



## **Book 3: [specimens] 19223-19322. No. 120 1891**

Eriksen, E. T.  
[s.l.]: [s.n.], 1891

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U. S. GEOLOGICAL SURVEY  
FIELD SECTION BOOK

# 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.

E. J. Erikson

Book 3

Contains 19223 to 19322

19315-16-17 have not been  
located. JHG

#120

NW 1/4 17

T. 47

R. 27

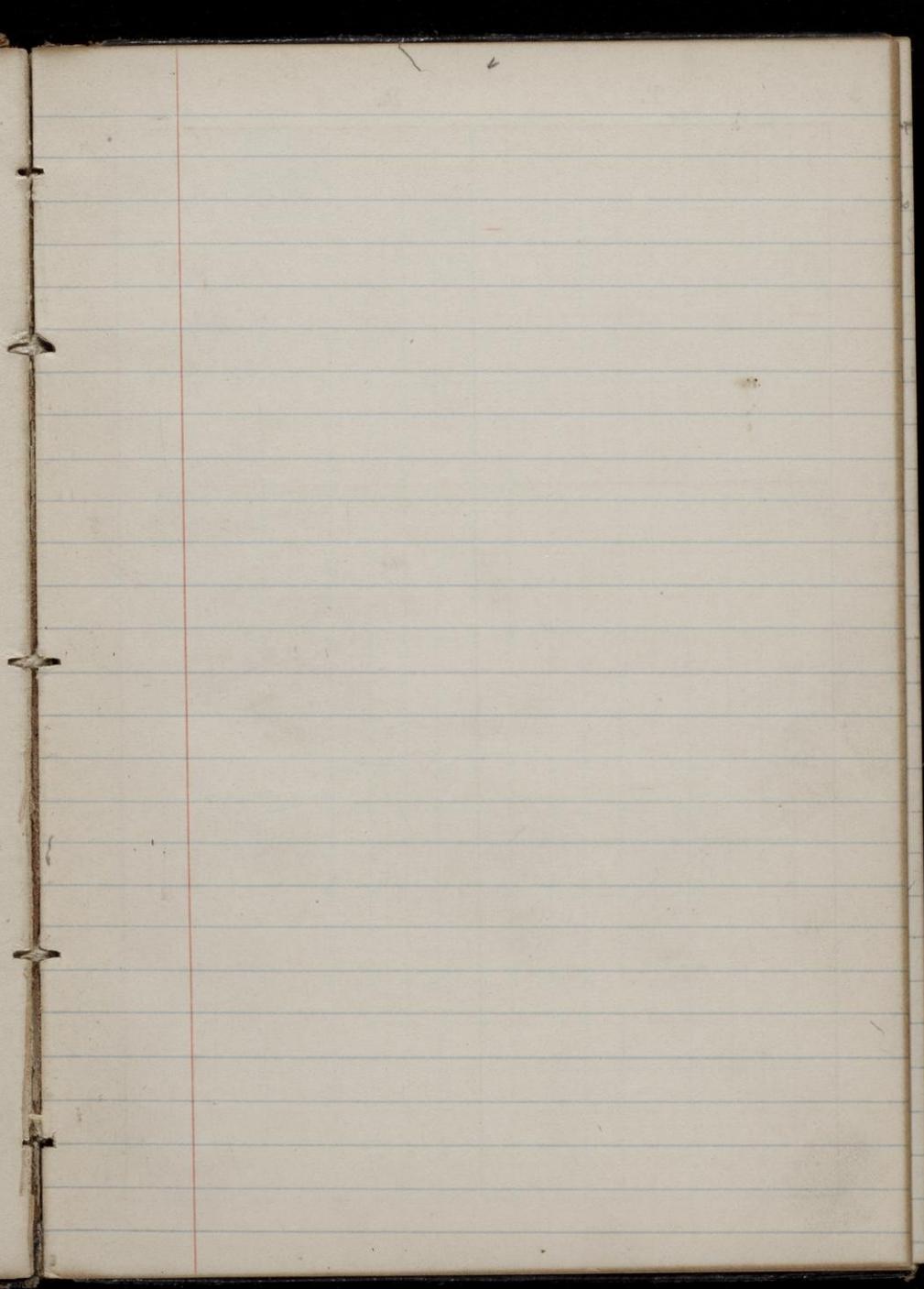
Line 65

bush

Line east through RR.  
rule 49

begin  
dept.

~~WILHELM~~ ~~WILHELM~~ ~~WILHELM~~

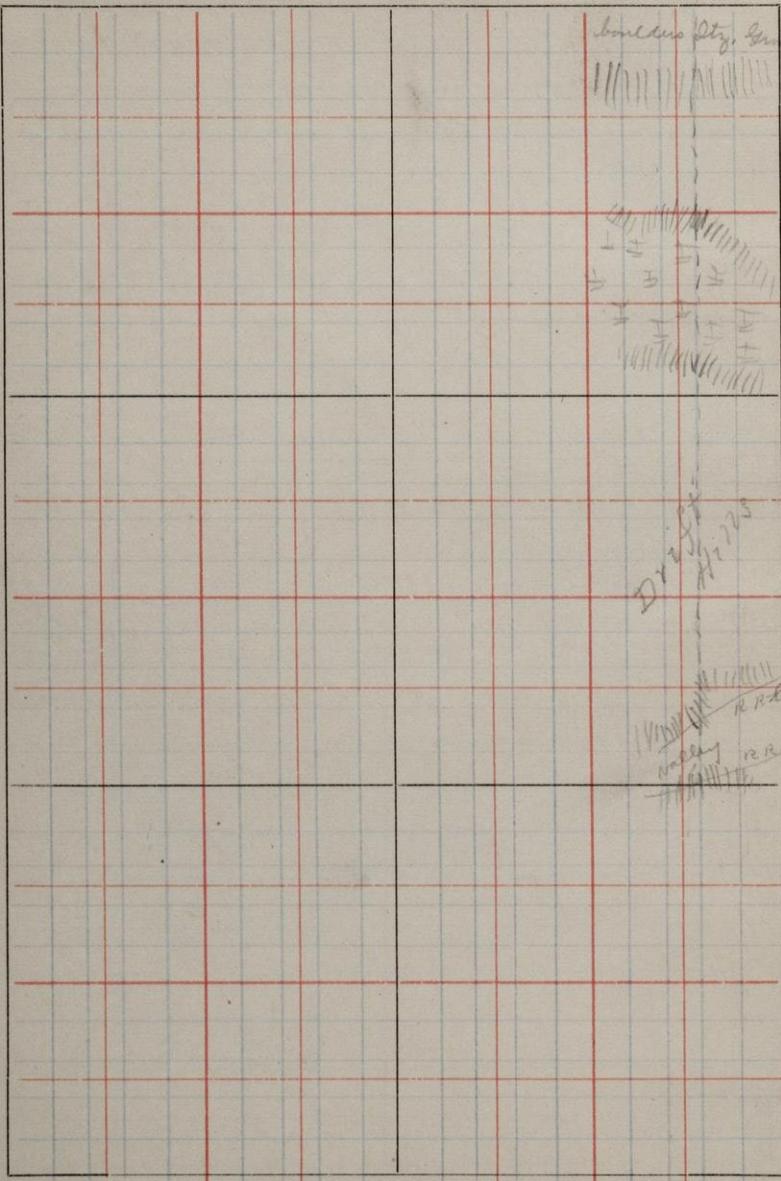


S W  $\frac{1}{4}$  8

T. 47

3

R. 27



boulders

Sty. Grav. xC

Sty. Grav. xC

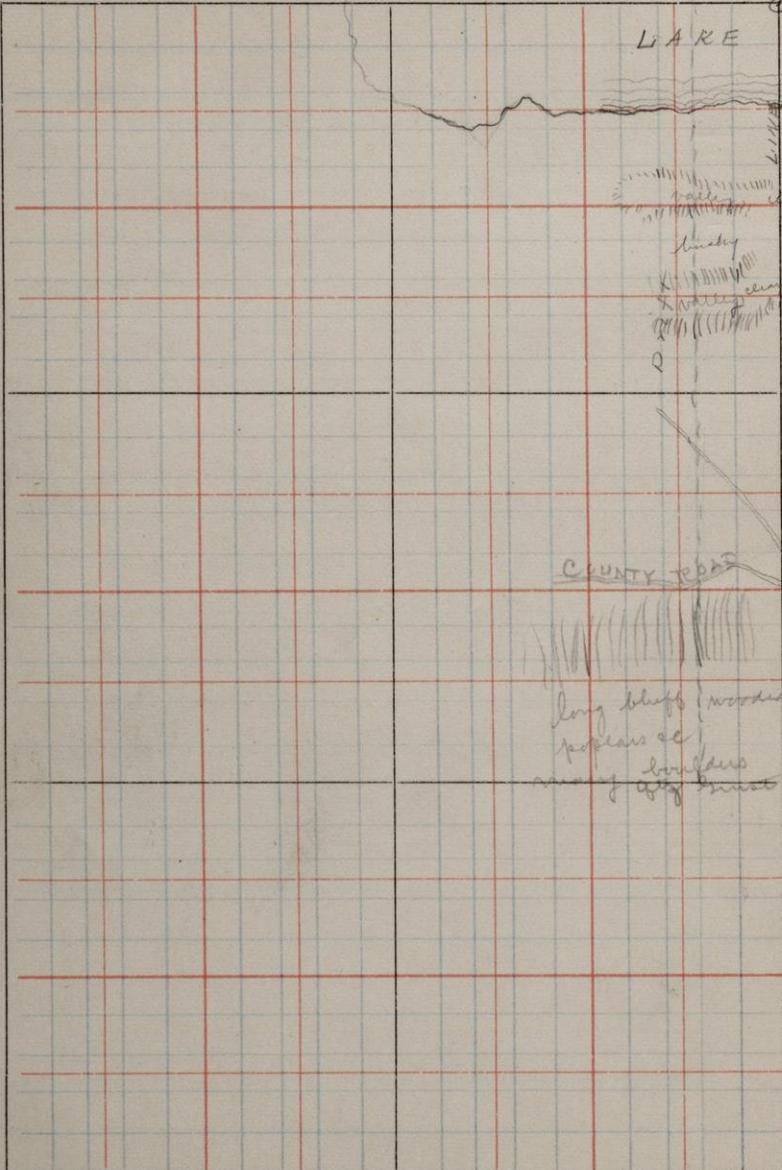
Dipping

valley R.R. line  
R.R. line  
cut through



NW $\frac{1}{4}$  8 T. 47

5°  
R. 27





SW  $\frac{1}{4}$  5

T. 47

R. 27

7

autocaps rd  
clean up all  
one K. 17-0

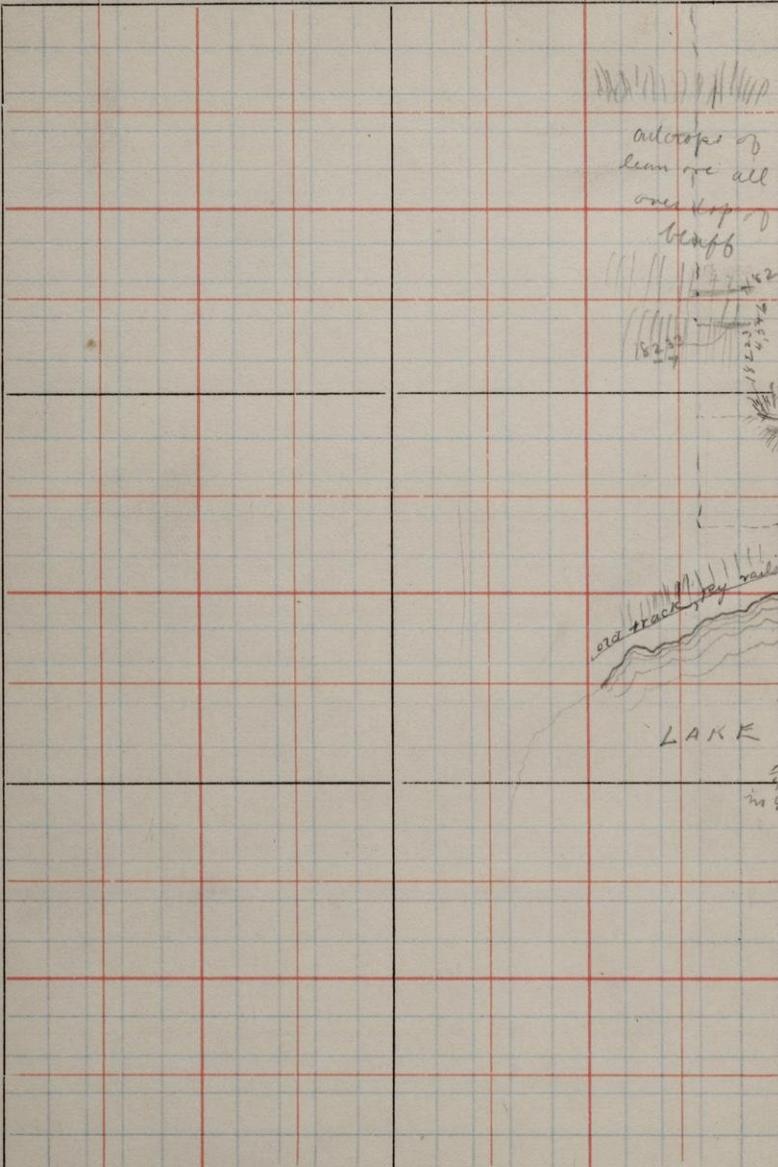
Cliff

11/11/1952 38  
18230  
2200  
2250  
1500  
1400

over track, say rails removed

LAKE

Export  
in Lake



✓ 18223 N 475 W 1005 SE 5 - 47 - 27

This point is the N W corner of a low knob and here is an outcrop of foliated rock striking N about 70 or 80° W Dip vertical The exposure here is small about 10 ft x 12 ft Perhaps is an altered greenstone

✓ 18224 These are from same ledge and show some

✓ 18225 } of the different appearances also small

✓ 18226 views of some pseudomorphous material probably hematite

✓ 18227 N 465 W 990 5 - 47 - 27

This is from same knob as the last four, from a point near top. It shows the light colored spots which are very marked on the <sup>weathered</sup> surface This is a greenstone perhaps a neck or dike

✓ 18228 N 455 W 990

✓ 18229 These are from the south side of the knob at the east end of the exposure at a point where the rock changes from one like 18223 to one like 18230, a talcose rock

✓ 18230 These are from the outcrop on the south

✓ 18231 side of the knob. The strike varies from E and W at the east end of ledge to

✓ 18232

NW  $\frac{1}{4}$ , 3

T. 47

9

R. 27

N about  $70^{\circ}$  W at the west end Dip N  $70^{\circ}$  N  
 18237 + 18232 show some colored weathered  
 surfaces. The talcose rock with pseudomorphous crystals

18233 N 595 W 1100 5-47-27

Lens banded ore strike E 4 W  
 Dip vertical, about 10 steps east of  
 this point is found a conglomerate some-  
 what similar to 18230 but more platy  
 the contact is about N 595 W 1090

18234 N 595 W 1180 5-47-27

From east end of outcrop strike of  
 foliated structure which also seems to  
 be bedding N about  $70^{\circ}$  W Dip about  
 $70^{\circ}$  -  $75^{\circ}$  N At this point few  
 pebbles are seen near the contact

with the banded ore are pebbles  
 some nearly white of small size up  
 to  $\frac{3}{4}$  in. in diam. and many more  
 of the banded ore up to 6" or 8" in dia

18235

18236 These show some of the pebbles

18237

plan  
 m [ ] crop

NE  $\frac{1}{4}$  5 T. 47

R. 27

19238 N 635 W 1040 5 47 - 27

Strike E + W Dips about vertical

At 635 N 1100 W the banded ore again appears and extends east in an outcrop about 15 paces 19238 is found farther east on the same line

The lean banded ore crops out all over top of bluff as far as 850 N having a strike nearly E + W, a trifle N of W perhaps and dip nearly vertical or very high to the north perhaps

19239 1400 N 864 W SE 5 - 47 - 27

A very small outcrop of rock belonging to the plates. Strike nearly E + W Dip can not be taken

SE 1/4 5 T. 47

13

T. 47

R. 27



NE<sub>4</sub> 5

T. 47

15-

R. 27

LAKE

VOLCANIC FIELD  
Quartzite  
Boulders

Shrub

small purplebells

COUNTRY ROAD

Quartzite  
Boulders



SE 1/4 5

T. 47

17

R. 27

Handwritten notes and diagrams on lined paper:

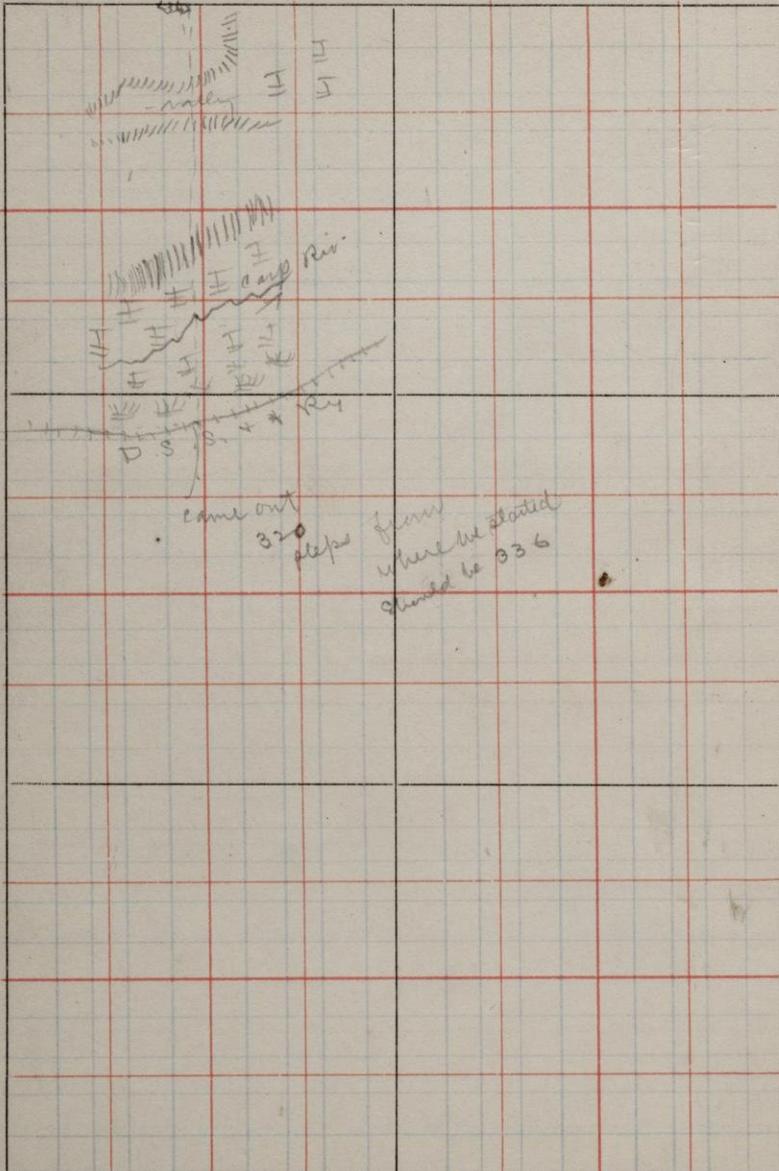
- Top left: "peppermint" with a small sketch of a plant.
- Top right: "buck" with a small sketch of a plant.
- Middle left: "valley" with a sketch of a valley floor.
- Middle right: "Ridge" with a sketch of a ridge line.
- Bottom left: "Shrub" and "staminate" with a sketch of a shrub.
- Bottom right: A large sketch of a shrub with many small branches and leaves.



NE 17 T. 47

19

R. 27



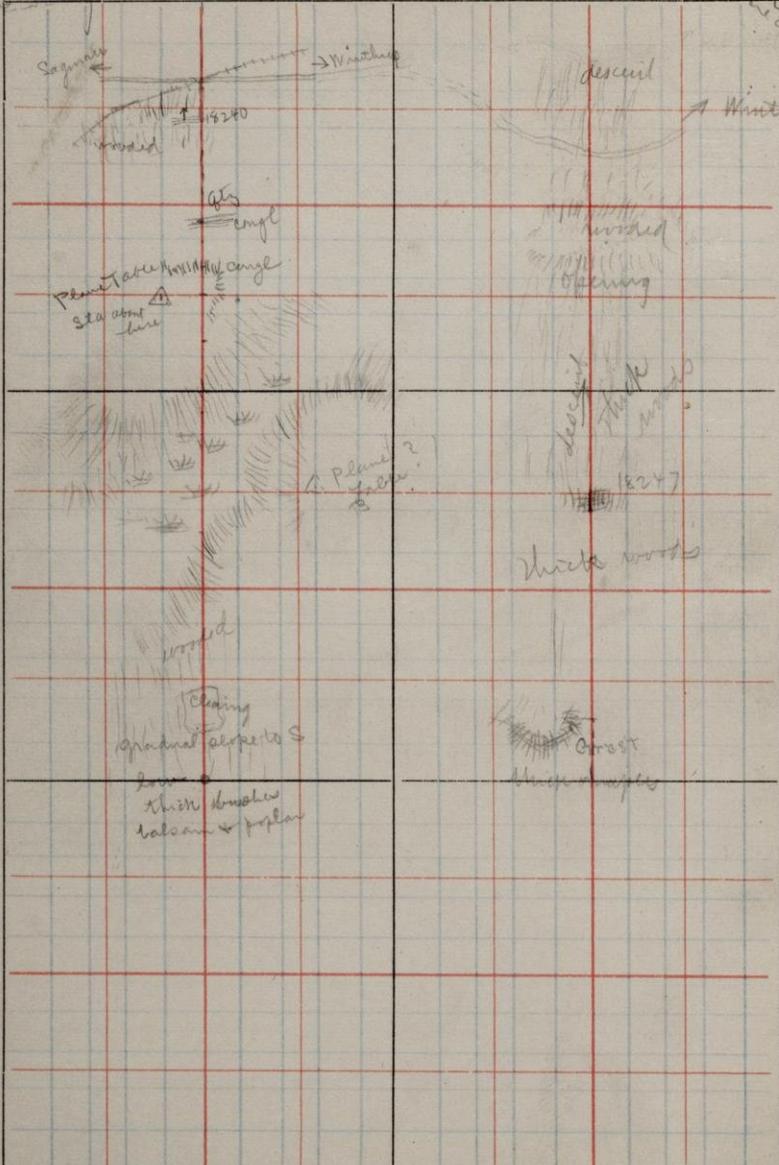


NW See 20 T. 47

21

R. 27

House 100 ft. from



18280  
18247

✓ 18240 N 1860 W 1755 SE 5 1/2 20 47 27  
 Quartzite strike N 80° E dip about 60° N  
 A small outcrop quite fine grained  
 with red bands & streaks. It is at foot  
 of bluff of jasper conglomerate

✓ 18241 N 1730 N 1750 W 20 47 27  
 ✓ 18242 N. at outcrop where the quartzite is  
 seen to change to conglomerate 18241  
 ~ from N. side of ledge 18242 from  
 south side Strike N 75° E Dip about 60° N

at 1670 N 1750 W 20 47 27 is ledge  
 dip in N side the base of it looks  
 like the quartzite very dark however  
 but the top is conglomerate

✓ 18243 N 750 W 1730 SE 29 47 27  
 - granite in low rounded knob  
 rising from swamp

✓ 18244 N 900 W 1250 SE 29 47, 27  
 Granite. Exposure on east side of  
 low knob

✓ 18245 N 925 W 1250 29 47 27  
 From same knob and and an extension

SW 20

T. 47

23

R. 27

of same ledge as 19244  
Granitic Sandstone or Gneiss

19246 N 1075 W 1270 SE 20 47 27

This point is the South east corner  
of an exposure of Gneiss about  
15 paces E & W by 10 N & S having a  
steep face to the south and projecting  
some 20 feet high on that side

19247 N 1330 W 1250 SE 20 47 27

Another exposure on north brow  
of large bluff. The steep slope and all  
the exposure faces north

245

NW 29 T. 47

R. 27

low with three bushes poplars &c

a few low knolls & small apparently all drift

Ridge

Boulders

Boulders

Boulders

Granite

Boulders

Granite

29.47.27

29

29

Boulders

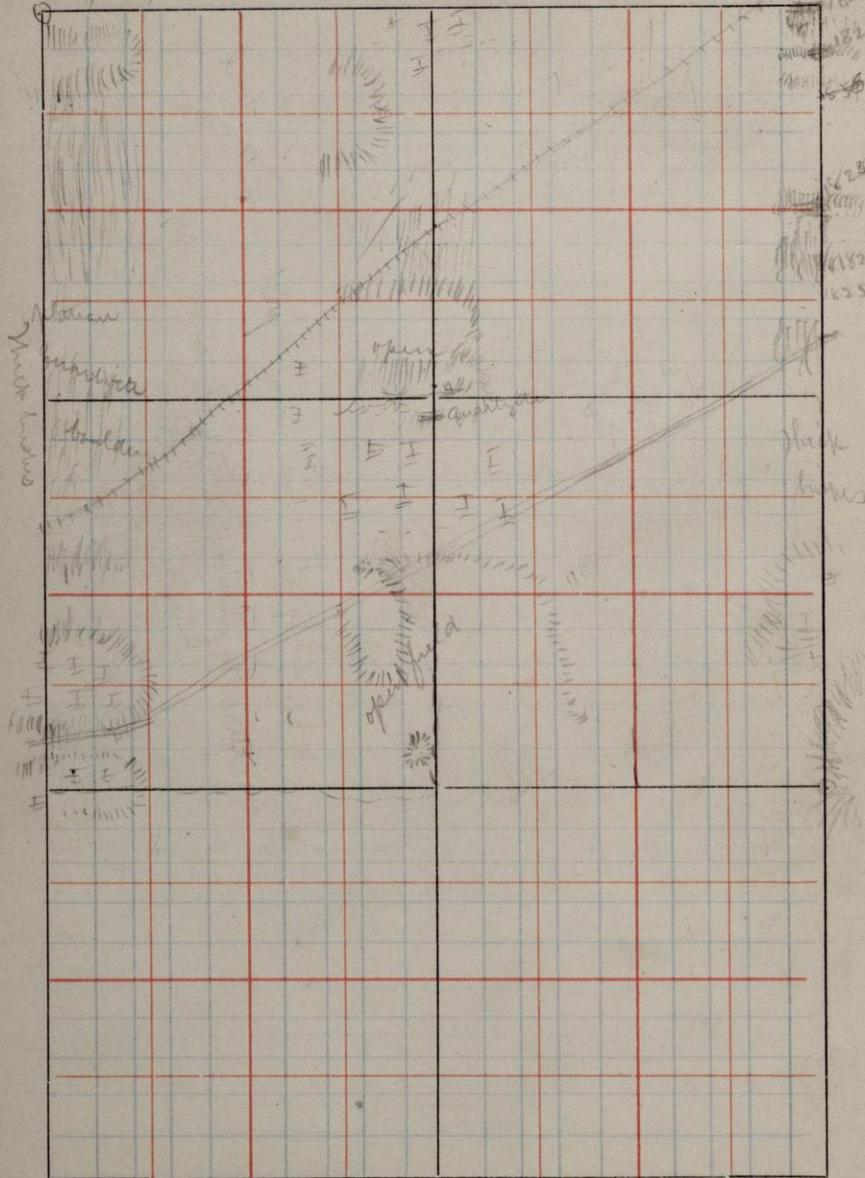


SE  $\frac{1}{4}$  77

T. 47

27

R. 27



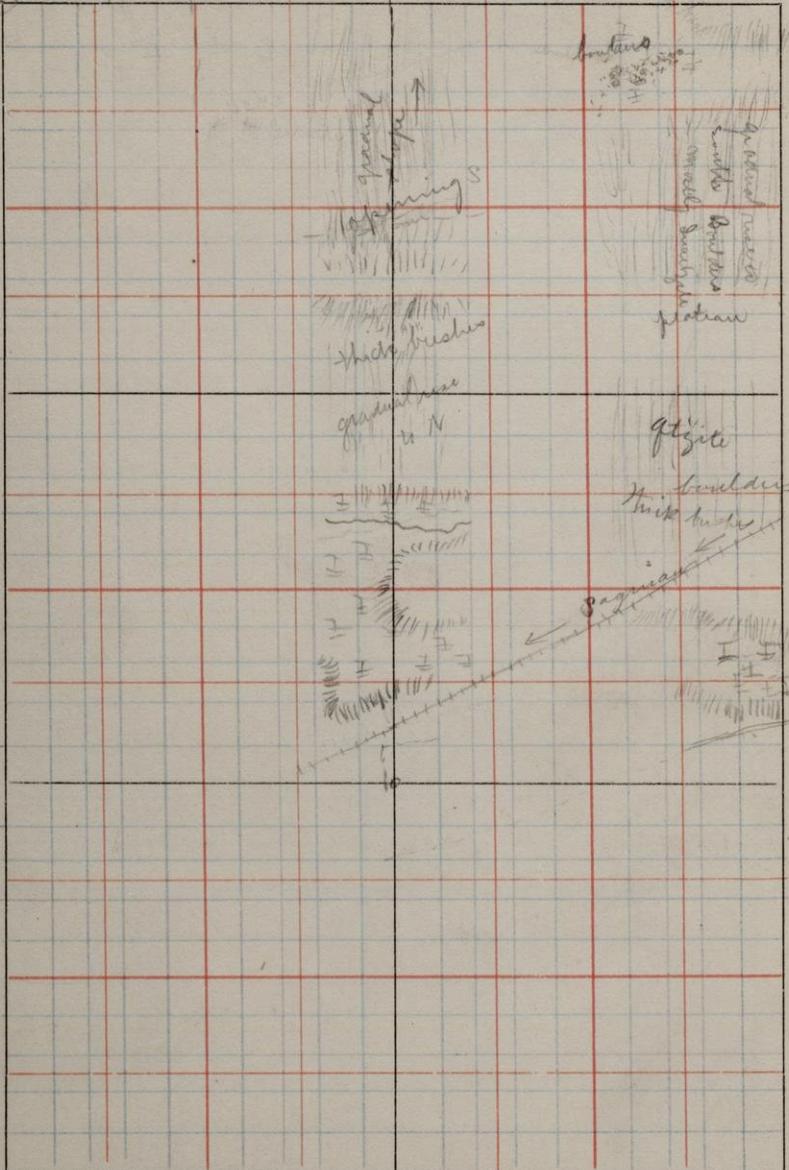
✓ At 486 N 500 E SE 17 47, 27  
is quartzite possibly in place but  
probably a boulder. It is in low  
swampy ground

SW 4 17

T. 47

29

R. 27



Dowdy N

NW 4 17 T. 47

T. 47

31

R. 27

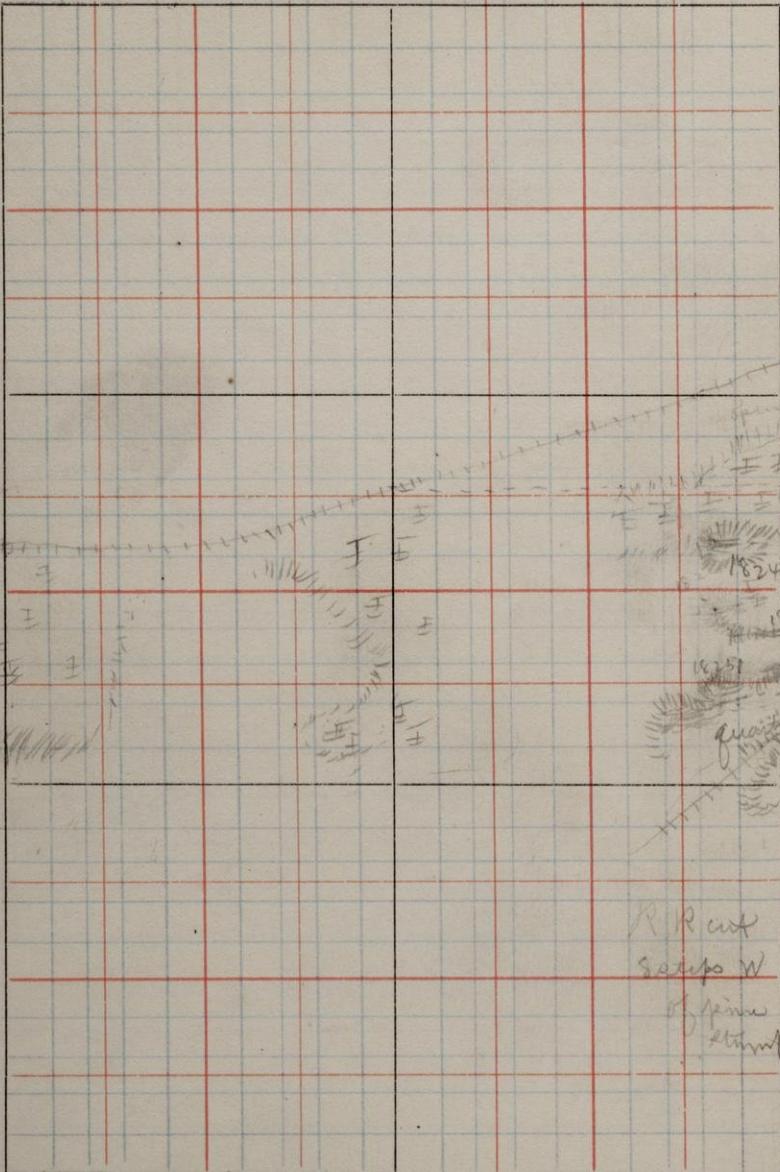


NE 17

T. 47

33

R. 27



✓ 18248 N 1320 W 45 SE 17 47, 27  
 Quartzite exposed in five or six  
 places on a small low rounded knob  
 It is much jointed and its strike  
 and dip not easily made out  
 The strike however is clearly E & NW and  
 dip I think  $35^{\circ}$  S (?)

✓ 18249 N 1200 W 00 17. 47 27  
 Quartzite in a ledge extending E 40 ft  
 and west 100 or 150 ft from this point  
 Strike about E & W but can not be  
 determined closer. I think the dip  
 is  $33^{\circ}$  or  $40^{\circ}$  (?)

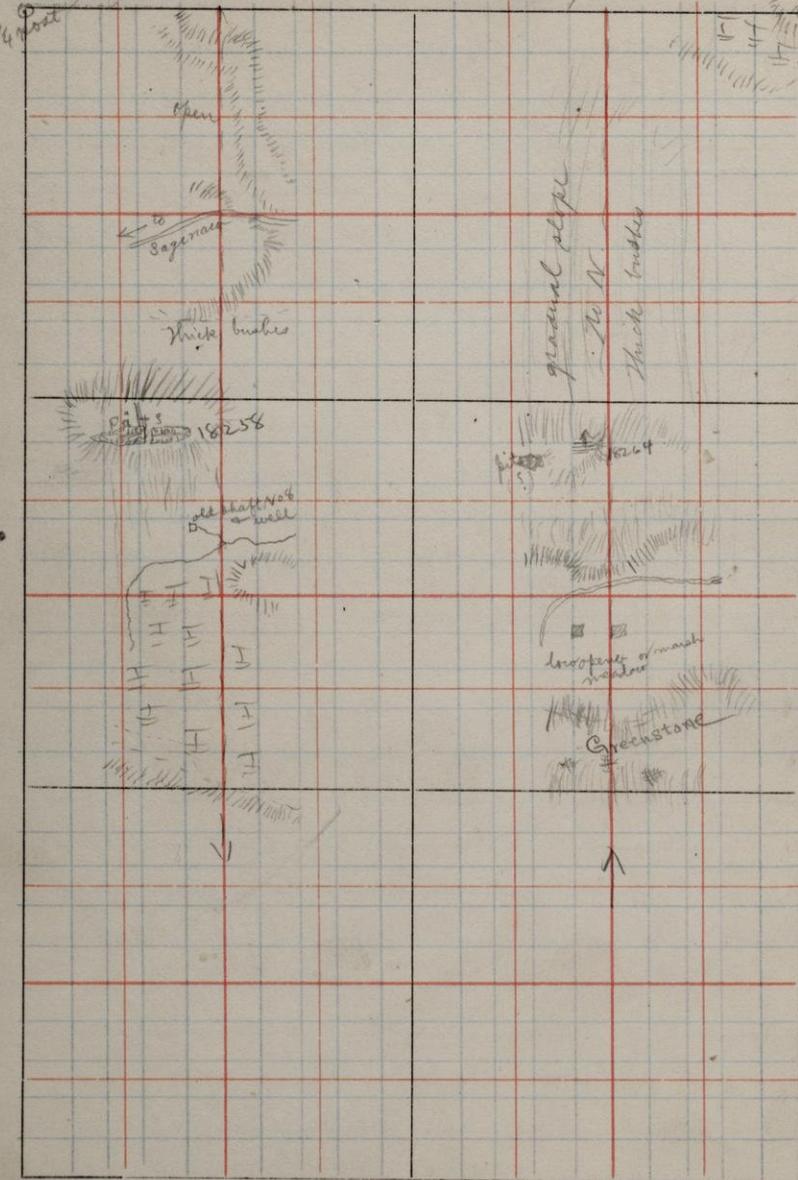
✓ 18250 N 1130 W 10 17. 47. 27  
 Another ledge running parallel to the  
 last separated by some open level  
 ground These ledges are quite low  
 while the next is somewhat higher

✓ 18251 N 1030 W 80 SE 17 47 27  
 Quartzite a continuation to the W of the  
 ledge where 18249 was taken  
 It appears much lighter in color  
 here The strike and dip are very  
 hard to make out here but seem  
 to be nearly the same as in the last two  
 over

NE 2720 T. 47

35

R. 27



The bank extends some 100 ft to the W + N where the rock grows darker in color again

✓ 19252 N 1073 W or 17 - 47 - 27

Quartzite or greywacke exposed in Railway cutting. Strike approximately E 4 N. Dip  $30^{\circ}$  to  $45^{\circ}$  S. Cutting is about 100 ft long and 8' deep at center

✓ 19253 N 1000 W or SE 17 - 47 - 27

Quartzite or greywacke. Strike and dip apparently same as the preceding ledge.

✓ 19254 N 040 W or SE 17 - 47 - 27

Quartzite or greywacke similar to preceding. These ledges are much jointed or cleaved approaching slate in structures.

✓ 19255 N 750 W or SE 17 - 47 - 27

A small outcrop possibly out of place

✓ 19256 N 680 W or SE 17 - 47 - 27

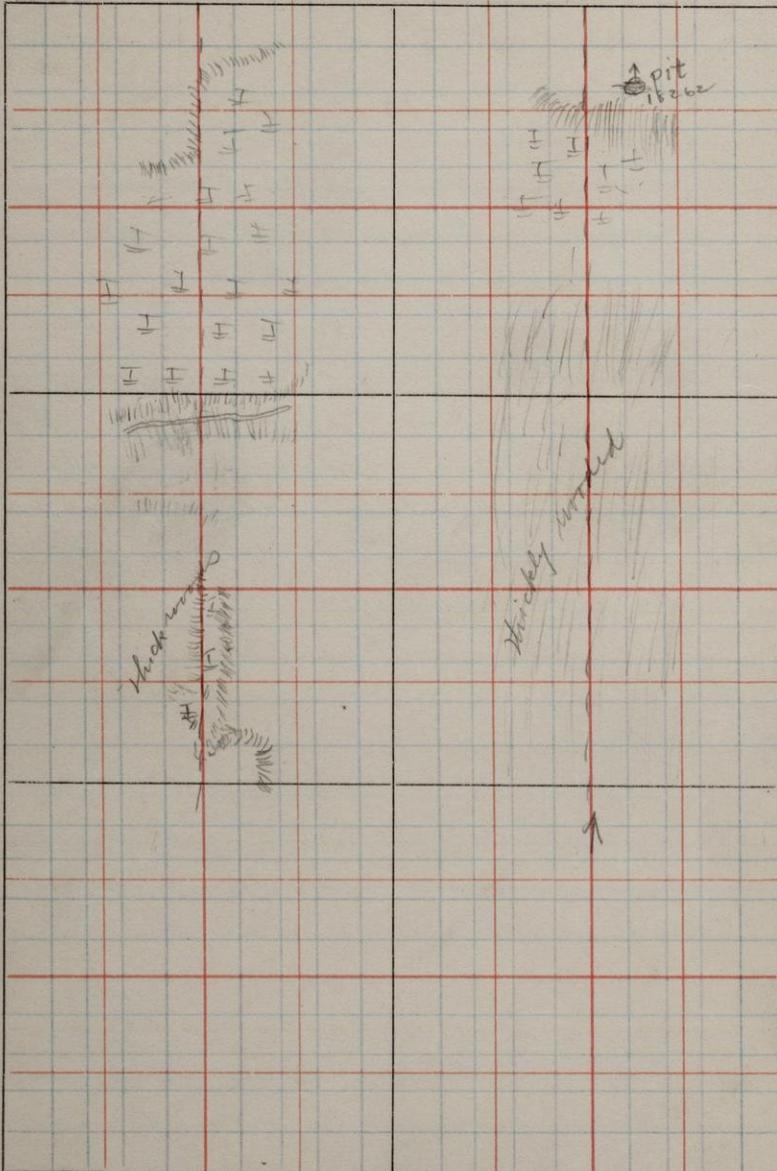
✓ 19257 Here are some small exposures of

SE 1/4 20

T. 47

37

R. 27



This rock probably quartz schist  
The strike is I think S of W a few  
degrees and dip high nearly  
vertical. The platy structure is well  
developed in some of the exposed surface

19258 N 1455 W 750 SE 29 - 47- 27

Ore conglomerate. This is an old  
mining point with pits as on plat, the  
specimen being taken from E end of the  
pit. Strike very nearly E & W Dip 55° N  
It is the south side of a small round  
quite high knob

19259 N 602 W 250 SE 29 - 47- 27

Granite from a quite high knob with  
cliffs on N & W sides. It forms part  
of a ridge running easterly

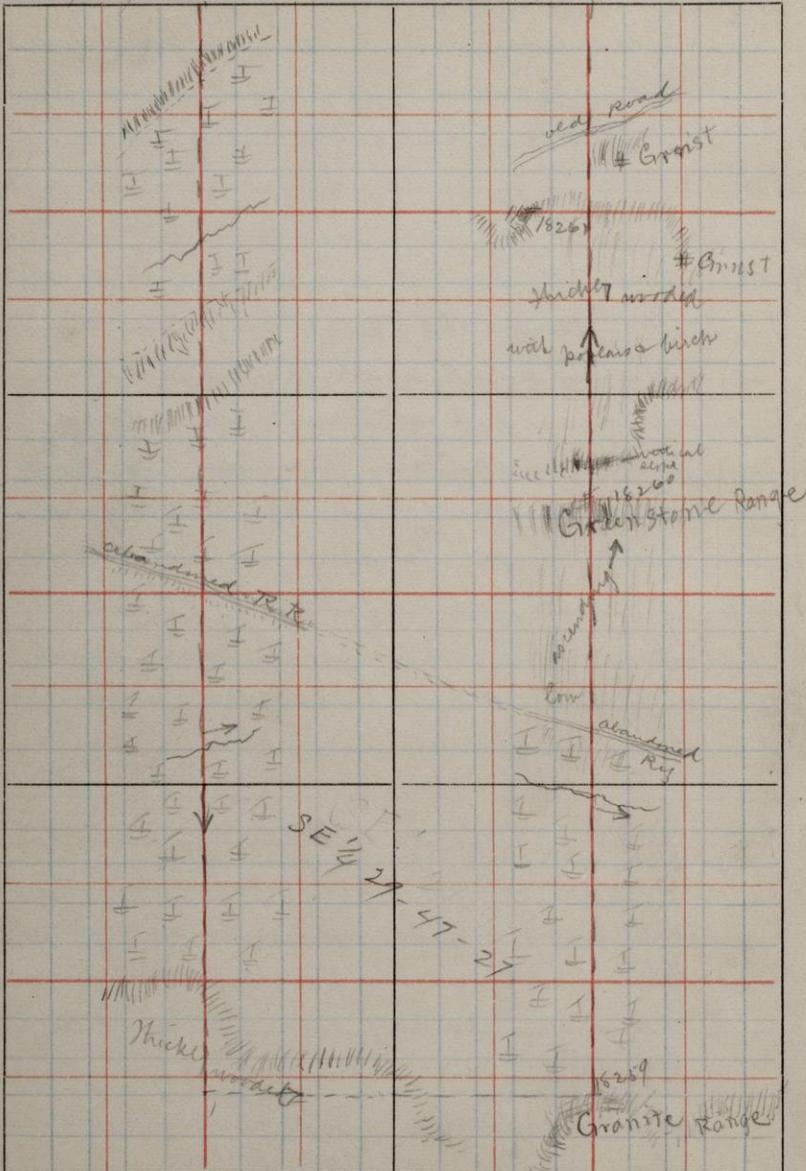
19260 N 1375 W 250 SE 29 - 47- 27

Granite. A well defined ridge  
here runs N & E for quite a distance  
This point is about 300 paces from its  
W. end as seen here. The slopes both  
S & N are precipitous but especially so  
where the line goes down the N slope at  
about 1425 N

NE 1/4 29 T. 47

36

R. 27



19261 1750 N 370 W SE 29- 47 - 27

This is the highest point of a small rounded knob of greenstone which is really in a ridge, running easterly and separated from the preceding ridge (18260) by a quite low & thickly wooded valley. The exposure is mostly on the top & S & W sides near the top. There are various other small exposures along the ridge as marked on plat.

Greenstone at 1650 N 130 W SE 29 47 27

" 1800 N 250 W " "

19262 N 885 W 190 SE 20 - 47 - 27

Iron schists exposed in a small pit on S. side of a slope. The strike I can not take but it is approximately E & W and the dip is about  $60^{\circ}$  N

19263 N 1010 W 250 SE 20 - 47 - 27

Greenstone at top of ridge. To the E & W are larger & higher exposures while the large bluff shown on Plane Table map is contiguous on the E

19264 N 1450 W 280 20 47 - 27

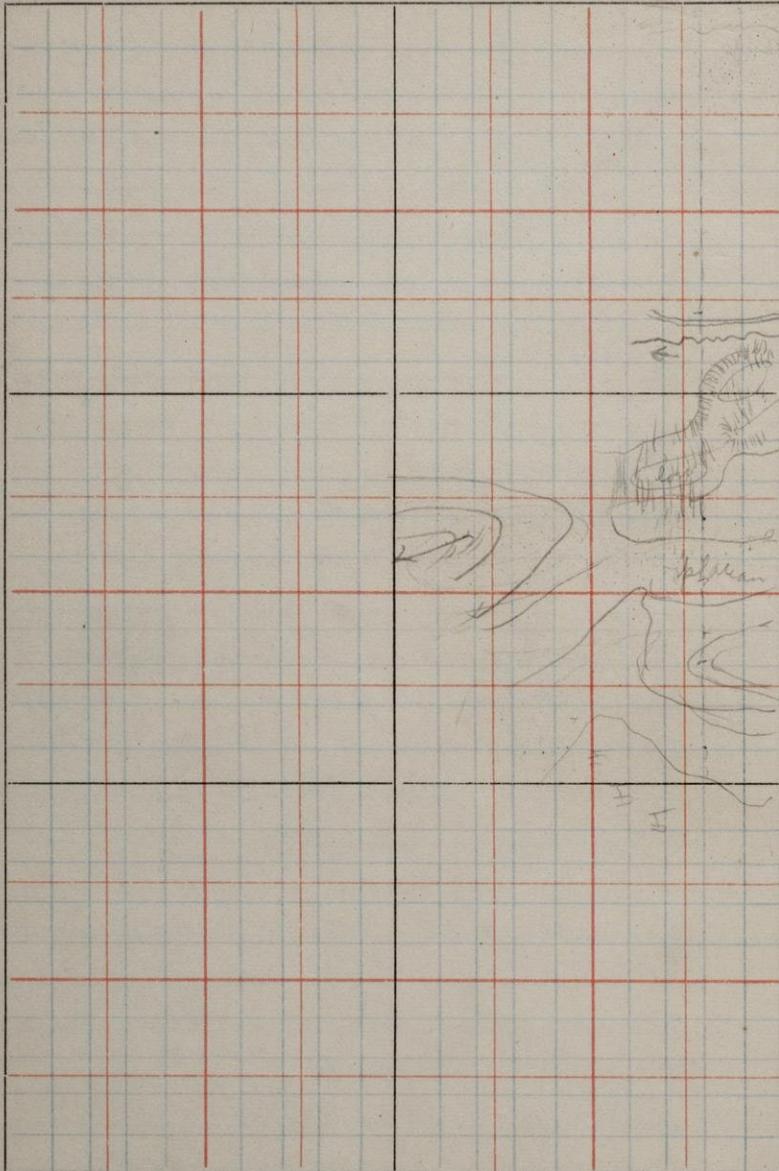
High knob of jasper conglomerate. Strike about E & W. Dip  $60^{\circ}$  N. There are pits W. of it. Also in Plane Table map

SW  $\frac{1}{4}$  22

T. 47

41

R. 27

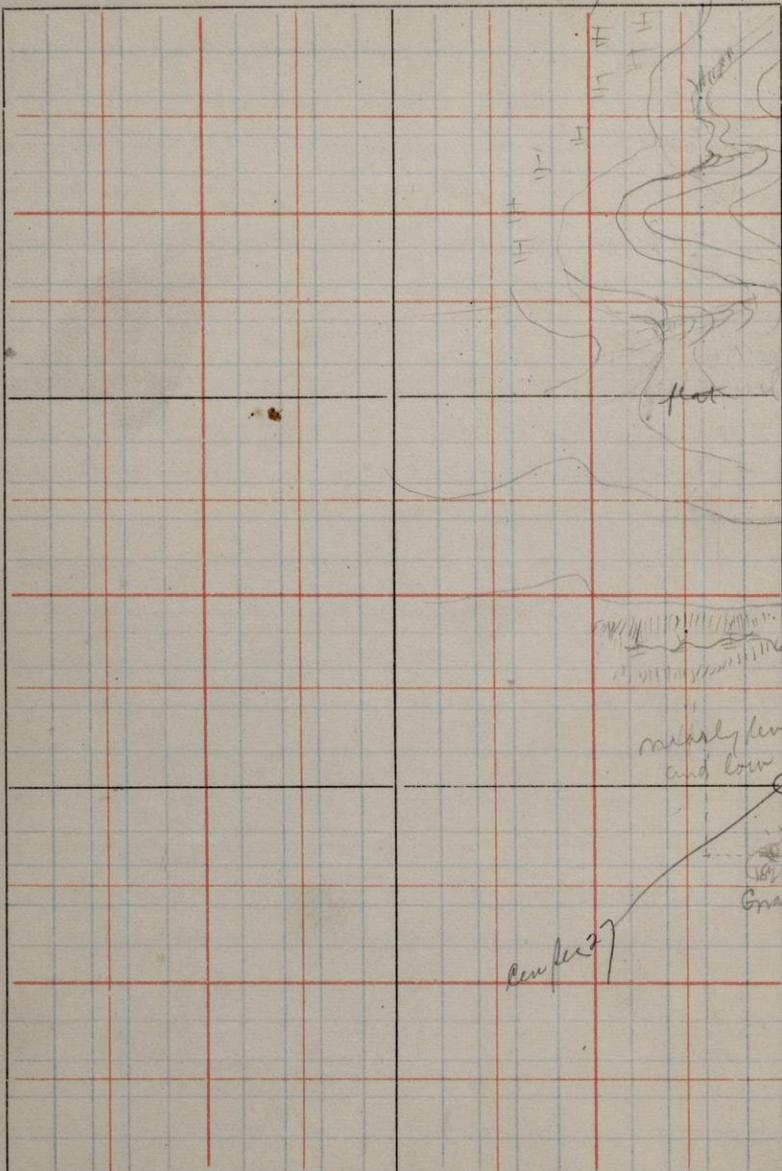


P396  
260  
180

NW 27 T. 47

43

R. 27



18265 N 920 W 1000 SE 27. 47-27

Granite in small knob, two exposures. The main granite ridge is about 180 or 200 steps farther south separated from this by low ground. To the N + E of this point is a larger knob, which is the western end, as appears from here, of another ridge of granite with precipitous slopes + cliffs of bare rock to the South, separated from the ridge N of it by a valley some 200 to 300 steps across and 75 to 100 ft below the top of the cliffs

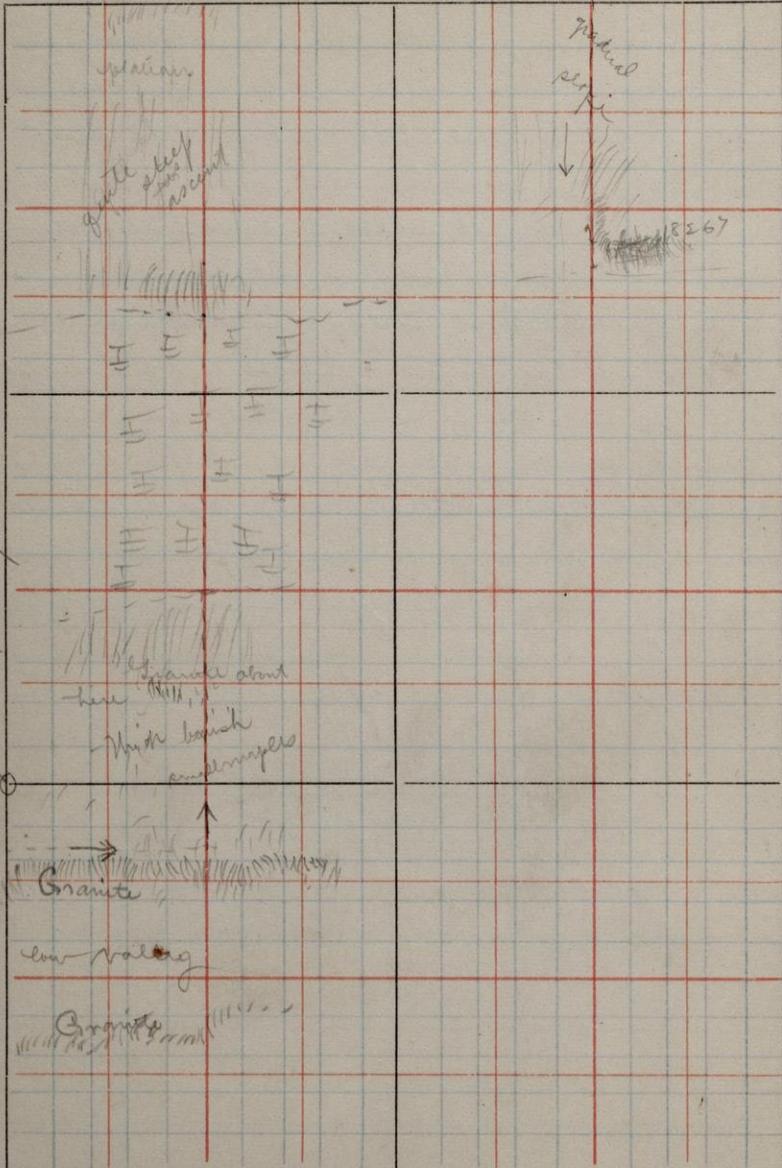
NE 27

T. 47

45

R. 27

center line 27 Q.T.D.



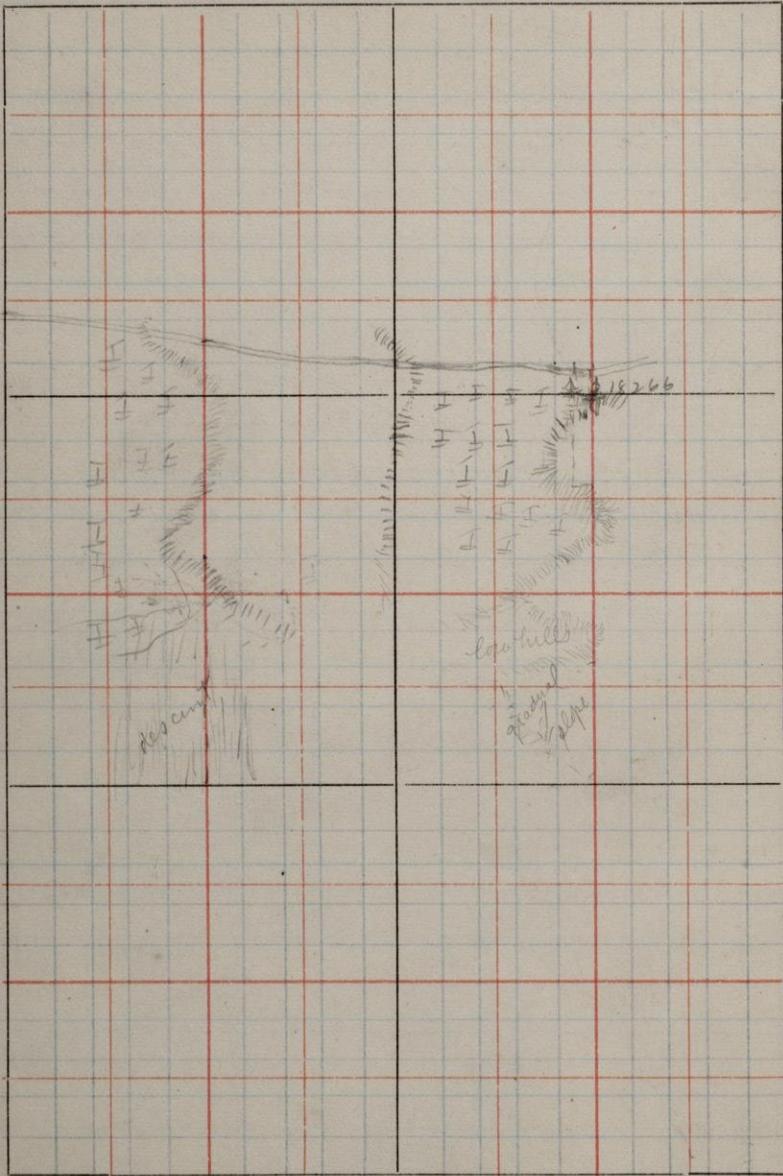


SE $\frac{1}{4}$ 22

T. 47

47

R. 27



19266 N 500 W 275 SE 22 47 27

A small outcrop of the iron schist  
on N edge of small round knob at  
edge of swamp. Dip high to N.  
Strike approx E 45 N. but can not  
be taken closer. Possibly not in  
place but apparently it is

19267 N 1680 W 220 SE 27-47-27

limestone cliffs on S. side of bluff  
across the plain. S. of it is the granite  
The cliffs are 60 to 75 feet above plains  
The weathered surface is rather light  
colored and the rock is much jointed

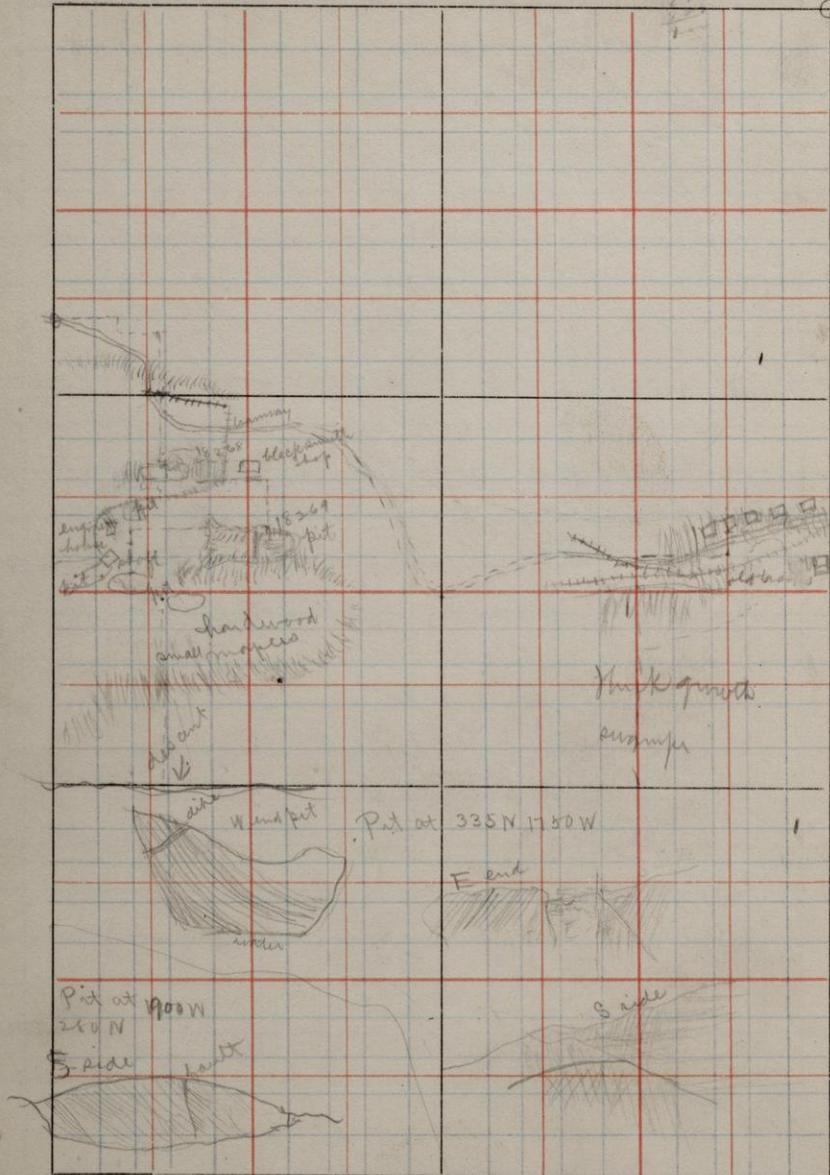
SW  $\frac{1}{4}$  23

T. 47

49

R. 27

Center 23



19268 NH 23 W 1860 S.E. 23-47-27

Iron schists from the edge of an old pit at mine. Strike N 80° E length E. Dip about 40° N. lens on N. side of a rather low bluff

19269 N 335 W 1750 S.E. 23 47-27

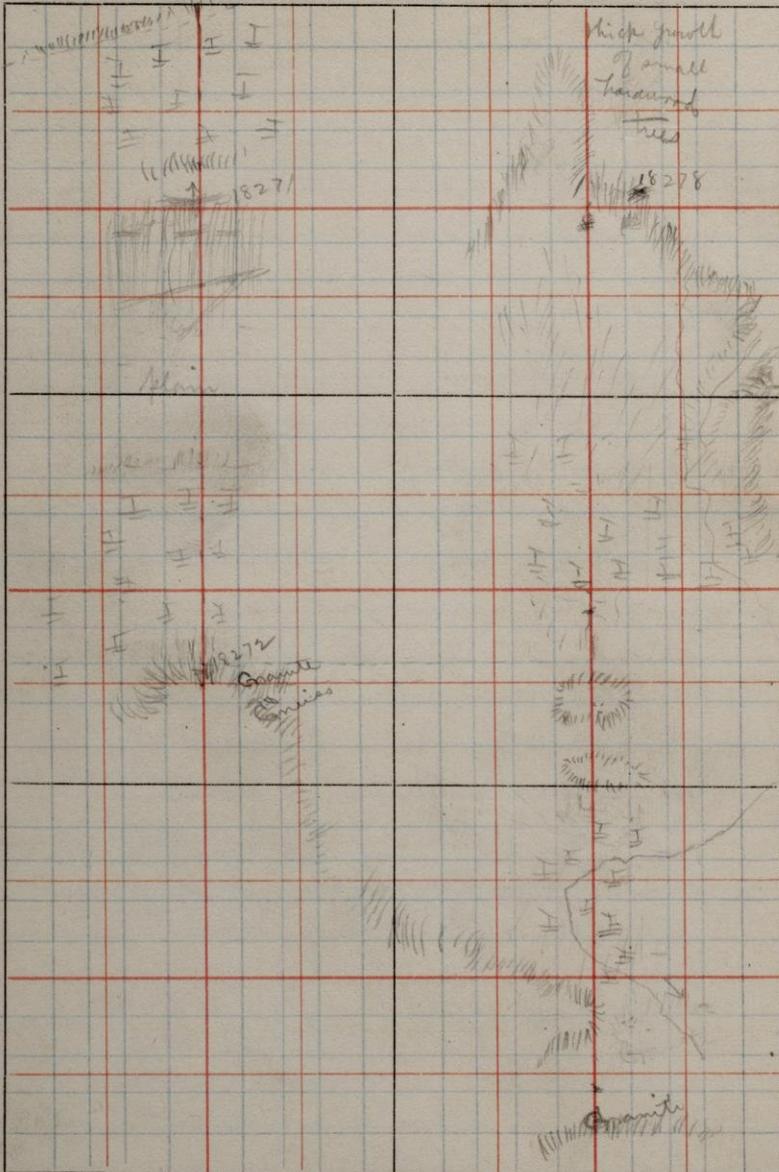
Iron schist from another old pit of the Foster mine. In this pit the strike is about 10° N of E and the dip in the W. end of pit varies from 60° N near surface to 25° N near bottom there being a sort of folding. It also shows considerable crumpling. At the E. end of the pit the dip is 55° N. At the S.E. corner however the dip can not be made out. On the S. side of the pit there is what may be a fault or an unconformity, I think. Below the line the dip seems to be notical or high to the south and the strike to be S. of E. <sup>This is probably an eruptive contact; however</sup> The dip however on the N. side appears to be 55 to 30° N and strike perhaps a little N of E.

at 350 N 1900 W

At a pit near Engine house, the dip varies from a low angle to S to 30° N

N W  $\frac{1}{4}$  26 T. 47

R. 27



At 280 N 1900 W SE 23 47 - 27  
 is a pit on the S. side of which the dip is  
 $35^{\circ}$  to the S.W. There is very much  
 crumpling and folding shown here the  
 strike and dip varying within wide limits  
 in a small space excepting on the S side  
 of the pit where it is the same

At 240 N 1800 W is pit in the E end  
 the dip is horizontal in the S side at  
 $35^{\circ}$  to the S.W. also horizontal at West  
 This appears like a synclinal fold  
 whose axis runs approx. E & W and dips  
 to the W at an angle of  $33^{\circ}$

(S) (S)

✓ 19270 N 150 W 1930 SE 23 47, 27

Here is the outcrop of the iron schists on  
 the S E side of hill the strike is  
 nearly N & S and dip something like  
 $48^{\circ}$  W

✓ 19271 N 1770 W 1750 SE 36 - 47 - 27

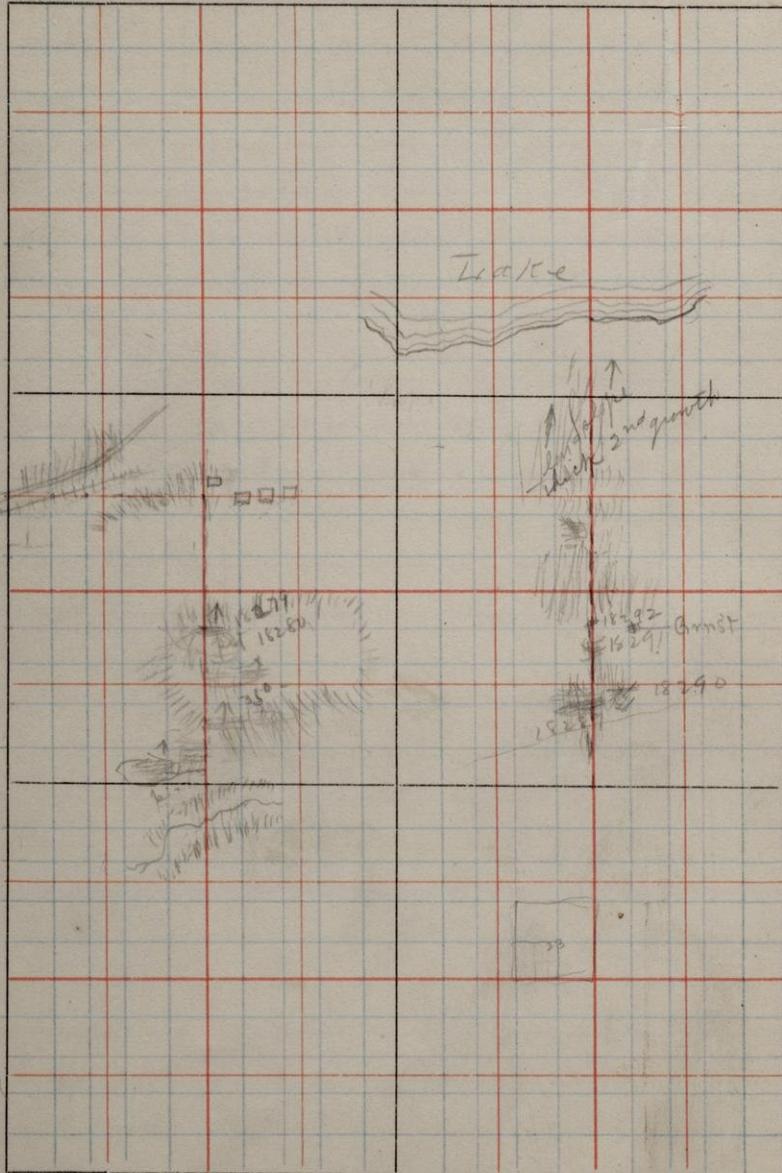
Iron schists exposed on south brow  
 of knob quite high above swamp to  
 S. The general slope is E & W as near  
 as can be taken. It is very much  
 contorted. The dip is high to the N but  
 the ledge is so bare and flat that it can  
 not be taken closely

S E. 23

T. 47

52

R. 27



further down the hill at 1715 N. the rock is very finely bedded and more regular. The strike here is  $15^{\circ} N$  of E and the dip  $55^{\circ} 20' 200^{\circ} N$ . It is exposed all the way down the hill to about 1675 N. To the W about 200 paces is a large exposure and about 260 paces to the greenstone cliff (18267).

18272 N 1125 W 1750 SE 26 47-27

Granite and Gneiss. An exposure of Gneiss on the top of a knoll some '75 to 100 feet above the swamp

18273 N 1220 W 1100 SE 26, 47, 27

Granite

18274 About 1250 N 1050 W SE 26 47-27

18275 These specimens were taken in

18276 the order given from W to E, at

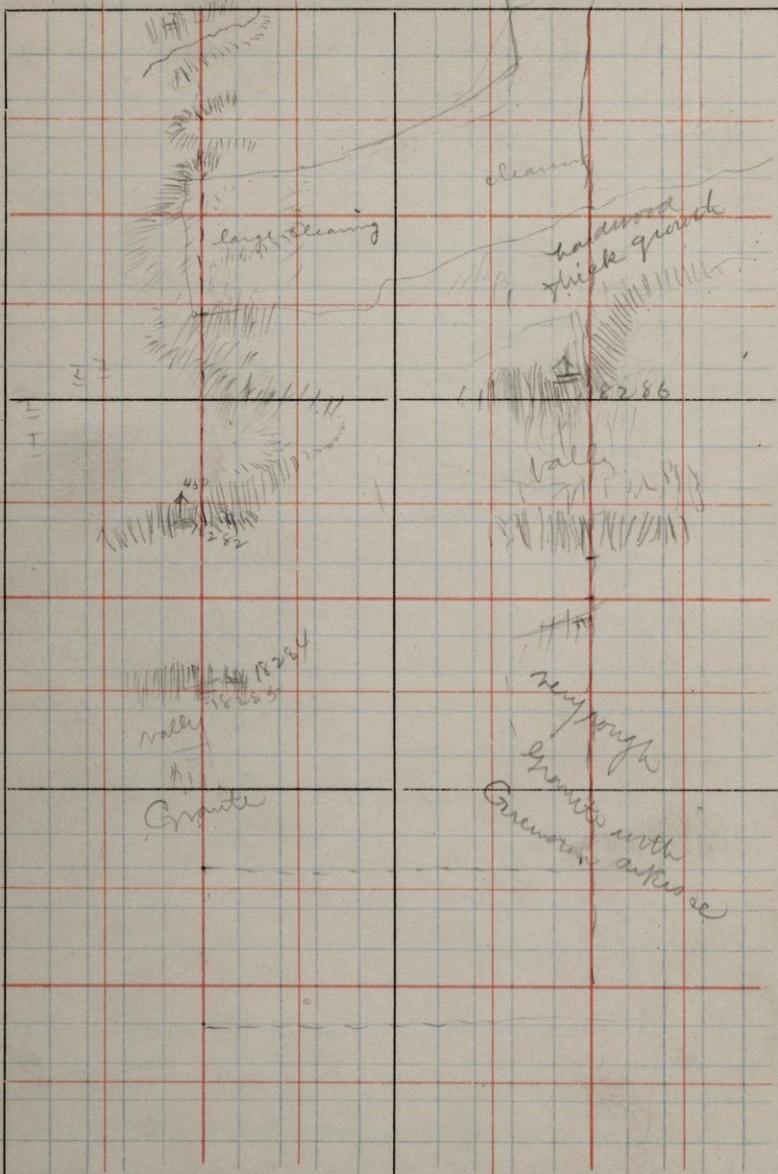
18277 this point in the granite where it seemed to have been intruded by the dike 18274. 18275 was

NE  $\frac{1}{4}$  26

T. 47

55°

R. 27



found at its foot as it was in a cliff face. 18276 was some 20 or 30 ft E separated by a soil covered surface and projected some 8 or 10 feet high and about the same width. 18278 was found about 30 or 40 feet further W

18278 N 176° W 1180 SE 26 47-27

Time limestone. A high knob forming part of the ridge which runs N.W. S.E. with abrupt slopes to the south.

There are two exposures (small) on the side of the bluff lower down. This point is about 100 ft above the swamp on the valley to the south.

18279 N 200 W 750 SE 23 47-27

Iron schist from pit near the Zillen location. The strike as near as we can take it is E & W. The dip about 55° N. though in places it falls to about 35° N. The schists outcrop all the way over the bluff to 48 N where the dip is about 35° N and less than

T.

R.

55  
This in place. It also seems to dip to the  
W as if an anticlinal fold had its top to  
the east

18280 Greenstone dike rock from same pit  
At  $15^{\circ} N 790^{\circ} W$  <sup>SE 23 - 47 - 27</sup> is pit in which same schists  
are exposed the general strike is E + W  
+ dip to north but very much contorted  
folded & faulted with the dip angle  
varying

18281  $N 1340$   $W 775$   $SE 26$   $47$   $27$   
Schistose Greenstone rocks. The  
strike is about E + W and dip  $45^{\circ} N$   
It is the top of a low foot hill adjoining  
a higher one to the east 18281

18282  $N 1300$   $W 670$   $SE 26$   $47$   $- 27$   
Granite

18283  $N 1215$   $W 730$   $SE 26$   $- 47$   $- 27$   
Greenstone or schistose rock probably a  
dike in the granite. Strike E + W dip  
 $45^{\circ} N$  appearing in some places to be at a  
higher angle

T.

R.

At 1175 N 750 W SE 26 47 27

The schistose rock and granite again show, the granite being to the east. Possibly, best seen at 1175 N 750 W

18284 N 1150 W 700 SE 26 47 27

At the top of a high ridge. The rock to the west is like the schistose of 18283. This rock is in contact with granite & may be a phase of it

18285 N 1130 W 750 SE 26. 47 27

Quartzic or granitic sandstone near foot of cliff. The strike as near as can be taken is E & W and dip to N 30° & 40°. Pink granite was found further down on foot of slope

18286 N 15 45 W 280 SE 26. 47 27

Dark schist from S. side of high cliff (summit but) The strike could not be seen closely but was about E & W, and dip to the north

The northernmost ledge of granite on this line (250 ft) was at 1150 N and the greenstone was left at 1300 N separated from the schists by a valley.

T.

61

R.

18287 Plane Table Station 415 A fine  
grained or schistose greenstone apparently

18288 Plane Table Sta 416. Greenstone

18289 100 N 250 W SE 23 47 27  
Gray schists form S side of knot  
on top of N end of Summit Mountain  
Strike E & N Dip to North about  
50 to 60°. These appear for about 25  
steps N & S.

18290 100 N 200 W SE 23 47 27  
Schistose greenstone E of 18289  
apparently a dike

18291 N 175 W 250 SE 23 47 27  
Greenstone of a coarser variety  
on top or rather S W point of top  
of knot

18292 200 N 250 W SE 23- 47- 27  
Greenstone. At 30 steps E. of here  
is another small outcrop, the ground  
descending towards the E.

18293 At 340 N 270 W is an outcrop of Greenstone  
probably in place. It is near foot of  
long slope

T.

63

R.

✓ 19293 N 425 17 250 SE 23 - 47 - 27  
 Greenstone on N side of small swell  
 on side of long slope to the N

✓ 19294 Iron ore from Foster mine from pile  
 taken from 3<sup>rd</sup> 4<sup>th</sup> & 5<sup>th</sup> levels. Limonite  
 yielding about 55% iron and very easily  
 worked in furnace

✓ 19295 from Plane Table Sta 418 near Foster mine  
 A bluff or ridge runs easterly north of  
 the highway

✓ 19296 Plane Table sta 421. A knob lies S. of  
 the ridge (18295), is higher and is  
 separated from the ridge by quite a  
 low valley. This is from 3 foot of bluff  
 and nearest to the iron schists

✓ 19297 Plane Table Sta 422 Quite high up on  
 S. side of bluff

✓ 19298 Iron pit located by stations 425 & 426  
 Plane Table map Foster mine

✓ 19299 Iron pit at Foster mine located  
 by Sta's 429 & 430 Plane Table map

Aug. 11, 1891

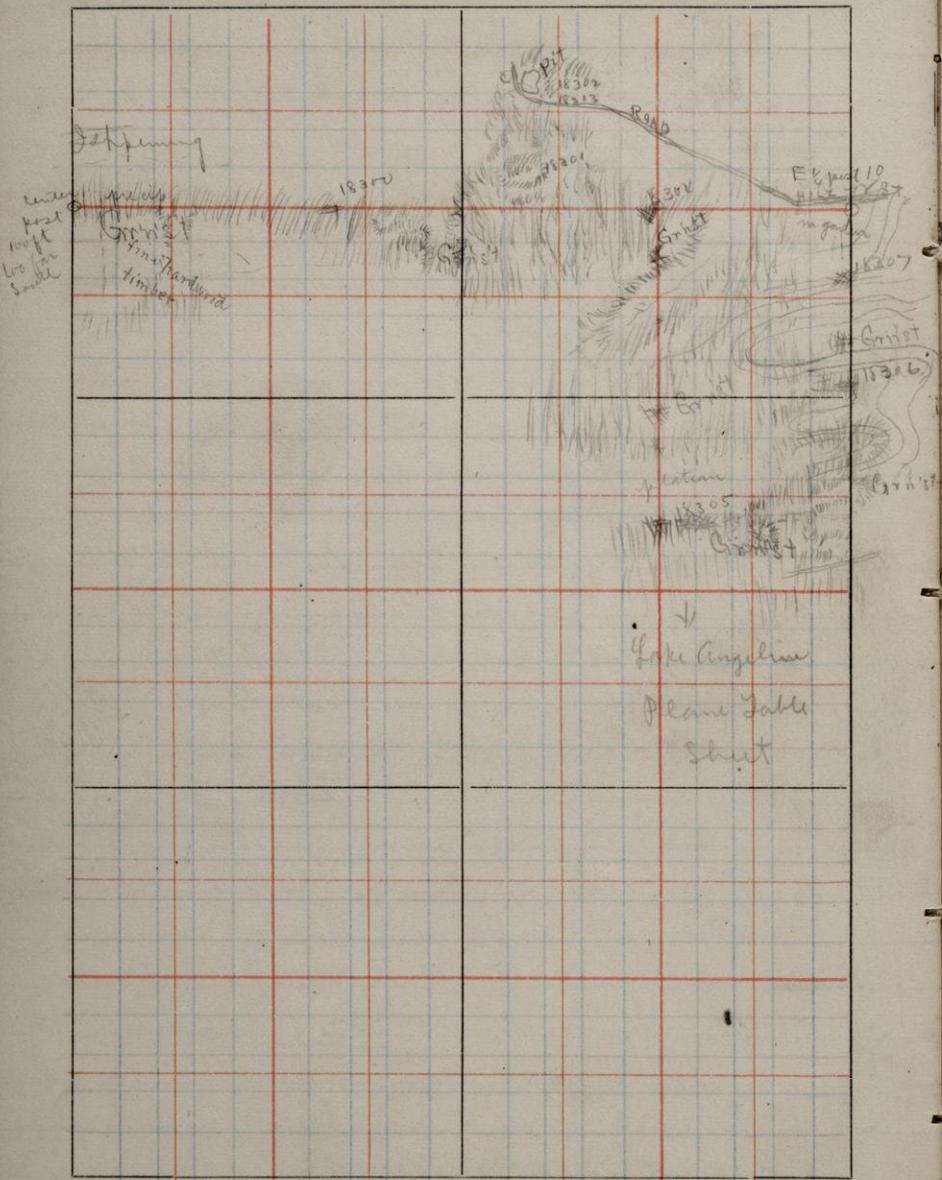
The specimen numbers are changed  
 beyond this to the corresponding numbers in  
 19000, all before are to be changed

SE 16

T. 47

45-

R. 27



✓ 19300 N 1000 W 660 : SE 10. 47 - 27

Greenstone (coarse) from N side high  
bluff or ridge just south of Deberring  
There are many small outcrops all over  
this ridge. The south side of it was  
taken by the Plane Table work

at 500 E 100 N SE 10-47-27 no  
a quite large outcrop on the N slope of the  
ridge

✓ 19301 N 1055 W 340 SE 10-47-27

Greenstone from a small spur on side of  
ridge

✓ 19302 N 1140 W 333 SE 10-47-27

Soaprock or coke rock from pit the south  
edge of which is at this point

✓ 19303 N 1140 W 335 SE 10-47-27

Dark schist or gneiss from same pit  
as 19302 It was much contorted and  
jointed and has so few lines of bedding that  
the strike and dip can not be made out  
This pit will probably be on a Plane Table  
sheet also

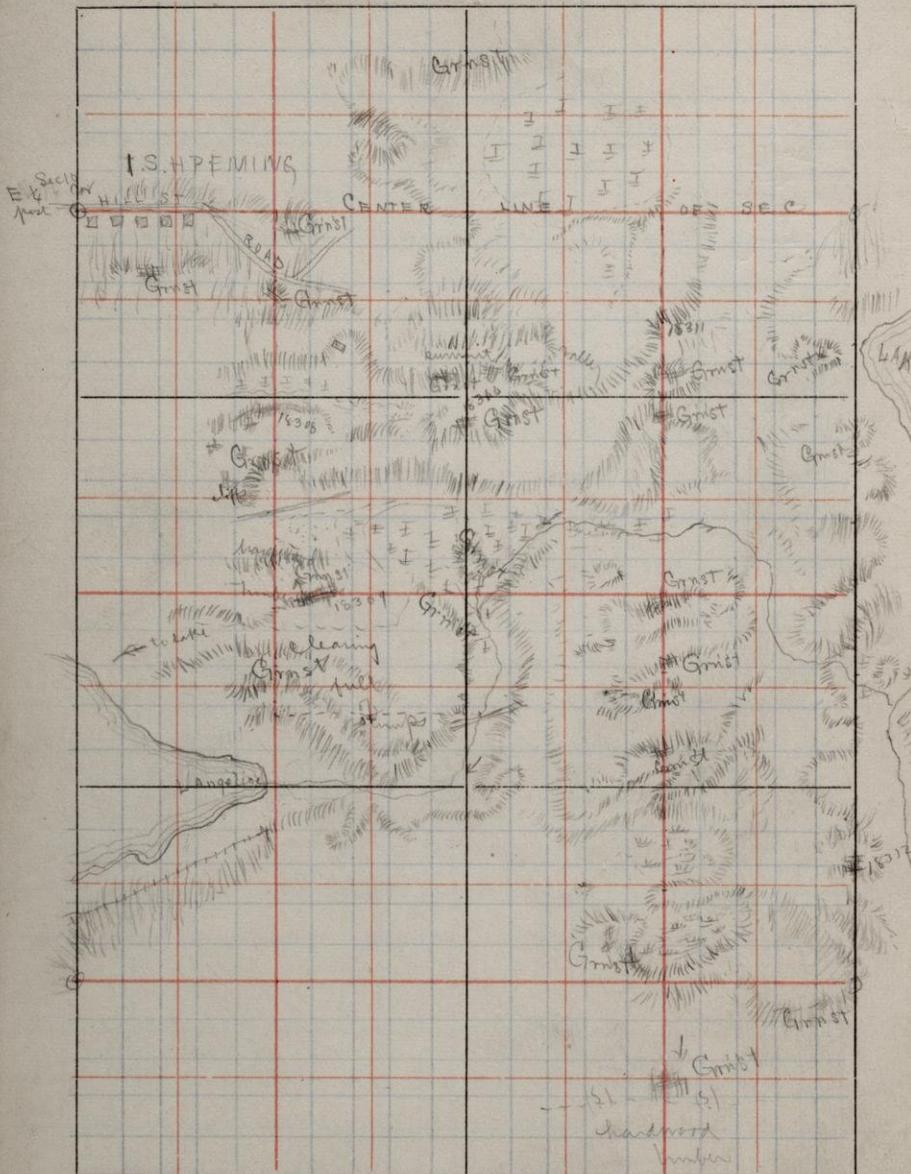
✓ 19304 N 1000 W 250 SE 10-47-27 Greenstone from  
N slope near foot of bluff

SW 1/4 11

T. 47

67

R. 27



at  $735^{\circ} N$   $250^{\circ} W$  SE 10 47. 27

is an outcrop of greenstone similar to others on N side bluff. There is another at  $695^{\circ} N$   $250^{\circ} W$ . The bluffs are quite flat on top for about 75 or 100 steps N & S and the south slope begins at  $590^{\circ} N$   $250^{\circ} W$

\* 19305  $N 590^{\circ} W 250^{\circ} SE 10 47 27$

Greenstone from south brow of bluff above Lake Angeline

The last two or three locations are probably about 50 steps N & far West

\* 19306  $N 770^{\circ} W 00^{\circ} SE 10 47 - 27$

Greenstone from precipitous slope on north side of bluff

\* 19307  $N 911^{\circ} W 00^{\circ} SE 10 - 47 - 27$

Greenstone from near south foot of ridge  
some 200 steps north across valley are the iron cherts

\* 19308  $N 745^{\circ} W 1750^{\circ} SE 11 47 27$

Greenstone from steep cliff, slope on N side of  
bluff and of a small springy course which runs east

\* 19309  $N 485^{\circ} W 1720^{\circ} SE 11 47 27$

Greenstone which shows a structure like bedding  
very marked having a strike  $100^{\circ} N$  of E and dip of  
 $5^{\circ} 5^{\circ} N$

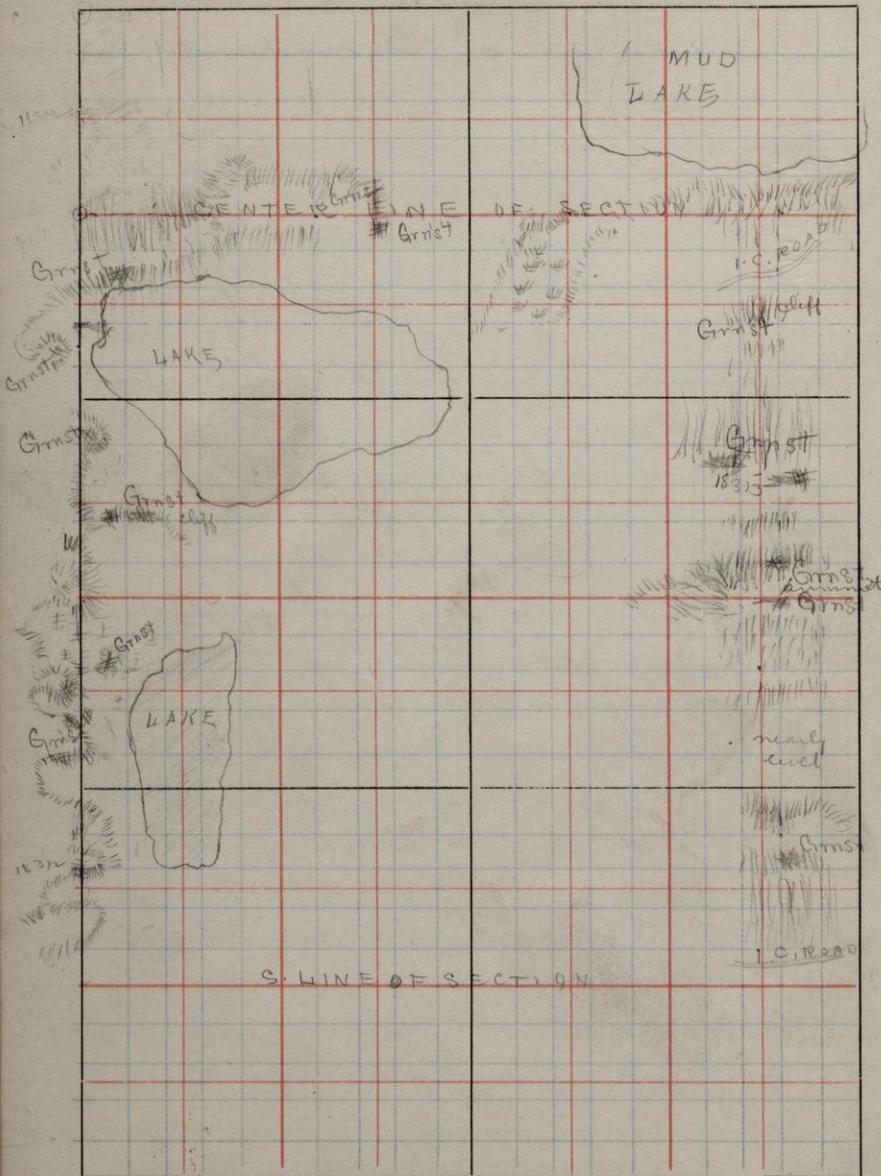
19310  $N 430^{\circ} W 1500^{\circ} SE 11 47 - 27$

Greenstone from S side knob near summit of  
E & W greenstone ridge. There are many small exposures

S E 11 T. 47

٦٩

R. 27



✓ 19311 N 85° W 1250 S E 11 - 47-27  
 Greenstone somewhat finer grained. It  
 shows to a slight extent the coarsely bedded  
 structure noticed in 18309. It forms a cliff  
 some 31 feet high

✓ 19312 N 145 W 1000 S E 11 - 47-27  
 Greenstone from small outcrop on south  
 side of small knob at south west  
 point of small lake

✓ 19313 N 66° W 100 S E 11 47-27  
 Greenstone near top of very long slope  
 in thick second growth of hardwood  
 There was a variation of  $20^{\circ}$  to the east  
 during the ascent

✓ At 170 N 100 W S E 11 - 47-27 as  
 Greenstone on the south brow of a bluff  
 overlooking a small lake. At this point the  
 magnetic variation is  $30^{\circ}$  W

T.

71

R.

Shift Line (Barren or fine) with oscillation as  
normal  
S line produced of W Ridge St

Center of NE 1/4 Sec 10 - 47 - 27 is 20 steps  
N of Division St and 370 steps E of cross ch

Cleveland claim about 10 steps N of Div St  
produced

225  
11 24

On knob 991 exposures of green schists  
on N W & S sides, precip on S side, less  
so on N & east

19314 Edge of Quartzite E end of ledge 40  
steps N of Pine St. Edge 70 steps long  
or to about N base of Lake St.

Cutting on line 70 S.S. + A Ry  
Strike about E & W. dip nearly vertical but  
seems to be high to the South. Having no  
dial I can not take the strike closely

19315 Ore from Bannum mine

19316 First wall gypsum from Bannum mine

19317 Soaprock from refuse pile of Bannum  
mine. The larger piece is like that which  
is found in or between the ore at the  
ends of the lenses. The smaller piece  
is like the hanging wall soaprock.  
The last three specimens were taken  
from the ore and dump heaps of the  
mine under the direction of Mr. Barge of  
the Bannum Co., who says also that their  
first drilling was at the edge of Quartzite

T.

73

R.

$$\text{Knot 991} = 11-47-27$$

(19314) above and their explorations were prompted by its appearance on the surface. There are no other surface exposures connected with their property and are open pits.

✓ 19318

Greenstone schist from south side of low knob a little S. of E of knob 991. Interpenetrating sheet of Plane Table maps. The slope here is precipitous.

✓ 19319

✓ 19320 Greenstone from south side of knob 991 at top of cliff some 40 to 50 feet high. 19 comes from near SE angle 20 from near center, south of station 991.

✓ 19321 From N slope at top

✓ 19322 From E slope of knob 991

T.

75

R.



T.

R.



T.

79

R.



T.

81

R.

P2

T.

83

R.



T.

85

R.

FG

87

T.

R.



T.

89

R.



T.

R.

92

T.

93

R.

94

T.

95

R.

Q 6

T.

67

R.



T.

R.

100

T.

R.

102

T.

R.



T.

R.

10<sup>8</sup>

235 Spec. 1750' - 1° 6'  
236 Spec. 1005' - 30'

415.18287 Spec 87 from N Side of Road  
416.18288 Spec 88 from N Side of Road and  
West of 87 and E of Lake  
18289

18290

1

2

3

41818295 Spec 26 of Road and E of old  
Shaft

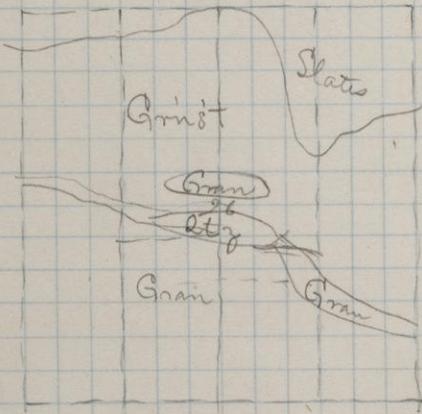
42118296 Spec 26 of Road and old pit

42218297 Spec 26 of Road and Railway

42618298 Spec from Out West of Railway  
and S of road

42918299 Spec from Out E of Main and  
S of road

185



9	10	11
16	15	18 <sup>4</sup>

Postage Paid

Aug 22, 1882

Post P. O.

Postage Paid

Rod pencils

Map case tin

Fine needles

Stadia Rod

Rod point Geo E.

Thumb Tack

Stationary To Letter

Postage

10 cent colors

Table oil cloth 50 cent per r. l.

Oil kgs

file

Hatchet

Marls

Pound box

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