A LOGISTICAL AND INTERPRETIVE REPORT
ON
SPECTRAL IP/RESISTIVITY SURVEYS
CONDUCTED ON THE
LAC McVITTIE JOINT VENTURE PROPERTY
McVITTIE TOWNSHIP
NE ONTARIO
FOR
ROYAL OAK MINES INC. EXPLORATION

JVX Ltd.

A LOGISTICAL AND INTERPRETIVE REPORT

ON

SPECTRAL IP/RESISTIVITY

CONDUCTED ON

THE LAC McVITTIE JOINT VENTURE PROPERTY

McVITTIE TOWNSHIP

ONTARIO

BY JVX LTD.

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JVX Ref: 9655
October 1996

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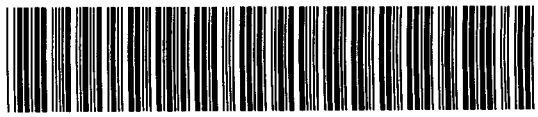

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1. INTRODUCTION

JVX Ltd. conducted Spectral Induced Polarization/Resistivity (IP) surveys in September, 1996 on the Lac McVittie Joint Venture Property, McVittie Township, NE Ontario. It is located near Kirkland Lake, Ontario, on N.T.S. map 32D/4. Claims are indicated on Figure 2 (Grid/Claim Map) and Figure 3 (Property Claim Map).

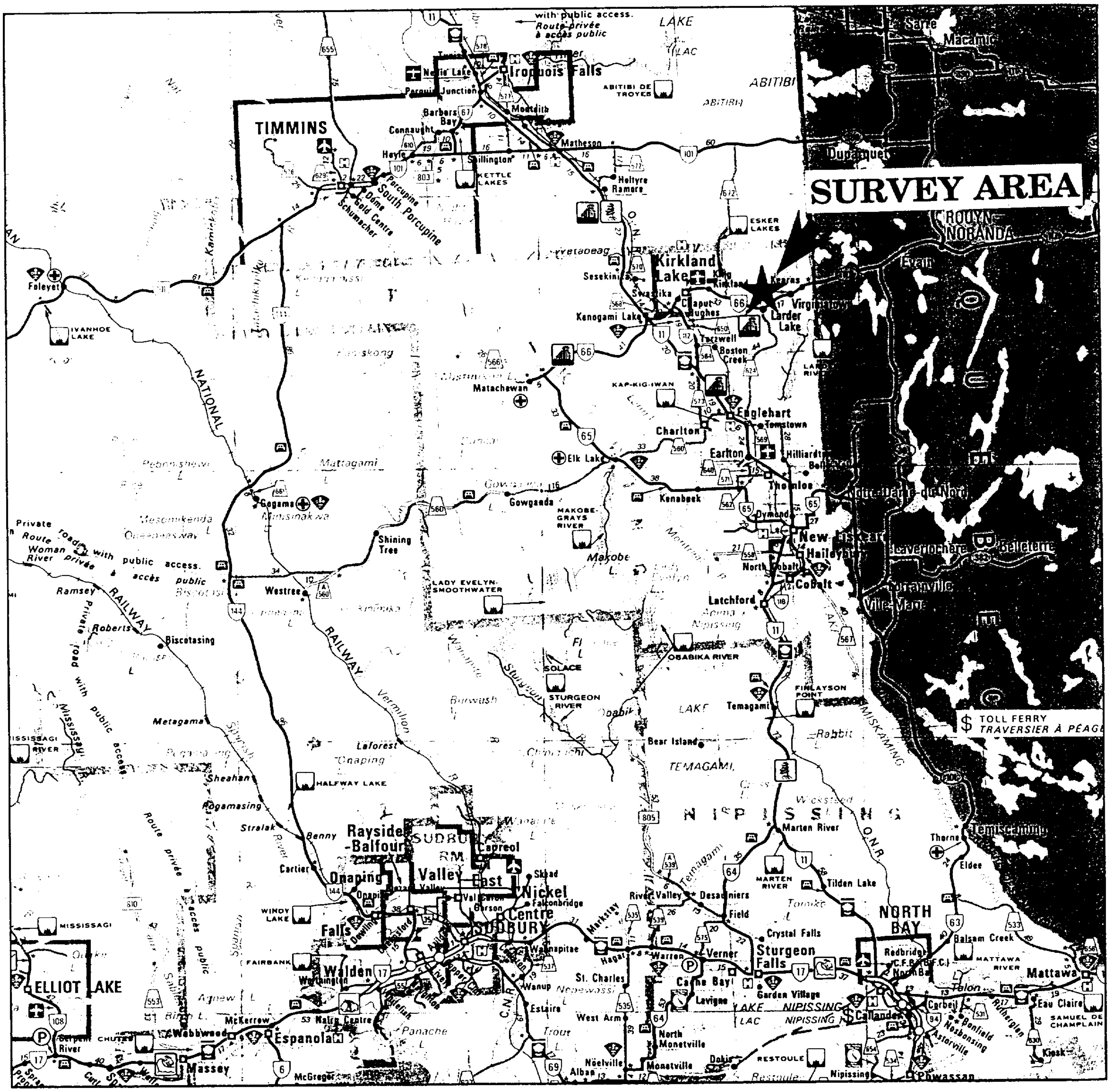
Geophysical surveys were carried out to delineate anomalies which may be indicative of economic mineralization and possible gold targets for future drilling.

2. SURVEY SPECIFICATIONS

Instrumentation and survey specifications for the Lac McVittie Joint Venture Property are outlined in the following tables:

Spectral I.P./Resistivity Survey Parameters	
Transmitter	Scintrex IPC-7/2.5 kW
Receiver	Scintrex IPR-11
Array Type	Pole-Dipole
Transmit Cycle Time	2 sec
Receive Cycle Time	2 sec
Number of Potential Electrode Pairs	6
Electrode Spacing	100 feet
Number of Lines Surveyed	19
Survey Coverage	64 700 feet (19.7 km)

Table 1: Specifications for the IP/Resistivity Survey



LOCATION MAP

ROYAL OAK MINES INC.

LAC McVITTIE JOINT VENTURE PROPERTY

McVittie Twp., Ontario

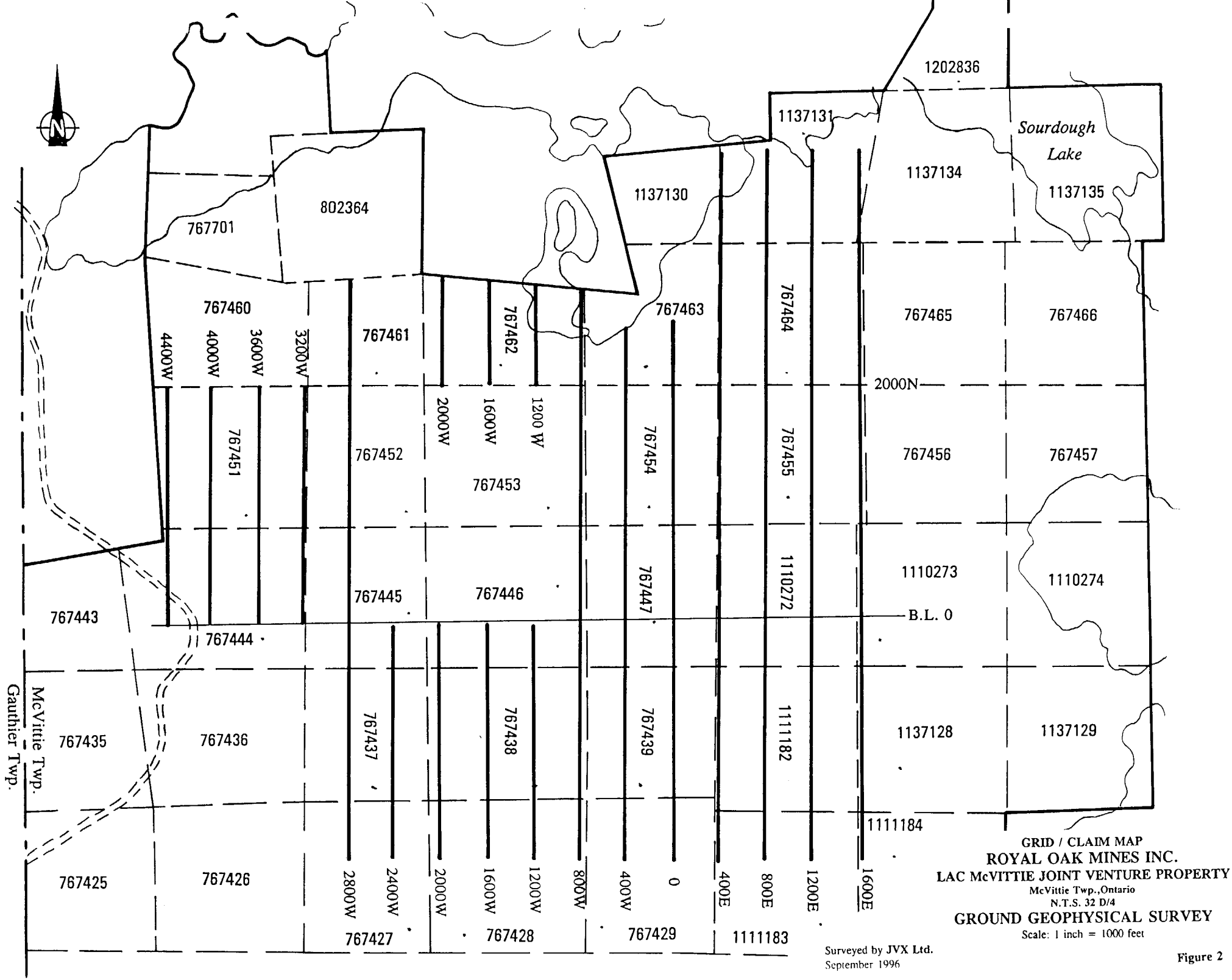
N.T.S. 32 D/4

GROUND GEOPHYSICAL SURVEY

Scale: 1 : 1,600,000

Surveyed by **JVX Ltd.**
September 1996

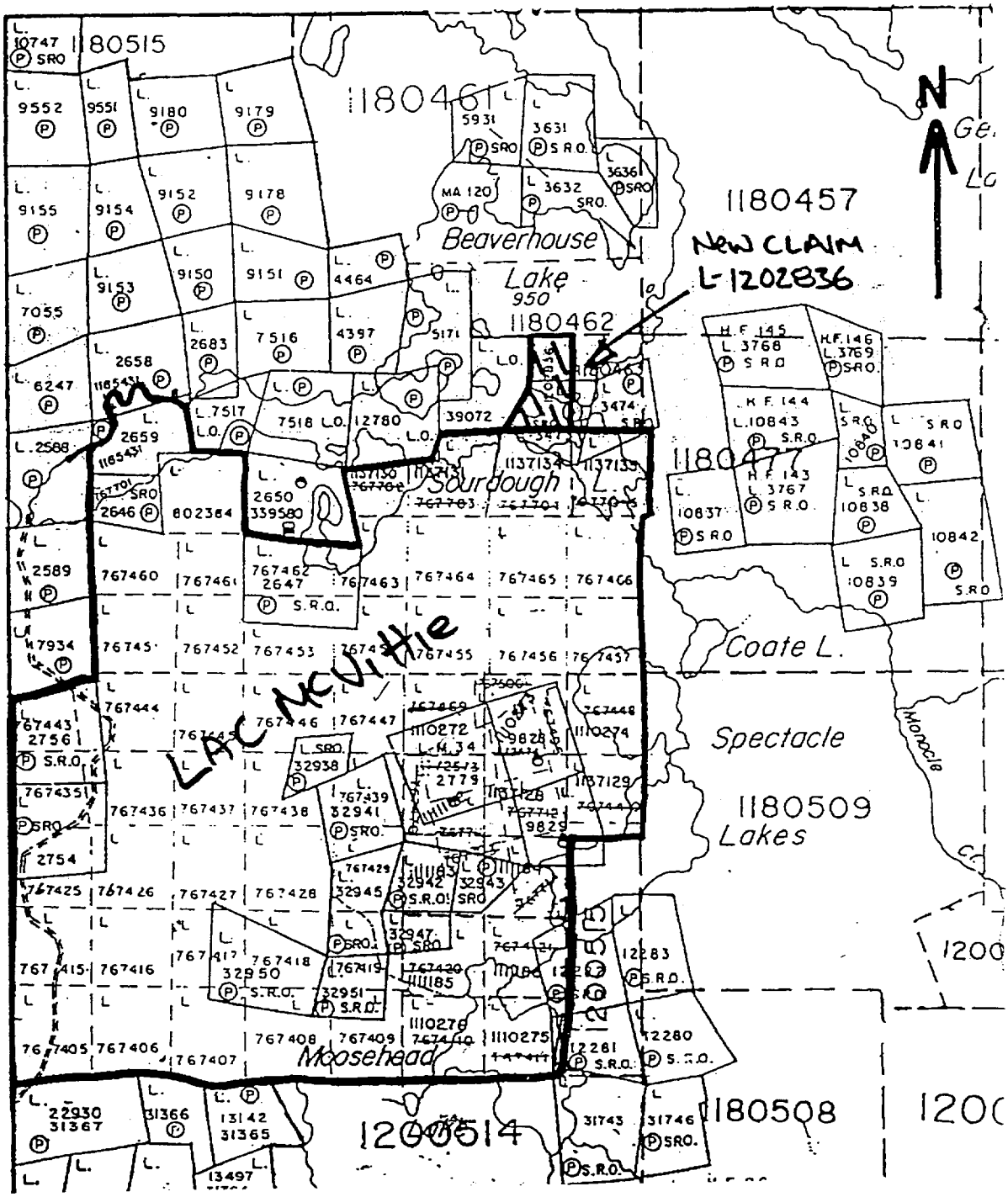
Figure 1



GRID / CLAIM MAP
ROYAL OAK MINES INC.
LAC McVITTIE JOINT VENTURE PROPERTY
McVittie Twp., Ontario
N.T.S. 32 D/4
GROUND GEOPHYSICAL SURVEY
Scale: 1 inch = 1000 feet

Surveyed by JVX Ltd.
September 1996

Figure 2



PROPERTY CLAIM MAP

ROYAL OAK MINES INC.

LAC McVITTIE JOINT VENTURE PROPERTY

McVittie Twp.,Ontario

N.T.S. 32 D/4

GROUND GEOPHYSICAL SURVEY

Scale: 1 : 32,000

Surveyed by **JVX Ltd.**
September 1996

Figure 3

The surveyed property is located on Figure 1 and the survey grid is shown on Figure 2. A production summary of the grid is listed in the following table:

INDUCED POLARIZATION DATA PRODUCTION REPORT					
Grid	**Line**	**From Station**	**To Station**	**Distance (m)**	**No. of Readings**
		Lac McVittie Property			
McVittie	4400W	100S	2000N	2100	20
McVittie	4000W	100S	2000N	2100	19
McVittie	3600W	100S	2000N	2100	20
McVittie	3200W	100S	2000N	2100	20
McVittie	2800W	2200S	3200N	5400	53
McVittie	2400W	2100S	100N	2200	21
McVittie	2400W	1900N	3200N	1300	12
McVittie	2000W	2100S	100N	2200	21
McVittie	2000W	1900N	3000N	1100	10
McVittie	1600W	2100S	100N	2200	21
McVittie	1600W	1900N	2900N	1000	9
McVittie	1200W	2100S	2200N	4300	42
McVittie	800W	2100S	2000N	4100	40
McVittie	400W	2100S	1900N	4000	39
McVittie	0	2100S	2700N	4800	47
-McVittie	400E	2100S	3900N	6000	59
McVittie	800E	2100S	3800N	5900	49
McVittie	1200E	2100S	3600N	5700	53
McVittie	1600E	2100S	4000N	6100	60
TOTAL				**64 700 ft**	**615**

Table 2: Spectral IP/Resistivity Production Summary (100 ft stations)

3. PERSONNEL

Mike Fecteau (Party Chief):
Mr. Fecteau was responsible for the day-to-day operations of the survey and data quality.

Andrew Hwang (Geophysicist):
Mr. Hwang assisted with the data plotting.

Dagmar Piska (Draftsperson), Vaso Lymberis(Draftsperson):
Ms. Piska and Ms. Lymberis carried out the manual drafting of the Figures/Plates and assembled this report.

Joe Mihelcic (Geophysicist):
Mr. Mihelcic plotted and interpreted the data, and prepared this report.

Blaine Webster (President, JVX Ltd.):
Mr. Webster provided overall supervision of the survey.

4. FIELD INSTRUMENTATION

JVX supplied the geophysical instruments described below. Additional information about the geophysical methods may be found in Appendix A.

4.1 Transmitter

A **Scintrex IPC-7/2.5 kW Time Domain Transmitter** powered by an eight horsepower motor generator was used. The transmitter generates square wave current output with a period of 4, 8, or 16 seconds. A digital multi-meter in series with the transmitter was used to measure the magnitude of the current output.

4.2 Receiver

A **Scintrex IPR-11 Time Domain Receiver** was used. This unit samples the voltage decay curve as measured by the potential electrodes at ten points in time. Readings were repeated until they converged to within a tolerance level, and the data were stored in solid-state memory.

5. DATA PROCESSING

After being transferred to a field computer at the end of each survey day, the data were examined, corrected, and organized by the instrument operator. The results were plotted on the following printers:

- STAR NX-80 colour dot-matrix printer
- EPSON FX-80 dot-matrix printer

These plots were used to monitor progress and data quality, and to make an initial interpretation. Thus survey parameters and design were altered when necessary. The data were sent by courier to the head office of JVX in Richmond Hill, Ontario. They were processed and results were plotted on the following printers as was necessary:

- HEWLETT PACKARD DESIGNJET 750C colour plotter
- HEWLETT PACKARD 5P printer

The processing procedure follows:

5.1 IP and RESISTIVITY

Steps 1 and 2 were performed both in the field and in the head office. Steps 3 and 4 were performed at the head office.

1) The **GEOPAK IPSECT or GEOSOFT Package** was used to generate colour pseudosections of chargeability and resistivity data.

2) The in-house **JVX SOFT II Package** was used to perform spectral analysis of the time-domain data. This step was crucial to maximizing the information that can be obtained from IP data. This software analyses the shape of the IP decay curve, giving information about:

(a) the grain size (indicated by the parameter τ),
(b) the uniformity of the grain size (indicated by c), and
(c) the magnitude of the chargeable source (indicated by *M-IP*).

(Please see Appendix A for more information about spectral analysis.)

3) The pseudosections from 2 above were aligned in **AUTOCAD**, then plotted.

4) Contoured plan maps of chargeability, resistivity, and spectral tau data from dipole 2 were produced using **JVX** in-house software and the **GEOPAK or GEOSOFT Line Processing Package**. Additional drafting on these maps was done through **AUTOCAD**.

6. INTERPRETATION METHODOLOGY

JVX uses its many years of experience in geophysical interpretation to extract the most accurate information from the data. The procedures involved are simplified for the sake of clarity.

6.1 IP and RESISTIVITY

The IP and resistivity data are interpreted using the following procedure:

1) Chargeability anomalies are picked on the pseudosections and classified using the following scheme *as a guide*

——— *Very Strong* (> 30 mV/V) and well defined

——— *Strong* (20 to 30 mV/V) and well defined

— — *Moderate* (10 to 20 mV/V) and well defined

– – – *Weak* (5 to 10 mV/V) and well defined

· · · · · · *Very Weak* (3 to 5 mV/V) and poorly defined

x x x x x *Extremely Weak* (<3 mV/V) and very poorly defined

The peak of the anomaly provides a qualitative indication of the depth to the top of the anomalous source and the location of the centre of the body. Where possible, the location and dipole number of the peak are written beside the anomaly bar.

2) The spectral characteristics of the anomalies are examined. The peak value of *M-IP* is noted, and τ is classified according to the following scheme:

L *Long* (> 10.0 sec)

M *Medium* (1.0 to 10.0 sec)

S *Short* (< 1.0 sec)

3) Resistivity anomalies are picked on the pseudosections and classified using the following scheme *as a guide*:

no symbol	**VH(*n*)**	*Very High* (> 25 000 Ωm) — highly silicified
no symbol	**H(*n*)**	*High* (> 10 000 Ωm) — probably silicified
no symbol	**WH(*n*)**	*Weak High* (< 10 000 Ωm) — relative increase compared to surrounding material
— —	**SL(*n*)**	*Strong Low* — strong decrease in resistivity
– – –	**ML(*n*)**	*Medium Low* — medium decrease in resistivity
. . . . .	**WL(*n*)**	*Weak Low* — slight resistivity decrease relative to surrounding material

where *n* is the dipole number at which the anomaly peak is located.

4) The anomalies from steps 1 to 3 are marked on the compilation map.

5) Zones of high chargeability are interpreted based on spectral, resistivity, and geometric information.

6) The anomalies are rated according to JVX' past experience. The following are some of the characteristics that may be indicative of economic mineralization:

- A moderate to high chargeability anomaly flanked by a narrow finger-shaped resistivity high.
- High *M-IP* values (> 300 mV/V), which are not associated with a resistivity low, indicating a large quantity of metallic sulphides.
- Low τ values (short time constant) which indicate that the chargeable source is disseminated and fine-grained. Gold mineralization is generally associated with fine-grained sulphides. However, in environments where the sulphides have been remobilized, gold mineralization may be associated with coarse-grained sulphides (long time constant).
- In particular, very high *M-IP* values (> 900 mV/V) with short τ are typically the most favourable spectral IP targets.

7. DISCUSSION

The anomalies are plotted on the Compilation Map (Plate 7). General magnetic high and low zones are sketched on this map from a previous survey (JVX ref. 9331) to enhance the interpretation. There are several IP chargeability zones located on the survey area. A brief discussion of these follows:

IP-1 is located in the northwest corner of the grid and may be located within a relative magnetic high zone ***Mag-1*** (this is uncertain since magnetics coverage ends at station 2000N). The spectral parameters at this zone are good for gold exploration. For example, the MIP value of 462 mV/V and short spectral tau at L2400W/stn.2600N is typical of fine-grained sulphides. The coinciding apparent resistivity low values indicates possible alteration or shearing. Several other anomalies within ***IP-1*** coincide with weak to very high apparent resistivity values which could indicate silicification. An example is the anomaly at L2000W/stn.2000N which coincides with a very high apparent resistivity zone.

IP-2 extends across the grid in the south part of the grid. The zone generally consists of moderate strength IP anomalies (MIP values range between 150 mV/V and 300 mV/V) with short time constants indicative of fine-grained sulphides.

The exception is located in the central part of ***IP-2*** (see Compilation Map, between L1200W and L0). In this area most anomalies have medium and long time constants which is indicative of coarse-grained sulphides. MIP values are much higher in the central part of ***IP-2*** (MIP values range between 300 mV/V and 600 mV/V). A weak northeast-southwest magnetic high zone ***Mag-2*** extends through the upper-central part of ***IP-2.*** A stronger magnetic high zone ***Mag-3*** extends through the lower-central part of ***IP-2.*** These magnetic zones are indicative of horizons that may contain phyrrhotite or minor magnetite mineralization.

IP-3 is a chargeability zone located in the northeast part of the survey area. Chargeability anomalies on the eastern side of ***IP-3*** coincide with low apparent resistivity zones possibley related to alteration or shearing. The strongest resistivity low occurs at L1600E/stn.500N. The strongest chargeability anomalies are located along the southern part of ***IP-3*** (MIP values between 224 mV/V/short tau at L1600E/stn.600N, and 506 mV/V/short over long tau at L800E/stn.800N).

IP-4 is a narrow, northeast-southwest, chargeability zone located in the far southeast corner of the grid. Spectral MIP and tau indicate coarse-grained sulphides on L1200E

and fine-grained sulphides on L1600E. The L1200E anomaly also coincides with a very high apparent resistivity zone which is indicative of silicification.

IP-5 is an east-west trending chargeability zone located in the centre of the survey area. Its eastern limit is undefined due to the presence of a pond. Spectral MIP and tau indicate minor fine-grained sulphides in the western part of zone grading to coarse-grained sulphides, with relatively high MIP in the west. In general, the zone does not coincide with significant apparent resistivity anomalies which might indicate geologic variations.

IP-6 and IP-7 are, sub-parallel, narrow, weak to very weak, chargeability zones located north of *IP-3*. They, too, do not coincide with significant apparent resistivity anomalies although they coincide with a broad zone of relative high magnetics which may define a geologic formation.

8. RECOMMENDATIONS

Several target areas have been selected. These have been prioritized based on their strength, spectral parameters, and proximity to apparent resistivity and magnetic features.

—High Priority Targets—

TH1 (west part of IP-1 on L2400W and L2800W):

This target area consists of several anomalies that should be investigated for gold mineralization. Focus should be at the anomaly peak locations (equivalent to plotted location of 'n = dipole #' on Compilation Map, Plate 7).

TH2 (L400W/stn.1600S):

This target location is located within the central part of *IP-2* and is characterized by very high MIP (619 mV/V) with medium over short time constant tau (fine to medium grained sulphides).

TH3 (within southern part of IP-3 on L800E and L1200E):

Spectral time constant tau are short over long and MIP values are relatively high (405 mV/V on L1200E and 506 mV/V on L800E). This target may contain both fine- and coarse-grained sulphide mineralization.

—Medium Priority Targets—

TM1 (L400E/stn.1900S):

This medium priority target is located at the western end of magnetics zone ***Mag-3***. It is a near surface, fine-grained (short tau), moderate chargeability anomaly (MIP=273 mV/V) that may contain phyrrhotite.

TM2 (L1600E/stn.1700S):

This target is located east of ***TM1*** within IP zone ***IP-4***. It, too, is a near-surface, fine-grained, moderate chargeability anomaly. It is located along a magnetic low zone which borders a magnetic high zone further southeast (beyond survey grid). This apparent horizon should be investigated for gold mineralization.

—Low Priority Targets—

TL1 (L2800W/stn.1300S):

TL1 is located at the edge of broad magnetic low zone ***Mag-5.*** Spectral parameters MIP and tau indicate minor fine-grained sulphides.

TL2 (L400E/stn.100S):

This target's chargeability anomaly contains a long time constant tau and a very high MIP value (668 mV/V). Anomalies to the north and south of this target also have long time constant tau. This target should be tested although gold typically occurs with fine-grained sulphides.

All target areas should be further prioritized based on available geological/geochemical data. Additional target areas may be defined based on favourable results.

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

Respectfully submitted,

JVX Ltd.

Joe Mihelcic, P.Eng., M.B.A.
Geophysicist

Blaine Webster, B.Sc.
President

APPENDIX A

Background

to the

Geophysical Methods

INDUCED POLARIZATION AND RESISTIVITY

1 THE IP EFFECT

The induced polarization (IP) phenomenon is primarily caused by:

1) electrical polarization at the boundary between the rock or soil and the pore fluids, and

2) electrical polarization at the boundary between metallic minerals (particularly sulphides) within pores and the pore fluids.

This polarization occurs when a current is applied across these boundaries. Its magnitude can be measured in two ways:

1) in the frequency domain (also known as phase IP), in which the applied current is sinusoidal, or

2) in the time domain, in which the applied current is a modified square wave.

JVX conducts IP surveys in the time domain because spectral analysis, a powerful interpretive tool, can only be performed in the time domain.

Generally, the current is transmitted as a modified square wave with a period of eight seconds (two seconds positive, two seconds off, two seconds negative, two seconds off). The voltage measured in the ground will have the form shown in figure IP-1. The IP effect is manifested as a roughly exponential voltage decay after the current is turned off, similar to the relaxation effect of a discharging capacitor. The IP receiver samples this voltage decay curve at a number of points.

The **SCINTREX IPR-11** receiver repeats and averages the following measurements until they converge:

V_p The primary voltage (the steady-state amplitude of the voltage while the current is being transmitted).

SP The self-potential (the steady state voltage when no current is being transmitted).

m0 to m9 The chargeabilities (measures of the IP effect at different times along the decay voltage curve $V_s(t)$).

Each chargeability value (m0 to m9) is the ratio of the average secondary voltage over a time window to the primary voltage. Mathematically, this is given by:

$$m = \frac{1000}{V_p(t_2-t_1)} \int_{t_1}^{t_2} V_s(t)\, dt$$

where

m = chargeability (in mV/V)
$V_s(t)$ = secondary voltage (i.e. the voltage decay)
V_p = primary voltage
t_1 = beginning of time window
t_2 = end of time window

The IPR-11 uses the ten time windows, also known as time slices, listed in table IP-1 and shown in figure IP-2. Unless otherwise stated, the term chargeability refers to the eighth time window (m7).

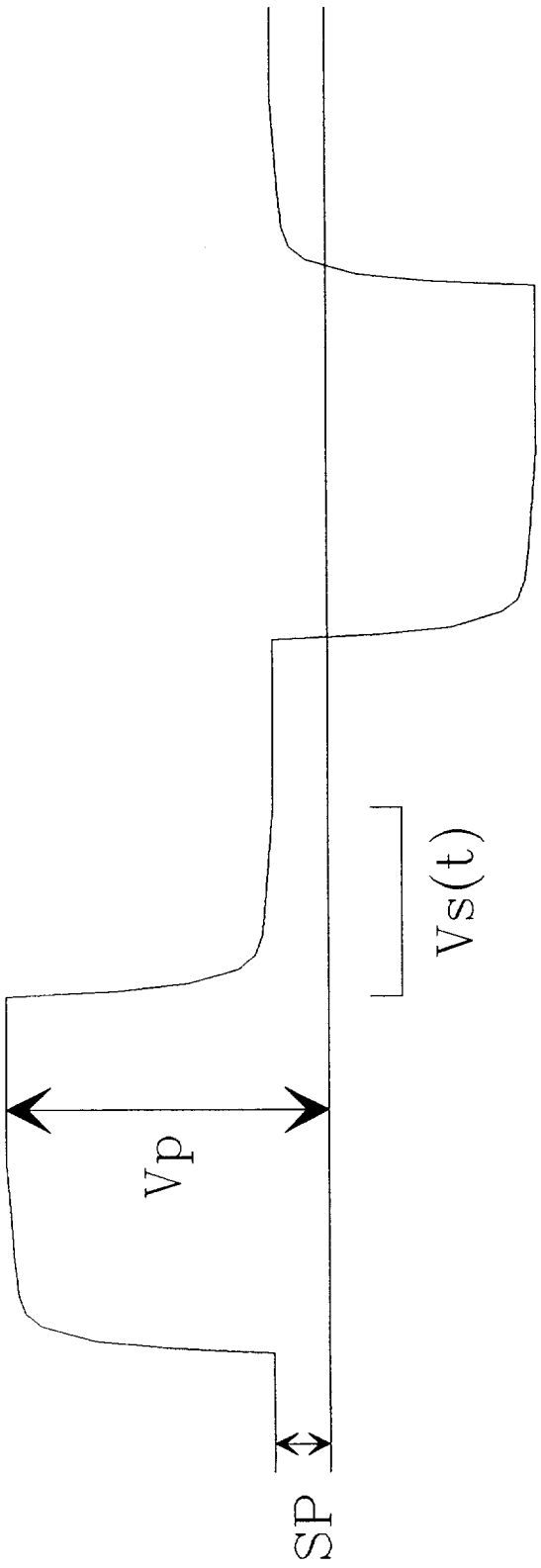


Figure IP-1 : The I.P. Waveform

SLICE	DURATION (msec)	FROM (msec)	TO (msec)	MIDPOINT (msec)
m0	30	30	60	45
m1	30	60	90	75
m2	30	90	120	105
m3	30	120	150	135
m4	180	150	330	240
m5	180	330	510	420
m6	180	510	690	600
m7	360	690	1050	870
m8	360	1050	1410	1230
m9	360	1410	1770	1590

Table IP-1 : Time slices recorded by the IPR-11 receiver

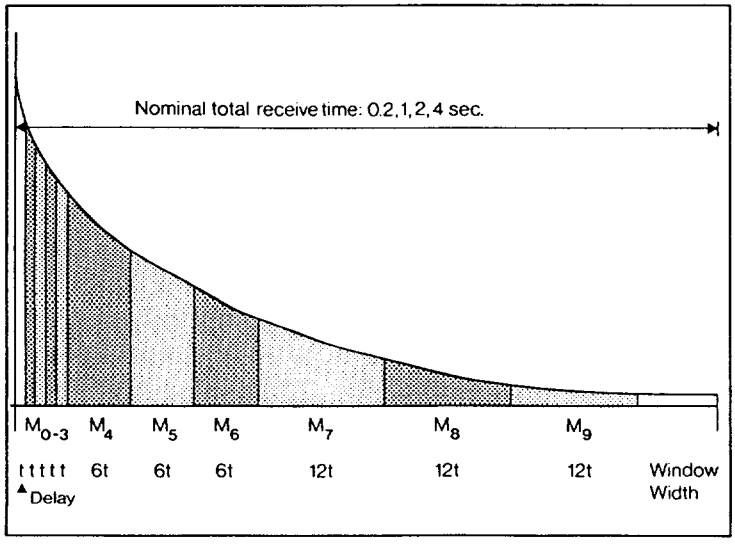


Figure IP-2 : IP effect decay curve with IPR-11 time slices

2 SPECTRAL ANALYSIS

With the ability to sample the decay curve at a number of points, the shape of the decay curve can be analysed. This gives important information about the characteristics of the source.

Spectral analysis utilises the Cole-Cole model of the IP effect (Pelton et al., 1978). This model uses the following four parameters (described in Johnson, 1984) to calculate a theoretical IP decay curve:

ρ_a **Resistivity** (Ωm)
This quantity is described in detail later in this appendix.

M-IP **Chargeability Amplitude** (mV/V)
This quantity is related to the volume percent of the chargeable source, although there is no simple quantitative relationship.

τ **Time Constant** (seconds)
The time constant is related to the grain size of the source. A short time constant (0.01 to 0.3 s) indicates a fine-grained source. A long time constant (30 to 100 s) indicates a coarse-grained, interconnected, or massive source.

c **Exponent** (dimensionless)
A high value (e.g. 0.5) indicates that the grain size is uniform. A low value (e.g. 0.1) indicates that there is a mixture of grain sizes.

Conventional chargeability is a combination of these spectral parameters. A change in any one parameter will produce a change in the apparent chargeability. *In the absence of spectral analysis, such changes are always ascribed to a change in the volume percent of the chargeable source, even though the cause may be a shift from fine-grained to coarse-grained material.*

JVX has developed a software package called **SOFT II** which determines the spectral parameters by comparing the measured decay curve with a library of model curves. The quality of the fit is given as a root-mean-square difference (expressed as a percentage). A low value (e.g. 1 %) indicates high quality data of medium to high amplitude. A high value (e.g. greater than 10 %) indicates poor quality or low amplitude data. If the fit is greater than 5 %, the spectral parameters are considered to be of poor quality, and therefore are usually discarded.

3 ARRAY CONFIGURATION

As mentioned above, a current must be flowing through the ground in order for the IP effect to occur. This current is applied using two electrodes, which are called C1 and C2, and the voltage decay is measured using two potential electrodes, P1 and P2. The distance separating P1 and P2 is known as the *a-spacing*, or *a*, and generally remains constant during the survey.

The three most common electrode array configurations are:

1) **Gradient**
C1 and C2 are located at an "infinite" distance (i.e. very far) from the grid, with one on each side. The potential electrodes move throughout the grid.

2) **Dipole-Dipole**
C1 and C2 are separated by a distance of *a*, and move along with the potential electrodes.

3) **Pole-Dipole**
C2 is located at "infinity". C1 moves along with the potential electrodes throughout the grid.

The gradient array allows for fast reconnaissance surveys. However, no depth information is obtained (described below), and the resolution is much lower because all of the ground between C1 and C2 is energised. Furthermore, the current will be channelled through conductive zones, which could result in inaccurate chargeability and resistivity values. Thus, great care must be used when using a gradient array.

In JVX' experience, the pole-dipole array is superior to the dipole-dipole array. Since C2 is located at an infinite distance, a greater volume of ground is energised. This results in better depth penetration (i.e. higher quality data), and is particularly important in the presence of thick and/or conductive overburden. However, the pole-dipole array does not have the disadvantages of the gradient array. Since C1 is located near the potential electrodes, depth information is obtained (see below), and resolution is high.

4 A-SPACING AND NUMBER OF DIPOLES

The resolution of the data depends on *a*, the electrode spacing. The smaller *a* is, the greater the resolution. However, the depth of penetration is also smaller. A larger *a* results in greater depth, but less resolution. Thus, both factors must be considered when selecting the electrode spacing.

The standard pole-dipole array is shown in figure IP-2. Seven potential electrodes are used to measure the voltage simultaneously across six electrode pairs (P1-P2, P2-P3, P3-

P4, etc.). Each pair is labelled using an integer, *n*, where *na* is the distance between the first potential electrode and the nearest current electrode.

The depth of investigation is greater when the potential electrode pair is farther from the current electrode (i.e. larger *n*). However, a greater separation distance also results in greater signal attenuation, limiting the number of dipoles which could be used effectively.

5 RESISTIVITY

The DC apparent resistivity (ρ_a) is a measure of the bulk electrical resistivity of the subsurface. Electricity flows primarily through the groundwater within fractures and pore spaces. Therefore, fault zones can be detected as low resistivity zones. However, sulphide minerals, some oxides, and graphite are also good conductors and so produce low resistivity zones. The current flow is electronic in these minerals rather than electrolytic as it is in groundwater. Sometimes, the geometry of the low resistivity zone can distinguish between a fault zone and a mineral source. In other cases, additional geological information is needed. Silicates, the most common rock forming minerals, are very poor conductors of electricity, producing high resistivity zones.

The resistivity is measured simultaneously with the IP data. For a homogeneous and isotropic subsurface, it is given by the following formula:

$$\rho_a = \frac{k\, V_p}{I}$$

where

ρ_a = apparent resistivity (Ωm)
V_p = primary voltage (measured while current is on) (mV)
k = k-factor (m)

The *k-factor* is an array-dependant component. For a pole-dipole array, it is given by:

$$k = 2\pi n(n+1)a$$

where

n = dipole multiple (dimensionless)
a = electrode separation (m)

Although the assumption of a homogeneous and isotropic earth is unrealistic, the calculated value of ρ_a can be used qualitatively to map changes in rock type (even to identify the rock type in some cases), and to map low resistivity fault zones.

References

Johnson, I.M. Spectral I.P. Parameters as Determined through Time Domain Measurements, pp. 1993-2003 *Geophysics* **49**, 1984

Johnson, I.M., B. Webster, R. Mathews, and S. McMullan Time Domain Spectral IP Results from Three Gold Deposits in Northern Saskatchewan, *The Canadian Mining and Metallurgical Bulletin*, Feb. 1989

Pelton, W.H., S.H. Ward, P.G. Hallof, W.P. Sill, P.H.Nelson Mineral Discrimination and Removal of Inductive Coupling with Multifrequency IP, pp. 588-609, *Geophysics* **43**, 1978

APPENDIX B

Plates

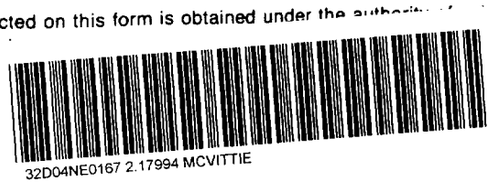
Ontario Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use): W9780.01187
Assessment Files Research Imaging

Personal information collected on this form is obtained under the authority of
Mining Act, the inform
Questions about this
933 Ramsey Lake Rc



900

66(3) of the Mining Act. Under section 8 of the
work and correspond with the mining land holder.
Northern Development and Mines, 6th Floor,

Instructions: - F
- F

, use form 0240.

2.17994

1. Recorded holder(s) (Attach a list if necessary)

Name: Royal Oak Mines Inc.	Client Number: 136226
Address: P.O. Bag 2010 Timmins, Ont P4N 7X7	Telephone Number: (705) 360-1141
	Fax Number: (705) 360-1532
Name	Client Number
Address	Telephone Number
	Fax Number

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

☑ Geotechnical: prospecting, surveys, assays and work under section 18 (regs) ☐ Physical: drilling, stripping, trenching and associated assays ☐ Rehabilitation

		Office Use
Work Type: Induced Polarization survey Linecutting		Commodity
		Total $ Value of Work Claimed: 34,117
Dates Work Performed: From 01 Day / 09 Month / 96 Year To 30 Day / 09 Month / 96 Year ✓		NTS Reference
Global Positioning System Data (if available)	Township/Area: McVittie Twp, L.L.	Mining Division: Larder Lake
	M or G-Plan Number: G-3163	Resident Geologist District: Kirkland Lake

Please remember to:
- obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name: JYX Ltd.	Telephone Number: (905) 731-0992
Address: 60 West Wilmot St. Unit #2, Richmond Hill,	Fax Number: (905) 731-9312
Name: Ont. L4B 1M6	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

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DEC 19 1997
GEOSCIENCE ASSESSMENT OFFICE

4. Certification by Recorded Holder or Agent

I, Rodney Barber (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent: R Barber		Date: Nov 28/97
Agent's Address: 119 Lois Crescent Timmins Ont. P4P1G5	Telephone Number: (705) 268-4283	Fax Number

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	**Number of Claim Units.** For other mining land, list hectares.	**Value of work performed** on this claim or other mining land.	**Value of work applied** to this claim.	**Value of work assigned** to other mining claims.	**Bank.** Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
1	L 767 451	1	$ 2455 ✓		$1760	$ 695
2	L 767 444	1	1842 ✓			1842
3	L 767 461	1	817 ✓			817
4	L 767 452	1	817 ✓			817
5	L 767 445	1	1232 ✓			1232
6	L 767 427	1	817 ✓			817
7	L 767 428	1	866 ✓			866
8	L 767 429	1	866 ✓			866
9	L 767 462	1	2455 ✓			2455
10	L 767 463	1	1232 ✓			1232
11	L 767 464	1	2455 ✓			2455
12	L 767 454	1	2455 ✓			2455
13	L 767 455	1	2455 ✓			2455
14	L 767 447	1	2455 ✓			2455
15	L 767 437	1	$ 1620 ✓			$ 1620
		Column Totals	$ 24839	0	$1760	$23079

I, Rodney Barber (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing: R Barber — Date: Nov 28/97

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☑ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☐ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (02/96)

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

W9780.01187

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	**Number of Claim Units.** For other mining land, list hectares.	**Value of work performed** on this claim or other mining land.	**Value of work applied** to this claim.	**Value of work assigned** to other mining claims.	**Bank.** Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
1	L 767 438	1	$ 2455 ✓			$ 2455
2	L 767 439	1	2455 ✓			$ 2455
3	L 1137131	1	1620 ✓			$ 1620
4	L 1110 273	1	254	$ 400 ✓		
5	L 1137128	1	254	$ 400 ✓		
6	L 1111184	1	132	$ 400 ✓		
7	L 1111183	1	866	$ 400 ✓		$ 466
8	L 767453	1	254 ✓			$ 254
9	L 767446	1	988 ✓			$ 988
10	L 1202836	1	0	$1200 ✓		
11						
12						
13				2.17994		
14						
15						
		Column Totals	$ 9278	$ 2800	0	8238

I, _____ (34,117) (Print Full Name), do hereby certify that the above work credits are eligible (31,317) under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing	Date
X	

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☑ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☐ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

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DEC 19 1997 9:30
GEOSCIENCE ASSESSMENT OFFICE

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (02/96)

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use): W9780.01187

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Linecutting	18.7 km	257/km	$4810
Induced Polarization	12.31 miles	2225/mi	$27390
Supervision	2.1 days	$209/day	417
Associated Costs (e.g. supplies, mobilization and demobilization).			
Mobilization/Demobilization			$1500
Transportation Costs			
Food and Lodging Costs			
		Total Value of Assessment Work	$34 117

RECEIVED
DEC 10 1997
9:30
GEOSCIENCE ASSESSMENT OFFICE

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK × 0.50 = Total $ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, Rodney Barber (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Project Geologist (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature	Date
R Bar	Nov 28/97

0212 (02/96)

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9846
Fax: (705) 670-5881

February 25, 1998

ROYAL OAK MINES INC.
PO Bag 2010-
Timmins, Ontario
P4N 7X7

Dear Sir or Madam:

Submission Number: 2.17994

Subject: Transaction Number(s):		**Status**
	W9780.01187	Deemed Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Steve Beneteau by e-mail at benetest@epo.gov.on.ca or by telephone at (705) 670-5855.

Yours sincerely,

ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Correspondence ID: 11952

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.17994

Date Correspondence Sent: February 25, 1998 **Assessor:** Steve Beneteau

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9780.01187	767451	MCVITTIE	Deemed Approval	February 20, 1998

Section:
14 Geophysical IP

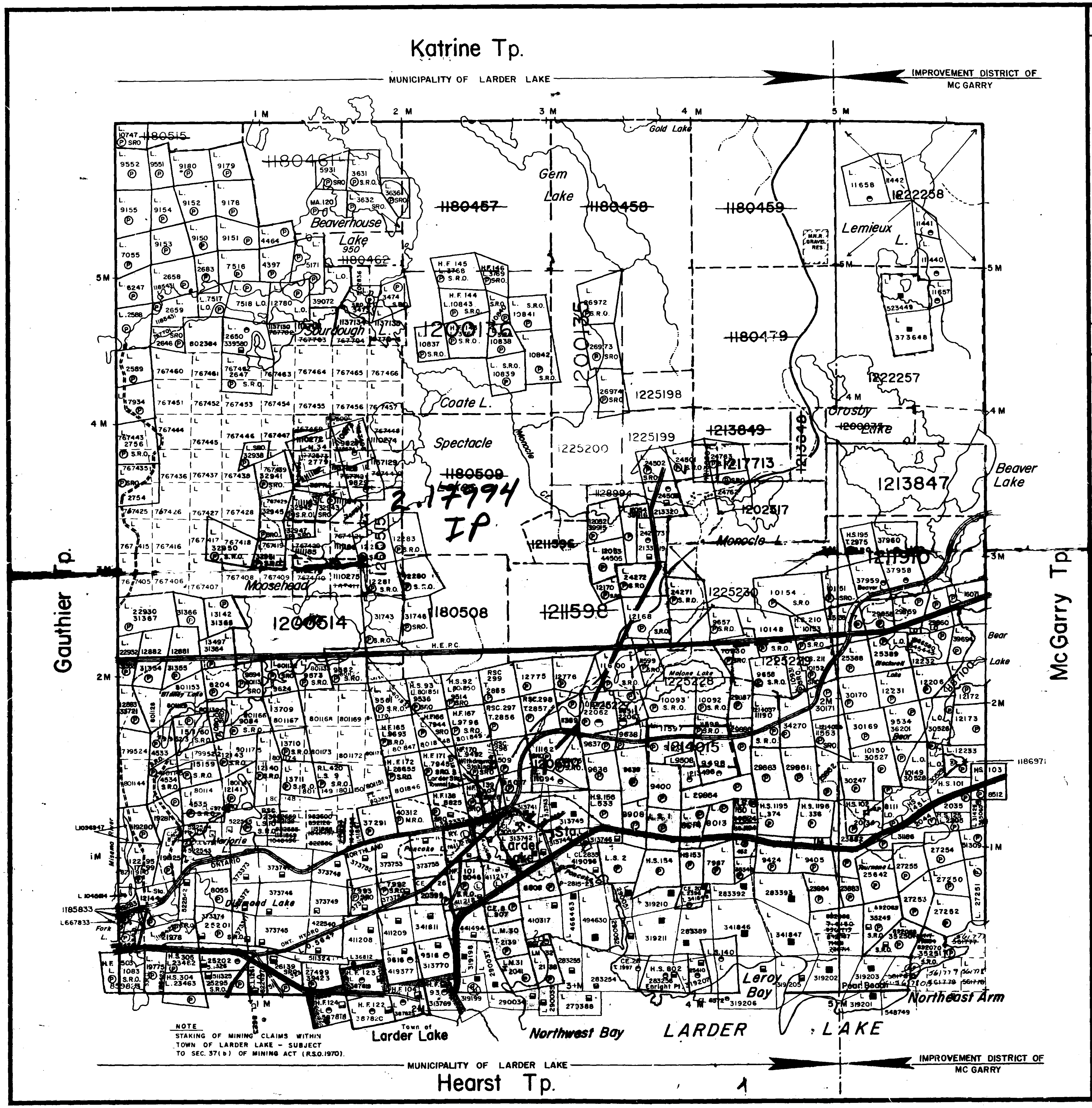
Correspondence to:
Resident Geologist
Kirkland Lake, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):
Rodney Barber
TIMMINS, ONTARIO, CANADA

ROYAL OAK MINES INC.
Timmins, Ontario

Correspondence ID: 11952



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
" , SURFACE RIGHTS ONLY
" , MINING RIGHTS ONLY
LEASE, SURFACE & MINING RIGHTS
" , SURFACE RIGHTS ONLY
" , MINING RIGHTS ONLY
LICENCE OF OCCUPATION
ORDER-IN-COUNCIL
RESERVATION
CANCELLED
SAND & GRAVEL

DATE OF ISSUE
FEB 2 7 1998
PROVINCIAL RECORDING OFFICE - SUDBURY

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

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.

TOWNSHIP

McVITTIE

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: SEPTEMBER 1984 — Number: G-3163

COPY OF THIS MYLAR ARCHIVED OCT. 31, 1991
ARCHIVED APR. 18, 1994
ARCHIVED JAN 29/96

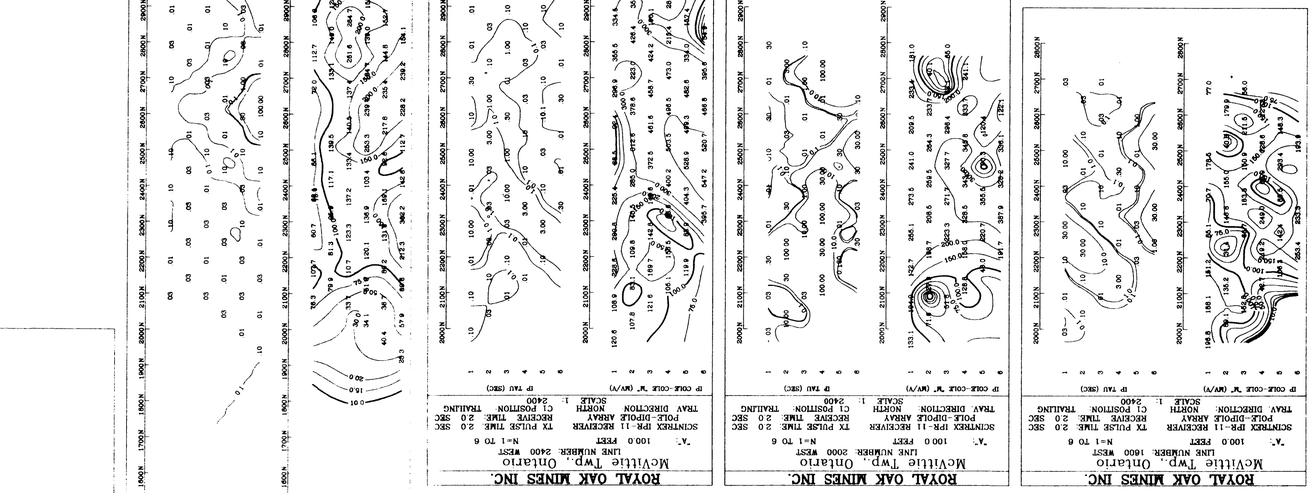
200

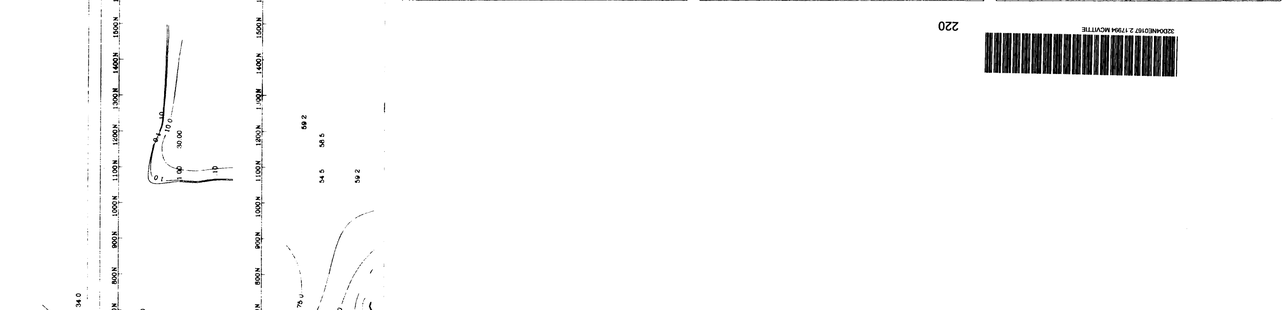
2.17994

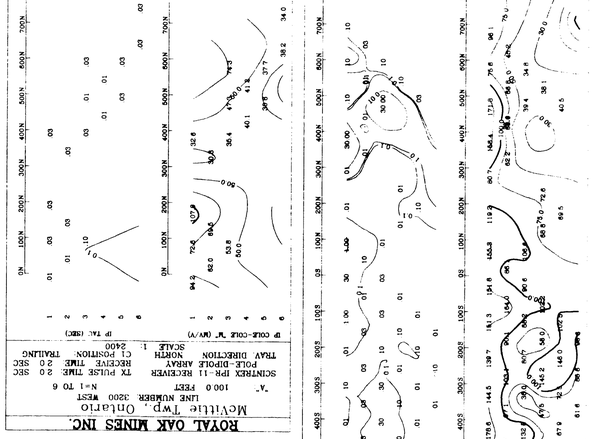
Plate 1

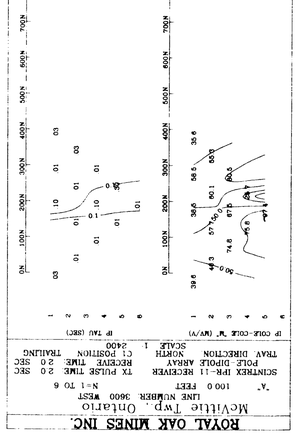
2.17994

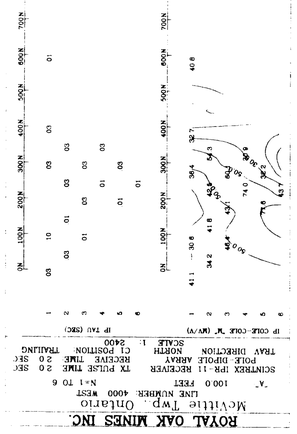
Plate 1a

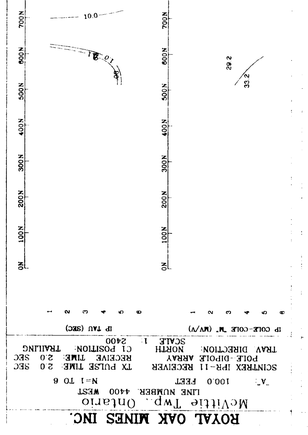












ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER: 400 WEST

"A": 100.0 FEET N=1 TO 6

SCINTREX IPR-11 RECEIVER — TX PULSE TIME: 2.0 SEC

POLE-DIPOLE ARRAY — RECEIVE TIME: 2.0 SEC

TRAV. DIRECTION: NORTH — CI POSITION: TRAILING

SCALE 1: 2400

SLICE 6 (MT) — RESISTIVITY /100

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER: 800 WEST

"A": 100.0 FEET N=1 TO 6

SCINTREX IPR-11 RECEIVER — TX PULSE TIME: 2.0 SEC

POLE-DIPOLE ARRAY — RECEIVE TIME: 2.0 SEC

TRAV. DIRECTION: NORTH — CI POSITION: TRAILING

SCALE 1: 2400

SLICE 6 (MT) — RESISTIVITY /100

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER: 1200 WEST

"A": 100.0 FEET N=1 TO 6

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POLE-DIPOLE ARRAY — RECEIVE TIME: 2.0 SEC

TRAV. DIRECTION: NORTH — CI POSITION: TRAILING

SCALE 1: 2400

SLICE 6 (MT) — RESISTIVITY /100

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER: 1600 WEST

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POLE-DIPOLE ARRAY — RECEIVE TIME: 2.0 SEC

TRAV. DIRECTION: NORTH — CI POSITION: TRAILING

SCALE 1: 2400

SLICE 6 (MT) — RESISTIVITY /100

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER: 2000 WEST

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POLE-DIPOLE ARRAY — RECEIVE TIME: 2.0 SEC

TRAV. DIRECTION: NORTH — CI POSITION: TRAILING

SCALE 1: 2400

SLICE 6 (MT) — RESISTIVITY /100

ROYAL OAK MINES INC.

McVittie Twp., Ontario

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POLE-DIPOLE ARRAY — RECEIVE TIME: 2.0 SEC

TRAV. DIRECTION: NORTH — CI POSITION: TRAILING

SCALE 1: 2400

SLICE 6 (MT) — RESISTIVITY /100

ROYAL OAK MINES INC.
McVittie Twp., Ontario
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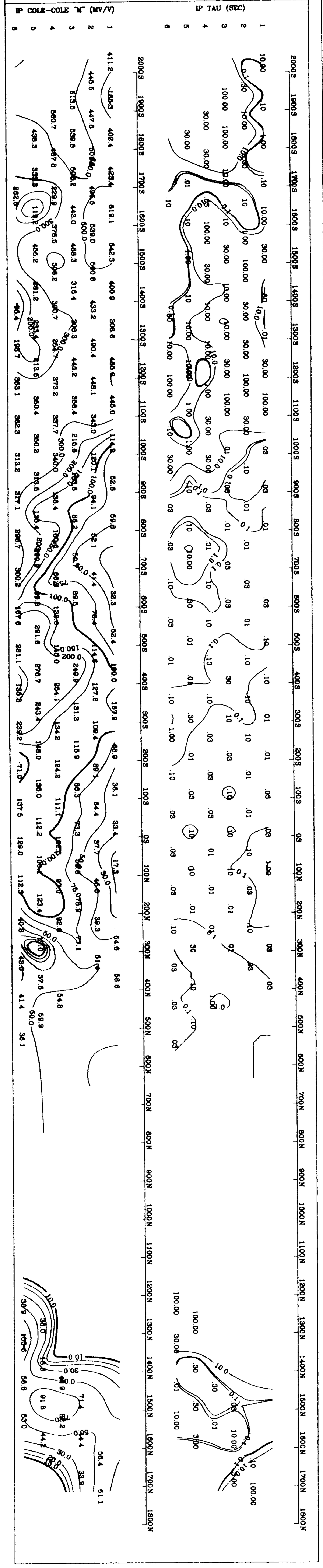

ROYAL OAK MINES INC.
McVittie Twp., Ontario
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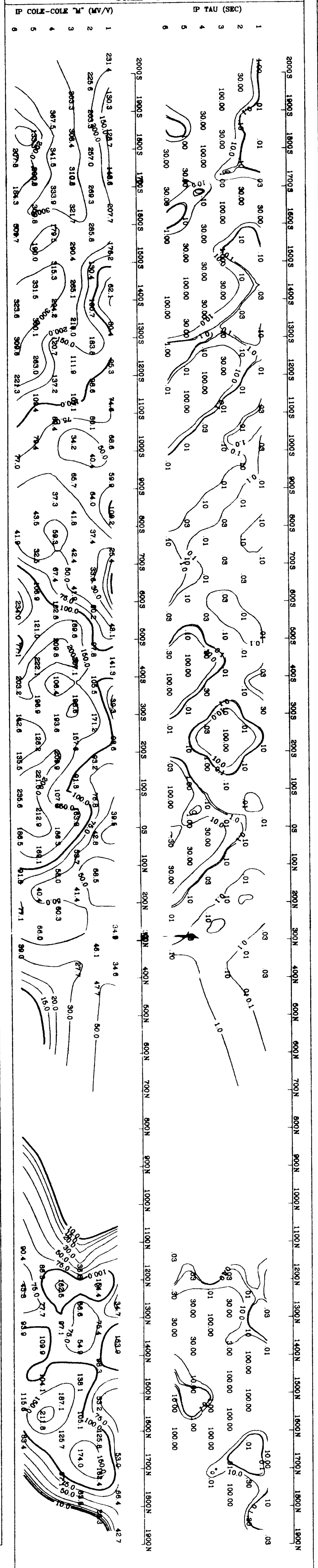

ROYAL OAK MINES INC.
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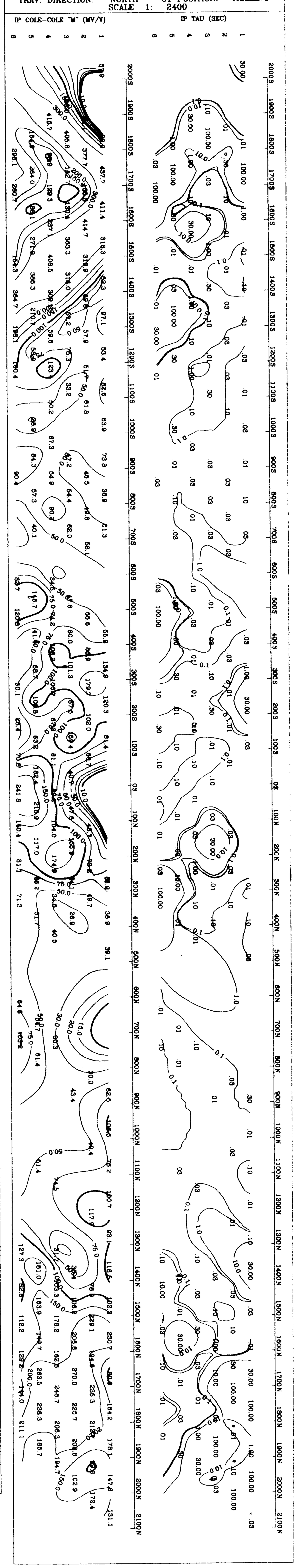
SCALE 1: 2400



ROYAL OAK MINES INC.
McVittie Twp., Ontario
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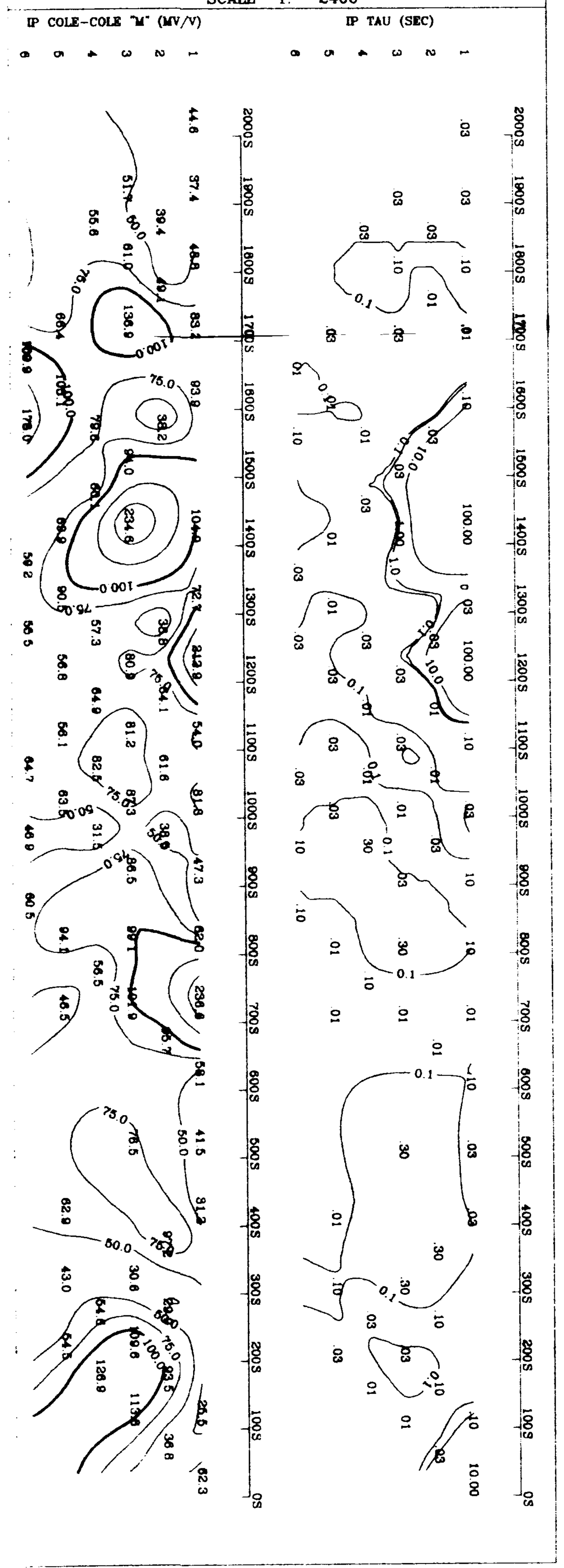
SCALE 1: 2400



ROYAL OAK MINES INC.
McVittie Twp., Ontario
LINE NUMBER: 2000 WEST
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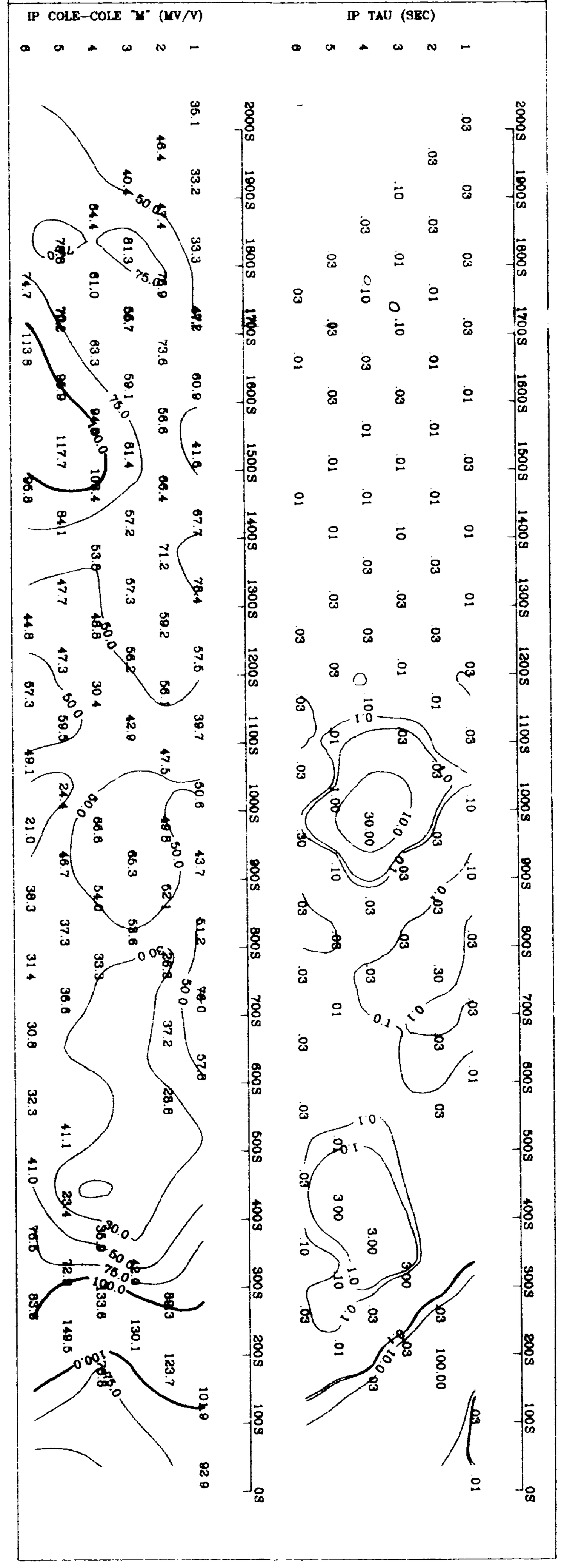
SCALE 1: 2400



ROYAL OAK MINES INC.
McVittie Twp., Ontario
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SCALE 1: 2400

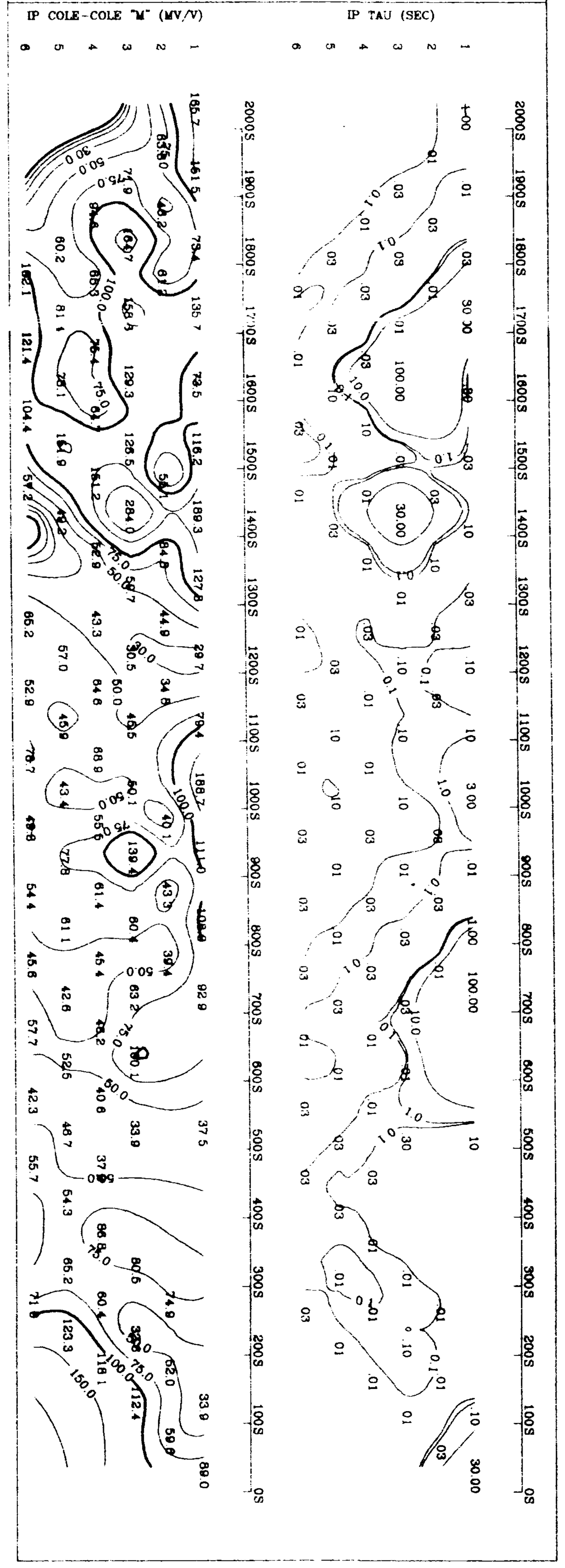


Plate 2 a

2.17994

ROYAL OAK MINES INC.
McVittie Twp., Ontario
LINE NUMBER: 800 EAST
"A": 100.0 FEET
SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH
SCALE 1: 2400
TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
C1 POSITION: TRAILING
RESISTIVITY /100
N=1 TO 6

ROYAL OAK MINES INC.
McVittie Twp., Ontario
LINE NUMBER: 1000 EAST
"A": 100.0 FEET
SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH
SCALE 1: 2400
TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
C1 POSITION: TRAILING
RESISTIVITY /100
N=1 TO 6

ROYAL OAK MINES INC.
McVittie Twp., Ontario
LINE NUMBER: 1200 EAST
"A": 100.0 FEET
SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH
SCALE 1: 2400
TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
C1 POSITION: TRAILING
RESISTIVITY /100
N=1 TO 6

ROYAL OAK MINES INC.
McVittie Twp., Ontario
LINE NUMBER: 1600 EAST
"A": 100.0 FEET
SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH
SCALE 1: 2400
TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
C1 POSITION: TRAILING
RESISTIVITY /100
N=1 TO 6

2.17994

Plate 3

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER 1600 EAST

SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH

"A": 100.0 FEET
N=1 TO 6

TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
CI POSITION: TRAILING

SCALE 1: 2400

IP COLE-COLE 'M' (MV/V)

IP TAU (SEC)

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER 1200 EAST

SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH

"A": 100.0 FEET
N=1 TO 6

TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
CI POSITION: TRAILING

SCALE 1: 2400

IP COLE-COLE 'M' (MV/V)

IP TAU (SEC)

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER 800 EAST

SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH

"A": 100.0 FEET
N=1 TO 6

TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
CI POSITION: TRAILING

SCALE 1: 2400

IP COLE-COLE 'M' (MV/V)

IP TAU (SEC)

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER 400 EAST

SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH

"A": 100.0 FEET
N=1 TO 6

TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
CI POSITION: TRAILING

SCALE 1: 2400

IP COLE-COLE 'M' (MV/V)

IP TAU (SEC)

ROYAL OAK MINES INC.

McVittie Twp., Ontario

LINE NUMBER 0 WEST

SCINTREX IPR-11 RECEIVER
POLE-DIPOLE ARRAY
TRAV. DIRECTION: NORTH

"A": 100.0 FEET
N=1 TO 6

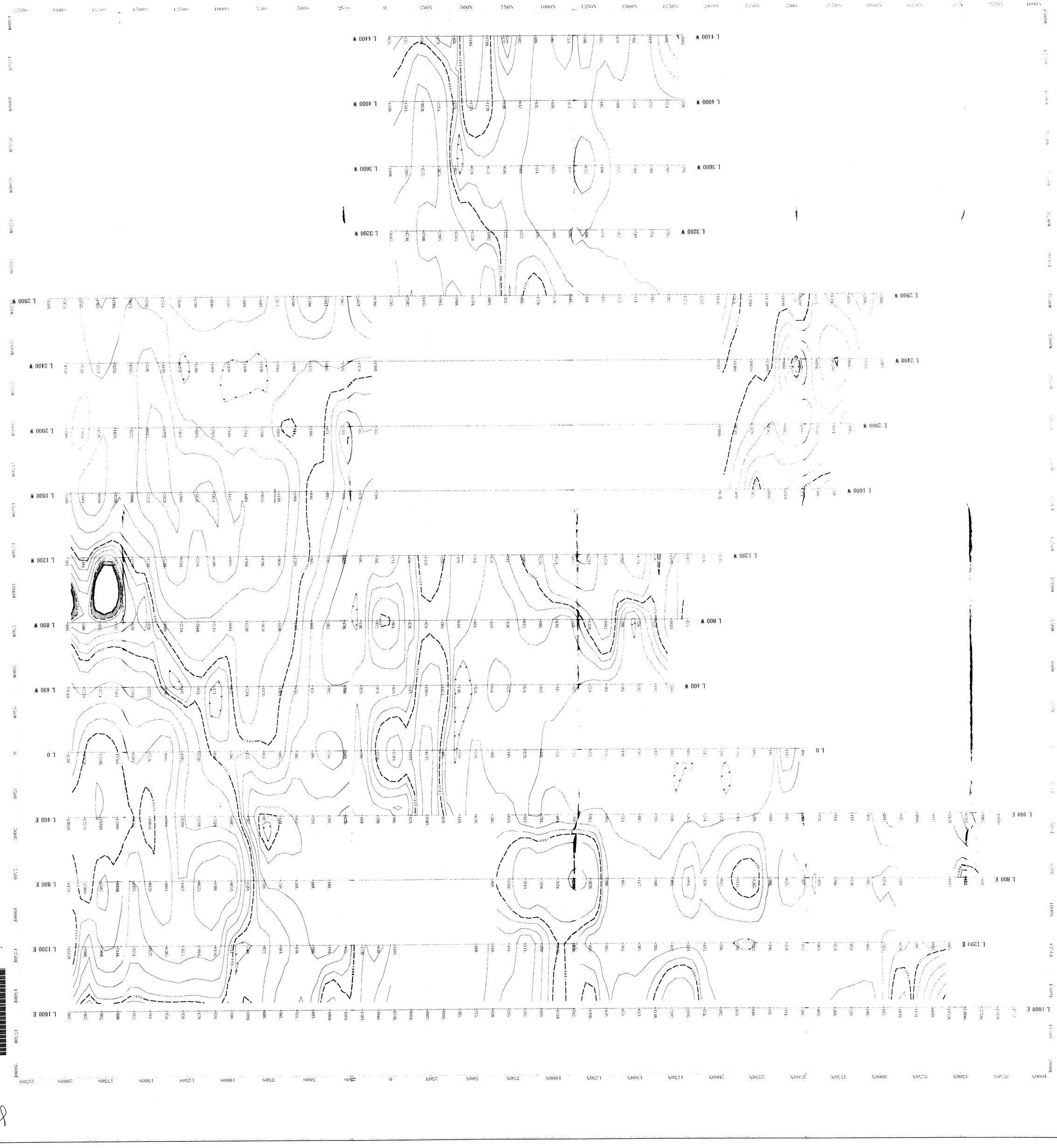
TX PULSE TIME: 2.0 SEC
RECEIVE TIME: 2.0 SEC
CI POSITION: TRAILING

SCALE 1: 2400

IP COLE-COLE 'M' (MV/V)

IP TAU (SEC)

Plate 3a


2250S
2000S
1750S
1500S
1250S
1000S
750S
500S
250S
0
250N
500N
750N
1000N
1250N
1500N
1750N
2000N
2250N
2500N
2750N
3000N
3250N
3500N
3750N
4000N
L 4400 W
L 4000 W
L 3600 W
L 3200 W
L 2800 W
L 2400 W
L 2000 W
L 1600 W
L 1200 W
L 800 W
L 400 W
L 0
L 400 E
L 800 E
L 1200 E
L 1600 E
Scale 1:2000
APPARENT RESISTIVITY (n=2)
LAC McVITTIE Jv PROPERTY
McVITTIE TWP., NS. 32D/4
ROYAL OAK MINES INC. EXPLORATION
Logarithmic Contours: 1,1.5,2,3,5,7,10,15,20,30,50,70,100,150,200,300,500,700,1000,1500,2000,3000,5000,7000,10000 Ω-m
RX: Scintrex IPR-11 TX: Scintrex IPC-7/2.5 kW
PLATE 4
JVX Ltd. ref.#9655
270
2.17994

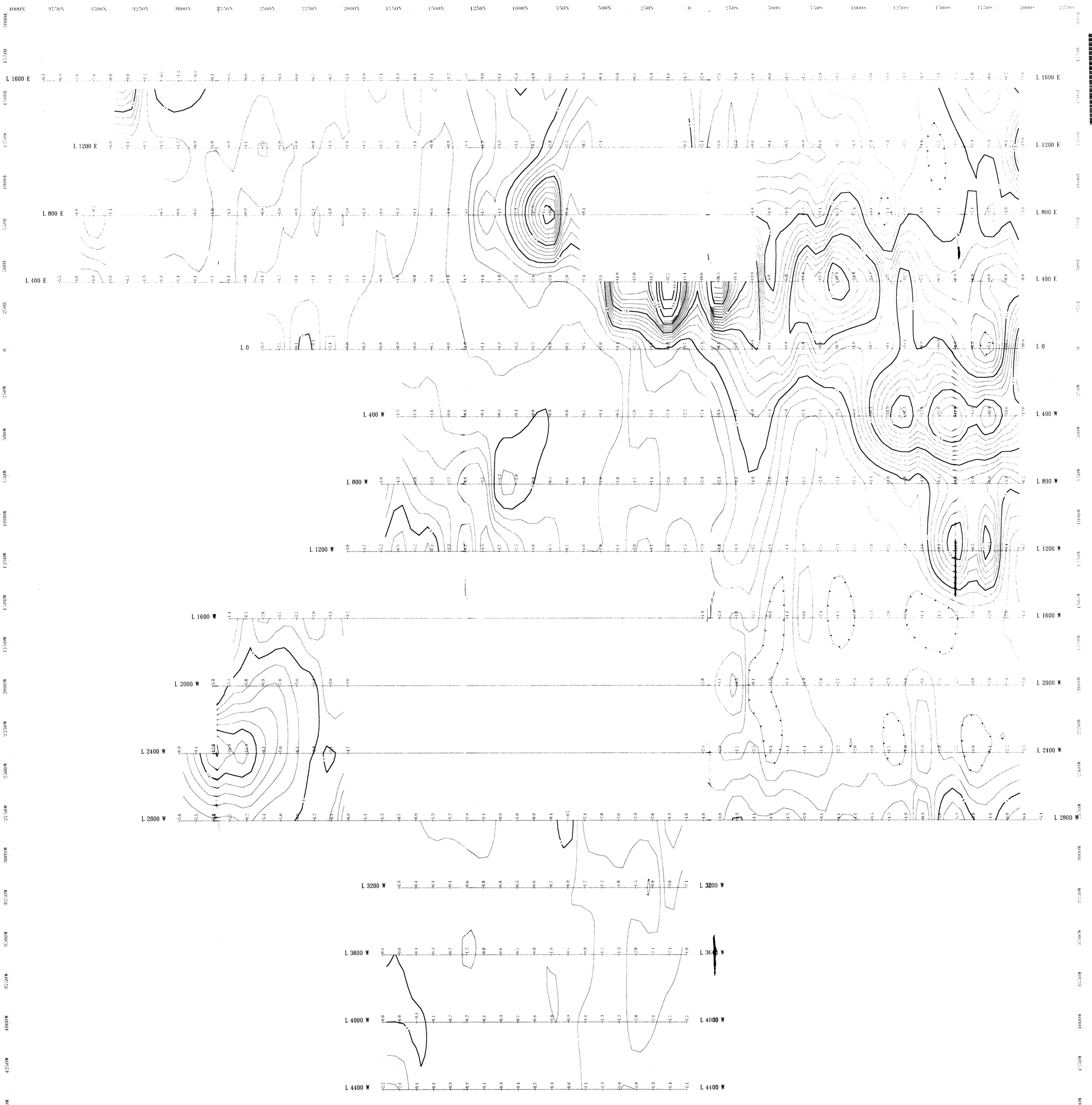
CHARGEABILITY (n=2)

LAC McVITTIE p PROPERTY
McVITTIE TWP., NTS 32D/4
ROYAL OAK MINES INC. EXPLORATION

JVX Ltd. ref.#9655

280

2.17994

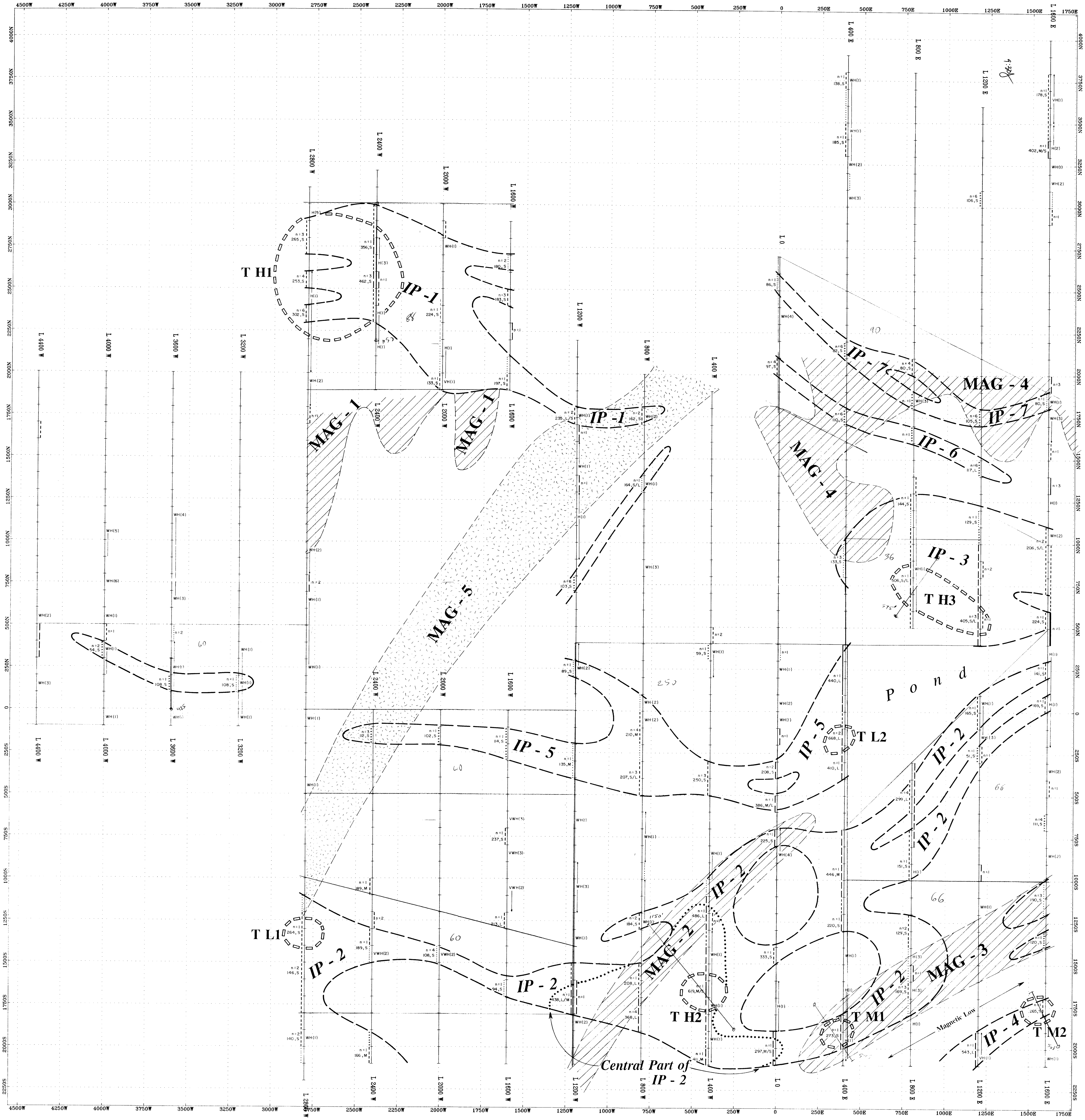


SPECTRAL TAU (n=2)
LAC MATTE & PROPERTY
MATTHEWS, J. NTS 32D/4
ROYAL OAK MINES INC. EXPLORATION

290

2.17994

AVA VLF ref. #9655



LEGEND

CHARGEABILITY ANOMALY	RESISTIVITY ANOMALY
Very Strong	WH(2) - Weak High Resistivity, n=2 H(1) - High Resistivity, n=1 VH(2) - Very High Resistivity, n=2
Strong	Strong Resistivity Low
Medium	Medium Resistivity Low
Weak M [illegible](mV/V) 517 , L Time Constant (Long,Medium or Short)	Weak Resistivity Low
Very Weak	Very Weak Resistivity Low
Extremely Weak	

IP - 1 Chargeability zone

MAG - 1 Magnetic high

MAG - 5 Magnetic low

T Exploration target

H High priority

M Medium priority

L Low priority

4375' drilling

766 samples. say 800

2.17994

Scale 1:2400 (feet)

32D04NE0167 2.17994 MCVITTIE

300

Plate 7

IP COMPILATION MAP

LAC McVITTIE JOINT VENTURE PROPERTY
ROYAL OAK MINES INC.

McVittie Township, Ontario
NTS 30 D/4

JVX Ltd. ref. no. 9655

CHARGEABILITY

LAC McVITTIE jv PROPERTY
McVITTIE TWP., NS. 32D/4
ROYAL OAK MINES INC. EXPLORATION

Contours: 1.5 mV/V
Tx: Scintrex IPC-7/2.5 kW
Rx: Scintrex IPR-11
PLATE I

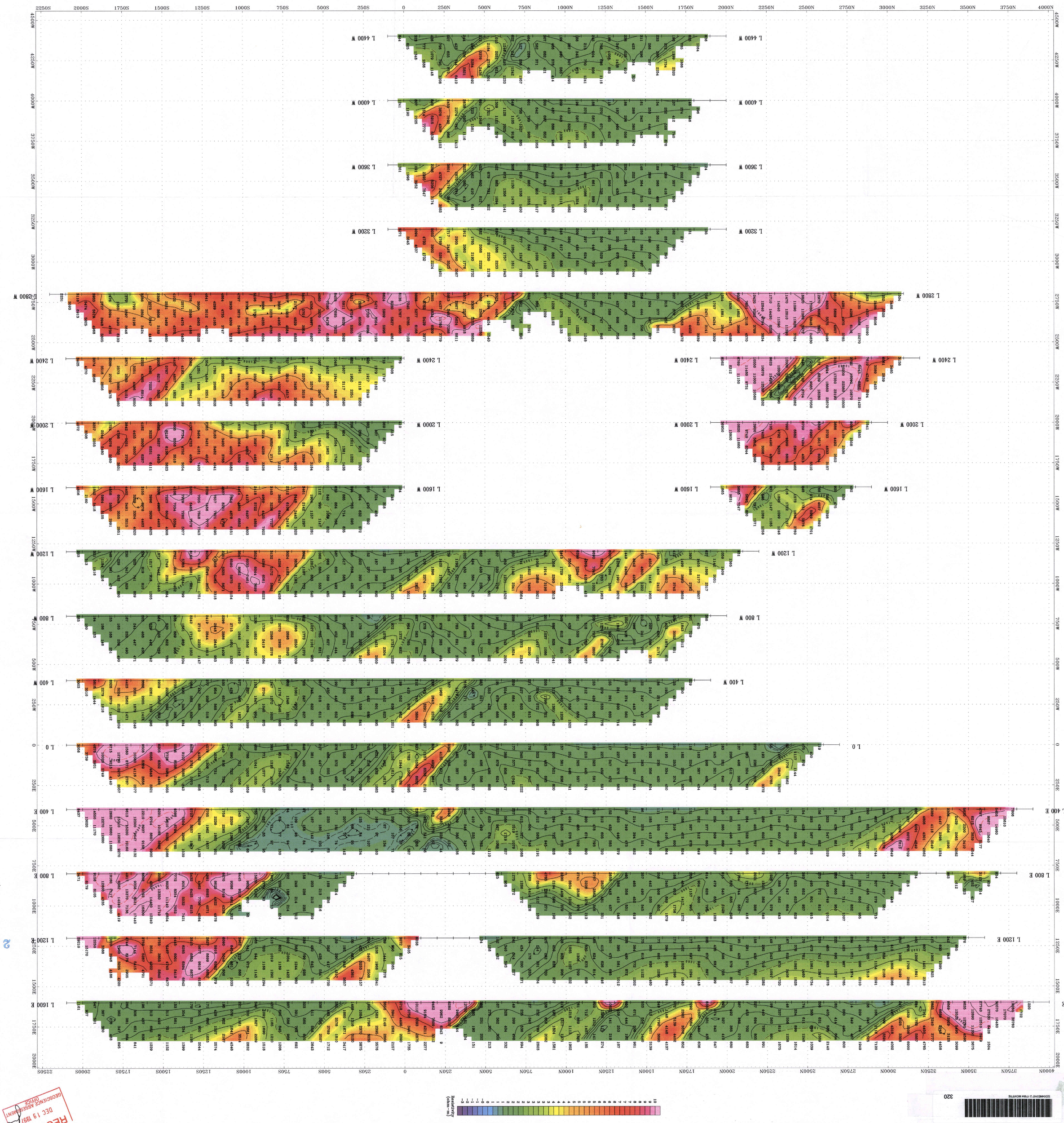
JVX Ltd. ref.#9655

Chargeability (mV/V)

Scale 1:2400
(feet)

4000N 3750N 3500N 3250N 3000N 2750N 2500N 2250N 2000N 1750N 1500N 1250N 1000N 750N 500N 250N 0 250S 500S 750S 1000S 1250S 1500S 1750S 2000S 2250S

L 1600 E
L 1200 E
L 800 E
L 400 E
L 0
L 400 W
L 800 W
L 1200 W
L 1600 W
L 2000 W
L 2400 W
L 2800 W
L 3200 W
L 3600 W
L 4000 W
L 4400 W



APPARENT RESISTIVITY

LAC McVITTIE jv PROPERTY
McVITTIE TWP., NS. 32D/4
ROYAL OAK MINES INC. EXPLORATION

Logarithmic Contours: 1,1.5,2,3,4,5,7,5 ohm-m
Rx: Scintrex IPR-11 Tx: Scintrex IPC-7/2.5 kW
PLATE II

JVX Ltd. ref.#9655

RECEIVED
DEC 19 1997
GEOSCIENCE ASSESSMENT OFFICE

320

320NE0067 2.17994 MCVITTIE

2.17994