Township 47 north, ranges 32, 33, 34, and 35 west, specimens 31601-31633. No. 259 [1891]

Mathews, E. B.
[s.l.]: [s.n.], [1891]

50

258

LAKE SUPERIOR SURVEY

Mathews

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° 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.

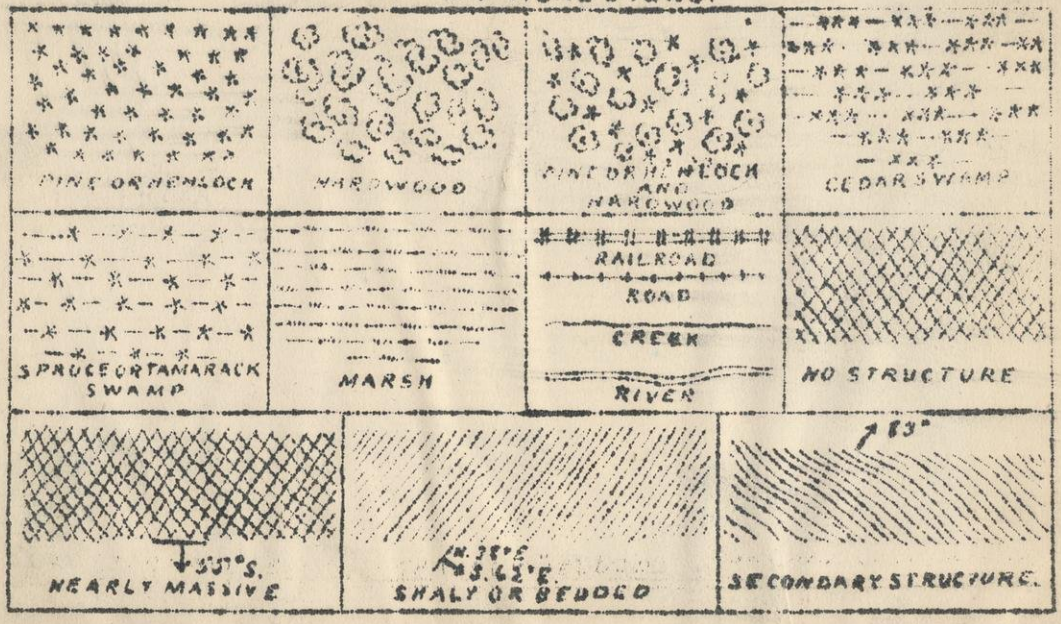
It will be the constant business of the geologist to search for outcrops. All hills within a reasonable distance of the course of travel will be examined. Oftentimes upon the steeper slopes of a hill a rock surface is covered with a coating a few inches thick of moss, leaves or vegetable mold and can be stripped with the pick. Where the exposure is small and there is the least possibility that it may be a large bowlder, 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° *E.*, *Dip*, 68° *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 3x4x1 inch. In case several specimens of the same ledge are necessary, and when ledges are numerous, specimens 2x2½x¾ 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.



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				

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

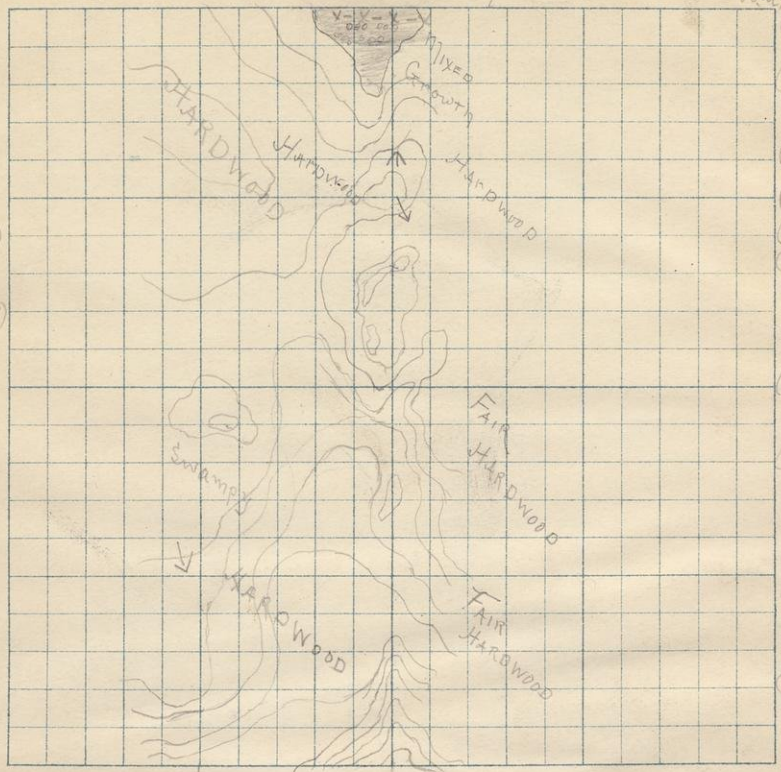
Notebook # 7.
C. B. Mathews. Topographer.
J. H. McDonald. Compassman

SPECIMENS: 1601 — 1633

TOWNS: 47-32
47-33
47-34
47-35

2

S. 13 T. 47 R. 32


HARDWOOD
Mixed Growth
Hardwood
Hardwood
Fair Hardwood
Swamp
Hardwood
Fair Hardwood
eglish.
Evergreen

Sept 12, Bright.

Running south on east range line of 47-38 sections 13 + 24.

B.M. 837.38 Ground (840) √4°E 8.W

Tamarack + alder swamp.

200 S. (850) 400 S. (880) Hardwood 500 S (890)

600 S (870) 690 S (890) √5°E 1000 S (860) √5°E 9.10

1200 S (850) 1400 S (845) √5°30'E

1600 S (830) 1800 S (800) √5°E

2020 S (780) struck intermediate section line

19 E of corner. 9.45

The hardwood on this rid is of small account

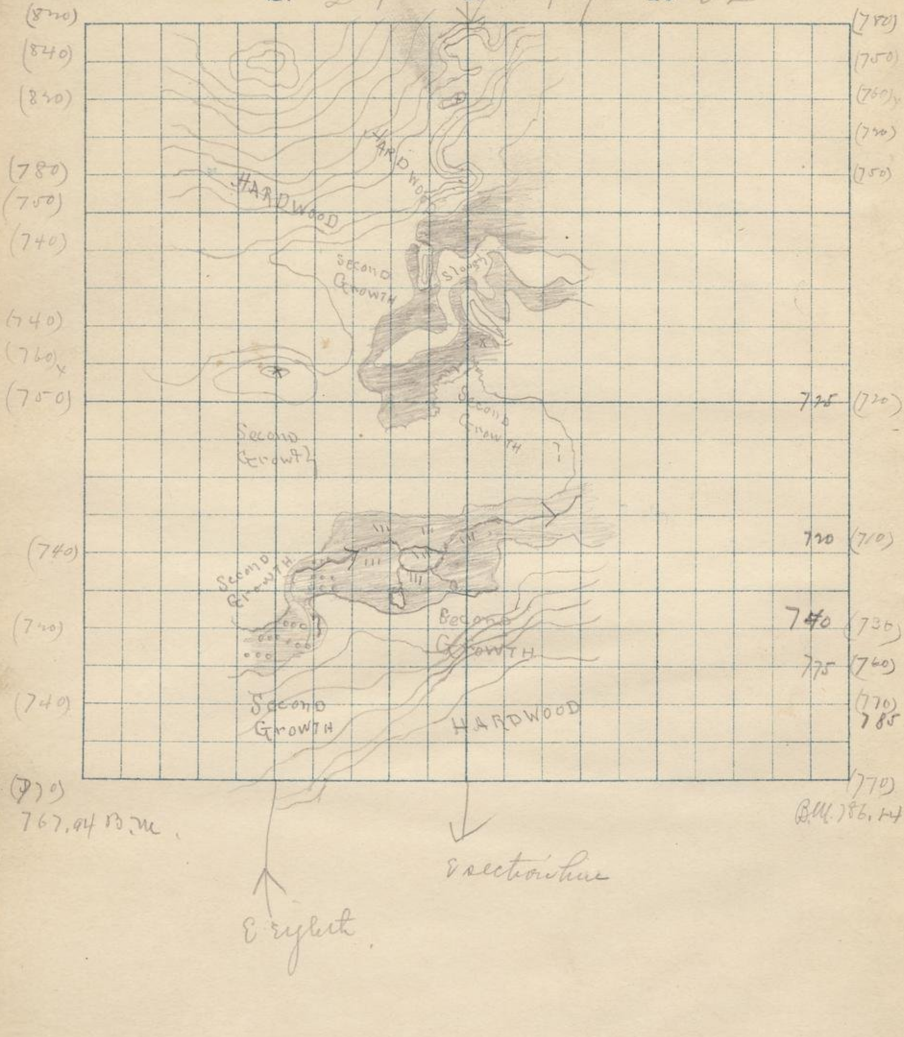
Running north on east eighth of 13

(830) √5°E Fair hardwood. 1.30

1000 N (870) A sort of hardwood 2.10

1973 N struck bench line 40 W of 1/8 stake 2.45

S. 24 T. 47 R. 32


(820)
(840)
(830)
(780)
(750)
(740)
(740)
(760)x
(750)
(740)
(740)
(740)
(770)
767.94 B.M.
(780)
(750)
(760)x
(740)
(750)
725 (720)
720 (710)
740 (730)
775 (760)
(770)
785
(770)
B.M. 786.14
HARDWOOD
HARDWOOD
Second Growth
Slough
Second Growth
Second Growth
Second Growth
Second Growth
Second Growth
HARDWOOD
Esectionline
E eighth

Running south on east section line of 24
(47-32) (780) ∇5°

1005(750) swampy growth.

4005 (The contours are a little too far south) (750)

6755(710) edge of slough, 1000 s(720) 10.40

13135(710) 1537 s ∇30° E.

1700 s(760) Hardwood (?)

19375(770) struck section line 23 E of corner. 11.20

B.M. 786.24 Aneroid(770)

Running north on east eighth of 24.

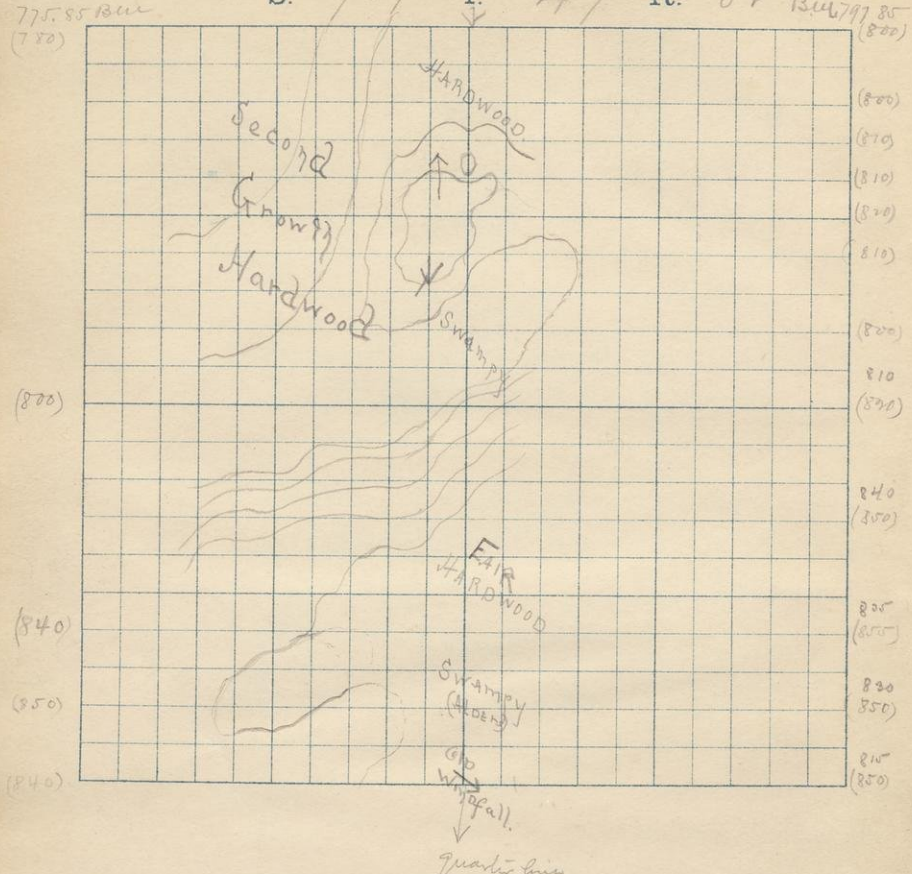
B.M. 767.94 Aneroid(770) ∇5°E 11.30

1000 n(750) ∇5°E. 12.40

5039 n(830) struck intermediate line at 1/8 stake.

The hardwood is only of a fair quality + size 1.20

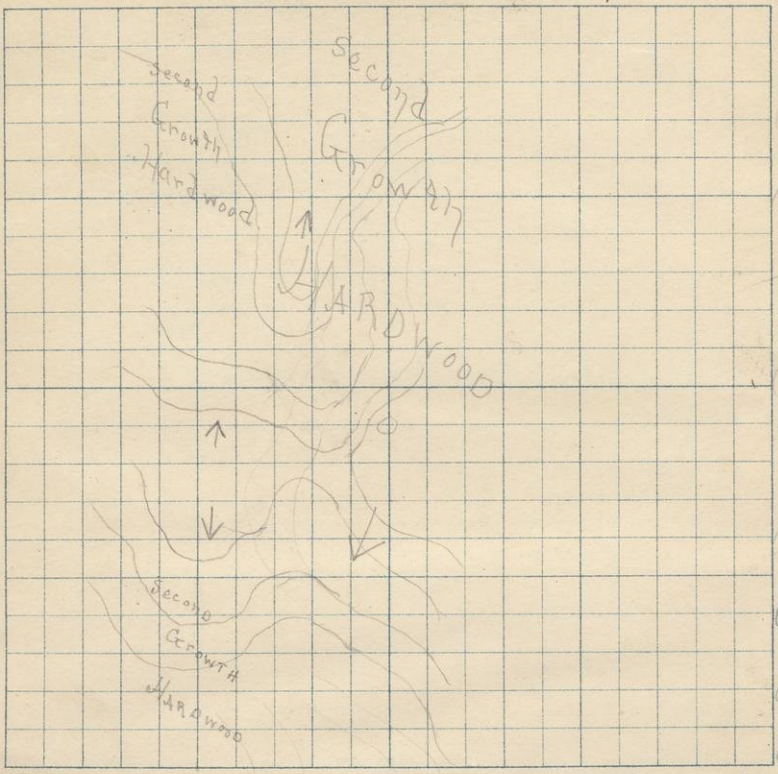
S. 14 T. 47 R. 32


775.85 B.M.
(780)
B.M. 797.85
(800)
Second Growth Hardwood
HARDWOOD.
(800)
(810)
(810)
(820)
(810)
Swampy
(820)
810
(800)
(830)
840
(850)
FAIR HARDWOOD
(840)
835
(855)
Swampy (ALDER)
(850)
830
850)
Old Windfall
(840)
815
(850)
Quarter line

Sept 14. Overcast.

Running south on quarterline of 14 (47-32)
B.M. 797 85 aneroid (800) √4°E 6.45
Fair thick hardwood.
200S (800) 400S (870) 500S (820) √4°E.
600S (810) 800S (800) a sort of swampy growth.
1000S (820) 7.30
1300S (850) Small second growth maple.
1400S (850) Fair thick hardwood. 1600S (855)
1800S (850) swampy with alders.
2195 S struck intermediate line 114 E of ¼ stake
There must be some bad variations or else the line was wrong. 8.40

8 S. 23 T. 47 R. 32



(840) (850) (850) (880) (870) (870) (850)

815 (885) 835 (870) 850 (890) 855 (900) 875 (920) 850 (910) 850 (900) 830 (880) (875)

878.57 Bull.

Bull. 837.06

Running south on quarter line of 23 (47-32)
There seems to be considerable trouble all along this line on account of waterworn float some of which occurs on the surface. We cannot get variations but are running on N 5° E according to the map. Second growth hardwood

1000S (900) 9.30

1100S (920)

1229S Found a test pit about 15-20 feet deep into the drift. No ledge was struck. A very old test pit

1975S struck bench line 148 E of 1/4 stake

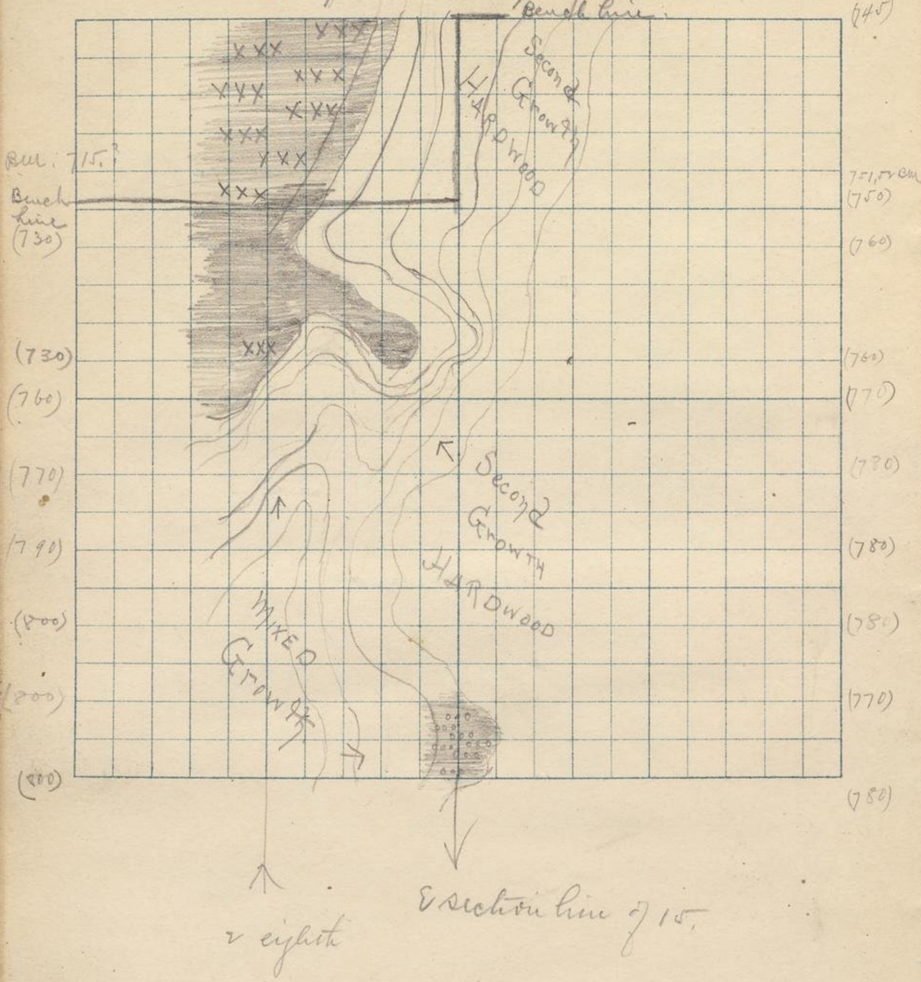
B.M. 827.06 Aneroid (875) 10.15

Running north on west eighth of 23

B.M. 828.57 Aneroid (830) 10.30

Raining since nine oclock.

S. 15 T. 47 R. 32


BM. 746.09
(745)
Bench line
Second Growth
HARDWOOD
BM. 715.?
Bench line
(730)
751.52 BM
(750)
(760)
(730)
(760)
(760)
(770)
(770)
(780)
(790)
(780)
(800)
(780)
(800)
(770)
(800)
(780)
Second Growth
HARDWOOD
MIXED Growth
E section line of 15.
2 eighth

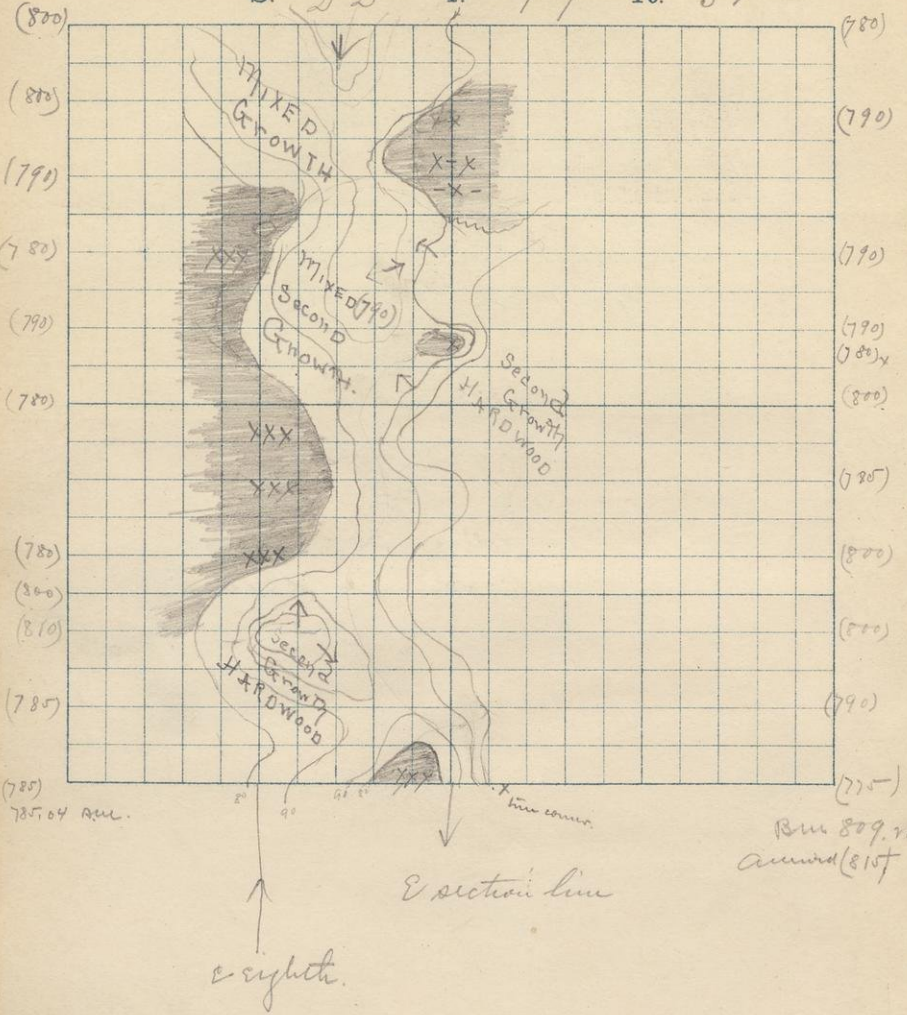
Sept 17. Bright.

Running south on east section line of 15
(47-38)
B.M. 746.09 Aneroid (745): Hardwood 2nd growth
4728 Line so far on a jog in the bench
line. ("No leaning seen for nine miles")
B.M. at benchline 1/4 mile south of section
line 751.52. Aneroid (750) 8.10
1000 S. (770) small 2nd growth hardwood 8.30
2023 S. (780) struck intermediate line 10 W of corner. 9.00

Running north on east eighth of 15.
(800) V 40 E Mixed small hardwood + soft.
1080 N (730) swamp. thick.
1530 N struck benchline 65 W of 1/8 stake
B.M. 715? (not found) Aneroid (730) 1.45

12

S. 22 T. 47 R. 3 W



Running south on east section line of 22.(47-32)(780) √6°E 9.05

2205(790) spruce swamp.

1000 s(800) Small md growth hardwood √5°E 9.40

2095(775) " " " " √6°E

struck bench line 127 w of corner 10.15

B.M. 809.28 Aneroid (815)

Running north on east eighth 22.

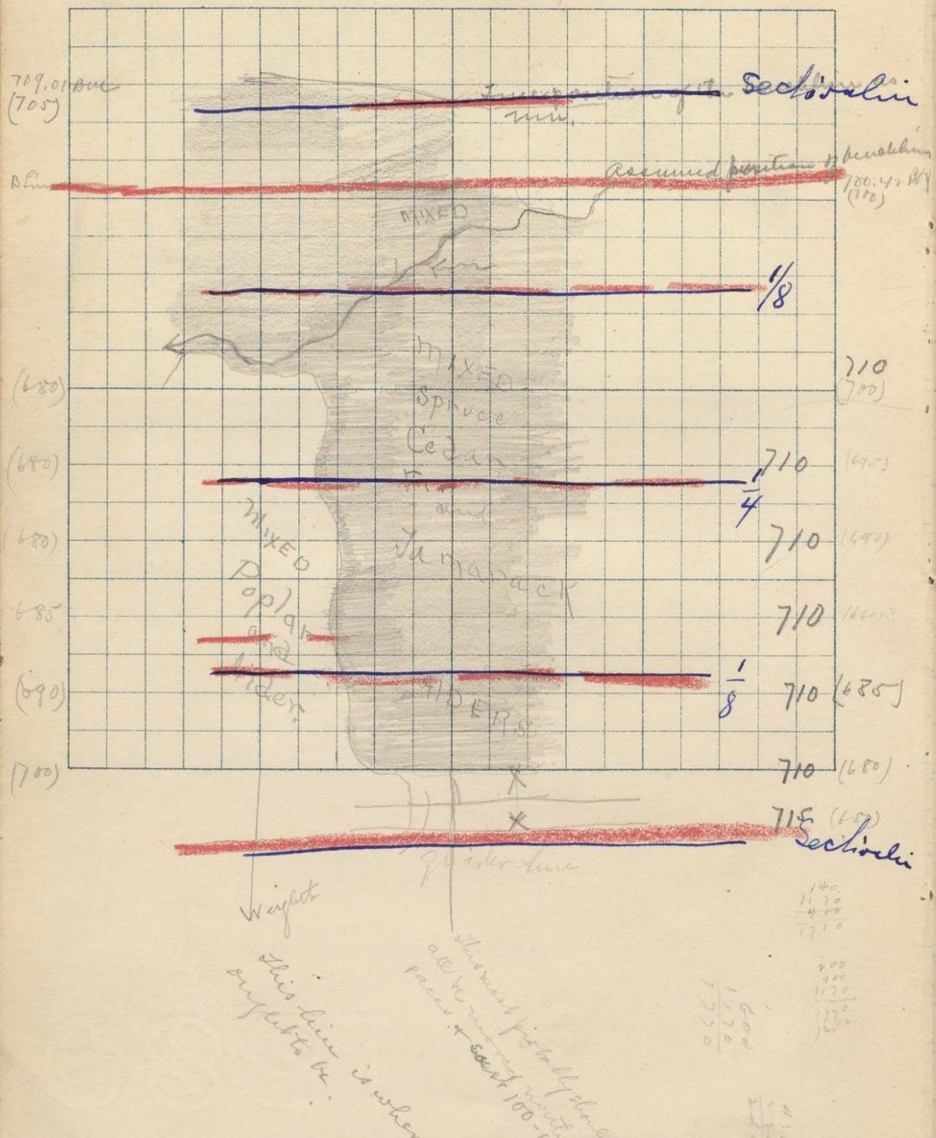
B.M. 785.04 Aneroid (785) √5°45'E 10.30

600 n (780) √5°E Cedar swamp. 1000 n √5°E 11.15

1600 n (790) mixed small growth.

2030 n (800) struck intermediate line 12.30

S. 16 T. 47 R. 38


Section line
assumed position of ... line
MIXED
1/8
MIXED
Spruce
Cedar
and
Tamarack
1/4
MIXED
Poplar
and
Alder
1/8
ALDERS
710
710
710
710
710
715
Section line
Quarter line
Weight
This line is where it ought to be.

Sept. 18th Bright.

Running south on quarterline of 16.

B.M. 709.42 Aneroid (700) V 3°30'E. 7.20

Beaver swamp.

The benchline is about 470 S of section line.

1000S. (700) V 4°E Spruce & balsam swamp. 7.45

2170S (680) struck intermediate line 148 E of quarter stake. I think the stakes on our bench line are placed 100 E of where they ought to be. The work we do from this bench line cannot but be poor & unsatisfactory.

9.00

Running north on west eighth of 16 12.30

1.25

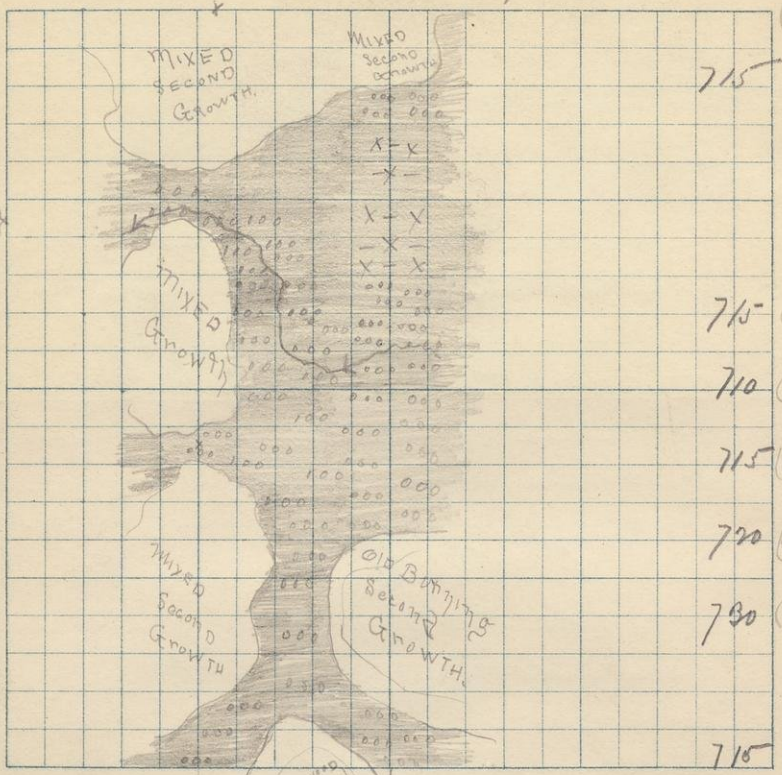
1000n (680) alder & poplar mixed, not a swamp.

1060n Creek.

1806n (700) struck bench line 118 W of 1/8 stake

B.M. 709.01 Aneroid (705) 2.15

S. 21 T. 47 R. 32



711.34 B.L.L.

B.L.L. 715.65

weylette

quarter line.

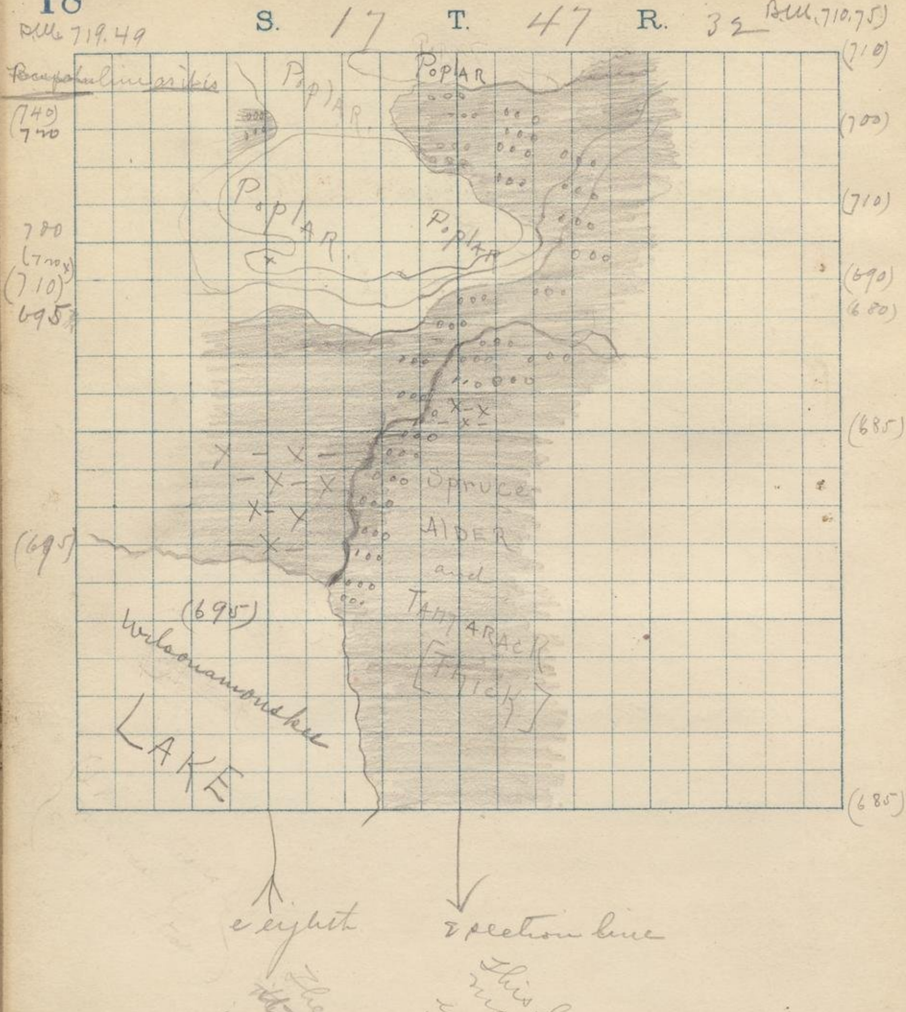
Runny south on quarterline of 71 (680) 55 E. Mixed second growth 9.00
alder + spruce swamp almost all the way from 700 S - 1400 S with a creek at 900 S.
1000 S. 9.45
1900 S struck south benchline 110. W of 1/4 stake.
BM 715.65 Aneroid (650) 10.20
My compassman has heretofore done good work + I believe he is doing it now, there must be some trouble with the stakes.

Runny north on west eighth of 21
BM 711.34 Aneroid (710) 10.35

1000 N (715) Mixed second growth 11.15

1001 N (700) struck intermidiate line 50 E of 1/8 17.20

S. 17 T. 47 R. 32



e eighth

℄ section line

This line should be moved south 100 paces & east 100 paces to where it ought to be.

The line run is nearer its true position than it were plotted according to our closure

Sept 19 cloudy.

Running south on east section line of 17 45-32

B.M. 710.75 Aneroid (710) √4°30'E 7.10

Poplar growth, 90 S (700) alder swamp

775 S Creek (680)

1000 S (685) Tamarack swamp √4°E 7.55

1900 S (685) struck intermediate line 8.45

1

Running north on east eighth of 17.

starting at 666 N aneroid set at 695

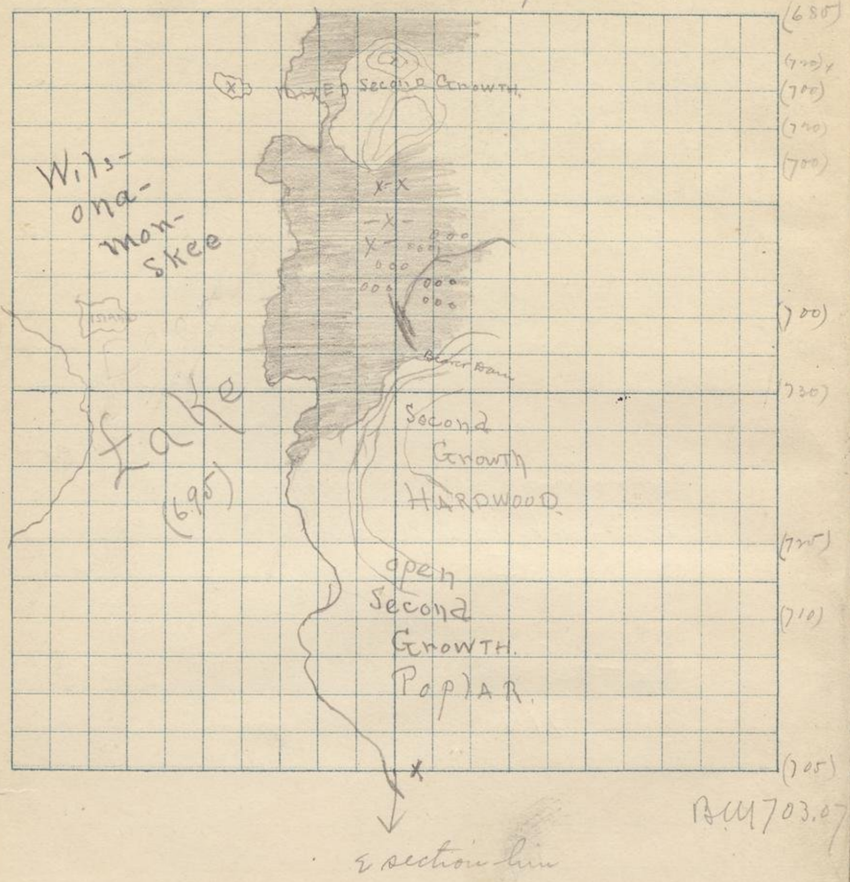
√30°E 12.15 Spruce swamp

1895 N struck bench line 90 W of 1/8

B.M. 719.48 Aneroid. (740) 1.15

~~Th~~

S. 20 T. 47 R. 32



(680)
(720)
(700)
(720)
(700)
MIXED SECOND GROWTH
Wils-ona-mon-skee
Lake
(695)
Beaver Dam
(700)
(730)
Second Growth HARDWOOD
(725)
open Second Growth Poplar
(710)
(705)
B.M. 703.07
½ section line

Running south on east section
line of Tp 47-35
(685) N 4° 30' E Alder tamarack + spruce
swamps. 8.50
800 S. (700) side of creek stopped by beaver dam
no open connection with the lake
1000 S (730) 2nd growth hardwood. N 4° E 9.30

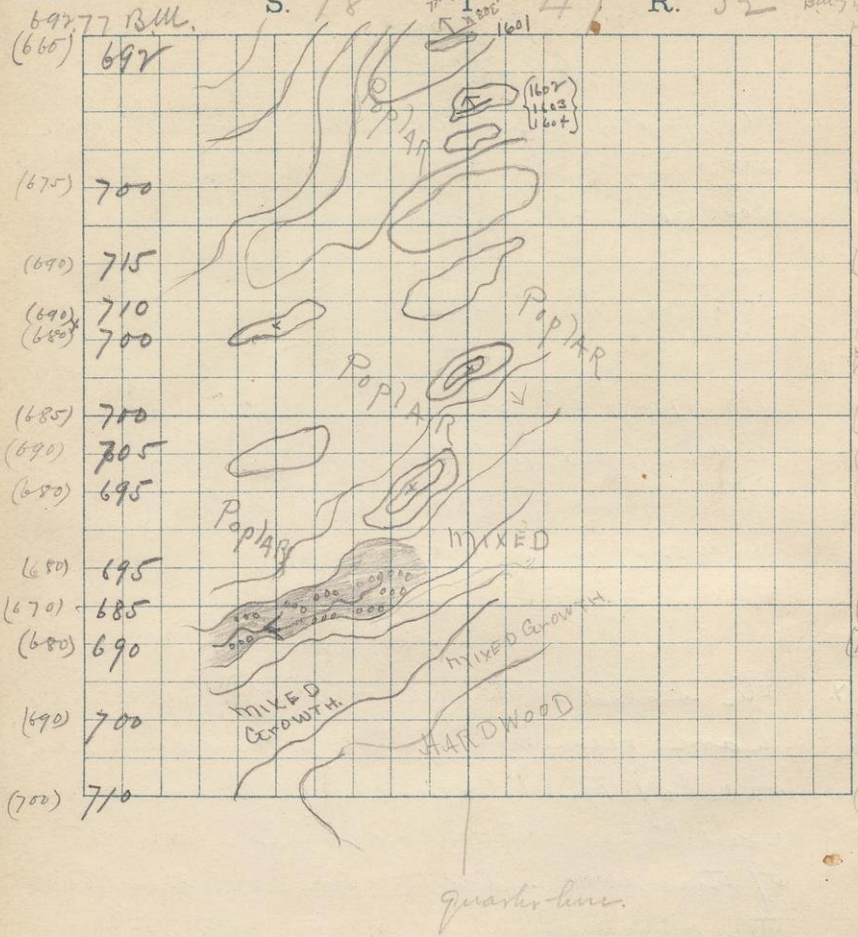
1987 S (710) struck meridian line 43 E of Corner
B.M. 703.07. Aneroid (705) 10.05

Line north in Lake,

X The island or shoal marked (X) may
have been an outcrop it looked like
one of that which we have been
calling "greenstone" The platting
of this island is much exaggerated
the original not being over 15-20 feet.

22

S. 18 T. 47 R. 32



Sept 20 Bright

Running south on quarterline of 18.

B.M. 721.08 aneroid (720) 7.45

Poplar with the whole surface covered with boulders

1000 S (680) Poplar + many boulders. 8.50

1975 S. (715) Struck intermediate line 85 E

of 1/4 stake √4°-5° E all the way. 9.30

Running north on west quarter of 18. 47-32

(700) √3° E. Hardwood. 1.00

420 N (670) creek flowing SW.

1000 N (685) √3°30' E poplar growth 1.50

1360 N √1° E.

2025 N (665) struck benchline 51 W of 1/8 stake.

B.M. 697.77. Aneroid (665) 2.30

1601 On bench line at quarter stake. Dip 72° N

Strike N 80° E.

1602 1750 N 1000 W SE cor 18. strike ~~+ dip~~ same as

1603 above. 1602 I believe to be a weathered

portion of 1603. Others in the party do not.

Dip 82° N. Find 1602 along the strike of 1603.

1604. Found some twenty feet south of 1603 +

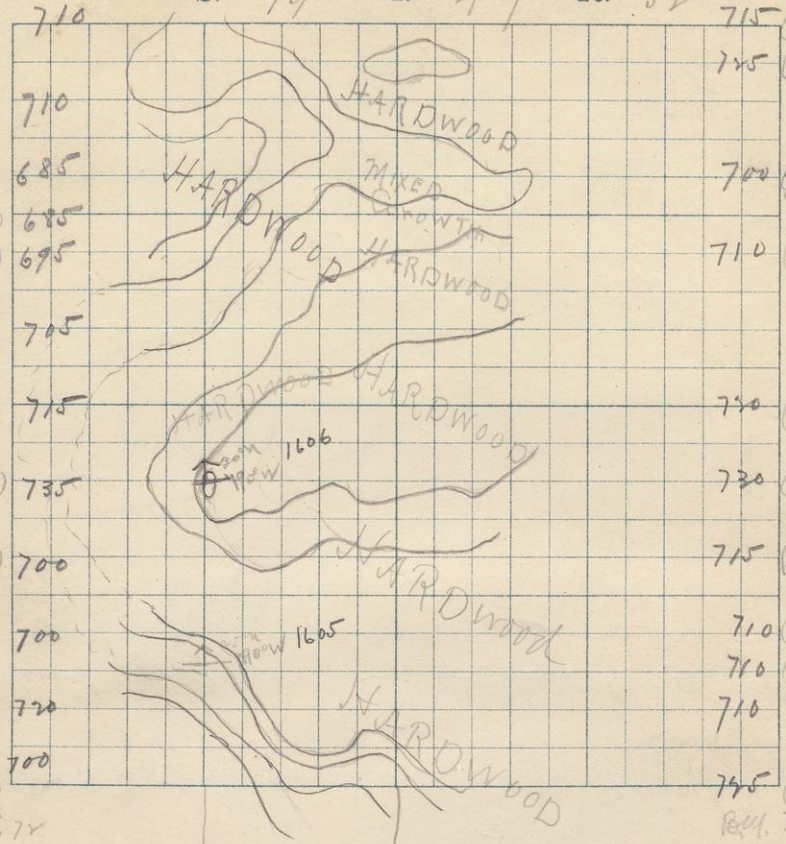
extending into the ledge 5 inches or more.

The north half of section 18 is thickly

strewn with boulders.

Am doubtful concerning true bedding

S. 19 T. 47 R. 32



weight

quarter line

no interpolation on the north-south for contours seemed to be flat + the aneroid initially

The aneroid without change closed correctly on the B.M. at the weights

Running south on quarterline of 19.
Hardwood. V 4° 30' E. 9.30
100 S. (725) 400 S (700) 600 S (710)
1000 S. (730) V 4° E Hardwood, fair. 10.05
1300 S (725) 1400 S. (710)

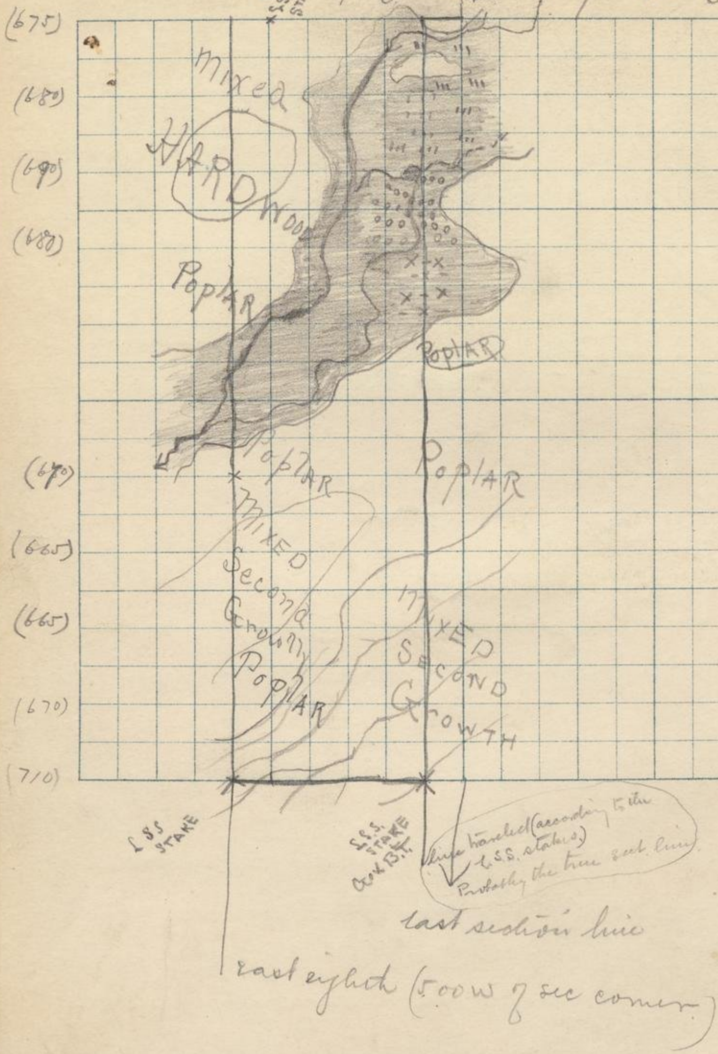
1994 S. struck the south townships line 85 E of a stake marked "about the 1/4 stake" B.M. 725.86 Aneroid (710) 10.40

Running north on west eighth of 19.
B.M. 689.72 Aneroid (700). 10.50
(stakes only 475 feet apart). V 5° E
200 N (730)
1000 N (710) Hardwood good. 11.00
1600 N (680) V 3° 30' E.
2009 (700) struck the intermediate line 18 E of 1/8 stake. 12.40

1605 310 N 1500 W S E cor sec 19. Low ledge of schist strike N 90° W dip not determined
1606 785 N 1500 W high outcrop of schist strike E & W dip from 30° - 70° N generally about 30°.

I am not sure that I found a true bedding in the outcrops found.

S. 13 T. 47 R. 33


L.S.S. STAKE
L.S.S. STAKE
B.M. 672.35
(675)
(680)
(690)
(688)
(670)
(665)
(665)
(670)
(710)
(670)
(670)
(670)
(675)
(670)
6
(680)
(690)
(700)
(710)
Mixed
HARDWOOD
Poplar
Poplar
Poplar
Poplar
Mixed
Second
Growth
Poplar
Mixed
Second
Growth
L.S.S. STAKE
L.S.S. STAKE Cor. B.T.
Line traveled (according to the L.S.S. stakes)
Probably the true sect. line
last section line
east eighth (5.00 W of sec corner)

Sept 21 Bright.

Runn south on east section line of 13 47-33.

B.M. 672.35 Aneroid (670) V 3° 30' E 7.50

set off 100 paces W to get somewhere near the true corner 35 S struck creek flowing WSW (670)

all altitudes apply to N+S line 100 W of 1/4 line of plot.

1000 S (675) V 3° 30' E Poplar + alder 8.00

1300 S V 40 E

1962 S struck intermediate line at corner. 8.30

If we had started from North L.S.S. stake we would have been 100 paces to far east.

Runn north on east edge of 13 (47-33)

Hardwood V 2° 30' E (710) 8.50

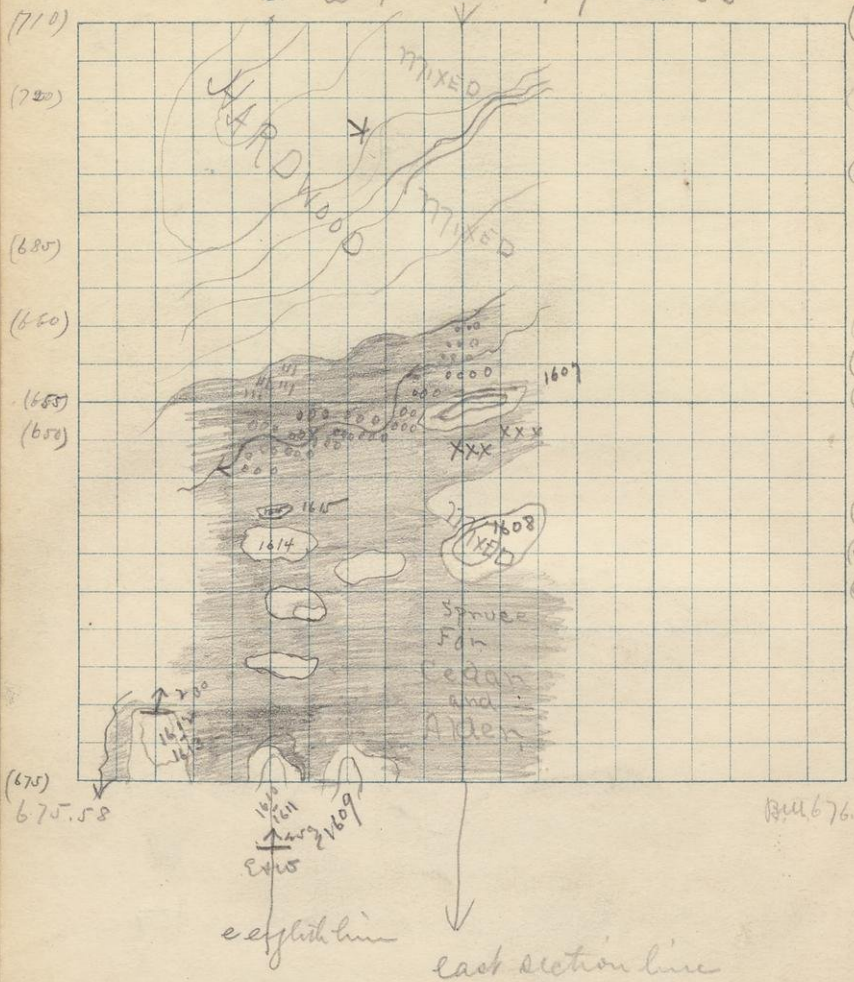
1950 N (670) Mixed growth.

B.M. Aneroid 4.00

We struck the line 100 W of 1/4 stake

28

S. 24 T. 47 R. 33



Running south on east section line of z4 47-33. (710) V 40 30' E 8.40
mixed second growth.
1000S on north side of abrupt rise of 20 feet.

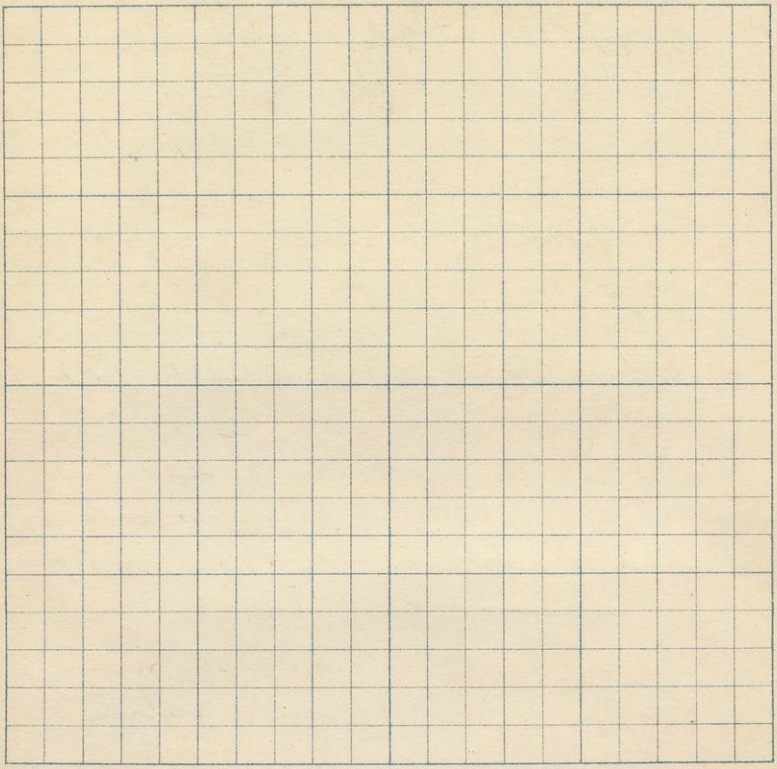
1998S (870) struck bench line at corner 10.30

Running north on east right of z4 (47-33)
Bul. 675.58 Aneroid (675) V 1°E 1.00
300N V 0° 461N V 1°W. 750N V 0° (variation probably wrong)
1000N (655) alder swamp. 2.00
2060N (720) struck intermediate line
180E of stake (wrong time used owing
to breakage of watch 3.50

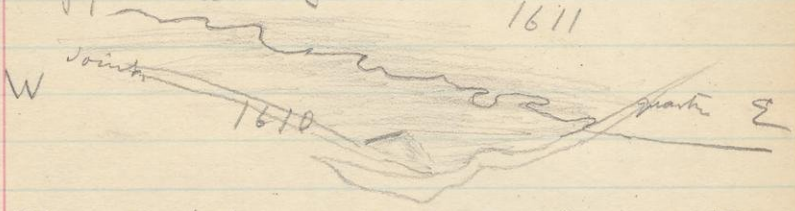
"

1607 1000N SE cor z4 (47-33) large outcrop of schist
no dip nor strike obtainable
1608. 650N SE cor z4 (47-33) outcrop of quartzite
1609. 300W SE cor z4 (47-33) outcrop on benchline
no true bedding evident.
1610 475W SE cor z4 (47-33) dip. 23°N strike N90°W
1611 At this ledge there appears to be
true bedding in which 1610 lies
below 1611. The line of demarkation
between these two beds is not

S. T. R.



straight and regular but according to the difference in the weathering of the two would appear to be this.



This sketch would be in the direction of the dip across the strike.

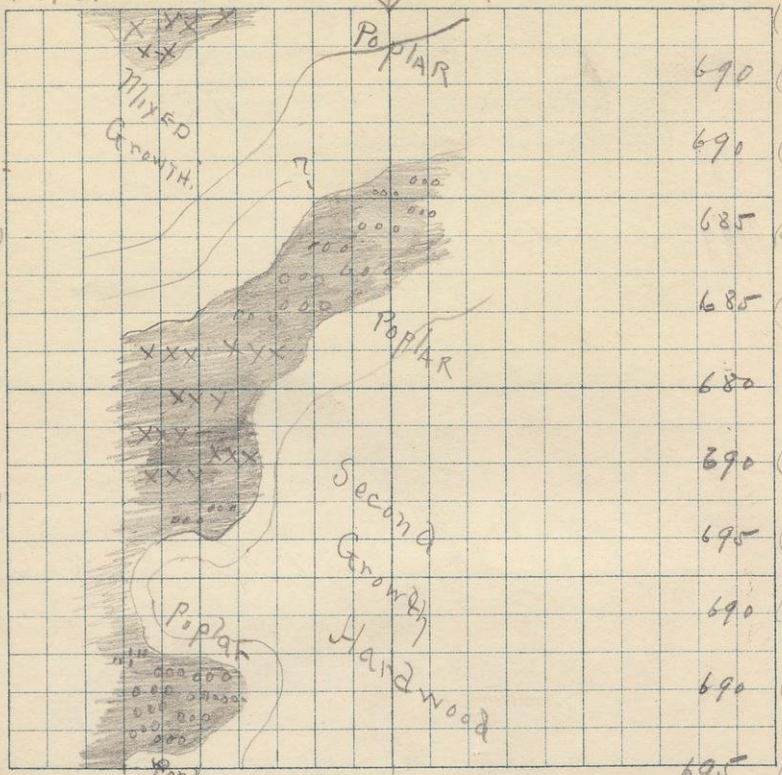
1612 800 W S E cor ¼ (47-33) large outcrop
1613 in which a bed of 1612 seems to underlie a bed of 1613. Dip & strike the same as at 1610-1611

1614 650 N 500 W SE cor ¼ (47-33) massive low but fairly extensive outcrop.

1615. 700 N 500 W SE cor ¼ (47-33) massive abrupt outcrop of medium size.

S. 14 T. 47 R. 33

689.04 B.M. B.M. 707.54



Sept 27. Bright.

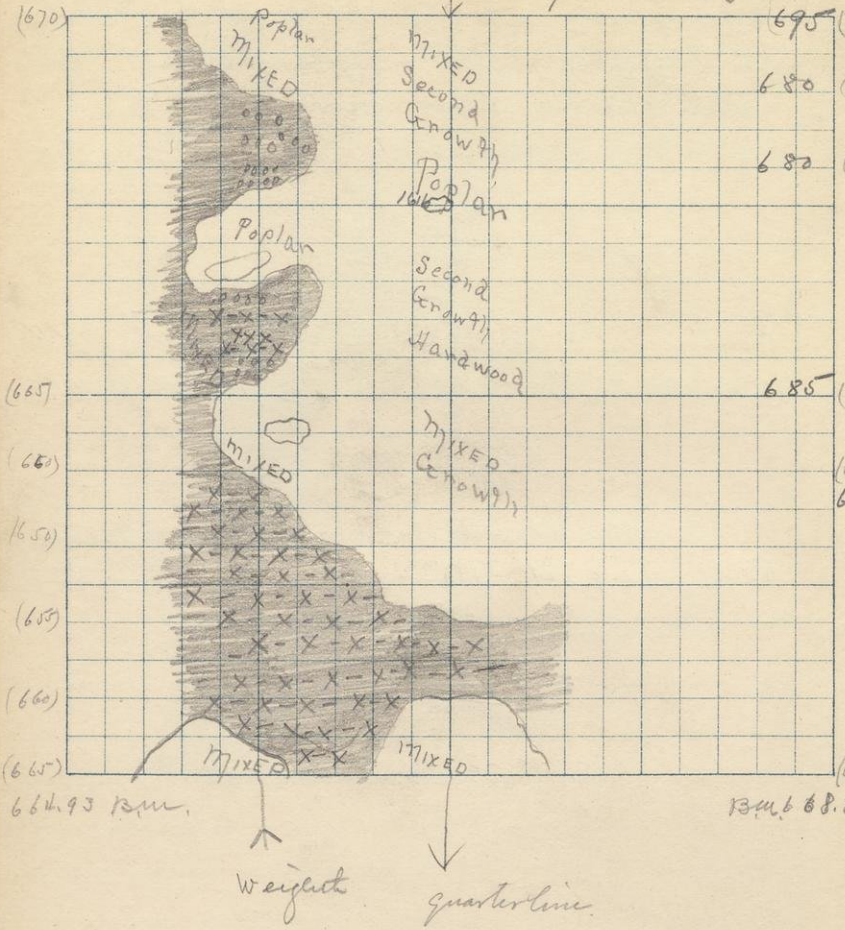
Running south on quarter line of
sec 14 (47-23) V 3° E Poplar growth 7.50
BM. 707.54 Aneroid (700)
1000 S. (685) poplar V 4° E 8.75
1000 S. (710) no line found so continued 9.00

Running north on west eight of 14
(670) V 3° 20' E poplar 1.00

1970 N (685) struck meridian 35 E of 1/8 stake
BM. 684.04 Aneroid (685) 2.00

34

S. 23 T. 47 R. 33



Running south on quarterline of 23 (47-33) | N 4° E (710) mixed second growth (chiefly hardwood) 9.00

1000 S (700) N 3°30' E mixed second growth 9.40

1962 S struck south beachline 16 W of 1/4 stake,
B.M. 668.31 Aneroid (690) 10.05

Running north on west eighth of 23 (47-33)
B.M. 664.93 Aneroid (665) N 3° E 11.10

1000 N (665) mixed growth 11.45

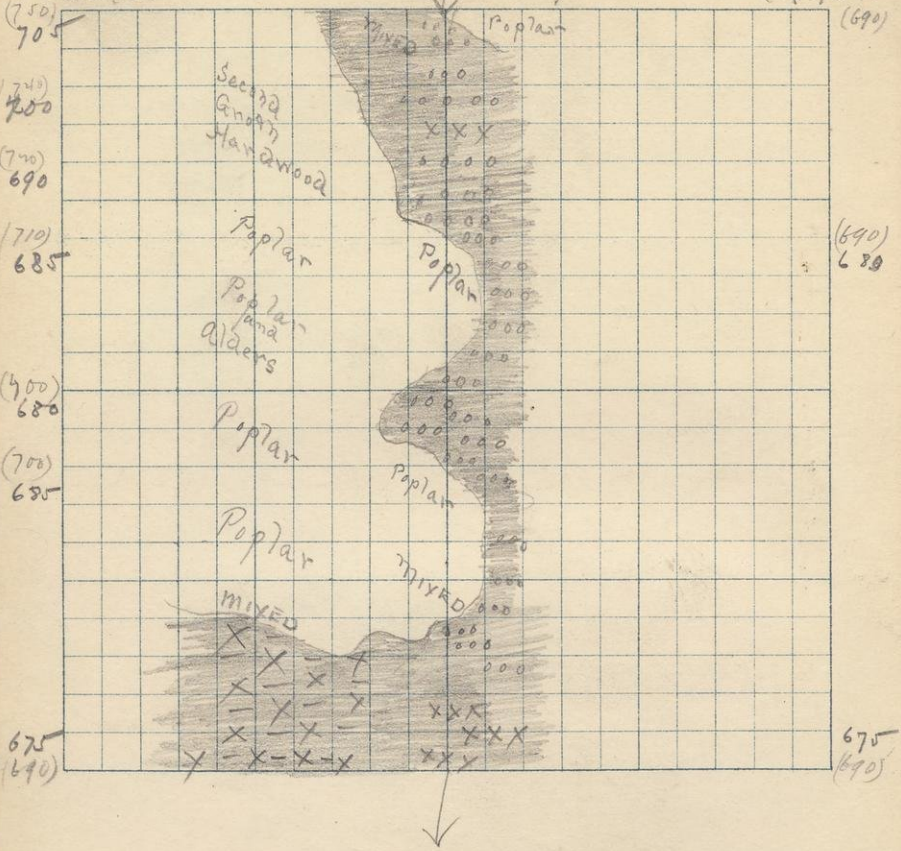
2000 N (670) poplar N 3°30' E no line so continued north 12.55

1616 1500 N 1000 W SE cor 23 ledge of massive quartzite.

36

S. 15 T. 47 R. 33 BM. 690.41

706.78 BM.



Sept 28. Bright.

Running south on east section line of 15 (47-38)

BM. 690.41 Aneroid (690) V 3° E 8.40

1000 S alder swamp (685) V 3° 9.30

2000 S spruce swamp no line found so continued south 10.20

Running north on east eighth of 15, (690) V 3° E spruce swamp. 2.15

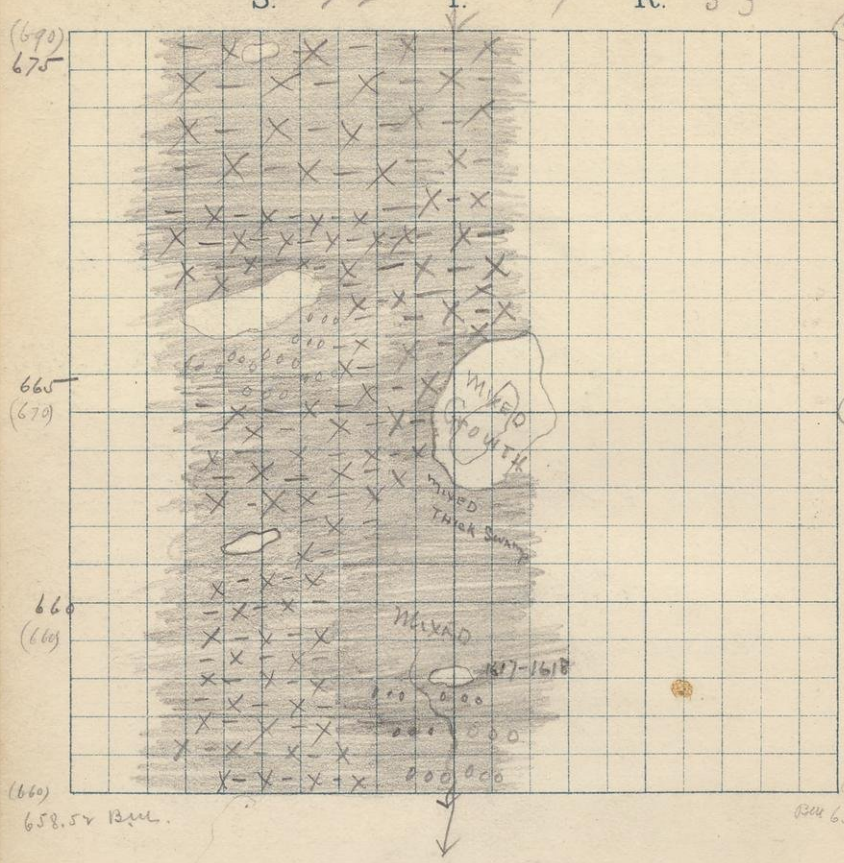
1000 N (700) V 3° Poplar growth 2.55

2073 N (750) stuck bench line 45 W of 1/8 2.30

BM 706.78 Aneroid (750)

38

S. 22 T. 47 R. 33



Running south on east section line of 22 (47-33) (690) √3° 10.30
1000 S (690) mixed growth 11.15

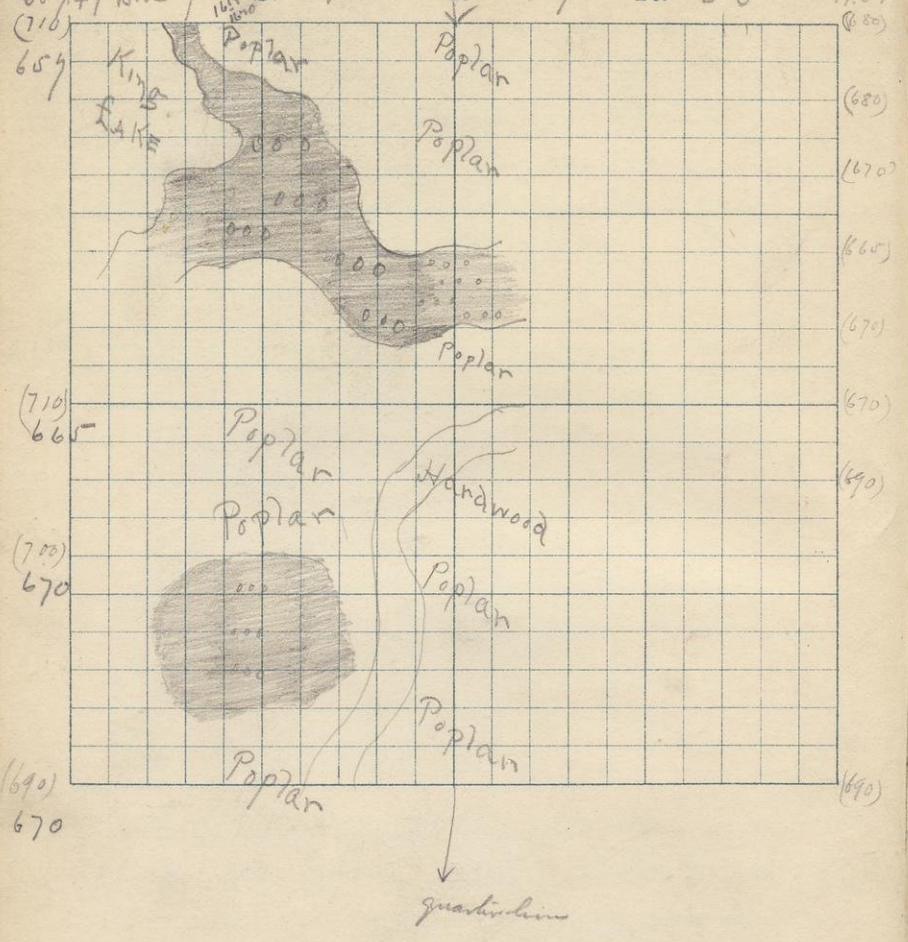
2007 S struck the benchline 23 W of cor. 12.15
B.M. 656.14 Aneroid (not read purposely)

Running north on east eighth of 22 (47-33) Spruce swamp.
B.M. 658.52 Aneroid (660) √3°E. 1.00
1000 N (670) Spruce swamp √3°E 1.40
1500 N √3°E 1.55
3000 N ~~700~~ line found so continued 2.15
north (690) Spruce swamp.

1617 300 N SE cor 22 ledge of quartzite + slate. Dip
1618 43° N strike N 70° E with cleavage planes
almost perpendicular.

40

S. 16 T. 47 R. 33



Sept 24.

Running south on quarter line 9/16
Bill. 677 Bor Aneroid (680) V 7° E. 7.25
Poplar.
700 S. (680) Poplar.
1000 S (670) Poplar V 3° 30' E 8.10
1150 S (690) Hardwood
2000 S (690) no line found so continued south
poplar 9.15

Running north on west eighth 9/16
(47.33) Aneroid (690) V 7° E poplar 1.40
1000 N (710) poplar growth 2.40

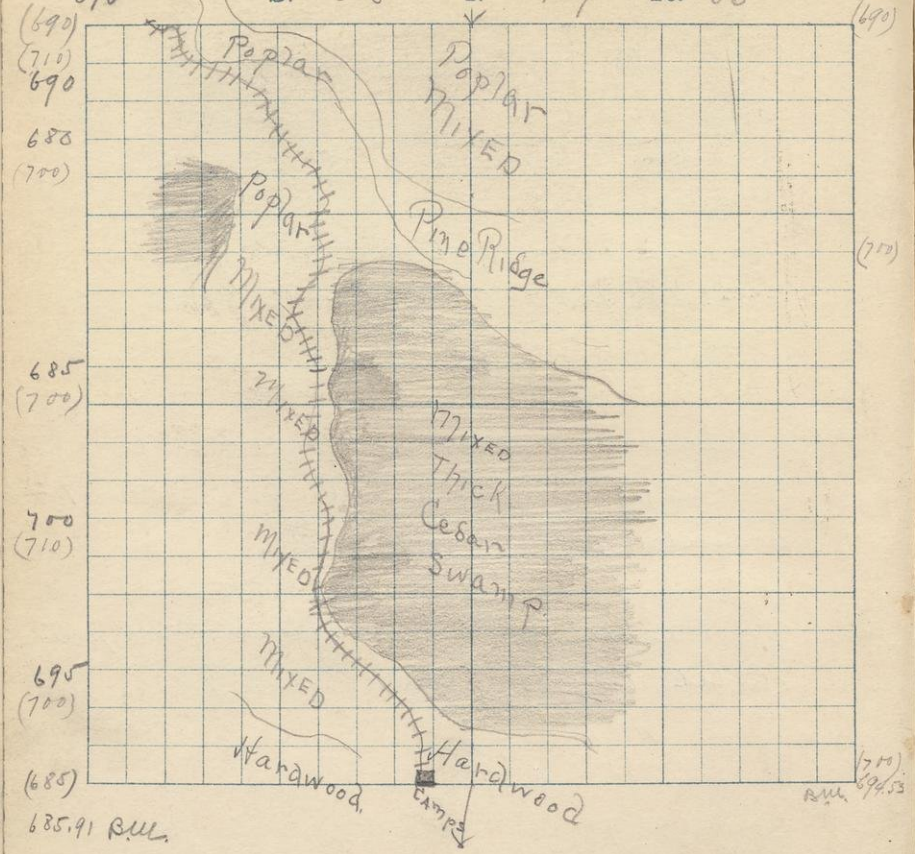
2023 N (710) Struck benchline 13 E 7/8 stake
Bill. 657.47 Aneroid (710) 3.30

1619 Ax benchline 1475 W see corner low outcrop of
1620 quartzite. Strike N 70° E Dip 40° (?) N.

42

21

S. 23 T. 47 R. 33

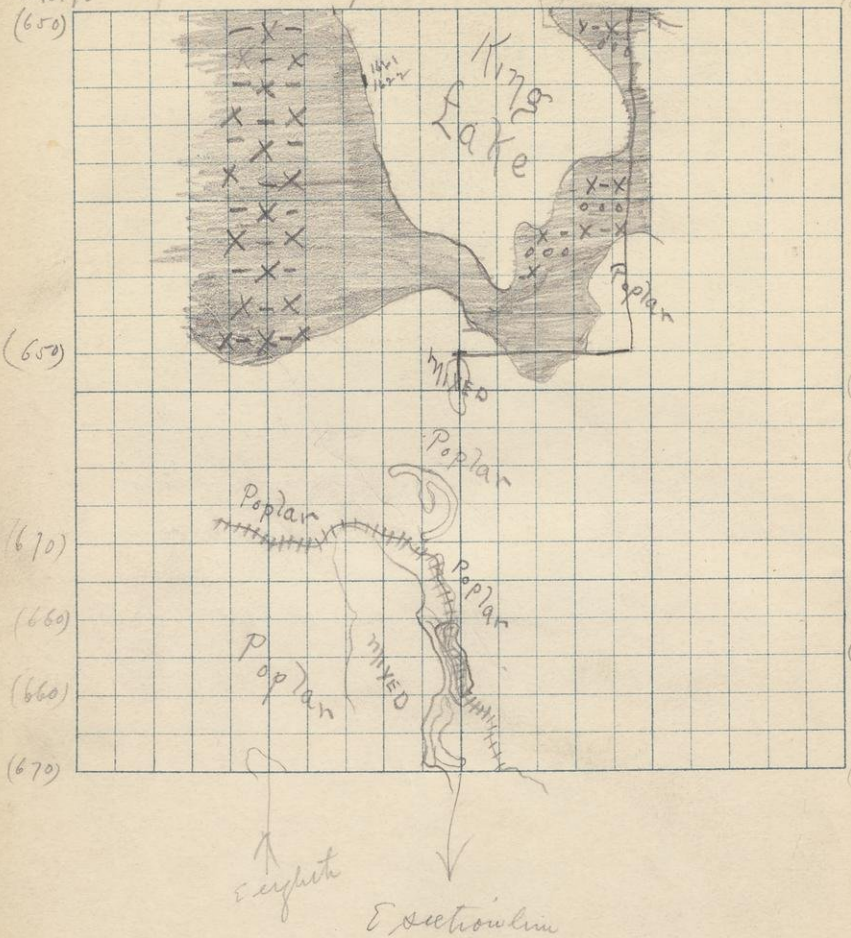


Running south on quarterline of
23 (47-33) N3°E aneroid (690) 9.05
poplar growth
500 S. Pine slashing (at work now)

1970 S. struck trench line at 1/4 stake 10.40
B.M. 694.53 Aneroid (700)

Running north on west eighth of
23. (47-33) Hardwood. N3°E.
B.M. 685.91 aneroid (685) 12.20
1000 N (700) mixed growth 1.15
1700 N (700) supply road. poplar.
2000 N (690) no line found so continued
north N5° Poplar 1.40

S. 17 T. 47 R. 33 BM, 657.4 (650)



Sept 25. overcast

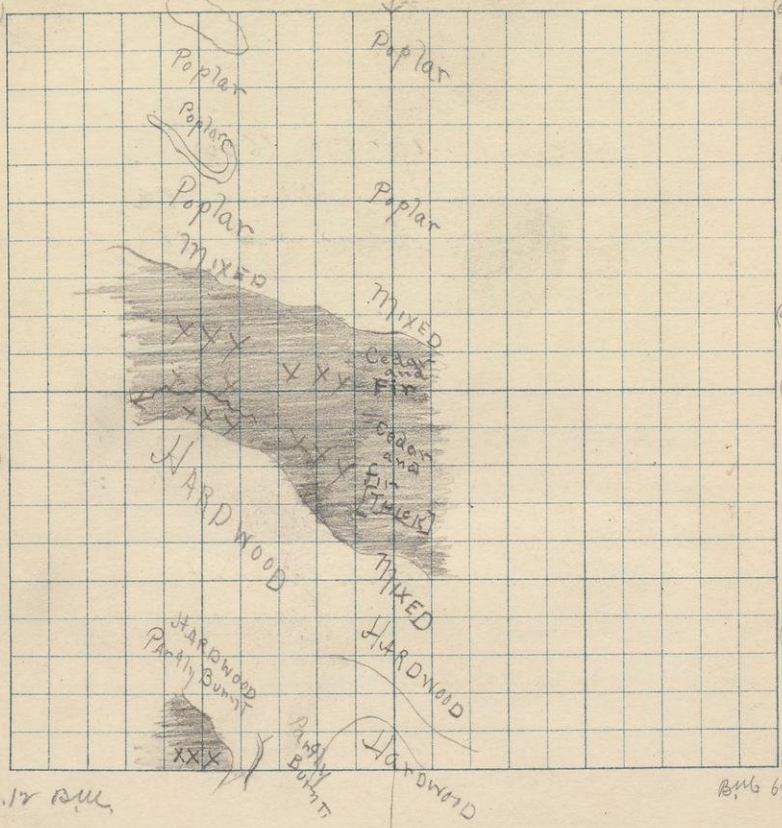
Running south on east section line of 17.(47 ± 33)
Corner in lake. started 50 W of 1/8 7.20
B.M. 657.47. Aneroid (655) V 2° E
900S set west to section line,
1000 S (630) on section line. poplar. V 2° E 8.40
1700 S (620) supply road (on ridge) V 2°30' E 9.10
2000 S (620) no line found so continued south 9.35

Running north on east eighth of 17(47-33)
Aneroid (670) V 2° E poplar growth 1.50
1870 N (650) entered open tamarack swamp
V 3° E. 1.45
2025 N Struck benchline 40 paces E of 1/2 stake
B.M. 645.90 Aneroid (650) 2.10

1677 Low outcrop on shore of lake 200 S of benchline
1678 no true + sure dip nor strike obtained quartzite

46

S. 20 T. 47 R. 33



663.17 B.M.

B.M. 693.5

Section line

Running south on east section line of 20 (47-33) V 7°30' E Aneroid (640) Poplar.

1000 S. Cedar + fir swamp. (600) V. 10.30

1650 S Hardwood. good. (620)

1993 (630) struck benchline 19 W of corner,

B.M. 693.15 Aneroid (630) V 3° E 11.50

Running north on east eighth of 20 (47-33)

B.M. 663.12 Aneroid (665) V 3°30' E 11.45

Cedar swamp which soon changes to hardwood.

1000 N (650) Cedar + fir swamp (thick) creek

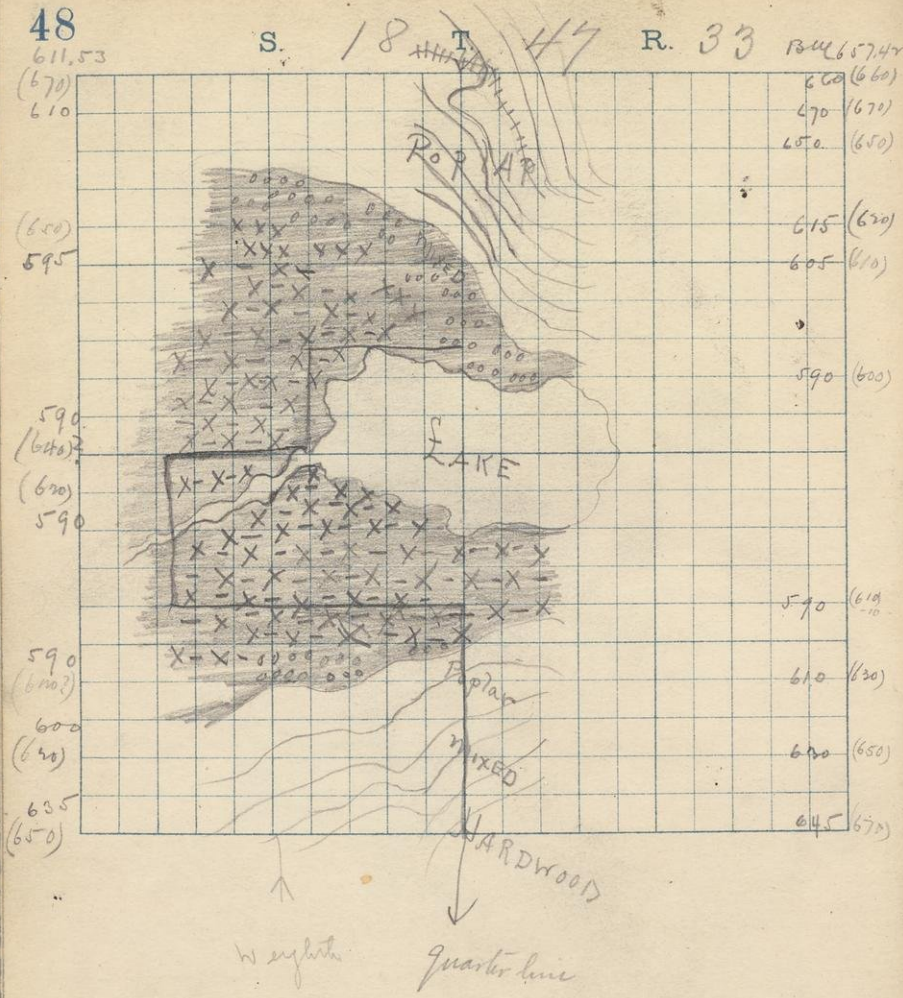
probably flowing SW. V 3°30' 12.10

2000 N (670) no line found so continued

north. 1.00

48

S. 18 T. 47 R. 33



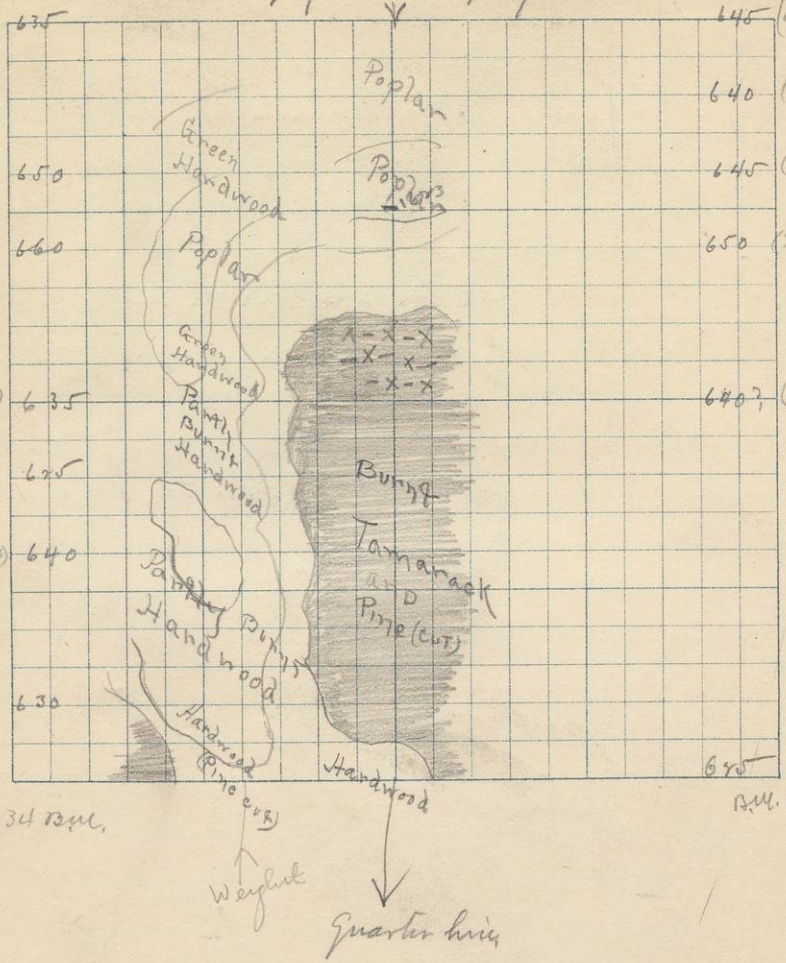
Running south on quarter line of
18 (47-33)
B.M. 657.42 Aneroid (660) S 20° E 8.05
Poplar
790 s struck shore of Lake. (600)
1000 s in Lake.
2000 s. (670) Hardwood fair. no line found
so continued south. 10.15

Running north on west eight
of 18 (4)-33) Aneroid (650) N 3° E 1.00
900 n creek. (670)
1000 n (640) Tamarack swamps. 2.00

B.M. 611.53 Aneroid (670) 2.45

50

S. 19 T. 47 R. 83



(650) 635 645 (670)

640 (670)

(660) 650 645 (680)

(670) 660 650 (710)?

(640) 635 640? (710)

(630) 625

(640) 640

(630) 630

(620) 625 (710)

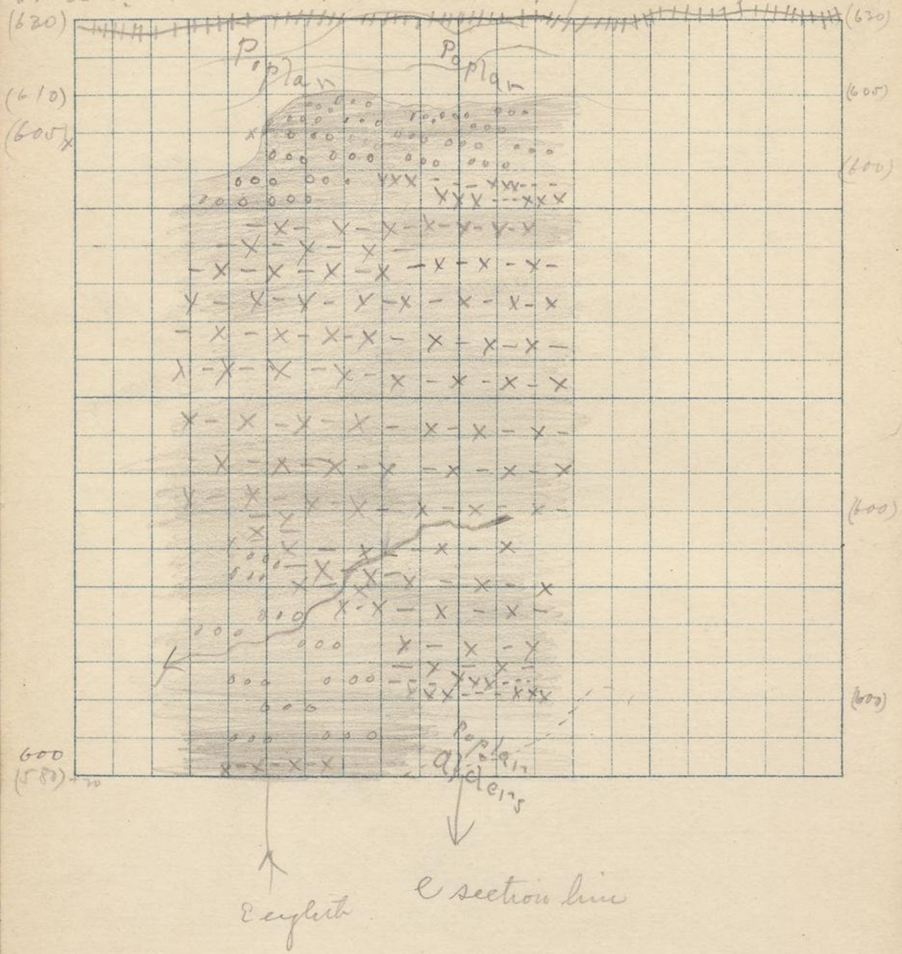
617.34 B.M. B.M. 623.19

Running south on quarter line of 19 (47-33) Aneroid (670) Hardwood V3°E.
1000 S. (710) ? Spruce swamp partly burnt 11.[20]
2000 S. (710) struck benchline at 1/4 stake
B.M. 673.19 Aneroid (710) 11.[30]

Running north on west eighth of 19.
B.M. 617.34 Aneroid (630) 11.[45]
1000 N (640) Partly burnt hardwood with all the pine just cut. V3°E 12.[25]
2000 N (650) poplar. no line found so continued north 12.[55]

1673. 1600 N 1000 W SE cor 19 low outcrop of gabbro (diabase?) with jointing about N+S + E+W with a dip in the latter of about 80° N.

626.30 Bull. S. 13 T. 47 R. 34 Bull Lx894



Sept 30 Overcast

Running south on east section line of 13 (47-34) E Range line of 34.

B.M. 678.94 Aneroid (630) N 4° 30' E 7.20

poplar N 60 S (600) alder swamp

5000 Spruce swamp.

13355 Creek (600)

20000 S (600) no line found so continued south. 8.35

Running north on east-eighth of 13. (47-34).

N 4° 30' E. Aneroid (580+30) Spruce swamp 11.00

355 N Creek (600)

1000 N Spruce swamp (600) 11.35

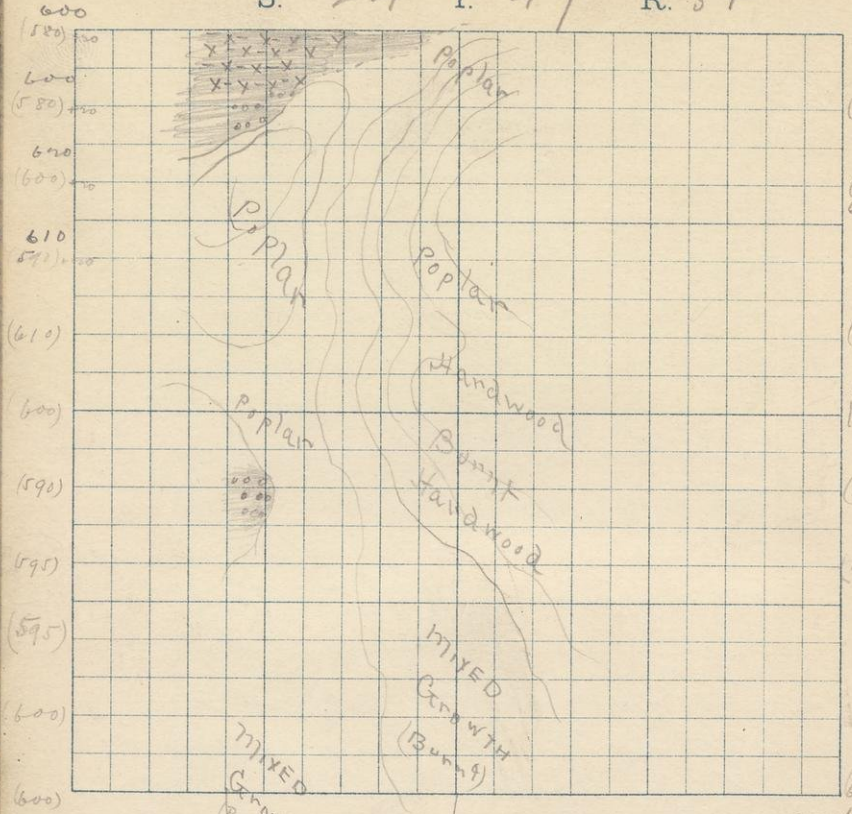
1996 N stinch trenchline 10 W of 1/8 stake 11.50

B.M. 676.30 Aneroid (630)

I could not use aneroid it was so unsteady so ran through with out it estimated the lights myself & gave aneroid reading accordingly.

Supply road runs along the trenchline.

S. 24 T. 47 R. 34



603.04 BM

BM 611.99

Running south on east section line of S 4 (47-34) (E range line)

√ 2°30' E Aneroid (600) poplar & alder 8.35

800 S (630) fair mixed hardwood.

1000 S (640) burnt hardwood. √ 2°30' E 9.15

1988 S (620) struck trenchline at corner 9.40

B.M. 611.99 Aneroid (620) √ 2°30'

Running north on east eighth of S 4 (47-34)

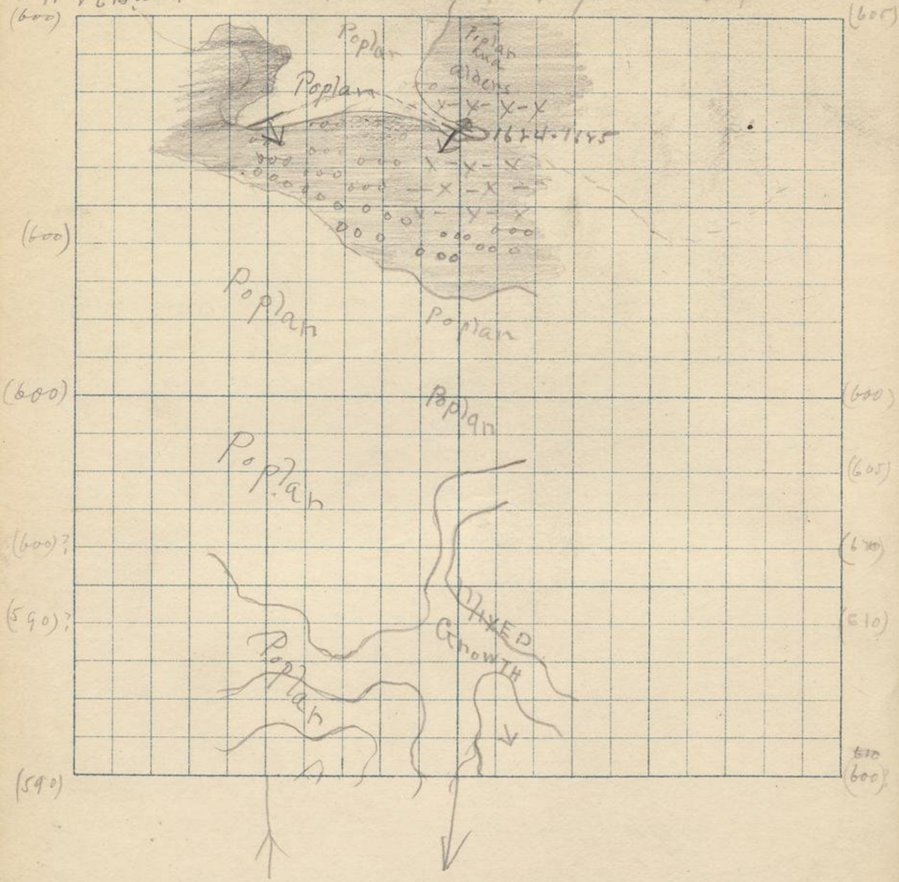
B.M. 603.04 Aneroid (600) √ 3' E 10.00

1000 N (600) poplar √ 3' E 10.30

2000 N (580+20) spruce swamp √ 2°30' E 11.00

S. 14 T. 47 R. 34

591. x 6 B.M. B.M. 605.01



Weighth quarterline

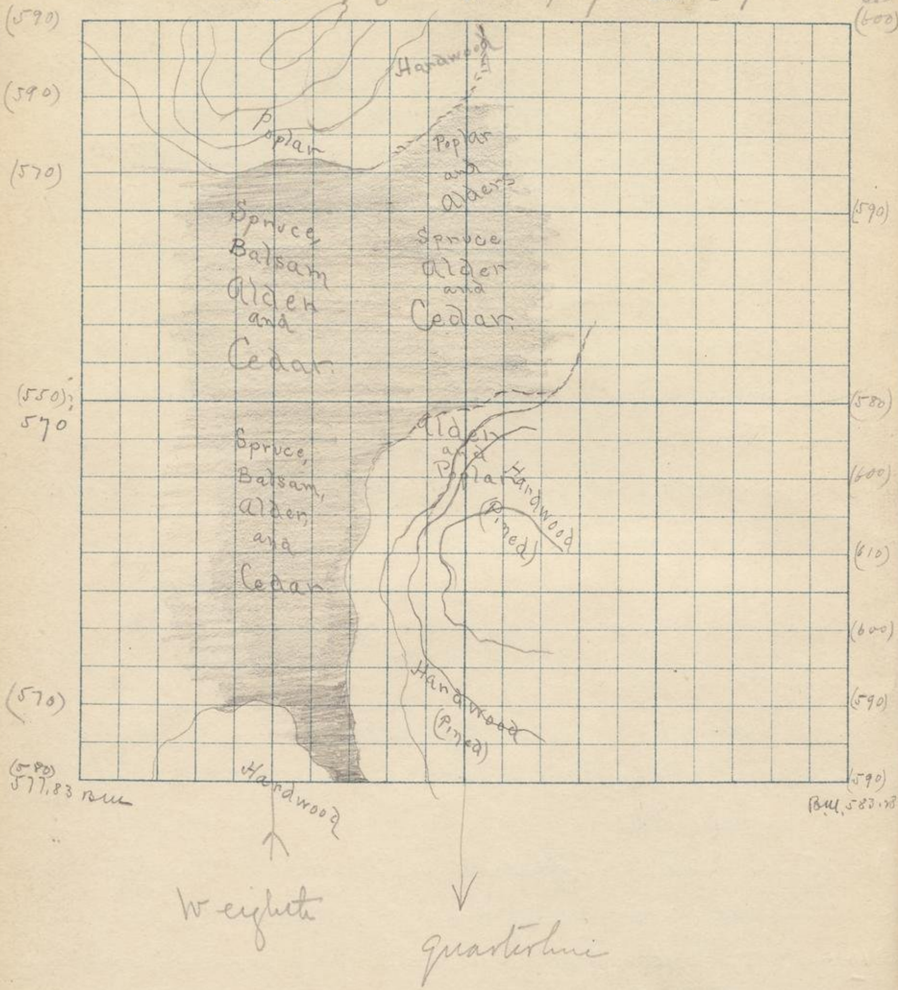
Oct. 1, Comcast.

Running south on quarter line of 14,
B.M. 6081 Aneroid (605) V 3°30' E 7.50
1000 S (600) poplar V 3°30' E 8.35
500 S (600) Hardwood. Struck original
section line S E of old stake + B.T. V 3°30' E 9.10

Running north on west eighth of 14. (47-34)
Poplar. V 3° E Aneroid (590) 11.25
1000 N (580) Aneroid unreliable. Poplar growth
V 3° E used. 17.00
500 N Struck meander line at 1/4 stake 13.30

1624 1700 N 1000 W S cor 14 outcrop of shale N 80° W
dip 49° S.
1625 Inclusions found in 1624 without any
apparent order or arrangement.
1626 1730 N 1500 W S cor 14 outcrop of quartzite and
1627 badly jointed shale. Strike N 60° E Dip 49° S
1626 a specimen of the shale 1627 of the quartz
I think these outcrops to be parts of a
fold extending as shown on the map

S. 23 T. 47 R. 34


(590)
(600)
Hardwood
(590)
Poplar
Poplar and Alders
(570)
(590)
Spruce Balsam Alder and Cedar
Spruce Alder and Cedar
(550)? 570
(580)
Spruce, Balsam, Alder, and Cedar
Alder and Poplar
Hardwood (Pined)
(600)
(610)
(600)
(570)
Hardwood (Pined)
(590)
(580) 577.83 BM
Hardwood
(590)
BM 583.78
W eighth
quarterline

Running south on quarter line of
23. V 3° ~~~~ E Aneroid (600) Hardwood 9.15

500 S (590) V 3° E

1000 S (580) V 3° E alder + poplar then hardwood ahead 9.45

2000 S (590) struck benchline at 1/4 stake 10.05

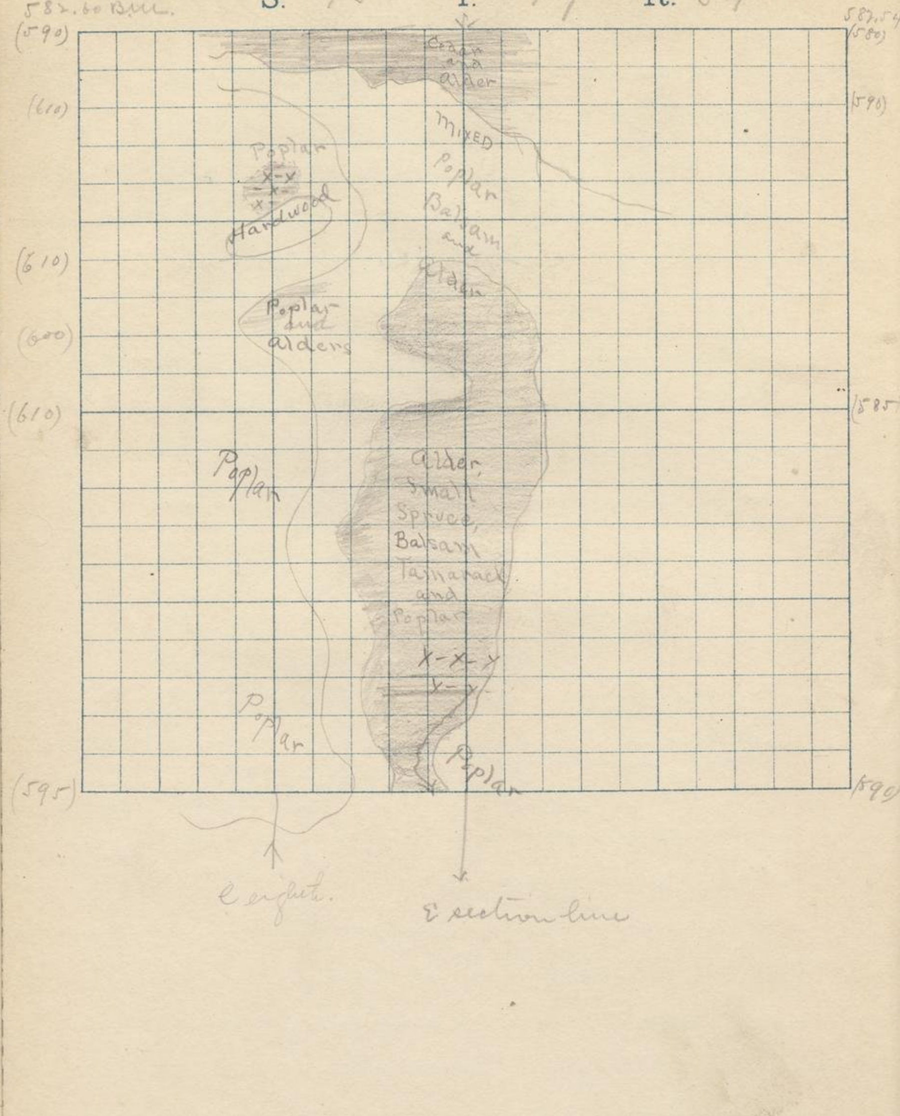
B.M. 583.78 Aneroid (590) V 3° E.

Running north on west eighth of 23
B.M. 577.83 Aneroid (580) V 3° E Hardwood 10.15

1000 N (550) Thick, Spruce, balsam, alder & cedar swamp 10.45

2000 N (590) no line found so continued north 11.15

S. 15 T. 47 R. 34


582.60 BM.
582.54
(590)
(580)
(610)
(590)
(610)
(600)
(610)
(585)
(595)
(590)
Cedar and alder
Mixed Poplar Balsam and Alder
Poplar
Hardwood
Poplar and alders
Poplar
Alder, Small Spruce, Balsam Tamarack and Poplar
Poplar
Poplar
c eighth
E section line

Oct. 2nd Cloudy.

Running south on east section line of 15 (47-33)

B.M. 582.54 Aneroid (580) √4° E 8.10

thick cedar + alder swamp.

1000 S (585) mixed poplar, balsam + alder. 8.50

2000 S (590) poplar. ~~No~~ ~~closing~~ line found so continued south. 9.40

Running north on east eighth of 15

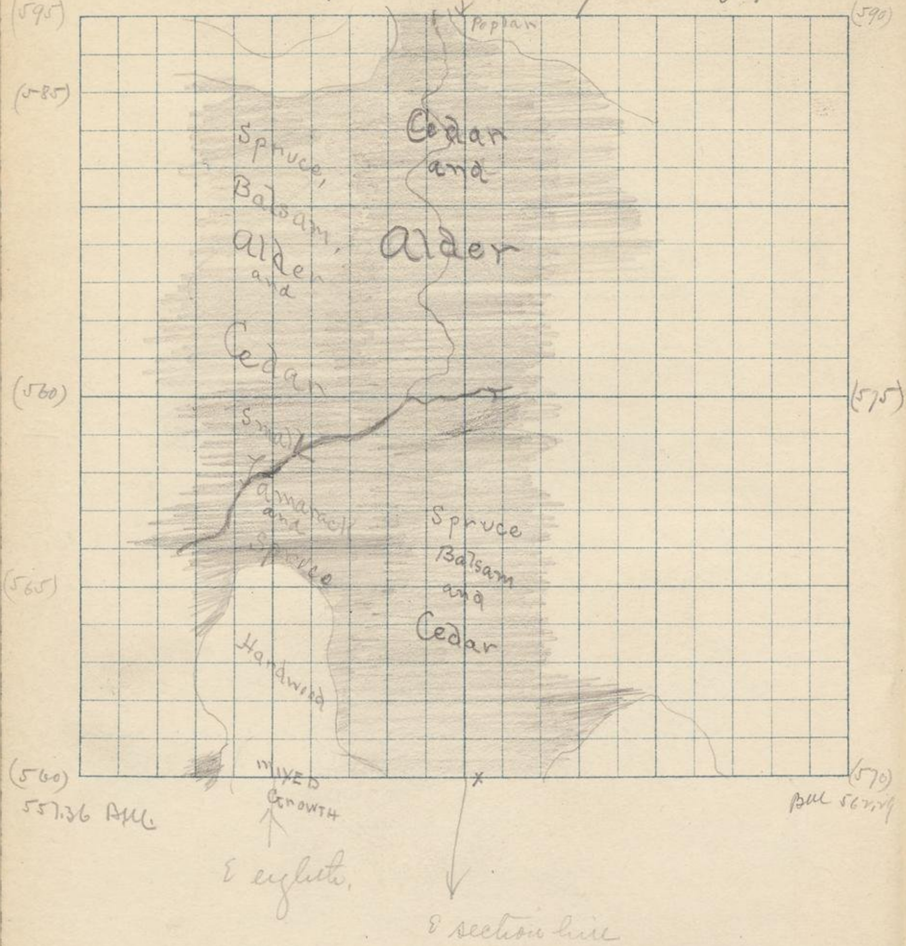
√4° E used Aneroid (595) 2nd growth 12.55

1000 N (610) poplar. 1.30

2088 N (590) struck the bench line 140 W of 1/8.

B.M. 582.60 Aneroid (590) √4° E used. 2.00

S. 22 T. 47 R. 34


(595)
(590)
Poplar
(585)
Cedar
and
Alder
Spruce,
Balsam,
Alder
and
Cedar
Small
Tamarack
and
Spruce
(560)
(575)
Spruce
Balsam
and
Cedar
(565)
Hardwood
(560)
(570)
MIXED
GROWTH
557.36 AM.
BM 567.19
E eighth.
E section line

Running south on east section line of 2 & 2 (47-3 ¾) √ 40 E (590) poplar. 9,40

1000 S (575) Creek open swamp (just here) 10,35

2014 S Struck trench line 40 E of cor

B.M. 562.29 Aneroid (570) 11,15

Running north on east eighth of 2-2

B.M. 557.36 Aneroid (560) √ 40 E 11,30

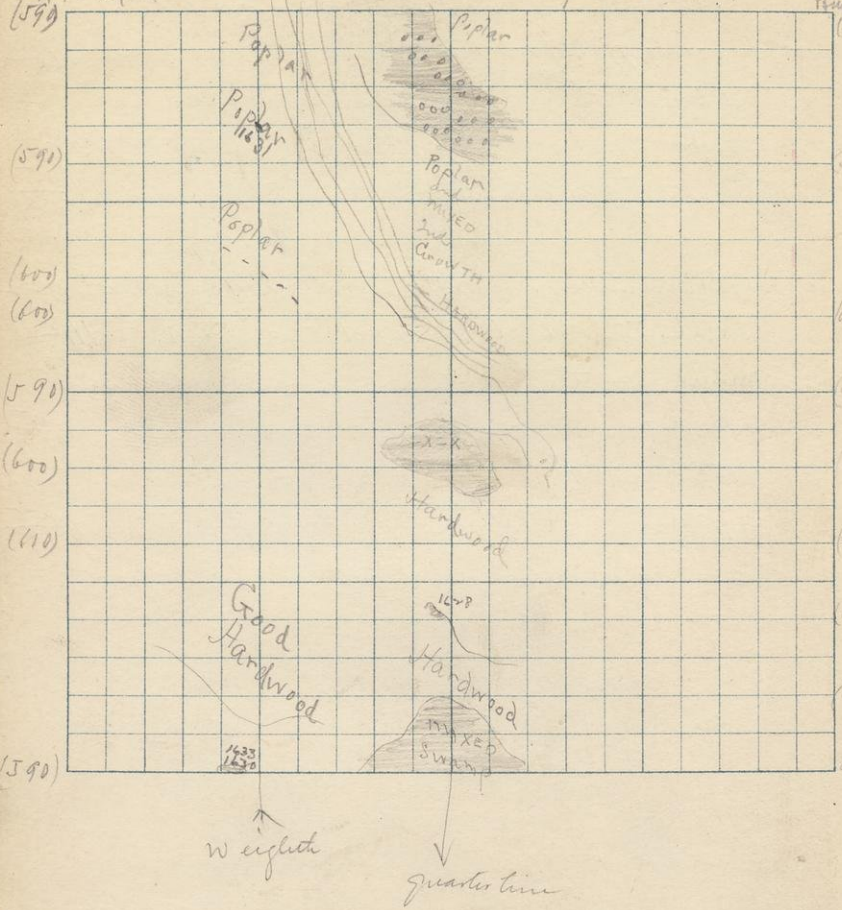
mixed growth soon changing into swamp.

1000 N (560) swamp. (creek at 800) 12,15

2000 N (595) no line found so continued north. √ 4° E used. Second growth 12,55

64

S. 16 T. 47 R. 34



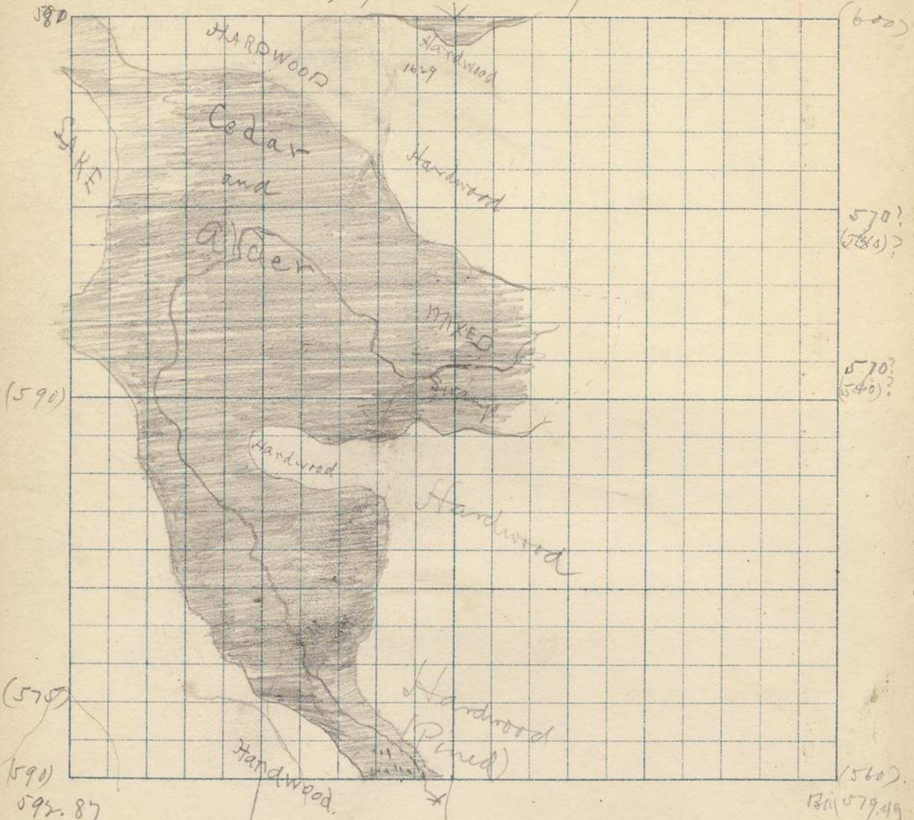
Oct 4th Rainy.

Running south on quarter line of 16
B.M. 568.73 Aneroid (570) S 4°30' E 7.30
Poplar.
800 S (585) fair hardwood
1000 S (600) " " var S 4°30' E 8.10
1500 S (600) Good hardwood.
2000 S (600) swamp. no line found so
continued south. 9.00

Running north on west eighth of 16.
S 4°30' E used Aneroid (590) (a little unsteady 1.30
1002 N (590) good hardwood 1.50
2003 N (590) struck township line 5 W of 1/8 stake
B.M. 591.46 Aneroid (590) Poplar 2.30

1628 400 N 1000 W S E cor 16 outcrop of graywacke
trending N + S cleavage. strike N 80° E dip varying
1626 1633 1500 W S E cor 16 small covered
outcrop of graywacke 1633 inclusion in 1630
1631 1700 N 1500 W S E cor 16 small low outcrop of
graywacke with some parts more schistose
than others Dip between (Different grades of schistosity) 11° S strike N 80° E.

S. 21 T. 47 R. 34



W eighth.

quarterline

162

Running south on quarter line of 21.

1000 S (560)? Mixed swamp. 9.35

905 S (560)? Creek?

2000 S (560) Struck teuch line at 1/4 stake

B.M. 579.49. Aneroid (560) 10.00

Running north on west eighth of 21.

B.M. 592.87 Aneroid (590). 12.10

575 N crossed creek flowing S.E. (570)

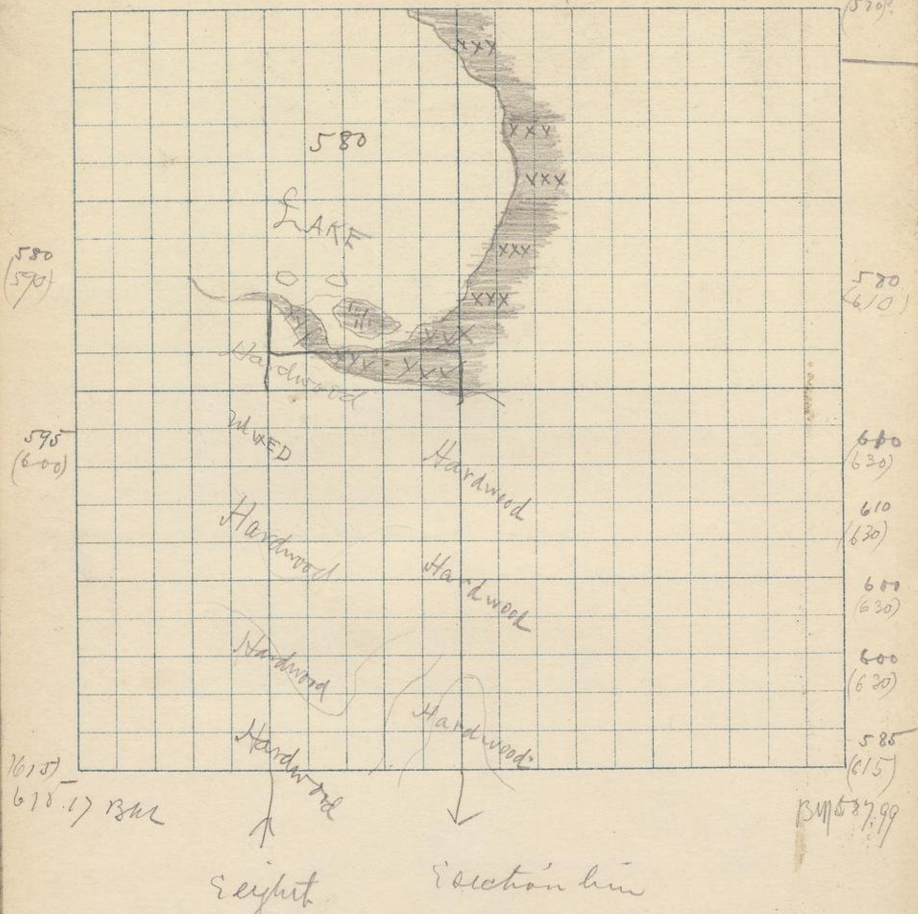
1425 N " " " S.W. (570)

2000 N struck lumbermans stake and continued north. 1.00

1629. 1830 N 1000 W S.E. cor 21 outcrop of graywacke entirely covered. Nothing made out in regard to its structure.

1633 Inclusion found in ledge.

S. 20 T. 47 R. 34


580
(570)
580
LAKE
580
(590)
580
(610)
Hardwood
Mixed
595
(600)
Hardwood
680
(630)
Hardwood
610
(630)
Hardwood
600
(630)
Hardwood
600
(630)
Hardwood
Hardwood
585
(615)
(618)
618.17 BM
BM 587.99
Eighth
Section line

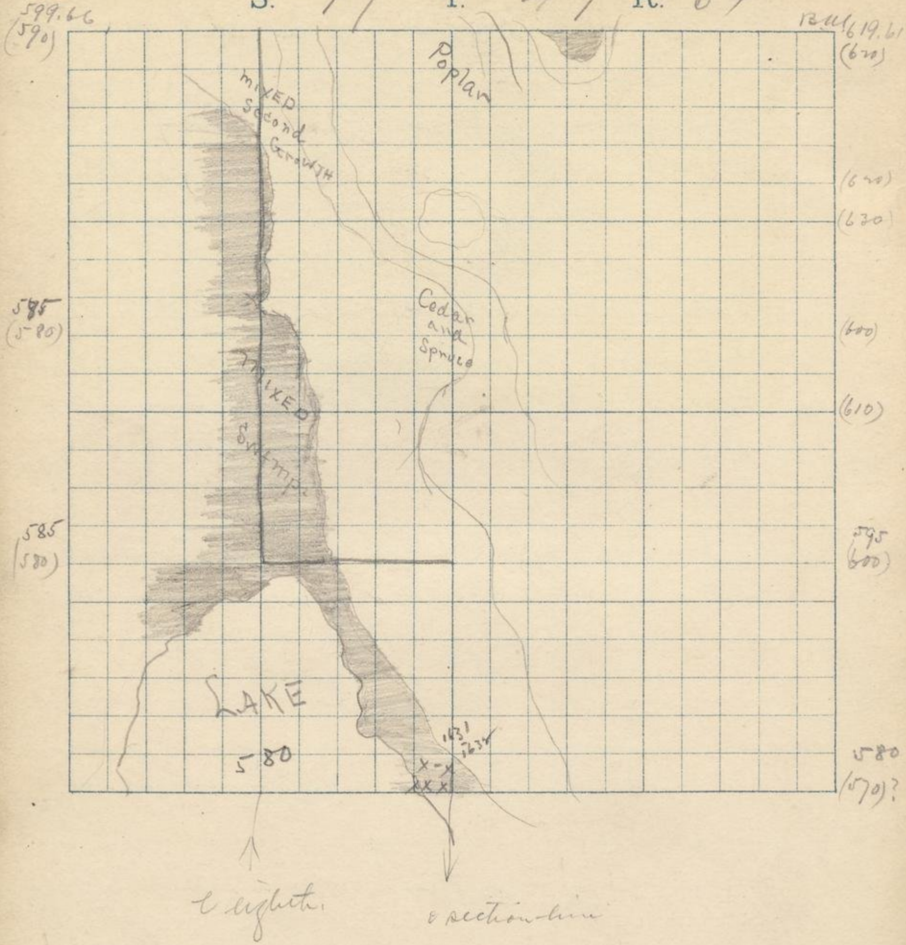
Extra

Running north on east eighth of 20.
B.M. 615.17 aneroid (615)
Hardwood with scattering pine 10.20
1230 N Lake 11.00

Running north on east section line of 20.
Lake 1275 S (610) Cedar swamp 11.35
Good hardwood after 1100 S.

1998 S struck verified line at corner
B.M. 587.99 Aneroid. 14.50

S. 17 T. 47 R. 34


599.66
(590)
BM 619.61
(620)
Poplar
Mixed
Second
Growth
(620)
(630)
Cedar
and
Spruce
585
(580)
(600)
Mixed
Swamp.
(610)
585
(580)
595
(600)
LAKE
580
1631
1634
580
(570)?
C eighth.
o section-line

Oct. 5th Bright.

Running south on east section line of 17

BM. 619.61 Aneroid (620) S 4°30' E 7.55

740 S (600) entered spruce + cedar growth. hardly could be called swamp.

1000 S (610) Poor hardwood 8.30

1000 S (570) spruce and cedar swamp 9.30

Running north on east eighth of 17.

2014 N struck benchline 48 E of 1/8.

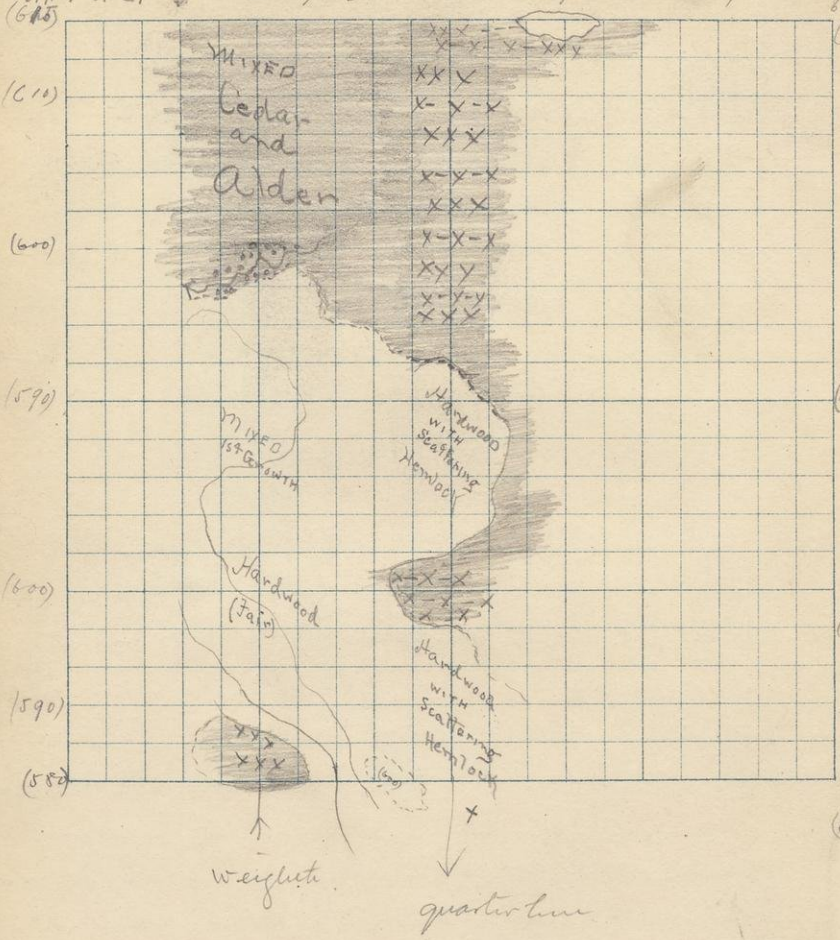
BM. 599.66 Aneroid (590) S 4°30' E 11.10

1631 – 1632 1300 N SE cor sec 17 Outcrop of sideritic greywacke being richer in siderite on the west side. The weathering shows for a inch the beginning of an ore formation. The more slaty it is the less carbonate + vice versa

72

617.54 Bill.

S. 18 T. 47 R. 34



Sept 6th cloudy.

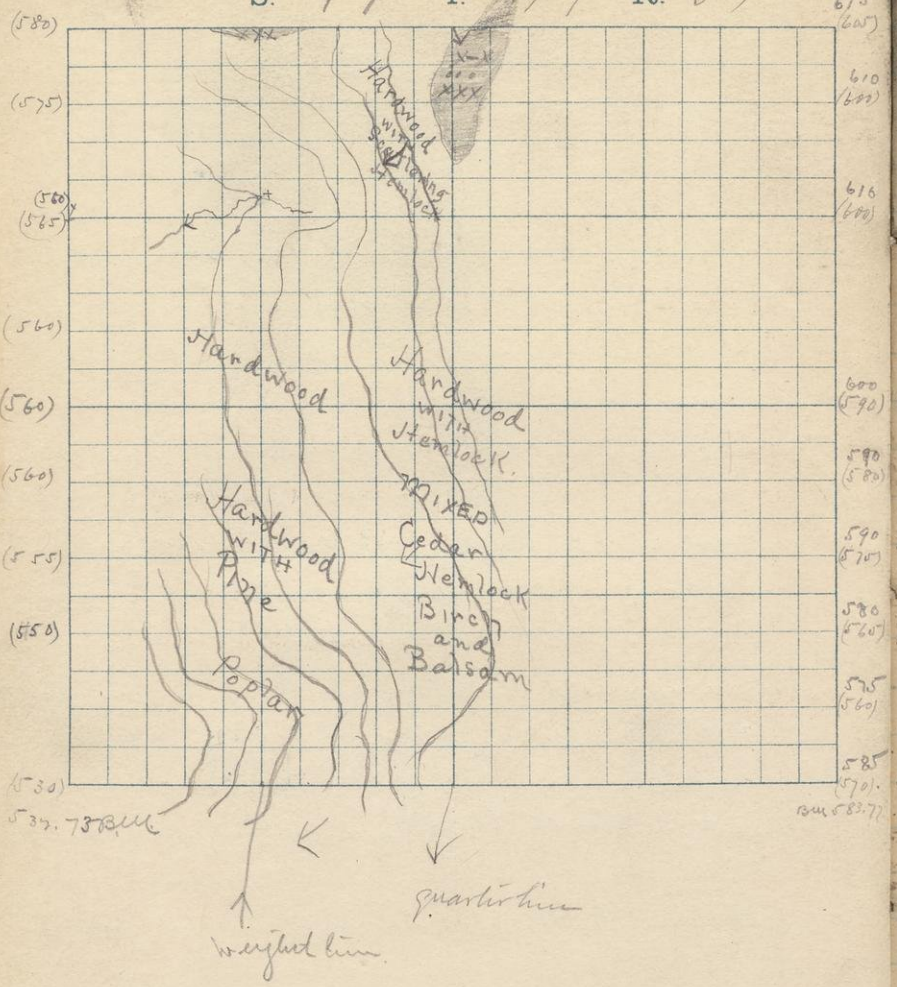
Running south on quarter line of 18(47-34)
B.M. 617.71. Aneroid (620) V 8°15'E 8.20
Spruce + cedar swamp. "about 1/4 stake"
1000 s. (630) Fair hardwood with scattering hemlock.
V 5°E mrcd 9.05
2000 s (610) Fair-good hardwood with scattering
hemlock of good size + quality.
No line found so continued south. 9.40
2440 s struck "original" 60 E of 1/4

Running north on west eighth of 18(47-34)
V mrcd about 4° varying from 3°30'-4°30'E without any
regularity probably due in part to observation.
Aneroid (580) cedar swamp. 11.25
1000 n mixed first growth (570) 12.00
1375 n (600) small creek flowing SW in Alder
swamp.
2000 n struck benchline 20 W of stake.

B.M. 617.52 (Aneroid (615) 12.40

The variation given by the map 5°0'5'E (8°15'30")
is too much. The one or two deal
observations obtained gave 3°30'E
However we ran by 4°E wh. proved
about 30' E too much.

S. 19 T. 47 R. 34


(580)
(575)
(570)
(565)
(560)
(560)
(560)
(555)
(550)
(580)
615 (605)
610 (600)
605 (595)
600 (590)
595 (585)
590 (580)
585 (575)
580 (570)
575 (565)
585 (575)
Hardwood with Scattering Softwood
Hardwood
Hardwood with Hemlock.
Hardwood with Pine
Poplar
MIXED Cedar Hemlock Birch and Balsam
BM 583.77
537.73 BM
quarter line
weighted line

615 (605)
610 (600)
615 (600)
600 (590)
590 (580)
590 (570)
580 (560)
585 (560)
585 (570)
583.77

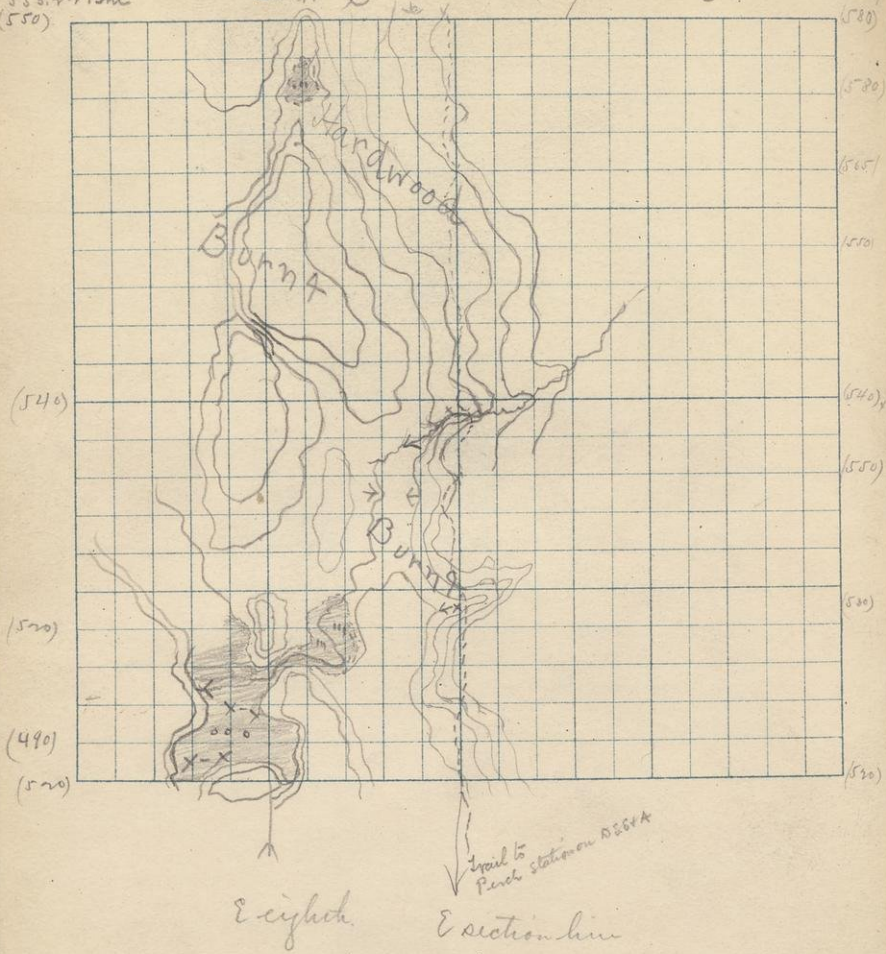
Running south on quarter line of 19 (47-34) Aneroid 600 9.40
1000 S (590) 10.00

2000 S (570) Struck bench line at ¼ stake
Bill. 583.77 Aneroid (570) 10.20

Running north on west eighth of 19 (47-34)
Bill, 534.73 Aneroid (570) Datum 4°2 10.35
young poplar in old burn returned,
Some very good pine, if cut soon.
1000 N (560) very fair maple hardwood with
few scattering pine. 10.50
1550 N 560 small creek flowing SW.
2000 N (580) swamp of small cedar. 11.20

76

S. ¼ 13 T. 47 R. 35



Oct 7th

Running south on east line of 13
47-35 (Range line)
B.M. "682.89" Aneroid (680) √5°E 8.15
Partially burnt Hardwood.
1040 S (540) creek flowing S.W. 9.00
Fair hardwood with some good pine
2000 S (520) struck "original" at corner 9.15

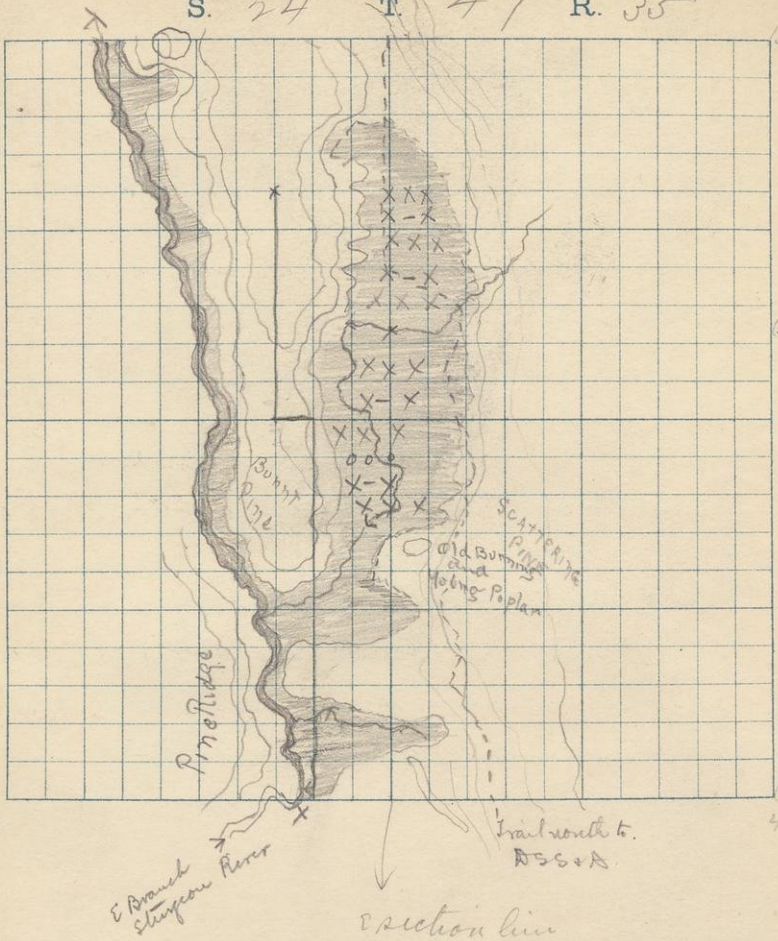
Running north on east eighth of 13
aneroid (520) √ued 5°E. 11.50

2000 N (550) struck benchline at 1/8 stake
B.M. 553.88 aneroid (550) 12.45

(580.89)
(580)
(580)
(565)
(550)
(540)
(550)
(530)
(520)

78

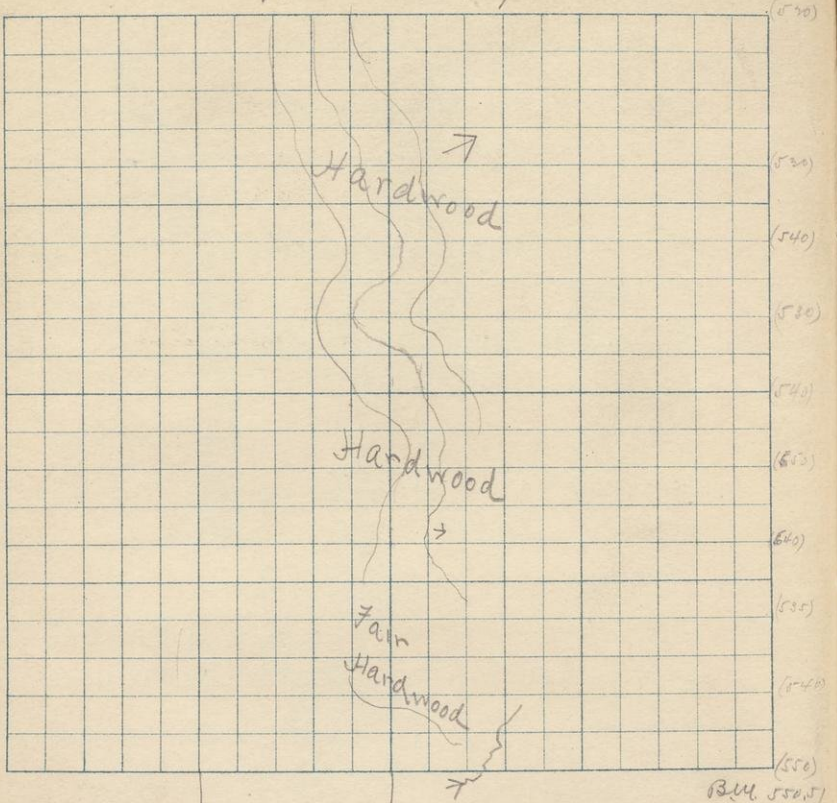
S. 24 T. 47 R. 35



Running south on east section line of
s 4 (47-35) (530) Partial Bunny:
7405 (510) small creek in spruce + cedar swamp.
8170S, 13005 + 13355 small creek.
15705 (500) small creek.
20005 (500) Old bunny, stuck benchline
at stake
Bll. 496.79 Aneroid (500) 10.10

Running north on east eighth of 24.
Sturgeon River E Branch (490) 550 W of
corner. Started 300 E of 1/8 stake 10.20
1000 N set back 100 paces.
2000 N set back 300 " on to the N + S
east eighth line + then continued 11.10
north.

S. 11 T. 47 R. 35



This plat not numbered wrong.

Oct 8. Cloudy.

Running north on quarter line of 11
47-35

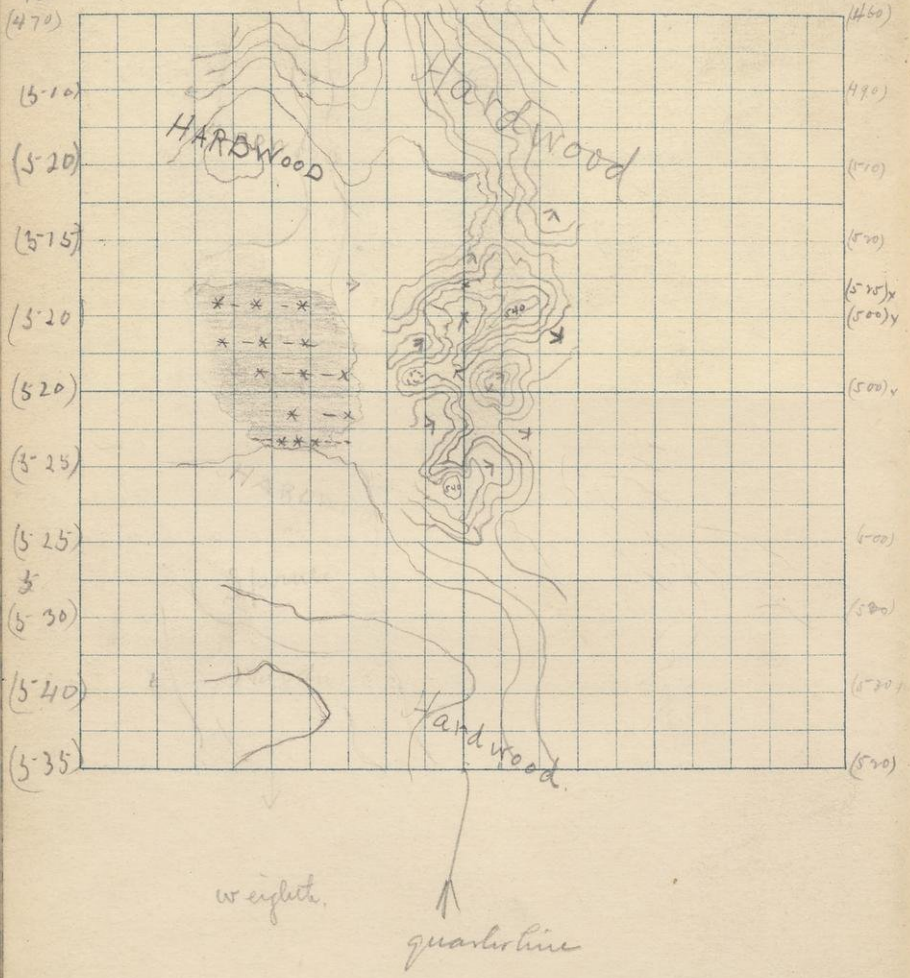
Bill. 550.51 Aneroid (550) V 502 8.55
Fair hardwood.

200 N (540). 400 N (535) 600 N (640) 800 N (550)
1000 N (540) Fair hardwood V 502 8.55
1200 N (530) 1400 N (540)
2004 N (520) formed intermediate line but no stake
so continued north 9.20

82

468.51 B.M.

S. ½ T. 49 R. 35 B.M. 461.45



This plat is not numbered wrong

Running north on quarter line of
7 (47-35) (570) V 5° E Hardwood 9.20
7 40 n (540) (813) (495)
1485 (525)

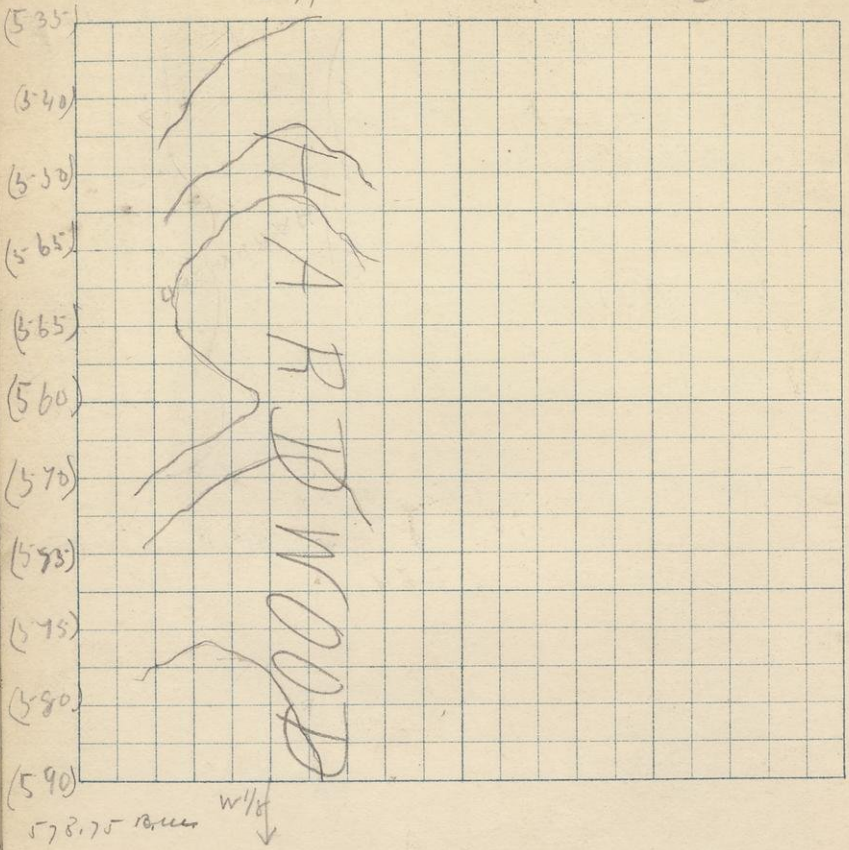
4973 n struck north benchline 3 W of 1/4
B.M. 461.75 Aneroid (460) V 50 E 10.35

Running south on west quarter of 7.
B.M. 468.57 Aneroid (470)
Struck line at 2005 V 5 E 7 1.15
200 (570) Hardwood
400 (520) "
600 (515) "
800 (520) Spruce Swamp
1000 (520) " "
1200 (525) Hardwood
1400 (525) "
1600 (530) "
1800 (540) "
2005 (535) "

Notes on run south taken by J. S. Fraley

84

S. 11 T. 47 R. 35



This plat is not numbered wrong.

Notes taken by J. S. Finlay.

Going S on W ½ line Sec. 2.

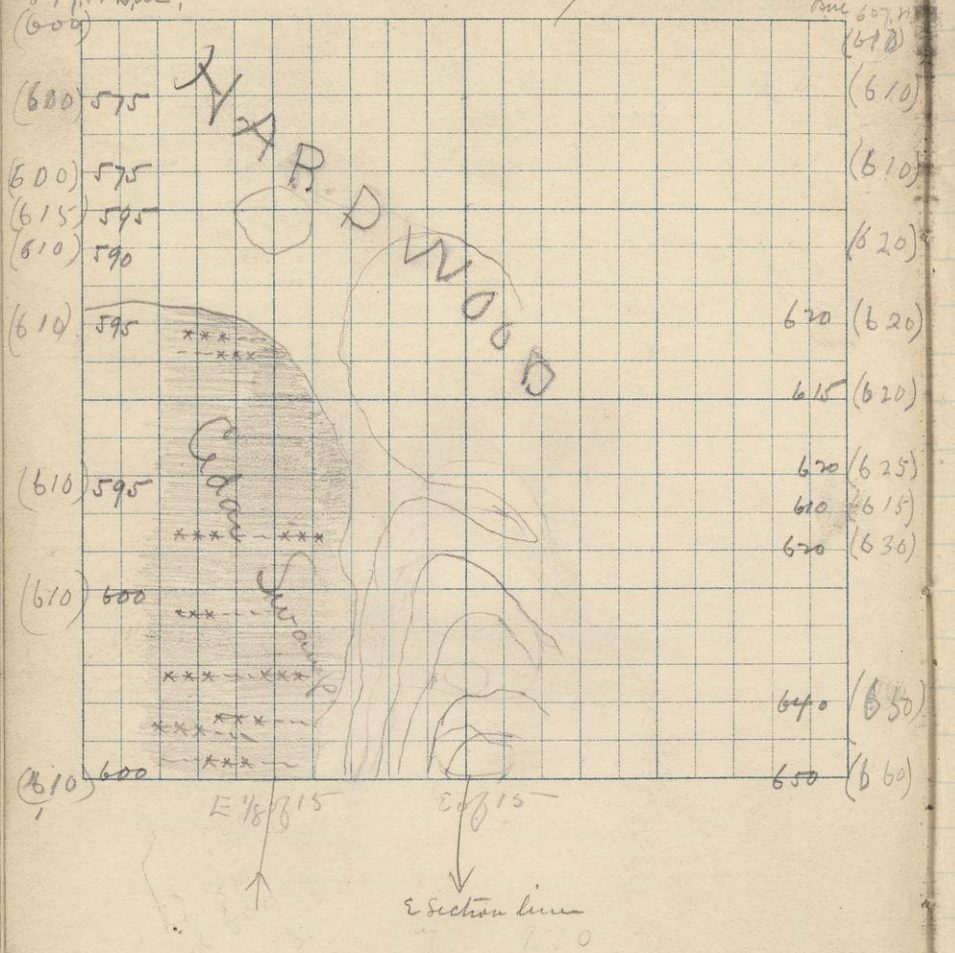
0. (5-35)	Hardwood
200 (5-40)	"
400 (5-50)	"
600 (5-65)	"
800 (5-75)	"
1000 (5-80	"
1200 (5-70)	"
1400 (5-75)	"
1600 (5-75)	"
1800 (5-80)	"
2000 (5-90)	"

BM. 5-78.75 Time 2.15

Closed at 1984

86

S. 15 T. 47 R. 35



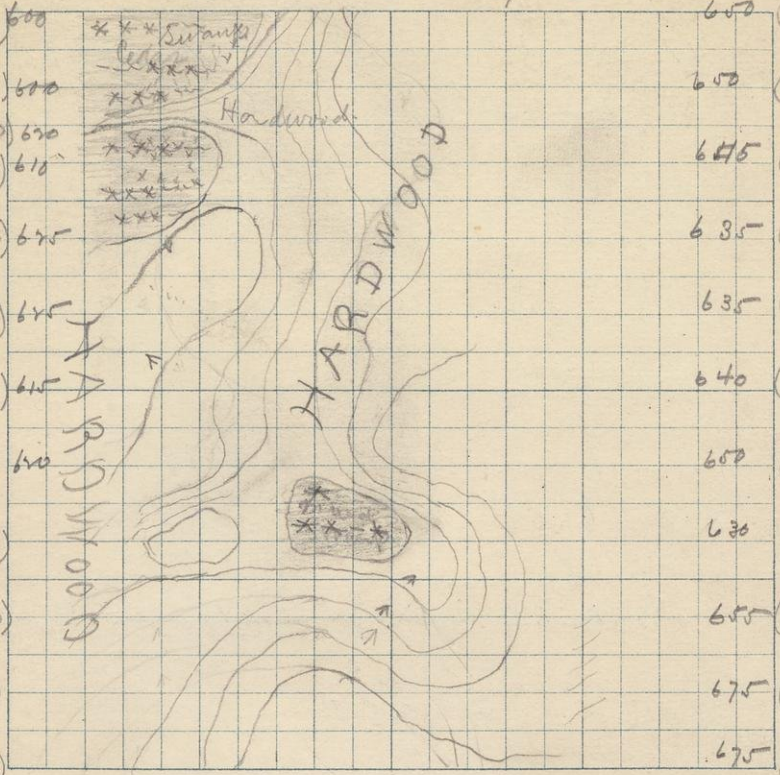
Notes taken by J. S. Finley.

Going South on the East line of 15-
47-35 B.M. 607.21 Aneroid (660) 20
Time 8.25 V. 3½ E.
200 (610) Hardwood.
400 (610) "
600 (620) "
800 (620) "
1000 (620) "
1200 (625) "
1300 (615) "
1400 (630) "
1800 (650) "
2000 (660) " 9.20
~~B.M. 5 77.81 Aneroid 660 V. 5½ E Time 9.30~~

Going North on E. ⅛ line of 15

0. (610) Thick Cedar Swamp.
500 (610) "
800 (610) "
1200 (610) "
1400 (610) Hardwood and Hemlock.
1500 (615) Hardwood
1600 (600) "
1800 (600) " Closed at 20 15.
2000 (600) "
B.M. 5 77.81 An. 600. Time 1.45.

S. 22 T. 47 R. 35



Crossed a trail at 12 00 M. running northwest.

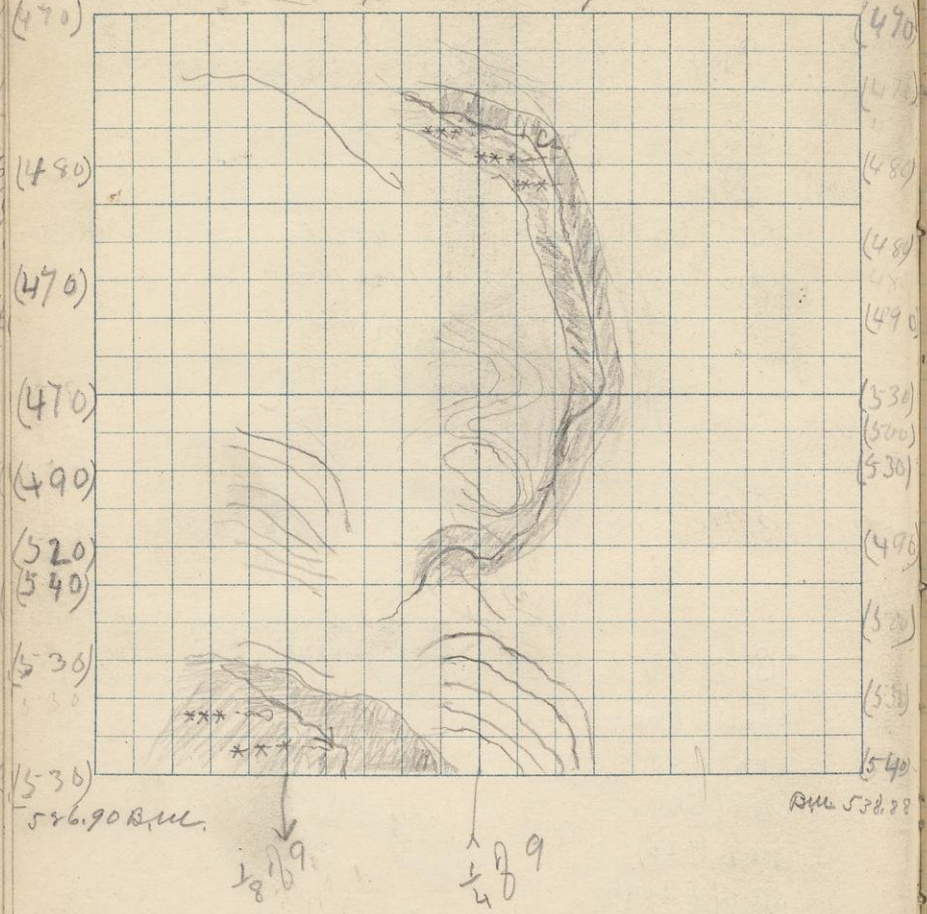
Notes taken by J. S. Finlay.

Going South on east line of 22.
B.M. 577.81 aneroid 660
Time 9.30. V. S.
200 (660) Hardwood
400 (660) "
600 (650) "
800 (650) "
1000 (660 "
1200 (670) "
1400 (650) Mixed Swamp
1600 (680) Hardwood
1800 (700) "
2000 (700) "

Struck line at 2003
B.M. 676.92 aneroid 700. Time 10.40

Going North on East ¼ of 22
B.M 673.13 aneroid 675. Time 10.55
200 (660) - Hardwood
400 (650) "
600 (660) "
800 (620) "
1000 (620)
1200 (630)
1400 (630)
1600 (620) Cedar Swamp.
1900 (630) Hardwood Ridge
1800 (610) Cedar Swamp.
2000 (610) "
No intermediate line

S. 9 T. 44 R. 35



This plat is numbered wrong

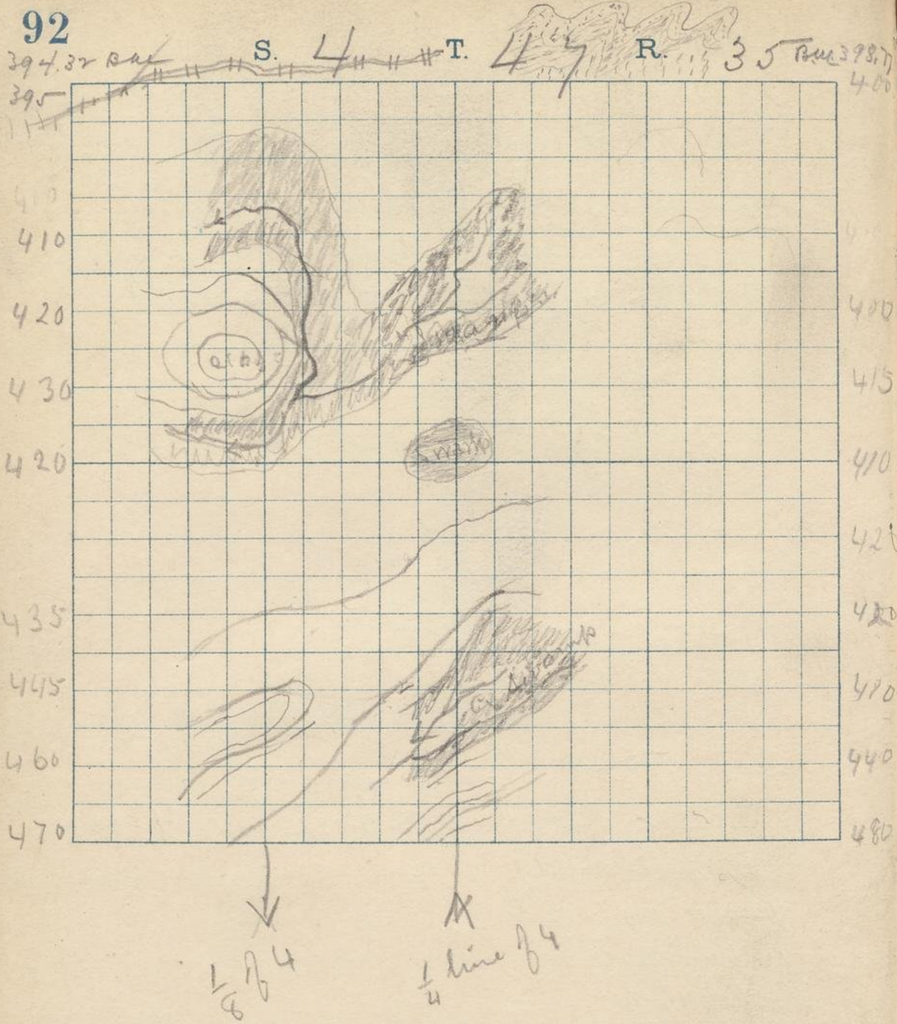
315

Notes taken by J. S. Finlay.

Going North on 1/4 line of 9

B.M. 538.88. aneroid 540 V.S. Time 7.30
200(530) Hardwood
400(500) "
600(490 A stream running North east through small Cedar Swamp
800(530) Hardwood Knoll.
900(500) Hardwood
1000(530) "
1200(490) "
1400(480) "
1600(480)
1800(470)
2000(470)
Closed at Intermediate at 8.45
2011 paces
Going South on 1/8 line of 9. Time 2.20
0.470. Hardwood
400(480) "
700(470) "
1000(470) "
1200(490) "
1400(520) "
1500(540) "
1700(530) Cedar Swamp. A stream at 1850
2000(530) Swamp.
B.M. 526.90 aneroid 530 Time 3.15

S. 4 T. 47 R. 35



This plat is not numbered wrong.

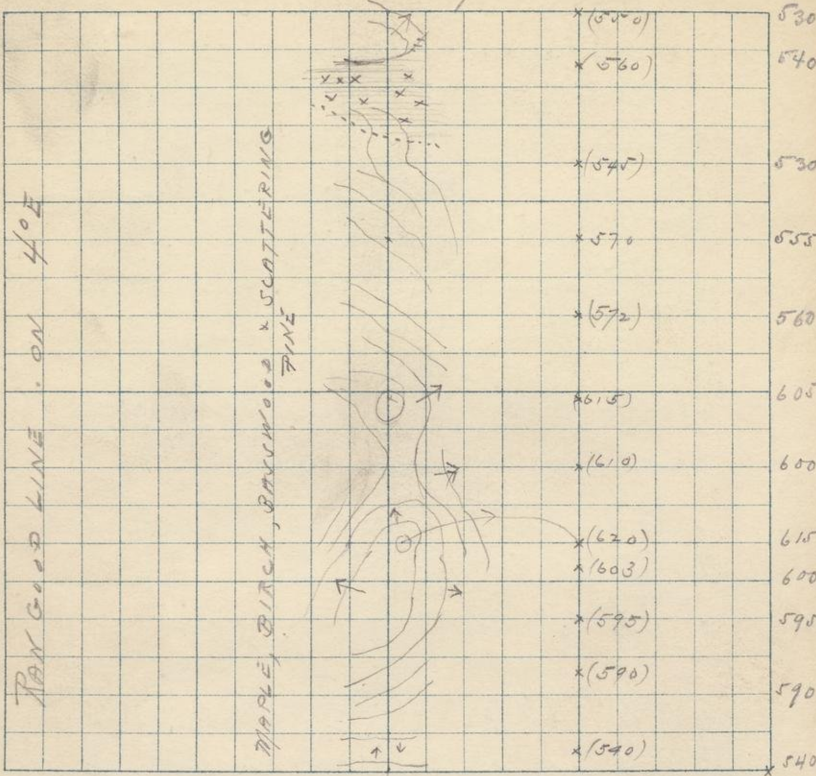
398.77
400

Going North on ¼ line of 4.

200 (440) Mixed hardwood & Hemlock
400 (410) Stream running South in
600 Cedar Swamp.
600 (420) Hardwood
800 (420) "
1000 (410) Mixed Swamp.
1200 (415) Hemlock.
1400 (400) Stream running though Cedar Swamp
2000 (400) Hardwood
B.M. 398.77 Closed at 1988. Time 9.55
75 paces South of R.R.

Going South on W ⅛ line of 4
B.M. 394.32 Aneroid 395. Time 1.10
400 (410) Stream running through
Cedar Swamp
600 (420)
800 (430)
1000 (420)
1400 (435)
1600 (465)
1800 (460)
2000 (470)
Notes taken by J.S. Finlay.

S. 8 T. 47 R. 35



BM 552.41

E section line

oct 12 Going N on line betw
secs 8 + 9 - 47 - 35
BM = 552.41 aneroid 0' = 30.760"
7-40 am

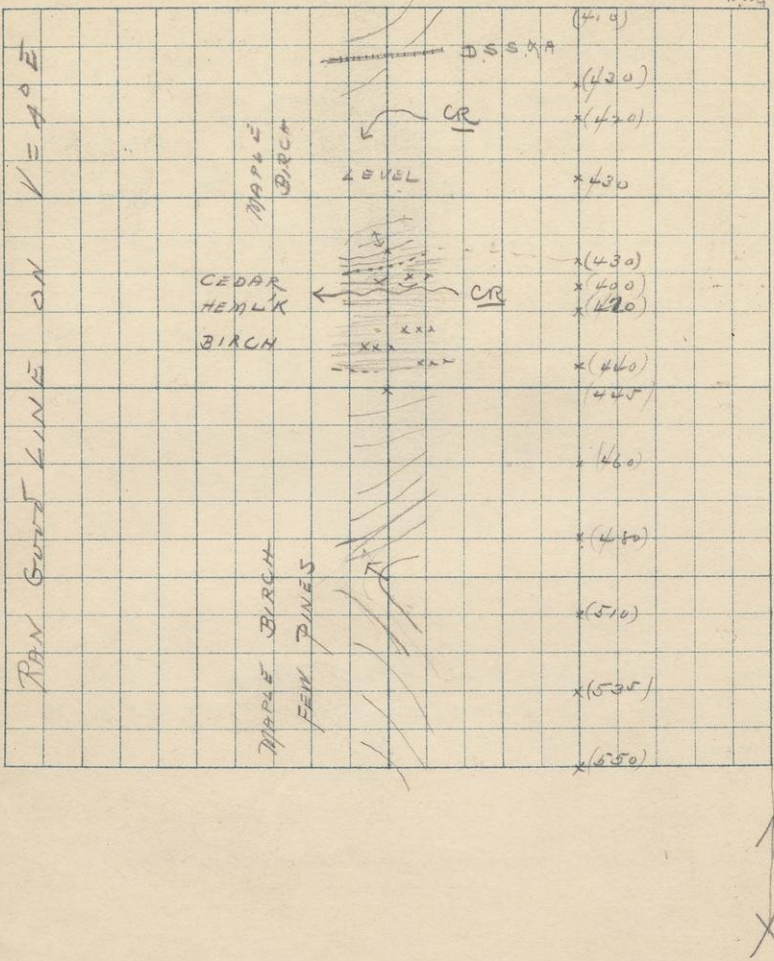
Hardwood at corner
1750 begins dry swamp
timber changes to
cedar spruce pine + hemlock
1830 leave swamp and
enter hard wood
Struck post at 1994

(Run by E.R. Maurer. No time taken for interpolations between benchlines.)

SEE NEXT PAGE

S. 5 T. 47 R. 35

B.M. 374.46

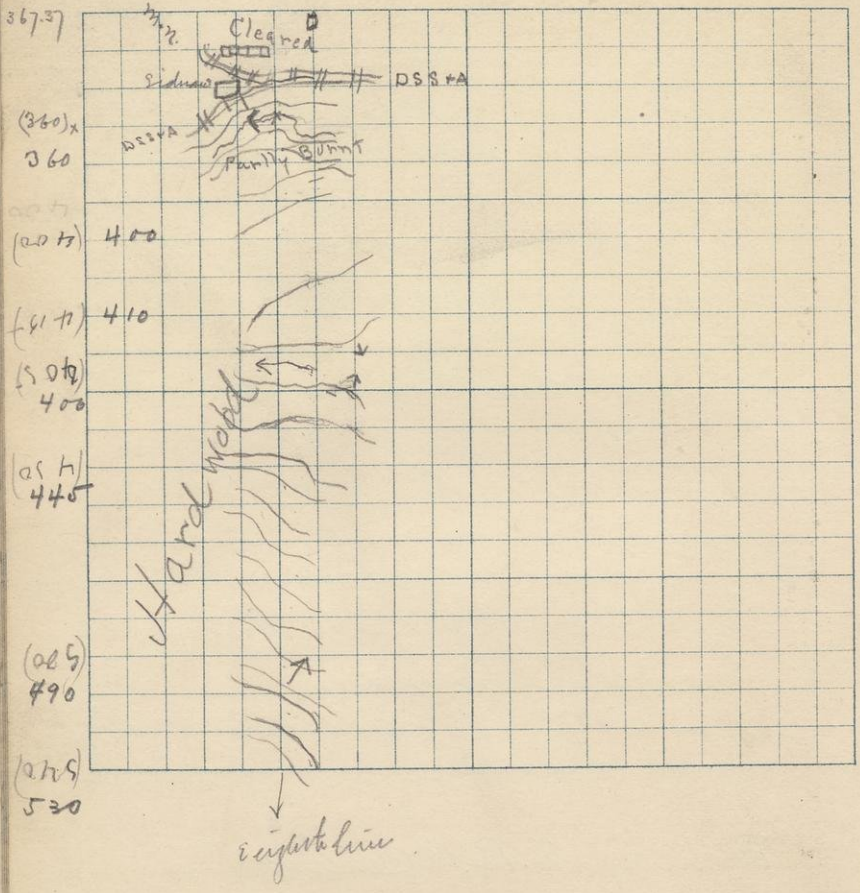


Running N. on line betw
secs 4 & 5 - 47 - 35
Fine hardwood with scatter-
ing pine & hemlock from

0 - 1000
1050 enter swamp (dry)
large cedars, few hemlock
& birches
1260 rapids creek 12' wide flows W
1350 top of high bank timber
changes to maple birch
& hemlock
1730 Rapid creek flows SW. 8' wide
Struck line at 1995 - 10 ft
W. of corner
BM 374.46 aneroid = +10'
9-30 am

Run by E. R. Maurer.

S. 5 T. 47 R. 35


367.37
Cleared
Sidewalk
DSSrA
(360)
360
DSSrA
Partly Burnt
(400)
400
(410)
410
(400)
400
(445)
445
Hard wood
(490)
490
(530)
530
Eight chain

Running south on e eighth of
5. (47-3 5)

B.M. 367.37 Aneroid. (365) 1.10

1858 ~~D S S & A~~ R.R.

385 S (360) Creek flowing W.

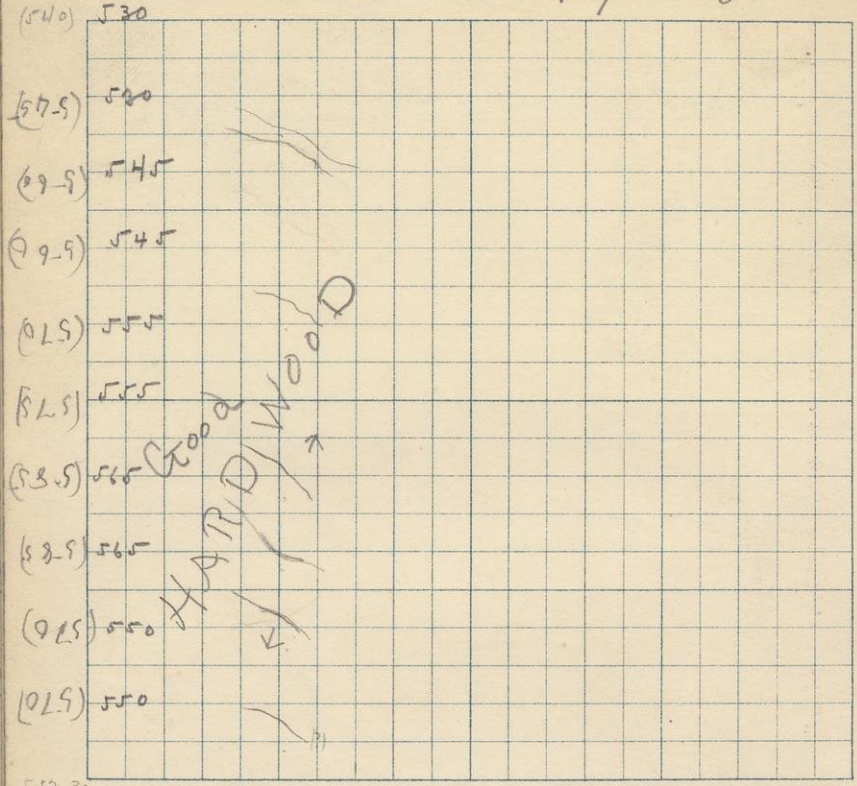
800 (V. 3 1/2°)

2000 V. 3 1/2° 4/ 2.30

2030 S Struck intermediate line 20 E of 1/8. 2.00

Notes taken by J. S. Finlay.

S. 8 T. 47 R. 35



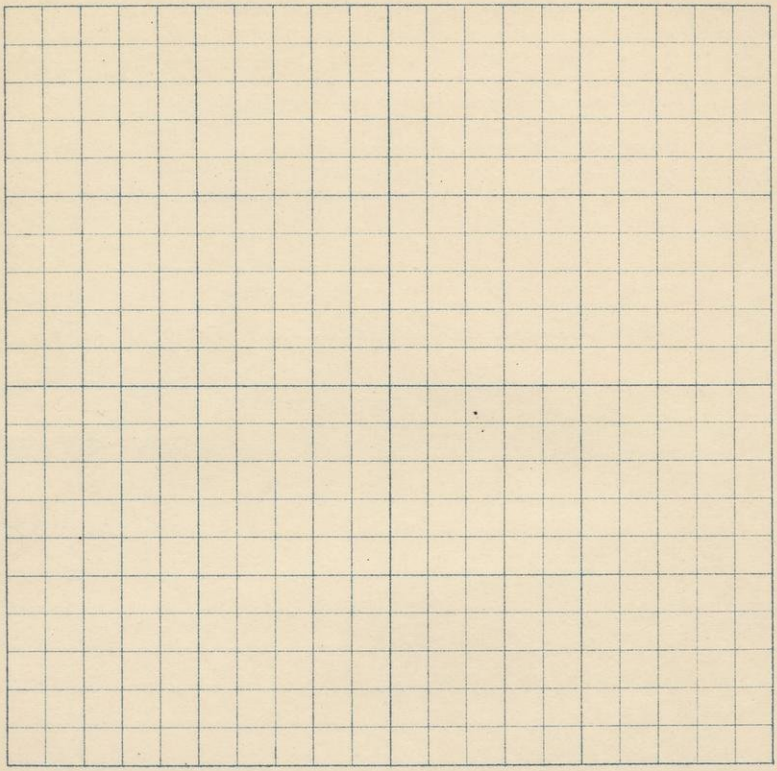
557.33 Bm.
(570)

Notes(?) by J. S. Finlay.

N 016 S strike benchline at SE of 1/8 stake 2.50

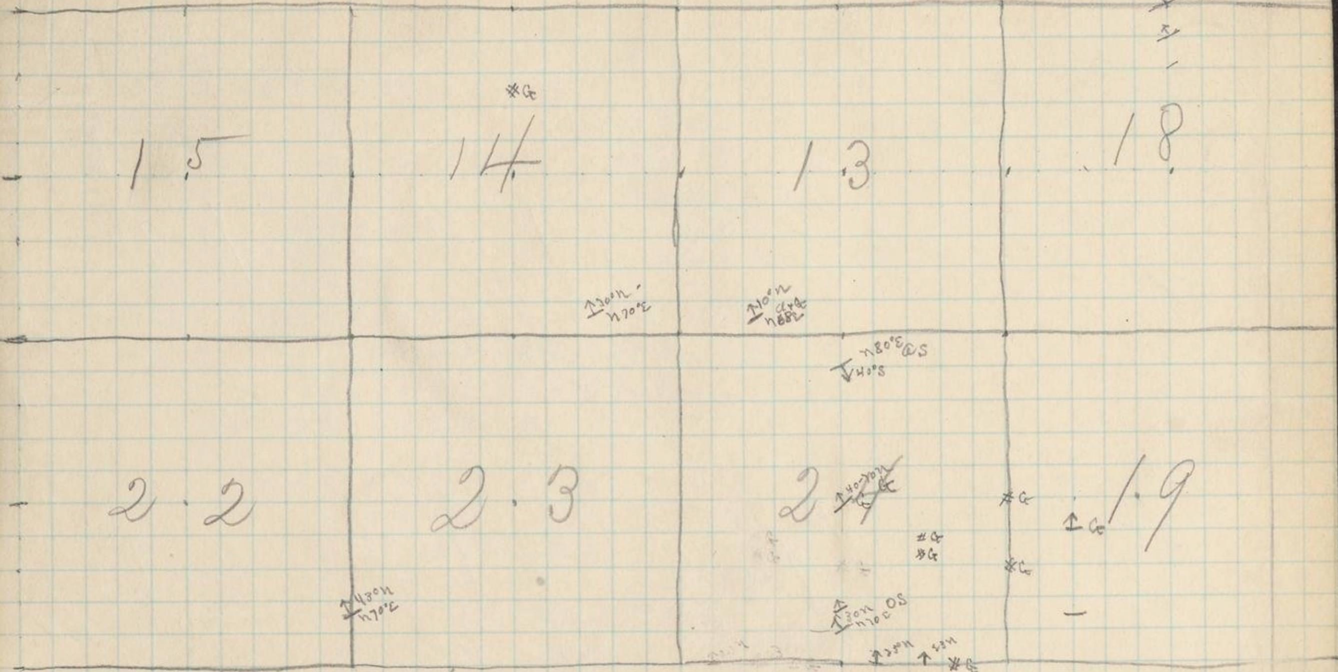
See plotting of both Finlay's + my outcrops pp. 105 sq.

S. T. R.



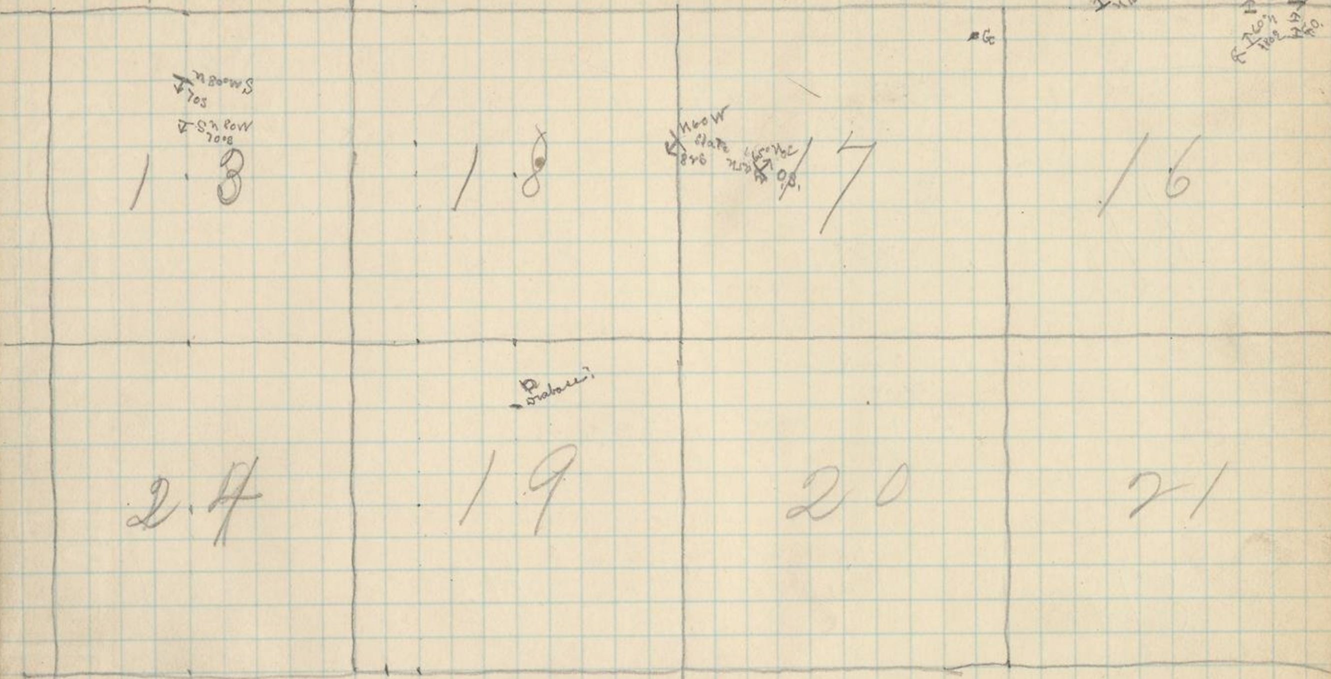
S. T. R.

T 47 R 33 R 34



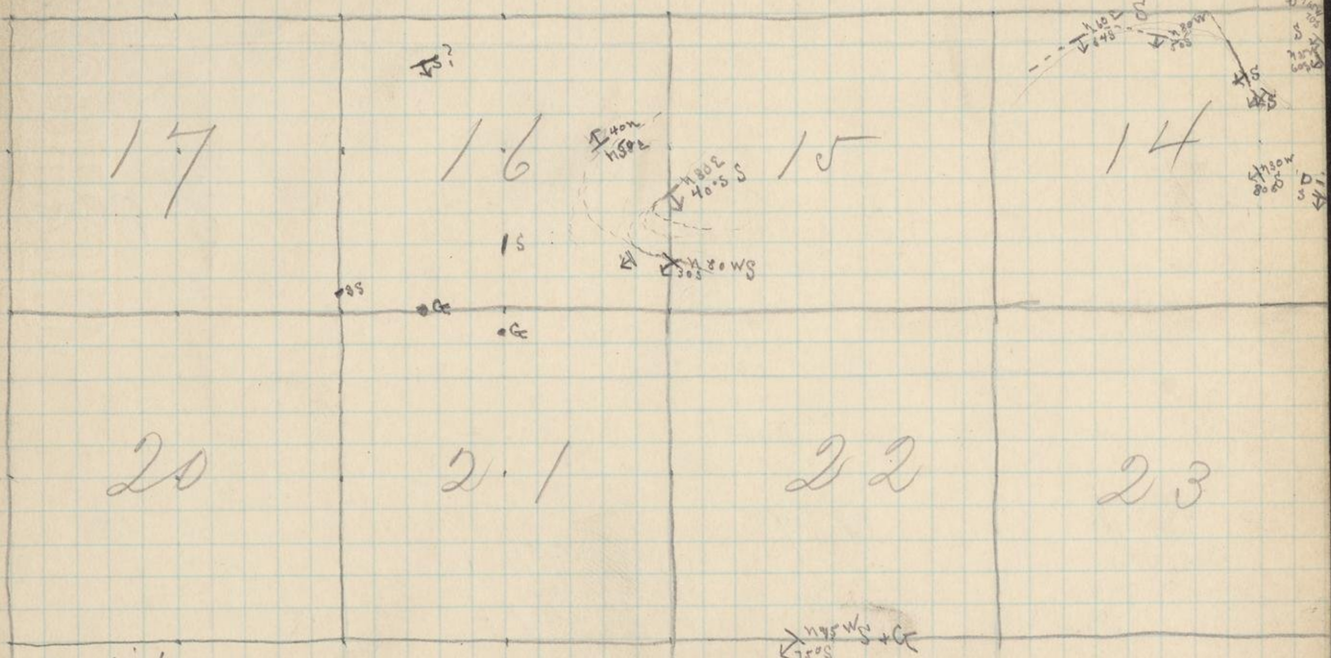
O.S. = Ottrelite Schist.
G. = greywacke.

T 47 R 34 T. 47 R 33



D = drabau

T. 47 R 34



D = diabase
S.S = sideritic schist.

S 47 R 35 (70N N65E)			S 47 R 34
1.5	1.4 (N90W SS 5°S)	1.3	1.8
2.2 G	2.3	2.4	1.9

T47R36	T. 47 R 35		
1.3	1.8	1.7	1.6
1.4	1.9	2.0	2.1

Q = quarter

T47 R 36

17	16	15	14
20	21	22	23

T47 R36

18

19

Blank Pages

112-117

Skipped