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## **Township 43 north, ranges 29, 30, and 31 west, specimens 30170-30200, 30801-30823. No. 281 Nov 2, 1891**

Eriksen, E. T.

[s.l.]: [s.n.], Nov 2, 1891

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84

LAKE SUPERIOR SURVEY



*Smart.*

## LAKE SUPERIOR SURVEY. INSTRUCTIONS.

**Topography.**—On the left-hand page map as much of the section as has actually been seen, counting each of the spaces between the blue lines as 100 paces, and 20 of these spaces to one mile, or 2,000 paces. The scale is four inches to the mile, and the heavier blue lines, outlining one inch squares, mark forties. Denote streams, lakes, swamps, marshes, etc., by the topographical signs annexed.

The geologist will consult with the compassman, and describe as accurately as possible, the timber traversed. When pine is found, give its proportion; tell whether good or poor, and indicate kind—white, norway, jack. If hemlock is found, note the relative amount. In hard wood districts, designate as good or poor, heavy or light, and indicate predominant kinds, oak, maple, birch, etc. Cedar swamps, spruce swamps, tamarack swamps and meadow swamps will be always discriminated. Outline burnt timber.

Each day, just before leaving camp, the geologist will compare his own and the camp aneroids, and the reading of each, with time, will be recorded. At work the aneroid will be read on gentle slopes at intervals of 200 paces; on steeper slopes at intervals of 100 paces; also at all maxima and minima. When minima are streams the map and notes will indicate this, showing width and character of streams. When a stream has made a cut of importance, aneroid readings will be made where the banks break off and at water level. If instead of an abrupt break, the stream valley has steep slopes, aneroid readings will be made with sufficient frequency to show this character.

At reading points the compassman will stop, read the dial compass, and remain until the records are complete. The readings will, as fast as made, be placed upon the map at the right-hand side of the line traveled, and in the notes, the numbers being inclosed in parentheses, basing the work upon the bench-mark which served as a starting point. At bench-marks the absolute reading of the aneroid and the altitude as shown by the bench-mark will be recorded to serve as a base for subsequent readings. For instance, aneroid 29.13 inches; altitude on bench-mark, 275 feet. At each subsequent reading, by setting 275 on the altitude circle at 29.13 on the fixed dial, altitudes may be directly recorded. When the next bench-mark is found at two miles distance, the difference between the aneroid reading on the basis of the first bench-mark and the second bench-mark will be recorded. At intervals of a half hour during the day the time will be attached to the aneroid readings. Upon reaching camp, after the day's work, the geologist will record the readings of his own and the camp aneroid, and also the time. Interpolations will then be made, based upon the bench-marks and times (not distances) if the day has been one of no abnormal atmospheric disturbances, or upon both bench-marks and camp aneroid readings if there have been unusual disturbances, and the corrected numbers, less a constant of 4 feet, will be placed upon the face of the map at the left-hand side of the lines of travel, and in the notes without parentheses, but the parentheses numbers will not be erased.

At each aneroid reading the trend of a horizontal contour line will be indicated upon the face of the map, making the length of the line correspond as nearly as may be with the actual distance seen. In passing directly up or down a slope, the contour lines will be at right angles to the direction of travel. In passing up a hill diagonally the contour lines will intersect the lines of travel at various angles, which can be estimated and plotted with sufficient accuracy by an appreciation of the north and south direction.

The course of travel will be always north and south. In starting from a quarter or a sixteenth post, the work will be plotted on the assumption that the true course is followed, but upon reaching the next section line the geologist will remain in the position at which the line is struck by the compassman until the latter finds the adjacent bench-mark. The intervening distance will then be paced by the compassman, and the point of intersection of the section line marked. From this point to the starting-point, a right line will be drawn as the actual course of travel. The positions of the contour lines, aneroid readings, etc., will not be changed.



**Geology.**—In running the north and south lines, the compassman will, if possible, determine the course by the dial compass. At the time the geologist reads his aneroid, the compassman will determine the magnetic variation, which will be given to the geologist and recorded in the note-book. Each morning the watch of the compassman will be set to apparent time (corrections being made for the equation of time and for longitude), so that he will need to make no correction in reading magnetic variation. On cloudy days, and at times when the sun is too low for the use of the dial compass, the course run will be by needle upon the supposition that the magnetic variations indicated on the township plats are right when corrected by deducting  $3^{\circ}$  if the variation is east, or by adding the same amount if the variation is west.

Not less than once per week the accuracy of the watch of the geologist in charge of a party (who will give time each morning to the compassmen), will be tested. This may be done, first, by obtaining correct time from a railway station by means of a packer when sent out for provisions. Such time will be mean, i. e., watch time for the nintieth meridian. Second, corrected time may be found by blazing out a north and south section line, preferably a range line, for some distance, setting a signal on the line and placing the dial compass duly leveled, in a north and south direction upon a Jacob's-staff just before mid-day, and setting the watch at 12 at the time the line strikes the noon hour. In a watch thus set all corrections are made.

It will be the constant business of the geologist to search for outcrops. All hills within a reasonable distance of the course of travel will be examined. Oftentimes upon the steeper slopes of a hill a rock surface is covered with a coating a few inches thick of moss, leaves or vegetable mold and can be stripped with the pick. Where the exposure is small and there is the least possibility that it may be a large boulder, indicate this fact in the notes and by a query on the map. All ledges off the line of travel of the compassman will be located by the geologist pacing to this line in an east and west direction, his course being determined by compass.



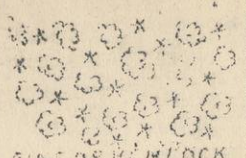


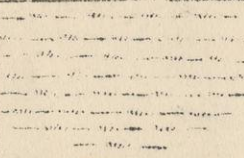
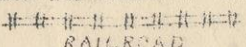
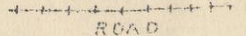
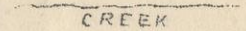
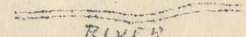




Denote the ledges of rock, when no structure is made out, by cross-hatching, making the cross-hatching cover as nearly as possible the areas occupied by the exposures. If the rock is a massive one, but still more or less plainly bedded, use the same sign with a dip arrow and number attached, showing the direction and amount of the dip. Denote a shaly or other very plainly bedded ledge by right parallel lines, and a ledge having a secondary structure by wavy parallel lines running in the direction of the strike, having strike line and dip arrow with numbers attached. The greatest care must be taken to avoid confusing slaty or schistose structure, with bedding, and in all cases where there is the least doubt about the true bedding direction, indicate it by a query.

To each exposure on the face of the map, attach the number of the specimens representing it. On the right hand page place the notes descriptive of the exposures. Begin in each case with the number of the specimen, placing the number on the left hand side of the red line, after which give in order on the right of the same red line, the position of the ledges as reckoned in paces from the southeast corner of the section, and the dip and strike when observable, for instance, No. 437, 1226, N., 353 W., *Strike*,  $N. 47^{\circ} E.$ , *Dip*,  $68^{\circ} S. E.$  Then follow with as full a description of the ledge as possible.

Collect a specimen from every ledge, and if the ledge exposes different kinds of rock, collect a specimen of all varieties. Take care to get fresh material, unless for a special purpose the weathered surface is desired. Where ledges are infrequent the normal size of specimens will be  $3 \times 4 \times 1$  inch. In case several specimens of the same ledge are necessary, and when ledges are numerous, specimens  $2 \times 2 \frac{1}{2} \times \frac{3}{4}$  inch will be allowed. In all cases collect chips for slicing. No two specimens will be given the same number. In the cases in which several specimens come from the same ledge, the different numbers assigned to them will enable an easy description of their relations. Specimens will be placed at once in paper bags provided, upon which shall be marked in at least two places, with a blue or red pencil, the specimen number.



# TOPOGRAPHICAL SIGNS.

|   |  |   |   |
|---|--|---|---|
|  <p>PINE OR HEMLOCK</p>              |  <p>HARDWOOD</p>                                    |  <p>PINE OR HEMLOCK<br/>AND<br/>HARDWOOD</p>   |  <p>CEDAR SWAMP</p>  |
|  <p>SPRUCE OR TAMARACK<br/>SWAMP</p> |  <p>MARSH</p>                                       |  <p>RAILROAD</p>  <p>ROAD</p>  <p>CREEK</p>  <p>RIVER</p> |  <p>NO STRUCTURE</p> |
|  <p>↓ 55° S.<br/>NEARLY MASSIVE</p>  |  <p>N. 38° E.<br/>S. 62° E.<br/>SHALY OR BEDDED</p> |  <p>↑ 83°<br/>SECONDARY STRUCTURE.</p>  |   |

# EQUATION OF TIME FOR 1891.

| Day | Min. | Day | Min. | Day | Min. |
|-----|------|-----|------|-----|------|
|-----|------|-----|------|-----|------|

## JUNE.

Add to watch time.

|     |   |      |   |       |   |
|-----|---|------|---|-------|---|
| 1-6 | 2 | 7-11 | 1 | 12-16 | 0 |
|-----|---|------|---|-------|---|

Subtract from watch time.

|       |   |       |   |       |   |
|-------|---|-------|---|-------|---|
| 17-21 | 1 | 22-26 | 2 | 27-31 | 3 |
|-------|---|-------|---|-------|---|

## JULY.

Subtract from watch time.

|     |   |      |   |       |   |
|-----|---|------|---|-------|---|
| 1-6 | 4 | 7-13 | 5 | 14-31 | 6 |
|-----|---|------|---|-------|---|

## AUGUST.

Subtract from watch time.

|       |   |       |   |       |   |
|-------|---|-------|---|-------|---|
| 1-7   | 6 | 8-13  | 5 | 14-18 | 4 |
| 19-23 | 3 | 24-26 | 2 | 27-29 | 1 |
| 30-31 | 0 |       |   |       |   |

x d d = 281



# SEPTEMBER.

Add to watch time.

|       |   |       |    |       |   |
|-------|---|-------|----|-------|---|
| 1- 2  | 0 | 3- 5  | 1  | 6- 8  | 2 |
| 9-11  | 3 | 12-14 | 4  | 15-17 | 5 |
| 18-19 | 6 | 20-22 | 7  | 23-25 | 8 |
| 26-28 | 9 | 29-30 | 10 |       |   |

# OCTOBER.

Add to watch time.

|       |    |       |    |       |    |
|-------|----|-------|----|-------|----|
| 1     | 10 | 2- 4  | 11 | 5- 8  | 12 |
| 9-12  | 13 | 13-16 | 14 | 17-22 | 15 |
| 23-31 | 16 |       |    |       |    |

# NOVEMBER.

Add to watch time.

|       |    |       |    |       |    |
|-------|----|-------|----|-------|----|
| 1-13  | 16 | 14-19 | 15 | 20-23 | 14 |
| 24-26 | 13 | 27-29 | 12 | 30    | 11 |

## Book, 2

E. T. ERIKSEN  
GEOLOGIST

J. C. McALPINE

COMPASSMAN

Nov 2, 1891

Containing specimens 170 to 200  
and 801 to 823  
closed Nov 18, 1891.

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SPECIMENS { 170-200  
801-823

43-29  
43-30  
43-31



2

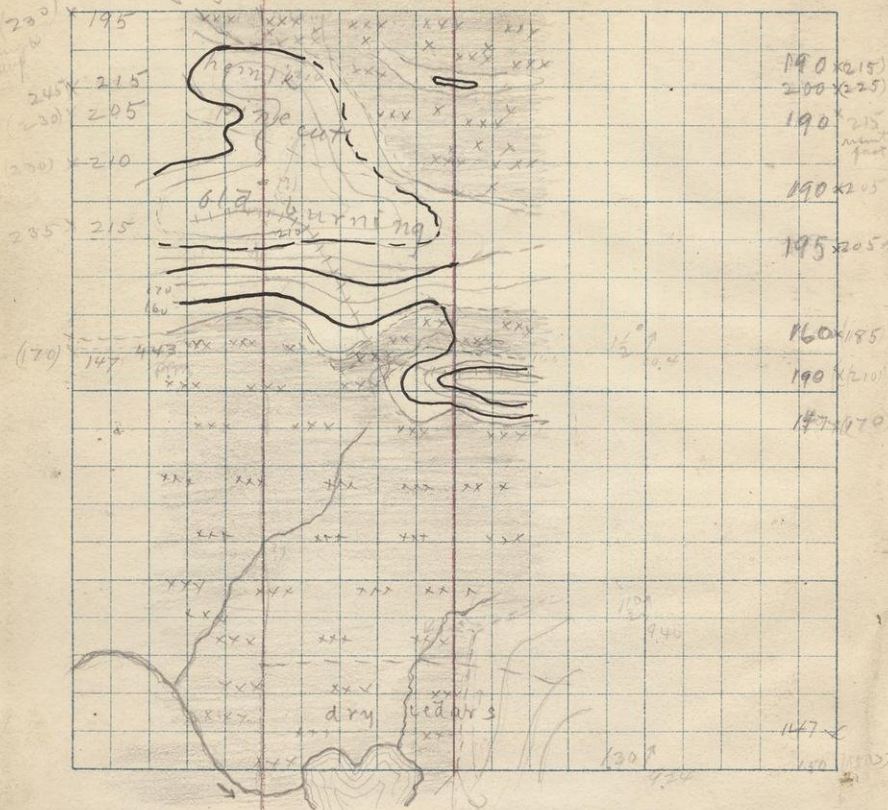
Nov 2, 1891

E line  
and E 1/2 J

S. 36

T. 43 N

R. 29 W

B.M. 15053  
Abs An 29.35

Time

Nov 2 1891  
6 mile run

B.M. 15123

Abs An. 29.37

Time 9:20 am

E  $\frac{1}{8}$  line

E sec line or  
Range line

3

come down 10' or more 45° & shattered





B.M. 24239  
als. An. 29.20  
Time 3:5 PM

2-45

B.M. 24100  
als. An. 29.29  
Time 11:35 A.M.

5

dry timber with  
scattering small pine  
Large pine clut  
200 dense small balsams etc  
350 swamp begins

pine cuts H'd and

Forest Road

dry timber old burning Good H'd and

run low for irrigation

slight descent through camp

1500 Pine cut to W. cut to E

pine good pine

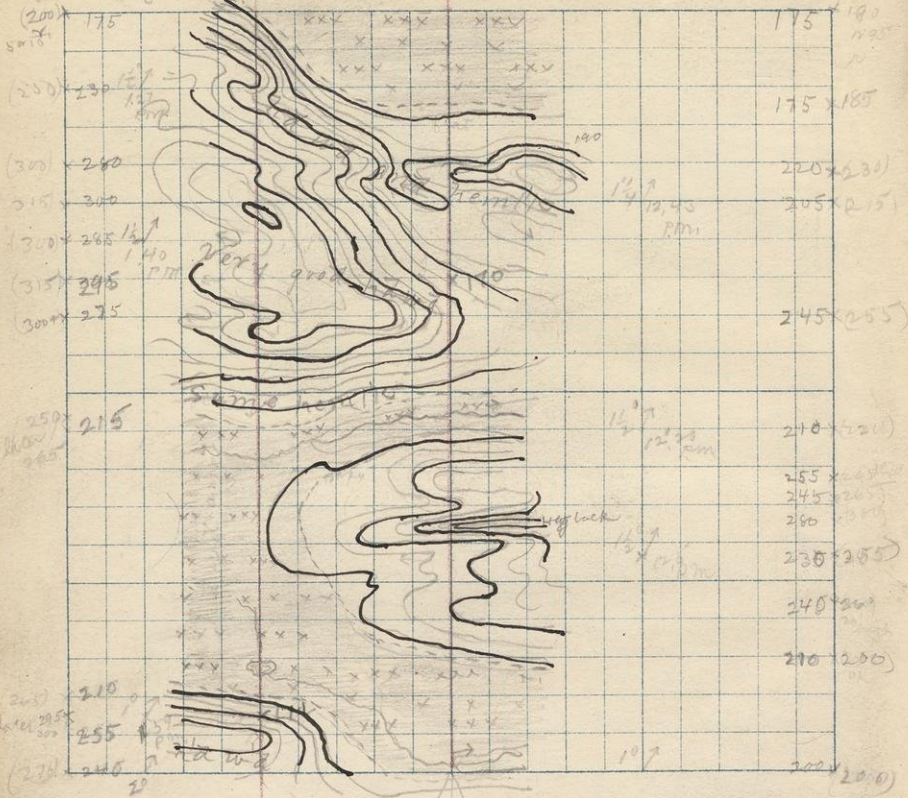
swampy to W  
scattering pine

1050 low & somewhat swampy  
especially to W

Hemlock & Hardwood mostly dry



6 E line and E line S. 24 T. 43 R. 29



B.M. 247.99  
 also an. 247.99  
 Time 3.5 pm

E line and  
 Range line

B.M. 241.00  
 also an. 241.00  
 Time 11.05 am

E 1/8 line

E line  
of Range

7

\* Edge of swamp ←

Wd. not mixed  
and Hemlock

1760 Cedar swamp

300 large boulders pink Granite

400 very good Hd. red

dry timber mixed hd. red

1116

Hemlock & Hard

Hem & Hd. red. Pine cut to E  
& cutting pine to W

200 Water hole very good hd. red  
Pine cut out here

500 boulders  
Ridge Hd. red & Hemlock  
cutting pine

300 edge of swamp

Shrub partly underground  
1000 Cedar swamp

Hd. red

N 2°

170 N 1300 W or on Range line SE 24 43 29

From a large boulder at foot of slope  
of hill about 40 feet high ground continues  
to fall gradually to the N

171 N 150 W 50 SE 24 43 29

Here is an outcrop on N slope of a ridge to S of  
quite a wide swamp. The layers as far as can  
be seen are nearly horizontal or dip slightly to  
the E. The ledge is so covered with debris  
that it shows only in a few points but is doubtless  
in place





13<sup>th</sup> 1891 169.10  
4<sup>th</sup> time 9:40 Am Nov 3 1891  
abs an. 29.225

Old Spring Way  $\frac{1}{2}$ ° E

200 Hemlock & cedar. Pine cut

Swampy to W

700 Hemlock

200 " and Cedar

1200 Good Hd. Rd & Hemlock

"

"

"

is plateau with

10 Top of hill, <sup>is</sup> alternate  
ridges draining to N.W.

35 Very good Hd. Rd

blunk line 60 steps w/ stake  
which is marked near  $\frac{1}{2}$  L

169.95 169.9  
8 Am 166.95 169.9  
abs an. 29.10

Time 3:33 P.M.

900 steps

Swamp

1700 Hemlock & cedar

1500 sluggish water (small)

Slight descent to N.E.

↑ 1000 cedar pop begins  
very large cedars

At 645 ft boulders of sandstone  
in a ridge. No exposure found

Very good Hd. Rd

↑ corrected time by subtr 6 min





$\frac{1}{4}$  line

$\frac{1}{8}$  line

11

35

85 Very good Hd rid

40

50

55

815 swamp begins cedar  
hemlock &c

60

65

1460 H and begins

70 1460 running along low ridge

75

1620 swamp begins cedar, tan  
& hemlock

75

172 N. 100 W. 1050 SE 11, 42, 29 and extending  
N & S into sec 14. Here is a ridge of  
this rock running E and W approx or about  
10° or 15° S of N. Structure of the rock appears  
to be massive. Though several gutting rocks  
seemed to have a dip high to S, 85° about  
and strike parallel to the ridge. The  
ridge runs W beyond the 1/8 stake and E as  
far as could be seen has cedar swamp to N  
through which runs a stream that cuts over the ridge about 250 paces  
W of 1/8 stake in a valley about 10' at

Stonks line 156 at top W of

1/8 post. Probably raised wrong  
time, making calculation too great  
also about 1° too great

1200 end strip Hd rid

1000 swampy, dense cedar

wood

swamp to W. Hd rid later  
following small creek

a little pine cut out  
cedar swamp





E 1/8 line

B.M. 12546

Time 2.35 PM

Also Arr. 2864

Came out 56 steps W of station  
swamp creek 1400

E line

B.M. 18116

Time 8.10 AM Nov 4, 1907

Also Arr. 2871

Clear from N. H. H. H. slope to N

Cloudy. Varying air line 0°

165 middle river

13

Point cut

Scattering large pine

1135 Brook 3' wide

1100 flatter swamp paper

swampy *laetifolius*

700 Hemlock cedar and  
tamarack begin  
developing in swamp

Very good hemlock

Point cut

210 sluggish water was

500 cedar Hemlock & H. H.

Hemlock & H. H.

1500 Very good Hemlock begins

Some basswood  
at 1750 var. along the line by  
sighting = 2° E

Scattering Pine not cut as  
sec 3

173 N 1540 W 500 SE 3, 42 29. Here is  
an outcrop on <sup>side of</sup> a low knoll rising out  
of swamp. Exposure is small but  
the rock doubtless forms the whole knoll  
as it is also found on the N slope.  
Structure appears massive. The knoll is  
160 steps N & S and not so large E & W (?)  
though a point runs to the W., as low with  
rounded slopes.

174 N 1700 W 500 SE 3, 42 29  
From N slope same knoll as 173



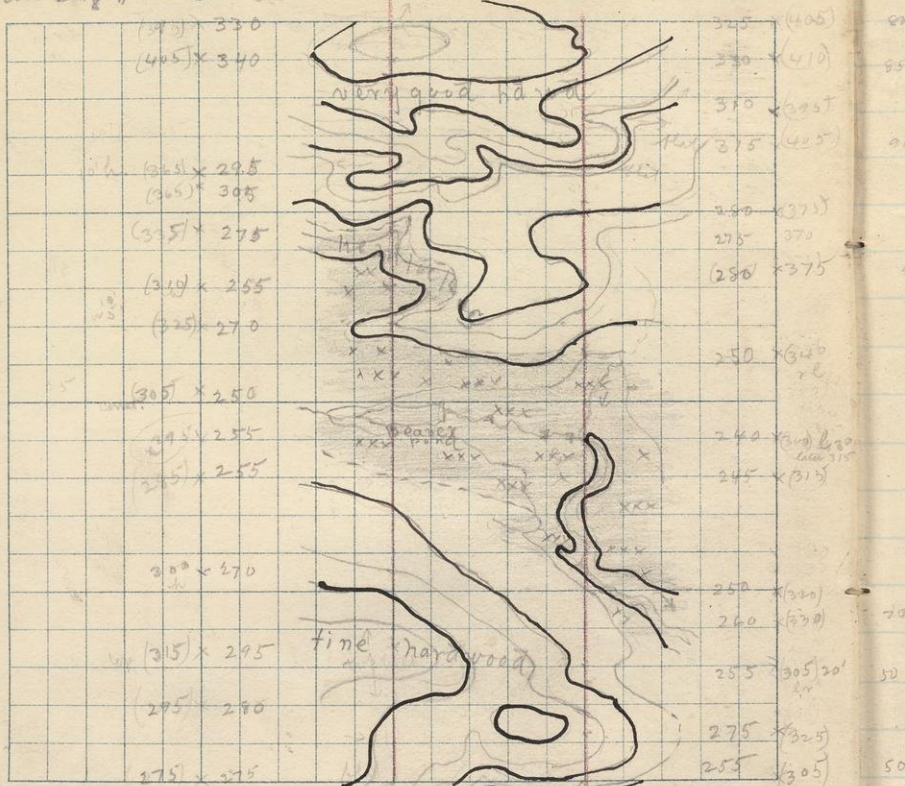
14

E line  
and E<sub>2</sub>

S. 10

T. 42

R. 29



E 1/2 line

E line

15

80

Hardly any grass

85

Var. alonging 1/2 + nearly

90

1500 Hard Hard begins

95

500 Swampy ground begins

cedar hemlock etc

95

860 clear air

900 S. edge beaver pond

Small red pine on both

800 Swampy ground begins  
cedar and hemlock

sides of line Swampy

70

Hard again

50

A good deal of basswood  
with no Hard

50

Hard flat top hill  
boulders mangle. no outcrop

B.M. 279.60

B.M. 258.00

Obs Am 28.575 (6.84)

Obs Am 28.57

Time 11.49 Am

Time 11.30



16  $\frac{1}{4}$  LINE } S. 33 T. 43 R.  
and  $\frac{1}{8}$  LINE

Nov 5 1891

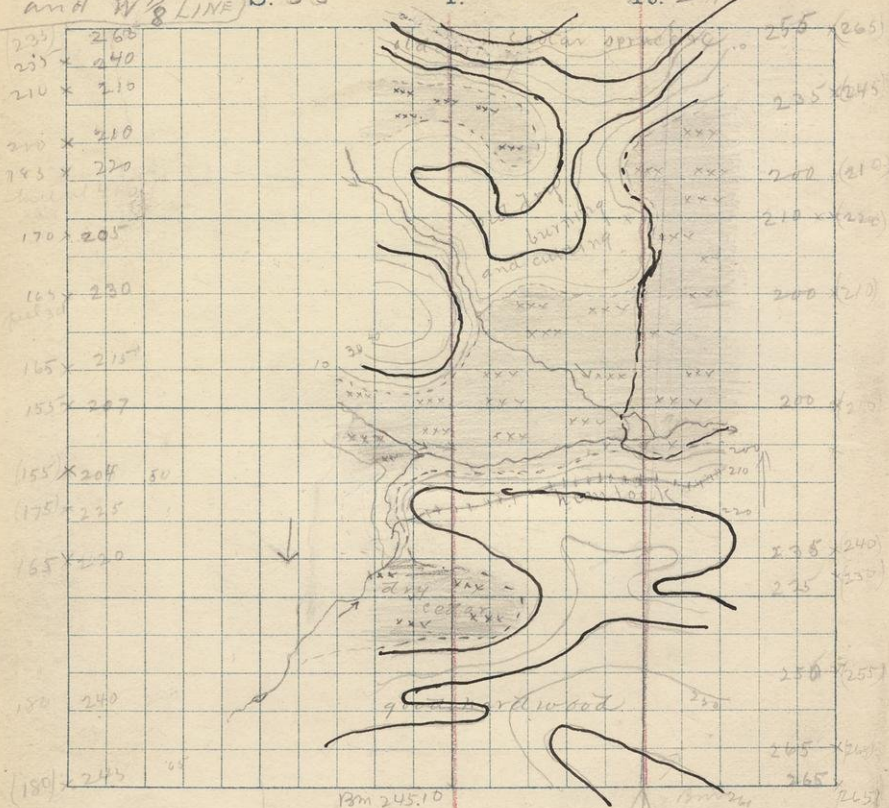
LINE

and  $W \frac{1}{2}$  LINE

S. 33

T. 43

R. 29



Rm 245.10

82m 24510

Time 5.30 P.M. Nov 5/89  
Abs. Am. 28.90

Obs Am. 28.90

B. 26632

abs An. 28.8!

Time 9.30 am

Nov 5, 1889

430

Pine cut

transparency

dry cedars

burning hd rid

320 creek banks 15'

valley 50' wide

Dry &amp; green cedars

dry cedar strip

Hand

Shuck line 75 steps E of stake

higher ground

1650 Brown timber cedars  
spruce & mixed S1400 E edge of cedar & spruce  
burned & dry

From 1500 swamps green

1500 edge swamp cedar mostly dry  
considerable good pine on W  
all cut in E620 Road  
Hemlock

Hand

Hemlock &amp; cedar added

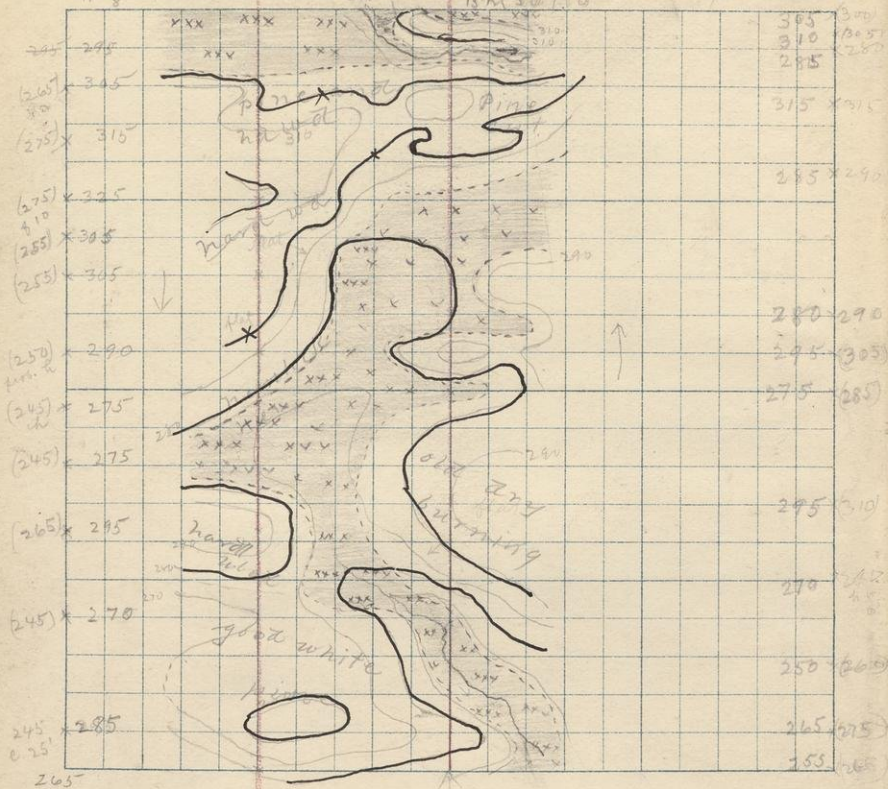
Fine Hand



S. 28

T. 43

R. 29



B.M. 307.10  
Time 12:10 P.M.  
also on 28.77

19

cedars swampy

200 Pine & H'd red begins

1000. old cutting burned over  
a little pine standing, but mg  
1500 some cedars

H'd red

Hemlock + mixed

1000 Hemlock

cedar, tan & spruce

noo tan. & spruce swamp

still old burning timber  
cut

1300. Dry bog to F<sub>2</sub>

1500. H'd red

1600. Large Hem & Pine

Pine very good to per

line

400 old dry burning begins  
smaller than before

2000 pine small creek

2500 swampy mostly cedars

best of the same cut on SE & E

Pine fairly good for 2000 ft  
subp. to Right



293 W 1/2 320

20  
335  
335

1/4 line

S. 21

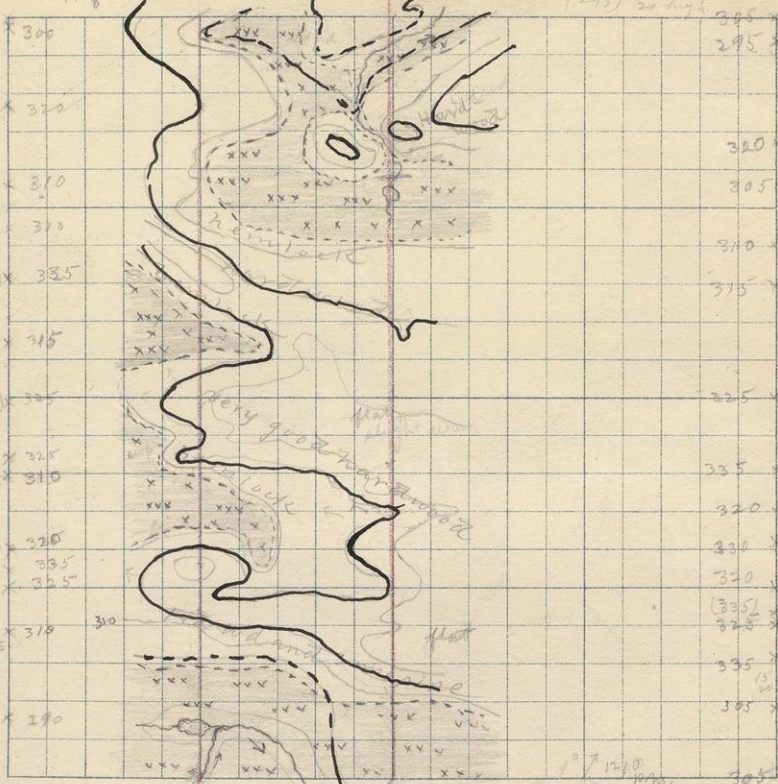
T. 43

R. 29

265

(320) x 300  
(340) x 320  
(330) x 310  
(330) x 310  
(355) x 335  
(335) x 315  
(345) x 325  
(345) x 325  
(331) x 310  
N (340) x 320  
(345) x 335  
335 x 325  
325 x 310  
310  
(335) x 290  
75  
200  
335

325 x 295  
295 x 295  
320 (340)  
305 (330)  
310 (345)  
315 x 345  
325 (355)  
335 (345)  
320 (350)  
330 (355)  
320 (345)  
(335) (345)  
325 (345)  
335 x 355  
305 x 310  
305 (305)



W 1/2 line

1/4 line

622911

cedar swamp

Hd rid

1745 creek 3' wide flows N.E.

1850 cedars again but descend to W

1580 old beaverdam cut through

Hd rid

1360 cedar swamp. occasional pine

1300 pine hemlock &amp; cedar

Hemlock & Hd rid along  
edge of swamp700 some pine cut some  
standing Hem. Lk & Hd rid

850 swampy cedar &amp; Hem.

Some good pine

1200 swamp cedar Hem. Lk

1400 peatling pine good

Hd rid

1700 cedar swamp

↑ Hd rid very good  
cedar again

cedar swamp 2000 swamps



22

Nov 7 1891

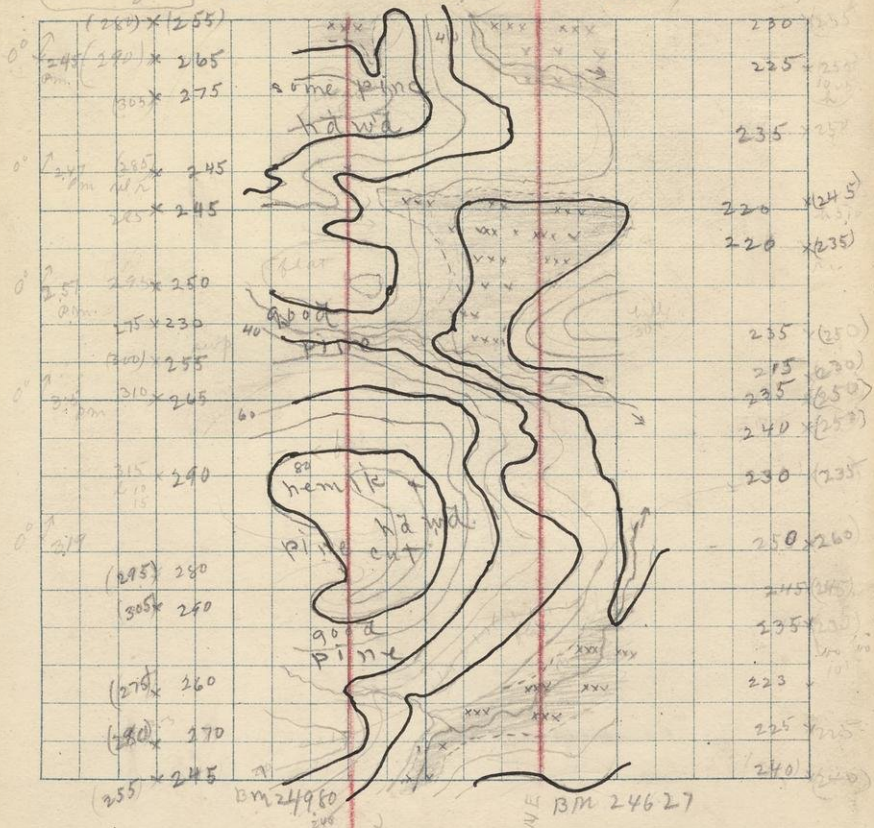
E line  
and E 8 11

S. 32

T. 43

R. 29

5' above



B.M. 246.27

P.M. 249.80

Abs. An. 2845.5

Time 3.35 P.M.

Nov 7 1891

Time 8 A.M.

Abs. An. 29525



- |    |                           |                                       |
|----|---------------------------|---------------------------------------|
| 0  | cedar strip               | Good large pine to W from 1300 to 200 |
| 1  | Considerable good pine    | 1875 Creek 8' wide                    |
| 2  | H'd'd                     |                                       |
| 3  | Pine very large, & quite  |                                       |
| 4  | numerous                  | 1600 pine pine with H'd'd             |
| 5  | cedar & mixed             |                                       |
| 6  | cluster of large pine     | 1300 swamp begins cedar               |
| 7  |                           | 2200 lower timber to W                |
| 8  |                           | am to E                               |
| 9  |                           |                                       |
| 10 | Good pine to 1000         | 1050 small creek & creek              |
| 1  | Pine cut                  |                                       |
| 2  | H'd'd                     | 500 dry barrens begin                 |
| 3  |                           | pine to W                             |
| 4  | some Hemlock              |                                       |
| 5  |                           | H'd'd                                 |
| 6  | Pine standing beyond 1500 | 500 mixed H'd'd                       |
| 7  | with H'd'd                | 271 creek                             |
| 8  |                           | 125 swamp cedar & alders              |
| 9  |                           | H'd'd                                 |

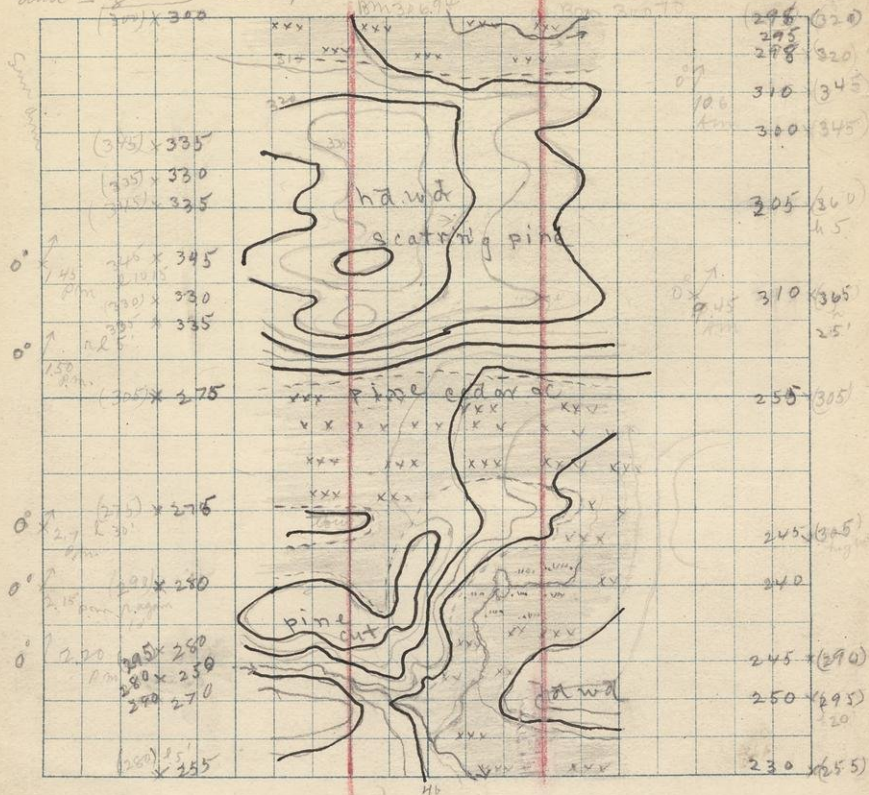


24

E LINE  
and E 1/2 " S. 29

T. 43

R. 29



E 1/8 line  
B.M. 30694

Hard

Hardwood with  
scattering pine

1000 cedar swamp  
considerable pine

Low ridge

Pine  
old cuttings

cedar swamp

B.M. 30670  
Zone 1017 am.  
abs. 2544 1/2

Section

25

crick 945 (main stream)  
875 ft. of steeper slope to W  
large pine  
700 ft. lower ground with some  
good pine on both sides

1100 Hard begins

300 Beaver meadow  
pine to E  
Hard at 200

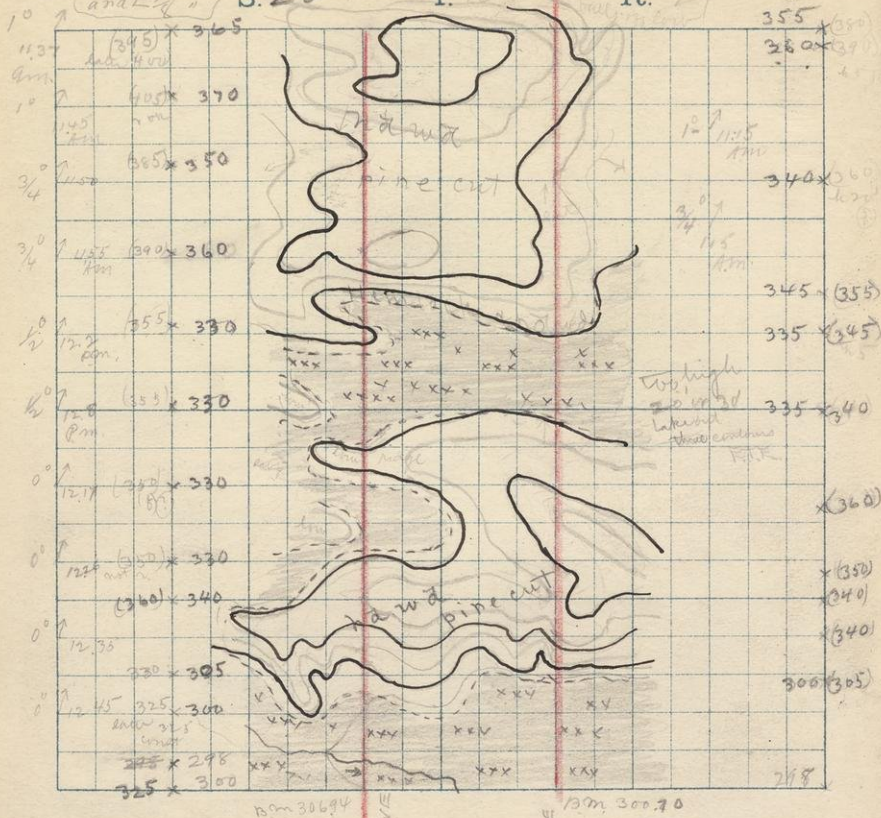
cedar swamp



S. 20

T. 43

R. 29



Page 300. 70

6-77 ✓

Hd wd and ←

old pine cuttings

Old cutting of pine  
pine Hd wd standing

Hard wood

750 Hemlock + Hd wd begins  
Still old pine cuttings250 pine (cut all but some  
small trees)

Cedar trees, spruce etc

975 Cedar sup begins

Swampy still cedar trees  
and Hd wdOld cutting of hemlock  
a little Hd wd and pine  
still standing

Hd wd

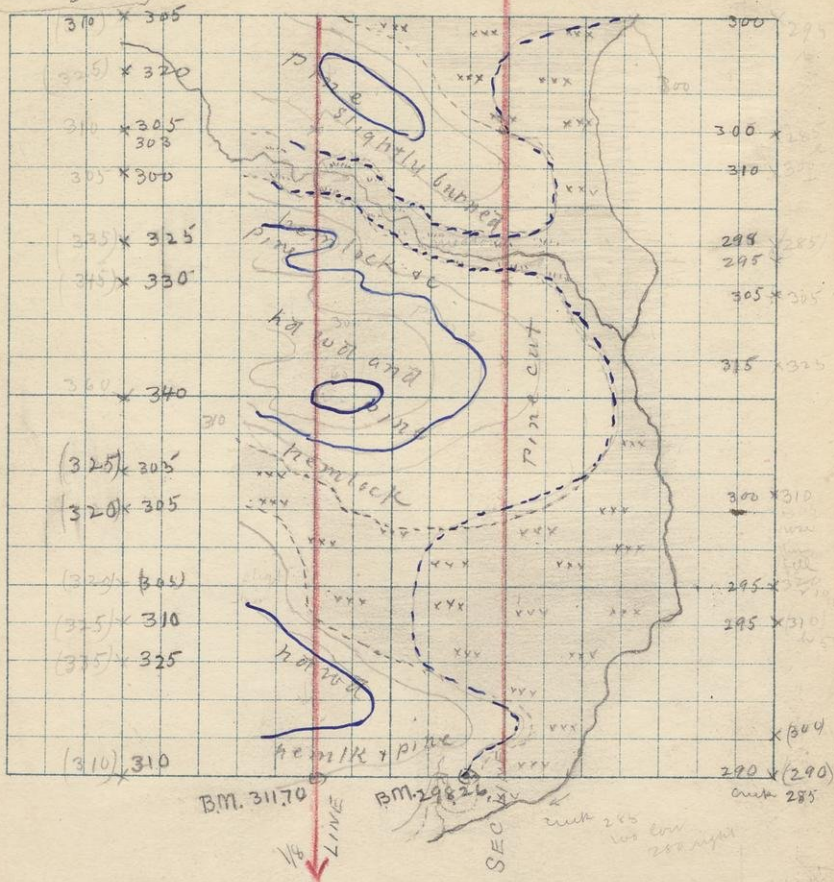
Pine cedar swamp  
936 creek

Spruce etc

Tame, &amp; cedar sup. W of creek



Nov 8 1891



Bm. 341.70

June 8:25 AM

|    |                             |    |                               |
|----|-----------------------------|----|-------------------------------|
| 0  | Pine, slightly burned       | 10 |                               |
| 1  |                             | 18 | Cedar swamp, some spruce      |
| 2  |                             | 17 | swamp again                   |
| 3  |                             | 16 | old cutting to R. Pine to L.  |
| 4  | 415 creek, meadows & alders | 15 |                               |
| 5  |                             | 14 |                               |
| 6  |                             | 13 | creek, meadows & bottoms      |
| 7  | H'd wd + Pine               | 12 | Pine to W. of line, cut to E. |
| 8  |                             | 11 |                               |
| 9  | Hemlock H'd wd + Pine       | 10 | 4 Stake OK.                   |
| 10 |                             | 9  |                               |
| 11 |                             | 8  | Scattering H'd wd.            |
| 12 |                             | 7  |                               |
| 13 |                             | 6  |                               |
| 14 | Cedar swamp                 | 5  |                               |
| 15 |                             | 4  | Hemlock                       |
| 16 |                             | 3  |                               |
| 17 | Hardwood                    | 2  |                               |
| 18 |                             | 1  |                               |
| 19 | Some Hemlock & Pine         | 0  | Cedar swamp                   |
| 20 | 60 steps W. of V. post      |    |                               |



30

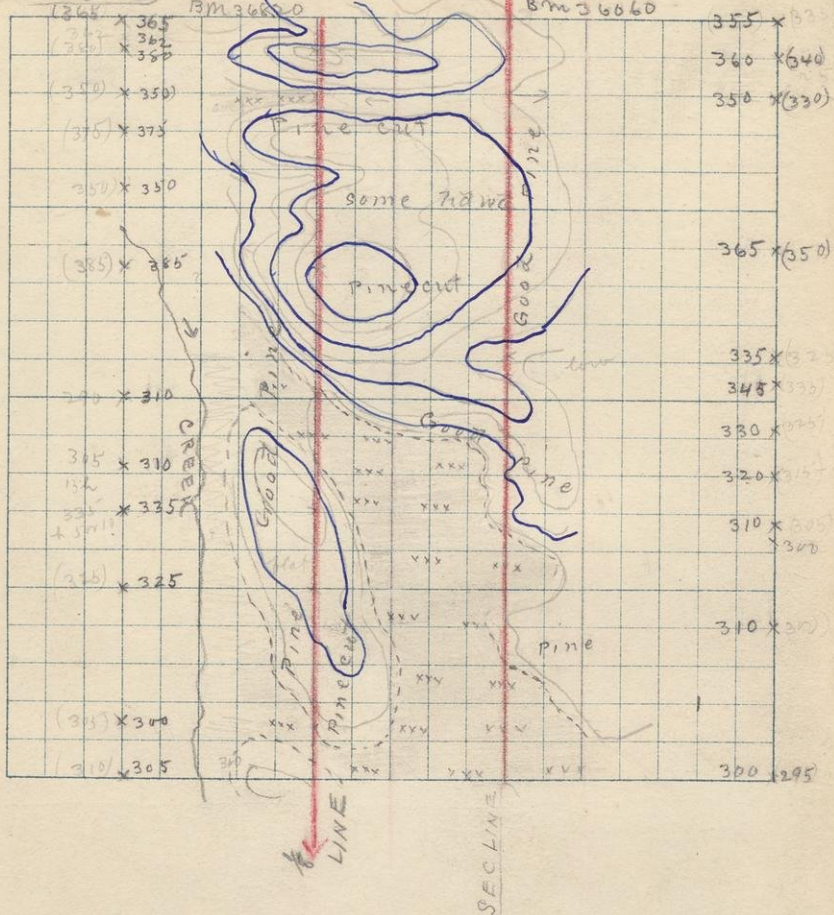
30 E LINE  
and E  $\frac{1}{8}$  "

S. 23

T 43

R. 30

Bm 36660



E of line  
 Bm. 368 20 ft. 365  
 also Bm 28.33 0.74 1/2 (1000)  
 line 11.24 A.M.

Sec line & Range  
 Bm. 360.60  
 also Bm 24.34  
 line 11.10 A.M.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20

Pine all cut on  
 both sides as far as  
 500. Some Hard  
 Pine cut to E beyond  
 500 Standing thick  
 to W  
 Struck cedar swamp  
 Pine standing to E beyond  
 1000  
 Pine and a little Hard  
 Pine cut to E beyond 1000  
 standing to W  
 cedar swamp  
 1000 Low ground with Pine

- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40

Pine large and numerous  
 to E of line  
 Hard, thick Pine to E  
 Pine cut to W beyond 1000  
 Very hard Pine (thick)  
 Swamp ends Pine begins  
 Island in swamp with large  
 white pine



32

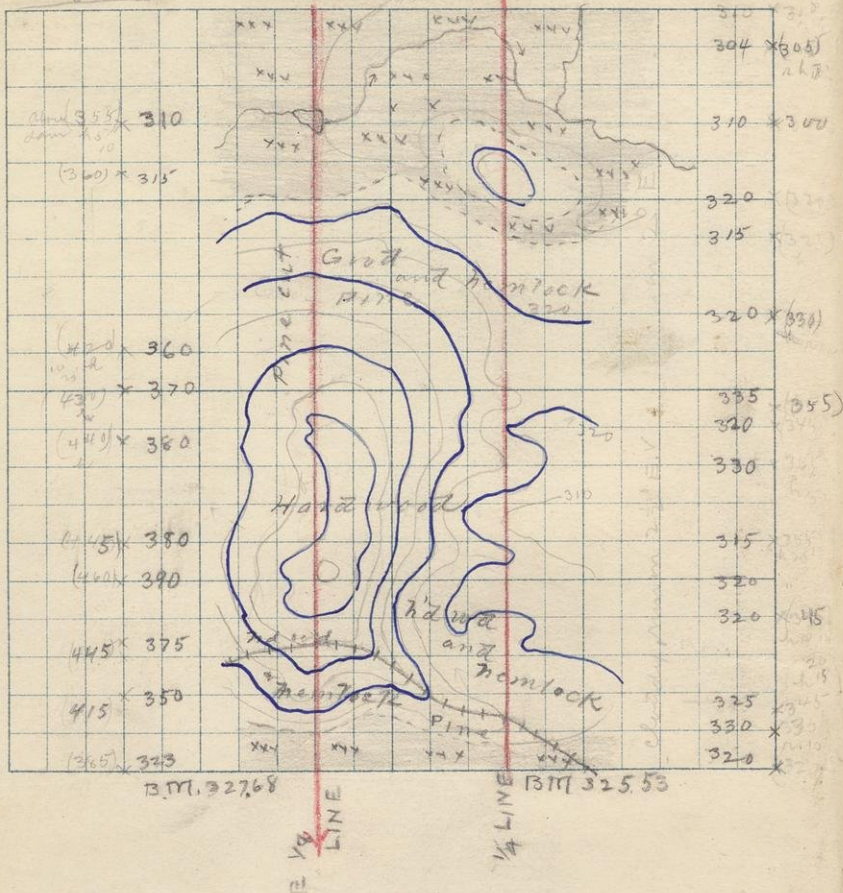
1/4 LINE  
and W 1/2

Nov 9 1891

S. 36

T. 43

R. 30



B.M. 327.68  
 Abs. Am 28.49  
 Time 1:40 AM.  
 Nov 9 1891

B.M. 325.53  
 abs. Am 28.545  
 Time 8:30 AM  
 Nov 9 1891

|    |                                  |    |                         |
|----|----------------------------------|----|-------------------------|
| 0  | cedar                            | 20 | cedar swamp with spruce |
| 1  | Tam. & spruce                    | 19 |                         |
| 2  |                                  | 18 | Alder and Meadow        |
| 3  | Beaver Pond & dam. Fall 3' or 4' | 17 | Swamp, Tam. & spruce    |
| 4  | Meadow & alders                  | 16 |                         |
| 5  | cedar swamp again                | 15 |                         |
| 6  | hemlock & Alder begin            | 14 |                         |
| 7  | Swampy Pine cut to W             | 13 |                         |
| 8  | A good dent of spruce            | 12 | Pine & Hem.             |
| 9  | large Pine & Ephra               | 11 |                         |
| 10 |                                  | 10 |                         |
| 11 | Hardwood                         | 9  | Hemlock                 |
| 12 | cut                              | 8  |                         |
| 13 |                                  | 7  |                         |
| 14 | Hemlock                          | 6  |                         |
| 15 |                                  | 5  | ↑                       |
| 16 | Pine large Hardwood              | 4  | Hardwood & Hemlock      |
| 17 | 675 Supply Road                  | 3  | Hardwood                |
| 18 |                                  | 2  | Supply road             |
| 19 | Hardwood & Hem                   | 1  | Pine. Very poor ground  |
| 20 | cedar swamp                      | 0  | cedar swamp             |

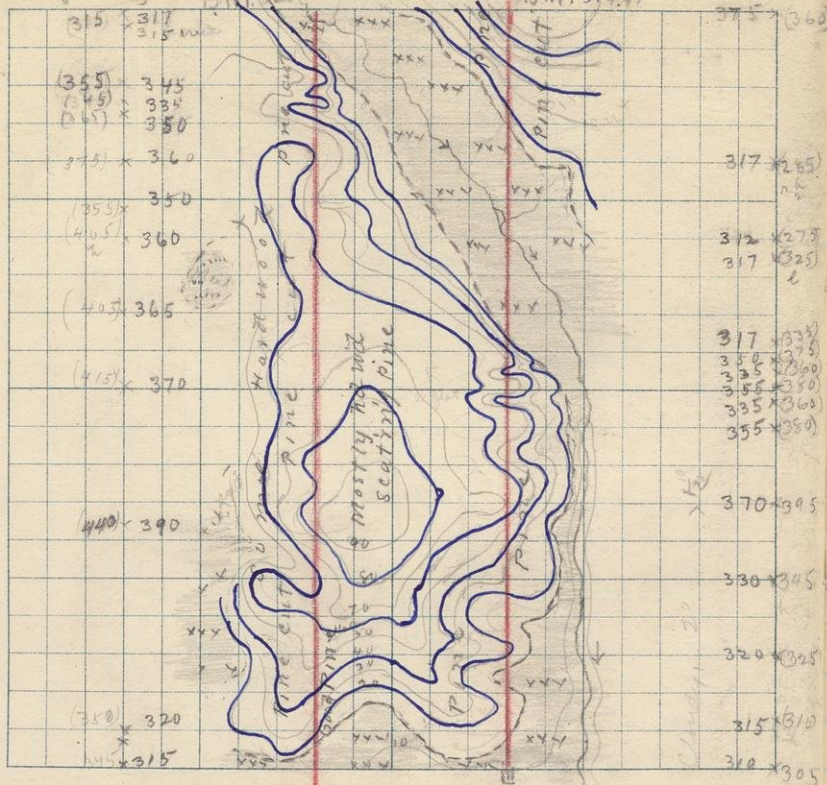


34 1/4 LINE  
and W 1/8 "

S. 25

T. 43

R. 30



1/2 LINE

1/2 LINE

1/8 LINE  
B.M. 320.14  
also on 2857 road  
Line 11.45 am

1/4 LINE  
B.M. 379.91  
also on 2850  
Line 11.15 am

35

- 1 creek 8' wide by deep
- 2 RR or beam road
- 3 Pine cut to W. not to E
- 4 mostly H d rid
- 5 ↓
- 6
- 7
- 8
- 9
- 10 H d rid. Pine cut to W
- 11
- 12
- 13
- 14
- 15
- 16 Good Pine. W E begins
- 17 at 1600 still cut to W
- 18 cedar swamp begins
- 19 at 1940
- 20

- 19
- 18 Pine to W. hills cut to E
- 17 R.R. Rgn. track taken up
- 16 cedar swamp
- 15
- 14 creek narrow fringe of  
grass & alders
- 13
- 12
- 11
- 10 level. Pine to E. H d rid to W
- 9
- 8 Pine cut low from 5 to
- 7 level
- 6
- 5 H d - Good Pine begins
- 4
- 3 Pine. Hem cedar &c
- 2 full swampy & wet, cedar
- 1 Pine to W
- 0 cedar swamp



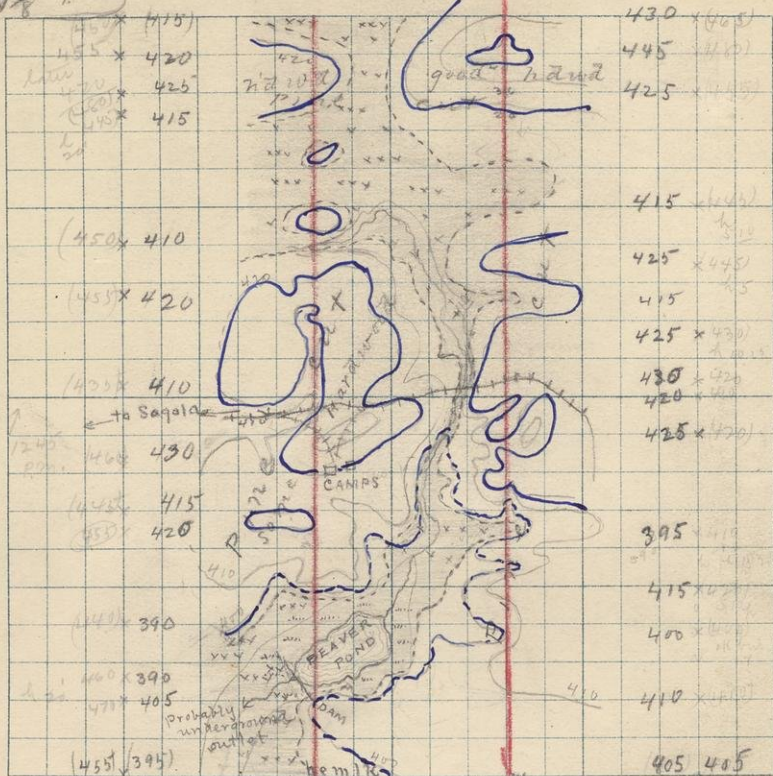
36 1/4 LINE  
W 1/4

S.34

T.43

R.30

Nov 10 1891



B.M. 399.38

B.M. 408.06

B.M. 399.38

Abs An 28.24

Time 1.15 P.m.

B.M. 408.06

Abs An 28.365

Time 8.16 A.m.

Nov 10 1891

# $\frac{1}{8}$ LINE

# $\frac{1}{4}$ LINE

37

- 0 swamp cedar mixed
- 1 H'dwd begins
- 2 Cedar crop again 230
- 3 H'dwd Pine cut to both
- 4 sides of line
- 5
- 6 Small water way bluish
- 7 H'dwd begins
- 8 Pine all cut H'dwd very
- 9 thin or all dead
- 10 30 supps, dead
- 11
- 12
- 13
- 14
- 15 Edge midish
- 16 Edge Pond
- 17
- 18
- 19 Hemlock
- 20

- 20 H'dwd Pine
- 19 H'dwd Baranwood &c good
- 18 Some H'dwd
- 17 late
- 16 Swampy but very slightly under
- 15 Swamp cedar Hem, &c
- 14 7. Int approach to swamp
- 13
- 12
- 11
- 10
- 9
- 8
- 7
- 6 650 a bay of the marsh
- 5 Undulating surface with a
- 4 tendency to pot holes
- 3
- 2
- 1 Some H'dwd
- H'dwd slightly rising. Old cutting





## 1/8 LINE

B.M. 39350  
 abs An 28 205  
 Time 10 45 A.M.

Meadow around lake

cedar swamp to 300  
 a little ridge or island in center  
 350 Cedar and spruce swamp  
 again cut by lake

Burning and Pine  
 cut to E. A few

Pine standing to W from

500 to

Head of lake

900 begins = swamp

on top of hill cedar

Cedar burn mixed

1100 Ridge &amp; H higher swamp

1300 Head begins

1675 swamp cedar mixed

4

## 1/4 LINE

B.M. 39931  
 abs An 28 30  
 Time 10 30 A.M.

26

19

18

17

16

15

14

13

12

11

10

9

8

7

6

5

4

3

2

1

0

Old cutting Burned over

Camps Sagola Co 100 steps W

Cedar pulp

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine

Pine





|    |                               |    |  |
|----|-------------------------------|----|--|
| 0  | Pine Hemlock Hardwood         | 20 | Low and swampy                             |
| 1  |                               | 19 |  |
| 2  | Swamp Spruce fir              | 18 | Hardwood                                   |
| 3  | Pine cut to E Hard            | 17 |  |
| 4  | Pine to W with Hard           | 16 | 1650 edge strip                            |
| 5  | Tamarack & C. suppy.          | 15 |  |
| 6  | Pine to W                     | 14 | cedar swamp begins                         |
| 7  | Nearly all good Hard          | 13 |  |
| 8  | 830 Road                      | 12 |  |
| 9  |                               | 11 |  |
| 10 | Hard                          | 10 | Pine cut both sides 1000 to 2000           |
| 11 | A few Pines                   | 9  | Good Hardwood                              |
| 12 | Pine Hemlock & C.             | 8  |  |
| 13 | Pine cut beyond 30            | 7  |  |
| 14 | Hard                          | 6  | Grossly Hardwood 550 to 1140               |
| 15 |                               | 5  |  |
| 16 | Pine cut to W of 1000 to 1200 |    |  |
| 17 | standing to E where           | 3  |  |
| 18 | not Hardwood or sup           | 2  |  |
| 19 | sup                           | 1  |  |
| 20 | meadow                        | 0  | Island in sup. Pine cut to E standing to W |





1/8 LINE  
 B.M. 398.59  
 obs. an 28.185 0-63  
 Time 1055 AM

Spice swamp  
 cedar mixed

575 Edge swamp

Pine cut to W. Good Pine to E

Swamp again mostly cedar

Highland Pine both sides  
 1170 Road

1380 narrow gauge R.R.

Hemlock & Pine equal

Flat mostly Pine, very good

Hemlock & Pine

SECLINE  
 B.M. 404.48  
 obs. an. 28.175  
 Time 1040 AM

20 Good Pine

19 1850 slight rise Pine & C

Edge swamp Cedar & mixed

Hemlock & Hem.

Rough & irregular surface

1260 Metropolitan Road

Hard to W Swamp to E

Hemlock Hemlock & Pine

Pine both sides from 500 to

as far as 1265

A good road cut out along here

531 Trans. R.R. Sagala Co

mostly Hemlock

A good deal of Hemlock

cut to E

Low & swampy Good Pine to W



44

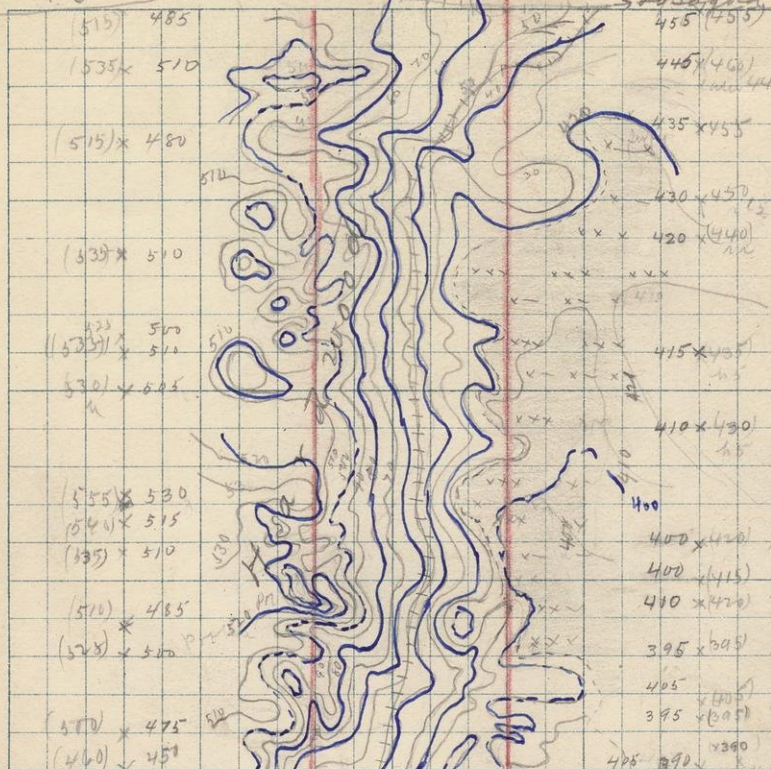
Nov 12 1891

1/4 LINE  
and 1/8 "

S. 32

T. 4

R. 30



B.M. 453.13

B.M. 453.13

Abs. An. 28.60

Time 1:45 P.M.

B.M. 406.62

Abs. An. 28.64

Time 8:15 A.M.

a = 29.09

Nov 12, 1891

Cloudy all but a few minutes  
during the day

$\frac{1}{8}$  LINE $\frac{1}{4}$  LINE

45

0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

Hardwood

Pot holes and  
very irregular  
with general  
slope to E  
hardwood

Large pot hole

Good Hardwood

20. came 64 steps E of  $\frac{1}{4}$  stake

19 1850 Road

18

17

16

15

Hardwood

14

13

↑ gradual rise from swp

12

11

10

cedar + hemlock

9

8

7

swamp, cedar + mixed  
timber

6

5

4

3

2

1

0 Hardwood

A succession of pot holes





# 1/8 LINE

B.M. 424.1  
Obs. on 28.65 00-29.12  
Time 11:50 Am

Hd and Hem 1/2 Pine 1/2  
Grass meadow to W

Very good Pine

Edge cedar swamp

Edge swp

Hemlock + Hd and

Hardw. + Hemlock

Long up long ascent

Hardwood

Irregular Pot holes

Surface undulating.

# 1/4 LINE

47

B.M. 420.1  
Obs. on 28.66  
Time 11:30 Am.

came out 1 1/2 slips W  
fir

Hardwood + Hemlock  
+ cutting Pine

Edge swamp

Edge of swp, cedar

Hardwood

Set over W. 110 Slips and  
went on. (later wrong)

815 small streamlet

Some of the Hardw and  
Basswood cut to E

Hardwood

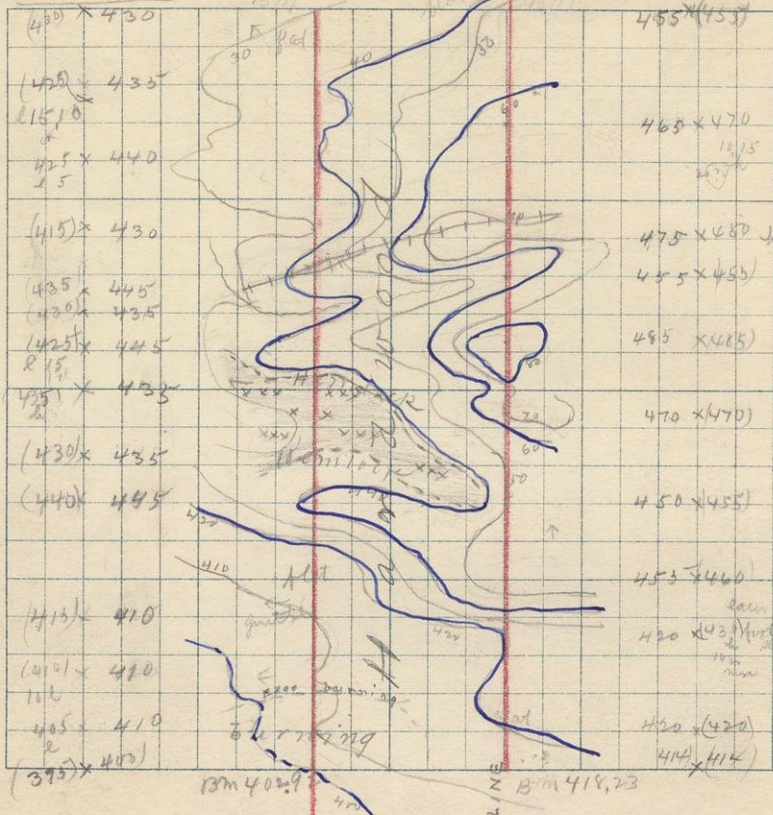


E. LINE }  
and E'g LINE } S. 36

T. 43

R.3/

Nov 13 1891



BM. 402.92  
Abs An. 28.79  
Time 1. PM

E. S.  
B. m 4.18.23  
Abs on 28.5.23 0-29.23  
Time 9.5 A.M

Cloudy

0  
 1  
 2  
 3  
 4  
 5 370 Swampy, Hard & cedar  
 6  
 7 Road  
 8  
 9  
 10 Cedar w/ cedar  
 11 New Hard & c  
 12  
 13  
 14 Hard  
 15 A few scattering pines  
 16  
 17  
 18 Edge of burning  
 19  
 20

20  
 19  
 18  
 17  
 16 (Hardwood  
 15  
 14 basswood  
 13 (Grid)  
 12  
 11 11 25 feet Dist. no rocks  
 10  
 9  
 8  
 7  
 6  
 5  
 4  
 3  
 2  
 1 34 down again  
 0 A terrace like rise 5'  
 Flat ground. Hardwood & hemlock

175 N382 W 1975 SE 31, 43.30. Here on the S. slope of a  
 hill some 30 or 40 ft high a trench and line of test  
 pits have been excavated along the slope. No rock can  
 be seen in place but from the number of fragments  
 similar to the specimen there was doubtless  
 rock found in place. The pits are caved and  
 filled up. A slope of hill very gradual. S. quite steep



E. LINE  
S. E. 1/4 LINE

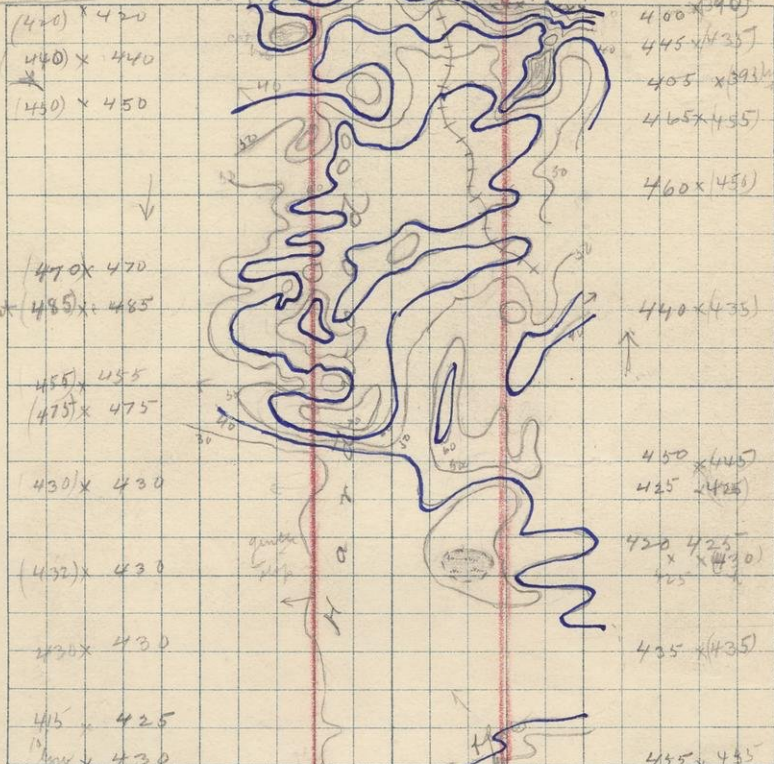
S. 25

T. 43

R. 3

B.M. 427.23

B.M. 463.86



cloudy

## E 1/2 LINE

B.M. 427.25

Obs on 28.765

Time 11:24m

## SE CLINE

B.M. 403.86

Obs on 28.765

Time 1:004m

51

|    |                         |    |                            |
|----|-------------------------|----|----------------------------|
| 0  |                         | 20 | Cedar stump and hole       |
| 1  | ↓                       | 19 |                            |
| 2  | Hardwood                | 18 |                            |
| 3  | Port holes              | 17 |                            |
| 4  |                         | 16 |                            |
| 5  | General slope to W      | 15 | Port holes bend slope to W |
| 6  |                         | 14 | ↑                          |
| 7  | ↓                       | 13 | 300 Roads to NW            |
| 8  |                         | 12 |                            |
| 9  |                         | 11 |                            |
| 10 |                         | 10 |                            |
| 11 | bring down into broad   | 9  |                            |
| 12 | valley                  | 8  |                            |
| 13 |                         | 7  |                            |
| 14 |                         | 6  | General slope to W         |
| 15 |                         | 5  |                            |
| 16 | Flat as a pancake       | 4  |                            |
| 17 |                         | 3  |                            |
| 18 | Hardwood all the        | 2  |                            |
| 19 | ways                    | 1  |                            |
| 20 | Run 1/2 mile 3° E, and  | 0  | Hardwood & Basewood        |
|    | 1/2 mile 4° E and come  |    |                            |
|    | out 75 steps W. of lake |    |                            |





|    |   |    |  |
|----|---|----|--|
| 0  |   | 20 |  |
| 1  |   | 19 |  |
| 2  |   | 18 |  |
| 3  |   | 17 | meadow, cat hole in old stream           |
| 4  | Edge burning scattering Pines                             | 16 | Pine not cut to W from 1500 to 2000      |
| 5  | Pine cut in burning                                       | 15 | Pine not cut to E from 1000 to 2000      |
| 6  |   | 14 |  |
| 7  |   | 13 | Edge swampy ground Hemlock cedar         |
| 8  |   | 12 |  |
| 9  |   | 11 | 1145 Road                                |
| 10 |   | 10 |  |
| 11 | Road  | 9  | scattering Pine to Right of line         |
| 12 |   | 8  |  |
| 13 | Edge of strip of Hemlock & Alder not only slightly burned | 7  |  |
| 14 | 1430 Edge burning   | 6  | 610 small streamlet current impure water |
| 15 | 1450 Top gradual rise                                     | 5  | Hardwood Pine mostly cut                 |
| 16 |   | 4  | Burning                                  |
| 17 |   | 3  | Belt from timber                         |
| 18 |   | 2  |  |
| 19 |   | 1  | Burning Pine cut                         |
| 20 |   | 0  |  |

1882 struck line





# W 1/2 LINE

B.T.T. 445.40

Obs. an. 29.01

Time 10.15 am

# 4 LINE

B.T.T. 445.33

Obs. an. 29.01

Time 10.05 am

55

0 20

1 - Hard & mixed small timber

2 18

3 17

4 16

5 15

6 Lake shore

7 14

8 13

9 12

10 11

11 10

12 9

13 8

14 7

15 6

16 5

17 4

18 3

19 2

20 1

21 0

20

19

18

17

16

15

14

13

12

11

10

9

8

7

6

5

4

3

2

1

0

Tamarack & spruce

Scating Pine

very good Hard with mixed small timber

Dot holes begin

Hardwood

102 steps W



56

E. LINE

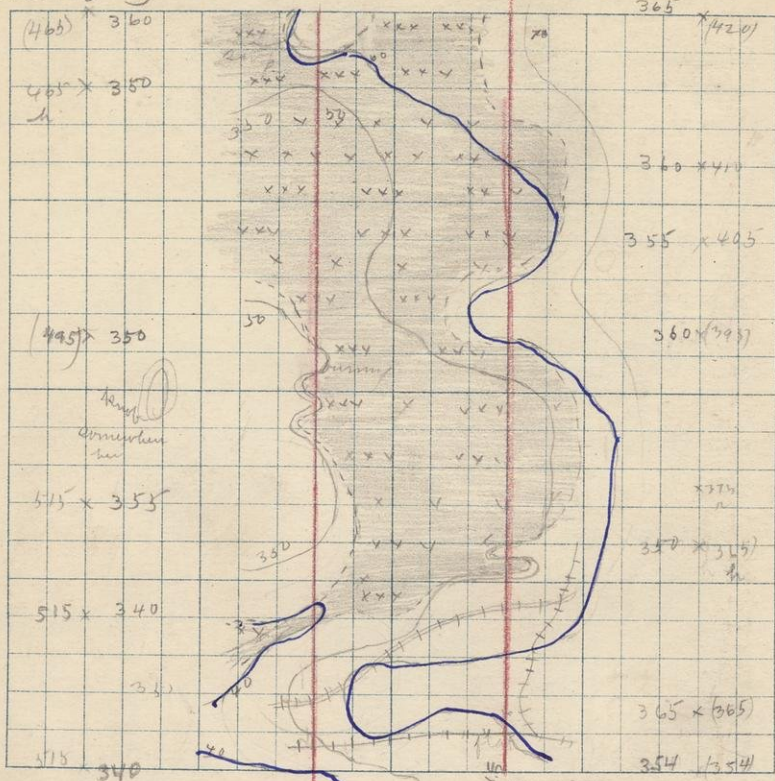
and E. 8"

S. 34

T. 43

R. 31

Nov 15 1891



all burned over  
where not green  
swamp

E. LINE

E. SECTION

B.M. 343.07  
Abs An 26.54  
Time 3 pm

B.M. 357.53  
Abs An 28.91  
Time 8.55 Am

Nov 15 1891

old day  
show storm in P.M.

|    |                        |    |                              |
|----|------------------------|----|------------------------------|
| 0  | Burning                | 20 |                              |
| 1  |                        | 19 | slightly burned              |
| 2  | cedar swamp spruce 0.7 | 18 |                              |
| 3  |                        | 17 | slight rise above swamp      |
| 4  |                        | 16 | Went back, Pine 0.0          |
| 5  |                        | 15 |                              |
| 6  |                        | 14 |                              |
| 7  |                        | 13 |                              |
| 8  |                        | 12 |                              |
| 9  |                        | 11 |                              |
| 10 |                        | 10 | $\frac{1}{4}$ stake in swamp |
| 11 |                        | 9  |                              |
| 12 |                        | 8  |                              |
| 13 |                        | 7  |                              |
| 14 |                        | 6  |                              |
| 15 |                        | 5  | cedar swamp 550              |
| 16 |                        | 4  | 440 narrow gage (climb)      |
| 17 |                        | 3  |                              |
| 18 |                        | 2  |                              |
| 19 |                        | 1  |                              |
| 20 |                        | 0  | old burning                  |





## E 1/8 LINE

BM. 427.63

abs an 286.45

Time 12 15 PM

## E. SECLINE

BM. 417.79

abs an 286.9

Time 11 53 Am

59

0  
1  
2  
3  
4 460 Edge burning  
5

6  
7  
8  
9

10  
11  
12

13  
14 boulders Jasper cong.

15  
16

17 creek

18  
19

20 Greenstone ranges goes 1166 SW

176

20  
19 Greenstone 1400 ft. burning  
18 Edge burning ground  
17  
16  
15 1550 edge swamp burnt  
adaro

14  
13  
12  
11  
10

9 First of knole  
8

7 20  
6

5 Edge burning  
4

3

2 Is burned, some time

1 slight rise above swamp slightly

N 72° W 60 S.E 27 43. 31

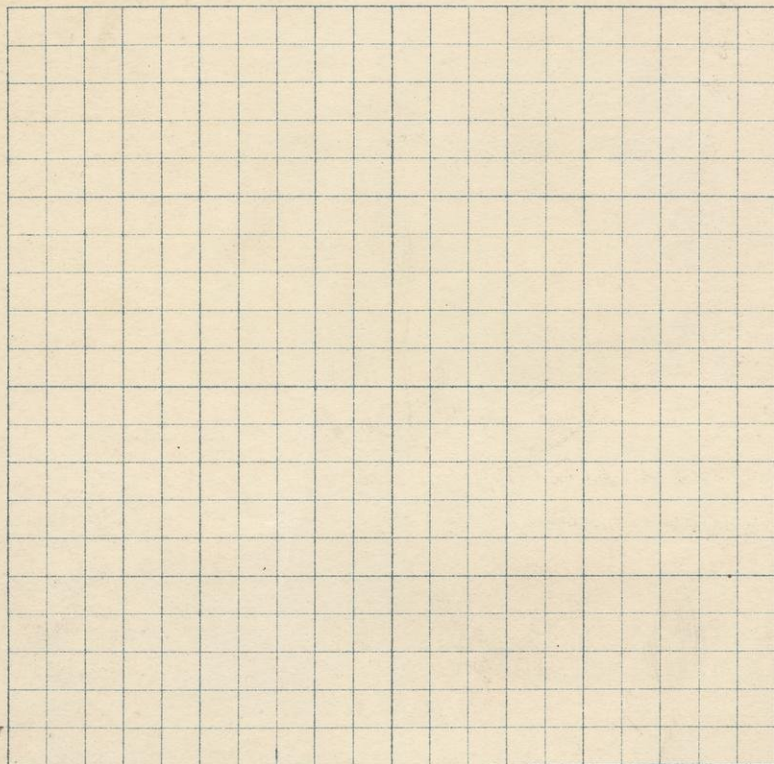
At this distance N. we strike the S. edge of an irregular ridge of Greenstone whose general direction is N.E. & S.W. comprising several irregular knobs. The one from which spec. is taken is about 80' feet high above swamp and creek which flows along its S. foot. The rock is fine grained, and very hard, and much jointed. The most prominent jointing planes have



S.

T.

R.



a NW. 4 SE direction and a high dip  
(80° about) to the W

177 N 77.5 W 00 SE 27. 43 - 31

A spec. from a low ledge 5' or 10 feet above  
general surface

178 N 92.5 W 50 SE 27 43 31

From another knob. The rock here  
appears coarser grained otherwise is same  
as last two specimens.

179 N 112.5 W 00 SE 27. 43 - 31

Here is a test pit out of which has been  
taken Jasper Congl. but doubtless in  
boulders which are seen at edge of pit which is now

shallow. Boulders of the same were found here  
and there at various places throughout the greenstone

180 N 135.0 W 60 SE 27. 43.3, area at this run

East end of another knob. Rock appears  
similar to others

181 N 20 W 37.5 S.E 22 - 43 - 31

low knob of limestone near or near Bench Line  
and north of it, about 20 feet high

182 N 19.75 W 50 SE 27 - 43 - 31

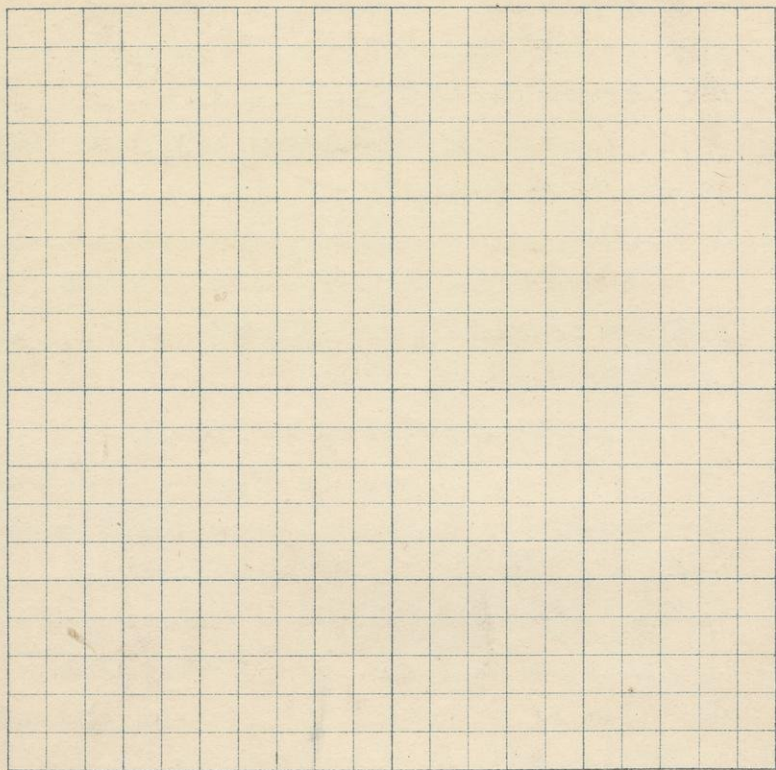
Here is the <sup>F</sup>NE corner of an irregular knob of  
limestone (massive) extending about 150 feet  
N & S, not very high above surrounding ground  
on N but having a steep slope to swamp to S  
of some 50 feet



S.

T.

R.



183 N 1100 W 375 SE 27 - 43 - 31

From a low ledge a few feet above the ground which here has a gentle slope to the NW. The line of knobs is just to the E

184 N 680 W 400 SE 27 43, 31

Taken from the top of a knob 50 feet above surrounding ground. Character appears to be the same as others, massive greenstone rather fine grained

185 N 400 W 600 SE 27 43, 31

From a projecting ledge of the same character as the other except appearing slightly coarser and breaking with a conchoidal fracture somewhat more

186 N 250 W 500 SE 27 43, 31

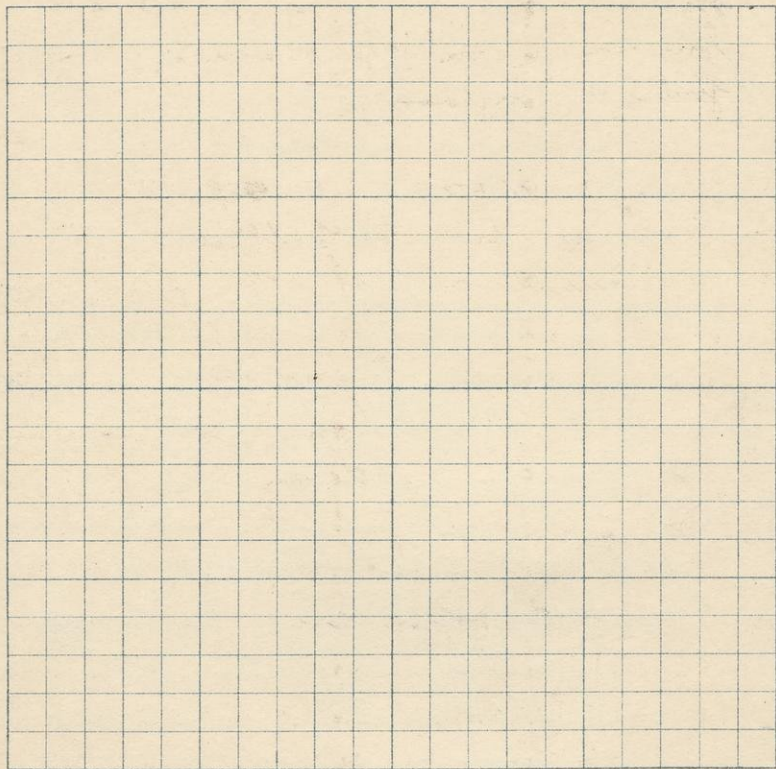
Here is exposed for a short distance, about 20 feet, a ledge of greenstone Tuff or conglomerate. The dip is  $45^\circ$  S and strike about  $20^\circ$  N. of W. The exposure is about 8' high and shows the end of the layers just beyond is what appears to be greenstone, <sup>see 14.7</sup> like the other specimens 185, 184 etc



S.

T.

R.



187 N 250 W 480 SE 27.43 31  
Greenstone from the ledge just east of and ad-  
joining <sup>to</sup> the conglomerate

188 N 250 W 500 SE ~~27~~ 43 31.

189 These are from the pebbles of the  
190 conglomerate or Tuff 186. Which show  
191 very plainly on the weathered surface  
192 and show the layers by their flat  
193 surfaces. The largest seen are some  
6 or 8 inches in diameter 188 is a  
chip from one of the largest.  
The ground mass is much lighter in  
color and softer crumbling somewhat  
under the hammer. This is perhaps  
volcanic ash. Some of the pebbles  
seem to be rounded on some edges

Nov 15

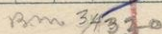
194 N 1300 W 900 SE 34 43 31

This point is the center of the W. side of a knob of  
Greenstone rising 31 or 40 feet on an island  
in the swamp. The rock appears to be  
fine grained and considerably jointed and  
massive in structure. Some appear to resemble  
the conglomerate 186



66 and  $\frac{1}{4}$  LINE } S. 34  
W  $\frac{1}{4}$  LINE }

R. 3/



P.M. 343.20  
 abs am 2857  
 June 240  
 P.M.

Bm 34218  
 Abs Am 28.56 0.94  
 Line 8.33 Am

- 0 Hardwood and some
- 1 good white pine Hemlock
- 2 cedar &c
- 3 3/4 Kellys creek
- 4 cedar swamp
- 5 Mixed Hemlock &c
- 6
- 7 a few small pines
- 8 837 Edge old dry
- 9 burning
- 10
- 11
- 12 Recent cutting, skidded logs
- 13
- 14
- 15 cedar swamp
- 16
- 17
- 18 1820 very small stream

- 20
- 19 1800 Kellys Creek 5 x 1 1/2
- 18
- 17 Hemlock, cedars, scattering pine
- 16 1585 Creek
- 15 Hemlock & cedar
- 14
- 13 Knob 100 steps E 30' high
- 12
- 11
- 10
- 9
- 8
- 7 Recent cutting to West
- 6 old cutting & burning to E
- 5 slight rise above swamp
- 4
- 3 Burning ends, swamp begins
- 2
- 0 Burning Point cut

195 N 200 W 800 SE 27 43 31  
a low ledge at W foot of larger knob

196 N 400 W 900 SE 27 43 31

This point is the E end of another irregular knob 40 feet high. The rock is a coarse crystalline gneiss.



68

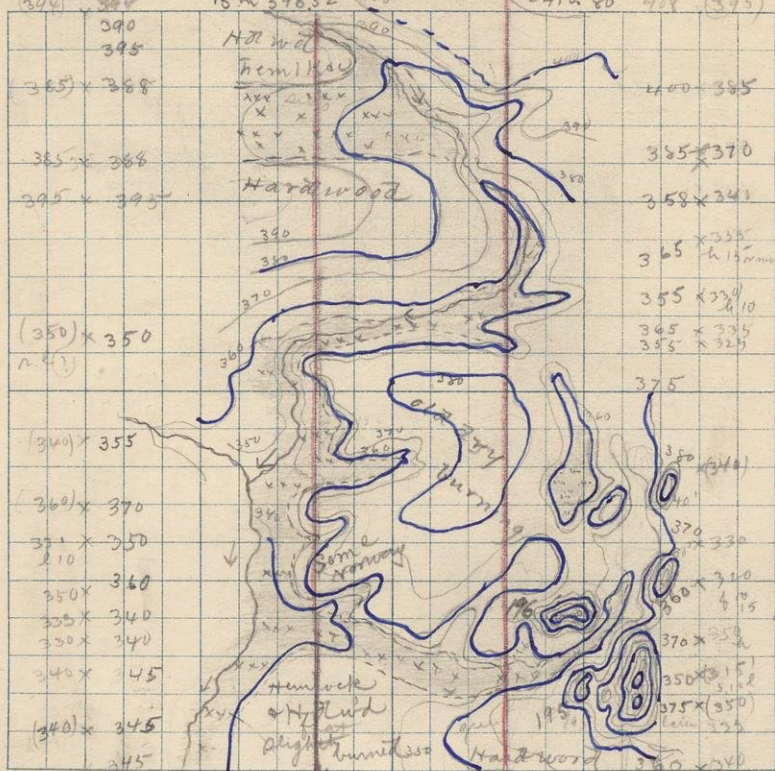
and

4 LINE  
WY LINE

S. 27

T. 43

R. 31



# WYLINE

3m 398.52  
 abs an 28.51 0=95  
 time 12.00

←  
 runs  
 well right

# WYLINE

pm 410.87  
 abs an 28.495  
 time 11.50 AM

|    |                          |                  |    |                                    |
|----|--------------------------|------------------|----|------------------------------------|
| 0  | 42 creek                 | Hardwood         | 20 |                                    |
| 1  |                          | Hemlock cedar &c | 19 |                                    |
| 2  |                          |                  | 18 |                                    |
| 3  |                          | Cedar & spruce   | 17 | 1600 feet bottom clay recently dug |
| 4  |                          |                  | 16 | 1500 creek again                   |
| 5  | ↓                        | Hardwood &c      | 15 | Some Norway Hemlock &c             |
| 6  |                          |                  | 14 | allies 1520 feet                   |
| 7  |                          |                  | 13 | Running and recent cutting         |
| 8  | 850 creek & w            |                  | 12 | 7 Bins                             |
| 9  | top bank 10.55 (10) left |                  | 11 | ↑ small creek 3' wide              |
| 10 | 850 " " 15 "             |                  | 10 |                                    |
| 11 |                          |                  | 9  | slight descent from yesterday      |
| 12 |                          |                  | 8  |                                    |
| 13 |                          |                  | 7  |                                    |
| 14 |                          |                  | 6  | Flat wapt gullies                  |
| 15 | Some Norway but little   |                  | 5  |                                    |
| 16 | burned                   |                  | 4  | no R. knob 350' bottom             |
| 17 |                          |                  | 3  | (390) top                          |
| 18 | Hem & Norway & mixed     |                  | 2  |                                    |
| 19 | slightly burned          |                  | 1  |                                    |
| 20 |                          |                  | 0  | Hardwood cedar & hemlock           |



70

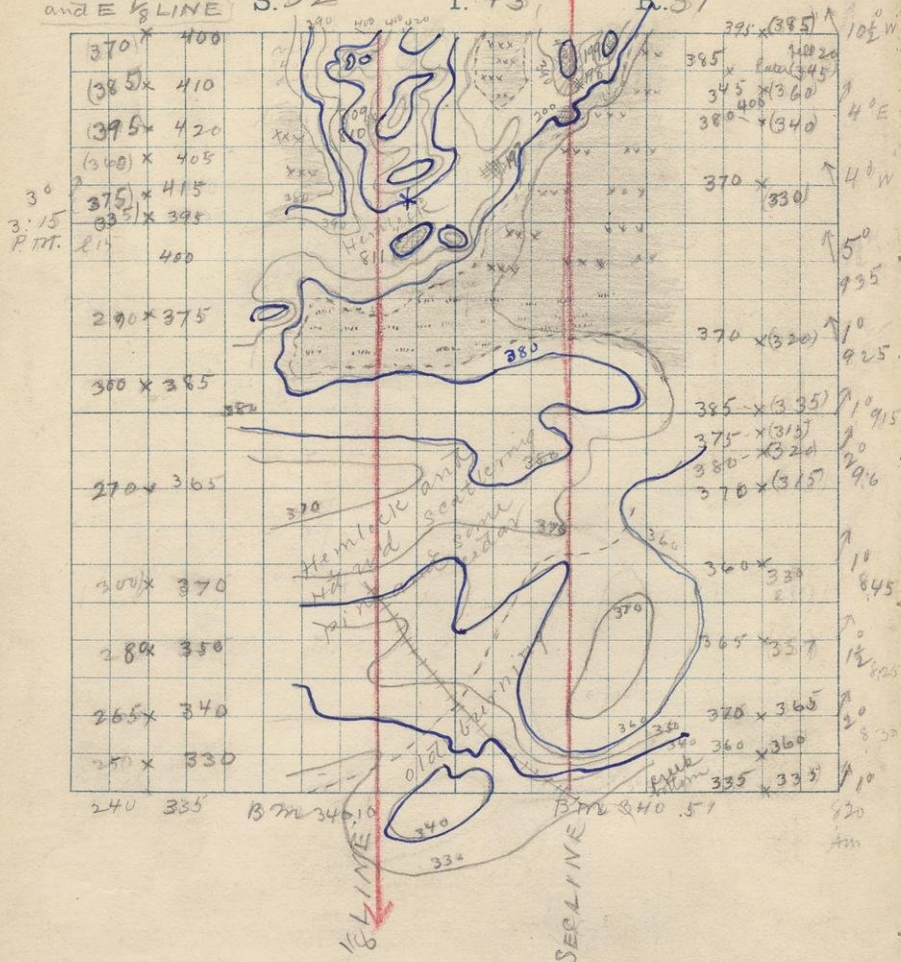
U ELINE  
and E  $\frac{1}{8}$  LINE

S. 32

T. 43

R.3/

Nov 17, 1891



Bm 340.10  
abs an 28 875  
Time 4.10 Pm

Bom 34051  
Abs an 28665  
Time 8 15 Am

Nov 17 1891

Snow storm in P.M.

## E 1/8 LINE.

## E. SEC. LINE

71

|    |                            |                                     |
|----|----------------------------|-------------------------------------|
| 0  | line passes along          | 20 10 1/2° W Old Burning            |
| 1  | valley bet. low knobs      | 19                                  |
| 2  | deep valley to W and       | 18 40° E Var                        |
| 3  | range of hills across      | 17                                  |
| 4  | 150 large boulder of slate | 16 40° W Variation                  |
| 5  | 400 ft W of line but       | 15                                  |
| 6  | no ledge                   |                                     |
| 7  | 500 Edge green bluish      | 14 50° W Variation                  |
| 8  | and W                      | 13 1360 Edge red and spruce         |
| 9  |                            | 12 Edge meadow 10° W Var.           |
| 10 |                            | 11 Swamp to E                       |
| 11 |                            | 10 Some small Pines                 |
| 12 | Green timber begins        | 9                                   |
| 13 | Hemlock - Hard             | 8 Some Hard                         |
| 14 | scaling Pine               | 7                                   |
| 15 |                            | 6 630 Edge green timber             |
| 16 |                            | 5 usually hemlock                   |
| 17 | Some Cedar                 | 4 Old Burning                       |
| 18 |                            | 3                                   |
| 19 |                            | 2                                   |
| 20 |                            | 1 Top of terrace                    |
|    |                            | 0 creek bottom to E, 30 or 40' deep |

Nov 17

197 N 1650 W 200 SE 32 43 31

Along ledge at edge of swamp forming  
the continuation of an irregular  
ridge. Massive greenstone probably  
Diorite

198 N 1850 W 190 SE 33 43 31

From the east side of a knob over top of  
which sec line passes. Knob rises about  
25 or 30 feet above the swamp S of it





# E 1/8 LINE

B.M. 45215

also an 2864

Time 1:20 P.M.

old burning

a succession of irregularly shaped ponds

Valley to W 60' deep  
knob beyond 90' high

# E SE CLINE

73

B.M. 42416

also an 2865

Time 12:45 P.M.

Time out  
cedar swamp

Swamp

400 30° E or ar

250 40° W or ar

105° W or ar

199 N 19 50 W 1900 SE 33 43 31

From the east side of another knob  
on edge of swamp. The slope is nearly  
vertical (cliff) about 15 feet on the SE  
side.

200 N 18 00 W 00 SE 32 43 31

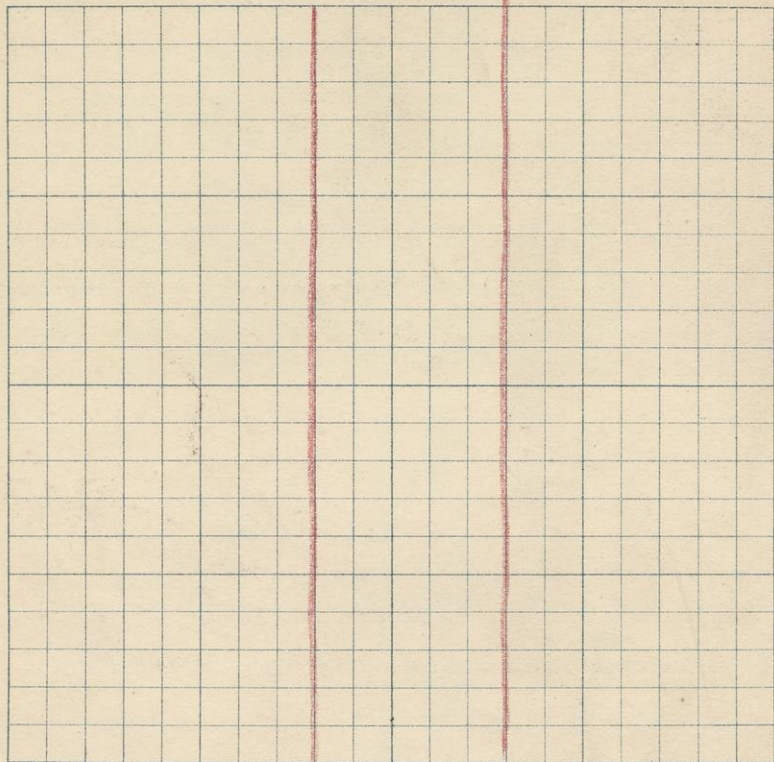
From a low ledge in the swamp rising  
only about 5 feet



S.

T.

R.



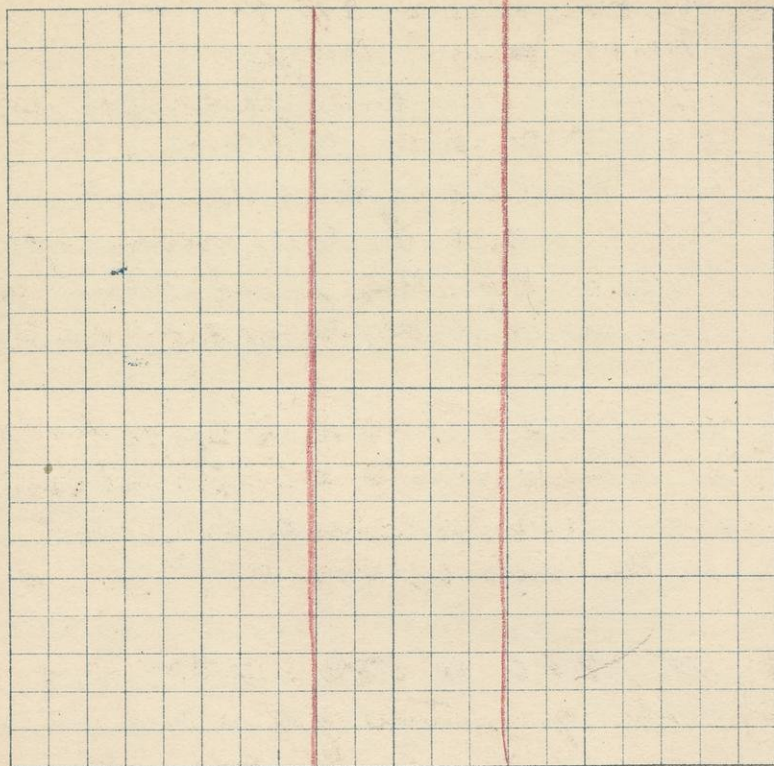
- 801 N 236 W 1000 SE 29- 43. 31'  
 From the N end of a long knob similar  
 to the others in character of rock
- 802 N 600 W 1925 SE 28. 43. 31'  
 Here is exposed on the South side of a  
 knob a perpendicular ledge having  
 some very noticeable jointing planes which  
 here strike NE & SW and dip about  $45^{\circ}$   
 to the SE
- 803 N 976 W 1990 SE 28 43 31'  
 Greenstone similar to the others but having  
 a different colored weathered <sup>yellow</sup> surface red &
- 804 N 1180 W 1000 SE 29. 43. 31'  
 Massive Greenstone found all along line
- 805 N 2000 W 20 SE 28 43. 31'  
 Knob here running E & W as ridge for some  
 distance
- 806 N 2000 W 500 SE 29. 43. 31'  
 Further W. The ridge has been broken  
 down at several places between this and  
 last point
- 807 N 1300 W 500 SE 29. 43. 31'  
 From one of the many knobs which  
 entirely cover the surface being very  
 irregular with abrupt slopes



S.

T.

R.



808 N 500 W 500 SE 28 43, 31

Here in several ledges ~~the~~ jointing planes (?) are quite prominent having a NE-S.W strike and dip 45° to the N. These somewhat resemble bedding but further along planes quite as definitely marked are seen striking and dipping differently

SE 32 43, 31

At 1850 N 460 W, a large boulder of black slate was found but no outcrops could be found on the entire run

809 } N 1760 W 530 SE 32 43, 31

810 } The greenstone if it be such is here finer grained. The ledge at first looked like slate but has no cleavage

811 N 1400 W 450 SE 32 43, 31

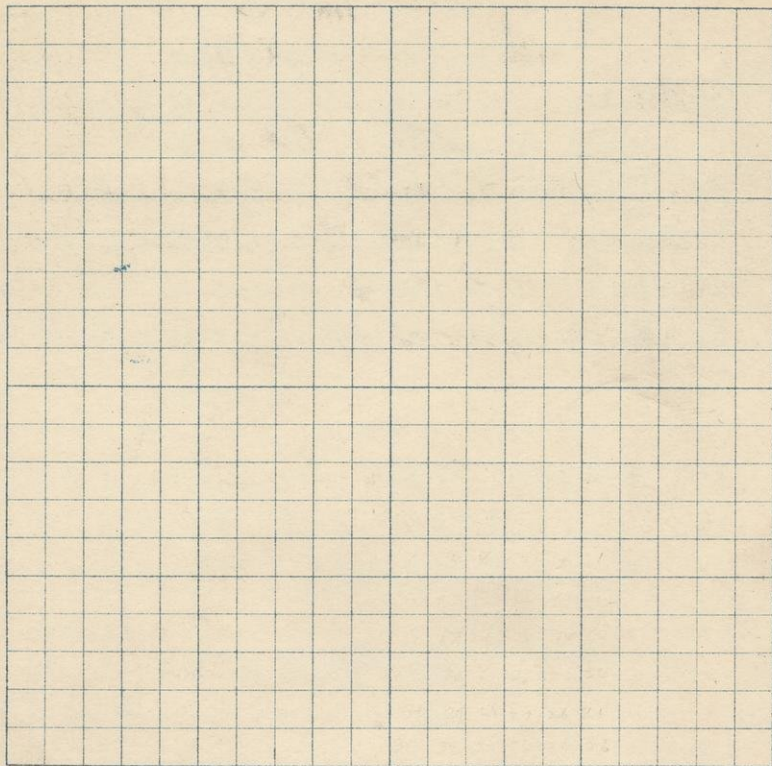
Here is a knob on the edge of the swamp which is the last struck on this run. There is one 100 or 150 paces further S and some 300 to the W and the mark the south east



S.

T.

R.



boundary of the "Greenstone range" which which we have just been travelling over. It runs in general N of E. something like  $35^{\circ}$  where encountered and is an irregular area of knolls bounded by a swamp or low ground on the E and the river on the W

Nov 18

812 N. 200 W 1840 32 43 31

From a high knob of greenstone sloping steeply down to River to E, this point being 100 feet above the river. Further south in the river bed are found the plates but no surface exposure could be found at the foot of the knob where two test pits have <sup>been dug</sup>

813 N 275 W 1930 SE 32 43 31

814 } At this point a shaft has been sunk and  
815 } a considerable heap of rock taken out while there are numerous pits all around. The specimens are from the dump heap at the shaft. The explorations seem to have been quite recently made and are at present deserted, but apparently only temporarily so. 813 & 814 are probably joint rock and 815 seems to be chert. The high greenstone knob is just to the S.E.



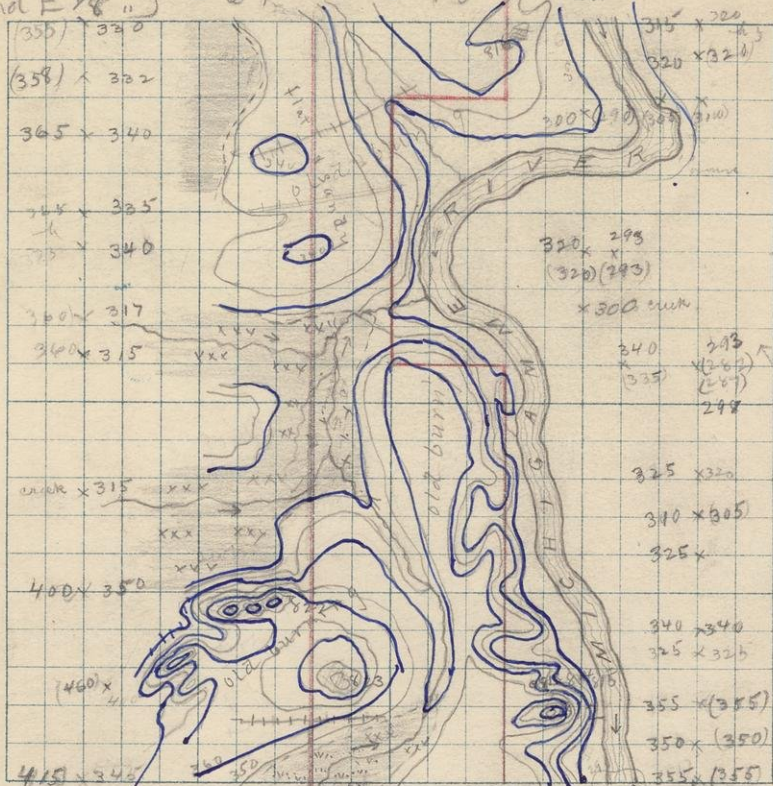
80 ELINE  
and E 1/8 "

S. 3

T. 43

R. 31

Nov 18 1891



B.M. 349.20

Ш Б 771362.6

B.M. 349.26

B.M. 362.65

Abs Am. 28.8725

abs An 29.025

Time 3:35 PM

June 9:35

Am

Nov 18, 1891,

|    |                        |    |                            |
|----|------------------------|----|----------------------------|
| 0  |                        | 20 |                            |
| 1  |                        | 19 |                            |
| 2  |                        | 18 |                            |
| 3  |                        | 17 |                            |
| 4  | 464 old manor gage     | 16 |                            |
| 5  | ry                     | 15 |                            |
| 6  |                        | 14 | River 85 steps E (293)     |
| 7  |                        | 13 |                            |
| 8  |                        | 12 | 1100 hill 20' on opp bank  |
| 9  |                        | 11 | River 7 steps E (282)      |
| 10 | Cedar & Spruce + Tamar | 10 | bottom land 100 steps W    |
| 11 | swamp                  | 9  | then hills 30 to 40 feet   |
| 12 |                        | 8  |                            |
| 13 |                        | 7  | bottom land 40 steps or 50 |
| 14 |                        | 6  | 80 steps E in Riv (275)    |
| 15 |                        | 5  | Sta 6 30' above            |
| 16 |                        | 4  |                            |
| 17 | 1750 60R (460)         | 3  | 275 shaft 70 steps E (278) |
| 18 | 1830 Road              | 2  | 16 camp R (390) in Riv     |
| 19 |                        | 1  | spec. 812 high             |
| 20 | Meadow                 | 0  | bottom in Riv              |

816 N 1960 W 1925 SE 32-43-31

From a low ledge of greenstone. Between this and the last specimens taken are only sand hills and flats along the W bank of the Richigamie

817 N 750 W 1925 SE 29-43-31

From an oval knob of greenst. about 125 steps E & N. 75 steps N & S and 25 feet high. Is isolated and bounded by swampy ground to the W. Massive in structure

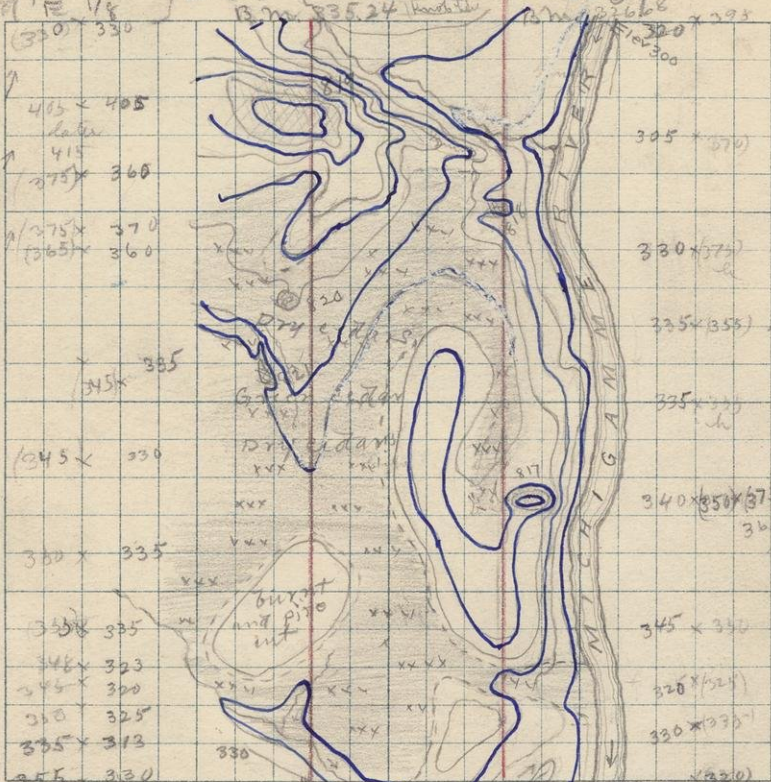
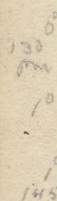


FLINEL  
1/8

S. 30

T. 43

R. 3



$1^{\circ}$  12.50 pm  
 $\frac{1}{2}^{\circ}$   
 $1^{\circ}$  12.25  
 $1^{\circ}$  12.11  
 $1^{\circ}$  12.5 pm  
 $1^{\circ}$  12 m  
 $1^{\circ}$  11.50 pm

Timber about worthless, all old burning with  
pine cut, or swampy ground on which much  
of the cedar is also dead.

## E LINE

Pm 335.24

also am 289.7 003V

June 1.20 P.M.

## E LINE

Pm 326.68

also am 289.5

June 1.5 P.M.

83

|    |                   |    |                         |
|----|-------------------|----|-------------------------|
| 0  |                   | 20 |                         |
| 1  |                   | 19 |                         |
| 2  | one high knob     | 18 |                         |
| 3  |                   | 17 | crack flows E           |
| 4  |                   | 16 |                         |
| 5  | 556 Top unexposed | 15 |                         |
| 6  | crop              | 14 | Cedar & spruce crop     |
| 7  |                   | 13 |                         |
| 8  |                   | 12 |                         |
| 9  | dry cedars        | 11 | dry cedars              |
| 10 |                   | 10 |                         |
| 11 | Green cedars      | 9  |                         |
| 12 | and dry alternate | 8  | 730 knob forest         |
| 13 |                   | 7  |                         |
| 14 | isolated on crop  | 6  |                         |
| 15 | burnt timber cut  | 5  |                         |
| 16 |                   | 4  | River 193 steps E (2nd) |
| 17 | 735 brook         | 3  |                         |
| 18 | a few spruce to E | 2  |                         |
| 19 |                   | 1  |                         |
| 20 |                   | 0  |                         |

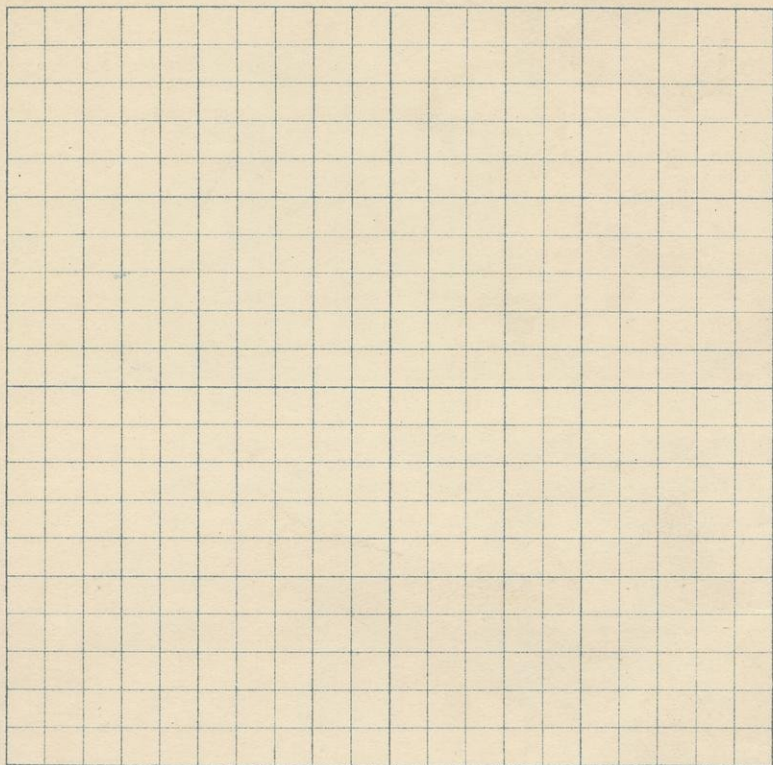
818 N 1500 W 10 SE 30 43 -31

From a small knob of massive greenst. in swamp. It runs off to W. as low ridge for a short distance

N 40 W 200 SE 19 43.31 is about the center of the S side of a very large high knob of greenstone with vertical or precipitous slopes on S. side

819 N 1800 W 500 SE 30 43 31 From a high large irregular knob of massive





801. 1000 lbs. of 100% cotton  
960 - 1000 lbs. of 100% cotton  
822 - 1000 lbs. of 100% cotton  
3 1/2 - 1000 lbs. of 100% cotton  
823 - 1000 lbs. of 100% cotton  
1000 lbs. of 100% cotton

Greenstone having a somewhat flat top. The main part of the knob is longest E and W and a lower extension runs off to the N. W. The valley S of this knob is considerably higher than that to the N.

820 N. 127° W. 340 SE. 30-43-31

From the E side of a little knob of limestone in the swamp.

821 N 105° W 600 SE 30-43-31

The SE corner of another small knob of massive greenstone in the swamp.

822 N 50° W 60 SE 31-43-31

From the easternmost of three knobs of greenstone which stand close together and are connected, and run a little S of W having steep slopes to the swamp on the N. Off to the SE stands a higher knob. Massive greenstone like the others.

823 N 25° W 440 SE. 31-43-31

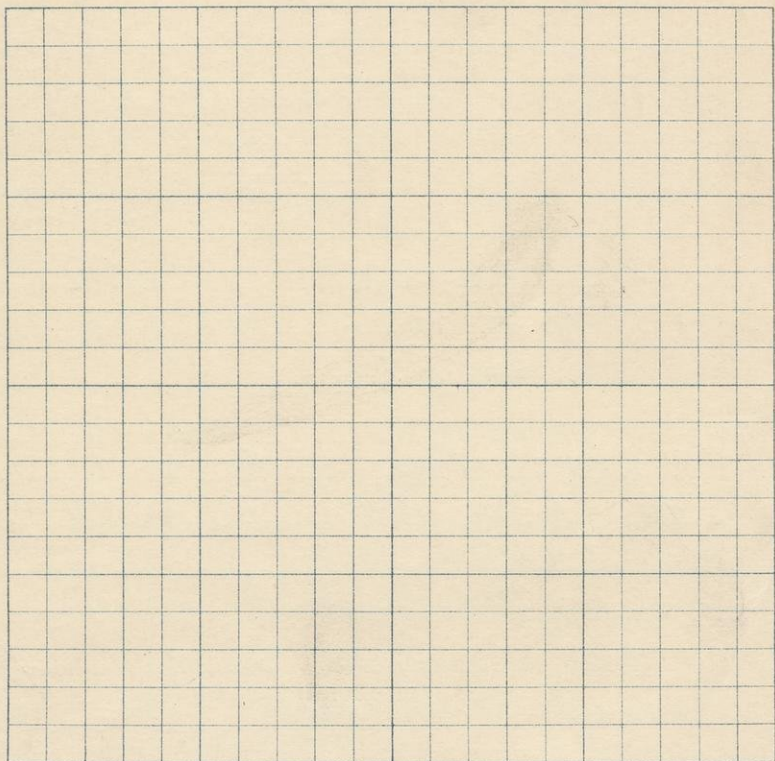
A ledge forming the highest point for some distance and overlooking the country to the N. S. and E for a long distance. The slope up to it is gradual for quite a long distance. Rock.



S.

T.

R.



appears to be massive greenstone like all the others found. The knobs

found on the W. side of the river are all isolated rising here and there out of swampy ground or surrounded by drift and sandy flats or slopes





