



41P15NE8338 2.3674 CAIRO

010

RECEIVED
JAN 19 1981
MINING LANDS SECTION

GEOPHYSICAL SURVEY

(VLF - EM)

MATACHEWAN PROJECT

CLAIM NUMBERS

L-537314-537317

L-567999-568019

L-537319-537323

L-532094-532098

CAIRO TOWNSHIP

LARDER LAKE MINING DIVISION

ONTARIO

BY

PAMOUR PORCUPINE MINING CORP.

JANUARY 1981

INTRODUCTION

A VLF survey was carried out on thirty-five claims located in the southwestern quarter of Cairo Township, Ontario. These claims are located 2 miles due east of the Matachewan mine property and 5 miles east of the Young-Davidson Mine. Work was carried out by Pamour Porcupine Mines, Exploration department personnel.

The survey was conducted to identify anomalies associated with the other nearby gold deposits. A VLF survey was selected in recognition of faults and major shear zones that exist in the area nearby and the gold producers.

The field work was carried out July 25, 1980 - August 15, 1980 by Pam Mageau of the Exploration Department. Interpretation and report writing were done January 6 - 12, 1981 by Sharon Schendel Weicker.

THE PROPERTY

The property consists of 35 claims in the southwestern quarter of Cairo Township. The claim numbers comprise the following: L-537314 thru 537317 inclusive, L-567999 thru 568019 inclusive, L-537319 thru 537323 inclusive, and L-532094 thru 532098 inclusive. These are located directly north and northeast of the town of Matachewan.

Access was gained by Highway 65, bush road to Indian Reservation 72, and then by foot.

GEOLOGY

The geology of the area has been mapped in detail by Pamour Porcupine Mines and also by the Ontario Department of Mines (Map 2110, H. L. Lovell, 1967, 1" = $\frac{1}{4}$ mile).

The work indicates four different formations in the claim area. They consist of Keewatin volcanics, Timiskaming sedimentary rocks, Algoman silicic intrusives and the Huronian Cobalt group which consists of argillaceous, arkoses, conglomerates, and quartzites. All except the Huronian group are cut by undifferentiated diabase dikes in this claim area. These are similar to the rocks that underly the Matachewan and Young-Davidson mines. Mineralization has been located in three pits in the claim area as shown on H. L. Lovell's geological map 2110. They are located in surface trenches in claim numbers L-537314, L-568001, and L-568002, all of which are in or near silicic intrusive rocks and faults or shear zones.

The Matachewan and Young-Davidson mines are located in the Algoman syenite porphyry. The gold is thought in part to be associated with the pyrite as fine included grains and, in part, found in almost microscopic fractures which are superimposed on the syenite. Although no major faults are found in or near either of these mines, large fracture sets have been observed in their drill data which may have influenced gold emplacement.

Gold has been observed in trenching in the Matachewan area, and in most cases faults or shear zones are located nearby.

SURVEY SPECIFICATIONS

Instrumentation

VLF

Instrument: Phoenix VLF-2

Frequencies: Cutler, Maine 17.8 Hz and Seattle, Washington 18.6 Hz

Quantities Measured: Tilt of the ellipse of polarization for both frequencies

Procedures

VLF Survey

Cutler, Maine, was read at each station in the Map II area and Seattle, Washington, was read at each station in the Map I area. The station interval was 100 feet.

SURVEY RESULTS

Presentation

Both the Seattle and Cutler VLF data were profiled parallel to their respective lines on the enclosed maps. Seattle station was used for the Map I area. The Cutler station was used for the Map II area.

Interpretation

Map I, which includes claim numbers L-537314 - 537317 inclusive, has 3 anomalies as outlined by the survey. Anomaly A has the longest expression. This may correlate with the east-west faults as mapped by Mr. Lovell (Map 2110). Anomalies B and C are shorter in length and represent smaller shear zones.

Map II, which consists of claim numbers L-567999 - 568019 inclusive, L-537319 - 537323 inclusive, and L-532094 - 532098 inclusive, has 6 anomalies. Anomalies D and I may show minor shear zones or faults. Anomalies E, F, and G are possible expressions of a shear zone that corresponds with one that has been mapped by H. L. Lovell (Map 2110). The VLF crossover

Interpretation (cont'd)

expression is very strong on these 3 anomalies. Anomaly H may be associated with the Montreal River - Whiskeyjack Creek fault which runs in a northwestern - southeastern direction and occurs in the northeastern claims of this map.

SUMMARY AND RECOMMENDATIONS

(A) A geophysical survey consisting of a VLF survey was carried out over the properties under discussion.

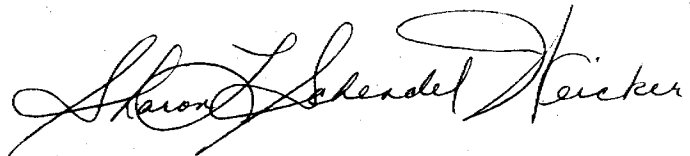
(B) Several possible shear zones and faults were expressed in the area from the VLF data.

(C) A few of these VLF anomalies are expressions of known shear zones and faults (Anomalies A, E, F, G, H) as shown on H. L. Lovell's Map 2110.

(D) Anomalies B, C, D, and I may represent smaller shear zones.

(E) It is recommended that further geophysical surveys (V.H. - E.M. or magnetic) be done over this area. This would confirm the faults and shear zones as outlined by the VLF survey. Depending on depth to bedrock, trenching, with rock geochemistry or overburden drilling, could provide a geochemical picture of this area.

I hereby submit that this report and accompanying maps are accurate and true to the best of my knowledge and that they were completed by myself this 12th day of January, 1981.



Sharon L. Schendel Weicker, BSc.
Exploration Geologist

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 1808 Number of Readings 1/station
Station interval 100 feet Line spacing 400 feet
Profile scale 1" = 60 degrees on Map I; 1" = 50 degrees on Map II
Contour interval PROFILES

MAGNETIC

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

ELECTROMAGNETIC

Instrument Phoenix VLF - 2
Coil configuration NOT APPLICABLE
Coil separation INFINITE
Accuracy DIP +/- 1 degree H.F.S +/- 25%
Method: [X] Fixed transmitter [] Shoot back [] In line [] Parallel line
Frequency Cutler, Maine - 17.8 Hz for Map B; Seattle, Wash. - 18.6 Hz for Map A
Parameters measured Dip - Source direction

GRAVITY

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

INDUCED POLARIZATION RESISTIVITY

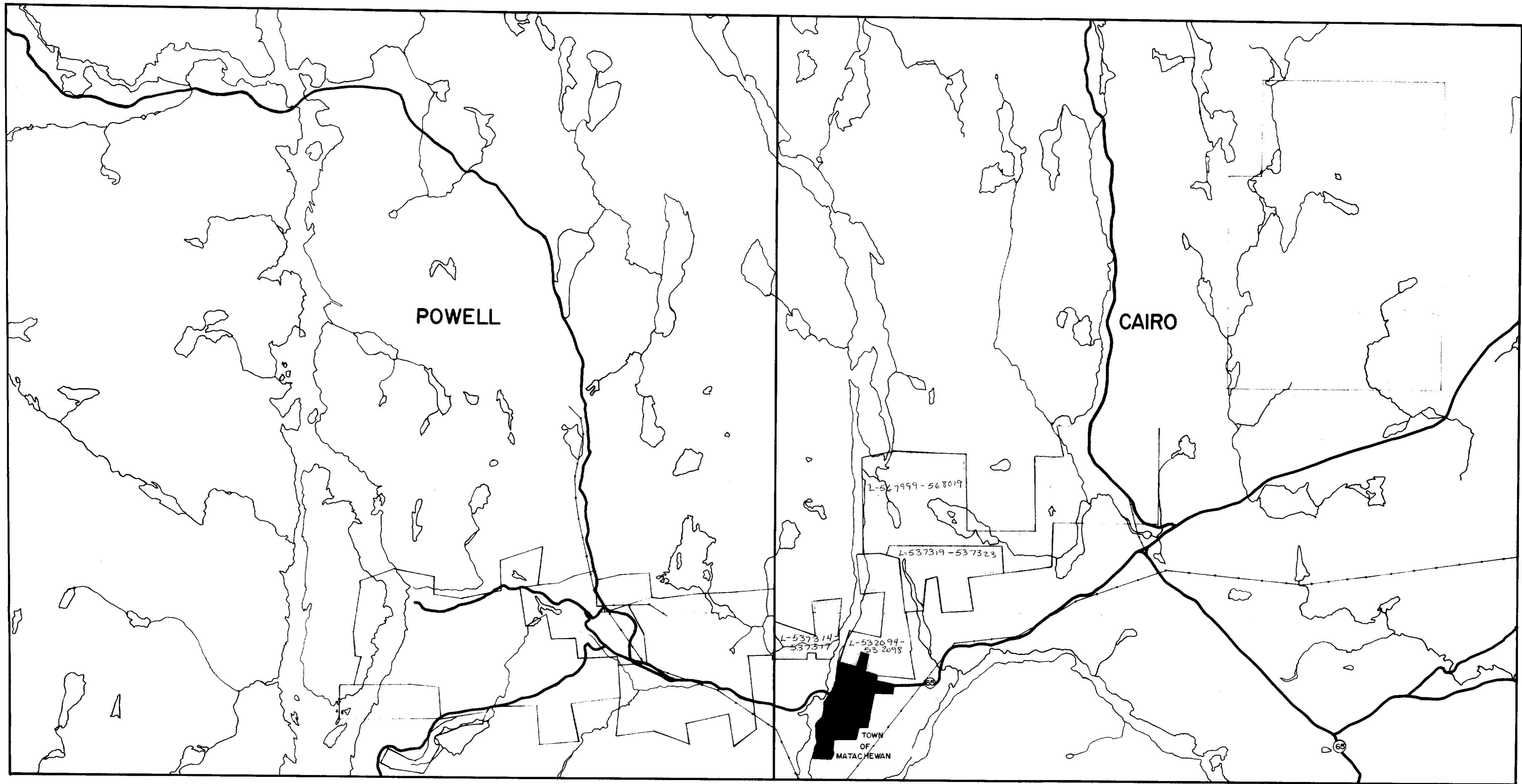
Instrument
Method [] Time Domain [] Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode

GEOPHYSICAL TECHNICAL DATA STATEMENT

PAMOUR PORCUPINE MINES

7th January 1981

Mining Claims	Days
L-537314	40
537315	40
537316	40
537317	40
L-567999	40
568000	40
568001	40
568002	40
568003	40
568004	40
568005	40
568006	40
568007	40
568008	40
568009	40
568010	40
568011	40
568012	40
568013	40
568014	40
568015	40
568016	40
568017	40
568018	40
568019	40
L-537319	40
537320	40
537321	40
537322	40
537323	40
L-532094	40
532095	40
532096	40
532097	40
532098	40



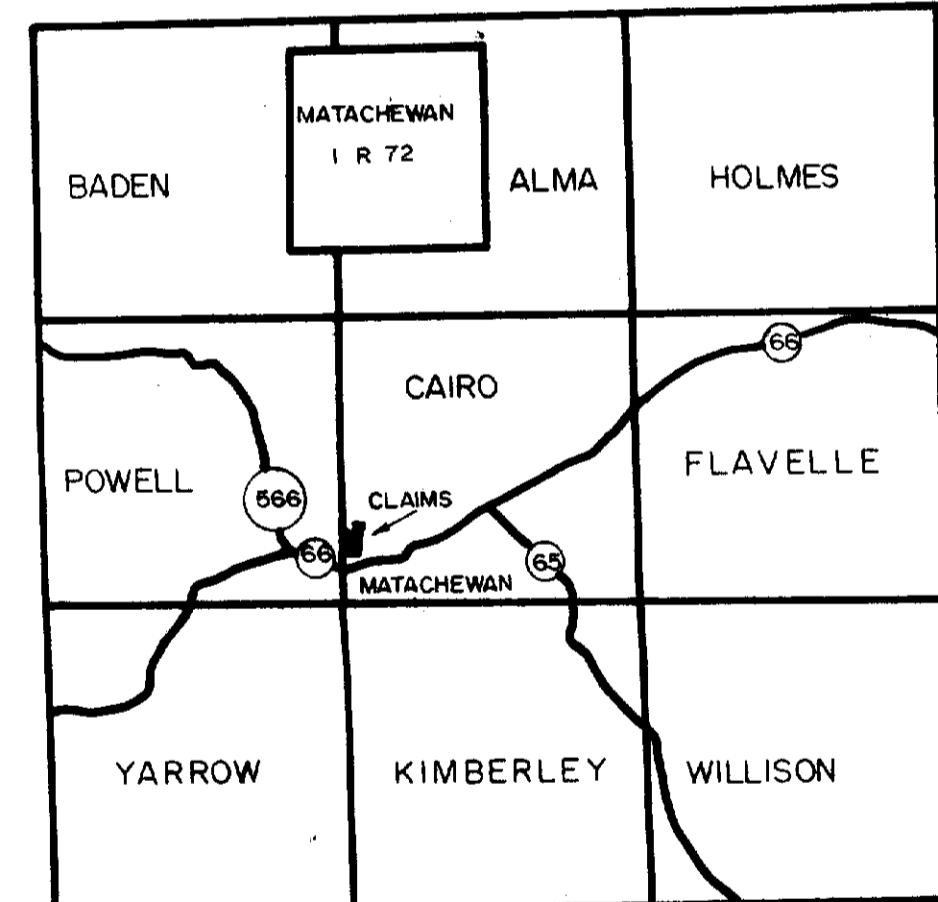
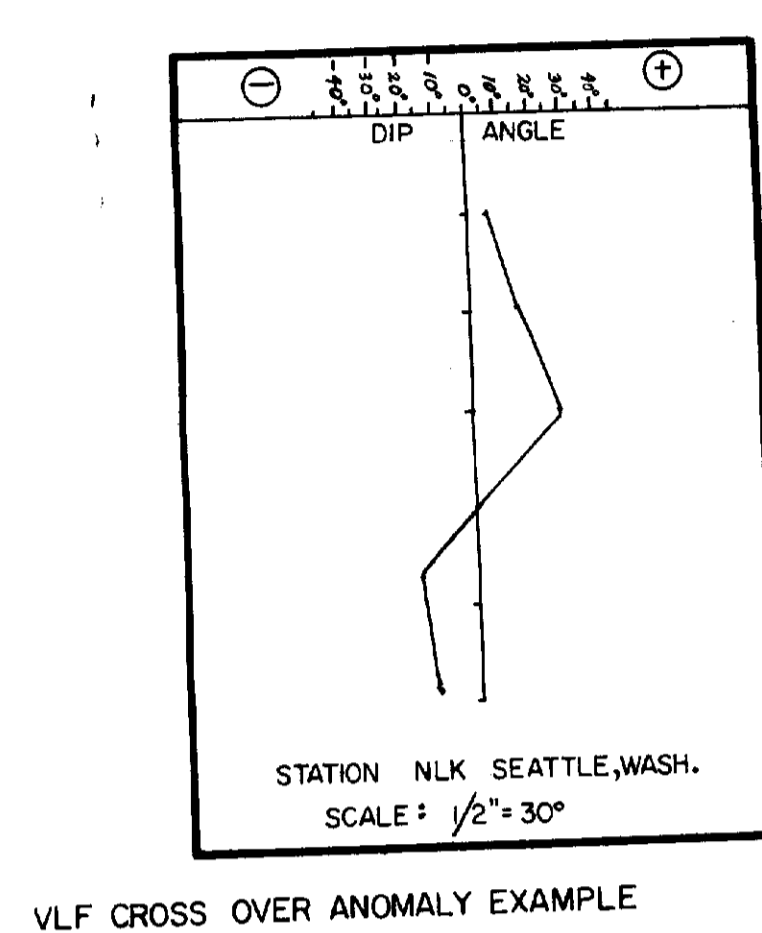
MATACHEWAN AREA : PROPERTY STATUS

SCALE: 1" = 1/2 MILE

ERC-80

Sharon Delenda Tucker



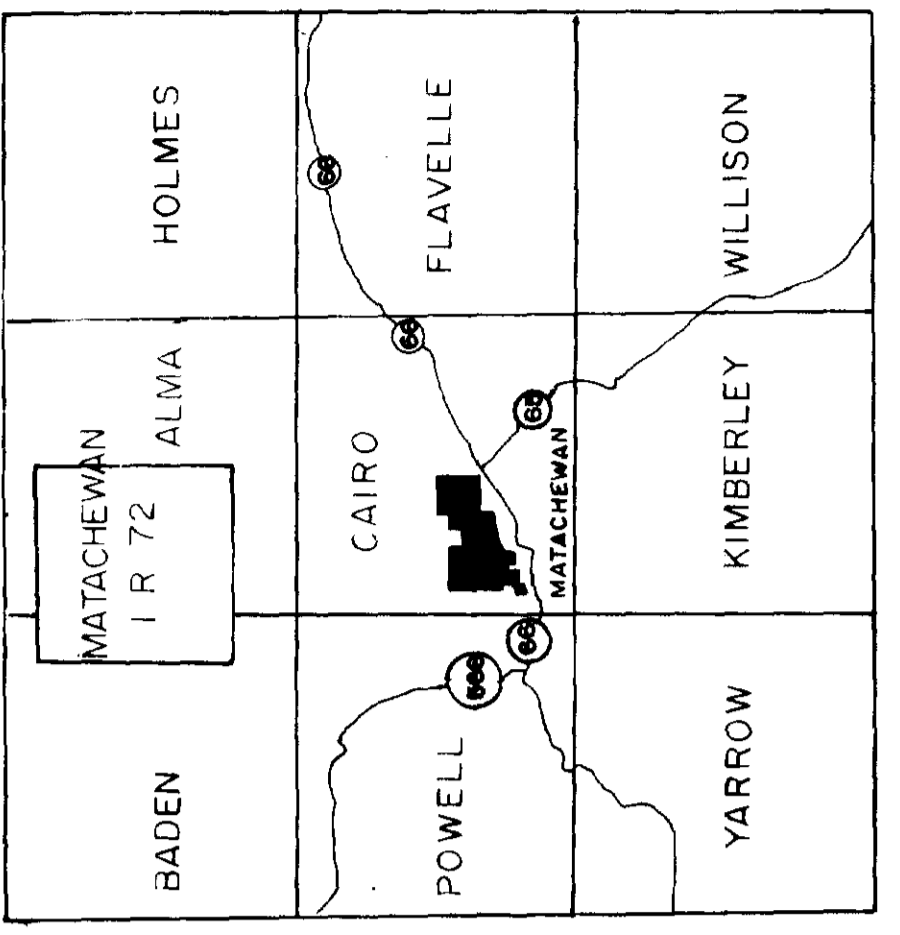
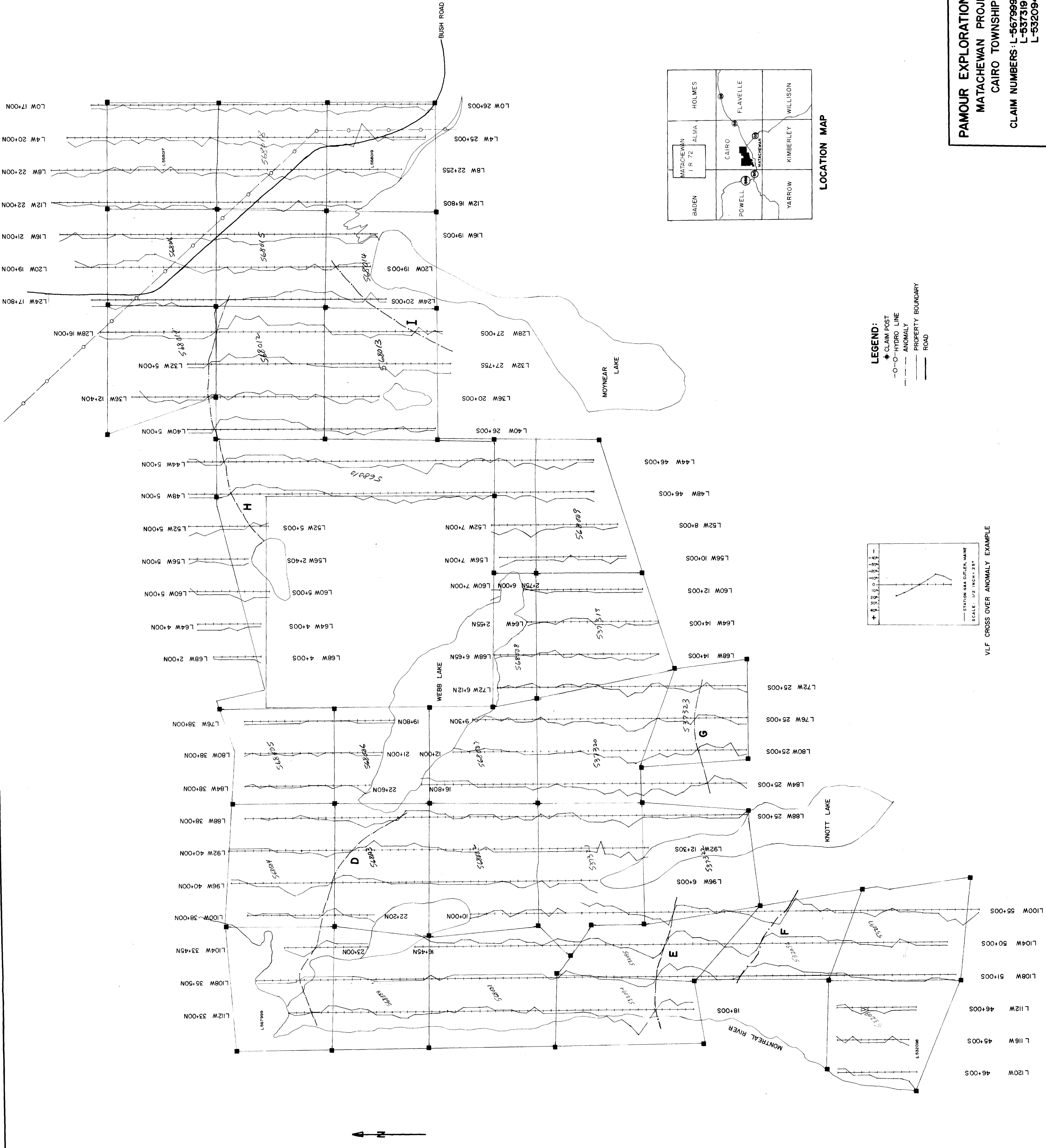


LOCATION MAP
SCALE: 1" = 4 miles

- LEGEND:**
- CLAIM POST
 - PROPERTY BOUNDARY
 - - - TOWNSHIP LINE
 - POWER LINE
 - CLAIM BOUNDARY
 - - - NEARBY CLAIM
 - - - ANOMALY

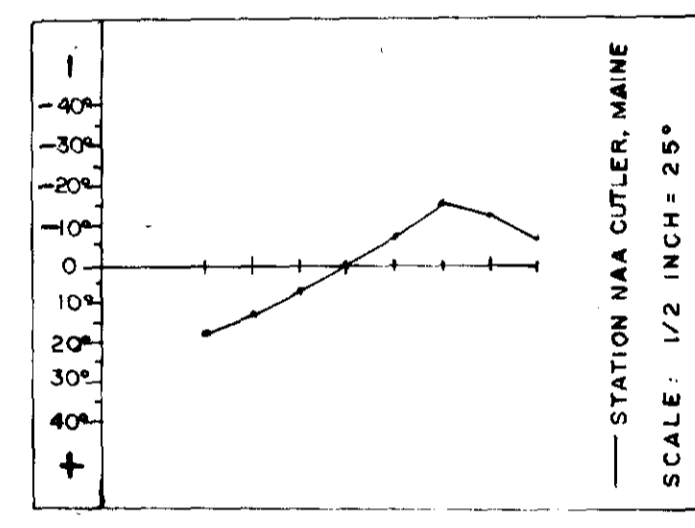
PAMOUR EXPLORATION LTD.
MATACHEWAN PROJECT
CAIRO TOWNSHIP
CLAIM NUMBERS: L-537314 - 537317
VLF SURVEY (I)

SCALE: 1" = 400' DATE: JAN. 7, 1981
 SURVEY BY: DRAWN BY: ERC APPROVED BY: *[Signature]*
 REF. NO: 501



LOCATION MAP

- LEGEND:**
- CLAIM POST
 - O-O- HYDRO LINE
 - - - ANOMALY
 - PROPERTY BOUNDARY
 - ROAD



VLF CROSS OVER ANOMALY EXAMPLE

PAMOUR EXPLORATION LTD.
MATACHEWAN PROJECT
CAIRO TOWNSHIP

CLAIM NUMBERS: L-567999 - 568019
 L-537319 - 537323
 L-532094 - 532098

VLF SURVEY (2)

SCALE: 1" = 400'
 DATE: NOV 21, 1980
 SURVEY BY: PM
 DRAWN BY: [Signature]
 APPROVED BY: [Signature]

