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REPORT ON MAGNETOMETER AND GEOLOGICAL  
SURVEYS ON NORTH-EAST EXTENSION GROUP  
OF CLAIMS, REEVES TOWNS  
PROVINC



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Introduction:

The following report describes the magnetometer and geological surveys recently completed on the Canadian Johns-Manville Co. Limited claims (Reeves North-East Extension Group), located in the southeastern section of Reeves Township, Sudbury Mining Division, Province of Ontario.

These claims were staked by W. Scott on September 28th, 1955, and were recorded on October 24th, upon which date they were transferred to Canadian Johns-Manville Co. Limited. Tagging of this group was completed during the early part of December 1955 by R. Rintamaki.

A base line, striking east (astronomic), was established by R. Todd using a transit, starting from the iron pin at the No. 1 post of surveyed claim No. S-59046. Line cutting and chaining of offset picket lines was completed by I. Anderson and P. Jarvinen, both employees of this Company. Picket lines were established at 300 foot intervals with numbered pickets every 100 feet.

Geological mapping of the group was conducted by E. Rowley, a field geologist of Canadian Johns-Manville Co. Limited, with the assistance of D. Dennis. Unfortunately, no rock outcrops were discovered on the claims group and consequently a detailed topographic plan has been submitted.

A magnetometer survey was carried out by John Black, a geophysical operator for Canadian Johns-Manville Co. Limited, with the assistance of P. Jarvinen. Readings were observed using a Sharpe's D-I-M type magnetometer. Stations were spaced at 100 foot intervals except where further detail was required.

Supervision and interpretation of this work was the responsibility of the writer, senior geologist for Canadian Johns-Manville Co. Limited, Matheson, Ontario.

Summary:

Six claims comprise this group and are numbered as follows: -

S - 90095 to 90100 inclusive.

The area covered by these claims is approximately 240 acres.

Location and Accessibility:

The Reeves North-East Extension group of claims is located approximately one-half mile south of the Warren Lake road at a point forty miles southwest of Timmins and twelve miles northeast of Kukatush. Kukatush is a small settlement established by Spruce Falls Pulp and Paper Company on the main line of the Canadian National Railway, having railway and telegraph facilities. A new jeep road is currently being bulldozed through Reeves - Penherwood Townships and crosses the northwest corner of the claims group, providing access for diamond drilling. This new road starts immediately southwest of the junction of Storms Creek and the Warren Lake Road.

Topography:

The claims group is covered by a heavy mantle of overburden. A south-westerly trending esker, ranging in height from 50 to 150 feet above the surrounding terrain, is located in the western portion of the group. Three small lakes, with associated open and semi-open spruce swamps, are located in the eastern section of the group and trend to the northeast. Minor ridges, timbered with jackpine, spruce, birch and poplar, occur in the map area. All prominent topographic features are shown on the accompanying plan on a scale of one inch equals 400 feet.

Previous Work:

This area was mapped by W. Todd in 1923 for the Ontario Department of Mines, and the results are shown on Map 33-G, entitled Groundhog River Area, on a scale of one inch equals one and a half miles. This map accompanies a report published in Vol. 33, Part 6, for the Department of Mines in 1924. Detailed

ing, magnetometer survey and diamond drilling were carried out by Canadian Johns-Manville Co. Limited during 1951 and 1952 on a claims group adjoining the mapped area, to the south and west. An economic chrysotile asbestos fibre deposit was outlined during the course of this work. A considerable amount of staking was carried out by other interests at that time, but no work was filed on claims in the mapped area.

Line Cutting and Surveying:

During the first week of January of this year, R. Todd, with the assistance of I. Anderson, established a base line striking east (astronomic) and starting from the iron pin at the No. 1 post of surveyed claim S-59046. This base line was extended to the east for a length of 4,150 feet. Right angled offset lines were established at 300 foot intervals along this base line with numbered pickets every 100 feet. Line cutting and chaining was completed by I. Anderson and P. Jarvinen, employees of Canadian Johns-Manville Company Limited, and the work was conducted during the period January 4th to February 1st, 1956. During the course of this contract a total of 8.69 miles of line was cut and chained. This mileage is divided as follows: -

Picket lines	7.9 miles
Base Line	0.79 miles

Geological and Topographic Surveys:

Detailed traversing was carried out over the claims group by E. Rowley with the assistance of D. Dennis, during the period July 15th to July 25th, 1956. Mapping was conducted from offset picket lines spaced at 300 foot intervals and the results are shown on the accompanying topographic plan on a scale of 1 inch equals 400 feet.

This survey was conducted to determine the cause of the magnetic anomalies outlined on the accompanying Geo-magnetic Contour Plan and to add to the regional geological data. Unfortunately, no rock exposures were encountered

During the course of this work and in consequence a topographic plan has been submitted in place of a geological map.

#### Magnetometer Survey:

A magnetometer survey was conducted over the Reeves North-East Extension group of claims by John Black, with the assistance of P. Jarvinen, during the period April 28th to May 10th, 1956. Magnetic readings were recorded using a Sharpe's D-I-M type instrument. This magnetometer has been calibrated in such a manner that readings approximate those obtained using a Watts Type Vertical Variometer. This instrument was checked on the Government magnetic base station at Matheson, previous to this survey, and a gamma value of 1220 was found to correspond to an absolute value of  $57,599 \pm 15$  gammas. One base control station, having a fixed value of 1629 gammas, was established at 0400 on the base line. One temporary control station was established at line 21400 east, also on the base line and having a value of 2520 gammas. Readings were observed at these stations four times per day as a check on the working condition of the instrument.

The results of the magnetometer survey are depicted on the accompanying plan, on a scale of one inch equals four feet. Contour lines of equal magnetic intensity have been drawn at 500 gamma intervals from 1000 to 5000 gammas. Interpretation has been based on a study of the contoured magnetic map, aerial photographs and information from the detailed work completed on the adjoining Reeves group of claims.

Due to the proximity of the Reeves body of serpentinized peridotite, and the marked similarity in magnetic values, the zones of "highs" on the accompanying plan have been interpreted as representing ultrabasic bodies. Readings range in value from 2500 gammas along the fringes of the serpentinite to over 5000 gammas in the central part of the north-central anomaly. The zones of marked high readings may indicate shallower overburden that is found in the two small anomalies in the swamp areas immediately north of the base line. Gamma values in these anomalies range from 2200 to 3169 gammas.

The remainder of the claims group has been interpreted as being underlain by volcanic rocks, presumably highly chloritized andesites. Andesitic volcanics have been mapped on the main Reeves group and also directly to the southwest of the map area. Magnetic readings over the volcanics range in value from 800 to 2200 gammas, and the resulting contour plan is semi-patternless.

Structurally, a cross fault, striking approximately  $N20^{\circ}E$  has been interpreted on the basis of magnetic information, cutting the main ultrabasic body. The serpentinite extends 1000 feet west of the fault and has a maximum width of 375 feet while to the east a length of approximately 1800 feet has been indicated with a maximum width of 1100 feet. The general trend of the formations in the map area is presumed to be approximately  $N75^{\circ}E$ .

A total of 387 stations were recorded during the course of this survey.

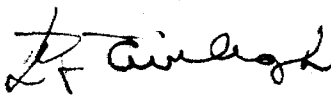
Surveying on this group of claims will be completed as soon as the small ponds are frozen in order to completely delineate the zones of "high" magnetic readings.

#### Conclusions and Recommendations:

A detailed magnetometer survey has been completed on the claims group and three anomalies interpreted as indicating underlying ultrabasic rocks, delineated.

Geological mapping revealed a complete absence of rock exposures, and in consequence a topographic survey was conducted over the map area.

The large, faulted, north-central ultrabasic zone is of sufficient size and interest to warrant testing by diamond drilling and therefore, at least two drill holes are recommended to cross section this anomaly. Drilling could be conducted upon completion of the current drilling program when the machine is being moved out to the Warren Lake Road.

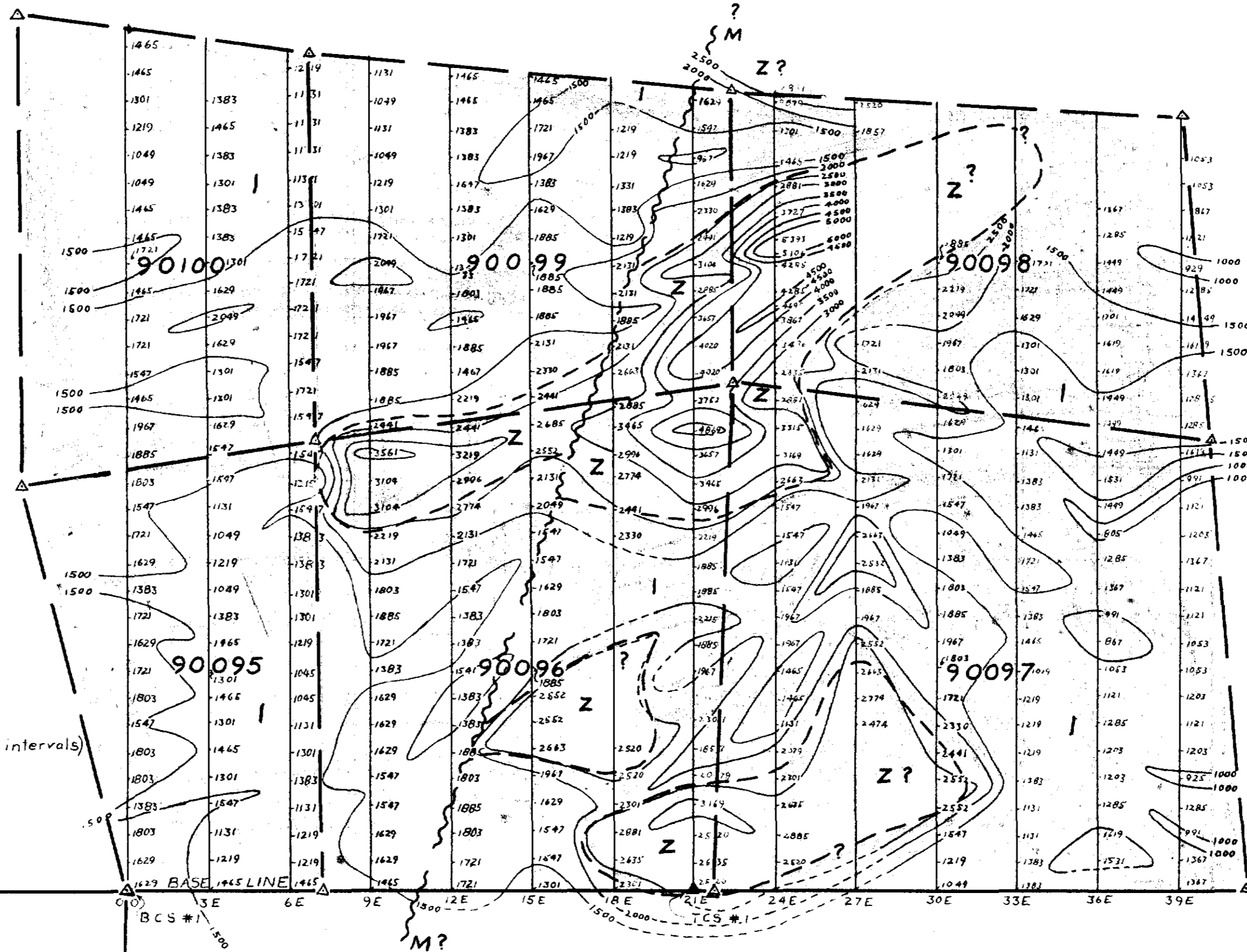
  
F. J. Eylegh,  
Sr. Geologist.

GEOMAGNETIC CONTOUR  
 PLAN - REEVES NORTH-  
 EAST EXTENSION GROUP  
 1" = 400' Oct 31/56

F. J. E. Reeves  
 J. Y. Twp.  
 F. J. E.  
*[Signature]*

**LEGEND**

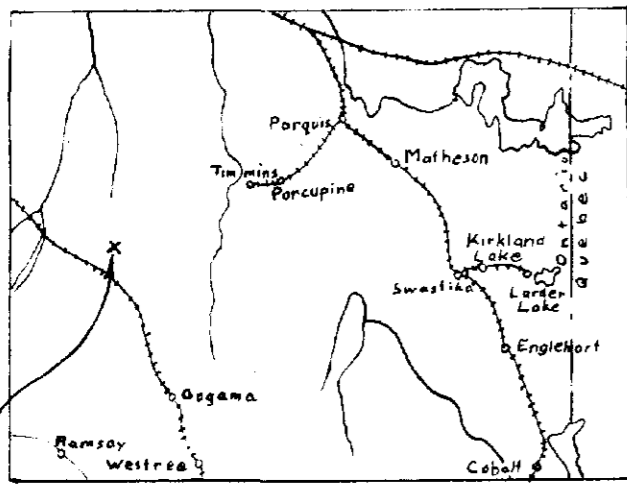
- Z** Intrusive rocks  
Serpentinized Peridotite
- I** Extrusive rocks  
Volcanics - Andesite?
- ▲** Magnetic control station
- △** Claim post
- - -** Contacts
- ~~~~~** Fault & shear zone
- Magnetic contours (500 gamma intervals)
- Possible contours



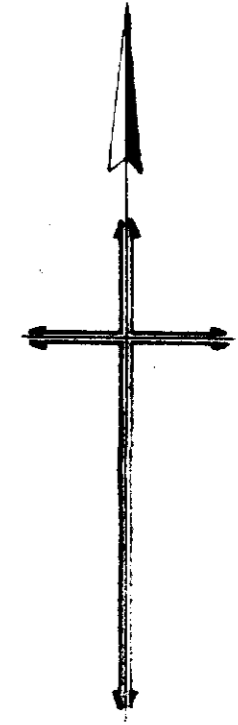
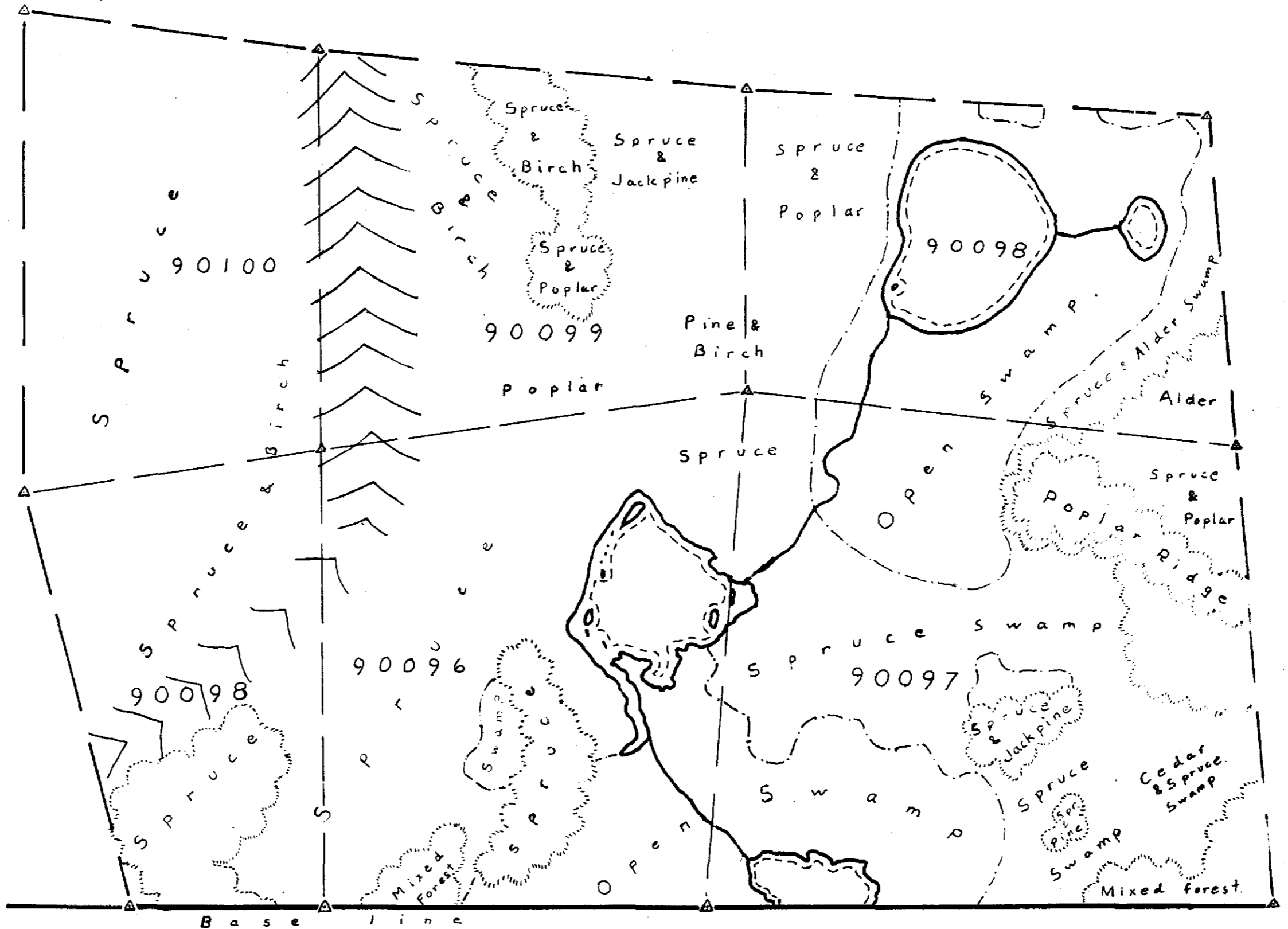
59046



Topographic Plan - Reeves  
 Northeast Extension Group  
 1" = 400' Oct 29/56  
 E. R. Reeves  
 J. Y. F. J. E. Twp.



Location of Map Area  
1 inch = 50 miles



Legend

- Border of open swamp
- High ground
- Esker

Surveyed by E. Rowley

