

320055W0069 2.4102 ARNOLD

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MINING

GEOPHYSICAL REPORT
JAMES OPTION
ARNOLD TOWNSHIP
LARDER LAKE MINING DIVISION

Author: Ronald C. Wells
Lacana Mining Corporation
Toronto, Ontario

July 25, 1980

2.4102

R. C. Wells
10th August 1981

1. Location and Access

The James option in the north half of Arnold Township, Larder Lake Mining Division, consists of eighteen contiguous unpatented claims which cover much of the southern end of Kennedy Lake and the adjacent highlands. The claims are as follows: L440979, L511648, L511649, L511650, L511651, L511652, L512131, L532168, L532169, L532170, L532171, L532172, L532173, L532174, L532175, L532176, L532177 and L532178. Access to the property is gained from the Esker Lake Park road by way of an old logging road which runs north of Motherwell and Todd Lakes. An alternative route is by canoe or skidoo from Howard Lake via a short portage into Kennedy Lake.

2. General Geology

Blake River Group mafic to intermediate massive, pillowed, crystal tuffaceous and porphyritic metavolcanic rocks outcrop within the claim group area. Much of the western part of the claim group is overlain by thick deposits of aeolian dune sand with isolated outcrops. Around Kennedy Lake, however, occur excellent semi-continuous exposures of bedrock volcanics. The volcanics occupy the southern limb of an easterly trending syncline close to the fold axis. Kennedy Lake follows a major northeasterly trending fault.

3. Geophysics

a) Method

A grid 22.92 miles long was cut and chained by Gelinas and Associates during the winter of 1979/80 to cover the entire claim group. A horizontal loop EM Survey was conducted over the grid

during 1980 by Geox Ltd. of Timmins. Details of the EM Survey occur in a previous assessment report date July, 1980. A VLF Survey was conducted over the entire grid during the winter of 1980/81. A magnetometer survey was conducted over the northern part of the property at the same time. Both surveys were completed by Lacana staff.

b) VLF Survey

A Crone Radem VLF unit was used for the survey. Dip angle measurements were taken at 100 foot intervals on the grid using Annapolis, Maryland as the transmitter station. Dip angle profiles from the VLF survey are shown in Figure 1 accompanying this report.

A weak conductor occurs close to the western shore of the Lake on grid lines 4N and 8N. Other isolated crossovers occur on the grid but these seem to be related to changes in topography and overburden type. No significant changes in field strength were noted over any of the cross-overs during the survey.

c) Magnetic Survey

An M700 McPhar fluxgate magnetometer was used for the survey and readings were taken at 100 foot intervals on the grid. The survey was completed in a series of closed loop traverses and corrections were made for diurnal variations. A contoured map of the magnetometer readings can be referred to in Figure 2 accompanying this report.

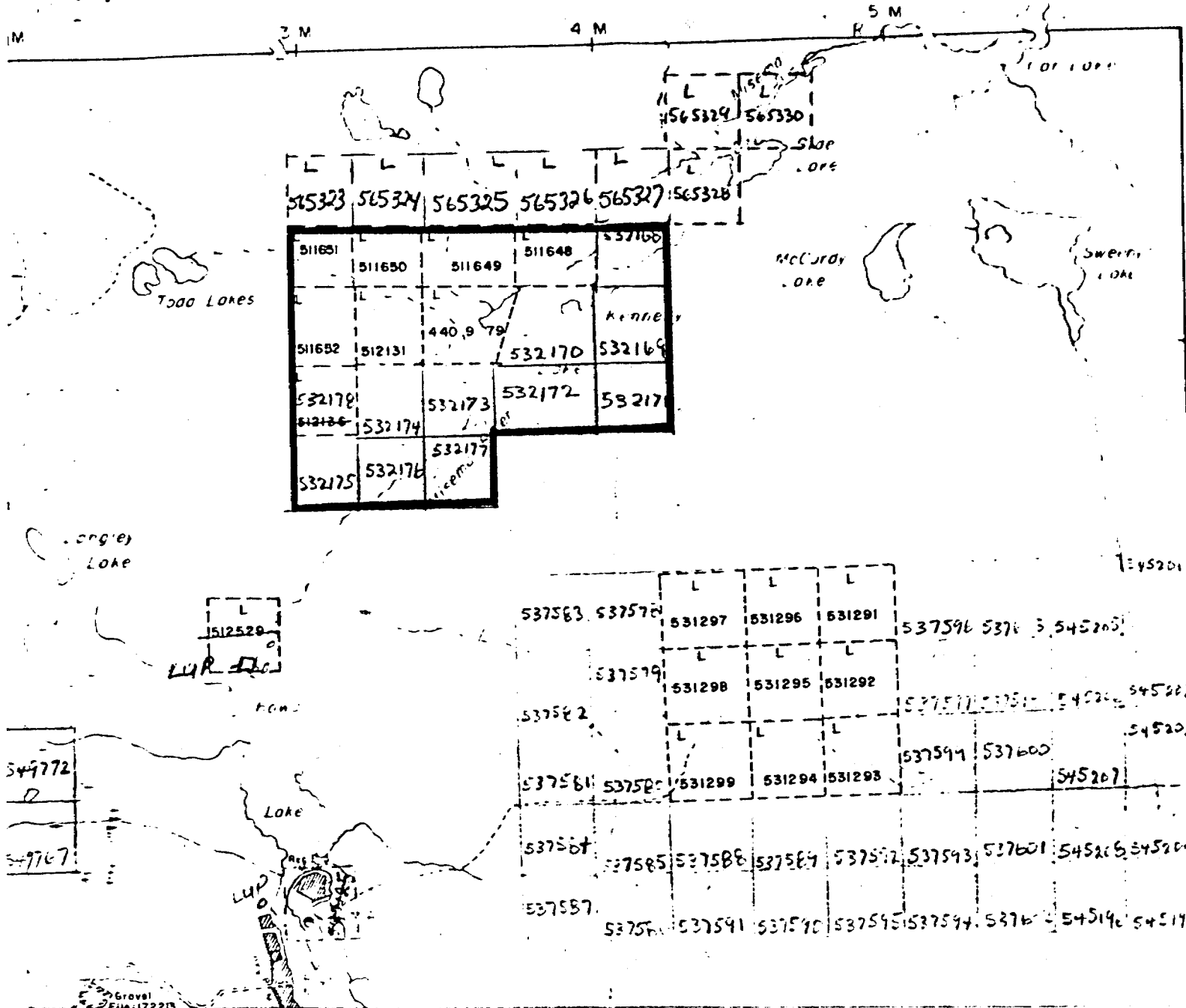
The magnetic features in Figure 2 roughly approximate bed-rock geology with easterly trend. Magnetic highs occur over areas where more magic volcanic flows outcrop.

Clifford Twp. (M. 338)



32D05SW0069 2.4102 ARNOLD

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CLAIM LOCATION MAP - ARNOLD TOWNSHIP



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 VLF
Township or Area ARNOLD TWP.
Claim Holder(s) D. JAMES

Survey Company LACANA MINING CORP.
Author of Report RONALD C. WELLS
Address of Author PO Box 38 KIRKLAND LAKE, ONT.
Covering Dates of Survey 1/1/80 to 1/8/81
(linecutting to office)
Total Miles of Line Cut 22.92

MINING CLAIMS TRAVERSED	
List numerically	
L	440979 (number)
L	511648
L	511649
L	511650
L	511651
L	511652
L	512131
L	532168
L	532169
L	532170
L	532171
L	532172
L	532173
L	532174
L	532175
L	532176
L	532177
L	532178
TOTAL CLAIMS <u>18</u>	

If space insufficient, attach list

<u>SPECIAL PROVISIONS CREDITS REQUESTED</u>	DAYS per claim
Geophysical	
- Electromagnetic	<u>20</u>
- Magnetometer	_____
- Radiometric	_____
- Other	_____
Geological	_____
Geochemical	_____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: 11/ Aug. / 1981 SIGNATURE: R. C. Wells
Author of Report or Agent

Res. Geol. _____ Qualifications _____

<u>Previous Surveys</u>			
File No.	Type	Date	Claim Holder
			<u>L.D</u>

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 1,160 Number of Readings 1160
Station interval 100 FEET Line spacing 400 FEET
Profile scale 1" = 20'
Contour interval -

MAGNETIC

Instrument
Accuracy - Scale constant
Diurnal correction method
Base Station check-in interval (hours)
Base Station location and value

ELECTROMAGNETIC

Instrument CRANE RADEM VLF
Coil configuration
Coil separation
Accuracy 1'
Method: Fixed transmitter Shoot back In line Parallel line
Frequency ANNAPOLIS MD (specify V.L.F. station)
Parameters measured DIP ANGLE

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

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 472 Number of Readings 472
Station interval 100 FEET Line spacing 400 FEET
Profile scale
Contour interval 50 gammas.

MAGNETIC

Instrument McPhar M 700 Fluxgate Magnetometer.
Accuracy - Scale constant 10 gamma
Diurnal correction method CLOSED LOOP TRAVERSE WITH BASE STATION
Base Station check-in interval (hours) APPROX 2 hrs.
Base Station location and value 130 gamma @ Bl. 12 North.

ELECTROMAGNETIC

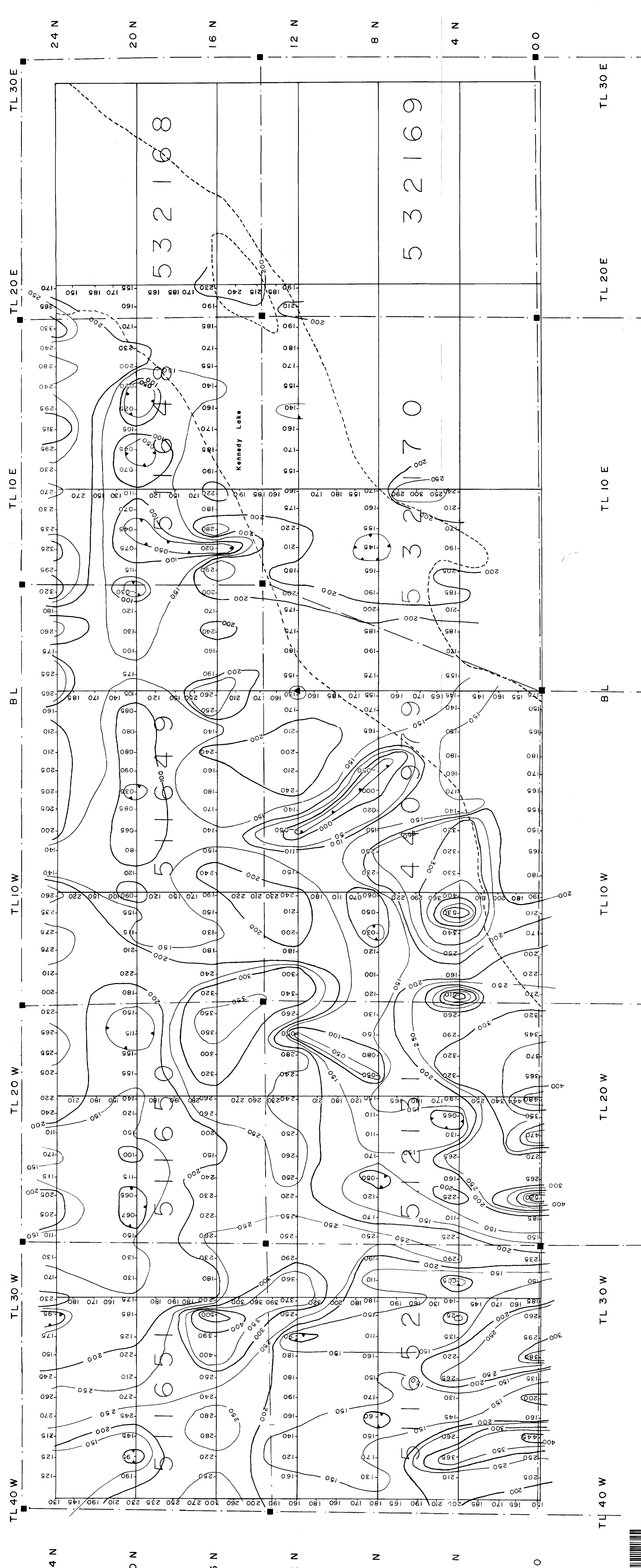
Instrument
Coil configuration
Coil separation
Accuracy
Method: [] Fixed transmitter [] Shoot back [] In line [] Parallel line
Frequency (specify V.L.F. station)
Parameters measured

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

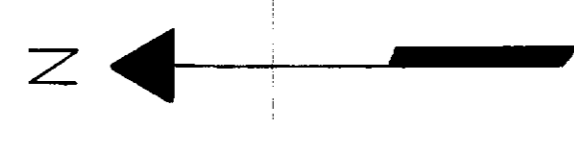


GEOPHYSICAL LEGEND

Instrument McPhar M700 Fluxgate Magnetometer
 Accuracy 5 gammas
 Operators LACANA
 Date March 1981

PLOTTING CONVENTION

Magnetic contour at 50 gamma intervals
 Magnetic contour at 100 gamma intervals
 Base station
 Claim post & claim line

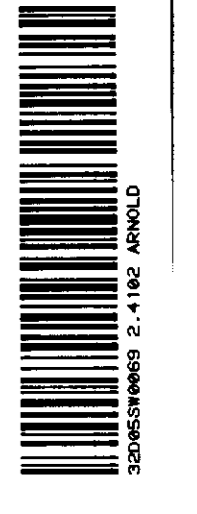


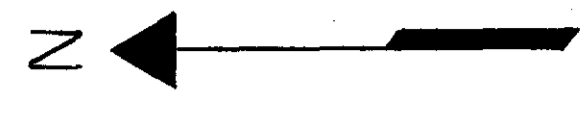
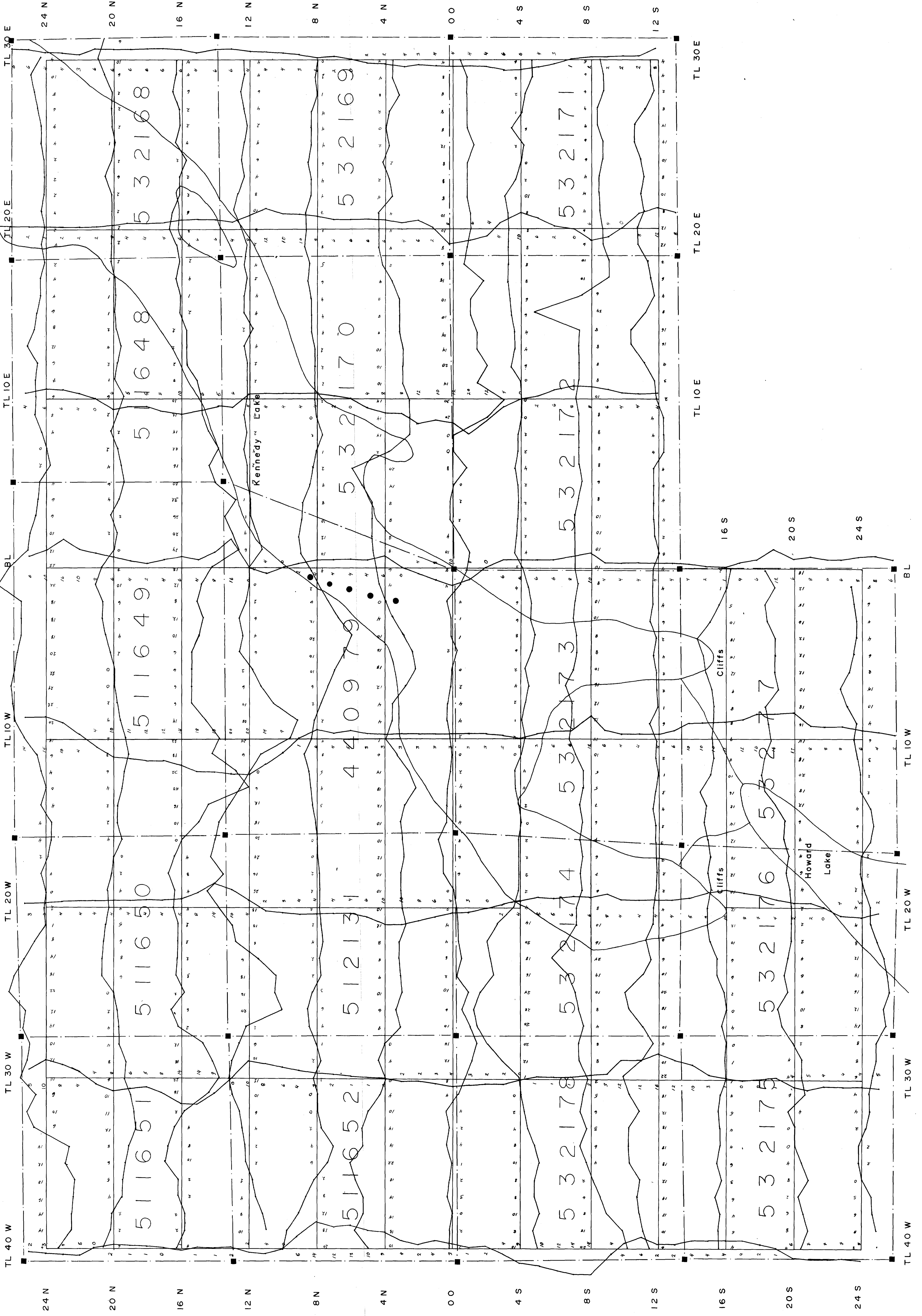
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LACANA
 COMPANY LIMITED
 LACANA MINING CORPORATION
 CANADIAN MINERALS JOINT VENTURE

**KIRKLAND PROJECT
 ARNOLD TWP.
 MAGNETOMETER SURVEY**

SCALE: 1" = 200'
 R.W. July 81 32 D/4 2

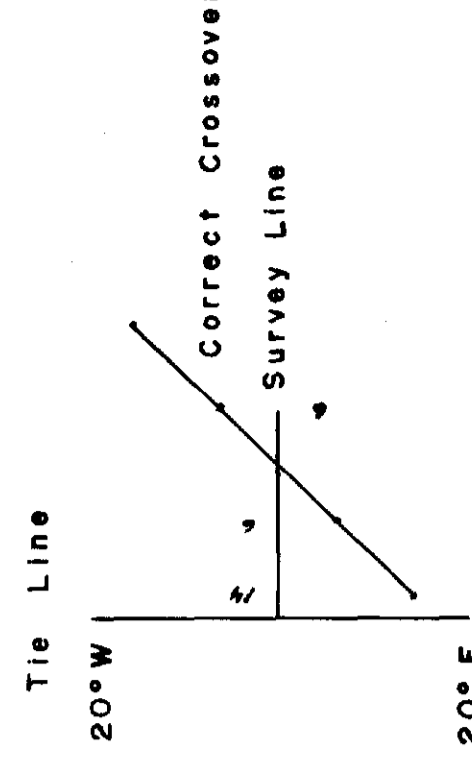
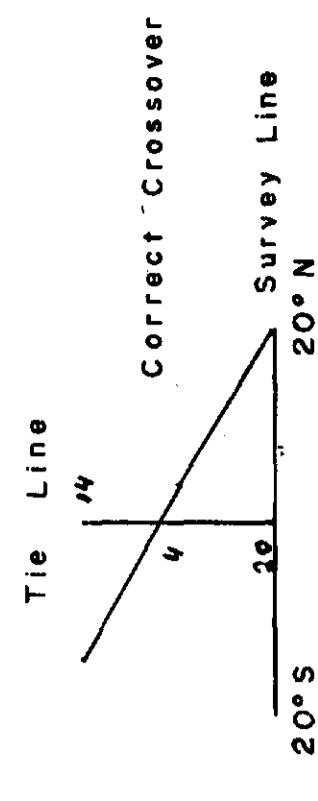




GEOPHYSICAL LEGEND

Instrument CRONE RADEM VLF EM UNIT
 Station Annapolis, Md.
 Operators LACANA
 Date January, 1981

PLOTTING CONVENTION



● Conductor
 - - - Approximate position of claim posts and claim lines.

LACANA
 CONSULTING LIMITED
 1000 EAST WASHINGTON
 CAMDEN, MINNESOTA 55005-1000

KIRKLAND PROJECT
 ARNOLD TWP
 VLF SURVEY

R.W. 1"=200' July 81 52 D/4 I
 2/1/82

