



42A12NE0656 63.1663 BYERS

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## INTRODUCTION

During the period from December 15, 1964 to April 20, 1965, a Crone method electromagnetic survey and a partial magnetic survey was conducted by Mespi Mines Limited of 1705 Victory Building, 80 Richmond Street, West, Toronto, Ontario on their claim group in Byers Township.

## LOCATION OF CLAIMS

One hundred and forty-nine claims located in Byers Township, Porcupine Mining Division, Ontario are numbered as follows:

P. 53142, P. 53224, 25, 26, 42, 51, 60, 61, 62, 63, 64, 65, 66, 67,  
P. 53268, 77. P. 53441, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51,  
P. 53477, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92,  
P. 53493, 94. P. 53846, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57,  
P. 53858, 59, 60, 61. P. 54027, 28, 29, 30, 31, 32, 33, 34, 35, 36,  
P. 54037, 38. P. 54394, 95, 96, 97, 98. P. 54579, 82, 83.  
P. 54659. P. 57361, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73,  
P. 57374, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89,  
P. 57390, 91, 92, 93, 94, 95, 96, 97, 98. P. 57404, 05, 10, 13, 14.  
P. 57565, 66, 67, 69, 70. P. 60050. P. 67604, 05, 06, 07, 08,  
P. 67612, 18, 21, 22, 23, 24, 25, 26, 27, 32, 33, 34. P. 71008.

The property is located approximately 24 air miles north west of Timmins, Ontario.

## ACCESS

Easiest access is by aircraft to Byers Lake for the western portion of the grid and to Loveland Lake for the eastern portion. Semi-permanent camps were established on both lakes to work this large group.

## PREVIOUS WORK

The complete area has been covered by two different combined magnetic-electromagnetic airborne surveys and portions of the area have been flown as many as four times using different flight directions.

All airborne surveys detected several E.M. anomalies with poor to fair conductivity. Several of these had direct magnetic coincidence.

Some previous ground follow-up had been performed on some of these anomalies but with inconclusive results.

## GEOLOGY

The only geology of the area to date is shown on Map No. 40c by A.R. Graham published by the Ontario Department of Mines, 1931, under the title "Groundhog-Kamiscotia Area". The geology is very sketchy and shows the area to be underlain by altered greenstones cut by diabase dikes. Intrusive granites are shown to lie to the north, south and west of the claim group.

## INSTRUMENTS USED AND METHODS OF SURVEY

For the electromagnetic survey, a Crone Dual Frequency unit was used. The survey was carried out using an in-line method, a coil separation of 300 feet with readings taken at 100 foot intervals. The dip angles shown on the plan are the resultant angles.

Previous to drilling, all anomalies were detailed with both vertical and horizontal loop F.M. A total of 194.5 miles of line were cut and 10,323 stations were read with the Crone unit.

For the magnetic work, a Sharpe MF-1 fluxgate magnetometer was used to measure changes in the vertical component of the earth's magnetic field. The sensitivity of the magnetometer is 20 gammas per scale division on the most sensitive scale.

A total of 1809 stations were established with the survey. All readings have been tied into a base system on the grid and drifts have been corrected.

## SURVEY RESULTS

### Electromagnetic

Three anomalies showing fair to good conductivity were detected, detailed and drilled.

- 1) The anomaly on claim P. 53478 showed good conductivity and had a strike length of over 900 feet. This was tested by two diamond drill holes, B-1 and B-2 drilled to depths of 418 and 504 feet respectively.

Both holes intersected banded sediments with pyrite and pyrrhotite in stringers throughout the core section. Minor values in copper and zinc were obtained from the better mineralized sections split and sent for assay.

2) The anomaly on claims P. 53489 and P. 53482 showed only fair conductivity and had a strike length of over 700 feet. This was tested by a drill hole on L-112S at 15+50 W drilled to a depth of 271 feet. This conductor was caused by nodular pyrite in a greywacke.

3) The anomaly on claims P. 53851 and P. 53854 showed up as a single line conductor on the initial survey run on line striking ESE - WNW. A vertical loop survey showed the conductor to be striking E - W so a baseline was laid out along the axis and a detail grid with 100' centres cut across it. A magnetometer survey was run in conjunction with a detail vertical loop survey. From these surveys the conductor was interpreted as being vertical and coincident with a 1300 gamma magnetic anomaly.

The first drill hole B-4 put down from the south failed to intersect any conductive material, so further surveys were run which showed the conductor dipping northerly. Drill hole B-5 was spotted to the north and drilled south. This hole intersected the conductor and showed it to be banded sediments with pyrite and pyrrhotite stringers that had been split by a basic dike, which was the cause of the magnetic anomaly.

Other single line indications were obtained but these have neither been checked nor corroborated to date.

Magnetic

As there was only very sketchy geologic information available and because the magnetics show a very complicated pattern, the correlation between geology and magnetics is impossible at this date. There was no direct magnetics associated with and caused by any electromagnetic anomaly drilled.

There is a series of northerly striking narrow linear highs that are probably caused by basic (diabase) dikes.

CONCLUSIONS AND RECOMMENDATIONS

As there were no commercial values obtained from the anomalies drilled, no further work is recommended for these.

A detailed geologic survey should be done over the complete group prior to doing any further work. When geologic information is available, it is recommended that the magnetometer survey be completed and check any untested electromagnetic anomalous zone.

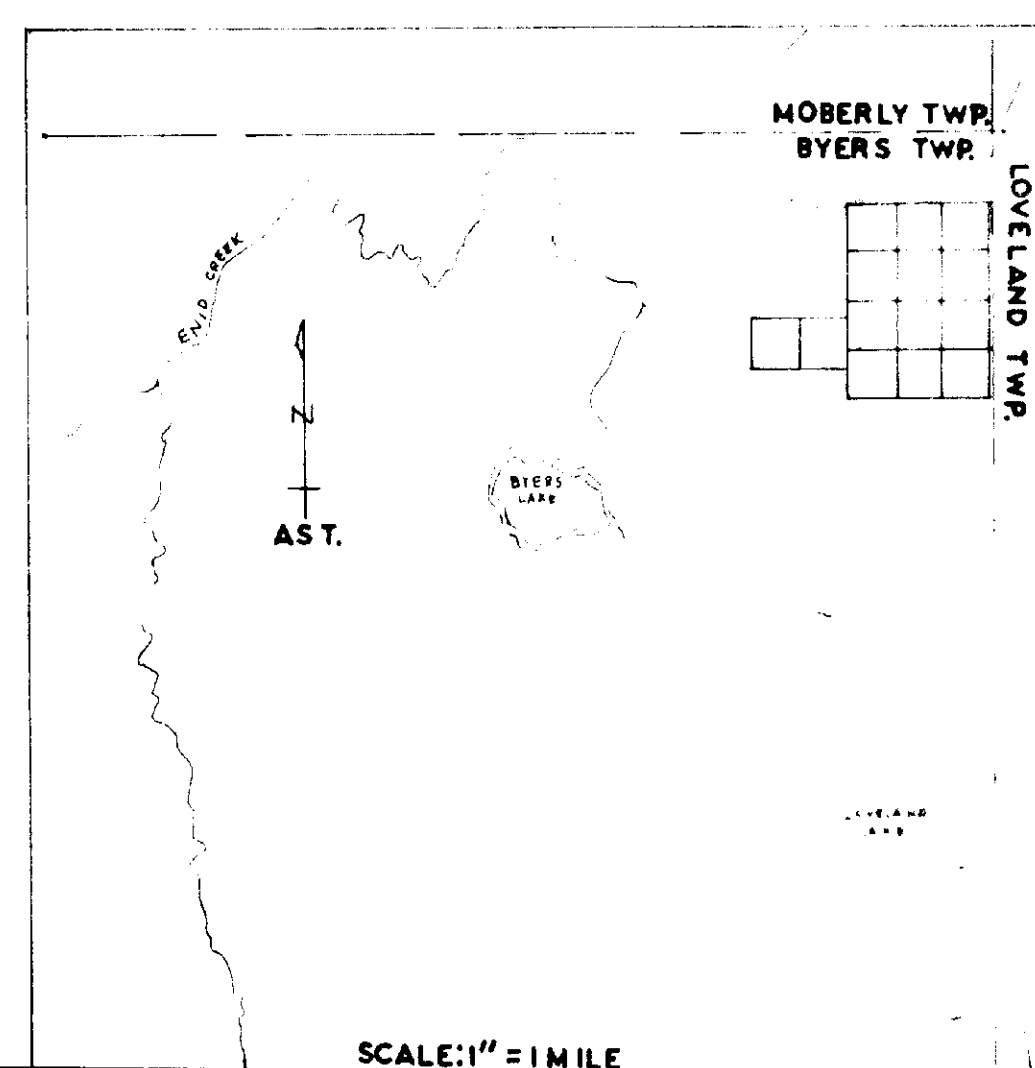
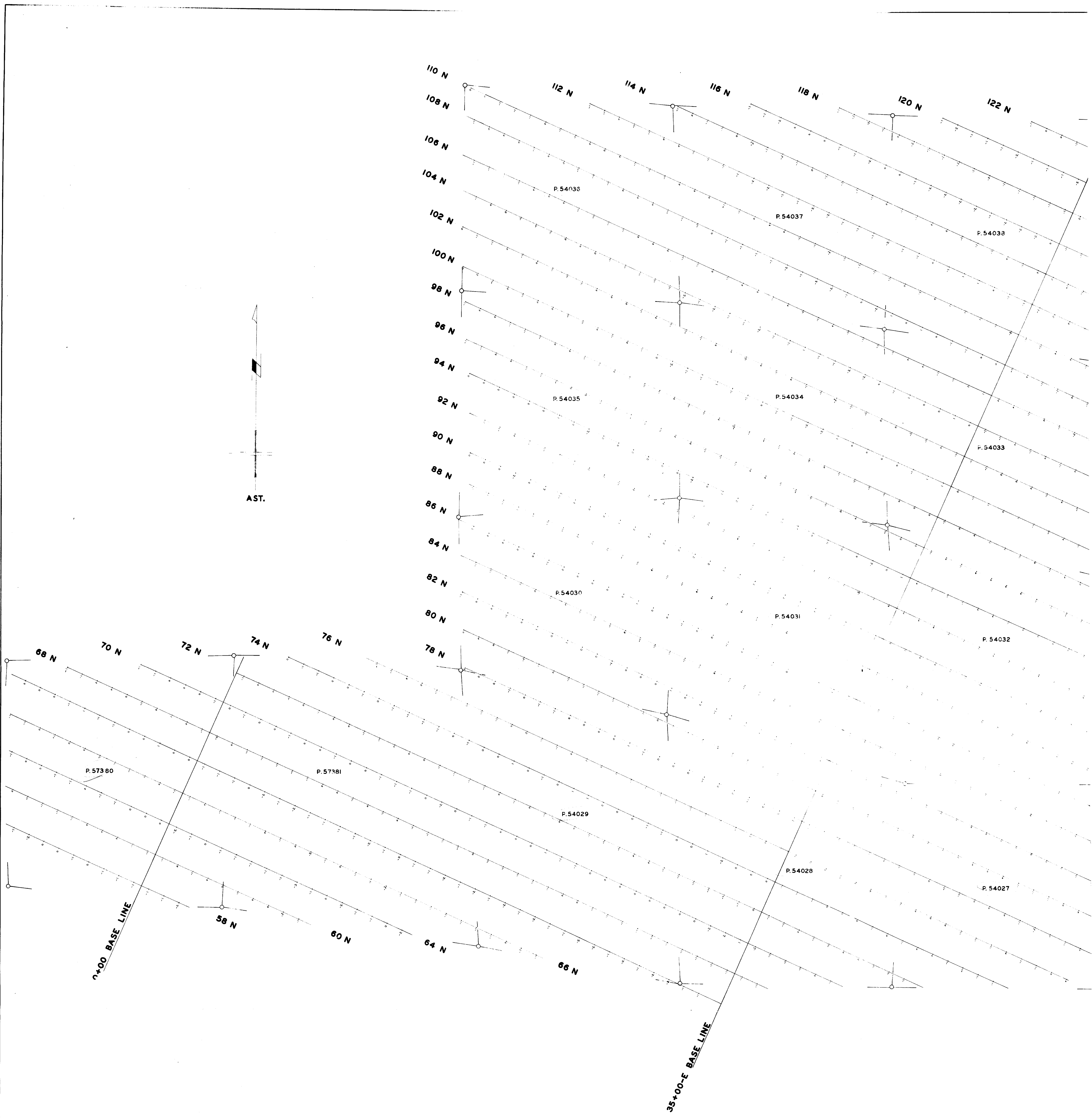
Respectfully submitted

MESPI MINES LIMITED



W.F. Nyman  
Exploration Manager

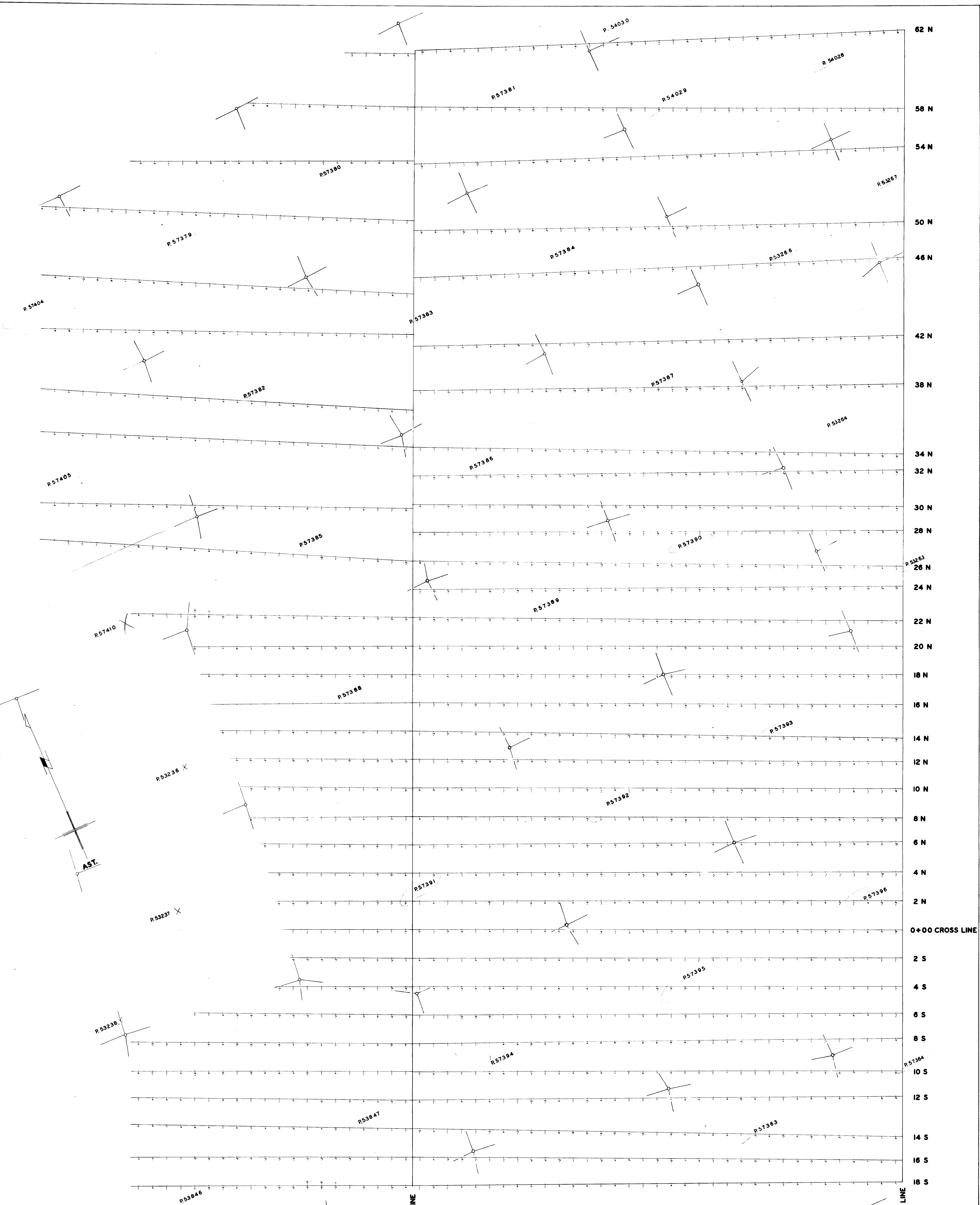
WEN/jf



MESPI MINES LTD.  
 ELECTRO-MAGNETIC SURVEY  
 BYERS GRID  
 INSTRUMENT: CRONE J.E.M.  
 DUAL FREQUENCY: IN-LINE METHOD  
 COILS 300' APART  
 MAP SCALE: 1" = 200'  
 LEGEND

RESULTANT DIP AT 1800 C.P.S.  
 " " " " 480 C.P.S.

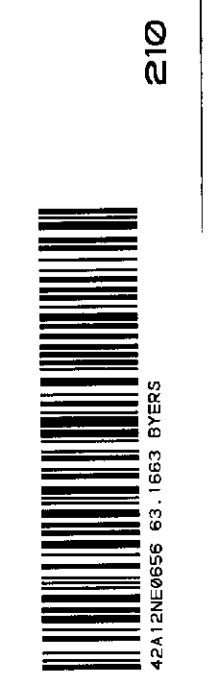
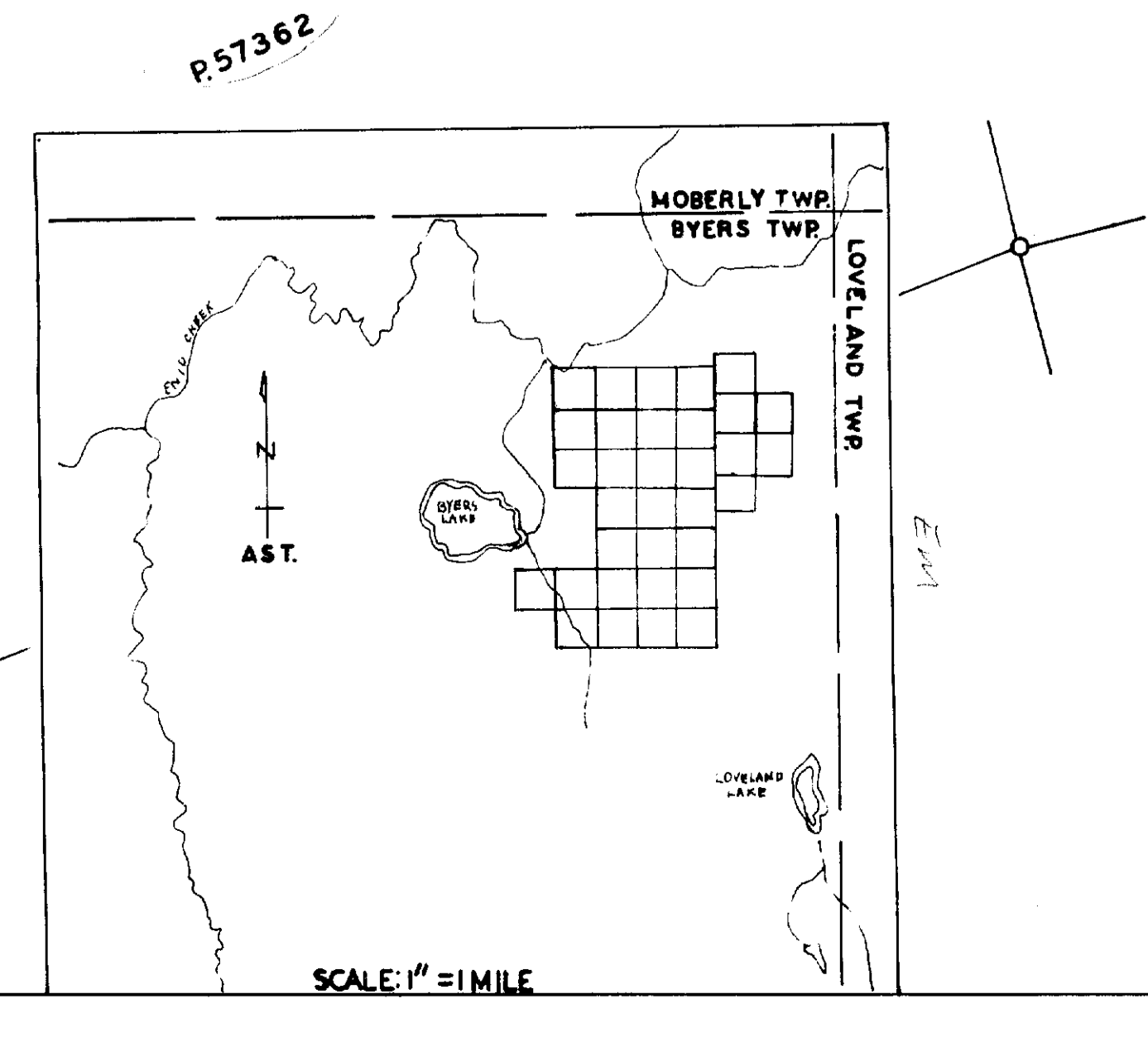




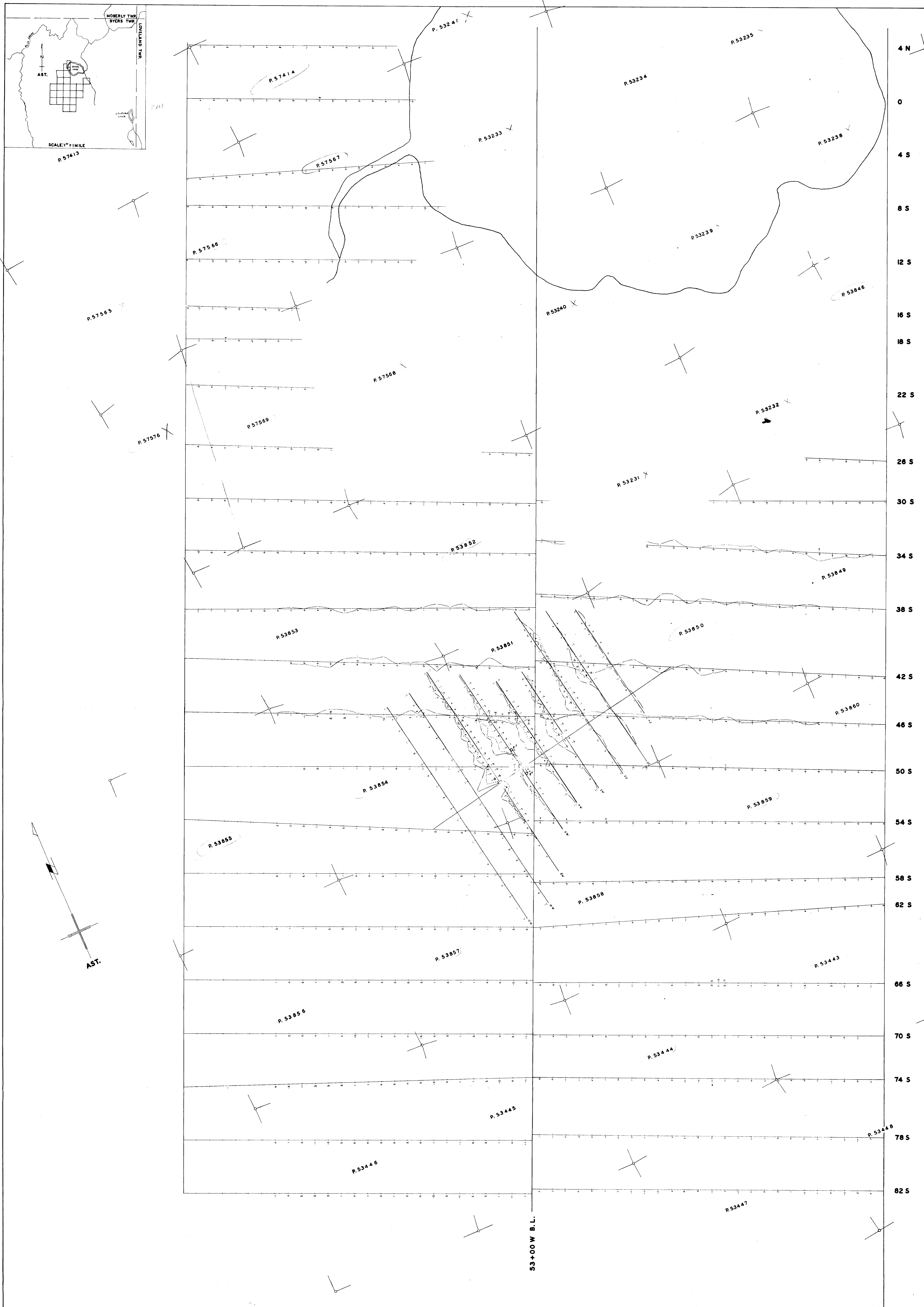
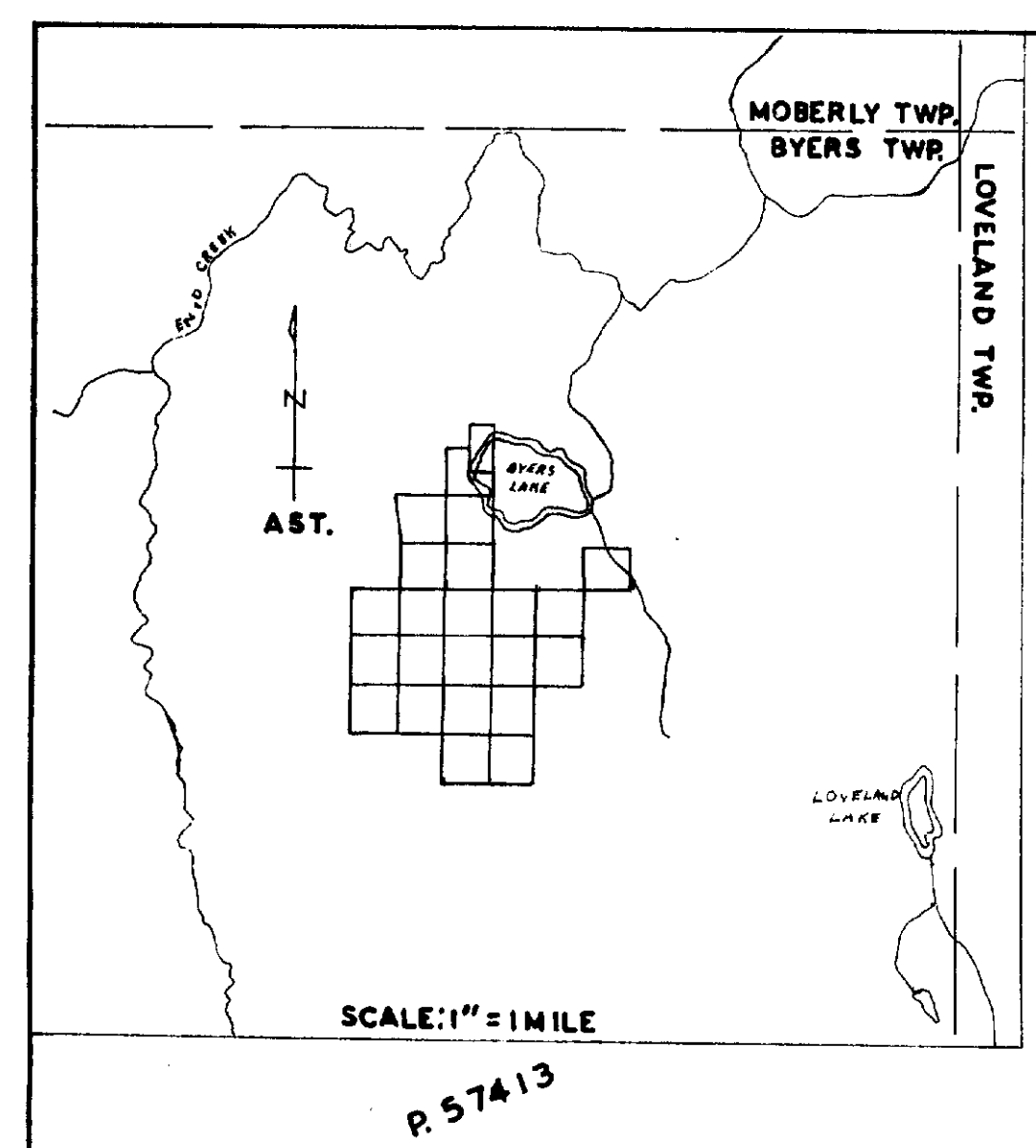
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LEGEND  
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 " " " " 480 C.P.S.

DRAWN BY: W.B. CAUGHELL  
 APPROVED: WE  
 SURVEY DATE: DEC. 15/64 TO APRIL 8/65



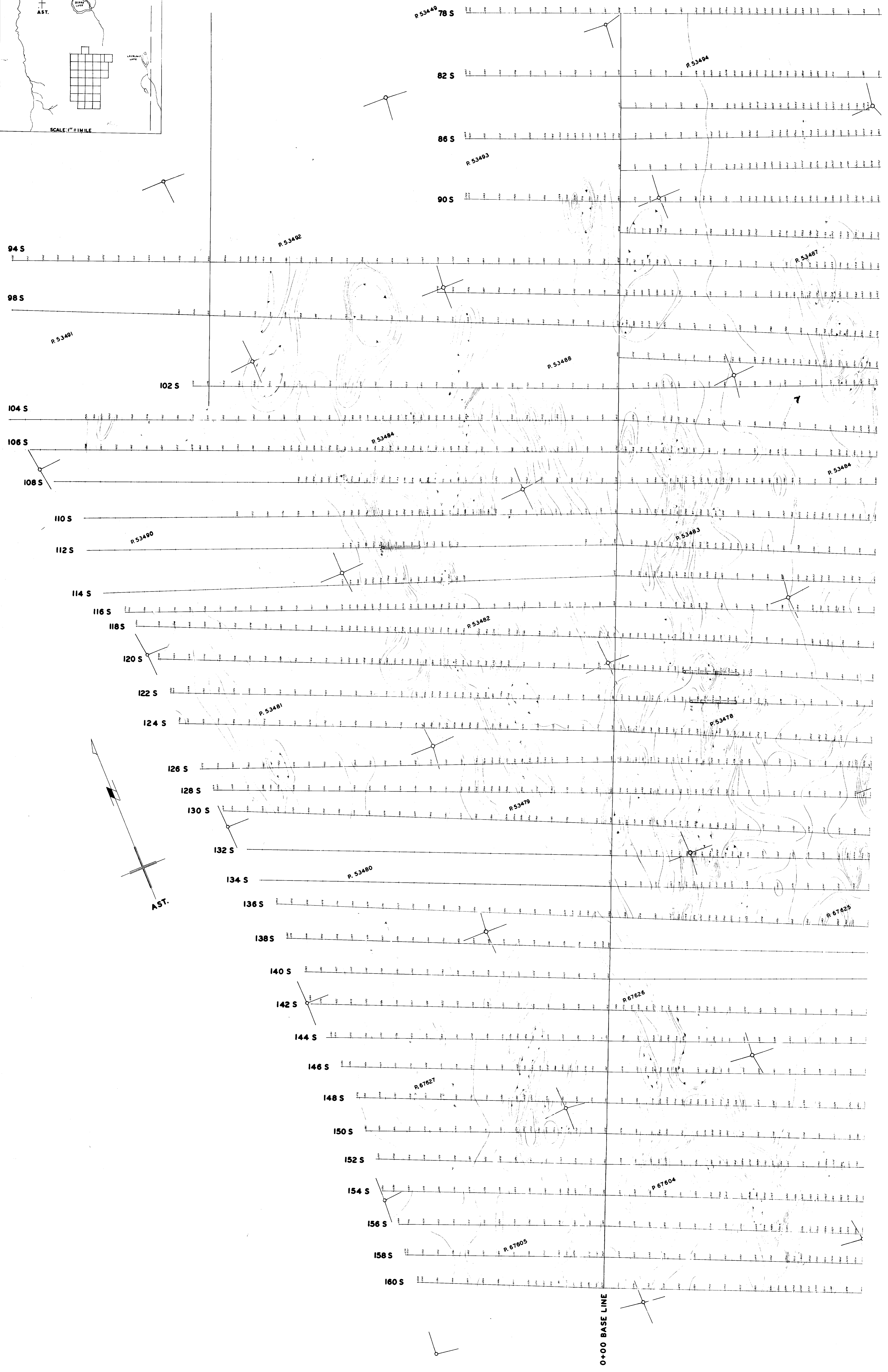
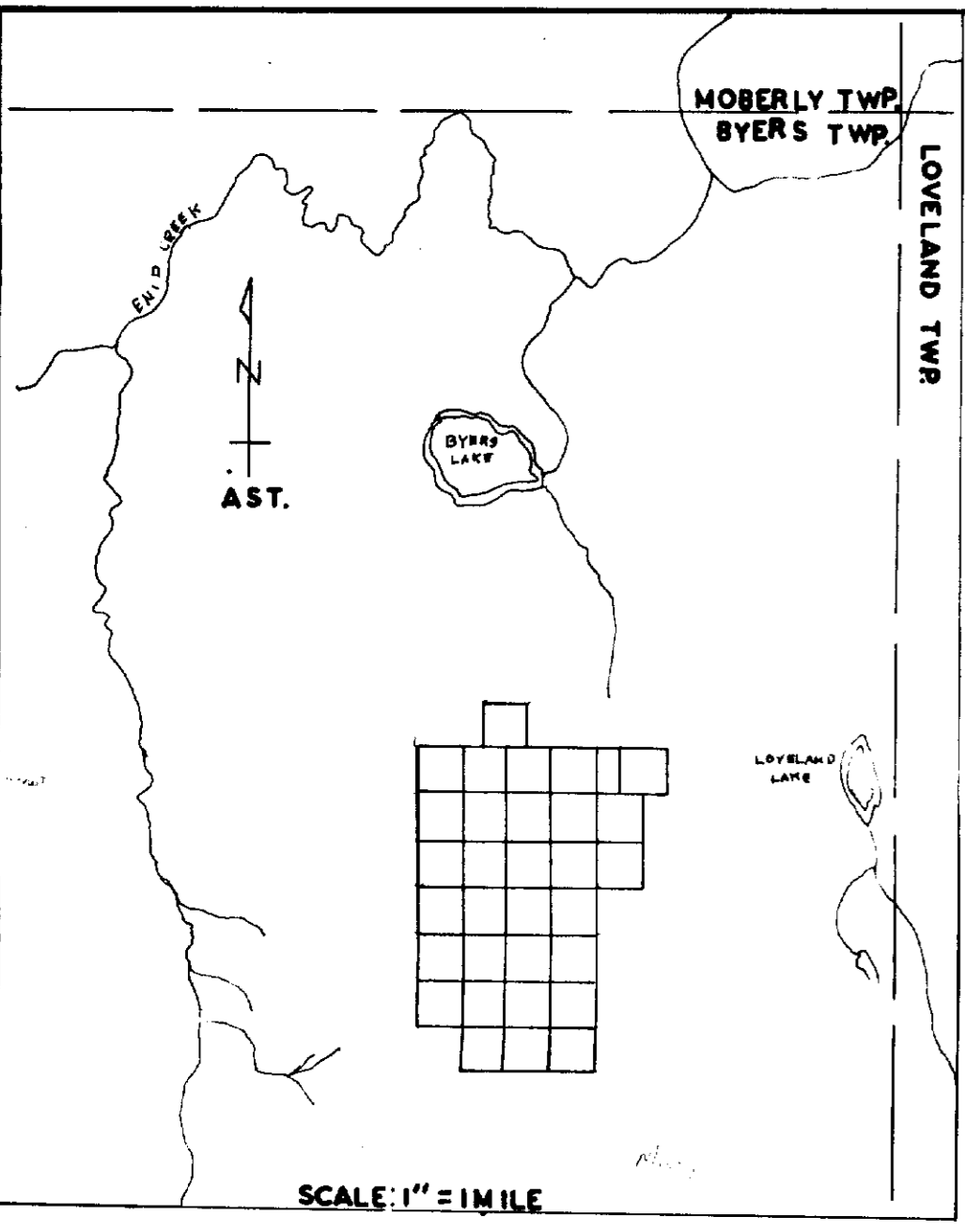
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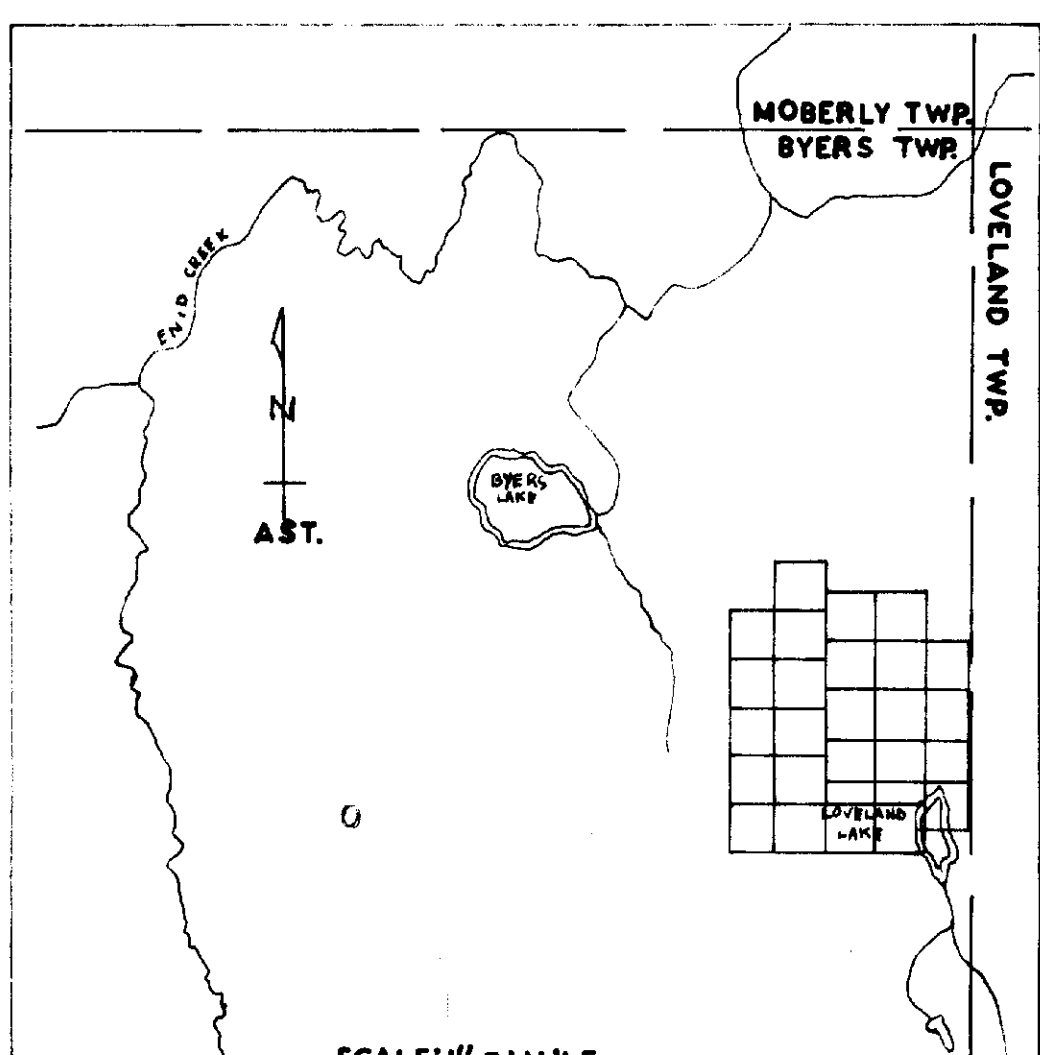
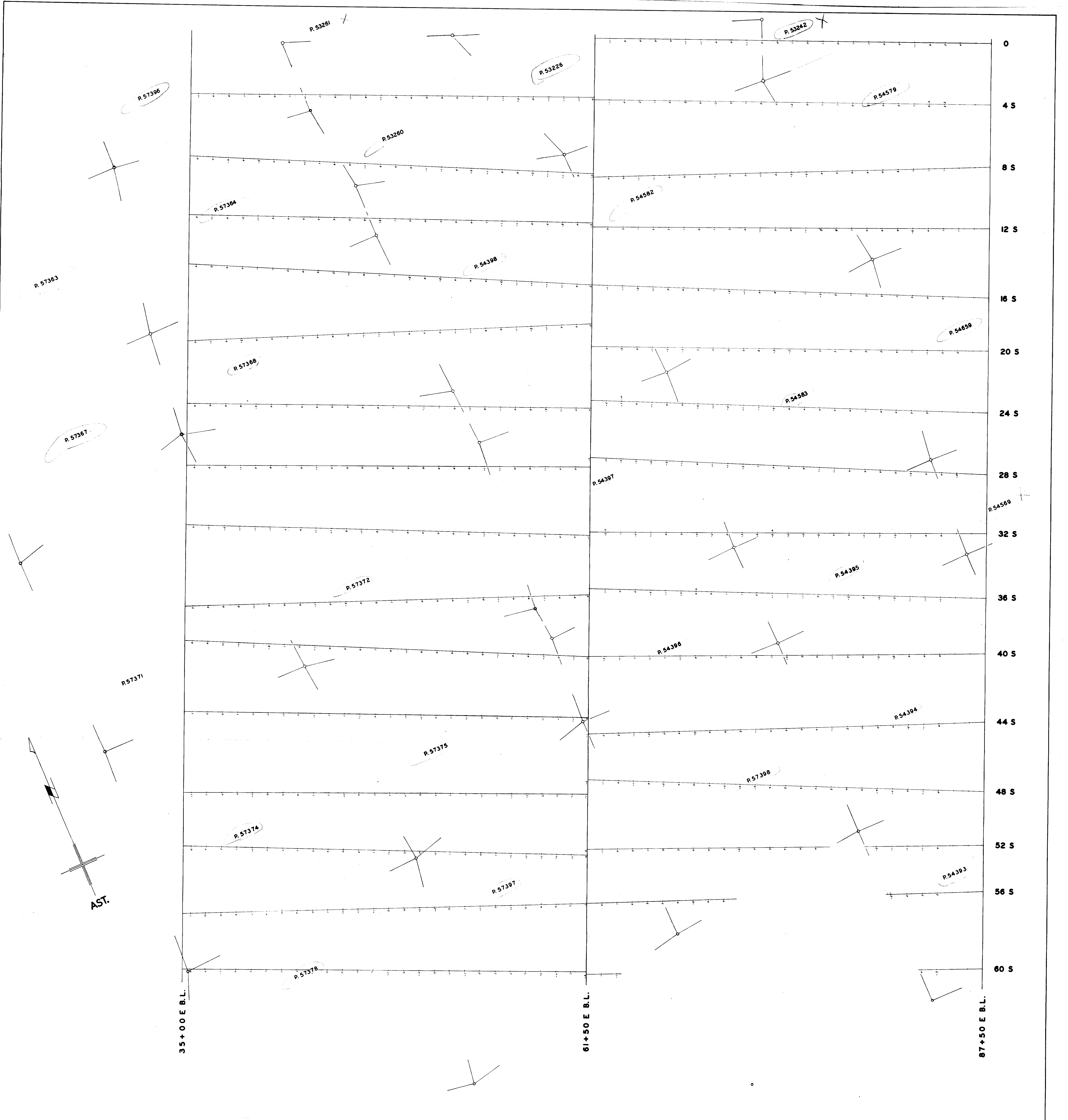


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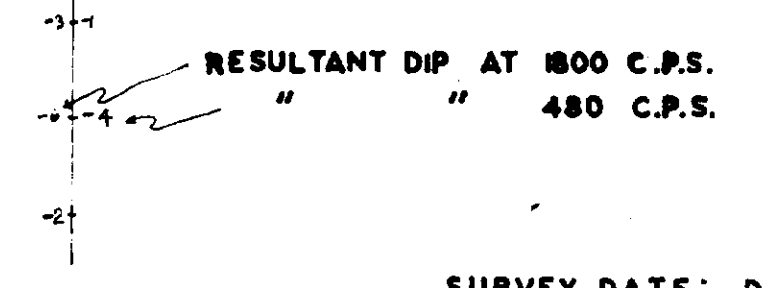
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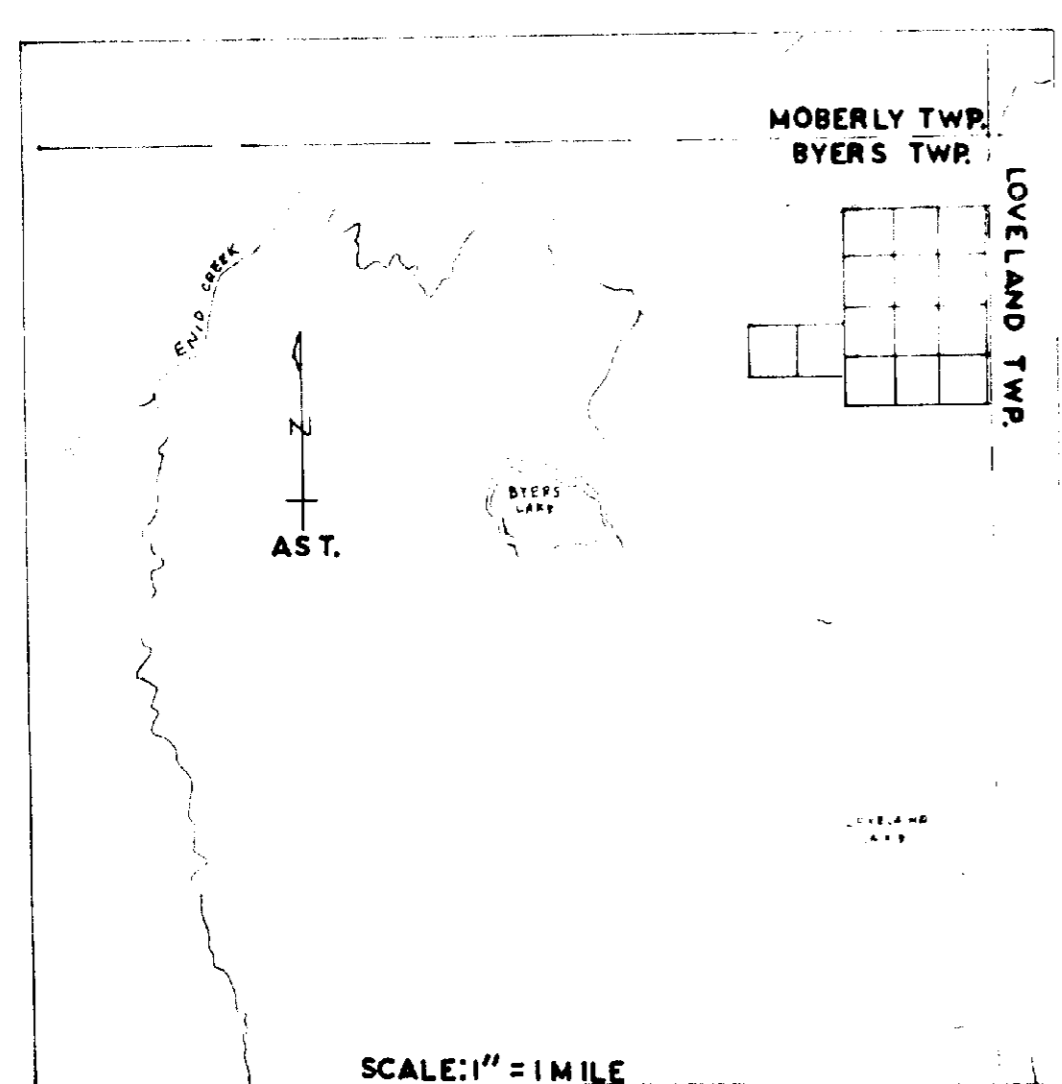
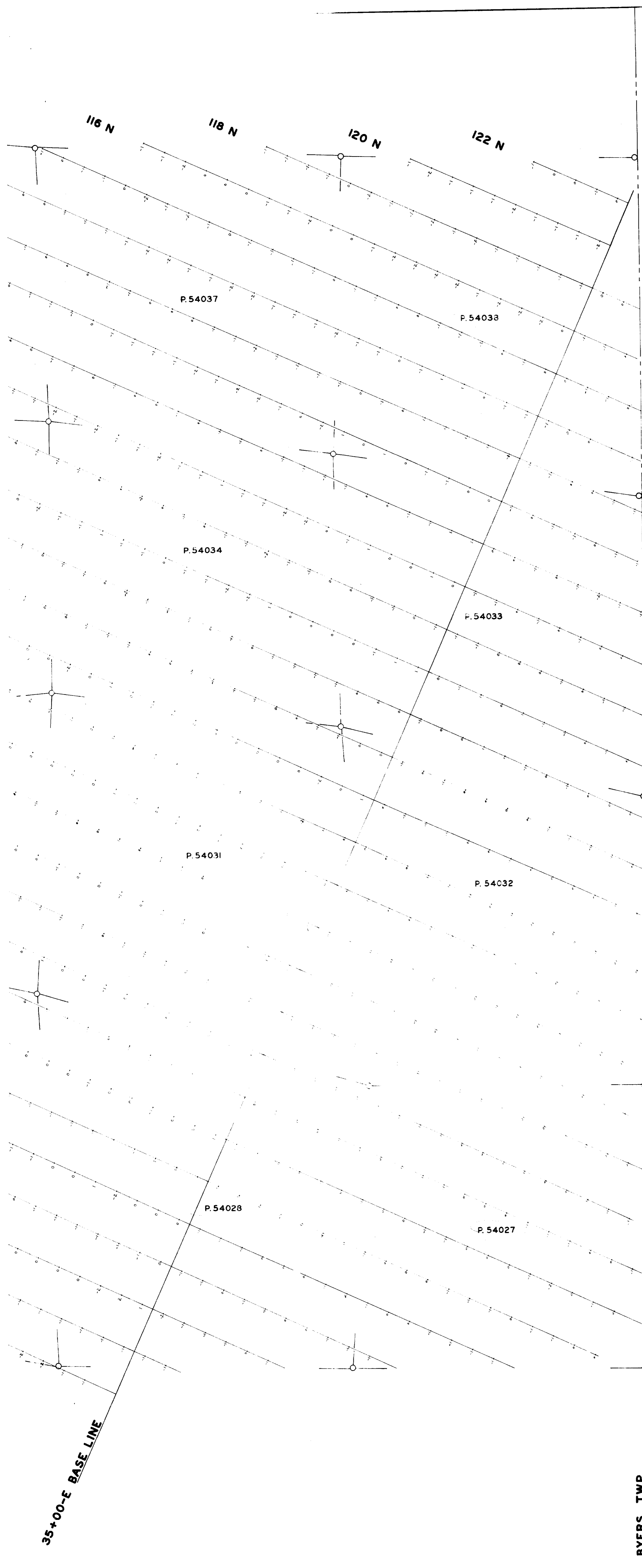






**MESPI MINES LTD.**  
**ELECTRO-MAGNETIC SURVEY**  
**BYERS GRID**  
 INSTRUMENT: CRONE J. E. M.  
 DUAL FREQUENCY: IN-LINE METHOD  
 COILS 300' APART  
 MAP SCALE: 1" = 200'  
**LEGEND**



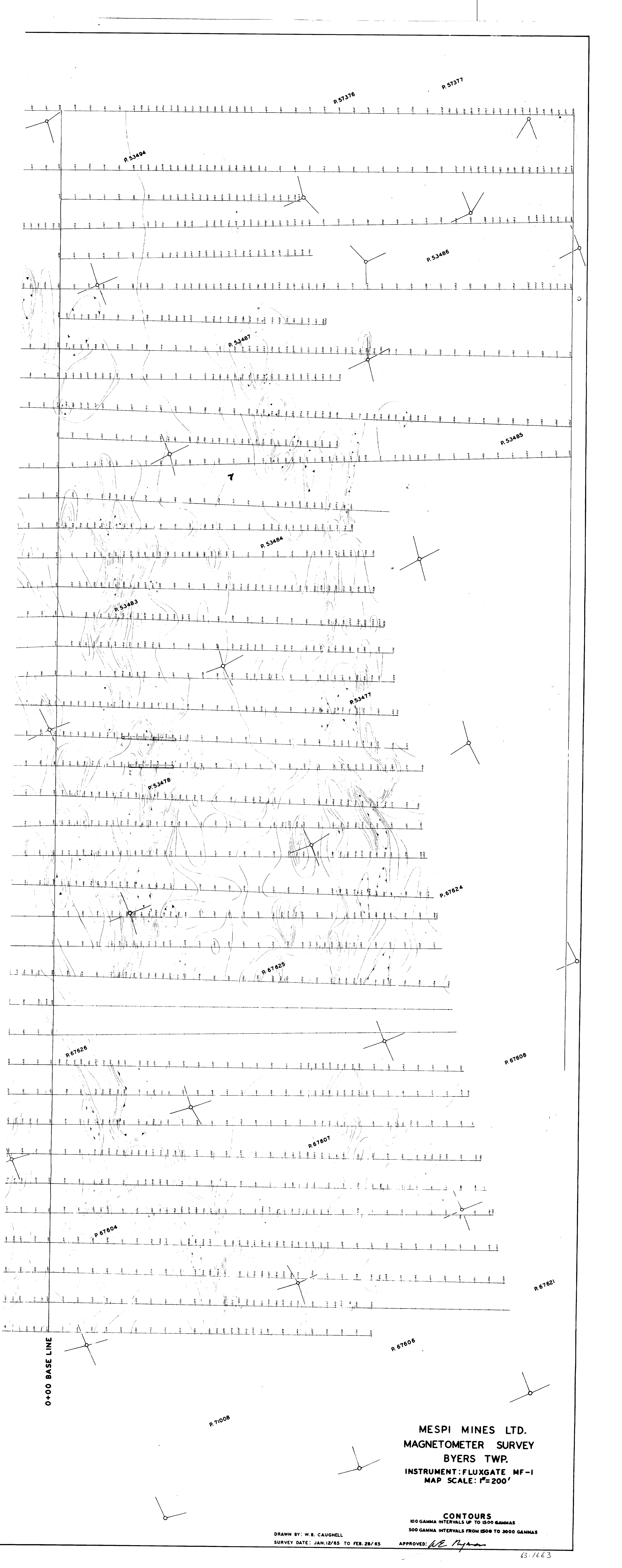


MESPI MINES LTD.  
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 COILS 300' APART  
 MAP SCALE: 1" = 200'

LEGEND

RESULTANT DIP AT 1800 C.P.S.  
 " " 480 C.P.S.

APPROVED: *R.E. Payne*  
 DRAWN BY: R.C. DENOMMEE  
 SURVEY DATE: FEB. 18-29, 1965



0+00 BASE LINE

MESPI MINES LTD.  
 MAGNETOMETER SURVEY  
 BYERS TWP.  
 INSTRUMENT: FLUXGATE MF-1  
 MAP SCALE: 1"=200'

CONTOURS  
 100 GAMMA INTERVALS UP TO 1500 GAMMAS  
 500 GAMMA INTERVALS FROM 1500 TO 3000 GAMMAS

DRAWN BY: W.B. CAUGHELL  
 SURVEY DATE: JAN. 12/65 TO FEB. 28/65

APPROVED: *WE Ryan*

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P. 53494

P. 53376

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