010

REPORT ON THE
Electromagnetic and Magnetic Surveys
on the
Raney Township Property, Grid 3
of
GOLDROCK RESOURCES INC.

by
D. Greg Hodges, B.Sc.
July 8, 1987

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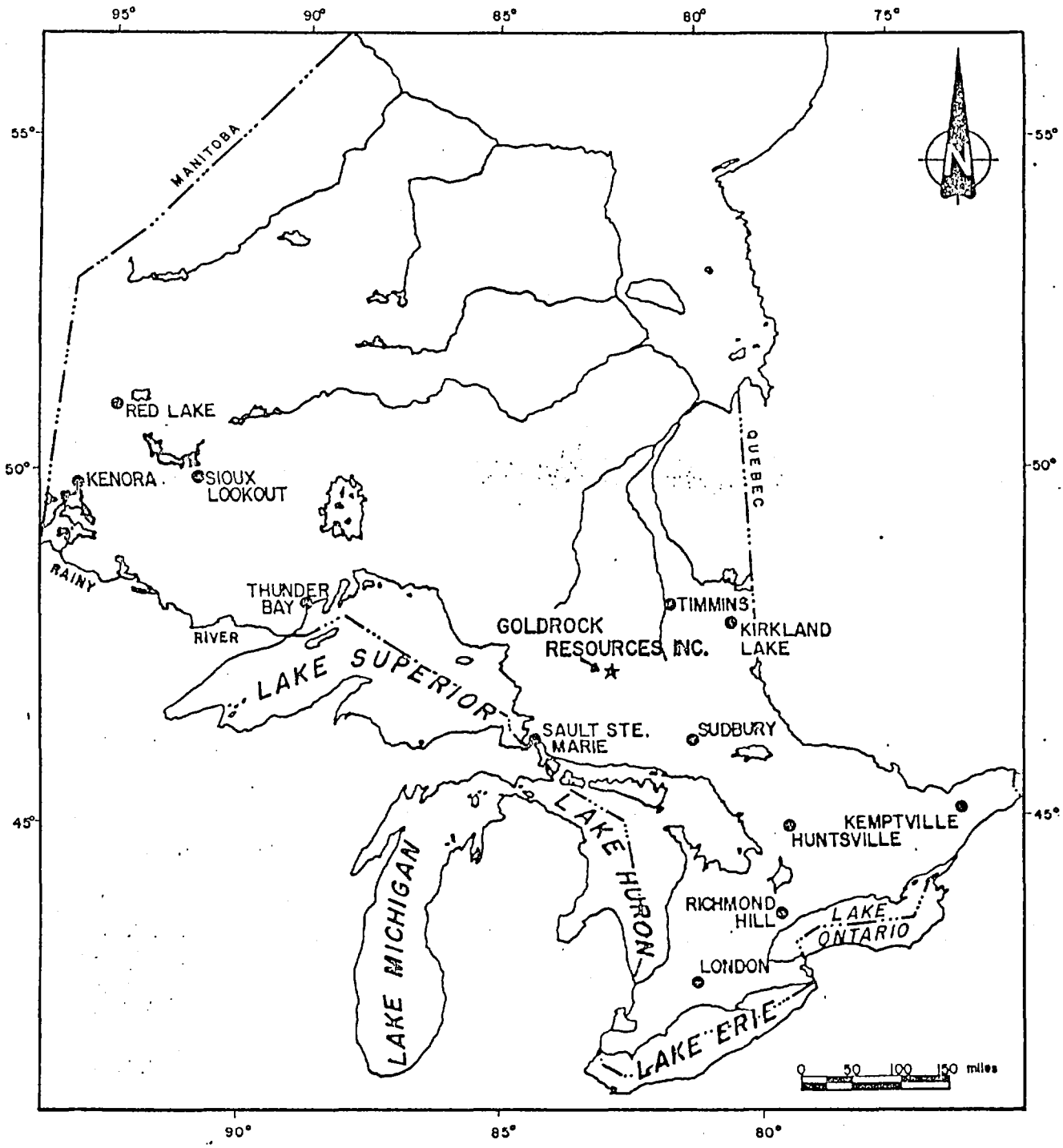
ABSTRACT

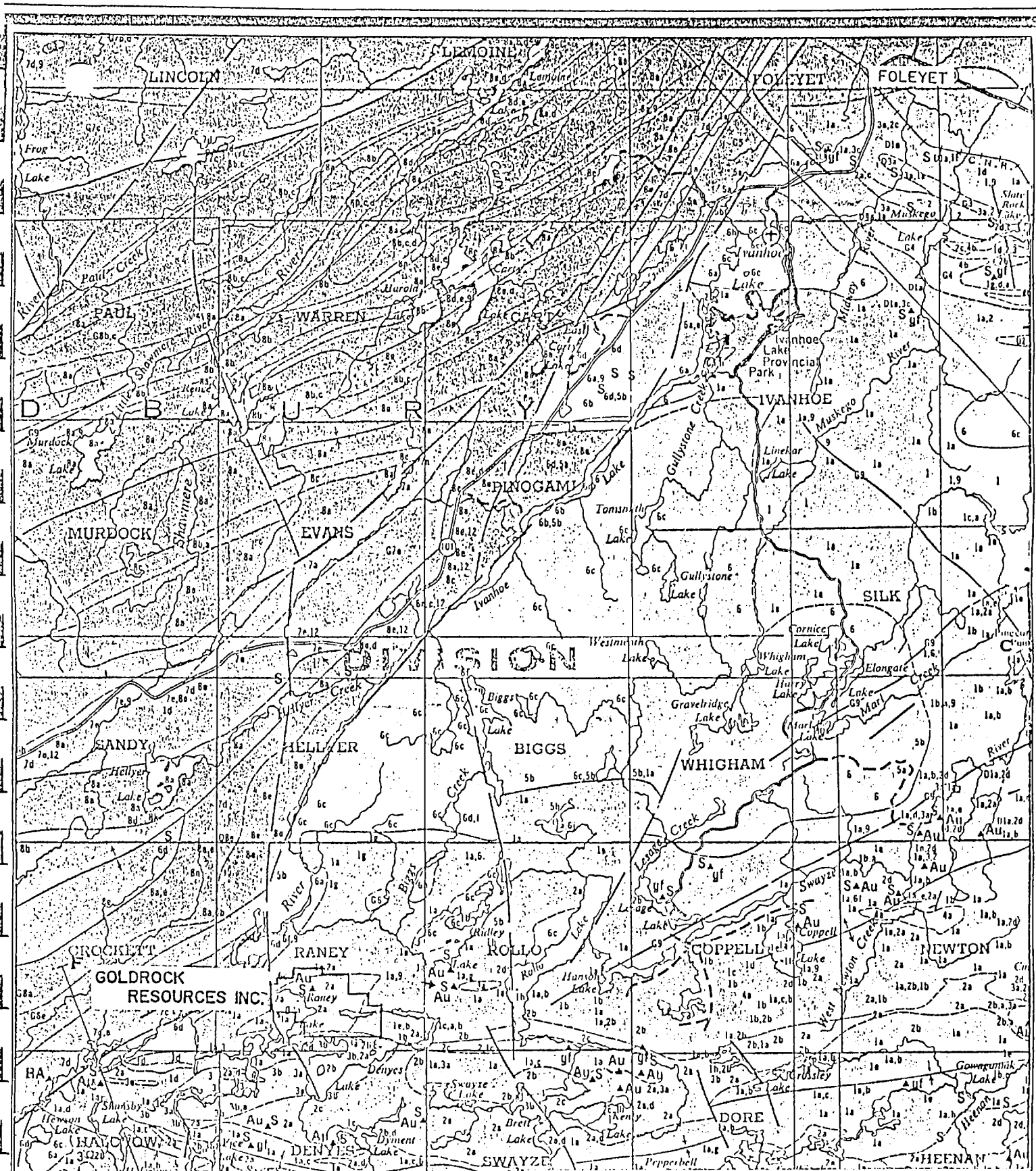
An electromagnetic and magnetic survey was completed on the Goldrock Resources Property in Raney Township, Ontario. A moderate conductor extending across the north edge of the grid was detected under Denyes Creek. This conductor was also detected by airborne EM, and is continuous for at least 5km, but creates no magnetic anomaly.

Further work to investigate this anomaly is recommended, starting with detailed geologic mapping and induced polarization surveying.



PROVINCE OF ONTARIO

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for GOLDROCK RESOURCES INC.		
	Title RANEY LAKE PROPERTY LOCATION Fig. 1		
	Date:	Scale: 1"=160mi.	N.T.S.:
	Drawn:	Approved:	File:



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.
	for GOLDROCK RESOURCES INC.
	Title PROPERTY LOCATION LOCAL
	From OGS MAP 2221 Fig. 2
	Date: Scale: 1"=4miles N.T.S.:

INTRODUCTION

During the first part of 1987, an electromagnetic survey was completed on 17 claims of the 72 claim Raney Township property of Goldrock Resources Inc.

The survey, conducted by Robert S. Middleton Exploration Services Inc., was used to define conductors and structure on the western area of the property, extending the coverage of previous surveys.

LOCATION AND ACCESS

The property is located east of Raney Lake and north of Denyes Lake in Raney Township, Ontario, approximately 50km south west of Foleyet, Ontario. (Figure 1 and 2). Access is by fixed wing aircraft (available in Foleyet or Timmins) to either lake.

CLAIM STATUS

The area surveyed consists of 17 un-patented mining claims in the Porcupine Mining District, all of which are held by Goldrock Resources Inc. of 1300-33 Yonge Street, Toronto, Ontario.

The claims are:

Claims	Recording Date
P-851883	June 12, 1985
P-851884	June 12, 1985
P-851885	June 12, 1985
P-851886	June 12, 1985
P-851887	June 12, 1985
P-851888	June 12, 1985
P-851889	June 12, 1985
P-851890	June 12, 1985
P-851891	June 12, 1985
P-851892	June 12, 1985
P-851893	June 12, 1985
P-851894	June 12, 1985
P-851895	June 12, 1985
P-851896	June 12, 1985
P-851897	June 12, 1985
P-851898	June 12, 1985
P-851899	June 12, 1985

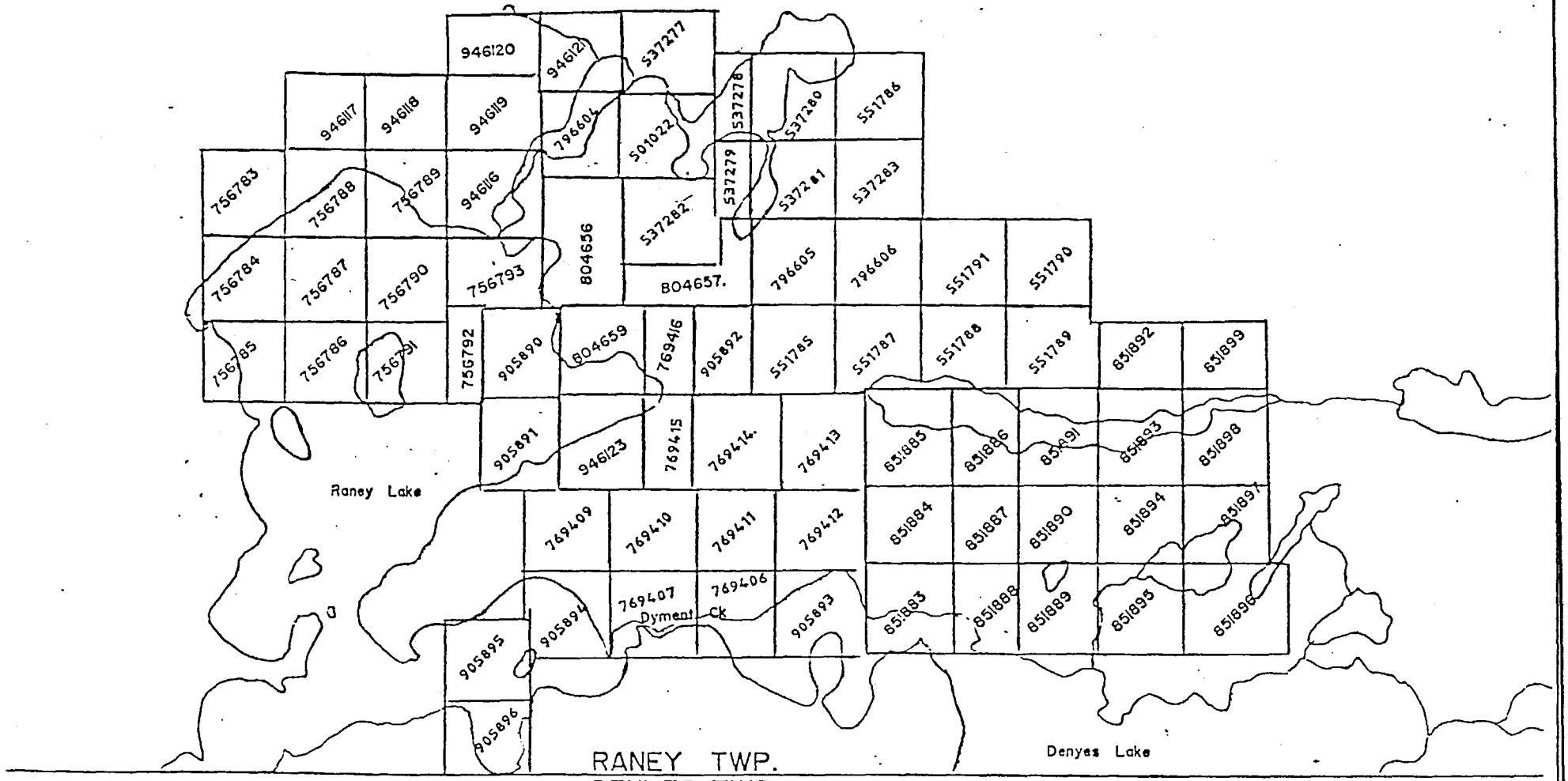
GEOLOGY

The following is quoted from Caira and Coster, 1984:

Regional Geology

"Raney Township is situated in the western end of the Abitibi greenstone belt and is underlain by Early Precambrian (Archean) supracrustal rocks of volcanic and sedimentary origin. The supracrustal rocks have been intruded by Archean felsic and mafic intrusives. The plutonic rocks occupy the southwestern corner and the northwestern portion of the township.

The youngest rocks are lamprophyre dikes, that may possibly occupy pre-existing faults. The dikes are believed to be Late Jurassic to Early Cretaceous in



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.
	for GOLDROCK RESOURCES INC.
	Title: CLAIM MAP
	Fig. 3
	Date ... Scale 1 ... 2mile ... S.:

age. The next youngest rocks are believed to be the felsic intrusives. These rocks have been interpreted by Thurston, Siragusa and Sage[1] to be Early Precambrian in age, and include massive to weakly foliated biotite and hornblende trondhjemite, granodiorite and minor quartz diorite. These rocks were not encountered on the J-dex Raney property. The next youngest rocks are the felsic to intermediate metavolcanics including felsic porphyritic and pyroclastic rocks with thin cherty interflow metasediments. These rocks occurred throughout a large portion of the J-dex Raney property.

The oldest rocks in Raney Township are mafic to intermediate metavolcanics including basaltic to andesitic flows, pillow lavas, and gabbroic coarse-grained flows or intrusions. Among these the andesitic flows are predominant. The J-dex Raney property is thought, by the authors, to lie within the Swayze - Deloro metavolcanic - metasedimentary belt, which is part of the Abitibi Subprovince.

The rocks of the Swayze - Deloro metavolcanic - metasedimentary belt generally have foliations and schistosities parallel or at low angles to the bedding and banding. Well foliated rocks occurred sporadically

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1. 1977: Geology of the Chapleau Area, Districts of Algoma, Sudbury and Cochrane: Geoscience Report 157

throughout the J-dex Raney property. The foliation was not discernable in the more massive varieties of the mafic metavolcanics.

Secondary lineations are relatively common in the metavolcanic - metasedimentary belts in the map area including elongated pyroclastic fragments, small scale crenulations and elongated clasts in detrital rocks. Several of these secondary lineations were seen on the J-dex Raney property.

A lack of outcrop throughout most of the Swayze Deloro map area makes the positive defining of faults a difficult process. Strike-slip faults exist throughout the map area together with east-trending shear zones. More major north-northwest to northwest striking faults are conspicuous throughout the metavolcanic - metasedimentary belt. Throughout the Swayze - Deloro belt, the faulting is indicated by abrupt discontinuities in the felsic metavolcanic units, similar to that on the J-dex Raney property.

Property Geology

The 21 claim J-dex, Raney Township property is underlain by metavolcanic and metasedimentary rocks of the Swayze - Volcanic belt. The metavolcanic sequence includes predominantly calc-alkalic basaltic to andesitic massive flows, pillowed flows and tholeiitic coarser grained massive flows, as well as predominantly rhyodacitic ash tuffs and crystal tuffs related to a felsic to intermediate volcanic center and possible shallow water volcanogenic sedimentation.

In the northern part of the property sheared felsic to intermediate tuffs occur that are greater than 400 metres in thickness. Along the lower contact, basaltic to andesitic massive flows, pillowed flows and intermittent tholeiitic basalts occur that are silicified and somewhat brecciated along the mafic-felsic contact.

Towards the centre of the claim group the basaltic to andesitic massive flows and pillowed flows predominate. Pillow top directions were difficult to determine although south facing tops were seen in one locality. Numerous zones of felsic pyroclastic rocks composed of rhyodacitic crystal tuffs and ash tuffs are indiscriminantly scattered throughout the sequence and

indicates that intermittent felsic explosive activity continued during the accumulation of the predominantly mafic metavolcanic sequence. In the southern part of the property, a thicker sequence of felsic pyroclastic rock occurs, including waterlain rhyodacitic crystal lapilli tuffs and fine ash tuffs."

PREVIOUS WORK

The following is quoted from Caira and Coster, 1984:

"The Swayze gold belt has been intermittently explored over a time span of about 80 years. Most of the interest has centered on gold but base metals have been searched for as well.

Current exploration activity has been directed to the search of gold mineralization. Some of the more prominent gold exploration activity has been by; Orofino east of Raney township; Quinterra Resources in Tooms and Greenlaw townships southwest of Raney township; and by Carlson Mines in Rollo township. This activity has discovered significant gold values within chert and quartz-carbonate zones within basalts. These occurrences coupled with many known gold occurrences in the Swayze Gold Belt implies a good environment to search for gold deposits.

The following summary of the previous work in the area has been abstracted from assessment work files and reports from others who have worked in the area. Figure No. 2 shows the location of the J-dex Raney township claim group relative to neighbouring townships along the Swayze gold belt.

A review of the assessment work files in the Timmins Resident Geologist's office reveals that sporadic exploration has been carried out on the J-dex property in the northeast corner of Raney Lake. It is as follows:

1984

Hole No. 84-15EA

245' of winkie drilling encountered visible gold in quartz stringers with disseminated pyrite, molybdenite, sphalerite, chalcopyrite and associated apple green mineral (fuchsite?), tourmaline within an east-west trending fault zone.

Hole No. 84-15EB

216' of winkie drilling encountered visible gold in quartz stringers with disseminated pyrite and associated fuchsite?, tourmaline, fault zone.

Hole No. 84-15WA

213' of winkie drilling encountered visible gold, disseminated pyrite, pyrrhotite, sphalerite, chalcopyrite associated with quartz floodings, fault zone.

Hole No. 84-15WB

197' of winkie drilling encountered visible gold, with disseminated pyrrhotite, pyrite, molybdenite associated with quartz floodings, fault zone.

Hole No. 84-30EA

186' of winkie drilling encountered visible gold, with disseminated pyrrhotite, pyrite, molybdenite associated with quartz-carbonate veining, within an east-west fault zone.

Hole No. 84-30EB

199' of winkie drilling with visible gold, and disseminated molybdenite and pyrite within quartz-carbonate veins in tuffs.

Hole No. 84-30EC

181' of winkie drilling with visible gold, and disseminated molybdenite pyrite and sphalerite within quartz -carbonate veins in tuffs.

Hole No. 84-450NA

185' of winkie drilling encountered disseminated pyrite and pyrrhotite within Dacitic tuffs.

Hole No. 84-450NB

163' of winkie drilling encountered disseminated pyrite, pyrrhotite and chalcopyrite within Dacitic tuffs.

Hole No. 84-450NC

123' of winkie drilling encountered disseminated pyrite within Dacitic tuffs.

Hole No. 84-450ND

110' of winkie drilling enountered disseminated pyrite within tuffs.

1983 — 218' of winkie drilling in one hole. Visible gold with disseminated galena, pyrite, tourmaline within an east-west trending fault zone with associated quartz-carbonate veins.

1982 — Magnetic and VLF surveys by J-dex Mining and Exploration Ltd. and Ingamar Resources.

Sporadic exploration has been carried out on properties in the immediate vicinity located east and southeast of the J-dex Raney Township claim group. This work is briefly summarized as follows:

1932 & 1935 — Throne - Greaser Gold Showing

Reported on by Furse G.D. (1932) and Rickaby H.C. (1935).
Located on the south shore of a small pond north of Raney Lake.
2' wide quartz vein traced for 100' in arkose and impure quartzite.
Veins strikes Az 080° and dips steeply to the north.
Vein contains pyrite, carbonate and trace native gold.
Smaller 6" quartz vein in feldspar porphyry 500' south of larger vein; strikes Az 060° and traced for 100'.
At one location native gold, pyrite, chalcopyrite, galena and tourmaline was reported.

1972 — Claw Lake Molybdenite Mines Ltd.

Located over part of Raney Lake and beyond to the east.
Aeromagnetic survey:
Ground Magnetic Survey - 52 miles.
Magnetics reported to be flat.

1972 - 1982 — J-dex Mining and Exploration

Claim blocks on southwest end of Raney Lake.
1972
345' of winkie drilling in 3 holes.
Rhyolite with some disseminated pyrite interesected.
1973
I.P., Magnetic and Geochemical Surveys Produced:
9 zones of anomalous charge-abilities.
Magnetic distortions.
Highest geochemical - copper 65ppm, Zn - 205ppm.
110' of winkie drilling done.

1975 - 1979
5 winkie drill holes totalling 1,568'.

1976 — Umex

Airborne survey southwest end of Raney Lake. Part of a larger program over parts of the Swayze Gold Belt.

1982 — Ontario Geological Survey

®Input aeromagnetic survey over the Swayze Belt Magnetic and Electromagnetic surveys flown.

® Registered trade mark of Barringer Research Ltd.

1983 Lacana Mining

Geological survey work on west boundary of Raney Township west of J-dex claim group. Carbonatite - alkalic complex. Rock types associated with Kapuskasing structural zone mapped."

During the summer of 1986 induced polarization, magnetics and VLF-EM surveys were conducted by Goldrock Resources. The IP survey covered the north central area of the claim block, and the mag/VLF survey covered the south-central area. Several interesting IP anomalies were detected, some of which extend west into the current claim block.

SURVEY PROCEDURE

MAGNETICS

Theory

The magnetic method is based on measuring alteration in the shape and magnitude of the earth's naturally ocurring magnetic field caused by changes in the magnetization of the rocks in the earth.

These changes in magnetization are due mainly to the presence of the magnetic minerals, of which the most common is magnetite, and to a lesser extent ilmenite, pyrrhotite, and some less common minerals.

Magnetic anomalies in the earth's field are caused by changes in two types of magnetization: induced and remanent (permanent). Induced magnetization is caused by the magnetic field being altered and enhanced by increases in the magnetic susceptibility of the rocks, which is a function of the concentration of the magnetic minerals.

Remanent magnetism is independant of the earth's magnetic field, and is the permanent magnetization of the magnetic particles (magnetite, etc.) in the rock. This is created when these particles orient themselves parallel to the ambient field when cooling. This magnetization may not be in the same direction as the present earth's field, due to changes in the orientation of the rock or the field.

The most common method of measuring the total magnetic field in ground exploration is with a proton precession magnetometer. This device measures the effect of the magnetic field on the magnetic dipole of hydrogen protons. This dipole is caused by the "spin" of the proton, and in a magnetometer these dipoles in a sample of hydrogen-rich fluid are oriented parallel to a magnetic field applied by an electric coil surrounding the sample. After this magnetic field is removed, the dipoles begin to precess (wobble) around their orientation under the influence of the ambient earth's magnetic field. The frequency of this precession is proportional to the earth's magnetic field

intensity.

Field Method

The magnetics data were collected with a proton precession magnetometer, which measures the absolute value of the total magnetic field of the earth to an accuracy of ± 1 n Tesla. The magnetometer is carried down the survey line by a single operator, with the sensor mounted on a short pole to remove it from the surface geologic noise. Readings are normally taken at 25 m intervals, and at 12.5 m intervals where the operator observes a high gradient (anomaly).

The readings are corrected for changes in the earth's total field (diurnal drift) by repeating readings at base stations and "tie points" several times each day.

SURVEY PROCEDURE

MAX-MIN II

Theory

The Max-Min II is a frequency domain, horizontal loop electromagnetic (HLEM) system, based on measuring the response of conductors to a transmitted, time varying electromagnetic field.

The transmitted, or primary EM field is a sinusoidally varying field at any of five different frequencies. This field induces an electromotive force, (emf), or voltage, in any conductor through which the field passes. This is defined by:

$$\oint E.dl = \frac{-\partial \Phi}{\partial t} \quad \text{(the Faraday Induction Principle)}$$

where E is the electric field strength in volts/metre (and so $\oint E.dl$ is the emf around a closed loop) and Φ is the magnetic flux through the conductor loop. This emf causes a "secondary" current to flow in the conductor in turn generating a secondary electromagnetic field.

This changing secondary field induces an emf in the receiver coil (by the Faraday law) at the same frequency, but which differs from the primary field in magnitude and phase. The difference in phase (the phase angle) is a function of the conductance of the conductor(s), both the target and the overburden and host rock. The magnitude of the secondary is also dependant on the conductance, and also on the dimensions, depth, and geometry of the target, as well as on the interference from overburden and the host rock.

These two parameters (phase angle and magnitude) are measured by measuring the strength of the secondary field in two components: the real field or that part "in-phase" with the primary field; and the imaginary field, or that part in "quadrature" or 90˚ out of phase from the primary field.

The magnitude and phase angle of the response is also a function of the frequency of the primary field. A higher frequency field generates a stronger response to weaker conductors, but a lower frequency tends to pass through weak

conductors and penetrate to a greater depth. The lower frequency also tends to energise the full thickness of a conductor, and gives a better measure of its true conductivity-thickness product (conductance).

For these reasons two or more frequencies are usually used; the lower for penetration and accurate measure of good conductors, and the higher frequency for strong response to weak conductors.

Distinction between conductive targets, overburden, and host rock responses are made by studying the shape of the secondary field, and the difference in the frequency responses.

The transmitted primary field also creates an emf in the receiver coil, which is much stronger than the secondary, and which must be corrected for by the receiver. This is done by electronically creating an emf in the receiver, whose magnitude is determined by the distance from receiver to transmitter as set on the receiver, and whose phase is derived from the receiver via an interconnecting wire.

Field Method

The Max-Min II survey was carried out in the "maximum coupled" mode (horizontal co-planar). The transmitter and receiver are carried in-line down the survey line separated by a constant distance (in this case 150 m) with the receiver leading. Three transmitter frequencies were used: 444 Hz, 1777 Hz and

3555 Hz. The transmitter and receiver are connected by a cable, for phase reference and operator communication.

PERSONNEL AND EQUIPMENT

The survey was conducted by Guy Thibeault Exploration Services of P.O. Box 1670, Timmins, Ontario, who provided 3 men to complete the survey. The line-cutting was done by Henry T. Gonzalez.

The electromagnetic survey instrument was an Apex Parametrics Max Min II horizontal loop (Slingram style system). The magnetometer was a Geometrics G-816 Proton Precession magnetometer. Specifications for these instruments may be found in Appendix A.

SURVEY STATISTICS

A total of 30.0 line km of magnetics and 26.2km of electromagnetics data were collected.

INTERPRETATION

The major anomaly on the property is a conductor detected with the EM survey which is continuous from 1000S on L25E to 850S on L8E. This conductor lies partially under or closely parallel to Denyes Lake.

Associated with the lake, and therefore apparently

associated with the conductor are several weaker anomalies interpreted to be caused by lake-bottom sediments (clays).

The conductor has a conductivity thickness of approximately 10, and is at a depth of about 25 to 30 metres. It is dipping about 45˚ to 60˚ to the north. The following measurements were made:

LINE	STATION	CONDUCTIVITY THICKNESS (S)	DEPTH TO TOP (M)	COMMENTS
10E	925S	10	30	Under Lake
13E	1025S	10	29	Under Lake
17E	1050S	8	10	Under Lake (Depth to Sediments?)
20E	1075S	6	23	
23E	1025S	10	32	

Those conductors interpreted as lake sediments are marked with an "L". This conductor appears to be parallel to the conductor shown on the OGS Swayze Area Airborne EM Survey (Maps 80536-80537 and 80540-80541), which conductor is continuous to the east for at least 5km. The airborne conductor appears to be approximately 200m north of the Max Min anomaly, but is interpreted to be the same conductor. The difference in locations is presumed due to errors in the flight path recovery of the airborne survey.

One line of induced polarization surveying in 1986 (Hodges 1986) crossed this conductor, and detected a moderate anomaly. The geology survey in claim 551785 (Caira and Coster 1986)

described outcrops of basalt to andesite flows, with strong carbonatization and silicification in one outcrop with 1% pyrite. That amount of pyrite is not sufficient to produce a conductor, therefore there must be more mineralization causing the anomaly.

The magnetic survey shows no major features, but many small, local highs which are interpreted as resulting from local mafic to ultramafic metavolcanic units. A strong magnetic anomaly at 1900S on line 6E was not completely covered by this or previous surveys. From comparison with government airborne maps (OGS map 80537) it appears to be the easternmost extremity of the apparent mafic unit north of the west end of Denyes Lake.

CONCLUSIONS AND RECOMMENDATIONS

The conductor detected is sufficiently defined to provide a diamond drill target, but the property has not been geologically mapped in detail. Therefore, a geologic mapping program is recommended for the east grid of the Raney Township property.

A reconnaissance induced polarization survey is recommended to gain resistivity information of the bedrock and to search for disseminated metallic mineral deposits not detected by the electromagnetic survey.

A budget for this stage would be:

Detailed Geologic Mapping	
20 days @ $250./day	$ 5,000.00
Subsistence, accomodation, transportation	2,000.00
Sample assaying	5,000.00
Report preparation and drafting	1,500.00
Induced Polarization Surveying	
20 days @ $1,300./day	26,000.00
Mobilization-Demobilization	2,000.00
Report preparation and drafting	1,500.00
TOTAL	$43,000.00

Diamond drilling would be decided on the basis of the results of the IP and geology, and would presumably include drilling the electromagnetic anomaly in the north part of the grid. This long conductor does not appear to have been tested by diamond drilling in the area of the property.

Respectfully submitted

D. Greg Hodges, B.Sc.
Geophysicist

REFERENCES

CAIRA, NADIA and COSTER, IAN
1984 Geological Report of the 21 claim property for J-Dex Mining and Exploration

HODGES, D. GREG
1986 Geophysical Report on the Raney Township Property of J-Dex Mining and Exploration

CERTIFICATION

I, D. Greg Hodges, of 136 Cedar Street South, in the city of Timmins, Province of Ontario, certify as follows concerning my report on the Goldrock Resources Inc. property in Raney Township, Province of Ontario and dated July 8, 1987:

1. I am a member in good standing of the Society of Exploration Geophysicists

2. I am a graduate of Queen's University at Kingston, Ontario, with a B.Sc. (Hons.) Geological Sciences with Physics, obtained in 1980.

3. I have been practising in Canada, and occasionally in the United States, Europe, and Australia for the past seven years.

4. I have no direct interest in the properties, leases, or securities of Goldrock Resources Inc., nor do I expect to receive any.

5. The attached report is a product of:

   a) Examination of data included in the report which was collected on the property concerned.

Dated this July 8, 1987
Timmins, Ontario

_____

D. Greg Hodges, Geophysicist

A P P E N D I X A

II SPECIFICATIONS

The MP-2 has the following specifications:

Resolution	1 Gamma
Total Field Accuracy	±1 Gamma over full operating range
Range	20,000 to 100,000 gammas in 25 overlapping steps.
Internal Measuring Programme	Single reading - 3.7 seconds. Recycling feature permits automatic repetitive readings at 3.7 seconds intervals.
External Trigger	External trigger input permits use of sampling intervals longer than 3.7 seconds.
Display	5 digit LED (Light Emitting Diode) readout displaying total magnetic field in gammas or normalized battery voltage.
Data Output	Multiplied precession frequency and gate time outputs for basestation recording using interfacing optionally available from Scintrex.
Gradient Tolerance	Up to 5000 gammas/metre
Power Source	8 alkaline "D" cells provide up to 25,000 readings at 25°C under reasonable signal/noise conditions (less at lower temperatures). Premium carbon-zinc cells provide about 40% of this number.
Sensor	Omnidirectional, shielded, noise-cancelling dual coil, optimized for high gradient tolerance.
Harness	Complete for operation with staff or back pack sensor.
Operating Temperature Range	-35°C to +60°C
Size	Console, with batteries: 80 x 160 x 250 mm. Sensor: 80 x 150 mm. Staff : 30 x 1550 mm. (extended) 30 x 600 mm. (collapsed)
Weights	Console, with batteries: 1.8kg. Sensor: 1.3kg Staff : 0.6kg

geoMetrics

Instrument Division

PORTABLE PROTON MAGNETOMETER
MODEL G-816

- ★ 1 gamma sensitivity and repeatability
- ★ Very small size and weight: less than 12 lbs complete with batteries and sensor
- ★ Over 10,000 readings per set of alkaline "D" cell (flashlight) batteries
- ★ Provision to attach sensor to carrying harness for use without staff
- ★ Pushbutton operation—numeric display directly in gammas
- ★ Total field measurements—independent of orientation—no calibration—no leveling

The Model G-816 is a complete portable magnetometer for all man-carry field applications. As an accurate yet simple to operate instrument, it features an outstanding combination of one gamma sensitivity and repeatability, compact size and weight, operation on standard universally available flashlight batteries, ruggedized packaging and very low price.

The G-816 magnetometer allows precise mapping of very small or large amplitude anomalies for ground geophysical surveys, or for detail follow-up to aeromagnetic reconnaissance surveys. It is a rugged, lightweight, and versatile instrument, equally well suited for field studies in geophysics, research programs or other magnetic mapping application where low cost, dependable operation and accurate measurements are required.

For marine, airborne or ground recording systems consider GeoMetrics Models G-801, G-803, and G-826A.

Ministry of Northern Development and Mines
Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditu

41015SW0540 2.10249 RANEY

900

#114/87

Type of Survey(s): MAGNETOMETER SURVEY	Township or Area: RANEY
Claim Holder(s): GOLDROCK RESOURCES INC	Prospector's Licence No.: T-4715
Address: BOX 1637 TIMMINS	
Survey Company: ROBERT S MARLETON EXPLORATION SERVICES Inc.	Date of Survey (from & to): 1 Day / 4 Mo. / 87 Yr. — 30 Day / 4 Mo. / 87 Yr.
Name and Address of Author (of Geo-Technical report): A. GREG HOLMES P.O. BOX 1637	Total Miles of line Cut: 37.8 Kms

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	40
For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

RECEIVED
JUN 29 1987
MINING LANDS SECTION

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	851883	
	851884	
	851885	
	851886	
	851887	
	851888	
	851889	
	851890	
	851891	
	851892	
	851893	
	851894	
	851895	
	851896	
	851897	
	851898	
	851899	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

RECEIVED
JUN 9 1987
MINING LANDS SECTION

RECORDED
19 d.h.
JUN 29 1987

Total number of mining claims covered by this report of work: 17

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = 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.

For Office Use Only		
Total Days Cr. Recorded: 680	Date Recorded: June 9/87	Mining Recorder: Mining Recorder
	Date Approved as Recorded: 1987.10.27	Branch Director: for Mining Recorder

Date	Recorded Holder or Agent (Signature)
8/6/87	

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 work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: A. GREG HOLMES P.O. BOX 1637 TIMMINS ONT P4N 7W8

Date Certified	Certified by (Signature)
8/6/87	

Aug 19

Ministry of Northern Development and Mines
Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

Mining Act

#147/87

2.10249

Instructions: — Please type or print.
— If number of mining claims traversed exceeds space on this form, attach a list.
Note: — Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
— Do not use shaded areas below.

Type of Survey(s): Electromagnetic Survey

Township or Area: Raney Twp

Claim Holder(s): Goldrock Resources Inc.

Prospector's Licence No.: T-4715

Address: P.O. Box 1637, Timmins, Ont, P4N 7W8

Survey Company: Robert S. Middleton Exploration Services Inc.

Date of Survey (from & to): 1 Day 4 Mo. 87 Yr. – 30 Day 4 Mo. 87 Yr.

Total Miles of line Cut: 37.8 km

Name and Address of Author (of Geo-Technical report): D. Greg Hodges, P.O. Box 1637, Timmins Ont. P4N 7W8

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)	- Electromagnetic	20
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
P	851883	
	851884	
	851885	
	851886	
	851887	
	851888	
	851889	
	851890	
	851891	
	851892	
	851893	
	851894	
	851895	
	851896	
	851897	
	851898	
	851899	

Total number of mining claims covered by this report of work: 17

Expenditures (excludes power stripping)

Type of Work Performed:

Performed on Claim(s):

RECEIVED JUN 30 1987

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = 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.

RECEIVED JUL 14 1987 MINING LANDS SECTION

RECORDED JUN 30 1987

Date	Recorded Holder or Agent (Signature)
30/6/87	[signature]

For Office Use Only		
Total Days Cr. Recorded: 340	Date Recorded: June 30, 1987	Mining Recorder: [signature] Mining Recorder
	Date Approved as Recorded	Branch Director

Geophysical work statement

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 work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: Greg Hodges P.O. Box 1637, Timmins Ont P4N 7W8

Date Certified: 30/6/87

Certified by (Signature): [signature]

1362 (85/12)

Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

October 26,1987

Your File: 147/87
Our File: 2.10249

Mining Recorder
Ministry of Northern Development and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Notice of Intent dated September 24, 1987
Geophysical (Electromagnetic), Survey on
Mining Claims P 851883 et al in Raney Township

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

R.M. Charnesky (Mrs.)
Acting Manager
Mining Lands Section
Mineral Development and Lands Branch
Mines and Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

RM:pl

cc: Goldrock Resources Inc.
P.O. Box 1637
Timmins, Ontario
P4N 7W8

Mr. G.H. Ferguson
Mining and Lands Commissioner
Toronto, Ontario

Resident Geologist
Timmins, Ontario

Ministry of Northern Development and Mines
Ontario

Technical Assessment Work Credits

File 2.10249

Date September 24,1987

Mining Recorder's Report of Work No. 147/87

Recorded Holder
Goldrock Resources Inc.

Township ~~XXXXX~~
Raney Township

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic 20 days	P 851883 - 887 inclusive 851889 - 893 inclusive 851896 851898 - 899 inclusive
Magnetometer _____ days	
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days ☐ Airborne ☐	
Special provision ☐ Ground ☐	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

15 Days Electromagnetic

P 851888
851894 - 895 inclusive
851897

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.

828 (85/12)

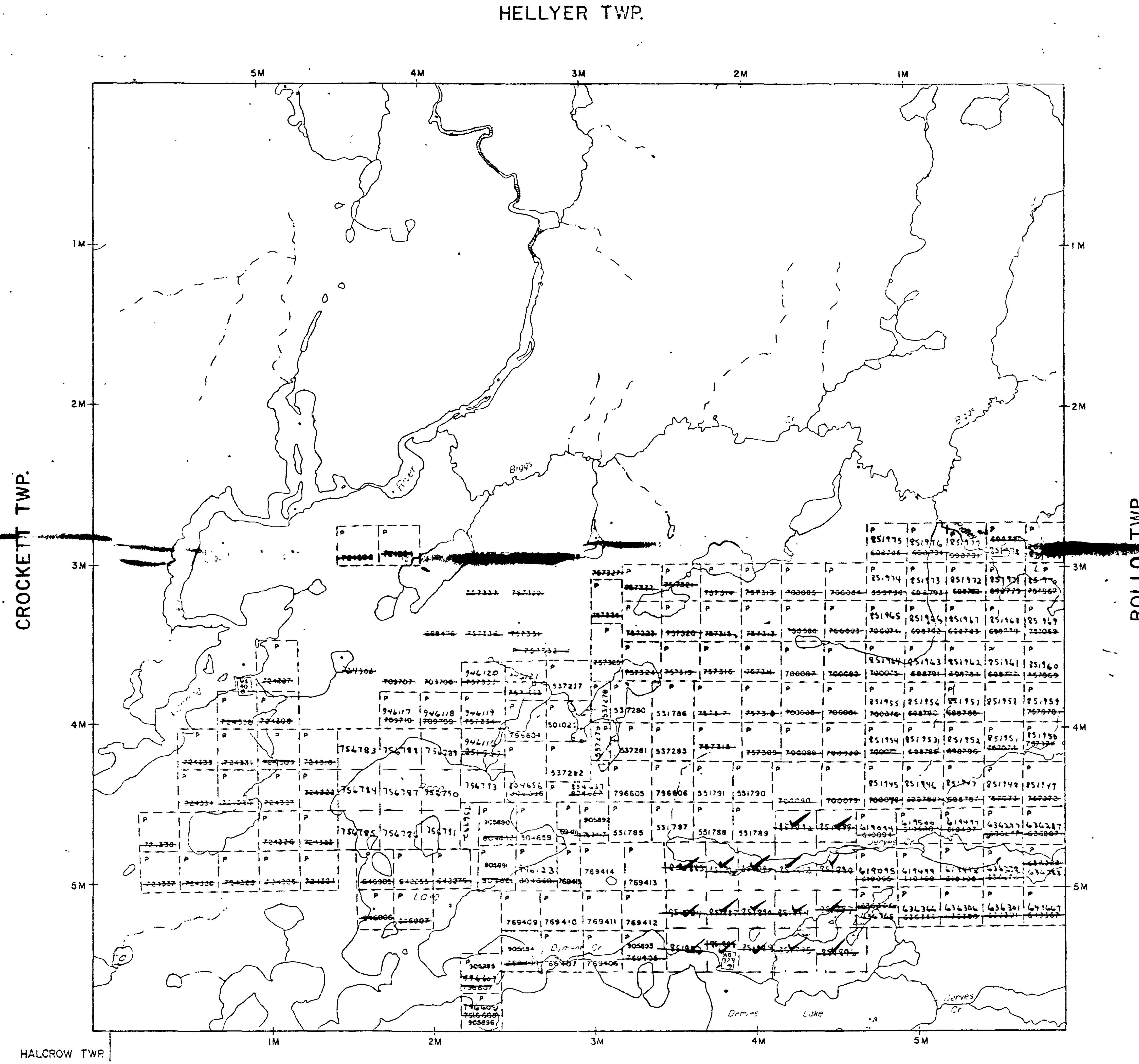
REFERENCES

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

SMR
~~SR+MR withdrawn from staking~~
~~W.44 — 13.5~~ Cancelled



410155W0540 2.10240 RANEY

200

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)

JUN 6 1997

TOWNSHIP
RANEY

M.N.R. ADMINISTRATIVE DISTRICT
CHAPLEAU

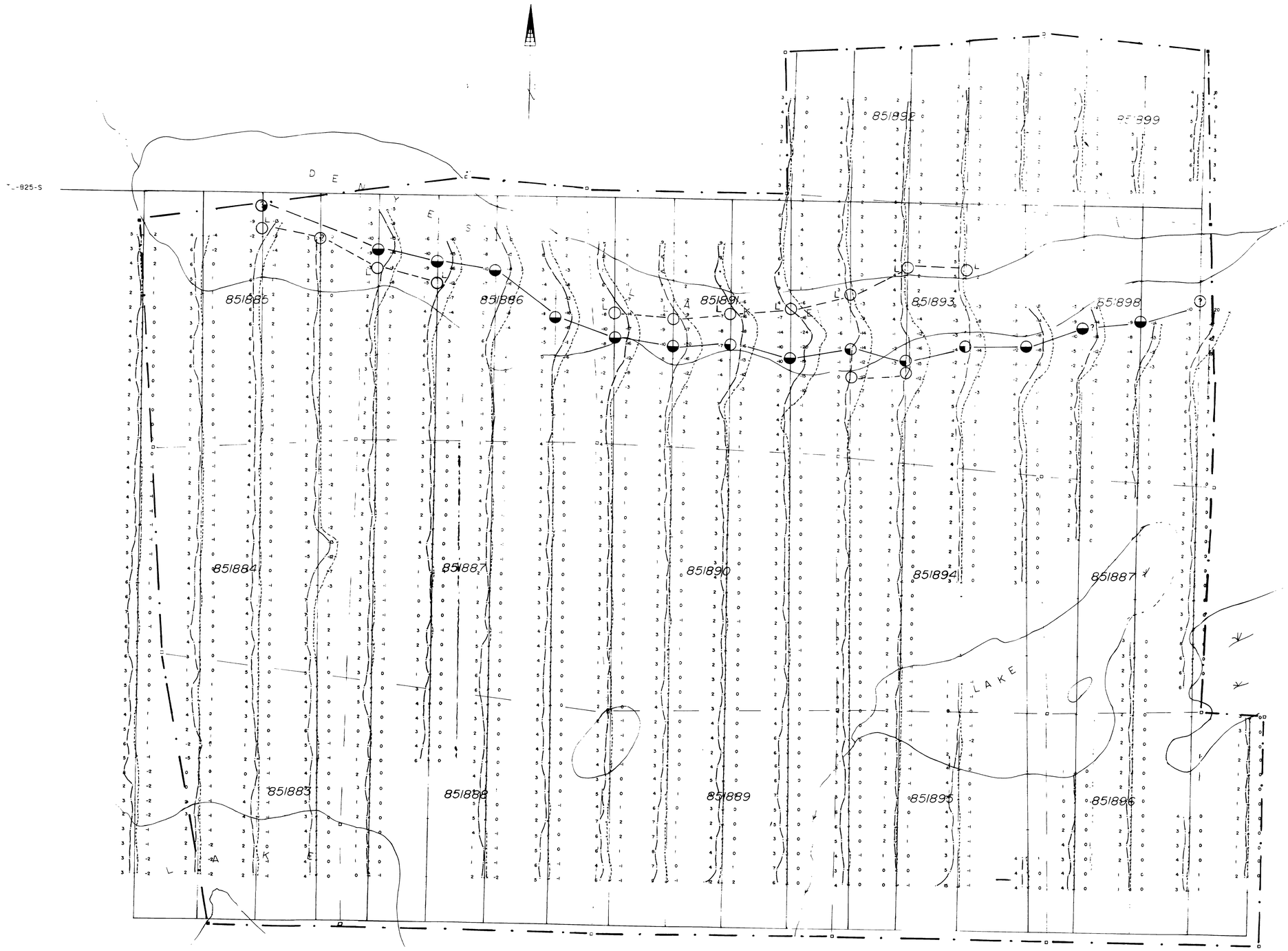
MINING DIVISION
PORCUPINE

LAND TITLES / REGISTRY DIVISION
SUDBURY

Ontario — Ministry of Natural Resources — Land Management Branch

Date MARCH, 1985

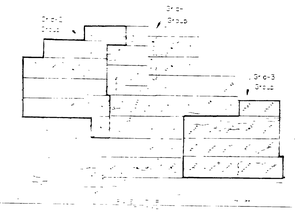
Number **G-3245**



Key

Symbol	Grade	Description
	1	Very Good Conductor
	2	Good Conductor
	3	Fair Conductor
	4	Weak Conductor
	5	Very Weak Conductor

LOCATION MAP



TOPOGRAPHIC

- Trail portage
- Bush road
- Good driving road, highway
- Rail road
- Claim post located
- Claim post assumed location
- Witness post
- Power line
- Lake shore
- Property boundary line

MAX-MIN II H.E.M. SURVEY

Coil Separation 150 Meters

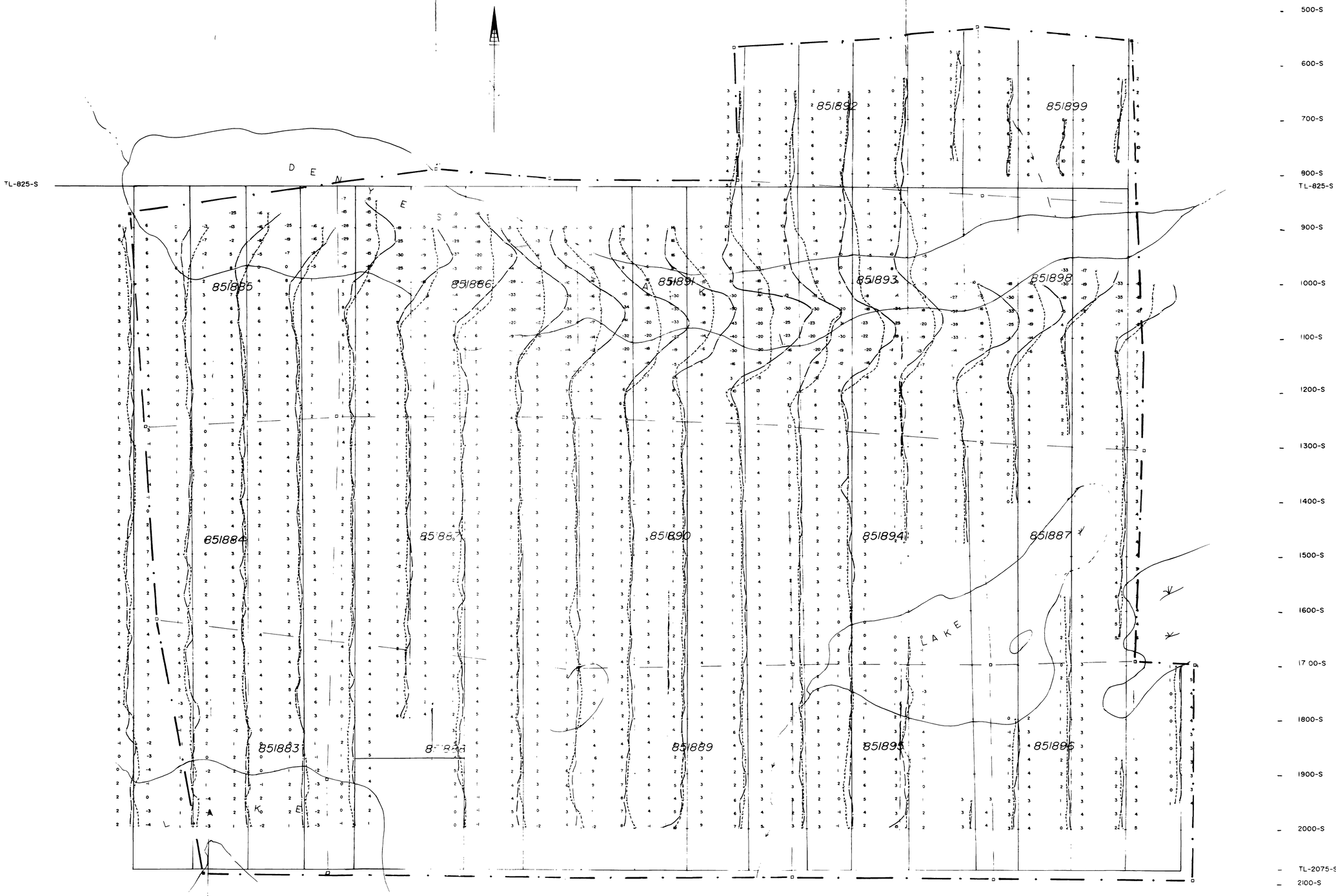
Frequency 444 Hz

21049

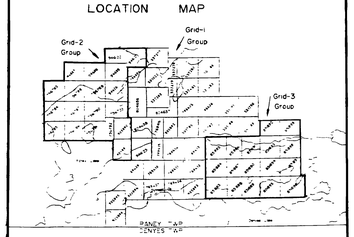
RESOURCES INC.

Survey by [illegible] Exploration Services

216



LOCATION MAP



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- Witness post
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- Lake shore
- Swamp, Bog
- Property boundry line

MAX-MIN II H.E.M. SURVEY

Profile
In Phase
Out Phase

Coil Separation: 150 Meters

Frequency 1777 Hz

ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

GOLDROCK RESOURCES INC.

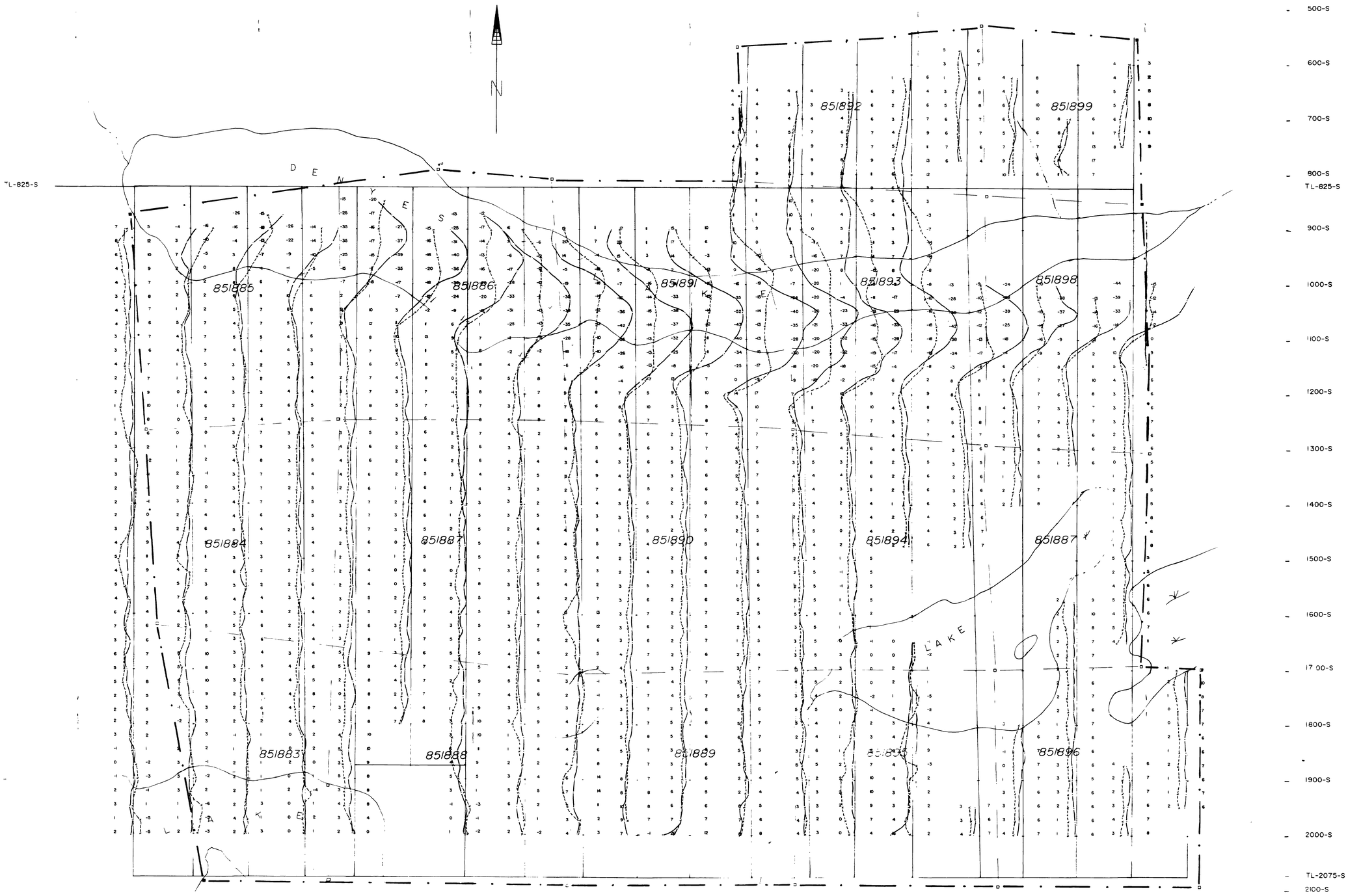
RANEY Twp PROPERTY Grid - 3

Survey by: Guy Thibault Exploration Services
Operators :

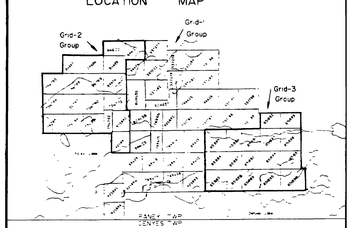
Instrument: Apex Parametrics Max-Min II | DATE: April 1987

Drafted by: G. Thibault & M.Caron | SCALE:

220



LOCATION MAP



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- Swamp, Bog
- Property boundry line

MAX-MIN II H.E.M. SURVEY

Profile
- In Phase
- Out Phase

Coil Separation: 150 Meters

Frequency 3555 Hz

21049

ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

GOLDROCK RESOURCES INC.

RANEY Twp PROPERTY Grid - 3

Survey by: Guy Thibault Exploration Services
Operators :

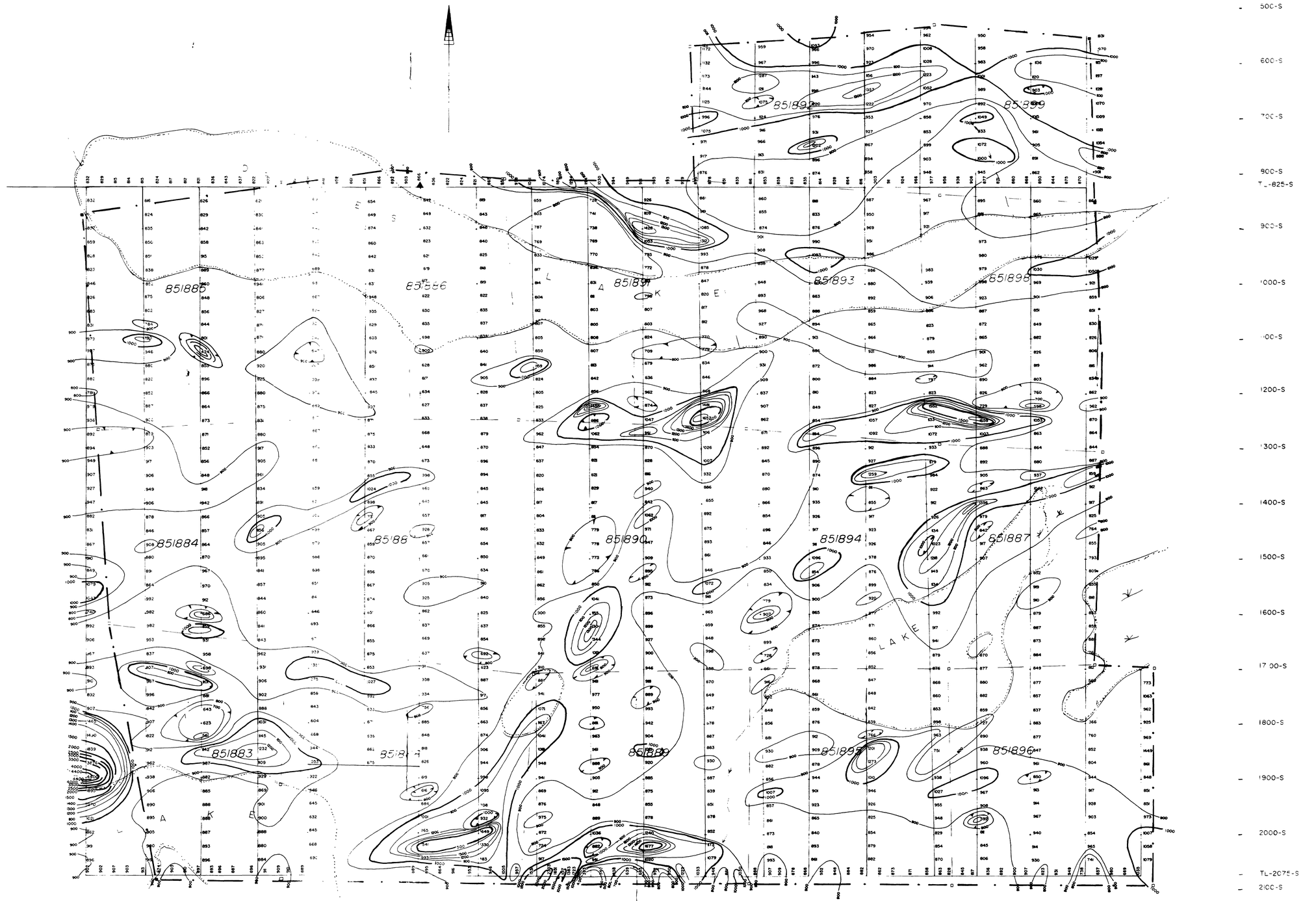
Instrument: Apex Parametrics Max-Minll

DATE: April 1987

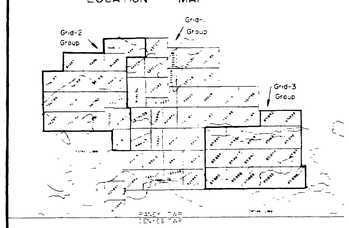
Drafted by: G. Thibault & M.Caron

SCALE: VERTICAL 1cm = 50m
HORIZONTAL 1cm = 250m

230



LOCATION MAP



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MAGNETIC SURVEY

Add 58,000 Gammas to all readings for total field values

Contours — Contour intervals:

Depression Contour

▲ 58,866 Base Station location: L-12 E/ 825-S

2.10249

ROBERT S. MIDDLETON
EXPLORATION SERVICES INC

GOLDROCK RESOURCES INC.

RANEY Twp PROPERTY Grid - 3

Survey by: Guy Thibault Exploration Services
Operators : Dennis Crowley

Instrument: Scintrex Proton MP-2 | DATE: April 1987

Drafted by G. Thibault & M Caron | SCALE: 1:2500

240