

42A10SW0049 2.10505 GERMAN

010

**CHEVRON CANADA RESOURCES LIMITED**

**#1714 - 390 Bay Street  
Toronto, Ontario  
M5H 2Y2**

**AIRBORNE GEOPHYSICS SURVEY**

**German Township**

*Qual.  
2.10096*

November 3, 1987

W.E. Glenn

## GERMAN PROJECT

### Introduction

Chevron has 28 claims located at the junction of Highways 101 and 67 about 30 kilometers east of Timmins, Ontario. The property straddles the German and Macklem Township line.

Terraquest Ltd. of Toronto was contracted to fly aeromagnetic and VLF surveys over the 28 claims in August, 1987. The data were processed by Dataplotting Services Inc. of Toronto.

The purpose of the survey was to help determine the bedrock geology in the area. Only one outcrop of Temiskaming meta-sedimentary rocks occurs in the claim group and it is located along Highway 101 in claim P950261. Therefore, the airborne geophysics is important to interpretation of lithology and structure on the property. Geology for the area can be viewed on OGS Map 2205.

### Airborne Survey Specification

#### Instruments

The survey was carried out using a Cessna 206 aircraft, registration C-GGLS, carrying a proton (Overhausser) magnetometer and a three outhogonal coil VLF-EM unit. The magnetometer was mounted in a towed bird 14 meters below and 24 meters behind the aircraft and the coils were mounted on the left wing tip extension.

The Instrument specifications were as follows:

#### Magnetometer

Resolution	0.01 gamma
Accuracy	0.03 gamma
Cycle Time	0.5 seconds
Range	20,000 - 100,000 gammas
Gradient Tolerance	5,000 gammas/meter
Model	GSM-11
Manufacturer	GEM Systems Inc., 105 Scarsdale Rd., Don Mills, Ontario M3B 2R5

#### VLF-EM Unit

Accuracy	1%
Reading Interval	0.5 seconds
Model	TOTEM 2A
Manufacturer	Herz Industries, Toronto

#### Support Hardware

King KRA-10A Radar Altimeter  
UDAS-100 Data processor  
Digidata 9-track tape recorder manufactured by Urtec Ltd., Markham Ontario  
Geocam video camera and recorder manufactured by Geotech Ltd., Markham, Ontario

### Flying Specifications

Line spacing	100 meters
Line direction	360 degrees
Terrain clearance	100 meters
Average ground speed	193 km/hr
Data point interval	11 meters
Tl line interval	2 kilometers
ULF Channel 1 (LINE)	NAA Cutter, 24 lettz
ULF Channel 2 (ORTHO) NSS Annapolis,	21.4 lettz

Photomosaics were used for flight line control and recovery. The photos were photographically adjusted to the NTS map system before the mosaic was assembled.

### **Data Processing**

The data locations were recovered using the video records and the photo mosaics. The magnetic data were levelled using tie line data and the IGRF was not removed. The VLF data was normalized to a background 100 units total field strength and zero unit quadrature in a non-conductive area. The magnetic data are contoured and the VLF are plotted as profiles on 1:10,000 scale maps attached to this report.

### **Data Interpretation**

Lithology interpretations are based on the inference that the higher magnetic intensity is over rocks with higher magnetite content and these rocks are interpreted to be iron-rich mafic volcanic flows and intrusives. The lower magnetic rocks are interpreted to be sedimentary, felsic volcanic and felsic intrusive rocks. Disruptions in magnetic trends are interpreted as faults. The VLF-EM conductive features may mark sedimentary rocks, structures and massive metallic mineralization.

The western block of claims cover an area of south to north magnetic gradient from higher to lower magnetic field strength. The interpretation is that the claims cover mainly sedimentary rocks with local high magnetic units such as seen in claim P950262. A north west trending diabase dike is interpreted to cut the west end of the eastern claim block. A east, north-east striking diabase dike is interpreted to occupy the central part of the eastern claim block and it intrudes sedimentary rocks.

The VLF-EM shows an east west conductor along the highway which is interpreted to be from a superficial source. A short strike length conductor is associated with the magnetic high in claim P950262. Several other short strike length conductors appear to be coincident with a dike in the eastern claim group. A north-east fault may be obliquely cutting the dike. The magnetic data do not suggest any large sections of iron-rich volcanic rocks occur on the property.

### **Summary**

The data show only one very interesting feature located in claim P950262. Ground follow-up work is planned.

*W. E. Jones*  
*Staff Geologist*



Type of Survey(s) **AIRBORNE MAGNETICS & VLF-EM** GERMAN TOWNSHIP  
 Claim Holder(s) **CHEVRON MINERALS LTD.** Prospector's Licence No. **T-1690**  
 Address **#1714-390 BAY STREET, TORONTO, ONTARIO M5H 2Y2**  
 Survey Company **TERRAQUEST LTD.** Date of Survey (from & to) **09 08 87** to **21 09 87** Total Miles of line Cut  
 Name and Address of Author (of Geo-Technical report) **W.E. GLENN, #1714-390 BAY STREET, TORONTO, ONTARIO M5H 2Y2**

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	
	- Magnetometer	
	- Radiometric	
For each additional survey: using the same grid: Enter 20 days (for each)	- 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 40
	Magnetometer 40
	Radiometric

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
P	931963		P	997455	
	931964			997456	
	931965			997920	
	931966			997921	
	931967			997483	
	931968				
	950252				
	950253				
	950254				
	950255				
	950256				
	950257				
	950258				
	950259				
	950260				
	950261				
	950262				
	950263				
	950264				
	950265				
	950266				
	950267				
	997477				

MINING GEOLOGICAL RESEARCH OFFICE  
 10/12/87  
 RECEIVED  
 RECORDED  
 SEP 14 1987

Expenditures (excludes power stripping) **1174.00**

Type of Work Performed: **MAINTENANCE**

Performed on Claim(s): **MAINTENANCE LANDS SECTION**

Calculation of Expenditure Days Credits

Total Expenditures \$ **1174.00** ÷ **15** = Total Days Credits **78.27**

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.

Date **20-11/87** Recorded Holder or Agent (Signature) *[Signature]*

For Office Use Only

Total Days Cr. Recorded **2,240** Date Recorded **14/87** Mining Recorder *[Signature]*

Date Approved as Recorded **12/87** Branch Director *[Signature]*

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 **W.E. GLENN, #1714-390 BAY STREET, TORONTO, ONTARIO M5H 2Y2**

Date Certified **Sept 11/87** Certified by (Signature) *[Signature]*

MAP SYMBOLOLOGY

Aerial Cableway	Pipeline (above ground)
Boundary	Railroad
International	Single Track
Interprovincial	Double Track
District, Township Indian Reserve	Abandoned
Approximate	Turbidite
Lot, Concession	Road
Approximate	Highway, County, Township
Park Boundary	Access (road of doubtful maintenance or significant driveway)
Bridge	Traffic, Bank Road (single alley)
Road, Railroad	Rapids
Building	Double line river with multiple rapids
Chimney	Double line river with multiple rapids
Cliff, Pit, Pile	Reservoir
Contours	River, Stream, Canal
Interpolated	Approximate
Approximate	Direction of flow
Depressive	Rock
Control Points	Culvert
Horizontal	Falls
Vertical	Double line river
	Fence, Hedge, Wall
	Feature Outline (Construction features, etc.)
	Flooded Land
	Lock
	Marsh or Swamp
	Mast
	Mine Head Frame
	Outcrop
	Spot Elevation (true elevation) 100.0
	Tower
	Transmission Line
	Utility Poles
	Wharf, Dock, Pier
	Wooded Area

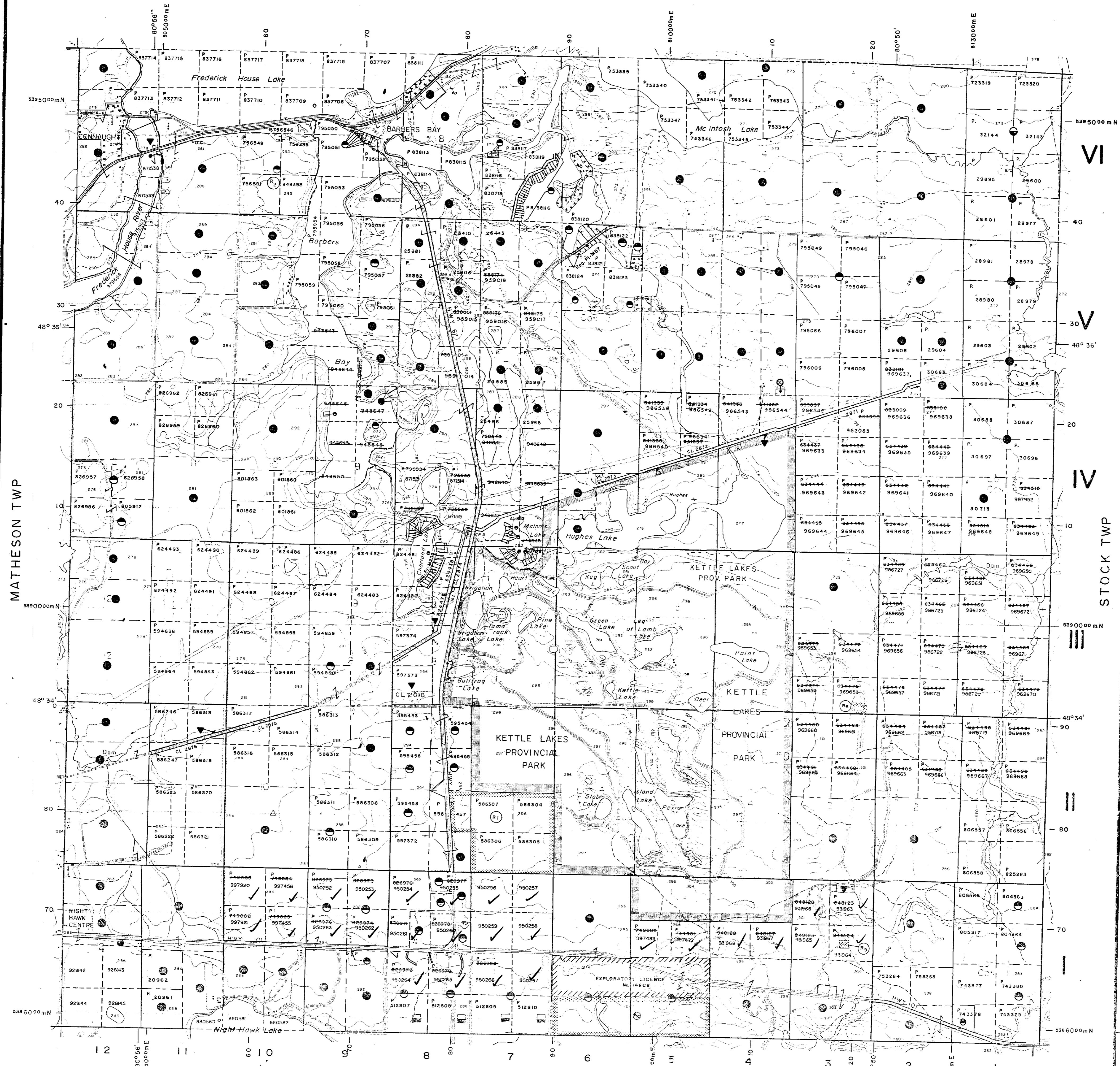
**AREAS WITHDRAWN FROM DISPOSITION**

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

Description	Order No.	Date	Disposition	File

- (R1) CERTIFIED AGRICULTURAL LAND
- (R2) MINING RIGHTS ONLY WITHDRAWN UNDER SECTION 36 OF THE MINING ACT P.S.O. 1980 ORDER NO. W-73/87 A.M. 10.97
- (R6) W 76/77 22/9/77 S.R.O. 54339
- (R9) SEWAGE DISPOSAL SITE - BONA FIDE APPLICATION UNDER P.L.A.
- (R10) MINING RIGHTS ONLY WITHDRAWN UNDER SECTION 36 OF THE MINING ACT P.S.O. 1980 ORDER #1184

DUNDONALD TWP



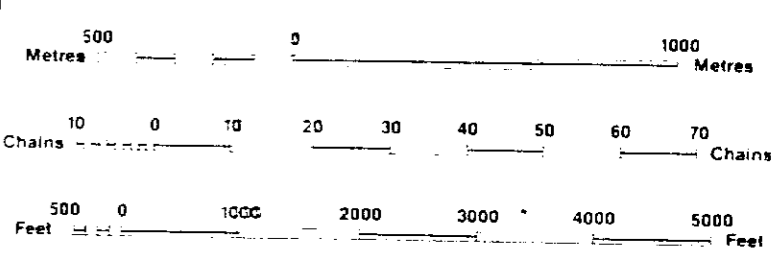
LEGEND

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

DISPOSITION OF CROWN LANDS

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

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT "S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.

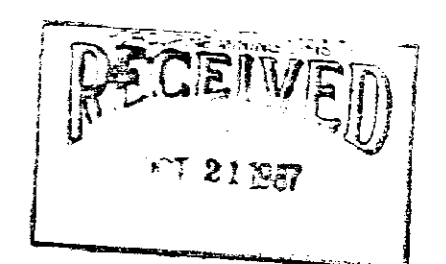


SCALE 1:20 000  
 GRID ZONE 17  
 NOTES

FLOODING RIGHTS ON NIGHTHAWK LAKE AND FREDRICK HOUSE RIVER TO ELEV. 903.5' RESERVED TO ONTARIO HYDRO.

FLOODING RIGHTS ON FREDRICK HOUSE LAKE TO ELEV. 903.0' TO ONTARIO HYDRO

REGISTERED PLAN OF SUBDIVISION

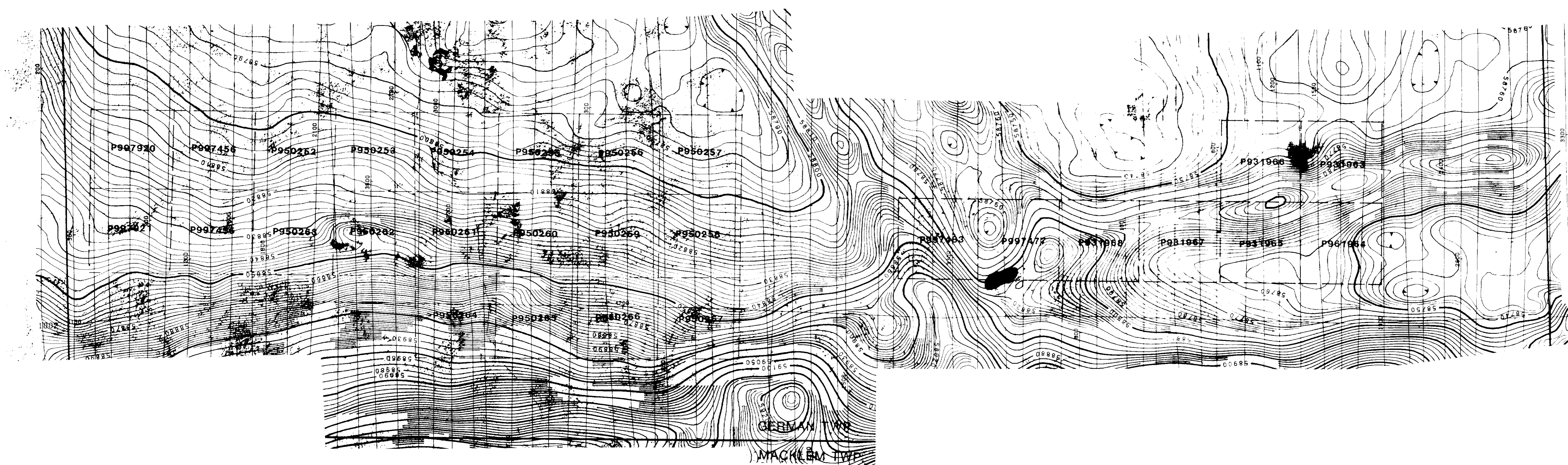


TOWNSHIP  
**GERMAN**  
 M.N.R. ADMINISTRATIVE DISTRICT  
**TIMMINS**  
 MINING DIVISION  
**PORCUPINE**  
 LAND TITLES / REGISTRY DIVISION  
**COCHRANE**

Ministry of Natural Resources  
 Land Management Branch  
 Ontario

ORIGINAL COMPILATION JULY 1984





**LEGEND**

Terrain Clearance .....	100 meters
Line Spacing .....	100 meters
<b>TOTAL MAGNETIC FIELD</b>	
250 gammas	=====
50 gammas	=====
10 gammas	=====
2 gammas	=====

CHEVRON CANADA RESOURCES LTD.

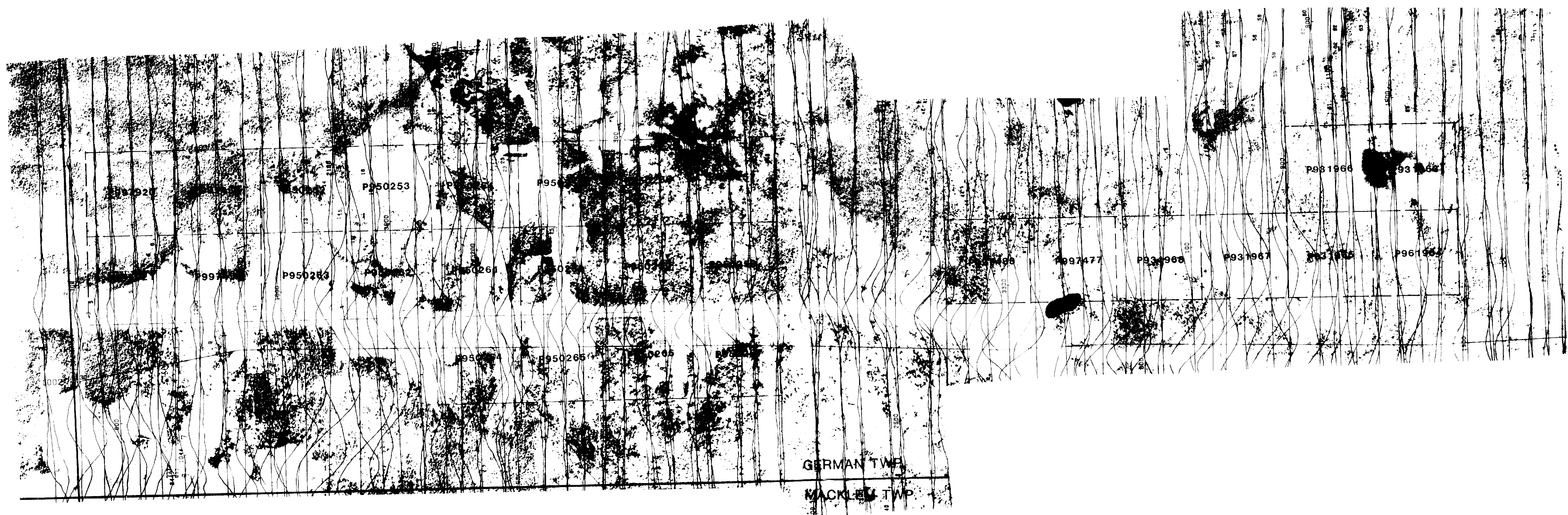
**AIRBORNE MAGNETIC SURVEY  
TOTAL MAGNETIC FIELD**

GERMAN PROJECT  
ONTARIO

NTS NO. 42A/10 DRAWING NO. A-716, 2  
SCALE 1:10,000 DATE October 1987

**TERRAQUEST LTD.**





VLF Transmitter  
 NAA Cutler, 24.0 kHz  
 Azimuth 108

**LEGEND**  
 Terrain Clearance ..... 100 meters  
 Line Spacing ..... 100 meters

VLF Profile scale  
 0  
 + 5% 5 5 15% -  
 1cm represents 10%

CHEVRON CANADA RESOURCES LTD.

**AIRBORNE VLF-EM SURVEY**  
 PROFILES OF TOTAL FIELD STRENGTH  
 PROFILES OF QUADRATURE

GERMAN PROJCT  
 ONTARIO

N.T.S. NO. 42A/10

DRAWING NO. A-716.2-3

SCALE: 1:10,000

DATE: October 1987

**TERRAQUEST LTD.**  
 TORONTO, CANADA

