



42A01NE0024 63.2494 BERNHARDT

REPORT ON BERNHARDT TOWNSHIP OPTION

INTRODUCTION

A group of 18 claims in central Bernhardt Twp. were surveyed by Duncan R. Derry Limited by vertical coil E.M. and magnetometer. This group was optioned to Duncan R. Derry Limited March 12th, 1969 by Gerard Bastarache, prospector, Kirkland Lake, and P.C.M. Roberts, geologist, Toronto.

The purpose of this survey was to verify the "conductors" indicated by previous geophysical investigations by Gerard Bastarache and P.C.M. Roberts and to systematically investigate the property.

No conductors of further base metal exploration interest were encountered in either the detail work or the systematic investigation.

PROPERTY DESCRIPTION AND ACCESS

Eighteen contiguous claims in central Bernhardt Township being:

- L97596; L57597; L57598; L97600; L97601; L101343; L101344; L101345;
- L101347; L101348; L101349; L101350; L101373; ~~L101386~~; L102063; L1013871;
- L104478; L104479.

L.103806

owned by Gerard Bastarache, 62 Government Road West, Kirkland Lake, Ontario, and P. C.M. Roberts, 100 Spadina Road, Toronto, Ontario.

The property lies approximately 7 miles northwest of Kirkland Lake and is accessible in winter by at least three skidoo trails travelled by fishing enthusiasts from Kirkland Lake and Chaput Huges. The route used by the Duncan R. Derry survey party was approximately 13 miles long and took 2-1/2 hours by "snow-bug" pulling 400 pounds in a trailing sled. The route used, passes up the Goodfish Road, across to Bernhardt Lake and thence to Splashwater Lake.

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The property is also accessible by minimum flight (12 air miles) from the Kenogami Lake Outfitters charter air service (Taylorcraft with either floats or skis, useful payload up to 600 pounds maximum). The combination of servicing by air and "snow bug", though expensive, expedited the work and was absolutely necessary when the "sno-bug" trail deteriorated on April 7th. In summer the Goodfish road is open to jeep and truck travel. A trapper's cabin at the north end of Splashwater Lake and large enough for no more than 4 men was rented through Rudy Gange, 4 Tech Ave., Kirkland Lake at \$5/day.

#### GEOPHYSICAL SURVEY

The work was performed by Duncan R. Derry Limited, Suite 3110, 25 King Street West, Toronto, Ontario.

Work details are included in attached Special Provision assessment work form.

#### GEOLOGY

Geology from O.D.M. preliminary 1/4 mile to the inch map No. P446 is shown in relation to the survey grid on map No. 2 of this report (magnetometer survey contours).

Gerard Bastarache, prospector, has reported numerous showings, within the group, of minor sulphides with minor chalcopyrite and trace sphalerite, molybdenite and lead. The shaft (east of the baseline between lines 60S and 64S) (reported by Bastarache to be at least 10 feet deep) and trenching in its vicinity were the work of gold prospectors in the early days of the Kirkland Lake Camp.

PREVIOUS GEOPHYSICAL WORK

Gerard Bastarache prospected the property extensively with Radem V.L.F. and cut at least two grids for detail purposes as shown in map No.6 of this report. (Composite of previous geophysical work). Bastarache also did some checking in the vicinity of the shaft at line 60S and reported an anomalous angle of  $+4^{\circ}$  with a Crone Junior E.M.

P.C.M. Roberts did a SE200 Vertical Coil E.M. detail check of Bastarache's Radem V.L.F. anomalies on claim L103871. The work of P.C.M. Roberts has been replotted and shown in relation to the Duncan R. Derry survey grid. It is understood that Roberts used shouting for orientation instead of calculated azimuth and therefore it is expected that the larger dip angles read in Robert's E.M. checkwork are associated with misorientation of the transmitter. Although the bush was fairly open (birch plus spruce and balsam) on the claim the Duncan R. Derry E.M. transmitter operator noted that judgement of the E.M. receiver location by sound was sometimes in error by as much as  $45^{\circ}$  relative to the calculated azimuthal orientation.

Sharpe SE200  
VERTICAL COIL E.M. SURVEY

The broadside method was used for general coverage with readings every 50'. Improved orientation was obtained with the transmitter operator facing along the picket line and sighting the transmitter coil at right angles to the direction he faces. (A sighting aid was inscribed on the top of the transmitting coil). The transmitter operator G. Tupper became very adept at this procedure as is indicated by the great number of very small or zero dip angles recorded in the survey. At the end of the survey (April 6th and 7th) Gerard Bastarache

replaced Tupper as transmitter operator and had some parallax difficulty with this method on his first three lines (readings lines 40S, 44S, 48S). Minor dip angles up to 3° maximum were obtained and ignored for these lines. Following instruction regarding the parallax difficulty the largest dip angle obtained on Bastarache's final line was 0.7°. (line 52S). A few detail fixed transmitter location checks were run (Map 5).

No conductors of further base metal exploration interest were encountered in the survey.

Sharpe MF 1 Fluxgate  
MAGNETOMETER SURVEY

Magnetic readings were taken at 50' intervals in general and 25' intervals in detail.

Permanent base stations were built every 400' along the baseline. The first or No.1 base station was made at 4+00S on the baseline. The base stations were established by blazing the nearest tree 6" in diameter or larger approximately 2" deep and 4 to 6" wide for a length of 2'. A horizontal line was then inscribed in the middle of the blaze indicating the position against which the top of the fluxgate magnetometer was held during reading. On the blaze is the written description BL-4S Mag B.S. No.1. Since these stations were established in winter the centre of the blazes will be approximately 6' above the ground.

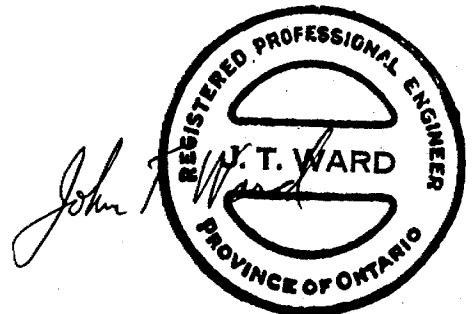
There are distinct magnetic lows associated with the mapped diorite intrusives (Refer Map No.2 of this report) on the property. The magnetic survey results on the boundaries of the diorite intrusives indicate contact alteration which may prove to be interesting loci to prospect for gold.

CONCLUSIONS AND RECOMMENDATIONS

No base metal exploration targets were located by the geophysical survey. Gold prospecting may be warranted along the margins of the diorite intrusives in particular along the straight lines running from L32S x 8+00W to L64S x 4+00E and 28S x 5+00W to L60S x 5+00E. A very weak conductor running from L80S x 7+00W to L88S x 5+00W associated with possible hydrothermal alteration (magnetically indicated) should be prospected by trenching.

Since the overburden appears to be very light in these areas the geophysical self potential method is recommended as an aid.

24th April, 1969.  
Toronto, Ontario.



John T. Ward,  
for DUNCAN R. DERRY LTD.,

MELBA TWP. M.371

THE TOWNSHIP OF  
OF  
**BERNHARDT**  
CLAIM MAP  
DISTRICT OF  
TIMISKAMING

LARDER LAKE  
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	—
IMPROVED ROADS	—
KING'S HIGHWAYS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
MINES	—
CANCELLED	—

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

- - claims recorded.
- X - claims covered.

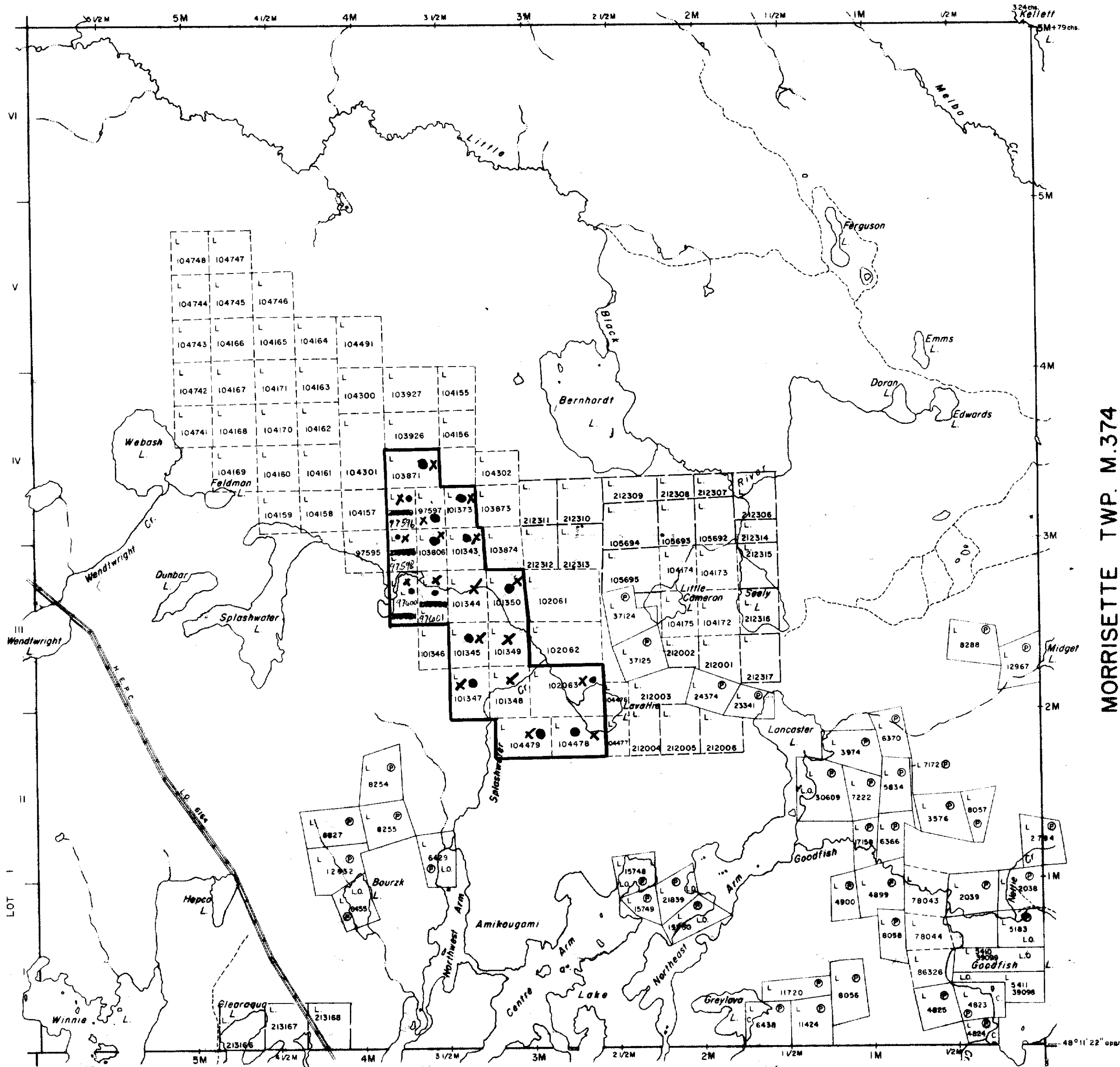
PLAN NO. **M.327**

DEPARTMENT OF MINES

— ONTARIO —

MAISONVILLE TWP. M.361

MORRISETTE TWP. M.374



TECK TWP. M.392



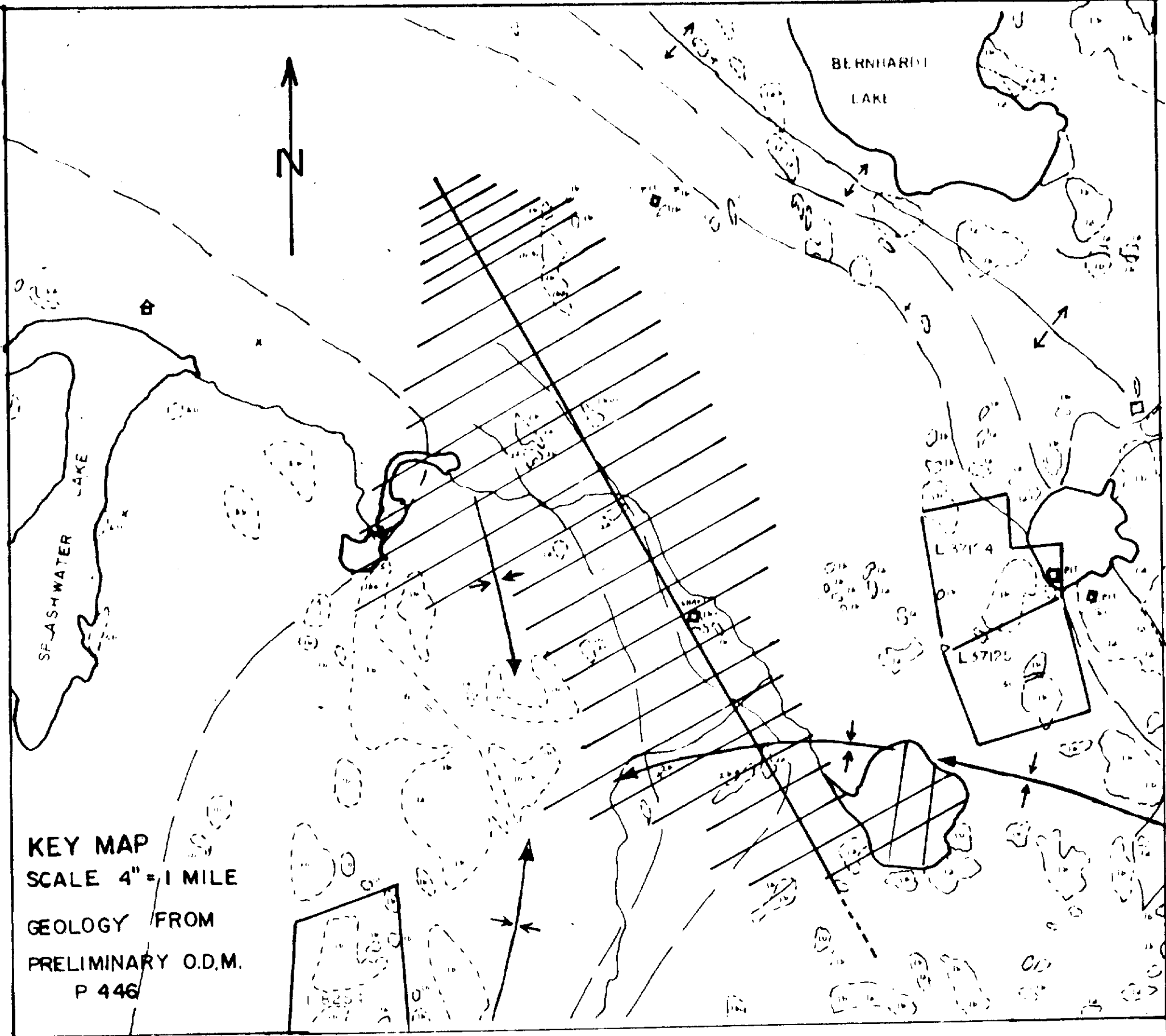
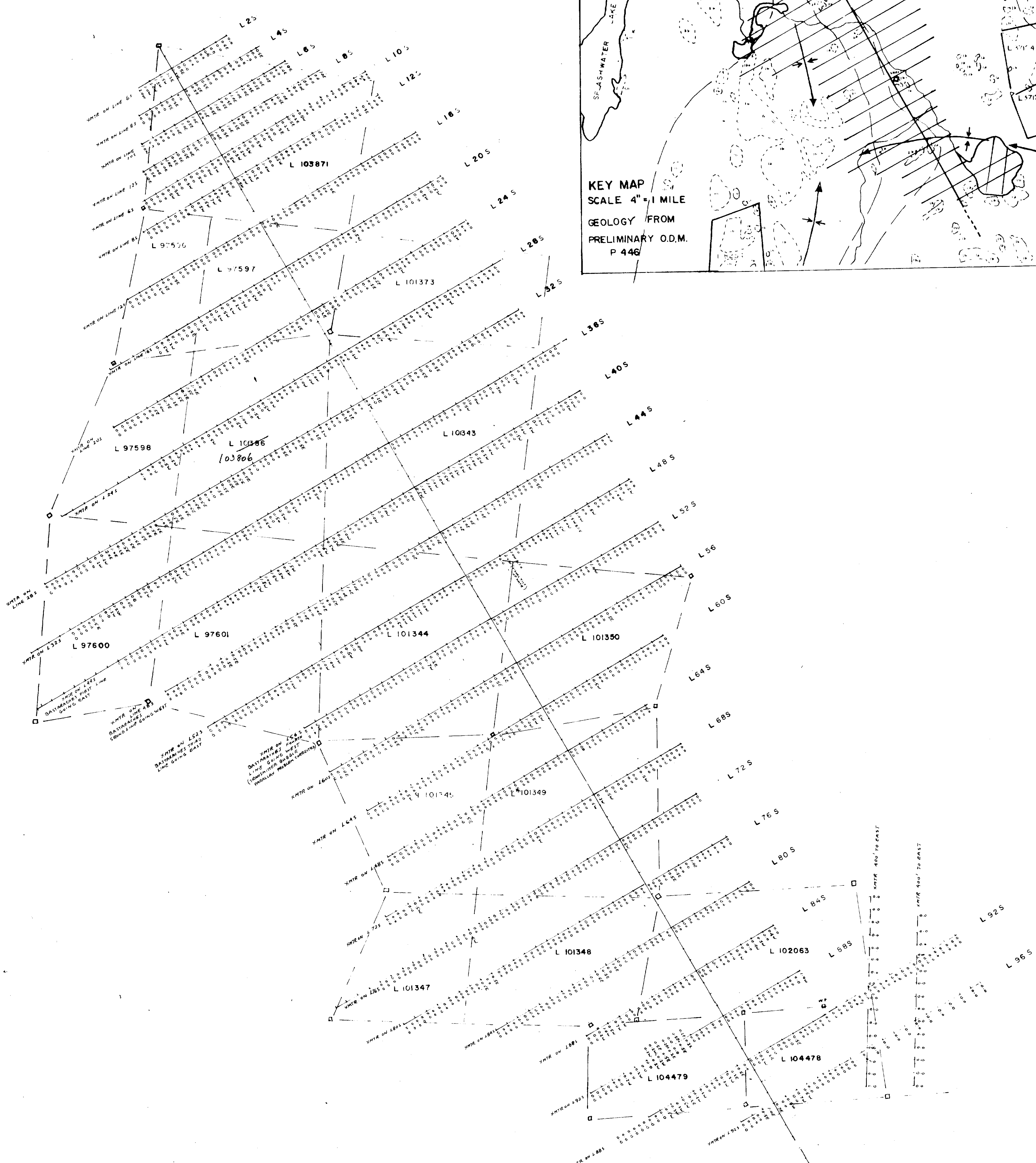
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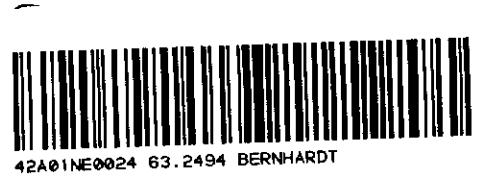
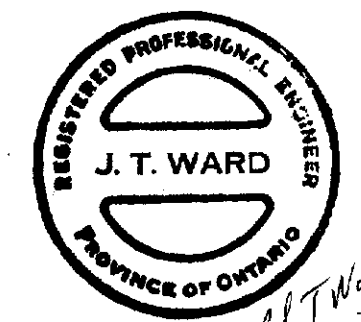


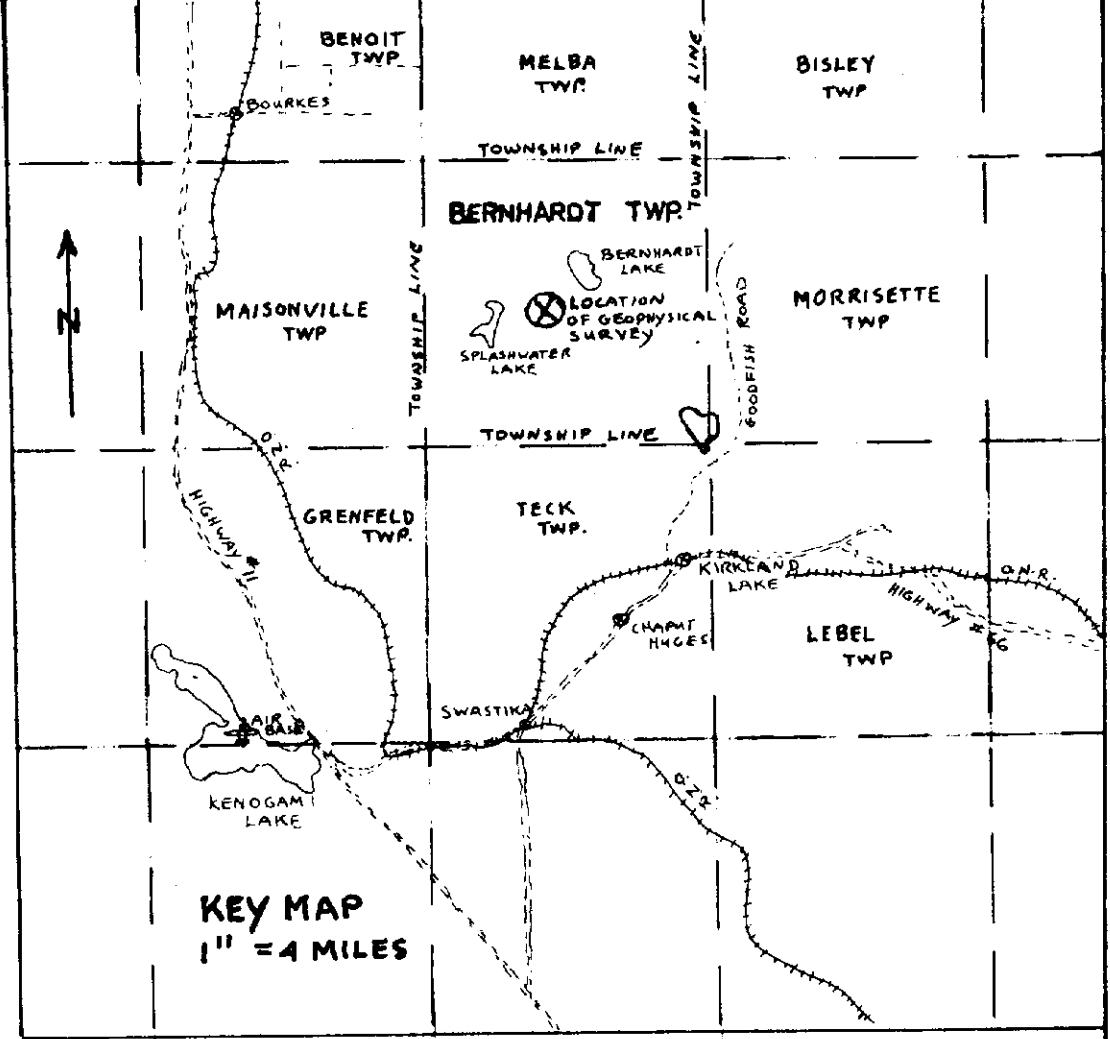
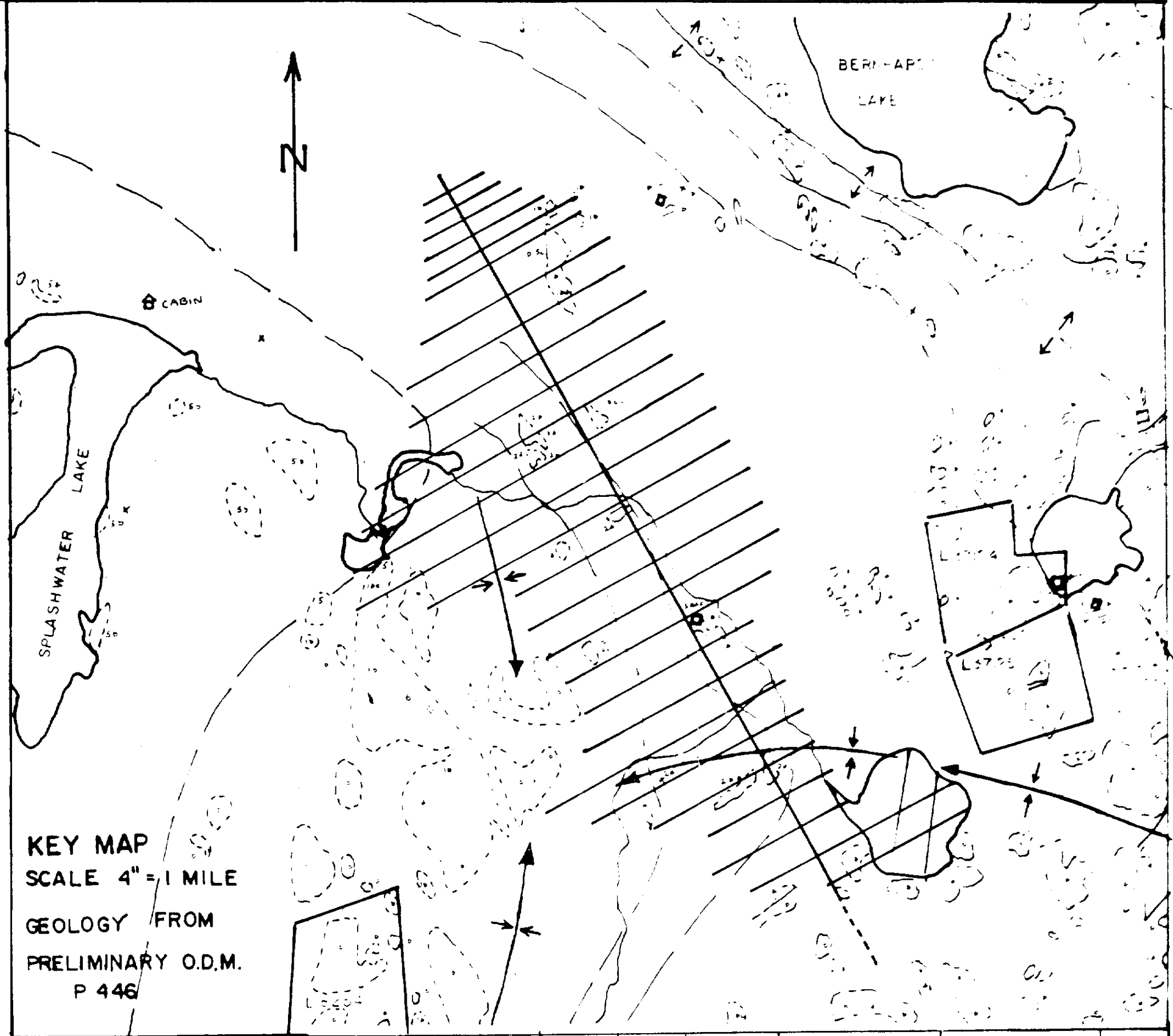
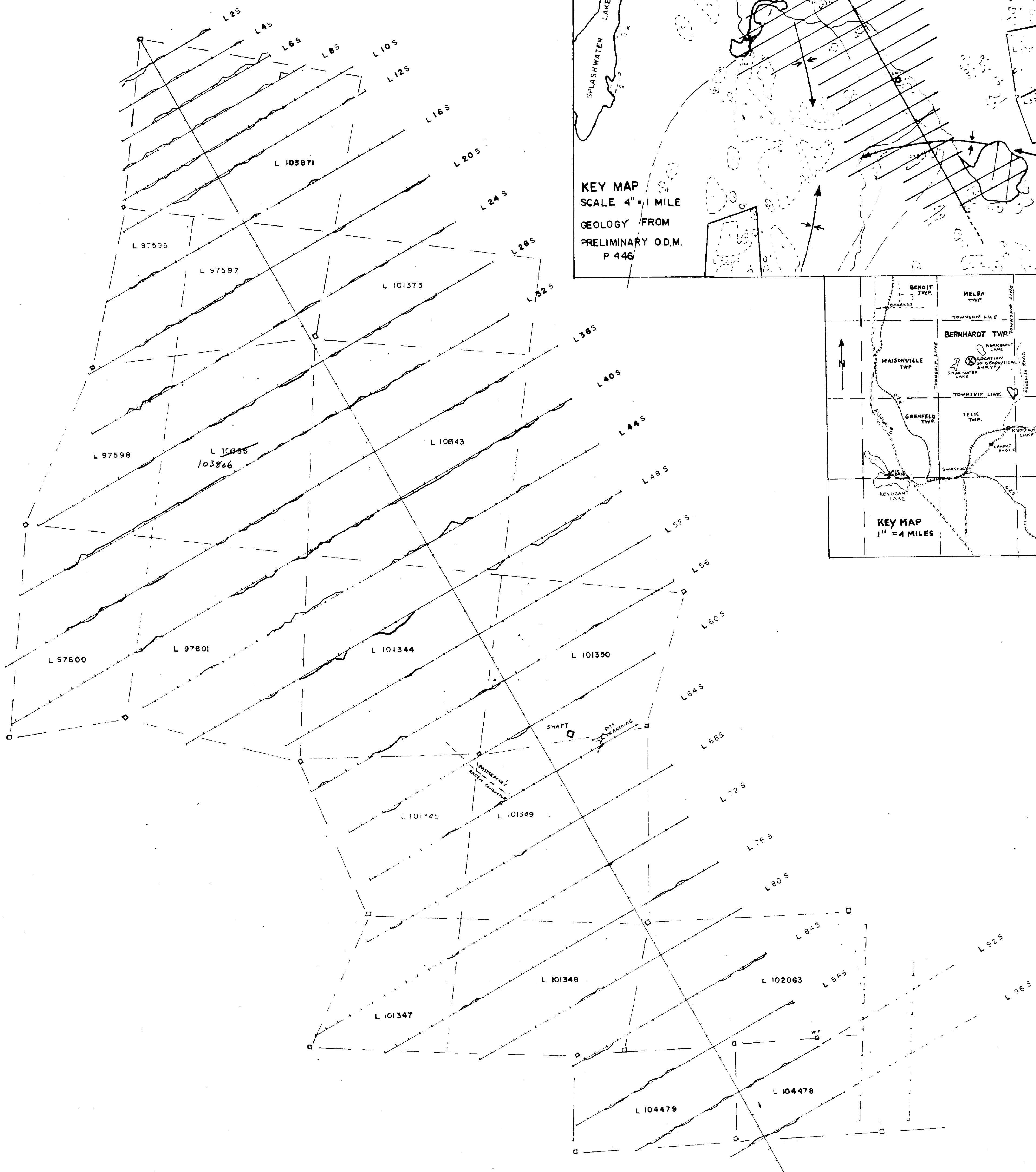






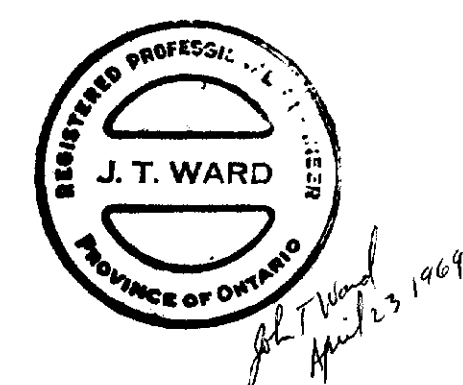
DUNCAN R. DERRY LTD.	
BERNHARDT TWP. OPTION	
BROADSIDE ELECTROMAGNETIC SURVEY DIP ANGLES IN DEGREES	
SCALE: 1" = 400'	APRIL, 1969

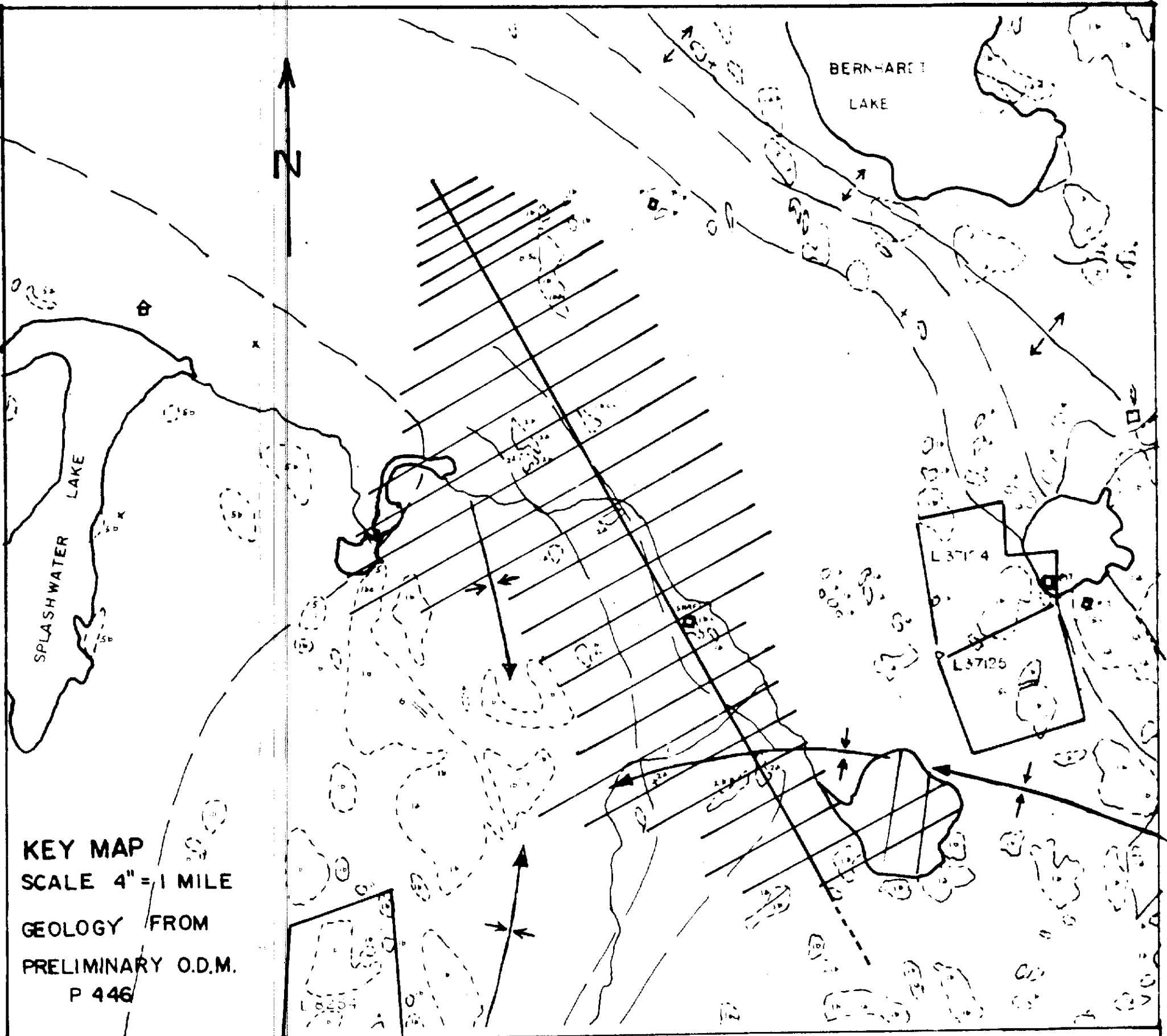
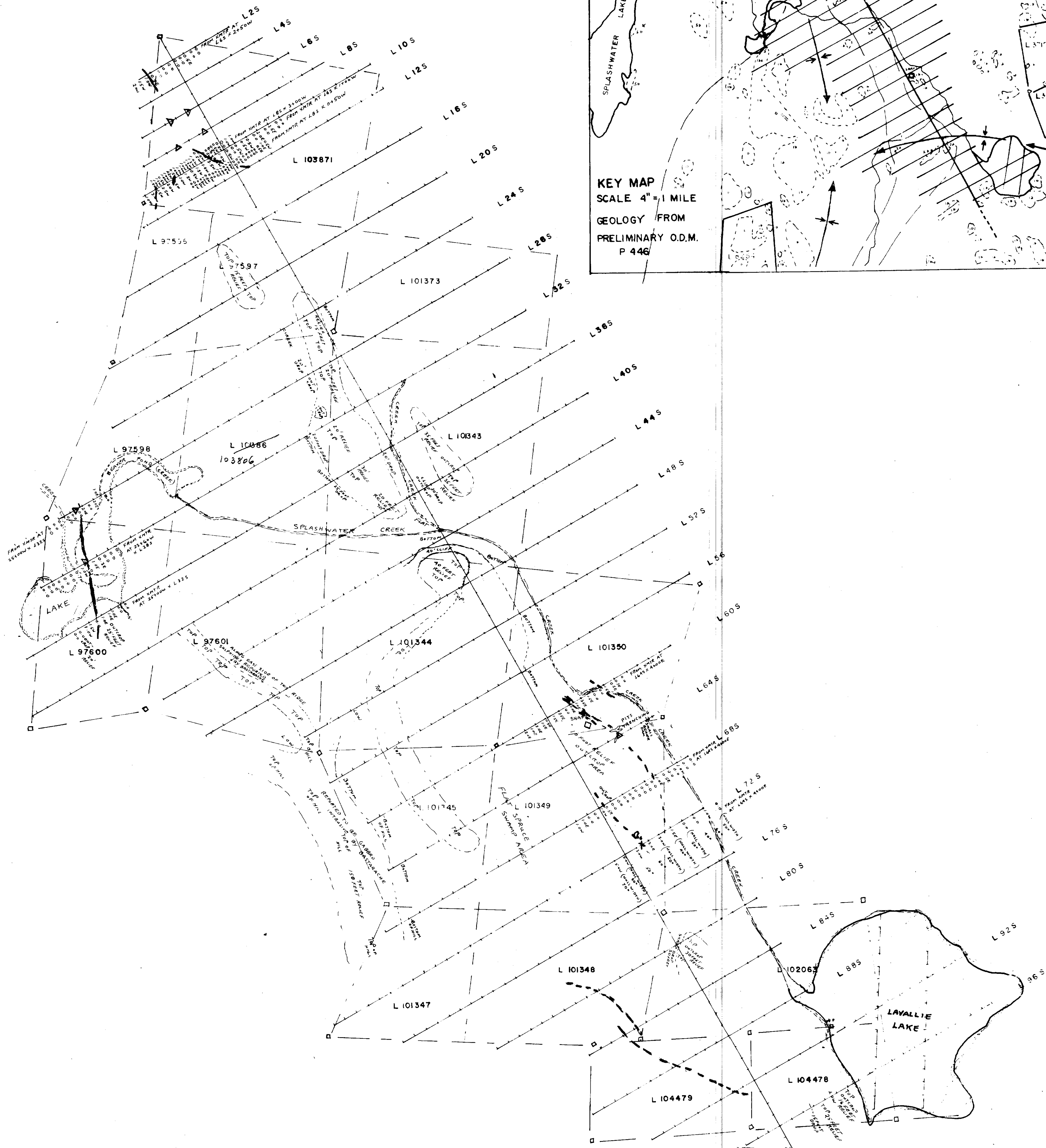




DUNCAN R. DERRY LTD.  
 BERNHARDT TWP OPTION  
 SE 200  
 BROADSIDE ELECTROMAGNETIC SURVEY  
 DIP ANGLE PROFILES  
 SCALE: 1" = 400'      APRIL, 1969

**LEGEND**  
 EAST DIP ANGLES ABOVE THE LINE  
 WEST DIP ANGLES BELOW THE LINE  
 SCALE: 1" = 20'





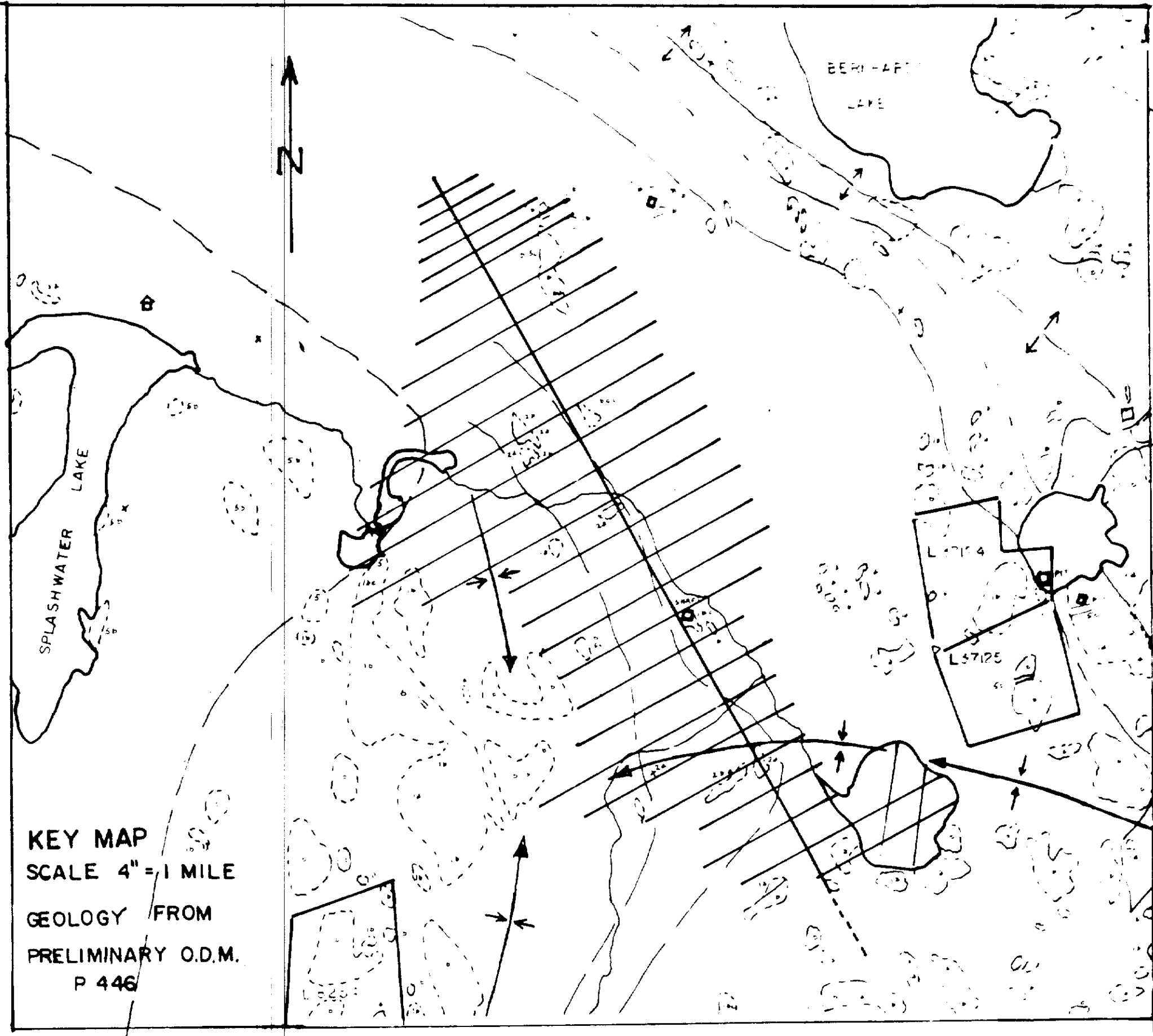
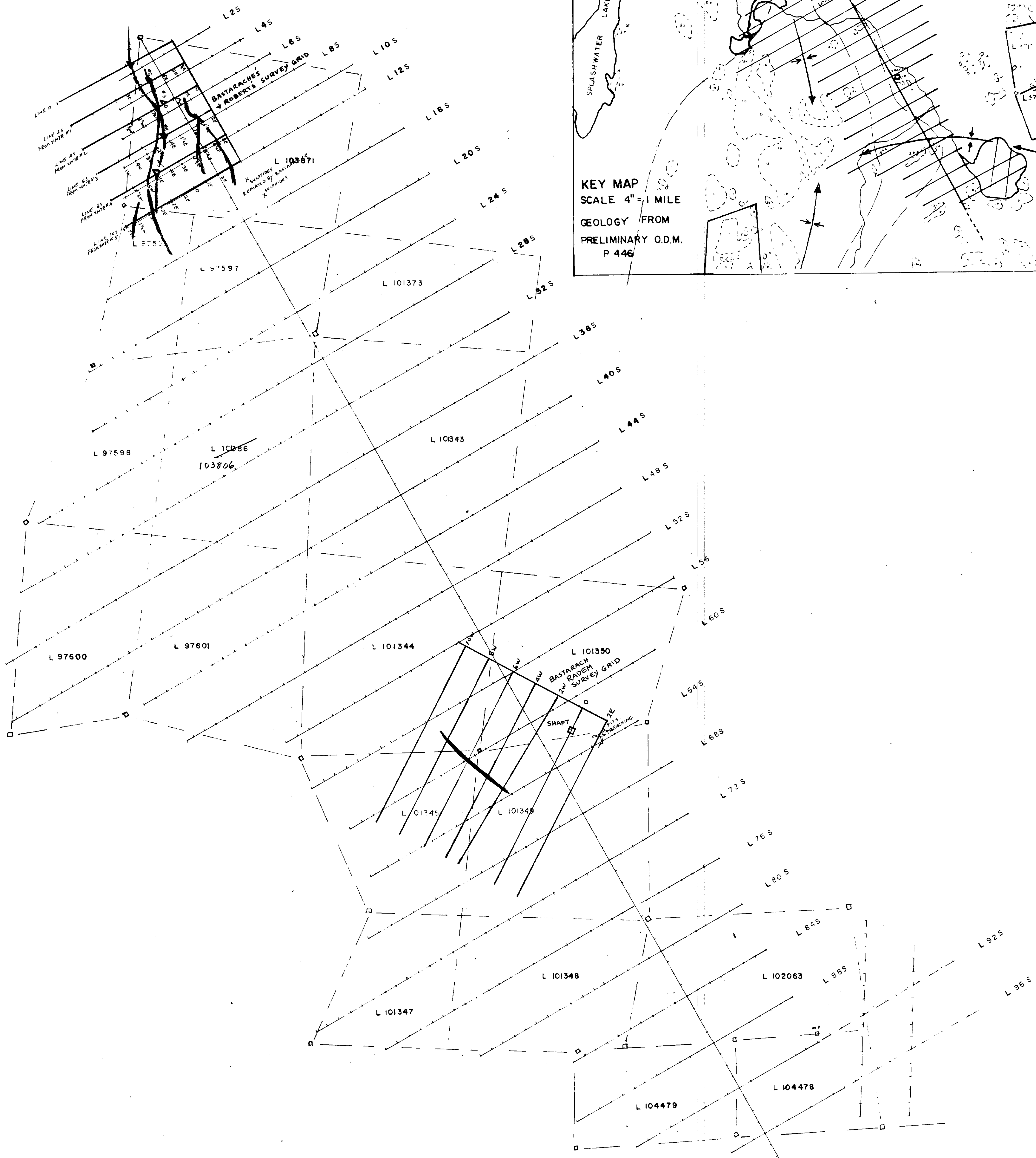
DUNCAN R. DERRY LTD.	
BERNHARDT TWP OPTION	
ELECTROMAGNETIC DETAIL	
SCALE: 1" = 400'	APRIL, 1969

- LEGEND**
- △ TRANSMITTER SET UP
  - DIP ANGLES IN DEGREES
  - VERY WEAK CONDUCTIVE AXIS



*John T. Ward*  
April 23/1969





DUNCAN R. DERRY LTD.	
BERNHARDT TWP OPTION	
COMPOSITE OF PREVIOUS GEOPHYSICAL WORK	
SCALE 1 = 400'	APRIL, 1969

**LEGEND**

— BASTARACHES RADEM CONDUCTIVE AXIS

— ROBERTS SE-200 EM CONDUCTIVE AXIS

— ROBERTS EM DIPANGLES SHOWN IN DEGREES

