



42A055E0800 2.14206 DENTON

010

REPORT ON AN INDUCED POLARIZATION SURVEY

OF THE

CRIPPLE CREEK CLAIMS, DENTON TOWNSHIP

TME RESOURCES INC. / ESPERANTO RESOURCES LTD.

by

William O. Karvinen, Ph.D.

June 27, 1991

RECEIVED

JUN 02 1991

MINING LANDS SECTION



42A05SE0800 2.14206 DENTON

010C

### Table of Contents

Introduction..... 1

Location and Access..... 1

Property Description..... 1

Previous Work..... 1

Regional Geology..... 2

Local Geology..... 2

Mineralization..... 3

Induced Polarization Survey..... 3

    Background..... 3

    Equipment..... 3

    Method..... 3

    Results..... 4

Conclusions..... 4

#### Appendix

Maps and Profiles in Pocket

#### Figures

- Fig. 1: Location Map of the Cripple Creek Claims
- Fig. 2: Detailed Map of the Cripple Creek Claims
- Fig. 3: Simplified Geology Map of the Timmins Area
- Fig. 4: Bedrock Geology Map of Cripple Creek Claims
- Fig. 9: IP Conductivity Anomalies and Lithologic Boundaries

## Introduction

Since TME Resources Inc. optioned the Cripple Creek Property from the writer in late 1986, several exploration programs have been carried out for the purpose of outlining potential targets for gold mineralization. Esperanto Resources Ltd. joined the effort as a joint venture partner in late 1987 and has provided most of the funding to date. The programs have been directed and supervised by the writer and W. O. Karvinen and Associates Ltd.

The purpose of this report is to describe an induced polarization survey of the property which was carried out by R. S. Middleton Exploration Services in January and February of 1988.

## Location and Access

The Cripple Creek claims are located in central Denton Township, about 20 miles southwest of Timmins, Ontario (Fig. 1). The property is accessible via a seasonal logging road which leaves Highway 101 at the government landfill site. The west boundary of the property can be reached by this road and beyond this, the claims are accessed by a newly-bulldozed road (Fig. 2).

## Property Description

The property comprises 11 contiguous claims numbered P865396 to P865403 inclusive and P930957 to P930959 inclusive. The claims are held in trust by William O. Karvinen for TME Resources Inc. of Vancouver.

## Previous Work

Although a number of companies have explored for base and precious metals in the vicinity of Cripple Creek, the only recorded work on the present claims was by Hollinger Consolidated Mines Ltd. in the early 1960's. This company conducted an horizontal loop EM survey, a ground magnetic survey and mapped the property. In addition, they located and sampled the old trenches which had probably been sunk on mineral showings during the early days of the Porcupine gold rush (Rogers and Bruce, 1912). Results of this work yielded mostly low gold values, but some results up to 0.14 oz./t. in grab samples were reported from one trench (Ont. Government assessment files, Timmins).

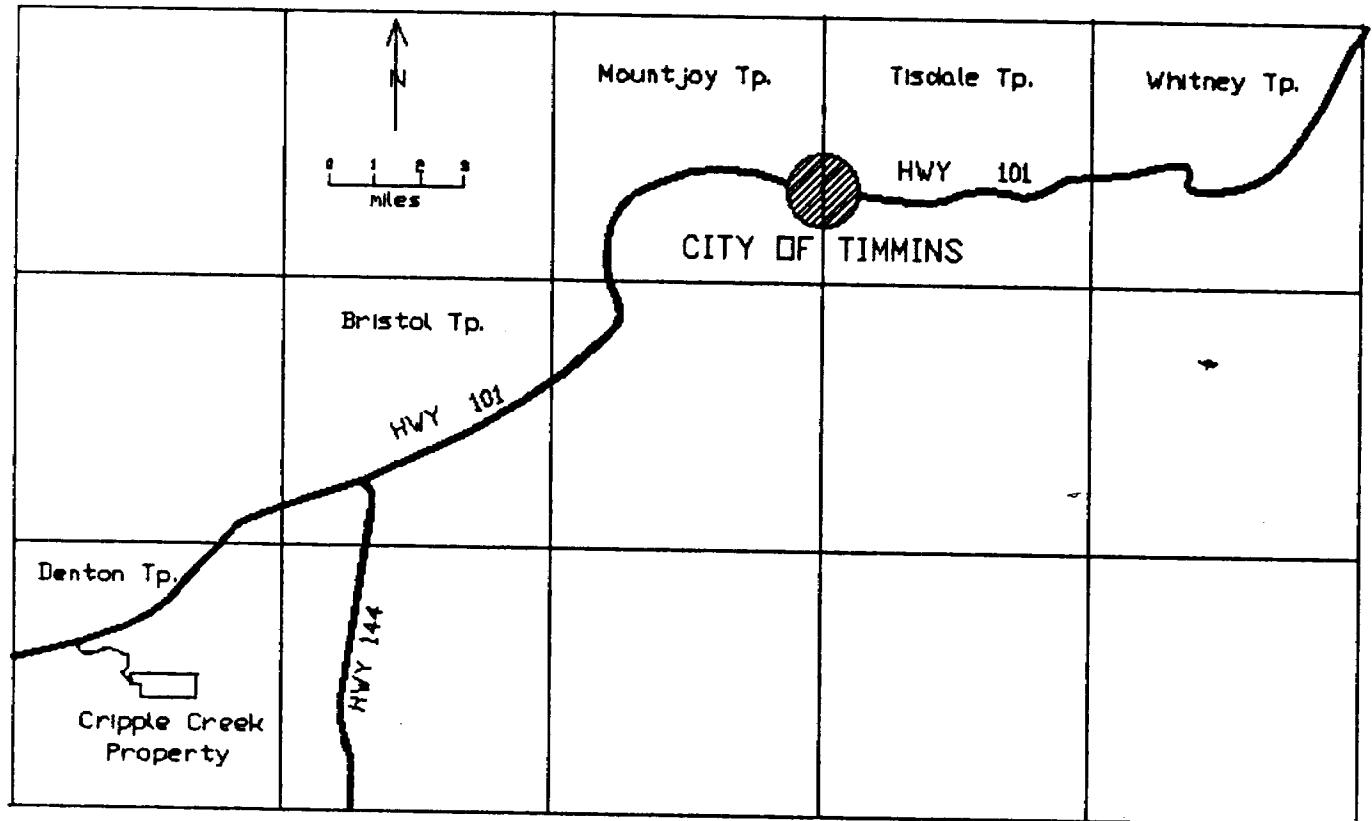


FIG. 1: LOCATION MAP OF THE CRIPPLE CREEK PROPERTY

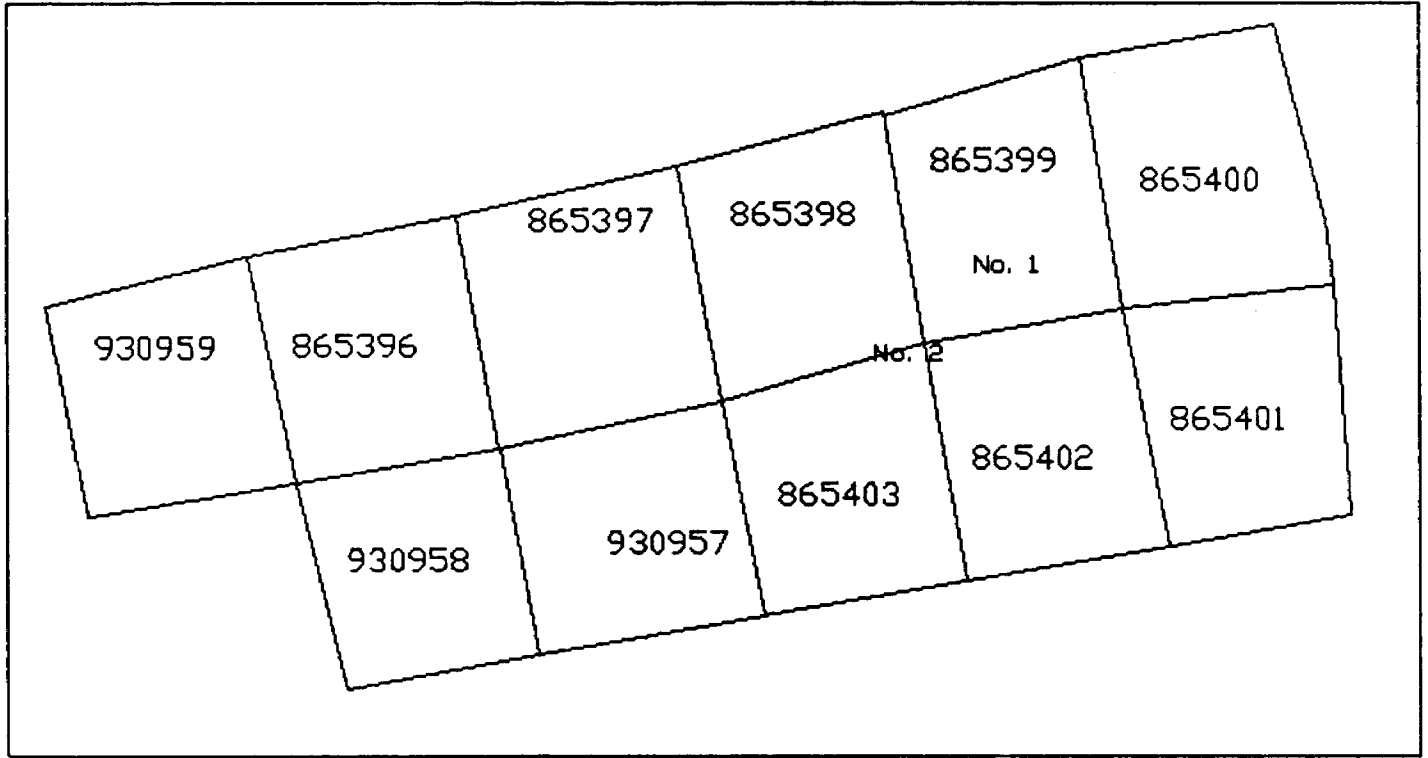


FIG. 2A: MAP OF SURVEY GRID AND CLAIMS, CRIPPLE CREEK PROPERTY

Hollinger drilled three holes in profile south and north of the showing and a fourth hole to test a nearby EM anomaly. The total footage was 1585 feet. The conductor turned out to be a zone of graphitic and sulfidic cherts and sediments about 250 feet wide with no apparent mineralization of economic interest (Ont. Government assessment files, Timmins).

### Regional Geology

The Cripple Creek claims are underlain by mafic, ultramafic and felsic rocks which are similar to and may correlate with parts of the Tisdale Group of volcanics defined by Pyke for the Timmins area (Pyke 1980). The carbonatized sections of the Lower Tisdale komatiitic ultramafic flows and pyroclastics can be traced westward from the deSantis Mine, across the Mattagami River fault where they are displaced southward, and into Denton Township (see report by Karvinen, 1987). West of the fault the known gold showings and prospects occur on or near this sequence of rocks. Although several prospects are known, only the Holmer deposit has any proven tonnages (750,000 tons of 0.11 oz./t.).

The extensive glacial overburden (compared to the thin cover at Timmins) has been a hinderance to prospecting and makes stratigraphic correlations difficult in the area west of the Mattagami River Fault.

### Local Geology

The property is located on the south limb of an easterly-plunging syncline which is traced out by the komatiitic volcanics and is cored by turbiditic sediments (Ferguson, 1957, Choudhry, 1981).

The main rock-types on the property are mafic and ultramafic volcanics with lesser amounts of interflow sediments, some felsic tuffs, and felsic 'porphyry' intrusions with associated quartz vein stockworks. These have been mapped out in detail by the writer (Karvinen, 1987).

Outcrops occur in a small area at the eastern end of the property mainly on claims 865399, 865400, 865403. The rest of the claims are covered by a mantle of till and glaciofluvial sediments ranging from a few feet to over 90 feet thick. Based on RC drilling, the till in the western part of the property can be up to 45 feet thick.

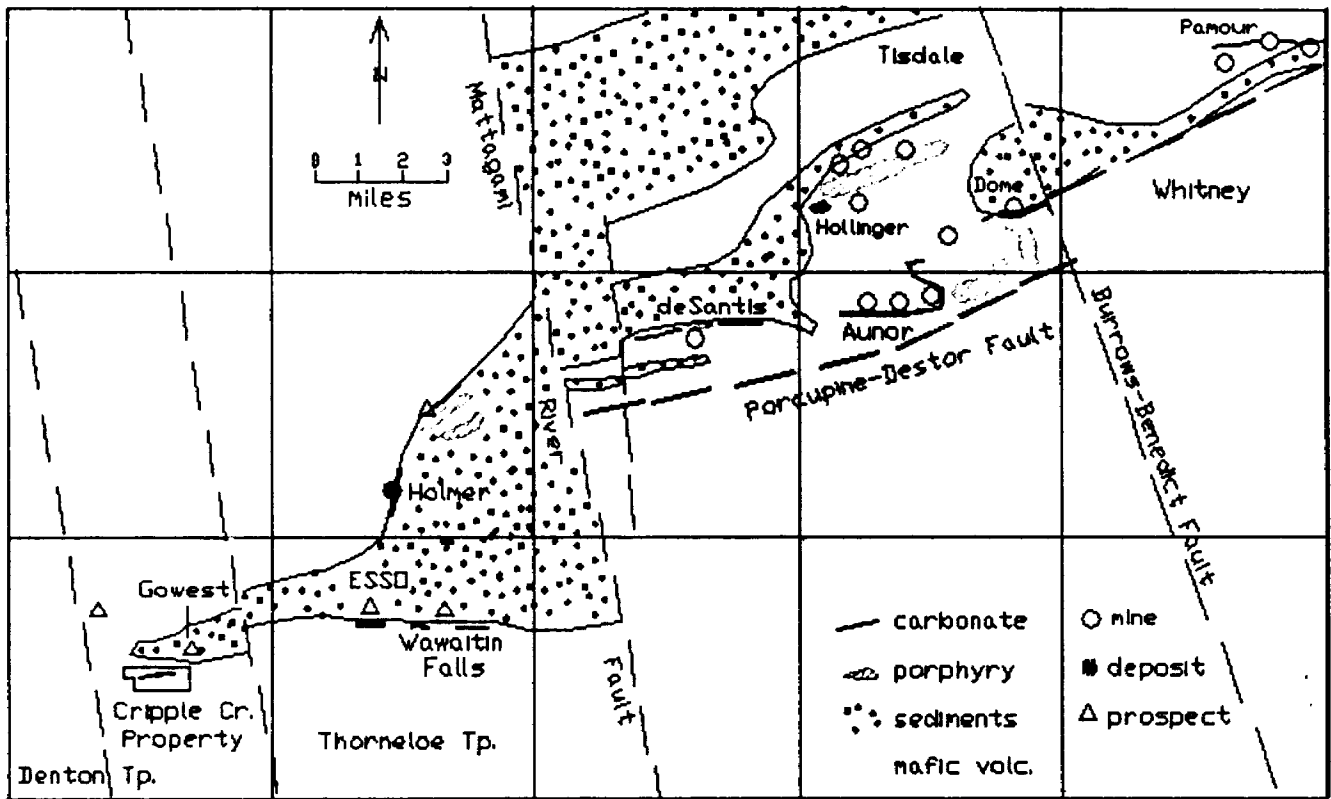
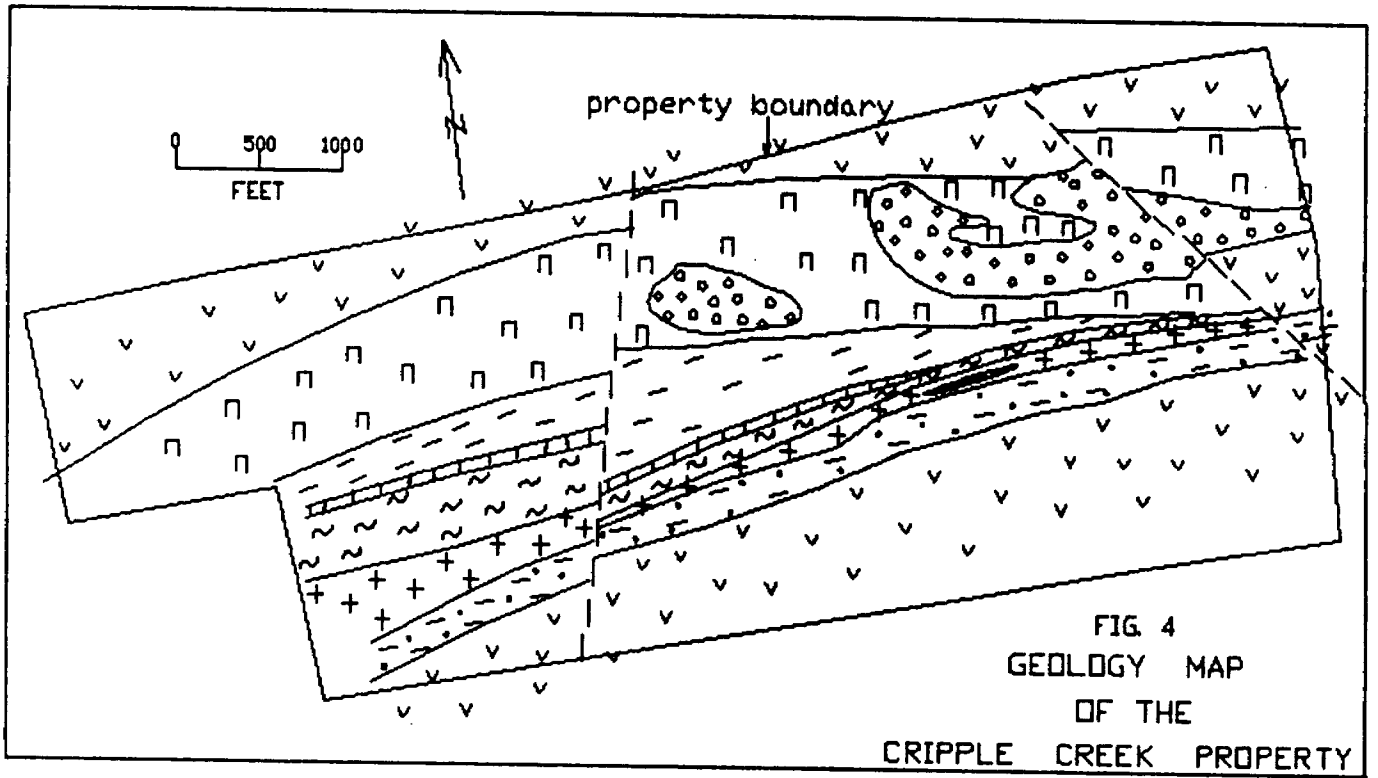












FIG. 3: REGIONAL GEOLOGY OF THE TIMMINS AREA, SHOWING LOCATIONS OF SOME OF THE MAIN GOLD MINES, CARBONATE ROCKS AND PORPHYRIES



### LEGEND

- |   |   |   |   |
|---|---|---|---|
|  | GRAY GRANITE  |  | MINERALIZED ZONE<br>quartz veins, pyritic sericite schist |
|  | QUARTZ-FELDSPAR PORPHYRY                              |  | CHLORITE-ACTINOLITE-TALC ROCK                             |
|  | ALTERED ULTRAMAFIC ROCKS<br>carbonate, talc, chlorite |  | GRAPHITIC, PYRITIC SEDIMENT                               |
|  | ALTERED FELSIC TUFF<br>quartz - sericite schist       |  | MAFIC VOLCANICS & AMPHIBOLITE                             |
|  | TALC-CHLORITE ROCK                                    |  | FAULT (Interpreted)                                       |



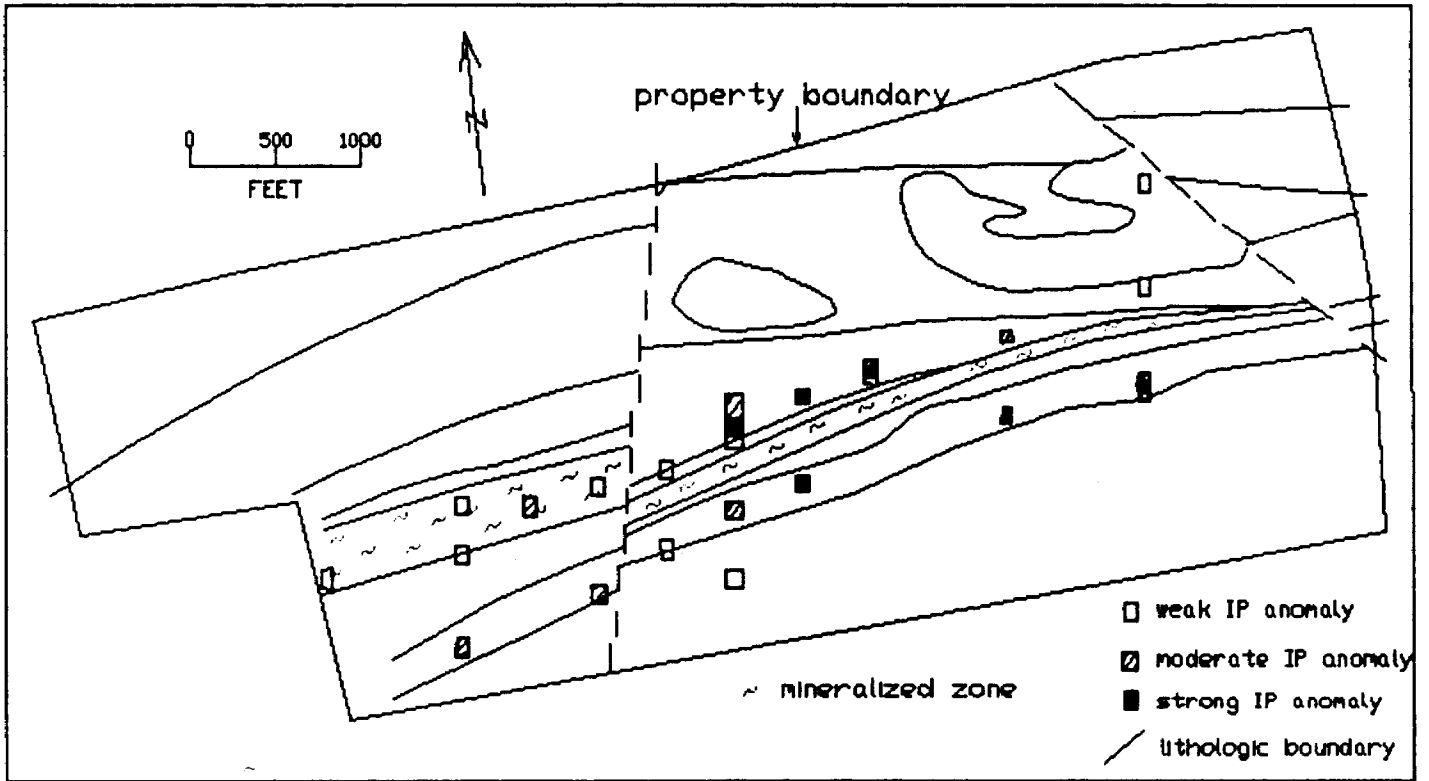


FIG. 9

IP CONDUCTIVITY ANOMALIES AND LITHOLOGIC BOUNDARIES, CRIPPLE CREEK PROPERTY

## Mineralization

Elevated gold values, in the range of a few tens to a few hundreds of parts per billion, are found on some of the exposed outcrops. Mineralization is spatially associated with a large area of alteration, quartz-veining and quartz-feldspar porphyries; the alterations are similar to those found in gold mines in Val d'Or (e.g. chlorite-actinolite at Sisco Mine) and Timmins (e.g. green and gray carbonatized ultramafics at the Dome Mine); the porphyries are similar in texture, composition and geological setting to those found near some of the bigger deposits at Timmins and at the nearby Holmer deposit. The predominant alteration in the mafic volcanics is chlorite-actinolite and chlorite-talc whereas in and near the felsic porphyries and ultramafics, iron and magnesium carbonates and sericite predominate.

The No. 2 showing is exposed in a group of old trenches in a part of the mineralized zone where pyrite, with traces of chalcopyrite, occur in disseminated concentrations of 1 to 10% (Karvinen, 1987).

## Induced Polarization Survey

Background: induced polarization (IP) and resistivity are electrical exploration methods designed to detect disseminated sulfide mineralization and alteration which often accompanies gold mineralization. The method is to apply a known electric current to the earth and to measure the electrical potential created by it at the survey location. The method has been standard in the industry for many years.

Equipment used by Middleton Exploration Services on the Cripple Creek property was a Scintrex IPR-11 time domain receiver and a Scintrex TSQ-3, 3kw transmitter. Specifications for these instruments is included in the appendix.

Method: the current IP survey was conducted using a pole-dipole array with a dipole length of 100 m. and array spacing of  $n = 1, 2, 3, 4$  dipoles. In this survey, measurements were taken in the time domain, so that the transmitted current was a bipolar on-off square wave with each on or off lasting 2 seconds. Measurements of both resistivity and chargeability were made.

All measurements were made along grid lines spaced 400 feet apart

with pickets at 100 ft. intervals. A total of about 4.5 miles of survey were done on alternating cross lines.

Results: chargeability anomalies of weak, moderate and strong value are plotted on maps and profiles accompanying this report. Most of the anomalies are weak to moderate, with only a few in the strong category. The anomalies form linear trends, one along the graphitic-pyritic sediments and another within the western part of the mineralized zone which hosts the No. 2 showing and extends northeastward into talc-chlorite rock and the adjacent sericitic felsic tuff (Fig. 9). In the latter rock, some of these anomalies are near stripped outcrops and it is evident that the cause of the anomalies are sheared sericitic felsic tuff with little or no sulfides.

Along the southern anomaly, the strongest responses, presumable over graphitic-pyritic sediments, are on lines 64E, 56E, and 44E. The two strong responses on the northern anomaly are on lines 44E and 40E. Both of these are near stripped outcrops and appear to be the results of intense shearing in sericitic felsic volcanics.

Subsequent reverse-circulation drilling of IP anomalies indicates most to be the result of sheared sericitic felsic volcanics within the mineralized zone, sheared talc-rich rocks or graphitic sediments (see report by Karvinen, 1990). Quartz-veining with disseminated sulfide mineralization (<5%), as represented by the No. 2 showing, does not respond to IP.

### Conclusions

The IP survey has outlined the main zones of shearing as well as a conductive graphitic-pyritic interflow sediment on the property. The zones of shearing appear to follow stratigraphy and are within and adjacent to the mineralized zone. The zone of quartz veining and associated, weak, disseminated sulfide do not respond to IP.

William O. Karvinen, Ph.D.  
June 10, 1991

## References

Durham, R. B. 1986:

Report on the Termex Resources Inc. Cripple Creek Gold Prospect, Denton Township, Ontario Dec. 1986 10p.

Choudhry, A.G. 1981:

Precambrian Geology of Denton Twp., Dist. of Cochrane Map P2501  
Scale: 1:15,840

Ferguson, S. A. 1957:

Denton Twp. Ont. Dept. Mines preliminary map Scale: 1"=1/4mi.

Karvinen, W. O. 1982:

Geology and Evolution of Gold Deposits, Timmins Area, Ontario  
in Geology of Canadian Gold Deposits CIMM Special Vol. 24  
pp. 101 - 112.

Karvinen, W. O. 1986:

Geologic Summary and Exploration Proposal, Cripple Creek Gold Property, Timmins Area June 1986 8p.

Karvinen, W. O. 1987:

Report on Magnetic Survey, Cripple Creek Gold Property Dec. 1987

Karvinen, W.O. 1987:

Report on Bedrock Geology of the Cripple Creek Property, Denton Township, Ontario Dec. 1987 7p.

Karvinen, W. O. 1988:

Till Sampling by Percussion Drill, Cripple Creek Gold Property,  
Denton Township April 1988 5p.

Karvinen, W. O. 1988:

Report on a VLF Survey of the Cripple Creek Property, Denton  
Township June 1988 6p.

Karvinen, W. O. 1988:

Report on Surface Sampling, Cripple Creek Gold Property, Denton  
Township. August 1988

Karvinen, W. O. 1990:

Report on Bedrock Sampling by RC Drilling, Cripple Creek Gold  
Property, Denton Township.

Pyke, D.R. 1980:

Geology of the Timmins Area Ont. Geol. Survey, Geol. Rept.  
No 219

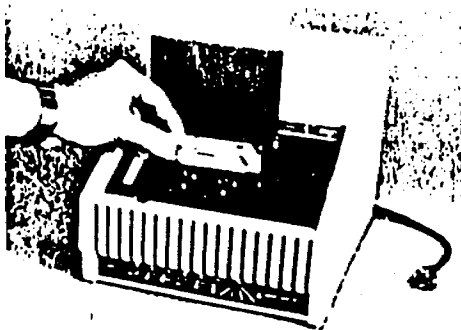
Rogers, W.R. and Bruce, E.L. 1912:

Cripple Creek Gold Area, Ont. Ont. Dept. Mines Ann. Rept.  
for 1912, Vol. 21, pt. 1, pp. 266-270

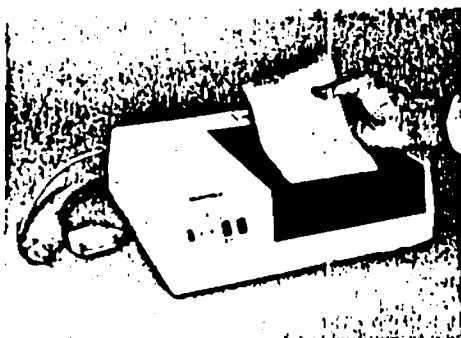
A P P E N D I X

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

Input Potential Dipoles	1 to 6 simultaneously
Input Impedance	4 megohms
Input Voltage (Vp) Range	100 microvolts to 6 volts for measurement. Zener diode protection up to 50 V
Automatic SP Bucking Range	±1.5 V
Chargeability (M) Range	0 to 300 mV/V (mils or 0/00)
Absolute Accuracy of Vp, SP and M	Vp: ±3% of reading for Vp > 100 microvolts SP: ±3% of SP bucking range M: ±3% of reading or minimum ±0.5m V/V
Resolution of Vp, SP and M	Vp: 1 m V above 100 m V approaching 1 microvolt at 100 microvolt SP: 1 m V M: 0.1 m V/V except for M <sub>0</sub> to M <sub>3</sub> in 0.2 second receive time where resolution is 0.4 m V/V.
IP Transient Program	Ten transient windows per input dipole. After a delay from current off of t, first four windows each have a width of t, next three windows each have a width of 6t and last three windows each have a width of 12t. The total measuring time is therefore 58t. t can be set at 3, 15, 30 or 60 milliseconds for nominal total receive times of 0.2, 1, 2 and 4 seconds.
Vp Integration Time	In 0.2 and 1 second receive time modes; 0.51 sec In 2 second mode; 1.02 sec In 4 second mode; 2.04 sec
Transmitter Timing	Equal on and off times with polarity change each half cycle. On/off times of 1, 2, 4 or 8 seconds with ±2.5% accuracy are required.
Header Capacity	Up to 17 four digit headers can be stored with each observation.
Data Memory Capacity	Depends on how many dipoles are recorded with each header. If four header items are used with 6 dipoles of SP, Vp and 10 M windows each, then about 200 dipole measurements can be stored. Up to three Optional Data Memory Expansion Blocks are available, each with a capacity of about 200 dipoles.
External Circuit Check	Checks up to six dipoles simultaneously using a 31 Hz square wave and readout on front panel meters, in range of 0 to 200 k ohms.
Filtering	RF filter, spheric spike removal; switchable 50 or 60 Hz notch filters, low pass filters which are automatically removed from the circuit in the 0.2 sec receive time.
Internal Calibrator	1000 mV of SP, 200 mV of Vp and 24.3 mV/V of M provided in 2 sec pulses.
Digital Display	Two, 4 digit LCD displays. One presents data, either measured or manually entered by the operator. The second display; 1) indicates codes identifying the data shown on the first display, and 2) shows alarm codes indicating errors.
Analog Meters	Six meters for; 1) checking external circuit res- istance, and 2) monitoring input signals.
Digital Data Output	RS-232C compatible, 7 bit ASCII, no parity, serial data output for communication with a digital printer, tape recorder or modem.



Industry standard cassette recorders such as this  
MFE-2500 can be connected directly to the IPR-11.



DP-4 Digital Printer

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

<b>Standard Rechargeable Power Supply</b>	Eight Eveready CH4 rechargeable NiCad D cells provide approximately 15 hours of continuous operation at 25°C. Supplied with a battery charger, suitable for 110/230 V, 50 to 400 Hz, 10 W.
<b>Disposable Battery Power Supply</b>	At 25°C, about 40 hours of continuous operation are obtained from 8 Eveready E95 or equivalent alkaline D cells.  At 25°C, about 16 hours of continuous operation are obtained from 8 Eveready 1150 or equivalent carbon-zinc D cells.
<b>Dimensions</b>	345 mm x 250 mm x 300 mm, including lid.
<b>Weight</b>	10.5 kg, including batteries.
<b>Operating Temperature Range</b>	-20 to +55°C, limited by display.
<b>Storage Temperature Range</b>	-40 to +60°C.
<b>Standard Items</b>	Console with lid and set of rechargeable batteries, 2 copies of manual, battery charger.
<b>Optional Items</b>	Multidipole Potential Cables, Data Memory Expansion Blocks, Statistical Analysis Program, Crystal Clock, SPECTRUM Program, Digital Printer, Cassette Tape Recorder, Modem
<b>Shipping Weight</b>	25 kg includes reusable wooden shipping case.

## SCINTREX

222 Snidercrott Road  
Concord Ontario Canada  
L4K 1B5

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

Geophysical and Geochemical  
Instrumentation and Services

DATA



INDEX I VARIABLE



IPR-11 LCD displays, actual size



## 2 TSQ-3 Transmitter Console & Motor - Generator Specifications

---

### Transmitter Console

---

Output Power	3000 VA maximum
Output Voltages	300, 400, 500, 600, 750, 900, 1050, 1200, 1350 and 1500 volts, switch selectable
Output Current	10 amperes maximum
Output Current Stability	Automatically controlled to within $\pm 0.1\%$ for up to 20% external load variation or up to $\pm 10\%$ input voltage variations.
Stabilization Over-range Protection	High voltage shuts off automatically if the control range of 20% is exceeded.
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	10 mA on coarse range (1-10A). 1 mA on fine range (0-2A)
Frequency Domain Waveform	Square wave, approximately 6% off at each polarity change
Frequency Domain	Standard: 0.1, 0.3, 1.0 and 3.0 Hz, switch selectable. Optional: any number of frequencies in range 0.1 to 5 Hz.
Time Domain Cycle Timing	t:t:t:t; on:off:on:off: automatic
Time Domain Polarity Change	Each 2t; automatic
Time Domain Pulse Durations	Standard: t=1,2,4,8,16 and 32 seconds Optional: any other timings
Time and Frequency Stability	Crystal controlled to better than 0.1% with external clock option better than 20 ppm over operating temperature range.
Efficiency	.78

---

Operating Temperature Range -30°C to +50°C

---

Overload Protection Automatic shut-off at 3000 VA.

---

Underload Protection Automatic shut-off at current below 85 mA

---

Thermal Protection Automatic shut-off at internal temperature of 85°C

---

Dimensions 350 mm x 530 mm x 320 mm

---

Weight 25.0 kg

---

**Motor-Generator**

---

Type Motor flexibly coupled to alternator and installed on a frame with carrying handles.

---

Motor Briggs and Stratton, four stroke, 8 HP

---

Alternator Permanent magnet type, 800 Hz, three phase 230 V AC at full load.

---

Output Power 3500 V A maximum

---

Dimensions 520 mm x 715 mm x 560 mm.

---

Weight 72.5 kg.

---

**Total System**

---

Shipping Weight 150 kg includes transmitter console, motor-generator, connecting cables and reusable wooden crates.

---

C E R T I F I C A T E

I, William O. Karvinen, geologist and president of W. O. Karvinen & Associates Ltd. of RR 3, Odessa, Ont., do declare that:

the information contained in this report is based on personal observations and field work and on reliable published and unpublished reports;

through an option agreement with TME Resources Inc., I have a 2.5% net smelter return interest in the Cripple Creek Property and I own shares of TME;

I received a Doctorate of Philosophy in Geology (Ph.D.) and a Bachelor of Science (B.Sc.) from Queen's University in Kingston in 1974 and 1968 respectively and a Master of Science (M.Sc.) in Geology from the University of British Columbia in 1970;

I have been a fellow of the Geological Association of Canada since 1970;

I have been actively engaged in my profession for over 20 years and have been carrying out consulting and exploration in Canada, the USA and Europe since 1978.

RR 3 Odessa, Ont.  
June 27, 1991

William O. Karvinen

September 9, 1991

Submission of I.P. survey should have been under Man-days instead of Special Provisions.

W. Karvinen filled out a Assesement Work Breakdown form to facilitate the change.

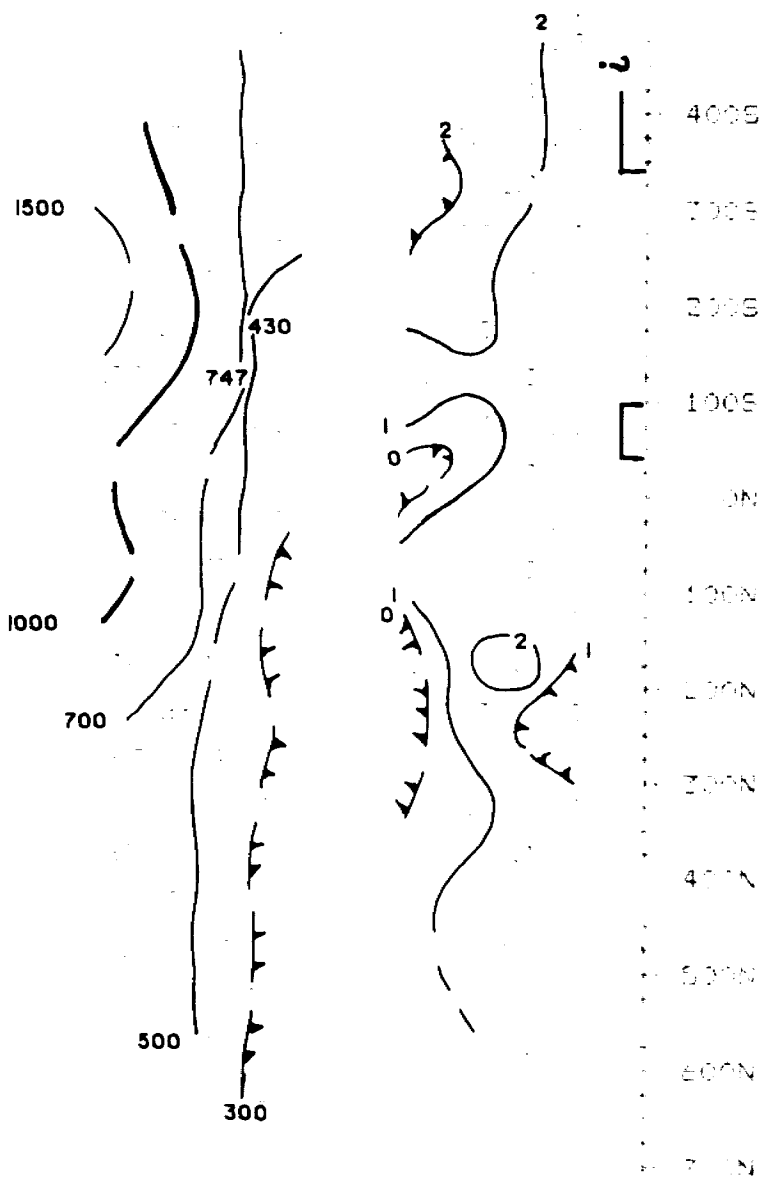
However, after consultation with Bob Bailey, we cannot increase the # of days credit on an old ROW (OLD ACT) above that which was originally requested.

Original request (Special Provisions)- 20 DAYS  
After Assessment, # of day approved under the Spec. Prov. method would have been in the region of 5-10 days per claim.

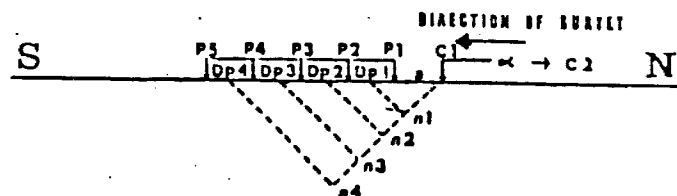
Spoke to W. Karvinen Sept. 9th and explained the situation to him. He accepts the situation and is grateful that we have been able to ammend the submission to the extent of 20 days per claim.

Spoke to Bob Bailey Sept 9th and Blair. It is acceptable simply to approve the ROW as is (Spec Prov), rather than changing it to Man-Days thus saving a great deal of paperwork.

SCALE: 1 inch to 200 feet



Project: ...  
 Date: ...  
 Operator: ...  
 Station: ...  
 Receiver: ...  
 Pulse: ...  
 Gain: ...  
 Filter: ...  
 Amplifier: ...



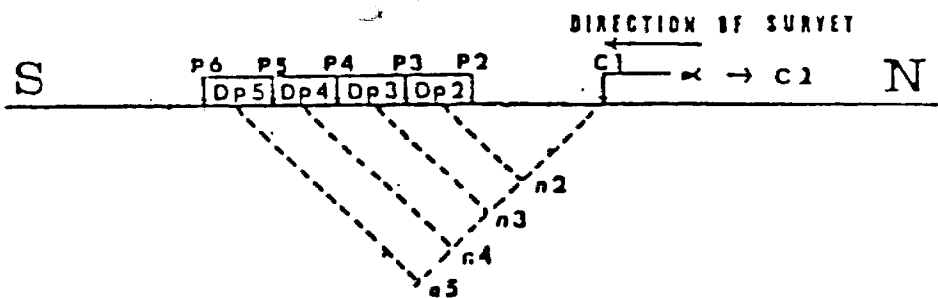
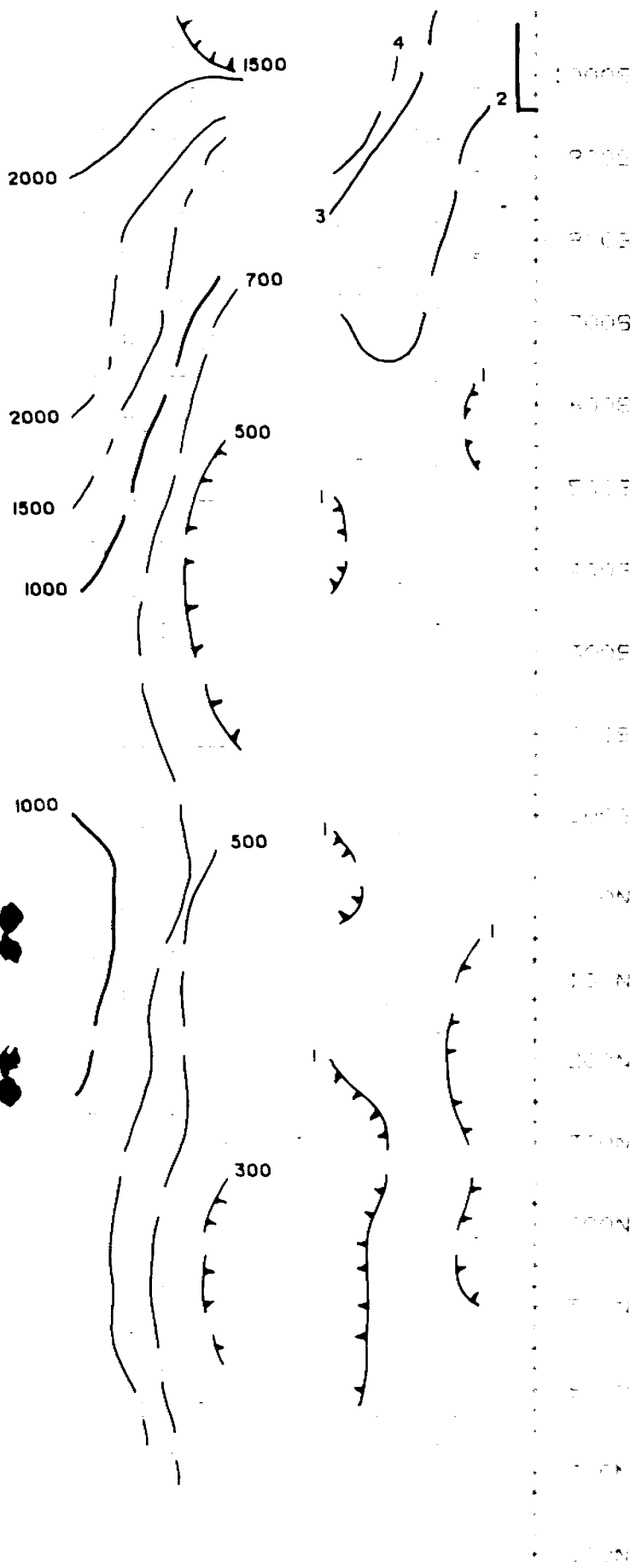
\*\*\*\*\*  
 B. S. MIDDLETON EXPLORATION  
 SERVICES INC.  
 \*\*\*\*\*

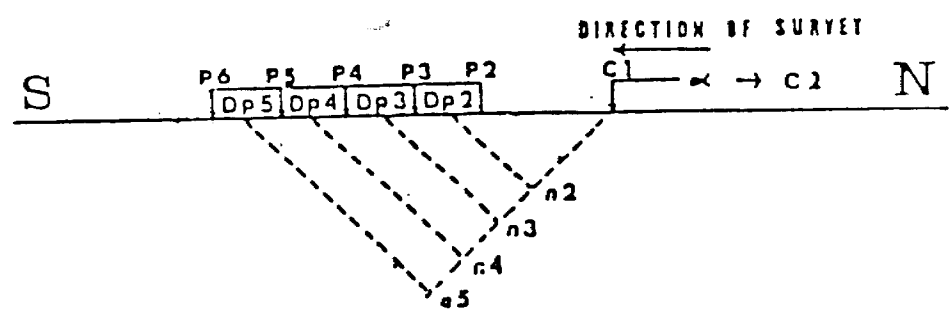
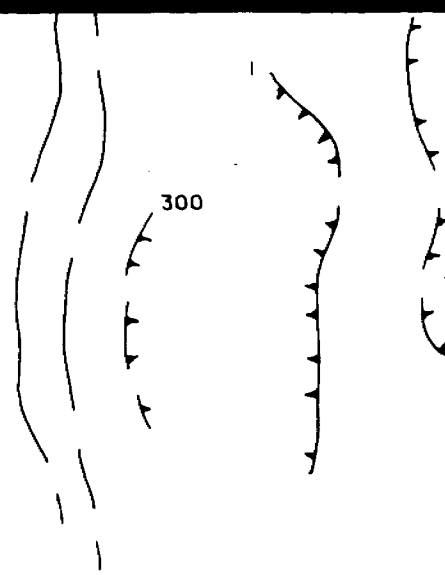
IF Pseudosections for N = 1 to 2.1

Spacing = 100 ft

RECEIVED

SCALE : 1 inch to 200 feet





2-1-1953

\*\*\*\*\*  
 FEDERAL BUREAU OF SURVEY  
 OPERATIONS UNIT  
 \*\*\*\*\*

RECEIVED FOR THE DIRECTOR  
 FEDERAL BUREAU OF SURVEY

**RECEIVED**

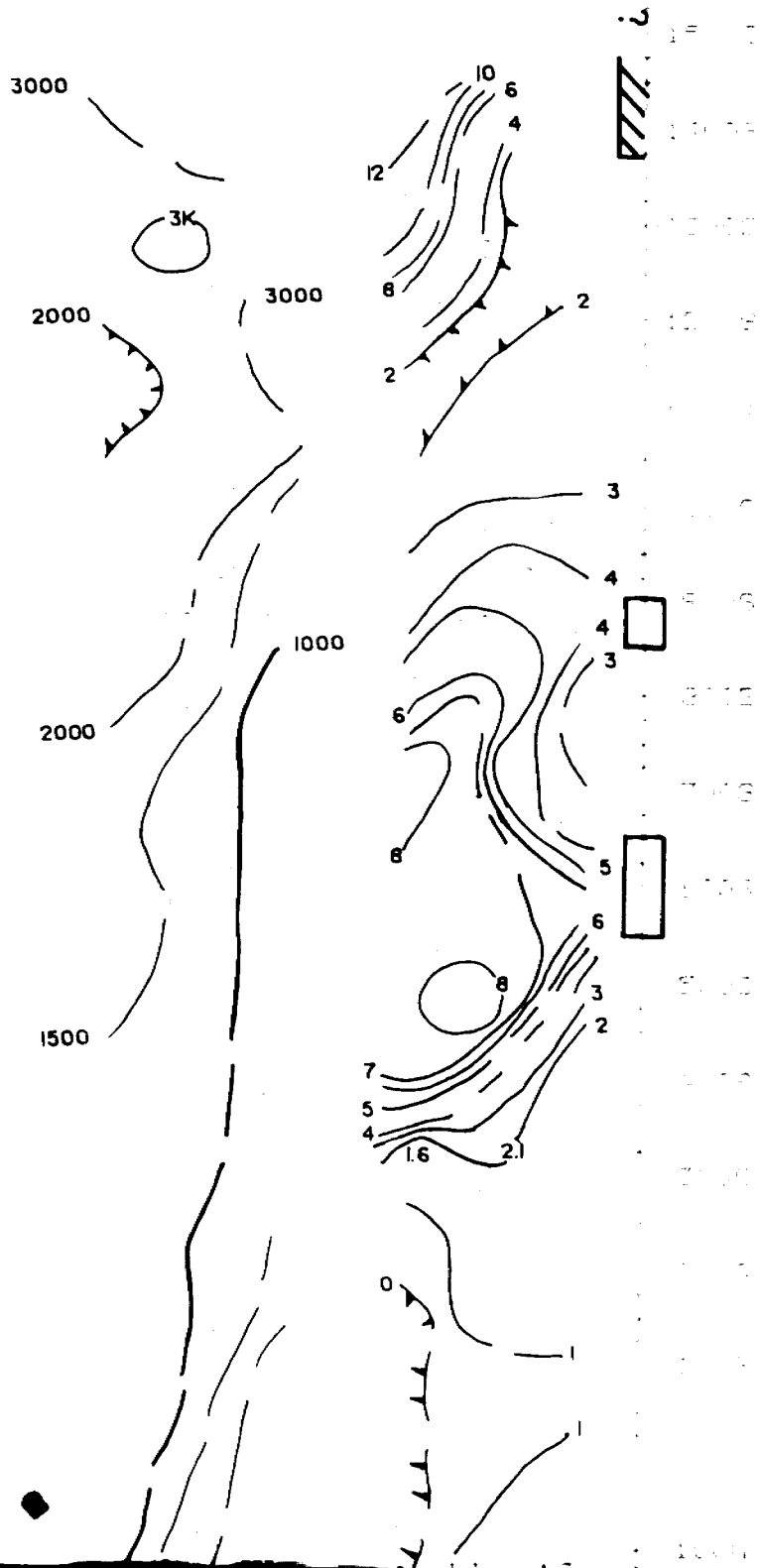
JUL 02 1953

MINING LANDS SECTION

RECEIVED FOR THE DIRECTOR

*W. H. ...*  
*June 10/53*

Scale: 1 inch = 200 feet





1000

700

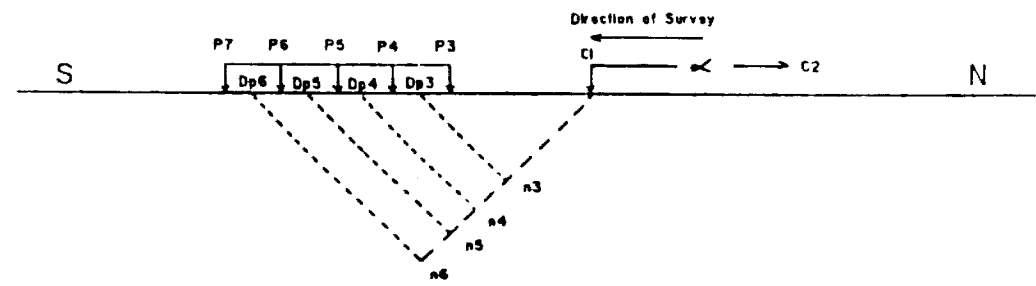
500

300

0

1000  
900  
800  
700  
600  
500  
400  
300  
200  
100  
0

1. Name of the project  
2. Location of the project  
3. Date of the survey  
4. Name of the surveyor  
5. Name of the company  
6. Name of the client  
7. Name of the engineer  
8. Name of the checker  
9. Name of the drafter  
10. Name of the printer



2-14336

RECEIVED

MAR 02 1991

MINING LANDS SECTION

\*\*\*\*\*  
MIDDLETON EXPLORATION SERVICES INC.  
\*\*\*\*\*

IP: 100 ft. spacing for N = 1 to 9

Spacing = 100 ft.

LINE 24 E

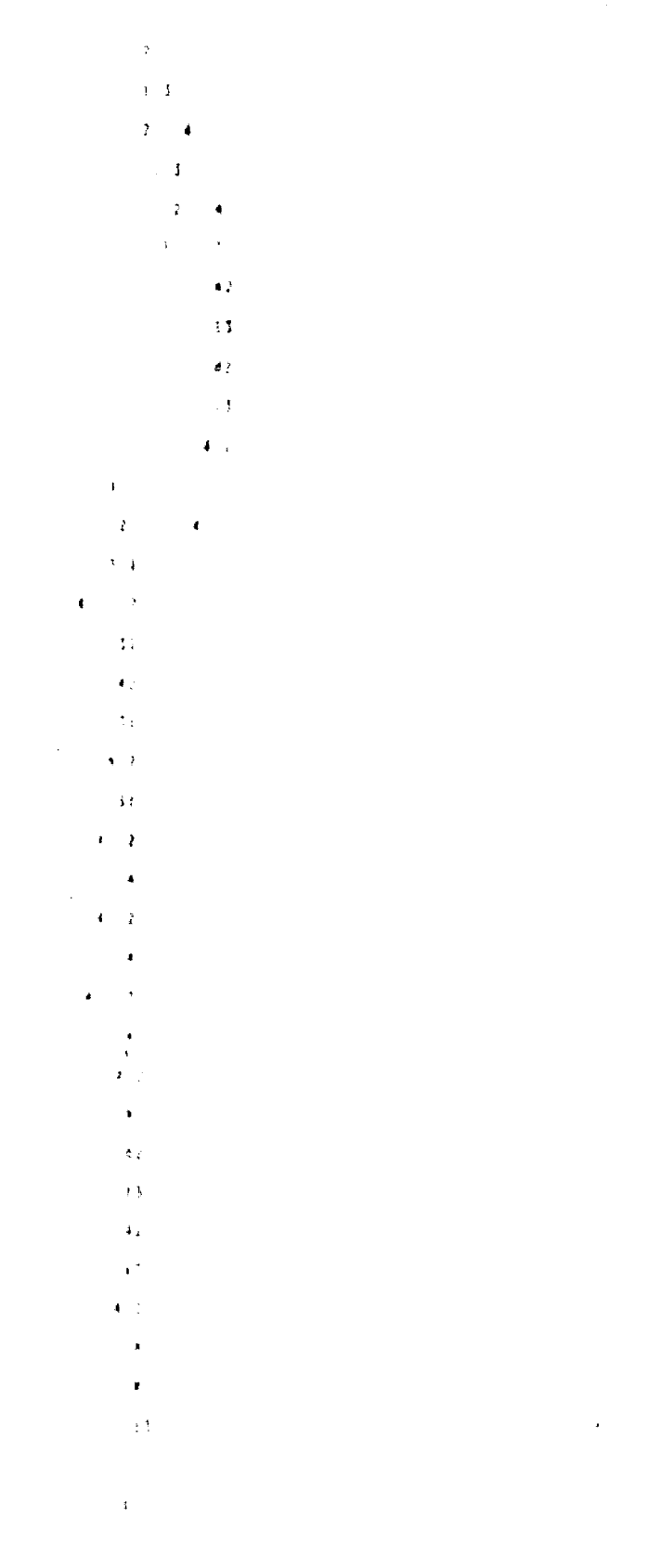
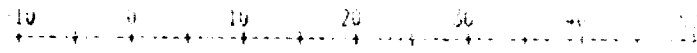
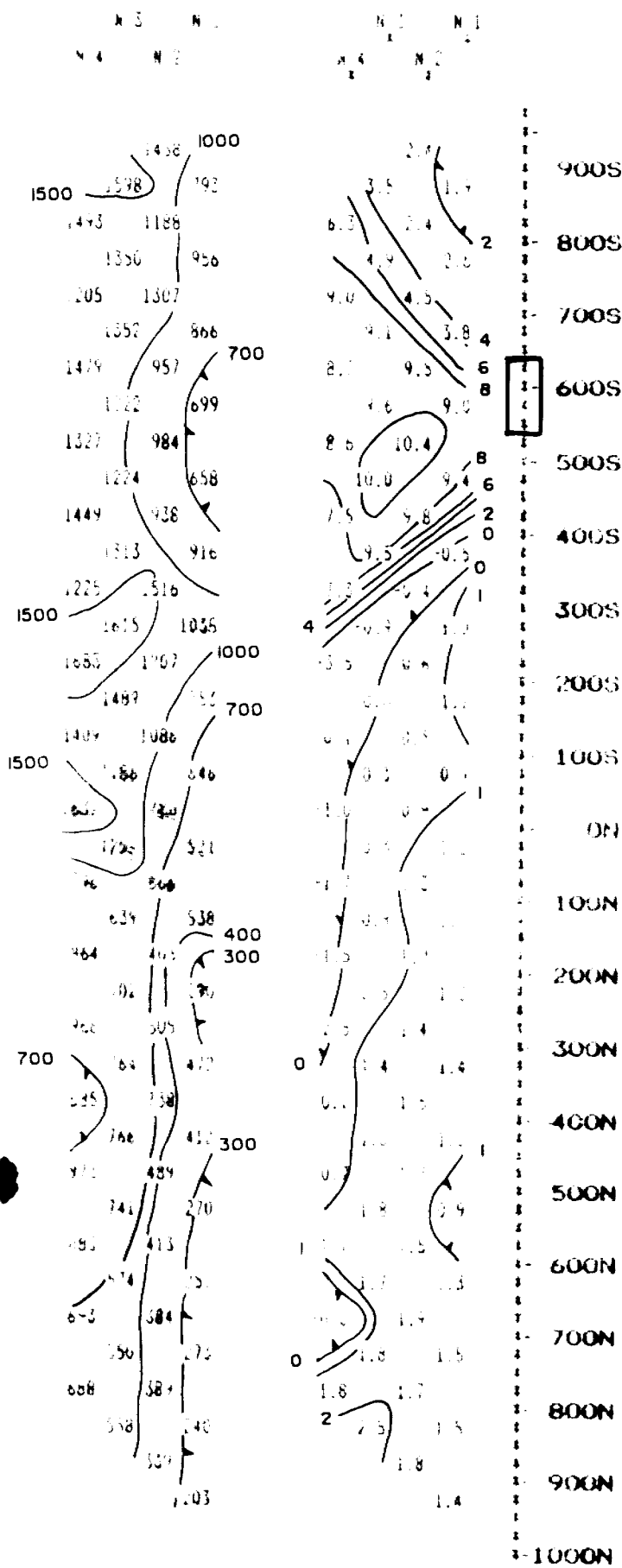
*Handwritten signature*

SCALE : 1 inch to 200 feet

RESISTIVITY  
ohm-meters

CHARGEABILITY  
percent

CHARGEABILITY  
percent



Property : DENTON TWP.

Client : T.M.E. RESOURCES

Date of Survey : 28/2/88

Operator : JGA

Electrode Array : POLE - DIPOLE

Mode : TIME DOMAIN

Receiver : SCINTREX IPR-11

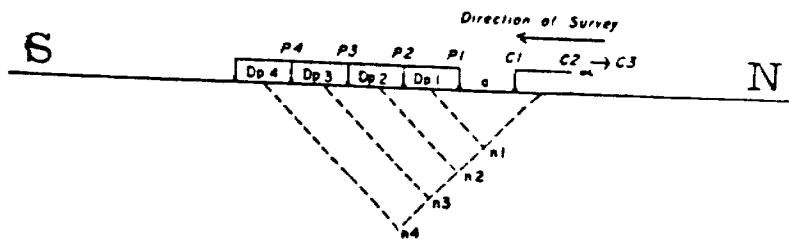
Transmitter : SCINTREX ISQ-3

Pulse Time : 2 Sec on 2 Sec off

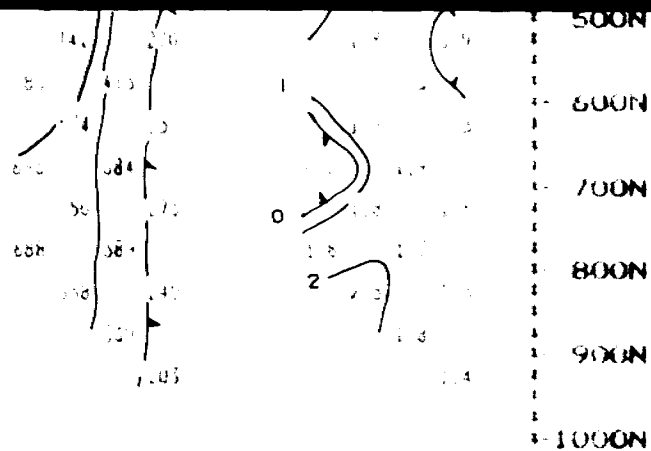
Chargeability Window Plotted : #7

Delay Time : 450 ms

Integration Time : 900 ms



2.1.1.2000



PROPERTY : DENTON TWP.

CLIENT : T.M.E. RESOURCES

DATE OF SURVEY : 08/2/88

OPERATOR : EA

ELECTRODE ARRAY : POINT DIPOLE

MODE : TIME DOMAIN

RECEIVER : GEOMETRIX TRP-11

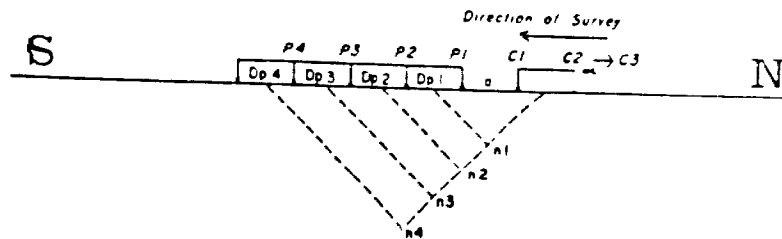
TRANSMITTER : GEOMETRIX ISQ-3

PULSE TIME : 2 SEC ON / 2 SEC OFF

QUALITY WINDOW : #7

RELAY TIME : 450 MS

INTEGRATION : 10000



310700

\*\*\*\*\*  
 R. S. MIDDLETON EXPLORATION  
 SERVICES INC.  
 \*\*\*\*\*

17 Pseudosections for N = 1 to 4

2' Spacing = 100 ft

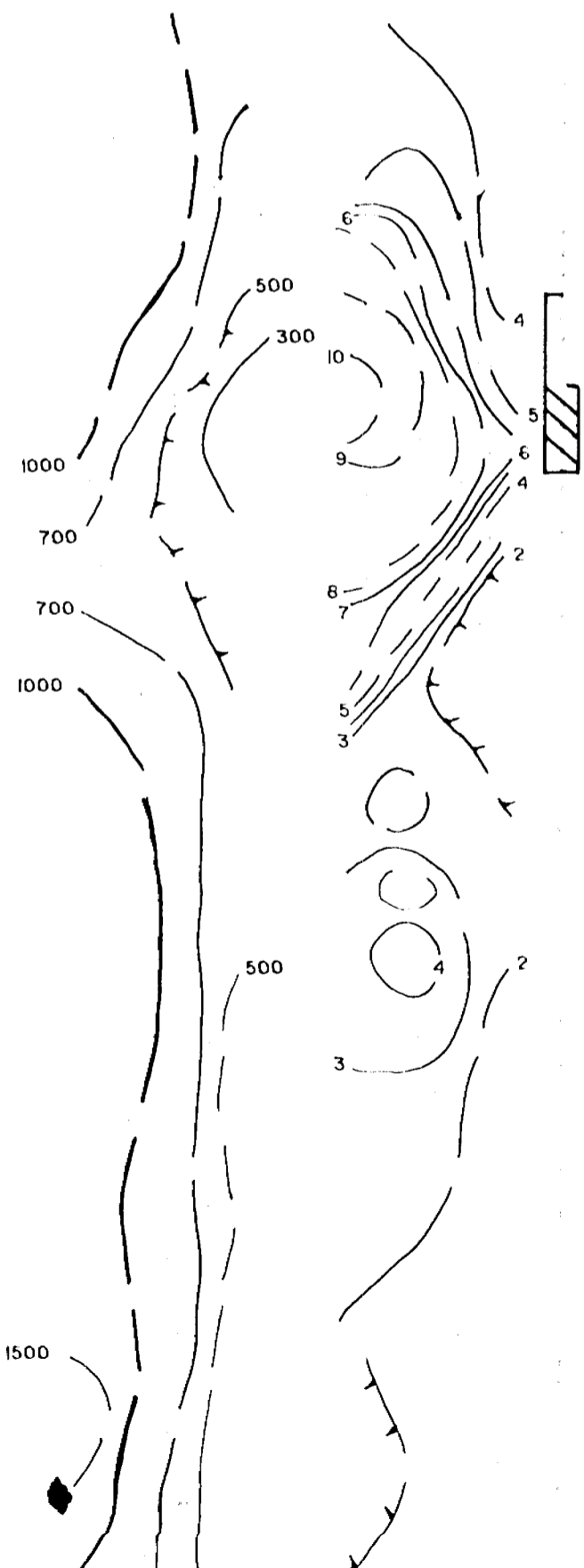
LINE 28 E

*W. K. Kamin*  
 June 10/91

RECEIVED

JUL 02 1991

MINING LANDS SECTION

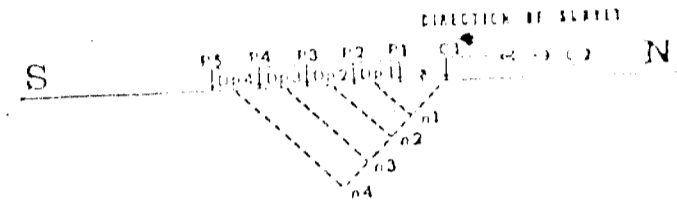


1000

500

0

2



RECEIVED

JUL 02 1991

MINING LANDS SECTION

*William*  
*June 10/91*

NOVA 1 - 1 inch to 200 feet

Station  
No. 1

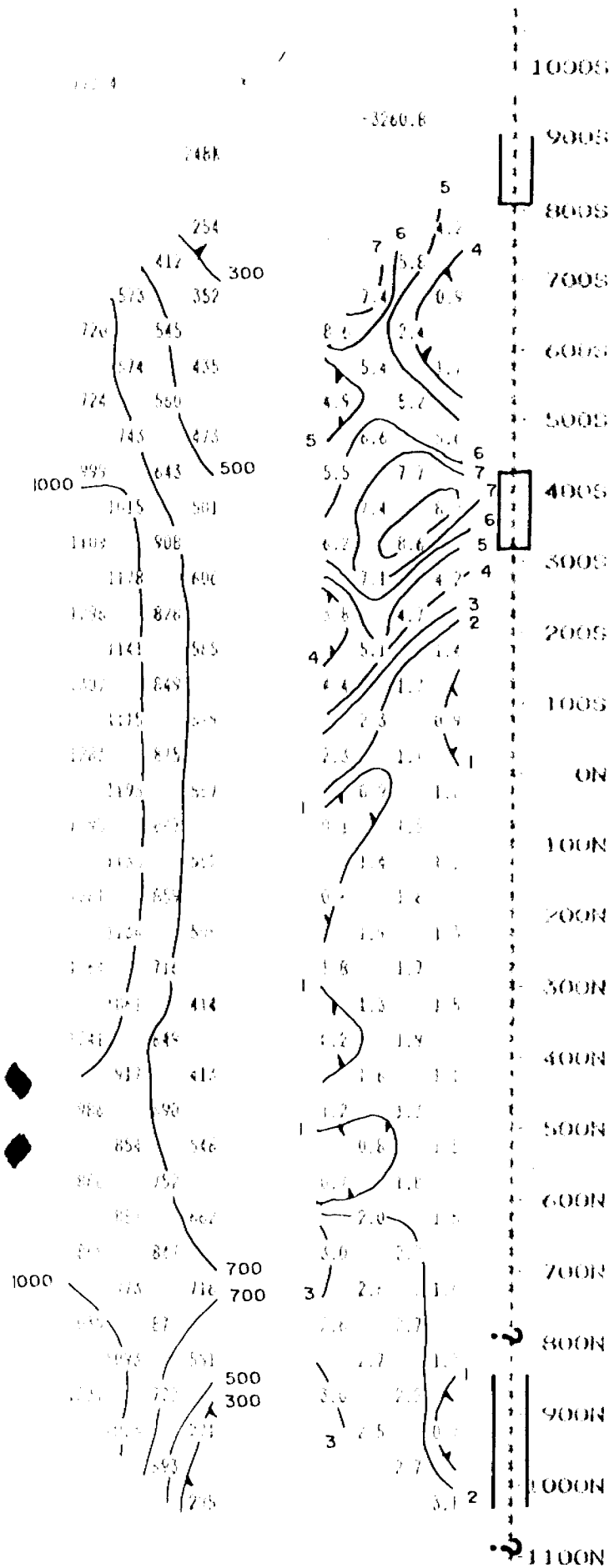
Station  
No. 2

Orientation: 190.10

1000  
800  
600

1000  
800  
600

10 0 10 20 30 40 50



Property : DENTON TWP.

Client : E.P.C. RESOURCES

Date of Survey : 28/2/88

Operator : TAB

Electrode Array : SPLE - DEPOT

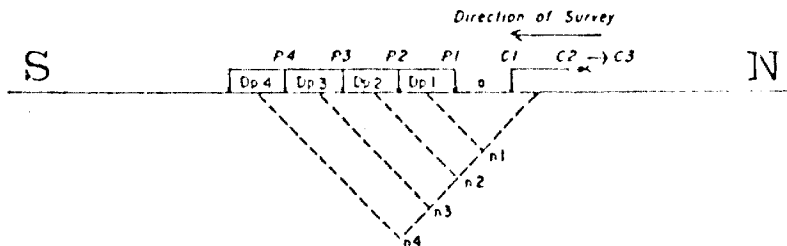
Mode : TIME DOMAIN

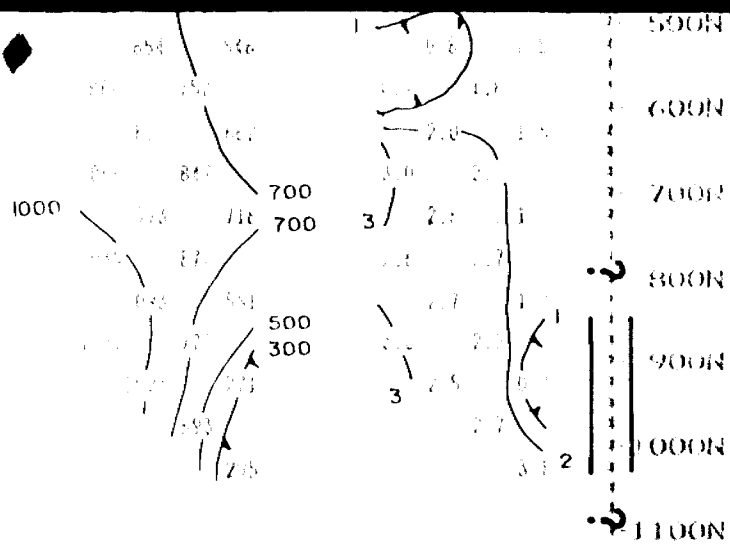
Receiver : SCHERER DPR 11

Transmitter : SCINTEX 150 3

Wave Type : 2 Sec. on 2 Sec. off

Geophysical Window Plotted : 47





Property: DENTON TWP.

Client: L.R.E. RESOURCES

Date of Survey: 28/2/88

Operator: TBA

Project Name: 9011 DEPOT

Mode: TIME SHARING

Receiver: SONY TR-11

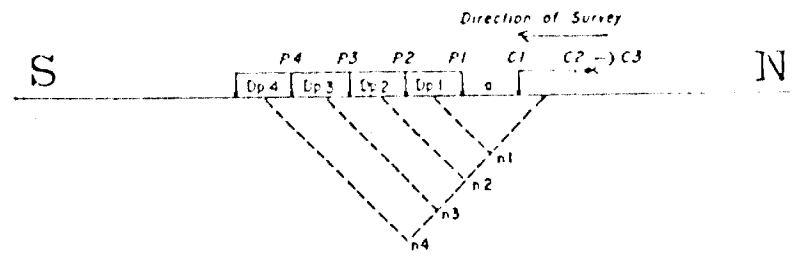
Transmitter: SONY X-190

Wave Type: 2 Sec on 2 Sec off

Processing Window: 1000000 Hz

Delay Time: 1000000

Unit: 1000000



\*\*\*\*\*

MIDDLETON EXPLORATION  
SERVICES INC.

\*\*\*\*\*

\*\*\*\*\*

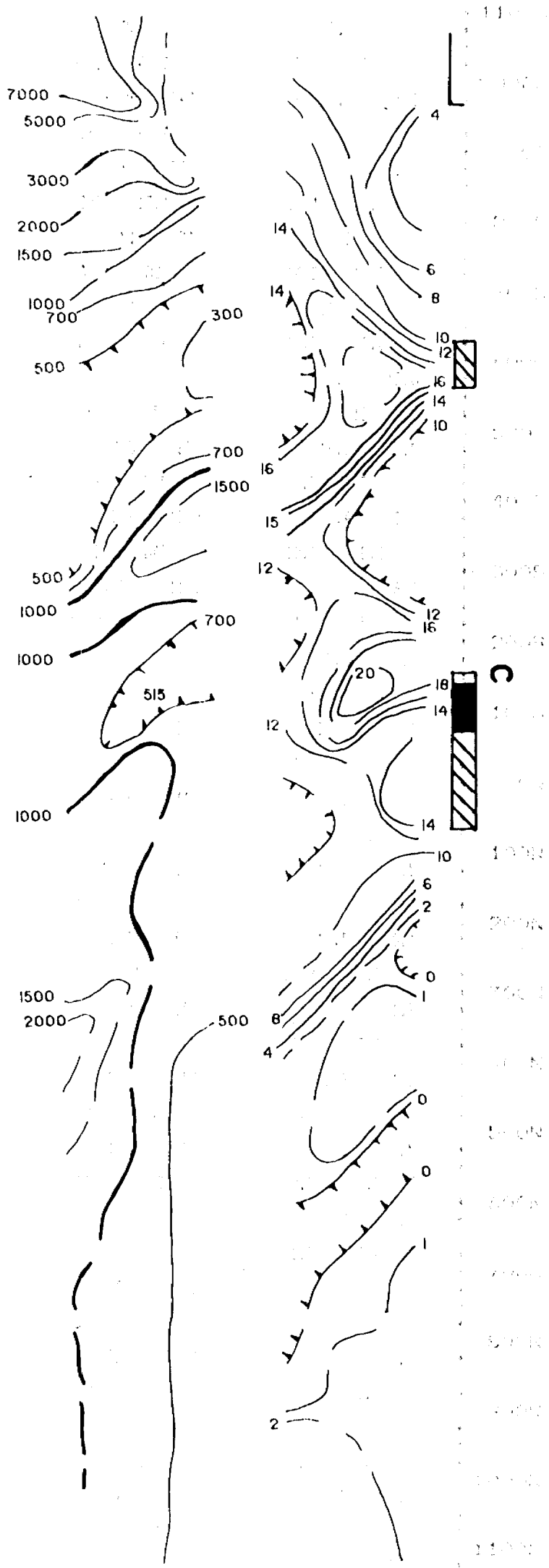
\*\*\*\*\*

\*\*\*\*\*

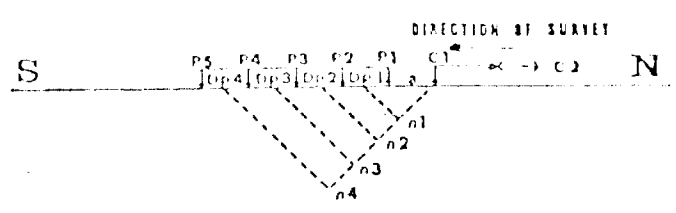
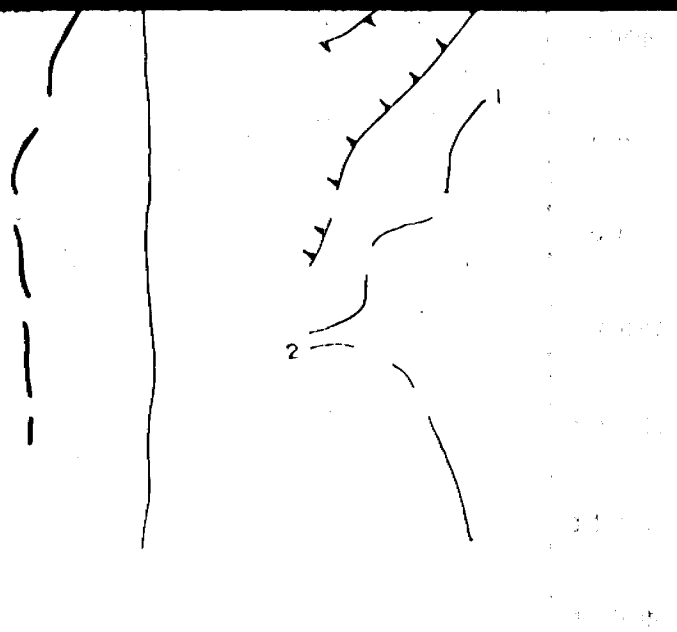
RECEIVED  
28 OF 1988  
MINING LANDS SERVICE

*William  
June 10/91*

11000







*[Faint, illegible text, possibly bleed-through from the reverse side of the page]*

*[Faint, illegible text, possibly bleed-through from the reverse side of the page]*

RECEIVED

JUL 02 1915

MINING LANDS SECTION

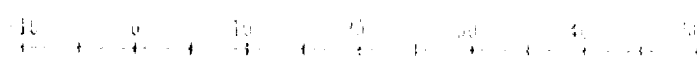
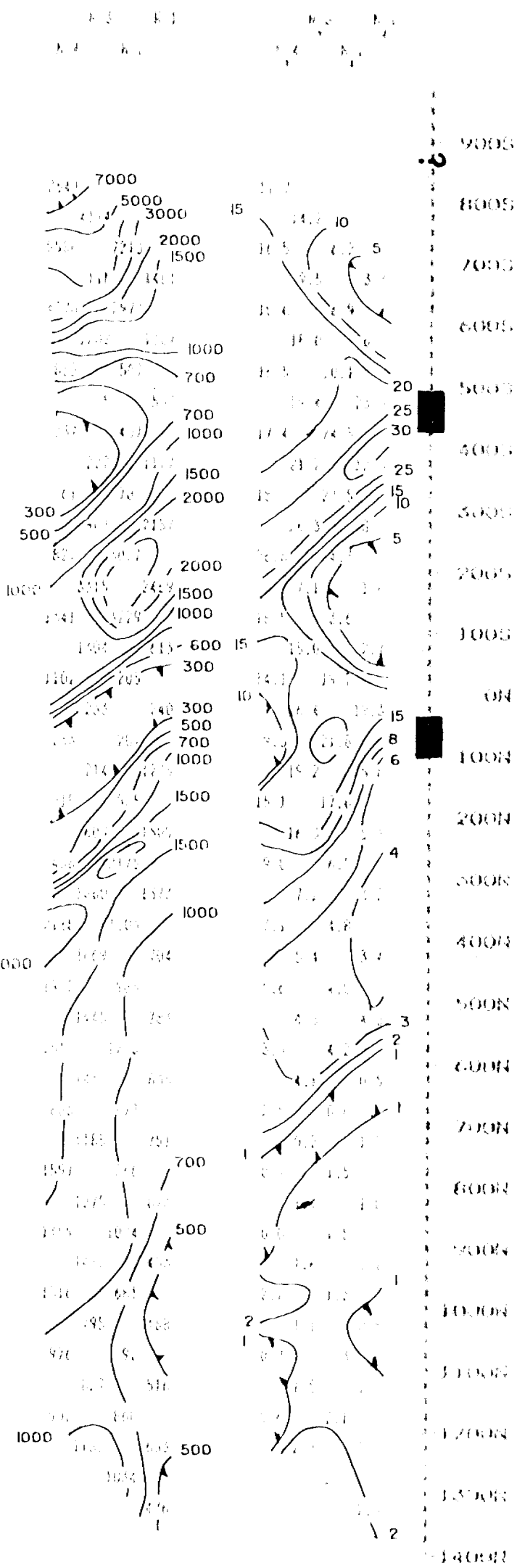
*[Handwritten signature]*

CONTINUED FROM PREVIOUS PAGE

RESISTIVITY  
(ohm-meters)

DEPTH (feet)

DEPTH (feet)



PROPERTY: BENTON TWP.  
OWNER: E. E. RESOURCES

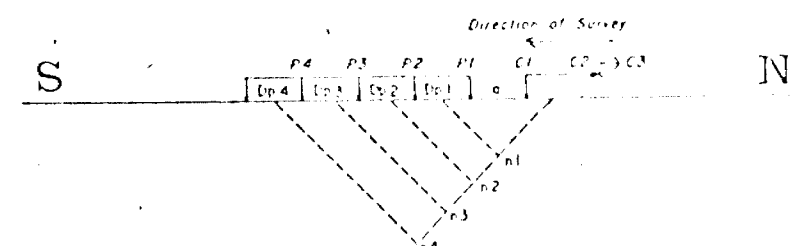
DATE OF SURVEY: 2/2/86

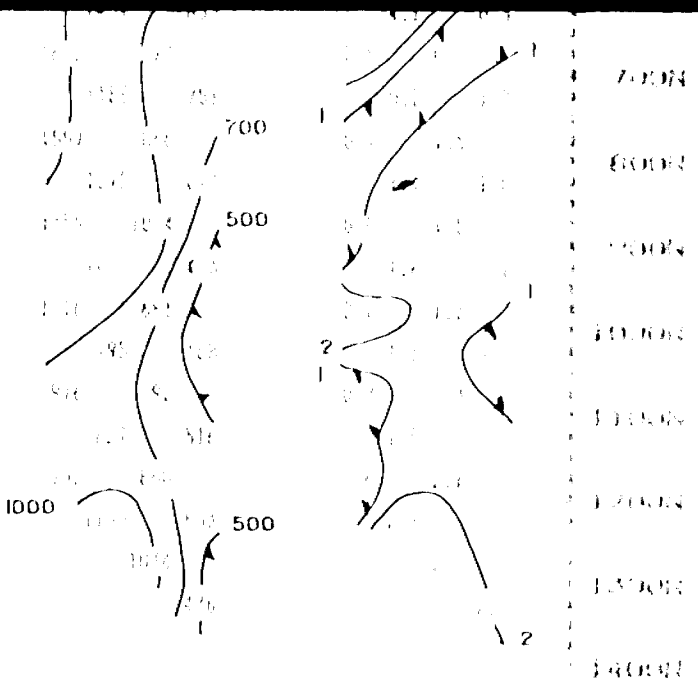
OPERATOR: E. E.

ELECTRODE SPACING: 100 FT. DIPOLE

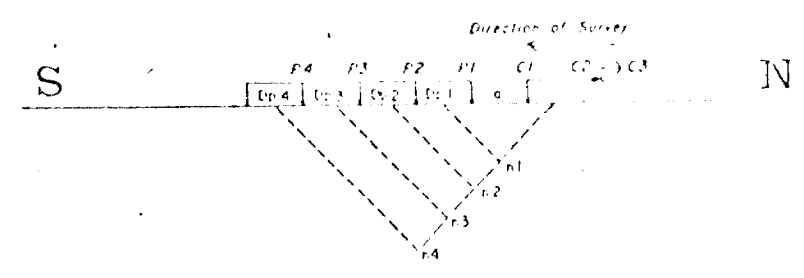
MODE: TEMPERATURE

RESISTIVITY: GEOTECHNICAL





PROPERTY : MANTON TWP.  
 CLAIM : T.M.L. RESOURCES  
 DATE OF SURVEY : 07/17/85  
 OPERATOR : T.M.L.  
 LOCATION OF DEPOSIT : 3000' E 1000' N  
 HOLES : 11M, 10M, 9M  
 RECEIVER : GEORGE K. HOFFER  
 TRANSMITTER : SOUTHERN TWP. 13  
 DEPOSIT TYPE : 2' Res. on 2' Res. off  
 CHARACTERISTICS: Window Plotter : B7  
 DEPOSIT AREA : 400 ac.  
 INTERESTED PARTY : 200 ac.



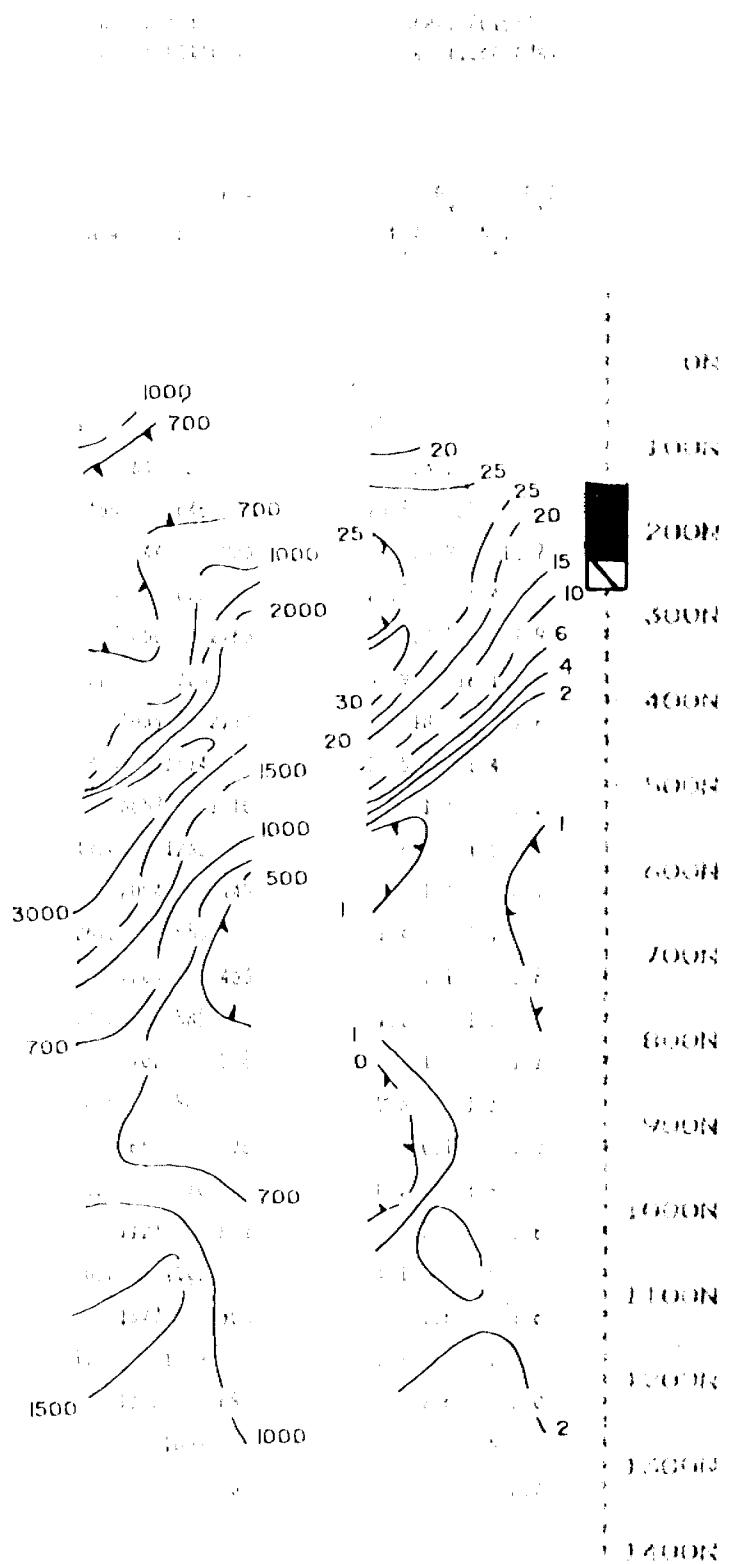
\*\*\*\*\*  
 P.L. 92-116 TITLE 43 U.S.C. SECTION 1702  
 SOUTHERN TWP. 13  
 \*\*\*\*\*  
 THE FOLLOWING IS A SUMMARY OF THE SURVEY  
 CONDUCTED BY THE BUREAU OF LAND MANAGEMENT  
 ON THE PROPERTY OF T.M.L. RESOURCES  
 IN THE MANTON TWP. 13

BUREAU OF LAND MANAGEMENT  
 DENVER, COLORADO

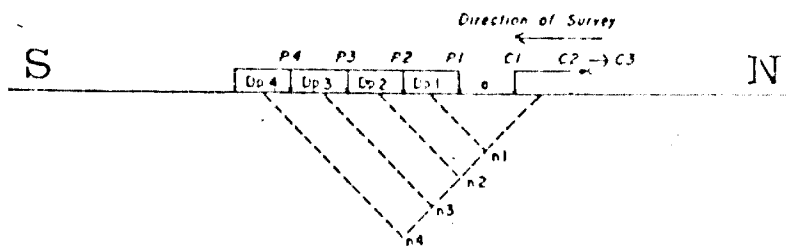
*W. K. ...*

RECEIVED  
 JUL 02 1985  
 MINING LANDS SECTION

CONDUCTIVITY PROFILE TO 2000 FEET



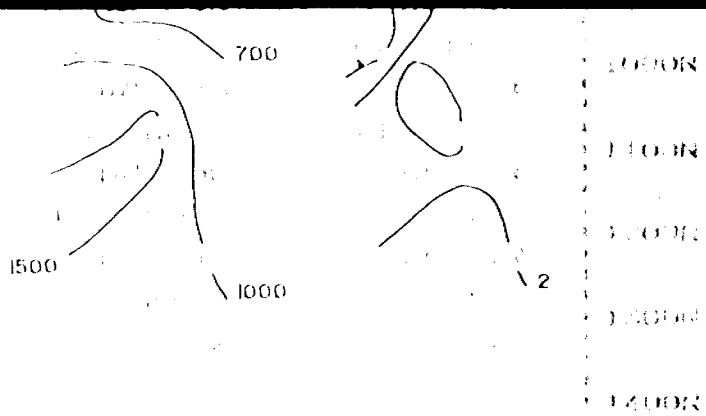
PROPERTY : BENTONITE  
 CLIENT : ARCELORMITTAL  
 DATE OF SURVEY : 24/07/08  
 OPERATOR : ETO  
 LOCATION : BENTONITE FIELD  
 MODE : CME DEPTH  
 RECEIVER : GURTEX TPE 13  
 TRANSMITTER : GURTEX 150  
 SURVEY TIME : 2:00 pm - 2:50 pm  
 CHARGED BY : WILSON PLOTT  
 DELAY TIME : 450 ms  
 INTERPOLATION TIME : 500 ms



\*\*\*\*\*  
 REGAL MIDDLETON EXPLORATION  
 SERVICES INC.  
 \*\*\*\*\*

21/07/08

IP Profiles: 1 to 4



PROPERTY: BAKER TW

CLIENT: A. J. L. INDUSTRIES

DATE OF SURVEY: 04/27/91

PROJECT: 120

PROJECT AREA: 1000' DIST

ROAD: THE BURN

BOUNDARY: 1000' X 100' 11

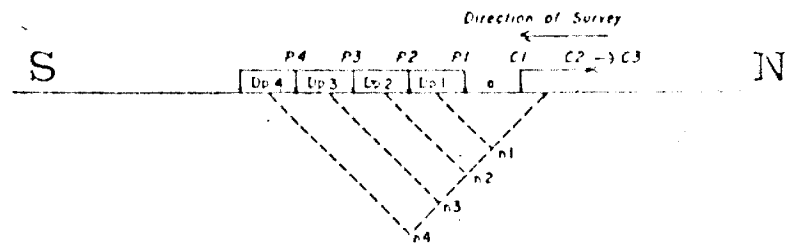
BOUNDARY: 1000' X 100' 12

BOUNDARY: 1000' X 100' 13

BOUNDARY: 1000' X 100' 14

BOUNDARY: 1000' X 100' 15

BOUNDARY: 1000' X 100' 16



\*\*\*\*\*

REDUCTION EXPLORATION  
SERVICES INC.

\*\*\*\*\*

IT IS OURSOLUTIONS FOR N 1 TO 4

20' SPACING - 100' 11

DATE: 04/27/91

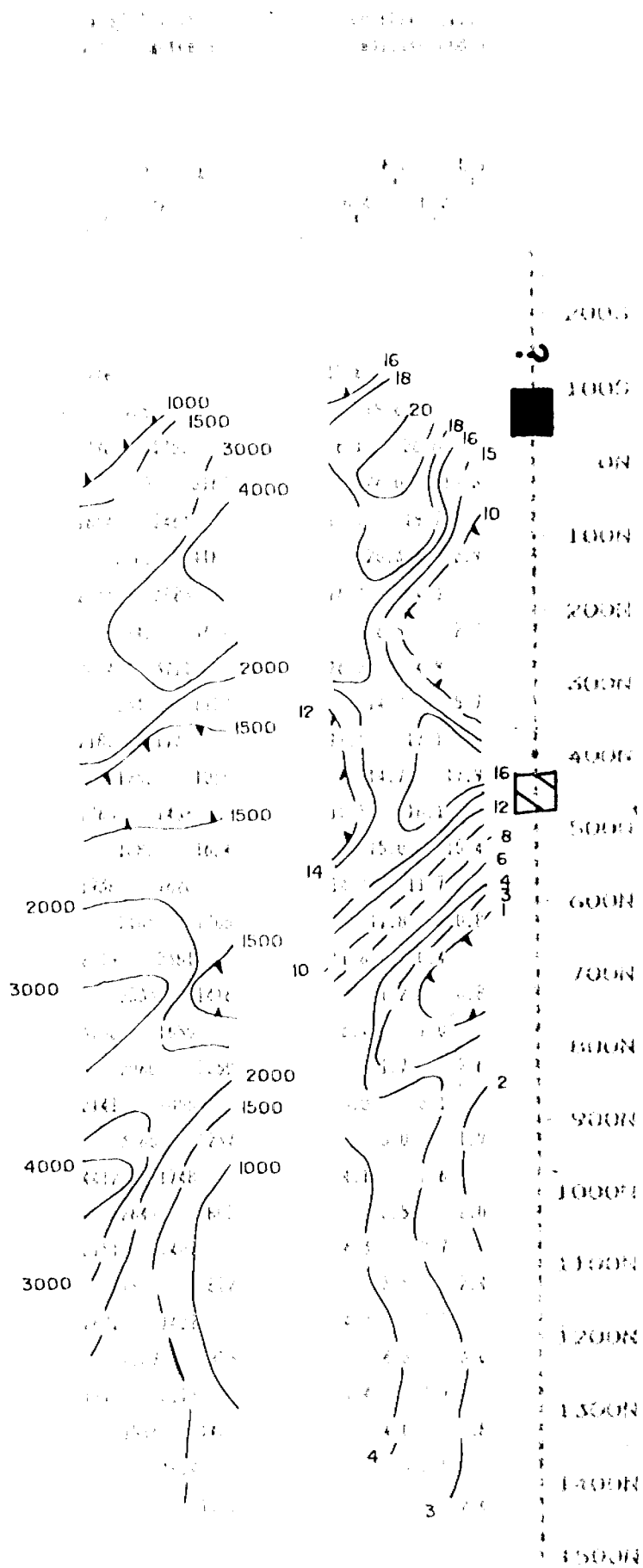
*W. K. Korman*  
Jared 10/91

RECEIVED

04/28/91

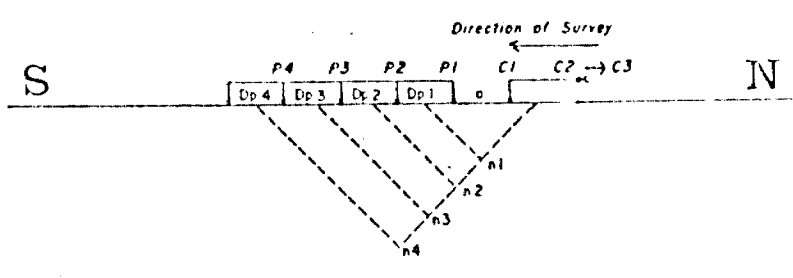
MINING LANDS SECTION

SECTION 2 - 1 - 10000 - 2000 Feet

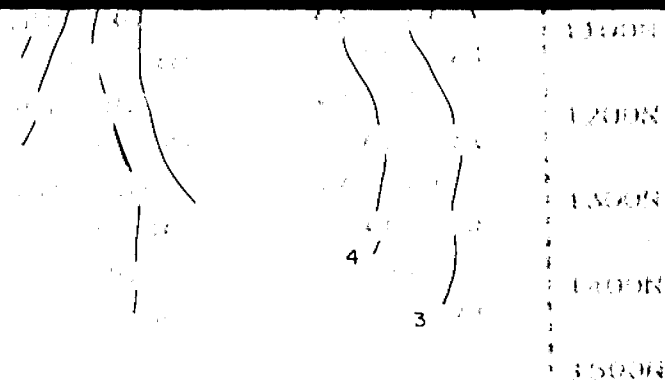


CREATED BY: [illegible]  
 DATE: [illegible]  
 SCALE: [illegible]

Property: DENTON TRACT  
 Owner: E. H. L. BISHOP  
 Date of Survey: 25/2/68  
 Operator: [illegible]  
 Electrical Array: FOLD - DIPOL  
 Name: THE DRYBAR  
 Boarding: SERVICE 1PR 11  
 Drilling: SERVICE 1SR 3  
 Well: [illegible] Section 2 Sec 611  
 Chartability Window (to 100): 102  
 Delay Time: 450 ms  
 Integration Time: 900 ms



3000



Property of DENISON LTD.

City of Toronto, Ontario

Date of Survey: 25/2/68

Operator: W.A.

Location: DENISON ST. - DUNDAS ST.

Project: CITY OF TORONTO

Reference: SURVEY 118-11

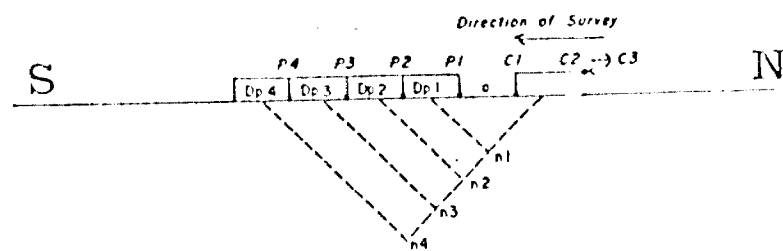
Reference: SURVEY 118-11

Reference: SURVEY 118-11

Reference: SURVEY 118-11

Reference: SURVEY 118-11

Reference: SURVEY 118-11



\*\*\*\*\*

PL. 11. MIDDLE TOWN EXPLORATION  
SERVICE INC.

\*\*\*\*\*

APPROXIMATE COORDINATES FOR N = 1 TO 4

\*\*\*\*\*

LINE 150 F

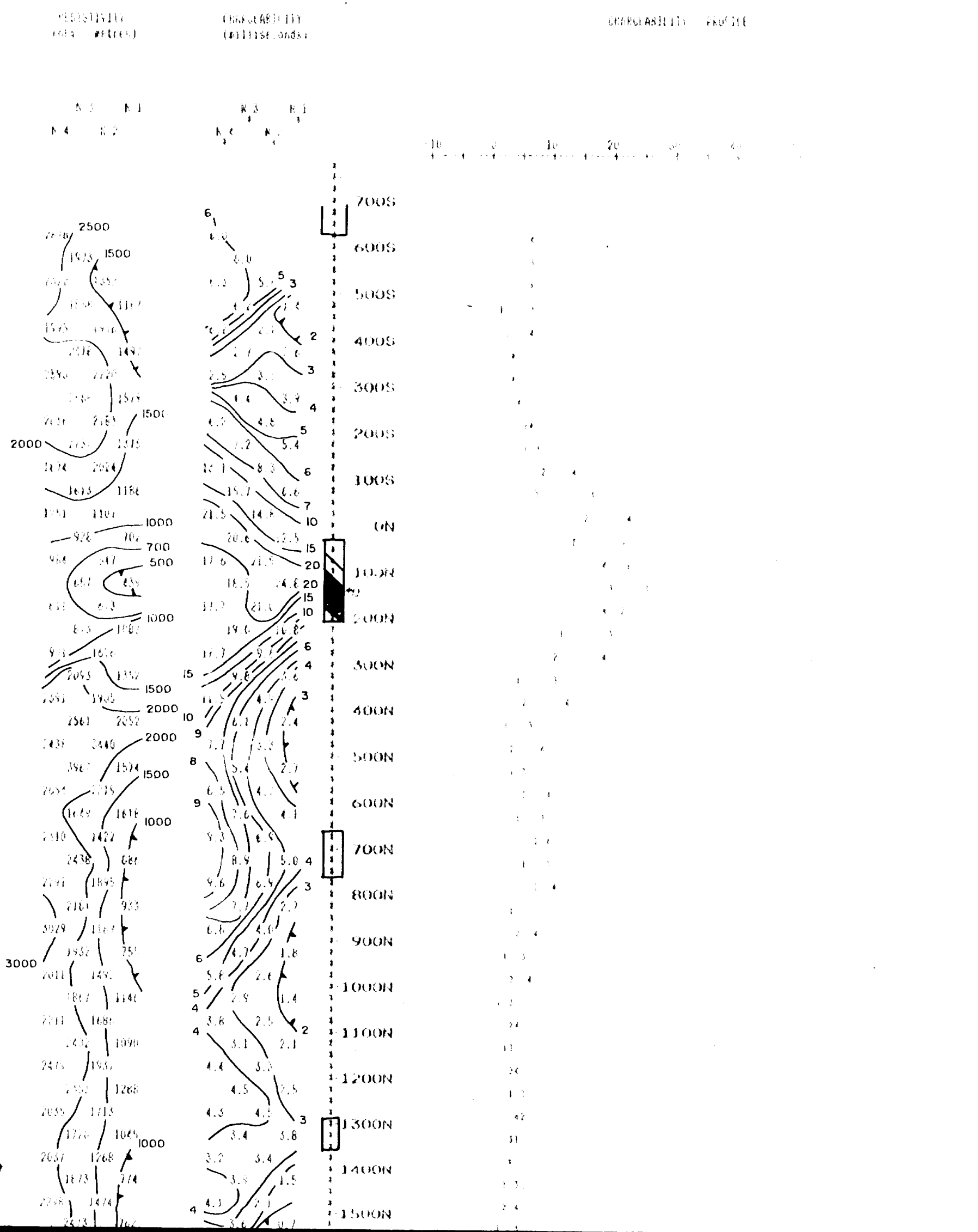
*W.A. [Signature]*

RECEIVED

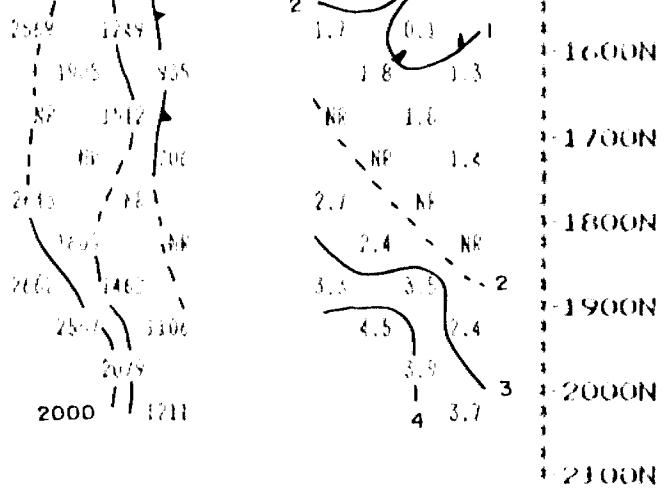
01 02 1968

MINING LANDS SECTION

SOIL - 1 inch to 200 feet



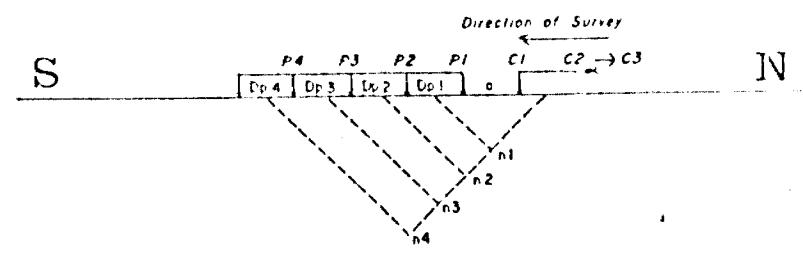




Property : DENION TWP.  
 Client : L.N.C. RESOURCES

Date of Survey : 26/2/88  
 Operator : TAA

Electrode Array : POLI - DIPOLE  
 Mode : TIME DOMAIN  
 Receiver : SCINTREX 1PR-11  
 Transmitter : SCINTREX 1SO-3  
 Pulse Time : 2 Sec on 2 Sec off  
 Chargeability Window Plotted : #7  
 Delay Time : 450 ms.  
 Integration Time : 900 ms.



\*\*\*\*\*  
 R. S. MIDDLETON EXPLORATION  
 SERVICES INC.  
 \*\*\*\*\*

25/1/88

PP Pseudosections for N = 1 to 4

at Spacing = 100 ft.

*W. K. ...*

LINE 641

RECEIVED  
 JUL 02 1988  
 MINING LANDS SECTION



Type of Survey(s): **Geophysical (I.P.)**

Claim Holder(s): **William O. Karvinen**

Address: **RR 3, Odessa, Ont. KOH 2H0**

Survey Company: **R.S. Middleton Expl. Services**

Date of Survey (from & to): **05 01 1988 24 02 1988**

Total Miles of line Cut: **11.5 mi.**

Name and Address of Author (of Geo-Technical report): **W. O. Karvinen, RR # 3, Odessa, Ont. KOH 2H0 Phone: (613) 386 7513**



42A055E0800 2.14206 DENTON

900

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	<b>I.P. Electromagnetic</b>	<b>20</b>
	- Magnetometer	
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
P	865398				
	865399				
	865400				
	865401				
	865402				
	865403				
	930957				
	930958				
	930959				
	865396				
	865397				

**RECEIVED**  
JUN 2 1991  
MINING LANDS SECTION

**RECORDED**  
MAY 13 1991

PORCUPINE MINING DIVISION  
**RECEIVED**  
MAY 19 1991

Expenditures (excludes power stripping): **2.7 1991**

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$  ÷  = Total Days Credits

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. **11**

Date: **May 10, 1991**

Recorded Holder or Agent (Signature): **W O Karvinen**

For Office Use Only

Total Days Cr. Recorded: **220**

Date Recorded: **MAY 13/91**

Date Approved as Recorded: **Sept 13/91**

Mining Recorder: **Robert B...**

Branch Director: **...**

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: **William O. Karvinen, RR 3, Odessa, Ont. KOH 2H0**



Ontario

Ministry of Northern Development and Mines

Assessment Work Breakdown

2.14206

- 1. Type of Survey Geophysical (induced polarization)
- 2. Township or Area Denton Township
- 3. Numbers of Mining Claims Traversed by Survey P865396, 865397, 865398, 865399, 865400, 865402, 865403, ~~865404~~ 930957, 930958, 930959 865401
- 4. Number of Miles of Line Cut 9.3 miles + 1.25 mi base line = 10.6 miles  
Flown
- \*5. Number of Stations Established 556
- \*6. Make and type of Instrument Used Scintrex IPR-11 receiver and a Scintrex TSQ-3 trans.
- \*7. Scale Constant or Sensitivity See separate report
- \*8. Frequency Used and Power Output " " " "
- 9. Summary of Assessment Credits (details on reverse side)

Total 8 hour Technical Days (Include Consultants, Draughting etc.) 42

Total 8 hour Line-Cutting Days 18

Calculation

$$\frac{42}{\text{Technical}} \times 7 = \frac{294}{\text{Line-cutting}} + \frac{18}{\text{Line-cutting}} = \frac{312}{\text{Line-cutting}} \div \frac{11}{\text{Number of claims}} = \frac{28.3}{\text{Assessment credits per claim}}$$

The dates listed on this form represent working time spent entirely within the limits of the above listed claims  Check  
If otherwise, please explain \_\_\_\_\_

Dated: Aug. 29, 1991 RECEIVED Signed: [Signature]

SEP 06 1991

MINING LANDS SECTION

- Note: (A) \* Complete only if applicable.  
 (B) Complete list of names, addresses and dates on reverse side.  
 (C) Submit separate breakdown for each type of survey.  
 (D) Submit in duplicate.

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
SEC 43/70		FEB 3/66	M.+S.	171506
DANA AND JOWSEY PARK RESERVE	S.R.O.			
SEC 36/80	W 66/83	NOV 18/83	M.R.O.	
RESERVED FOR PUBLIC USE			S.R.O.	
M.A.W. 94/84			S.R.O.	
APPLICATION FOR CROWN LAND.				

F- THIS TWP SUBJECT TO FOREST ACTIVITY IN 1991/92. FURTHER INFORMATION AVAILABLE ON FILE.

SAND AND GRAVEL

M.T.C.	PIT	FILE	NO.
1	1417	126351	
2	1236	126351	
3	1470		
4	1331		

NOTES  
THIS TOWNSHIP LIES WITHIN THE MUNICIPALITY OF THE CITY OF TIMMINS.

IMPORTANT NOTICE

THIS TOWNSHIP FORMS PART OF THE WAFERBOARD FOREST MANAGEMENT AGREEMENT.

THE 1985/86 ANNUAL PLAN, ON FILE IN THE MINING RECORDER'S OFFICE, SHOWS THE AREAS TO BE AFFECTED IN THE NEXT YEAR.

IF THIS PLAN AFFECTS YOU, FURTHER INFORMATION MAY BE OBTAINED FROM:

MR. MALCOLM KILGOUR,  
UNIT FORESTER,  
MINISTRY OF NATURAL RESOURCES,  
896 Riverside Drive,  
Timmins, Ontario

Tel: 705-267-7951

or

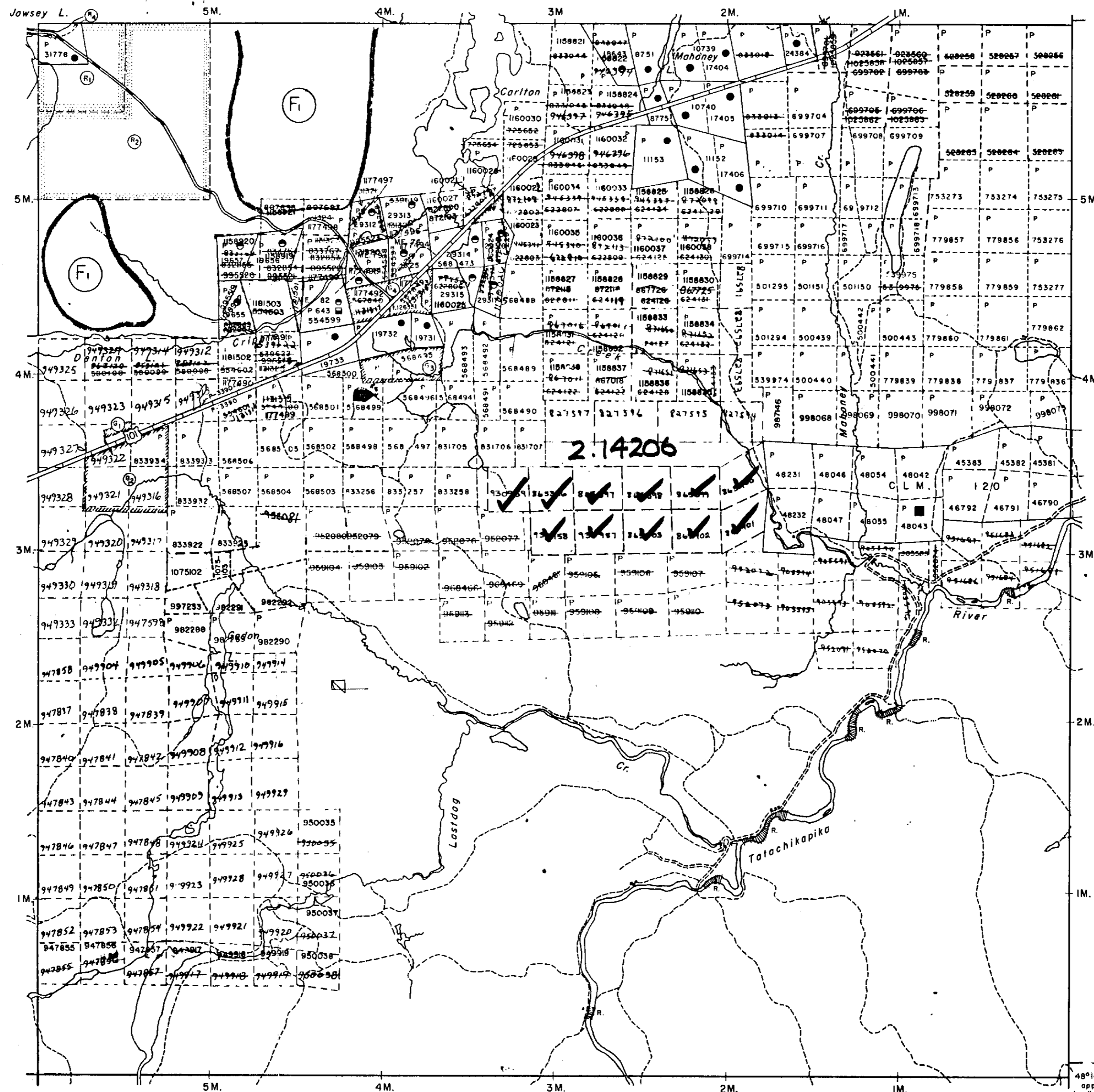
Mr. Pierre Corbeil  
Wafersboard Group  
Tel: 705-268-1462

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



200

CARSCALLLEN TWP.



REYNOLDS TWP.

LEGEND

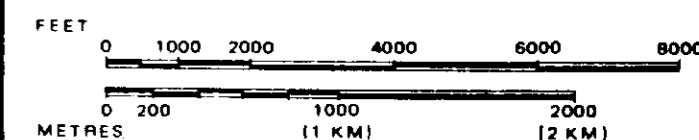
- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING 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	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



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

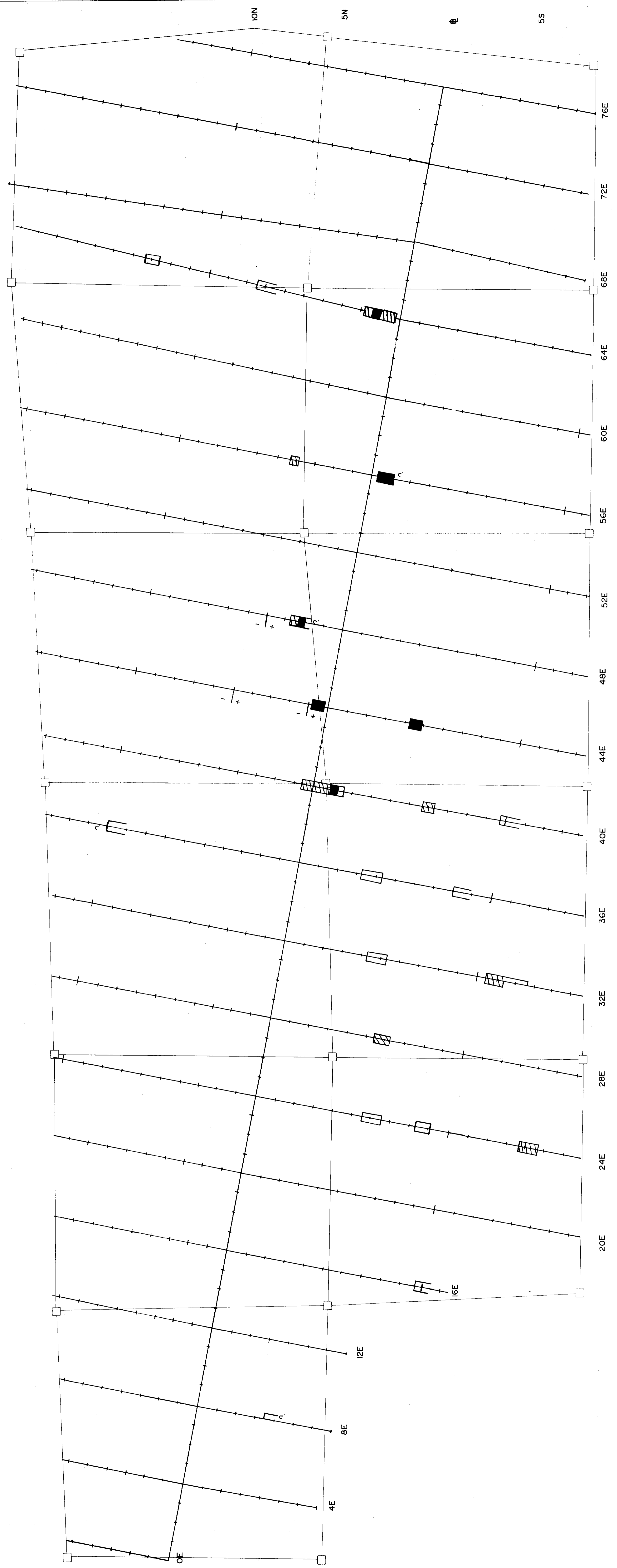
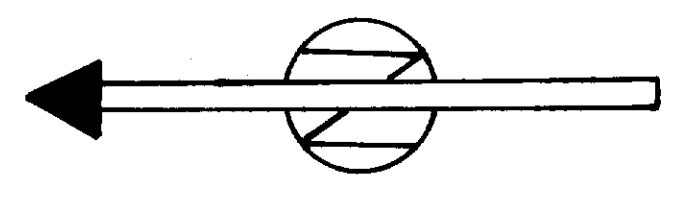
Ministry of Natural Resources  
Land Management Branch  
Ontario

Date MARCH, 1985

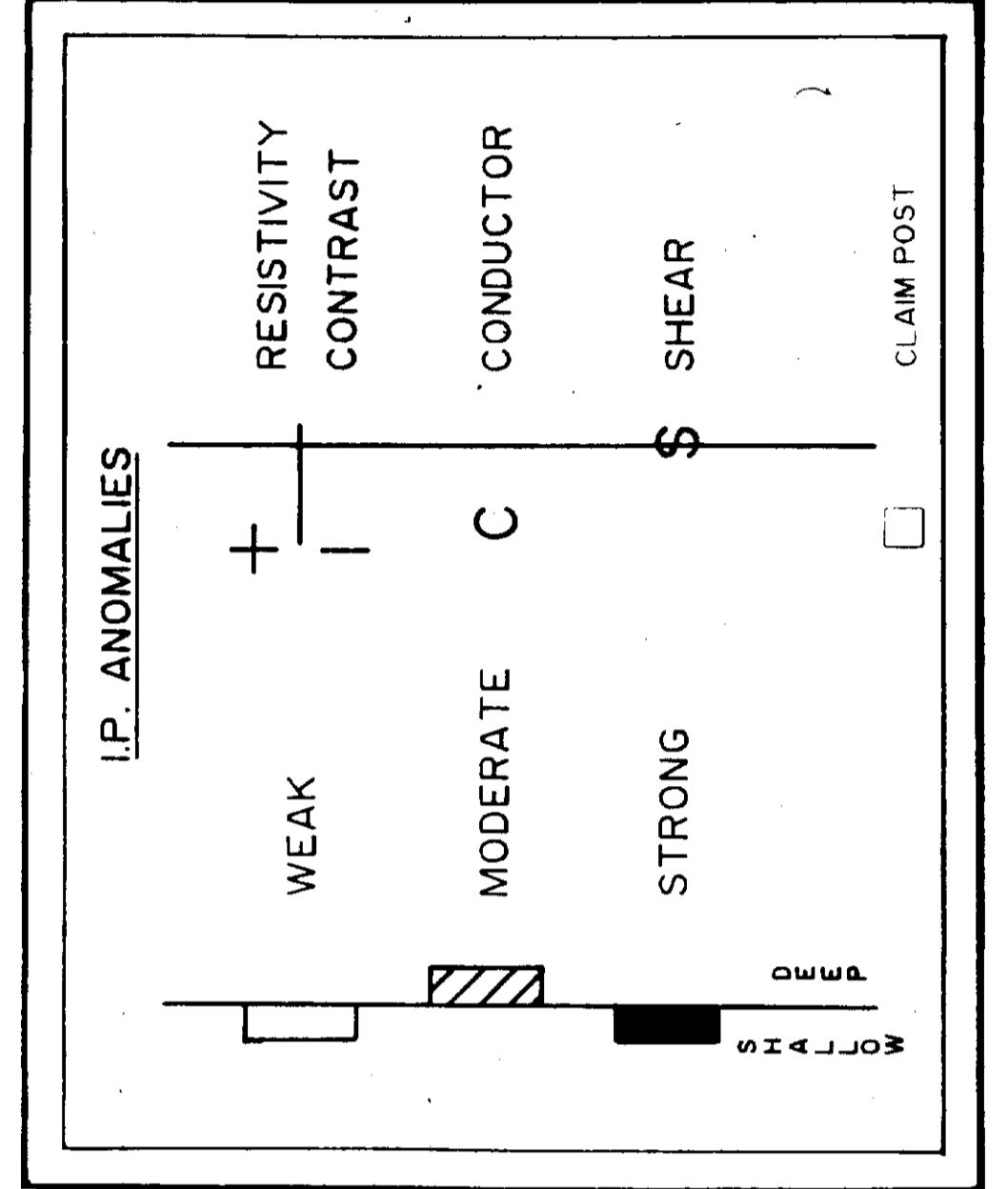
Number

G-3224

JUN 21 1985



RECEIVED  
JUL 02 1991  
MINING LANDS SECTION  
2.14206



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.
	for TME RESOURCES INC.
	Title CRIPPLE CREEK GOLD PROPERTY
	I. P. ANOMALY COMPILATION
	<i>[Signature]</i>
Date: NOV. 87	Scale: 1:200' N.I.S.: 1
Drawn: JLB	Approved:
	File: M-313

