GEOPHYSICAL/GEOLOGICAL REPORT

ON THE

1995 EXPLORATION PROGRAM

DESANTIS PROPERTY

TURNBULL TOWNSHIP, PORCUPINE MINING DIVISION, ONT.

Acct. # 2.3860

Submitted by: R.J. Meikle
Jan.20, 1996

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INTRODUCTION

This report deals with the logistics and results of an exploration program conducted on the DESANTIS Property in 1995. The claims are held by Steven D. Anderson and R.J. Meikle, and the work was funded in part by an OPAP grant issued to R.J. Meikle.

The exploration program, subject of this report, consisted of Linecutting, Mag/VLF Survey, I.P. Survey, prospecting/mapping, and blasting/trenching.

The purpose of the I.P. Survey was to look for disseminated sulphides as well any zones of alteration or silicification. The Mag/VLF Survey was done to aid in outlining any geological units or structures to correlate with the I.P. results.

The program was successful in outlining several I.P. anomalies. Anomalous gold values were also obtained from the prospecting and sampling done.

Results from the exploration program were quite promising and it is felt that a much more extensive program is warranted.

LOCATION AND ACCESS

This property is located in SE Turnbull Twp., Porcupine Mining Division, Ontario. A more precise location is as follows:

Area:	Timmins Camp
Township:	Turnbull
Mining Division:	Porcupine
Claim Map Sheet:	Turnbull Township, plan G-3250
NTS Map Sheet:	42 A/SW
UTM Co-ordinates:	448300me, 5367600mn

The Turnbull Twp. "Desantis Property" is accessed via Hwy 101 west from Timmins for approximately 13km, then west on the Mallette Logging road for 17km at which point an unmarked, secondary logging road is taken north for .7km where an intermittent driveable road runs west for 1km to the property.

CLAIM STATUS

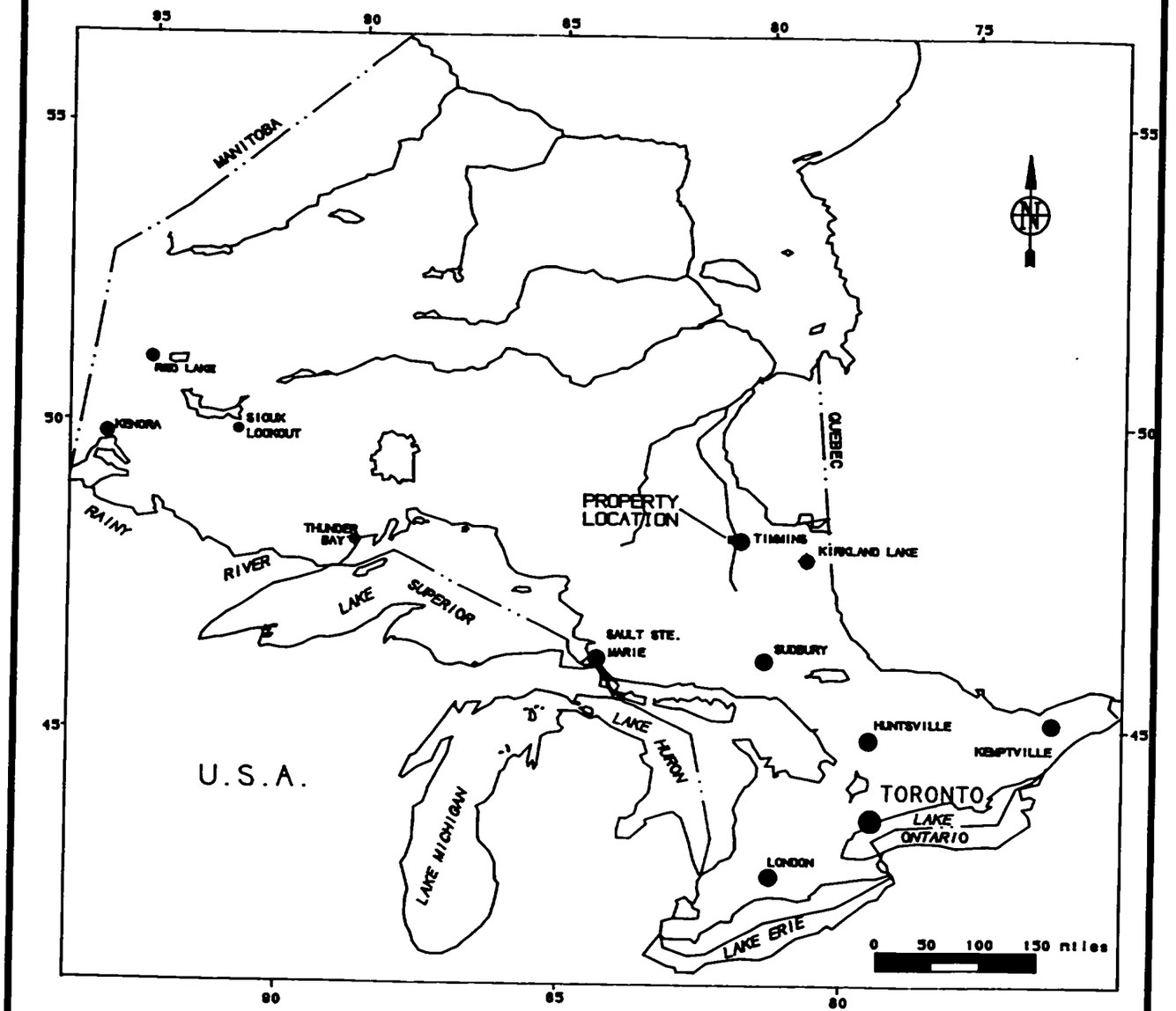
The work subject of this report was carried out on all or parts of 5 contiguous, unpatented claims (9 units), in SE Turnbull Township, Porcupine Mining Division, Ontario. The claims are held jointly by R.J. Meikle and S. Anderson. The numbers are as follows:

1181407	1	unit	Turnbull	Township
1181408	3	units	"	"
1181450	1	unit	"	"
1181454	2	units	"	"
1201581	2	units	"	"

PERSONNEL

The following personnel were directly involved with the Program:

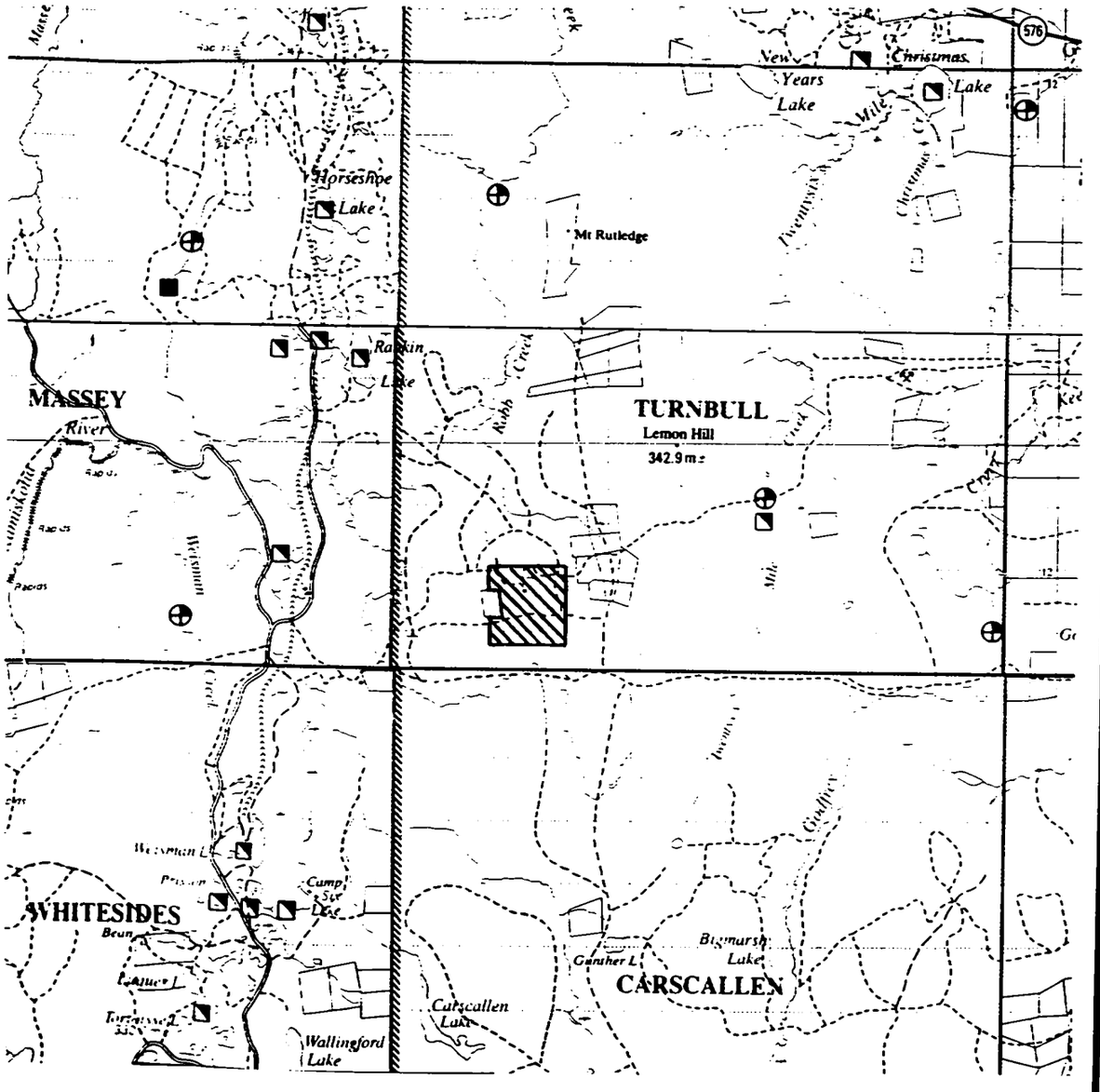
R.J. Meikle	Timmins, Ontario
S.D. Anderson	Timmins, Ontario
L. Anderson	Timmins, Ontario
W. Pearson	Timmins, Ontario
S. Polson	Timmins, Ontario
R. Williams	Timmins, Ontario



PROVINCE OF ONTARIO

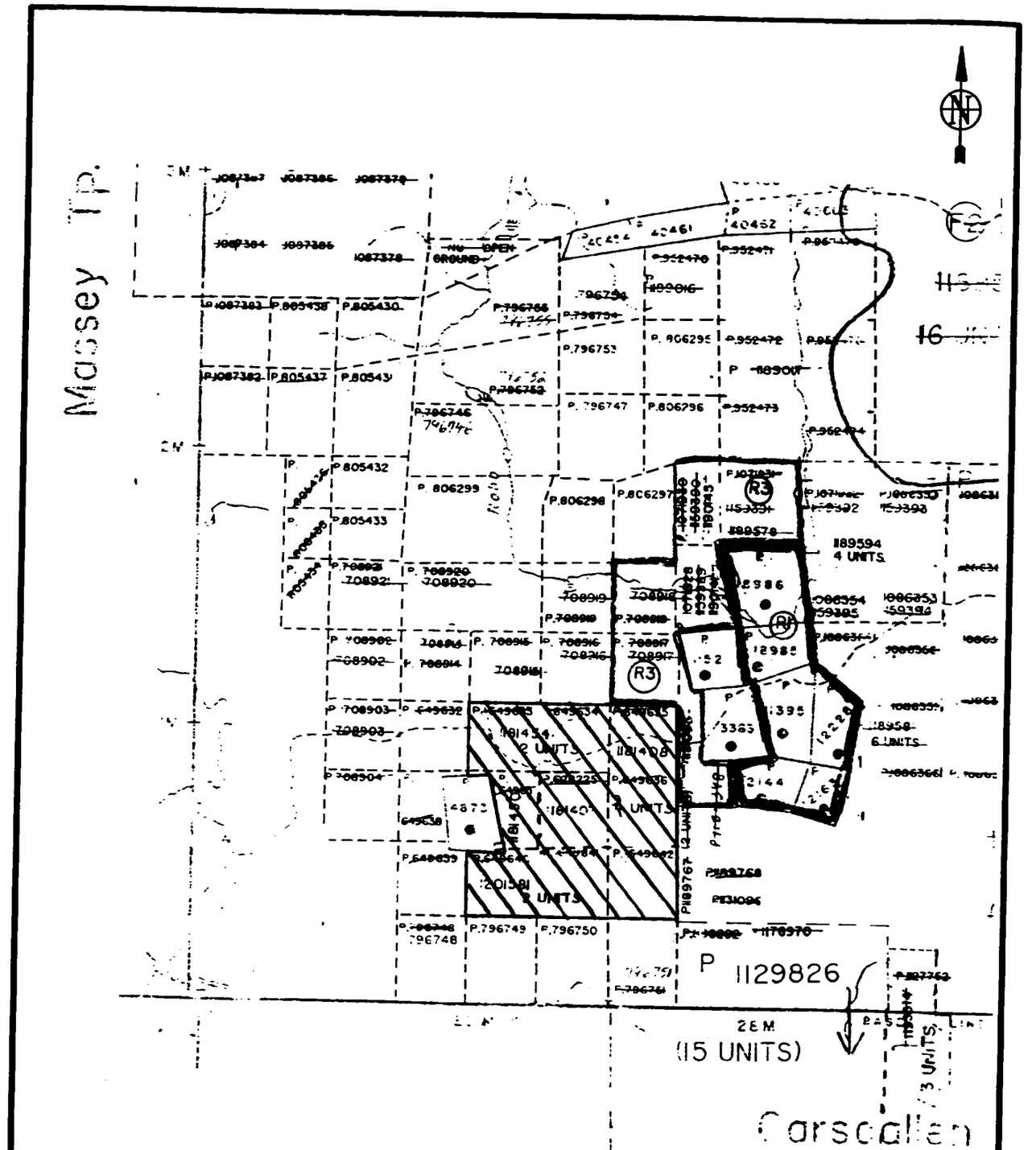
Fig#1

RAY MEIKLE OPAP 1995		
DESANTIS PROPERTY		
LOCATION MAP		
Date:	Scale: 1"=150 mi	N.T.S.: 42A/NW
Drawn: R.M.	Approved: R.M.	File: LOC



Fig#2

Client:	RAY MEIKLE OPAP 1995
Property:	DESANTIS PROPERTY
Title:	REGIONAL LOCATION MAP



Fig#3

Client:	RAY MEIKLE OPAP 1995
Property:	DESANTIS PROPERTY
Title:	CLAIM SKETCH

PREVIOUS WORK

The first work reported on the property was by Desantis Mines in 1927-1939. They sunk a 150 ft. shaft on a gold bearing quartz vein and did 1000 ft. of drifting at the 125 ft. level. They reported values of up to 5 oz./ton Au. on the hanging wall of the vein. A total of 13 oz. gold was produced from the workings in 1927. As is the case in many of these type of occurrences, proving up economic tonnage is frustrating and difficult with a lot of underground bulk sampling required to assess the property.

The ground was next acquired by Delbridge Mines in 1972 who de-watered the shaft and sampled, reporting erratic Au values with some high values correlating the earlier Desantis results. It should be noted that both programs appear to suggest that there is a correlation between sulphide content and higher and or more consistent Au values.

In 1984, 655 Group Holdings acquired the property and did a sampling program in the shaft area as well as some trenching on the claim to the north. Sampling in the shaft area was reported to have obtained similar values to the previous owners with trace Au to greater than 2 oz./ton Au in narrow veins. The trenching on the claim to the north reportedly obtained anomalous copper and zinc values.

PROSPECTING TARGET AND REASON FOR OPAP PROPOSAL

The primary target on the "Desantis Property" is the area in which a 150 ft. shaft was sunk on an auriferous quartz vein system and 1000 ft. of drifting at the 125 ft. level where assays of up to 5 Oz/ton Au. were reported with 13 oz. gold reportedly produced in 1927. The proposed prospecting program for this property would consist of linecutting, detailed mapping and sampling, trenching and blasting, Mag/Vlf survey, and an Induced Polarization Survey. The Mag/VLF survey is intended to help map both structure and geology to help interpret the vein system. The I.P. Survey is considered to be of high priority to map out disseminated sulphides with a resistivity high which would be indicative of a mineralized quartz vein, thus helping to delineate the known quartz vein and look for others on the property which are masked by overburden. Detailed mapping, sampling, trenching and blasting would follow the geophysical surveys to try to explain any anomalous results.

PROPERTY GEOLOGY

The underground work done to date suggests that the gold occurs in quartz veins typical of most of the Timmins gold mines. Prospecting/Mapping by the author showed the veins to be hosted in a Gabbro Intrusive. While the veins exposed have little sulphide association, the quartz veining appear to be intense suggesting possible areas with more extensive quartz flooding.

SURVEY PARAMETERS

LINECUTTING

A total of 15.0 km of grid lines were cut. A previous grid was used but the lines had to be re-cut. The previous grid was in feet with a line spacing of 200ft. The new lines followed the grid but was chained in metric with a picket spacing of 25m. All lines were chain saw cut. The baseline azimuth is True North with the crosslines at 90 degrees.

MAGNETOMETER SURVEY

The entire grid was covered by a Total Field Magnetometer Survey at a 12.5 meter reading interval for a total of 13.5 km. The following is a brief description of the method and instrument used to carry out the survey:

An EDA Omni IV Proton Precession magnetometer was used to carry out the magnetometer survey. The instrument is synchronized with an EDA recording base station to help eliminate magnetic diurnal variation. This should ensure an accuracy of less than 10 Nt.

The Proton Precession method involves energizing a wire coil immersed in a hydrocarbon fluid. This causes the protons in the proton rich fluid to spin or precess simulating spinning magnetic dipoles. When the current is removed the protons precess about the direction of the earth's magnetic field, generating a signal in the same coil which is proportional to the total magnetic field intensity. In this way, the horizontal gradient of the earth's magnetic field can be measured and plotted in plan form with values of equal intensity joined to form a contour map.
This presentation is useful in correlating with other data sets to aid in structural interpretation. Individual magnetic responses can be interpreted for dip, depth and width estimates after profiling the data.

The following parameters were employed for the survey:

Instrument - EDA Omni IV Proton Precession Magnetometer
Station Interval - 12.5m
Line Interval - 60m, 120m
Diurnal Correction Method - EDA Recording Base Station
Data Presentation - Magnetic Contours/Posting Map, 1:2500
- Contour Interval = 100 nT
- Datum subtracted = 58000 nT

VLF-EM SURVEY

A Geonics EM-16 instrument was used to survey the entire property. Both the In-phase (dip angle) and Quadrature values were recorded at 12.5m intervals. A total of 13.5 km was surveyed.

While VLF stands for Very Low Frequency, it is for mineral exploration purposes a very high frequency compared to other commonly used Electromagnetic Surveys. The commonly used frequencies are in the order of 18-20 kilohertz. The VLF-EM technique employs fixed transmitter stations located at various places around the world to facilitate navigation. Because of this, one has a limited choice as to what transmitter station that can be used, depending on distance from and azimuth to the transmitter station.

For this survey, Annapolis Maryland (NSS) was used. It has an operating frequency of 21.4 khz and an azimuth of approximately of 150 degrees TN from the property. Very briefly, the transmitting station emits a concentric, circular wave pattern, expanding about the transmitter dipole. Being thousands of miles away from the transmitter, we deal with the tangent of this wave pattern which in this case would have a direction normal to the azimuth of 130 degrees. Thus any conductors having a general EW strike direction would be intersected by this signal which induces a signal in the conductor which in turn opposes the primary signal from the transmitter station. This elliptically polarizes the resultant field enabling detection of the conductor using a receiver coil to determine the attitude of the resultant field at various points along the grid lines.

The resultant field dips away from the conductor axis on both sides of the conductor producing a cross-over on the conductor axis. For an EW conductor, a true cross-over would occur where the field dips south and changes to a north dip as you progress from south to north. For this survey, a +/- system is used where a (+) dip angle means the field is dipping to the south (indicating anomaly is to north) and a (-) dip angle means the field is dipping to the north (indicating anomaly is to south). This is the case only if all readings were taken facing north as per this survey.

The quadrature values, while not useful alone, can help distinguish between bedrock conductors which generally have a smaller out-of-phase response than overburden or short wavelength conductors. Also, the polarity of the quadrature is diagnostic, ie; if the polarity follows or is the same sense as the In-phase it gives more credibility to the conductor. Reverse quadrature often indicate overburden responses.

The following parameters were employed for the VLF survey:

Instrument - Geonics EM-16 VLF
Transmitter Station - Annapolis Md. (NSS), 21.4Khz.
Azimuth to station - approx. 160 degrees TN
Reading Direction - All reading taken facing north
Station Interval - 12.5m
Data Presentation - Profiled In-phase and quadrature, 1:2500

INDUCED POLARIZATION SURVEY

The I.P. Survey covered all or parts of Lines 0n, 60n, 240n, 180n, and 840n. An initial test was done using the Dipole-Dipole array and because of the uncertainty of the overburden thickness in some places, it was decided to use the Pole-Dipole array.

The following is a brief summary of the method used, theory, and the survey parameters:

The IP method involves applying voltage across two electrodes in a pulsed manner i.e. 2 seconds on, 2 seconds off. A second "dipole" or electrode pair, measures the residual potential or voltage between them after the voltage is shut off or during the 2 second off cycle. The potential is recorded at different times after the shut off. If, for example, there is sulphide mineralization within the measuring dipoles, they will be polarized or charges set up on the sulphide particles. This polarization gives the zone a capacitor effect, thereby blocking the current delay giving a higher chargeability reading.

A typical signature for many gold showings would be a chargeability high, resistivity high and magnetic low. This would be characteristic of a mineralized, highly altered carbonated and/or silicified zone. However, this is by no means the only geological setting for gold, therefore every profile should be looked at individually and correlated with all other geophysical-geological data.

ELECTRODE ARRAY

The electrode array used for the survey was the Pole-Dipole Array. In this array, one current electrode (C1) and two receiver or potential electrodes (P1,P2), are moved down a line in unison. A second current electrode (C2), is placed normal to the expected strike direction an infinite distance away, at least one km. The two current electrodes are hooked up to a motor-generator and a current applied across them, usually less than 3 amperes. The applied voltage is pulsed in a 2 second on, 2 second off pattern controlled by the transmitter.

Thus we have a single pole current electrode following a pair or dipole of potential electrodes moving down the line. The advantage of this "Pole-Dipole" array over the "Dipole-Dipole" array is a deeper current pattern between the infinite and moving current electrode, resulting in better penetration of conductive overburden. Also, this array is considerably faster in areas of high electrode contact impedance due to frozen and or rocky ground conditions because only one current electrode placement is needed for each reading. A disadvantage of the "Pole-Dipole" array is a slightly more ambiguous interpretation due to the assymetry of the array.

The distance between the potential electrodes is fixed, usually 25 or 50 meters and this is called the "a" spacing. When the potential dipole is positioned with one "a" spacing between the C1 and the nearest P1, it is called a "N=1" reading with a theoretical plot point at the intersection of a 45 degree line drawn down in a section format from the C1 and nearest P1. When this N=1 reading is finished, the C1 remains stationary and the P1P2 dipole moves ahead one "a" spacing and a N=2 reading is obtained. Using the above plot convention it can be seen that the plot point is now further from the C1 and deeper. This is repeated for as many "N" readings as desired.

The IP survey was carried out using the following parameters:

Method: Time Domain
Electrode Array: Pole-Dipole
"a" spacing: 25 meters
Number of Dipoles Read: 1-4
Pulse Duration: 2 seconds on, 2 seconds off
Delay Time: 500 milliseconds
Integration Time: 420 milliseconds
Receiver: Scintrex IPR-12
Transmitter: Scintrex TSQ-3, 3.0 Kw.
Data Presentation: Plate 1 of 1, psuedosections, 1:2500

PROSPECTING PROGRAM

The grid area was prospected and some blasting and sampling was done on the main "Shaft Area" trench and a trench to the north. Several samples of the wall rock on both sides of the main vein were taken but were not assayed at this time. A total of 18 rock samples were assayed for gold. The samples sent for assay were all from areas other than the main vein, most in Gabbro, none anomalous in gold. The geology/prospecting map included in this report shows the location of the assayed samples.

The main vein area was assayed by the author prior to obtaining an OPAP grant. The results showed assays greater than 1 oz/ton gold. Some blasting was done on the main zone during the current program and it is planned to channel sample in detail next summer.

Swastika Laboratories

A Division of TSL/Assayers Inc.

Established 1922

Assaying - Consulting - Representation

Assay Certificate

Company: RAYAN EXPLORATION LTD

Project:

Attn: R. Meikle

5W-4350-RA1

Date: NOV-16-95

We hereby certify the following Assay of 18 Rock samples submitted NOV-08-95 by .

Sample Number	Au PPB	Au Check PPB
S-1	17	14
S-2	Nil	-
S-3	7	-
S-4	3	3
S-5	9	-
S-6	7	-
S-7	15	-
S-8	2	-
S-9	38	31
S-10	Nil	-
S-11	3	-
S-12	9	7
S-13	3	-
S-14	26	27
S-15	41	45
S-16	5	-
S-17	2	-
S-18	Nil	-

One assay ton portion used.

Certified by Denis Chartre

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300

SURVEY RESULTS

MAGNETOMETER SURVEY

The Magnetometer Survey outlined three prominent north-south striking, linear, magnetic highs. One on the east flank of the contact described above at approximately 175w on the grid lines.

Another similar feature is outlined at approximately 525e with possible parallel anomalies. The third is a similar response from L0/400e to L480n/350e.

The western magnetic anomaly has a parallel response to the east, south of L0. This zone is on the west flank of the main shaft zone and appears to be terminated to the north of the shaft by an east west structural break, which may also be coincident with the southern termination of the middle magnetic high.

There appears to be an E/NE striking structural break terminating the middle magnetic anomaly to the north and the western magnetic anomaly. There is a possibility that the western magnetic high is offset approximately 200m to the west, continuing to the north from L600n.

The linear magnetic anomalies described are most likely caused by diabase dikes. Several outcrop exposures in the area tend to confirm this.

VLF-EM SURVEY

The VLF-EM Survey outlined several north-south striking anomalies. There is a VLF conductor coincident with all three magnetic anomalies described above. This may be due to current channelling along the above proposed geological contact on each end of the grid which is proposed to be fault zones as well.

Several other VLF Conductors appear to be coincident with topographic changes from outcrop to swamp, suggesting a surficial cause for the anomaly due to current channelling at the interface.

I.P. SURVEY

The I.P. Survey did not indicate any anomalous chargeability response over the "Shaft Zone Trench" at L0n/90w, but there is a possible resistivity high over the zone. Prospecting in the trench area showed little to no sulphide mineralization which would account for the lack of a chargeability anomaly. The strong quartz flooding observed would explain the Resistivity high. There appears to be a similar resistivity high on Lines 60n, 180n, and 240n at approximately 100w. This could be outlining the vein system and if so, would mean that there is a significant strike extent which has not been prospected, most likely due to lack of exposure.

There appears to be a contact at approx. 250w on all lines with the chargeability and resistivity increasing significantly on the west side. This feature is coincident with a rock face marking the east boundary of a relatively high rock outcrop. The outcrop was observed to be a Gabbroic Intrusive which would explain the increase in the I.P. background.

There is an increase in resistivity and chargeability on the very eastern end of Lines 0n, 240n, and 840n. While coverage and resolution are not the best, there appears to be a mirror image of the contact described above on the west ends of the lines. There is a correlation with one or more linear magnetic highs. Again, the weaker resistivity high on the west flank of a high resistivity zone may be a dike while the broader and higher chargeable/resistive unit to the east may be a intrusive.

CONCLUSIONS AND RECOMMENDATIONS

The I.P. Survey appears to have a Resistivity high signature over the known quartz vein and appears to have traced the main shaft vein as far as L240. The I.P. coverage should be extended to trace the zone to the north, as L840n was the next line surveyed to the north. This would require a winter survey to cover the beaver pond. The zone should be either stripped if overburden permits and or diamond drilled to confirm the existence of the vein along strike and test same for gold mineralization.

The proposed north-south faults on the east and west ends of the grid are parallel to the main shaft zone vein should be tested in more than one place along strike to determine if there is a coincident quartz vein. Because these two features have little to no exposure, diamond drilling may be the only way to test them.

The proposed E-W fault just north of the shaft and the E-NE fault to the north should both be considered as playing an important structural role in relation to the known N-S veins. It may be worthwhile cutting a north-south grid to cover these proposed features with an I.P. Survey to look for veins parallel and or coincident to them.

CERTIFICATION

I, Raymond Joseph Meikle of Timmins, Ontario hereby certify that:

1. I hold a three year Technologist Diploma from the Haileybury School of Mines, Haileybury, Ontario, obtained in May 1975.

2. I have been practising my profession since 1973 in Ontario, Quebec, Nova Scotia, New Brunswick, Newfoundland, NWT, Manitoba, Germany and Chile.

3. I have been employed directly with Teck Corporation, Metallgessellschaft Canada Ltd. Sabina Industries, .S. Middleton Exploration Services Ltd., self employed 1979-1985 (Rayan Exploration Ltd.) and currently with Rayan Exploration Ltd.

4. I have based conclusions and recommendations contained in this report on knowledge of the area, my previous experience and on the results of the field work conducted on the property during 1995.

5. I hold a 50% interest in the "Desantis Property", subject of this report.

Dated this 20th day of Jan./96
at Timmins, Ontario.

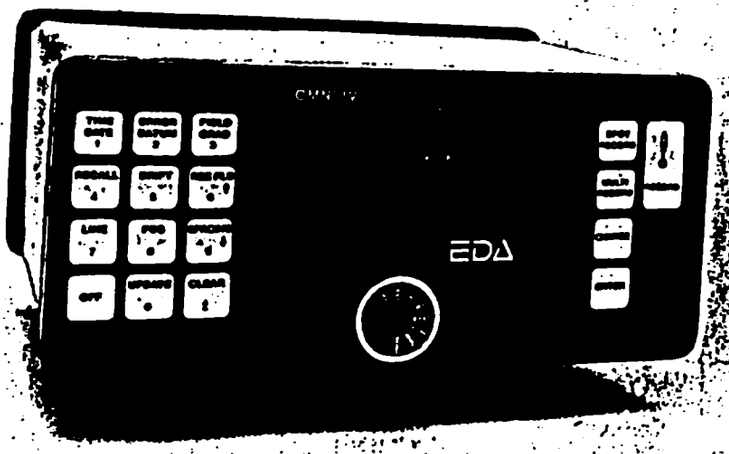
R.J. Meikle

APPENDIX 'A'

SCINTREX OMNI IV - PROTON MAGNETOMETER

OMNI IV
The Ultimate Magnetometer

EDA



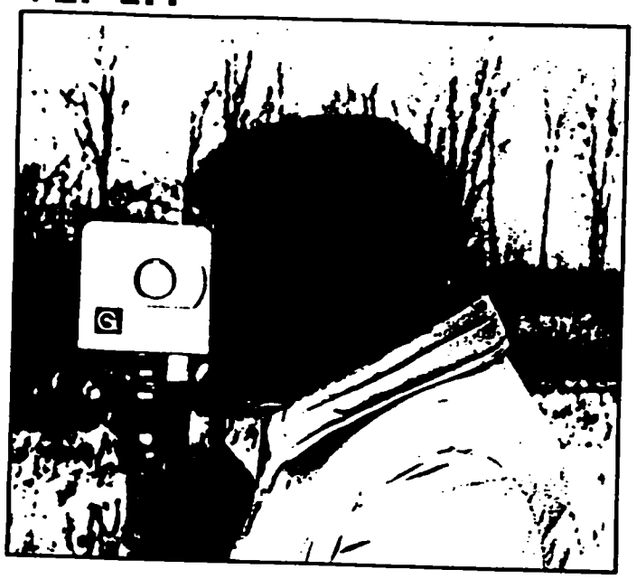
OMNI IV's Major Benefits

- Four Magnetometers In One
- Self Correcting for Diurnal Variations
- Reduced Instrumentation Requirements
- 25% Weight Reduction
- User Friendly Keypad Operation
- Universal Computer Interface
- Comprehensive Software Packages

APPENDIX "B"

GEONICS EM-16 VLF RECEIVER

VLF EM



EM16

One of the most popular and widely used electromagnetic instruments, the EM16 VLF receiver makes the ideal reconnaissance EM. This can be attributed to its field reliability, operational simplicity, compactness and mutual compatibility with other reconnaissance instruments such as portable magnetometers and radiometric detectors.

The VLF method of EM surveying, pioneered by Geonics, has proven to be a simple economical means of mapping geological structure and fault tracing. The applications are many and varied, ranging from direct detection of massive sulphide conductors to the indirect detection of precious metals and radioactive deposits.

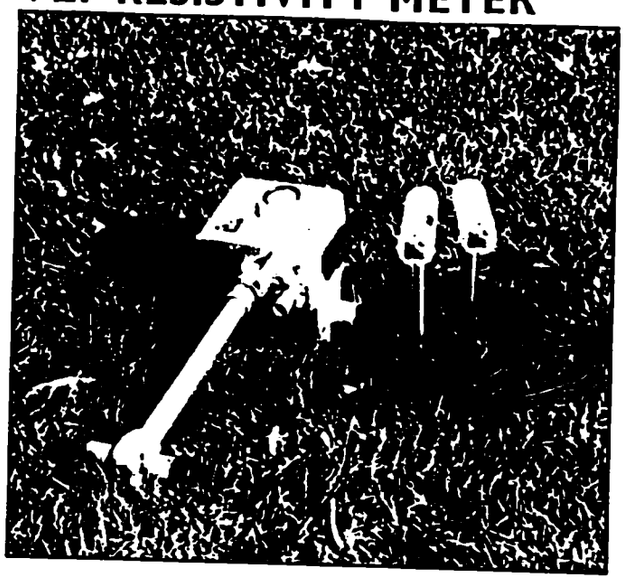
FEATURES

- The EM16 is the only VLF instrument that measures the quad-phase as well as the in-phase secondary field. This has the advantage of providing an additional piece of data for a more comprehensive interpretation and also allows a more accurate determination of the tilt angle.
- The secondary fields are measured as a ratio to the primary field making the measurement independent of absolute field strength.
- The EM16 is the only VLF receiver that can be adapted to measure VLF resistivity.

Specifications

MEASURED QUANTITY	In-phase and quad-phase components of vertical magnetic field as a percentage of horizontal primary field. (i.e. tangent of the tilt angle and ellipticity)
SENSITIVITY	In-phase : ±150% Quad-phase : ± 40%
RESOLUTION	±1%
OUTPUT	Nulling by audio tone. In-phase indication from mechanical inclinometer and quad-phase from a graduated dial.
OPERATING FREQUENCY	15-25 kHz VLF Radio Band. Station selection done by means of plug-in units.
OPERATOR CONTROLS	On/Off switch, battery test push button, station selector switch, audio volume control, quadrature dial, inclinometer.
POWER SUPPLY	6 disposable 'AA' cells
DIMENSIONS	42 x 14 x 9 cm
WEIGHT	Instrument: 1.6 kg Shipping : 5.5 kg

VLF RESISTIVITY METER



EM16/16R

The EM16R is a simple, button on attachment to the EM16 converting it to a direct reading terrain resistivity meter. The EM16R interfaces a pair of potential electrodes to the EM16 enabling the measurement of the ratio of, and the phase angle between, the horizontal electric and magnetic fields of the plane wave propagated by distant VLF radio transmitters.

The EM16R is direct reading in ohm-meters of apparent ground resistivity. If the phase angle is 45°, the resistivity reading is the true value and the earth is uniform to the depth of exploration (i.e. a skin depth). Any departure from 45° of phase indicates a layered earth. Two layer interpretation curves are supplied with each instrument to permit an interpretation based on a two layer earth model.

This highly portable resistivity meter makes an ideal tool for quick geological mapping and has been used successfully for a variety of applications.

- Detection of massive and disseminated sulphide deposits
- Overburden conductivity and thickness measurements
- Permafrost mapping
- Detection and delineation of industrial mineral deposits
- Aquifer mapping

Specifications EM16R ATTACHMENT

MEASURED QUANTITY	• Apparent Resistivity of the ground in ohm-meters • Phase angle between E_x and H_y in degrees
RESISTIVITY RANGES	• 10 — 300 ohm-meters • 100 — 3000 ohm-meters • 1000 — 30000 ohm-meters
PHASE RANGE	0-90 degrees
RESOLUTION	• Resistivity : ±2% full scale • Phase : ±0.5°
OUTPUT	Null by audio tone. Resistivity and phase angle read from graduated dials.
OPERATING FREQUENCY	15-25 kHz VLF Radio Band. Station selection by means of rotary switch.
INTERPROBE SPACING	10 meters
PROBE INPUT IMPEDANCE	100 MΩ in parallel with 0.5 picofarads
DIMENSIONS	19 x 11.5 x 10 cm. (attached to side of EM16)
WEIGHT	1.5 kg (including probes and cable)

APPENDIX "C"

SCINTREX IPR-12, I.P. RECEIVER

SCINTREX

IPR-12 Time Domain Induced Polarization/Resistivity Receiver

Brief Description

The IPR-12 Time Domain IP/Resistivity Receiver is principally used in exploration for precious and base metal mineral deposits. In addition, it is used in geoelectrical surveying for groundwater or geothermal resources, often to great depths. For these latter targets, the induced polarization measurements may be as useful as the high accuracy resistivity results since it often happens that geological materials have IP contrasts when resistivity differences are absent.

Due to its integrated, lightweight, microprocessor based design and its large, 16 line display screen, the IPR-12 is a remarkably powerful, yet easy to use instrument. A wide variety of alphanumeric and graphical information can be viewed by the operator during and after the taking of readings. Signals from up to eight potential dipoles can be measured simultaneously and recorded in solid-state memory along with automatically calculated parameters. Later, data can be output to a printer or a PC (direct or via modem) for processing into profiles and maps.

The IPR-12 is compatible with Scintrex IPC and TSQ Transmitters, or others which output square waves with equal on and off periods and polarity changes each half cycle. The IPR-12 measures the primary voltage (Vp), self potential (SP) and time domain induced polarization (Mi) characteristics of the received waveform. Resistivity, statistical and Cole-Cole parameters are calculated and recorded in memory with the measured data and time.

Scintrex has been active in induced polarization research, development, manufacturing, consulting and surveying for over thirty years. We offer a full range of instrumentation, accessories and training.

The IPR-12 Receiver measures spectral IP signals from eight dipoles simultaneously then records measured and calculated parameters in memory.

Benefits

Speed Up Surveys

The IPR-12 saves you time and money in carrying out field surveys. Its capacity to measure up to eight dipoles simultaneously is far more efficient than older receivers measuring a single dipole. This advantage is particularly valuable in drillhole logging where electrode movement time is minimal.

The built-in, solid-state memory records all information associated with a reading, dispensing with the need for any hand written notes. PC compatibility means rapid electronic transfer of data from the receiver to a computer for rapid data processing.

Taking a reading is simple and fast. Only a few keystrokes are virtually needed since the IPR-12 features automatic circuit resistance checks, SP buckout and gain setting.

High Quality Data

One of the most important features of the IPR-12 in permitting high quality data to be acquired, is the large display screen which allows the operator easy real time access to graphic and alphanumeric displays of instrument status and measured data. The IPR-12 ensures that the operator obtains accurate data from field work.

The number and relative widths of the IP decay curve windows have been carefully chosen to yield the transient information required for proper interpretation of spectral IP data. Timings are selectable to permit a very wide range of responses to be measured.

APPENDIX "D"

SCINTREX TSQ-3, I.P. TRANSMITTER

SCINTREX TSQ-3 3000 W

Time and Frequency Domain IP and Resistivity Transmitter

Function

The TSQ-3 is a multi-frequency, square wave transmitter suitable for induced polarization and resistivity measurements in either the time or frequency domain. The unit is powered by a separate motor-generator.

The favourable power/weight ratio and compact design of this system make it portable and highly versatile for use with a wide variety of electrode arrays. The medium range power rating is sufficient for use under most geophysical conditions.

The TSQ-3 has been designed primarily for use with the Scintrex Time Domain and Frequency Domain Receivers, for combined induced polarization and resistivity measurements, although it is compatible with most standard time domain and frequency domain receivers. It is also compatible with the Scintrex Commutated DC Resistivity Receivers for resistivity surveying. The TSQ-3 may also be used as a very low frequency electromagnetic transmitter.

Basically the transmitter functions as follows. The motor turns the generator (alternator) which produces 800 Hz, three phase, 230 V AC. This energy is transformed upwards according to a front panel voltage setting by a large transformer housed in the TSQ-3. The resulting AC is then rectified in a rectifier bridge. Commutator switches then control the DC voltage output according to the waveform and frequency selected. Excellent output current stability is ensured by a unique, highly efficient technique based on control of the phase angle of the three phase input power.

Features

Current outputs up to 10 amperes, voltage outputs up to 1500 volts, maximum power 3000 VA.

Solid state design for both power switching and electronic timing control circuits.

Circuit boards are removable for easy servicing.

Switch selectable wave forms: square wave continuous for frequency domain and square wave interrupted with automatic polarity change for time domain.

Switch selectable frequencies and pulse times.

Overload, underload and thermal protection for maximum safety.

Digital readout of output current.

Programmer is crystal controlled for very high stability.

Low loss, solid state output current regulation over broad range of load and input voltage variations.

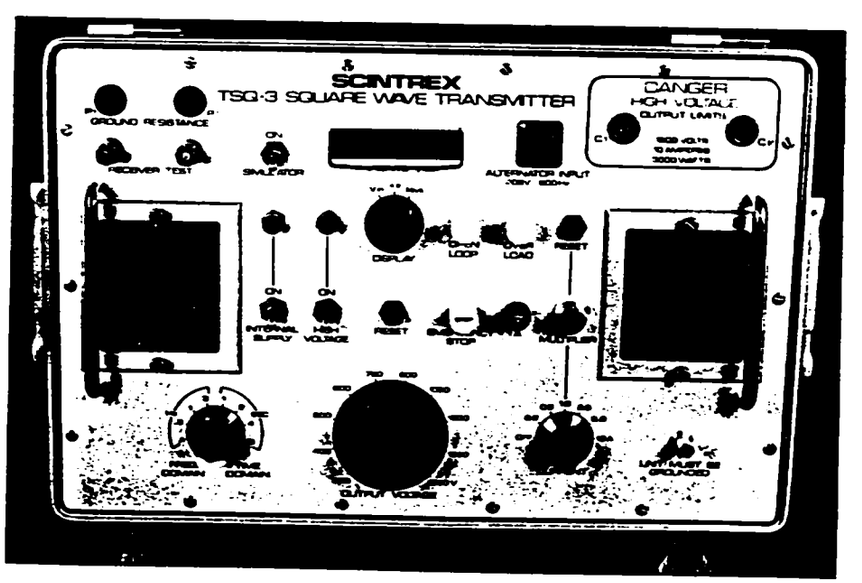
Rectifier circuit is protected against transients.

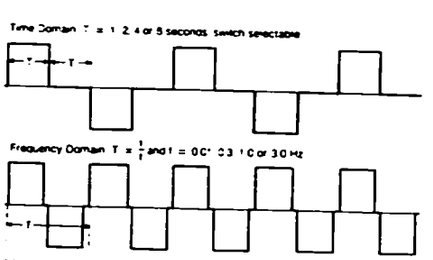
Excellent power/weight ratio and efficiency.

Designed for field portability; motor-generator is installed on a convenient frame and is easily man-portable. The transmitter is housed in an aluminum case.

The motor-generator consists of a reliable Briggs and Stratton four stroke engine coupled to a brushless permanent magnet alternator.

New motor-generator design eliminates need for time domain dummy load.





Waveforms output by the TSQ-3

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number
W9660.00081

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

2.16484

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for Recorder.
- A separate copy of this form must be compl
- Technical reports and maps must accompan
- A sketch, showing the claims the work is as

42A05NE0071 2.16484 TURNBULL

900

Recorded Holder(s) Steve Dean Anderson		Client No. 102430
Address 74 Mc Clinton Dr. Timmins, Ont P4N-4P4		Telephone No. 705-264-2651
Mining Division Porcupine	Township/Area Turnbull Twp	M or G Plan No. G-3250
Dates Work Performed From: June 16/95	To: Sept 16/95	

Work Performed (Check One Work Group Only)

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

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Total Assessment Work Claimed on the Attached Statement of Costs $ 16,666.67

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

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

Name	Address
Ray Tuttle	676 Harvey St. Timmins, Ont P4N-7B2

(attach a schedule if necessary)

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

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date Feb 19/96	Recorded Holder or Agent (Signature)

Certification of Work Report

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

Name and Address of Person Certifying Steve Dean Anderson. 74 Mc Clinton Dr Timmins Ont P4N-4P4		
Telepone No. 705-264-2651	Date Feb 19/96	Certified By (Signature)

For Office Use Only

Total Value Cr. Recorded 10,800.	Date Recorded	Mining Recorder Updated Gary White	RECEIVED FEB 19 1996 3:15 PORCUPINE MINING DIVISION
	Deemed Approval Date MAY 19/96	Date Approved	
	Date Notice for Amendments Sent		

3241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
[illegible]	1181407	1	1200	1200		
[illegible]	1181408	3	3600	3600		
6	1181450	1	1200	1200		
1	1181454	2	2400	2400		
2	1201581	2	2400	2400		
	Total Number of Claims		Total Value Work Done: 10,800	Total Value Work Applied: 10,800	Total Assigned From	Total Reserve

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APR 30 1996
MINING LANDS BRANCH

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

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

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

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

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

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

0241 (03/91)

Ministry of Northern Development and Mines
Ontario
Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit
État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction
W9660.00081

2.16484

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

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

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain		
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type Linecutting		
	Prospecting Mag/VLF/IP		
	Report		10,400
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		[illegible]

2. Indirect Costs/Coûts indirects

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

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

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APR 30 1996
MINING LANDS BRANCH

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

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

Filing Discounts

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

Total Value of Assessment Credit		Total Assessment Claimed
	× 0.50 =	

Remises pour dépôt

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

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

Certification Verifying Statement of Costs

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

that as [signature] I am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

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

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

à faire cette attestation.

Signature	Date
[signature]	Feb. 4/96

0212 (04/91)

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

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

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

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

May 16, 1996

Our File: 2.16484
Transaction #: W9660.00081

Mining Recorder
Ministry of Northern Development & Mines
60 Wilson Avenue, 1st Floor
Timmins, Ontario
P4N 2S7

Dear Mr. White:

SUBJECT: APPROVAL OF ASSESSMENT WORK CREDIT ON MINING LAND, CLAIMS P.1181407 ET AL IN TURNBULL TOWNSHIP

Assessment work credit has been approved as outlined on the Declaration of Assessment Work Form accompanying this submission. The credit has been approved under Section 14, Geophysics (MAG & VLF & IP), of the Assessment Work Regulation.

The approval date is May 14, 1996.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705) 670-5858.

Yours sincerely,
ORIGINAL SIGNED BY:

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

LBJ/jl

cc: Resident Geologist
Timmins, Ontario

Assessment Files Library
Sudbury, Ontario

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

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

Description	Order No.	Date	Disposition	File

(F1) ~~THIS TWP SUBJECT TO FOREST ACTIVITY IN 1994/95 FURTHER INFORMATION AVAILABLE ON FILE.~~

(PI) MINING RIGHTS ONLY WITHDRAWN FROM PROSPECTING STAKING OUT, SALE OR LEASE UNDER SECTION 35 OF THE MINING ACT R.S.O. 1990 DATED 92-MAY-27 AT 12:03 P.M. E.S.T. ORDER NO. W-926/92 NER

(AG) AGGREGATE PERMIT - NOTICE RECEIVED JUNE 16, 1993

(MS) THE MINING AND SURFACE RIGHTS ARE WITHDRAWN FROM PROSPECTING, STAKING OUT, SALE OR LEASE UNDER SECTION 35 OF THE MINING ACT R.S.O. 1990 DATED JAN. 11, 1995 AT 1155 A.M. ORDER NO. W-P-1/95 NER.

NOTES

THIS TOWNSHIP LIES WITHIN THE MUNICIPALITY OF THE CITY OF TIMMINS

(ST) - PROPOSED SNOWMOBILE TRAIL NOTICE REC'D 93-MAY-20

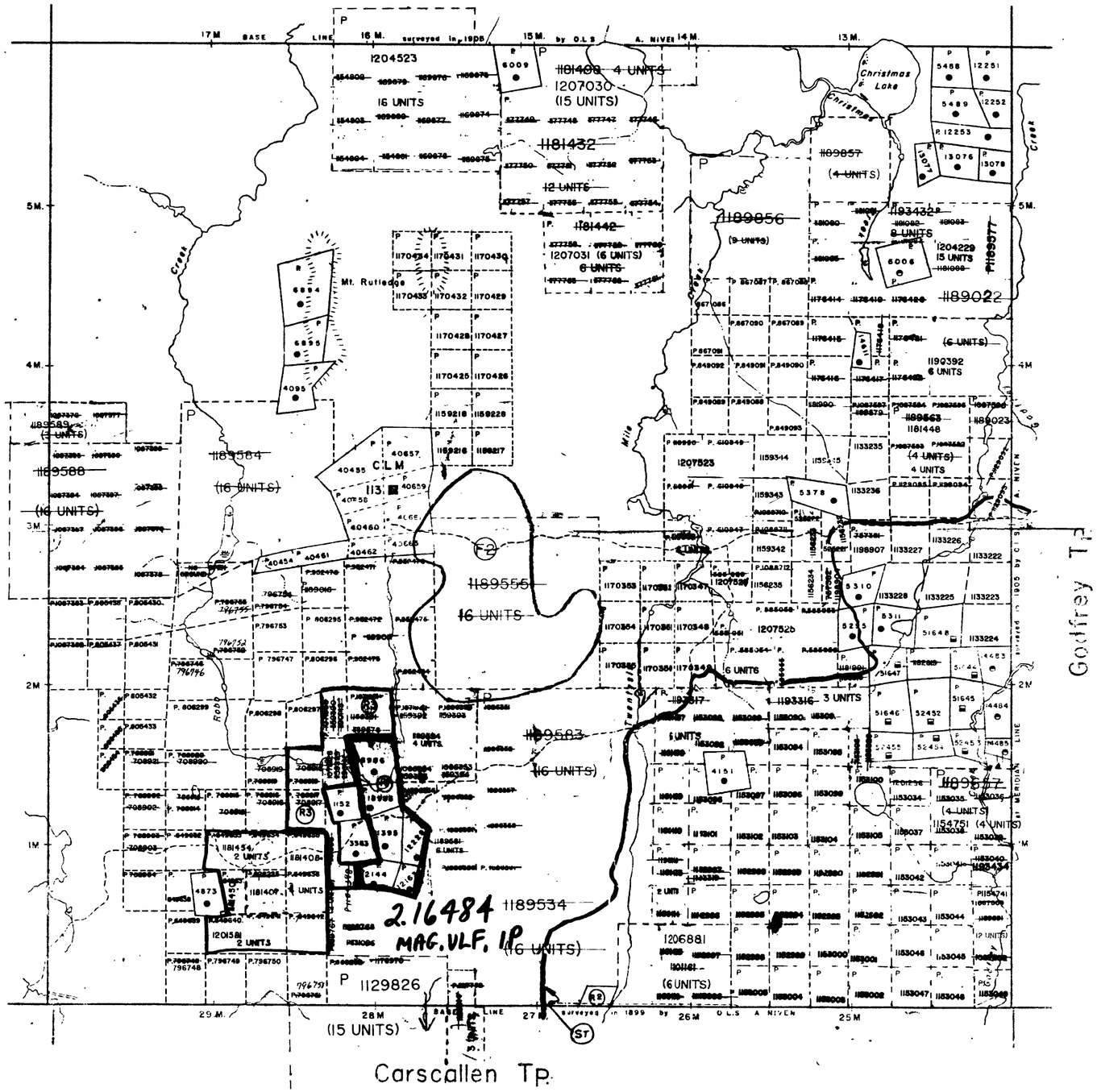
(F2) THIS TWP SUBJECT TO FOREST ACTIVITY IN 1995-9 FURTHER INFORMATION AVAILABLE ON FILE.

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.

42A05NE0071 2.16484 TURNBULL

200

Robb TP.



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

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

TOWNSHIP

TURNBULL 2.16484

M.N.R. ADMINISTRATIVE DISTRICT

TIMMINS

MINING DIVISION

PORCUPINE

LAND TITLES / REGISTRY DIVISION

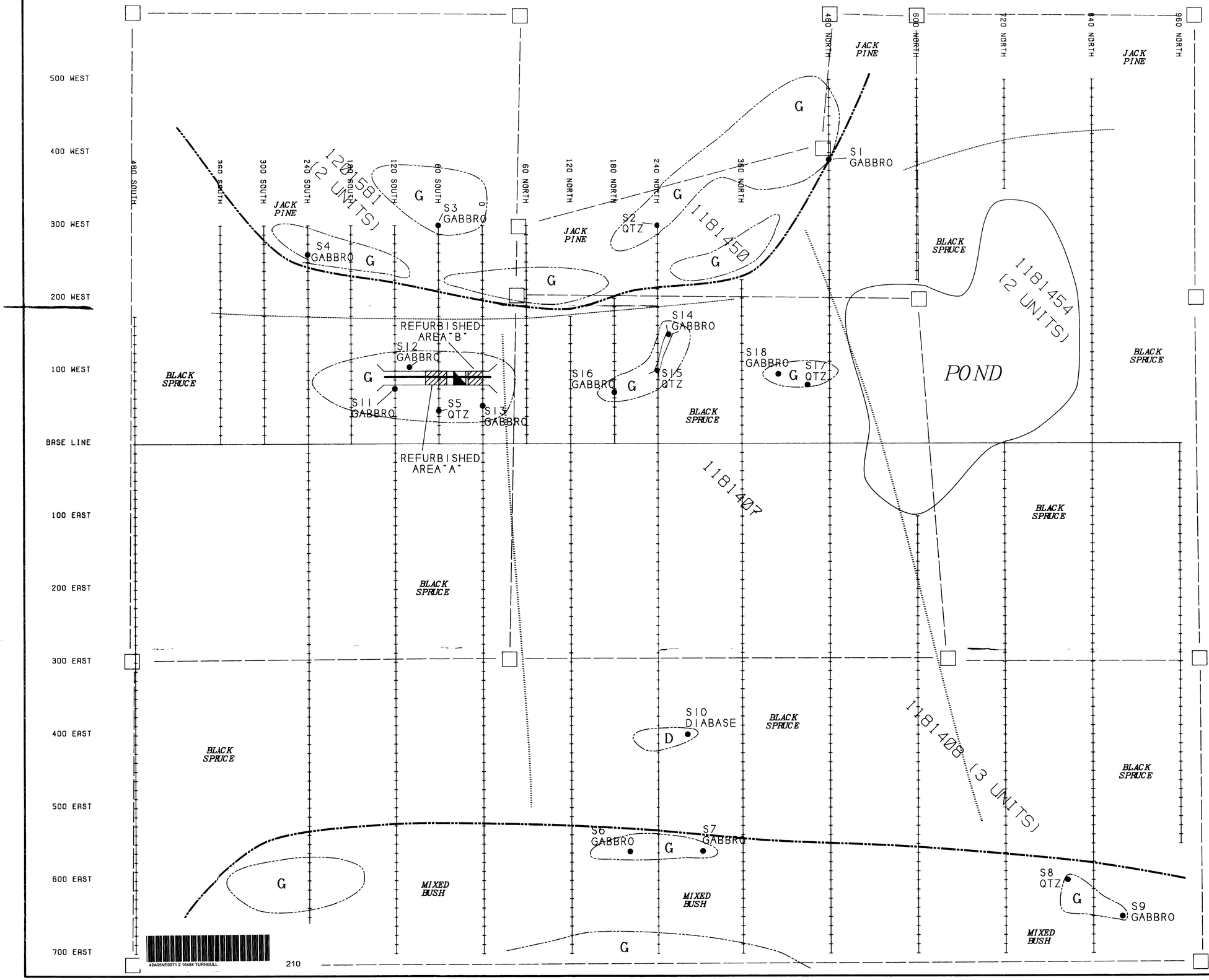
COCHRANE

RECEIVED
SEP - 7 1995
MINING LANDS BRANCH

Ontario Ministry of Natural Resources — Land Management Branch

Date	Number
MARCH, 1985	G-3250

ACTIVATED JANUARY 30, 1996



SHAFT TRENCH

REFURBISHED TRENCH AREA "A"

LENGTH: 10 METERS
WIDTH : 5 METERS
DEPTH : 2 METERS

REFURBISHED TRENCH AREA "B"

LENGTH: 5 METERS
WIDTH : 2 METERS
DEPTH : 1 METER

LEGEND

- GEOLOGICAL BOUNDARY
- OUTCROP AREA
- G GABBRO
- D DIABASE
- INTERPRETED FAULT
- CLAIM POST
- CLAIM LINE
- SHAFT WITH QUARTZ VIEN
- SAMPLE LOCATION.
- S8 SAMPLE NUMBER
- QTZ SAMPLE DESCRIPTION – QUARTZ
- JACK PINE VEGATATION TYPE

2.16484

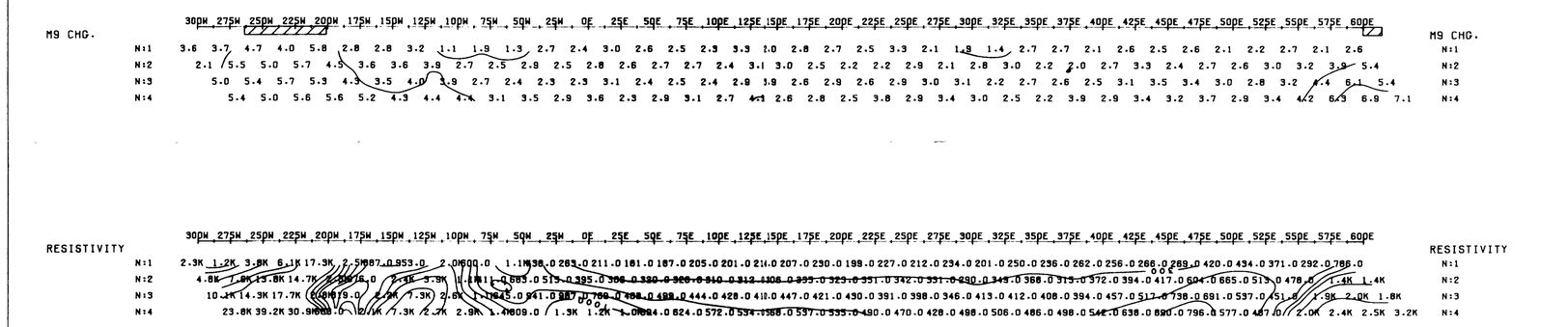
200 100 0 50 100 150 200

Client: R.J. MEIKLE OPAP

Property: DESANTIS PROPERTY

Title:
PROSPECTING SKETCH
SAMPLE LOCATION SKETCH

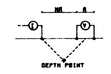
Processed: R.J. MEIKLE	Checked: RJM
Date: JAN 1996	Township: TURNBULL
Province: ONTARIO	N.T.S.:
Scale: 1:2500	Drawing:



LINE : 0 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

RECEIVER: SCINTREX IPR-12 TIME DOMAIN
RX-TX TIMING: 2 sec ON 2 sec OFF
TRANSMITTER: SCINTREX TSQ-3 3KVA
SLICE TIMING: 310-405 ms
PLOTTED WINDOW: SLICE #9

RAY MEIKLE OPAP 1995

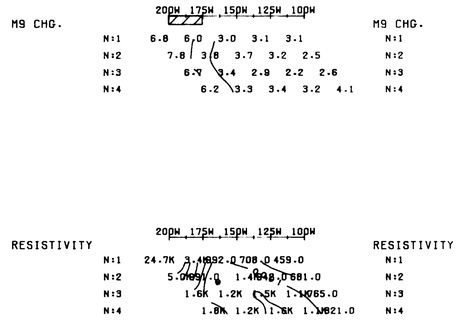
DESANTIS

TURNBULL TOWNSHIP

DATE : JULY 23/95 | REF : RJM

SCALE = 1: 2500

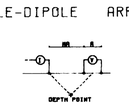
OPAP



LINE : 60 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

RECEIVER: SCINTREX IPR-12 TIME DOMAIN
RX-TX TIMING: 2 sec ON 2 sec OFF
TRANSMITTER: SCINTREX TSQ-3 3KVA
SLICE TIMING: 310-405 ms
PLOTTED WINDOW: SLICE #9

RAY MEIKLE OPAP 1995

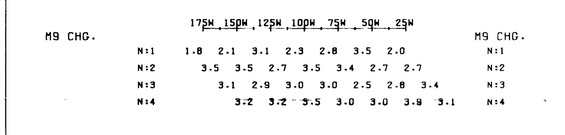
DESANTIS

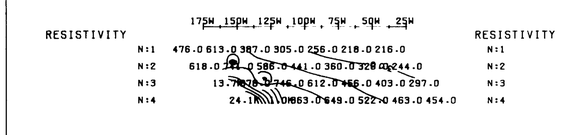
TURNBULL TWP

DATE : JULY21 1995 | REF : R266

SCALE = 1: 2500

OPAP

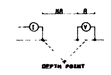




LINE : 180 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

RECEIVER SCINTREX IPR-12 TIME DOMAIN
RX-TX TIMING 2 sec ON 2 sec OFF
TRANSMITTER SCINTREX TSQ-3 3KVA
SLICE TIMING 310-405 ms
PLOTTED WINDOW SLICE #9

RAY MEIKLE OPAP 1995

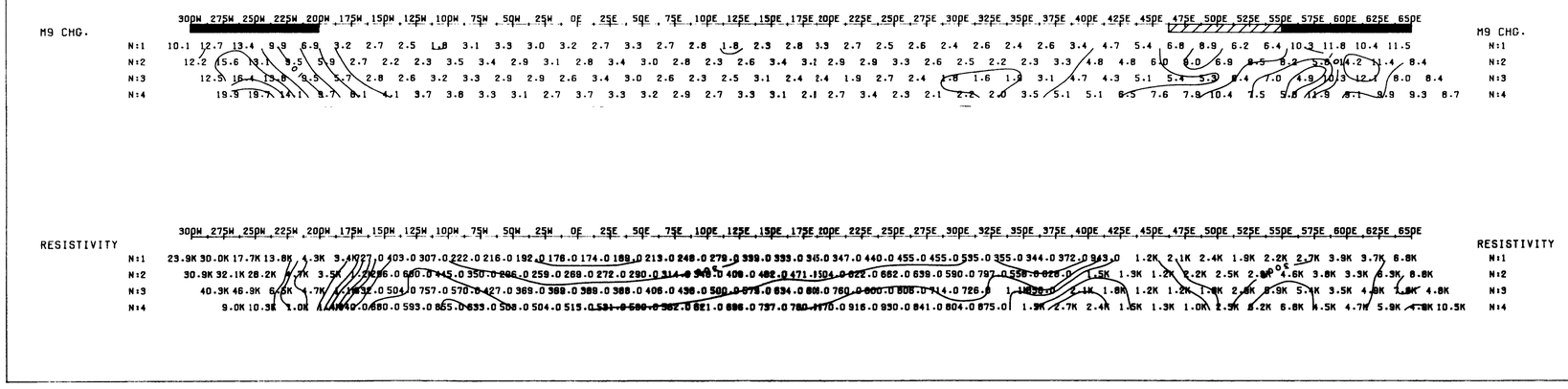
DESANTIS

TURNBULL TWP

DATE : JULY21 1995 | REF : R266

SCALE = 1: 2500

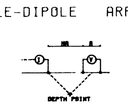
OPAP



LINE : 240 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

RECEIVER: SCINTREX IPR-12 TIME DOMAIN
RX-TX TIMING: 2 sec ON 2 sec OFF
TRANSMITTER: SCINTREX TSQ-3 3KVA
SLICE TIMING: 310-405 ms
PLOTTED WINDOW: SLICE #9

RAY MEIKLE OPAP 1995

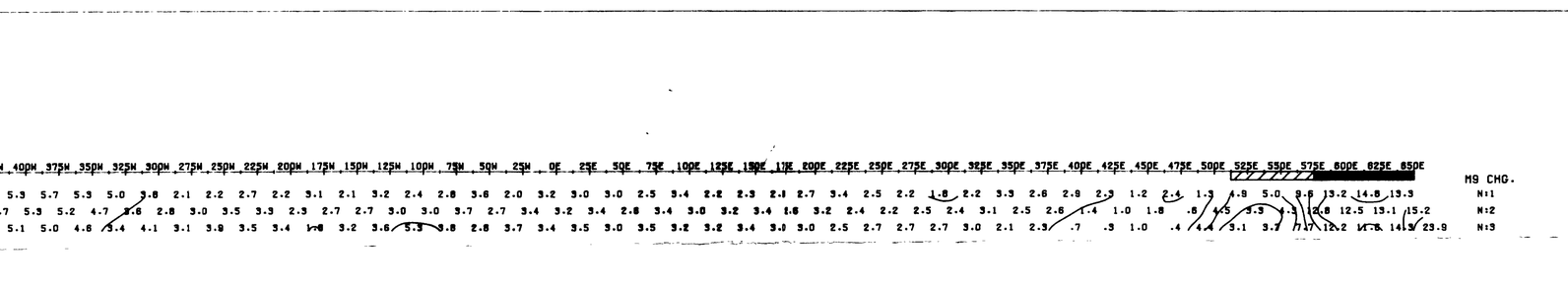
DESANTIS

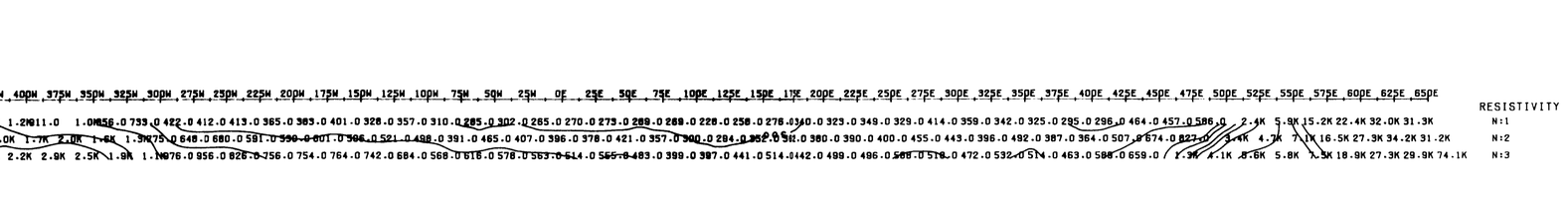
TURNBULL TWP

DATE : JULY21 1995 | REF : R266

SCALE = 1: 2500

OPAP

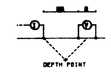




LINE : 840 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 25.0 METRES

RECEIVER: SCINTREX IPR-12 TIME DOMAIN
RX-TX TIMING: 2 sec ON 2 sec OFF
TRANSMITTER: SCINTREX TSQ-3 3KVA
SLICE TIMING: 310-405 ms
PLOTTED WINDOW: SLICE #9

RAY MEIKLE OPAP 1995

DESANTIS

TURNBULL TWP

DATE : JULY21 1995 | REF : R266

SCALE = 1: [illegible]

OPAP

220

RAY MEIKLE OPAP 1995
DESANTIS PROPERTY
TURNBULL TOWNSHIP
IP PSUEDOSECTIONS

500 WEST
400 WEST
300 WEST
200 WEST
100 WEST
BASE LINE
100 EAST
200 EAST
300 EAST
400 EAST

480 SOUTH
360 SOUTH
300 SOUTH
240 SOUTH
180 SOUTH
120 SOUTH
60 SOUTH
0
60 NORTH
120 NORTH
180 NORTH
240 NORTH
300 NORTH
360 NORTH
480 NORTH
600 NORTH
720 NORTH
840 NORTH
960 NORTH

1201581
(2 UNITS)

1181450

1181454
(2 UNITS)

SWAMP

1181408
(3 UNITS)

1181402

230

LEGEND

INSTRUMENT: GEONICS EM-16
TX STATION: ANNAPOLIS M.D.(NSS)
FREQUENCY: 21.4 Khz.
PARAMETERS MEASURED: IN-PHASE AND QUADRATURE
READING INTERVAL: 12.5 METERS
MODE: FACING NE FOR ALL READINGS
CONDUCTOR AXIS: STRONG
WEAK

PROFILE SCALE: 1cm = 20 %

80 60 40 20 0 -20 -40 -60 -80

TRUE CROSSOVER

IN PHASE QUADRATURE

SURVEY DIRECTION
TRANSMITTER ANNAPOLIS N.S. (APPROX.)

2.16484

RECEIVED
APR 30 1996
MINING LANDS BRANCH

200 100 0 50 100 150 200

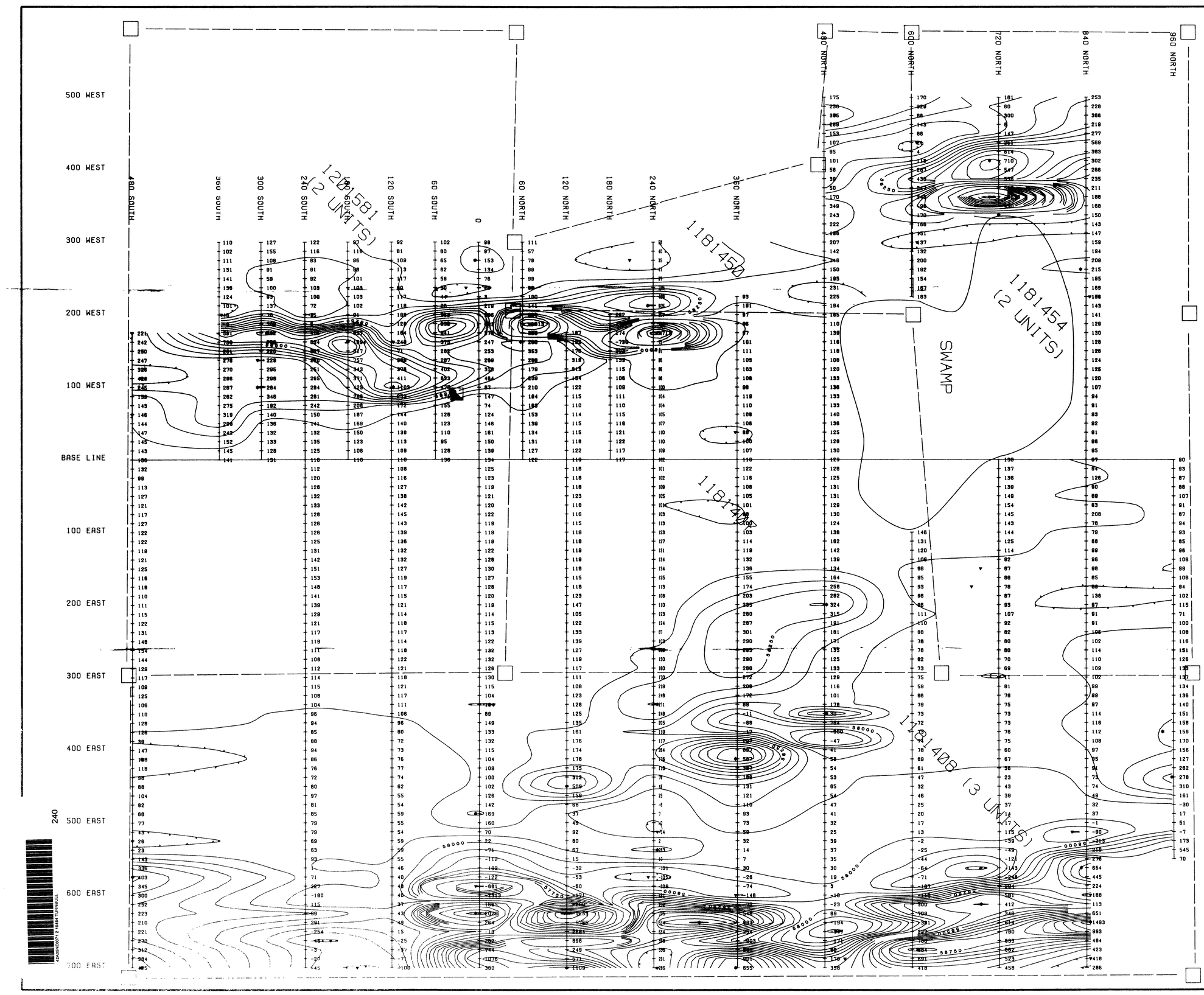
Client: R.J. MEIKLE OPAP

Property: DESANTIS PROPERTY

Title:

PROFILED VLF SURVEY

Processed: R.J. MEIKLE	Checked: RJM
Date: JAN 1996	Township: TURNBULL
Province: ONTARIO	N.T.S.:
Scale: 1 2500	Drawing



LEGEND

INSTRUMENT: EDA OMNI PROTON PRECESSION MAGNETOMETER
PARAMETERS MEASURED: EARTH'S TOTAL MAGNETIC FIELD (NANO-TESLAS)
READING INTERVAL: 12.5 METERS
CONTOUR INTERVAL: 50 NANO-TESLAS
DIURNAL CORRECTION METHOD: RECORDING OMNI BASE STATION
DATUM SUBTRACTED FROM ALL PLOTTED READINGS: 58000 nT

2.16484

200 100 0 50 100 150 200

Client:	R.J. MEIKLE OPAP
Property:	DESANTIS PROPERTY
Title:	PROTON MAGNETOMETER SURVEY

Processed: R.J. MEIKLE	Checked: RJM
Date: JAN 1996	Township: TURNBULL
Province ONTARIO	N.T.S.:
Scale: 1:2500	Drawing:

240