A LOGISTICAL REPORT ON VLF-EM, MAGNETIC AND GRAVITY SURVEYS ON THE DIAMOND LAKE GRIDS LARDER LAKE AREA, NE ONTARIO

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JVX Ref: 9328
June, 1993

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LOGISTICAL REPORT ON VLF-EM AND MAGNETIC SURVEYS ON THE DIAMOND LAKE GRIDS 1 & 2 LARDER LAKE, NE ONTARIO

On behalf of

SUDBURY CONTACT MINES LTD.

1. INTRODUCTION

From March 12th to April 10th, 1992, VLF-EM, Magnetic and Gravity surveys were carried out by JVX Limited on behalf of Sudbury Contact Mines Ltd. (2302, 401 Bay Street, P.O. Box 102, Toronto, Ontario, M5H 2Y4) care of W.A. Hubacheck Consultants Ltd. (141 Adelaide St. West, Suite 603, Toronto, Ontario, M5H 3L5) on the Diamond Lake grids 1 & 2; Larder Lake arae, NE Ontario.

JVX provided a geophysical technician, geophysical instrumentation, computer hardware and software, and all necessary accessories required to carry out the survey in a professional manner. Approximately 24.6 line-kilometres of VLF-EM and total field magnetometer coverage and 3.0 line-kilometres of gravity coverage was achieved with readings taken at 25-metre interval.

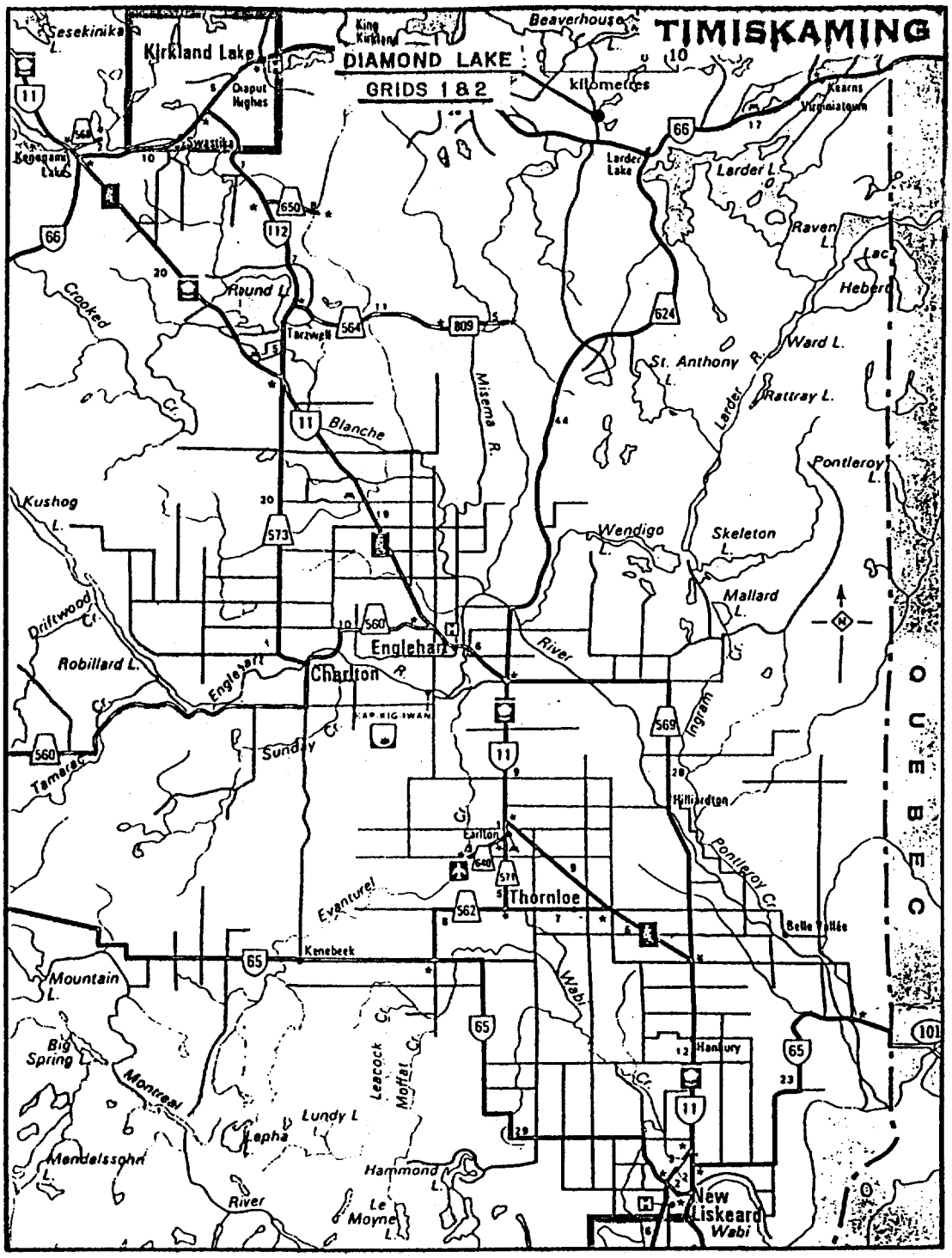
Contour and profile idealized grid maps of the edited data were produced by JVX. Fraser filtering was applied to the VLF data and plotted as contour maps. A 2nd derivative contour map was generated for the Diamond Lake grid 1 to enhance weak anomalies with relatively shallow sources.

2. SURVEY LOCATION

The grids are located near Larder Lake, Ontario just off Hwy #66. Figure 1 shows the location of the survey areas with respect to nearby population centres at a scale of 1:500,000. The areas may be found on topographic map NTS 32 D/4.

3. SURVEY GRIDS AND COVERAGE

A total of approximately 24.6 line-kilometres of Magnetic/VLF-EM coverage was completed over two separate grids - Diamond Lake grids 1 and 2. Magnetics and VLF-EM coverage are detailed in Table 1. A list of claims covered is given in Table 2 and shown in Figure 3.



LOCATION MAP

SUDBURY CONTACT MINES LTD.

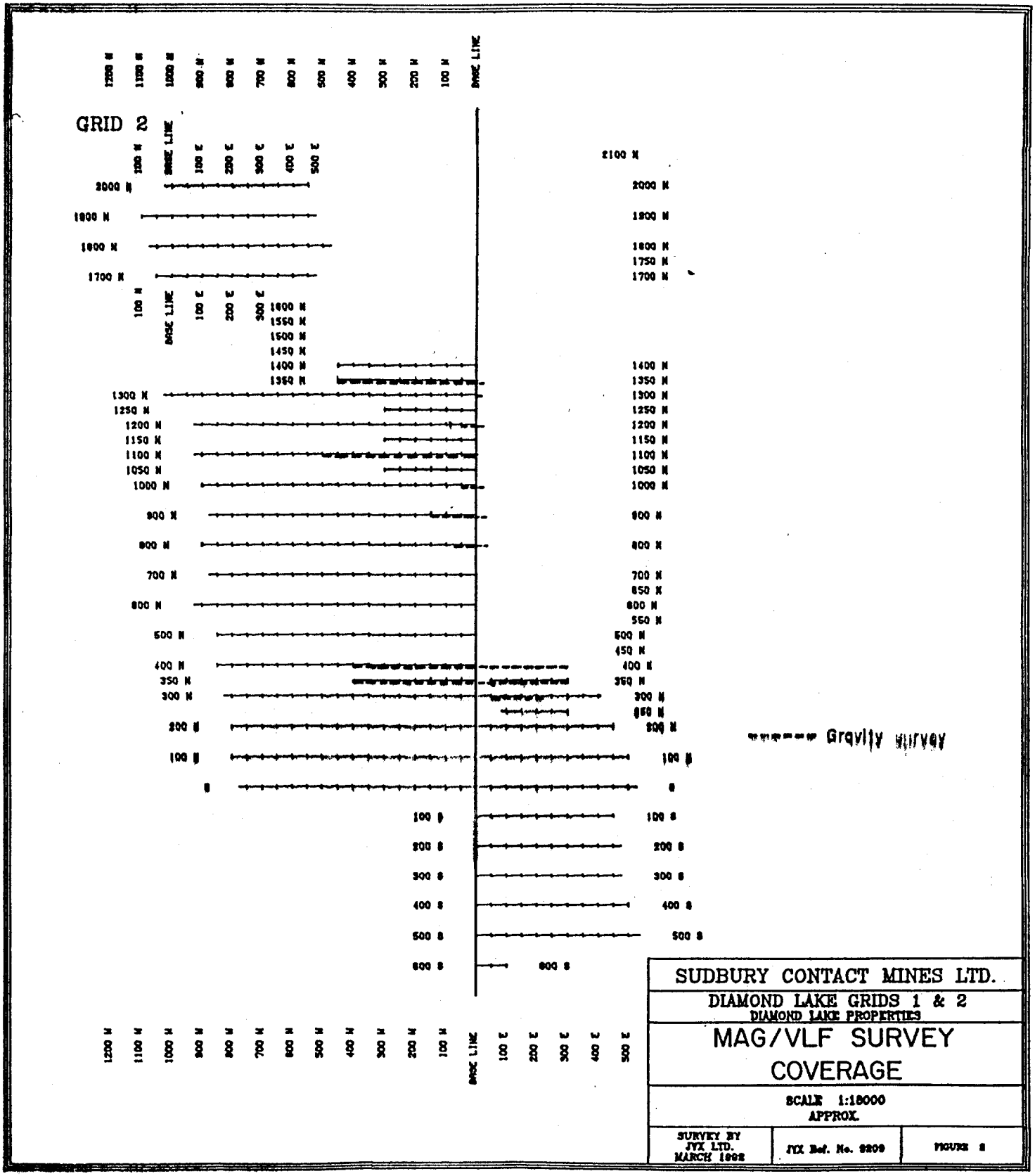
LARDER LAKE AREA
NORTHERN ONTARIO

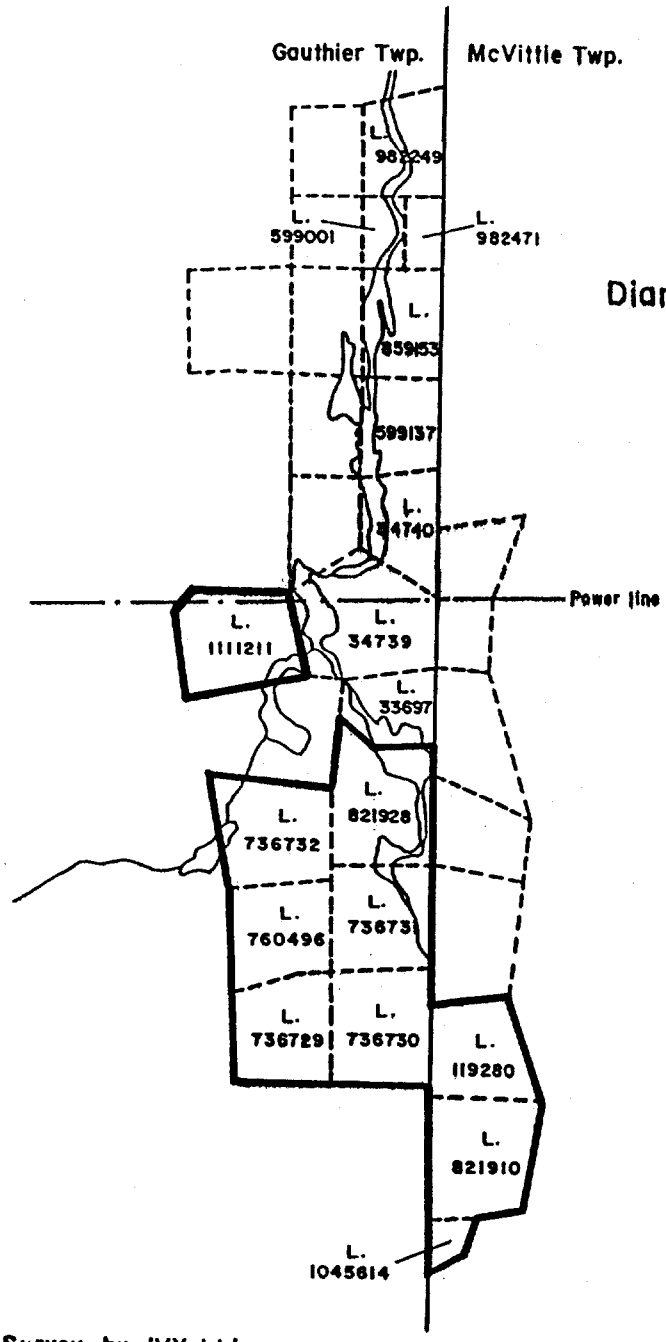
GROUND GEOPHYSICAL SURVEY

Scale : 1:500,000

Survey by JVX Ltd.

Figure 1


GRID 2
BASE LINE
Gravity survey
SUDBURY CONTACT MINES LTD.
DIAMOND LAKE GRIDS 1 & 2
DIAMOND LAKE PROPERTIES
MAG/VLF SURVEY
COVERAGE
SCALE 1:10000
APPROX.
SURVEY BY
JVX LTD.
MARCH 1992
JVX Ref. No. 9209
FIGURE 2



Diamond Lake Grid

0 1000 2000 4000 feet

0 200 1000 metres

CLAIM MAP

SUDBURY CONTACT MINES LTD.

LARDER LAKE AREA
NORTHERN ONTARIO

GROUND GEOPHYSICAL SURVEY

Scale : 1"=40 chains

Survey by JVX Ltd.

Figure 3

VX

TABLE 1
MAG/VLF-EM PRODUCTION SUMMARY

Diamond Lake, Grid 1
25-metre stations
VLF transmitter - Annapolis 21.4 kHz

Line	From	To	Length
600S	BL	100E	100 m
500S	BL	535E	535 m
400S	BL	500E	500 m
300S	BL	475E	475 m
200S	BL	475E	475 m
100S	BL	450E	450 m
0	775W	525E	1300 m
100N	800W	500E	1300 m
200N	800W	450E	1250 m
300N	825W	410E	1235 m
350N	850W	300E	700 m
400N	850W	325E	1175 m
500N	850W	BL	850 m
600N	925W	BL	925 m
700N	875W	BL	875 m
800N	900W	BL	900 m
900N	875W	BL	875 m
1000N	900W	BL	900 m
1050N	300W	BL	300 m
1100N	925W	BL	925 m
1150N	300W	BL	300 m
1200N	925W	BL	925 m
1250N	300W	BL	300 m
1300N	1025W	BL	1025 m
1350N	450W	BL	450 m
1400N	450W	BL	450 m
BL	675S	1450N	2125 m
		SUBTOTAL	21620 m

Table 1 continued...

Diamond Lake, Grid 2
25-metre stations
VLF transmitter - Annapolis 21.4 kHz

Line	From	To	Length
1700N	25W	500E	525 m
1800N	50W	550E	600 m
1900N	75W	500E	575 m
2000N (No VLF)	75W	475E	550 m
BL (TL1025W)	1300N	2000N	700 m
		SUBTOTAL	2950 m

TOTAL SURVEY COVERAGE 24570 metres

TABLE 2
GRAVITY PRODUCTION SUMMARY

Diamond Lake Grid 1 Extension
25-metre stations
(Sodin gravimeter, C3E level)

Line	From	To	Length
300N	50E	225E	175 m
350N	400W	300E	700 m
400N	400W	325E	725 m
800N	75W	25E	100 m
900N	150W	25E	175 m
1000N	25W	25E	50 m
1100N	500W	25E	525 m
1200N	25W	25E	50 m
1300N	0	25E	25 m
1350N	450W	25E	475 m
		TOTAL	3000 m

AVX

TABLE 3
List of Claims

Grid	Claim #
Diamond Lake Grid 1	L736732
Diamond Lake Grid 1	L736731
Diamond Lake Grid 1	L736730
Diamond Lake Grid 1	L736729
Diamond Lake Grid 1	L821928
Diamond Lake Grid 1	L821910
Diamond Lake Grid 1	L760496
Diamond Lake Grid 1	L119280
Diamond Lake Grid 1	L1045614
Diamond Lake Grid 2	L1111211

4. PERSONNEL

Mr. Steve Bortnick - Geophysical Technician. Mr. Bortnick operated the Scintrex IGS-2/MP-4 magnetometer and VLF-EM systems. He also operated the Sodin gravimeter and Sokkisha C3E automatic level. He was responsible for data quality and the day to day operation and direction of the surveys.

Two Geophysical Technicians acted as rod-men, assisted with the gravimeter and operated the Scintrex IGS-2/MP-4 magnetometer and VLF-EM systems.

Mr. Blaine Webster - Geophysicist. Mr. Webster provided overall supervision of the survey, made the structural models and co-authored the report.

Mr. Albert Vickers - Geophysicist. Mr. Vickers compiled the data, plotted the maps, made magnetic and gravity models and co-authored the report.

5. SURVEY METHODS AND FIELD PROCEDURES

5.1 Magnetic

The magnetic method consists of measuring the magnetic field of the earth as influenced by rock formations having different magnetic properties and configurations. The measured field is the vector sum of primary, induced and remnant magnetic effects. Thus, there are three factors, excluding geometric factors which determine the magnetic field. These are the strength of the earth's magnetic field, the magnetic susceptibilities of the rocks present and their remnant magnetism.

The earth's magnetic field is similar in form to that of a bar magnet. The flux lines of the geomagnetic field are vertical at the north and south magnetic poles where the strength is approximately 60,000 nT (or gammas).
In the equatorial region, the field is horizontal and its strength is approximately 30,000 nT. The primary geomagnetic field is, for the purposes of normal mineral exploration surveys, constant in space and time. Magnetic field measurements may, however, vary considerably due to short term external magnetic influences. The magnitude of these variations is unpredictable. In the case of sudden magnetic storms, it may reach
several hundred nT over a few minutes. It may be necessary therefore, to take continuous readings of the geomagnetic field with a base station magnetometer while the magnetic survey is done.

The intensity of magnetization induced in rocks by the geomagnetic field F is given by:

$$I = kH$$

where:

I is the intensity of magnetisation
k is the volume magnetic susceptibility
H is the magnetic field field intensity

The susceptibilities of rocks are determined primarily by their magnetite content since it is strongly magnetic and widely distributed. The remnant magnetization of rocks depends both on their composition and their previous history. Whereas the induced magnetization is nearly always parallel to the direction of the geomagnetic field, the natural remnant magnetization may bear no relation to the present direction and intensity of the earth's field. The remnant magnetization is related to the direction of the earth's field at the time the rocks were last magnetized. Interpretation of most magnetometer surveys is normally done by assuming no remnant magnetic component.

Since the distribution of magnetic minerals (magnetite, pyrrhotite) will, in general, vary with different rock types, the magnetic method is often used to aid in geologic mapping. In gold exploration, the magnetic survey is of particular importance because it may map areas of structural complexity, carbonatization, and silicification.

5.2 VLF-EM

The Very Low Frequency (VLF) Electromagnetic (EM) Method measures variations in the components of the electromagnetic fields set up by communication stations operating in the 15 kHz to 30 kHz frequency range.

These stations, located around the world, generate signals for the purposes of navigation and communication with submarines.

In far field, above uniform earth, the groundwave of the vertically polarized VLF radiowave has three field components:

1) a radial, horizontal electrical field,
2) a vertical electrical field, and
3) a tangential, horizontal magnetic field.

When these three fields meet conductive bodies in the ground, eddy currents are induced causing secondary fields to radiate outwards from these conductors. Measuring these secondary fields on the surface gives some idea of the geological make-up of the target body.

5.3 Quantities Measured and Corrections (Gravity)

The acceleration due to gravity is a measure of the force exerted between the Earth and a mass on the Earth. The unit of acceleration (cm/sec) is also called the gal. Variations in the gravitational field of the Earth are due to several factors. The factor which are of interest to mineral exploration are variations in the rock densities, shapes, and sizes. Gravity responses due to instrument (drift, temperature etc.), Earth-tides, latitude, free-air, and mass (Bouguer correction) must be removed from the measured responses in order to determine the physical parameters of an area of different density (mineralized zone).

Temperature, and Earth-tide corrections are computed by JVX programs on the raw gravitational measurement at the end of the survey. Monthly gravimeter laboratory tests determine initial constants used to compensate for minor deviations in temperature, drift, and tilts. Earth-tide responses due to the sun and moon depend on latitude, longitude, and time - which are computed by JVX programs.

Instrument height (see Figure 4) must also be measured by the operator at each station recorded. The station elevation is measured separately using the automatic level. Using in-house JVX software these two values are added together and used to calculate the gravity due to distance from the datum plane (free-air correction).

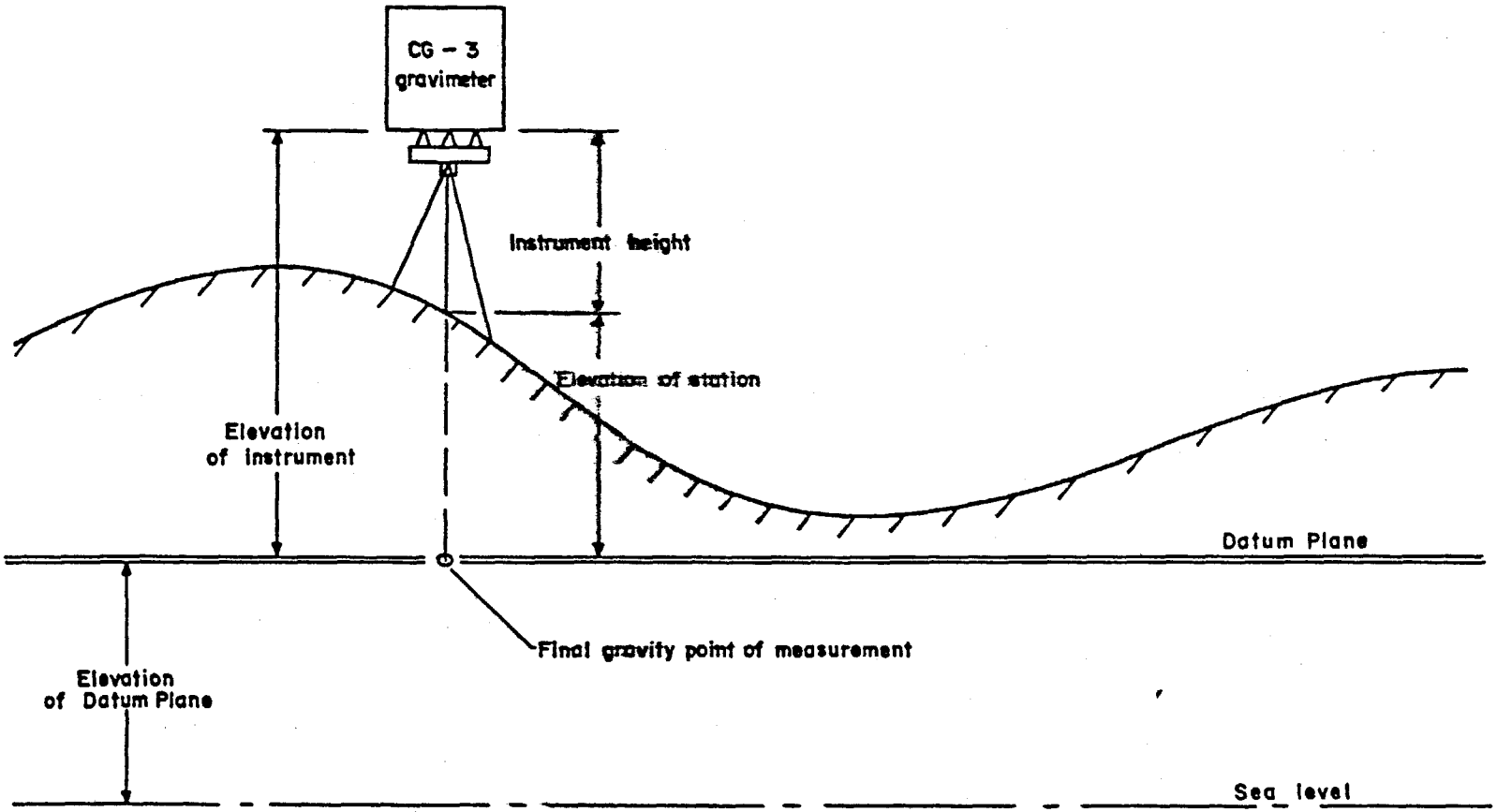


Figure 4 : GRAVITY MEASUREMENT POINT

The Bouguer correction accounts for the attraction of material between the station and the datum plane. When unknown, an average density of 2.67 g/cc is assumed for these calculations. In most cases terrain and isostatic corrections are not necessary for such a small scale gravity survey over relatively flat terrain. With the Diamond Lake Grid some of the short survey lines over the steep topography do not give a background level to calculate accurate terrain corrections.

Latitude corrections take into account different gravitational values due to latitude. When approaching a pole, this correction must be subtracted from the observed gravity. Conversely, when approaching the equator, it must be added.

5.4 Field Procedures (Gravity/Levelling)

Survey lines with station pickets at 25 m intervals were surveyed twice; once with the Sodin gravimeter and once with the C3E level. While one person took gravity measurements, the other operated the Scintrex Mag/VLF system.

Two persons were required to level the lines - one rod-man and one leveller. A temporary bench mark for each grid was established in order to close level run loops. All level loops closed to within 2 cm.

6. GEOPHYSICAL INSTRUMENTATION

JVX supplied the following geophysical instruments and accessories.

6.1 Magnetometer/VLF-EM System

One Scintrex IGS-2 system which included a Proton Precession Magnetometer and VLF receiver, plus an MP-4 base station for automatic diurnal corrections.

The Scintrex IGS-2/MP-4/VLF-4 proton precession magnetometer/VLF system was used to take readings of the total magnetic field and VLF field components (vertical in-phase, vertical quadrature and horizontal field) over the grid. An additional Scintrex IGS-2/MP-3 magnetometer is used as a base station magnetometer. Both units are microprocessor controlled and recorded readings with clock time on internal memory. The survey data from the field unit is corrected for ambient field changes at the end of every survey day by connecting field and base station magnetometers.

6.2 Gravity Meter

One Sodin Gravimeter and JVX gravity software.

The Sodin gravimeter responds to a change in gravity that alters the position of a proof mass balanced by a spring and a relatively small adjusting restoring force. The displacement is measured and recorded.

Gravity readings are looped back to a base station within two hours. This information is used for instrument drift corrections.

The readings taken by the Sodin meter and its instrument hight are entered into JVX software, processed and corrected for instrument drift, and earth tides.

6.3 Automatic Level

One Sokkisha C3E automatic level and rod.

The Sokkisha C3E Automatic Level was used to determine precise elevations of the surveyed stations. The instrument is levelled by adjusting the tripod screws until the level bubble is within a limiting circle. Automatic compensators are magnetically damped to reduced vibration and increase accuracy. The integrity of the measurements must be verified by closing survey lines to a starting bench mark.

Specification sheets for the all Scintrex geophysical instrumentation, the Sodin gravimeter and the Sokkisha C3E automatic level and rod are appended to this report (Appendix A).

6.4 Data Processing System

a) An IBM-compatible portable microcomputer.
b) Processing software including communications and plotting programs.
c) An Epson dot matrix printer and tractor feed paper.
d) Consumable items such as gridded paper, pens and floppy disks.

7. DATA PROCESSING AND PRESENTATION

7.1 Magnetic/VLF-EM

To allow for the computer processing of the data, the raw data stored internally in the IGS-2/MP-4 units were transferred at the end of each survey day to floppy diskette by the in-field microcomputer and appropriate communications software.

An archive edited data file was created in the field from the raw data file by the operator removing repeat or unacceptable readings and correcting any errors such as station or line numbers. The concisely labelled and edited data were then output to a printer as line profiles.

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The Mag/VLF-EM data of the Diamond Lake Grid 1 was merged with the data from the Diamond Lake Grid survey of February and November 1991. With the magnetic data, Diamond Lake Grid 2 from the February 1991 survey was also merged and plotted. The merged data set gives a total Diamond Lake Grid 1 coverage of 24.6 line-kilometres.

At the completion of the survey JVX generated contoured plan maps and profiles with posted values of the merged total field magnetic data and profile plots of the VLF-EM data from the two VLF stations (NAA & NSS). VLF-EM Fraser Filter maps were also plotted for the Diamond Lake grid 1.

7.2 Gravity/Levelling

At the conclusion of each survey day the collected data were dumped to an IBM compatible microcomputer. Base station gravity readings were taken within two hours and at the start and end of each survey day. This was used to correct instrument drift and temperature variations.

Once edited, the gravity data were reduced to a datum plane. This is done by applying latitude corrections, and Bouguer corrections to the gravity data. The equations for these corrections may be found in Appendix B.

Latitudes and longitudes were obtained from a 1:50,000 topographic map. These data were entered into the computer and corrections were made using JVX software. The final gravity values were thus reduced to a datum plane with excess mass removed, and where earth-tides and latitude corrections have been done. These data are the Bouguer Gravity. Figure 6 illustrates an example of the importance of the gravity reduction equations (see Appendix B) and the need for accurate elevations and survey procedures.

Steep topography required a further set of corrections called terrain corrections. This was necessary to compensate for the large amount of material missing in this area. The procedure consists of digitized topography from a 1:500 map with 0.5-metre contours using a 5x5-meter grid extending to a radius of about 100 metres.

Outside this area a 50x50-metre grid extending to a radius of about 500-metres digitized from a 1:1000 map. The GSC computer program TRITER determine correction values to add to the Bouguer data.

7.3 Residual Bouguer Gravity

The residual Bouguer gravity was calculated by graphical methods. The graphical method is done by manually drawing the regional gravity component profile of the Bouguer data. For this particular data set, the residual gravity was determined with calculations from the terrain corrections. This was done with a graphical best-fit method whereby a curve is drawn through the terrain affected gravity.

The Gravity data of the Diamond Lake Grid 1 was merged with the data from the Diamond Lake Grid November 1991 survey. The merged data set gives a total Diamond Lake Grid 1 gravity coverage of 3.0 line-kilometres.

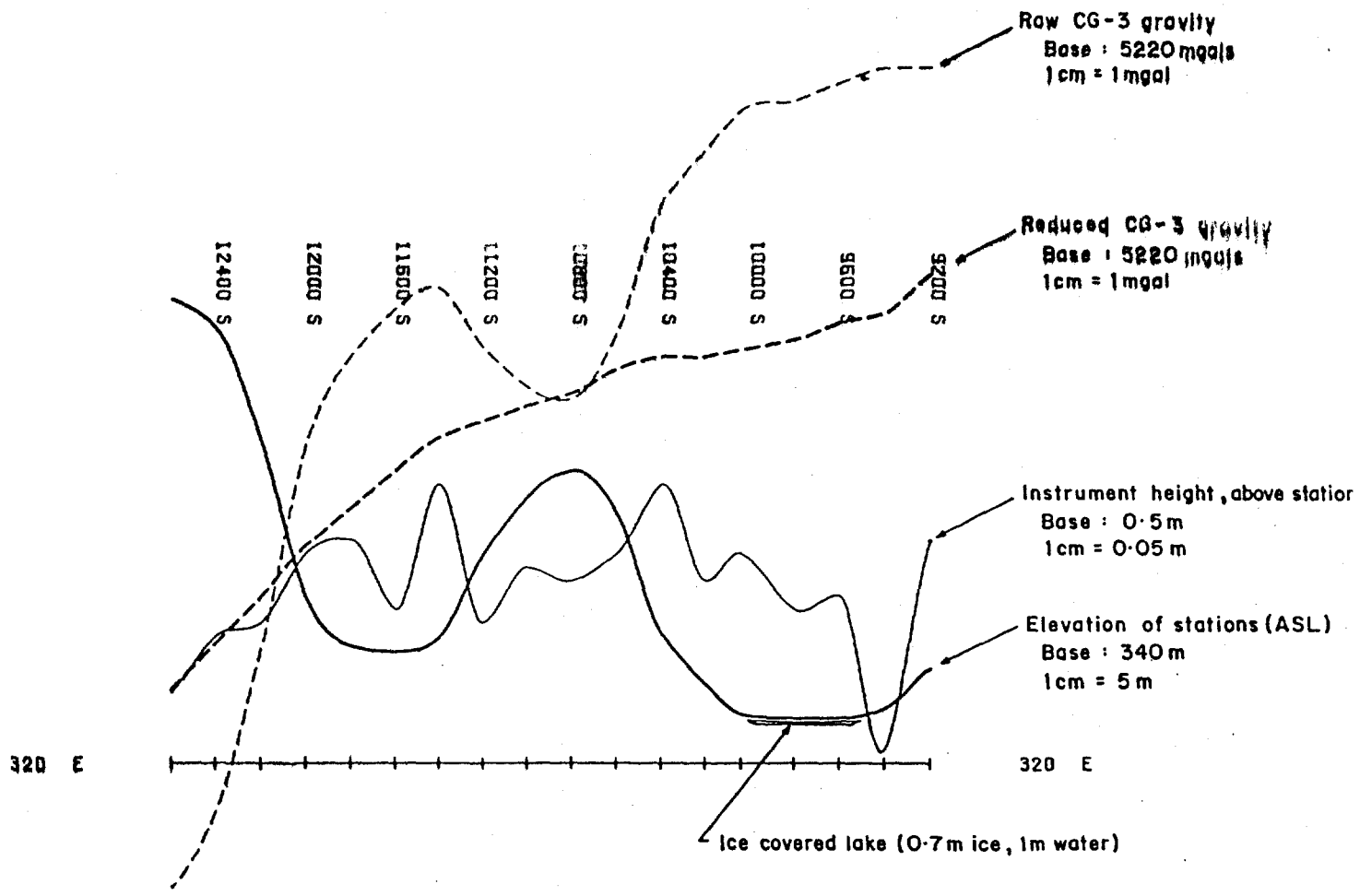
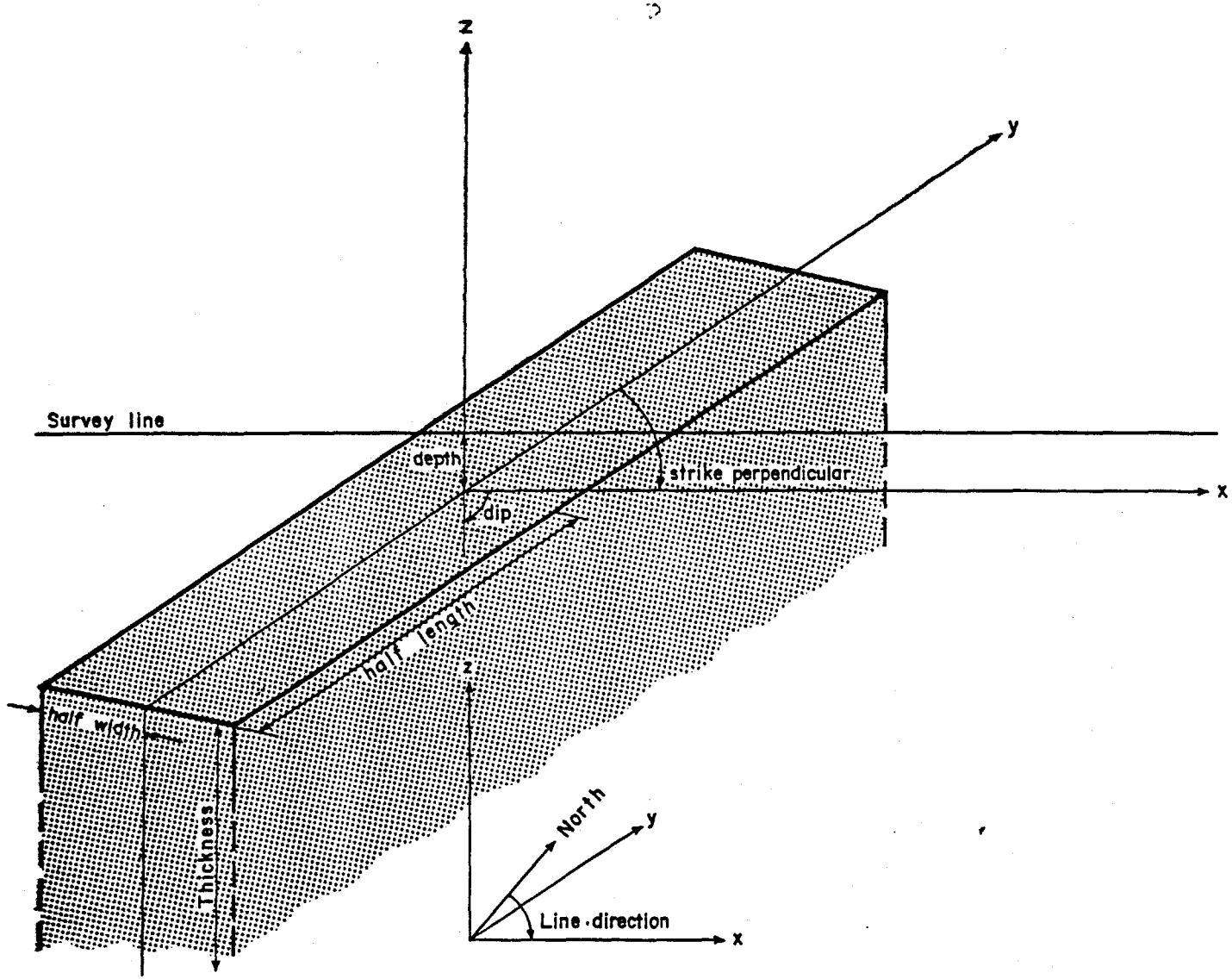


Figure 5
Raw CG-3 gravity versus Reduced Gravity



Tabular Model showing dimensions & field parameters

Figure 6

At the completion of the survey JVX generated profiles with posted values of the merged Bouguer Gravity data and elevations. Selected gravity data is also presented as observed and modelled fitted gravity on plate 6.

Final report quality profiles of the data at scale 1:5000 drafted on mylar employing Geopak software and Nicolet Zeta 800 series digital drum plotter are supplied.

The Diamond Lake Grids 1&2 are presented in Appendix D as the following Plates:

Plate 1a: Contour Total Field Magnetic Survey, Diamond Lake Grid 1&2 Scale 1:5000.

Plate 1b: Profiles/Posted Values Total Field Magnetic Survey, Diamond Lake Grid 1&2 Scale 1:5000.

Plate 1c: 2nd Vertical Derivative Total Field Magnetics, Diamond Lake Grid 1&2, Scale 1:5000

Plate 2a: Profile/Posted Values VLF 24.0 kHz, Diamond Lake Grid 1 Scale 1:5000

Plate 2b: Contour VLF Fraser Filter 24.0 kHz, Diamond Lake Grid 1, Scale 1:5000

Plate 3a: Profile/Posted Values VLF 21.4 kHz, Diamond Lake Grid 1, Scale 1:5000.

Plate 3b: Contour VLF Fraser Filter 21.4 kHz, Diamond Lake Grid 1, Scale 1:5000

Plate 4: Profile/Posted Values Gravity and Elevation, Diamond Lake Grid 1 Scale 1:5000.

Diamond Lake Grid 1, Gravity & Magnetic Models

Plate 6: Gravity Model of Anomaly G2, L1100N

Plate 7: Magnetic Model of Anomaly M1, L350N

Plate 8: Magnetic Model of Anomaly M2, L1100N

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8. DISCUSSION OF RESULTS AND RECOMMENDATIONS

8.1 Introduction

The Diamond Lake grids are located in the Kirkland Lake area and are part of the Timiskaming Group which consists of mafic to felsic trachyte flows, flow breccias and tuff ranging from saturated to unsaturated in quartz. Materials derived locally and from the Larder Lake Group are located to the south of the survey areas and are mainly ultramafic and basaltic Komatiite and magnesium rich tholeiitic basalt. Typically, dark, more basic igneous rocks have a higher magnetic susceptibility and specific gravity than the acid igneous rocks; the latter, in turn, have a higher susceptibility and specific gravity than sedimentary rocks. In the absence of extensive mineralization, highly fractured igneous rock generally has lower density and magnetic susceptibility. It should be noted that the variations in specific gravities for particular rock types cannot be defined as clearly as magnetic susceptibility.

The Diamond Lake grids were surveyed to delineate ground magnetic features observed from an airborne survey. The detail work completed in 1992 was to further define magnetic and gravity features surveyed previously. The ground survey compilation maps define large magnetic features intersected by structural trends labeled F1 to F5. These trends are indicated as magnetic lows, striking NE or NW, and are further defined by the 2VD (second vertical derivative), VLF-EM conductors and gravity. Linear magnetic high features, interpreted as dykes are also evident. The geophysical results from the Diamond Lake grids are discussed individually.

8.2 Magnetic/VLF-EM Interpretation

The Diamond Lake Grid 1 survey was merged with February 1991 survey data. In turn, the most recent, third generation of the data was merged with the original two data sets to establish an overall view of the dominant geophysical anomalies. In view of the previous interpretation of the limited Mag/VLF coverage, NE trends were interpreted with the aid of the 2VG (second vertical derivative) Plate: 1c (Scale 1:5000).

The 2VG was needed to interpret the magnetic data in the presence of the local magnetic gradient due to the adjacent magnetic high zone. The second generation of maps continued with the interpretation of these magnetic trends within the main magnetic high.
As mentioned above the 2VG contour map was needed to interpret the magnetic data in the presence of high magnetic gradients. The interpretation of the 2VD data has resulted with the further definition of three types of anomalous signatures:

1.) The strong magnetic response of the main north - south dyke in area of low magnetic background (M 1), and the strong magnetic response in an area of high magnetic background in the northwestern part of the grid (M3).

2.) The magnetic anomalies are adjacent to the dyke.

3.) The 2VG contours are broken by the NW and NE trends which are interpreted as faults F1 to F5. The 2VG data therefore has helped in the understanding the structure on the property.

The follow-up ground surveys identified several magnetic features of interest.

Magnetic Anomaly M1 (500S-200E / 350N-150E)

Magnetic anomaly M1 is a strong linear feature truncated on the north with trend NE-3 and to the south by trend NE-4. Magnetic anomaly M1 is associated with weak VLF conductors VLF-3 and 4. The anomaly thickens on its north end (T-1) where kimberlites have been intersected by drilling. The gravity profiles does not show a weak response to the pipe. The rough topogography in the area limits the accuracy of the gravity data for small density contrasts.

Recommendations:

Anomaly M1 has been selected by Sudbury Contact as a drill target and this proved to be a kimberlite. Anomaly M1 has been designated as target #1 (T-1).

Magnetic Anomaly M2 (1100N - 340W)high

Magnetic anomaly M2 is a strong (900 nT) with an associated gravity low (G2) (see model for detailed description). M2 is near the intersection of faults F4 and F2.

Recommendation:

The anomaly should be evaluated because it is near the intersection of faults F4 and F2 and it is strong. However it does not have an associated VLF response.

Magnetic Anomaly M3 (500N - 00 / 1400N - 00)

M3 is a strong magnetic response located north of the kimberlite anomaly M1. The anomaly is in a region of high magnetic background which obscures it however the second derivative data brings out the dike. The anomaly is located near the intersection of trend NW-3 and NE-2. The southern end of M3 appears to be cut by a geologic / magnetic contact; this is apparent in the second vertical derivative magnetic data.
The eastern part of the anomaly correlates with a weak gravity low which indicates low density in the basement or overburden. The anomaly is not reliable because it is weak.

Recommendation:

Anomaly M3 appears to be the extention of kimberlite anomaly M1. Target T-2 has been identified as an area for follow-up. The second derivative magnetic data indicates a second target may exist near 900N / 00 where two 2nd derivative trends join. The magnetic anomaly to the southwest has been drilled by hole 90-6.

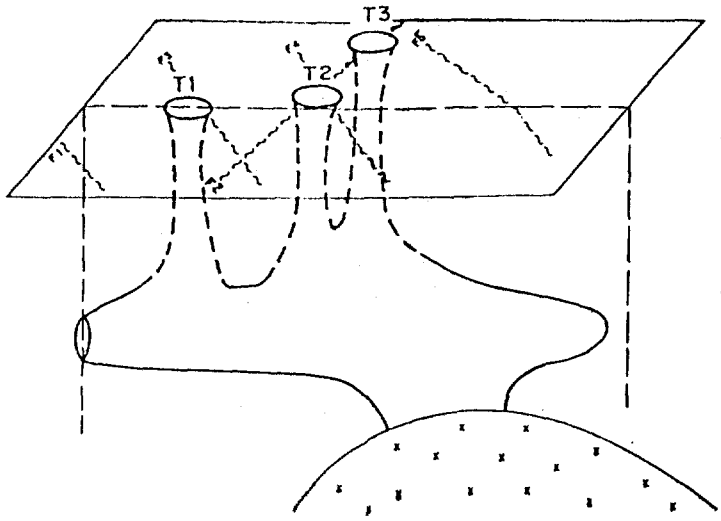
Magnetics - Grid 2

The grid 2 magnetic data exhibit a high magnetic relief. Two magnetic lows were identified on the compilation map which are on strike with trend NW-3 or fault F-2.

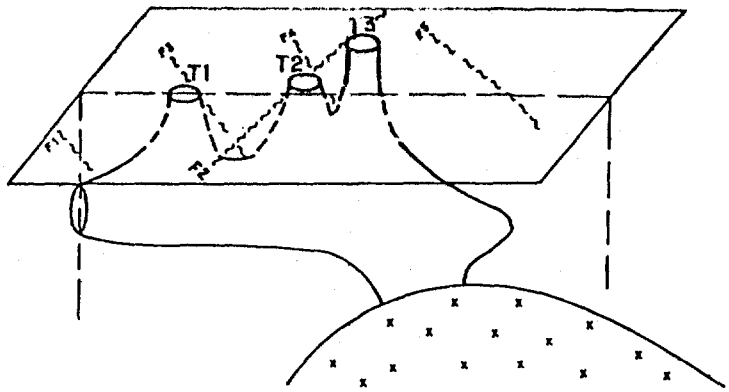
8.3 Intrepreted Magnetic Targets: Figure 7

Figure 7 is a model of the distribution kimberlite dikes and pipes on the property. The kimberlite dikes were originally intruded quite high into the region (Figure 7a). Through erosion and structural movement some of the higher level kimberlite dikes may have been erroded.(Figure 7b).

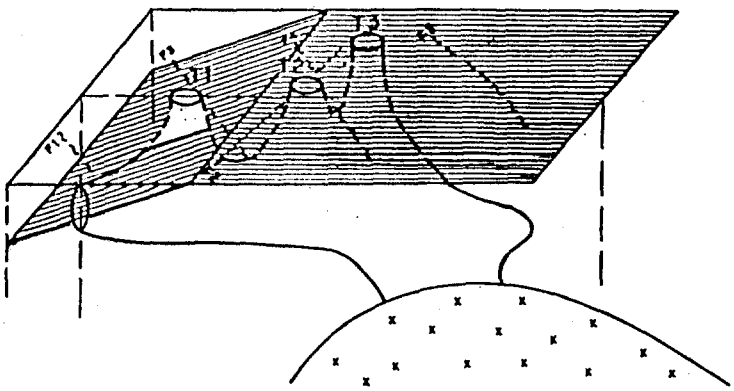
The magnetic map suggests the magnetic unit hosting T1, may plunge to the south therefore T2 and T3 could be presently at a lower stratigraphic level than T1. Other structural models could be developed with the various targets being preserved at different stratigraphic levels.



a) Original distribution of Kimberlites



b) Distribution after faulting and erosion



c) Area 2 surface magnetics indicate it may plunge to south.

Figure 7

DIAMOND LAKE TARGETS

(Possible Kimberlites)

8.4 Second Derivative Magnetic Interpretation: Plate 1c

The second derivative map has provided an improved understanding of the structural and stratigraphic make up of the property.

Second derivative area 1 (A1) 00BL-00-800W / 700N BL - 700N 700W

Area 1 is a region of lower magnetic intensity which appears to be bound on the north by an east-west geologic contact. The lower magnetic intensity may reflect lithologies from area 2 dipping under area 1 or area 2 lithologies being highly altered in area 1.

Second derivative area 2 (A2) 700NBL - 700N 800W / 2000N BL - 2000N 600W

Area 2 is a region of higher amplitude magnetics. The high amplitude makes it difficult to see detail within the anomalies. However, the second derivative data allows correlation of target units designated T-2 which may be part of the kimberlite dike system discovered in T-1.

The high amplitude of the magnetic background in this area may mean that kimberlites with the magnetic intensity of M1 may show up as weak magnetic lows.

Second derivative area 3 (A3) 500S BL00 - 500S 500E /
1400N BL00 - 1400N 500S

Area 3 is a zone of moderate to strong magnetic intensity on the 2VD map.

8.5 Magnetic Modelling Plates 7 & 8

The quantitative interpretation involved magnetic modelling utilizing JVX and GSC modelling software. The modelling was completed on the anomalies (M1 & M2). Assuming no remnant magnetization, a tabular model of infinite vertical thickness gives the best response to kimberlites. The magnetic models show a much smaller width than the gravity models. This is most likely due to a high magnetic response of the centre of the kimberlite in contrast to possible low density/susceptibility breccias associated with host-rock - kimberlite contact. A magnetic susceptibility log of the hole in the kimberlite body would help to further improve the interpertation.

Figure 6 defines strike, thickness, depth to top of body and length.

The magnetic anomalies are presented on the compilation map and defined on Plates 7 and 8. A brief discussion of each anomaly and a summary of the modelled parameters follows:

JVX

Magnetic Models

Plate 7

M1 is a strong 350 nT magnetic high that continues along a NS strike that is perpendicular to the line. The best model that fits this magnetic feature is a tabular model, of infinite thickness, which translates to a narrow dykes with vertical dips.

Line L350N was modelled over anomaly M1. L350N reveals a magnetic susceptibility of 3.70 x 10*(-3) emu, at a depth of 57 m, extending a width of 93 m centred at sta. 55E. L400N reveals a magnetic susceptibility of 3.75 x 10*(-3) emu, at a depth of 64 m, extending a width of 78 m centred at sta. 67E. The 7 m descrepency between the depth appears to be the result of a magnetic response from more than one anomaly. The survey lines fall short of the east expression of the anomaly M1, decreasing the accuracy of the model. The accuracy of the corresponding gravity data is distorted due to steep topography. Information from the extensive drilling would improve the magnetic model and further define the body.

Plate 8

M2 is a strong 900 nT magnetic high with an interpreted NW strike. The tabular model, of infinite thickness, is modelled on L1100N indicating narrow dykes with 110 deg. dip. M2 reveals a magnetic susceptibility of 1.15 x 10*(-3) emu, at a depth of 15m, extending a width of 10 m centred at station 325W.
The strike of this anomaly is interpreted NW, but it may also be the combined result of an intersecting NS magnetic trend and the magnetic lows trending NE-2 and NW-3. Due to the complexity of the magnetic responses further gravity follow-up on adjacent lines, and/or an IP/Resistivity survey measuring the resistivity contrast of possible kimberlites to the host rocks, may further define the anomaly.

8.6 Gravity Interpretation

The gravity data was interpreted with the help of JVX and GSC gravity modelling software. The modelling program defaults to a density contrast ranging between 0.2 and 0.35 g/cc, when modelling a tabular-2D feature. This corresponds to the density measurements of the drillcore, with an approximate host-rock density of 2.5 g/cc and an approximate density of 2.2 g/cc for kimberlites. The choice of a relatively thin tabular-2D model is due to the small density contrast where the small differences between the densities cannot be distinguished at depth. The tabular-2D model responds to residual Bouguer gravity that falls below the base level (Bouguer gravity) where the gravity lows reveal the low density contrast with the surrounding host-rock. It should be noted that two dimensional (2D) modelling is optimal with a strike length of the anomaly greater than the width of the anomaly.

The gravity anomalies have been discussed with the magnetic targets.

The gravity anomalies of interest correlate with magnetic highs. These weak gravity responses cannot be interpreted accurately in steep topography or over water when applying large terrain and water depth corrections. As a result of this, many strong magnetic responses cannot be verified as kimberlites from the gravity data.

Gravity Models

One residual gravity low, unaltered by terrain corrections, correspond to magnetic high. The gravity model shows a greater width than the magnetic model. This wide low density model may be in response to possible low density breccias associated with host-rock - kimberlite contact. The gravity anomalies are presented on the compilation map and defined on Plate 6. A brief discussion of anomaly and a summary of the modelled parameters follows:

Plate 6

G2 is a weak 0.15 mgal residual gravity low on line L1100N. The corresponding magnetic high displays a NW trend of substantial length, insuring accurate interpretive dimensions from the 2D model. The tabular-2D model reveals a density contrast of 0.3 g/cc less than the host rock, extending over a width of 43 m from sta. 343W to 386W.

As mentioned previously, gravity anomaly G2 may follow the previously interpreted strike of the NW magnetic anomaly, but it may also be the combined result of an intersecting NS magnetic trend and the magnetic lows trending NE-2 and NW-3. Due to the complexity of the magnetic responses in this area, the one line gravity follow-up does not provide sufficient coverage. Further gravity follow-up on adjacent lines, and/or an IP/Resistivity survey measuring the contrasting resistivity of possible kimberlites, may validate the anomaly.

9. SUMMARY AND CONCLUSIONS

During March/April 1992 VLF-EM, Magnetic and Gravity surveys were carried out by JVX Limited on behalf of Sudbury Contact Mines Ltd. c/o W.A. Hubacheck Consultants Ltd. on the Diamond Lake Properties; Larder Lake area, NE Ontario.

The third generation of magnetic/VLF and gravity surveys identified several new magnetic, VLF electromagnetic and gravity anomalies. The northwest trending magnetic anomalies, with associated VLF-EM response, are interpreted as magnetic dykes labelled as M3 and M4. The strike of these magnetic trends do not conform to the known geology suggesting further examination as possible kimberlites. The larger amorphous magnetic high M3 is interpreted as either a larger dyke or a high susceptibility volcanic unit with a relative lower density. Gravity follow-up of magnetic highs associated with residual gravity lows, where the low gravity/density contrast with the host-rock may be caused by the lower density kimberlites.

JVX

Gravity follow-up of several of the prospective magnetic anomalies occur in an area of rapid topographic change. Unfortunately, the integrity of small gravity anomalies (< 0.2 mgals) over steep topography remain questionable with the large terrain corrections. IP/resistivity surveys may verify and delineate significant magnetic anomalies over steep topography, by utilizing the resistivity contrasts associated with kimberlites. The new anomalies are identified on the compilation map. Positive identification of these features as kimberlites should be attempted, if possible, before drilling.

Two target areas T1 (known kimberlite) and T2 have been identified for further follow up. A structural interpretation has been made from the magnetics which suggests the targets could be from different stratigraphic levels.
Other magnetic highs or lows (depending on the magnetic contrast between the kimberlite and surrounding rock units) should be evaluated.

The geohysical data presented should be used in conjunction with available geological/geochemical data and other geophysical data, to priorize the exploration targets.

The digital data from these surveys has been archived by JVX. A copy of all the data will be held by JVX on behalf of Sudbury Contact Mines Ltd. Sudbury Contact Mines Ltd. may at any time within this period request copies of the data on a time and materials basis.

If there are any questions with regard to the survey please do not hesitate to call the undersigned at JVX Limited.

Respectfully submitted,

JVX Limited

Blaine Webster, B.Sc.
President

Albert Vickers, B.Sc.
Geophysicist

APPENDIX A

Instrument Specification Sheets

SCINTREX IGS

Integrated Portable Geophysical System

Scintrex has used low power consumption microprocessors and high density memory chips to create the IGS Integrated Portable Geophysical System; instrumentation which will change the way you do ground geophysics.

Here are the main benefits which you will derive from the IGS family of instrumentation:

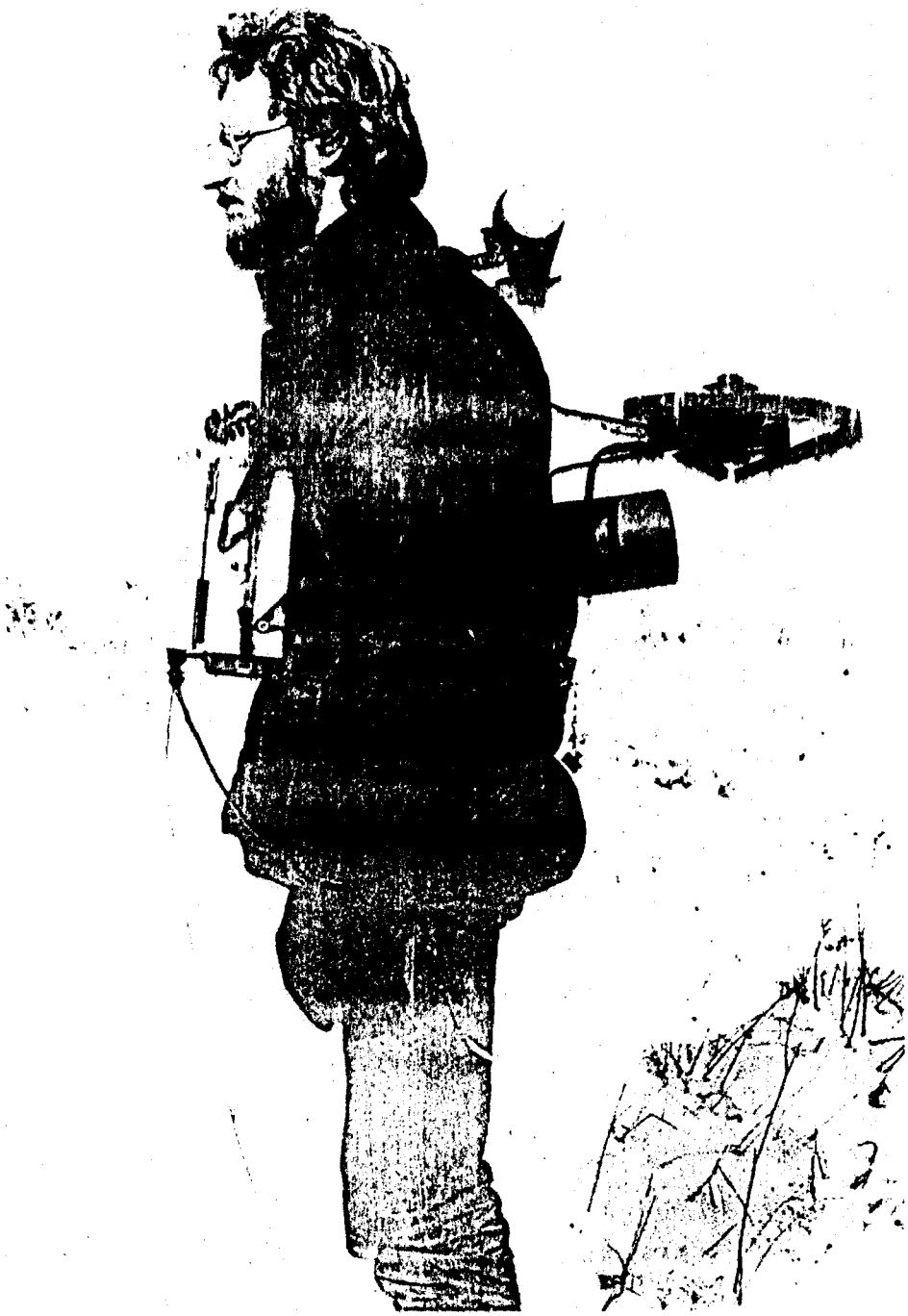
1. Depending on your choice of optional sensors you can make one, two or all of: magnetic, VLF and electromagnetic measurements. Thus, you may optimize the IGS system for different geophysical conditions and production requirements.

2. You will save time and money in the acquisition, processing and presentation of ground geophysical survey data.

3. You will achieve an improvement in the quality of data through enhanced reading resolution, an increase in the number of different parameters measured and/or a higher density of observations. Further, errors which occur in manual transcription and calculation will be eliminated.

4. Your operator will appreciate the simplicity of operation achieved through automation.

5. Since add-on sensors are relatively less expensive, your investment in a range of IGS instrumentation may be much less than it would be with a number of different instruments, each dedicated to a different measurement.



The Scintrex IGS-2/MP-4/VLF-4/EM-4 permits one operator to efficiently measure magnetic, VLF and EM fields and to record data in computer compatible solid-state memory.

System Options and Accessories

SCINTREX

222 Snidercroft Road
Concord Ontario Canada
L4K 1B5

Telephone: (416) 669-2280
Cable: Geoscint Toronto
Telex: 06-964570

A. Console and Power Supply

A-1 IGS-2 System Control Console with 16K RAM memory and manual. Note that no battery pack is included so that one of items A-2, A-3 or A-4 should be selected unless the IGS is to be run from an external 12 V DC power source. The battery packs are interchangeable by the user.

A-2 Non-rechargeable Battery Pack includes battery holder and 10 disposable 'C' cell batteries. Used in normal portable operation unless temperatures are below -20°C in which case the Rechargeable Battery Pack and Charger should be chosen.

A-3 Rechargeable Battery Pack and Charger includes battery holder, 6 rechargeable non-magnetic batteries, charger and one spare cap for the battery charging plug. This is the best battery pack for portable total field and gradiometer magnetics since the non-magnetic property of these batteries ensures a minimum of noise. Also used for light duty (slow cycling) magnetic base station applications and in cold weather where disposable batteries lose power.

A-4 Heavy Duty Rechargeable Battery Pack includes heavy duty rechargeable batteries installed in a console with a built-in charger. Useful for rapid cycling base station or mobile applications.

A-5 Low Temperature Battery Extender Kit designed so that battery pack can be worn inside coat in cold weather conditions. Kit includes bottom cover for console, console to battery pack interconnecting cable, cover for battery pack and waist belt.

B. Memory Expansion Options

B-1 IGS Memory Expansion I. An additional 16K RAM is added to the existing memory board for a system total of 32K RAM.

B-2 IGS Memory Expansion II. A further 16K RAM is added to the existing memory board for a system total of 48K RAM.

B-3 IGS Memory Expansion III. An additional board is required on which memory can be added in up to six 16K RAM groups. Not available with all sensor options.

B-4 Further Memory Expansion. Memory expansion to a system total of 192K RAM is feasible for some applications.

C. Accessories

C-1 RS-232 Cable and Adaptors. Includes a special RS 232 data transfer cable and two IGS-2 to RS 232 cable adaptors. Used for communicating between the IGS-2 and peripheral devices such as a digital printer, microcomputer, cassette recorder, modem or a second IGS-2 (or MP-3 Proton Magnetometer) for diurnal corrections.

C-2 Minor Spare Parts Kit consisting of two keyboard diaphragms and two 2A quick acting fuses.

C-3 Display Heater Option. Required to heat the LCD display on the IGS-2 Console for operation at temperatures below -20°C.

C-4 Digital Printer for use with 110 V AC power supply and with X-on/X-off interfacing for use with IGS-2, MP-3 or VLF-3 instruments, one box of paper, ribbon and manual. Note that the RS-232 Cable and Adaptor are required.

C-5 Conversion of Digital Printer for use with 220 V AC power supply.

D. MP-4 Proton Magnetometer Sensor Option

D-1 MP-4 Magnetometer Signal Processing Board and Magnetometer Program EPROM for mounting in IGS-2 Control Console, manual.

D-2 Portable Total Field Sensor Option including sensor for total field measurements, sensor staff, two sensor cable assemblies, backpack sensor harness, spare non-magnetic sensor clamp screw.

D-3 Base Station Sensor Option, including 50 m sensor cable assembly, sensor for total field measurements, sensor tripod, external power cable, analog chart recorder cable and spare non-magnetic sensor clamp screw.

D-4 Gradiometer Sensor Option including second sensor cables, two 0.5 m staff extenders to complement Portable Sensor Option and spare non-magnetic sensor clamp screw.

D-5 Spare section for Portable Total Field Sensor Staff (0.5 m length).

E. VLF-4 VLF Electromagnetic Sensor Option

E-1 Two VLF-4 Signal Processing Boards and VLF program EPROM for mounting inside IGS-2 System Control Console, dual coil VLF-magnetic field sensor with level compensator, sensor-console interconnecting cable, harness and support for back mounting of sensor, manual.

E-2 VLF EM Primary Field Drift Correction Option consisting of two program EPROMS which replace the standard VLF program EPROMS in each of the portable and base station VLF units.

E-3 VLF Electric Field Sensor Option for VLF resistivity measurements. Includes two capacitive electrodes with integral preamplifiers and 5 m of cable. Longer cable lengths on request.

F. EM-4 Genie/Horizontal Loop Electromagnetic Sensor Option

F-1 Two EM-4 Signal Processing Boards for mounting either inside IGS-2 System Control Console or the EM-4 Genie/Horizontal Loop Expansion Module, one program EPROM for mounting inside IGS-2, one receive coil, one interconnecting cable, manual.

F-2 EM-4 Tiltmeter/Intercom Module. Permits Horizontal Loop measurements to be made with magnetics but without VLF.

F-3 EM-4 Genie/Horizontal Loop Expansion Module. Permits Horizontal Loop measurements to be made with both magnetics and VLF.

F-4 Genie/Horizontal Loop Portable Electromagnetic Transmitter complete with heavy duty battery pack, battery charger, manual.

F-5 TM-2 Tiltmeter/Intercom Module used with TM-2 when Horizontal Loop measurements are to be made.

F-6 Transmitter-Receiver Interconnecting Cables for Horizontal Loop measurements are made to order, in any lengths up to 300m.

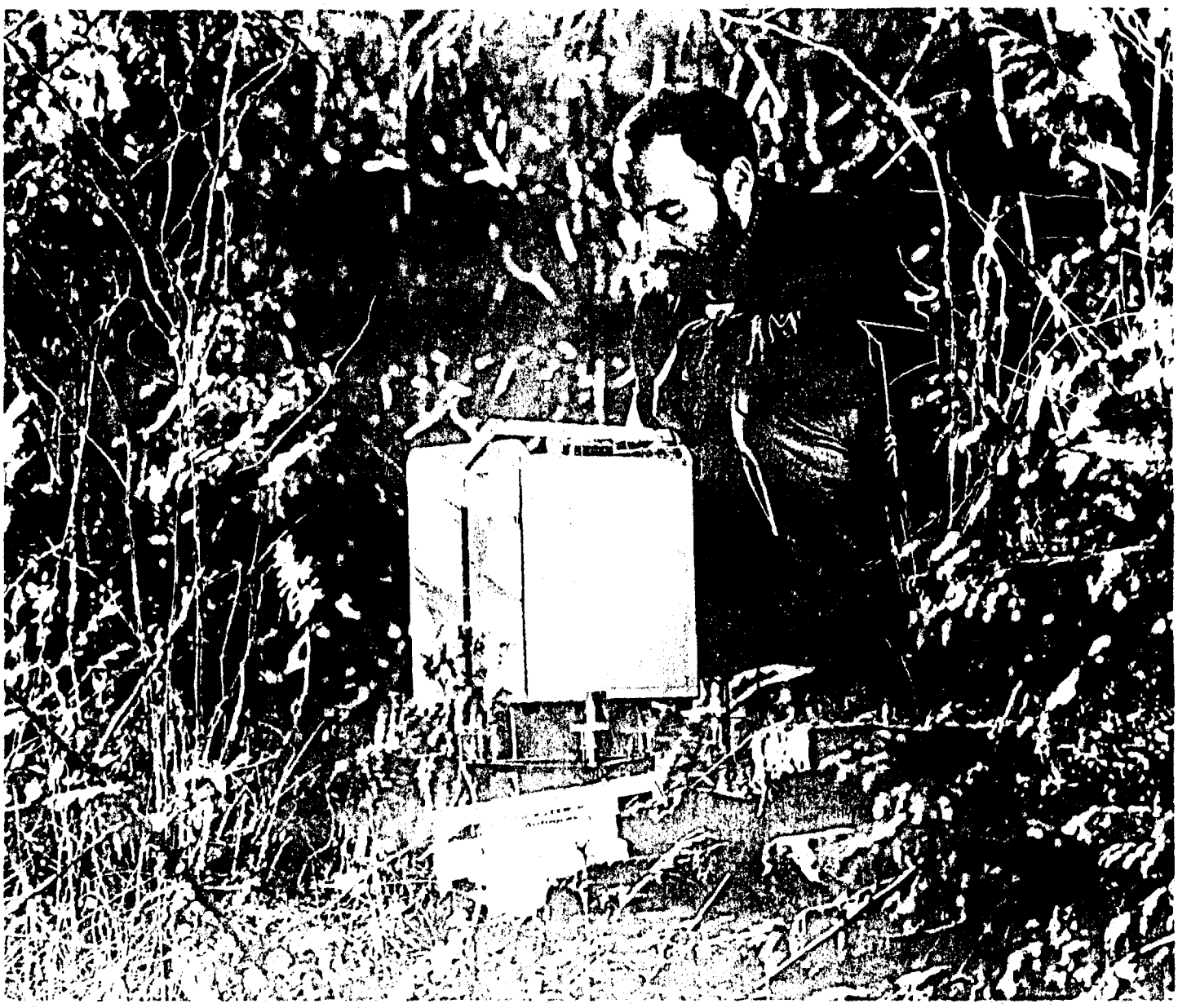
G. Carrying Cases

A variety of carrying cases are available to suit different combinations of console and sensor options.

SCINTREX

CG-3 and IGS-2/CG-4

Autograv Automated Gravity Meters



How the Autograv's microprocessor-based automation contributes to ease of operation and high accuracy in gravity surveying:

- Reading resolution of 0.01 mGal
- Worldwide range without resetting
- Repeatability of 0.01 mGal
- Measures at the simple press of a key
- Samples each second, stacks, calculates standard deviations and rejects spurious values
- Records in solid state memory
- Outputs to a printer or computer
- No need to pack and unpack between stations

Technical Description of the CG-3 and GS-2/CG-4 *Autograv* Automated Gravity Meters

Reading Resolution
0.01 milligal.

Minimum Operating Range
7000 milligals, without resetting.

Residual Long-term Drift
Less than 0.02 milligal/day.

Typical Repeatability
Less than 0.01 mGal standard deviation.

Range of Automatic Tilt Compensation
± 200 arc sec.

Dimensions
240 mm x 310 mm x 320 mm.

Weight
12 kg, including standard battery.

Power Consumption
5 W at +25°C.

Operating Temperature Range
–40°C to +45°C. Optionally to +60°C.

Interval Between Readings in Cycling Mode
Adjustable from 42 to 99999 seconds.

Standard Memory
16K RAM internal solid-state memory records up to 420 gravity observations. Memory can be expanded to 48K RAM.

Noise Rejection
Samples of more than 4 standard deviations from the average are rejected, if this feature is selected upon initialization of the instrument.

Displayed and Recorded Data
Corrected Gravity, Standard Deviation, Tilt about the X-axis, Tilt about the Y-axis, Gravity Sensor Temperature, Tidal Correction, Duration of Measurement, Time at start of measurement and Header Information (including date and initialization constants).

Digital Display
32 character, 2 line LCD display.

Keyboard Input
14 keys for entering all commands, coordinates, header and ancillary information.

Real Time Clock
Day, month, year, hour, minute and second. One second resolution, 1 second stability over 12 hours.

Digital Data Output
RS-232C serial interface. Data outputs in 7 or 8 bit ASCII, one start, two stop bits, no parity format. Baud rate is selectable at 110, 300, 600, 1200 and 2400 baud. Carriage return delay is keyboard selectable in increments of one from 0 to 999. X-on/X-off handshaking protocol.

Standard Accessories

Tripod
Gravity meter tripod with built-in bubble level and 0.5 m leg extensions; 2.0 kg.

Battery
5.7 Ah, 2.2 kg.

Battery Charger
115/230 V AC; 50/60 Hz.

Optional Accessories

Belt Battery Pack
Worn inside the operator's coat during cold weather operation, the Belt Battery Pack is used to keep rechargeable batteries warm so that their lifetime can be extended.

RS-232C Cable and Adaptor
Includes a special RS-232C data transfer cable and adaptor. Used for communicating with peripheral devices.

Minor Spare Parts Kit
Includes 2 keyboard diaphragms and two fuses.

Display Heater
Required for cold weather operation. Powered by main batteries, thermostatically-controlled to turn off above –20°C.

Chart Recorder Cable
This cable interfaces with any standard chart recorder.

External Power Cable
Required for operation of the instrument from either an external 12 V DC power supply or battery.

Carrying Case for Accessories
A case can be supplied which will accommodate the Tripod, Belt Battery Pack, Battery Charger, RS-232C Cable with adaptor and manuals.

Language Options
In addition to English, a second language using Latin characters can replace French.

Memory Expansion
Memory can be added to complement the 16K RAM Standard Memory. This can be done in up to four 8K RAM increments to raise the system memory to a total of 48K RAM. Each 16K RAM increment holds as many readings as the Standard Memory.

Peripheral Devices
Scintrex can recommend and supply suitable digital printers, microcomputers, modems and cassette tape recorders.

Applications Software
Scintrex supplies fully documented software written for the IBM family of microcomputers, and certain other microcomputers, which use the MS DOS operating system. This software permits: 1) archiving of data, 2) processing of data and 3) profile and contour plotting.

SCINTREX

222 Snidercroft Road
Concord Ontario Canada
L4K 1B5

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

Geophysical and Geochemical Instrumentation and Services

APPENDIX B

Gravity Reduction Equations

Final Gravity Calculations
(measurements reduced to datum plane)

Latitude Correction = $-\{ 0.00081 * \sin(2L) * [(Y-B)*\cos(A)] \}$

Free-air Correction = $+\{ 0.3086 * [(E+I)-D] \}$

Bouguer Correction = $-\{ 0.0419 * \rho_{av} * [E-D] \}$

where:

- L is degrees latitude
- Y is station of measurement in metres
- B is reference station in metres
- A is azimuth of survey line in degrees
- E is station elevation in metres
- I is instrument height in metres
- D is datum plane elevation in metres
- ρ_{av} is average density (2.67g/cc)

CG-3 data = Measured Gravity + Earth-tide Cor. + tilt/temp./drift Cor.
(raw grav.)

Final Gravity = Latitude Cor. + Free-air Cor. + Bouguer Cor. + CG-3 data

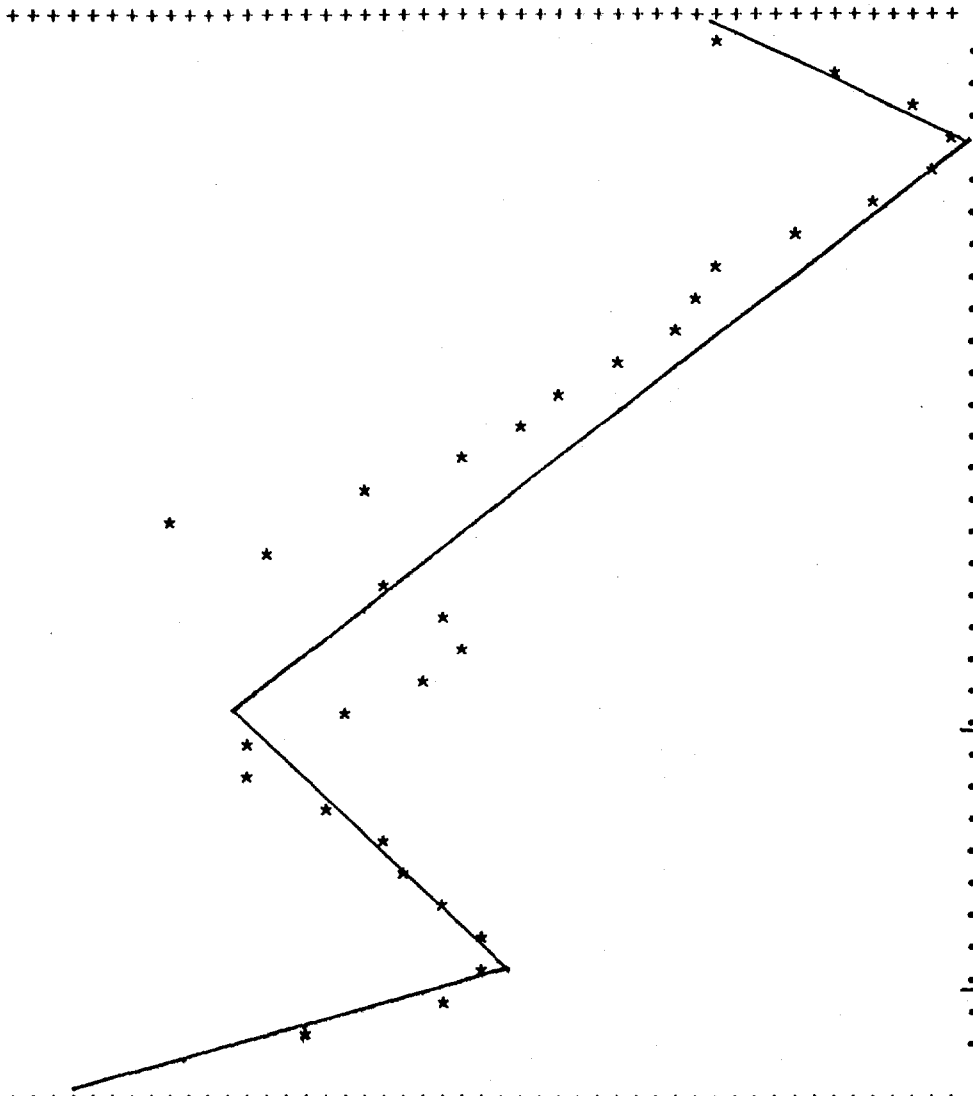
APPENDIX C

Power Spectrum

---------- POWER SPECTRUM ----------
(for 2nd vertical derivative)

OTAL ZMIN,ZMAX= 58042.200000 60299.800000

RADIAL AVERAGED LN(POWER SPECTRUM)



RADIAL DIST.	FREQ.	LN(POWER)
	NATURAL LOGRITHMIC SCALE	
0	.0000E+00	.1146E+02
1	.1538E-01	.1247E+02
2	.3077E-01	.1329E+02
3	.4615E-01	.1356E+02
4	.6154E-01	.1343E+02
5	.7692E-01	.1295E+02
6	.9231E-01	.1222E+02
7	.1077E+00	.1155E+02
8	.1231E+00	.1126E+02
9	.1385E+00	.1101E+02
10	.1538E+00	.1058E+02
11	.1692E+00	.1008E+02
12	.1846E+00	.9645E+01
13	.2000E+00	.9097E+01
14	.2154E+00	.8092E+01
15	.2308E+00	.6442E+01
16	.2462E+00	.7184E+01
17	.2615E+00	.8284E+01
18	.2769E+00	.8842E+01
19	.2923E+00	.9008E+01
20	.3077E+00	.8776E+01
21	.3231E+00	.8077E+01
22	.3385E+00	.7020E+01
23	.3538E+00	.7132E+01
24	.3692E+00	.7844E+01
25	.3846E+00	.8275E+01
26	.4000E+00	.8618E+01
27	.4154E+00	.8963E+01
28	.4308E+00	.9205E+01
29	.4462E+00	.9206E+01
30	.4615E+00	.8823E+01
31	.4769E+00	.7718E+01
32	.4923E+00	.4437E+01

NORMALIZATION FACTOR= .14E+02
Y INTERVAL= .183

APPENDIX D

Plates

Diamond Lake Grids 1&2 Geophysical Maps

Plate 1a: Contour Total Field Magnetic Survey, Diamond Lake Grid 1&2 Scale 1:5000.

Plate 1b: Profiles/Posted Values Total Field Magnetic Survey, Diamond Lake Grid 1&2 Scale 1:5000.

Plate 1c: 2nd Vertical Derivative Total Field Magnetics, Diamond Lake Grid 1&2 Scale 1:5000.

Plate 2a: Profile/Posted Values VLF 24.0 kHz, Diamond Lake Grid 1 Scale 1:5000.

Plate 2b: Contour VLF Fraser Filter 24.0 kHz, Diamond Lake Grid 1, Scale 1:5000.

Plate 3a: Profile/Posted Values VLF 21.4 kHz, Diamond Lake Grid 1, Scale 1:5000.

Plate 3b: Contour VLF Fraser Filter 21.4 kHz, Diamond Lake Grid 1 Scale 1:5000.

Plate 4: Profile/Posted Values Gravity and Elevation, Diamond Lake Grid 1 Scale 1:5000.

Plate 5: Compilation map, Scale 1:5000.

Diamond Lake Grid 1, Gravity & Magnetic Models

Plate 6: Gravity Model of Anomaly G2, L1100N

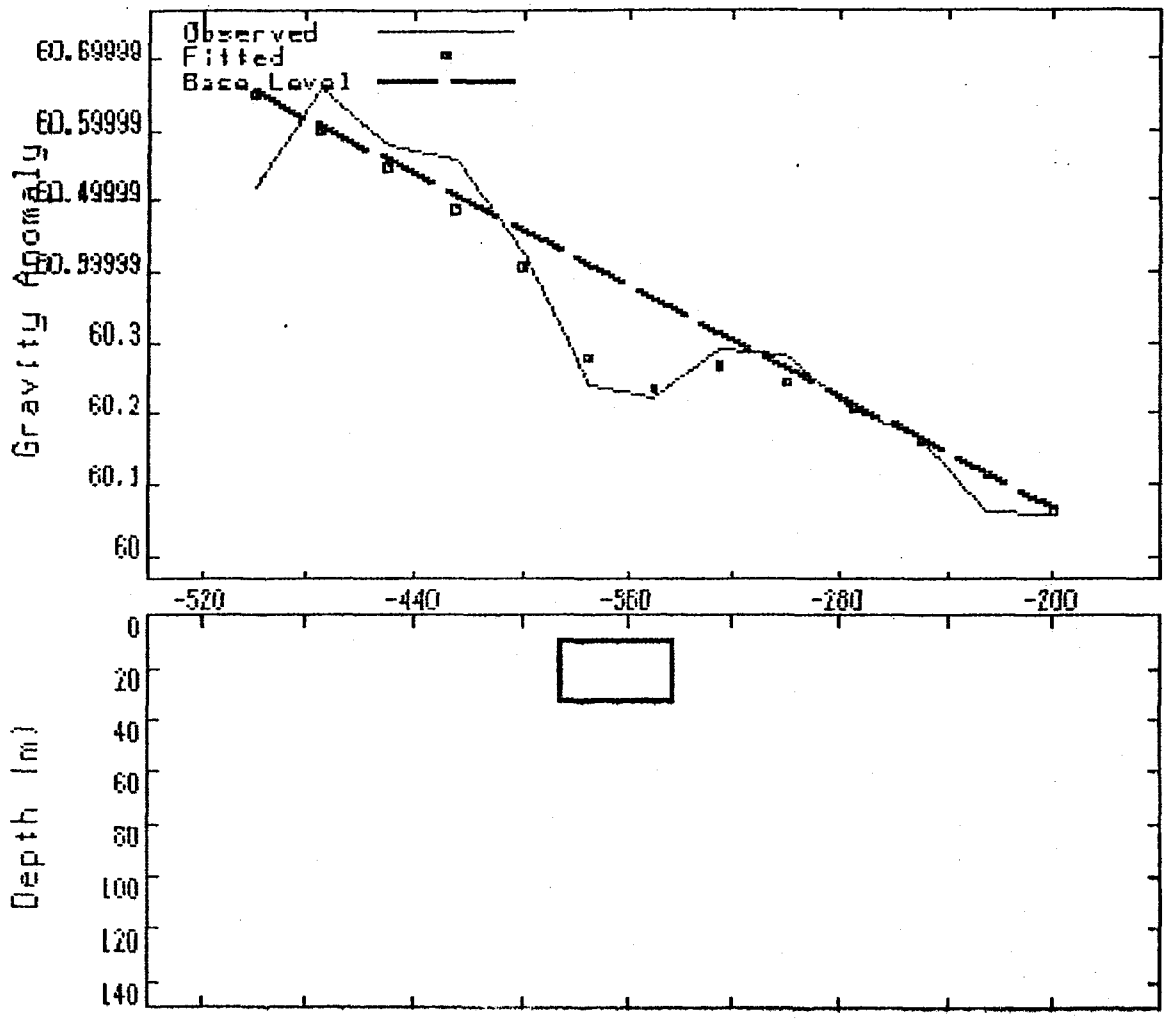
Plate 7: Magnetic Model of Anomaly M1, L350N

Plate 8: Magnetic Model of Anomaly M2, L1100N

GRAVITY MODEL

DIAMOND LAKE GRID

L. 1100 N



MODEL PARAMETERS:

Model Type		TABULAR2	
Depth	L	10.1	m
Half Width	F	21.5	m
Half Length	X	3000	m
Offset	X	0	m
Dip	X	90	deg
Thickness	F	22.37238	m
Density	X	-.3	g/cc
Position	F	-364.2304	m
Base Level	F	60.38943	mgal
Base Slope	F	-.0019808	mgal/m

(F-fitted, X-fixed, L-limit)

PLAN DIRECTIONS:

Strike Perp	0 deg
Line Direction	0 deg
Scale - m/unit	1 m

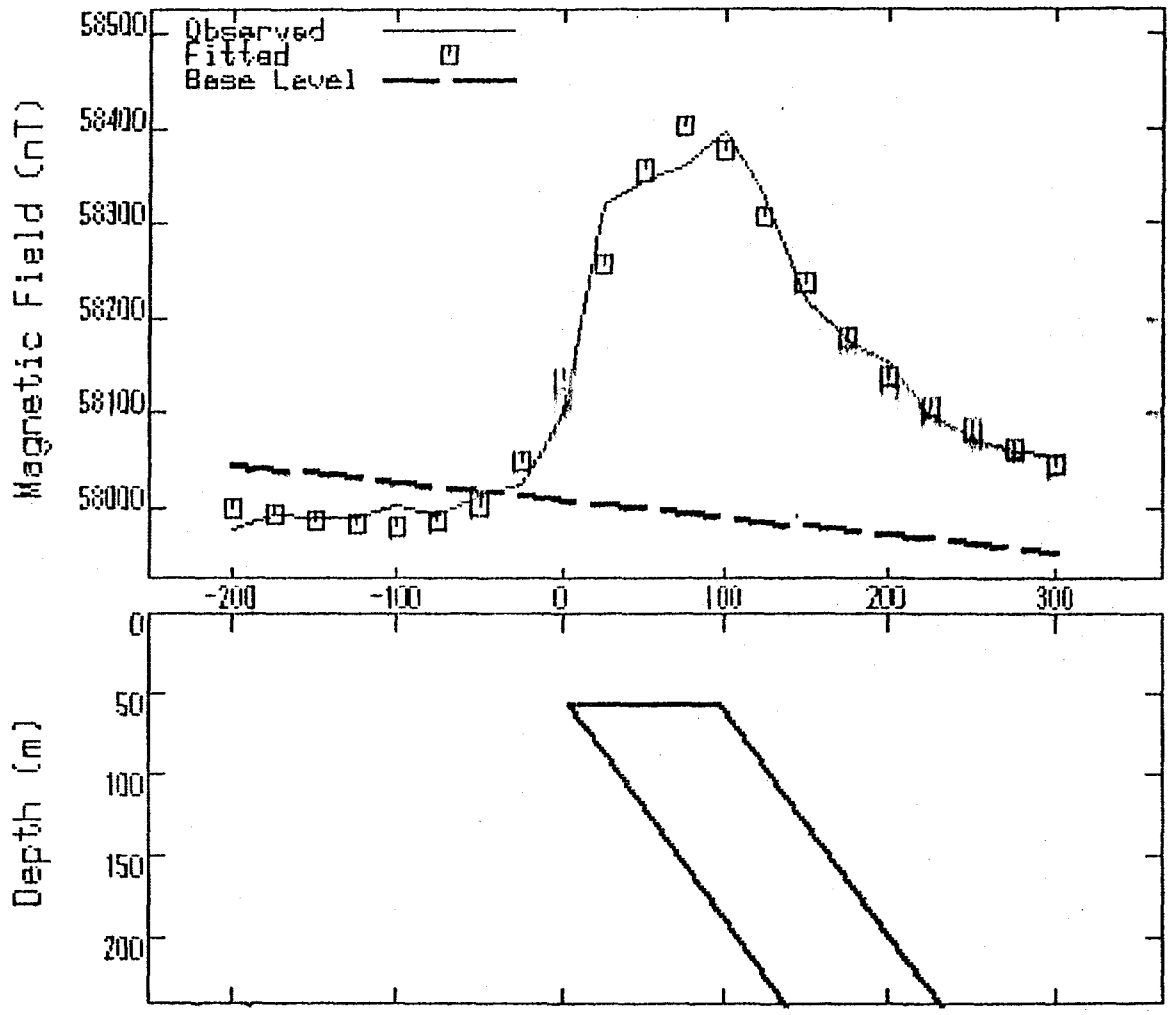
Anomaly G2

Plate 6

MAGNETIC MODEL

DIAMOND LAKE GRID

L. 350 N



MODEL PARAMETERS:

Model Type		TABULAR	
Depth	F	56.7	m
Half Width	F	46.6	m
Dip	F	54	deg
Susceptibility	L	0.00370	emu
Remnance Ratio	X	0	
Remnance Incl	X	0	deg
Remnance Decl	X	0	deg
Position	F	50.48862	m
Base Level	F	57999.7	nT
Base Slope	F	-.1824169	nT/m

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

Field Strength	57800 nT
Inclination	78 deg
Declination	0 deg

PLAN DIRECTIONS:

Strike Perp	90 deg
Line Direction	90 deg

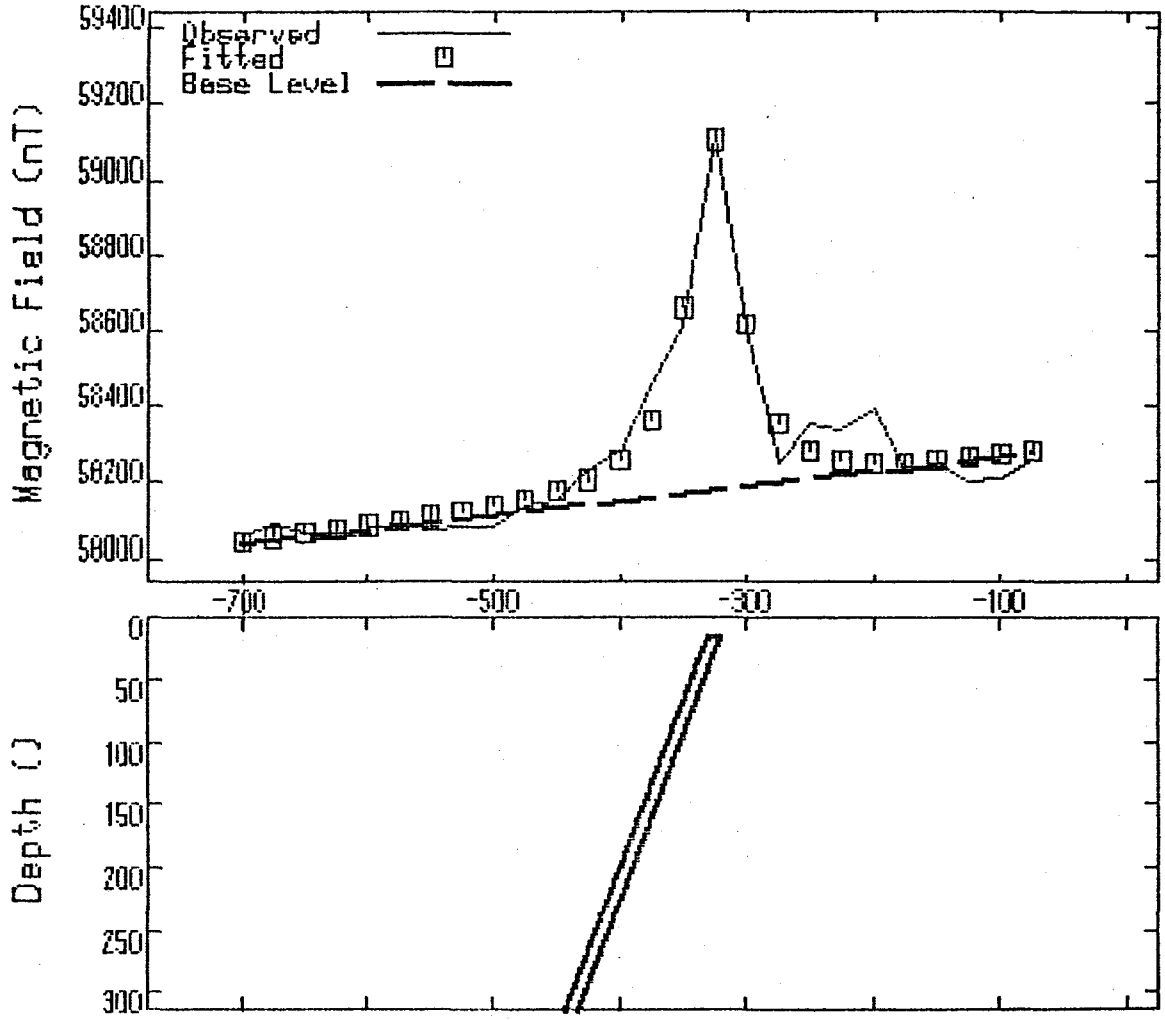
Sensor Height 2 m

Anomaly M1

MAGNETIC MODEL

DIAMOND LAKE GRID

L. 1100 N



MODEL PARAMETERS:

Model Type	TABULAR	
Depth	F 14.7	
Half Width	F 4.96	
Dip	F 111	deg
Susceptibility	F 0.015	emu
Remnance Ratio	X 0	
Remnance Incl	X 0	deg
Remnance Decl	X 0	deg
Position	F -325.1786	
Base Level	F 58160.85	nT
Base Slope	F .3846944	nT/

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

Field Strength	58000 nT
Inclination	78 deg
Declination	0 deg

PLAN DIRECTIONS:

Strike Perp	135 deg
Line Direction	90 deg
Sensor Height	2

Anomaly M 2

Plate 9

A LOGISTICAL AND INTERPRETATIVE REPORT ON VLF-EM AND MAGNETIC SURVEYS ON THE DIAMOND LAKE PROPERTIES (MISEMA SOUTH GRID) LARDER LAKE AREA NORTHEASTERN, ONTARIO

On behalf of:

Sudbury Contact Mines Ltd.
2302, 401 Bay Street
P.O. Box 102
Toronto, Ontario
M5H 2Y4

2.15344

c/o

W.A. Hubacheck Consultants Ltd.
141 Adelaide St. West
Suite 603
Toronto, Ontario
M5H 3L5

Attention: Mr. David W. Christie
Telephone: (416) 364-2895
Fax: (416) 364-5384

By:

JVX Limited
60 West Wilmot St, Unit E22
Richmond Hill, Ontario
L4B 1M6

Contact: Blaine Webster
Telephone: (416) 731-9972
Fax: (416) 731-9312

JVX Ref: 9328
August, 1993

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JVX

AN INTERPRETIVE AND LOGISTICAL REPORT ON
VLF-EM AND MAGNETIC SURVEYS ON
THE DIAMOND LAKE PROPERTIES (MISEMA SOUTH GRID)
NEAR LARDER LAKE, NE ONTARIO

On behalf of

SUDBURY CONTACT MINES LTD.

1. INTRODUCTION

From November 3rd to December 10th, 1991, Line-cutting, VLF-EM, and Magnetic surveys were carried out by JVX Limited on behalf of Sudbury Contact Mines Ltd. (2302, 401 Bay Street, P.O. Box 102, Toronto, Ontario, M5H 2Y4) care of W.A. Hubacheck Consultants Ltd. (141 Adelaide St. West, Suite 603, Toronto, Ontario, M5H 3L5) on the Misema South Grid, Diamond Lake Property, Larder Lake, NE Ontario.

JVX provided a geophysical technician, geophysical instrumentation, computer hardware and software, and all necessary accessories required to carry out the survey in a professional manner. Approximately 4.42 line-kilometres of VLF-EM and total field magnetometer data were collected with readings taken at 25-metre station intervals.

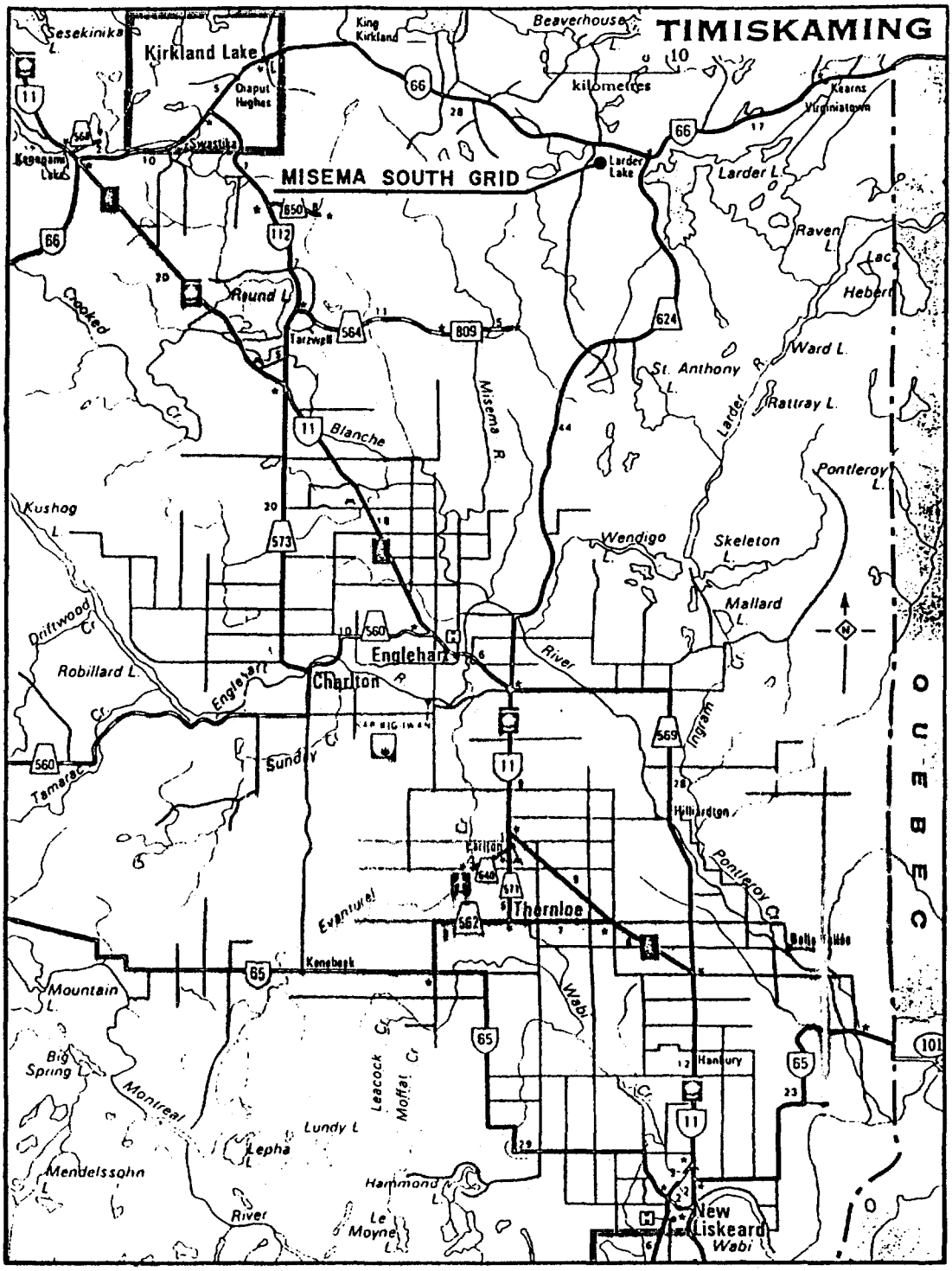
Contour and Profile idealized grid maps of the edited data were produced by JVX. Fraser filtering was applied to the VLF data and plotted as a contour map. A geophysical compilation map is also included.

2. SURVEY LOCATION

The grid is located near Larder Lake, Ontario just off Hwy 66. Figure 1 shows the location of the survey area with respect to nearby population centres at a scale of 1:500 000. The area may be found on topographic map NTS 32 D/4.

3. SURVEY GRID AND COVERAGE

A total of 4.42 line-kilometres of Magnetic/VLF-EM coverage was completed. This coverage is detailed in Table 1.



LOCATION MAP

SUDBURY CONTACT MINES LTD.

LARDER LAKE AREA
NORTHERN ONTARIO

GROUND GEOPHYSICAL SURVEY

Scale : 1 : 500,000

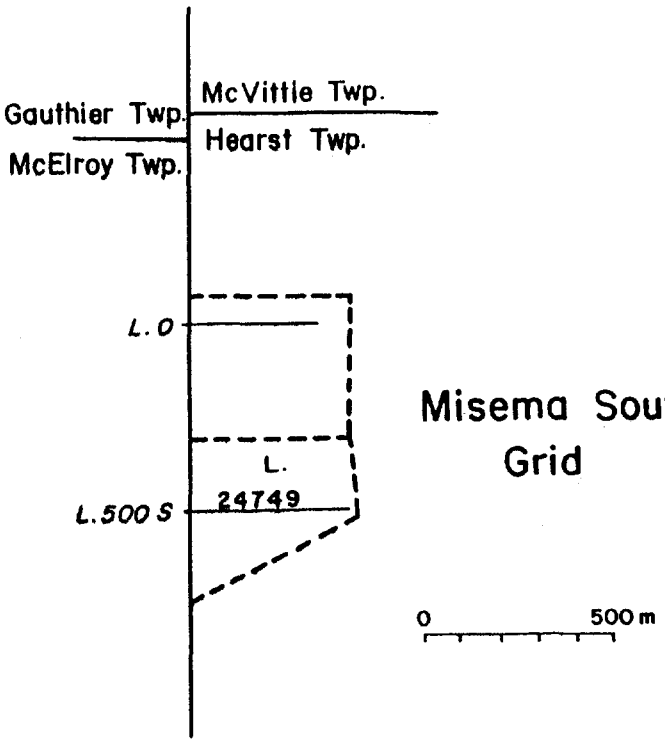
Survey by JVX Ltd.

Figure 1

TABLE 1
MAG/VLF-EM PRODUCTION SUMMARY

Misema South Grid
25-Metre stations
(VLF transmitter - NSS Annapolis, USA, 21.4 kHz)

Line	From	To	Length
0	BL	350E	350 m
50S	BL	350E	350 m
100S	BL	350E	350 m
150S	BL	350E	350 m
200S	BL	350E	350 m
250S	BL	350E	350 m
300S	25E	350E	325 m
350S	BL	500E	500 m
400S	BL	500E	500 m
450S	BL	500E	500 m
500S	BL	500E	500 m
		TOTAL	4425 m



CLAIM MAP

SUDBURY CONTACT MINES LTD.

LARDER LAKE AREA
NORTHERN ONTARIO

GROUND GEOPHYSICAL SURVEY

Survey by JVX Ltd.

Figure 2

4. PERSONNEL

Mr. Fred Moher - Geophysical Technician. Mr. Moher operated the Scintrex IGS-2/MP-4 magnetometer and VLF-EM systems. He was responsible for data quality and the day to day operation and direction of the survey.

Mr. Steve Bortnick - Geophysical Technician. Mr. Bortnick operated the Scintrex IGS-2/MP-4 magnetometer and VLF-EM systems.

Mr. Blaine Webster - Geophysicist. Mr. Webster provided overall supervision of the survey, assisted with interpretation and preparing this report.

Mr. Albert Vickers - Geophysicist. Mr. Vickers interpreted the data and prepared this report.

5. SURVEY METHODS AND FIELD PROCEDURES

5.1 Magnetic

The magnetic method consists of measuring the magnetic field of the earth as influenced by rock formations having different magnetic properties and configurations. The measured field is the vector sum of primary, induced and remanent magnetic effects. Thus, there are three factors, excluding geometric factors, which determine the magnetic field. These are the strength of the earth's magnetic field, the magnetic susceptibilities of the rocks present and their remanent magnetism.

The earth's magnetic field is similar in form to that of a bar magnet. The flux lines of the geomagnetic field are vertical at the north and south magnetic poles where the strength is approximately 60,000 nT (or gammas). In the equatorial region, the field is horizontal and its strength is approximately 30,000 nT. For the purposes of normal mineral exploration surveys, the primary geomagnetic field is constant in space and time. However, magnetic field measurements may vary considerably due to short term external magnetic influences. The magnitude of these variations is unpredictable. In the case of sudden magnetic storms, it may reach several hundred nT over a few minutes. It may be necessary therefore, to take continuous readings of the geomagnetic field with a base station magnetometer while the magnetic survey is done.

The intensity of magnetization induced in rocks by the geomagnetic field F is given by:

$$I = kH$$

where:

I is the intensity of magnetization
k is the volume magnetic susceptibility
H is the magnetic field intensity

The susceptibilities of rocks are determined primarily by their magnetite content since this mineral is strongly magnetic and widely distributed. The remanent magnetization of rocks depends both on their composition and their previous history. Whereas the induced magnetization is nearly always parallel to the direction of the geomagnetic field, the natural remanent magnetization may bear no relation to the present direction and intensity of the earth's field. The remanent magnetization is related to the direction of the earth's field at the time the rocks were last magnetized. Interpretation of most magnetometer surveys is normally done by assuming no remanent magnetic component.

Since the distribution of magnetic minerals (magnetite, pyrrhotite) will, in general, vary with different rock types, the magnetic method is often used to aid in geologic mapping. In gold exploration, the magnetic survey is of particular importance because it may map areas of structural complexity, carbonatization, and silicification.

5.2 VLF-EM

The Very Low Frequency (VLF) Electromagnetic Method measures variations in the components of the electromagnetic fields set up by communication stations operating in the 15 kHz to 30 kHz frequency range. These stations, located around the world, generate signals for the purposes of navigation and communication with submarines.

In far field, above uniform earth, the groundwave of the vertically polarized VLF radiowave has three field components:

1) a radial, horizontal electrical field,
2) a vertical electrical field, and
3) a tangential, horizontal magnetic field.

When these three fields meet conductive bodies in the ground, eddy currents are induced causing secondary fields to radiate outwards from these conductors. Measuring these secondary fields on the surface gives some idea of the geological make-up of the target body.

6. GEOPHYSICAL INSTRUMENTATION

JVX supplied the following geophysical instruments and accessories.

6.1 Magnetometer/VLF-EM

One Scintrex IGS-2 system which included a Proton Precession Magnetometer and VLF receiver, plus an MP-4 base station for automatic diurnal corrections.

The Scintrex IGS-2/MP-4/VLF-4 proton precession magnetometer/VLF system was used to take readings of the total magnetic field and VLF field components (vertical in-phase, vertical quadrature and horizontal field) over the grid. An additional Scintrex IGS-2/MP-3 magnetometer is used as a base station magnetometer. Both units are microprocessor controlled and record readings with clock time on internal memory. The survey data from the field unit are corrected for ambient field changes at the end of every survey day by connecting field and base station magnetometers.

6.2 Data Processing System

a) An IBM-compatible portable microcomputer.
b) Processing software including communications and plotting programs.
c) An Epson dot matrix printer and tractor feed paper.
d) Consumable items such as gridded paper, pens and floppy disks.

7. DATA PROCESSING AND PRESENTATION

To allow for the computer processing of the data, the raw data stored internally in the IGS-2/MP-4 units were transferred at the end of each survey day to floppy diskette by the in-field microcomputer and appropriate communications software.

An archive edited data file was created in the field from the raw data file by the operator removing repeat or unacceptable readings and correcting any errors such as station or line numbers. The concisely labelled and edited data were then output to a printer as line profiles.

At the completion of the survey JVX generated contoured plan maps and profiles with posted values of the total field magnetic data, profile plots of the VLF data, and contour maps of the VLF-EM Fraser Filter data. Contouring appears rough with large contour segments. This is a result of sparse data sampling (25 m stations).

Final report quality profiles of the data at a scale of 1:5000 are supplied. These were drafted on mylar employing Geopak software and Nicolet Zeta 800 series digital drum plotter. The following plates are provided in Appendix B:

Plate 1: Contour Total Field Magnetic Survey, Scale 1:5000.

Plate 2: Profile/Posted Values VLF 21.4 kHz, Scale 1:5000.

Plate 3: Contour VLF Fraser Filter 21.4 kHz, Scale 1:5000.

Plate 4: Compilation and Total Field Magnetic Profiles map, Scale 1:5000.

8. DISSUSSION OF RESULTS AND RECOMMENDATIONS

8.1 Introduction

The survey grid is located in the Kirkland Lake area and is part of the Timiskaming Group which consists of mafic to felsic trachyte flows, flow breccias and tuff ranging from saturated to unsaturated in quartz. Materials derived locally and from the Larder Lake Group are located to the south of the survey area and are mainly ultramafic and basaltic Komatiite and magnesium rich tholeiitic basalt. Typically, dark, more basic igneous rocks have a higher magnetic susceptibility and specific gravity than the acidic igneous rocks; the latter, in turn, have a higher susceptibility than sedimentary rocks. In the absence of extensive mineralization, highly fractured igneous rock generally has a lower magnetic susceptibility.

The grid maps out a magnetic/lithological contact that follows up on an airborne survey. The ground survey compilation maps define the large magnetic features intersected by structural trends indicated as magnetic lows, striking NE or NW, that are further defined by VLF-EM conductors.

8.2 INTERPRETATION

The geophysical anomaly map (Plate 4) indicates the edge of a magnetic high, intersected with magnetic lows that are interpreted as structural trends. The VLF conductors drawn on the geophysical anomaly map seem to follow the structural trends at the magnetic contacts. Structural trend A, striking NW and trend B, striking NE, indicate possible shear zones or faults which may be favourable environments for economic mineralization. Structural trend B is flanked by the VLF-3 conductor making it a target area for further investigation.

VLF-EM conductor VLF-1a and 1b strike NS at L300S sta. 75E to L250S sta. 75E and at L100S sta. 75E for VLF-1b. This VLF-EM conductor coincides with the east contact of the strong M-3 anomaly and is interpreted to continue north. This contact may be associated with faulting/shearing decreasing the magnetic susceptibility of M-1 and M-2 on lines L200S to L0 at 75E. The strong VLF and magnetic responses from this anomaly make it a target area for further investigation.

9. SUMMARY AND CONCLUSIONS

During November/December 1991 VLF-EM, and Magnetic surveys were carried out by JVX Limited on behalf of Sudbury Contact Mines Ltd. c/o W.A. Hubacheck Consultants Ltd. on the Diamond Lake Properties; Larder Lake area, NE Ontario.

Approximately 4.38 line-kilometres of Magnetic/VLF-EM coverage at 25 metre station intervals were obtained with VLF transmitter stations located at Cutler and Annapolis, USA. Two contour maps (magnetic field, and VLF Fraser Filter data) and two sets of profiles with posted values (magnetic field and VLF-EM data) were produced. The grid was interpreted and presented as a geophysical anomaly map.

Exploration target areas have been defined in keeping with the objective of this geophysical survey. Magnetic zones of contrasting susceptibilities exist with or adjacent to VLF-EM conductors or where structural trends seem to indicate possible economic mineralization. These NE and NW striking structural trends seem to indicate possible shear zones or faults which may also be favourable environments for economic mineralization.

It is recommended that the grid be extended to include the interpreted magnetic contact. This would help conclude possible NE and NW trends. Further follow-up of these anomalies should include gravity as well as IP/Resistivity.

The geophysical data presented here must be used in conjuction with available geological/geochemical data and other geophysical data, if available, before accurate exploration targets can be established.

JVX

The digital data from these surveys have been archived by JVX. The copy of all the data will be held by JVX on behalf of Sudbury Contact Mines Ltd. to a period of not less than five years. Sudbury Contact Mines Ltd. may at any time within this period request copies of the data on a time and materials basis.

If there are any questions with regard to the survey please do not hesitate to call the undersigned at JVX Limited.

Respectfully submitted,

JVX Limited

Albert Vickers, B.Sc.
Geophysicist

Blaine Webster, B.Sc.
President

APPENDIX A
Instrument Specification Sheets

SCINTREX IGS

Integrated Portable Geophysical System

Scintrex has used low power consumption microprocessors and high density memory chips to create the IGS Integrated Portable Geophysical System; instrumentation which will change the way you do ground geophysics.

Here are the main benefits which you will derive from the IGS family of instrumentation:

1. Depending on your choice of optional sensors you can make one, two or all of: magnetic, VLF and electromagnetic measurements. Thus, you may optimize the IGS system for different geophysical conditions and production requirements.

2. You will save time and money in the acquisition, processing and presentation of ground geophysical survey data.

3. You will achieve an improvement in the quality of data through enhanced reading resolution, an increase in the number of different parameters measured and/or a higher density of observations. Further, errors which occur in manual transcription and calculation will be eliminated.

4. Your operator will appreciate the simplicity of operation achieved through automation.

5. Since add-on sensors are relatively less expensive, your investment in a range of IGS instrumentation may be much less than it would be with a number of different instruments, each dedicated to a different measurement.

The Scintrex IGS-2/MP-4/VLF-4/EM-4 permits one operator to efficiently measure magnetic, VLF and EM fields and to record data in computer compatible solid-state memory

System Options and Accessories

SCINTREX

222 Snidercroft Road
Concord Ontario Canada
L4K 1B5

Telephone: (416) 669-2280
Cable: Geoscint Toronto
Telex: 06-964570

A. Console and Power Supply

A-1 IGS-2 System Control Console with 16K RAM memory and manual. Note that no battery pack is included so that one of items A-2, A-3 or A-4 should be selected unless the IGS is to be run from an external 12 V DC power source. The battery packs are interchangeable by the user.

A-2 Non-rechargeable Battery Pack includes battery holder and 10 disposable 'C' cell batteries. Used in normal portable operation unless temperatures are below -20°C in which case the Rechargeable Battery Pack and Charger should be chosen.

A-3 Rechargeable Battery Pack and Charger includes battery holder, 6 rechargeable non-magnetic batteries, charger and one spare cap for the battery charging plug. This is the best battery pack for portable total field and gradiometer magnetics since the non-magnetic property of these batteries ensures a minimum of noise. Also used for light duty (slow cycling) magnetic base station applications and in cold weather where disposable batteries lose power.

A-4 Heavy Duty Rechargeable Battery Pack includes heavy duty rechargeable batteries installed in a console with a built-in charger. Useful for rapid cycling base station or mobile applications.

A-5 Low Temperature Battery Extender Kit designed so that battery pack can be worn inside coat in cold weather conditions. Kit includes bottom cover for console, console to battery pack interconnecting cable, cover for battery pack and waist belt.

B. Memory Expansion Options

B-1 IGS Memory Expansion I. An additional 16K RAM is added to the existing memory board for a system total of 32K RAM.

B-2 IGS Memory Expansion II. A further 16K RAM is added to the existing memory board for a system total of 48K RAM.

B-3 IGS Memory Expansion III. An additional board is required on which memory can be added in up to six 16K RAM groups. Not available with all sensor options.

B-4 Further Memory Expansion. Memory expansion to a system total of 192K RAM is feasible for some applications.

C. Accessories

C-1 RS-232 Cable and Adaptors. Includes a special RS-232 data transfer cable and two IGS-2 to RS-232 cable adaptors. Used for communicating between the IGS-2 and peripheral devices such as a digital printer, microcomputer, cassette recorder, modem or a second IGS-2 (or MP-3 Proton Magnetometer) for diurnal corrections.

C-2 Minor Spare Parts Kit consisting of two keyboard diaphragms and two 2A quick acting fuses.

C-3 Display Heater Option. Required to heat the LCD display on the IGS-2 Console for operation at temperatures below -20°C.

C-4 Digital Printer for use with 110 V AC power supply and with X-on/X-off interfacing for use with IGS-2, MP-3 or VLF-3 instruments, one box of paper, ribbon and manual. Note that the RS-232 Cable and Adaptor are required.

C-5 Conversion of Digital Printer for use with 220 V AC power supply.

D. MP-4 Proton Magnetometer Sensor Option

D-1 MP-4 Magnetometer Signal Processing Board and Magnetometer Program EPROM for mounting in IGS-2 Control Console, manual.

D-2 Portable Total Field Sensor Option including sensor for total field measurements, sensor staff, two sensor cable assemblies, backpack sensor harness, spare non-magnetic sensor clamp screw.

D-3 Base Station Sensor Option, including 50 m sensor cable assembly, sensor for total field measurements, sensor tripod, external power cable, analog chart recorder cable and spare non-magnetic sensor clamp screw.

D-4 Gradiometer Sensor Option including second sensor cables, two 0.5 m staff extenders to complement Portable Sensor Option and spare non-magnetic sensor clamp screw.

D-5 Spare section for Portable Total Field Sensor Staff (0.5 m length).

E. VLF-4 VLF Electromagnetic Sensor Option

E-1 Two VLF-4 Signal Processing Boards and VLF program EPROM for mounting inside IGS-2 System Control Console, dual coil VLF-magnetic field sensor with level compensator, sensor-console interconnecting cable, harness and support for back mounting of sensor, manual.

E-2 VLF EM Primary Field Drift Correction Option consisting of two program EPROMS which replace the standard VLF program EPROMS in each of the portable and base station VLF units.

E-3 VLF Electric Field Sensor Option for VLF resistivity measurements. Includes two capacitive electrodes with integral preamplifiers and 5 m of cable. Longer cable lengths on request.

F. EM-4 Genie/Horizontal Loop Electromagnetic Sensor Option

F-1 Two EM-4 Signal Processing Boards for mounting either inside IGS-2 System Control Console or the EM-4 Genie/Horizontal Loop Expansion Module, one program EPROM for mounting inside IGS-2, one receive coil, one interconnecting cable, manual.

F-2 EM-4 Tiltmeter/Intercom Module. Permits Horizontal Loop measurements to be made with magnetics but without VLF.

F-3 EM-4 Genie/Horizontal Loop Expansion Module. Permits Horizontal Loop measurements to be made with both magnetics and VLF.

F-4 Genie/Horizontal Loop Portable Electromagnetic Transmitter complete with heavy duty battery pack, battery charger, manual.

F-5 TM-2 Tiltmeter/Intercom Module used with TM-2 when Horizontal Loop measurements are to be made.

F-6 Transmitter-Receiver Interconnecting Cables for Horizontal Loop measurements are made to order, in any lengths up to 300m.

G. Carrying Cases

A variety of carrying cases are available to suit different combinations of console and sensor options.

APPENDIX B
Plates

MISEMA SOUTH GRID

Plate 1:	Contour Total Field Magnetic Survey, Scale 1:5000.
Plate 2:	Profile/Posted Values VLF 21.4 kHz, Scale 1:5000.
Plate 3:	Contour VLF Fraser Filter 21.4 kHz, Scale 1:5000.
Plate 4:	Compilation and Total Field Magnetic Profiles map, Scale 1:5000.

Misema South Grid #3

Linecutting	4.435 km	~~[illegible]~~ 275	~~[illegible]~~ 1216.8
Mag/VLF	4.428 km	~~[illegible]~~ 160	~~[illegible]~~ 708
~~VLF~~	~~4.425 km~~	~~[illegible]~~	~~650.68~~
~~[illegible]~~ Project Geologist	2 days x $300/day		$600.00
			~~3760~~
			2524.88
			6 [illegible]

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

94-4
DOCUMENT No.
9480 • 00114

Personal information collected on this form is obtained under the authority of the Mini... This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Mini... Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

Instructions: [redacted] duplicate.
- Refer to the Mining Act and Regulations for req... Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.

[redacted]

32D04NW0215 2.15344 MCVITTIE

900

Recorded Holder(s): Skead Holdings Ltd		Client No.
Address: 28 Ford St. Sault Ste Marie Ont		Telephone No.: 949-4250
Mining Division: Larder Lake	Township/Area: McVittie, Gauthier	M or G Plan No.: G-3163, G-3211
Dates Work Performed — From: March 12/92	To: April 10/92	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	Mag, VLF-EM & Gravity surveys.
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	SECTION 18 ONLY
	Assays	
	Assignment from Reserve	

RECEIVED
MAR 11 1994
MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs $ 22,742

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 Limited	60 West Wilmot St. Unit 22 Richmond Hill Ont L4B 1M6

(attach a schedule if necessary)

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

	Date	Recorded Holder or Agent (Signature)
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.	March 1/94	[signature]

...ation 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: Robert MacGregor 28 Ford St Sault Ste Marie Ont

Telephone No.	Date	Certified By (Signature)
949-4250	March 1/94	[signature]

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
$22742.	March 8/94 Ft	Acting Linda Pourpart	RECEIVED LARDER LAKE MINING DIVISION MAR 8 1994
	Deemed Approval Date: June 6/94	Date Approved	
	Date Notice for Amendments Sent		

Applying Reserve	(see Note 2)	Claim Units	Work Done on this Claim	to this Claim	from this Claim	Claimed at a Future Date
2.15344	L1045614	1 ✓	2586	800		1786
	L821910	1 ✓	2600	1200		1400
	L736729	1 ✓	2600	1200		1400
	L736730	1 ✓	2600	1200		1400
	L736731	1 ✓	2600	1200		1400
	L736732	1 ✓	2600	1200		1400
	L821928	1 ✓	2600	800		1800
	L760496	1 ✓	2600	1200		1400
	L1111211	1 ✓	1956	1956		⌀
	9		22,742	10,756	⌀	11,986
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

RECEIVED
MAR 1 1 1994
MINING LANDS BRANCH

0241 (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 fr 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 re to the mining claims.

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

... interest in the patented | Signature | Date

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction Number/Numéro de transaction

DOCUMENT No.
9480. 00114

W

2.15344

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 son recueillis en vertu de la **Loi sur les mines** *et serviront à tenir à jour un registr des concessions minières. Adresser toute quesiton sur la collece de ce renseignements au chef provincial des terrains miniers, ministère d Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbur (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	1500	1500
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type Linecutting	5528.25	
	Mag	5131.69	
	VLF-EM Gravity	3609.56 6447	20,717
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		22,217

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		
	Field Expenses	525	
Food and Lodging Nourriture et hébergement			525
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**		22,742

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 ce effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tou 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 achèvemen sont remboursés à 50 % de la valeur totale du crédit d'évaluatior 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 _____ I am authorized
(Recorded Holder, Agent, Position in Company)

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'évaluatior sur les terrains indiqués dans la formule de rapport de travail ci-joint

Et qu'à titre de _____ je suis autoris
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
	March 1/94

...désigne des personnes, le masculin est utilisé au sens neutr

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

94-5

Transaction Number: DOCUMENT NO. 00115

9480

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.

Instructions: [redacted] duplicate.

2.15344

- 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.
- [redacted] work is assigned to must accompany this form.

Recorded Holder(s): Skead Holdings Ltd		Client No.: 194897
Address: 28 Ford St Sault Ste Marie Ont		Telephone No.: 949-4250
Mining Division: Larder Lake	Township/Area: Hearst, McElroy	M or G Plan No.: G-3213, G-3214
Dates Work Performed: From: Nov 3/91	To: Dec 10/91	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	Mag & VLF-EM Surveys
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	SECTION 18 ONLY
	Assays	
	Assignment from Reserve	

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Total Assessment Work Claimed on the Attached Statement of Costs $ 1263

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
J V X Limited	60 West Wilmot St. Unit 22 Richmond Hill Ont L4B 1M6.

(attach a schedule if necessary)

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

	Date	Recorded Holder or Agent (Signature)
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.	March 1/94	[signature]

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: Robert MacGregor 28 Ford St Sault Ste Marie Ont

Telepone No.	Date	Certified By (Signature)
949-4250	March 1/94	[signature]

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
$1263.	March 8/94 FH	Acting Linda Lampart	RECEIVED LARDER LAKE MINING DIVISION MAR 8 1994
	Deemed Approval Date: June 6/94	Date Approved	
	Date Notice for Amendments Sent		

Ministry of Northern Development and Mines

Ontario

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction

DOCUMENT NO.

W 9480 • 00115

2 • 15344

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	600	600
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type Line cutting	1216.66	
	Mag/VLF	708	
			1925
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		2525

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 30% of Direct Costs) Montant admissible (n'excédant pas 30 % 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)**		

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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
2525	× 0.50 =	1263

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 _____ I am authorized
(Recorded Holder, Agent, Position in Company)

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 _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
	March 1/94

212 (04/91)

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

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
2.15344	L9198 55	1	600	→	600	
	L982373	1	663	→	663	
	L1146425	1		280		
	L1151517	1		280		
	L983354	1		160		
	L983355	1		160		
	L983356	1		160		
	L983357	1		160		
	L983353	1		63		
	9		1263	1263	1263	→
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

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0241 (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 respec 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 | Signature | Date

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

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

Telephone: (705) 670-5853
Fax: (705) 670-5863

May 11, 1994

Our File: 2.15344
Transaction #: W9480.00114
W9480.00115

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

Dear Mr. Spooner:

RE: Approval of Assessment Work on mining claims L1045614 et al. in McVittie, Gauthier, Hearst and McElroy Townships.

The assessment credits for Geophysics, section 14 of the Mining Act Regulations, as listed on the original Report of Work, have been approved as of **May 10, 1994.**

Please indicate this approval on the claim record sheets.

If you have any questions concerning this submission please contact Dale Messenger at 670-5858.

Yours sincerely,

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

DEM/ls
Enclosures:

cc: Assessment Files Office
Toronto, Ontario

Resident Geologist
Kirkland Lake, Ontario

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

TOWNSITE staking Restricted S.S. 30(b) MI[illegible]G ACT

BARRICK POWER LINE
(Application pending under Public Lands Act)

SAND and GRAVEL

(G)	MTC	PIT No 1686	FILE 101421
(G)	MTC	PIT 3F-27	

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

NOTICE OF FORESTRY ACTIVITY

THIS TOWNSHIP / AREA FALLS WITHIN THE ——

TIMISKAMING MANAGEMENT UNIT

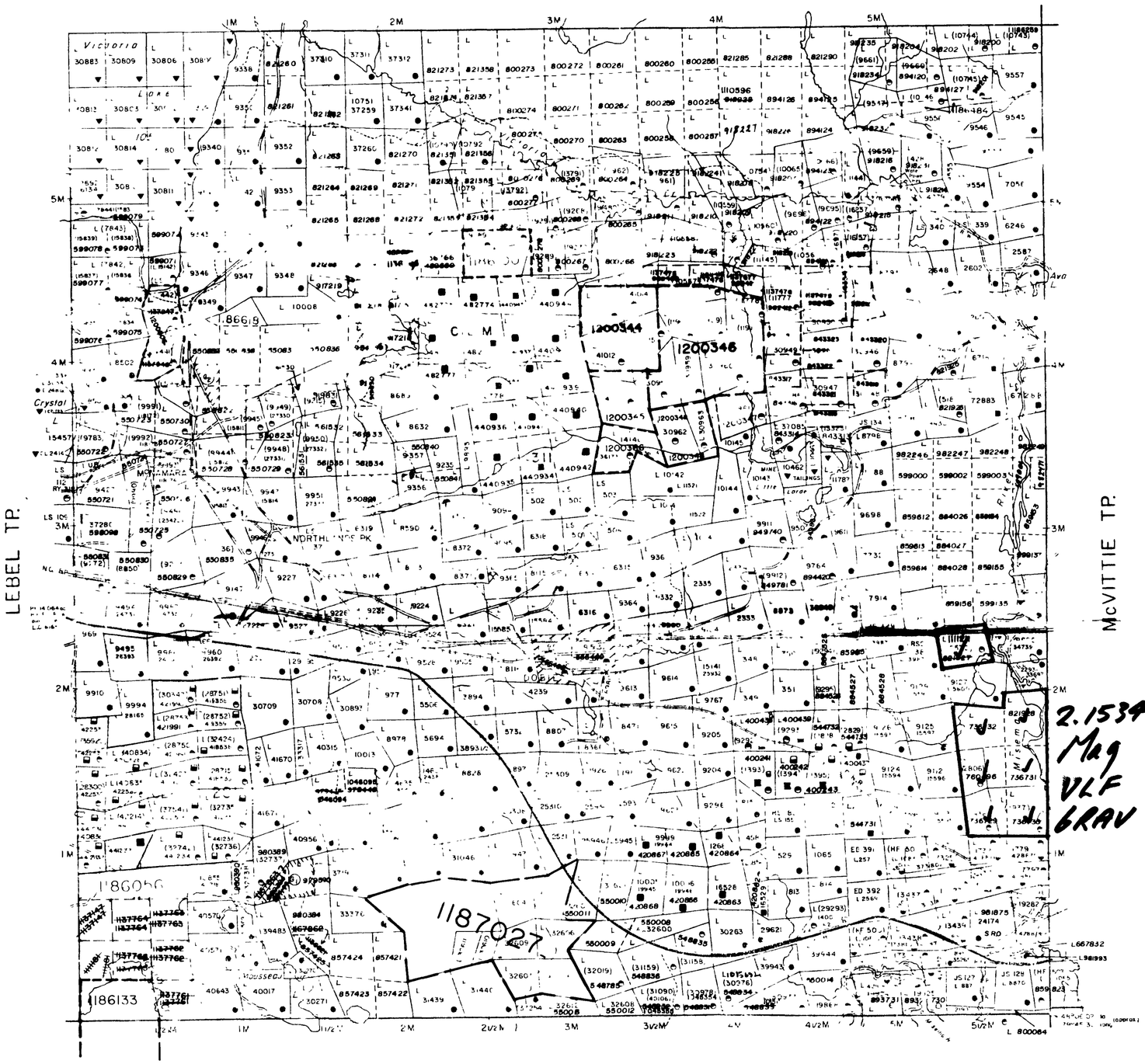
AND MAY BE SUBJECT TO FORESTRY OPERATIONS. THE MNR UNIT FORESTER FOR THIS AREA CAN BE CONTACTED AT: P.O. BOX 129
SWASTIKA, ONT.
POK 1TO
705-642-3222

ARNOLD TP.

LEBEL TP.

McVITTIE TP.

McELROY TP.



COPY OF THIS MYLAR ARCHIVED MAY [illegible]92

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
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR RIGHT
- SUBDIVISION OR
- RESERVOIR
- 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	OC
RESERVATION	(R)
CANCELLED	(C)
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 SUBS 5

SCALE 1 INCH = 40 CHAINS

FEET 1:24,000 600

METRES 1 KM 12 KM

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2.15344
Mag
VLF
GRAV

TOWNSHIP

GAUTHIER

MNR ADMINISTRATIVE DISTRICT

KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

TIMISKAMING

Ministry of Natural Resources — Land Management Branch — Ontario

DATE JANUARY 1985

FEBRUARY 8,1985

Number G-3211

849827

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) SURFACE RIGHTS WITHDRAWN FROM STAKING Section 36/80 ORDER NO. W14/80

(R2) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W65/84
O-L8-90 NR OPENS W65/84

(R3) MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W9/85
O-L16-89 OPENS PART OF W9/85

(R4) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W17/85
O 32/85 OPENS W 17/85

(R5) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W36/85
O-22/85 OPENS W 36/85

(R5) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W38/85
O-L8-90 OPENS PART OF W8/86
O 24/85 OPENS PART OF W38/85
O 25/85 OPENS PART OF W38/85
O 26/85 OPENS PART OF W38/85
O 63/87 OPENS PART OF W38/85
O 97/87 OPENS PART OF W38/85
O-L4-90 OPENS PART OF W38/85
O-L8-90 OPENS PART OF W38/85

(R6) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W7/86
O 74/86 OPENS PART OF W7/86
O 90/87 OPENS PART OF W7/86
O-L10/90 OPENS PART OF W7/86
O-L4-90 OPENS PART OF W7/86
O-L8 90 OPENS PART OF W7/86
O-L11-90 OPENS PART OF W7/86

(R7) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W8/86
O 64/87 OPENS PART OF W8/86
O 23/88 OPENS PART OF W8/86
O-L7-90 OPENS PART OF W8/86
O-L10-90 NER OPENS PART OF W8/86
O-L32-90 NR OPENS PART OF W8/86
O-L31-90 NR OPENS PART OF W8/86

(R8) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W9/86
O-L7-90 OPENS PART OF W9/86

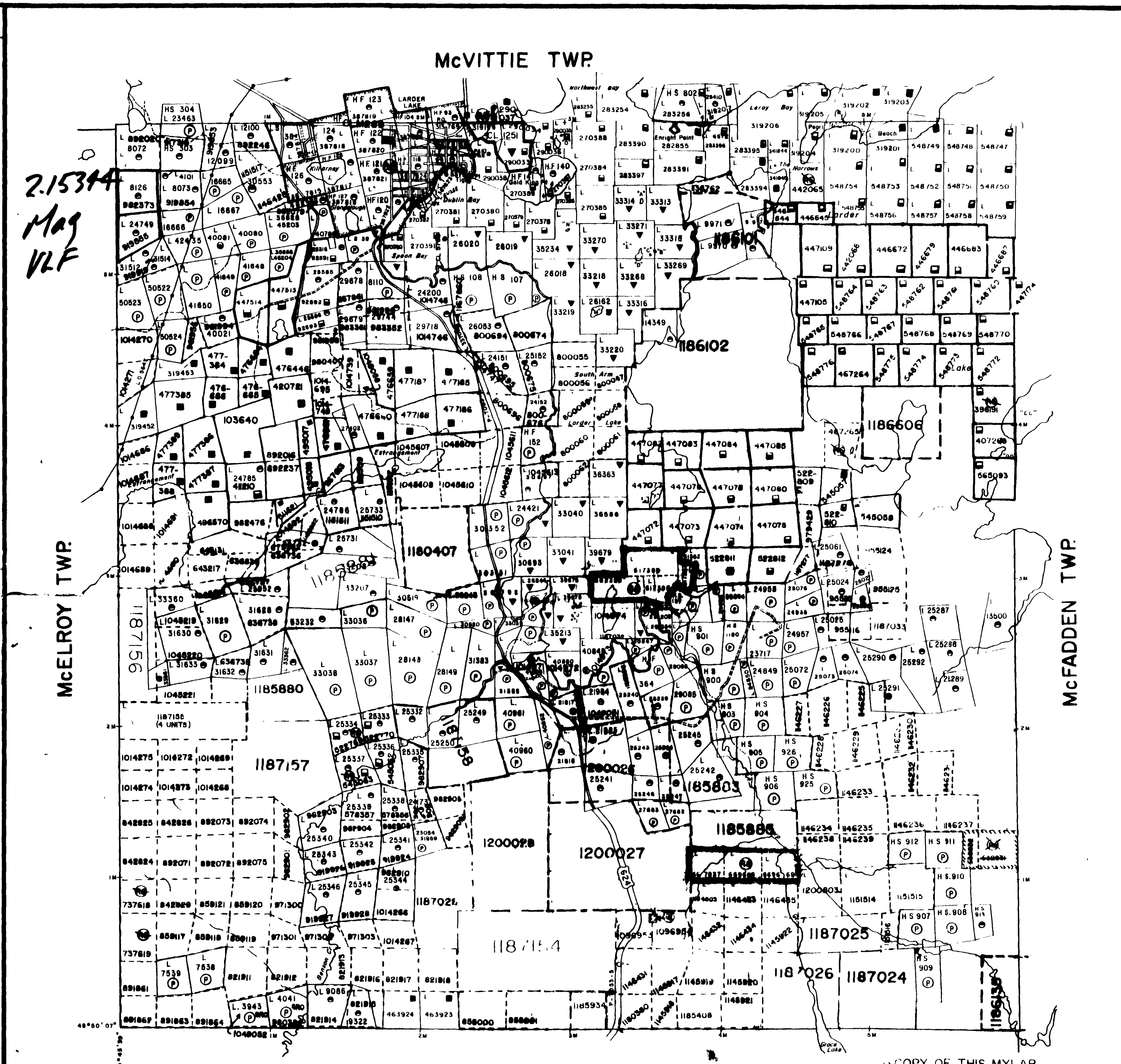
(R9) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W61/86
O 75/86 OPENS W61/86

(R10) SURFACE & MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO W50/86
O-8/88 OPENS PART OF W50/86
O 60/87 OPENS PART OF W50/86
O-L2-90 OPENS PART OF W50/86
O-L10-90 NER OPENS PART OF W50/86
O L-33/92 NER OPENS PART OF W50/86

NOTES

Township of Hearst lies entirely within the CORPORATION of the TOWNSHIP OF LARDER LAKE

STAKING OF MINING CLAIMS WITHIN THE TOWN OF LARDER LAKE SHOWN THUS SUBJECT TO SEC 37(b) OF THE MINING ACT R.S.O. 1970



NOTICE OF FORESTRY ACTIVITY
THIS TOWNSHIP / AREA FALLS WITHIN THE [illegible] MANAGEMENT UNIT

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.

O COPY OF THIS MYLAR ARCHIVED ON APR.15/92
O MYLAR REVISED SEPT. 25/92

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	ⓟ or ●
" , SURFACE RIGHTS ONLY	ⓟ SRO or ◒
" , MINING RIGHTS ONLY	◓
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	⬒
" , MINING RIGHTS ONLY	⬓
LICENCE OF OCCUPATION	▼
ORDER IN COUNCIL	OC
RESERVATION	Ⓡ
CANCELLED	⊗
SAND & GRAVEL	Ⓢ

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 2000 (2 KM)

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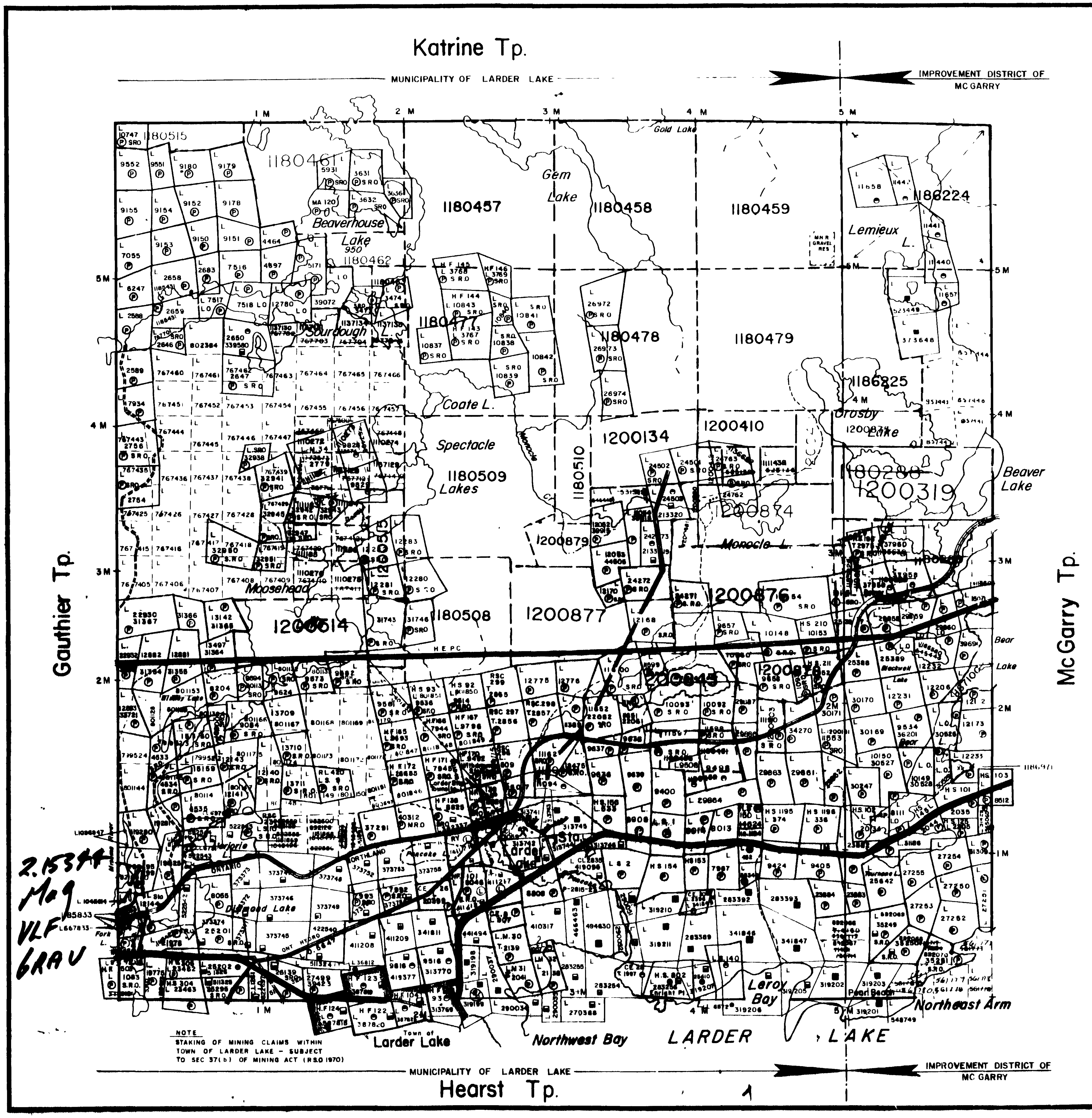
TOWNSHIP
HEARST
M.N.R. ADMINISTRATIVE DISTRICT
KIRKLAND LAKE
MINING DIVISION
LARDER LAKE
LAND TITLES / REGISTRY DIVISION
TIMISKAMING

Ministry of Natural Resources
Ontario
Land Management Branch

Date FEBRUARY, 1985
Number G-3213

210

3163



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	Ⓟ or ●
" , SURFACE RIGHTS ONLY	ⓅSRO or
" , MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	or ■
" , SURFACE RIGHTS ONLY	
" , MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	L.O. or ▼
ORDER-IN-COUNCIL	OC
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT RSO 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

McVITTIE

M.N.R. ADMINISTRATIVE DISTRICT

KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

LAND TITLES / REGISTRY DIVISION

TIMISKAMING

RECEIVED MAR 1 1 1994 MINING LANDS BRANCH

Ministry of Natural Resources — Land Management Branch — Ontario

Date SEPTEMBER 1984

Number G-3163

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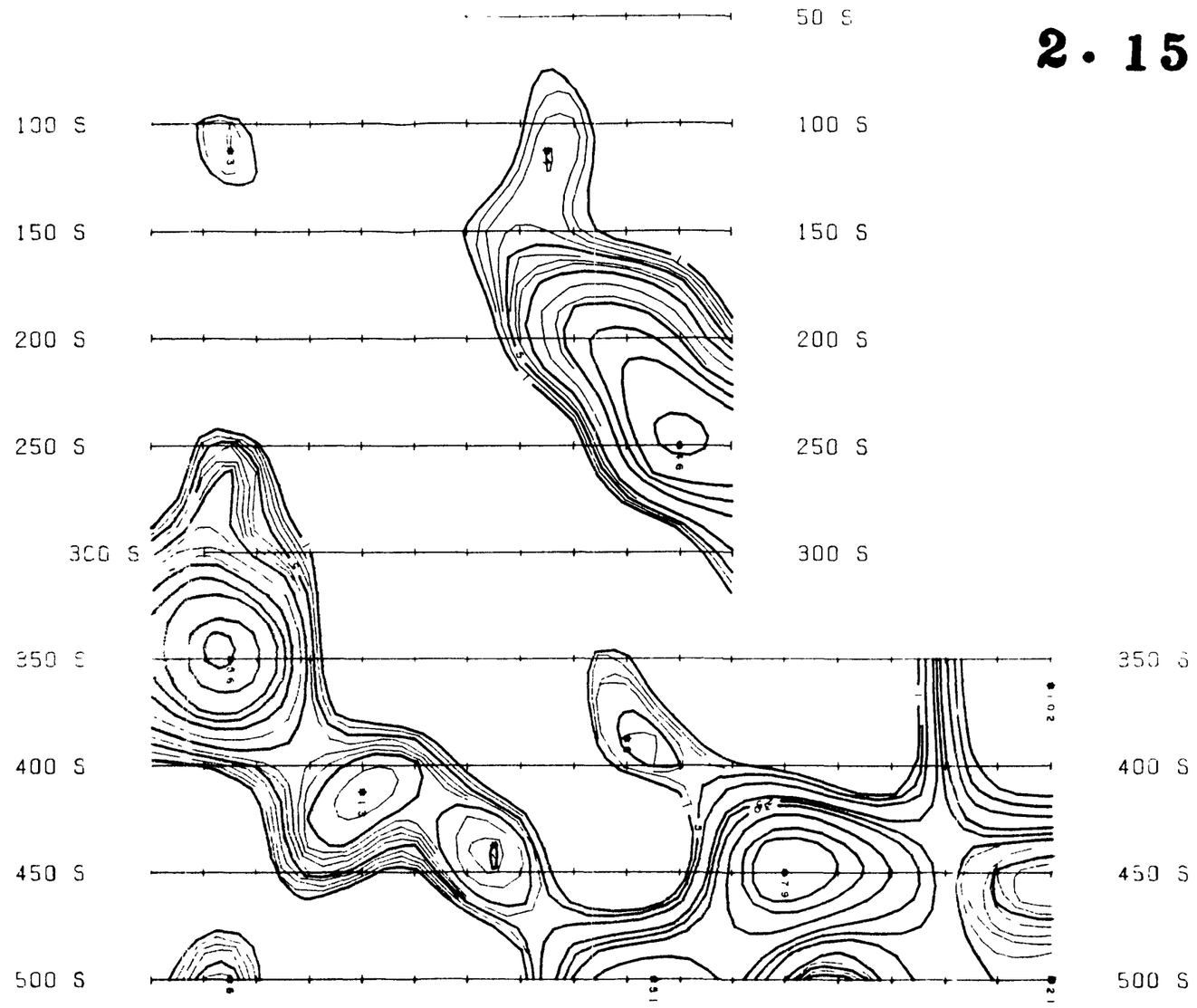
McVITTIE TP.

G-3163

TRIM LINE

32D04NW0215 2.15344 MCVITTIE

220



LEGEND

•102 - Relative high

Note Large contour segments due to sparce data samples

SUDBURY CONTACT MINES LTD.

MISEMA SOUTH GRID

FORK LAKE PROPERTIES

VLF FRASER FILTER – 21.4 kHz

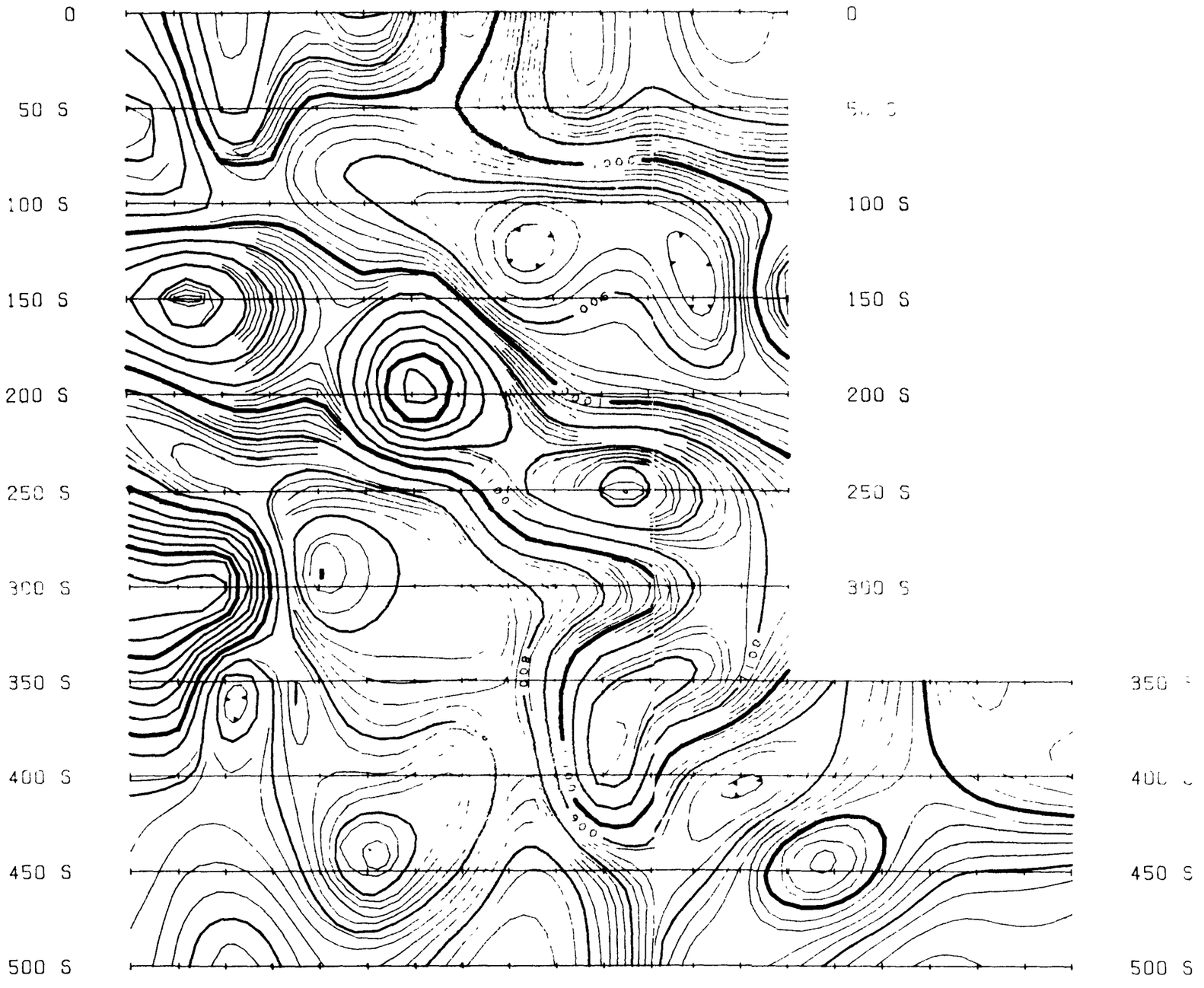
CONTOUR INTERVALS 1 2,5 10 units

SCINTREX IGS [illegible]

BASE LINE

200 E

400 E



Note Large contour segments due to sparce data samples

SUDBURY CONTACT MINES LTD.

MISEMA SOUTH GRID

FORK LAKE PROPERTIES

TOTAL FIELD MAGNETIC CONTOURS

CONTOUR INTERVALS . 20nT, 100nT & 500nT
BASE VALUE = 57000nT
SCINTREX IGS-2/MP-4

SCALE 1:2500

SURVEY BY
JVX LTD
DECEMBER 1991

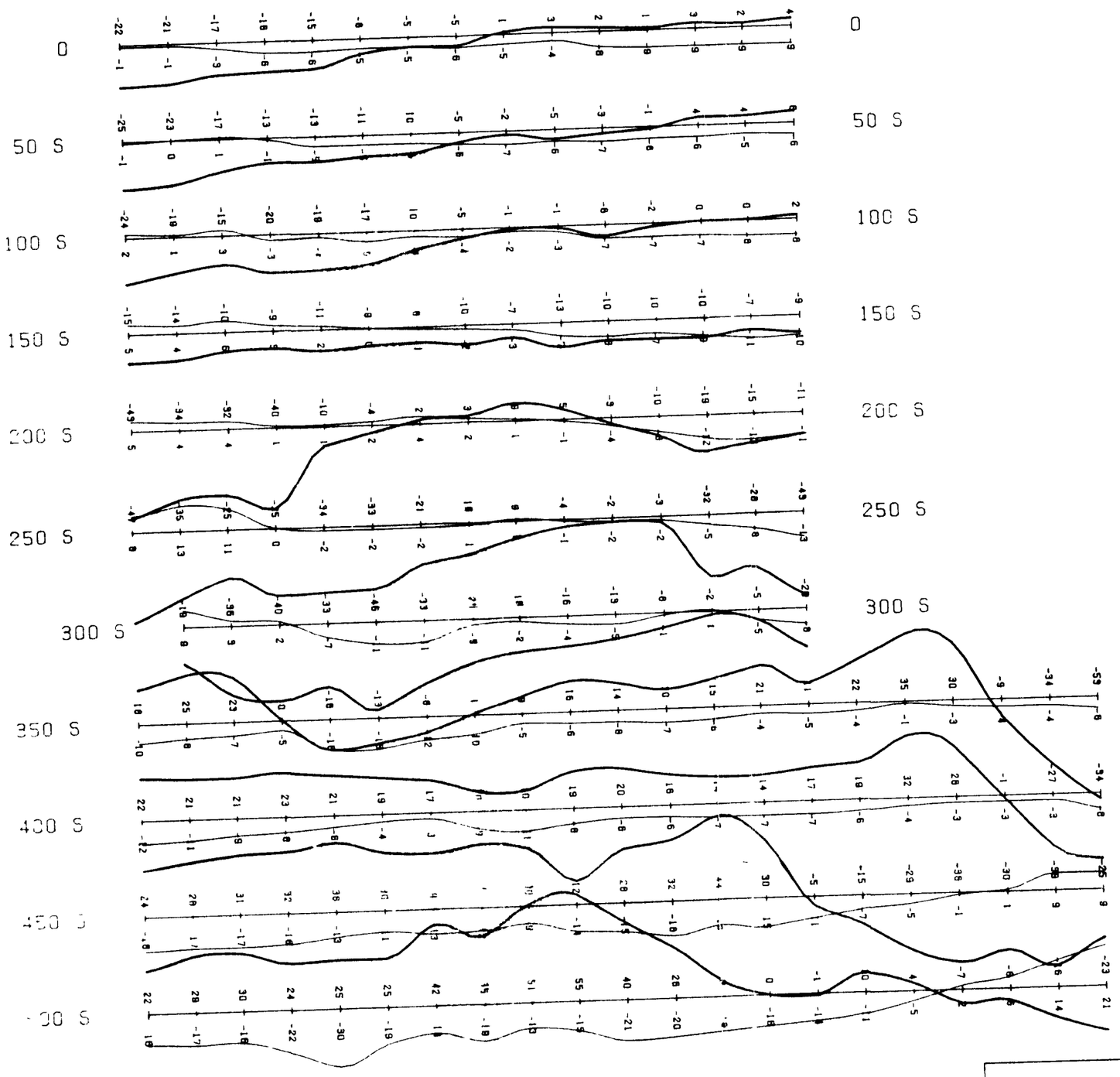
PLOT

BASE LINE

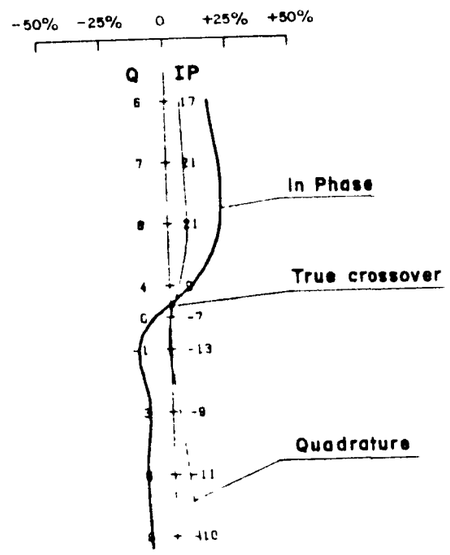
400 E

240

BASE LINE



400 E



2.15344

BASE

200 E

400 E

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MINING LANDS BRANCH

SUDBURY CONTACT MINES LTD.

MISEMA SOUTH GRID

FORK LAKE PROPERTIES

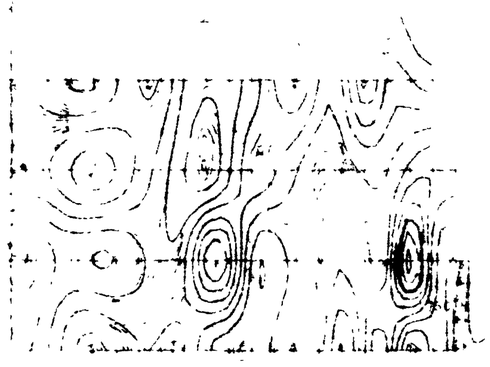
VLF PROFILES – 21.4 kHz

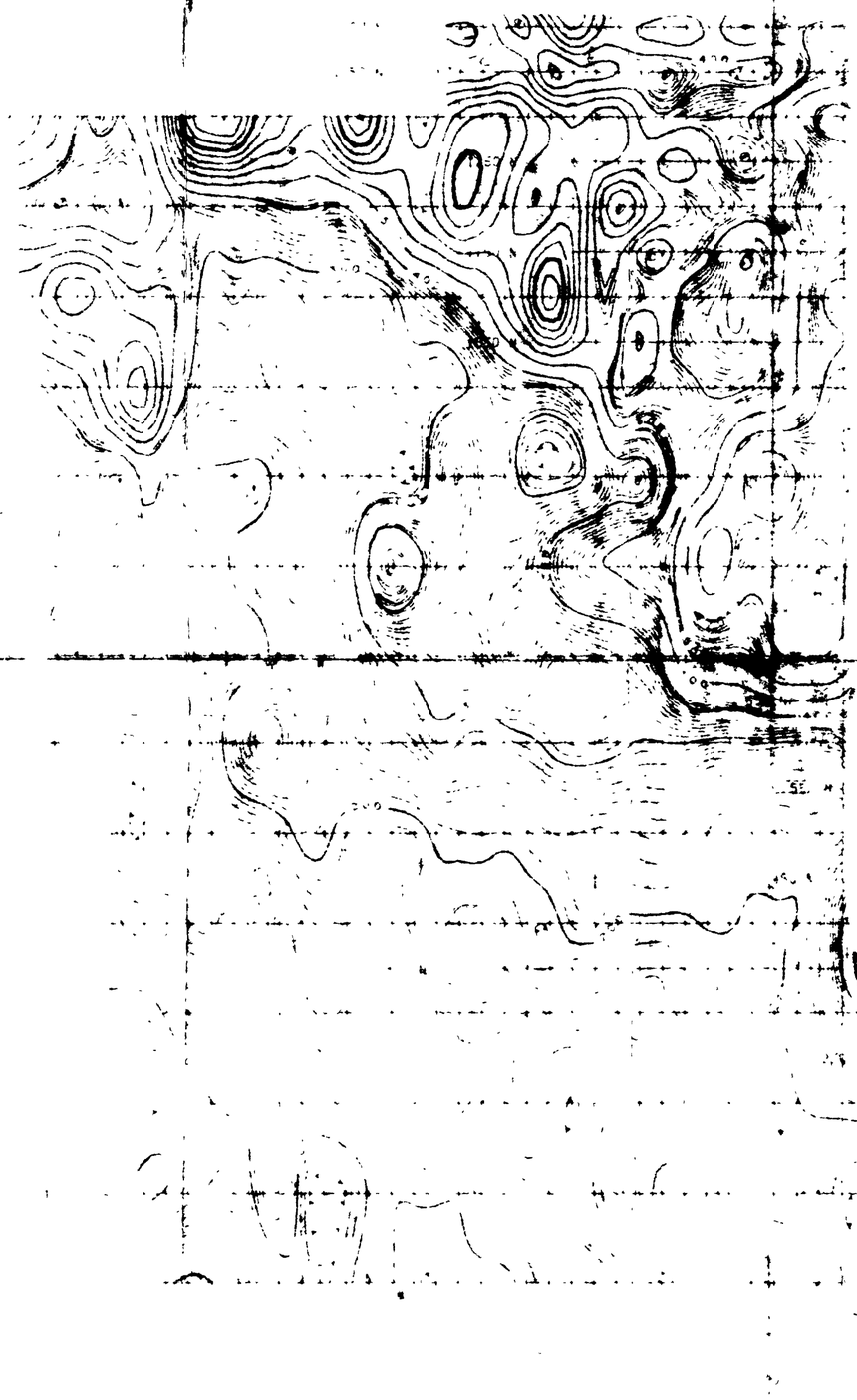
PROFILE SCALE 1 cm = 25%
POSITIVE PROFILE DIRECTION NORTH
SCINTREX IGS-2/VLF-4

SCALE 1:2500

SURVEY BY:
JVX LTD
DECEMBER 1991

PLATE 2





2.15344

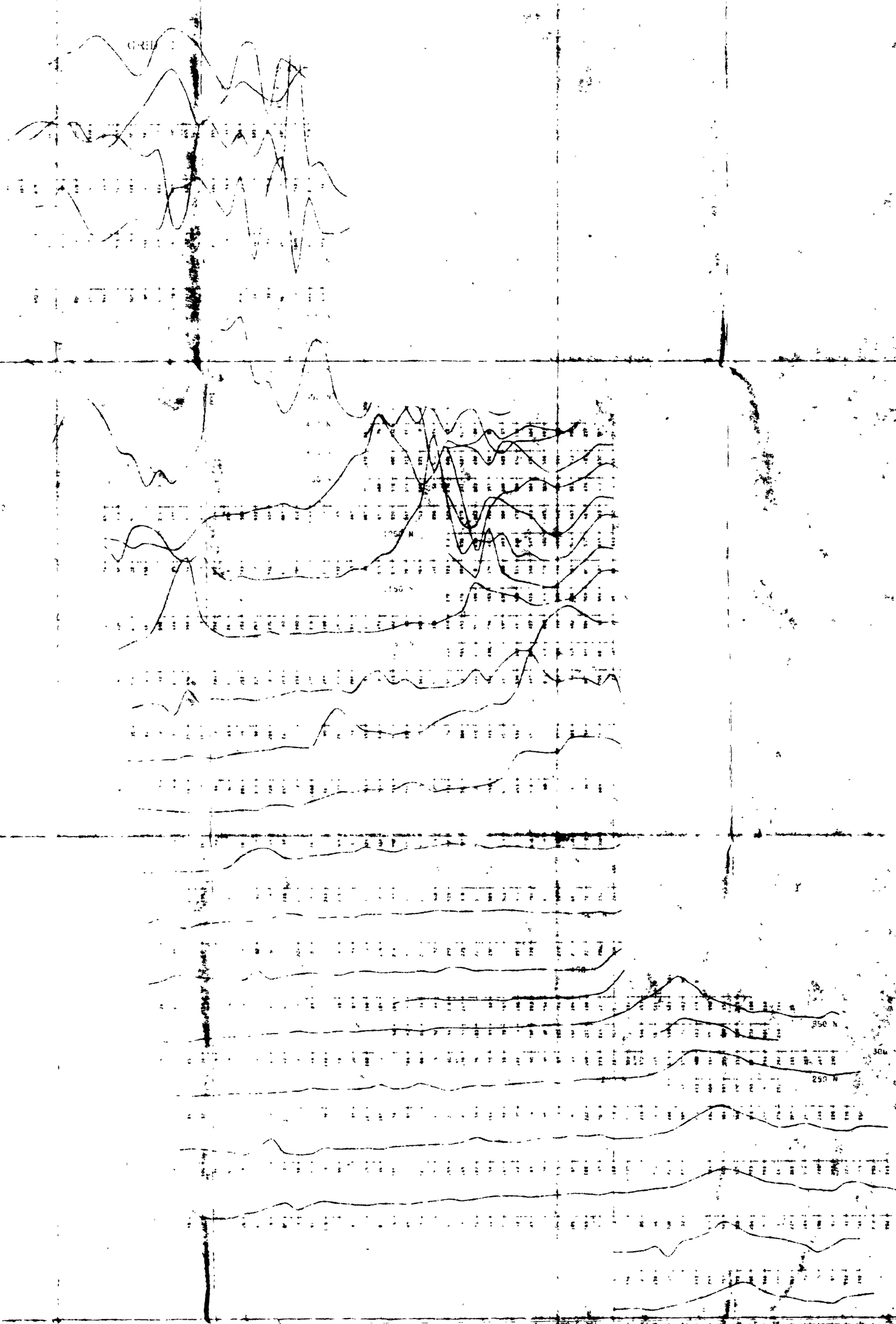
RECEIVED
MAR
MINING LAND

SUDBURY CONTACT
DIAMOND LAKE
TOTAL FIELD
SCALE 1:5000

Compiled with Feb. 1991 data
and Nov. 1991 data

SURVEYED
APRIL 1992

32D04NW0215 2 15344 MCVITTIE



2.15344

SUDBURY CONTACT MINES LTD.

DIAMOND LAKE GRIDS 1 & 2

DIAMOND LAKE PROPERTIES

TOTAL FIELD MAGNETIC PROFILES

PROFILE SCALE 1 cm = 200 nT
BASE VALUE 57800 nT
SCINTREX IGS-2/MP-4

SCALE 1:5000

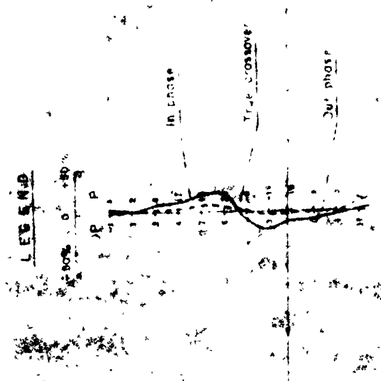
Compiled with Fea. 1991 data and Nov. 1991 data

SURVEY BY JVX LTD APRIL 1992 | JVX ref. No 9209 | PLATE 1b

15344

Area 1

Area 2



2.15344

SUDBURY CONTACT MINES LTD.

DIAMOND LAKE GRID

DIAMOND LAKE PROPERTIES

VLF PROFILES - 24.0 kHz

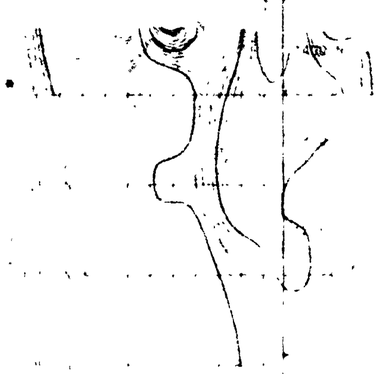
PROFILE SCALE : 1 cm = 50 %
POSITIVE PROFILE DIRECTION : NORTH
SCINTREX IGS-2 VLF 4

SCALE 1:5000

SURVEY BY
JVX LTD
APRIL 1993

JVX ref No 9209

PLATE 2a



2.15344

SUDBURY CONTACT MINES LTD.

DIAMOND LAKE GRID

DIAMOND LAKE PROPERTIES

VLF FRASER FILTER - 24.0 kHz

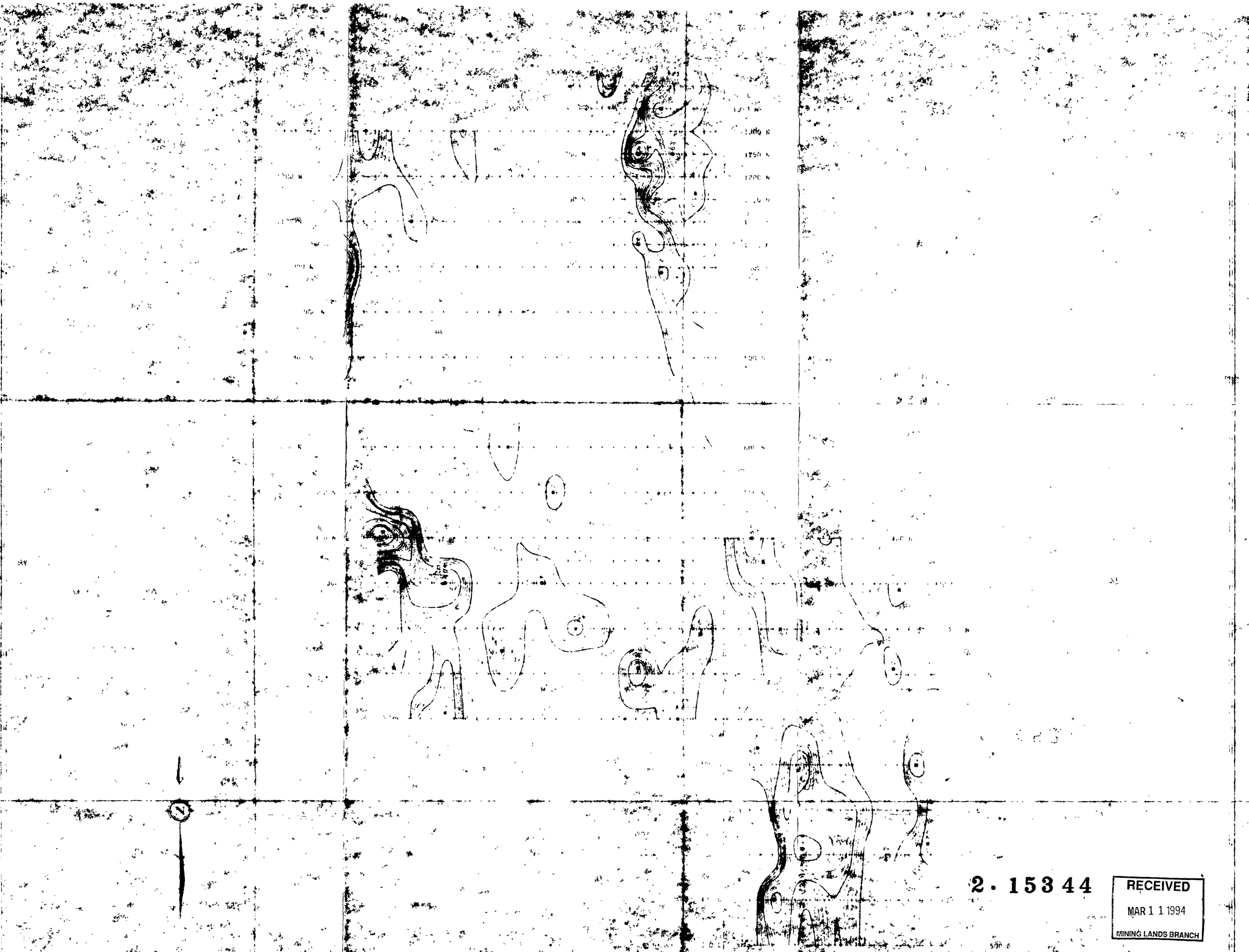
VLF STATION : NAA (Cutler, MA)
CONTOUR INTERVALS : 4 & 20 units
SCINTREX IGS-2 / VLF-4

SCALE 1:5000

SURVEY BY
JVX LTD.
APRIL 1994

Drawing No. 8209-1

PLATE #5



2.15344

SUDBURY CONTACT MINES LTD.

DIAMOND LAKE GRIDS 1 & 2

DIAMOND LAKE PROPERTIES

VLF FRASER FILTER - 21.4 kHz

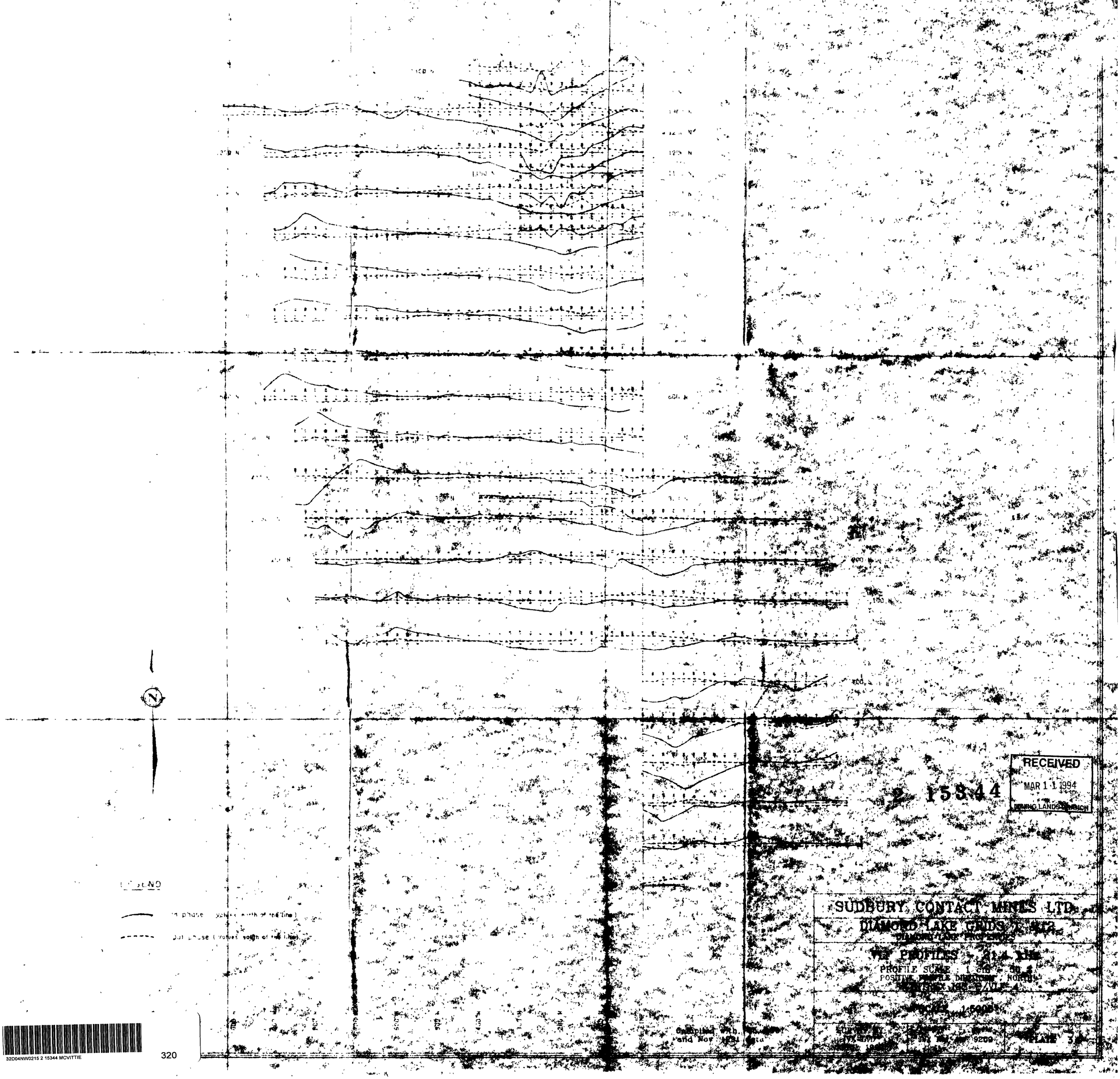
VLF STATION: NSS (Annapolis, MD)

CONTOUR INTERVALS: 4 & 20 units

SCINTREX IGS-2/VLF-4

SCALE 1:5000

SURVEY BY JVX LTD APRIL 1992	JVX ref No 9209	PLATE 3b



LEGEND

Gravity (Values north of the line)

Elevation (Values south of the line)

Elevation base value 250 m

Compiled with Nov, 1991 data

2.15344

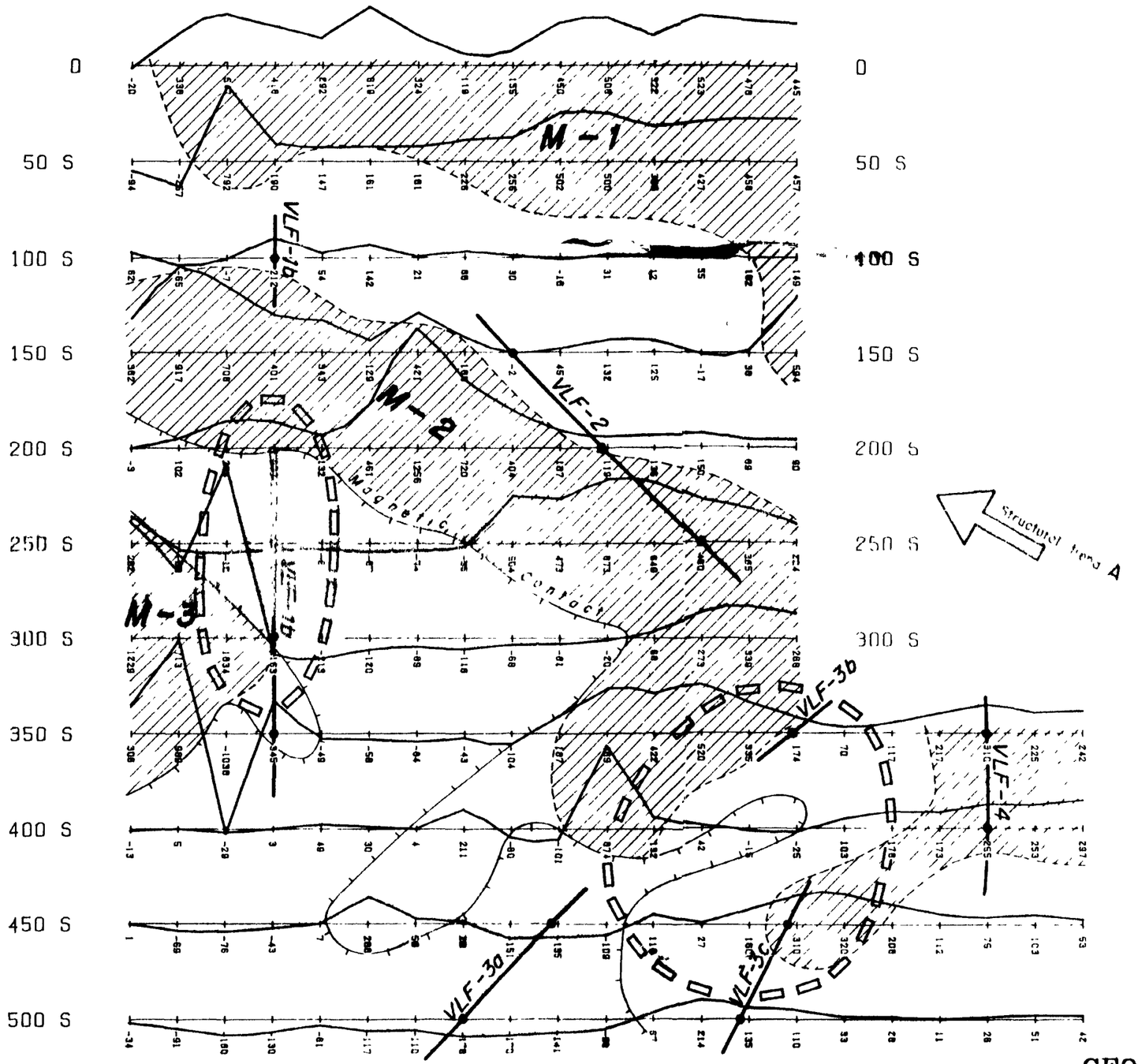
SUDBURY CONTACT MINES LTD.

DIAMOND LAKE GRID
DIAMOND LAKE PROPERTIES

BOUGUER CORRECTED GRAVITY PROFILES
GRAVITY 1 cm = 5 mgals
ELEVATION 1 cm = 20 m
GRAVITY BASE VALUE 4956.00 mgals
SCINTREX CG-3 / SODIN GRAVIMETER

SCALE 1:5000

SURVEY BY		
JVX LTD MAY 1992	JVX ref No. 9209	PLATE 4



GEOPHYSICAL ANOMALY MAP

SUDBURY CONTACT MINES LTD.

MISEMA SOUTH GRID

FORK LAKE PROPERTIES

MAGNETIC SURVEY PROFILES

PROFILE SCALE 1 cm = 50 nT
BASE VALUE 57800 nT
SCINTREX IGS-2/MP-4

SCALE 1:2500

SURVEY BY
JVX LTD
DECEMBER 1991

PLATE 4

GRID 2

Power line

1900 N

1800 N

1700 N

100 E

200 E

400 E

VLF-1

VLF-2

VLF-1

VLF-1a

C O N T A C T

T1

G1

M-1

M-2

M-3

NE-1

NE-2

NE-3

NE-4

LEGEND

- Magnetic high
- Magnetic low
- VLF EM conductor
- Interpreted gravity contact
- Structural trend
- Target area
- Mag - Calculated 2nd vertical derivative
- Linear magnetic trend

2.15344

SUDBURY CONTACT MINES LTD.

DIAMOND LAKE GRIDS 1 & 2

DIAMOND LAKE PROPERTIES

COMPILATION MAP

SCALE 1:5000

SURVEYED BY
LTD

ref. No. 3209

PLATE