



LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

Notes for Mesabi Range, October, 1898. No. 354 October 1898

Grant, U.S. (Ulysses Sherman), 1867-1932

[s.l.]: [s.n.], October 1898

<https://digital.library.wisc.edu/1711.dl/M25Z6GMWTAY2R8A>

<http://rightsstatements.org/vocab/InC/1.0/>

For information on re-use see:

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

U. S. GEOLOGICAL SURVEY
FIELD SECTION BOOK

9-891

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 pages is also arranged so that, if desirable, a larger or a smaller scale can be used, eight inches, two inches, one inch, or 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, the latter always being expressed from the north; for instance 4025, 250 N., 300 W., *Strike, N. 78° E., Dip 50° S.* Then follow with a full description of the ledge. 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. 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 $2 \times 2\frac{1}{2} \times \frac{1}{2}$ 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. 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. Specimens may 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.

Notebook No. 354.

Notes for Mesabi Range, October, 1898.

x = corner seen by some one of the party

⊗ = " " " US Lieut.

· = test pit.

* = outcrop.

■ = house,

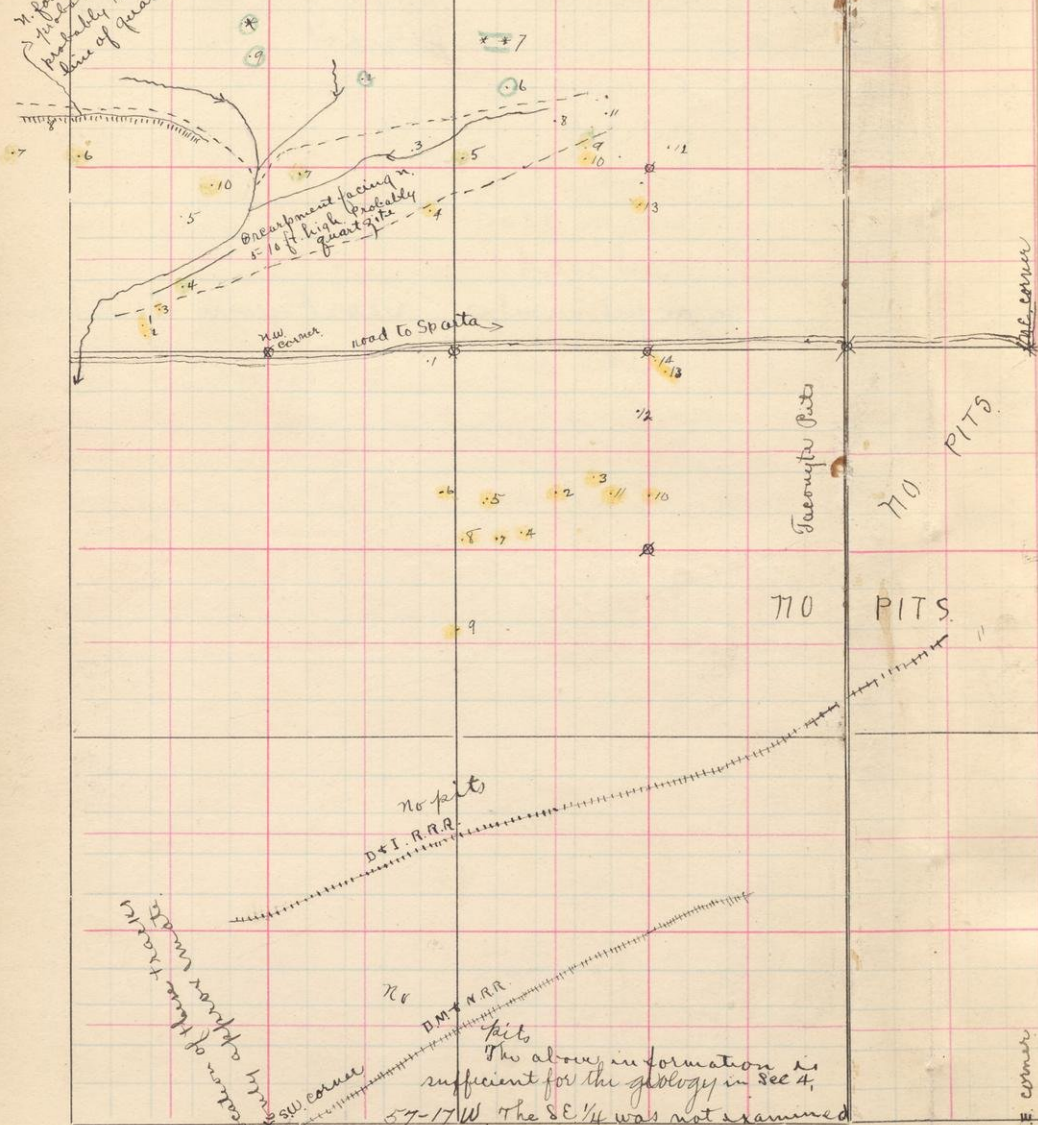
== = wagon-road.

--- = railroad.

- before pit number = record given to Sebenius
or Le Due.

S. 7 facing ridge;
 this probably marks the
 line of quartzite along here.

R. 17, W.
 and parts of sec. 32 + 33 - 38 - 17.



Oct. 11, 1898.

Row S. from N. line of sec. 4, 57-17, 400 paces E. of N.W. corner.

Pit

- 1. 425 paces E., 5 paces S. N.W. cor sec. 4, 57-17. Caved, medium depth, gravel, taconyte.
(The following, nos 2-9, taken by Le Sue)
- 2. 750 E. 345 S. N.W. cor sec 4, 57-17, taconyte
- 3. 500 E. 310 S. " " " " " " " " taconyte
- 4. 680 E. 455 S. " " " " " " " " taconyte
- 5. 565 E. 375 S. " " " " " " " " taconyte
- 6. 465 E. 345 S. " " " " " " " " taconyte
- 7. 610 E. 470 S. " " " " " " " " taconyte
- 8. 505 E. 490 S. " " " " " " " " taconyte
- 9. 505 E. 715 S. " " " " " " " " taconyte

Row N. from S. line of sec 4, 57-17, 1000 paces E. of S.W. corner.

- 10. 1000 E. 1885 N. S.W. corner sec 4, 57-17, Caved 25' ft. taconyte
- 11. 900 E. 1900 N. " " " " " " " " 25' " taconyte
- 12. 990 E. 2100 N. " " " " " " " " 15' " taconyte
- 13. 1040 E. 2200 N. " " " " " " " " 12' " taconyte
- 14. 1010 E. 2216 N. " " " " " " " " 10' " taconyte

gravel and mixed taconyte pieces but not clearly ledged.

See p. 9 for further notes.

PITS

N.W. corner

S.E. corner

We find the N. $\frac{1}{4}$ post to be 2240 paces N. of the S.W. corner. The section is thus too long. We follow a transit line N. through the center of the section so the location of the pits (Nos. 10-14) is right E. & W. We saw the center post of the section and the $\frac{1}{16}$ post N. of it; the latter is 746 paces S. of the N. $\frac{1}{4}$ post. We assumed in locating these pits that this $\frac{1}{16}$ post is 1500 paces N. of the S. $\frac{1}{4}$ post. The above pits (10 to 14) are located on the plat (p. 2) from the N. $\frac{1}{4}$ post. They are as follows:

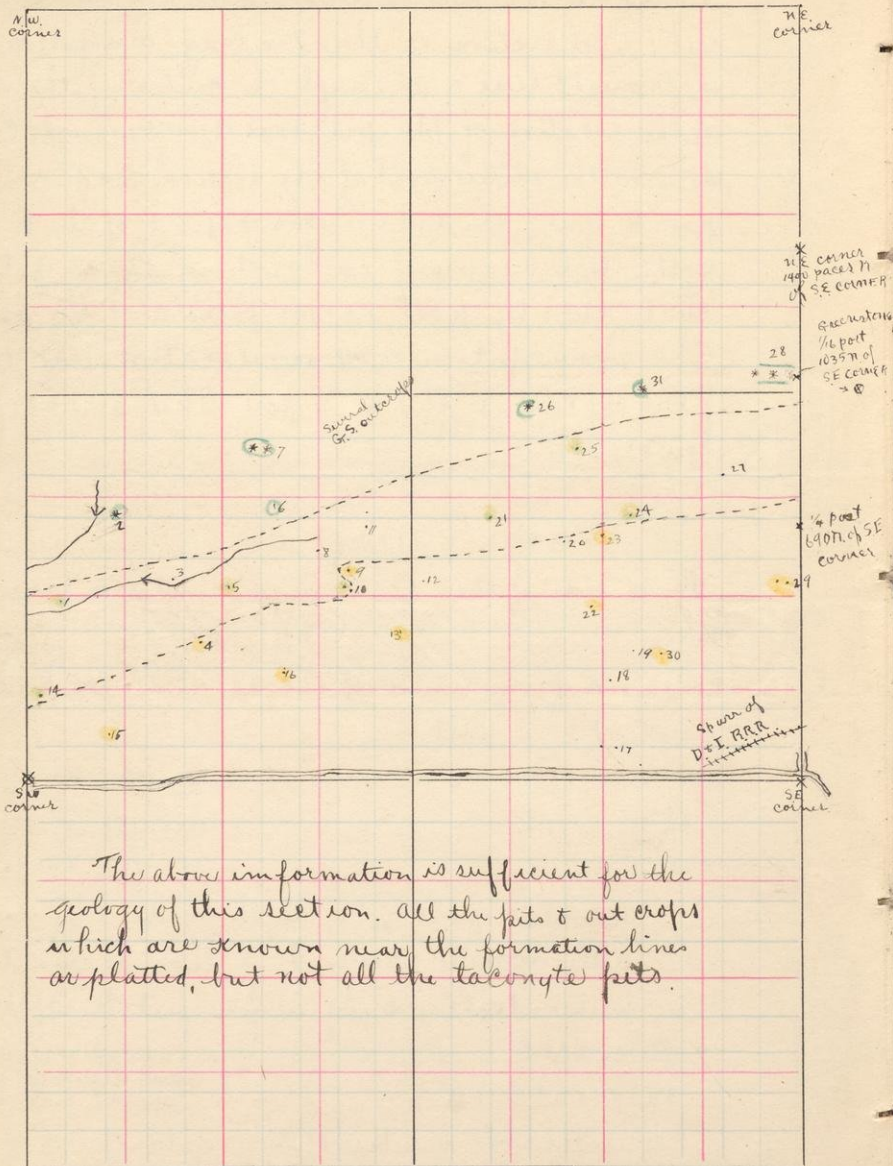
-10 = 0 E. 355 S. -12 = 10 W. 140 S. -14 = 10 E. 24 S.
 -11 = 100 W. 340 S. -13 = 40 E. 40 S.

The W. side of this section is about 2100 paces long.

now go N. from S. line of sec 32, 58-17, 700 paces east of S. $\frac{1}{4}$ post

- 1. 75 N. 690 E. of S. $\frac{1}{4}$ post sec 32, 58-17. Taconyte within 2 ft of ^{face} face
- 2. 65 N. 700 E. " " " " " " " " Taconyte " 1 " "
- 3. 120 N. 735 E. " " " " " " " " 15 \pm ft. of coarse granular quartzite, with evidently a little taconyte above it. S. line of quartzite is evidently only a few feet N. of this pit.
- 4. 180 N. 785 E. " " " " " " " " Quartzite greenish and ^{fine} fine grained.
- 5. 345 N. 665 E. " " " " " " " " Gravel and a

considerable number of triangular pieces of greenstone. Selenius thinks the pit is probably not ledged, but I think it probably is, but the fact cannot be determined one way or the other.



The above information is sufficient for the geology of this section. All the pits & out crops which are known near the formation lines are plotted, but not all the talconyte pits.

- 6. Outcrop 518 N. 534 E. s 1/4 part sec 32, 58-17. quartz gite, hard, gray, rather fine grained
- 7. 534 N. 315 E. s 1/4 part sec 32, 58-17. "
- 8. 608 N. 444 E. " " " " " " not clearly ledged but many greenstone fragments.
- 9. Outcrop 775 N. 25 W. of S.E. corner sec 32, 58-17. Greenstone
- 10. " 445 N. 150 W. " " " " " " quartz gite

The following pits are found by me, sec. 33, 58-17

- 1. 475 N. 85 E. SW. corner sec 33, 58-17. quartz gite
- 2. 715 N. 230 E. " " " " " " greenstone outcrop.
- 3. 530 N. 370 E. " " " " " " not surely ledged, rock is shaly, perhaps Keewatin & perhaps quartz gite, probably quartz gite.
- 4. 370 N. 433 E. " " " " " " quartz gite, iron stained and probably a little taconyte above the quartz gite.
- 5. 525 N. 550 E. " " " " " " quartz gite.
- 6. 715 N. 650 E. " " " " " " greenstone & possibly a little quartz gite above, but not certain.
- 7. 822 N. 610 E. " " " " " " greenstone outcrop.
- 8. 620 N. 753 E. " " " " " " shaly quartz gite, most probably ledged.
- 9. 565 N. 840 E. " " " " " " taconyte & possibly a little quartz gite evidently near line between quartz gite and taconyte.
- 10. 525 N. 840 E. " " " " " " quartz gite.

S.

T.

R.

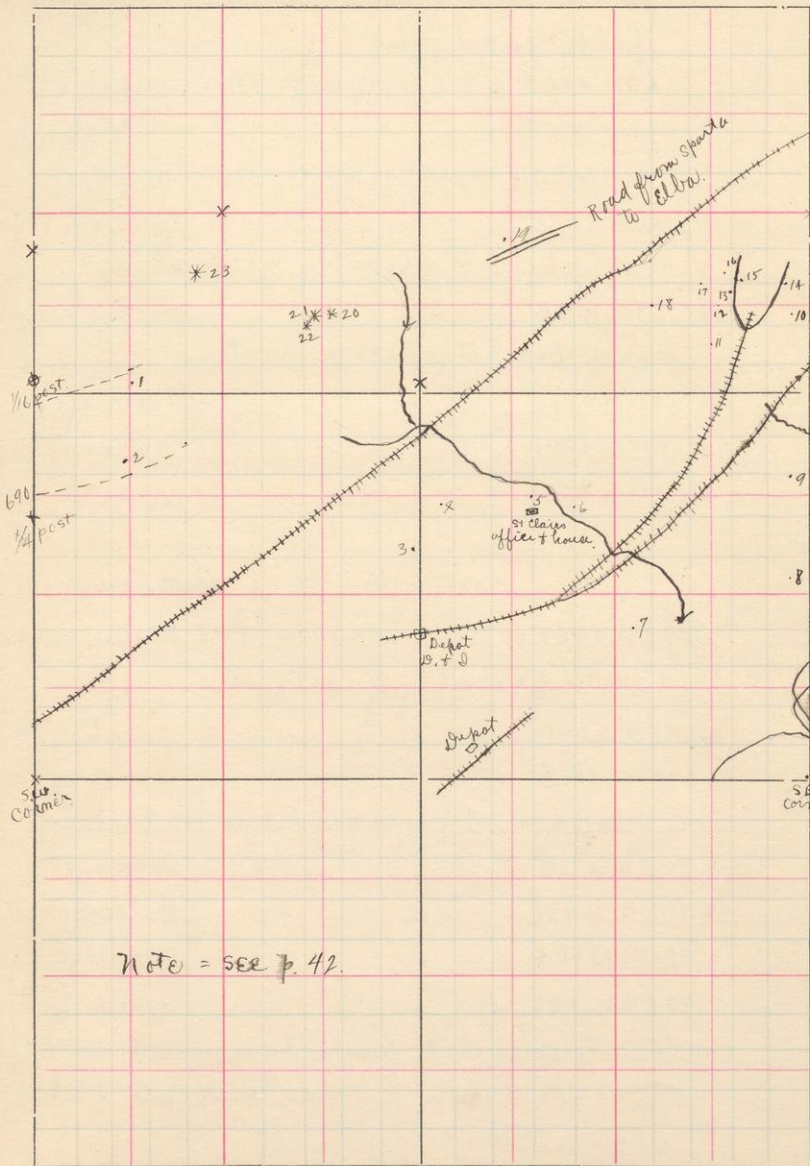
S.	T.	R.							

S.

T.

R.

S.	T.	R.



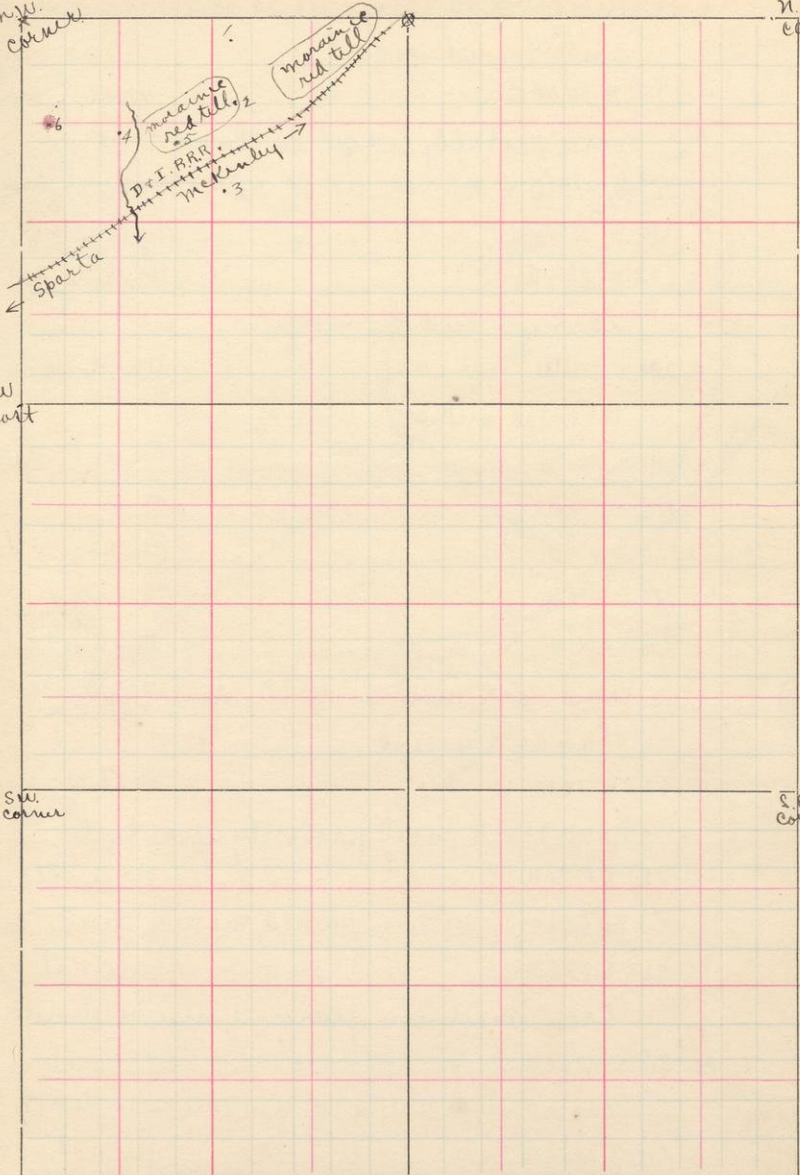
Note = see p. 42.

S. 25
n.w. corner

T. 58

R. 17 W.

n.e. corner



Oct. 13, 1898. Section 25, 58 17W.

- 1. 5S 555E. of NW. corner sec. 25, 58-17W. Standing 35± ft.
Clay (till) and gravel; drill (see note below)
- 2. 200S. 560E. " " " " " " " " standing 35± ft.
sand and gravel. Possibly, but not probably
ledged in taconyte.
- 3. 420S. 535E. " " " " " " " " , caved 30± ft. clay till
- 4. 270S. 250E. " " " " " " " " , standing 50± ft.
sand and gravel. Possibly but not probably ledged
in taconyte. (Observation taken at dusk)
- 5. 270S. 415. " " " " " " " " , caved ^{20± ft.} sand & gravel
(Observation taken at dusk)
- 6. 255S. 650. " " " " " " " " , gravel, drilled,
ore (Sebenius)

{Note. No. 1 was checked 3/4 No. 2. of sec. 24. and found
to be 55S. + 450W. of N¹/₄ post sec. 25 and is
so platted.

S. 24

T. 58

R. 17 W.

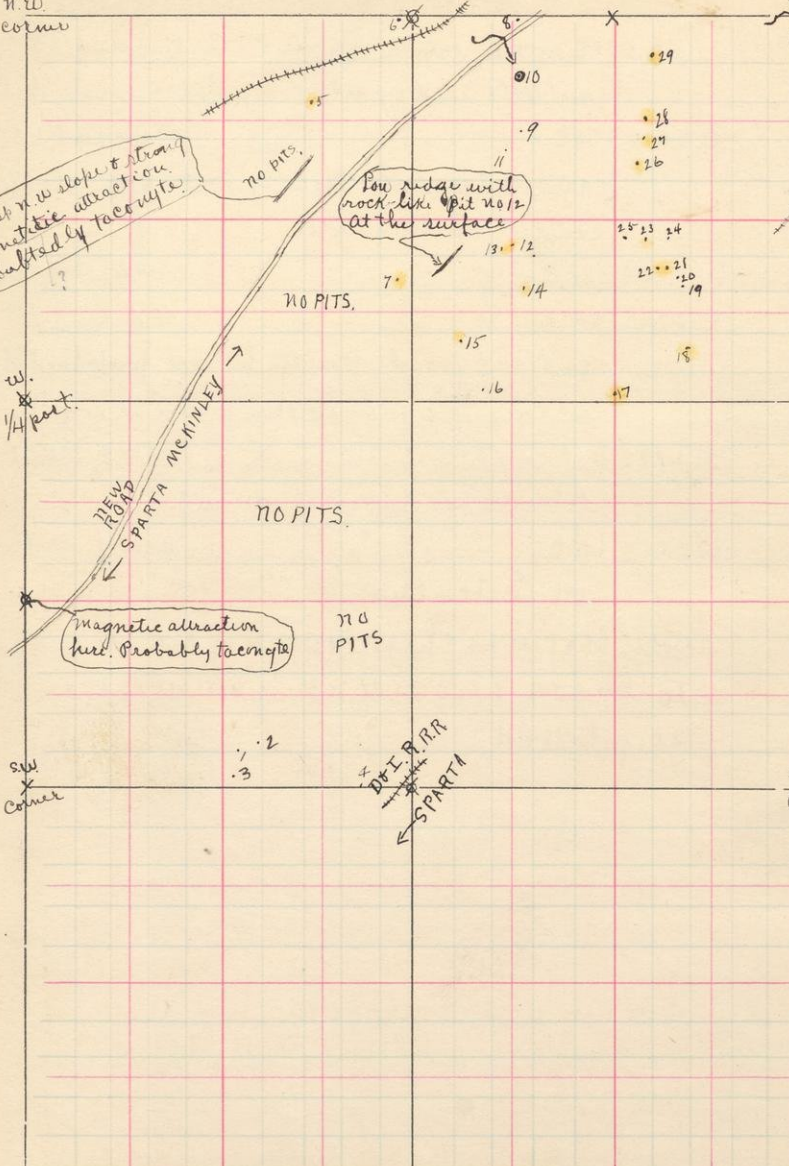
n.w. corner

n.e. corner

Steep N.W. slope & strong magnetic attraction undisturbed by taconite

Low ridge with rock-like pit no. 12 at the surface

magnetic attraction here. Probably taconite



w. 1/4 part

s.w. corner

s.e. corner

NO PITS.

NO PITS.

NO PITS.

NO PITS.

1.2
1.3

29

28
27
26

25 23 24
22 21 20 19

18

17

10

9

11

13 12

14

15

16

7

D.V.L. R.R.R.
SPARTA

S.

T.

R.

S.

T.

R.

27. 695 N. 570 E. of center sec. 14, 58-17W, covered 20± ft
hard magnetic.
28. 760 N. 580 E. " " " " " " , standing 10± ft
hard magnetic taconyte; comes with
in 4 ft of surface. Dip. 12-15° SE.
29. 75 S. 400 W. of N. E. corner sec. 24, 58-17W, covered
25± ft. taconyte.

22.

S. 23
N.W.
corner

T. 58

R. 17 W.

N.E.
corner

S.W.
corner

8 3/4 post.

6.
5.
4.
3.
2.
NEW ROAD
MCKINLEY →
← SPARTA

8
9. 1/4 post.

7

S.E.
corner

Oct. 13, 1898. Section 23, 58-17W.

1. 80 N. 195 E. of S $\frac{1}{4}$ post sec 23, 58-17W, standing 50 \pm ft.
sand & gravel and a number of angular, freshly broken, non-glaciated pieces of fine grained, hard, sometimes laminated quartzite. I consider the pit ledged in quartzite.
2. 40 N. 500 E. " " " " " " " " , standing 50 \pm ft.,
sand and gravel, possibly ledged in taconyte.
3. 40 N. 605 E. " " " " " " " " , caved 75 \pm ft. ^{Taconyte} ore!
4. 155 N. 645 E. " " " " " " " " , standing 35 \pm ft gravel.
5. 170 N. 595 E. " " " " " " " " , standing 40 \pm ft. gravel
6. 305 N. 720 E. " " " " " " " " , standing 25 \pm ft. ^{clay till} gravel.
7. 145 S. 210 W. of E $\frac{1}{4}$ post sec 23, 58-17W. , caved 15 \pm ft. greenish
and reddish quartzite rather fine grained. Absolutely certain this is quartzite.
8. 85 N. 30 W. " " " " " " " " , till. Seberius
was here when this pit was sunk and says
it was ledged in quartzite.
9. 35 S. 40 W. " " " " " " " " , gravel.

S. 27.
NW
corner

T. 58

R. 17W.

NE
corner

4.

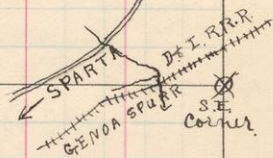
3.

2.

8/4 post.

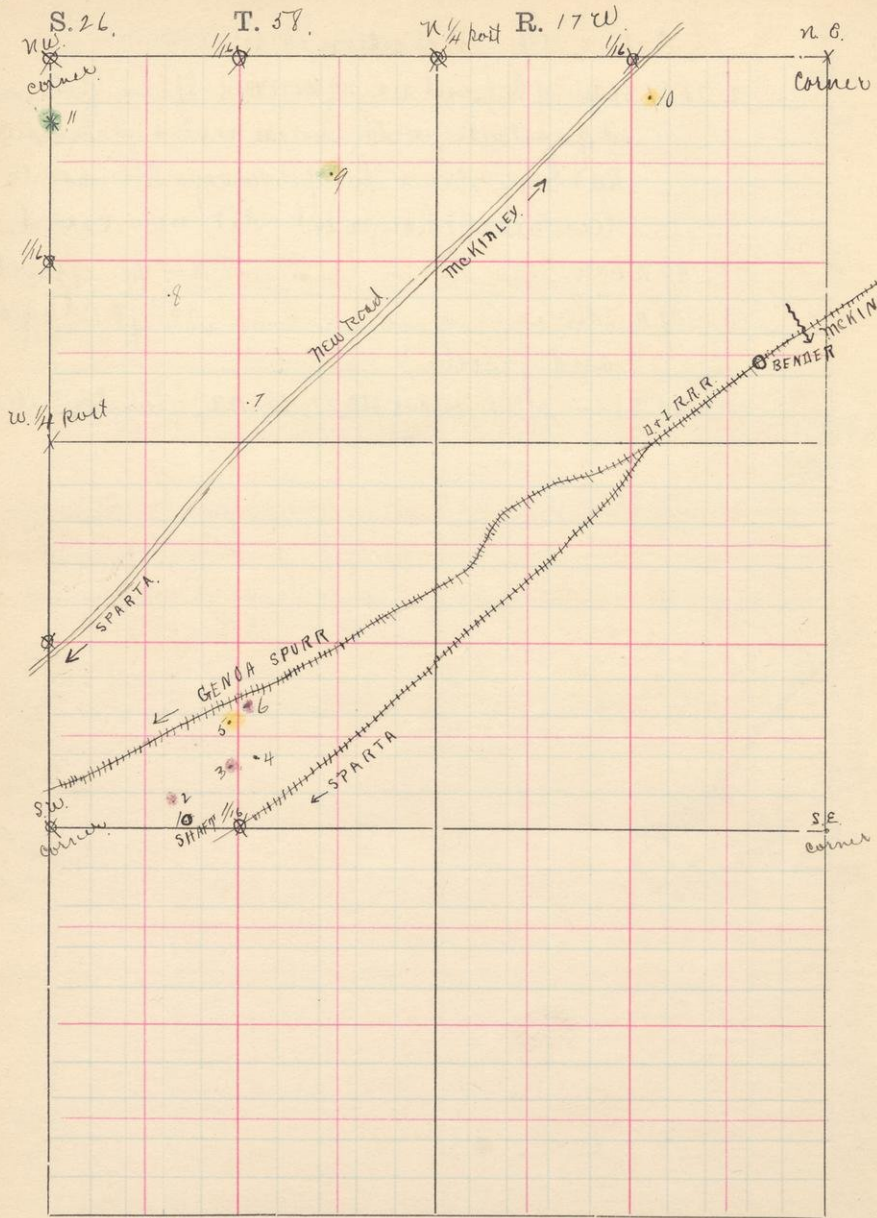
1.

SW corner



Oct. 13, 1898. Section 27, 58-17W.

- 1. 75 S. 30 W. of E. 1/4 post sec. 27, 58-17W. Shaly fine grain-
ed quartzite with mica scales. Sebenius
has been down this pit & says the rock
lies nearly horizontal. Pit now caved.
- 2. 140 N. 60 W. " " " " " " " " 20± ft. gravel.
- 3. 290 N. 75 W. " " " " " " " " 35± ft. clay (till)
and gravel.
- 4. 145 S. — of N.E. corner sec. 27, 58-17W., granite outcrop.



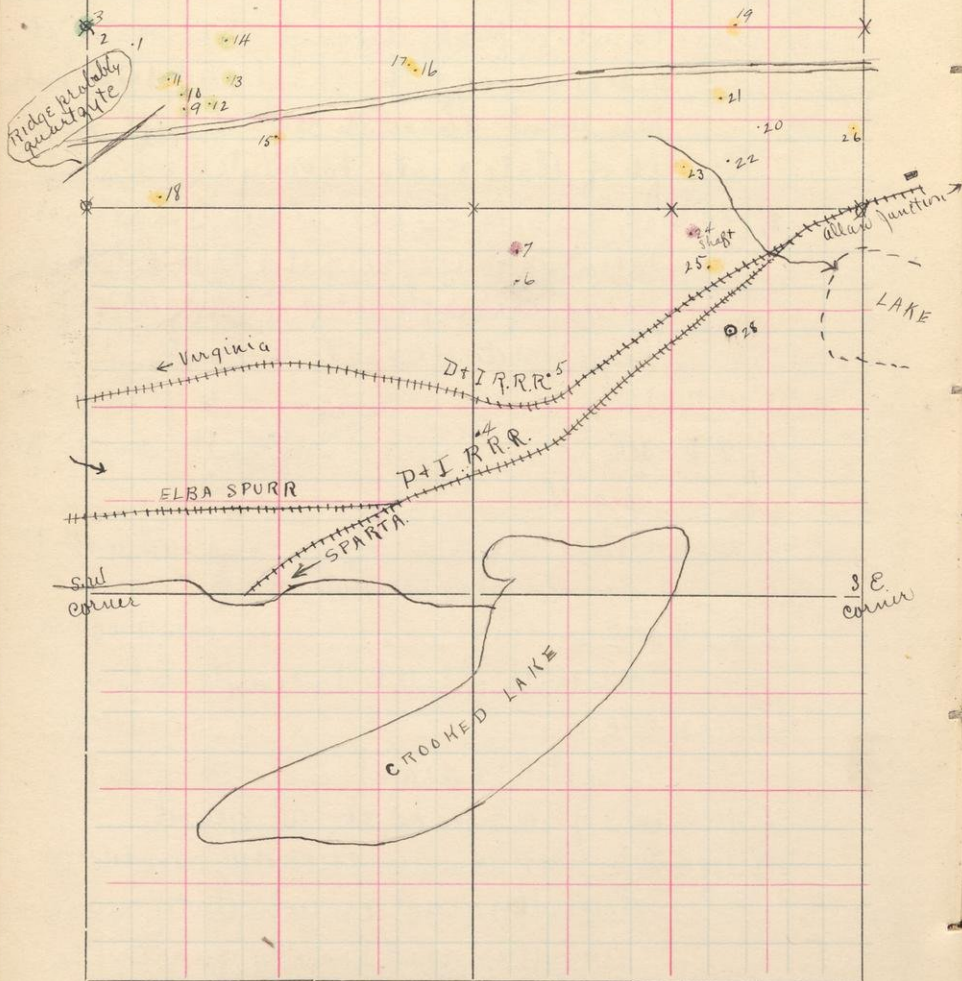
28

S. 18
N.W.
corner

T. 58.

R. 16 W.

N.E.
corner



30. S.

T.

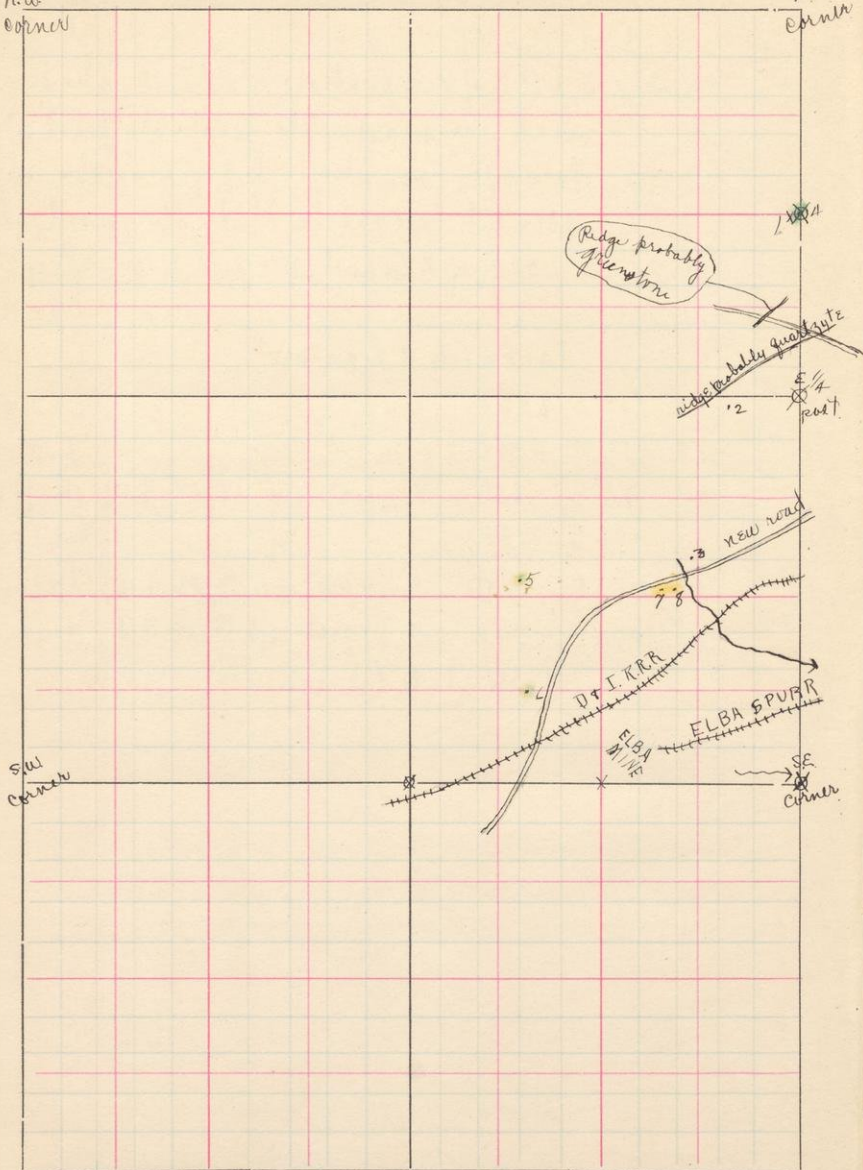
R.

32.

S. 13
n.w
corner

T. 58

R. 17W,

n.e
corner

Oct. 15, 1898. Section 13, 58-17 W.

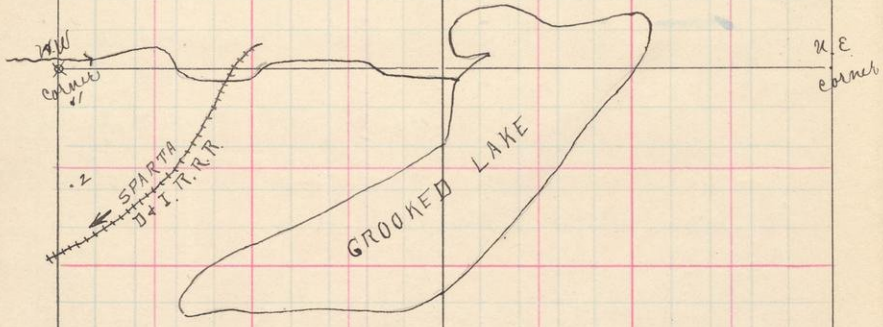
1. 480 N. 15 W. of C. 1/4 post nr 13, 58-17 W., greenstone outcrop.
2. 25 S. 185 W. " " " " " " " " standing 10⁺ ft.
perhaps bedded in jaspery taconyte.
3. 405 S. 265 W. " " " " " " " " clay (till).
4. 500 N. — " " " " " " " " greenstone outcrop.
5. 445 S. 596 W. " " " " " " " " quartzite. (Siberian)
6. 760 S. 685 W. " " " " " " " " green rock ap-
parently made of quartz grains in a green
cement. It looks like greenstone, but I feel
sure it is quartzite. (See note below)
7. 478 S. 355 W. " " " " " " " " taconyte, paint-
rock & ore
8. 470 S. 290 W. " " " " " " " " taconyte & lean ore.

{Note; Specimens of rock from Pit #6 = No. 1.

S. 19.

T. 58

R. 16 W.



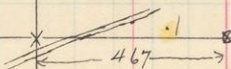
S.W. corner 6-747

S.E. corner

S. 7
N.W.
corner

T. 58.

R. 16 W.

N.E.
cornerS.W.
cornerS.E.
corner

Oct. 15, 1898.

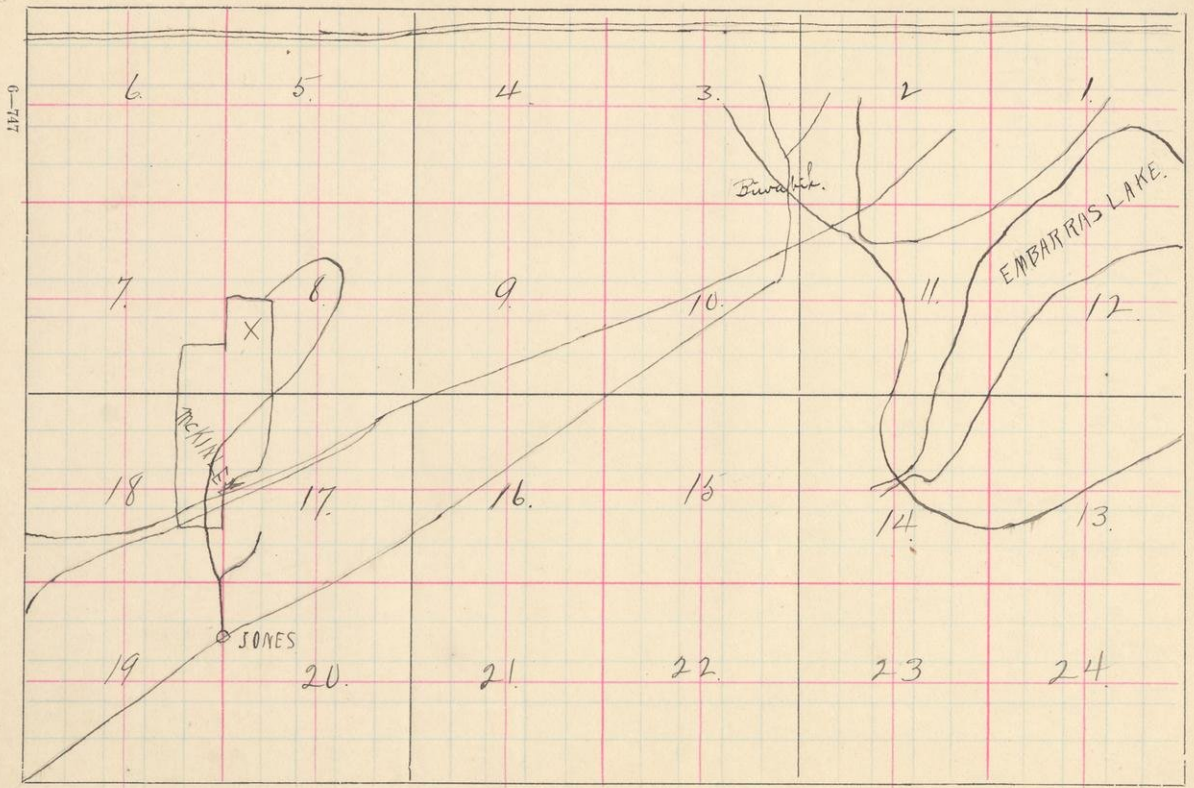
Section 7, 58-16W.

- 1. 20 N. 330 E. of S $\frac{1}{4}$ post sec. 7, 58-16W., taconyte & lead ore
- 2. 480 N. 5W. .. E $\frac{1}{4}$ post sec. 7, 58-16W., greenstone out-crop, runs 50 \pm paces northward
- 3. 465 N. 30W. of S.E. corner sec. 7, 58-16W., taconyte. (La Due)

S.

T. 58

R. 16 W.



6-747

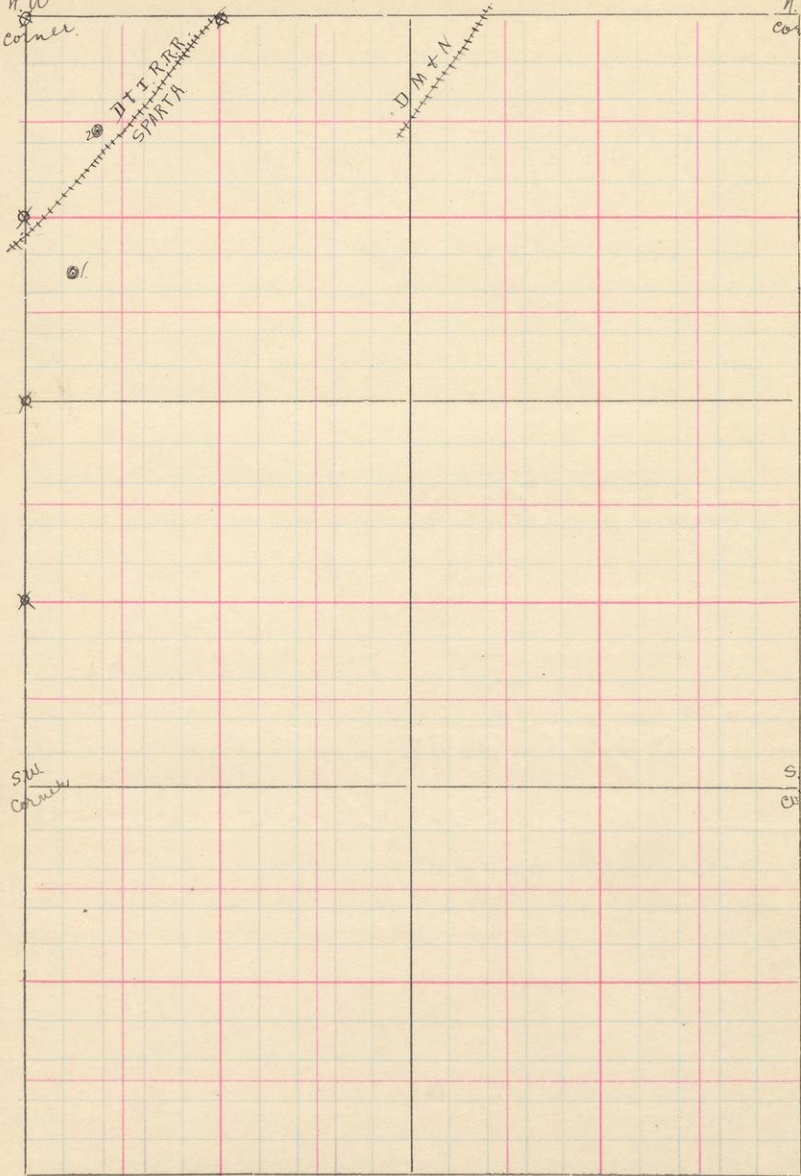
40

S. 35.
n.w.
corner.

T. 58.

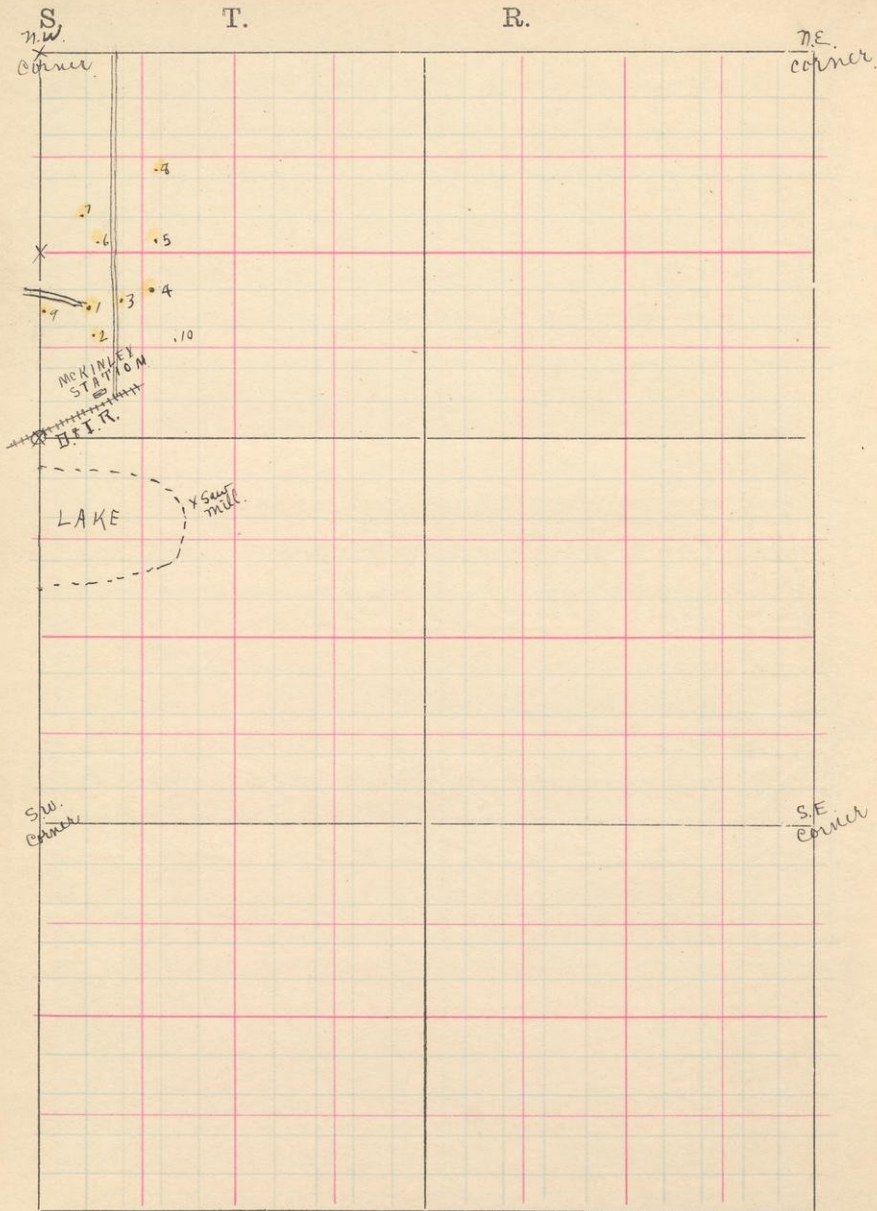
R. 17 W.

n.e.
corner.



Section 35, 58-17W.

- 1. 385 N. 125 E. of W. 1/4 post sec. 35, 58-17W, black slate. (See Desc.)
- 2. 95 S. 195 E. " N.W. corner sec. 35, 58-17W, black slate. (See Desc.)



Oct. 17, 1898.

Section 17.58-16W.

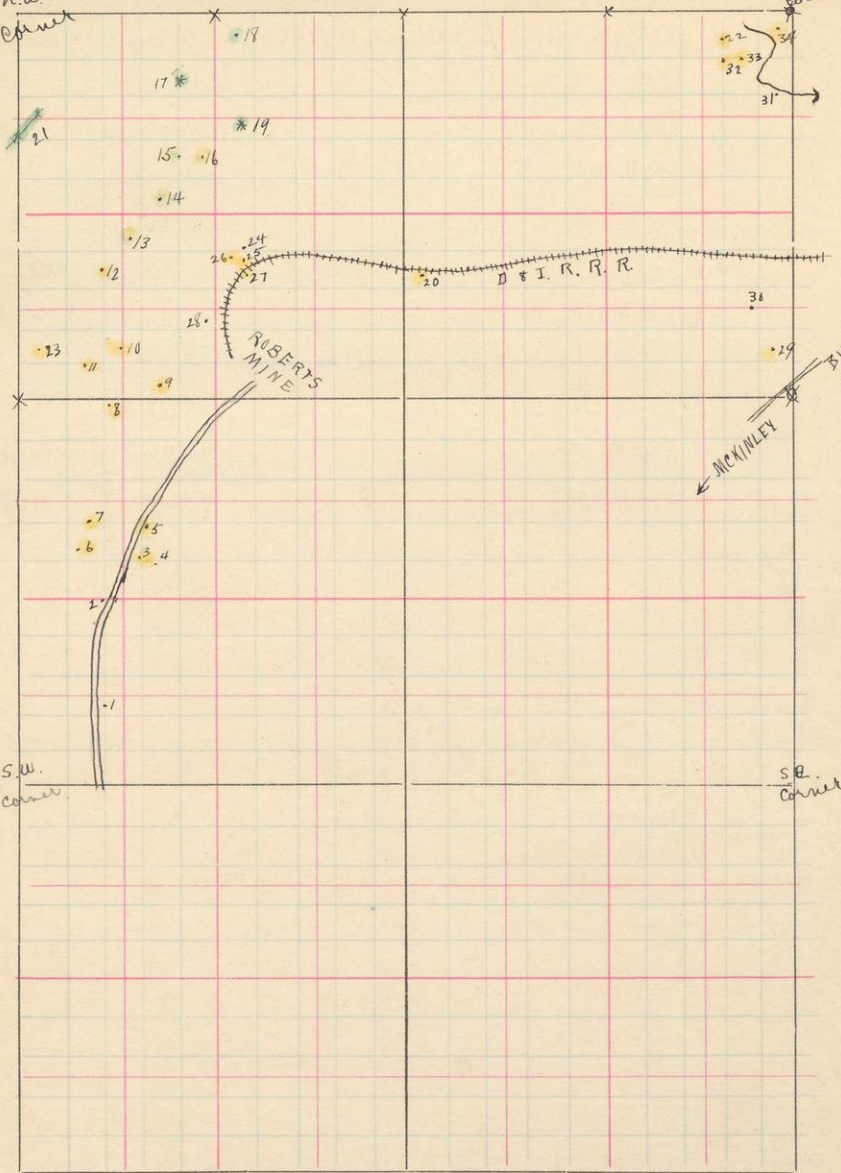
1. 360N. 116E. of W. 1/4 pod sec. 17.58-16W, taconyte & ore.
2. 283N. 120E. " " " " " " " " , taconyte.
3. 383N. 190E. " " " " " " " " , taconyte.
4. 390N. 265E. " " " " " " " " , taconyte.
5. 528N. 280E. " " " " " " " " , taconyte.
6. 526N. 150E. " " " " " " " " , taconyte.
7. 600N. 110E. " " " " " " " " , taconyte and ap-
parently a little black slate.
8. 715N. 280E. " " " " " " " " , taconyte.
9. 315N. 5E. " " " " " " " " , brecciated taconyte & ore.
10. 265N. 335E. " " " " " " " " , covered 10⁺ ft. clay & gravel.

S. 8
n.w. corner

T. 58.

R. 16W.

n.e. corner



Oct. 17, 1898. Section 8, 58-16W.

- 1. 225 N. 190 E. of SW corner sec 8, 58-16W., Perhaps black slate or taconyte.
- 2. 490 N. 200 E. " " " " " " , sand & gravel, caved 10± ft.
- 3. 605 N. 295 E. " " " " " " , taconyte, standing 70± ft.
- 4. 590 N. 335 E. " " " " " " , gravel, standing 8± ft.
- 5. 680 N. 300 E. " " " " " " , taconyte, caved 8± ft.
- 6. 615 N. 127 E. " " " " " " , taconyte.
- 7. 700 N. 155 E. " " " " " " , taconyte.
- 8. 55. 120 E. of W 1/4 post sec 8, 58-16W., taconyte standing 25± ft.
- 9. 47 N. 350 E. " " " " " " , taconyte & lean ore.
- 10. 130 N. 245 E. " " " " " " , taconyte, caved 35± ft.
- 11. 83 N. 140 E. " " " " " " , taconyte & lean ore (Red ore)
- 12. 340 N. 295 E. " " " " " " , taconyte & lean ore, standing 50± ft.
- 13. 425 N. 275 E. " " " " " " , standing 30± ft., some quartzite & much fine grained, massive, green rock which looks like greenstone but is probably quartzite. Also some conglomerate containing quartz pebbles up to 1/2 inch in diameter, also a few greenish pebbles. The conglomerate seems to be the last rock thrown out and is assumed to be the base of the Animikie. (See Note)
- 14. 540 N. 345 E. of W 1/4 post sec 8, 58-16W., standing 20± ft., quartzite & much conglomerate.
- 15. 560 N. 405 E. " " " " " " , gray to greenish quartzite & conglomerate.

S.

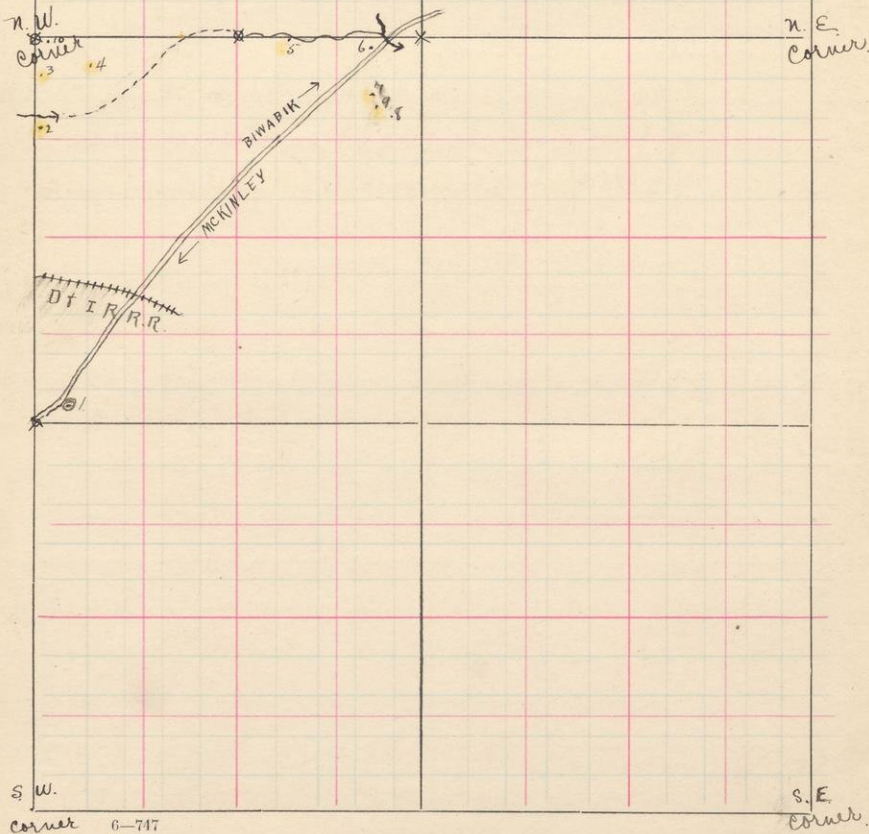
T.

R.

S.				T.				R.											

- 30. 250 N. 125 W. of 8 1/4 post rec 8, 58-16 W., caved 15 ± ft.
clay + gravel.
- 31. 800 N. 50 W. " " " " " " " " , caved 8 ± ft. clay.
- 32. 840 N. 190 W. " " " " " " " " , caved 35 ± ft.,
hard green, magnetic taconyte.
- 33. 195 N. 130 W. " " " " " " " " , standing 30 ± ft.
hard, slaty gray to green magnetic taconyte.
- 34. 50 S. 50 W. of N.E. corner rec 8, 58-16 W., standing 50 ± ft.
taconyte.

{ Note. In Pit #13, rock No. 2 = the conglomerate
+ No. 3 = the green rock which may be part
of the underlying Keewatin or may be
part of the Chimikie.



Oct 18, 1898. Section 9, 58-16 W.

- 1. 60 N. 85 E. of W. 1/4 post rec. 9, 58-16 W., caved 15± ft., black slaty rock with much magnetite and some greenish taconyte-like material. Probably black slate near taconyte boundary.
 - 2. 78 1/4 N. 15 E. of W. 1/4 post rec. 9, 58-16 W., caved ~~15~~ ± ft., hard magnetic taconyte.
 - 3. 90 S. 20 E. " N.W. corner rec. 9, 58-16 W., standing 40± ft. ^{taconyte.}
 - 4. 85 S. 115 E. " " " " " " " " standing 35± ft. magnetic taconyte.
 - 5. 55 1/2 S. 20 E. " " " " " " " " taconyte.
 - 6. 30 S. 86 E. " " " " " " " " caved, material taken away for road, nothing but clay left.
 - 7. 150 S. 83 E. " " " " " " " " caved 25± ft. ^{taconyte.}
 - 8. 200 S. 100 W. of N. 1/4 post rec. 9, 58-16 W., caved 40± ft. clay
 - 9. 185 S. 140 W. " " " " " " " " caved 15± ft. taconyte.
- Oct 19, 1898.
- 10. 20 S. 10 E. of N.W. corner rec. 9, 58-16 W., taconyte.

S. 5
n.w.

T. 58

R. 16 W.

n.e.
corner

corner

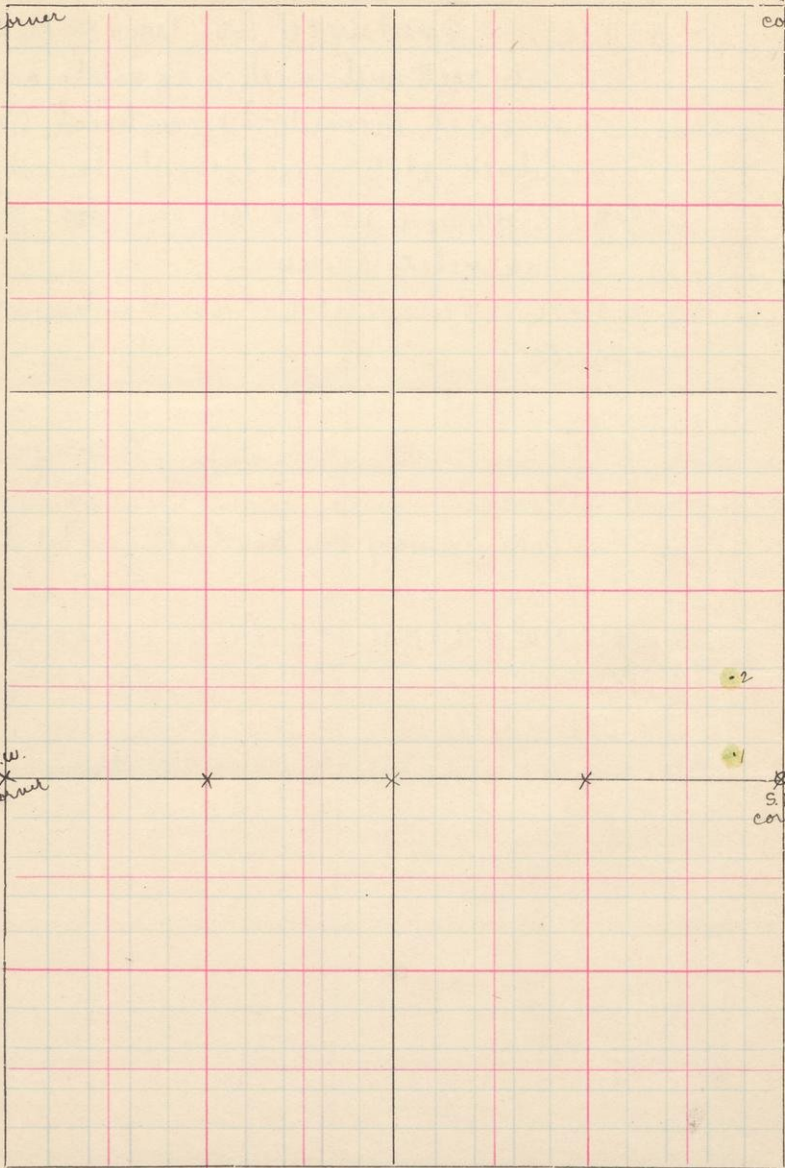
s.w.
*
corner

*
s.e.
corner

-2

-1

↑ no out crops
↓



Oct 18, 1898.

Section 5, 58-16 W.

- 1 65 N. 130 W. of S.E. corner sec 5, 58-16 W., quartzite & conglomerate. (See Due)
- 2 265 N. 130 W. " " " " " " , quartzite.

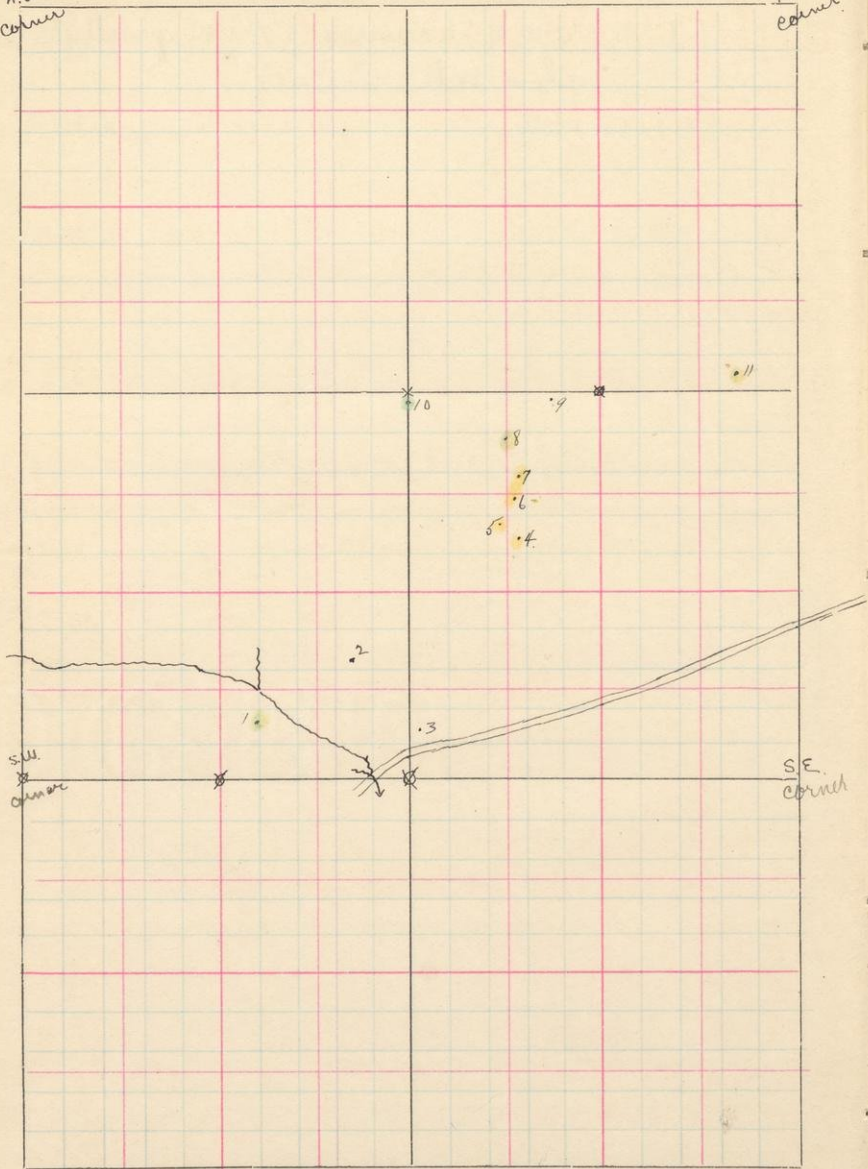
56.

S. 4.
N.W.
corner

T. 58.

R. 16W.

N.W.
corner



Oct. 19, 1898. Section 4, 58-16 W.

- 1. 165 N. 600 E. of S.W. corner sec. 4, 58-16 W., quartzite.
- 2. 310 N. 825 E. " " " " " " " " , caved 20± ft. clay (till).
- 3. 120 N. 20 E. " S 1/4 part sec. 4, 58-16 W., caved 30± ft. clay (till)
- 4. 630 N. 280 E. " " " " " " " " , caved 35± ft. taconyte.
- 5. 670 N. 240 E. " " " " " " " " , caved 25± ft. green,
magnetic taconyte.
- 6. 730 N. 260 E. " " " " " " " " , caved 50± ft. green
magnetic taconyte, lean ore & a little brown
taconyte.
- 7. 763 N. 265 E. " " " " " " " " , caved 25± ft. tacon-
yte & lean ore. Also some quartzite blocks
which perhaps come out below the taconyte.
- 8. 870 N. 250 E. " " " " " " " " , caved 25± ft. shaly
& micaceous; also gray to greenish fine
grained quartzite.
- 9. 990 N. 334 E. " " " " " " " " , not surely ledged,
rock uncertain.
- 10. 975 N. 0 E. " " " " " " " " , probably green-
stone but not absolutely certain.
- 11. 1060 N. 860 E. " " " " " " " " , quartzite sure.

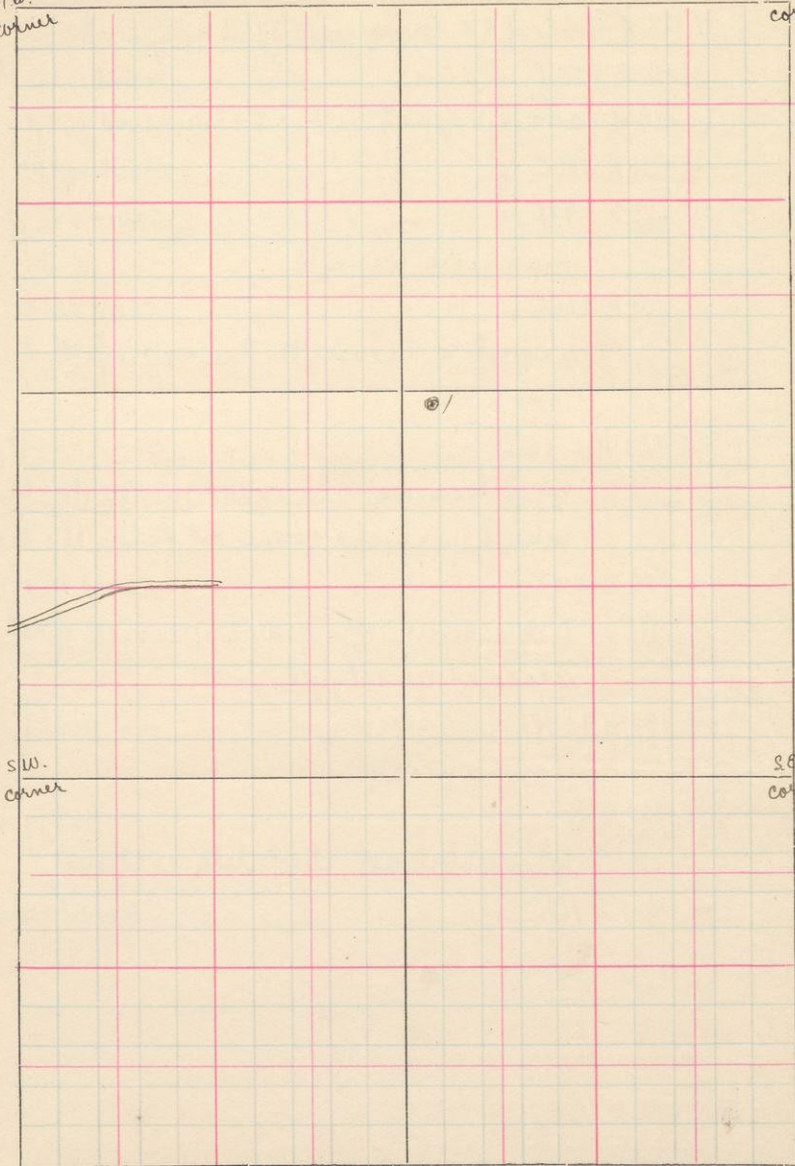
58

S. 3
n.w.
corner

T. 58

R. 16 W.

n.e.
corner



s.w.
corner

s.e.
corner

Oct. 19, 1898.

Section 3, 58-16W.

- 1. 53 s. 1083 E. of W $\frac{1}{4}$ post sec. 3, 58-16W, black slate,
Sebenius.

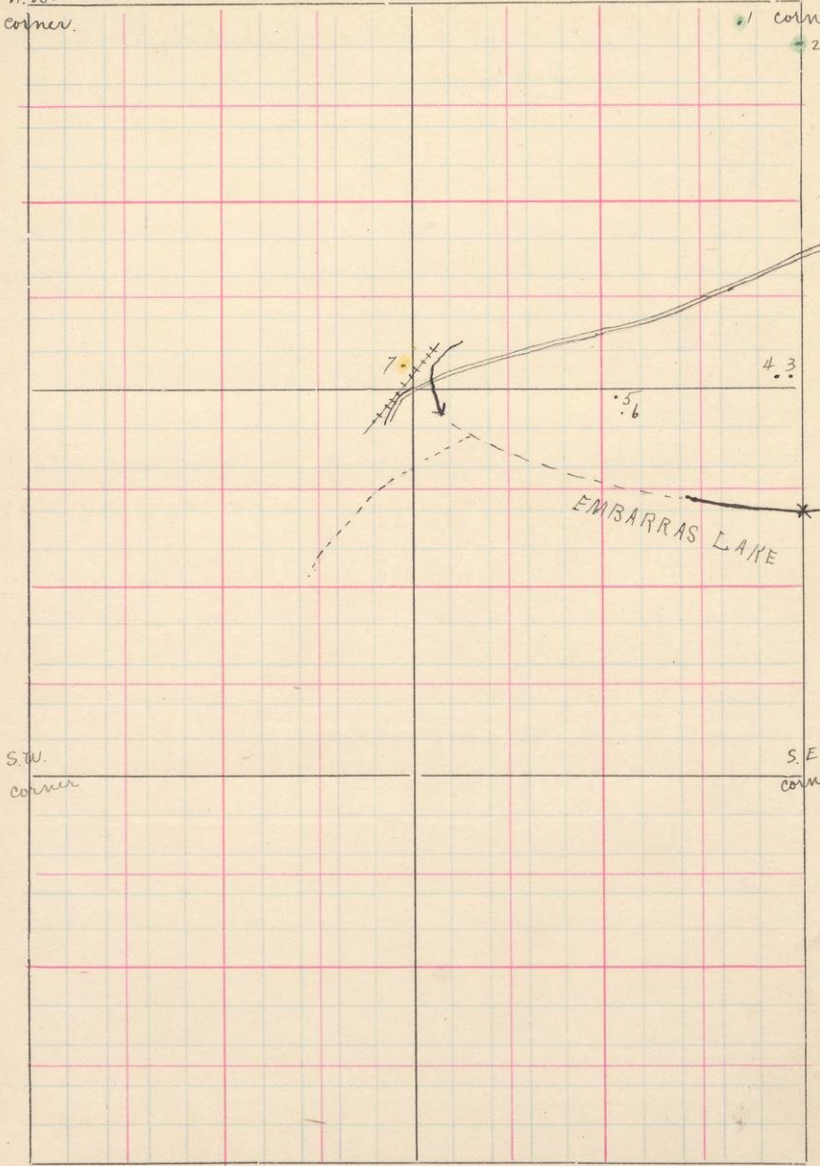
60

S. 1.
N. W.
corner.

T. 58

R. 16 W.

N. E.
corner.
1
2



Blank Even Pages

62-72

Skipped

Oct. 20, 1898.

Section 6, 58-15W.

7:35 A.M. Bar 2 = 2448. Embarras Lake = 1371 X.

Start from N. shore of Embarras Lake at W. side of section 6, 58-15W, and run north. Landing abruptly from the lake for 70 paces to 62 ft. above the lake. The plateau is nearly level sloping very slightly to the north to the W. 1/4 post.

This plateau is of sand and some gravel. This plateau continues N. to nearly 700 paces from the 1/4 post, where a steep rise begins. This rise is between 700 + 900 paces from the 1/4 post. The hill is evidently of greenstone and I judge the greenstone boundary should go at least as far south as 700 paces N. from the 1/4 post.

- 1. 100 S. of N.W. corner sec. 6, 58-15W, greenstone outcrop.
- 2. Very fine grained green schist. Schistosity strikes nearly E. & W. and stands about vertical.

Now go east along N. side of sec. 6, 58-15W. from the N.W. corner. Steep descent to 375 paces from corner where swamp begins and continues to 660 paces E. from N.W. corner of sec. 6. Beyond the swamp the plateau of sand & gravel begins & continues nearly 300 paces E. of the N. 1/4 post. The greenstone outcrops (see outcrops) at the N.W. corner of the plateau.

$$1550 = 2625$$

$$1520 = 2600$$

$$1575 = 2650$$

$$1525 = 2605$$

$$1600 = 2675$$

$$\frac{175 - 175}{1700 = 2750}$$

$$1625 = 2700$$

$$1700 = 2750$$

$$1650 = 2725$$

$$1675 = 2750$$

$$1700 = 2775$$

$$1225 = 2800$$

-1. 1700 N. of S.W. corner sec. 20, 54-15 W., granite outcrop & granite along line & just to the west of it for about 200 paces N. of this.

K 26x

1975-31-59-17 2 — h 200

89-5x

