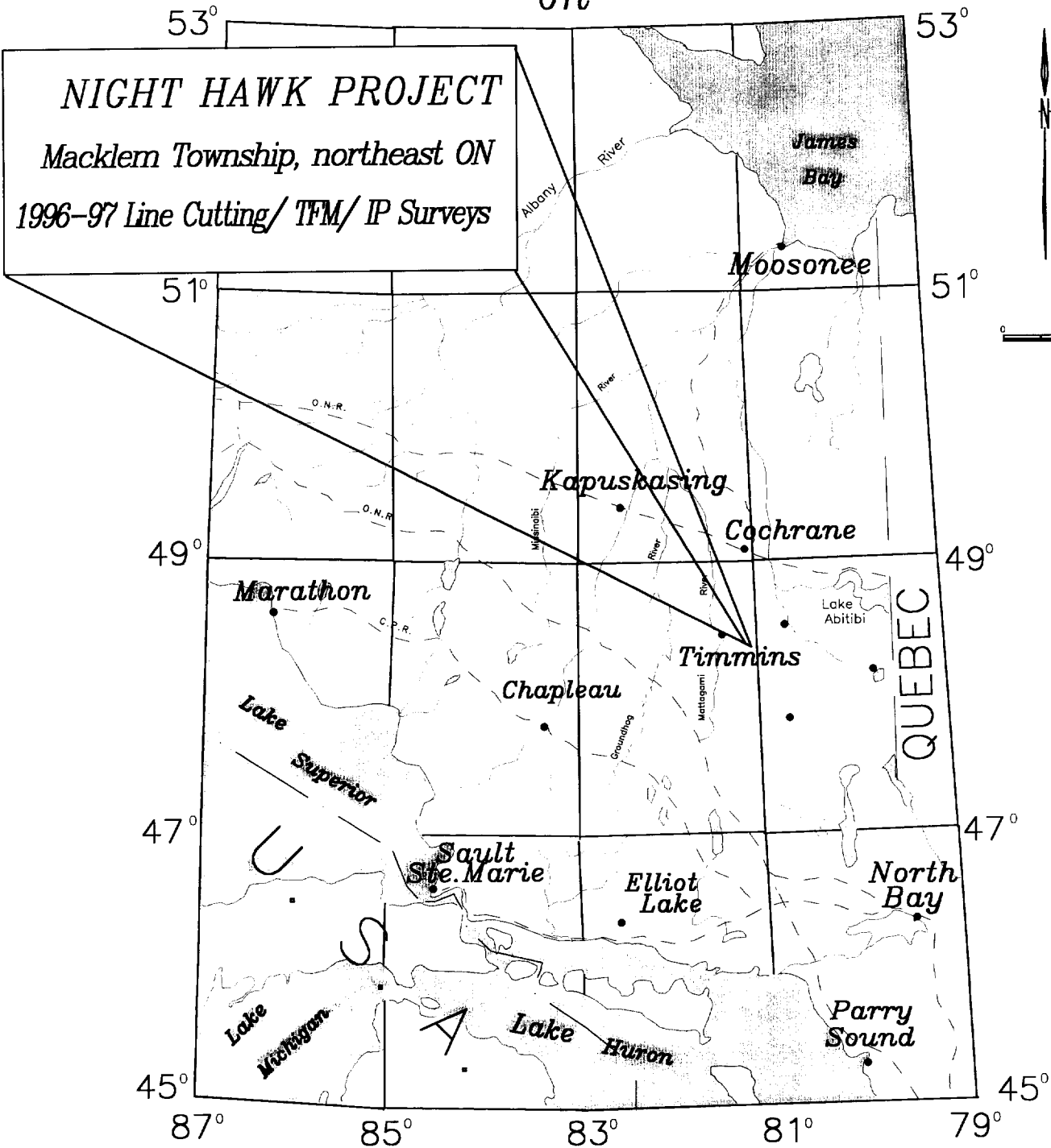


Report of Work  
for  
Golden Knight Resources Inc

2.17754

on



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201 000000

# 1.0 Summary

Golden Knight Resources Inc., of Vancouver, BC., explored their Night Hawk Project in 1996 and 1997 with line cutting, TFM, and induced polarization surveys. The project covers six (6) claims near the Macklem-Thomas township line. The property is accessible by using the Gibson Lake road, roughly 40 km east of Timmins, ON. The geophysical surveys are somewhat obscured due to overburden effects and perhaps poor grid orientation. Since the property is in a favourable gold environment, additional work is warranted.

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### Sections

Sixteen (16), 1:5000 IP Sections

(i)



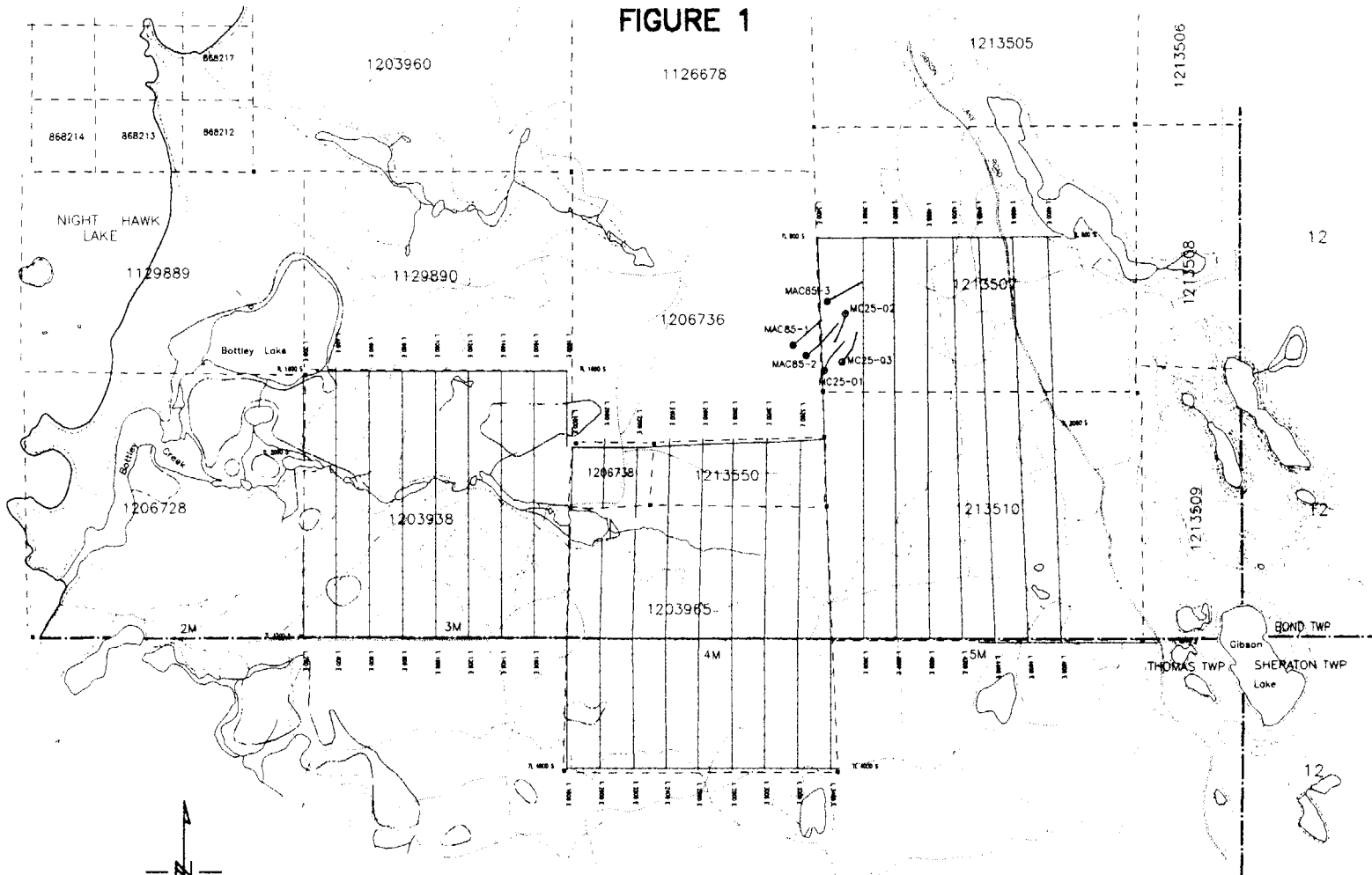
42A07NW0017 2.17754 MACKLEM

## 2.0 Introduction

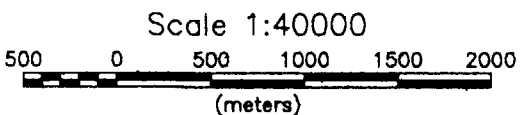
Golden Knight Resources Inc. of Vancouver, BC, explored six (6) claims (approximately 59 units) in Macklem Twp. and a small portion of Thomas Twp., northeastern Ontario. The six claim property referred to as the **Night Hawk Property** is found west of Gibson Lake along the Gibson Lake road and east of Night Hawk Lake. The property is roughly 30 km south of east from Timmins, ON, and is accessible by the Gibson Lake road from HWY 101E. The work was performed by M. C. Exploration Services Inc., of South Porcupine, ON, and was completed in two phases. **Phase I** comprises a **43.53 km** grid over claims 1206738, 1213550, 1213507, 1213510 in Macklem Twp., and claim 1203965 which covers an area in Macklem and Thomas Twp's. This work started in the summer of 1996 and was geophysically read in August 1996 using magnetics and induced polarization survey methods.

**Phase II** which covers claim 1203938 in Macklem Twp., comprises a westerly extension of the 1996 grid. The **15.75 km** of survey lines added were then read using magnetics. The objective of this investigation is primarily the detection of structures favourable for gold occurrences. The area has been subjected to observation for gold sporadically for nearly a century. The area covered is in south central Macklem and along the northern boundary of Thomas Twp. The abundance of stratified locustrine clays with possible lenses of thin gravels is the predominant feature above the bedrock. This obscures the IP survey and affects the magnetics as well. The voluminous quantity of clay represents deposits in the deeper portions of glacial Lake Ojibway Barlow of which Lake Abitibi is a vestigial remnant. Thus the weak chargeability anomalies presented here in are misleading. There is widespread sporadic outcrop beneath the grid according to ODM Map 2222, Night Hawk Lake area (E.J. Leahy, 1964-68). Other sources of information used to write the report are; 1) United Kingdom Energy Inc, 1985 Diamond Drill Logs, 2) Kidd Creek Mines, 1987 Diamond Drill Logs. This past work was done near and on the present claim 1213507 and was primarily focused on gold. This report is only intended to be a summary of the 1996-97 exploration.

FIGURE 1



(2)



PAST EXPLORATION

- 1985 UNITED KINGDOM ENERGY INC.
- 1987 KIDD CREEK MINES LTD

**Golden Knight Resources Ltd**

**NIGHT HAWK PROJECT**

Macklem-1-96 & 2-97 Grids

## **3.0 1996-97 Exploration**

### **3.1 Line Cutting**

M. C. Exploration Services Inc., line cutting crews established the start point of the grid coordinate **5400E/3200S**, by locating the east west township line separating Macklem and Thomas Townships along the Gibson Lake road. This location can be referenced with UTM coordinate 513336 (easting), and 5366173 (northing). Later work located the true line thus there is a slight divergence (27 meters north) in the baseline originally established. The start point was an attempt to keep a similar reference system as past exploration (United Kingdom Energy Inc., 1985). The line cutting for Phase I started in **June, 1996** and was completed in early July 1996. Crews cut the TL3200S westerly, just beyond 200E where water coverage prevented further work. Lines were then turned at 90° of the east- west tie line at a 200 meter interval. There are seven (7) lines cut northerly, from 3600E to 4800E which end at tie line 2000S. Nine (9) additional lines were cut north and south of tie line 3200S from 1800E to 3400E. All of these lines with the exception of line 3400E extend southerly to tie line 4000S and northerly to tie line 1600S. This first phase of line cutting comprises 43.53 km of survey lines which have been chained and picketed at a 25 meter interval. **Phase II**, which began in January 1997 is comprised of an additional 15.75 km of grid lines. The original grid was extended westerly from line 1800E to line 200E. All of these lines were cut northerly from tie line 3200S up to tie line 1600S, line 3400E extends northerly to tie line 2000S. The Macklem grid is now comprised of 59.25 km of survey lines with twenty five (25) cross-lines and five (5) tie-lines.

### **3.2 TFM Survey**

#### **3.2.1 Procedure**

Geophysical crews, Don Caron and Clayton Morgan read the original Phase I grid in August 1996. The Phase II west extension was read by Don Caron and Jeff Ryan in January 1997. Crews used the TerraPlus GSM-19 Overhauser magnetometers to read the Total Field. Readings were taken at a 12.5 meter interval on all lines for a total of 4770 stations read (Phase I and II inclusive). The total field ranges from 57428 to 58955 nanotestas. The data was smoothed with a similar GSM-19 base station located at grid coordinate 3200S/5375E (near the Gibson Lake road). A reference field of 57900 nanotesla was used.

#### **3.2.2 Results**

The magnetic survey results for the Macklem Thomas survey area is plotted on a single map (Plan 1) posted

with a 58000 nT base subtracted. An anomalous grouping of contours is centered in the area of tie-line 3200S on L22+00E and 24E and 28+00E.

This gathering of contours obviously detects the presence of underlying diabase dykes. Such dykes are ubiquitous throughout the area, are thin and generally north trending. Contouring has produced a group of ellipsoidal somewhat bulbous anomalies. These egg shaped anomalies result from too great a spacing between traverse lines and a further influence of registering readings below a variable yet thick mantle of near impenetrable clay. A series of elongate lows flank the dykes to the west and this has been found to be present in similar areas of survey and to be due to an easterly dip of dykes which registers as a low beyond the west edge of the slightly high registers of the dyke proper.

A thick pile of massive and pillowed andesites and basalts with some interbedded tuff and agglomerate underlies the survey area. There is no range of detectable difference in broad magnetic intensity between the predominant rock types, and considering the corresponding similarity, this is not unusual. They register an intensity below the mean total field. A slight divergence and disruption of the magnetic contours along the margin of L22E, 24E, 26E, in Macklem Township and of 28E in Thomas Township suggests a break in continuity. A small rivulet trending east-west in the area lends credence to this possibility.

### **3.3 IP Survey**

#### **3.3.1 Procedure**

Crews read a total 33.55 kilometers of N.S. traverses with the Time Domain Induced Polarization method in June and July 1996. The Androtex TDR-6 Receiver in conjunction with the fixed Scintrex TSQ-3 Transmitter were used to read the selected pole dipole array with 50 meter dipole separation. Two infinity electrode positions induced current northerly. Infinity I was located at 2400E and 4800S and read six (6) lines L18 to L28E. Infinity II located at 34+00E and 4600S read lines 30 to 46E. A third infinity engaged southerly from a location at L4800E and 6500S; a reversal of the other two (2) infinities. The operator read  $n=1$   $ton=6$  at each station. The reader should refer to the addendum for equipment specifications and survey theory. Four of the sections were bound northerly by the creek which flows westerly into Bottley Lake. These sections are; 1800E, 2000E, 2200E, and 2400E.

### 3.3.2 Results

The results plotted on sixteen (16) sections registers the apparent IP effects in mV/V and the apparent resistivities in ohms/50 meters. The 16 lines read total 33.55 kilometers. The most prominent anomalies are due to the varying thickness of the blanket of varved clay causing much of the area surveyed and thus bedrock responses are obscured. There is clustered sporadic outcrop in the area which are mostly reflected upon the resistivity sections. There are thin diabase dykes trending crudely north south and these assisted in acting as a buttress, inhibiting the scouring effect of advancing ice during the glacial period thus bedrock surface is variable beneath a generally uniform layered clay mantle. Thus the occurrence of scattered outcrop in the dyke locale.

- 1) Sections 1800E, 2000E, 2200E, and 2400E reflect an area with abundant outcrop predominantly carbonated basic volcanic rock with high resistivity and moderately weak chargeability effects.
- 2) Certain zones on sections 2800E (south limit) trending onto sections 2600E and 2400E east reflect the course of a sinuous thin diabase.
- 3) Sections 3000E and 3200E show the proximity of a thin strand of diabase (see geological map). Section 3000E shows noise on the IP section where the creek bisects the line.
- 4) From section 3400E eastward, multiple lines show negligible response e.g. L34E shows a broad vague outline with near nil response.
- 5) Sections 36-38-40 thru 48 show no significance of any feature with resistance or chargeability. The homogeneous response postulates a large intrusive mass with negligible IP effects.

## 4.0 Conclusion

The contention which may be valid, is that horizontal clay layers are so dry there is perhaps no ionic diffusion and therefore, refuses to transfer the current. There is a possibility that a high powered transmitter could succeeded in better bedrock response. It would perhaps be beneficial to change the survey orientation (eg. line traverse with N45° azimuth). Since the property is in an area favourable for gold exploration, additional work is still warranted.

Respectfully submitted for approval,

June 12, 1997.  
DATE

R. J. Daigle  
RICHARD DAIGLE



## 5.0 CERTIFICATION

I **Richard Daigle** residing at 40 Crawford, Apt.6 in the city of Timmins, ON, Certify;

1. I have received an Electronic Technologist Certificate in 1979 from Radio College of Canada, Toronto, ON.
2. I have been computer literate and utilized geophysical equipment for fifteen years.
3. Experienced Max-Min ( HLEM ) interpretations along with field operations under the supervision of John Betz, 1979- 81.
4. Geophysicist Assistant for Kidd Creek Mines under the supervision of Mr. Doug Londry, 1981- 85.
5. Fulfilled geophysical contracts in NE Ontario, 1985-87.
6. Fulfilled geophysical contracts ( IP, HLEM, MAG, SP ) along with property assessments in Eastern Canada, 1987- 92.
7. I have been employed by M.C. Exploration Services Inc as Geophysical Evaluator for the past four years.
8. I have no direct interest in the property reported upon.

DATE: June 12, 1997.  
Timmins, ON

  
R. J. Daigle

# GEM Systems Advanced Magnetometers V 4.0

GSM-19

GEM Systems Inc  
52 West Beaver Creek Road, Unit 14  
Richmond Hill, Ontario  
Canada, L4B-1L9

Phone; (905) 764- 8008  
Fax ; (905) 764- 9329

## 1.0 Instrument Description

\*The sensor is a dual coil type designed to reduce noise and improve gradient tolerance. The coils are electrostatically shielded and contain a proton rich liquid in a pyrex bottle, which also acts as an RF resonator.  
\*The sensor cable is coaxial, typically RG-58/U, up to 100m long.  
\*The staff is made of strong aluminum tubing sections. This construction allows for a selection of sensor elevations above the ground during surveys. For best precision the full staff length should be used. Recommended sensor separation in gradiometer mode is one staff section, although two or three section separations are sometimes used for maximum sensitivity.  
\*The console contains all the electronic circuitry. It has a sixteen key keyboard, a 4x20 character alphanumeric display, and sensor and power input/output connectors. The keyboard also serves as an ON-OFF switch.  
\*The power input/output connector also serves as a RS232 input/output and optionally as analog output and contact closure triggering input.  
\*The keyboard front panel, and connectors are sealed (can operate under rainy conditions)  
\*The charger has two levels of charging, full and trickle, switching automatically from one to another. Input is normally 110V 50/60Hz. Optionally, 12V DC can be provided.  
\*The all-metal housing of the console guarantees excellent EM protection.

## 2.0 Instrument Specifications

Resolution	0.01 nT, magnetic field and gradient	
Accuracy	0.20 nT over operating range	
Range	20,000 to 120,000 nT automatic tuning, requiring initial	setup
Gradient Tolerance	over 10,000 nT/m	
Operating Interval	3 seconds minimum, faster optional. Reading initiated	from keyboard,
external trigger, or	carriage return via RS-232	
Input/Output	6 pin weatherproof connectors	
Power Requirements	12V, 200mA peak, 30mA standby, 300mA peak with Gradiometer	
Power Source	Internal 12V, 1.9Ah sealed lead-acid battery standard,	external source
optional.		
Battery Charger	Input; 110/ 220VAC, 50/60Hz and/or 12VDC Output; 12V dual level charging	
Operating Ranges	Temperatures; -40°C to +60°C Battery Voltages; 10.0 V min to 15.0V max Humidity; up to 90% relative, non condensing	
Storage Temperature	-50°C to +65°C	
Dimensions	Console; 223 X 69 X 240 cm Sensor Staff; 4 x 450mm sections Sensor; 170 x 71 mm diameter Weight; Console 2.1Kg Staff 0.9Kg Sensors; 1.1Kg	

## Magnetic Survey

### Theory;

The magnetic method is based on measuring alteration in the shape and magnitude of the earth's naturally occurring magnetic field caused by changes in the magnetization of the rocks in the earth. These changes in magnetization are due mainly to the presence of the magnetic minerals, of which the most common is magnetite, and to a lesser extent ilmenite, pyrrhotite, and some less common minerals. Magnetic anomalies in the earth's field are caused by changes in two types of magnetization; (1) Induced, caused by the magnetic field being altered and enhanced by increases in the magnetic susceptibility of the rocks, which is a function of the concentration of the magnetic minerals. (2) Remanent magnetism is independent of the earth's magnetic field, and is the permanent magnetization of the magnetic particles (magnetite, etc..) in the rocks. This is created when these particles orient themselves parallel to the ambient field when cooling. This magnetization may not be in the same direction as the present earth's field, due to changes in the orientation of the rock or the field. The **unit** of measurement (variations in intensity) is commonly known as the Gamma which is equivalent to the nanotesla (nT).

### Method;

The magnetometer, **GSM-19** with an Overhauser sensor measures the **Total Magnetic Field (TFM)** perpendicular to the earth's field (horizontal position in the polar region). The unit has no moving parts, produces an absolute and relatively high resolution measurement of the field and displays the measurement on a digital lighted display and is recorded (to memory). Initially, the tuning of the instrument should agree with the nominal value of the magnetic field for each particular area. The Overhauser procession magnetometer collected the data with a **0.2 nanoTesla accuracy**. The operator read each and every line at a **12.5 m interval** with the sensor attached to the top of three (56cm) aluminum tubing sections. The readings were corrected for changes in the earth's magnetic field (diurnal drift) with a similar GSM-19 magnetometer, >>base station<< which automatically read and stored the readings at every 30 seconds. The data from both units was then downloaded to PC and base corrected values were computed.

# Induced Polarization

**Androtex TDR-6;** The TDR-6 induced polarization receiver is a highly cost-effective instrument for the detailed measurements of IP effects and apparent resistivity phenomenon. Up to six dipoles can be measured simultaneously, thus increasing production. A wide input voltage range, up to 30V, simplifies surveys over the narrow shallow conductors of large resistivity contrast. Input signal indicators are provided for each dipole. All data are displayed on a 2x16 character display LCD module and any selected parameters can be monitored on a separate analogue meter for noise evaluation during the stacking/averaging. Although the TDR-6 receiver is automatic it allows full control and communications with the operator at all times during measurements. Since the input signal synchronizes the receiver at each cycle, the transmitter timing stability is not critical and any standard time domain transmitter can be used. Data are stored in the internal memory with a capacity of up to 2700 readings (450 stations). The data format is directly compatible with Geosoft without the necessity of an instrument conversion program.

## Features

·Wide input signal range ·Automatic self-potential cancellation  
·Stacking/averaging of Vp and M for high measurement accuracy in noisy environments  
·High rejection of power line interference ·Continuity resistance test ·Switch selectable delay and integration time ·Multiwindow chargeability measurements  
·Digital output for data logger ·Six channel input provided ·Compatible with standard time domain transmitters ·Alpha-numeric LCD display ·Audio indicator for automatic SP compensation ·Portable

## Specifications

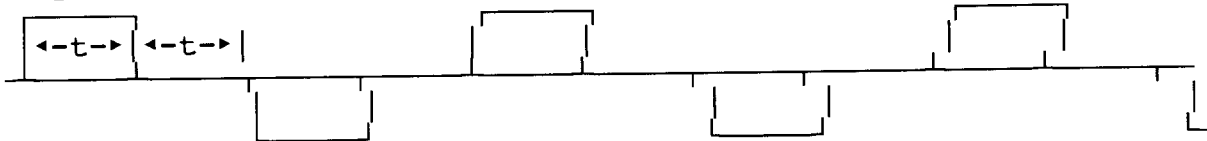
·Dipole n1 to n6 simultaneously  
·Input Impedance 10 megohm  
·Input Voltage (Vp) range:100µV to 30 Volts (automatic), accuracy:.25%, resolution:10µV.  
·Self Potential (SP) range:±2V, accuracy:1%, Automatic compensation ±1  
·Chargeability (M) range:300mV/V, accuracy:.25%, resolution:.1mV/V  
·Automatic Stacking 2 to 32 cycles  
·Delay Time programmable  
·Integration Time programmable for each gate (10 gates)  
·Total Chargeability Time During integration time of all gates  
·Synchronization Signal programmable from channel 1 to 6  
·Filtering power lines:dual notch 60/180Hz or 50/150Hz, 100dB, other:Anti-alias, RF and spike rejection.  
·Internal Test Vp=1V, M=30mV/V  
·Ground resistance test 0 to 200 Kohm  
·Transmitting Time 1, 2, 4 and 8 sec pulse duration, ON/OFF.  
·Digital Display Two line 16 alphanumeric LCD.  
·Analogue Meters Six-monitoring input signal and course resistance testing.  
·Controls Push button reset, toggle start-stop, rotary Rs-in-test, rotary (data scroll) display, rotary (data scroll) Dipole, keypad 16 key 4x4.  
·Memory Capacity 2700 readings, 450 stations (n1 to n6).  
·Data Output serial I/O RS-232 (programmable baud rate), Geosoft compatible output format.  
·Temperature Range Operating:-30° to +50°C, storage -40° to +60°C.  
·Power Supply Four 1.5V D cells.  
·Dimensions 31x16x29 cm  
·Weight 6.5 kg (14.3lbs)

**Scintrex TSQ-3;**The Motor-Generator set consists of a reliable Briggs and Stratton four stroke engine, coupled to a brushless permanent magnet alternator. The transmitter design employs solid-state components both for power switching and control circuits. Output waveforms and frequencies are selectable; square wave continuous for frequency domain and square wave interrupted for time domain. The programmer is crystal controlled for high stability. While care still must be taken when working with high voltages, the TSQ-3 features overload, underload and thermal protection for maximum safety. Stabilization circuitry ensures that the output current (I<sub>g</sub>) is automatically controlled to within ±.1% for up to 20% external load or ±10% input voltage variations. Voltage, current and circuit resistance are presented on a LED digital display. The system functions as follows; The motor turns the generator (alternator) which produces 800Hz, three phase, 230VAC. This energy is transformed upwards according to a front panel voltage setting in a large transformer housed in the TSQ-3. The resulting AC is then rectified is a rectifier bridge. Commutator switches then control the DC voltage output according to the waveform and frequency selected.

**Specifications**

- Output Power 3000 VA maximum
- Output Voltages 300,400,500,600,750,900,1050,1200,1350 & 1500V
- Output Current 10 amperes maximum
- Output Current Stability Automatic controlled to within ±.1% for up to 20% external load variation or up to ±10% input voltage variation.
- Stabilization Protection (Over-range) High Voltage shuts off automatically if the control range exceeds 20%.
- Digital Display Light emitting diodes permit display up to 1999 with variable decimal point; switch selectable to read input voltage, output current, external circuit resistance, dual current range, switch selectable.
- Current Reading Resolution 10mA on coarse range (1-10A) and 1mA on fine range (0-2A).
- Time Domain Cycle t:t:t:t; ON:OFF:ON:OFF:automatic
- Polarity Change Each 2t, automatic.
- Pulse Duration Standard t=1,2,,4,8,16 and 32 seconds, optional
- Stability Crystal controlled to better than .1% with external clock option better than 20ppm over operating temperature range.
- Efficiency .78
- Operating Temperature Range; -30°C to +50°C
- Overload Protection Automatic shut-off at 3000VA.
- Underload Protection Automatic shut-off at current below 85mA.
- Thermal Protection Automatic shut-off at internal temp. of 85°C.
- Dimensions 350cm x 530cm x 320cm (transmitter).
- Motor Briggs and Stratton, four stroke 8HP.
- Alternator Permanent magnet type, 800Hz, three phase 230VAC at full load.
- Output Power 3000 VA maximum.
- Dimensions 520cm x 715cm x 560cm (generator assembly).
- Weight Transmitter;25.0kg, Generator Assembly 72.5kg.

**Output DC interrupted squarewave used for survey.**



t= 2 seconds, ON & OFF time. Total duty Cycle Used; 8 seconds.  
(11)

## **IP Method**

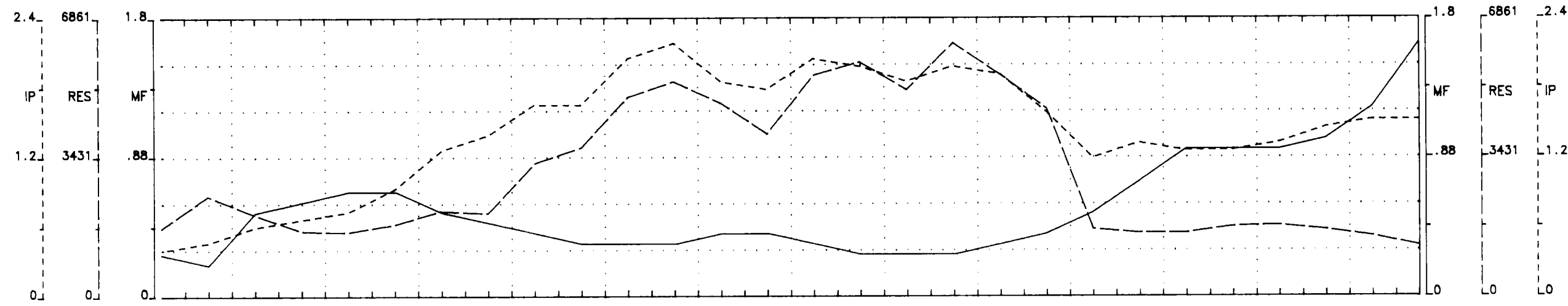
The phenomena of Induced Polarization (IP) was reported as early as 1920 by Schlumberger. The IP survey technique allows a variety of arrays (which all have advantages and disadvantages) and reads two separate elements; (1) The chargeability or IP effect (M) and Apparent Resistivity. The IP technique is useful for detecting sulphide bodies and is also useful as a structural mapping tool. The IP effect is the measurement of the residual voltage in rocks that remains after the interception of a primary voltage. It includes many types of dipolar charge distributions set up by the passage of current through consolidated or unconsolidated rocks. Among the causes are concentration polarization and electrokinetic effects in rocks containing electronic conductors such as metallic sulphides and graphite. The term overvoltage applies to secondary voltages set up by a current in the earth which decays when it is interrupted. These secondary effects are measured by a receiver via potential electrodes. The current flow is actually maintained by charged ions in the solutions. The IP effect is created when this ionic current flow is converted to electronic current flow at the surface of metallic minerals (or some clays, and platy silicates). The IP method is generally used for prospecting low grade (or disseminated) sulphide ores where metallic particles, sulfides in particular, give an anomalous response. Barren rock (with certain exceptions) gives a low response. In practice, IP is measured in one or two ways; (1) In a pure form, a steady current of some seconds (nominally 2 seconds) is passed and abruptly interrupted. The slowly decaying transient voltage existing in the ground are measured after interruption. This is known as the time domain method. The factor  $V_s/V_p$  is the integrated product for a specified time, and several readings are averaged (suppressing noise and coupling effects). The resultant chargeability, M is essentially a unitless value but it is usually represented in mV/V. The second method entails a comparison of the apparent resistivity using sinusoidal alternating currents of 2 frequencies within the normal range of 0.1 to 10.0 cps.. The factor used to represent the IP effect by this frequency domain method is the percent frequency effect (PFE) and is defined by  $(R_1 - R_2)/R_1 \times 100\%$  where  $R_1$  and  $R_2$  are the apparent resistivities at the low and high frequencies.

## **Use and Limitations**

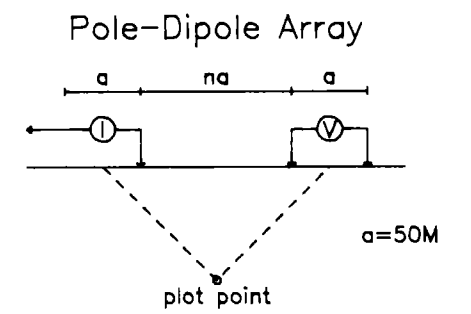
The effective depth of penetration of any IP survey is a function of the resistivity of the surface layer ('s) with respect to the resistivity of the lower layer. All arrays have different effects from this resistivity contrast, some are less affected than others. When the surface layer is 0.01 of the lower layer, the effective penetration is very poor hence the term masking. Masking occurs most often in areas of thick clay cover. The size of the target therefore becomes important when detection is desirable under a conductive surface layer. The frequency domain methods are the most adversely affected by masking as inductive coupling can be much greater than the response.

## **Standard Definitions of Chargeability**

The IP parameter, chargeability (M) varies with time. For practical reasons the entire decay curve is not sampled. Instead the secondary voltage is sampled one or more times at various intervals. Because the secondary voltage is received at extremely low levels in many prospecting situations, measurements of its amplitude at any given time is extremely susceptible to noise. Therefore, the secondary voltage is usually integrated for a period of time called a gate. Thus, if the noise has a zero mean, the integration will tend to cancel the noise. The Newmount M Factor is a standard time domain IP parameter. The gate delay, of 80 mSeconds (used by the TDR-6) was chosen to allow time for normal electromagnetic effects and capacitive coupling effects between the transmitter and receiver to attenuate so that the secondary voltage consists only of the IP decay voltage. The TDR-6 total integration time of 1580 milliSeconds (gate) is divided into ten individual gates. The time-constant of the IP dispersion curve, Cole-Cole dispersion (W H Pelton, 1977), obtained from the ten individual gates (windows) is directly related to the physical size of the metallic particles. This data is available at the clients request since all of the obtained field data is archived (downloaded) to computer.



L- 1800E



Filter  
\*  
\*  
\* \* \*  
\* \* \* \*

Cont. Intervals Profiles  
Resistivity ; 500 ohm/meter ---  
Chargeability ; 1.0 mV/V - - -  
Metal Factor ; 1 % - - - - -

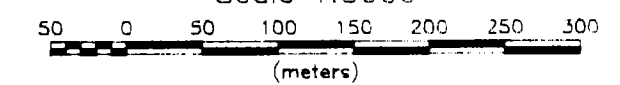
INSTRUMENTS

Androtex TDR6, Time Domain Receiver  
1760mSec Total Intergration Time, 80mS Delay.  
MT= ( 80+80+80+80+160+160+160+320+320+320 ) mSec  
Scintrex TSQ-3 Transmitter  
8Second Total Duty Cycle, 2Sec On/Off Time.

INTERPRETATION

- Low Effect  
Poorly Chargeable mV/V, IP effect  
Low Apparent Resistivity, rho
- Moderately Low Effect
- Moderately High Effect
- High Effect  
Good Chargeability mV/V, IP effect  
High Apparent Resistivity, rho

Scale 1:5000



Golden Knight Resources Ltd

Induced Polarization Survey  
Macklem Grid  
Macklem Township, NTS: 42- A/ SE

Porcupine Mining Division  
M. C. Exploration Services Inc. June 1996.

Topo

Topo

Interpretation

Interpretation

Chargeability  
mV/V

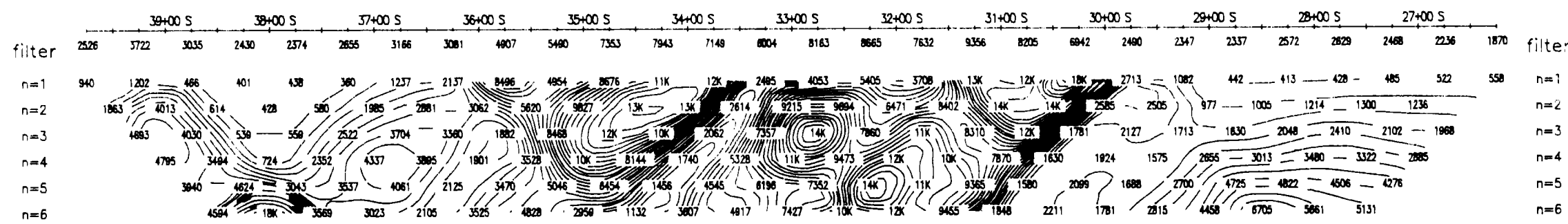
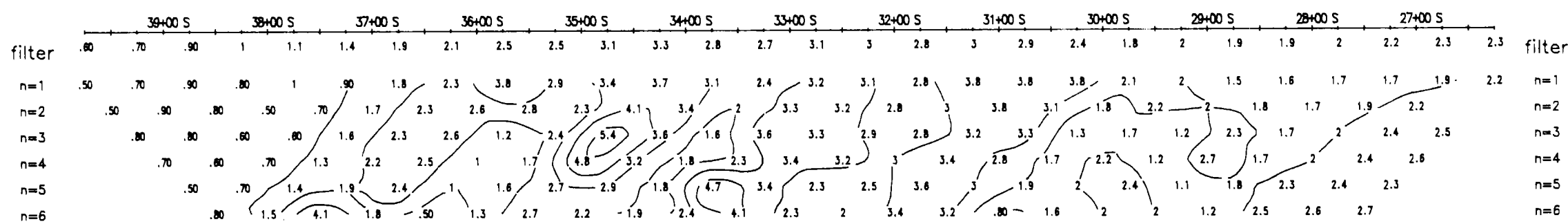
Chargeability  
mV/V

Interpretation

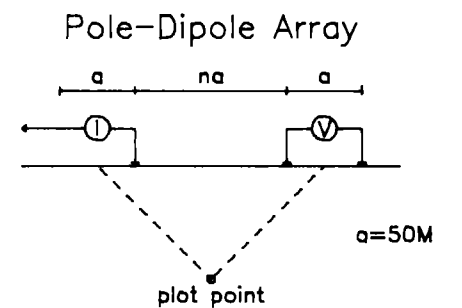
Interpretation

Resistivity  
ohm/meters

Resistivity  
ohm/meters



L- 2000E



Filter  
\*  
\*\*  
\*\*\*  
\*\*\*\*

Cont. Intervals      Profiles  
Resistivity ; 500 ohm/meter      - - - - -  
Chargeability ; 1.0 mV/V      - - - - -  
Metal Factor ; 1 %      - - - - -

INSTRUMENTS  
Androtex TDR6, Time Domain Receiver  
1760mSec Total Intergration Time, 80mS Delay.  
MT= ( 80+80+80+80+160+160+160+320+320+320 ) mSec  
Scintrex TSQ-3 Transmitter  
8Second Total Duty Cycle, 2Sec On/Off Time.

INTERPRETATION

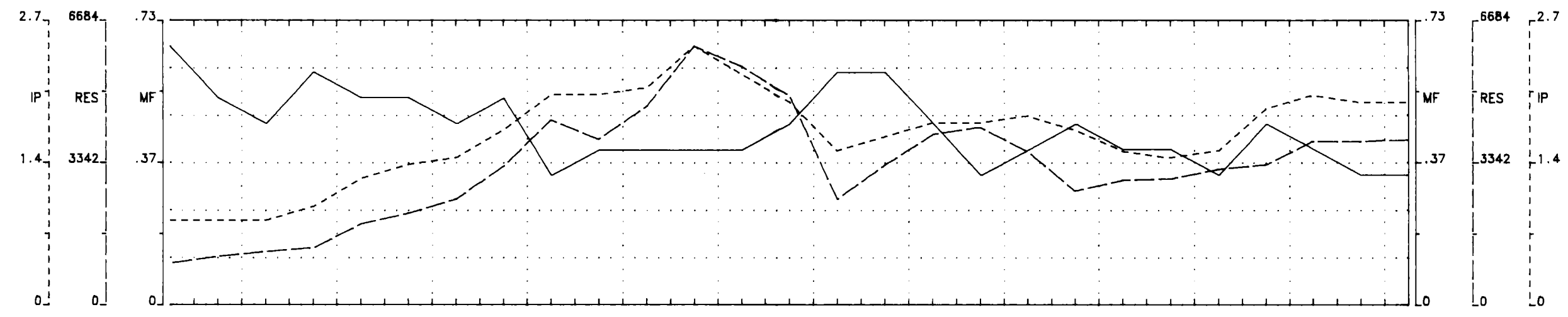
- Low Effect  
Poorly Chargeable mV/V, IP effect  
Low Apparent Resistivity, rho
- Moderately Low Effect
- Moderately High Effect
- High Effect  
Good Chargeability mV/V, IP effect  
High Apparent Resistivity, rho

Scale 1:5000  
50 0 50 100 150 200 250 300  
(meters)

Golden Knight Resources Ltd

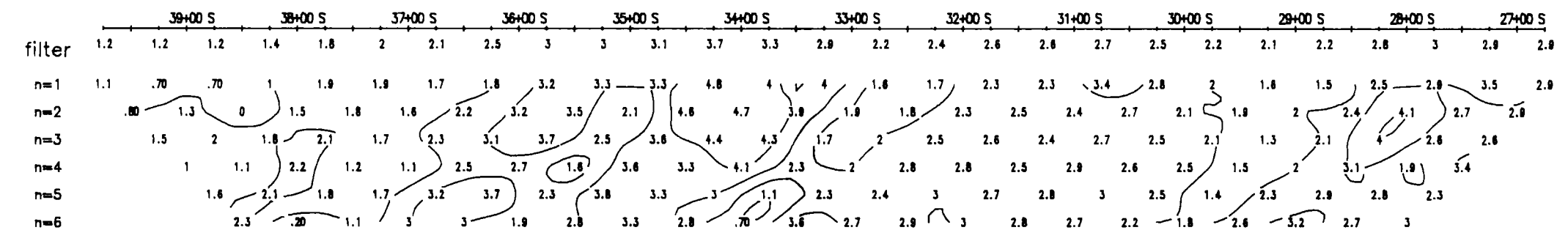
Induced Polarization Survey  
Macklem Grid  
Macklem Township, NTS: 42- A/ SE

Porcupine Mining Division  
M. C. Exploration Services Inc. June 1996.



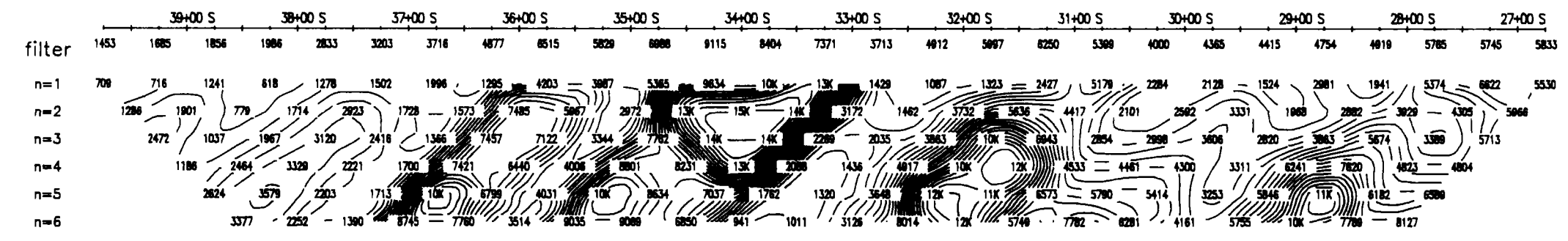
Topo

Interpretation



Chargeability  
mV/V

Interpretation



Resistivity  
ohm/meters

Topo

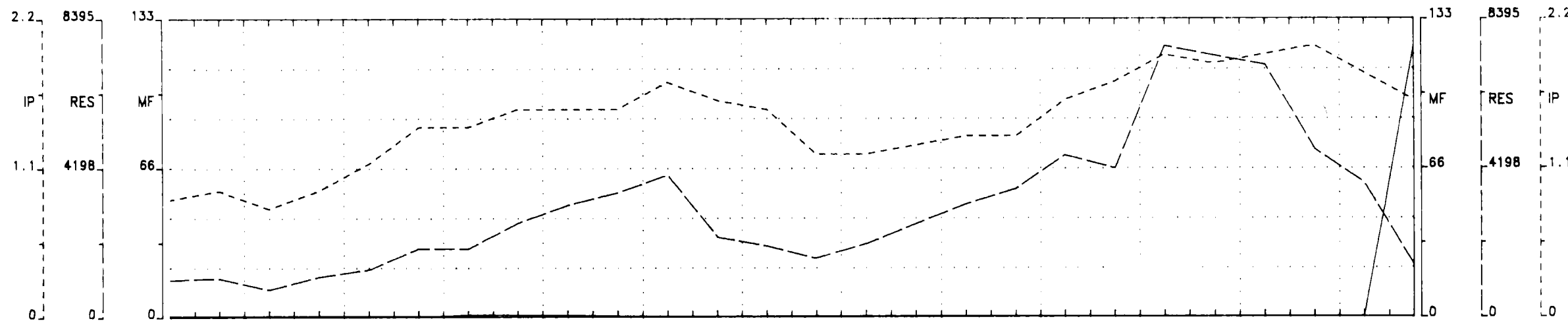
Interpretation

Chargeability  
mV/V

Interpretation

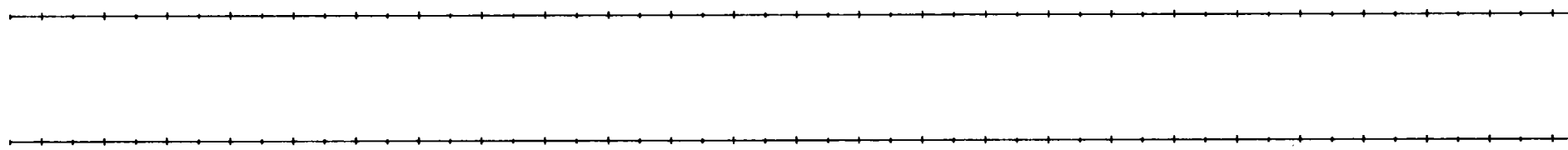
Resistivity  
ohm/meters



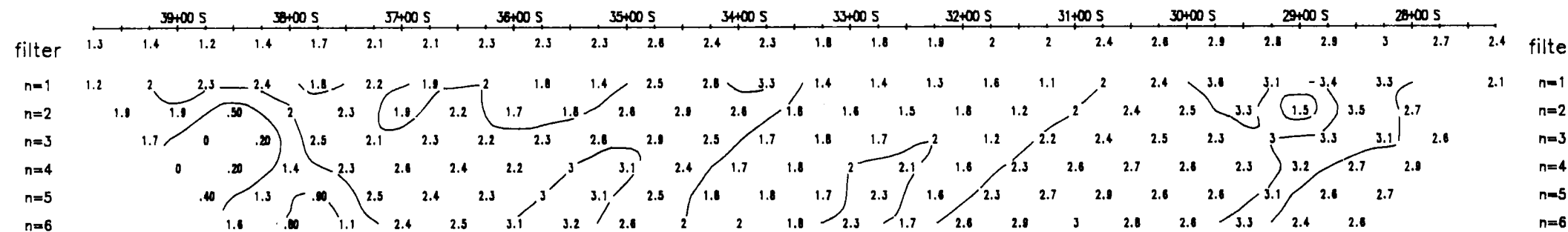


Topo

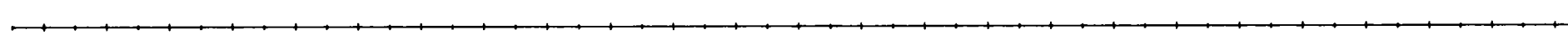
Interpretation



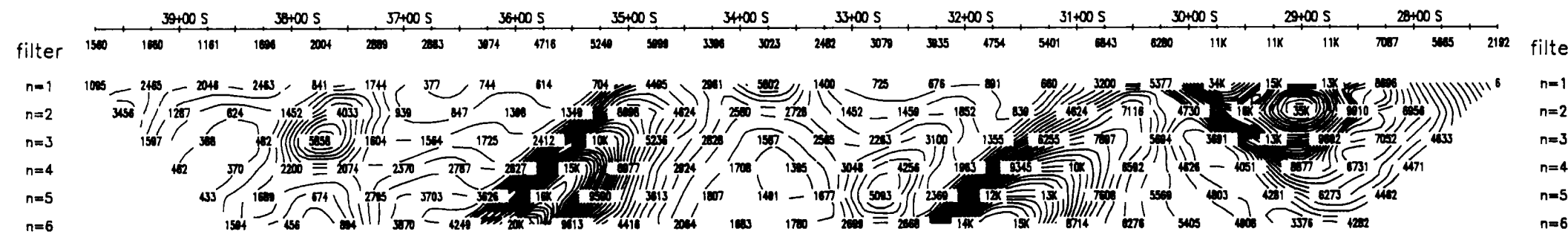
Chargeability  
mV/V



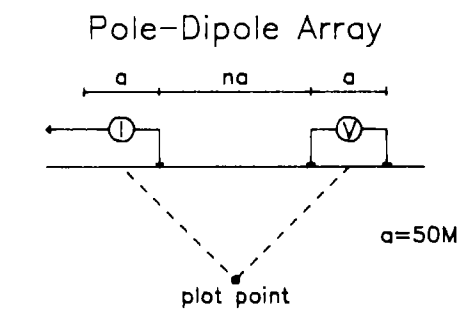
Interpretation



Resistivity  
ohm/meters



L- 2200E



Filter

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Topo

Interpretation

Cont. Intervals      Profiles  
 Resistivity ; 500 ohm/meter      - - - - -  
 Chargeability ; 1.0 mV/V      - - - - -  
 Metal Factor ; 1 %      - - - - -

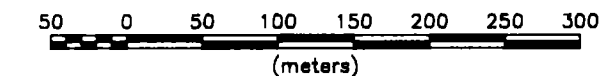
INSTRUMENTS

Androtex TDR6, Time Domain Receiver  
 1760mSec Total Intergration Time, 80mS Delay.  
 MT= ( 80+80+80+80+160+160+160+320+320+320 ) mSec  
 Scintrex TSQ-3 Transmitter  
 8Second Total Duty Cycle, 2Sec On/Off Time.

INTERPRETATION

- Low Effect  
Poorly Chargeable mV/V, IP effect  
Low Apparent Resistivity, rho
- Moderately Low Effect
- Moderately High Effect
- High Effect  
Good Chargeability mV/V, IP effect  
High Apparent Resistivity, rho

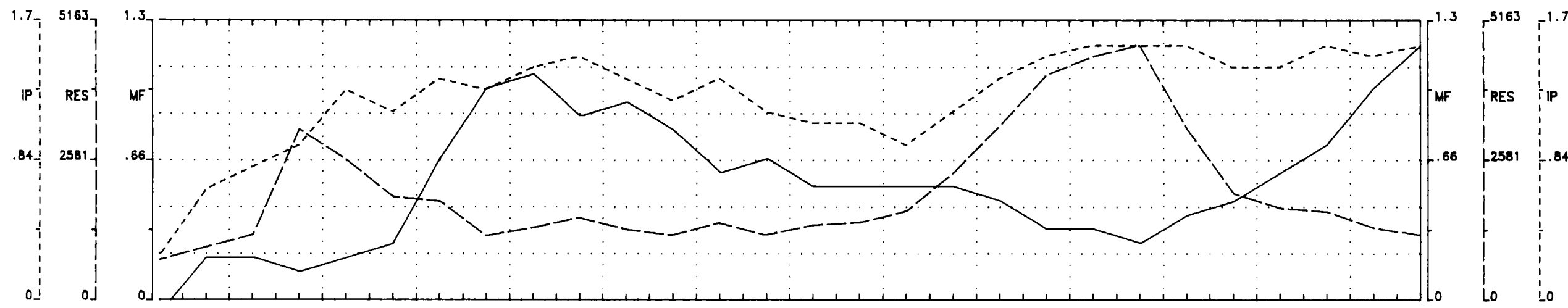
Scale 1:5000



Golden Knight Resources Ltd

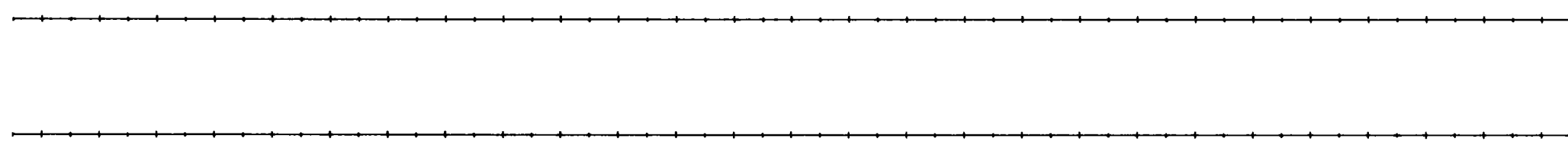
Induced Polarization Survey  
 Macklem Grid  
 Macklem Township, NTS: 42- A/ SE

Porcupine Mining Division  
 M. C. Exploration Services Inc. June 1996.

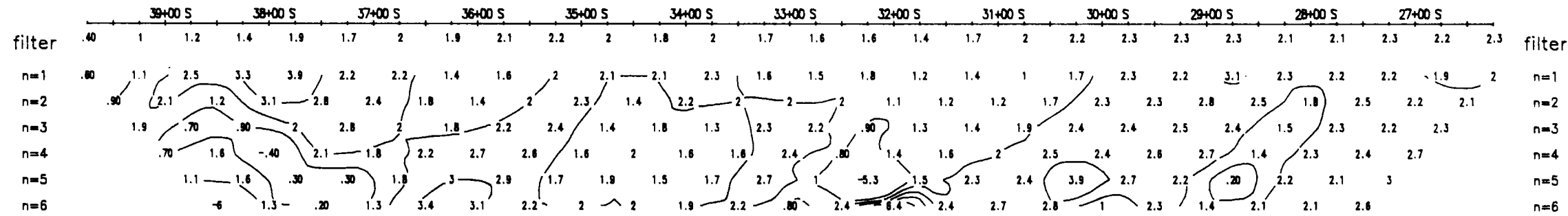


Topo

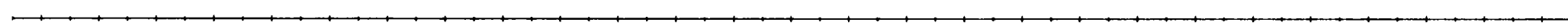
Interpretation



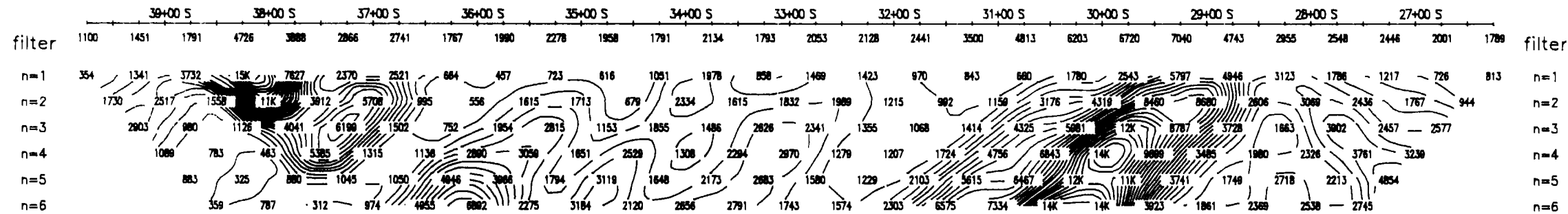
Chargeability  
mV/V



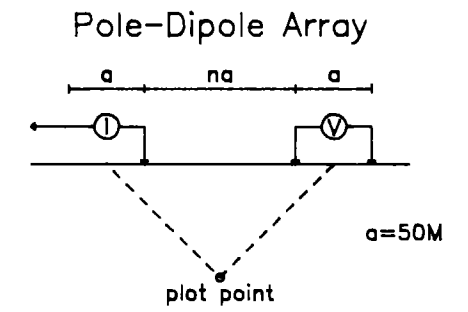
Interpretation



Resistivity  
ohm/meters



L- 2400E



Filter

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Topo

Interpretation

Cont. Intervals Profiles  
 Resistivity ; 500 ohm/meter ---  
 Chargeability ; 1.0 mV/V ---  
 Metal Factor ; 1 % ---

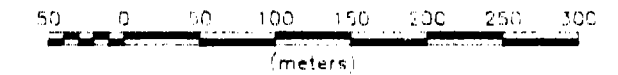
INSTRUMENTS

Androtex TDR6, Time Domain Receiver  
 1760mSec Total Intergration Time, 80mS Delay.  
 MT= ( 80+80+80+80+160+160+160+320+320+320 ) mSec  
 Scintrex TSQ-3 Transmitter  
 8Second Total Duty Cycle, 2Sec On/Off Time.

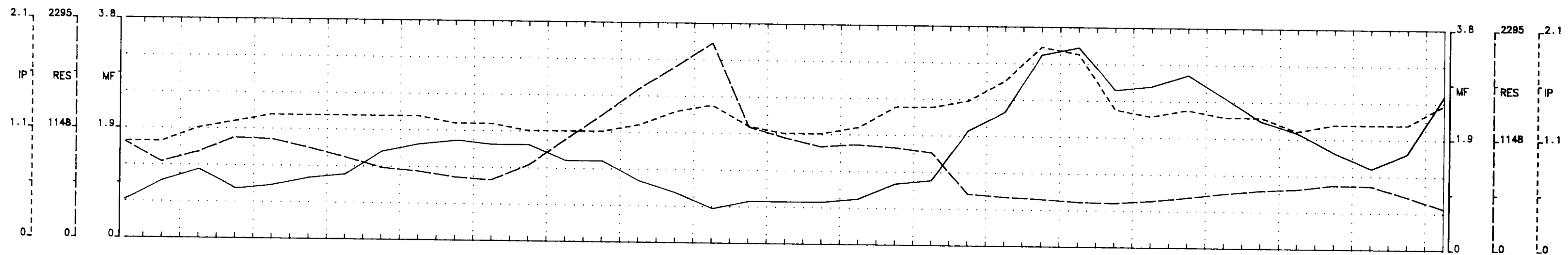
INTERPRETATION

- Low Effect  
Poorly Chargeable mV/V, IP effect  
Low Apparent Resistivity, rho
- Moderately Low Effect
- Moderately High Effect
- High Effect  
Good Chargeability mV/V, IP effect  
High Apparent Resistivity, rho

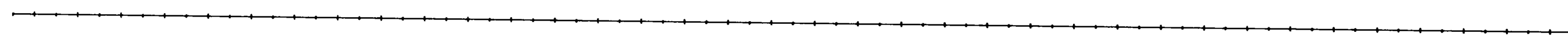
Scale 1:5000



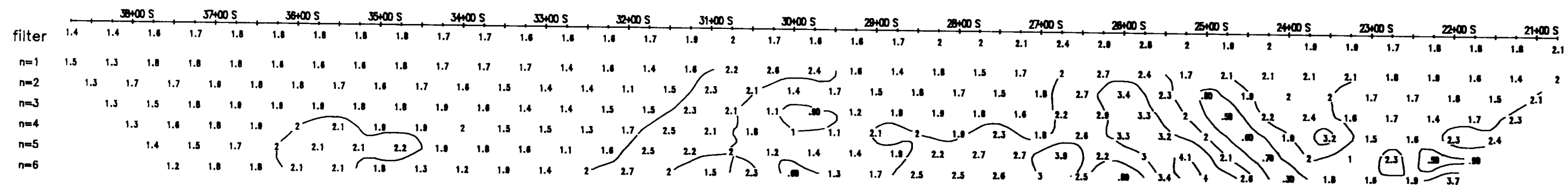
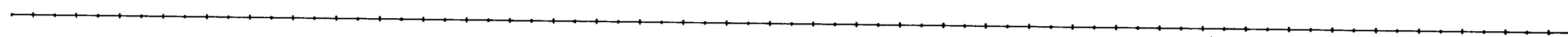
Golden Knight Resources Ltd  
 Induced Polarization Survey  
 Macklem Grid  
 Macklem Township, NTS: 42-A/SE  
 Porcupine Mining Division  
 M. C. Exploration Services Inc. June 1996.



Topo

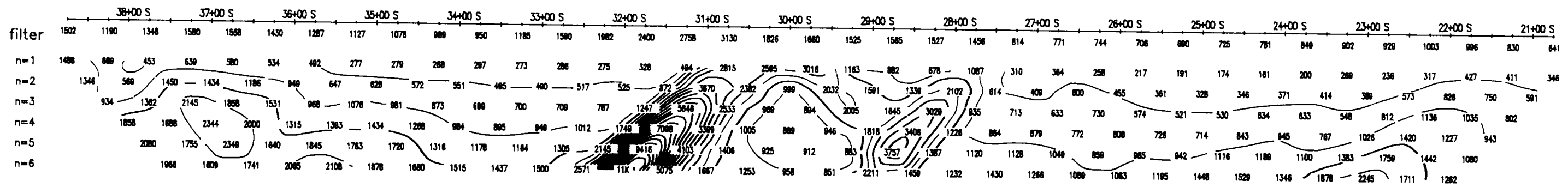


Interpretation



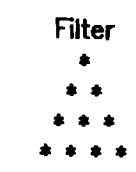
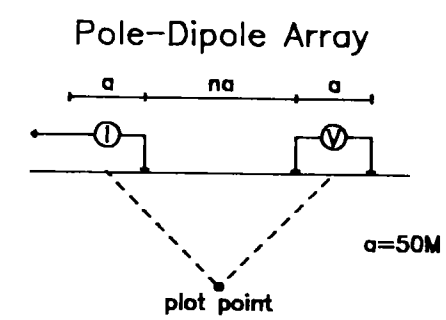
Chargeability mV/V

Interpretation



Resistivity ohm/meters

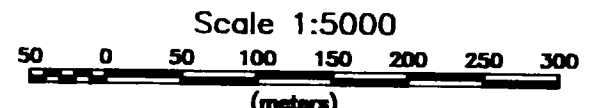
L- 2600E



Cont. Intervals Profiles  
 Resistivity ; 500 ohm/meter  
 Chargeability ; 1.0 mV/V  
 Metal Factor ; 1%

INSTRUMENTS  
 Androtex TDR6, Time Domain Receiver  
 1760mSec Total Intergration Time, 80mS Delay.  
 MT= ( 80+80+80+80+160+160+160+320+320+320 ) mSec  
 Scintrex TSQ-3 Transmitter  
 8Second Total Duty Cycle, 2Sec On/Off Time.

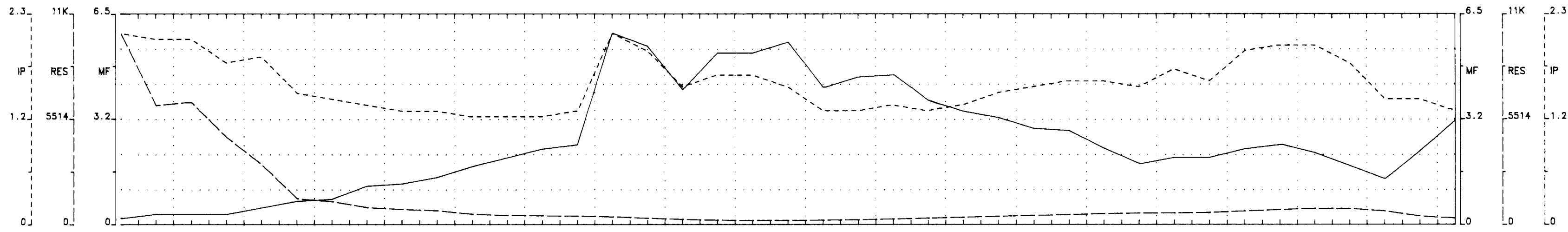
INTERPRETATION  
 [White Box] Low Effect  
 Poorly Chargeable mV/V, IP effect  
 Low Apparent Resistivity, rho  
 [Light Gray Box] Moderately Low Effect  
 [Medium Gray Box] Moderately High Effect  
 [Dark Gray Box] High Effect  
 Good Chargeability mV/V, IP effect  
 High Apparent Resistivity, rho



Golden Knight Resources Ltd  
 Induced Polarization Survey  
 Macklem Grid  
 Macklem Township, NTS: 42- A/ SE  
 Porcupine Mining Division  
 M. C. Exploration Services Inc. June 1996.





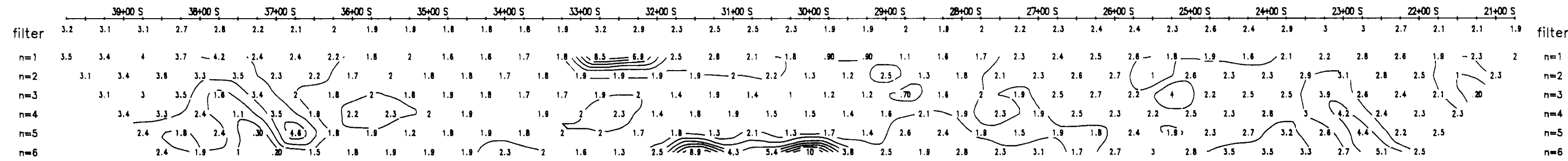


Topo

Topo

Interpretation

Interpretation

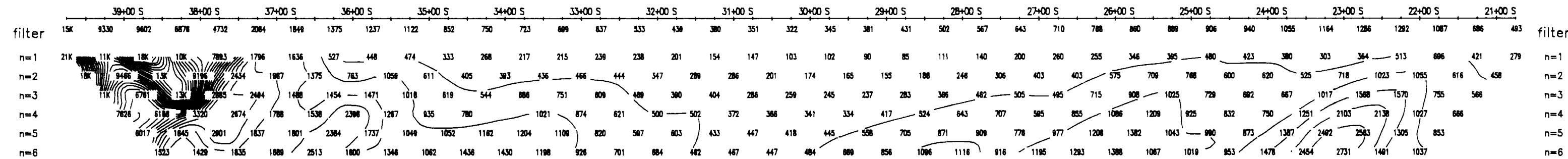


Chargeability  
mV/V

Chargeability  
mV/V

Interpretation

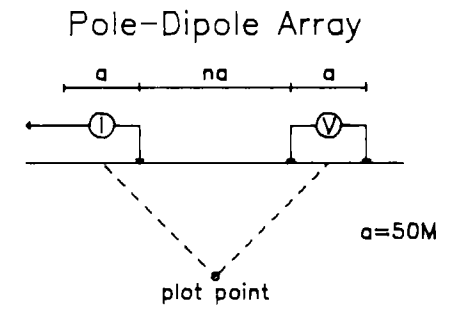
Interpretation



Resistivity  
ohm/meters

Resistivity  
ohm/meters

L- 3200E



Filter  
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Cont. Intervals      Profiles  
Resistivity ; 500 ohm/meter      - - - - -  
Chargeability ; 1.0 mV/V      - - - - -  
Metal Factor ; 1 %      - - - - -

INSTRUMENTS  
Androtex TDR6, Time Domain Receiver  
1760mSec Total Intergration Time, 80mS Delay.  
MT= ( 80+80+80+80+160+160+160+320+320+320 ) mSec  
Scintrex TSQ-3 Transmitter  
8Second Total Duty Cycle, 2Sec On/Off Time.

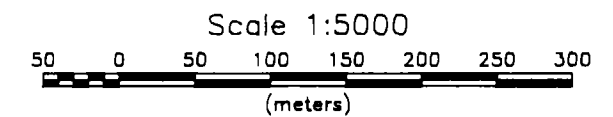
INTERPRETATION

Low Effect  
Poorly Chargeable mV/V, IP effect  
Low Apparent Resistivity, rho

Moderately Low Effect

Moderately High Effect

High Effect  
Good Chargeability mV/V, IP effect  
High Apparent Resistivity, rho

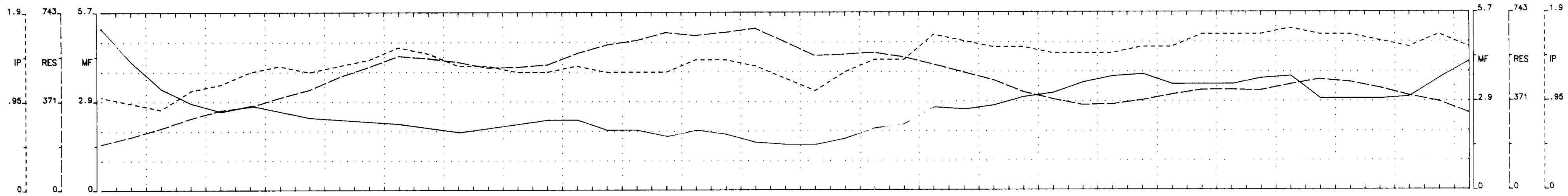


Golden Knight Resources Ltd

Induced Polarization Survey  
Macklem Grid  
Macklem Township, NTS: 42- A/ SE

Porcupine Mining Division  
M. C. Exploration Services Inc. June 1996.



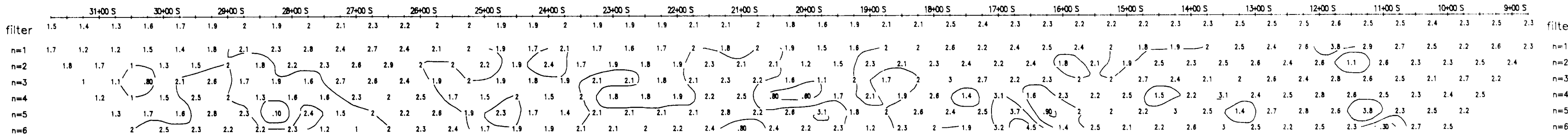


Topo

Topo

Interpretation

Interpretation

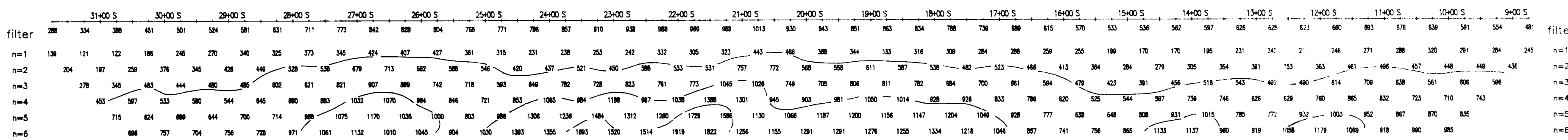


Chargeability  
mV/V

Chargeability  
mV/V

Interpretation

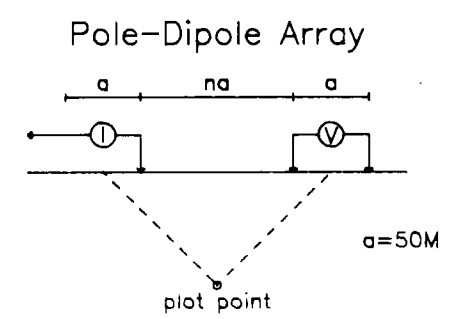
Interpretation



Resistivity  
ohm/meters

Resistivity  
ohm/meters

L- 3600E

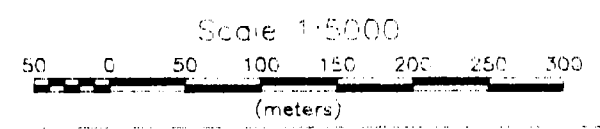


Filter  
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Cont. Intervals Profiles  
Resistivity ; 500 ohm/meter  
Chargeability ; 1.0 mV/V  
Metal Factor ; 1 %

INSTRUMENTS  
Androtex TDR6, Time Domain Receiver  
1760mSec Total Intergration Time, 80mS Delay.  
MT= ( 80+80+80+80+160+160+160+320+320 ) mSec  
Scintrex TSQ-3 Transmitter  
8Second Total Duty Cycle, 2Sec On/Off Time.

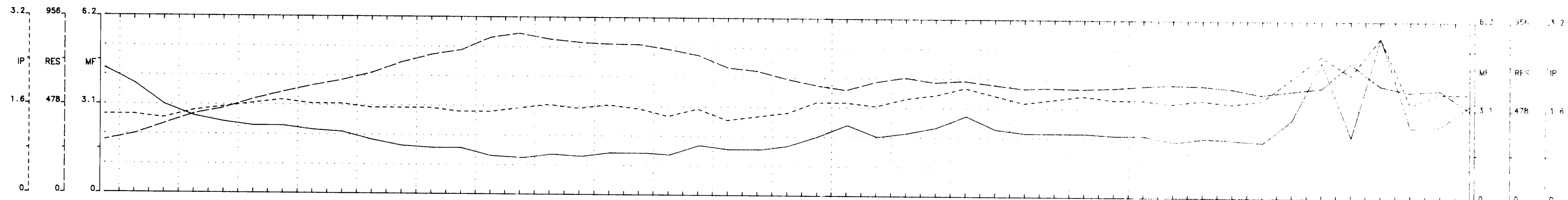
INTERPRETATION  
Low Effect  
Poorly Chargeable mV/V, IP effect  
Low Apparent Resistivity, rho  
Moderately Low Effect  
Moderately High Effect  
High Effect  
Good Chargeability mV/V, IP effect  
High Apparent Resistivity, rho



Golden Knight Resources Ltd  
Induced Polarization Survey  
Macklem Grid  
Macklem Township, NTS: 42- A/ SE  
Porcupine Mining Division  
M. C. Exploration Services Inc. June 1996.

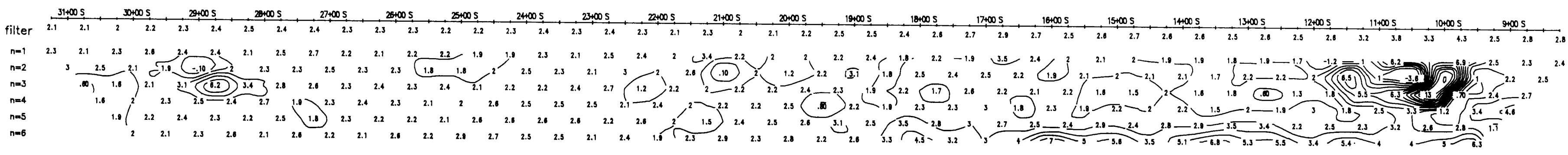






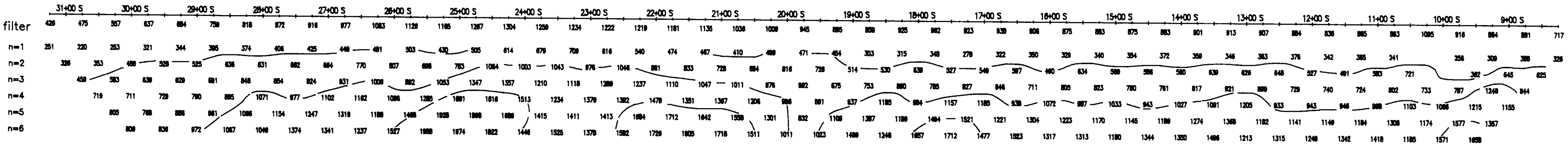
Topo

Interpretation



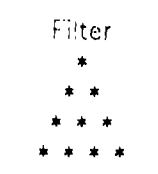
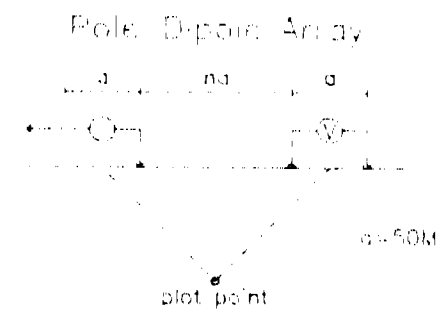
Chargeability  
mV/V

Interpretation



Resistivity  
ohm/meters

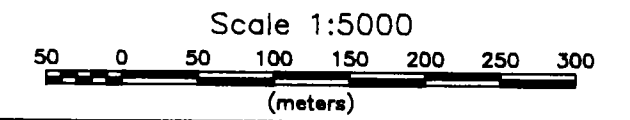
L-4000E



Cont. Intervals Profiles  
 Resistivity ; 500 ohm/meter ---  
 Chargeability ; 1.0 mV/V - - - -  
 Metal Factor ; 1 % -----

INSTRUMENTS  
 Androtex TDR6, Time Domain Receiver  
 1760mSec Total Intergration Time, 80mS Delay.  
 MT= ( 80+80+80+80+160+160+160+320+320 ) mSec  
 Scintrex TSQ-3 Transmitter  
 8Second Total Duty Cycle, 2Sec On/Off Time.

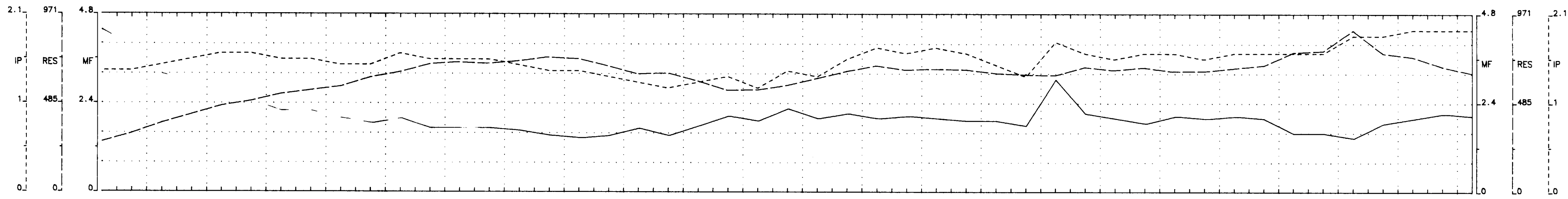
INTERPRETATION  
 [ ] Low Effect  
 [ ] Poorly Chargeable mV/V, IP effect  
 [ ] Low Apparent Resistivity, rho  
 [ ] Moderately Low Effect  
 [ ] Moderately High Effect  
 [ ] High Effect  
 [ ] Good Chargeability mV/V, IP effect  
 [ ] High Apparent Resistivity, rho



Golden Knight Resources Ltd

Induced Polarization Survey  
 Macklem Grid  
 Macklem Township, NTS: 42- A/ SE

Porcupine Mining Division  
 M. C. Exploration Services Inc. June 1996.



Topo  
Interpretation

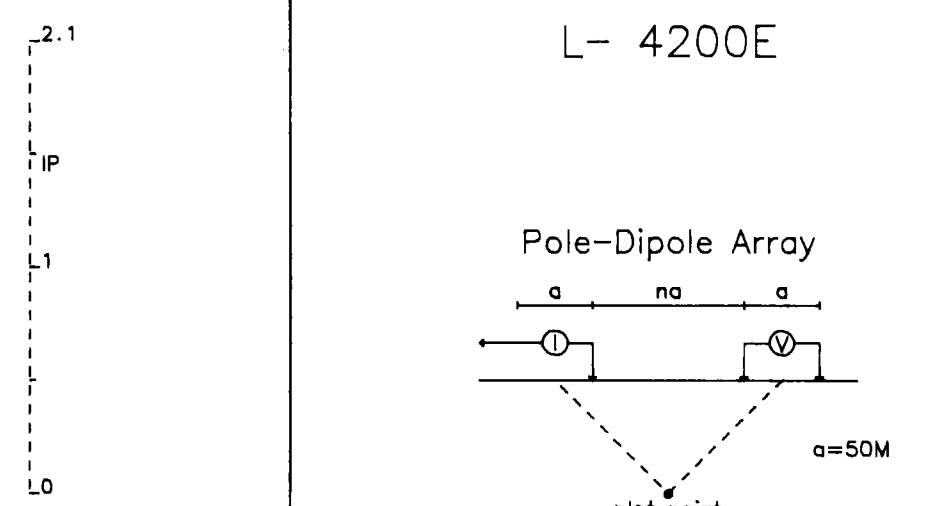
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n=1	2.1	2.1	2.2	2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.4	2.3	2.3	2.2	2	1.9	1.9	1.8	1.7	1.7	1.8	1.9	1.8	2	1.5	1.9	2.2	2.3	2.6	2.7	2.6	1.9	4.9	3.2	2.4	2.5	2.7	2.2	2.4	2.5	2.2	1.6	2.5	2.9	2.8	2.8
n=2	2.1	2	2.5	2.2	2.4	2.3	2.4	2.2	2.3	2.4	2.3	2.3	2.1	2.1	2	1.9	1.7	1.7	1.7	1.7	2.3	1.7	1.7	1.9	1.9	2.3	2.3	2.3	3.4	2.5	2	2	2.1	2	2.3	2	2.1	2.2	1.8	2.3	2.5	2.5	2.7	2.9		
n=3	2	1.8	2.5	2.3	2.2	2.3	2	1.7	2.3	2.5	2.5	2.4	2.4	2.2	2	2.1	2.2	2	1.6	2	1.2	2.2	1.4	2.2	2.6	2.5	2.6	2.5	2.1	1.9	2.3	1.6	2.1	2.4	2.3	2	2.2	2.2	2.3	2.4	2.5	2.5	3.1	2.7		
n=4	1.4	1.6	2.9	3.1	1.9	3.1	1.9	2.2	2.7	2.7	2.5	2.4	2.4	2.3	2	1.9	2.3	2	2.3	1.5	3.5	.70	1	2.8	2.6	3.3	2.4	2.1	2.5	2.6	1.5	2.8	2.7	2.5	2	2.2	2.2	2.1	2	2.7	2.7	2.8	2.7			
n=5	2.7	2.1	2.3	1.7	3.2	3.0	2.6	2.3	2	2.3	2.1	3	3	1.8	1.6	1.1	2.2	1.3	2.8	3.4	3	2.1	2.2	2.7	2.1	1.3	1.2	2.8	1.2	2.3	2.6	2.4	2.7	2.3	2.3	3	2.5	2.7	2.3	2.7	2.3	2.7				
n=6	2.1	2.8	3.7	2.5	2.1	2.2	2.1	2.4	2	2.6	2.2	2.2	2.4	2.6	1.8	2.1	1.8	2	1.9	1.7	2.7	2.8	1.6	2.9	2.9	2.6	1.4	1.8	2.3	2.5	3.4	1.7	2	3.5	2.7	3.1	3.3	3.2	2.8	2.8	3.5	3				

Chargeability mV/V

Interpretation

filter	31+00 S	30+00 S	29+00 S	28+00 S	27+00 S	26+00 S	25+00 S	24+00 S	23+00 S	22+00 S	21+00 S	20+00 S	19+00 S	18+00 S	17+00 S	16+00 S	15+00 S	14+00 S	13+00 S	12+00 S	11+00 S	10+00 S	9+00 S																							
n=1	213	214	254	246	286	325	367	407	382	403	351	461	444	404	385	432	464	436	304	342	323	296	281	259	238	285	367	347	434	441	402	330	283	380	336	427	368	326	324	346	538	464	501	568	576	765
n=2	338	348	308	404	519	574	688	584	648	685	682	753	685	663	804	824	812	805	678	685	531	450	484	428	502	583	607	610	739	687	615	554	636	674	681	679	579	655	581	678	911	747	861	842	868	
n=3	447	486	642	678	736	776	738	772	863	972	853	833	885	1052	1127	1052	838	968	1014	856	827	636	681	741	881	832	888	913	912	862	774	830	823	1059	875	811	802	874	874	1084	1082	829	1199	1141		
n=4	580	723	798	863	827	793	840	888	1150	1247	1114	1128	1299	1336	1286	1019	1210	1320	1115	902	794	842	1060	1179	1175	1130	1184	1045	1082	976	1182	1112	1213	1224	986	1182	1118	1171	1283	1244	1284	1315	1325			
n=5	829	868	888	1046	919	981	1155	1288	1429	1411	1318	1571	1574	1478	1184	1352	1577	1351	1101	1083	1019	1251	1633	1464	1482	1450	1358	1288	1164	1478	1372	1509	1325	1336	1367	1385	1443	1618	1418	1408	1746	1708				
n=6	828	1038	1138	888	1080	1137	1386	1464	1502	1520	1829	1783	1618	1224	1558	1786	1488	1257	1288	1316	1427	1738	1900	1757	1836	1553	1415	1286	1653	1601	1734	1564	1310	1632	1415	1681	1788	1638	1480	1787	2024	1675				

Resistivity ohm/meters



Topo  
Interpretation

filter	31+00 S	30+00 S	29+00 S	28+00 S	27+00 S	26+00 S	25+00 S	24+00 S	23+00 S	22+00 S	21+00 S	20+00 S	19+00 S	18+00 S	17+00 S	16+00 S	15+00 S	14+00 S	13+00 S	12+00 S	11+00 S	10+00 S	9+00 S																							
n=1	2.1	2.1	2.2	2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.4	2.3	2.3	2.2	2	1.9	1.9	1.8	1.7	1.7	1.8	1.9	1.8	2	1.5	1.9	2.2	2.3	2.6	2.7	2.6	1.9	4.9	3.2	2.4	2.5	2.7	2.2	2.4	2.5	2.2	1.6	2.5	2.9	2.8	2.8
n=2	2.1	2	2.5	2.2	2.4	2.3	2.4	2.2	2.3	2.4	2.3	2.3	2.1	2.1	2	1.9	1.7	1.7	1.7	1.7	2.3	1.7	1.7	1.9	1.9	2.3	2.3	2.3	3.4	2.5	2	2	2.1	2	2.3	2	2.1	2.2	1.8	2.3	2.5	2.5	2.7	2.9		
n=3	2	1.8	2.5	2.3	2.2	2.3	2	1.7	2.3	2.5	2.5	2.4	2.4	2.2	2	2.1	2.2	2	1.6	2	1.2	2.2	1.4	2.2	2.6	2.5	2.6	2.5	2.1	1.9	2.3	1.6	2.1	2.4	2.3	2	2.2	2.2	2.3	2.4	2.5	2.5	3.1	2.7		
n=4	1.4	1.6	2.9	3.1	1.9	3.1	1.9	2.2	2.7	2.7	2.5	2.4	2.4	2.3	2	1.9	2.3	2	2.3	1.5	3.5	.70	1	2.8	2.6	3.3	2.4	2.1	2.5	2.6	1.5	2.8	2.7	2.5	2	2.2	2.2	2.1	2	2.7	2.7	2.8	2.7			
n=5	2.7	2.1	2.3	1.7	3.2	3.0	2.6	2.3	2	2.3	2.1	3	3	1.8	1.6	1.1	2.2	1.3	2.8	3.4	3	2.1	2.2	2.7	2.1	1.3	1.2	2.8	1.2	2.3	2.6	2.4	2.7	2.3	2.3	3	2.5	2.7	2.3	2.7	2.3	2.7				
n=6	2.1	2.8	3.7	2.5	2.1	2.2	2.1	2.4	2	2.6	2.2	2.2	2.4	2.6	1.8	2.1	1.8	2	1.9	1.7	2.7	2.8	1.6	2.9	2.9	2.6	1.4	1.8	2.3	2.5	3.4	1.7	2	3.5	2.7	3.1	3.3	3.2	2.8	2.8	3.5	3				

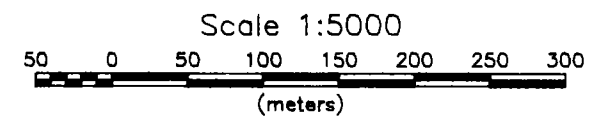
Chargeability mV/V

Interpretation

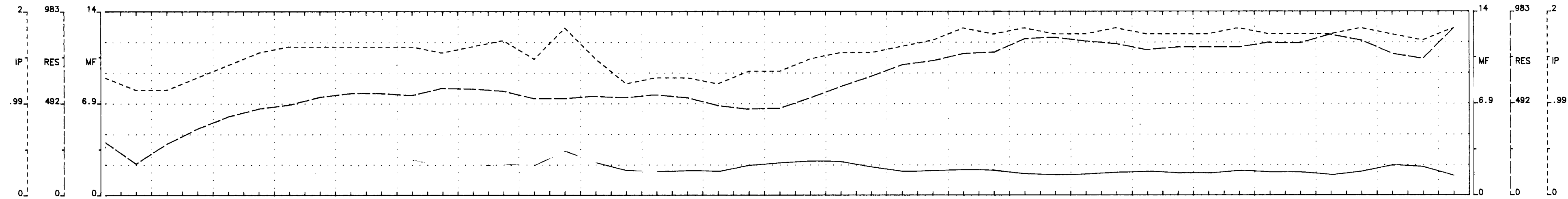
Cont. Intervals Profiles  
 Resistivity ; 500 ohm/meter -----  
 Chargeability ; 1.0 mV/V -----  
 Metal Factor ; 1 % -----

INSTRUMENTS  
 Androtex TDR6, Time Domain Receiver  
 1760mSec Total Intergration Time, 80mS Delay.  
 MT= ( 80+80+80+80+160+160+160+320+320 ) mSec  
 Scintrex TSQ-3 Transmitter  
 8Second Total Duty Cycle, 2Sec On/Off Time.

INTERPRETATION  
 [ ] Low Effect  
 [ ] Poorly Chargeable mV/V, IP effect  
 [ ] Low Apparent Resistivity, rho  
 [ ] Moderately Low Effect  
 [ ] Moderately High Effect  
 [ ] High Effect  
 [ ] Good Chargeability mV/V, IP effect  
 [ ] High Apparent Resistivity, rho



Golden Knight Resources Ltd  
 Induced Polarization Survey  
 Macklem Grid  
 Macklem Township, NTS: 42- A/ SE  
 Porcupine Mining Division  
 M. C. Exploration Services Inc. June 1996.

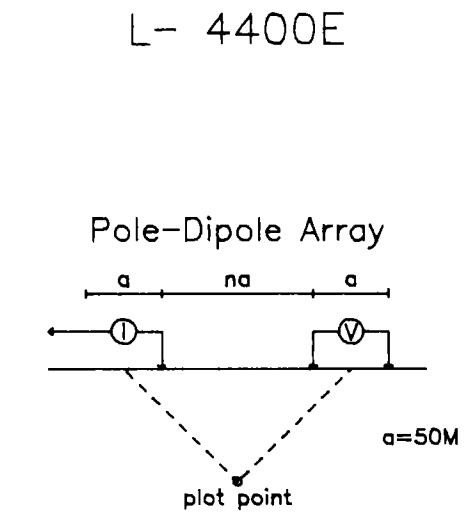


Topo

Interpretation

Topo

Interpretation

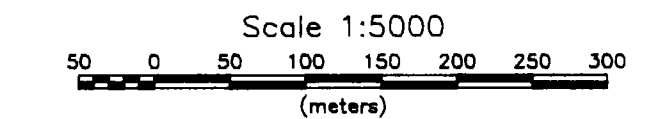


Filter  
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Cont. Intervals Profiles  
Resistivity ; 500 ohm/meter ---  
Chargeability ; 1.0 mV/V - - -  
Metal Factor ; 1 % - - - - -

INSTRUMENTS  
Androtex TDR6, Time Domain Receiver  
1760mSec Total Intergration Time, 80mS Delay.  
MT= ( 80+80+80+80+160+160+160+320+320+320 ) mSec  
Scintrex TSQ-3 Transmitter  
8Second Total Duty Cycle, 2Sec On/Off Time.

INTERPRETATION



Golden Knight Resources Ltd  
Induced Polarization Survey  
Macklem Grid  
Macklem Township, NTS: 42- A/ SE  
Porcupine Mining Division  
M. C. Exploration Services Inc. June 1996.

	31+00 S	30+00 S	29+00 S	28+00 S	27+00 S	26+00 S	25+00 S	24+00 S	23+00 S	22+00 S	21+00 S	20+00 S	19+00 S	18+00 S	17+00 S	16+00 S	15+00 S	14+00 S	13+00 S	12+00 S	11+00 S	10+00 S																						
filter	1.9	1.7	1.7	1.9	2.1	2.3	2.4	2.4	2.4	2.4	2.3	2.4	2.5	2.2	2.7	2.2	1.8	1.9	1.9	1.8	2	2	2.2	2.3	2.3	2.4	2.5	2.7	2.6	2.7	2.6	2.6	2.7	2.6	2.6	2.6	2.7	2.6	2.5	2.7				
n=1	1.7	2.1	2.2	2	2	2	2.3	2.7	3	3.4	2.2	2.2	2.8	2	4.1	2.2	1.3	1.7	2.1	1.5	2.3	2	2	2.3	2.1	2.5	2.6	2.9	2.8	2.8	2.2	2.4	2.9	2.9	2.8	2.7	2.8	2.7	2.3	2.8	3.1	3	2.8	
n=2	3.2	1.7	2.5	2.3	2.4	2.3	2.4	2.3	2.3	1.8	2.4	2.6	2.7	2	2.1	3.8	1.4	1.3	2	1.7	2.1	2	2	2.7	1.8	2.1	1.1	2.9	2.7	2.7	2.8	2.6	2.4	2.6	2.2	2.4	2.3	2.1	2.8	2.3	2.5	2.6	2.5	2.3
n=3	.50	-.30	1.8	1.9	2.5	2.7	2.9	2.3	2.5	2.4	2.2	2.5	2.4	2.2	2.5	2	2.2	2.7	1.8	1.8	1.9	1.8	1.8	2.4	2.1	2.1	3.9	2.8	2.5	2.7	2.4	3.1	2.8	2.5	2.4	2.9	2.3	2.7	1.7	2.7	3	1.70	2.5	2.5
n=4	2	.50	1.8	2.3	2.8	2.8	2.5	1.3	2.3	2.4	2.8	2.5	2.4	2.2	1.9	2.3	1.6	1.6	1.7	1.7	2	2.2	2.5	2.4	2.3	3	2.5	2.7	2.8	2.4	2.7	2.7	2.9	2.4	2.9	3.8	2.6	2.4	2.8	3	2.3	3.9	2.4	3.2
n=5		1.8	2.4	2.1	2.3	3	3.2	2.3	1.3	2.2	2.5	2.1	2.3	2.5	1.8	2.4	2.1	1.5	1.9	1.8	1.5	2.3	2.4	2.2	2.5	2.5	2.5	2.5	2.7	2.3	2.5	2.8	2.5	2.3	2.4	2.5	2.8	2.3	2.8	2.5	2.4	2.5	2	2.8
n=6		1.8	1.4	2.2	2.5	3.2	1.7	2.2	1.2	4.4	2.2	1.9	2.6	2.4	2.5	2.6	1.3	2.4	1.6	2	1.7	2	2.3	2.4	2.9	2.5	2.6	2.5	2.6	2.5	2.8	2.8	2.5	3	2.7	2	3.3	3.3	3.3	3.1	2.8	2.7	2.8	

Chargeability mV/V

Interpretation

Chargeability mV/V

Interpretation

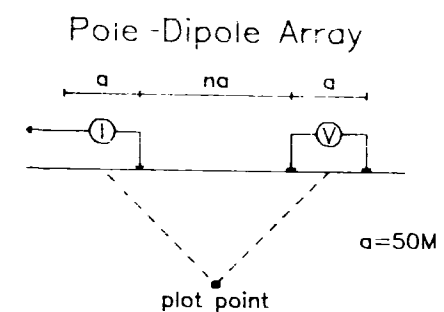
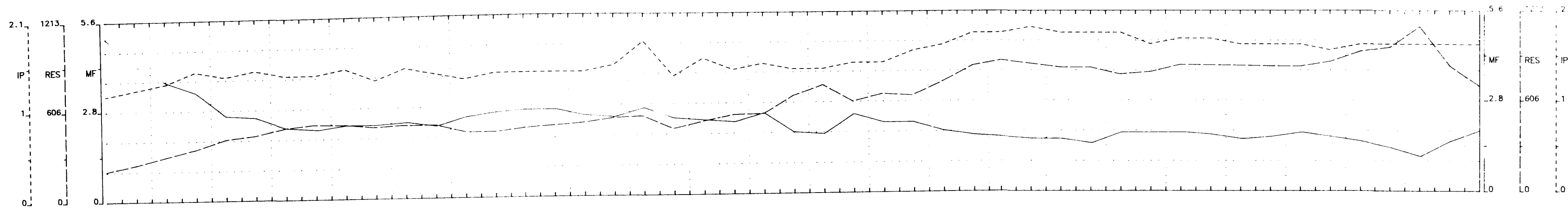
	31+00 S	30+00 S	29+00 S	28+00 S	27+00 S	26+00 S	25+00 S	24+00 S	23+00 S	22+00 S	21+00 S	20+00 S	19+00 S	18+00 S	17+00 S	16+00 S	15+00 S	14+00 S	13+00 S	12+00 S	11+00 S	10+00 S																							
filter	427	254	413	534	631	684	725	788	817	820	802	880	856	838	777	778	796	783	807	784	721	681	887	781	871	853	1044	1077	1134	1145	1253	1286	1237	1215	1185	1185	1187	1185	1225	1219	1288	1243	1136	1085	1341
n=1	256	42	231	252	300	378	403	418	426	424	318	332	321	382	310	280	285	285	342	388	420	385	285	251	254	318	448	485	537	464	633	585	572	544	500	625	617	480	516	486	887	532	325	388	
n=2	347	80	387	484	584	553	615	723	676	507	580	628	619	517	471	516	438	523	641	657	543	404	380	425	462	580	584	787	815	850	1081	981	810	850	775	922	750	818	780	813	882	786	628	770	
n=3	416	84	836	754	861	703	810	887	648	764	808	831	884	637	887	650	747	811	843	724	472	515	643	888	827	864	1132	945	1143	1208	1324	1150	1253	1150	963	1088	1088	1071	1151	1085	1070	1024	1020	1118	
n=4	538	95	830	806	806	783	879	843	785	912	1019	1132	854	785	874	783	982	1041	982	838	802	588	800	858	1140	1142	1108	1146	1278	1481	1363	1483	1484	1370	1325	1078	1484	1285	1538	1411	1281	1328	1558	1308	1086
n=5	843	238	858	827	863	880	806	1088	1155	1388	1106	1051	1088	882	1198	1323	1088	918	706	742	888	888	1182	1525	1482	1424	1335	1487	1805	1822	1502	1828	1958	1544	1402	1438	1738	1756	1811	1810	1480	1931	1877	1208	
n=6	1043	171	987	1088	1041	773	1035	1287	1486	1223	1088	1310	1118	1351	1438	1044	1255	727	888	1021	1180	1886	1784	1774	1583	1822	1743	1817	1987	1722	1783	1584	1501	1710	1532	2187	1935	1928	1714	2055	2051	1634			

Resistivity ohm/meters

Interpretation

Resistivity ohm/meters

Interpretation



a=50M

Filter  
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\*  
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Topo

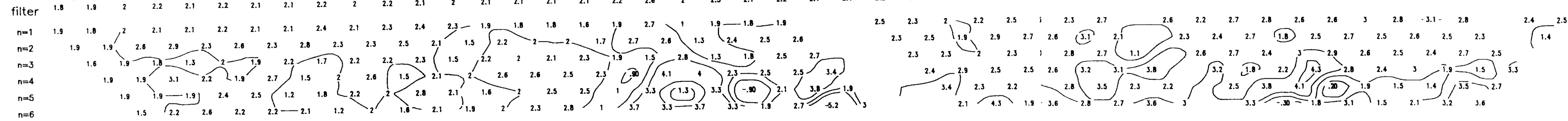
Topo

Interpretation

Interpretation

Cont. Intervals Profiles  
Resistivity ; 500 ohm/meter ---  
Chargeability ; 1.0 mV/V - - -  
Metal Factor ; 1% - - -

31+00 S 30+00 S 29+00 S 28+00 S 27+00 S 26+00 S 25+00 S 24+00 S 23+00 S 22+00 S 21+00 S 20+00 S 19+00 S 18+00 S 17+00 S 16+00 S 15+00 S 14+00 S 13+00 S 12+00 S 11+00 S 10+00 S 9+00 S



Chargeability  
mV/V

filter  
n=1  
n=2  
n=3  
n=4  
n=5  
n=6

Chargeability  
mV/V

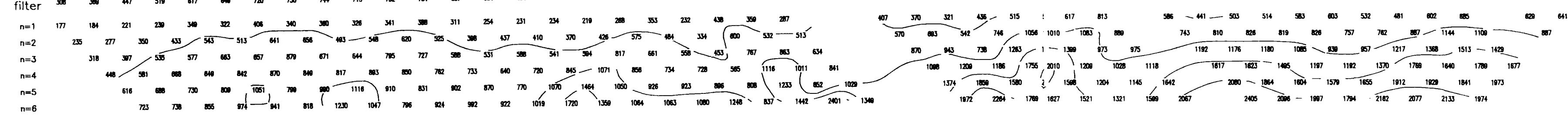
INSTRUMENTS  
Androtex TDR6, Time Domain Receiver  
1760mSec Total integration Time, 80mS Delay.  
MT= ( 80+80+80+80+160+160+160+320+320+320 ) mSec  
Scintrex TSQ-3 Transmitter  
8Second Total Duty Cycle, 2Sec On/Off Time.

Interpretation

Interpretation

INTERPRETATION  
Low Effect  
Poorly Chargeable mV/V, IP effect  
Low Apparent Resistivity, rho  
Moderately Low Effect  
Moderately High Effect  
High Effect  
Good Chargeability mV/V, IP effect  
High Apparent Resistivity, rho

31+00 S 30+00 S 29+00 S 28+00 S 27+00 S 26+00 S 25+00 S 24+00 S 23+00 S 22+00 S 21+00 S 20+00 S 19+00 S 18+00 S 17+00 S 16+00 S 15+00 S 14+00 S 13+00 S 12+00 S 11+00 S 10+00 S 9+00 S



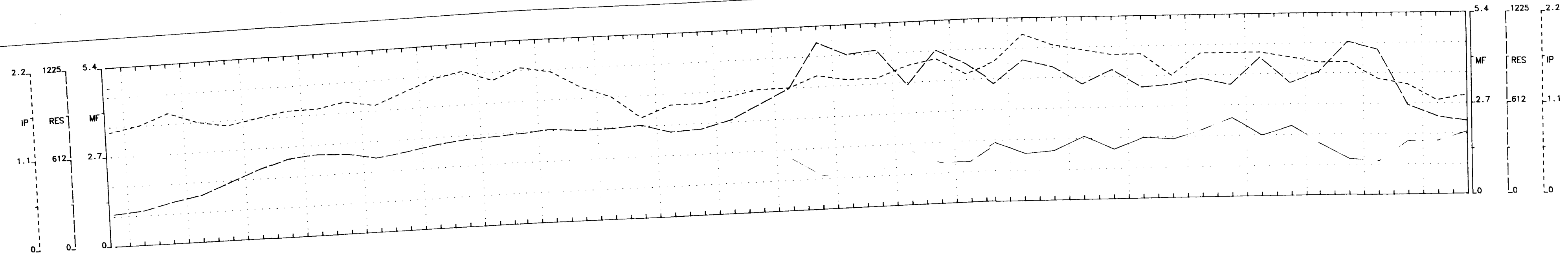
Resistivity  
ohm/meters

filter  
n=1  
n=2  
n=3  
n=4  
n=5  
n=6

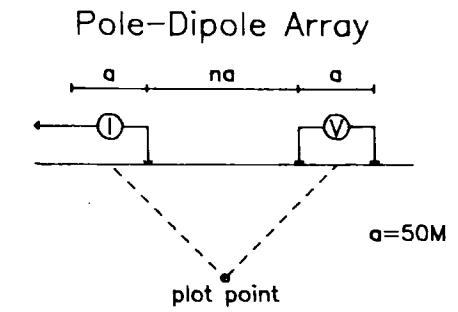
Resistivity  
ohm/meters

Scale 1:5000  
50 0 50 100 150 200 250 300  
(meters)

Golden Knight Resources Ltd  
Induced Polarization Survey  
Macklem Grid  
Macklem Township, NTS: 42- A/ SE  
Porcupine Mining Division  
M. C. Exploration Services Inc. June 1996.



L- 4800E



Filter  
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Topo

Topo

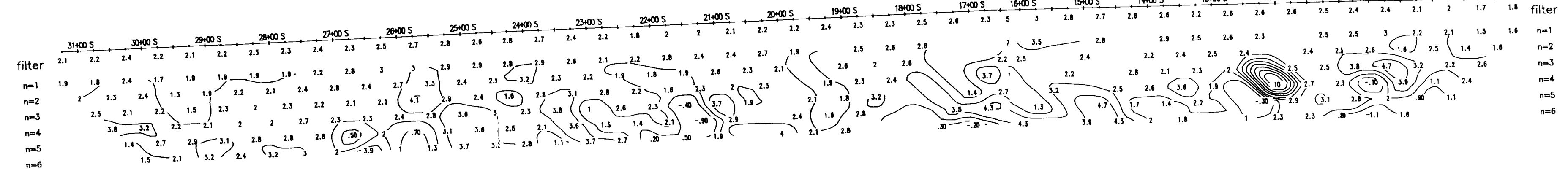
Interpretation

Cont. Intervals    Profiles  
Resistivity ; 500 ohm/meter    - - - - -  
Chargeability ; 1.0 mV/V        - - - - -  
Metal Factor ; 1 %                - - - - -

Interpretation

INSTRUMENTS

Androtex TDR6, Time Domain Receiver  
1760mSec Total Intergration Time, 80mS Delay.  
MT= ( 80+80+80+80+160+160+160+320+320 ) mSec  
Scintrex TSQ-3 Transmitter  
8Second Total Duty Cycle, 2Sec On/Off Time.



filter  
n=1  
n=2  
n=3  
n=4  
n=5  
n=6

Chargeability  
mV/V

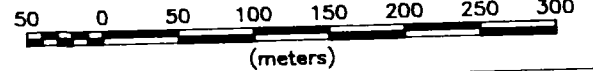
Chargeability  
mV/V

Interpretation

Interpretation

INTERPRETATION

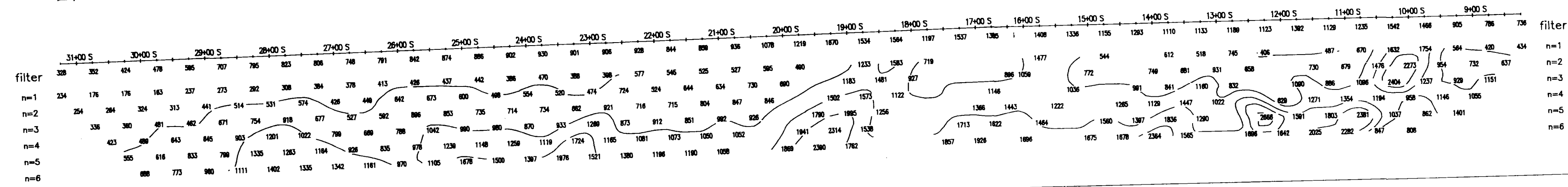
Scale 1:5000



Golden Knight Resources Ltd

Induced Polarization Survey  
Macklem Grid  
Macklem Township, NTS: 42- A/ SE

Porcupine Mining Division  
M. C. Exploration Services Inc. June 1996.



filter  
n=1  
n=2  
n=3  
n=4  
n=5  
n=6

Resistivity  
ohm/meters

Resistivity  
ohm/meters



Declaration of Assessment Work Performed on Mining Land

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

Transaction Number (office use) W976,00533 Assessment Files Research Imaging

Personal information collected under the Access to Information Act, the information is for the use of the Ministry of Northern Development and Mines. Questions about this collection should be directed to the Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road,



42A07NW0017 2.17754 MACKLEM

3) of the Mining Act. Under section 8 of the Mining Act, the assessment work performed and correspond with the mining land holder. The assessment work was performed by the Ministry of Northern Development and Mines, 6th Floor,

900

Instructions: - For use of this form, use form 0240. - Please type or print in ink.

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

Form with fields for Name, Address, Client Number, Telephone Number, and Fax Number for CROSS LAKE MINERALS LTD.

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

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

Form with fields for Work Type (Linecutting, magnetometer and I.P. surveys), Office Use (Commodity, Total \$ Value of Work Claimed \$1,959), Dates Work Performed, Global Positioning System Data, Township/Area (Macklem), Mining Division (Porcupine), and Resident Geologist (Timmins).

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

2.17754

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

Form with fields for Name, Address, Telephone Number, and Fax Number for R.J. Daigle, c/o M.C. Exploration Services Inc.

4. Certification by Recorded Holder or Agent

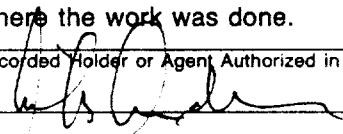
I, Erik Andersen, do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent, Agent's Address, Telephone Number, Fax Number, and Date (JUN 23 1997)

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

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg TB 7827	16 ha	\$26,825	N/A	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	0
eg 1234568	2	\$8,892	\$4,000	0	\$4,892
1 P 1203938 ✓	16	\$6,509 ✓	\$6,400	109	0
2 P 1203965 ✓	16	18,131 ✓	6,400	11,731	0
3 P 1213507 ✓	16	9,541	6,400 ✓	3,141	0
4 P 1213510 ✓	16	14,547	6,400 ✓	8,147	0
5 P 1213550 ✓	03	3,231	1,200 ✓	872	1,159
6 P 1213505	16	0	6,400 ✓	0	0
7 P 1213506	08	0	3,200 ✓	0	0
8 P 1213508	08	0	3,200 ✓	0	0
9 P 1213509	08	0	3,200 ✓	0	0
10 P 1212672	04	0	1,600 ✓	0	0
11 P 1212671	08	0	3,200 ✓	0	0
12 P 1213512	08	0	3,200 ✓	0	0
13					
14					
15					
<b>Column Totals</b>		\$51,959	\$50,800	\$24,000	\$11,590

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

Signature of Recorded Holder or Agent Authorized in Writing:  Vice President, Land Date: **JUN 23 1997**  
CROSS LAKE MINERALS LTD.

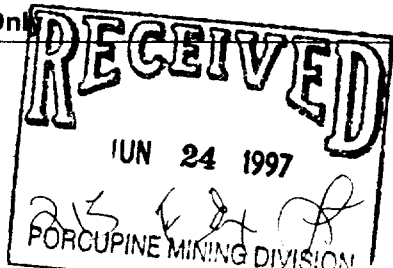
6. Instructions for cutting back credits that are not approved.

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

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

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

For Office Use Only

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



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

Work Type	Units of Work <small>Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.</small>	Cost Per Unit of work	Total Cost
Linecutting	59.28 km	\$267.50	\$15857.40
Magnetometer survey	59.28 km	\$107.00	\$ 6342.96
I.P. Survey	33.55 km	\$856.00	\$28718.80
<b>Associated Costs (e.g. supplies, mobilization and demobilization).</b>			
Report preparation, map plotting			\$ 1605.00
<b>Transportation Costs</b>			
<b>Food and Lodging Costs</b>			
<b>Total Value of Assessment Work</b>			\$52524.16

**2.17754**

**Calculations of Filing Discounts:**

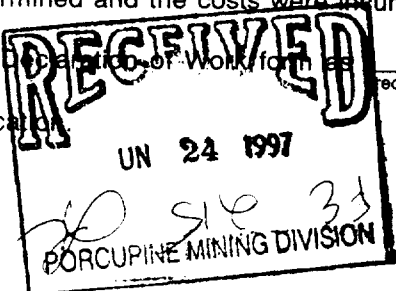
1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use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

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

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

**Certification verifying costs:**

I, Erik Andersen (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Statement of Work, form as Vice President, Land (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification for CROSS LAKE MINERALS LTD.



Signature [Handwritten Signature] Date JUN 23 1997

November 3, 1997

ERIK ANDERSEN  
CROSS LAKE MINERALS LTD.  
1018-475 Howe Street  
VANCOUVER, B.C.  
V6C-2B3

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

Telephone: (888) 415-9846  
Fax: (705) 670-5863

Dear Sir or Madam:

**Submission Number: 2.17754**

**Status**

**Subject: Transaction Number(s):** W9760.00533 Deemed Approval

---

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

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

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

If you have any questions regarding this correspondence, please contact Lucille Jerome by e-mail at [jerome\\_l@torv05.ndm.gov.on.ca](mailto:jerome_l@torv05.ndm.gov.on.ca) or by telephone at (705) 670-5858.

Yours sincerely,



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

# Work Report Assessment Results

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**Submission Number:** 2.17754

**Date Correspondence Sent:** November 03, 1997

**Assessor:** Lucille Jerome

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<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9760.00533	1203938	MACKLEM	Deemed Approval	September 22, 1997

**Section:**

14 Geophysical MAG

14 Geophysical IP

**Correspondence to:**

Resident Geologist  
South Porcupine, ON

Assessment Files Library  
Sudbury, ON

**Recorded Holder(s) and/or Agent(s):**

ERIK ANDERSEN  
CROSS LAKE MINERALS LTD.  
VANCOUVER, B.C.

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MAP SYMBOLOLOGY

Aerial Cableway	Pipeline (above ground)
Boundary	Railroad
International	Single Track
Interprovincial	Double Track
District, Township	Abandoned
Indian Reserve	Turntable
Microclimate	Road
Lot, Concession	Highway, County
Approximate	Township
Park Boundary	Access (road of doubtful maintenance or significant driveway)
Bridge	"Rail, Bush Road (portage trolley)"
Road, Railroad	Rapids
Building	Double line river with multiple rapids
Chimney	Double line river with multiple rapids
Cliff, Pit, Pile	Reservoir
Cutouts	River, Stream, Canal
Interpolated	Approximate
Approximate	Direction of flow
Depression	Rock
Control Points	Significant
Horizontal	Spot Elevation (lake elevations)
Vertical	300.0
Cuivert	Tower
Falls	Transmission Line
Double line river	Poles
Fence, Hedge, Wall	Pylons
Feature Outline (Construction Features, etc.)	Tunnel
Flooded Land	Utility Poles
Lock	Wharf, Dock, Pier
Marsh or Swamp	Mast
Mast	Mine Head Frame
Mine Head Frame	Wooded Area
Outcrop	

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 No.
EXPLORATORY LICENSE OF OCCUPATION #14920				
ISSUED JULY 05, 1989 ORDER NO. P-5789-NR				

① - SITE PREPARATION 05/02/83, 77094 V.6

② - SURFACE AND MINING RIGHTS WITHDRAWN FROM PROSPECTING, STAKING OUT, SALE OR LEASE BY ORDER NO. W-P-56/93 NER DATED SEPT. 27, 1993 SECTION 35, THE MINING ACT, R.S.O. 1990 (FOREST TEST PLOTS)

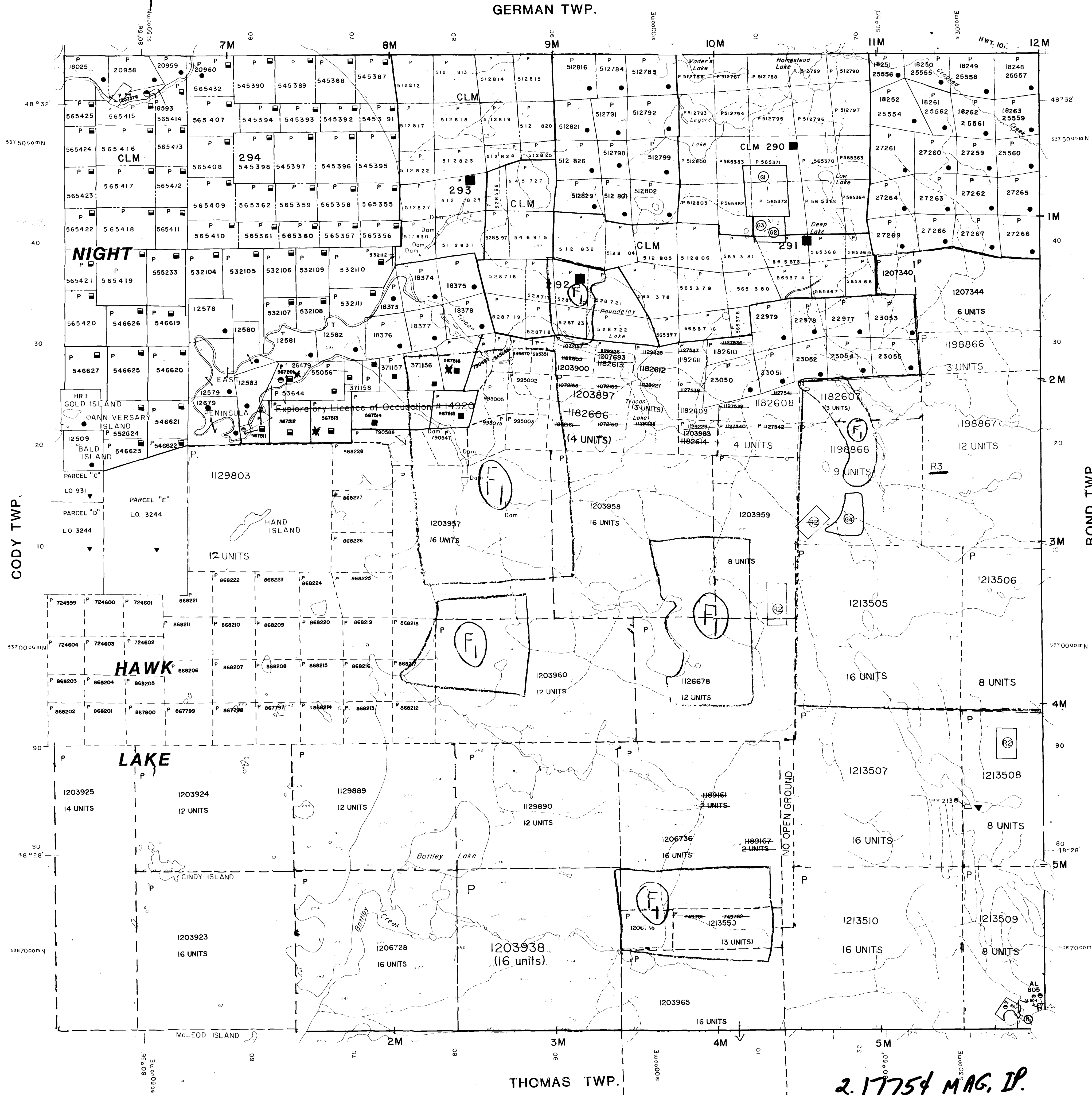
③ - THIS TWP. IS SUBJECT TO FOREST ACTIVITY IN 1994/95 FURTHER INFORMATION AVAILABLE ON FILE.

R3 SURFACE RIGHTS ONLY WITHDRAWN FROM PROSPECTING, STAKING OUT, SALE OR LEASE BY ORDER NO. WP 12/97 NER DATED MAY 2/97 SECTION 35, THE MINING ACT, R.S.O. 1990

SAND AND GRAVEL

- ④ AGGREGATE PERMIT - ISSUED AUG.5/88
- ⑤ AGGREGATE PERMIT - ISSUED FEB.9/89
- ⑥ AGGREGATE PERMIT - ISSUED NOV.21/90
- ⑦ AGGREGATE PERMIT - ISSUED SEPT.21/91

GERMAN TWP.



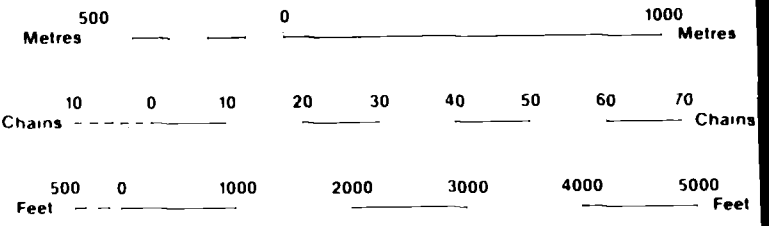
LEGEND

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

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	
SURFACE RIGHTS ONLY	
MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	
SURFACE RIGHTS ONLY	
MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER IN COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

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 1:20 000  
GRID ZONE: 17

Reserve flooding rights on Night Hawk Lake to Ontario Hydro to elevation 903.5', T.B.N.O.Ry. datum.

DATE OF ISSUE

NOV 03 1997

PROVINCIAL RECORDS OFFICE - SUDBURY

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

TOWNSHIP  
**MACKLEM**  
M.N.R. ADMINISTRATIVE DISTRICT  
**TIMMINS**  
MINING DIVISION  
**PORCUPINE**  
LAND TITLES / REGISTRY DIVISION  
**COCHRANE**

Ministry of Natural Resources  
Land Management Branch  
Ontario

ORIGINAL COMPILATION JULY 1984  
REVISED BY D.C. ACTIVATED APRIL 13/93  
Number: **G-3997**

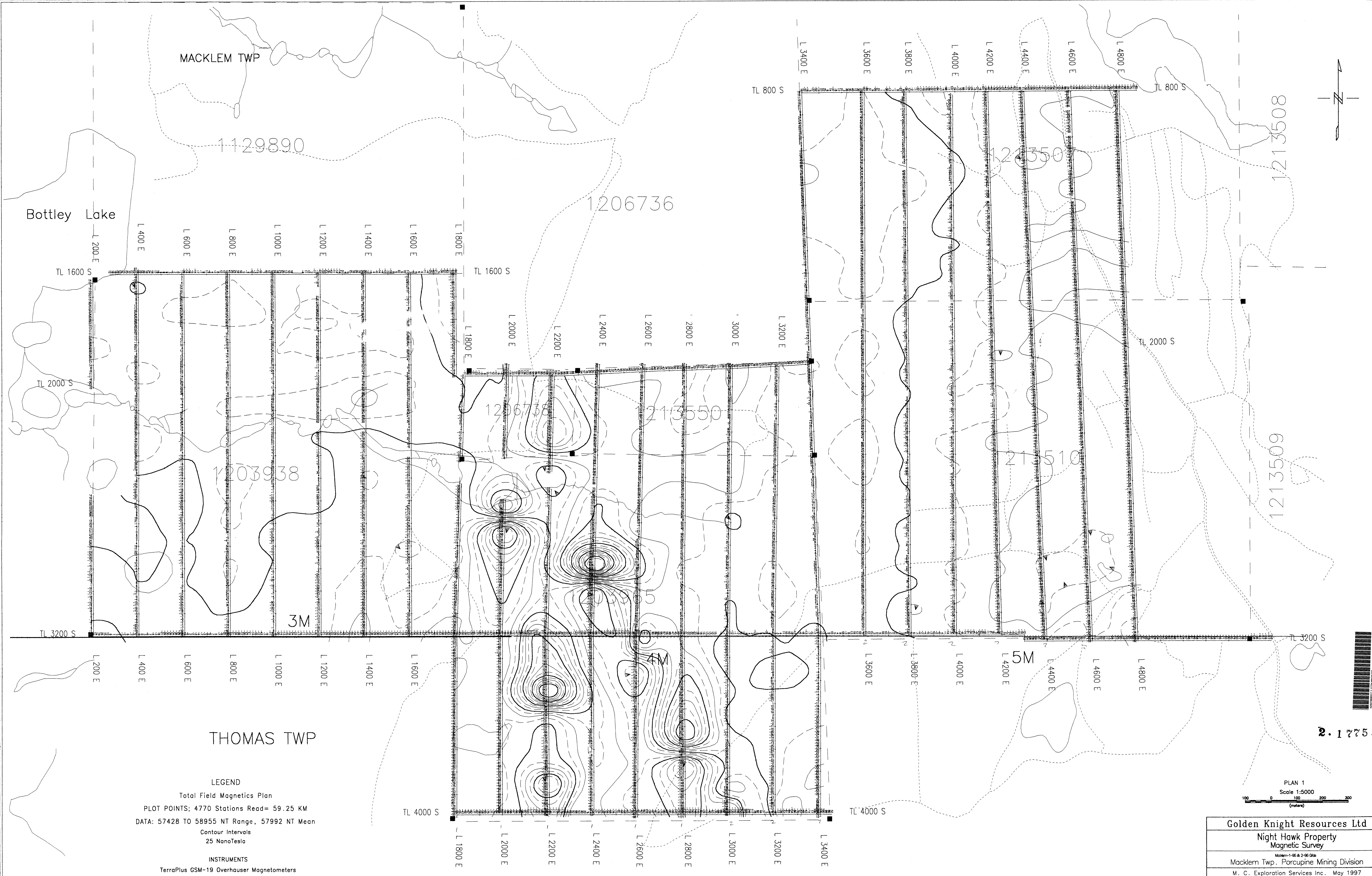
2.17754 MAG. IP.

THOMAS TWP.

CODY TWP.

BOND TWP.





MACKLEM TWP

Bottley Lake

1129890

1206736

1203938

1206738

1213550

1213510

1213508

1213509

THOMAS TWP

LEGEND

Total Field Magnetism Plan

PLOT POINTS; 4770 Stations Read= 59.25 KM  
DATA: 57428 TO 58955 NT Range, 57992 NT Mean

Contour Intervals  
25 NanoTesla

INSTRUMENTS

TerraPlus GSM-19 Overhauser Magnetometers

2.17754

PLAN 1  
Scale 1:5000  
100 0 100 200 300  
(meters)

Golden Knight Resources Ltd
Night Hawk Property Magnetic Survey
Macklem Twp. Porcupine Mining Division
M. C. Exploration Services Inc. May 1997