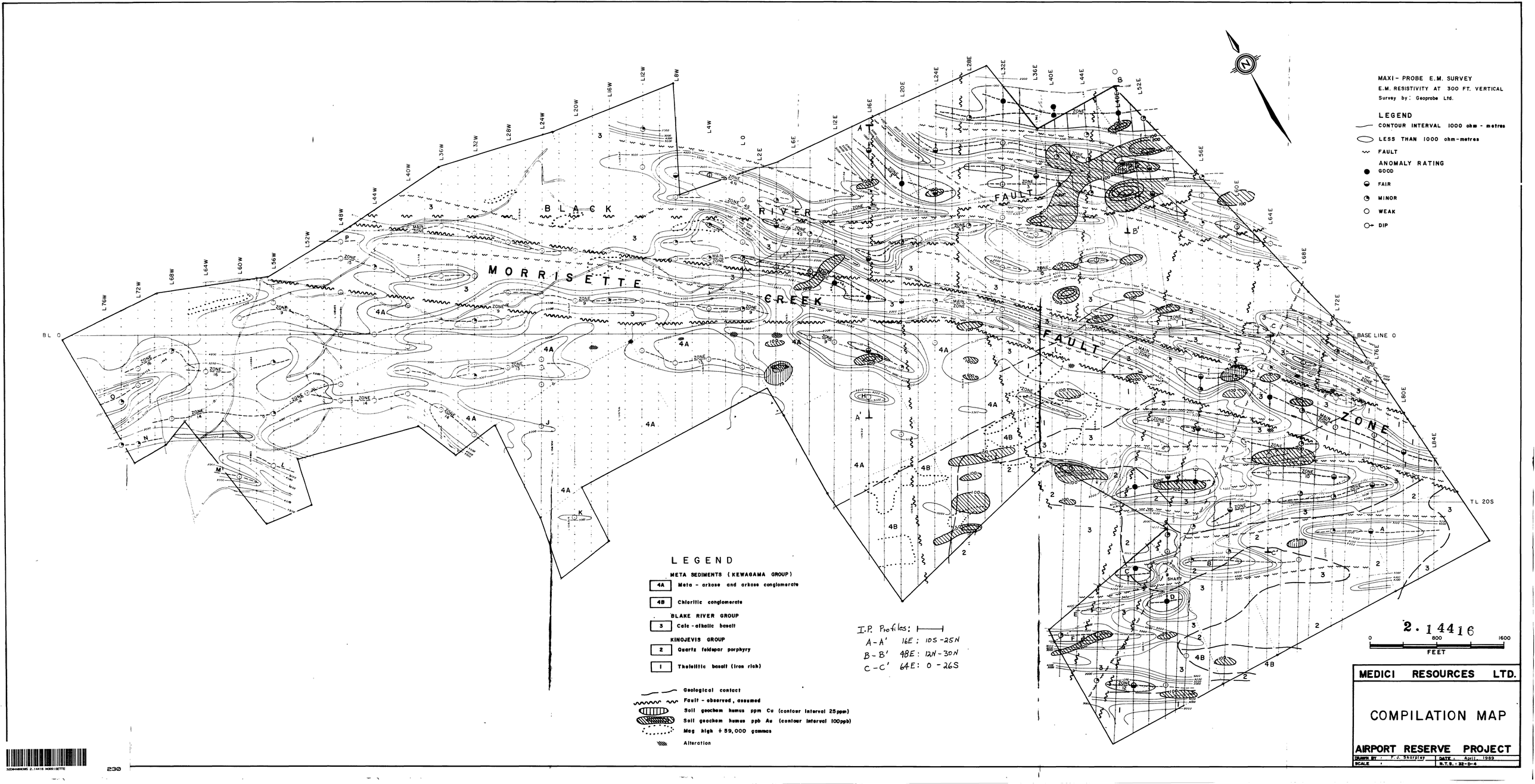
Claim boundary

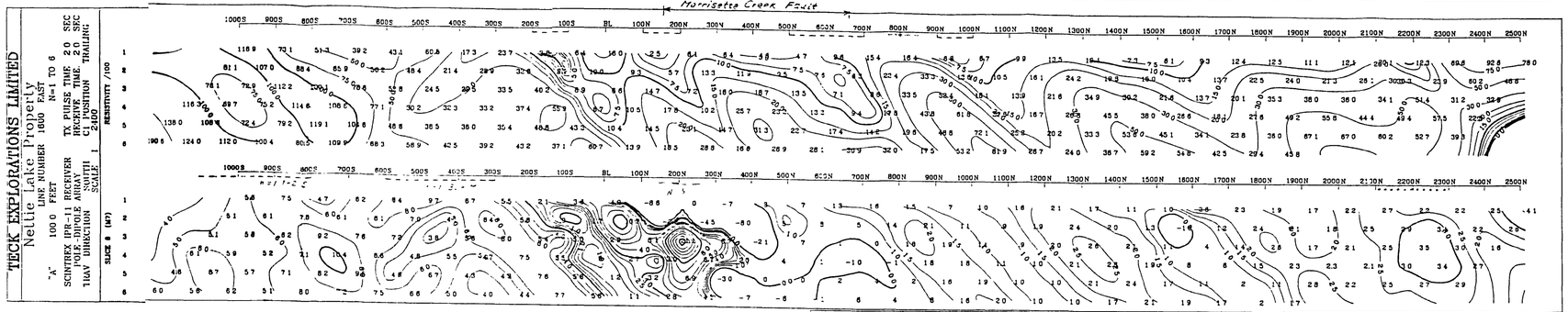
I.P profiles.

MEDICI RESOURCES LIMITED
OUTCROP MAP
KIRKLAND LAKE AIRPORT PROP.
MORRISETTE TWP., ONTARIO
LARDER LAKE MINING DIVISION

SCALE: 1"= 1/4 mile

I I.P. profile

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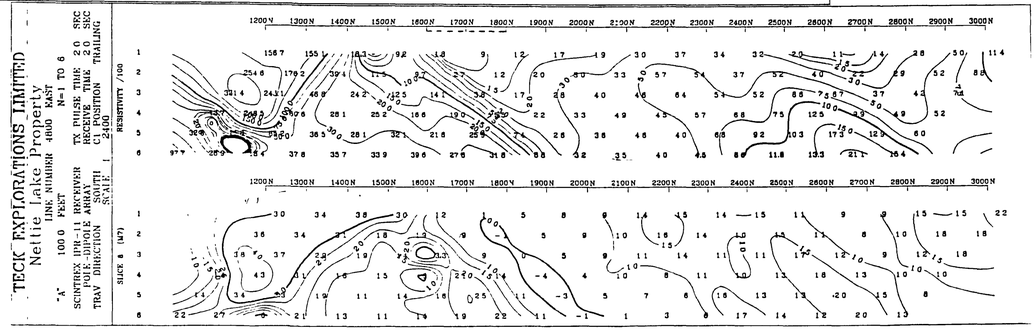
Nellie Lake Property
LINE NUMBER 1600 EAST
100 0 FEET N=1 TO 6
"A"
SCINTREX IPR-11 RECEIVER TX PULSE TIME 2 0 SEC
POLE-DIPOLE ARRAY RECEIVE TIME 2 0 SEC
TRAV DIRECTION SOUTH C1 POSITION TRAILING
2400
SCALE 1
RESISTIVITY /100
SLICE 8 (M?)
Morrisette Creek Fault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Nellie Lake Property
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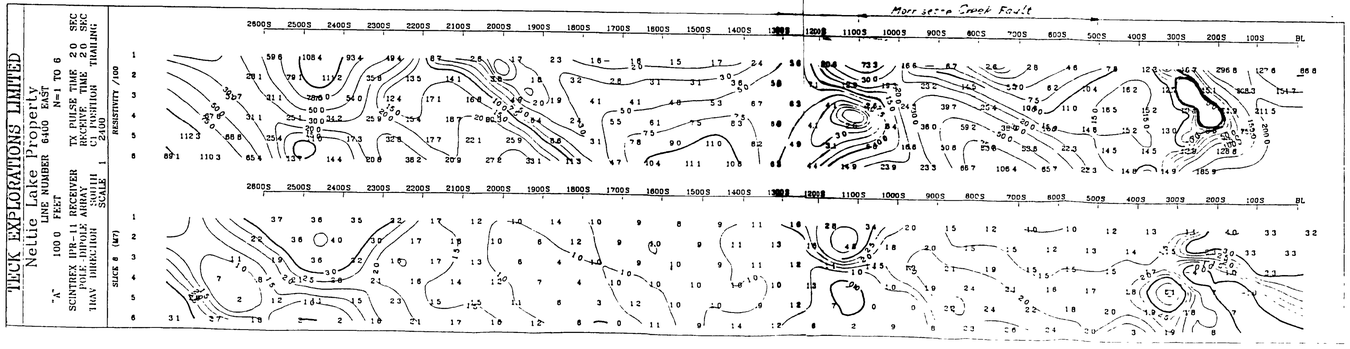
2400
SCALE 1
RESISTIVITY /100
SLICE 8 (M?)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Nellie Lake Property
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"A"
SCINTREX IPR-11 RECEIVER TX PULSE TIME 2 0 SEC
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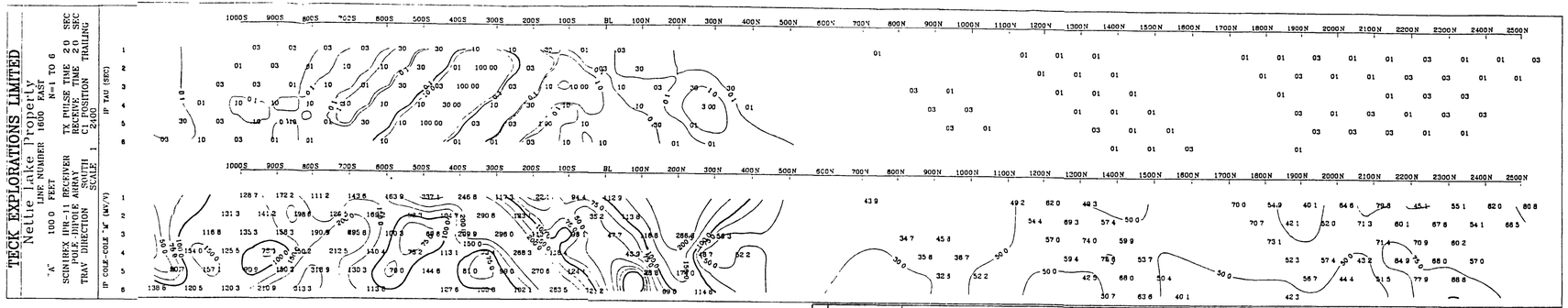
2400
SCALE 1
RESISTIVITY /100
SLICE 8 (M?)
Morrisette Creek Fault

240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Nellie Lake Property
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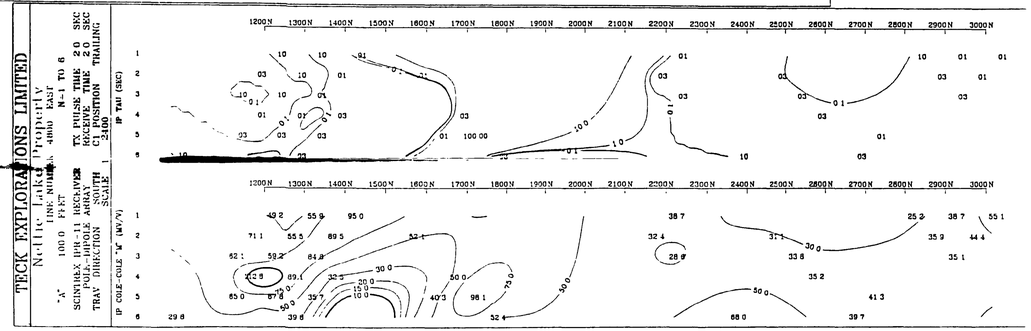
100 0 FEET
N=1 TO 6
"A"
SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV DIRECTION SOUTH
TX PULSE TIME 2 0 SEC
RECEIVE TIME 2 0 SEC
C1 POSITION TRAILING
2400
SCALE 1
IP TAU (SEC)
IP COLE-COLE "M" (MV/V)
1000S 900S 800S 700S 600S 500S 400S 300S 200S 100S BL 100N 200N 300N 400N 500N 600N 700N 800N 900N 1000N 1100N 1200N 1300N 1400N 1500N 1600N 1700N 1800N 1900N 2000N 2100N 2200N 2300N 2400N 2500N


TECK EXPLORATIONS LIMITED
Nellie Lake Property
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N=1 TO 6
"A"
SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV DIRECTION SOUTH
TX PULSE TIME 2 0 SEC
RECEIVE TIME 2 0 SEC
C1 POSITION TRAILING
2400
SCALE 1
IP TAU (SEC)
IP COLE-COLE "M" (MV/V)
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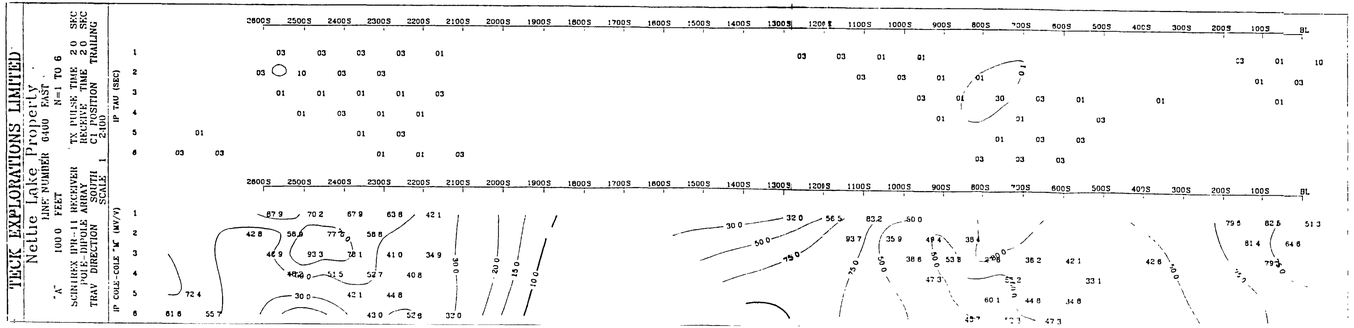
2.1441


TECK EXPLORATIONS LIMITED
Nellie Lake Property
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N=1 TO 6
"A"
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POLE-DIPOLE ARRAY
TRAV DIRECTION SOUTH
TX PULSE TIME 2 0 SEC
RECEIVE TIME 2 0 SEC
C1 POSITION TRAILING
2400
SCALE 1
IP TAU (SEC)
IP COLE-COLE "M" (MV/V)
2600S 2500S 2400S 2300S 2200S 2100S 2000S 1900S 1800S 1700S 1600S 1500S 1400S 1300S 1200S 1100S 1000S 900S 800S 700S 600S 500S 400S 300S 200S 100S BL

250