



# **Michigan land and Iron County's land, Northern Michigan: [specimens] 16896-17049. No. 88 1889**

Merriam, W. N.

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

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U. S. GEOLOGICAL SURVEY  
FIELD SECTION BOOK

No. 88

1889

Michigan Land & Iron Co's. Land.  
Northern Michigan.

A. N. Merriam.

16895-173447

Aug 24 89

## 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 lines 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  $2 \times 2\frac{1}{2} \times \frac{3}{4}$  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 § 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.

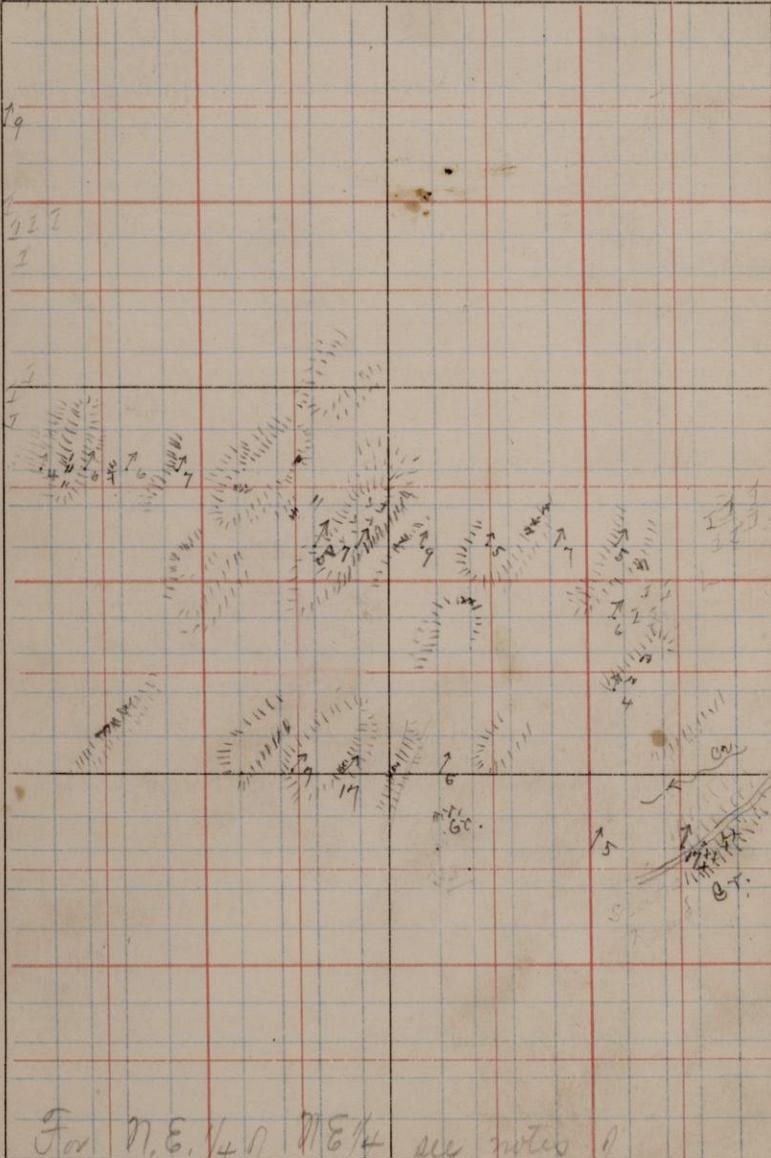


NE  $\frac{1}{4}$  3

T.

47

R.



For N.E. 1/4 of N.E. 1/4 see notes

H. H. Miriam

16896 1400 N 920 W SE 3-47 -30  
From a ridge at swamp's edge  
Dip about  $45^{\circ}$  ( $N 70^{\circ} W$ ). Str  $N 20^{\circ} E$

16897 1400 N 890 W SE - 3-47 -30  
From low land just below ridge  
to west

16898 1400 N 690 W SE - 3-47 -30  
From south end of ridge  
Same rock, 75 pfs to  $N E$  also  
at 75 pfs to  $S E$ .  
Str. at last place about  $N 20^{\circ} E$   
Dip  $45^{\circ}$  ( $N 40^{\circ} W$ )

16899 1300 N 600 W SE - 3-47 -30  
This buff. as marked in plat  
is all rock like specimen

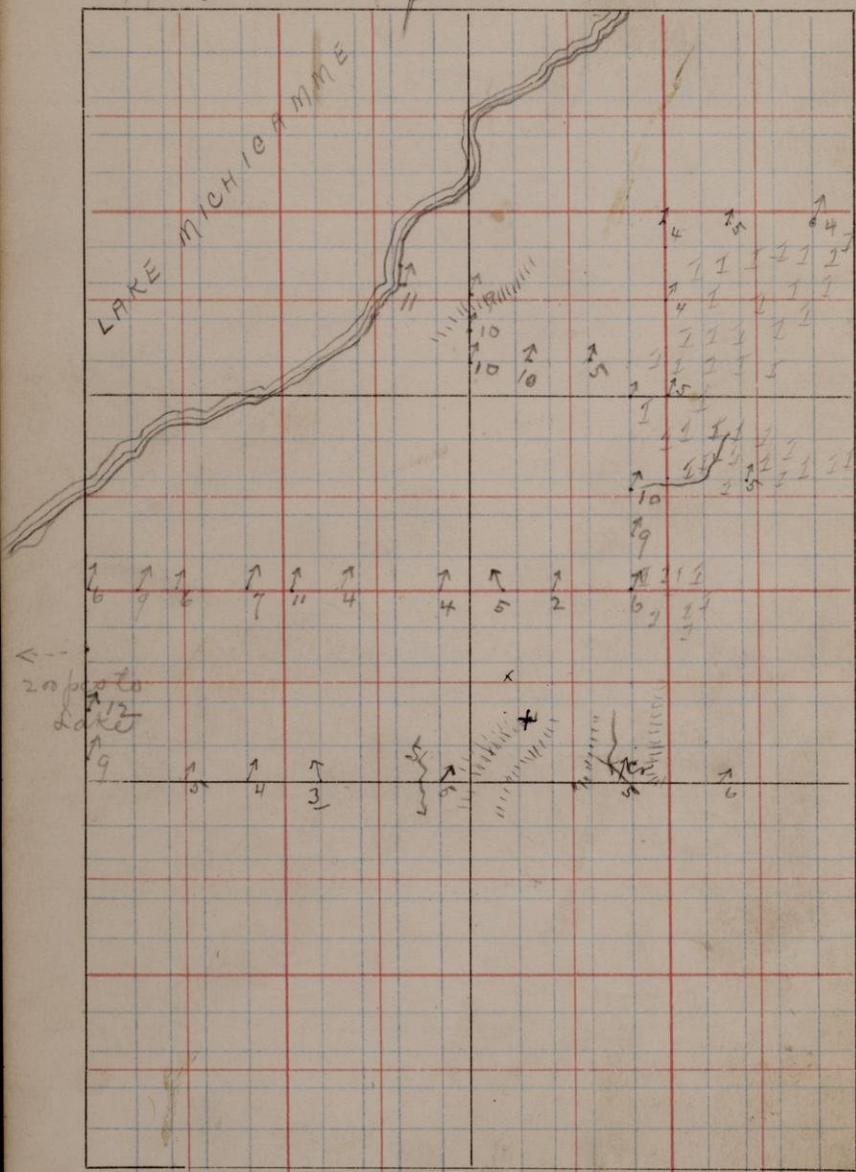
16900 1250 N 300 W SE 3-47 -30  
E. side of ridge  
Dip  $45^{\circ}$  ( $N 40^{\circ} W$ ) Str  $S 20^{\circ} W$

T.

47

R.

30



16901 1100 N 250 W SE - 3-47-30

16902 900 N 75 W SE - 3-47-30

16903 } 875 N 125 W SE 3-47-30  
16904 }

These two specimens are from  
sand mass and seem much  
mixed in the outcrop.

16905 1020 N 586 W SE 3-47-30

16906 1020 N 600 W SE 3-47-30

Dip about  $45^{\circ}$  N. W. Str. S 30 W  
Also at 1000 N. 850 W. mixed  
with granite.

16907 1100 N 1430 W S.E. 3-47-30

From n. side of ridge

16908 About 900 N 125 W SE - 4-47-30

at water's edge lake  
Michigan and me

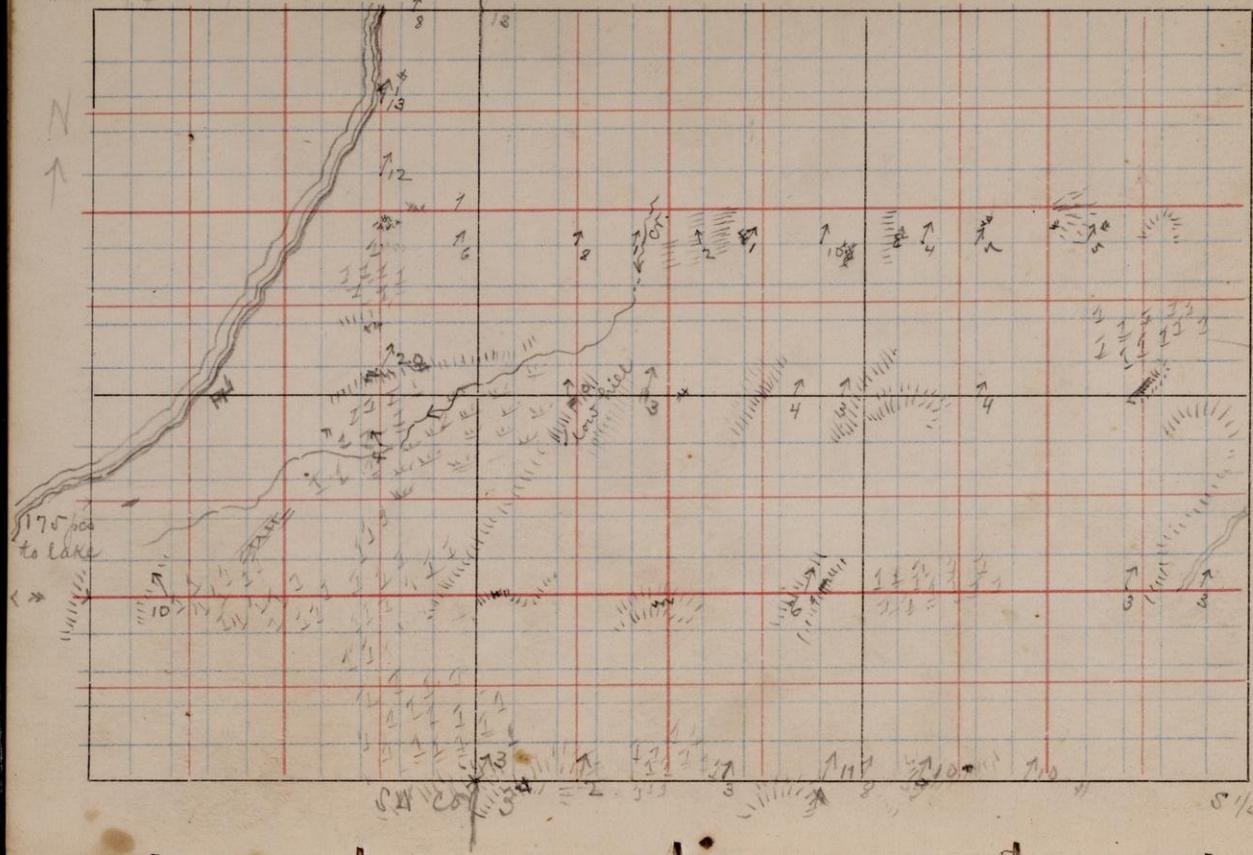
S.E. 11 4-47.30

T. E. + H. H. S.

三

५८

8 1/4 Post



16909 900 N 0080 W 58' 4-47-30  
 Just E of 16908 Exposed  
 in small cut of old Ry.

16910 680 N 125 W, 58' - 4-47-30  
 Low exposure of green stone  
 in low ground about 100  
 from lake shore. Also at  
 50' from N. W.

11

16911 700 N 165 W 58' 3- 47-30  
 Exposed on low hill top.

16912 700 N 1525 W 58' 3- 47-30  
 Rock looks to be in place

16913 700 N 1450 W 58' 3- 47-30

16914 720 N 1300 W 58' 3- 47-30

16915 700 N 1250 W 58' - 3- 47-30  
 at end of ridge  
 also at 700 N 1175 W

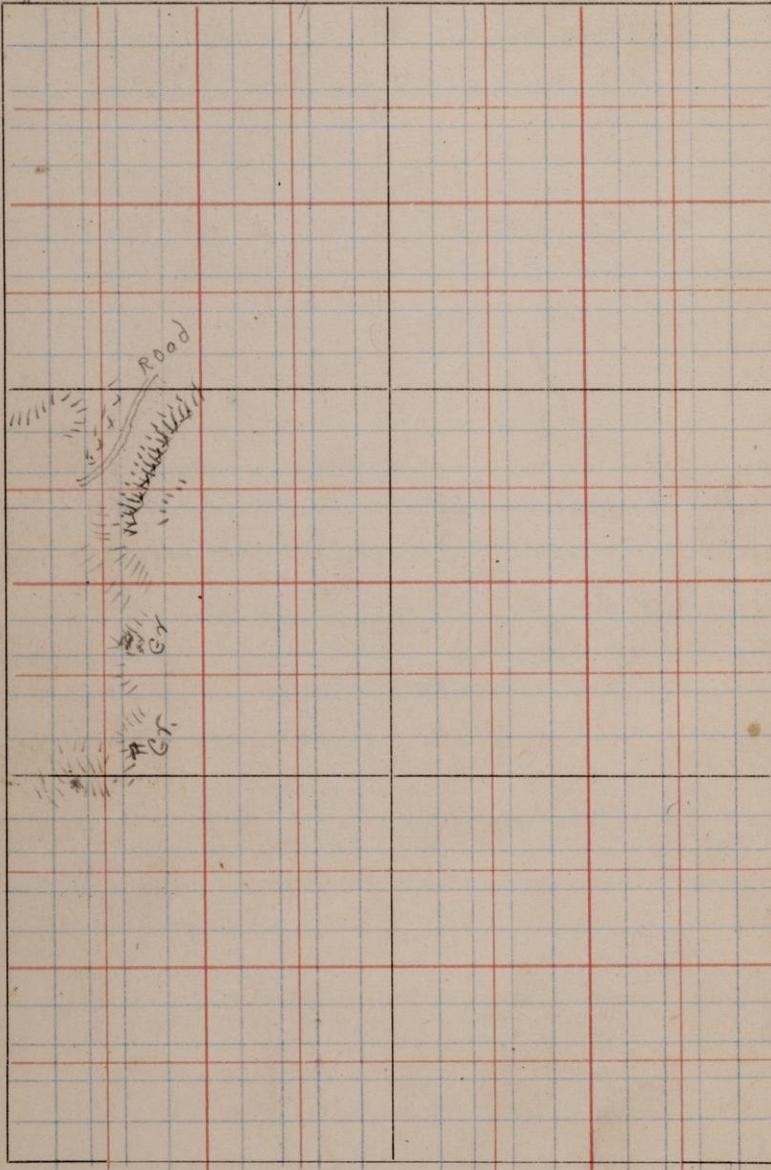
S 8 1/4 3

T.

47

R.

30



16916 700 N 855 W S E - 3 - 47-30  
 From N.W. side of ridge which  
 strikes N 30 W

16917 700 N 855 W S E 3 - 47 - 30  
 Just below 16916 and on N.W.  
 side and dips about  $45^{\circ}$  N.W.  
 Same 225 pcs north at  
 south end of big ridge.

16918 600 N 130 W S E 4 - 47 - 30  
 Exposed on edge of swampy  
 land

16919 550 N 140 W S E 4 - 47 - 30  
 From south slope to swamp  
 Same rock about 100 pcs S.W.  
 also 50 pcs east  
 at last place dip & str was  
 observed to be about  
 $45^{\circ}$  N &  $570^{\circ}$  W respectively

16920 1883 N 500 N S E 3 - 44 - 30  
 From west slope to swamp.

16921 500 N 1780 W S E 8 - 47 - 30  
 also at 510 N 1720 W

16922 520 N 1120 W SE 3-44-30  
 Dip about 50° N.W. str N.E.

16923 400 N 800 W SE 3-44-30  
 From granite bluff exposing  
 rock 45 feet high

16924 200 N 1540 W SE 3-47-30

at 500 N 1730 W and  
 500 N 1968 W are ledges  
 of rocks like 16921

16925 225 N 640 W SE. 4-47-30  
 Str nearly N. Dip 45° N.

16926 About 250 pds. n. of south sec.  
 line of 4, on old R.R. near  
 lake.

16927 About 500 N. of S. sec. line of 4  
 on old R.R.

16928 About 325 pds N. of south sec line of 4  
 Long ledge at edge of swamp  
 within 50 pds of old R.R.  
 Dip about  $30^{\circ}$  N. N.  
 Str S.W. (?)

16929 0 N 1950 N SE 3-47-36  
 From N N slope of high  
 bluff south east of S.N. cor 3

16930 1950 N 1600 N SE 10-47-30  
 Exposed for 100 ft of SE side  
 of hill. Dips high to SW

16931 2000 N 1455 N SE 10-47-30  
 High & large exposure  
 Most of rock more of  
 gunstone than the specimen

16932 2000 N 1370 N SE 10-47-30  
 Rock like 16930 at 0 N 1200 N  
 SE. S - 47 - 30.

16932 1800' N 900' N SE 10 - 47-30

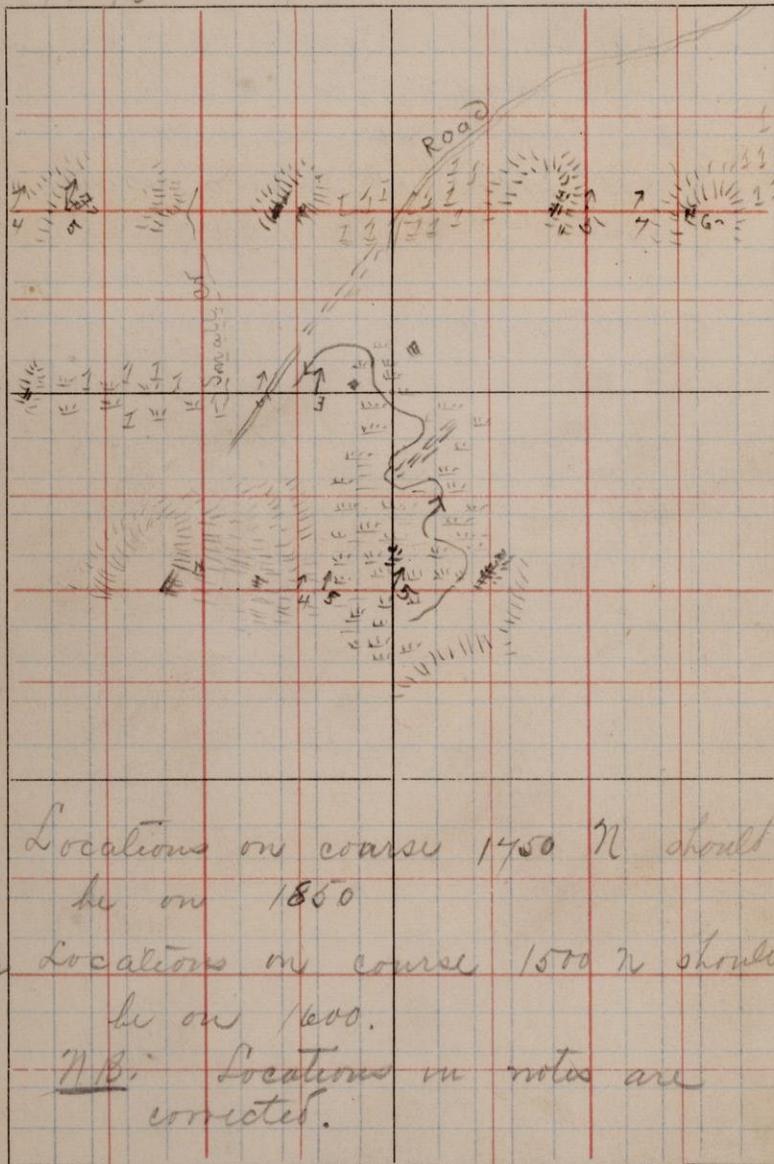
Dip about 45 N. N. E.

This rock appears on granite bluff,  
mixed right in with coarse  
granite - in some places appear-  
ing to be distinct from each  
other in some place in close  
contact

77 1/2 10

T. 47

R. 30



On east side of bluff at  
1850 N 1260 W are numerous  
ledges like 16982 dipping  
about 45° N W striking S N W.

16983 1850 N 1613 W SE 10-47 -30

16984 1865 N 1647 W SE 10-44-30  
Dip about 45° N W Str S W  
5 m N W side of hill at top

16985 1860 N 1922 W SE 10-47-30  
on the top of hill

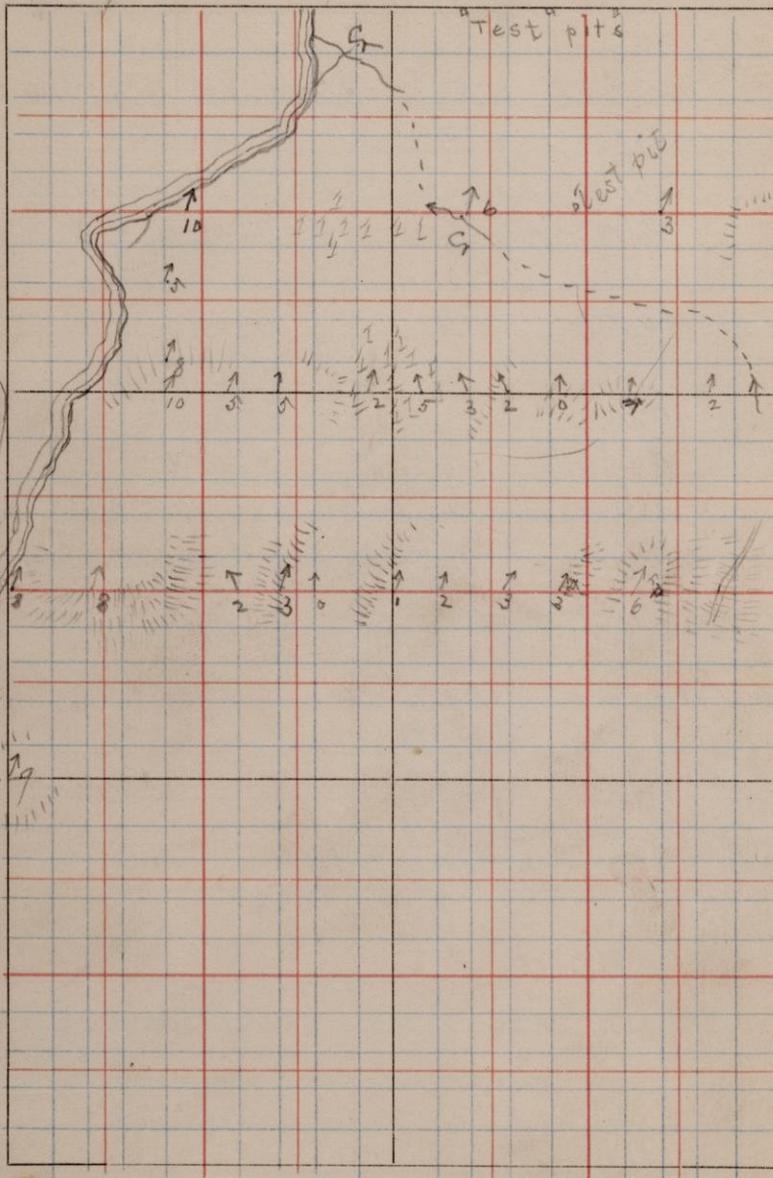
7.8.14 9

T.

47

B.  
1.

30



16936 1600 N 198 W SE 9-47-30

16937 1600 N 198 0 W SE 10-47-30

Just at edge of low marsh  
land

16938 1500 N 1500 W SE 10-47-30

dip 45° N N SW S W

at west side of marsh near  
creek. Ledge 250 ft. long just  
S E 100 fcs.

dip 45° N N SW S W

16939 1250 N 1400 W SE 10-47-30

Granite exposure at east  
end of marsh

also at 100 fcs west

16940 1250 N 1483 W SE 10-47-30

on east side hill

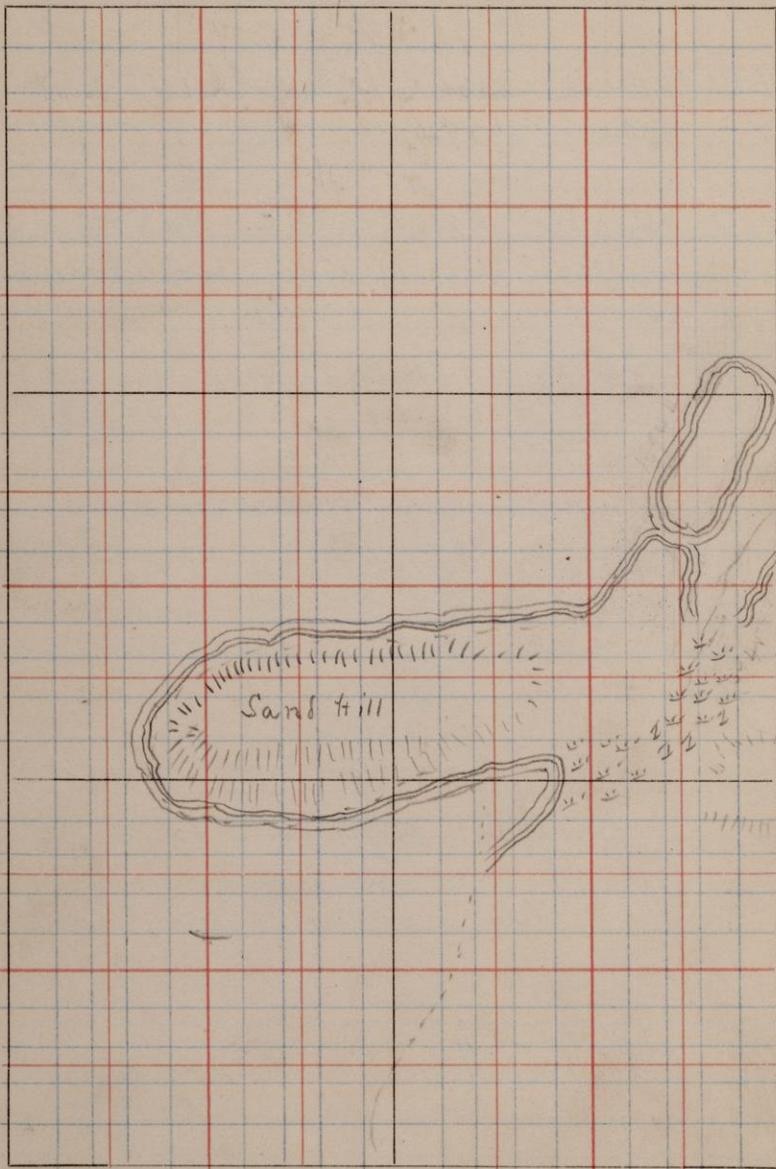
27/149

T.

47

R.

30



16941 1250 N. 1800 N. SE 10-44-30

From east top of hill just  
above 16940

Dip about  $45^{\circ}$  N. SE N + S.

16942 1250 N. 140 N. SE 9-44-30

From top of bluff  
Same observed on bluff just  
to west.

16943 1250 N. 1000 N. SE 9-44-30

16944 About 1400 N. 1200 N. SE 9-47-30

From west side of point at  
water's edge. Dips about  $45^{\circ}$  N.

16945 About 1200 N. 1050 N. SE 9-47-30

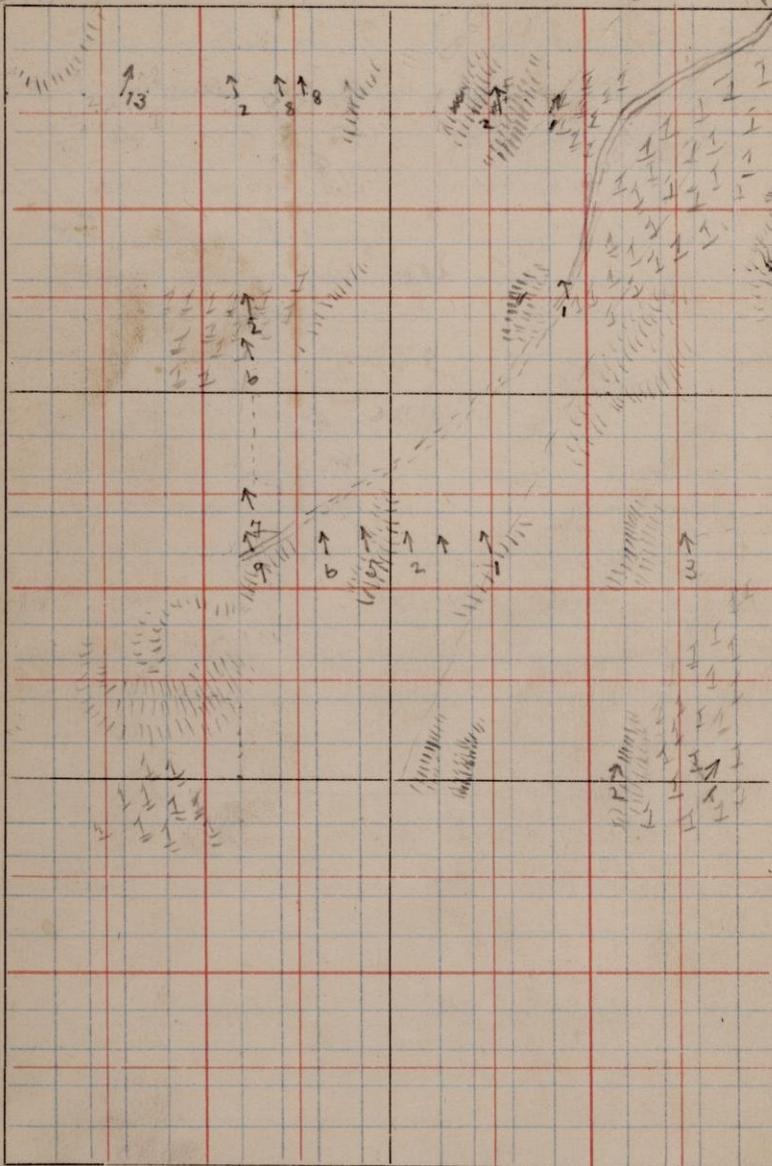
Dip  $45^{\circ}$  N. SE N + S nearly

T.

R.

36

2000



16946 4850 N. 420 W. S.E. 9-47-30

granite like - observed to be about 150 ft. long and 30 feet of bare rock. This ledge is near the foot of the hill at the top appears

16947 908 N. 350 W. S.E. 9-47-30

This is from top of the hill below which is granite like

16946

16948 925 N. 350 W. S.E. 9-47-30

Just north of 16947 & appears to be in contact with it

16949 670 N. 0 W. S.E. 9-47-30

From top of hill

at. 620 N/950. W. S.E. 10-47-30

on top of hill is rock

like 16947

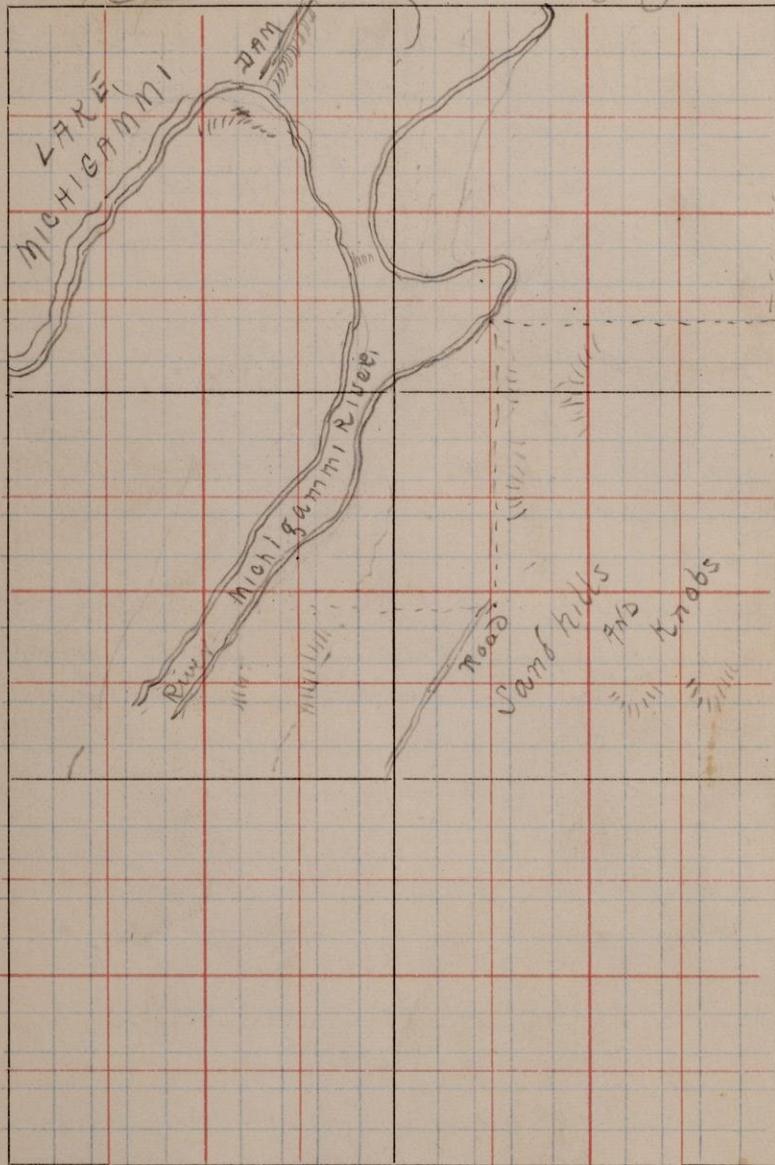
S. 2189

T.

47

R.

30



16950 6257 350 N. SE 9-44-30  
From hill ~~running~~ near top on  
east side. Rock like  
16947 is found on the top

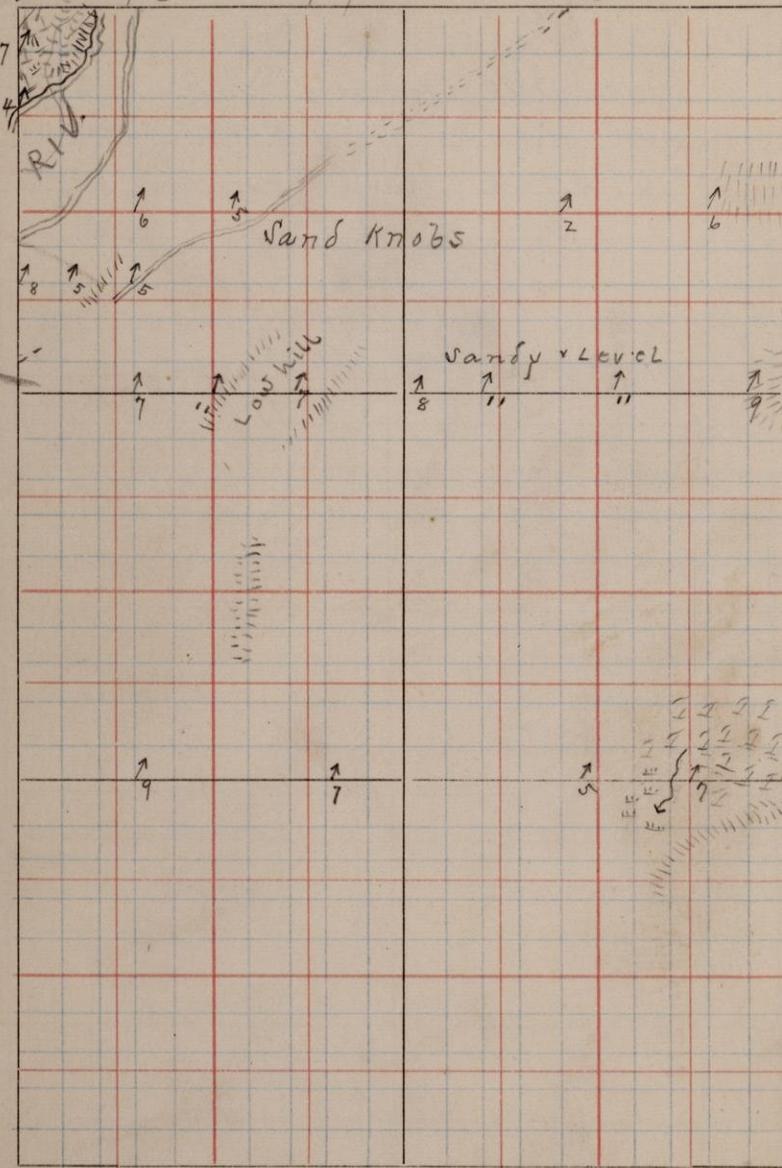
16957 Near south end of dam as  
marked on opposite page

11. 11 1/4 16 T.

47

R.

30



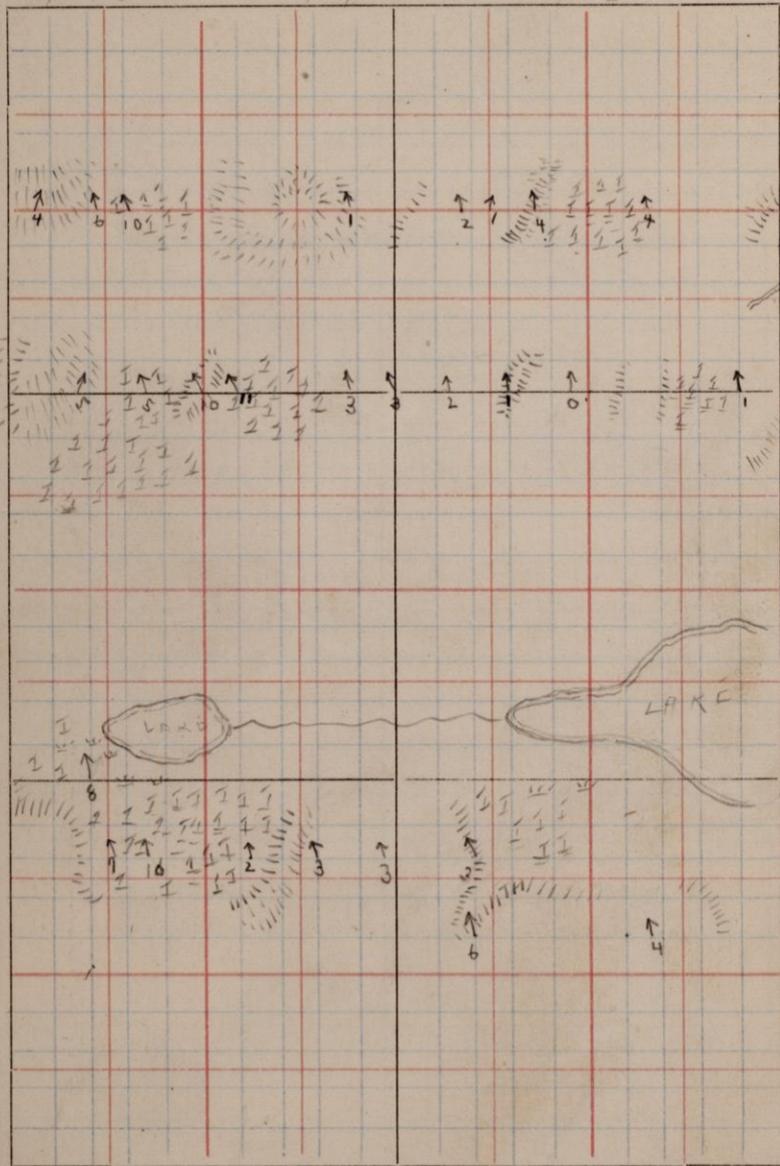
N.E. 1/4 16

T.

47

R.

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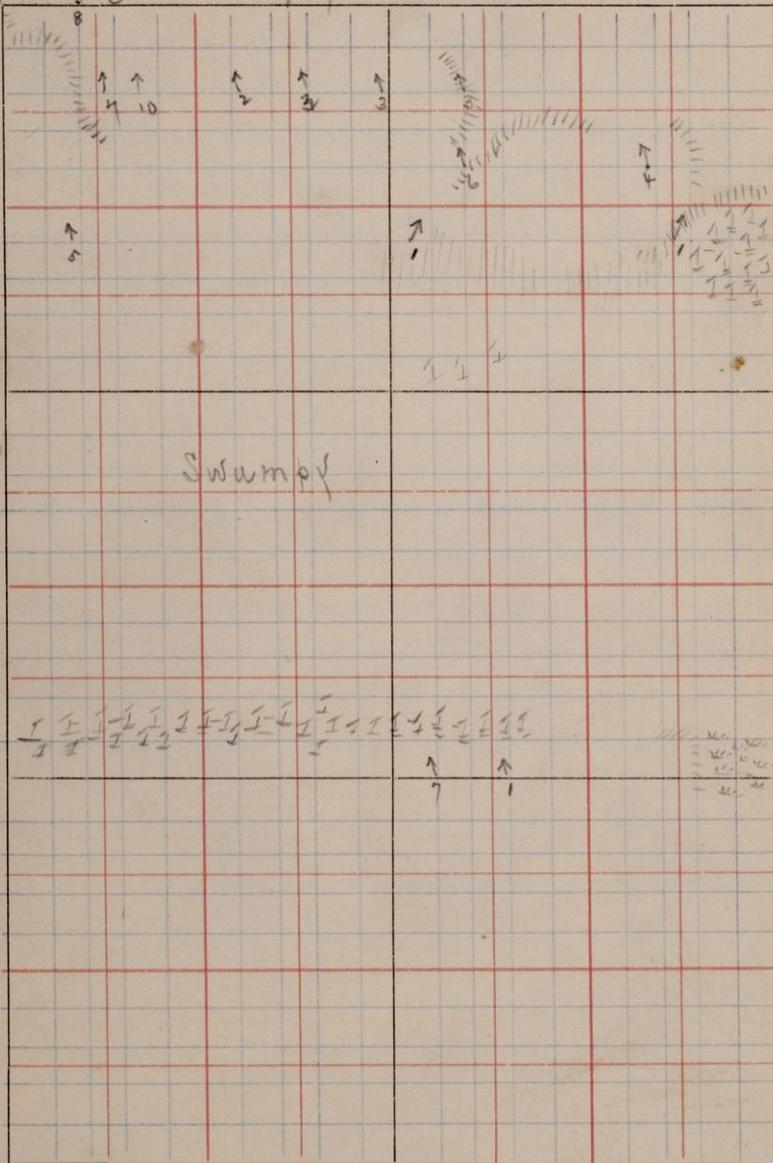
SE 1/4 16

T.

47

R.

3c



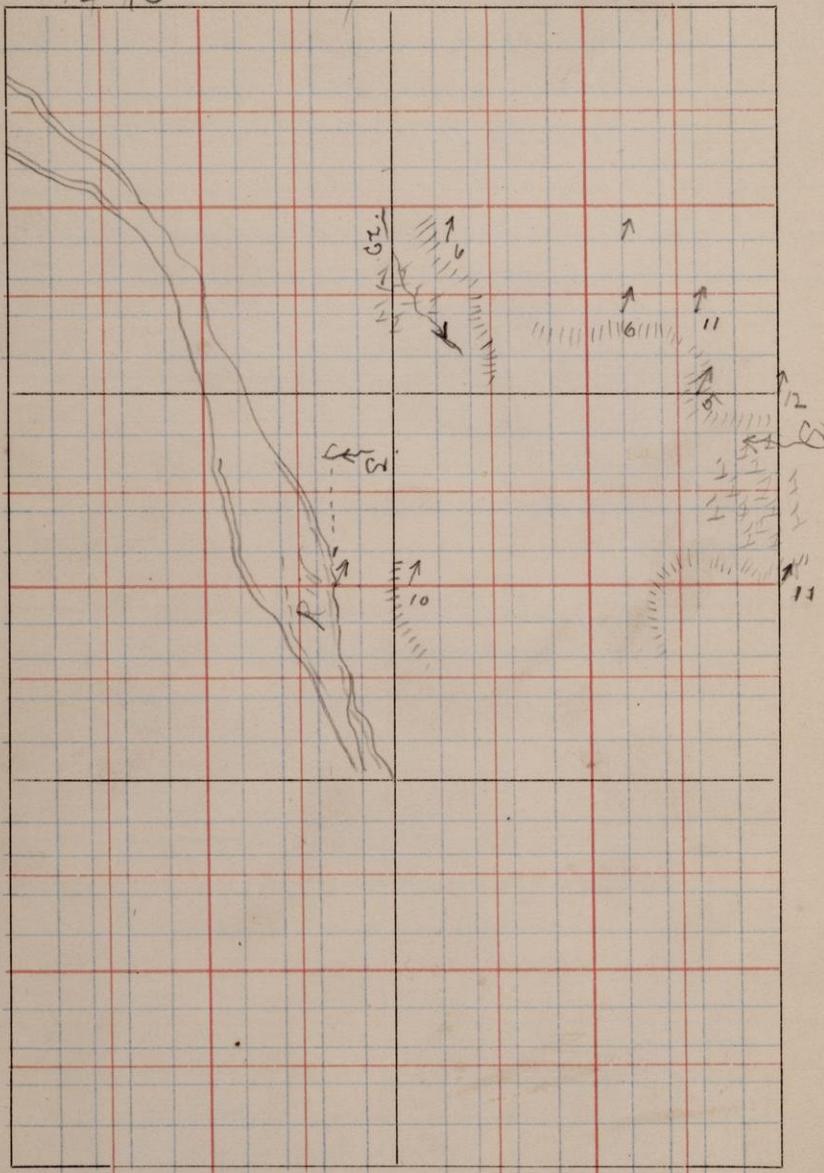
1695-2 about 1000' N. of N. SE 16-47-30  
Near quarter post and small  
lake as marked on plat of  
NE  $\frac{1}{4}$  16

S N 1/2 16 T.

47

R.

30



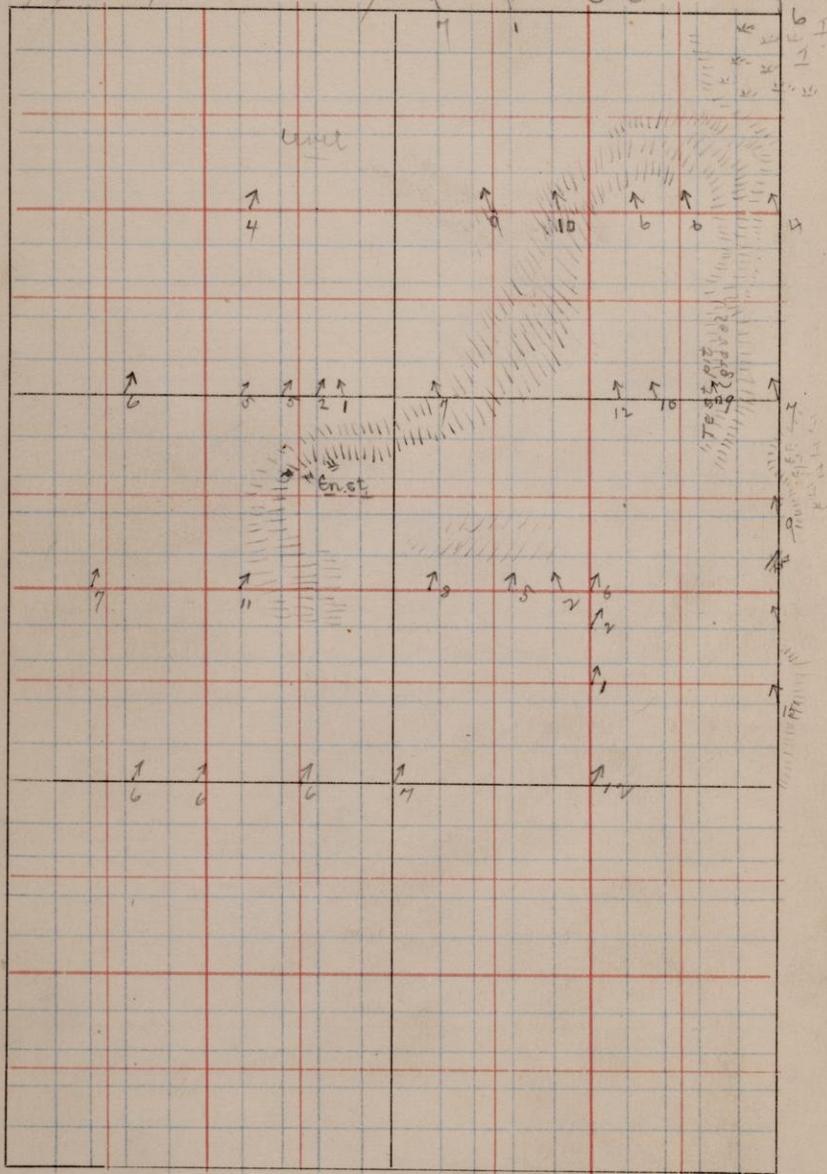
78 1/2 21 T.

47

R.

30

1485



16953 900 N. 0 W. SE - 21-47-30

From a low exposure  
which has been worked in  
a small way. Pit is  
water filled & depth could  
not be observed but refusal  
pile shows same rock all  
through

Dip 67° (560° N) - Str. N 30° W

Variation just at pit is  
43° N.

16954 1292 N 0 W. SE 21-47-30

Dip about 40° N. N. Str. S. W.

Rock like 16955 lies right  
under this to the S.E.

16955 1292 N 0 W; SE 21-47-30

16956 1400 N, 700 W. SE 21-47-30

From north side of bluff  
at top.

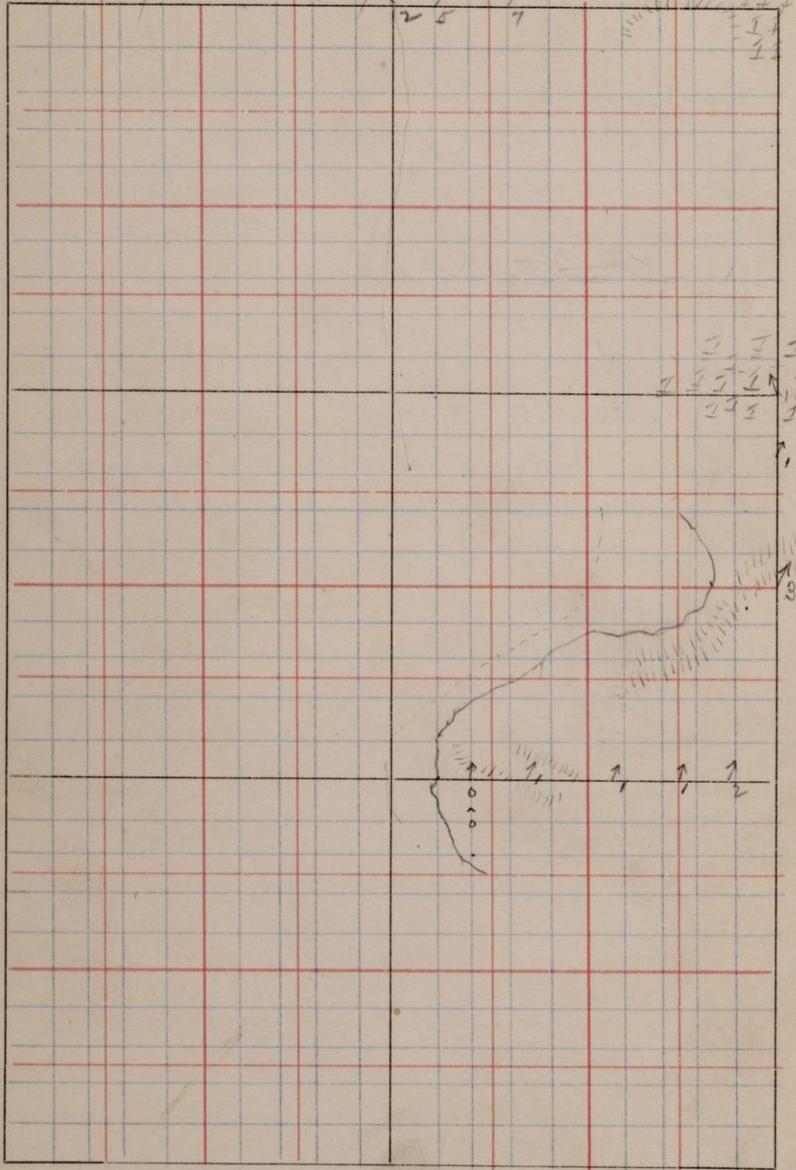
77 7/421 T.

T.

47.

R.

30



16957 915 N 250 W SE - 21 - 47 - 30

From knoll on top of bluff

Also at

858 N 275 W

16958 712 N 300 W SE 21 - 47 - 30

From a ledge on SW side  
of bluff near top.

Also at

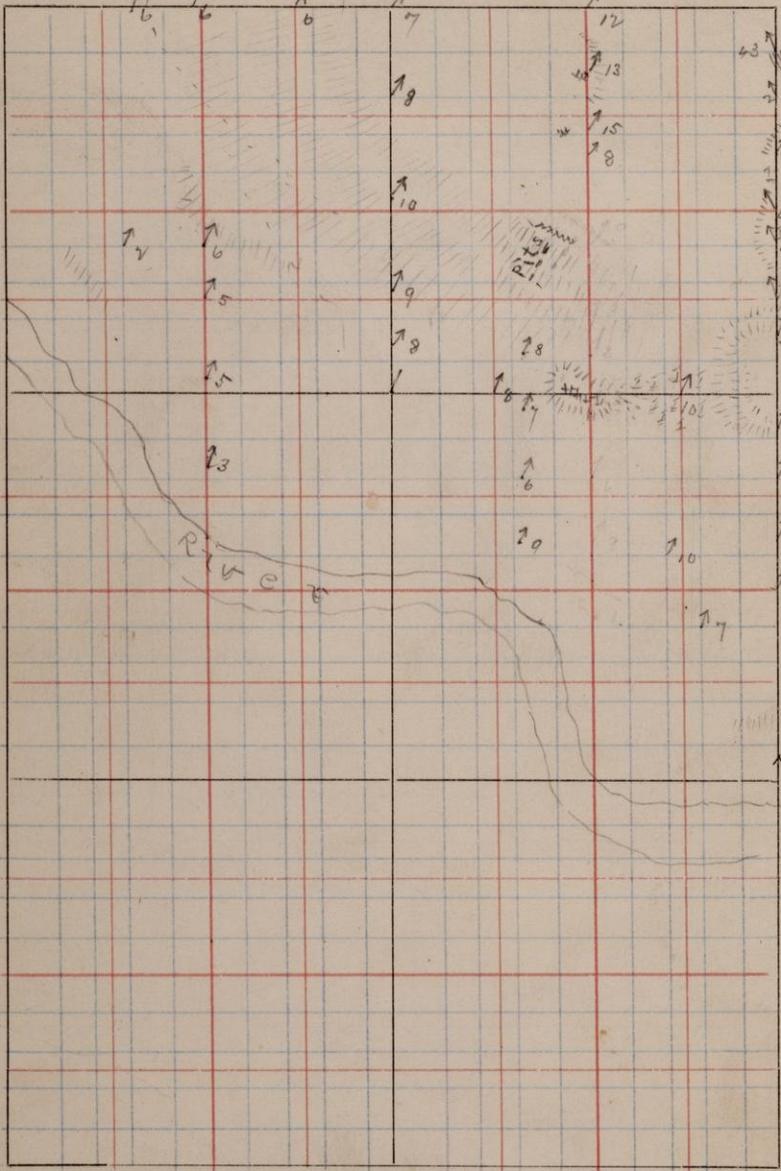
500 N 200 W on knoll

SE 1/4 21 T.

47

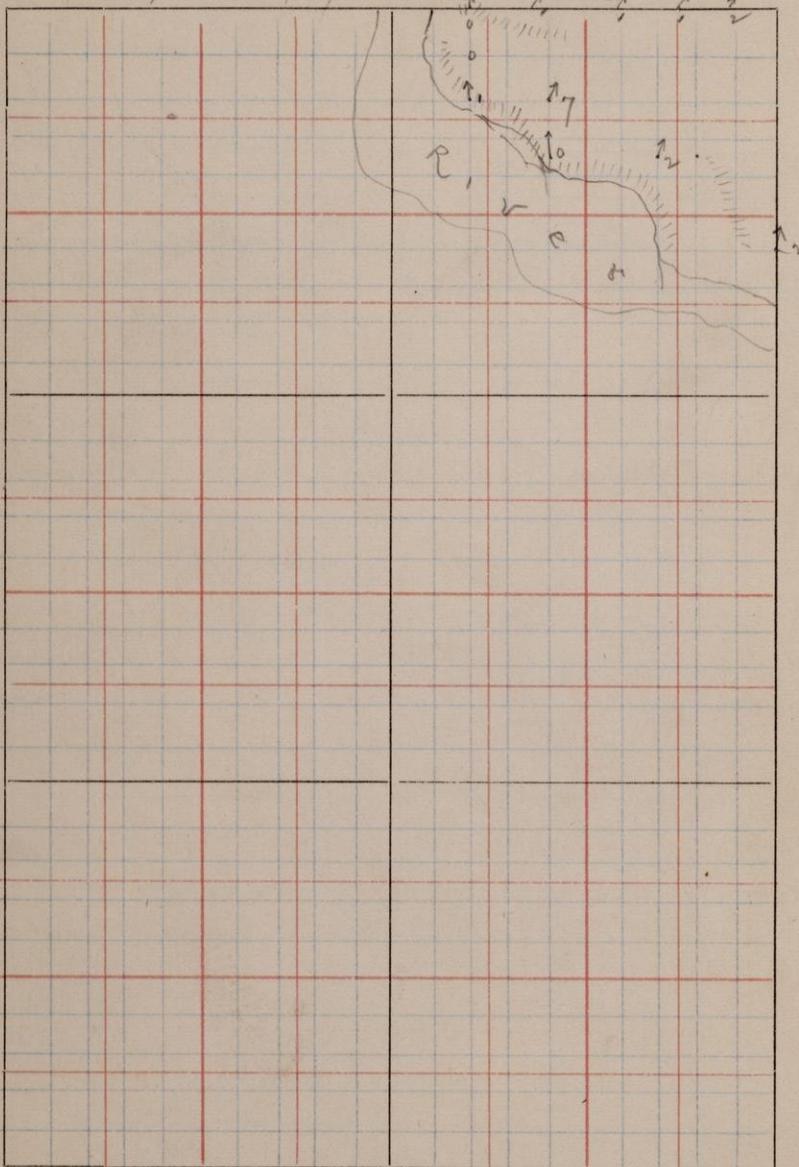
R.

30



SW  $\frac{1}{4}$  21 T. 47

R.



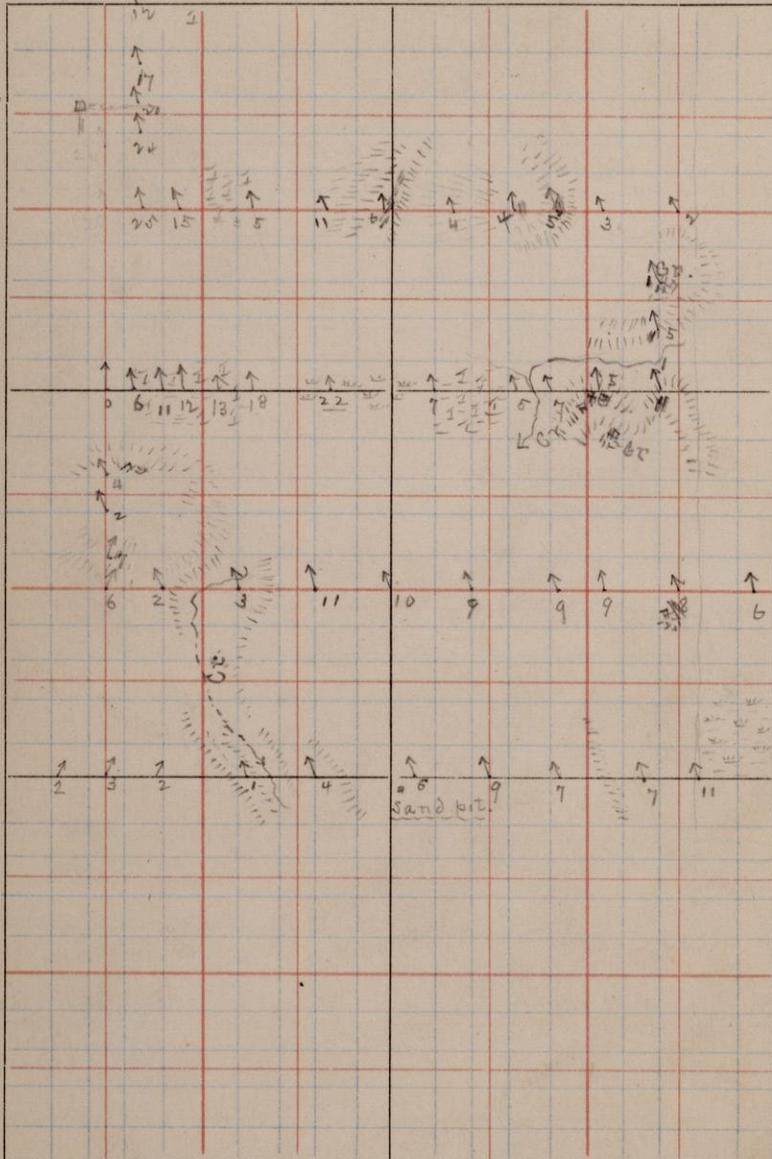
S. N. 1/4 22

T.

47

R.

30



16959 75° N. 825° W. S.E. 22-47-30  
 Dip (N 80° W) Str S 10° W  
 Also at 840° W 100° N  
 Dip & Str same as 16959

16960 25° N 775° W S.E. 22-47-30  
 Granite on low ground

16961 75° N 825° W S.E. 22-47-30  
 Just under 16959 on S.E. side &  
 seems to merge into it.

16962 225° N 1125° W, S.E. 22-47-30  
 Dip 60° (S 50° W) Str (S 40° E)  
 Between this and 16963  
 is granite. The three rocks  
 are in one mass

16963 200° N 1125° W S.E. 22-47-30

N.W. 1/4 22 T. 47 - R. 30. - 1428  
4n

1

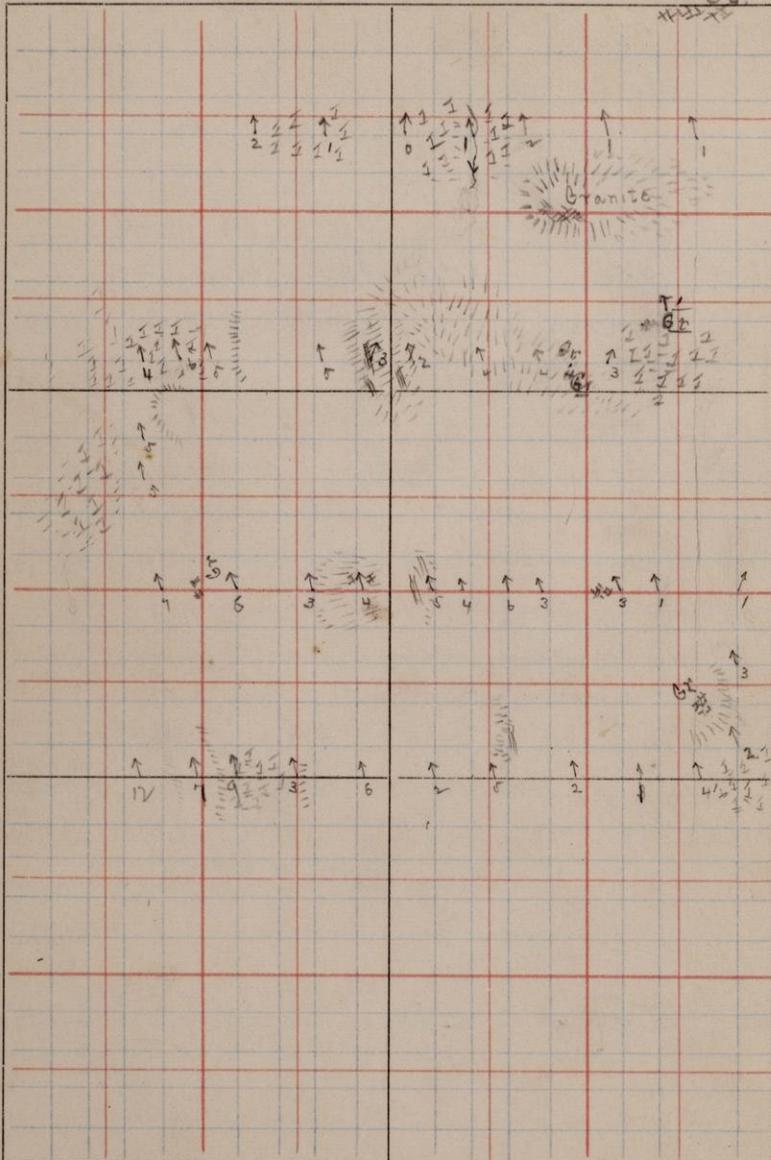
47. -

R<sub>u</sub>

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7. - 14/26

62



16964 4207N 1870W SE 22-47-30  
From N side of hill

16965 5007N 1388W SE - 22-47-30  
From n. side of hill  
Coarse gr. stone on S.W. side  
of this exposure

16966 4407N 1375W SE - 22-47-30  
From same mass with 16965  
also 75 fcs east.

16967 5007N 1140W SE 22-47-30  
From N. side of hill  
Much granite is mixed up with  
this rock. Coarser granite was  
observed about 75 fcs south  
on the top of hill.  
also 85 fcs north

16968 7507N 1275W SE 22-47-30  
Dip 70° (114.50W) Str. S 10° W  
From small knoll on east  
side

SE 1422 T. 47

T.

47

R.  
v.

30

A piece of graph paper with a grid of red lines. In the bottom-left corner, there is a handwritten note. The note consists of several numbers and arrows: '3' with an arrow pointing up, '2' with an arrow pointing up, '32' with an arrow pointing up, '11' with an arrow pointing up, '2' with an arrow pointing up, '4' with an arrow pointing up, and '5' with an arrow pointing up. There are also some other small numbers and arrows that are less clear. The rest of the page is empty graph paper.

16969 750 N 1345 N SE 22-47-30

on top of hill.

Rock is fretted and some granite appears in it

Some dips at  $65^\circ$  (S  $75^\circ$  N)  
Str. ( $N 15^\circ$  E)

16970 750 N 1500 N SE 22-47-30

Dips  $67^\circ$  (N  $75^\circ$  W); Str. ( $N 15^\circ$  E)  
From top of long narrow ridge

16971 900 N 1925 N SE 22-47-30

From old workings  
dip high to N. Str. about N. S.  
On same range that 16953 is taken  
from.

Ledge same as 16970 at

1050 N 1360 N S.E. 22-47-30

Dip  $58^\circ$  (S.  $75^\circ$  N); Str. ( $N 15^\circ$  N)

16972 1100 N 1150 N SE 22-47-30

16973 1250 N. 1280 N. SE 22-47-30

16974 1270 N 1470 W SE 22-47-30  
dip 40° (S 72° W); str (N 18° W)

16975 1260 N 1532 W. SE 22-47-30

16976 1525 N 1515 W SE 22-47-30  
dip 50° N. str (N + S) about

16977 1550 N 1510 W SE 22-47-30  
dip 48° N str (N + S) about  
Same on top of hill 50 pds SE.

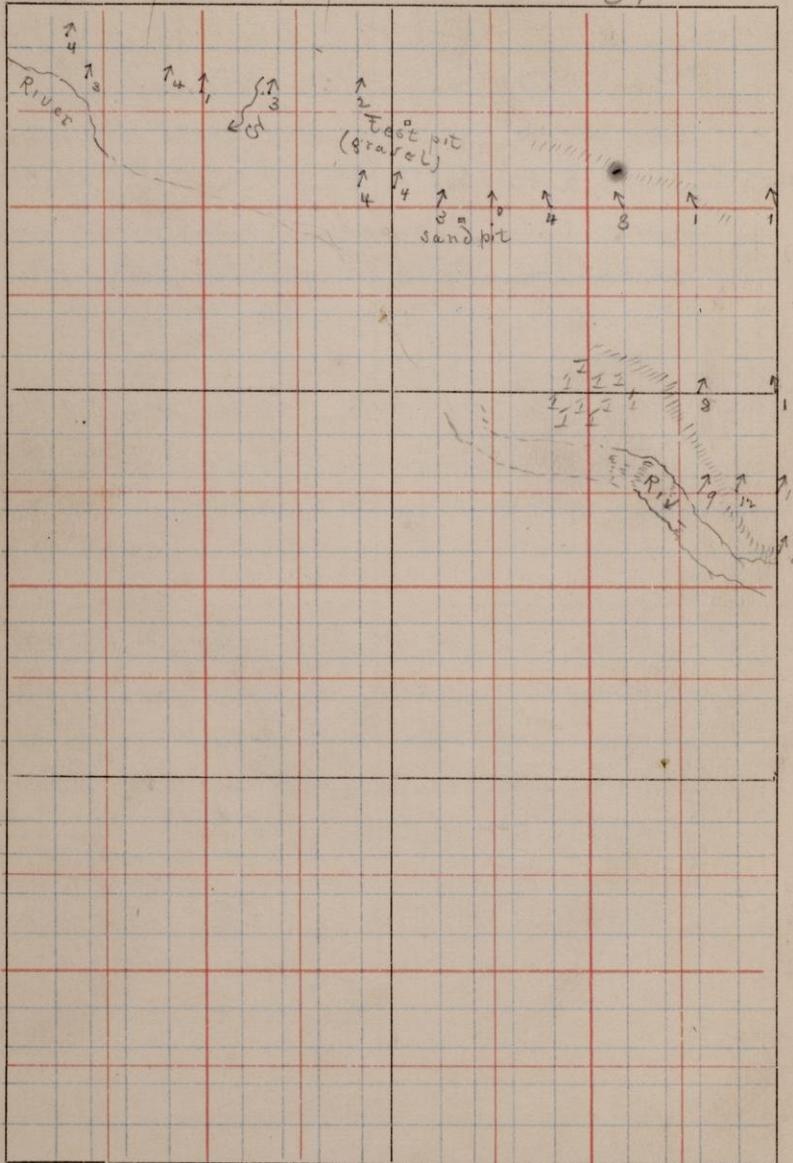
16978 1800 N 900 W SE 27-47-30  
dip about 50° (S 70° W)  
strike (N 20° W)  
much granite mixed with this  
rock - like 16978

16979 1800 N 875 W SE 27-47-30  
on same hill with 16978

N.W. 1/4 27 T. 47

R.

30.



About  
16980 1180 N 180 W - SE 27-47-30  
From top of hill.

This rock where not folded dips  
63 ( $580^{\circ}$  W) ; Str (N  $100^{\circ}$  W)  
In places much folded and mixed  
with granite - the two being  
in close contact.

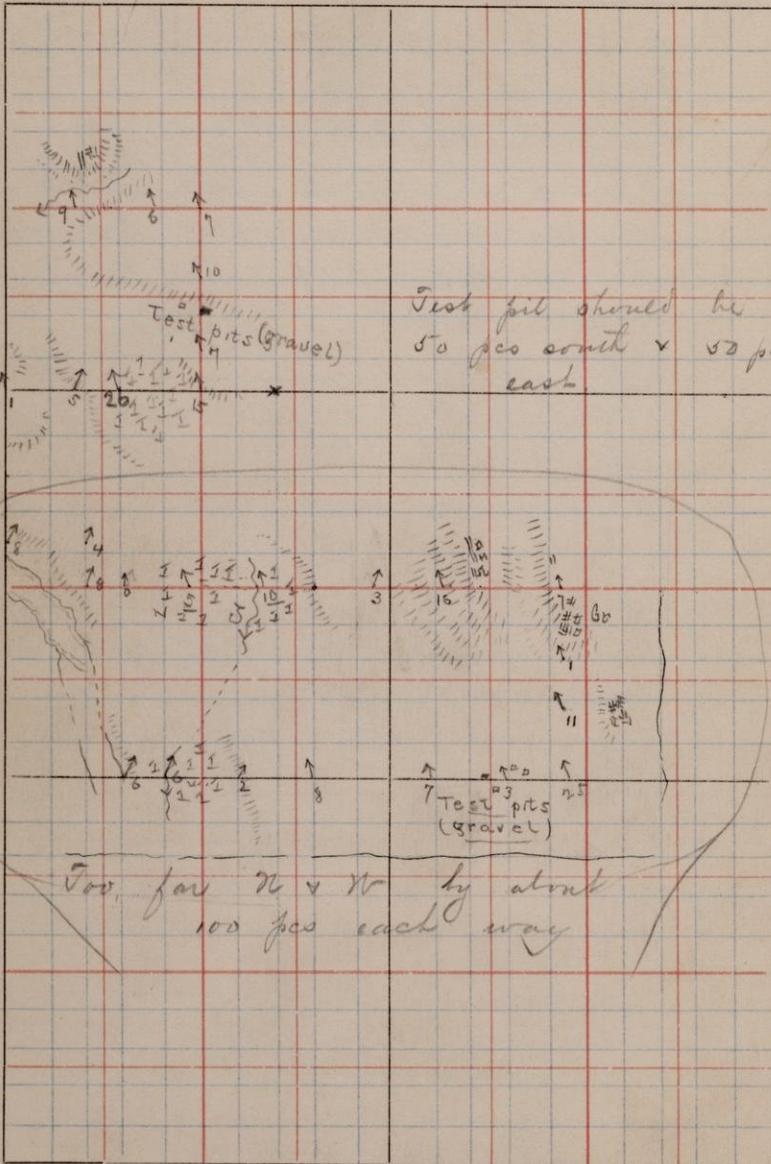
About  
16981 1150 N 185 W SE 27-47-30  
From top of hill east of 16980

16982 290 N 250 E S.E. 27-47-30

From stock or refuse pile at  
pits. Most of these piles are  
gravel with this rock on top  
indicating that it was struck  
at the bottom of pits

NE 1/4 27 T. 47

R. 30



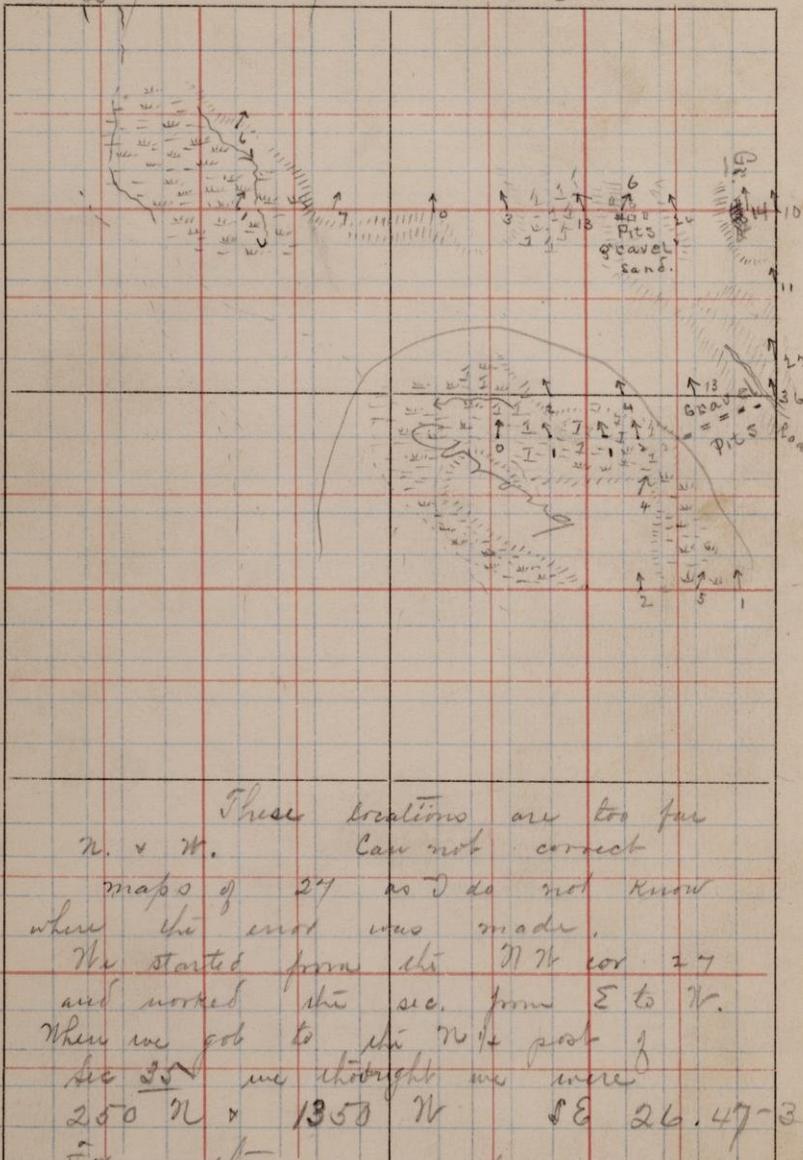
S.E. 1/4 27

T.

47

R.

30



These locations are too far  
N. & W. can not connect

maps of 27 as I do not know  
where the end was made.

We started from the N.W. cor. 27  
and worked the sec. from E to W.

When we got to the N.W. post of  
sec ~~35~~ we thought we were

250 N. x 1350 W. \$8 26.47-30

for another survey of this sec. see  
16 pp. ahead.

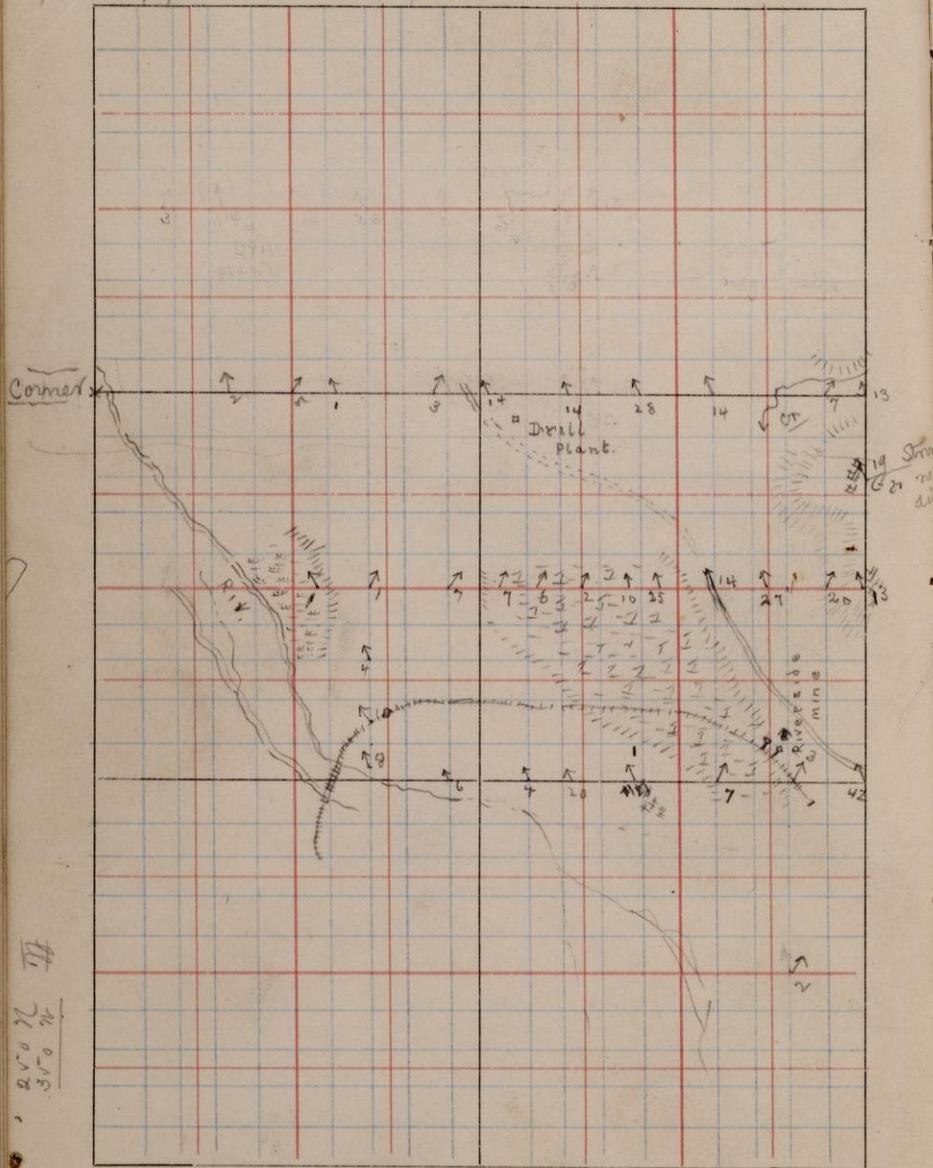
The locations in notes were  
changed to be as near correct  
as possible.

77.26 1/4 35 T.

47

R.

30



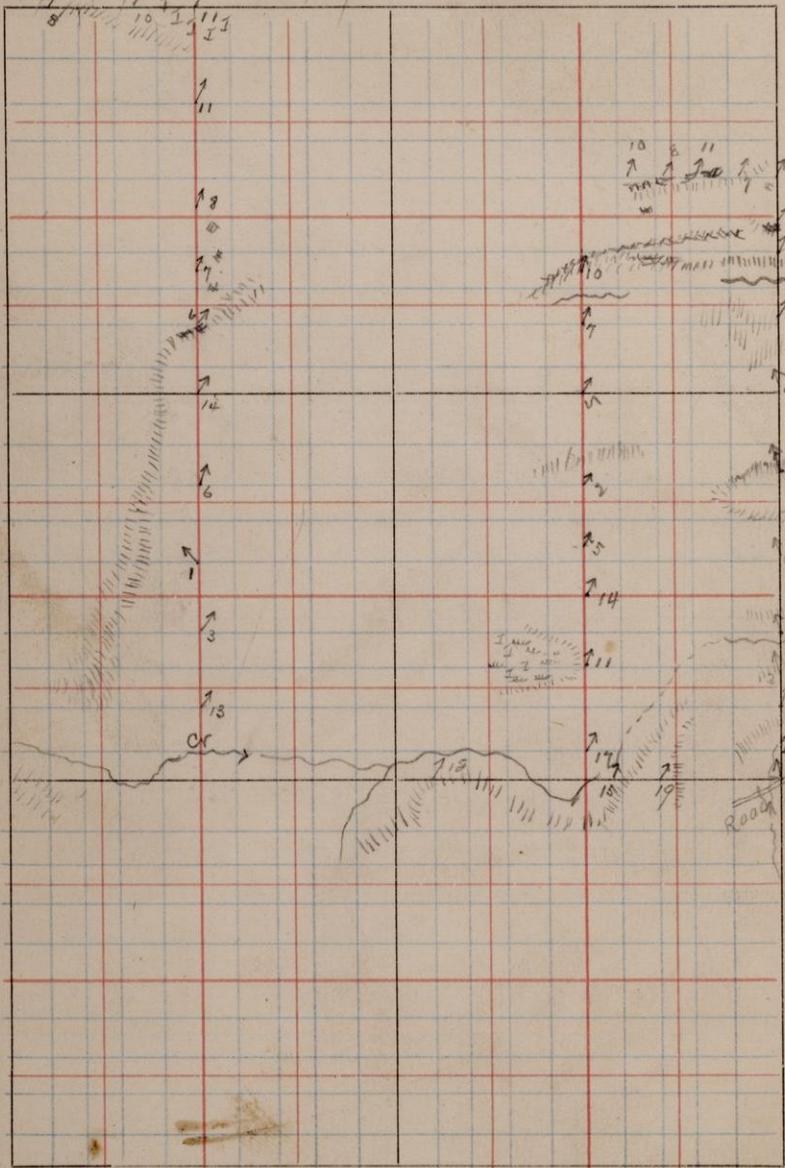
77.26 1/4  
35 T.

78 1/4 19 T.

47

R.

30



16983 1740 N 07 W S.E. 19-47-30

Just from S. side of hill about  
80' pds. n. of small river

16984 1740 N 07 W S.E. 19-47-30

Just low exposure just n. of 16983  
Same at 1800 N 07 W

This same ledge extends westward  
about 200 pds. Dip here as far  
as ledge shows any dip is  $45^{\circ}$   
(N  $10^{\circ}$  W) about 16983.

16985 1650 N 03 50 W S.E. 19-47-30

From a ledge which is almost  
unbroken from 16984 to  
this place

16986 07 N 090 W S.E. 19-47-30

From east side of hill

Dip  $79^{\circ}$  (N  $40^{\circ}$  W)

Str. (N  $20^{\circ}$  E)

This ledge is 50 pds wide.

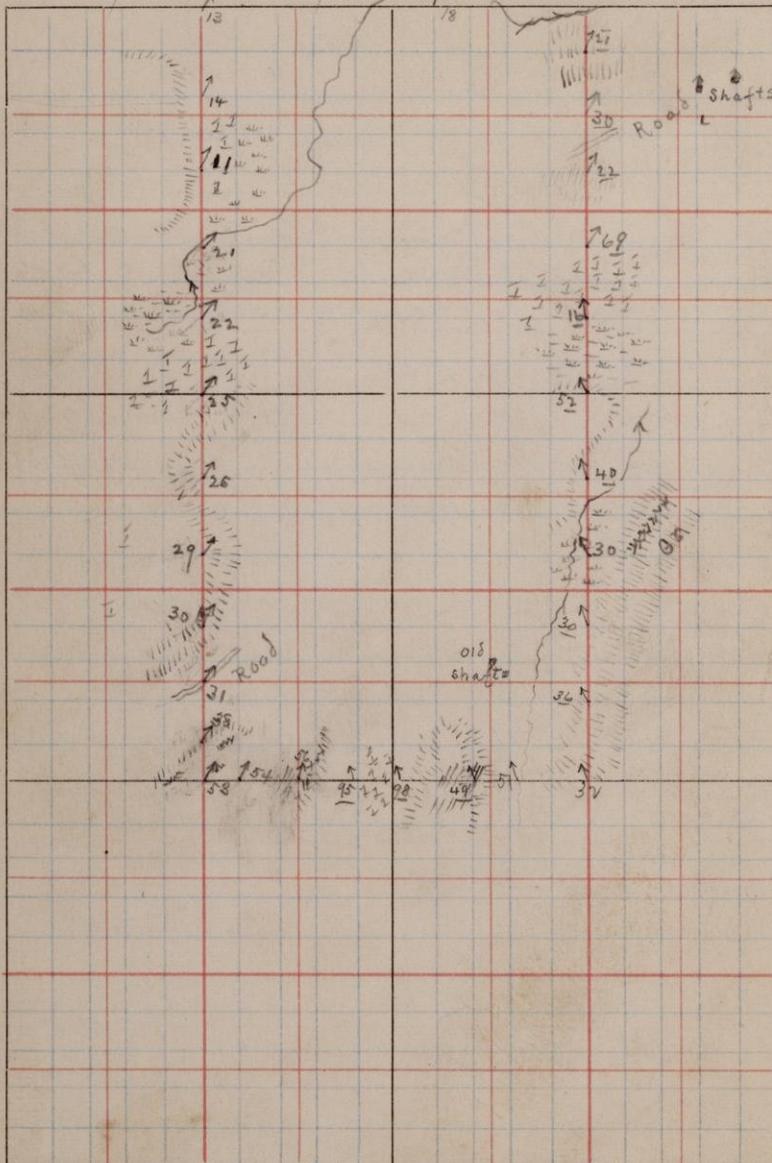
SE  $\frac{1}{4}$  19

T.

47

R.

30



16987 30°N 600°W SE 19-47-30  
 Just From ledge on east face side  
 Flat exposure at 0°N 700°W

16988 0°N. 660°W SE 19-47-30  
 (2) From west face of ledge  
 just which appears to be the  
 same as that from which  
 16987 was taken. Running  
 eastward across this ledge  
 at this place the rock  
 merges into green stone at  
 first fine grained then into  
 rock like 16987

16989 About 10 feet west of 16988  
 From and seem to be in contact  
 with one another  
 Dip about  $45^{\circ}$  (N  $75^{\circ}$  W)  
 Str (N  $15^{\circ}$  E)

16990 20°N 720°W SE 19-47-30

22/4/19 T.

T

47

B<sub>11</sub>

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

16991 0 N 775 ft } SE 19-47-30  
 Quest 50 N 725 ft }.

not continuous but looks like  
 same ledge

16992 1600 N 775 ft SE 19-47-30

Quest From south top of hill

Same rock observed in various  
 places for a distance of 150 ft  
 N.

16993 about 900 N. 100 ft SE 19-47-30

Gly From piles near shaft of  
 Magnetic Mine shafts

This is not a specimen of or  
 but solicited to show quartzite

16994 1800 N 1350 ft SE 19-47-30

Quest Greenstone ledge on small  
 ridge. At Marley N. & S.

Gr. stone also at

1900 & 1975 N. as marked on flat.

16995 2000 N 1300 ft SE 19-47-30

Quest

Skt. 1/4 19

T

47

R.

30

A hand-drawn map of a river system, likely a stream network, on a grid background. The map shows various points labeled with letters and numbers, representing sampling sites or specific locations. A north arrow is present in the upper right quadrant. A scale bar is located in the lower right quadrant. The river network is depicted with lines and arrows indicating flow direction. The labels include:

- P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22.

The map shows a complex network of streams, with some segments labeled with numbers (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22) and others labeled with letters (e.g., P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22).

16995 200 N, 750 N - SE 19-47-30  
From west side of hill near  
swallow

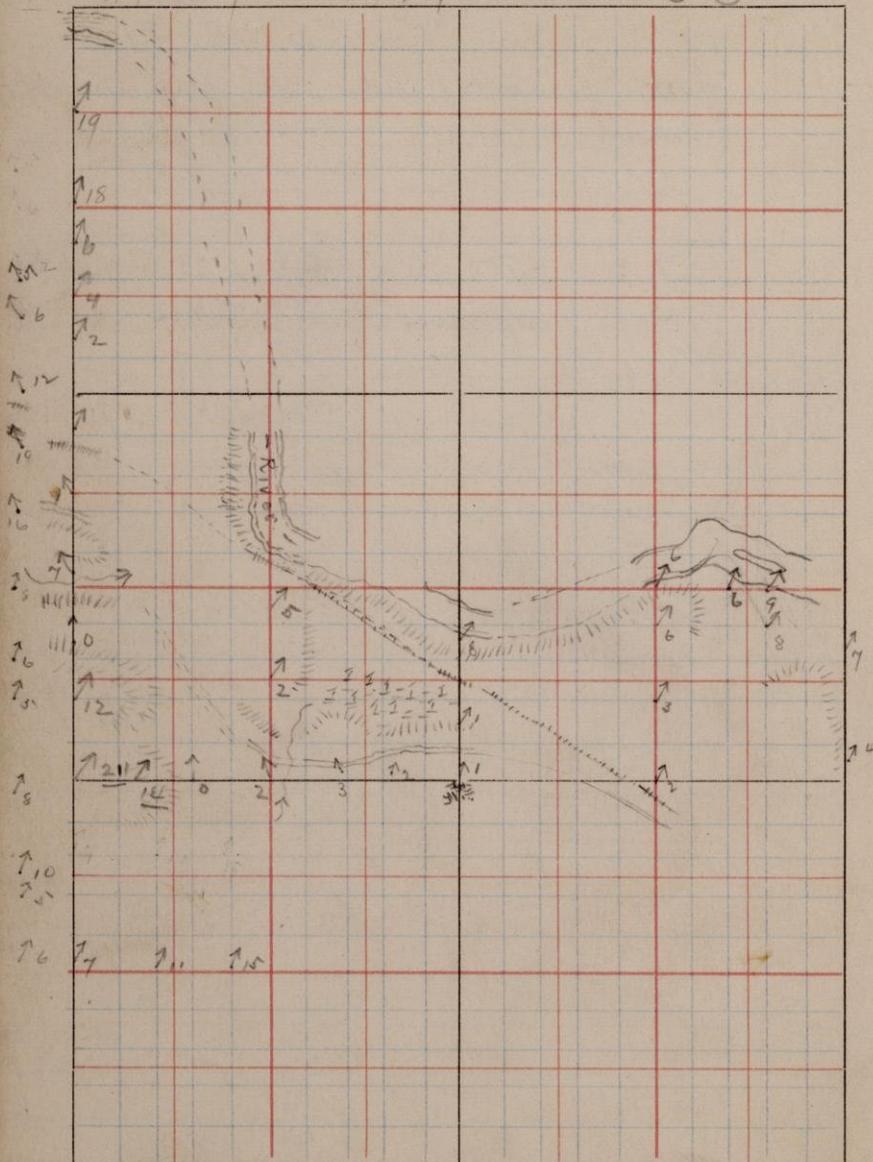
16996 <sup>1000</sup> 100 N: 1500 N SE 27-47-30  
Large exposure just south of  
highway.

7/14 27 T.

47

R.

30



\* Course marked on margin is  
200 west of west sec line 1, sec 27

16997 1900 N 1425 W SE 34-47-30  
 Granite exposure. on high land

16998 1900 N 1250 W SE 34-47-30  
 Limestone in contact with granite

16999 1500 N 1315 W SE - 35-47-30  
 On low knob.  
 Ledge strikes about SE

17000 1260 N 200 W SE 28-47-30  
 Dip about 80° N.E.  
 At 20° N.W.

17001 1180 N 175 W. SE 28-47-30  
 From deep pit  
 Most of rock here is quartzite  
 like specimen except not  
 being brecciated

17002 1150 N 200 W SE 28-47-30  
 on n. side of creek

8.76/424 T.

π

47

B

३०

These locations should be about 100 ft on fault north

1700 3 1100 N 170 W SE 28-47-30

Frm exposure which is much disturbed. Large masses jumbled about promiscuously

1700 4 830 N 170 W SE 28-47-30

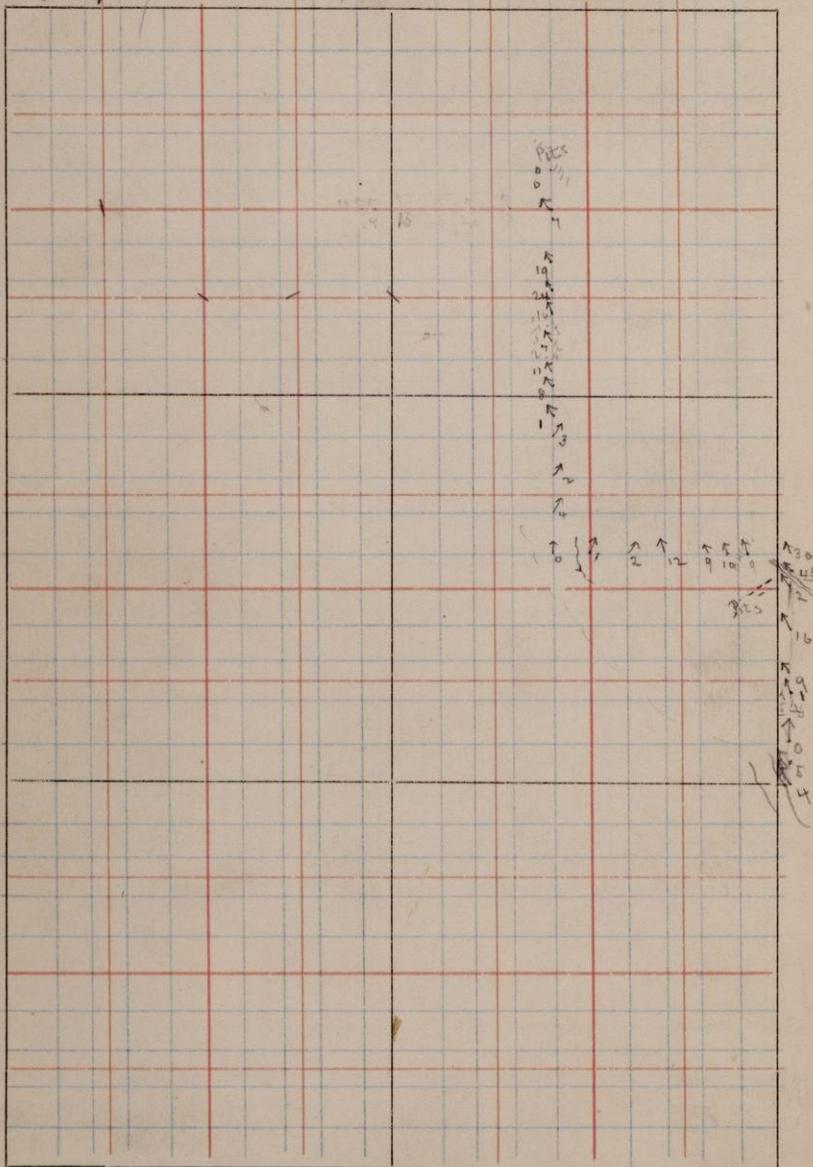
Sec 27

T.

T. 47

R.

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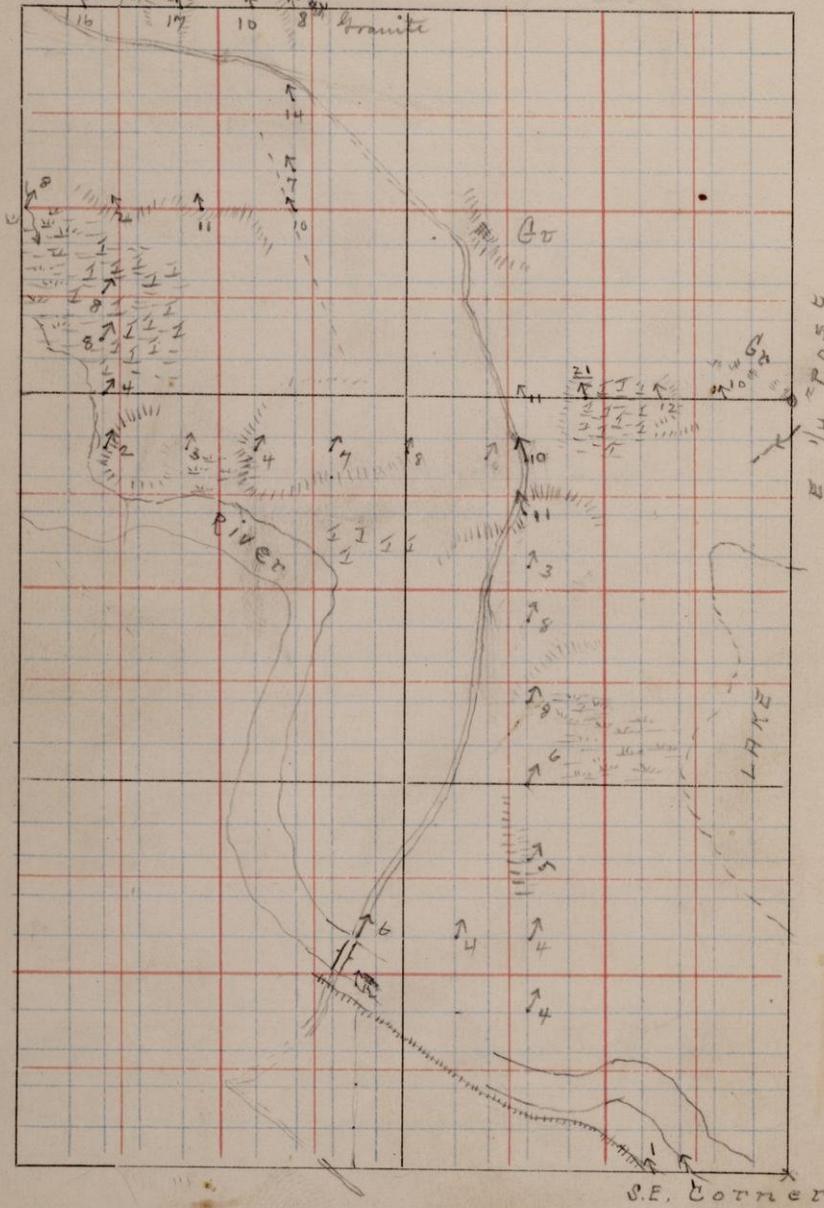


S 1/2 78 E 1/4 35  
S 1/2 78 E 1/4 35 T.

47

R.

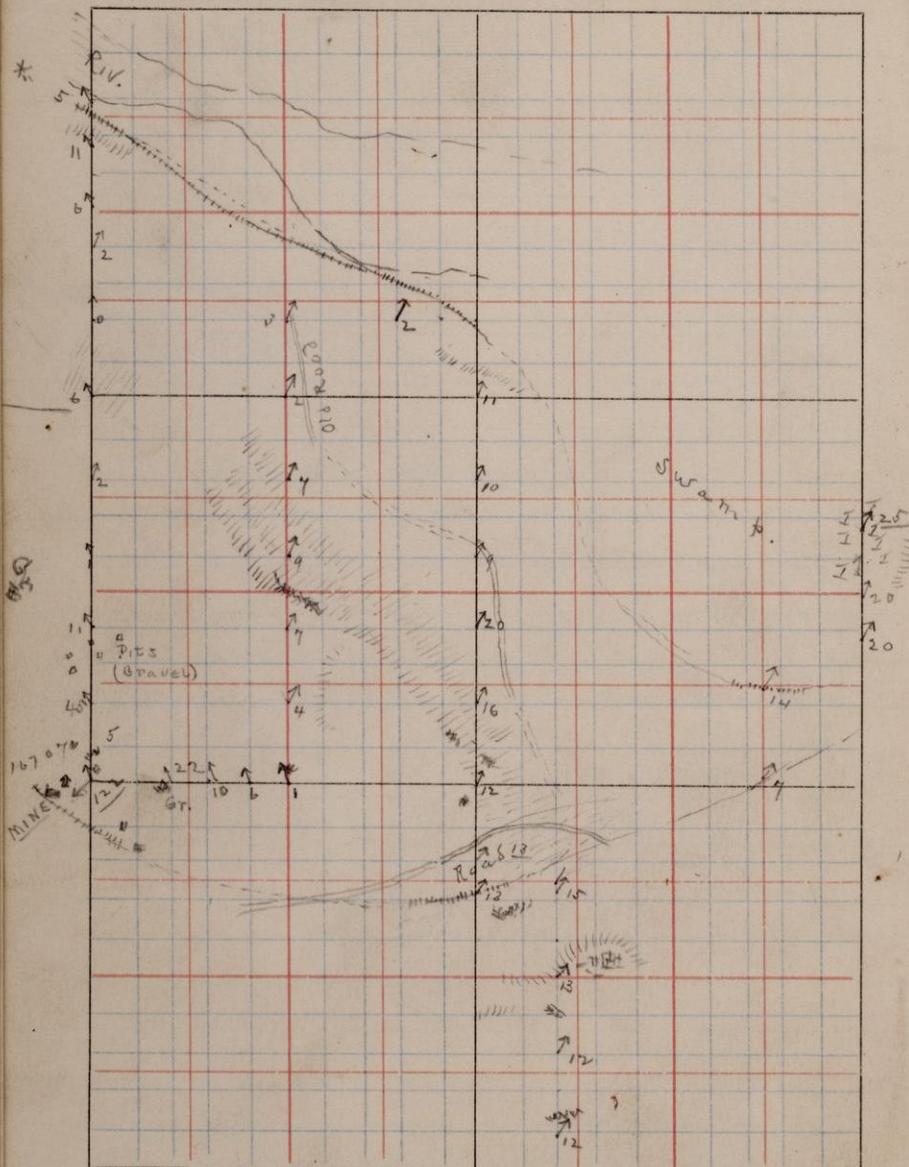
30



27 27 1/4 1

T. 46

R. 30



attractions marked on west sec. line should be 100 pds west of the line.

17005 1050N 2000W SE 1-46-30  
Just N. of shaft on S.E. line

17006 1045N 2000W SE 1-46-30  
From same mass as 16705 and  
in contact with it on S.W. side  
of exposure. Dips high to S.W. or  
nearly.

17007 1040N 2015W SE 1-46-30  
Quartzite about 15 or 20' <sup>feet</sup>  
from 16706 + 16705

17008 1000N 1900W SE 1-46-30

17009 1020N 1450W SE - 1-46-30  
Large masses of this rock  
on knobs.

17010 1250N 1450W SE 1-46-30  
Long ledge on N.E. top  
of hill. Str about S.E.

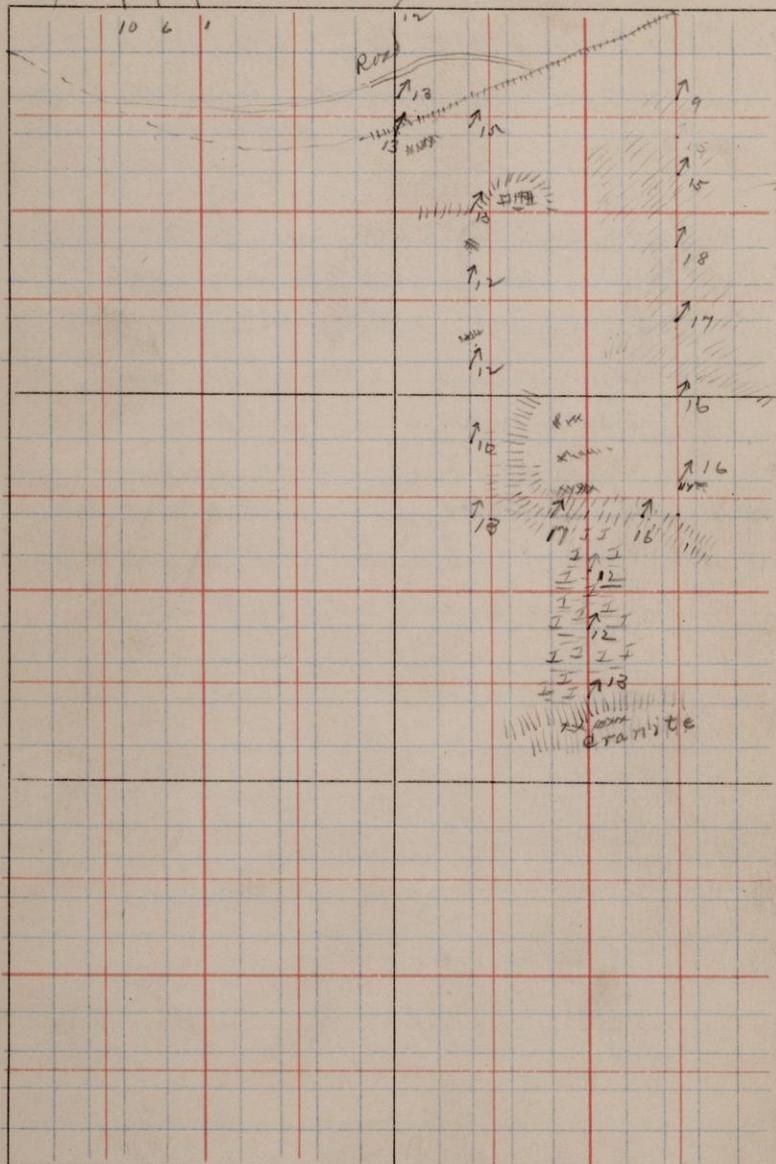
SW 1/4

T.

46

R.

30



17011 1050 N 1500 W SE 1-46-30

From top of hill. most of rock of the same mass is like 16710.

Like 16710 at 940 N 1540 W

17012 800 N 1450 W SE 1-46-30

17013 About 30 steps S. of Rj.

Large mass 125' long 30' wide with rounded top. -

Same as 16713 on hill to SE.

17014 655 N 1450 W SE 1-46-30

17015 570 N 1450 W SE 1-46-30

Greenstone ledge Str.s about E + N.

17016 400 N 1300 W SE 1-46-30

From hill which up-  
picks much greenstone.

17017 100 N 1250 W SE 1-46-30

From buff of granite

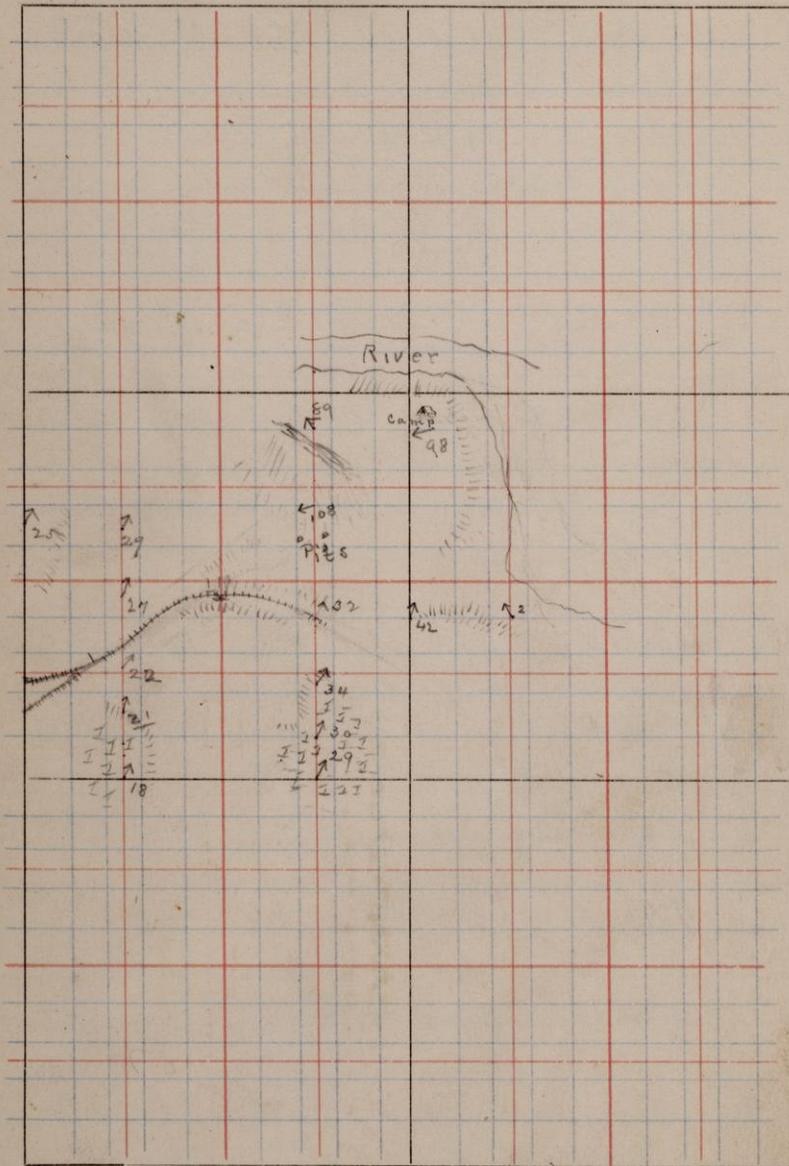
NE 1/4 1

T.

46

R.

30



17018 400 N 1125 W SE 1-46-30  
 Granite by roadside, at about 1250 N 300 W. SE, 2-47-30

17019 about 900 N. 100 W SE 2-46-30  
 on south side of highway  
 near mining location

17020 From Metropolis mining  
 location at west  $\frac{1}{4}$  post of  
 1-46-30

17021 about 900 N 1950 W SE 1-46-30  
 From pits near Metropolis location

17022 about 1250 N 250 W SE 1-46-30  
 From Ry. cut.

17023 about 1250 N 250 W SE 1-46-30  
 From Ry cut. In contact with  
 17022 on east side. Dip  
 high or nearly perpendicular  
 Str. a little E of S.

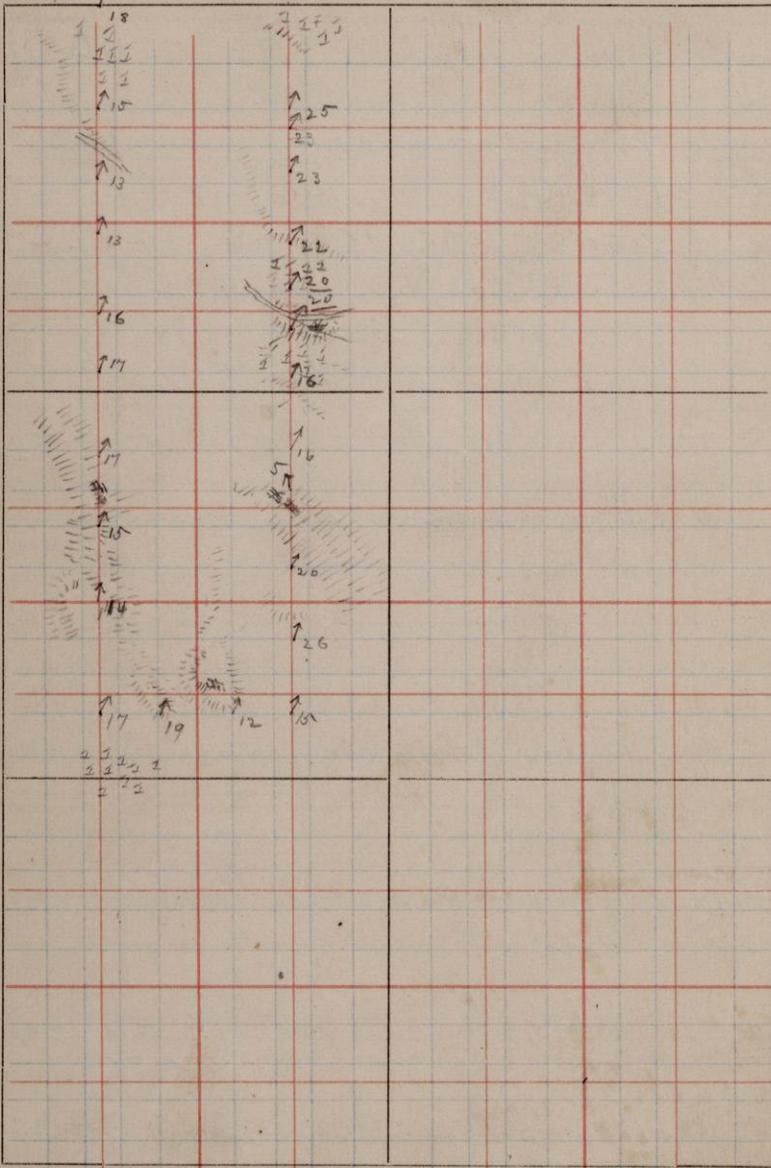
S.E. 1/4 1

T.

46

R.

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17024 400 N 875 N, SE - 1-46-30

From foot of east slope of  
High Hill

17025 250 N 875 N SE 1-46-30

From top of hill sloping to E.  
Dip high to N E  
Str about SE

17026 140 N 725 N SE 1-46-30

limestone from top of knoll

17027 400 N 425 N SE 1-46-30

Ledge strikes about SE -

17028 600 N 400 N SE 1-46-30

17029 1200 N 400 N SE 1-46-30

From bottom of west pit.

17030 1425 N 0400 N SE 1-46-30

From N E side of ledge  
Dip 87° SSW Str SE

17031 1425 N 400 N SE 1-46-30

Dip & Str same as 17030

From S W side of ledge  
Ledge 100' long 35' wide 20' high

17032 On S. side of highway near last house toward the west.  
Highest point on the ridge in this vicinity.

17033 On N side of road near place where turn is made. This ledge runs to west along roadside about 400'.

17034 On S. side of road about 500' S.E. of 17033. This ledge is exposed for a distance of 150'.

17035 From schist formation on top of high banks

17036 Limestone in contact with 17036 on S.W. side

17037 Schist found to S.W. of 17036

17038 } From limestone formation  
17039 }

17040 Quartzite found in Kloman mine

17041 Ferruginous Jasper from N.E.  
wall of mine.

17042 From refuse pile at mine

17043 Specimen of ore taken from  
stock pile.

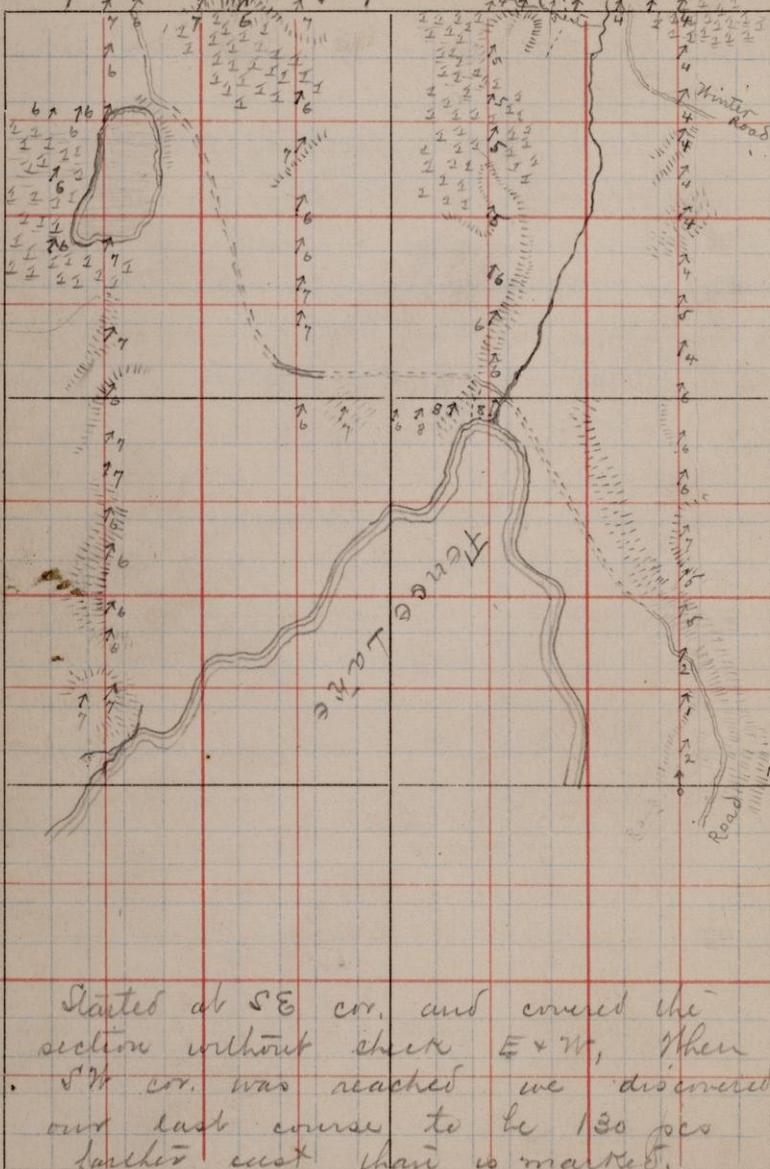
Sec. 9

T

47

B

3



Started at SE cor. and covered the section without check E + W. When SW cor. was reached we discovered our last course to be 130 paces farther east than is marked.

~~14044~~

43

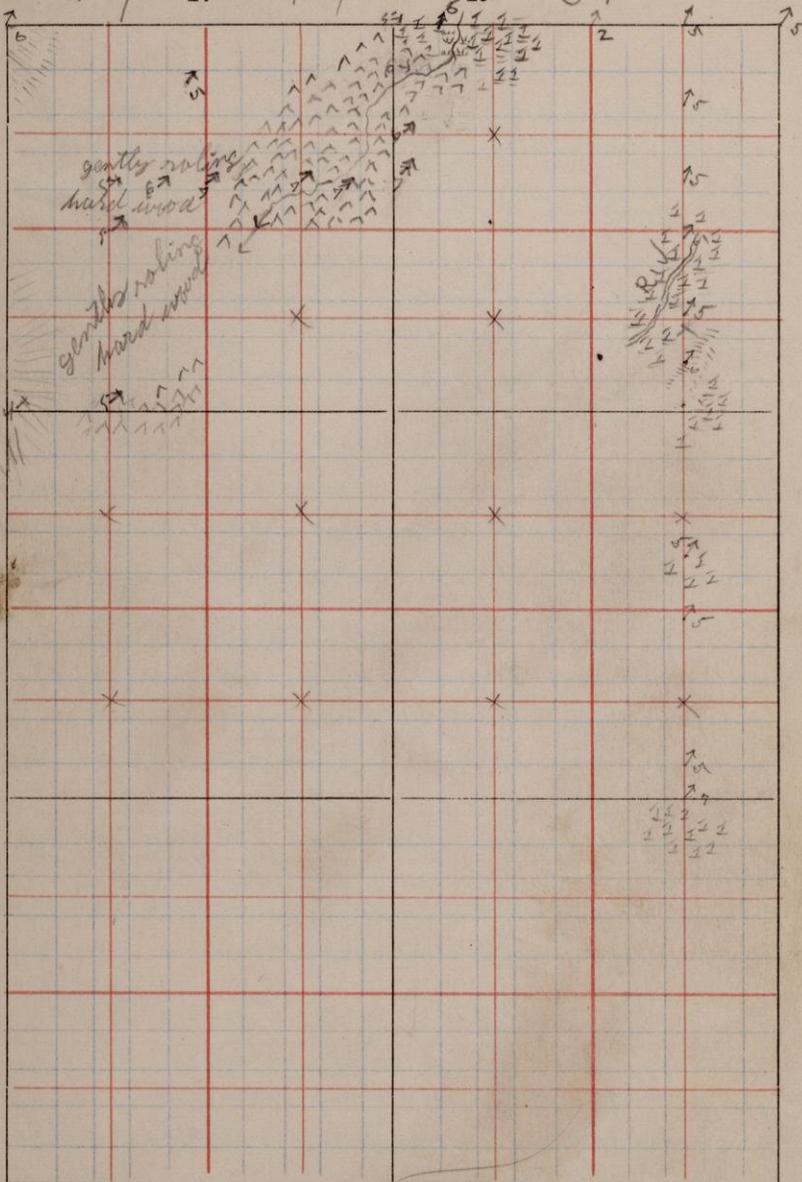
SEC. 17

T

47

R.  
L.

31



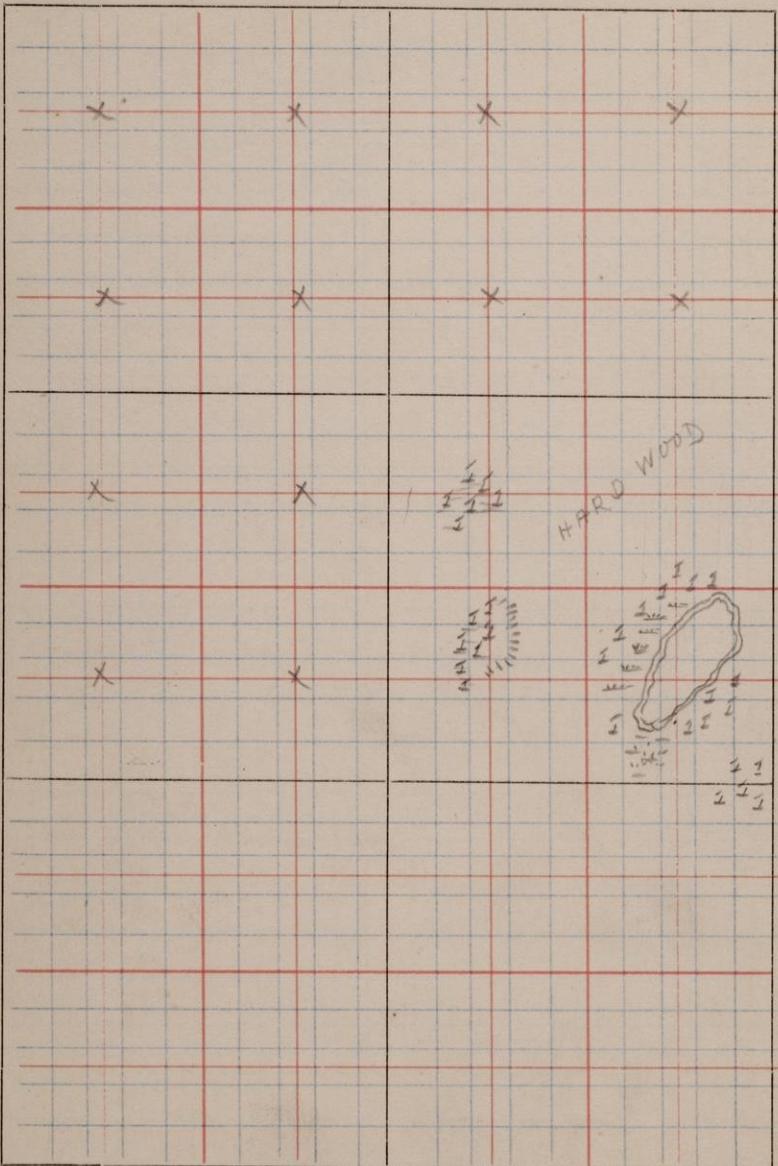
SEC 5

T.

47

R.

91



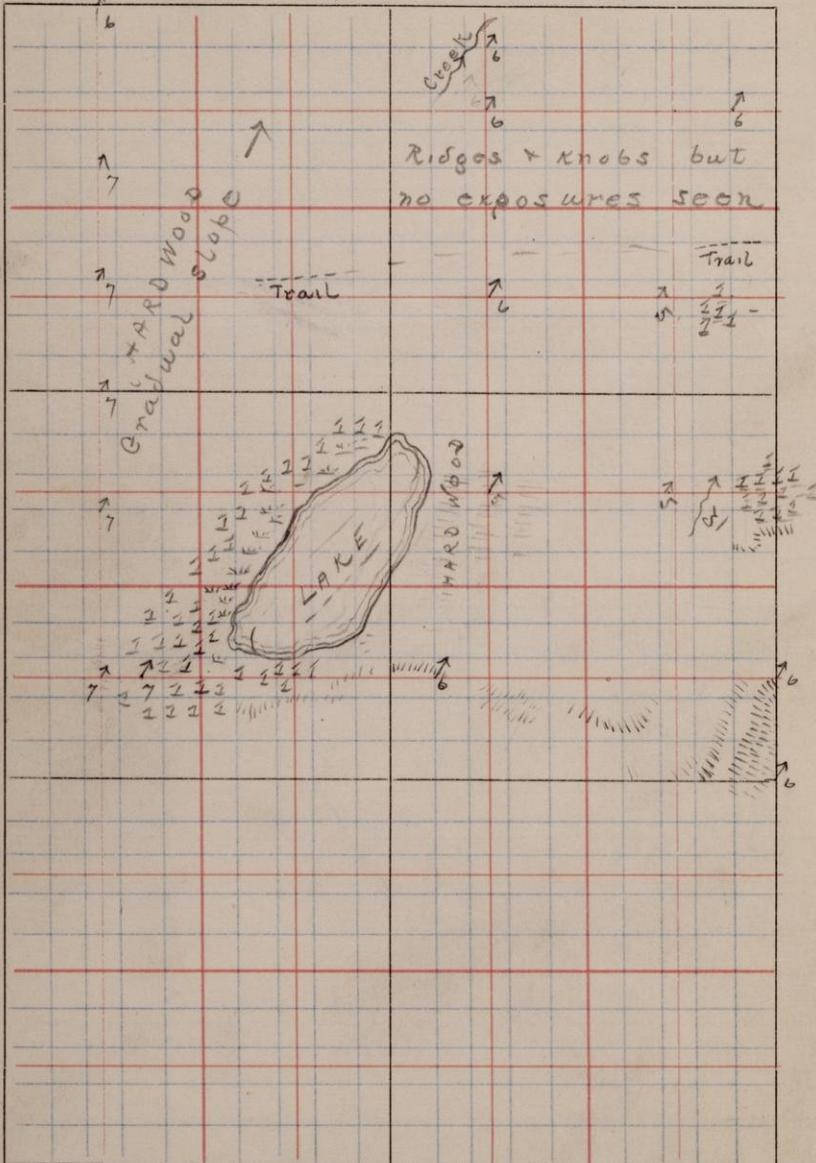
Sec 7

T.

47

R.

31



SEC 15 T. 47

T

R.

30

219

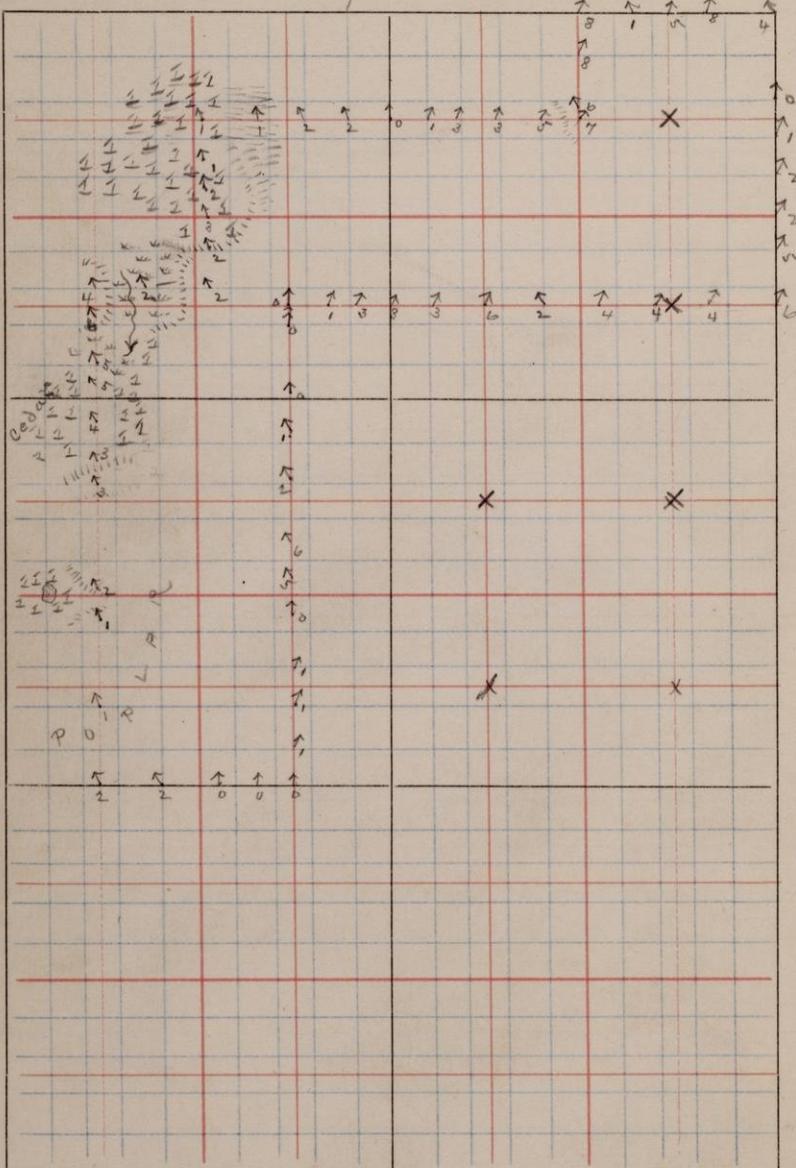
Diagram illustrating a sequence of states for a system with four components (labeled 1, 2, 3, 4). Each state is represented by a vector of four numbers. Transitions between states are indicated by arrows. The states are arranged in a grid, with the first state at the top left and the last state at the bottom right. The diagram shows a path from the first state to the last state, with intermediate states and transitions labeled with arrows.

SEC. 21 T.

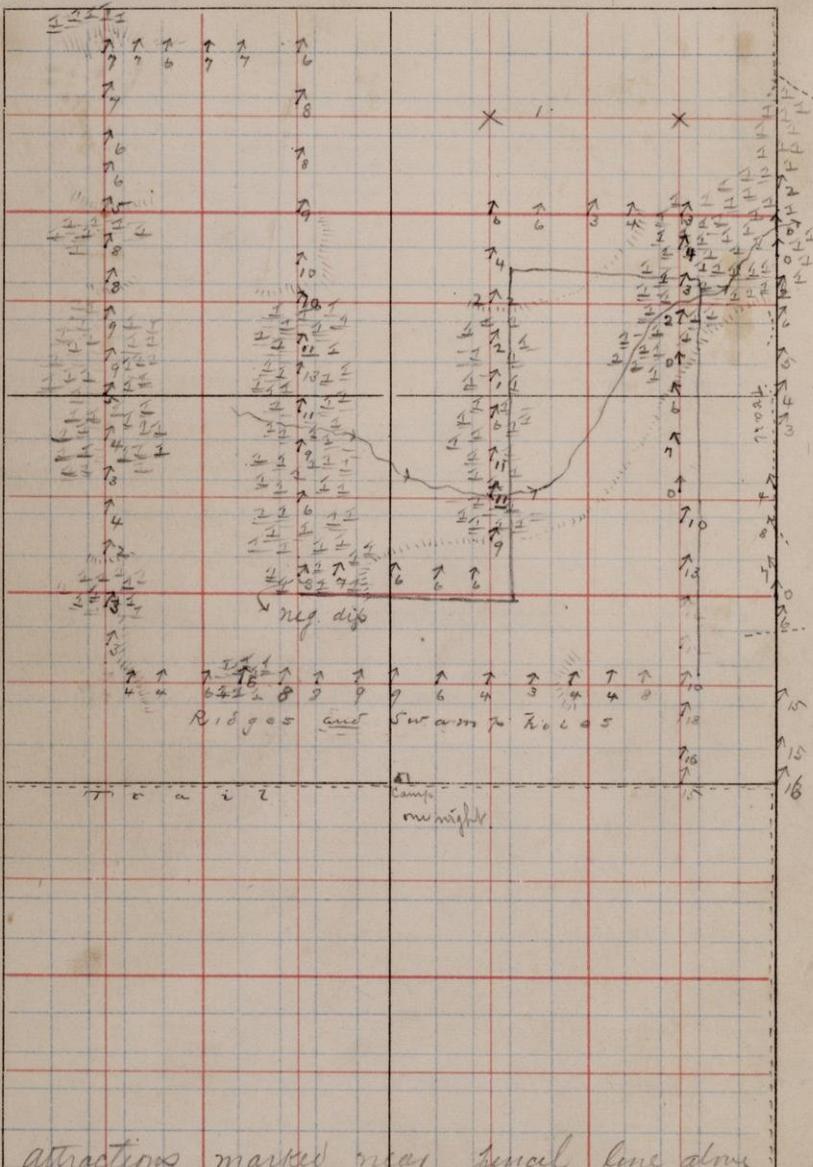
47

R.

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attractions marked near pencil line alone should be on that line.

S 1/2 26 ✓

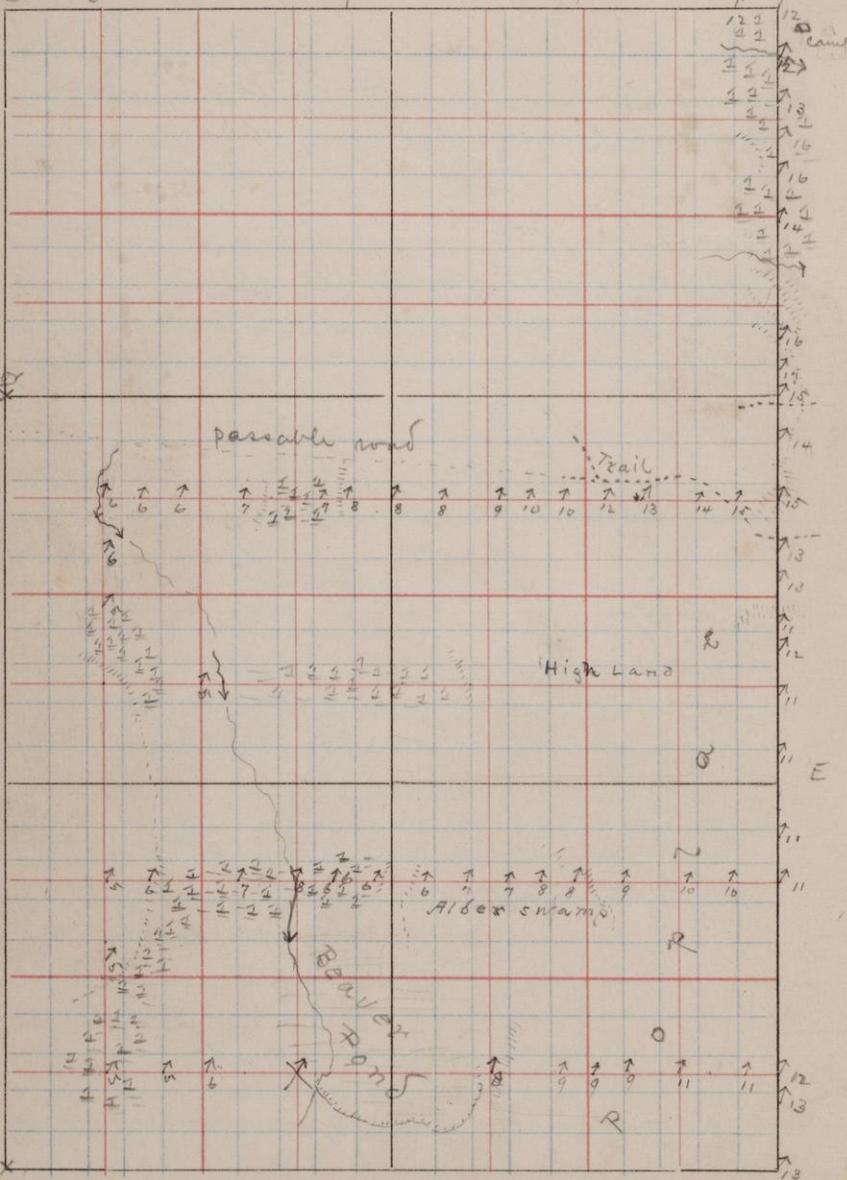
sec 35

T.

49

R.

31

SW 1/4  
SW 1/4

17044 1750 N 34° 26' SE 35-47-31

Mica schist from rock which  
may not be in place.

The exposure is about  
12' x 6' top

Sec. 13 T. 47

B<sub>1a</sub>

cont

X

1 2 3 4 5 6 7 8 9 10

Fine Hardwood

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17045 1700 N 225 W SE 13-47-36  
 Limestone which is undoubtedly  
 in place. The mass seems  
 to be about 60' above + earth  
 covered mostly but exposed on  
 sides and in cut banks  
 100' + long.

17046 1200 N 260 W SE 13-47-31  
 Limestone from west top of hill  
 up from swamps.  
 also at 1100 N 240 W

17047 1800 N 2000 W SE 19 47-30  
 Str N + S Dip  $70^{\circ}$  E  
 Creek flows over this ledge  
 in a falls of about 30'  
 This is in a ravine as shown  
 in sketch on opposite page

17048 Just south of creek + 17047  
 Shire of ledge about N + S

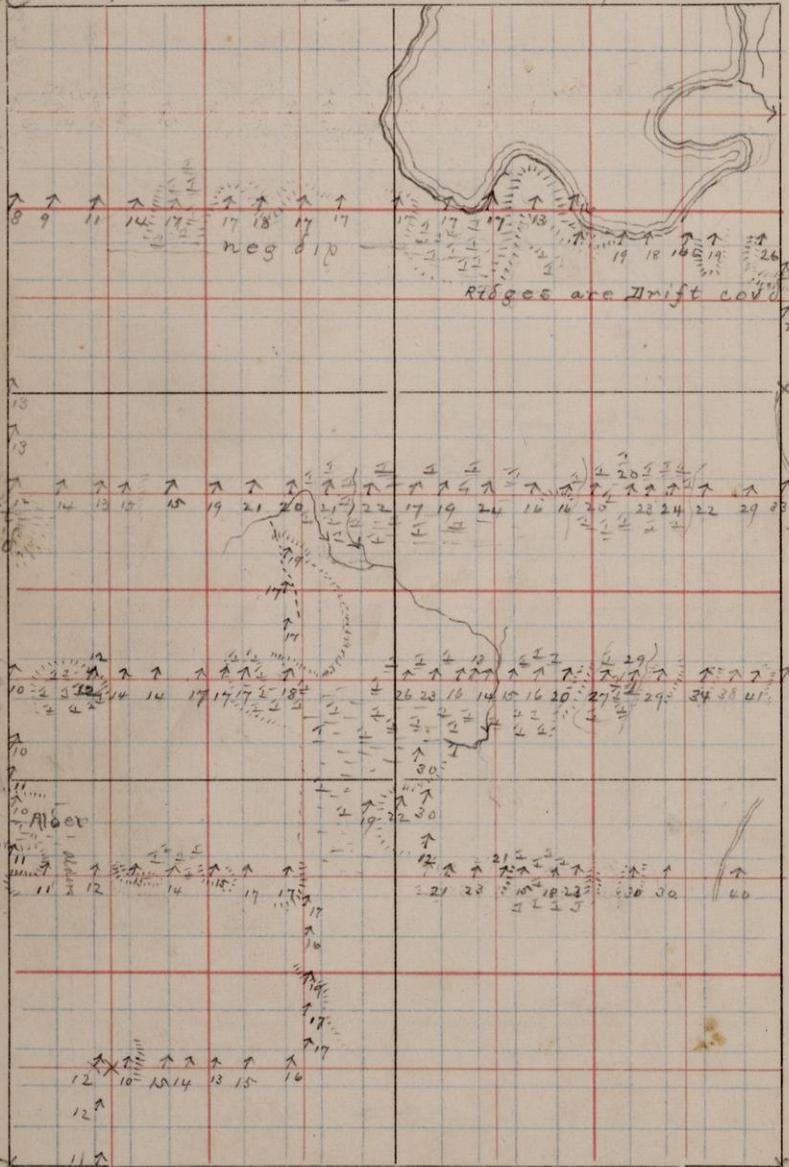
5 1/2 36 <sup>x</sup> T.  
Sec 1

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17049 1145 N 250 W SE. 24-47-31

Brumstone form east side of  
low hill. Exposures 50' long  
and 20' high.

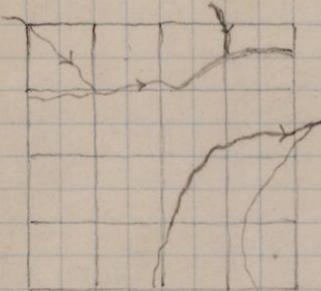
also on top of hill as  
shown in sketch.

Roads.

Rock

1 2 3 4 5 6 7 8 9 10

19-47-30



27, 27 1/4, 27

5 1 2 3 4 5 6 7 8

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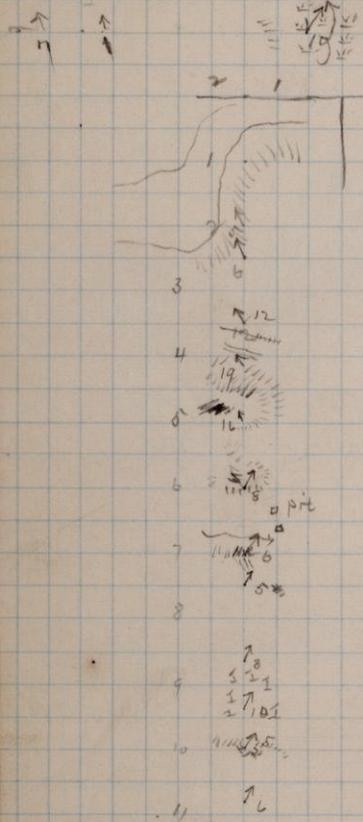
12

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17000 281

980

0 1 2 3 4 5 6 7 8 9 10  
11 12 13 14 15 16 17 18 19 20



1. 1410 N 150 W  
SE 28-47-36

dip - about  $80^{\circ}$  N  
Str  $21.50^{\circ}$  N  
dip

2. 1330 N 125 W  
SE 28-47-36

From deep pit  
Shows truncated  
structure.

Most of rock here  
is quartzose like  
specimen except  
not being truncated

3. 1300 N 150 W  
on S side of  
creek.

4. 1250 N 120 W

From exposure  
which is much  
disturbed & large  
masses are  
scattered around  
poorly.

The hills at  
this place are  
weathered largely

Off 150 N & S  
50 E & W

with large granite boulders & many  
of such as this specimen

5 98m 130m 58 28-47-30

1 Line between 9 & 4, 1685 west,  
crosses road near tree fallen  
across same  $\frac{1}{2}$  mile Shaggy Parker  
cedar on right  $\frac{1}{2}$  on side going N.

2.

IT 47 R 31



L. D. Harvey

J. A. Buckstaff

at road 550 N on line

