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Marquette region, Michigan: [specimens] 16631-16765. No. 77 1888-1889

Merriam, W. N.

[s.l.]: [s.n.], 1888-1889

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U. S. GEOLOGICAL SURVEY
FIELD SECTION BOOK

No. 77.
1888-1889.

Marquette Region

W. A. Merriam.

16631-16659
16631-16765

Survey of the Pre-Cambrian Rocks of the N. W. States.

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 figure attached, showing the amount and inclination of the dip. Denote slaty or other very plainly bedded rocks by lines running in the direction of the strike, with figures and a dip arrow attached as before. In all cases where there is the least doubt about the true bedding directions, 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 line as 100 paces, and twenty of these spaces as 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.

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.

3. The ruling of the left hand page is also arranged so that a smaller scale can be used. Each one of the black lines may represent a section line and the red lines quarter sections and "forties." The scale of the maps may thus be reduced, if desirable, to two inches to the mile (the ordinary town plat scale.)

4. Collect a specimen from each separate ledge of rock, or wherever there is a change of rock on any one ledge. In case of trips made on foot or in canoes, for long distances, neighboring ledges, unquestionably of one kind of rock, need not be sampled, the position and extent of the ledge being marked on the map, with a note that it is of a rock identical with specimen so-and-so. Under the same conditions small sized samples, trimmed to a uniform size of $2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{4}$ 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 § 3, chapter IV, p. 44, Regulations of the U. S. Geological Survey. In all cases collect chips for slicing. All specimens are to have numbers painted on them, in white on a black background, in the field.

5. 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., etc.

6. Forward this note book, as soon as filled, as registered mail matter, to R. D. IRVING, U. S. Geologist, Madison, Wis.

77

$$\begin{array}{r} 168/0 \\ \hline 5250 \end{array} \quad \frac{21}{20}$$

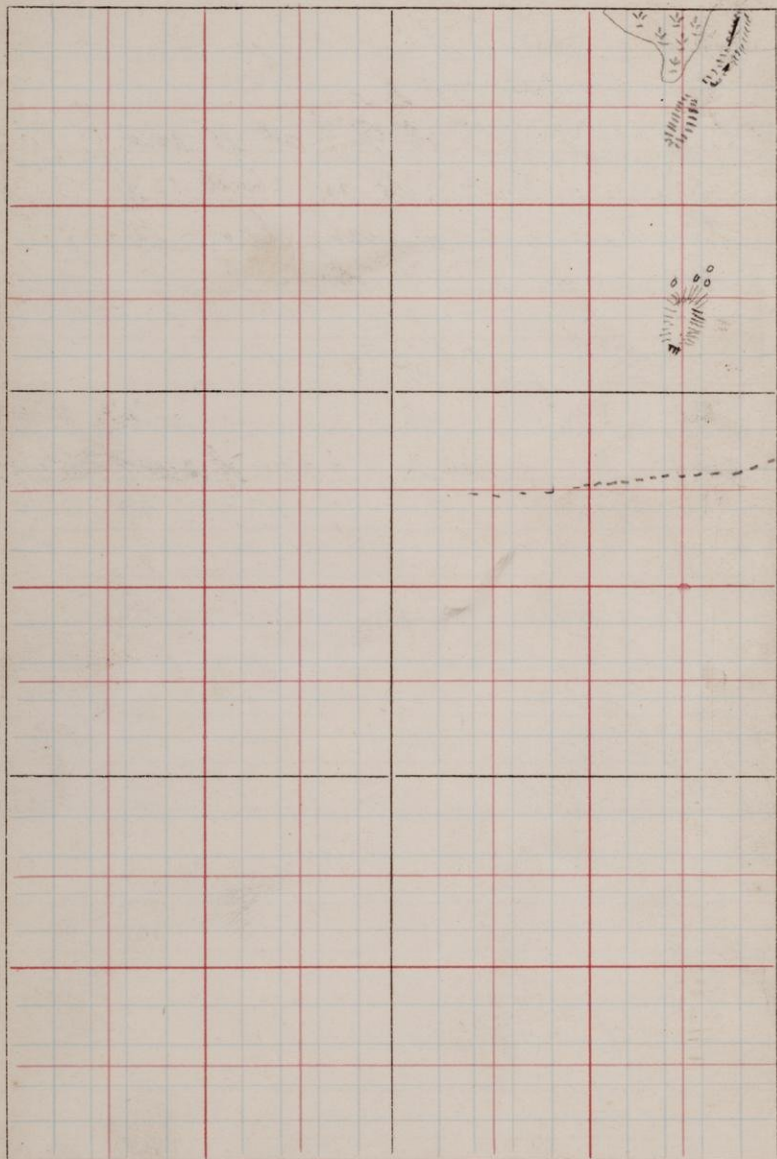
$$\begin{array}{r} 1670 \\ \hline 1584 \\ \hline 860 \end{array} \quad \begin{array}{r} 1.57 \\ \hline .31 \end{array}$$

$$\begin{array}{r} 5250 \\ \hline 1 \end{array} \quad \begin{array}{r} 40 \\ \hline 20 \end{array}$$

$$16631 - 16765$$

S $\frac{5}{4}$ Sec 3 T. 47

R. 29



1888

1

620 N 125 W of SE - 3 - 47 - 29

Knot 40 feet High small Tumbled down ledge
of Greenstone on S end

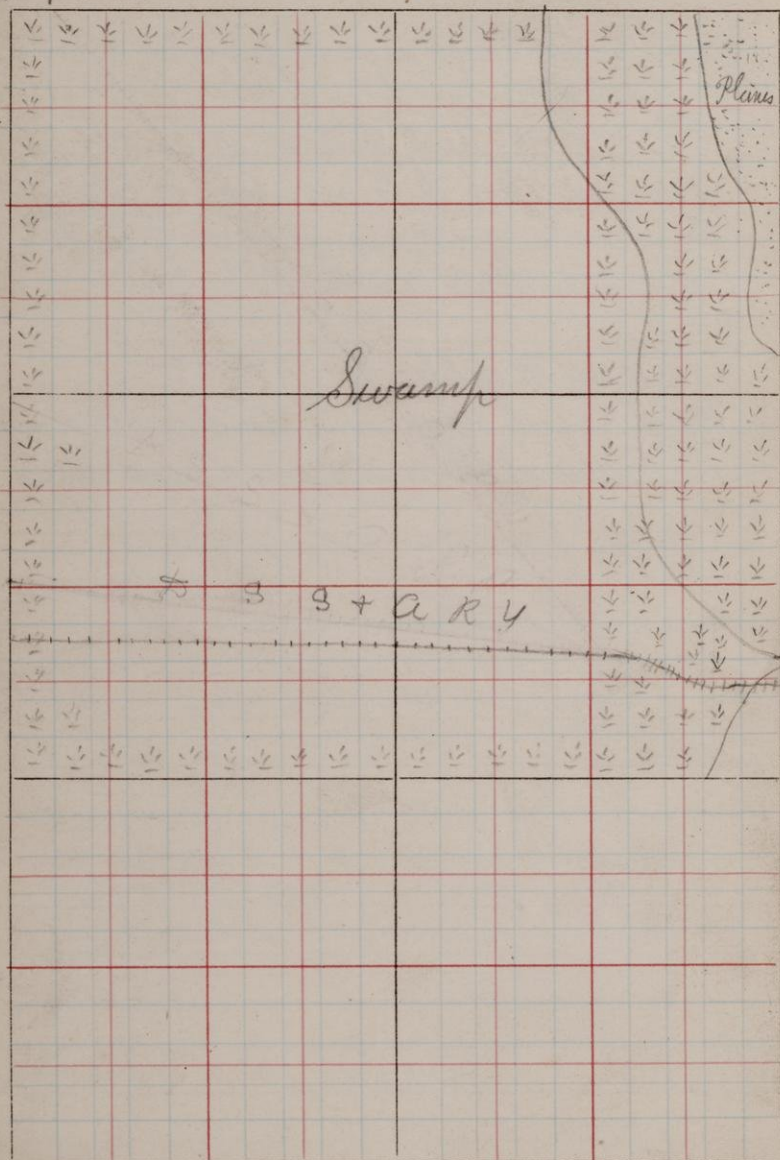
1663 1 Taken from test Pit at N end of above
described Knot pits are about 12 feet deep
there is a great many large Quartzite
boulders on this Knot

870 N 125 W of SE - 3 - 47 - 29

1663 2 Knot 30 feet High This Knot is all Rock
the balance of this 1/4 is a series of sand ridges

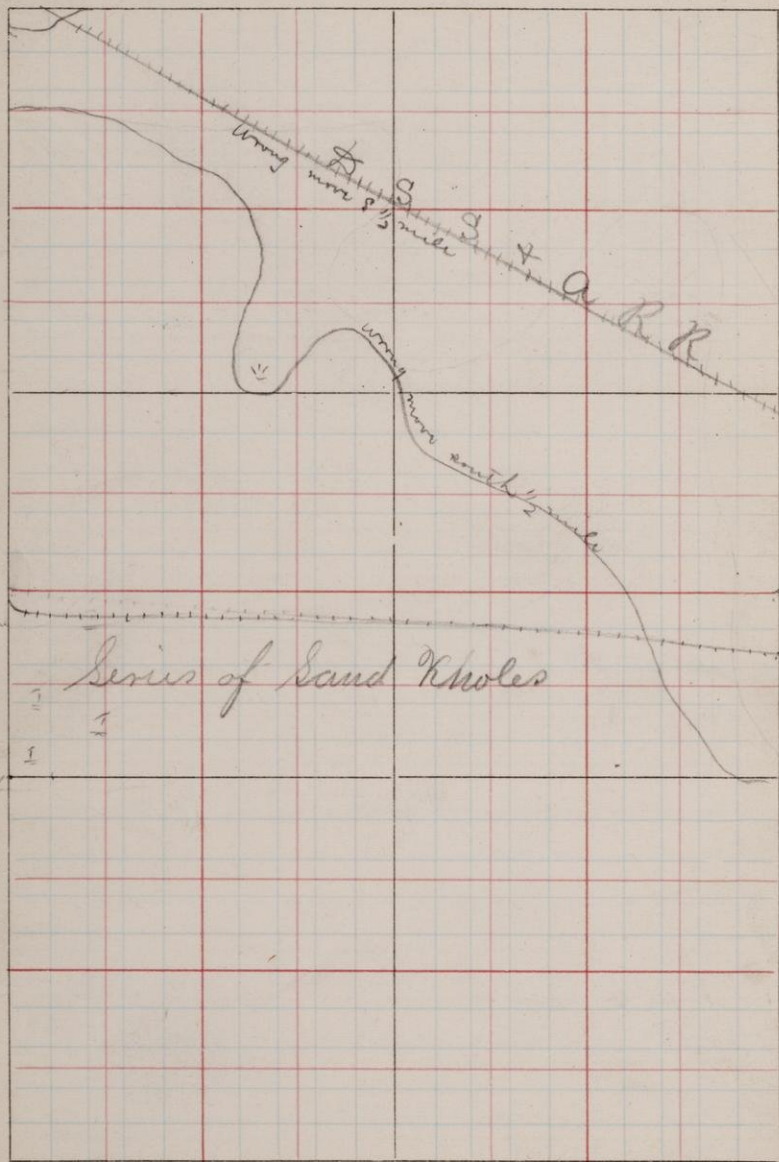
N^o 1/4 Sec 3 T. 47

R. 29



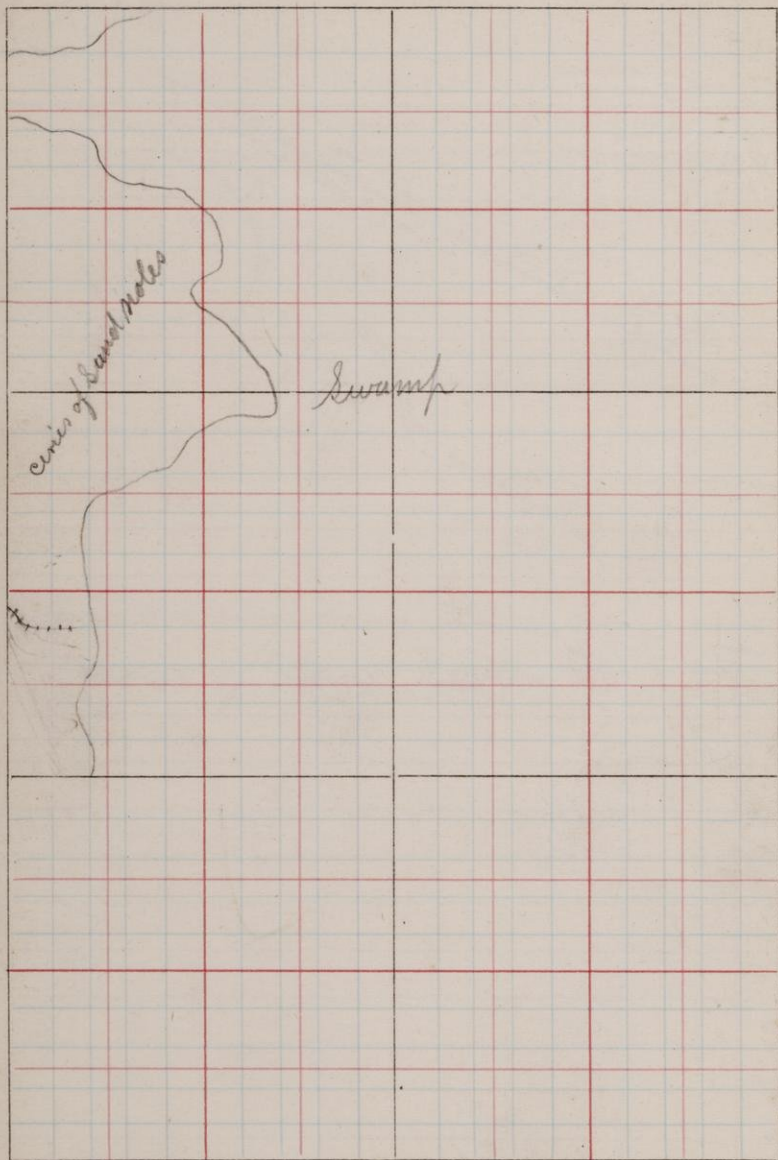
NW 1/4 Sec 3 T. 47

R. 29



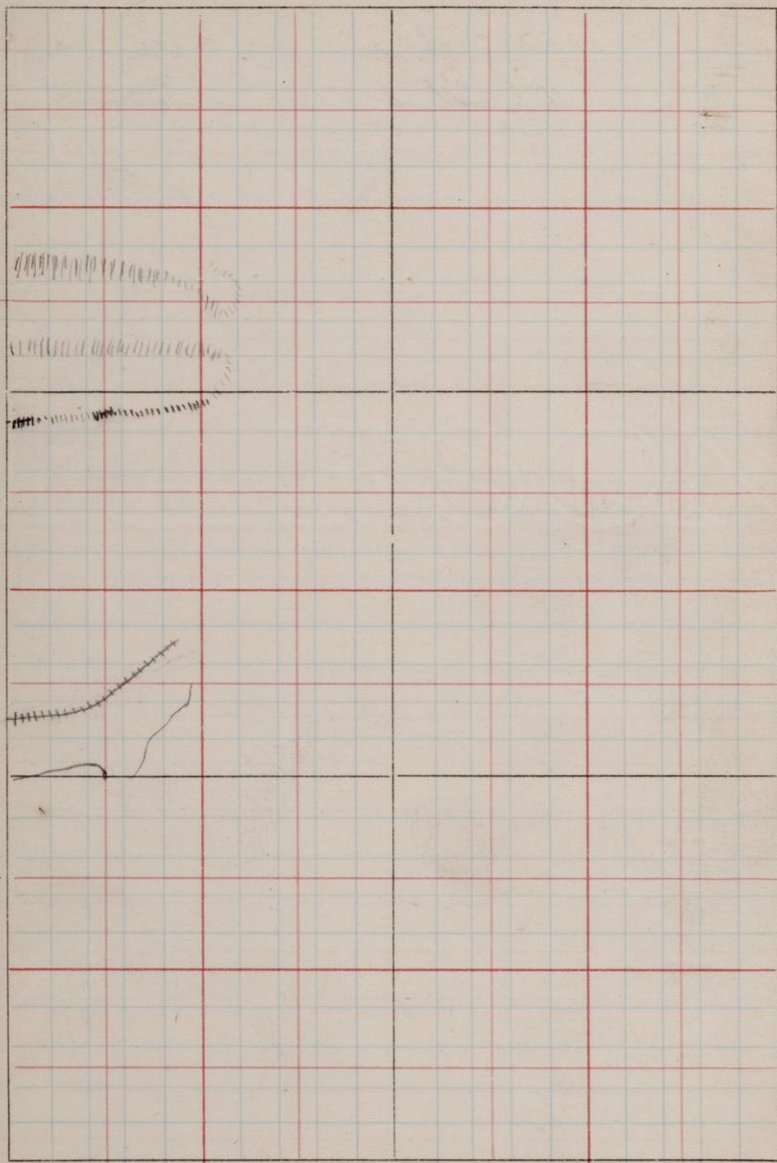
N. 1/4 Sec 3 T. 48

R. 29



S. 21, 1/4 Sec 34 T. 48

R. 29



16633 460 N 2000 N of SE-34-48-29

Bluf 60 feet High running E + W cant
get the dip it is crumbled to much

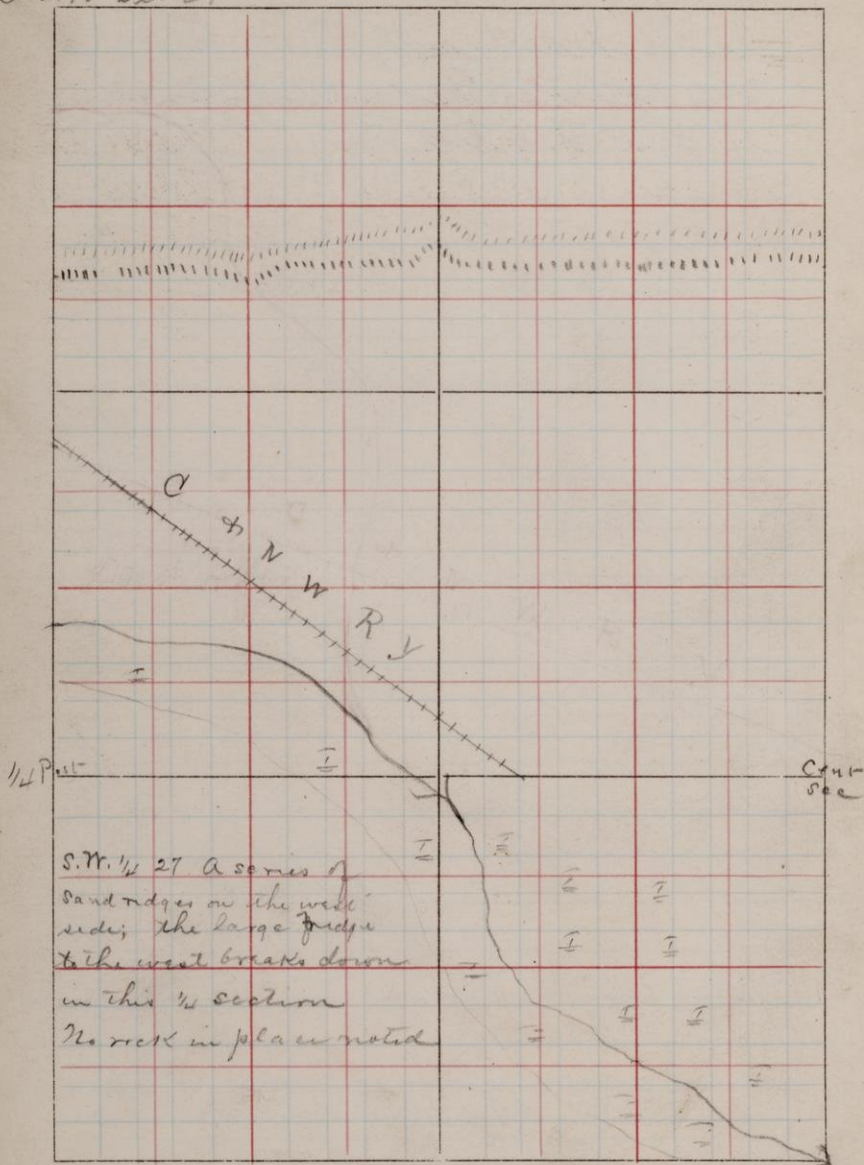
789W Sec 34 T. 48

R. 29

Lines of Sand Ridges

This quarter section is a series of
sand Ridges with thick Hazle Brush
and poplar with small spots cleared
of and Hay cut this

R. 29



1663 H.

1660 N 2000 W of SE-27-48-29

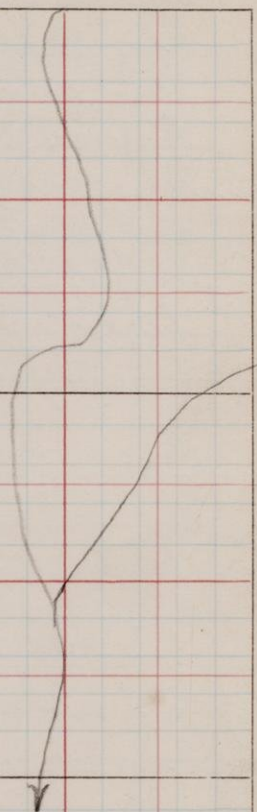
Bluf 80 feet High

This quarter section is generally level with slight sand Ridges timbered in places with spruce and tamarack and small White Pine in streaks it might be called plains with low places in it

S E 1/4 Sec 34 T. 48

R. 29

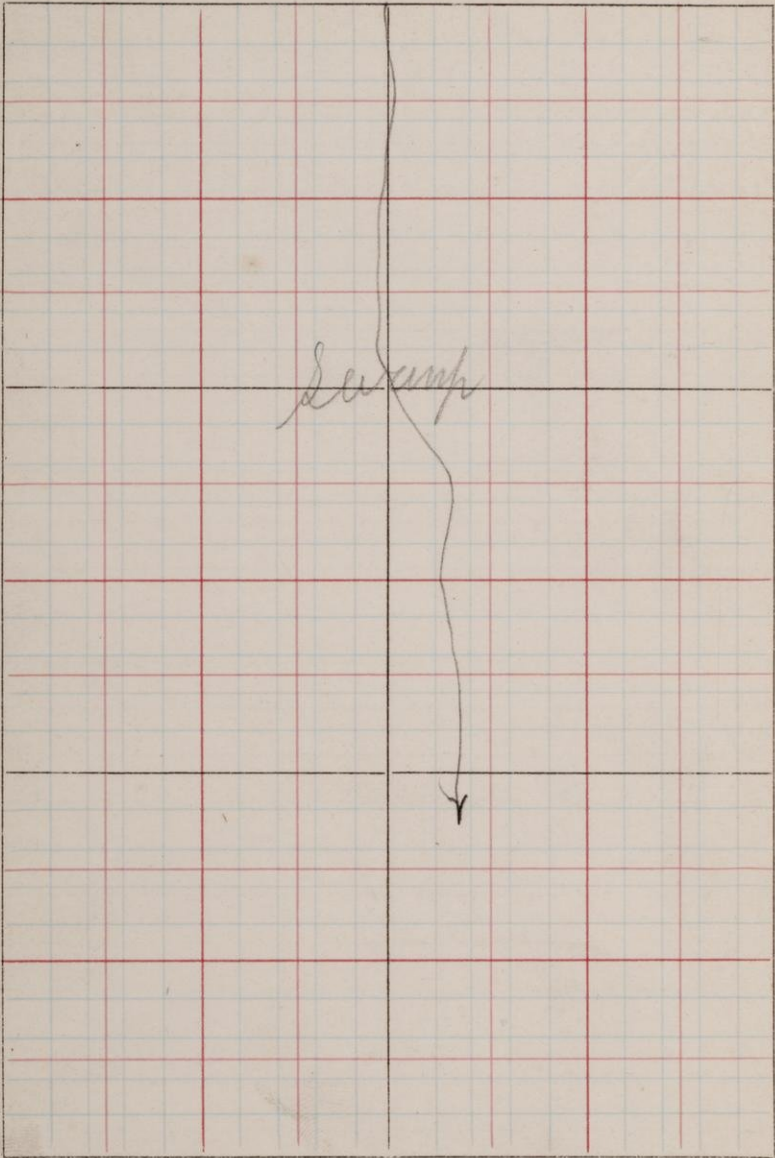
Swamp



N^o 4 Sec 34 T. 48

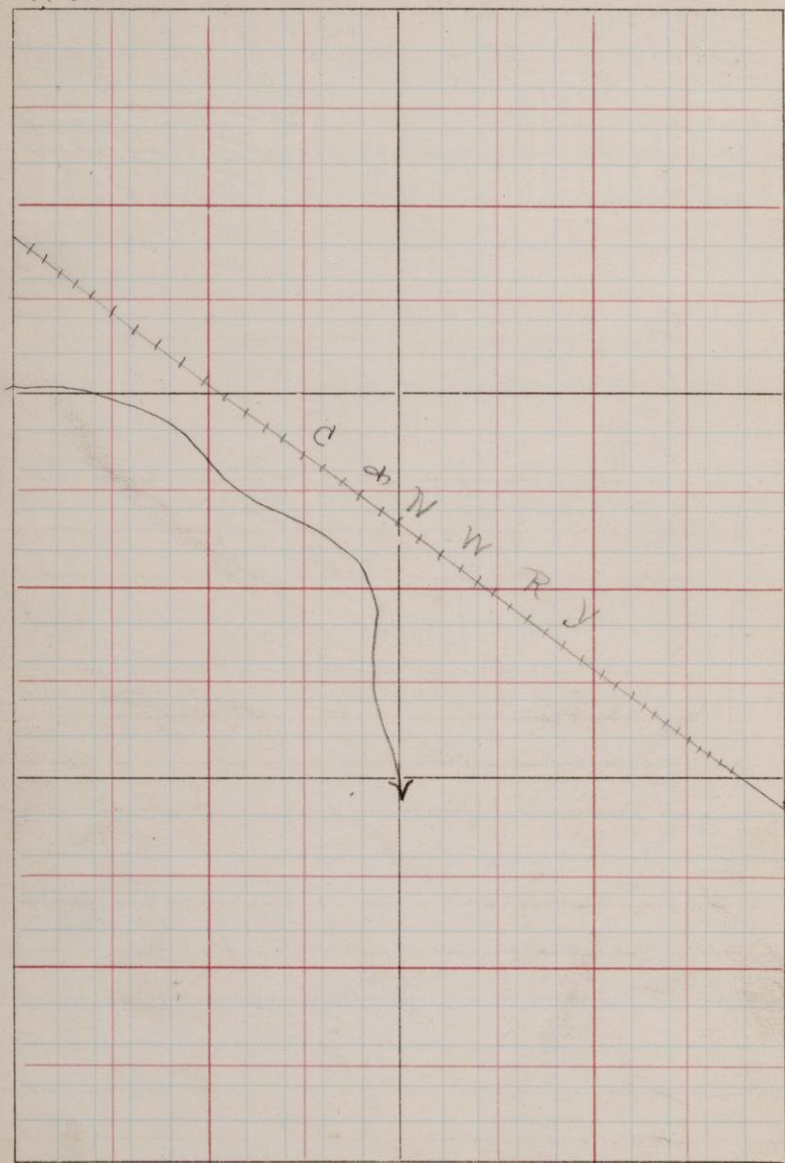
R. 29

Sample



Sec 27 T. 48

R. 29

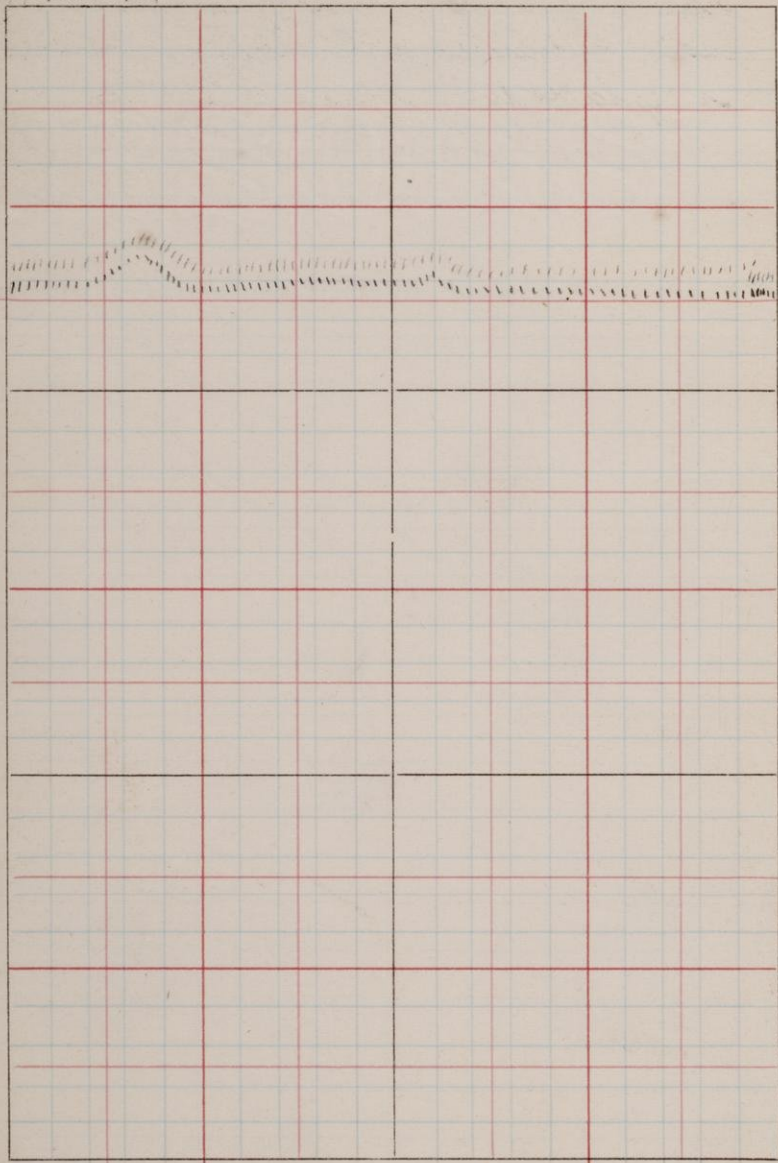


This quarter section is level
sandy land with strips wet land

N^o 4 Sec 27 T. 48

R.

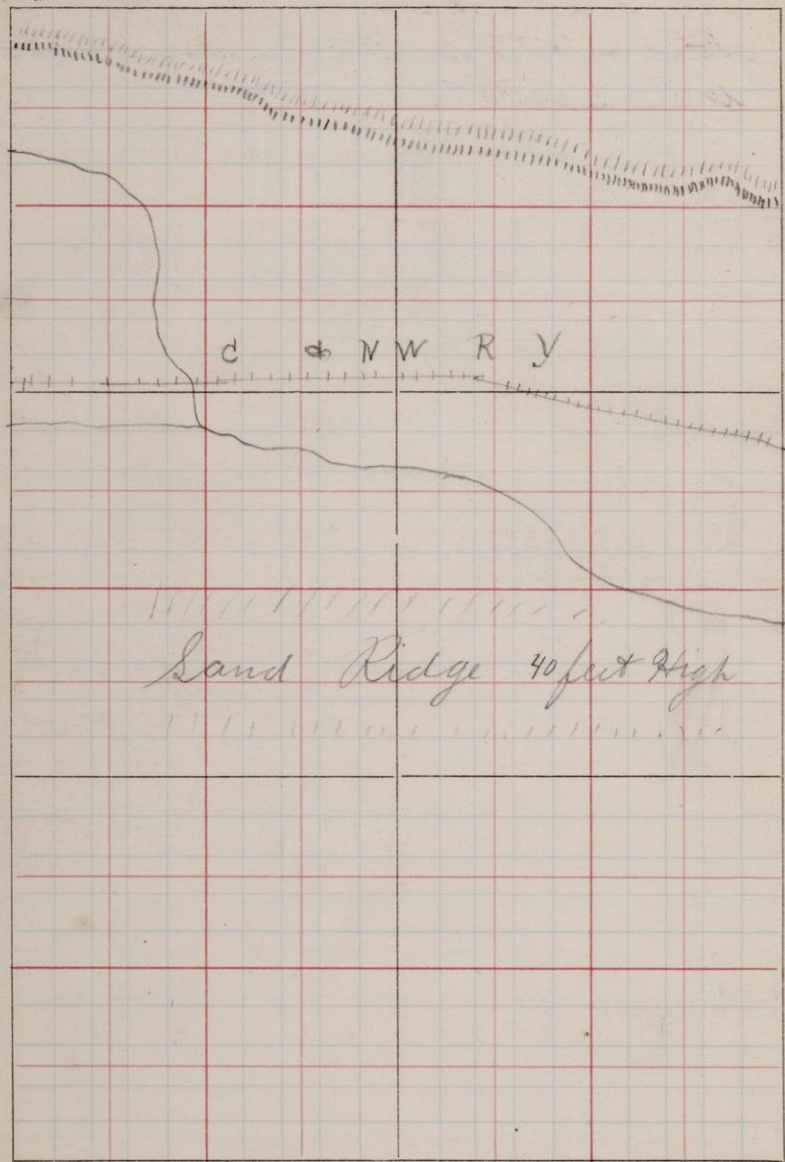
29



This quarter section is generally lower
south of the Granite sandy soil timbered
in places with spruce and Balsam

N6 1/4 Sec 28 T. 48

R. 29



16635 1955 N 1000 W of SE 33-48-29

Bluf 100 feet High Highly striped with
white quartz

S E 1/4 Sec 28 T. 48

R. 29

cultivated field

this quarter section is a High Rise
of ground of land about 80 feet above
the level and is level on top

N $\frac{1}{4}$ Sec 33 T. 48

R. 29

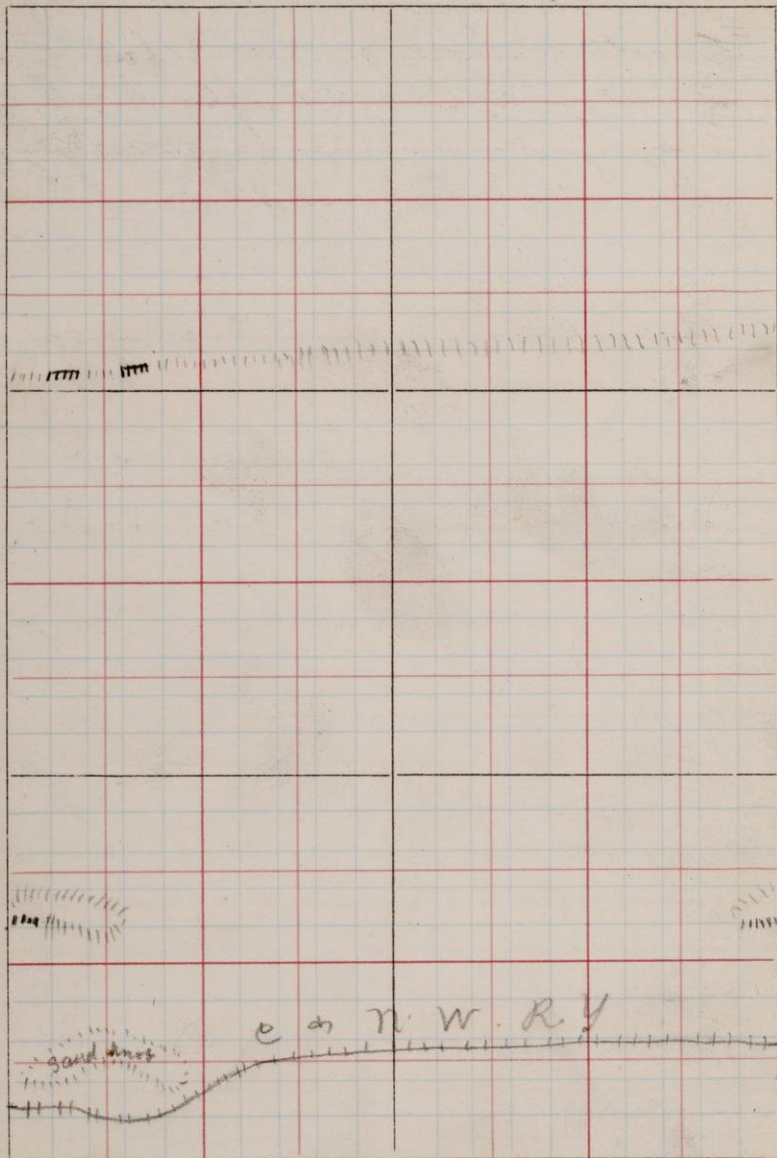
cultivated
field

cultivated
field

this quarter section is on top of
The same Rise of ground as the
SE $\frac{1}{4}$ of sect 26 and is nearly level

S⁶/₄ Sec 33 T. 48

R. 29



16636 634 N 950 W of SE - 33-48-29
 small Exposure on bluff 80 feet High
 Slope S as you go N after being on
 the top the surface is generally quite
 level with quite a number of Boulders

16637 300 N 1000 W of SE - 33-48-29
 Knot 60 feet Hig small Exposure on
 W End

16638 300 N 00 W of SE - 33-48-29
 small Exposure on Knot 40 feet
 High

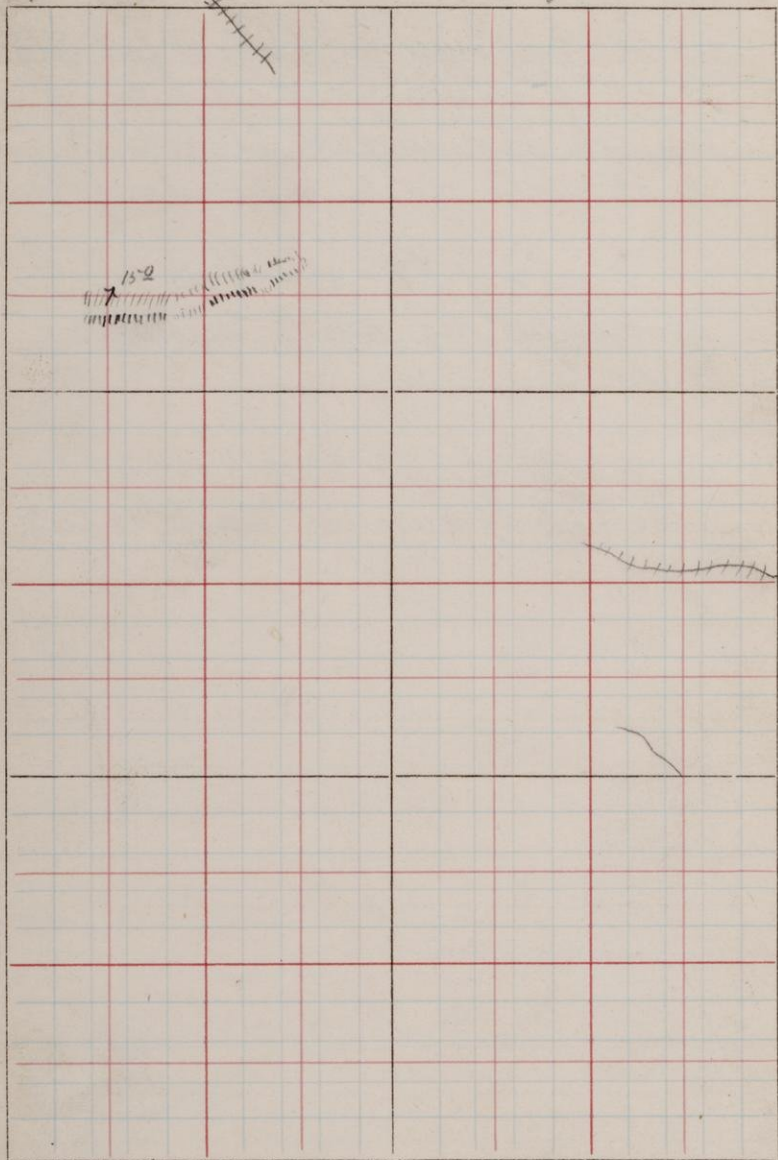
NE 1/4 Sec 4

T.

47

R.

29

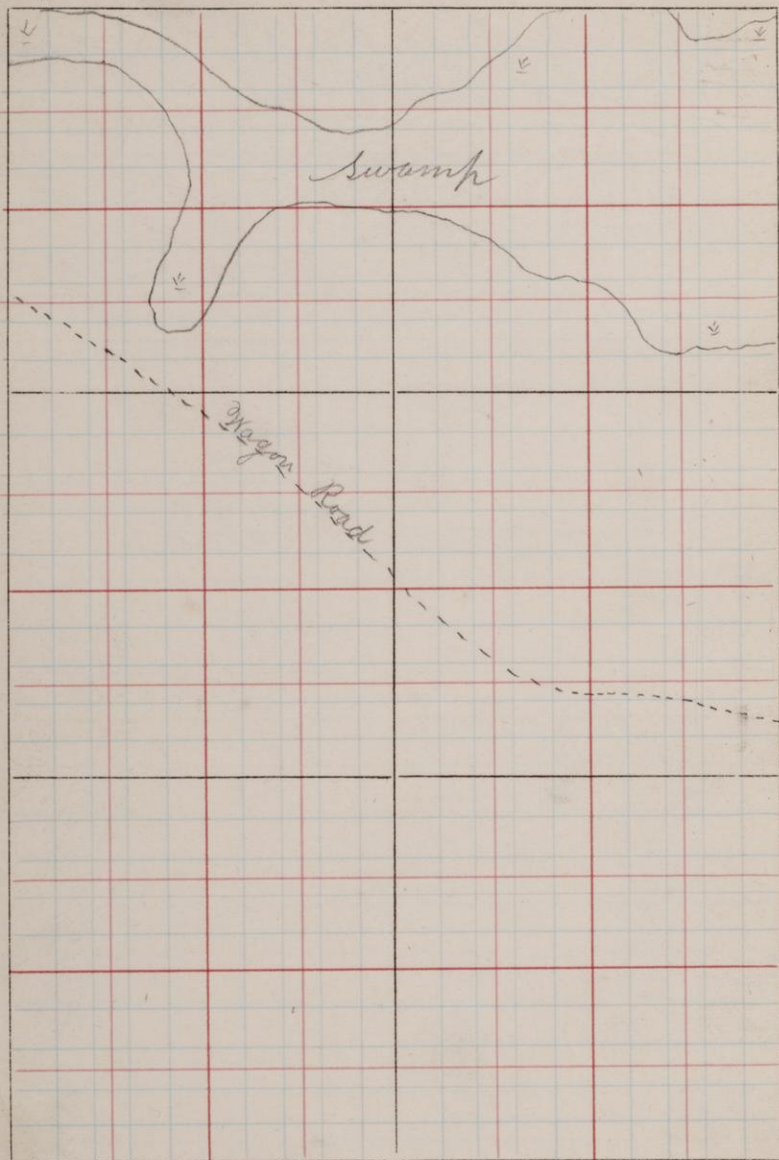


16 642 1600 N 875 W of SE - 4 - 47 - 29

Bluff 40 feet High of Highly Banded Rock
Dip 65° N Strike E + W

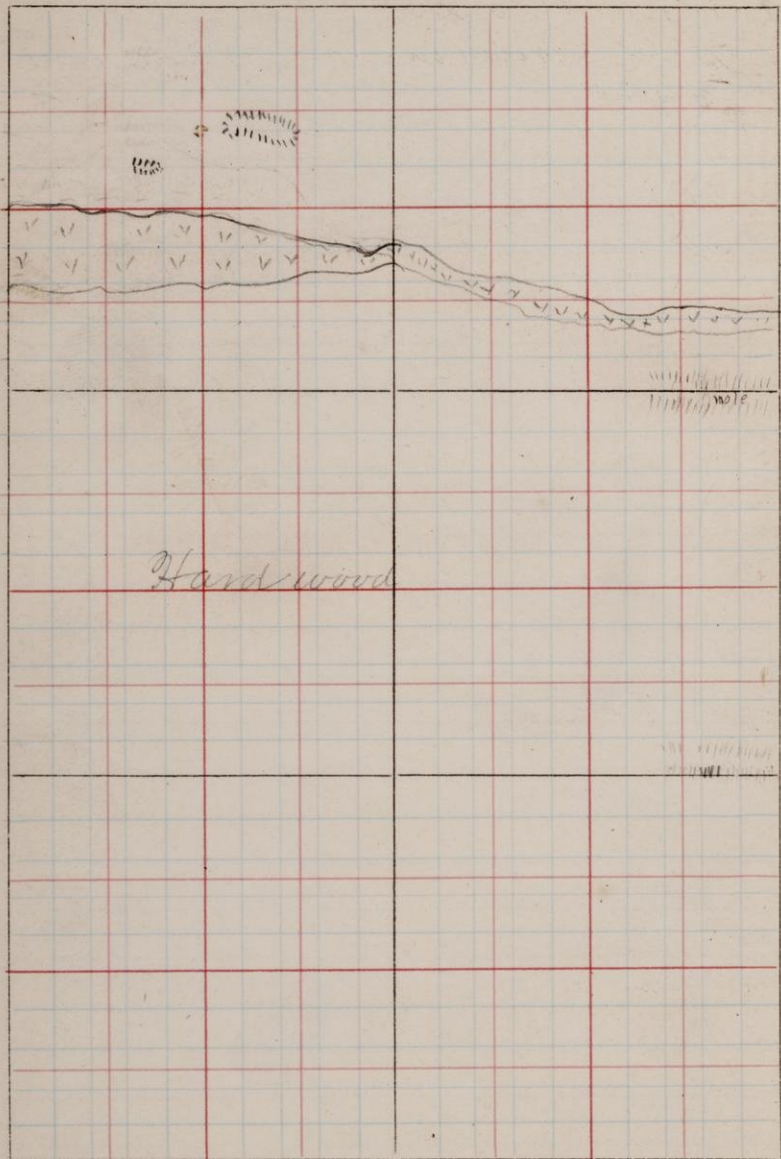
SE 1/4 Sec 4 T. 47

R. 29



N6 1/4 Sec 9 T. 47

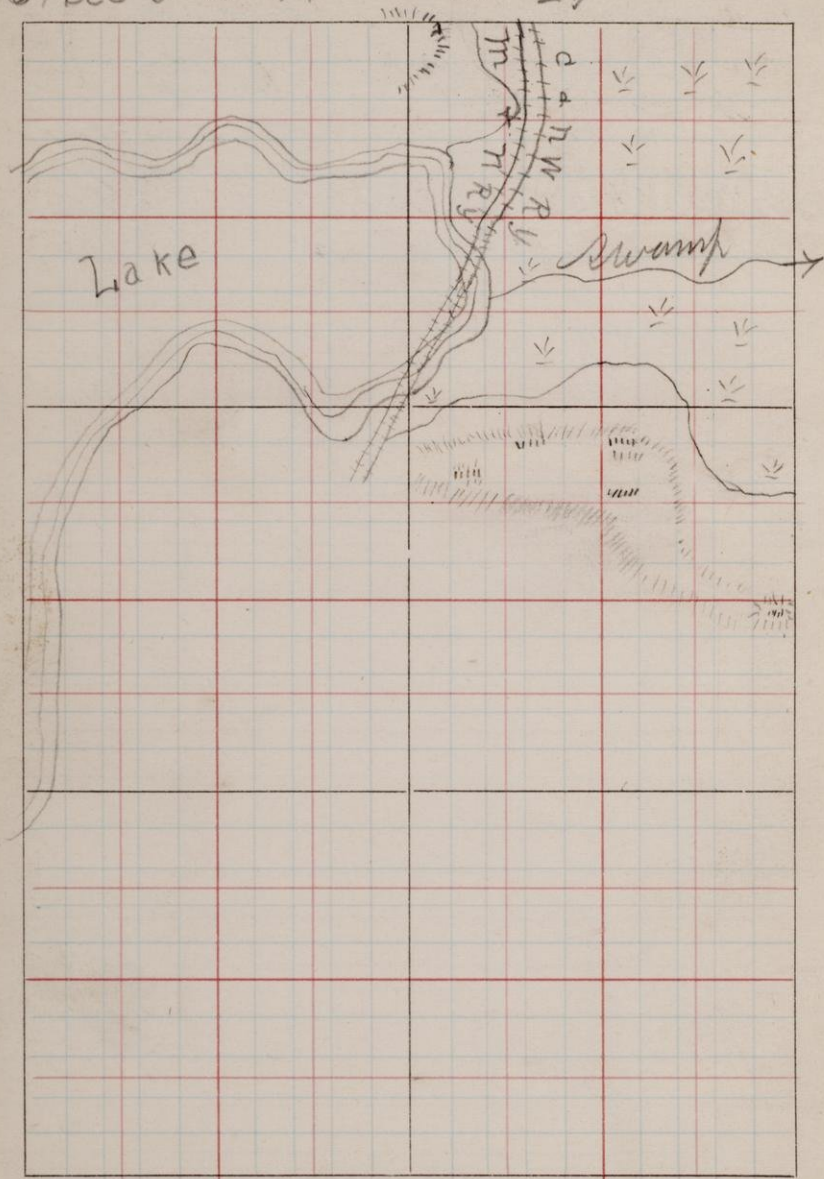
R. 29



- 16639 1000 N 125 W of SE-9-47-29
small Exposure on S side of Ridge running
E + W
- 16640 1800 N 800 W of SE-9-47-29
small Exposure
- 16641 1850 N 700 W of SE-9-47-29
an Exposure 10 feet High running S of
E

S 3/4 Sec 5 T. 47

R. 29



450 N 225 W of SE-5-47-29

series of small Exposures of Granite
in cultivated field

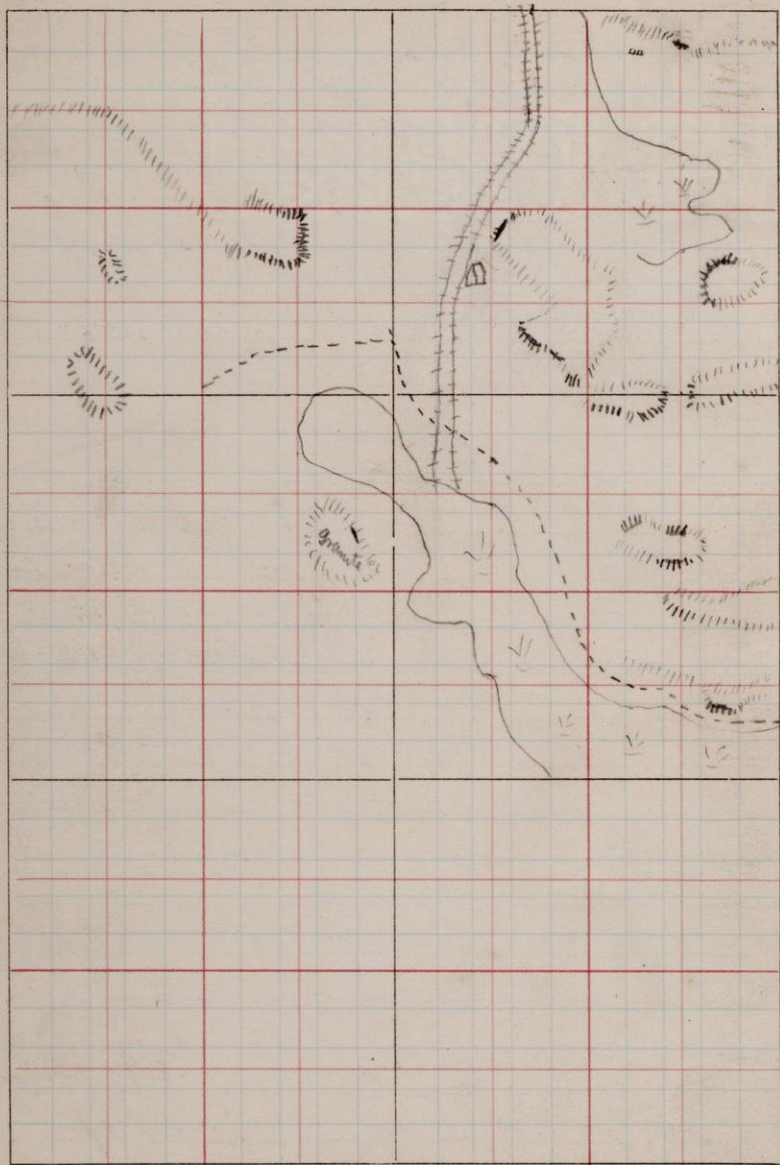
16643 1000 N 450 W of SE-5-47-29

a Range of Granite on N side of lake

N. 6 1/4 Sec 5 T. 47

R.

29



- 16644 1075 N 75 W of SE-5-47-29
Knot 20 feet High
- 16645 1225 N 125 W of SE-5-47-29
Bluf 50 feet High running SE
- 16646 1650 N 125 W of SE-5-47-29
Knot 15 ft High running NE this Rock
is much conglomerated
- 16647 1976 N 125 W of SE-5-47-29
small Exposure of but 3 or 4 feet in extent
at the foot and on Side of Sand Ridge
647 is across the incline to the N. about 5
steps and belongs on section 32-48-29
- 16648 1710 N 375 W of SE-5-47-29
Ridge 40 feet High running SE this
Rock is finely conglomerated
- 16649 1600 N 335 W of SE-5-47-29
Bluf 30 feet High running SE
- 1325 N 625 W of SE-5-47-29
Knot 15 feet High small Exposure of
Granite

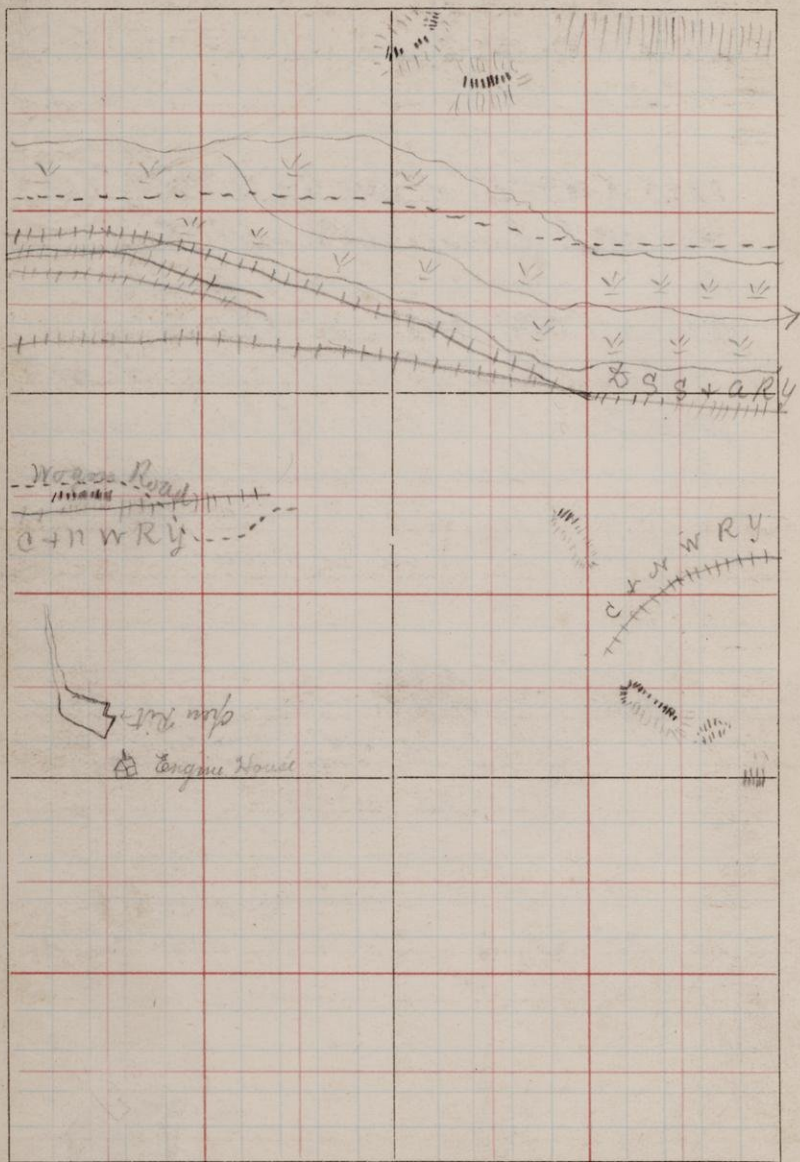
16650 1690 N 625 W of SE-5-47-29
 Bluf 125 feet High Dip 50° N Strike
 40° N of W this Rock is Highly banded

16651 1745 N 875 W of SE 5-47-29
 small Exposure of Granite

1875 N 875 W of SE-5-47-29
 continuation of same ridge as 650
 and there is a series of Exposures between
 here and there of Highly Banded Rock

S 3/4 Sec 32 T. 48

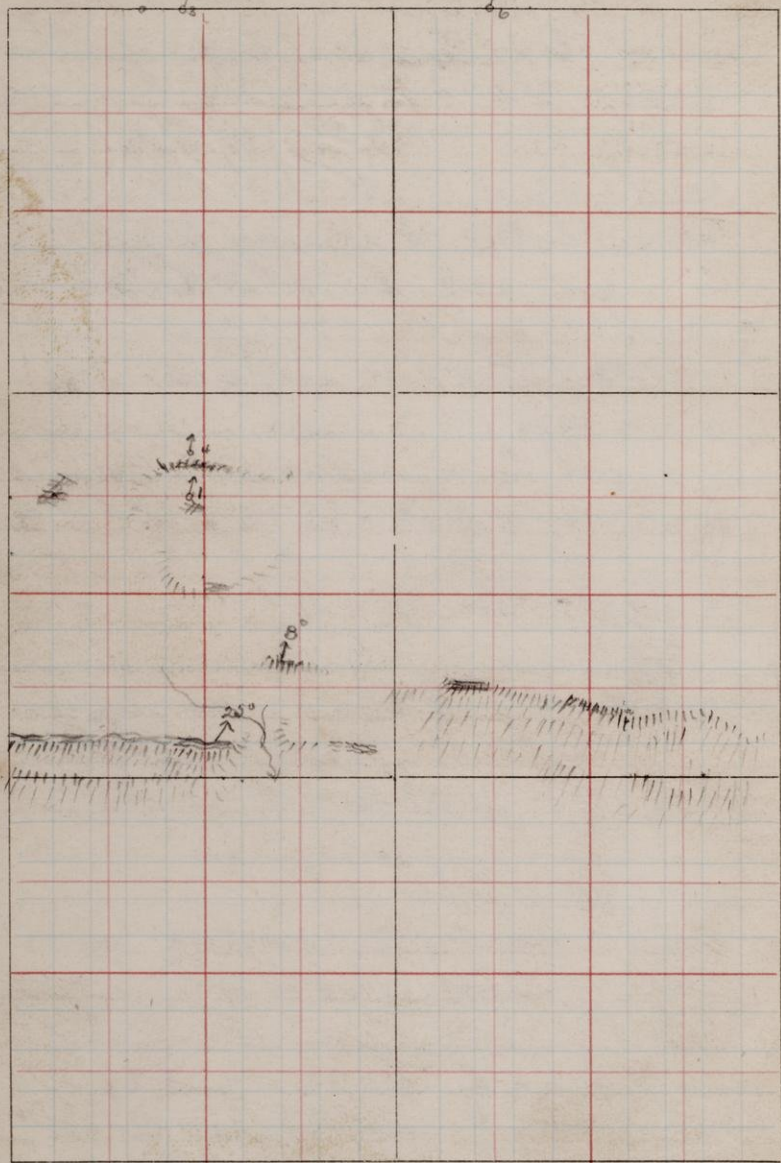
R. 29



- 16652 00 N 36 W of SE-32-48-29
small Exposure on S side of sand
Ridge
- 16653 210 N 200 W of SE-32-48-29
Knot 15 feet High running SE
- 16654 325 N 257 W of SE-32-48-29
small Exposure on W end of sand, note
10 feet High
- 1000 N 125 W of SE-32-48-29
at top of High Rise of ground Extending
E + W
- 16655 922 N 415 W of SE-32-48-29
7.5. Large Exposure of Highly Banded Rock
Dip 80° N Strike E + W
- 16656 1000 N 455 W of SE-32-48-29
7.5. small Exposure of Banded Rock Dip 25°
W of N Strike 30° S of W
- 500 W 960 N of SE-32-48-29
3 small exposures on rid of large
Hill Rock same as 655 Dip 45° N
strike 20° N of W

N.E. 1/4 32 T. 48

R. 29



16657 390 N 875 W of S.E. 32-48-29
 7.5. ledge along the side of wagon Road
 75 steps E & W by a few feet wide has
 mostly been uncovered by building Road

16658 Taken from open Pit from N. side which forms
 7.5. the Hanging wall Dip 60° N Strike 35° N of W

16659 Taken from foot wall of above Pit it is
 7.5. about 10 to 12 feet of sand and gravel on top
 of Rock foot wall dips 55° N the Rock
 is Highly Banded and strips of lean ore

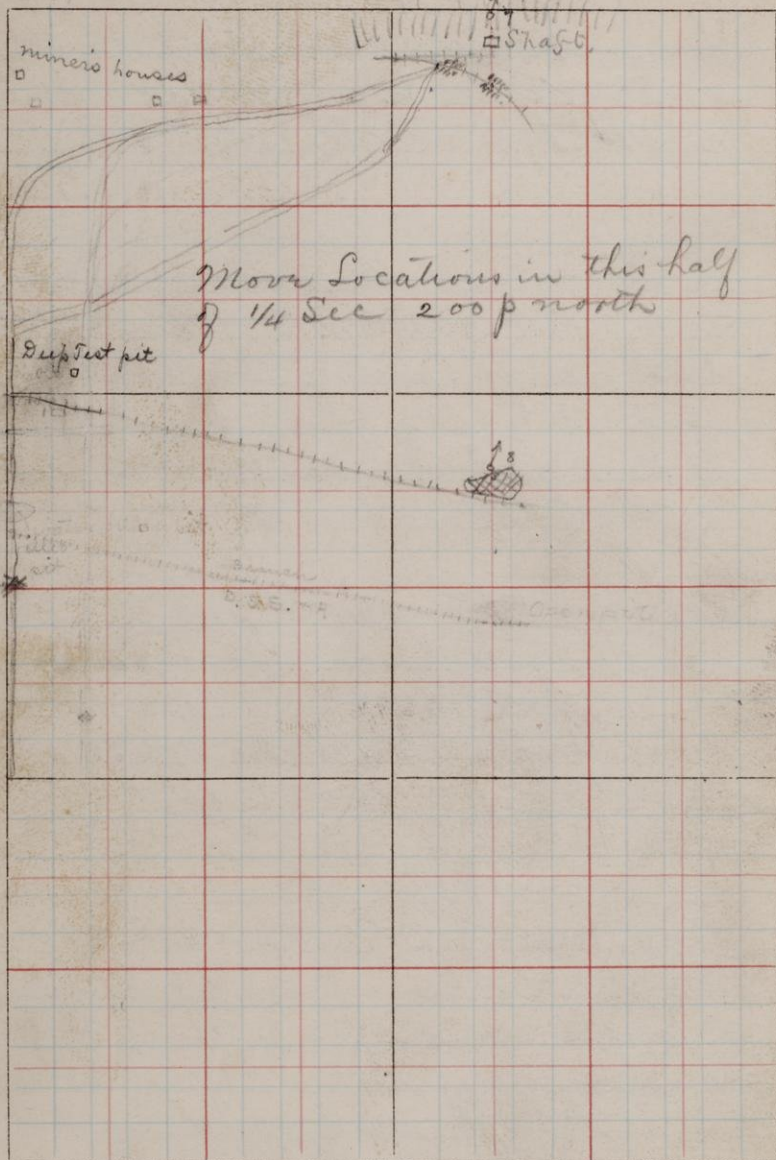
About 875 Paces N. of S.E. 32-48-29
 on the south slope of high ridge
 are angular fragments of a rock
 similar to that taken a few
 paces to east (see other note books)
 It looks like a quartzite

1889.

16660 1077 N. 2007 N. S.E. 32-48-29
 A quite massive ledge of quartzite,
 on south crown of large bluff or
 range of bluffs, running a few
 degrees N. of W. and dipping I think
 into the Hill or N.

S.E. 1/4 29 T. 49

R. 29



1100 N. 450 N. S.E. 32-48-29

From this point east to 16660 this rock quartzite is exposed at intervals and without doubt makes up the crown of the hill the entire distance

16661 1030 N. 540 N. S.E. 32-48-29

A Banded actinolitic magnetite rock Dip high & the north strike varies but taken as a whole follows the strike of large ridge to the north

16662 1050 N. 720 N. S.E. 32-48-29

A Banded actinolitic magnetite schist like 16661

Large exposure rising on the south face 25' or 30' abruptly
Strike E.P.W. Dip 55-86° N.

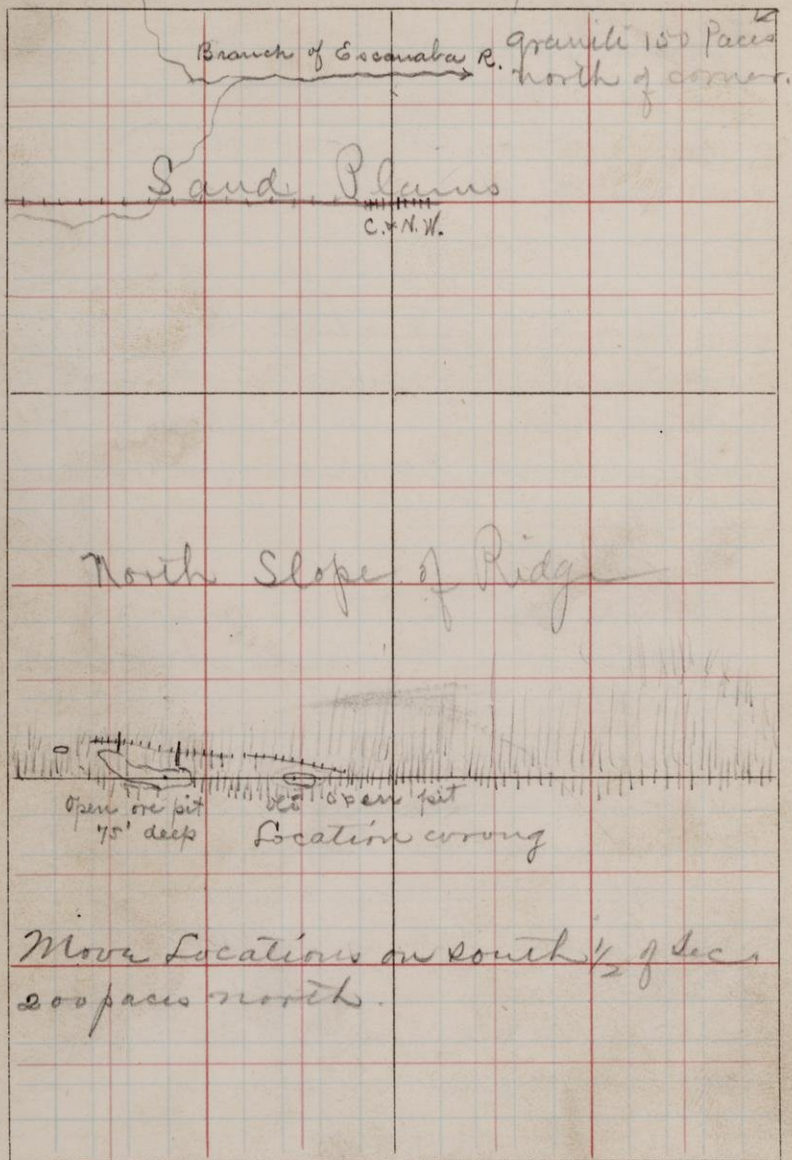
16663 1150 N. 600 N. S.E. 32-48-29

Like 16660

Dip 45 to 50(?) N.

N.E. 1/4 29 T. 48

R. 29



16664 1000 ft. 1050 N. S. E. 32-48-29

Banded actinolitic magnetite schist
This rock is exposed continuously
in a southfacing wall for over
200 paces

Dip 70 to 80° N.

16665 950 ft. 1300 N. S. E. 32-48-29

How massive ledge of micaceous
quartzite

770 ft. 1350 N. S. E. 32-48-29

Like 16665-

16666 Massive portion

16667 Coarser portion about 5 ft long and
18 or 20 inches wide; seems to run
to a point in 16666 at its east end
the western portion is covered

16668 770 ft. 1200 N. S. E. 32-48-29

from this same micaceous
quartzite

770 ft. 1428 N. S. E. 32-48-29

A north facing ledge of this
same quartzite

2000 ft. 770 ft. S.E. 32. 48-29

Numerous angular fragments
of quartzite; and I think it is
in place here

16669 435 ft. 370 ft. S.E. 29-48-29

From open pit, filled with water

16670/1150 ft. 370 ft. S.E. 29-48-29

A Shaft from which they are
taking a soft yellow ore, carries
a little manganese. The Dip is
nearly vertical. Foot wall
and hanging will be the same,
a black slate. Shaft 125'

16671 Hanging and Foot wall

16672 1100 ft. 370 ft. S.E. 29-48-29

16673 1150 ft. 450 ft. "

Dip of 16672 80 S

" " 16673 80 N.

From Ry. cut.

16674 630 W, 1200 N. SE. 29 - 48 - 29. From
bottom of an old open pit

16675 630 W, 1200 N. SE 29 - 48 - 29
From refuse pile at old open
pit.

16676 950 W 1225 N SE 29 - 48 - 29
a yellow ore taken from west
end of deep open pit. Ore is
darker and redder at east end
Dip in pit, 80° to 90° N. Strike N 6° W

16677 925 W. 525 N SE. 29 - 48 - 29
a specimen taken from pile at
deep test-pit.

16678 925 W. 525 N. SE. 29 - 48 - 29
Taken from pile at deep
test-pit

16679 1000 W 350 N SE. 29 - 48 - 29.
(This location 50 pcs. too far east) From ore
pile at hoist at east end of
large open pit

16680 1000 N. 350 N. S.E. 29-48-29
 Taken from ore
 pile at hoist at east end of
 large open pit

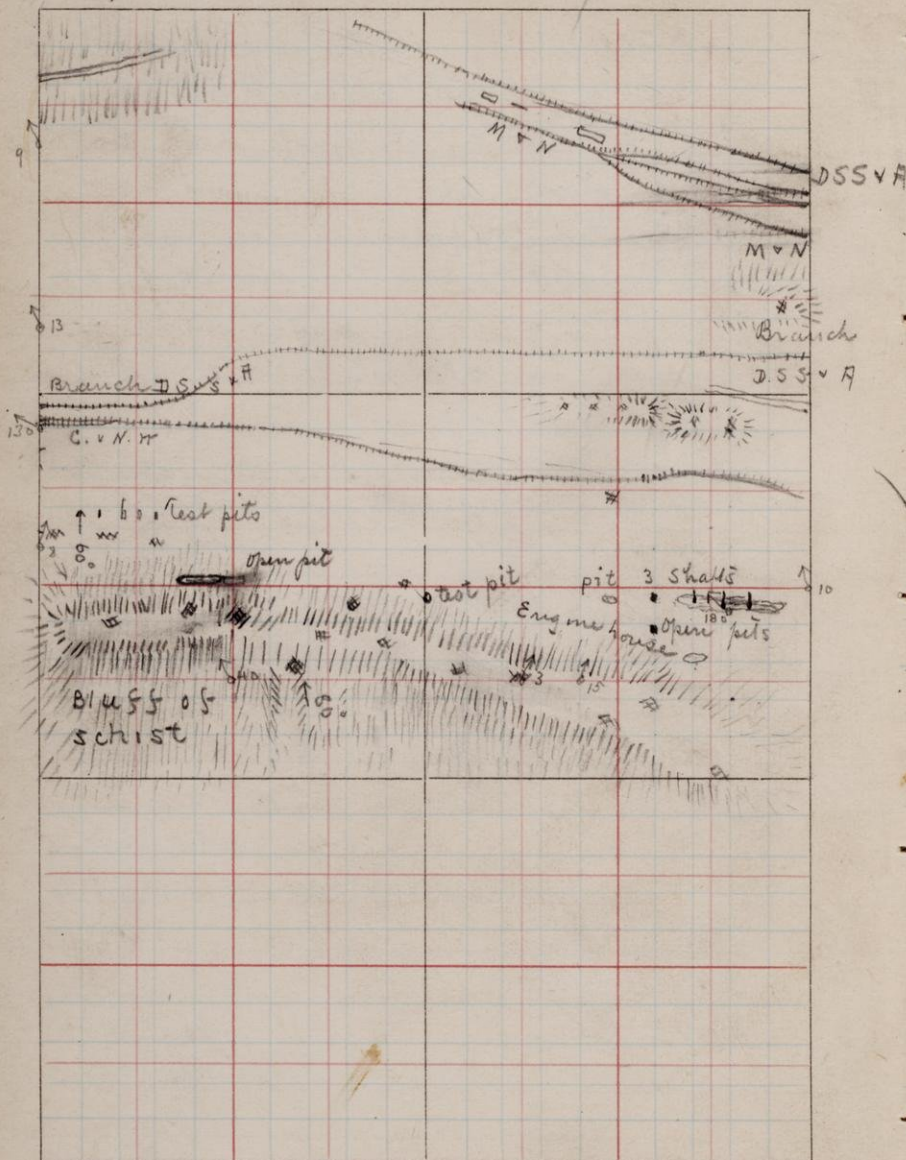
(This location 50 paces too far east)

16681 1000 N. 250 N. S.E. 29-48-29

Low & small
 exposure in the top of a small
 hill in road.

S. W. $\frac{1}{4}$ 32 T. 48

R. 29



16682 2000 N. 340 N. S.E. 32 - 48 - 29

From west end of outcrop 150 feet long running south 10° of east, at the foot of bluff south of Champion.

Dip (?) 60° N. Strike S. 50. E.

16683 1900 N. 380 N. S.E. 32 - 48 - 29

Taken from a loose stone by the side of small test-pit.

There are many small test pits here none indicating any presence of iron ore. all are more or less filled with small rounded boulders.

16684 1800 N. 230 N. S.E. 32 - 48 - 29

From an abrupt exposure on north side of bluff. The rock stands boldly out 15' high for a distance of 120' east & west.

16685 1800 N. 230 N. S.E. 32 - 48 - 29

16686 1750 W. 225 N. S.E. 32-48-29

From a low exposure
on the top of the bluff.

16687 1675 W. 110 N. S.E. 32-48-29

From south-top of bluff
Foliate running very straight in
the mass east & west. Dip (N)
80° N. outcrop runs N.W.

16688 1385 W. 135 N. S.E. 32-48-29

From north-top of bluff
of large exposure. Exposed face
slopes 45° N. Strike S 80° E

16689 1385 W. 135 N. S.E. 32-48-29

The same rock as exposed in
Specimens 16684 - 89 inclusive
were all found on the same
bluff & seem to be the same
rock mica schist or micaceous
quartzite

16690 1100 N. 223 S.E. 32-48-29

Taken from footwall of an open pit.

Dip (?) N 50° Strike S 65 E

16691 1100 N 228 N SE 32-48-29

Taken from hanging wall of open pit. Hanging wall is more laminated at west
Dip N 50° Strike S 65 E / end of pit

16692 1100 N 225 N. SE 32-48-29

Taken from loose pile through into the middle of pit. Taken no doubt from one of the shafts in the pit

16693 1090 N 230 N SE 32-48-29

Quartz clipped out of a seam in the hanging wall.

16694 1150 N 150 N S.E. 32-48-29

From footwall of open pit water filled

Dip. 50 N. Strike S 65 E

Could not reach hanging wall, it looks like 16691

16695 1100 N. 450 N. S.E. 32-48-29

Large and bold exposure of
with pebbles in it of size
varying from very small to ~~to~~ in in
diameter.

Strike N 85° W

16696 1600 N. 450 N. S.E. 32-48-29.

This same rock is exposed in
various spots on a low hill
extending nearly east & west to
1600 N. 485 N.

16697 1540 N. 250 N. SE 32-48-29

Small out-crop
Dip? 90 Strike N 85° W

16698 1500 N. 240 N. S.E. 32-48-29

Found in
bottom of small test pit
Dip 45° N. Strike N 80° W

16699 1600 N 220 N S.E. 32-48-29
 Small exposure attracts needle
very strongly. Same rock
 in good exposure 20 pcs. west

16700 1760 N 220 N S.E. 32-48-29
 From foot wall in old open
 pit 75 pcs long extending E & N about
 Dip 80° N. Strike N 50 N

16701 1820 N 220 N SE 32-48-29
 Taken from rock
 between hanging & foot wall
 Dip 80° N. Strike N. 80 N.

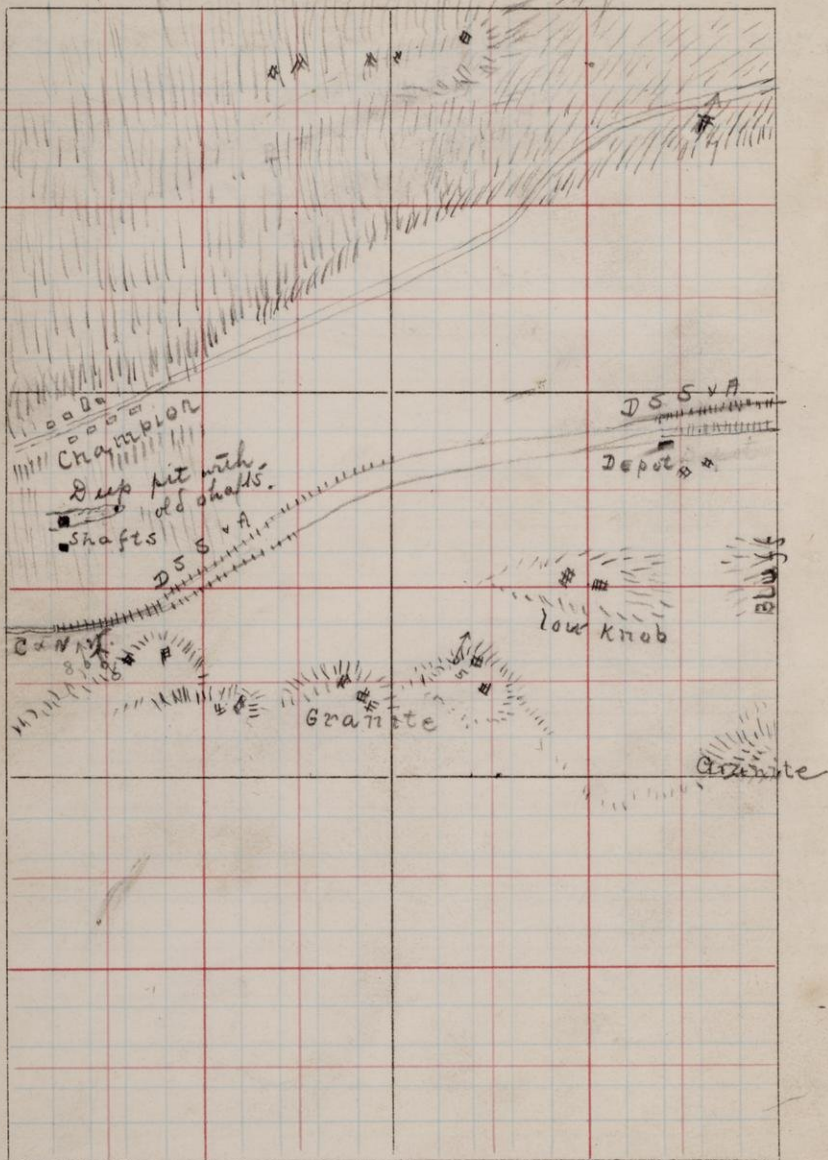
16702 1820 N 220 N SE 32-48-29
 hanging wall
 of open pit

703 1250 N 375 N SE 32-48-29
 Exposed in Rq cut
 Dip(?) 75° N. Str.

704 1250 N 375 N SE. 32-48-29
 Dip & Str. same as 16703

705 1000 ft. 600 ft. SE 32-48-29
Low out crop on top of a
small knoll
Str E & W.

S. E. $\frac{1}{4}$ 31 T. 48 R. 29



16706 400 N. 150 N. S.E. 31-48-29

This appears to belong to the big range of schists farther east and contains garnets

16707 400 N. 125 N. S.E. 31-48-29

a granite which runs close upon the exposure of which 16706 is a specimen.

16707 & 16706 appear to run into each other irregularly on the northern border of the granite

16708 880 N. 150 N. S.E. 31-48-29

Granite with schistose rock like 16706 mixed with it on northern side of this exposure. From this place the N. boundary of the granite runs S.W. out of this section

16709 900 N. 340 N. S.E. 31-48-29

From the ^{footwall} ~~hangar~~ wall of an open pit east of main shafts of Champion mines.

Faces of these walls of this pit
dip 75° N. strike of pit is
 $S 80^{\circ} W$.

16710 900 N 350 N S.E. 31-48-29

From the hanging wall
of open pit spoken of above
Dip 75° N

16711 625 N 930 N S.E. 31-48-29

Low exposure
N 65° E,

16712 425 N 975 N S.E. 31-48-29

Exposure at east end of small
knob on long slope to the North
from Champion on the hill.

Other small exposures of
rock like 16711 between 625 N
840 N x 425 N 900 N

16713 100 N 400 N S.E. 31-48-29

From large exposure in
C & N. W Ry cut near depot
Rock decidedly schistose and looks
much like rock (16684-89)
found on bluff to the east

16714 100 N 400 N S.E. 31-48-29

From same exposure in cut
with 16713

16715 250 N 250 N S.E. 31-48-29

Two Very large exposures of
shistose rock no doubt same
as that of the bluff to the east.

16716 100 N 850 N S.E. 31-48-29

16717 } On south side of main
highway cut in champion

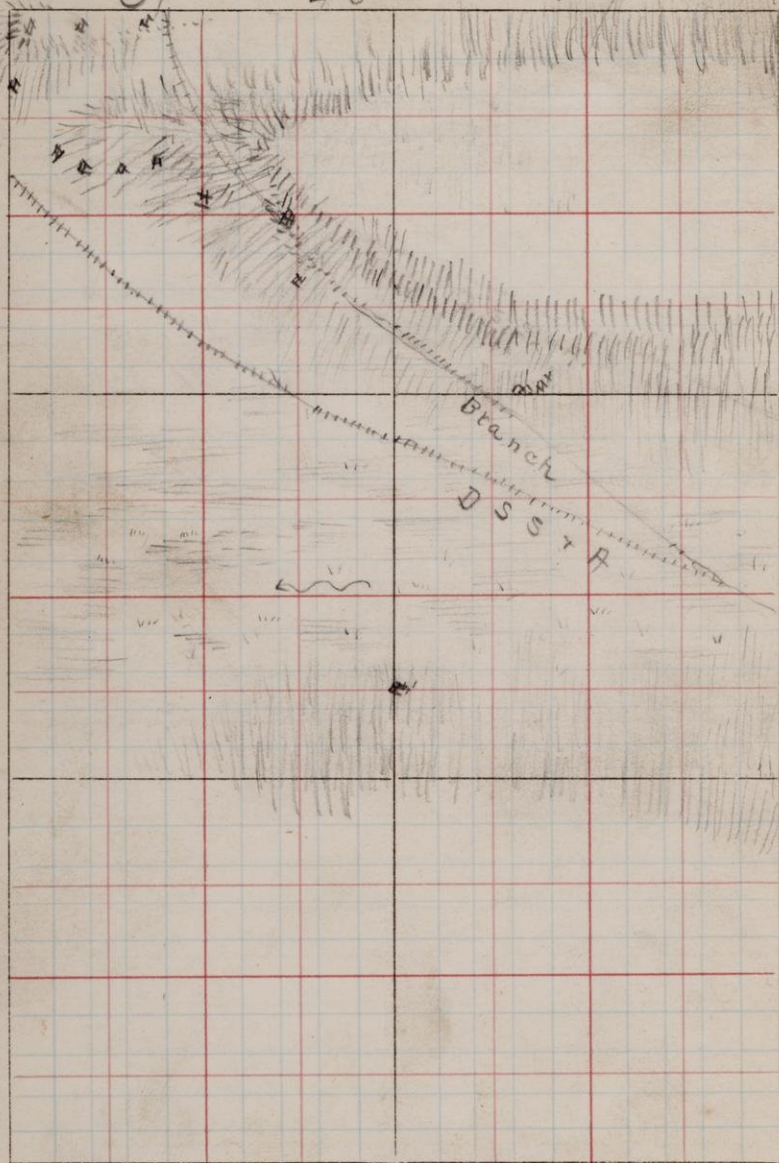
16718 500 N 11

NE. 1/4 31 T.

48

R.

20



16718 500 N 1120 N S.E. 31 48 29
Low exposure on north
side of slope from upper camp-
ion to D.S.S. & A. Ry.

16719 300 N 1500 N SE 31-48-29
Exposure on south-
slope of hill north of D.S.S. & A.
Ry.

16719b 625 N. 1670 N SE.- 31-48-29
Loose exposure on south-
side of mine branch D.S.S. & A
Possibly not in place
Same as 16718

16720 640 N 1750 N S.E. 31-48-29
Exposed in Ry cut

16721 Much of this cut shows

16722 distinct dip. on north end
of cut, 16721 is prevalent
structure more massive
Dip 80° S. Strike N. 80° N

16723 1000 N 2000 N S.E. 31-48-29

From west end of low
ridge showing several outcrops of
similar rock

16724 1000 N 1915 N SE 31-48-29

Good exposure at foot
of small knoll on which was 16723

16725 950 N 1825 N S.E. 31-48-29

From outcrops at west
end of bluff north of R.R.
tracks

16726 925 N 1800 N S.E. 31-48-29

On south side of bluff
north of D. 55 & Ry.
The whole bluff shows exposures
much like 16719 & 16726

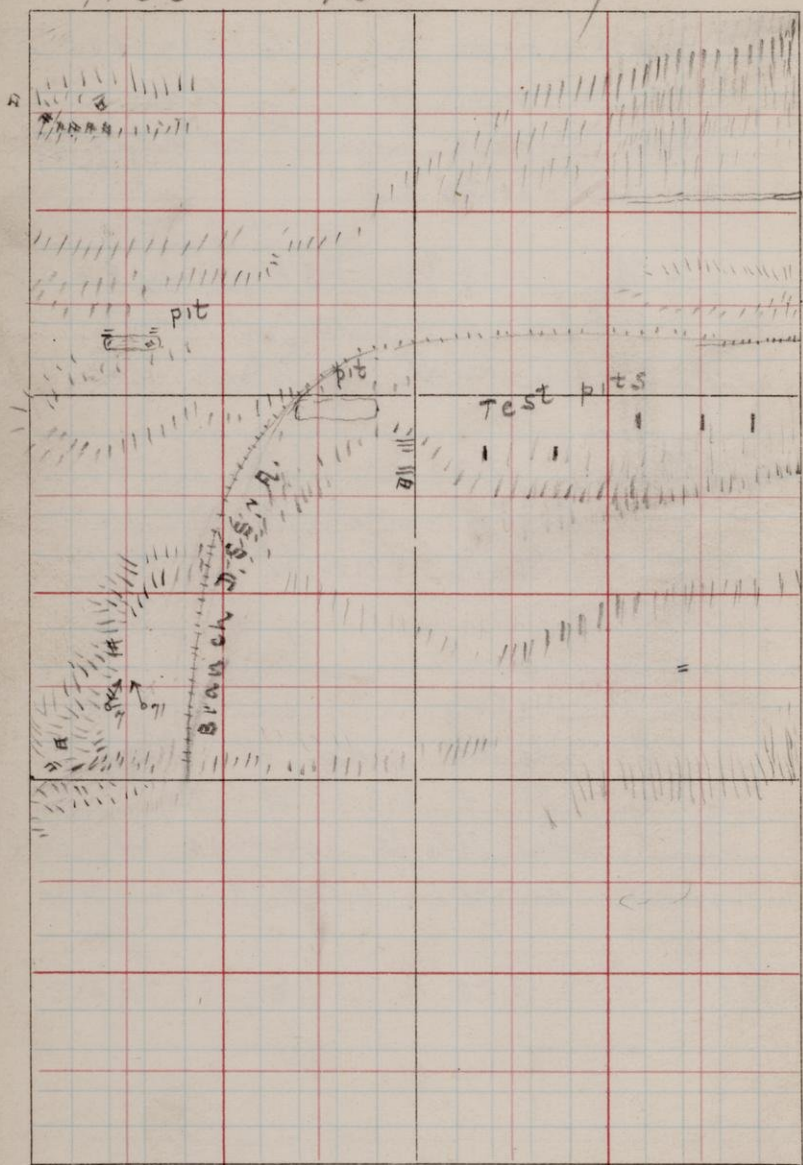
16727 875 N 1800 N SE 31-48-29

S.E. 1/4 30 T.

48

R.

29



16728 980 N 20 N S.E. 1/4 30-48-29

Long exposure of quartzite
on west side of hill north of
R.R. tracks.

16729 980 N 40 N S.E. 1/4 30-48-29

a conglomerate of pebbles
bedded in mica schist (same
as 16730)

16730 980 N 40 N S.E. 1/4 30-48-29

a mica schist containing
rounded stones probably pebbles
varying in size from 2" to 10"

16731 900 N 115 N S.E. 30-48-29

a quartzite through
which run layers of rock
such as 16732

16732 900 N 115 N S.E. 30-48-29

16733 900 N 140 N S.E. 30-48-29

Large exposure of schistose
rock ^{layers} very much twisted.

Dip 75 to 90° S
Strike S 80° W

Nos. 16728-33 do not appear again to the east on the same ridge except in the first 100 paces east from those located in sketch.

16734 150 W. 150 N S.E. 30-48-29

Small exposure, almost too small to observe accurately dip
Dip about 80° S Strike S 90° W

16735 950 W. 500 N S.E. 30-48-29

Exposed by old working
Dip 80° N Str. E & W.

16736 900 W 575 N S.E. 30-48-29

From N. side of open pit
Dip 90° N Str E & W

16737 825 W 575 N S.E. 30-48-29

From N. side of same pit at its east end

Dip 90° N Str E & W

16738 825 N 565 N S.E. 30-48-29

Exposed at the east end of the pit where working ceased.

Dip and strike about same as the slate with which it is in contact on the N. side.

16739 550 N 475 N S.E. 30-48-29

From the east end of large open pit water filled. No structure exposed here.

16740 500 N 425 N S.E. 30-48-29

low exposure.

Dip 30° N Str 10 N of N.

16741 500 N 400 N S.E. 30-48-29

Good exposure of quartzite in contact on north side with a 15 in. layer of pure quartz which is covered with a thick layer of schistose (16742)

16742

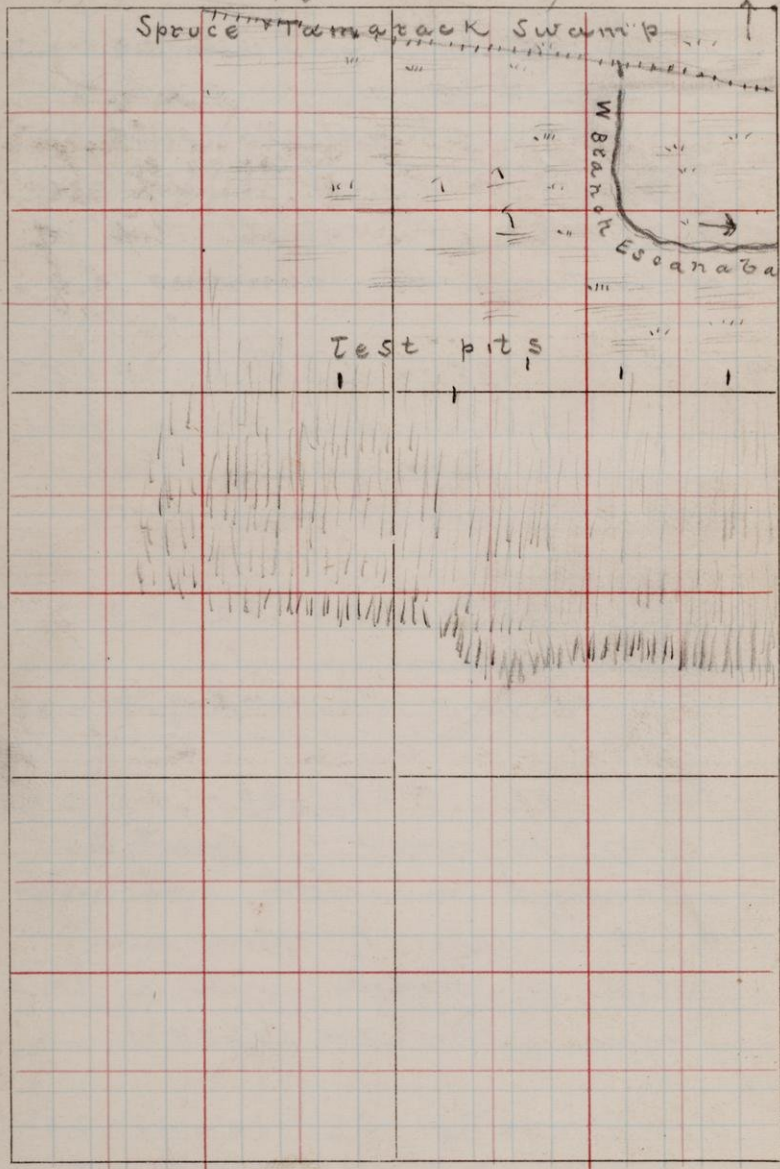
500 N 400 N S.E. 30-48-29

This layer is decidedly schistose
Dip N 75°; Str. N 80 N.

N.E. 1/4 30 T. 48

R. 29

430 pc
N to



part of granite bluff.

16743 95076 850 N SE 30-48-29

An exposure of quartzite
in different places for a length
of 50 paces to east and ^{into SW. 1/4 30} The outcrop is
on the south side on top of a
a small knoll running S. of N.

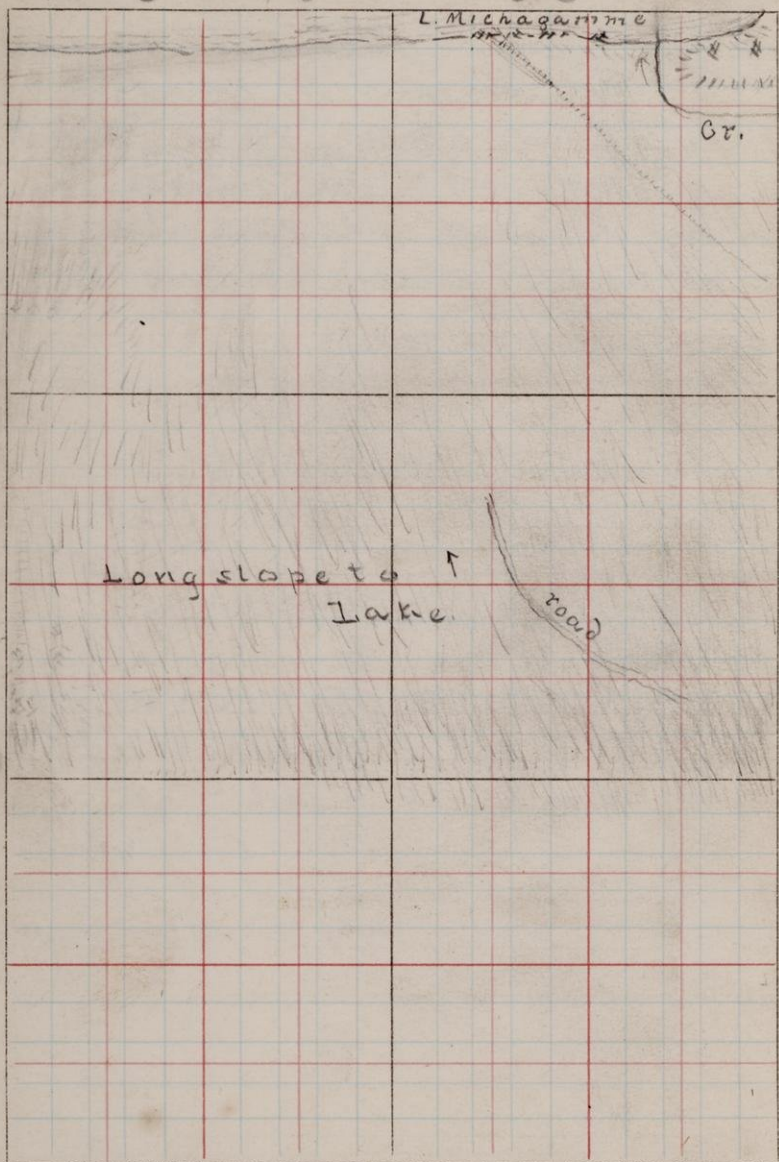
16744 00 N 2430 N S.E. 30-48-29

From foot of granite bluff
in S.E. 1/4 19 - 48 - 29.

16745 000 N 85076 SE 30-48-29

N.E. 1/4 36 T. 48

R. 30



16745 25 N 1950 N. SE 36-48-30

Exposed in old Ry cut
Exposed again at 1950 N 80 N

16746 250 N 1975 N SE 36-48-30

16747 From an exposure running
16 nearly east and west on
south shore of lake

16748 250 N 1950 N SE 36-48-30

From the south end of
the exposure to the lake. Thick grass
has been growing. This exposure is
on a gentle rise at the south
end of the lake. Disappearing and
reappearing at the north end
of the exposure of the lake.

16749 1950 N 1950 N SE 36-48-30

Exposed at the north end
of the exposure down passed by the
lake.

N. 21 1/4 36 T. 48 R. 30

LAKE MICHAGAMMA

A hand-drawn map on a grid of blue and red lines. The title 'LAKE MICHAGAMMA' is at the top. A horizontal line with hatching below it represents a shoreline. Below this, there are two main areas of hatching. The left area is labeled '21' and '12' with arrows pointing to specific hatched regions. The right area is also hatched but unlabeled. The bottom half of the page is mostly empty grid.

16748 1910 N. 1000 N. S.E. 36-48-30

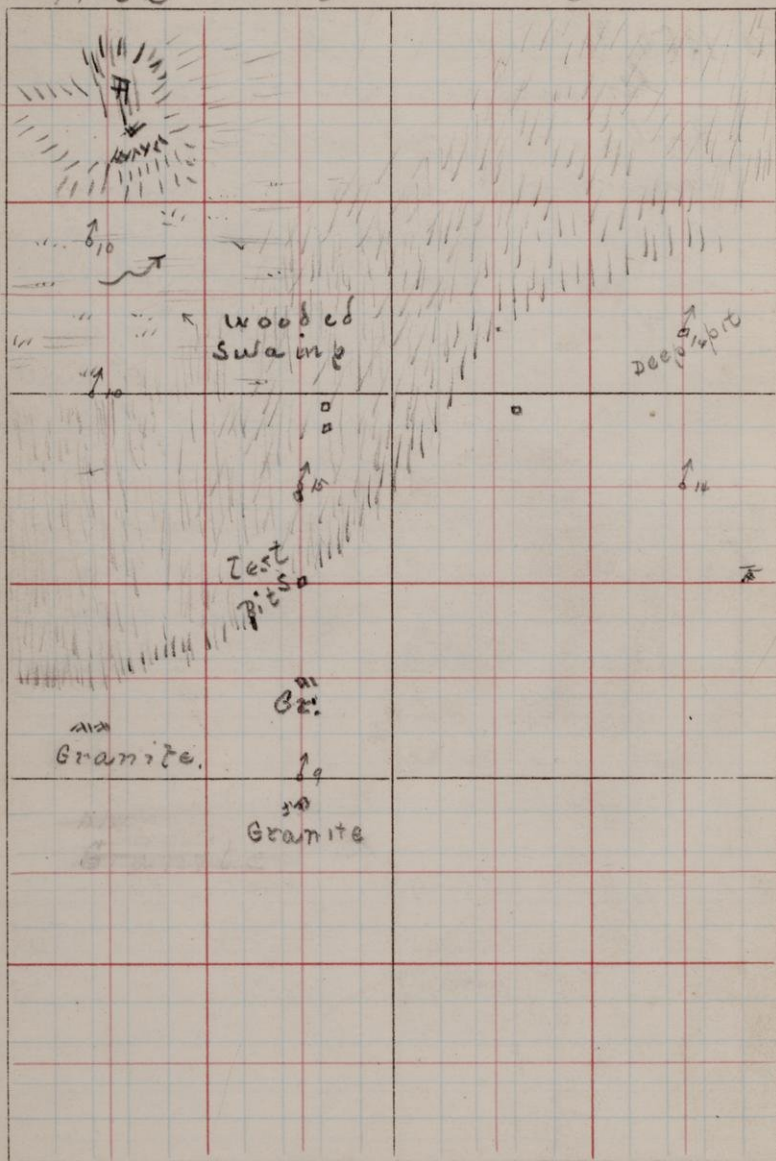
From south end of bluff running north and south to Lake Michagamnaa. These exposures of the same rock are quite numerous at the S. end of the bluff disappearing and cropping out again at the north end just south of lake shore

16749 1910 N. 1000 N. S.E. 36-48-30

Crops out at the north end of bluff sloping down rapidly to lake

S.N. 1/4 36 T. 48

R. 30



16750 1850 N 840 N SE 36-48-30

Greenstone from top of a knob. Same rock as is found on bluff running to the lake just north.

This knob was abruptly at 800 N and shows a great mass of this rock on its south face

16751 1900 N 65 N S.E. 36-48-30

From north side of the Granite range.

16752 1350 N 470 N S.E. 36-48-30

From an old test pit

16753 1050 N. 250 N S.E. 36-48-30

A Quartzite exposed on S. side of small knob.

Dip (4) N 80° Str. N.

16754 1150 N 370 N S.E. 36-48 30

Schistose rock cropping out
on south side of small knoll
~~Dep~~ Exposure is about 100 feet long
Dip N 70° Ste. S 80° W.

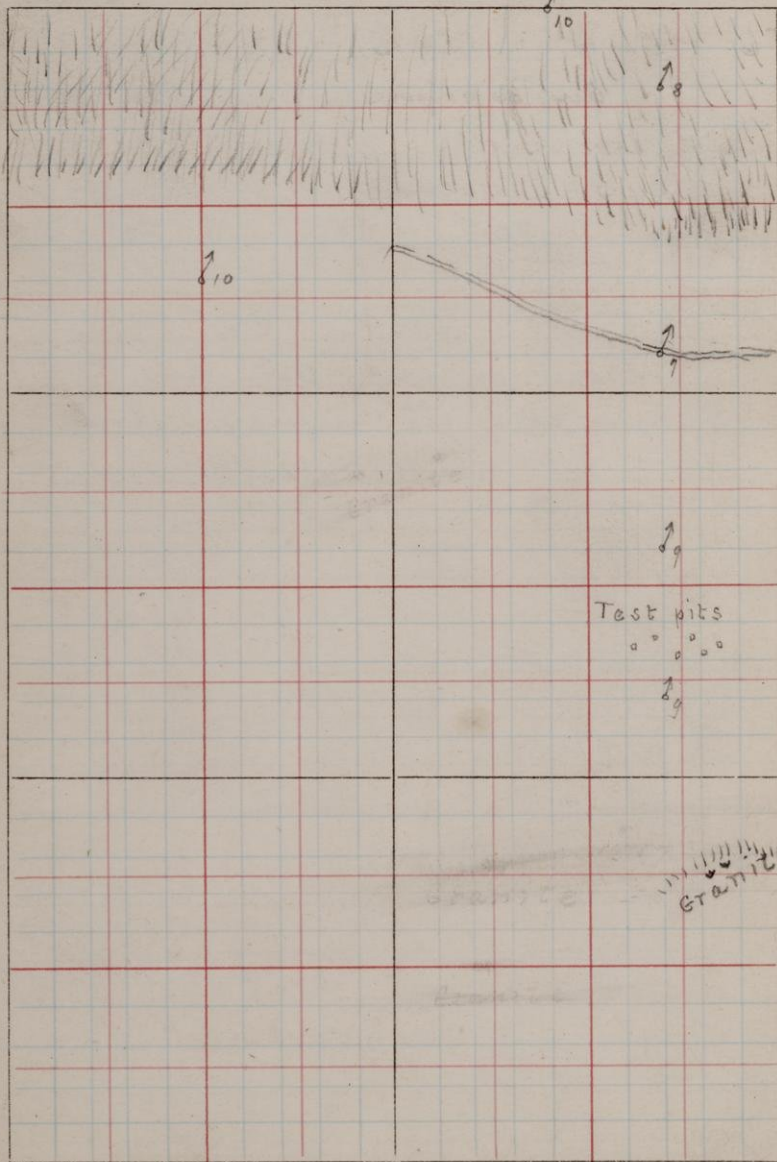
16750 1125 N 585 N S.E.

From a deep test pit
Nearly all the refuse about
the pit is the same rock

S. E 1/4 36 T. 48

R.

29



16756. 450 N. 550 N. S.E. 36-48-30.
An exposure on south side
of low knoll
Dip N. 70°. Str. S 80° N.

16757. 450 N. 550 N. S.E. 36-48-30.

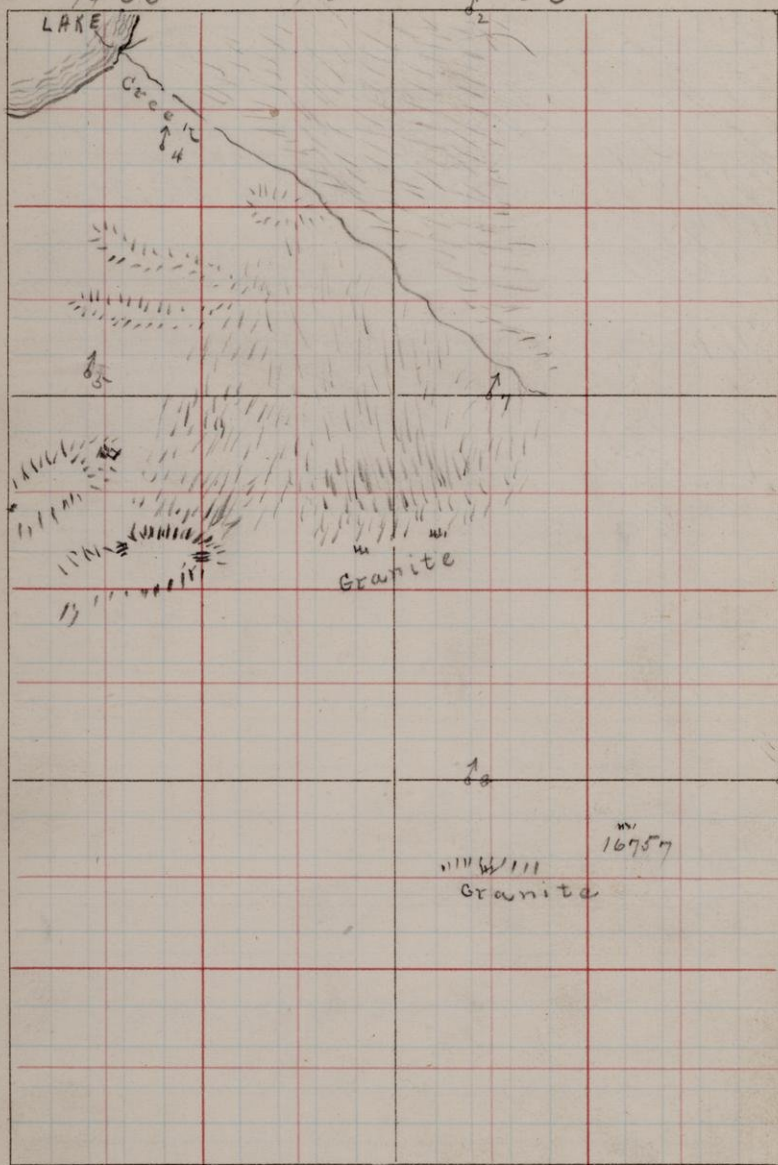
16758. 450 N. 550 N. S.E. 36-48-30.
Exposure of granite on N.
side of the knoll.

S.E. 1/4 35 T.

48

R.

30



16757 200 N. 1925 N. S.E. 2-47-30

16758 450 N. 325 N. S.E. 35-48-30

From northern boundary of granite range at the crown of bluff overlooking S. Michagamun from the south.

16759 900 N. 425 N. S.E. 35-48-30

A low exposure of granite at the foot of a small hill

16760 750 N. 300 N. S.E. 35-48-30

Mica schist (?) Exposed at east end of small hill running east & west.

Dip 65-70° N. Str S 75° N

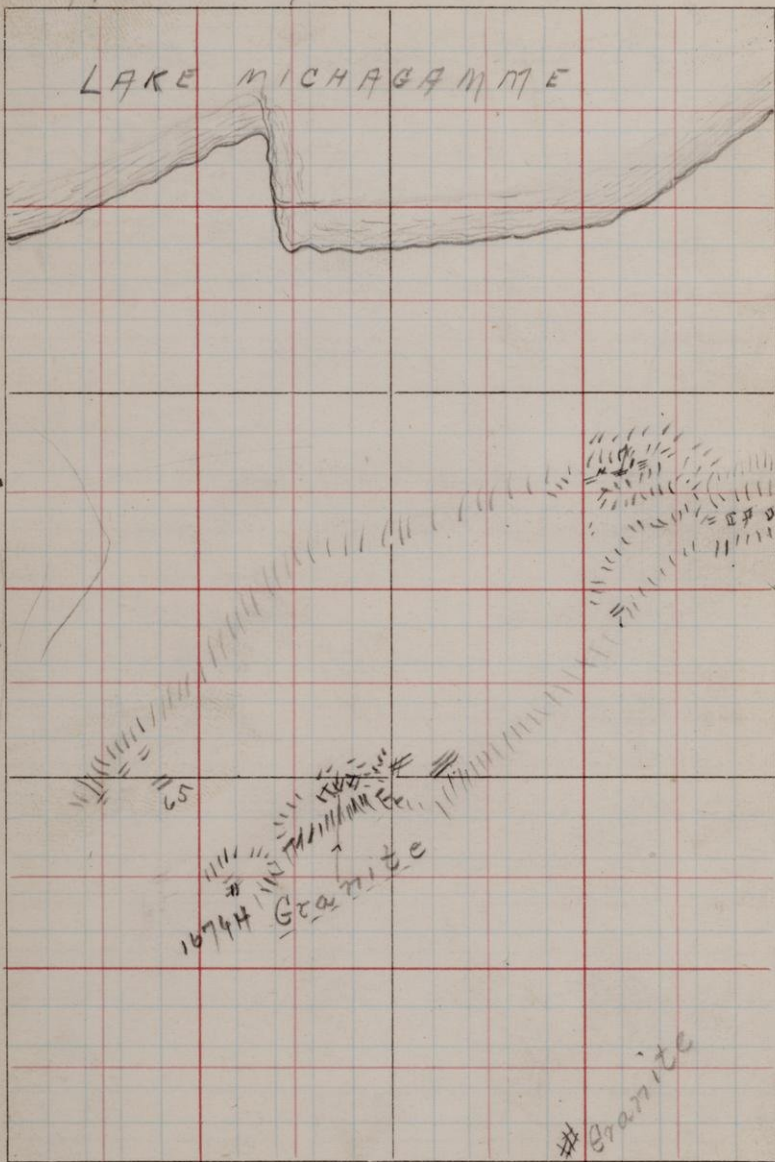
S. W. 1/4 35 T.

48

R.

30

LAKE MICHIGAN ME



16761 1000 N. 350 N, S.E. 35-48-30
on the top of east end of
small hill.

16762 1050 N 325 N SE 35-48-30
From the crown of a hill
running south of N
Dip N 70° approximately
Str. S of N.

16763 1200 N 400 N S.E. 35-48-30
Large exposure about 100 pcs long
Dip N. 60° Str. S.N.
Same rock crops out on south
side of bluff at 1200 N. 200 N.
also at 1428 N 0 N str. S.N.
Dip. 60° N

16764 1700 N 1850 N SE 2-47-30

Expose on a hill top
Granite exposures near toward
1600 N 0 N S.E. 35-48-30

16765 1800 N 0 N SE 35-48-30
also to the west 100 pcs. on the
N side of a hill running
N 45° N.

Dip N.W. 50° ? str S 45° W.

T.

SW
R.

NE

The Iron Mound about 1 mile north of the Falls has been tunneled, and shafts sunk, in several places (on the crown of the hill facing the town in 3 or 4 places, on the face next to the river, and trenches run on the north face in a number of places).

The rock taken out would I should judge not average 5% of ore remaining over 60% iron the remainder is a banded granitic rock carrying considerable iron, as indicated by the weight, and a banded silicious rock carrying more or less iron and similar to all the iron schists of this region, except perhaps in not being quite so hard.

As compared with the ores
of the Marquette and Menominee
regions I should consider them
worthless. The men running
the work expect to smelt an
ore carrying 35% of silica
as a maximum amount.

At one place for a distance
of 4 or 5 feet a somewhat richer
vein was ~~shown~~ seen. This
rock is shown in the richer
of the specimens sent. The
remainder of the ore is fairly
shown by the other specimens
taken from the ore piles near
the shafts and trenches.

On the whole I saw nothing
that I thought would
warrant the erection of

a furnace and the preparations
made for reducing this rock

100
37
83

16
30
72

500
12
37

100
16

37/100

1320

100/100

53

17

