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## **North shore of Lake Superior, Port Arthur and county westward: [specimens] 18503-15890. No. 100 1890**

Merriam, W. N.  
[s.l.]: [s.n.], 1890

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U. S. GEOLOGICAL SURVEY  
FIELD SECTION BOOK

No. 100.

North shore of Lake Superior,  
Port Arthur and country westward.

A. A. Merriam, 1890

18503- 18590

# LAKE SUPERIOR DIVISION.

## INSTRUCTIONS.

1. Ordinarily at least two pages of this book will be devoted to one section. On the left-hand page, place a map of as much of the section as has *actually been seen*. Denote rivers, lakes, marshes, etc., by the usual topographical signs. 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, with dip arrow and number attached as before. 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 specimen representing it. In mapping the section count each of the spaces between the blue lines as 100 paces, and twenty of these spaces to one mile, or 2,000 paces. Usually the southeast corner will be placed at the bottom of the page, or at the first black line above the bottom of the page, and at the right-hand side. If, however, for any reason, it is desirable to show portions of an adjoining section, the southeast corner may be shifted up, or the map may be turned around and the north placed at the left-hand side of the page. The ruling of the left-hand page is also arranged so that, if desirable, a smaller scale can be used, two inches, one inch, or even one-half inch to the mile. With the two-inch scale, the squares outlined in black represent sections, and those in red, quarter sections and "forties," while the space between the blue lines is 200 paces.

2. 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 4025, 250 N., 300 W., *Strike, N. 6° E., Dip, 50° E.* Then follow with as full a description of the ledge as possible. When topographical maps are used for locations this paragraph applies only in part.

3. Collect a specimen from every ledge, or wherever there is a change of rock on any one ledge, taking care to get fresh material, unless for a special purpose the weathered surface is desired. In case of trips made on foot or in canoes, for long distances, neighboring ledges, unquestionably of one kind of rock, need not be specimened, but chips of them must be taken. The position and extent of the ledges not specimened should be marked on the map, with notes that each is of a rock identical with specimen so-and-so. Under the same conditions small sized specimens, trimmed to a uniform size of  $2 \times 2\frac{1}{2} \times \frac{3}{4}$  inches will be allowed, but in all other cases *large sized specimens*, trimmed to a size of  $3 \times 4 \times 1$  inches, must be selected, in accordance with section 3, chapter IV, p. 44, Regulations of the U. S. Geological Survey. In all cases collect chips for slicing. Specimens should not be placed together without protection in the collecting bag as the fresh surfaces, important in determining the character of rocks, are thus destroyed. They should be damaged by no temporary mark, but the numbers should be at once marked in at least two places upon the inclosing paper or cloth bags. It is desirable that specimens be permanently marked in camp by painting the numbers upon them in white upon a black background, using Silver White and Ivory Black oil tubes for color, with turpentine as a diluent.

4. On the last twenty-five pages of the book give, as may seem desirable, a general account of the examination of the region mapped in the previous pages, correlation of observations, sketches, cross sections, etc.

5. Forward this note book as soon as filled as registered mail matter to C. R. Van Hise, U. S. Geologist, Madison, Wis.

Book  
#100

North shore of Lake Superior.

18503

1000 steps N. 300 ft. SE. R x - 5 Coumee.  
A large outcrop of greenstone lying just east of large swamp.

About 1700 N. 350 ft. SE 1x - 4 ft. Coumee.  
A small showing of green schist with a little jasper and chert.

About 1000 N. 500 W. SE 1x - 4 ft. Coumee.  
the banded schist, jasper, ore and chert shows.

18504 }  
18505 }

500 N. 275 ft. SE 1x - 4 ft. Coumee. A large ledge, mostly green schist, but carries a little iron in small stringers and patches. To the northwest and north these rocks show, in places carrying much more jasper and ore than here, not enough however in most places to make a good showing. North of these schists again comes a greenstone (?), well exposed, with no trace that I could find of iron material. I think the better material if found will be in the valley just south of these schist knobs.

R 10 <sup>503</sup> T. R 9

R. 9

R 7

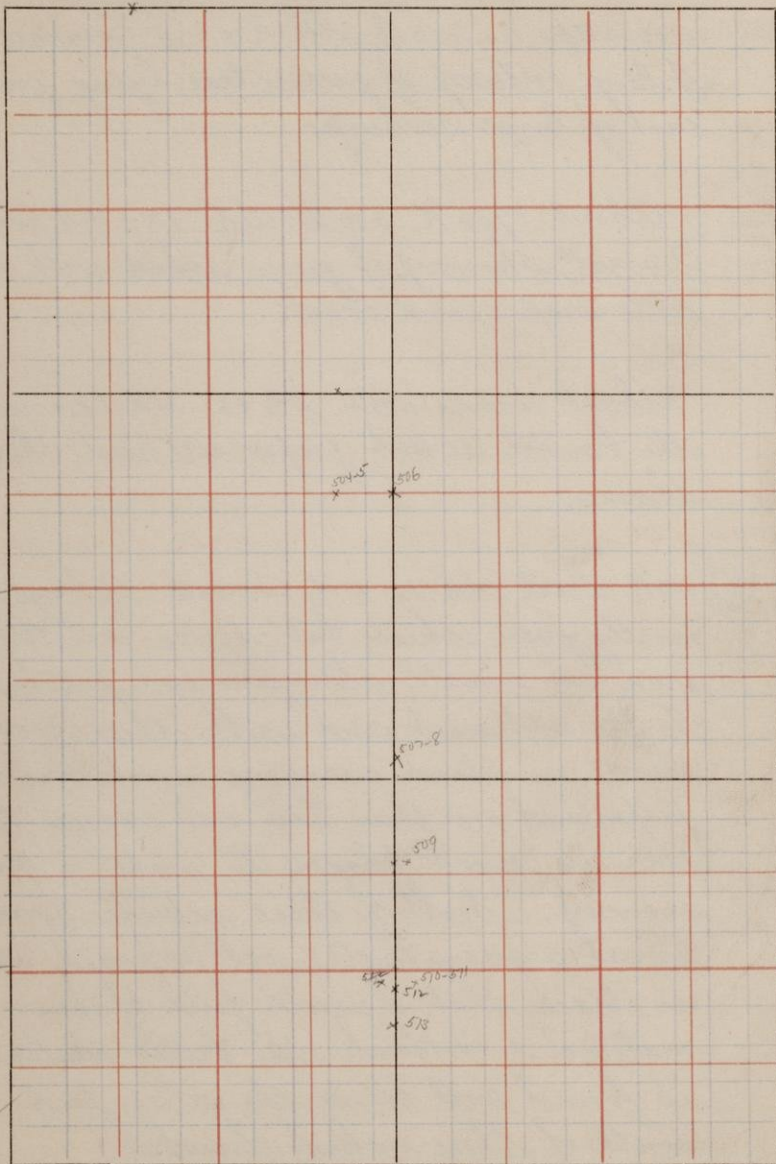
Con  
5

Con  
4

Con  
3

3

Con 2  
2



18506 500 N., SE IX-4 Combee. A greenstone that seems to form part of a large dyke running NE & SE. The same rock shows in large exposures to the west and south.

18507 }  
18508 } 1050 N. SE. corner VIII - 3 Combee. A small exposure of the green schist and jasper, about 20 feet in diameter. The jasper and ore occurs in patches and stringers similar in all these rocks.

18509 540 N., 60 E. SE VIII - 3 Combee. This rock shows in a large exposure here and in a small one on the east of the line 400 N.

200 N. SE VIII - 3 Combee on east side of line the schist and chert shows. No. jasper seen at this place.

This rock continues to the corner and SE. for a short distance. The jasper shows very soon, and the chert, jasper and lean banded slaty material showing over the entire distance in patches and bands, very much broken and contorted.

The general strike of the rocks appears to be SE. although strikes to the NE were

noted. The lean material occurring with the jasper is all very slaty and poor. East and northeast from this point the surface breaks down into lowland with no exposures that we could find.

So far as I have seen these rocks over the whole country they seem to lie in a series of bands (schist and iron material), the better showings being simply exposures of the wider bands of jasper and ore. From this it is almost impossible from surface exposures to point out any particular belt in these rocks, as the richer.

18570 }  
18511 }

On the south slope of this same ridge a banded jasper and ore was uncovered for about 20 feet. This is a much better showing than on the crown of the hill to the north. This place is about 100 steps SE of the corner. The dip is vertical.

18512 Ore from band of ore and jasper 100 steps south of S.W. cor. VIII-3, Cornuel.

18513 276 S of S.W. corner VIII-3 Cornuel, Cherty



limestone(?), a large outcrop striking S.E. Lying in contact on the south is a coarse greenstone. 200 steps south the same chert shows again. This greenstone crosses the east and west line on the south side IX-3 700 steps west of S.E. corner

From the Alt corner VIII-3 went S  $\frac{1}{2}$  mile. After leaving cherty limestone mentioned above we saw no more exposures, but after crossing swamp struck a series of large drift ridges. From here turned back north to corner and went west  $\frac{1}{2}$  mile, then turned E & N. Crossed nothing but large greenstone ridges between this post and a point about 700 paces north of Alt corner VIII-3

18514 }  
18515 }

915 ft. 850 ft. S.E. corner IX-4 Corner. Banded jasper, ore and schist. These rocks show over quite a large surface in this vicinity both to the north, south and southeast. To the northwest is a large swamp with here and there a low rise. The greenstones also show in numerous knobs in this

concession and appears to be a large mass cutting the iron rocks and running NE & SW. It shows but a short distance east of this point.

18516  
18517

About 200 S. 450 E. NW. corner VIII-3. Connee. A fine exposure of green schist with the banded iron and jasper lying both to the north and south.

The exposures on the south side are small and lie at the base of the ridge next to a swamp. Those on the north are about 150 feet wide (as far as uncovered) banded chert, jasper and lean ore. The strike is SE toward a large swamp. dip vertical. NE of this exposure the country is low for fully 1/2 mile.

18518

250 S. SE corner V-2. Connee. A large ridge of hornblende-schist crossing the line in a nearly EW. course.

18519

500 S. 300 E. SE. V-2. Connee. A hornblende-schist very similar to 18518

18520 750 S. 50 to 75 E SE V-2, Conmel.  
Magnetitic actinolite- or hornblende schist  
Large outcrop.

18521 1000 S. 50 E. SE V-2, Conmel. An  
outcrop of banded quartzose rock carrying  
considerable magnetite in places. Appears  
very much like some exposures on the  
Republic Hill. The strike appears to be  
about 20° N of E. The same rock  
outcrops on the line 30 steps south.

1150 S. 600 W. SE V-2 Conmel. An outcrop  
of hornblende-schist(?) Slightly magnetitic.  
Very similar to 18521 in place. On the  
whole more like a typical hornblende-  
schist. Strike E 20 N. Dip high to  
north. Variation 10° E.

18522  
18523  
18524

585 steps west SE V-2, Conmel. The  
banded schists and iron material  
shows over an area several hundred  
feet across in low knobs. It is very  
much contorted and exposed in small  
surfaces, so I could not be sure of the  
strike, but think it is N of E. or parallel

to the hornblende-schists. The jasper shows in very small quantity; also the cherty material. The structure in places reminds one of that of some of the hornblende-schists. Variation 55° E.

About 200 steps S.E. this banded schist and iron show again striking 5° to 10° N. of E. No true jasper was seen here, although very close to it in places.

18525 West and east the hornblende schist shows in large exposures.

Had only two days sun in all this work and hence could not locate exposures nearer than by forties in many instances on account of the variation.

18526 }  
18527 } 2 miles west of N.E. corner of Comuel township,  
18528 } district of Thunder Bay.  
18529 }

18530 Green schist conglomerate from Thunder Bay district, Ontario.

October 21, 1890.

Started south along a road from Timmark on C.P.R. to the Dawson road. Went west  $\frac{1}{4}$  to  $\frac{1}{2}$  mile on this road to Brown's Lane, which we followed south one mile to the Mattawan River.

Crossed river and struck S.E. for about 3 miles. Camped about 3 miles S. of the Mattawan River about 4 P.M. Cloudy, a little rain.

October 22, 1890

Started south again and soon struck a country of thick second growth poplar. Soon after starting, crossed a fine conglomerate striking  $30^{\circ}$  S. of E. A similar conglomerate had been crossed just before camping the day before. Reached W. end of Thunder 2 (3) about 11. Country very bad south. Camped about 3 at corner of location 69E. + 70E. Cloudy and Fair.

Oct. 23, 1890.

Cloudy, slight rain. Left camp in morning and followed line east. 100 steps struck small lake about 200 steps across. Followed east about  $\frac{1}{2}$  mile to N.E. corner 70E. here turned south along east line 70E. Passed a few paces west of an E & W. lake about  $\frac{1}{4}$  mile long. Country thick second growth and fallen timber. Lake about 150 steps S. of N.E. cor. 70E. Followed south to S.E. corner 70E and discovered we had been at this post before. Turned west from here to town line  $\frac{1}{2}$  and back to camp. In the P.M. traced the jasper across 69E.

On north line of 69E, 825 steps from town line, a low knob of greenstone. The jasper is only a few hundred steps south across a swamp. Swamp both to west and east of this point.

650 west, a very coarse greenstone is exposed on the line and to the

N. and S. in quite large exposures. From this point to the corner  $\frac{1}{2}$  mile west of town line this greenstone is exposed almost continuously. South from this corner the greenstone is exposed in large ridges for 400 steps. South of this 60 steps the banded cherty material appears, but very poor in iron and no jasper. Cloudy and raining.

Oct. 24, 1890.

Moved camp  $\frac{1}{2}$  mile south and 1755 steps west to west end of lake at S.W. corner 69E. Location of camp 755 W. 575 N. of S.W. corner 69E. After moving went south to the two locations just north of Stephens lake went south through these to the lake. Saw but little indication of the iron rock, at one place saw a little jasper (on the line between the locations and a couple hundred paces north of Stephens lake. Then went west to end of lake from here turned north and

went for some distance until the iron range was found, then back to camp.

The iron belt seems to consist of a fragmental in places conglomerate and again quite fine, in this rock are belts of jaspered and iron material and carbonate.

Some of these belts are narrow and again good width.

The bounding rock seems to be a quartzite. Fair in morning until 9, afterward cloudy.



November 20/90.

Left camp and went south along west line of corner  $1\frac{3}{4}$  miles. The iron rocks show shortly after leaving camp on the west of the line. From here they seem to be exposed pretty continuously up to 500 south of N.W. corner lot III lot XII. From this point the line crosses a series of swamps and low rolls on which no exposures were seen. On going N.E. from S.W. of III lot XII a conglomerate was crossed for 600 or 700 feet.

Nov. 21/90.

Went south to N.W. corner  
111, XII, corner then east one mile  
then south over greenstone to  
a large swamp about 12 or  
or 13<sup>00</sup> south of corner, then  
turned S.E. to near corner be-  
tween IX, X south side corner

3. Greenstone all the distance  
Now here we turned north  
to north line cov. 3, nothing but  
greenstone being seen until  
within about 500 steps of  
north line where there were  
numerous large angular  
fragments of Gaspé etc.  
some of them very near house.

November 22/90.

14

Went S.W. for a short distance then about N. to Stevens Lake. From here turned south and S.E. to near corner  $\frac{3}{4}$  mile S. of camp.

A few indications of gasper were seen although they were not strong. The country is not so broken as to the west and hence the snow obscures most of the ledges. I think the range to the west runs through here however. Not worth to kill to work in this region with the present snow!



- 18557- Taken along the river rocks  
 18562 to the west of town line and  
 from near center of W. line  
 IV to near south corner on  
 west line.
- 18563 250 S. of N.W. corner III  
 Lot XII *Concell*.
- 18564 Near S.W. corner III *Con*  
 Lot XII *Concell*
- 18565 About 200 steps south of the  
 N.E. corner *Con. III* lot X.E.
- 18566 About 800 steps <sup>south</sup> of the N.E.  
 corner *Con. III*, lot XI I could see  
 a width of this rock of about  
 40 ft. It is exposed a little east  
 of the line.
- 18567 } Grenstone from lot X *con. 9*,  
 18568 }
- 18569 From bed of Mermaid's creek,  
 about 1/2 mile north of Brother  
 Tom's location.

- 18570 From east side of creek on  
Brother's location.
- 18571 Iron shuff on west side  
of creek west end of exploring  
line 1900 paces west of the  
westernmost location.
- 18572- } 22 ch. south of N. E. corner  
18576 } R. 440. The two large speci-  
mens are a little east of the  
line or on 441. The greenstone  
lies on the north with the  
iron in contact on the south.  
The iron is about 2 ft. wide  
here than 6 inches farther  
again iron. This successive  
holds as well as could be  
seen for several hundred  
paces.
- 18577- } From location R. 456  
18582 } Belt runs N. W. & S. E. through  
location.
18583. Iron location 4/219

✓ 18584. N. E. cor. 2444, conglomerate.

✓ 18585. Gunstone, N. E. cor. R. 452.

18586 }  
18588 } } Near the S. E. corner R. 444  
from the green schist con-  
glomerate that lies south of  
the iron belt.

✓ 18589. About 4 ch. N. of the N. E. cor.  
of 2444. A band similar to  
many others in the iron  
rocks of this region.

✓ 18590. 15 ch. N; 18 ch. E. S. E. cor.  
R. 452. in masses and  
seams in the rock.  
The fine white rock lies  
in spots through the rock  
to the south of where the  
green material was taken.

one of white  
one of green

R 438  
F. O. 2800

West line R 439

BEAVER  
POND

Paplar post  
R 439

R 439

S. line R. 439

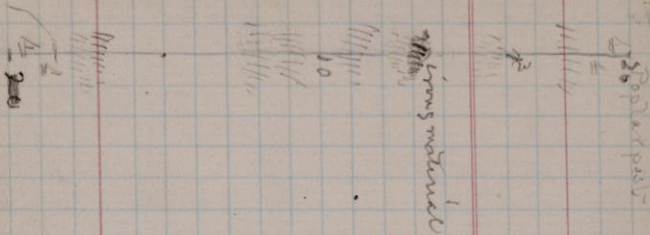
alders

S. line R 439

1250 m



East line 439 R.

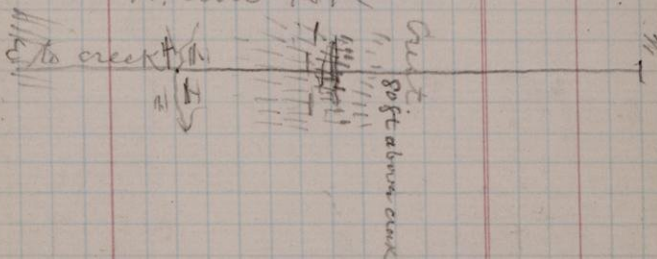


N. line 439 R.

A series of steps ascending

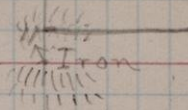
200 ft above creek  
200 ft above pass

N. line 439 R.



Poplar post

Outer Post



North line 438

10  
4  
4  
3  
2' x 3"  
4  
4  
4  
4  
4  
1  
20

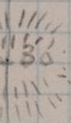
Cedar swamp

2' x 3"

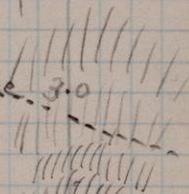
300 yds

North Backline

East line A. 438

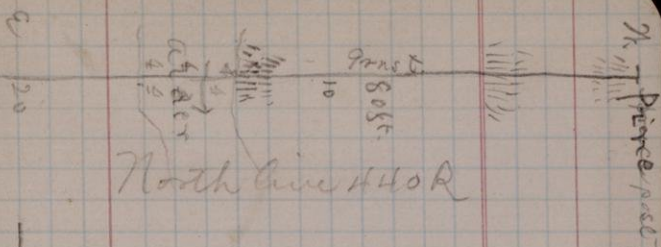


Exp. zone 3.0

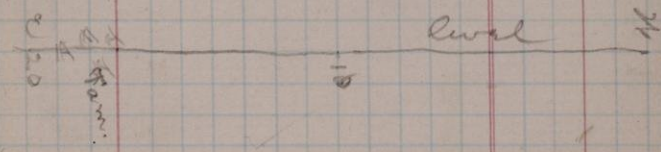
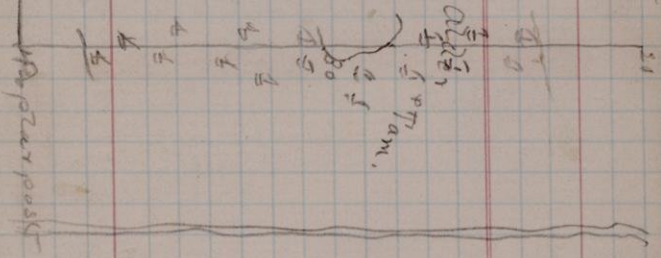


Large ridge running  
E 35° S. 255 ft. About  
center iron range  
jasper, quartz Sch. in  
large exposures  
The large "backbone" of  
the iron range

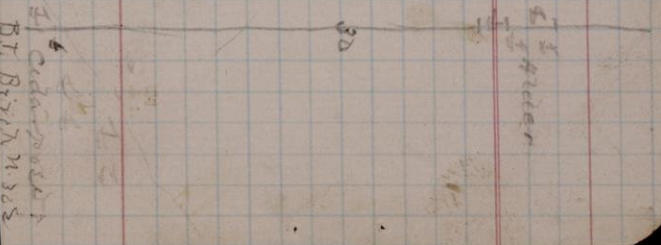
8  
Birch post 20



North line 440 R



North line 441



Cedar post  
 BT. Birch 21.302

Wind

Wall Line R. 437

S. line 437 R.

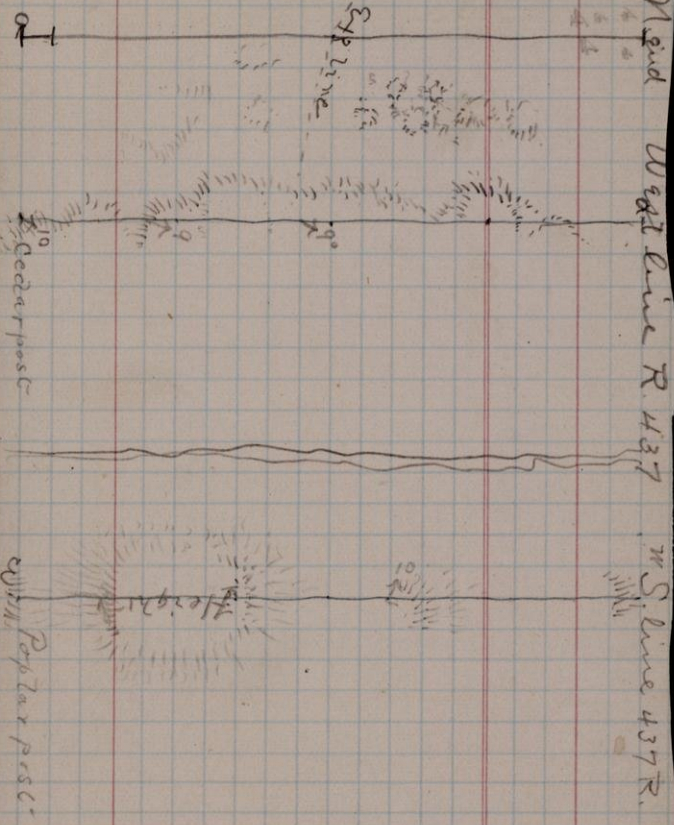
Exp. Line

1

Cedar post

Poplar post

Algebra

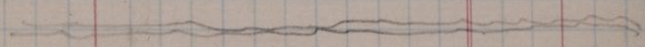


S  
N  
~~W. Jam Alder~~

S  
N  
Jam Alder 21  
12

East line of  
R. 437

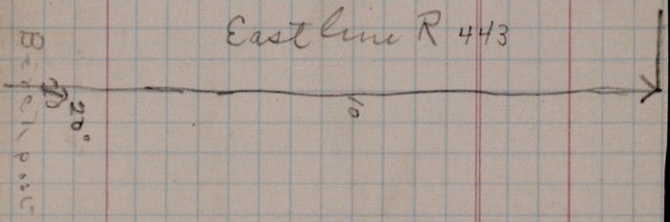
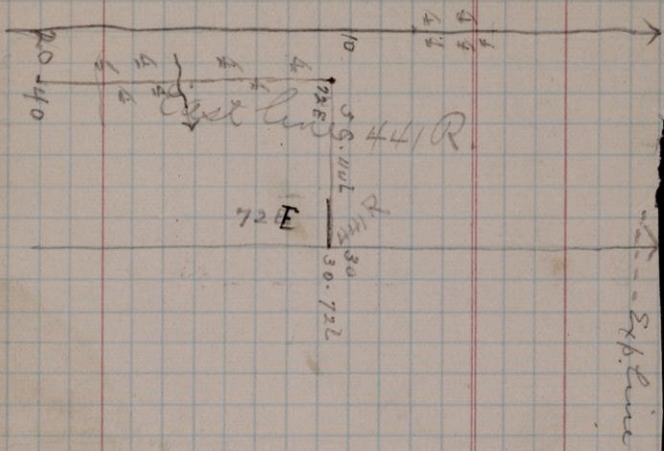
S  
Broad Street  
Alder  
Cedar corner  
edge of swamp



N. line 437 R.

S  
N  
S. Spruce Pass  
7  
6  
5  
4  
3  
2  
1

Paced east along Dawson road from  
crossing of Strawberry creek 425 steps  
then turned directly east (magnetic)  
Iron schist cross very closely to this  
point



B Birchpost m  
72. E.

10  
South line R. 443

W  
100

W

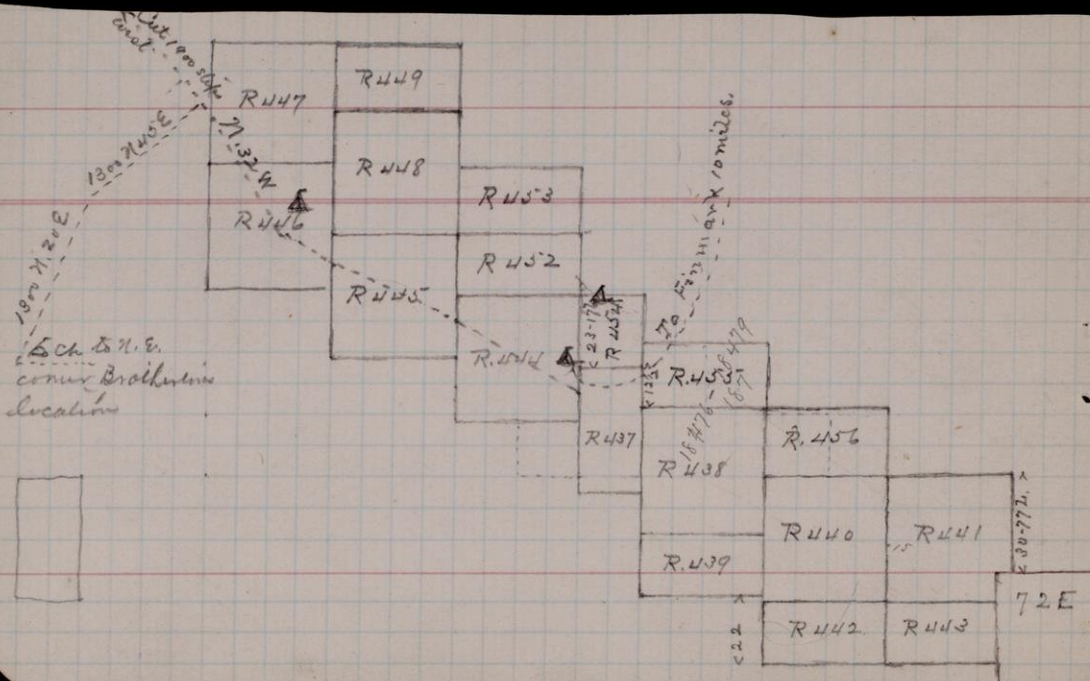
5.411  
34.56

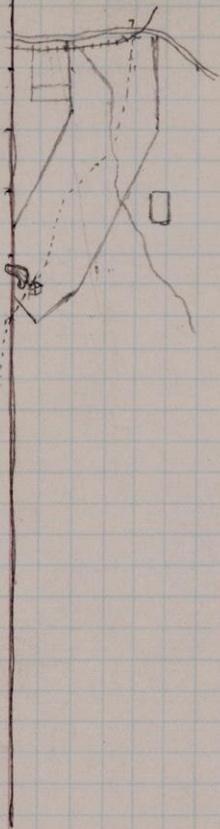
10  
S. line R. 442

W

E







22



Root of R. 440

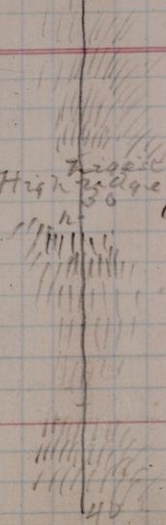
High ridge Jasper, Sch. str.  
High pt. in location a short distance W.

30

40

20

||||| 10  
||||| 15



East line 443 R

18-908

20

200

N 20

E

South line 443 R

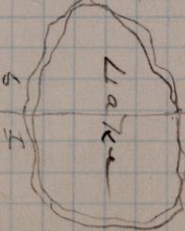
10

11111111

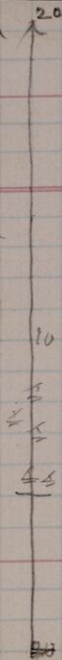
30

E 20

West line 443 R. 22 Ch.

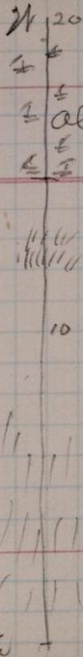


East line R 444 - 230.17 1/2

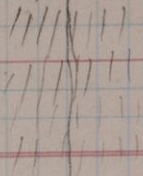


R 444

6 1/2" x 4"



alder space

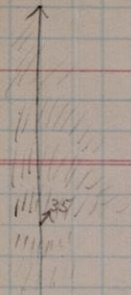
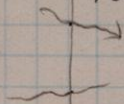


30

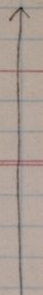
N

N

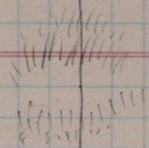
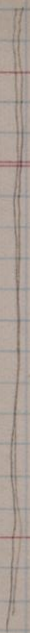
S. E. corner  
 R. 444 Poplar  
 post. B.T. S 2. W  
 Poplar. 18 1/2 links  
 Chaining north  
 to N.W. cor. R 287  
 16C-832.



10



30



E

E



20

Poplar post

