



52J02SE2100 52J02SE0085 SQUAW LAKE

010

WORAN RESOURCES CORPORATION  
McEDWARDS LAKE PROPERTY  
DETAILED GEOPHYSICAL SURVEY  
MAX-MIN/VLF-EM/MAG

Rein van Enk, MSc

Dryden, april 1984

McEDWARDS LAKE PROPERTY-DETAILED GEOPHYSICAL SURVEY

I INTRODUCTION.

From february 13 to 17, 1984 Norontex Exploration Ltd. carried out a detailed geophysical exploration on claims nos. 569634 and 569635 of Moran Resources Corporations Sturgeon Lake property. The survey was a follow up to earlier airborne geophysics which indicated a VLF conductor and a good HEM anomaly along the southeast shore of McEdwards Lake in conjunction with gold mineralization in a sulphide/quartz vein structure. This structure was mapped and sampled during the summer of 1983 and showed gold values of up to .74 oz/ton(see J. Langelaars report of sept.12, 1983).

The current program intended to verify the airborne anomalies and to shed some light on the complexity of the mineralized structure and the possibility of an extension under the lake. It consisted of Horizontal Loop EM (Max Min), VLF-EM and a magnetic survey.

The Max Min survey was carried out by Phantom Exploration Services Ltd. of Thunder Bay, who also helped with the establishment of the grid.

II LOCATION AND ACCESS.

Claims 569634 and 569635 are located on the east shore and over the central part of McEdwards Lake (claim map M 1904, Squaw Lake, NTS 52-J-02). McEdwards Lake is situated just east

of the Northeast Arm of Sturgeon Lake and can be reached through Belmore Bay.

Access to the area by boat or snowmobile is good from various landings on the North Arm of Sturgeon Lake.

### III METHODS, INSTRUMENTS.

#### Grid

3.54 miles of lake grid were established by extending line 2E of the earlier cut land grid onto the lake. A second baseline was established at 9+00N on this line. Picket lines were turned off every 100 ft on this second baseline.

Slight discrepancies between lake and land grid to the southwest are probably due to the steep topography on the east shore of the lake, but did not hinder the survey.

#### Horizontal Loop

A Max Min II unit manufactured by Apex Parametrics Ltd was used for the Horizontal Loop EM survey. Readings were taken every 100 ft. along picketlines on frequencies of 444 and 3555 Hz with a cable length of 300 ft.

#### VLF-EM

VLF readings were taken at 100 ft intervals on picketlines in normal conditions and at 50 ft intervals in anomalous conditions.

The instrument used was a Geonics EM-16 VLF receiver.

Seattle, Washington at a frequency of 24.8 kHz served as a transmitting station for the lake portion of the survey, whereas the land part was read during the summer on Annapolis, Maryland (21.4 kHz).

#### Magnetometer survey

The magnetometer survey covers lines 4W to 5E and the land baseline. The total field intensity was measured with a Scintrex MP-II proton magnetometer along picketlines and base lines every 50 ft on land and every 100 ft on the lake. During readings the probe was held on a staff and the accuracy of the measurements was  $\pm 1$  gamma.

Because of the short duration of the survey no basestation was set up. To correct for diurnal variations baseline 9N was read at the beginning of the survey and check readings were taken subsequently when passing through on picketlines. Variations were in the order of a few gammas only and readings were corrected accordingly.

#### IV RESULTS.

##### Horizontal Loop (Max Min)

Results of the Horizontal Loop survey were interpreted by Phantom Exploration Services Ltd. Their findings are added to this report as Annex no. 1.

Five anomalies of weak and inconclusive character were outlined. Most of these are supposed to be due to lake bottom and shore effects and there is certainly no clear confirmation

of the airborne electromagnetic conductor.

VLF-EM (see map in backpocket)

The VLF survey revealed two wide anomalies which both are mainly caused by lake bottom sediments.

The no. 1 anomaly parallels the axis of the channel between the showing and the little island off shore. It confirms the anomaly shown by airborne VLF. Although the anomaly can be explained by conductive sediments, which probably occur in a thick layer in the channel, the southwest portion of it, near the tip of the island is very strong and may in part be due to some (mineralized?) bedrock structure.

The no. 2 anomaly, between the island and the northwest shore of the lake very likely is also due to lake bottom and shore effects. Particularly steep readings occur at the end of lines 2E and 3E.

Cross-overs in the southwestern part of the surveyed area are all very gentle and due to lake bottom topography.

Magnetometer survey (see map in backpocket)

Of the three methods used the magnetometer survey shows the most distinct anomalies. Three of these anomalies (nos. 1, 2 and 3) are possibly related to the mineralized structure.

The no. 2 anomaly, of which the axis runs from 1+00W, 0+50N to 3+00E, 0+50N, coincides fairly well with the sulphide zone containing the main showing between the shaft and the shore and the pyriteferous porphyry in pit J. A magnetic depression to

*norontex* exploration ltd.

the northwest of it indicates that the anomaly is related to a sub-vertical or steeply southeast dipping structure.

Although the individual strikes of the nos. 1, 2, and 3 anomalies parallel northeasterly directions, the overall trend of the combined anomalies is east west. This trend also appears in the no. 4 anomaly on the northeast tip of the island.

The no. 5 anomaly over the northwest part of the lake conforms to the regional geological strike and because of its considerable width, may be due to a layer of higher magnetic susceptibility.

V CONCLUSIONS AND RECOMMENDATIONS.

Conclusions

The Horizontal Loop (Max Min) survey shows five anomalies of which one coincides in part with the main showing on shore. However, all anomalies are weak and inconclusive and are supposed to be mainly due to lake bottom, shore and overburden effects. There is no confirmation of the anomaly interpreted from an earlier airborne HEM survey.

VLF readings confirm the findings of the airborne VLF. The anomalies, however, are mainly caused by lake bottom sediments and shore effect.

The magnetometer survey revealed five anomalies, three of which are possibly related to the mineralized structure. The no. 2 anomaly is of particular interest as it coincides with

at least part of a pyriteferous and gold-bearing zone which contains the main showing. Gold values range up to .74 oz/ton.

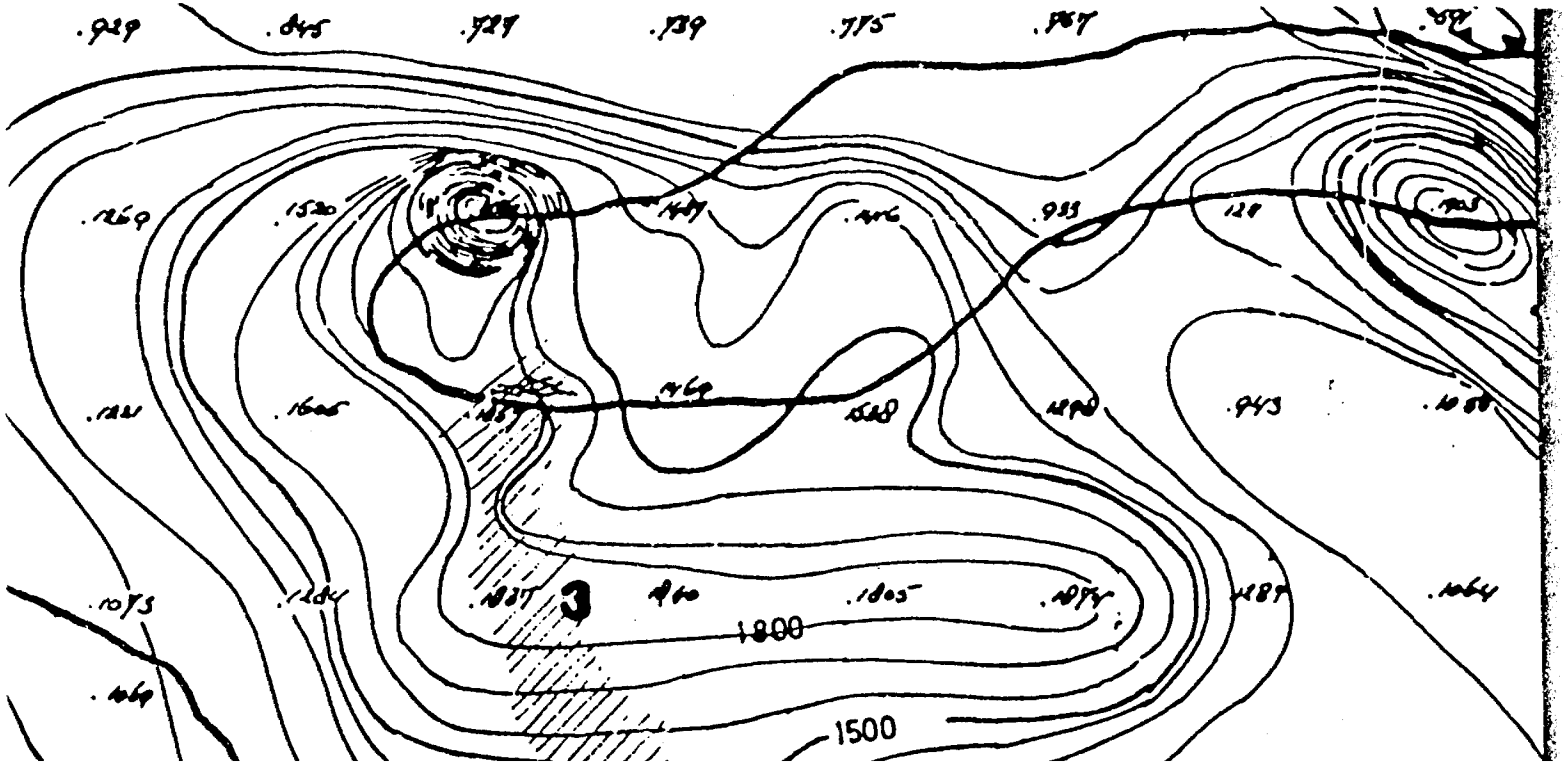
The following model of mineralization may serve as a working hypothesis for further exploration:

Mafic to intermediate volcanic rocks trending in northeasterly directions and containing zones of (stratabound?) pyrite mineralization were cut by a complex, roughly east-west striking fracture zone. This fracture zone subsequently served as a channelway for rising hydrothermal fluids. Interaction of these fluids with the sulphides was instrumental in the deposition and/or remobilization of gold together with the formation of quartz-carbonate veins. Clear evidence of the association of gold values with east-west striking quartz-carbonate veins was given in J. Langelaars report of sept. 12, 1983.

If the magnetic anomalies no. 1, 2, and 3 are actually related to the sulphide mineralization, it becomes clear that the supposed fracture zone passing through the main showing and trench P should form the main target of further exploration, especially where this zone cuts the southwest ends of the individual anomalies.

#### Recommendations

2 to 3 diamond drill holes are recommended to test the validity of the above described hypothesis. Hole no. 1 should be located offshore just west of the main showing, to test the downward continuation of the mineralization encountered on shore and in





the shaft. Hole #2 should be located in the bay to check the possible extension of the mineralized zone under the lake. In case of positive results and ice conditions permitting, a third hole should be drilled off the southwest tip of the island or alternatively under the No 1 magnetic anomaly.

The no1 hole is to be drilled at an angle of 45 to 50 degrees in easterly direction and to a depth of approximately 250 feet. Dip and azimuth of the other holes will tentatively be at 45 to 50 degrees to the south but are to be finalized upon completion of hole # 1. For location of these holes see also figure 1. Total footage is estimated @ 600 feet for a total cost of \$18,500.

Breakdown:

Diamond Drilling: 600 feet @ \$25.00 per foot	\$15,000
Drill supervision & corelogging	\$ 2,500
Assaying	\$ 1,000
Total:	<hr/> \$18,500



Rein van Enk, geologist  
NORONTEX EXPLORATION LTD.  
Dryden, April 5, 1984.

*norontex* exploration ltd.

McEDWARDS LAKE PROPERTY  
DETAILED GEOPHYSICAL SURVEY  
ANNEX I

REPORT ON HORIZONTAL LOOP EM SURVEY

by

R.D. MIDDGAUGH

PHANTOM EXPLORATION SERVICES LTD

Horizontal Loop Electromagnetic  
Survey

McEdwards Lake Project  
NTS 52-J-02

Phantom Exploration Services Ltd.

March, 1984

R. D. Middaugh

## INTRODUCTION

Norontex Exploration Ltd. of Dryden Ontario contracted Phantom Exploration Services Ltd of Thunder Bay, Ontario to help establish a grid over McEdwards Lake in the Squaw Lake area of the Patricia Mining Division and subsequently conduct an electromagnetic (Max Min II) survey over this grid during the winter of 1984.

## LOCATION, ACCESS and GRIDDING

The survey area is located approximately 21 kilometers south south-east of Savant Lake, Ontario. The area is protected by 3 unpatented mining claims numbered Pa 569634, Pa 569635 and Pa 569641.

Access to the general area via highway #599 is excellent all year round. From various access points on the west side of Sturgeon Lake, the property can be reached by boat or snow machine depending on the season.

The grid was established by Phantom Exploration personnell in conjunction with Mr. Rein Van Enk of Norontex Exploration Ltd. Approximately 6.2 miles of grid was established, chained and picketed at 100 foot intervals.

PERSONNELL

The day to day supervision of the gridding and the geophysical work was under the direction of Messrs C. Edwards and R. Holland, while the overall supervision of the program was under R. D. Middaugh of Phantom Exploration Services Ltd.

INSTRUMENTATION

A Max Min II unit manufactured by Apex Parametrics Limited of Uxbridge, Ontario was used for this survey. Both in and out of phase readings were taken at 100 foot intervals on the grid lines. The frequencies read were 444 Hz and 3555 Hz while the coil separation was 300 feet.

DISCUSSION of RESULTS

The grid is presented in plan form at a scale of one inch = 100 feet with a vertical scale set at one inch = 10% for the EM profiles.

Although the survey is far from conclusive, there does seem to be some very weak conductors located between L 2+00W and L 5+00E from 0+00 to 5+00N. Some of these conductors such as A-A are probably due to lake bottom effects, while others such as D-D may be due at least in part to topographic features such hills and shore lines. The conductors located are

weak but they do vary in strength along their strike length, with some responses becoming very broad such as D-D on L 1+00E. The conductive trends are outlined below.

<u>ANOMALY</u>	<u>STRENGTH</u>	<u>COMMENTS</u>
A-A	weak	lake bottom?
B-B	weak	lake bottom? related to C-C?
C-C	weak	lake bottom/lake shore response? related to B-B?
D-D	very weak	broad response incomplete geophysical profile partly due to lake shore?
E-E	weak	trend bends and weakens to the west faulted off?

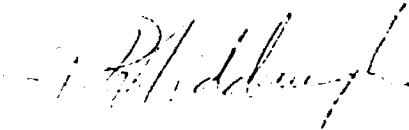
CONCLUSIONS and RECOMMENDATIONS

The geophysical work is inconclusive as far as outlining any distinctive anomalous trends.

Detailed geological mapping coupled with a tight magnetic survey would help in interpreting the present geophysical results. An I. P. survey would probably aid in outlining any mineralized zone present and facilitate evaluation of the economic potential of the area. If any

further geophysical work is carried out over the interesting area, a tighter station interval, at least 25 foot stations, is recommended.

Submitted by

A handwritten signature in cursive script, appearing to read "R. D. Middaugh".

R. D. Middaugh

Geologist

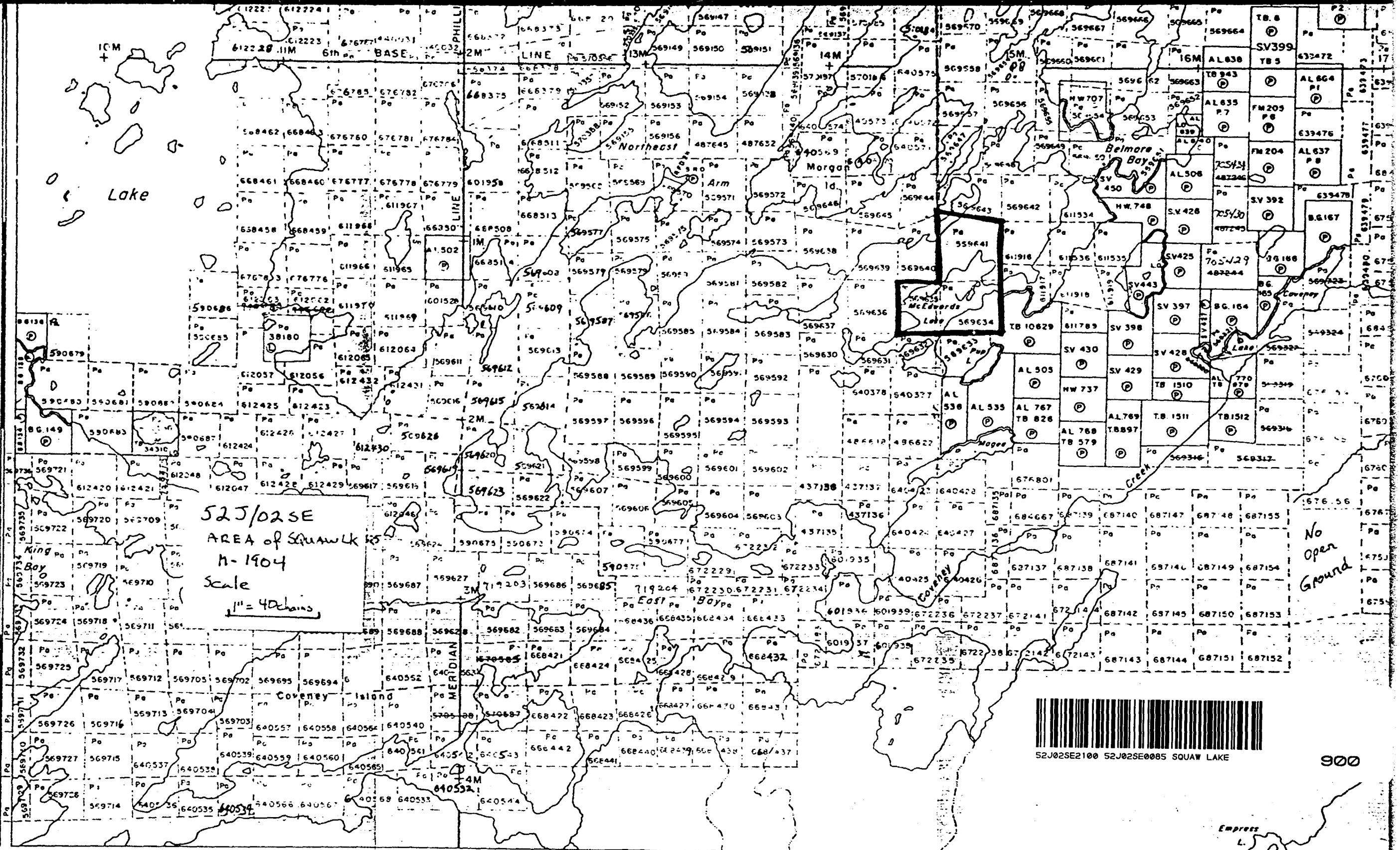
APPENDIX

- |        |                         |
|--------|-------------------------|
| Map 1. | Location Map            |
| Map 2. | H. E. M. Survey 3555 Hz |
| Map 3. | H. E. M. Survey 444 Hz  |

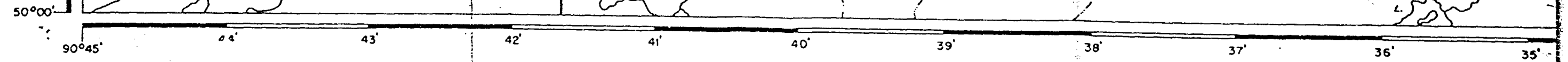


Fourbay Lake Area

M. 2879



900



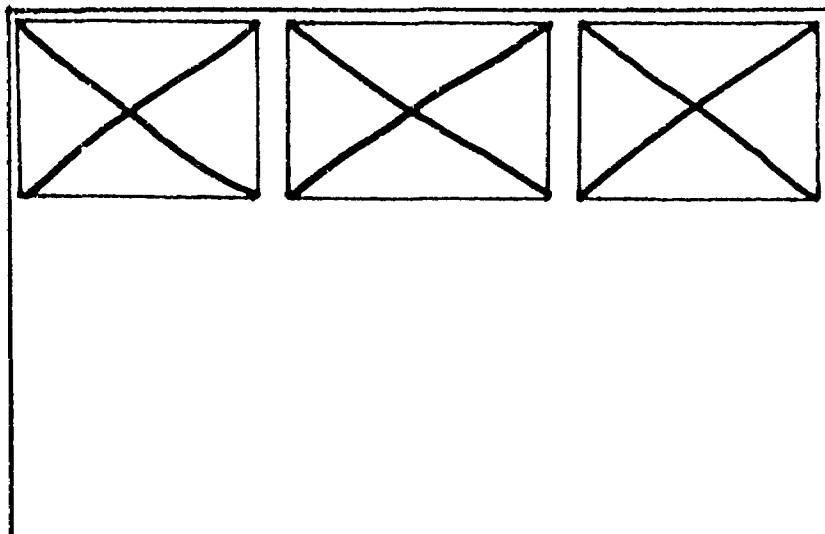
Quest Lake Area - M. 2875

SEE ACCOMPANYING  
MAP(S) IDENTIFIED AS

52J/02SE-0085# 1-3

LOCATED IN THE MAP  
CHANNEL IN THE  
FOLLOWING SEQUENCE

(X)



MORAN RESOURCES CORPORATION.

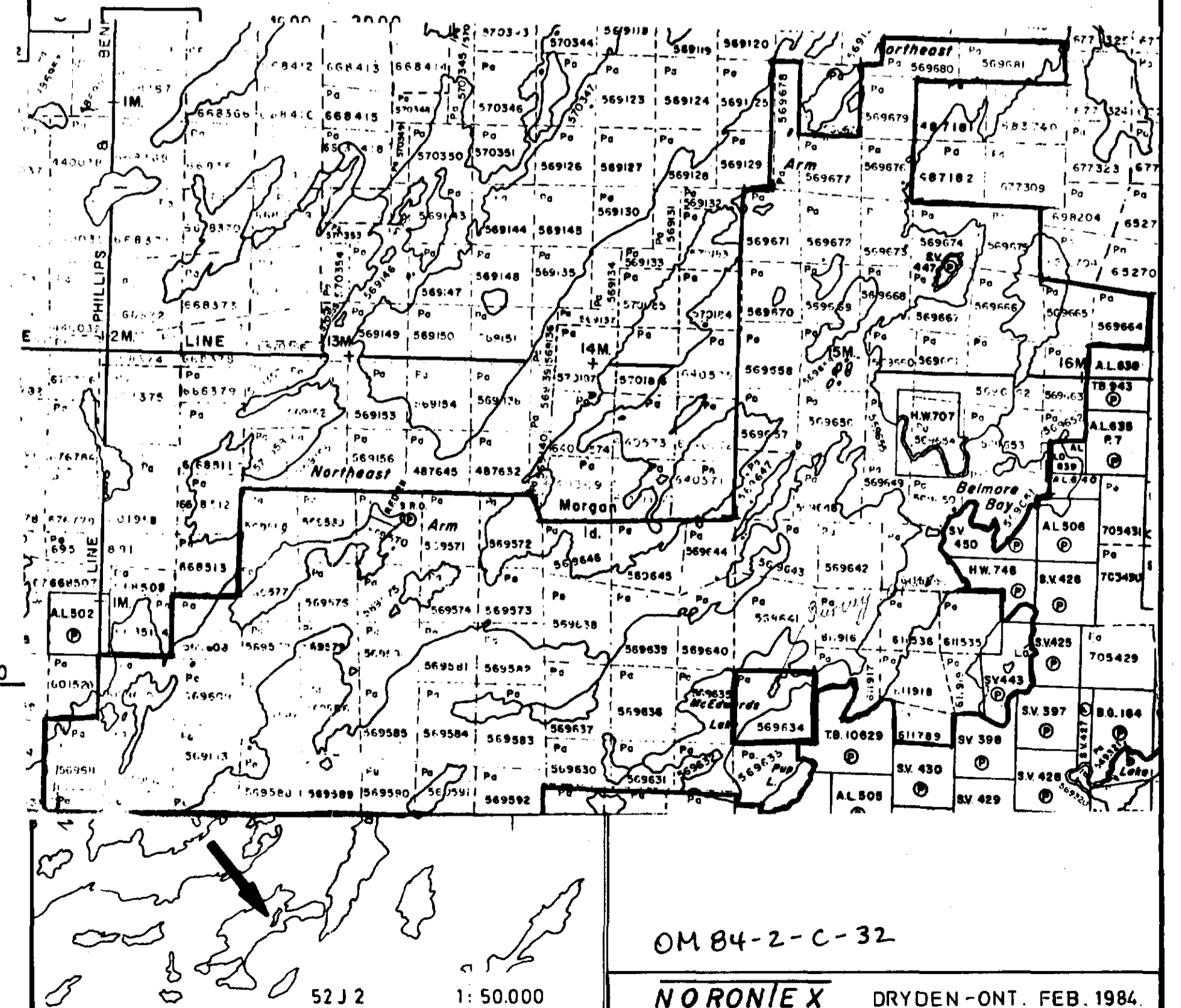
# MCEDWARDS LAKE

MAGNETOMETER SURVEY.

SCALE 1" = 100'

COLOUR - CONTOUR INTERVAL

- 3000 γ AND UP.
- 2000 - 3000 γ



OM 84-2-C-32

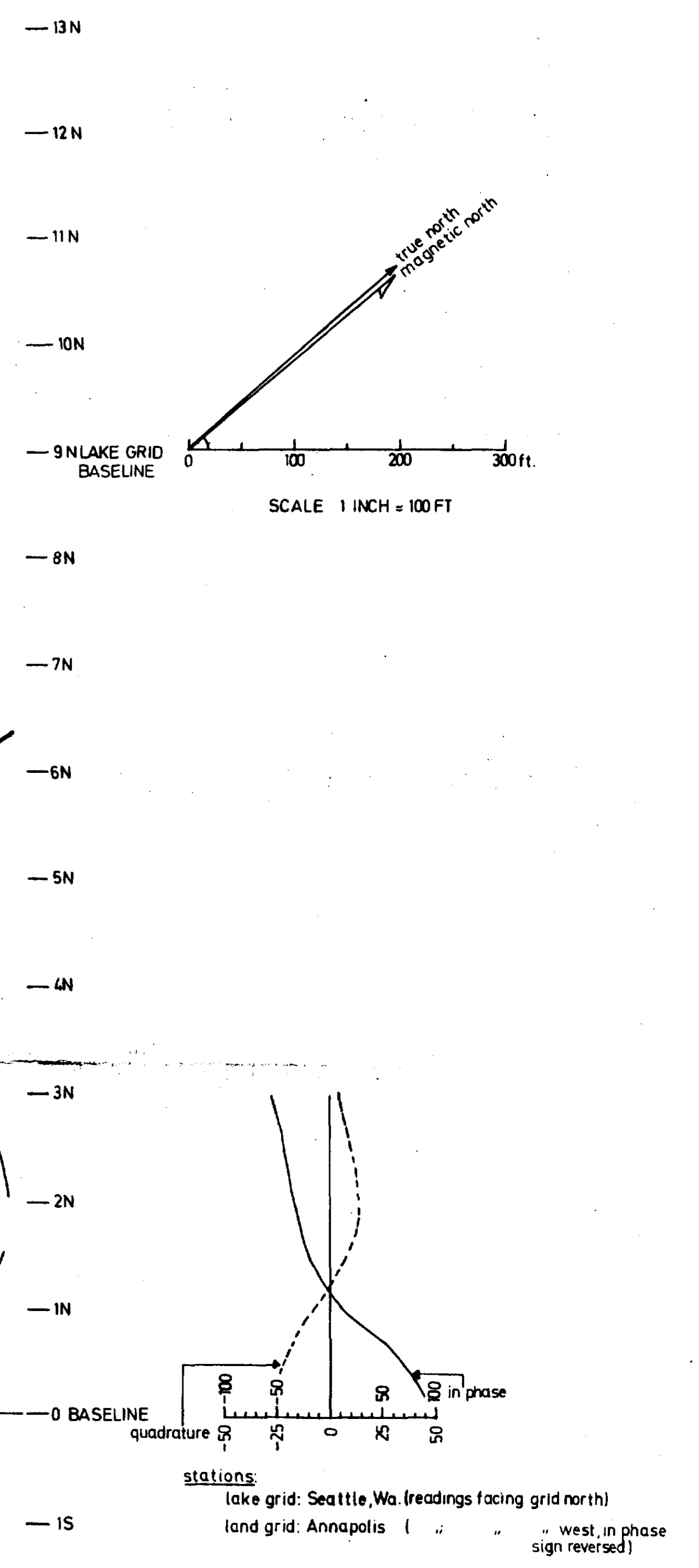
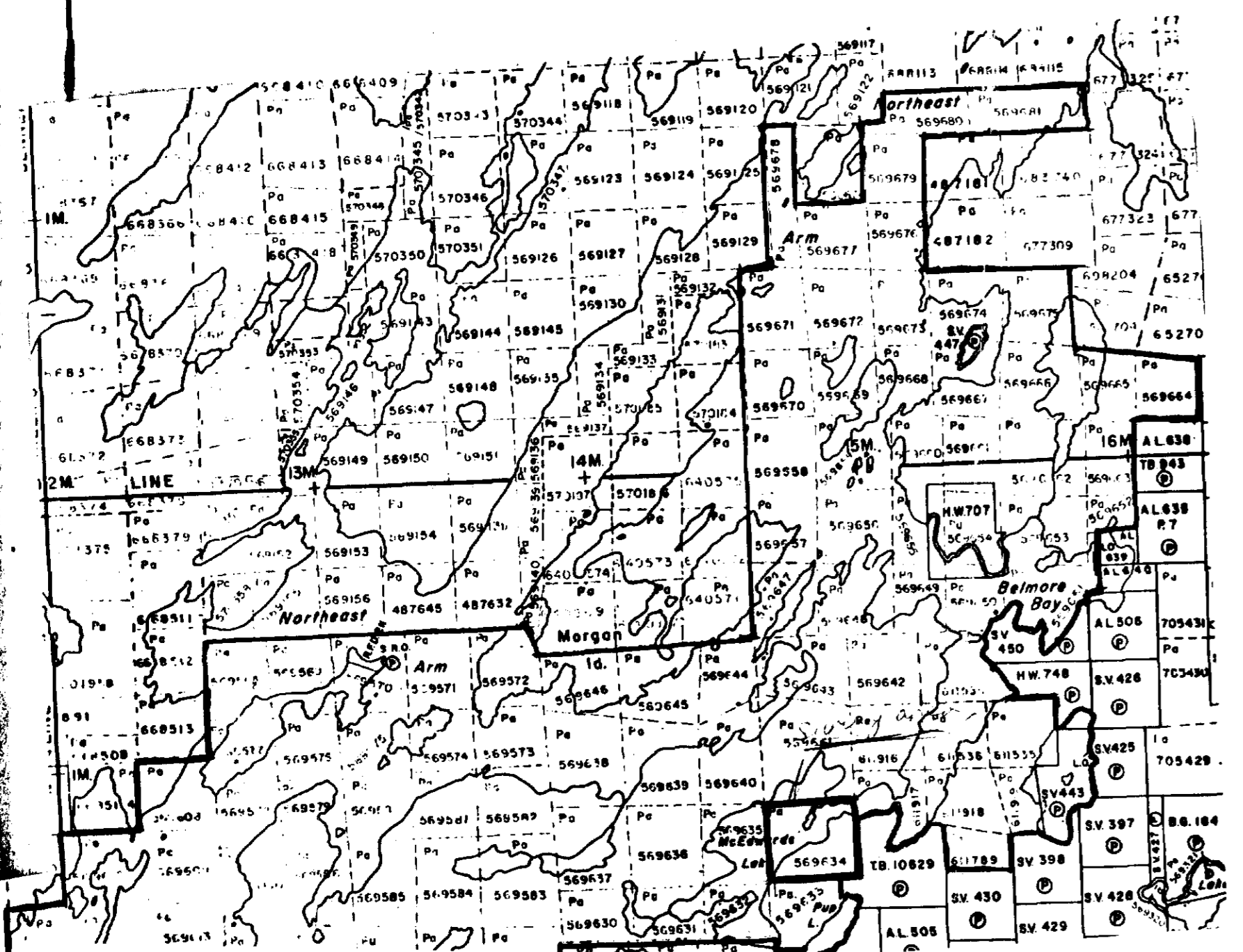
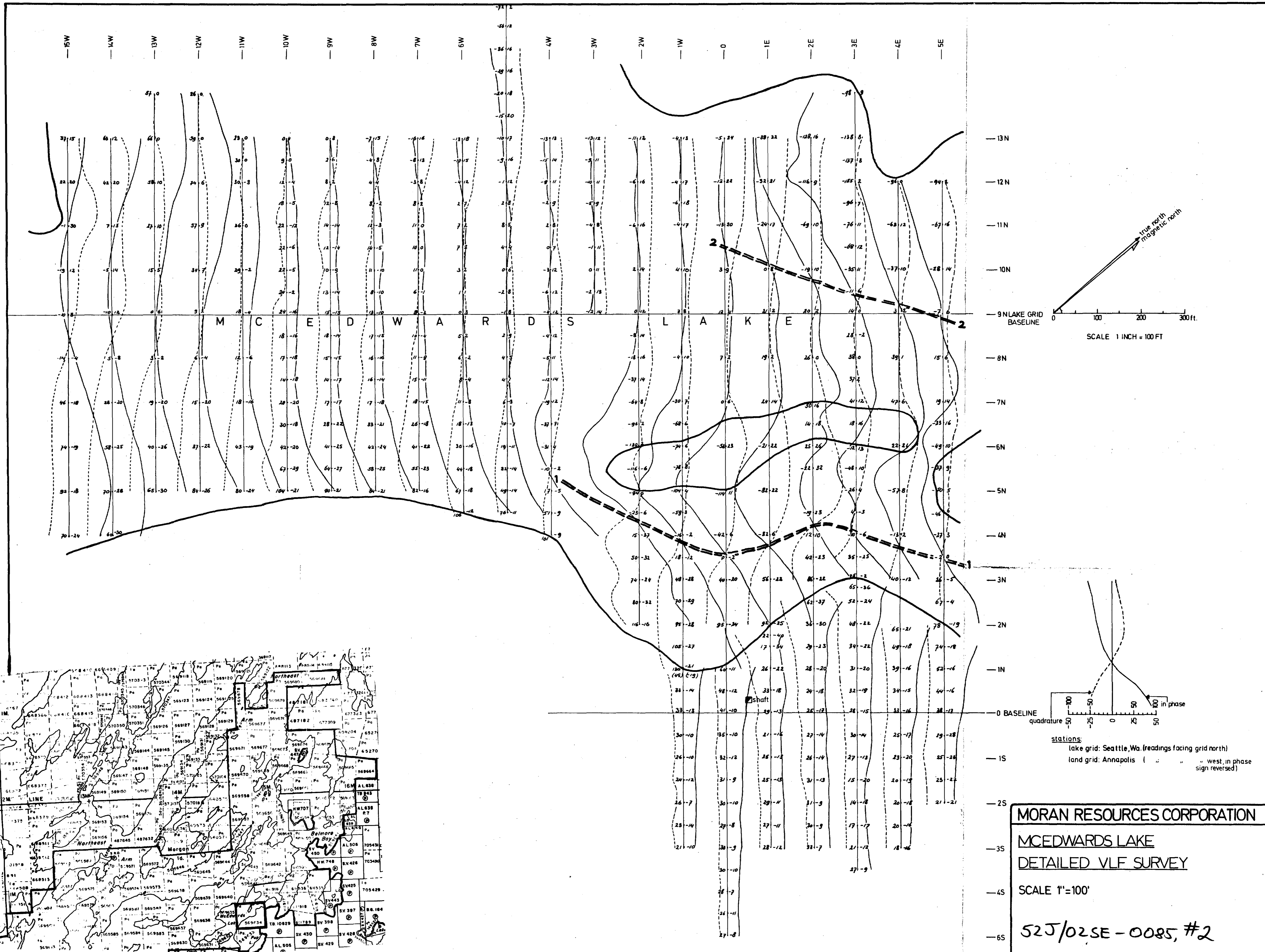
NORONEX DRYDEN-ONT. FEB. 1984.

BASELINE

BASELINE 0.00



52J/02SE-0085, #1



**MORAN RESOURCES CORPORATION**  
**MCEDEWARDS LAKE**  
**DETAILED VLF SURVEY**  
 SCALE 1"=100'  
 52J/02SE-0085, #2  
 OM 84-2-C-32  
 NORONTEX EXPLORATION LTD | DRYDEN ONT | FEB. 1984





