



42A10SW0071 2.7251 GERMAN

010

COMSTATE RESOURCES LTD.

Geophysical Survey

South Half, Lot 1, Concession 1

German Township

Porcupine Mining Division, Ontario

RECEIVED

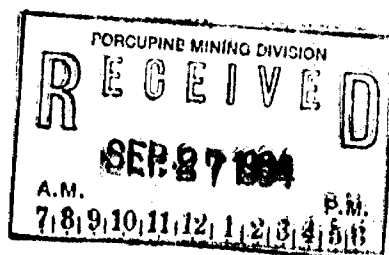
OCT 01 1984

MINING LANDS SECTION

September, 1984

Timmins, Ontario

D.R. Pyke, Ph.D.





42A10SW0071 2.7251 GERMAN

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Enclosed Map - Magnetic survey - Southeast German Township
Claim Group

Location and Access

The claim group consists of four contiguous claims located in the extreme southeast corner of German Township, approximately 25 miles east of Timmins. Access to the property is good, as Highway 101 traverses the southern margin of the property (Figure 1).

The property consists of the following claims, currently held by Comstate Resources Ltd:

P. 743377

P. 743379

P. 743378

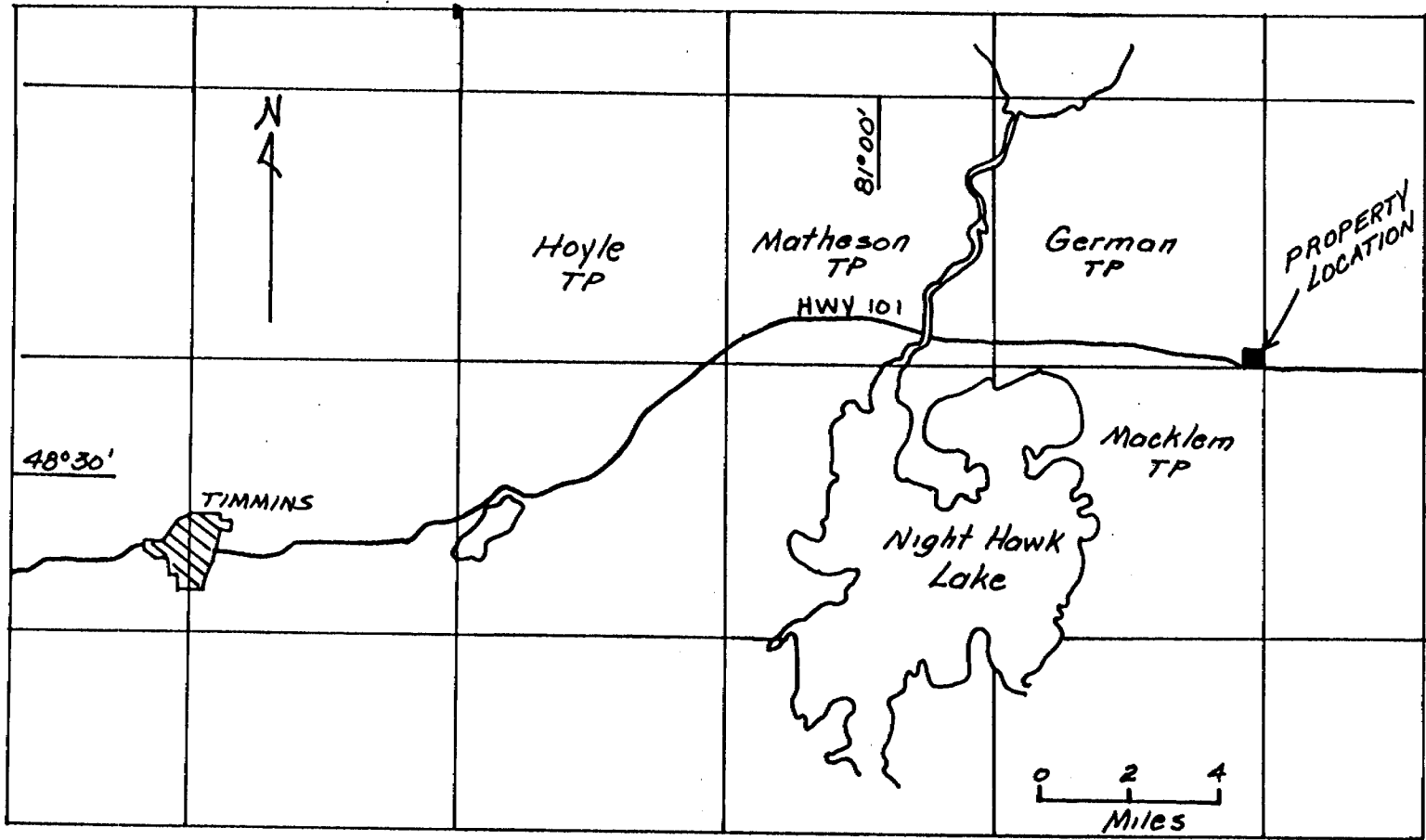
P. 743380

This report covers a geophysical (magnetic) survey carried out over the above four claims during July, 1984.

Previous Work

In 1964, Hollinger Consolidated Gold Mines Limited completed two diamond drill holes in the southwest quarter of the claim group, for a total of 937 feet (Timmins Assessment Files Report T-786). Both holes intersected serpentinite and talc-chlorite schist. No assay values were reported. In 1974, Hollinger Mines put down another diamond drill hole, 1141 feet in length, in the northwest quarter of the claim group (Timmins Assessment Files Report T-1627). The hole intersected conglomerate over its entirety; again, no assay values were reported.

In August, 1980, Comstate Resources Ltd. conducted a geochemical (humus) survey on the property; no significant



Location of COMSTATE RESOURCES LTD
GERMAN TOWNSHIP PROPERTY.

gold values were detected.

Regional Geology

Outcrop in the area is extremely sparse. However, a major east-west trending fault structure, the Destor-Porcupine Fault, is interpreted to extend across the extreme southern portion of German Township (O.D.M. Map 2205). The fault forms the southern boundary of a thick (up to one mile) succession of quartz-rich fluviatile sediments of the Upper Porcupine Group. Ultramafic flows of the Tisdale Group, which are often extensively carbonatized, occur south of the Destor-Porcupine Fault.

Property Geology

There is no outcrop on the claims, yet the Destor-Porcupine Fault is interpreted to extend through the southern portion of the property. Two diamond drill holes drilled by Hollinger Mines intersected the Fault zone, and encountered variably carbonatized and pyritized talc-chlorite serpentine schist (File T-786). Quartz veining is reported in some sections.

Well bedded, quartz rich, polymictic paraconglomerates occur north of the fault, as indicated by Hollinger Drilling. Green chloritic, green fucshitic, quartz and cherty pebbles, and, more rarely, one inch pyrite and pyrrhotite fragments are reported clast types. Quartz, albitite, and ankerite stringers and veins occur, but are not abundant.

Present Survey

The present survey was conducted during the period July 4 - July 16, 1984, by Exsics Exploration Limited, for Comstate Resources Limited.

An east-west baseline was established along the north boundary of the property, and south trending picket lines were cut at 200 foot intervals across the entire property. Eight miles of line were cut, and a total of 580 magnetic readings taken.

Magnetic readings were taken with an EDA PPM - 350 proton magnetometer (see attached specifications).

For the purposes of diurnal correction, a base station was established at Line 0+00, 2200 S.

Results of Magnetic Survey

Magnetic relief on the property is approximately 4800 gammas, the maximum relief being in the southern portion of the claim group.

The area of high magnetic susceptibility along the southern portion of the claim group is interpreted to be underlain by ultramafic rocks; the area of low magnetics to the north is interpreted to be underlain by sedimentary rocks. This is supported by the previous drilling of Hollinger Mines.

The Destor-Porcupine Fault is interpreted to strike in a west-northwest direction and show a left hand displacement of approximately 400 feet in the vicinity of line 600W.

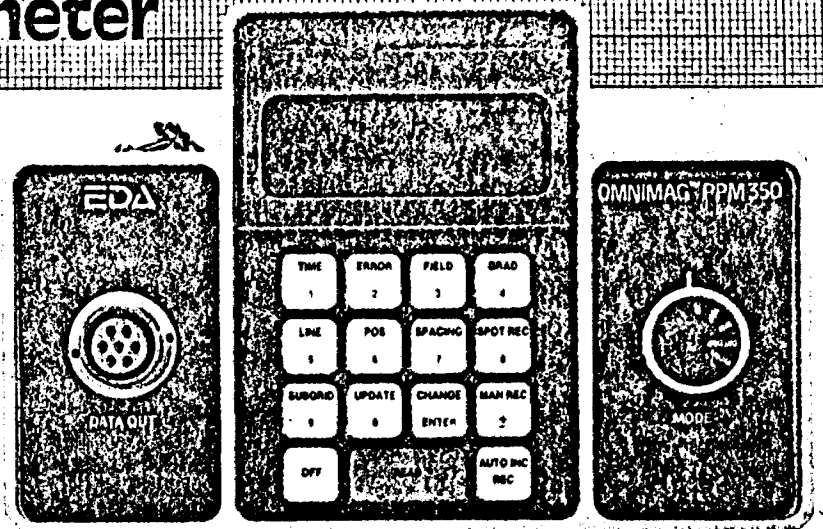
Recommendations

Further work in the vicinity of the offset on the Destor-Porcupine Fault is probably warranted. This could be accomplished by one or two I P profiles and/or overburden drilling across the fault structure displacing the Destor-Porcupine Fault.

W R Lyke

OMNIMAG PPM-350 Total Field Magnetometer

EDA



The PPM-350 is the latest addition to EDA's OMNIMAG*™ series of magnetometers and gradiometers. It is engineered to provide users with the latest state-of-the-art advances in microprocessor technology, including many features that are unique in the field.

Major benefits and features include:

- Significant increase in productivity
- Lowered survey costs
- Automatic diurnal correction
- Programmable grid coordinates
- Highly reproduceable data
- Ergonomic design
- Simplified fieldwork
- Computer-compatible



Specifications

Dynamic Range	18,000 to 93,000 gammas
Sensitivity	± 0.02 gamma
Statistical Error Resolution	0.01 gamma
Standard Memory Capacity	1383 data blocks or readings
Absolute Accuracy	± 15 ppm at 23°C, 50 ppm over the operating temperature range
Display Resolution	0.1 gamma
Capture Range	$\pm 25\%$ relative to ambient field strength of last stored value
Display	Custom-designed, ruggedized liquid crystal display with an operating temperature range from -35°C to $+55^{\circ}\text{C}$
Gradient Tolerance	5,000 gammas per meter
Sensor	Optimized miniature design. Magnetic cleanliness is consistent with the specified absolute accuracy
Sensor Cable	Remains flexible in temperature range; includes low strain connector
Operating Environmental Range	-35°C to $+55^{\circ}\text{C}$; 0-100% relative humidity; weather-proof
Power Supply	Non-magnetic rechargeable sealed lead acid battery cartridge or belt; or, Disposable "C" cell battery cartridge or belt
Battery Cartridge Life	2,000 to 5,000 readings, depending upon ambient temperature and rate of readings
Weight and Dimensions	
Instrument Console only	3.4 kg, 238 x 150 x 250 mm
Lead Acid Battery Cartridge	1.9 kg
Sensor	1.2 kg, 56 mm diameter x 200 mm
System Complement	Electronics console; sensor with 3-meter cable; sensor staff; power supply; harness assembly; operation manual.

EDA is a pioneer in the development of advanced geophysical systems and has created many innovations that increase field productivity and lower survey costs.

EDA's OMNIMAG series consists of the PPM-350 Total Field Magnetometer, PPM-400 Base Station Magnetometer, and the PPM-500 Vertical Gradiometer. Contact us *now* for details.

E D A Instruments Inc.
1 Thorncliffe Park Drive
Toronto, Ontario
Canada M4H 1G9
Telex: 06 23222 EDA TOR
Cable: Instruments Toronto
(416) 425-7800

In U.S.A.
E D A Instruments Inc.
5151 Ward Road
Wheat Ridge, Colorado
U.S.A. 80033
Telex: 00 450681 DVR
(303) 422-9112



Mining Lands Section

File No 2. ⁷²~~857~~

Control Sheet

TYPE OF SURVEY GEOPHYSICAL
 GEOLOGICAL
 GEOCHEMICAL
 EXPENDITURE

MINING LANDS COMMENTS:

lgl . *L.D.*

J. Hurst

Signature of Assessor

04-10-09

Date



Ministry of
Natural
Resources

Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

W.R.
#308184

The Mining Act 27251

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.

Sept 28 1984

Type of Survey(s) GEOPHYSICAL	Township Area GERMAN
Claim Holder(s) COMSTATE RESOURCES LTD	Prospector's Licence No. T-1127
Address SUITE 901 - 1015 4th St S.W. CALGARY ALBERTA T2R 1J4	
Survey Company EXSICS EXPLORATION Limited	Date of Survey (from & to) Day Mo. Yr. Day Mo. Yr. 4 07 84 16 07 84
Total Miles of line Cut 8 miles	
Name and Address of Author (of Geo-Technical report) D R PYKE 31 DELAIR CRES THORNHILL ONT L3T 2M3	

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

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

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
P	743377				
	743378				
	743379				
	743380				

RECEIVED
AUG 13 1984
MINING LANDS SECTION

RECORDED
JUL 30 1984
Receipt No. *SP*

RECEIVED
JUL 30 1984
A.M. P.M.
7 8 9 10 11 12 1 2 3 4 5 6

Total number of mining claims covered by this report of work. **4**

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	Date Recorded	Mining Recorder
80	July 30, 1984	<i>Blankley</i>
	Date Approved or Recorded	Mining Recorder
	84.10.10	<i>[Signature]</i>

Date *July 30 1984* Recorded/Holder of Agent (Signature) *DR Pyke*

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 *D. R. PYKE, 31 DELAIR P.O. Box 1142 Timmins Ont P4N 7A9*

Date Certified *July 30/84* Certified by (Signature) *DR Pyke*



GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) GEOPHYSICAL
Township or Area GERMAN
Claim Holder(s) COMSTATE RESOURCES LTD

Survey Company EXSICS EXPLORATION LIMITED
Author of Report D. R. PYKE
Address of Author 31 DELAIR CRES THORNHILL ONT
Covering Dates of Survey JULY 4/84 - JULY 16/84
(linecutting to office)
Total Miles of Line Cut 8 miles

MINING CLAIMS TRAVERSED
List numerically

P	743377
(prefix)	(number)
P	743378
P	743379
P	743380

SPECIAL PROVISIONS CREDITS REQUESTED	DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	-Electromagnetic _____
ENTER 20 days for each additional survey using same grid.	-Magnetometer <u>20</u>
	-Radiometric _____
	-Other _____
	Geological _____
	Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)
Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)
DATE: Sept 27/84 SIGNATURE: D. R. Pyke
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

TOTAL CLAIMS 4

OFFICE USE ONLY

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations 580 Number of Readings 580
Station interval 50 FT Line spacing 200 FT
Profile scale
Contour interval 25-100 GAMMAS

MAGNETIC

Instrument EDA PPM-350
Accuracy - Scale constant 1 GAMMA
Diurnal correction method BASE STN established on property
Base Station check-in interval (hours) BASE STN READ EVERY 30 SECONDS
Base Station location and value LOROO W - 2200 S - 59161 GAMMAS

ELECTROMAGNETIC

Instrument
Coil configuration
Coil separation
Accuracy
Method: [] Fixed transmitter [] Shoot back [] In line [] Parallel line
Frequency (specify V.L.F. station)
Parameters measured

GRAVITY

Instrument
Scale constant
Corrections made
Base station value and location
Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument
Method [] Time Domain [] Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken _____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General _____

ANALYTICAL METHODS

Values expressed in: per cent
p. p. m.
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, (circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

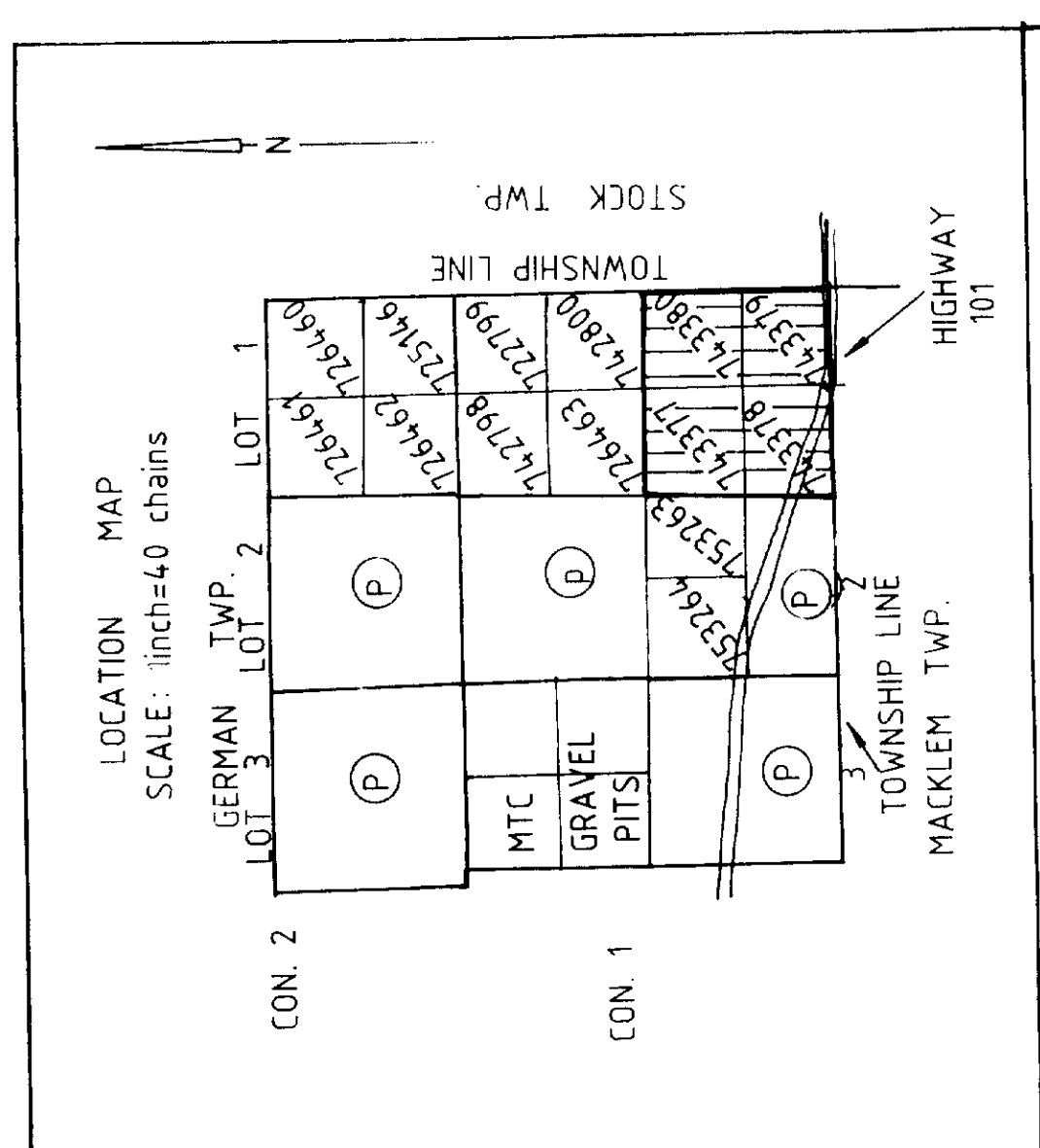
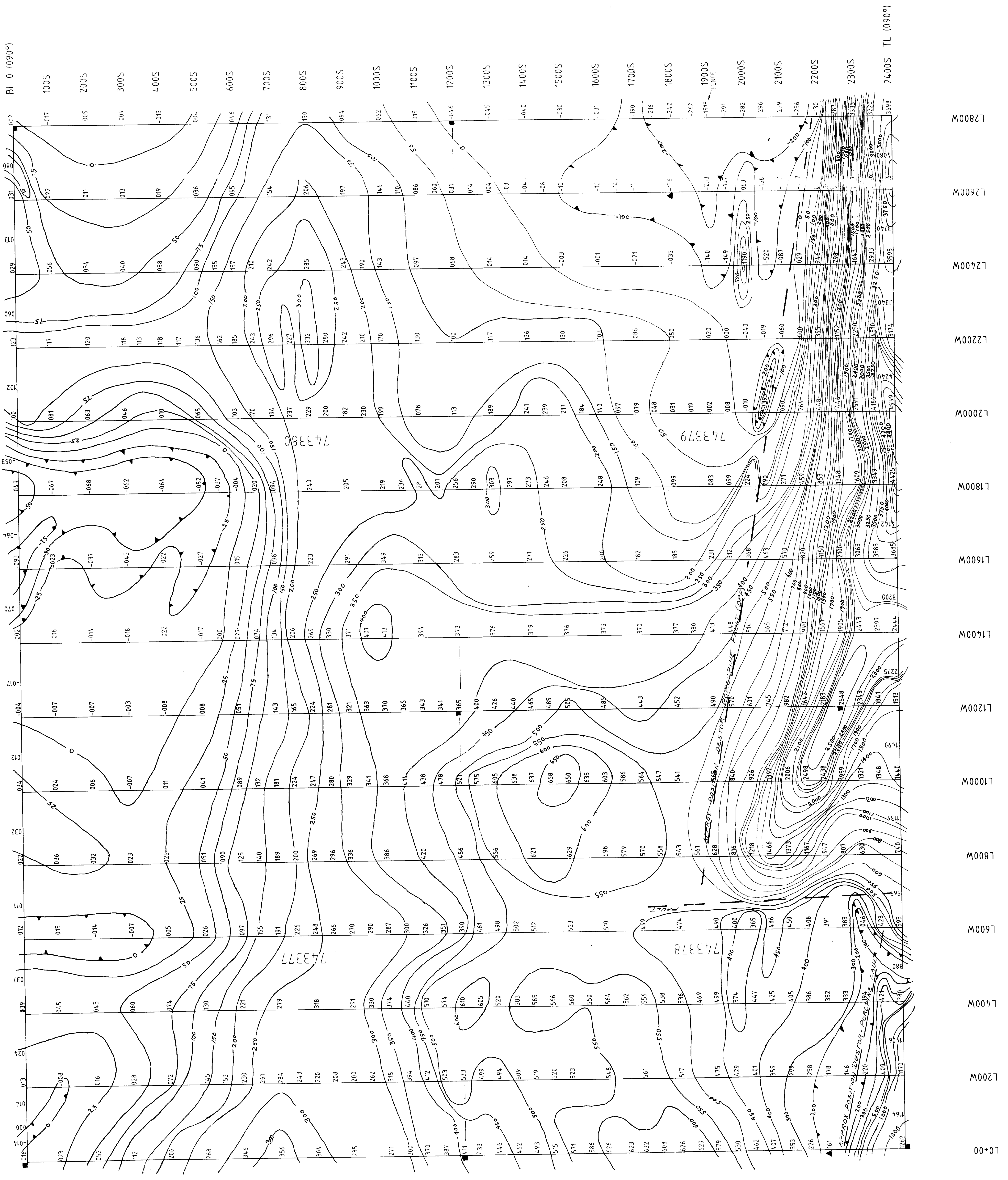
Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____



LEGEND

Total Magnetic Field in gammas 59000

Magnetic Depression:

Contour intervals: 25, 50, 100, 200, 250 gammas

Instrument: Scintrex MP-2

Operator: Exsics Exploration Ltd.

Base Station Location:

KEY

Claim Line:

Claim Post:

Claim Number: 743377

Client: Comstate Resources Ltd.

Grid: German Township
Lot 1, Con. 1

Survey: Magnetometer

Date: July 84, Plotting: P. Noel

Scale: 1"=100', Interpretation: J. Grant

EXSICS EXPLORATION LIMITED

J. Grant

L2800W
L2900W
L3000W
L3100W
L3200W
L3300W
L3400W
L3500W
L3600W
L3700W
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L3900W
L4000W
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