Marquette Iron Range: [specimens 23400-23425]. No. 169 1894

Culver, G. E.
[s.l.]: [s.n.], 1894

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 x 2½ x ¾ inches will be allowed, but in all other cases *large-sized specimens*, trimmed to a size of 3 x 4 x 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.

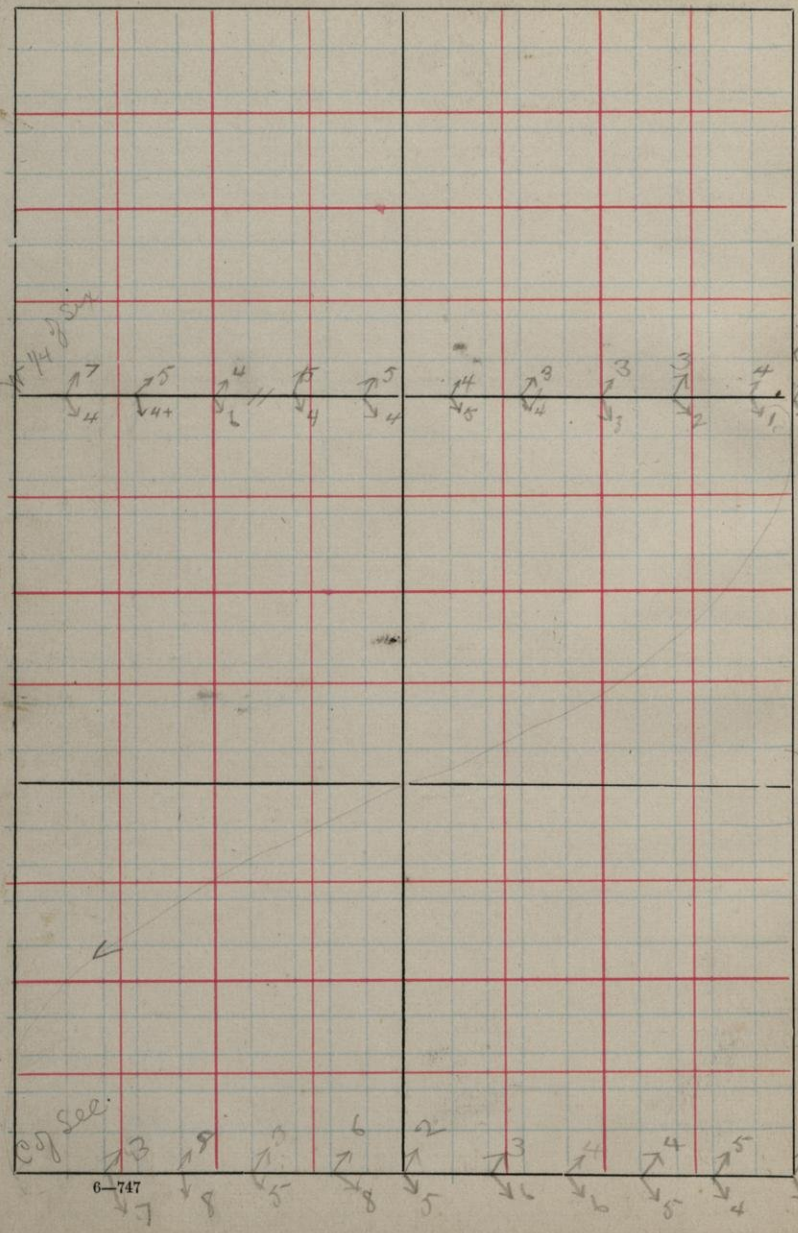
6—747

#169

G. E. Culver

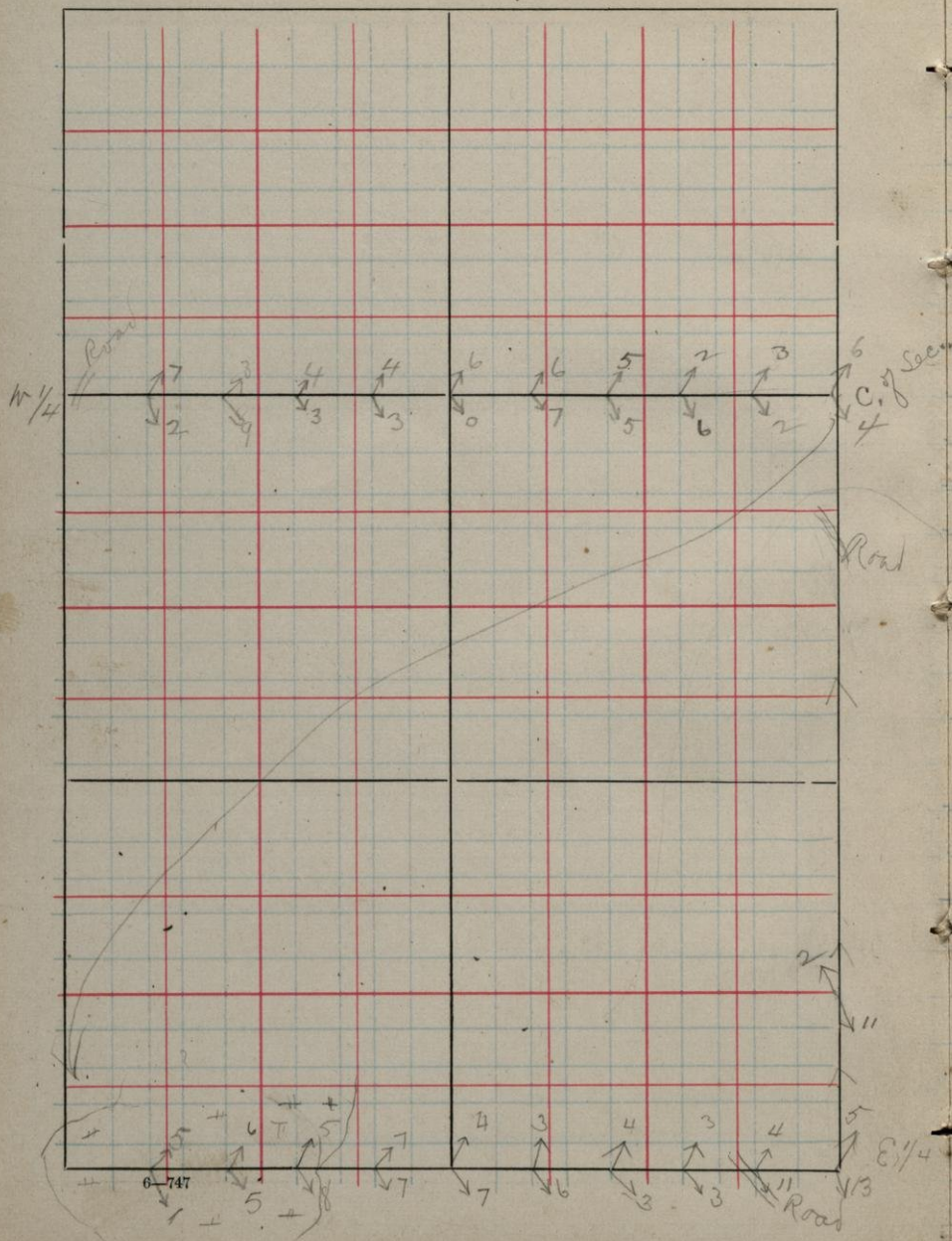
No. 1.

S. 6 T. 45 R. 31



6—747

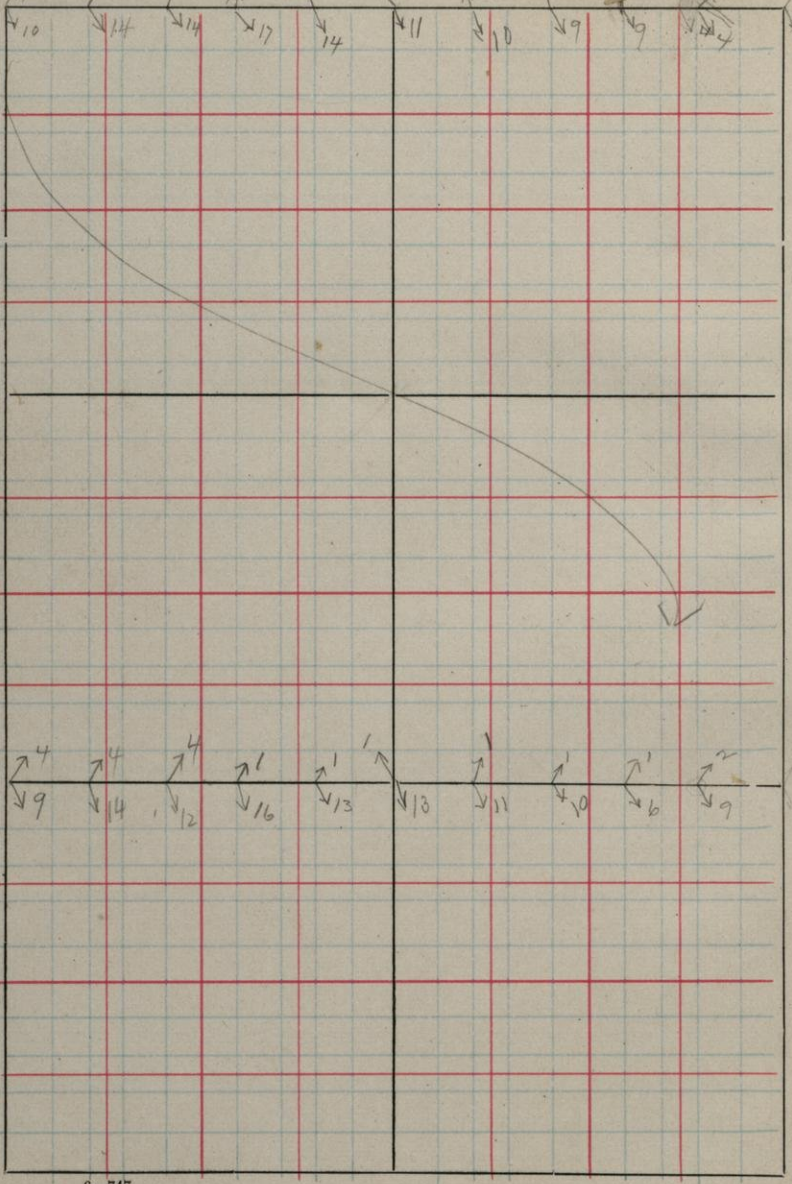
S. 5 T. 45 R. 31



S. T. R.

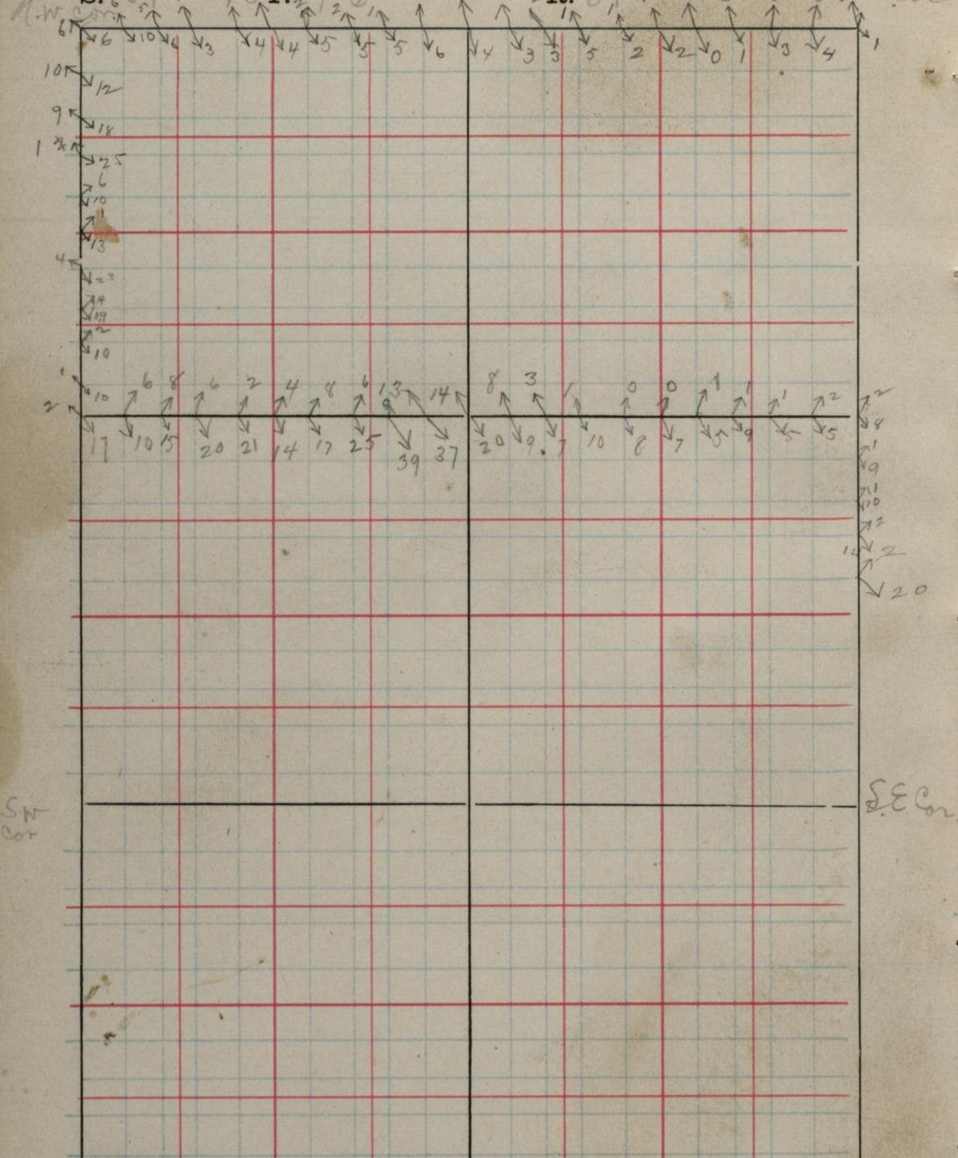
N.E. Cor.

N.W. Cor

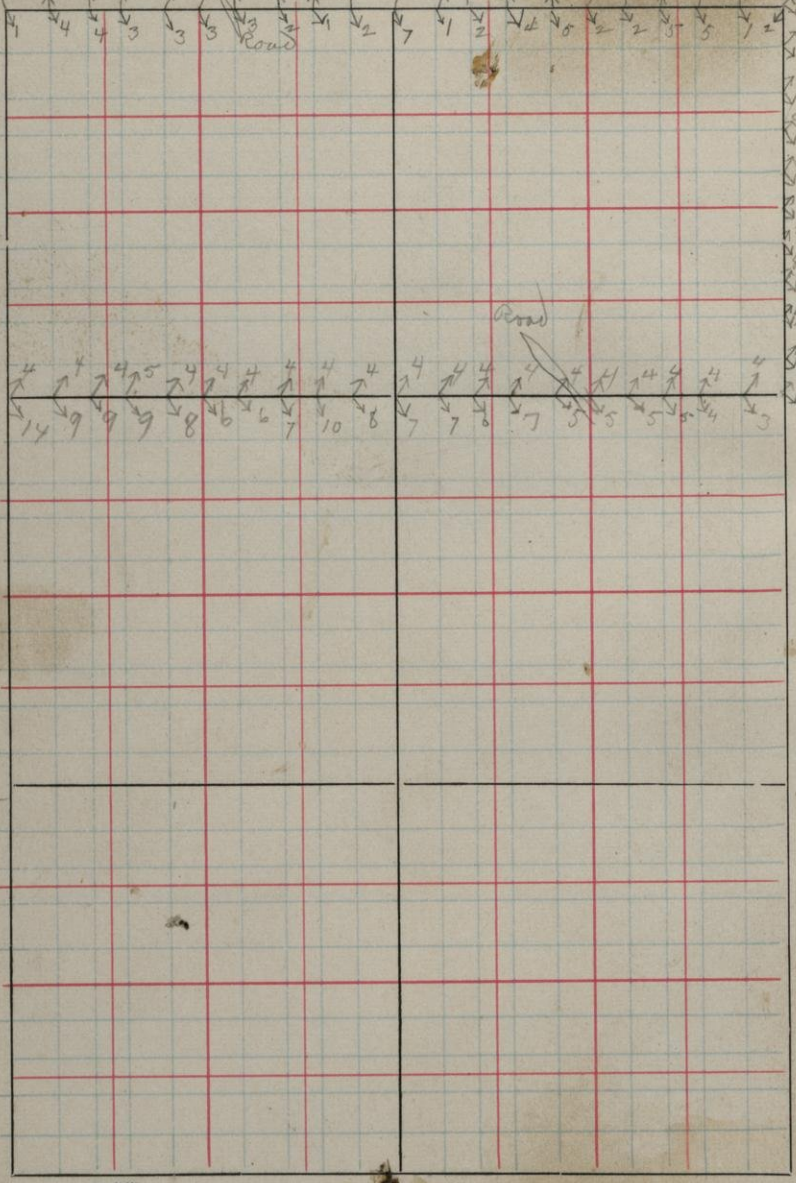


6—747

S. 31 T. 46 R. 31

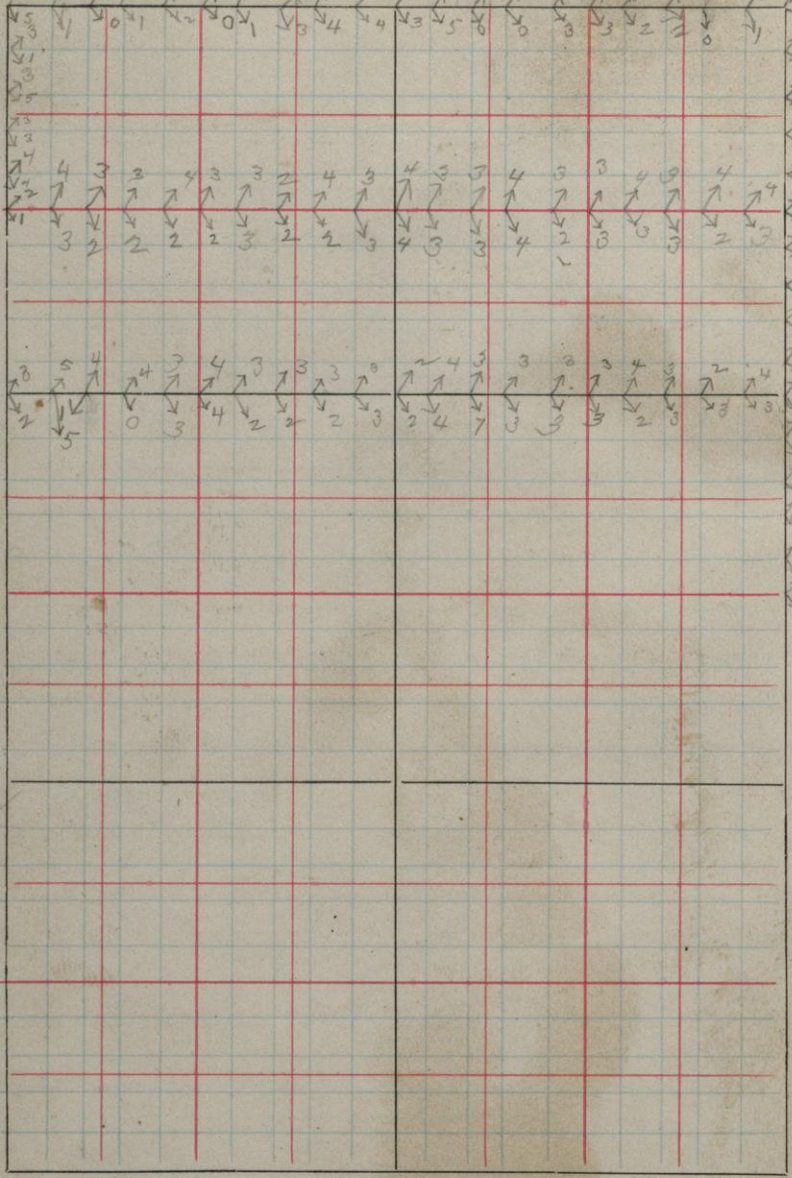


S. 32 T. 46 R. 31



6—747

S. 29 T. 46 R. 31



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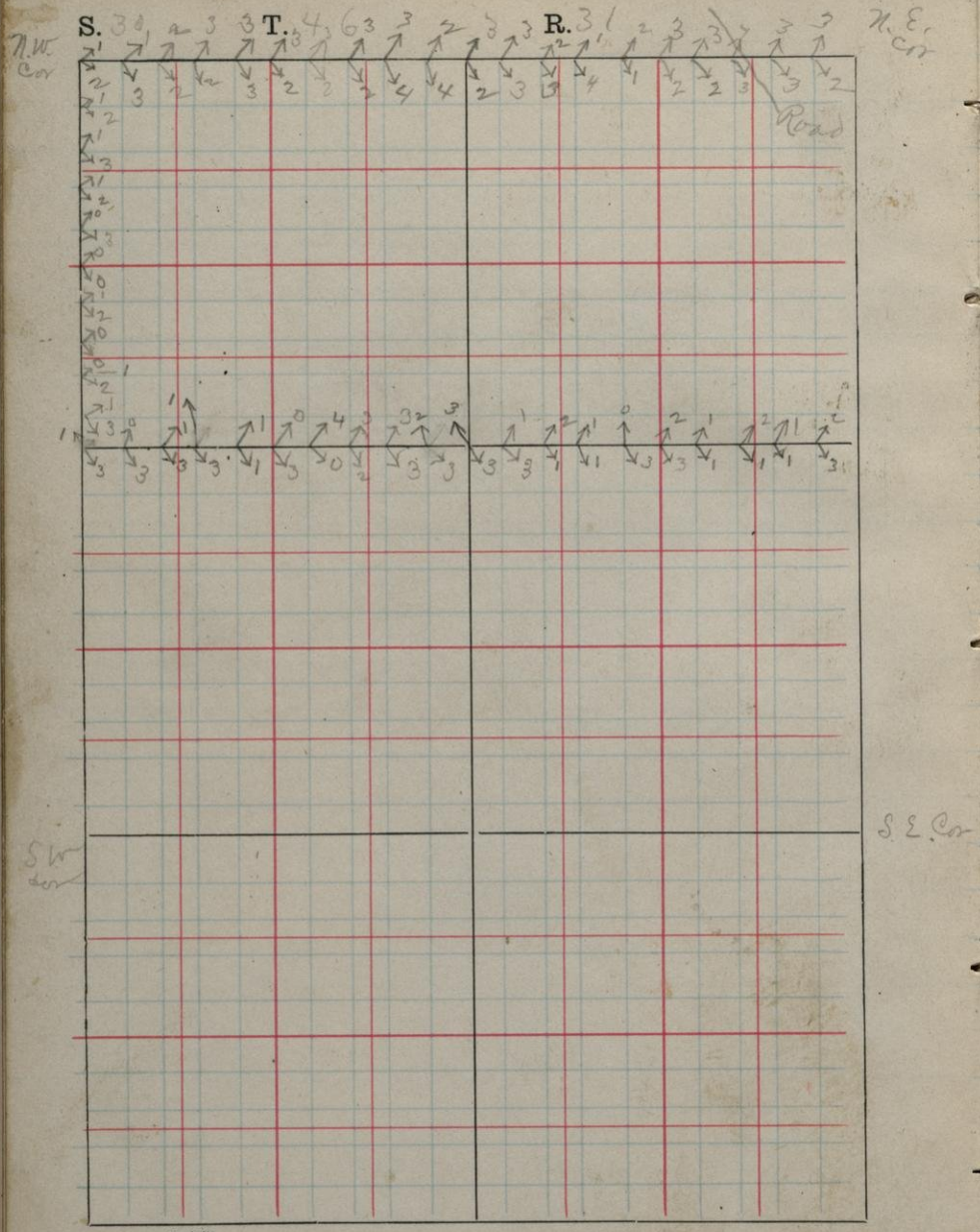

S.
T.
R.
N.W. Cor
N.E. Cor
S.W. Cor
S.E. Cor
Road

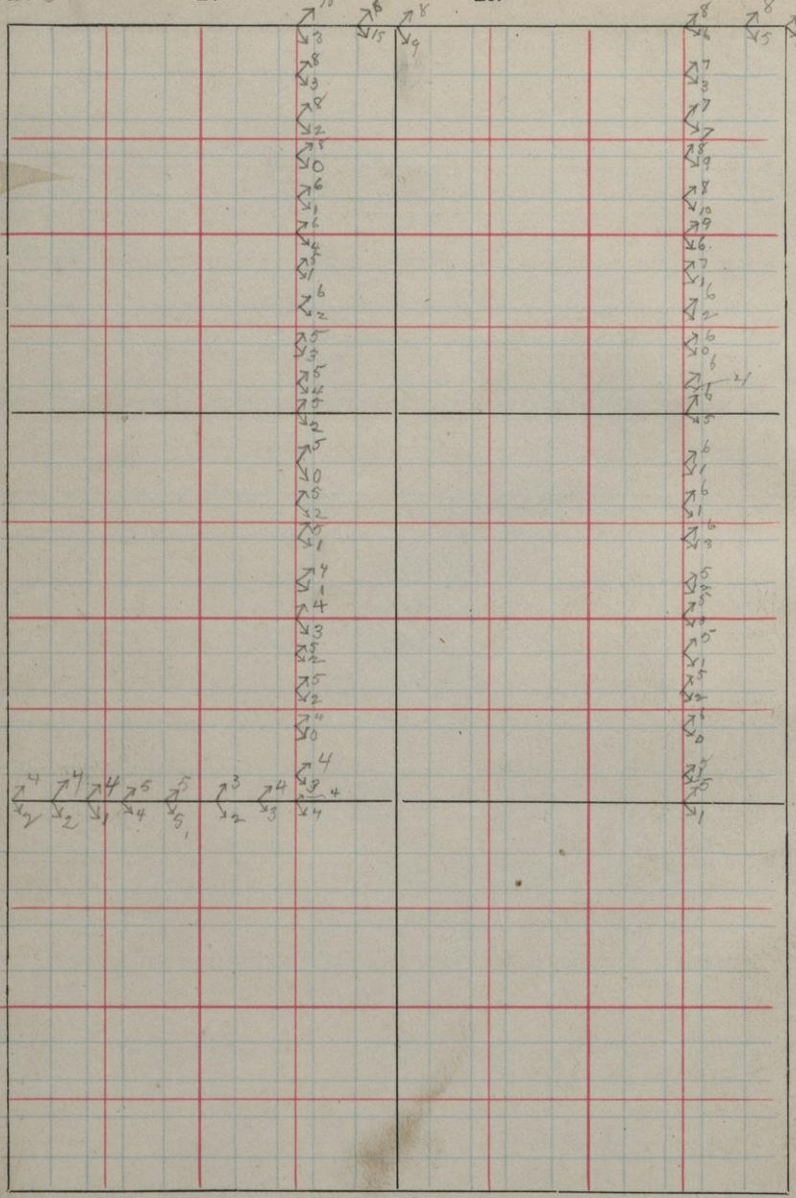
S. 35 T. 46 R. 32

N. W. Cor

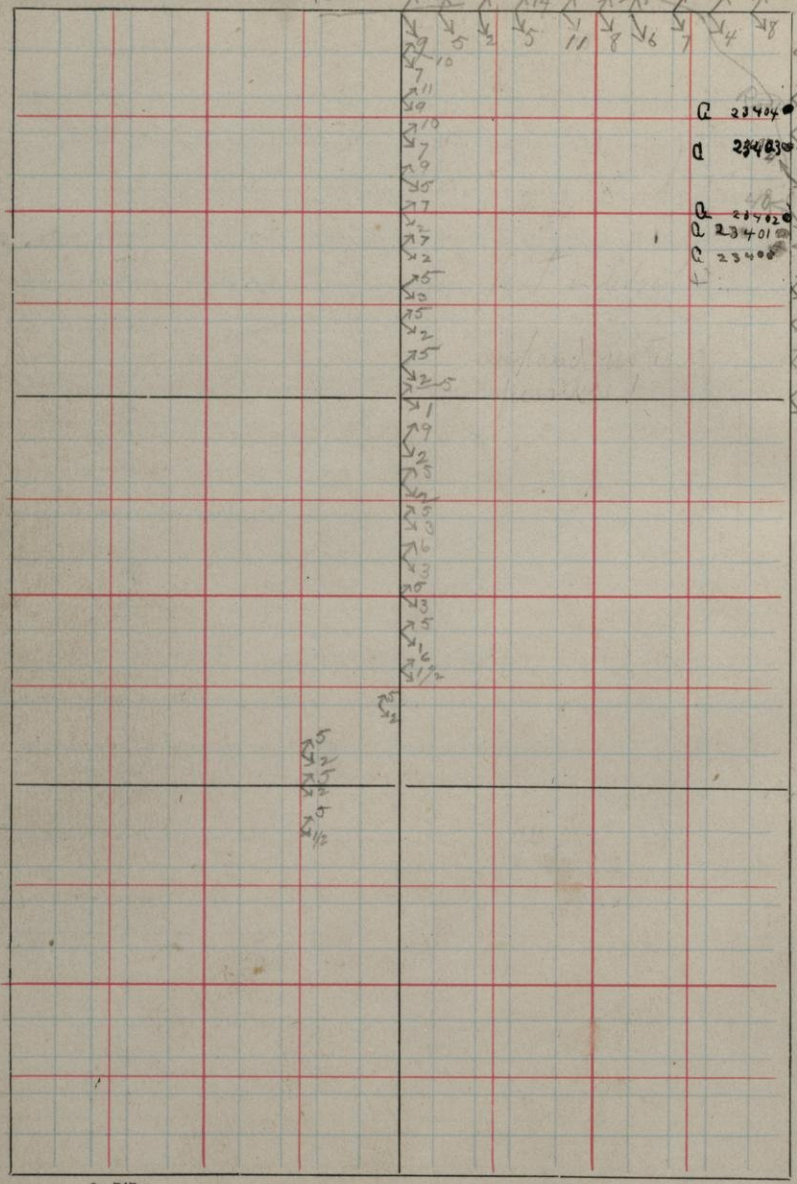
N. E. Cor

S. W. Cor

S. E. Cor



S. 1 T. 45 R. 32



6—747

Note: Found corner at 890 paces from 1/4 post Q.

23400 1400 N 30 W Sec. 1, T. 46 R 32
Outcrop 6 ft high
There are small outcrops of magnetic rock all alike apparently i.e. Nos 23400 to 23404 inclusive

23401 30 paces north of preceding

23402 1515 N 0 W

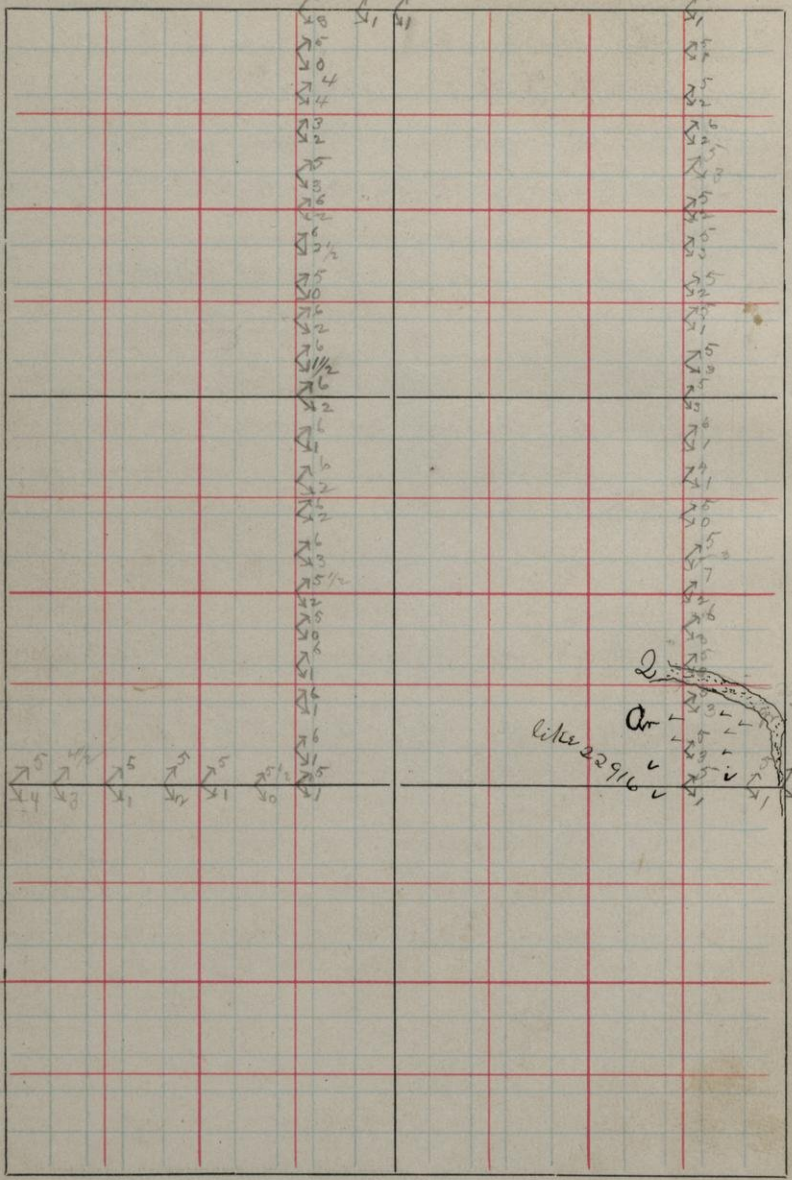
23403 1692 N 0 W

23404 1800 N 0 W

23405 75 N, 700 W Sec 36, T 46, R. 32.

23406 1970 N 215 W Sec 1, T 46, R 32,

S. 2 T. 45 R. 3 W



6—747

along the west bank of the creek in the extreme S.E. corner of Sec 2 is an outcrop of gneissic or quartz schist

It shows current bedding in some places in others mica has been developed and in still others quartz pebbles are seen. No true bedding could be made out

It lies against a bed of gneissic rock which latter is exposed at intervals for a long distance west.

Coke 22916 Note Granite specimens by Dr Clements

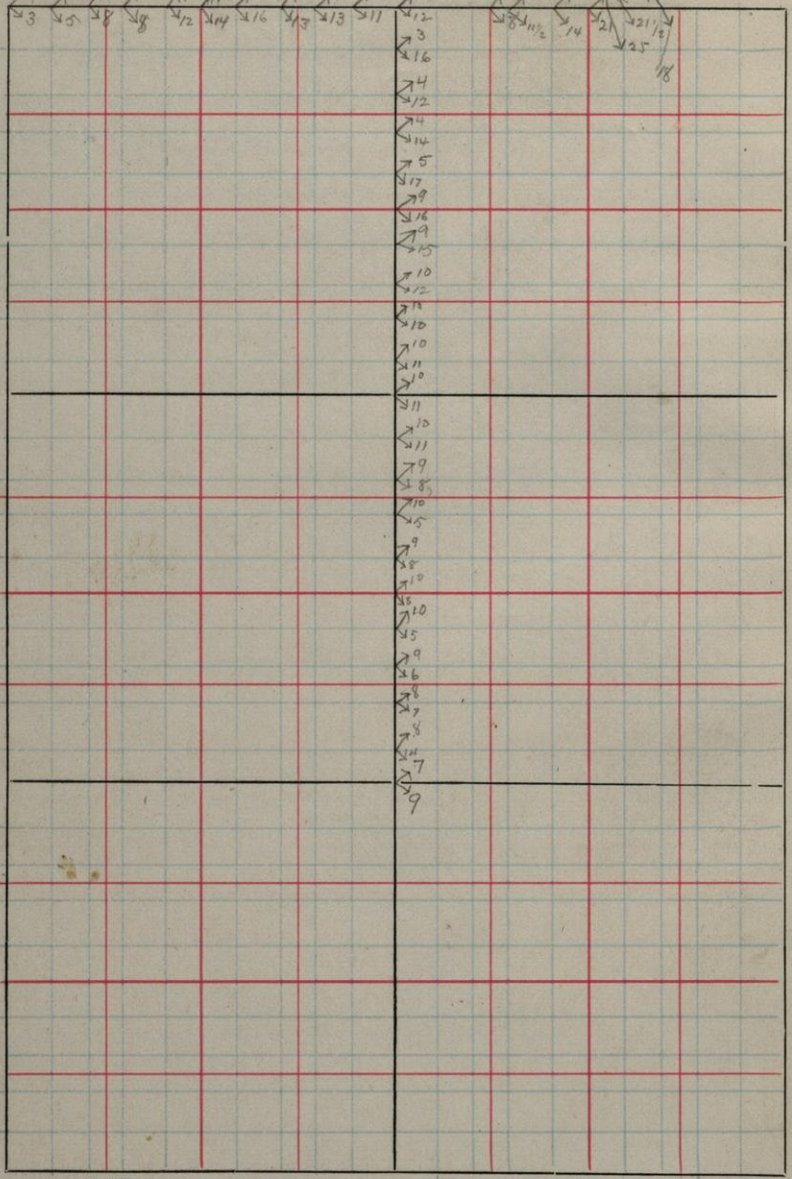
S. 36 T. 46 R. 32

NW C.

NE C.

SW C.

SE C.



6—747

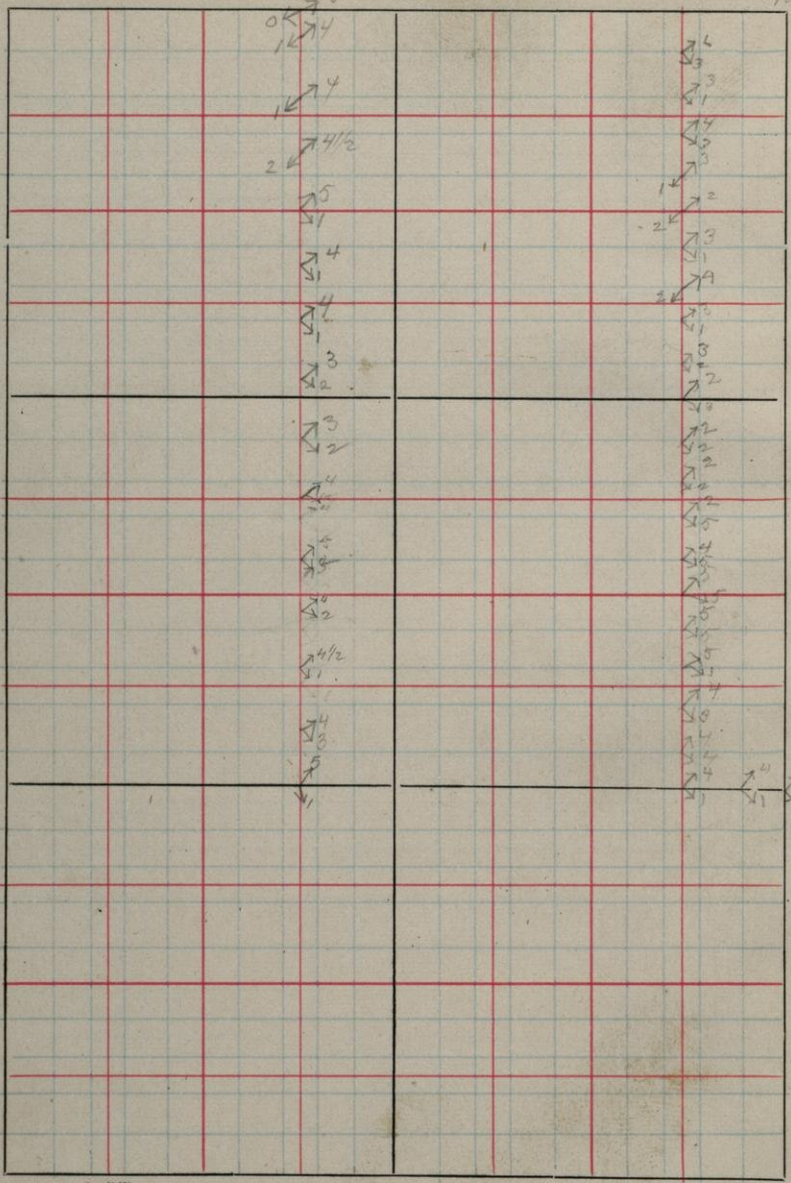
S. 34 T. 46 R. 32

NW C

NE C

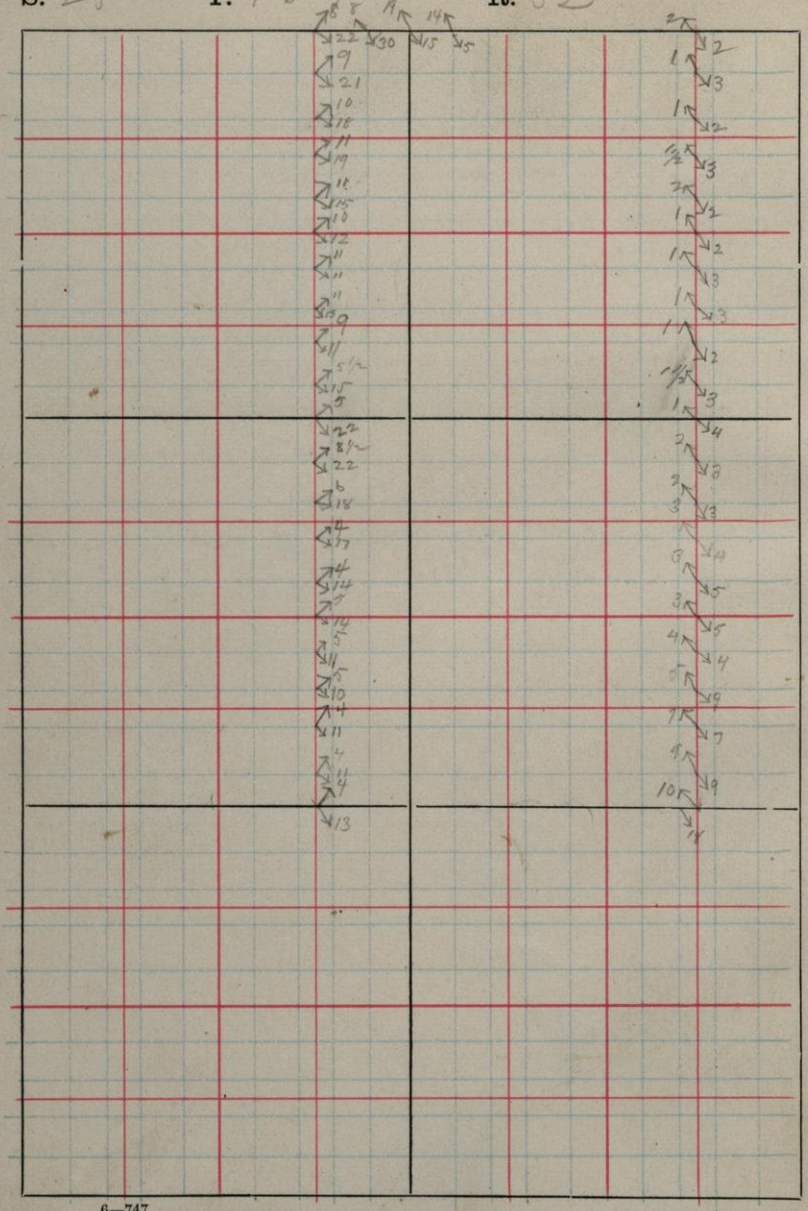
SW C

SE C

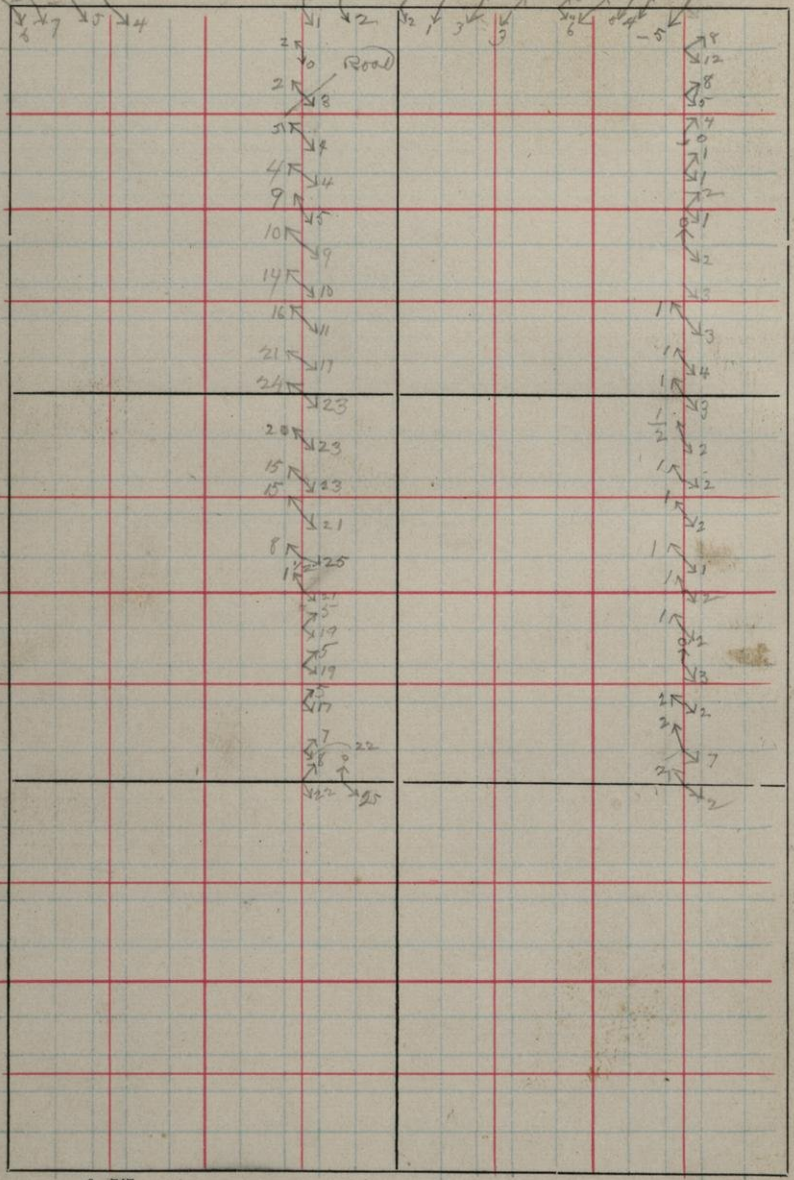


6—747

S. 25 T. 46 R. 32

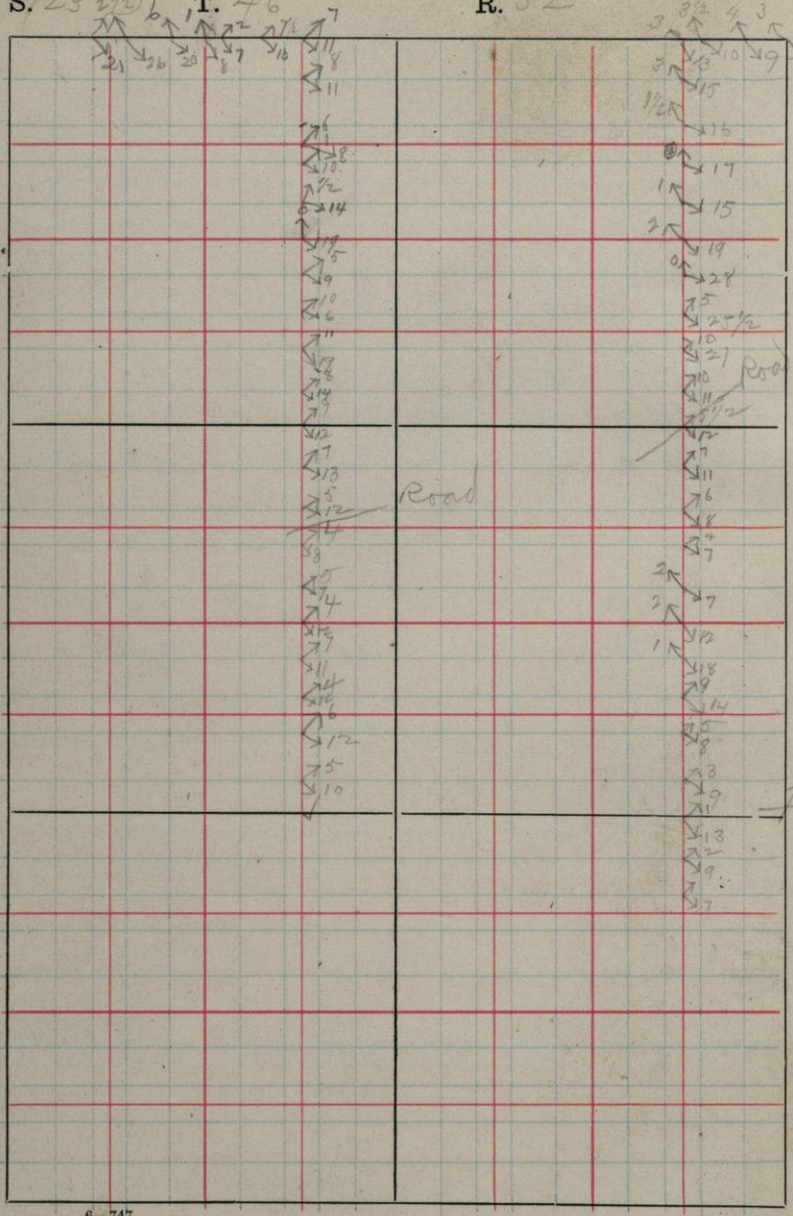


6—747



6—747

S. 23 T. 46 R. 32



6—747

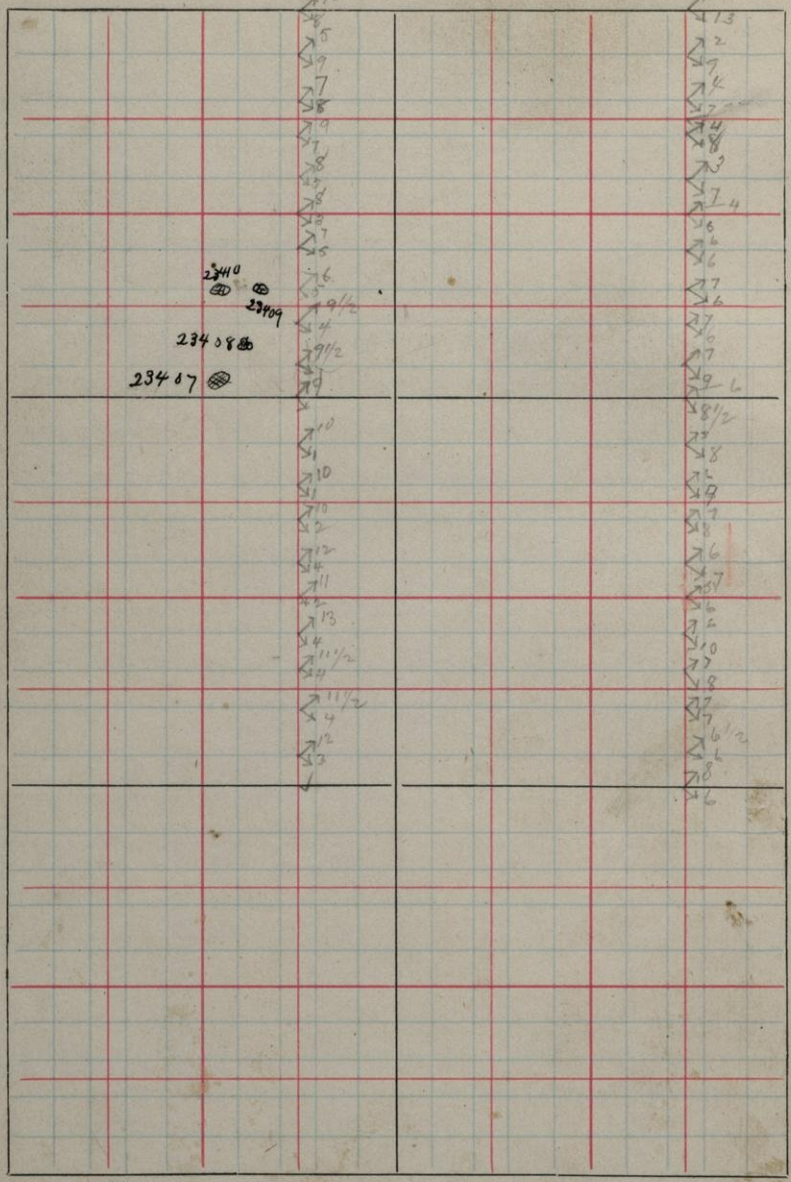
S. 26 T. 46 R. 32

NW C

NE C

SW C

SE C



6—747

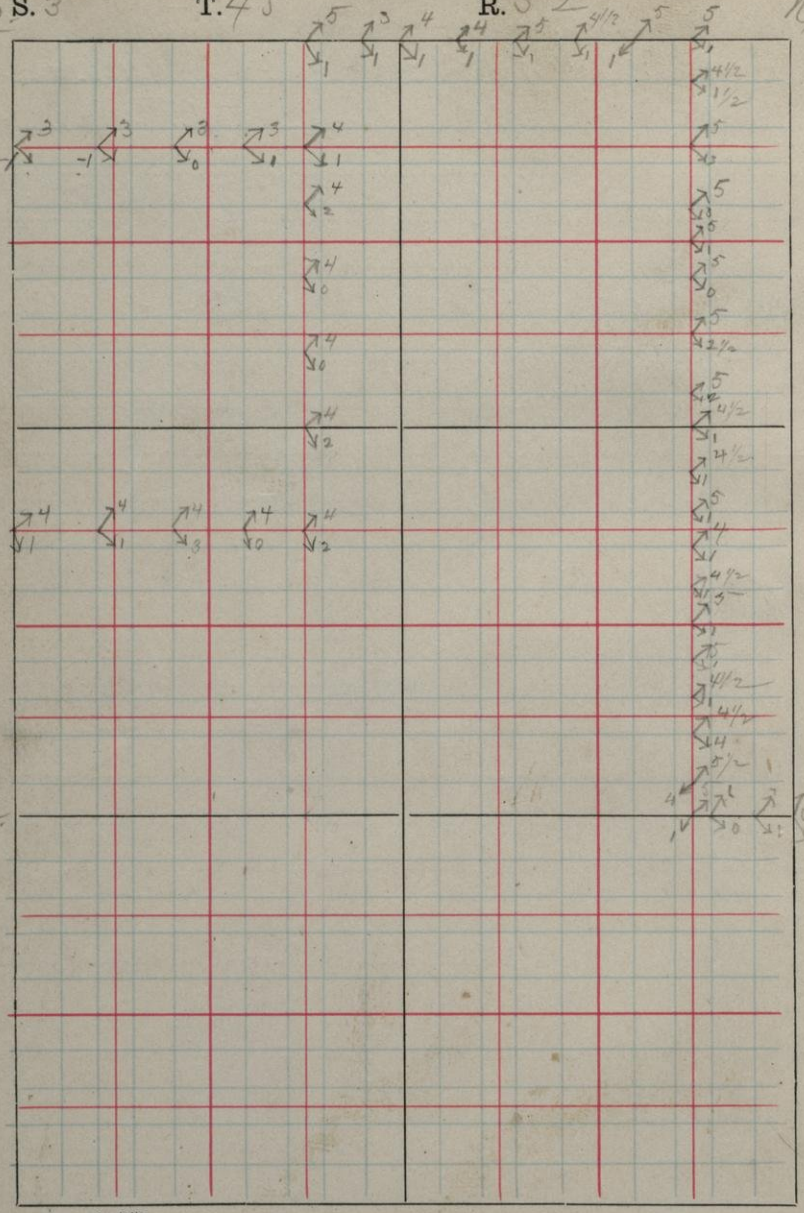
23407 Small, mound-like outcrop of a basic eruptive (diabase) 1410 W, 1060 N

23408 Same rock 130 NE of preceding

23409 1300 N 1350 W

23410 1300 N. 1450 W

NW c. S. 3 T. 45 R. 32 N.E.c



S.W.c. S.E.c.

6—747

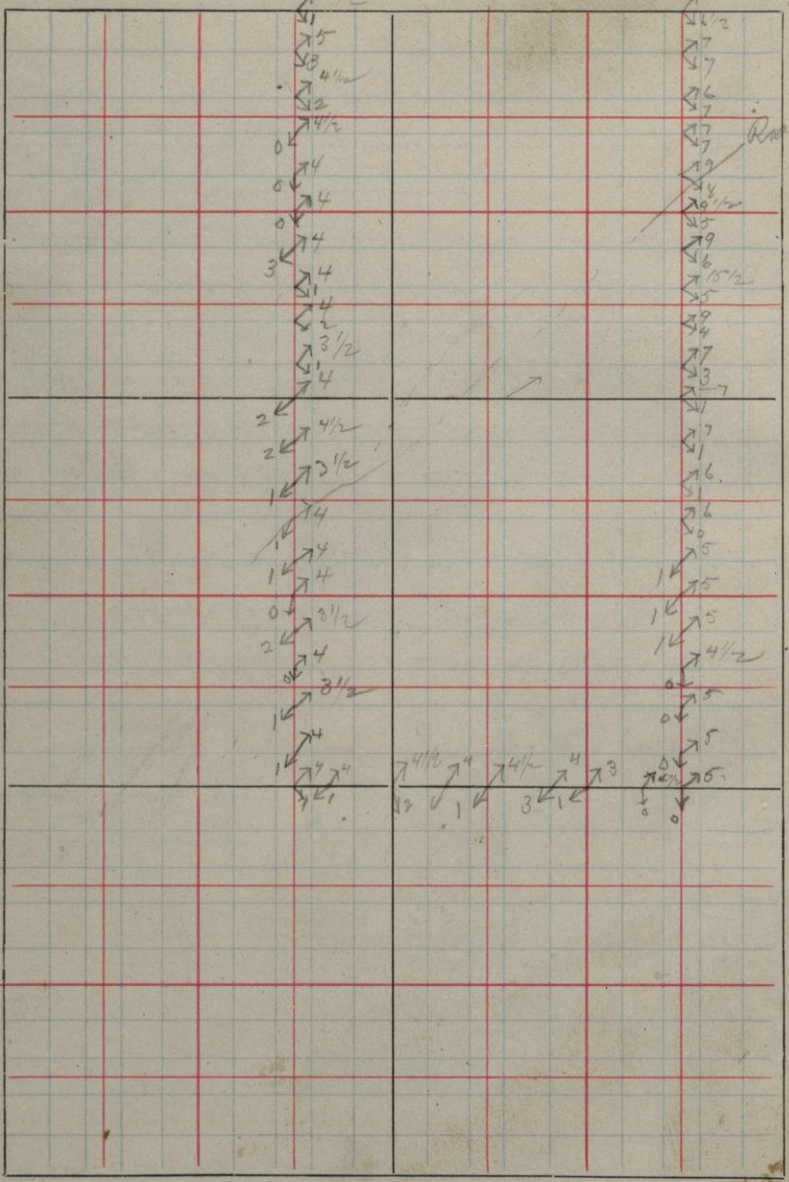
S. 27 T. R.

N.W. C.

N.E. C.

S.W. C.

S.E. C.



6—747

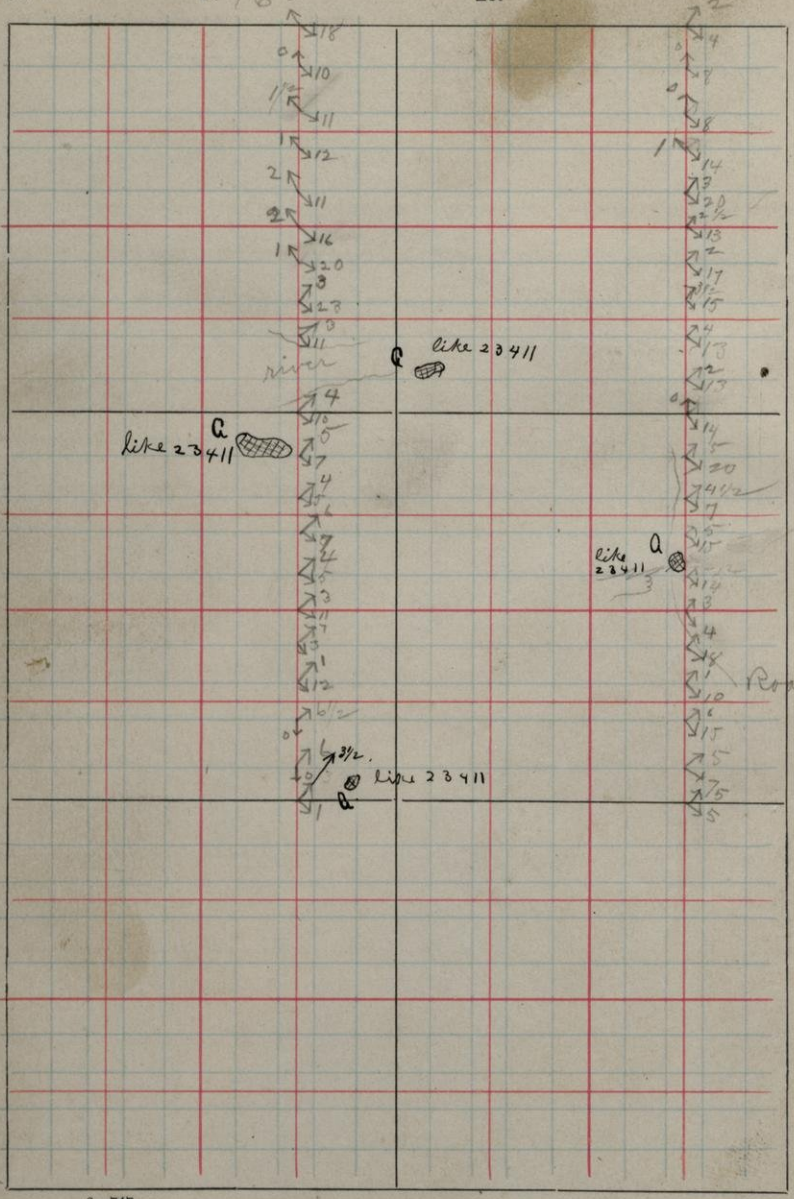
S. 22 T. 46 R. 32

N.W. C.

N.E. C.

S.W. C.

S.E. C.



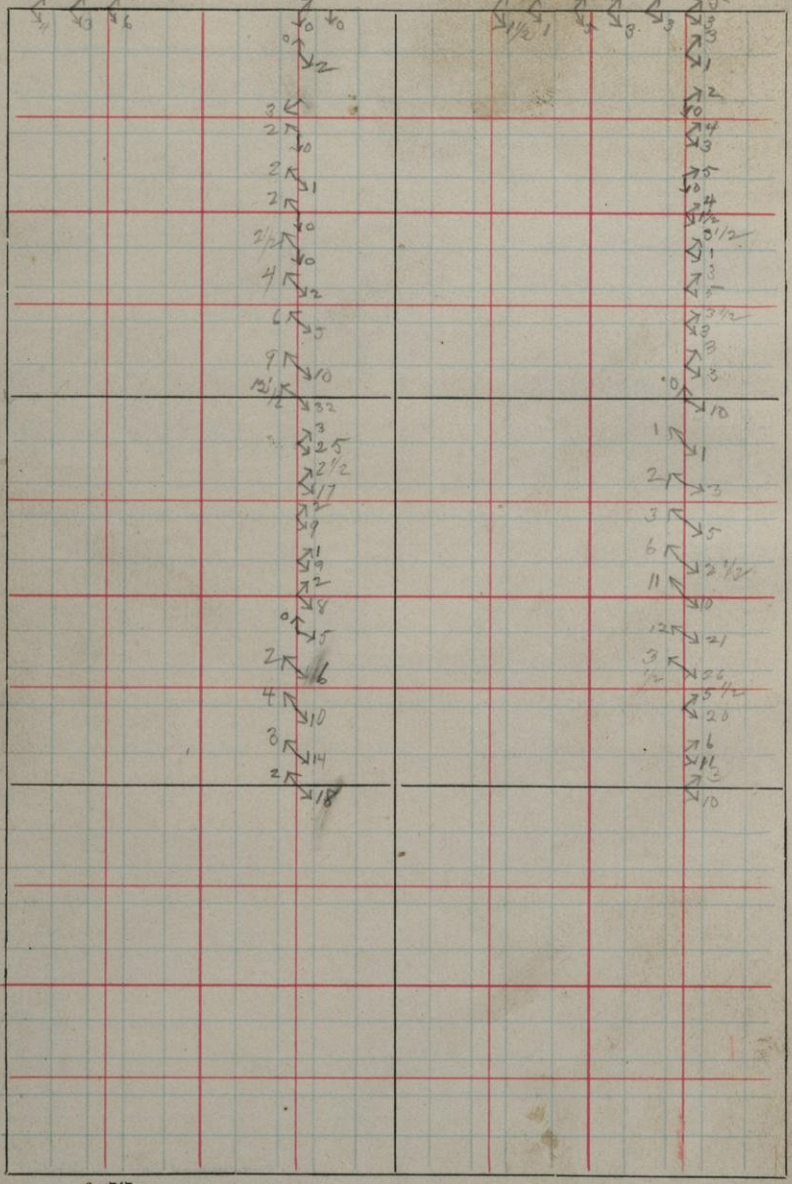
6—747

23411 645 N 280 W

like 23411 1280 W to 1400 W and 900 N rock like No 23411
like 23411 1150 N 900 W Same "
like 23411 75 N 1120 W " "

like 23411 620 N 260 W

S. 15 T. 46 R.



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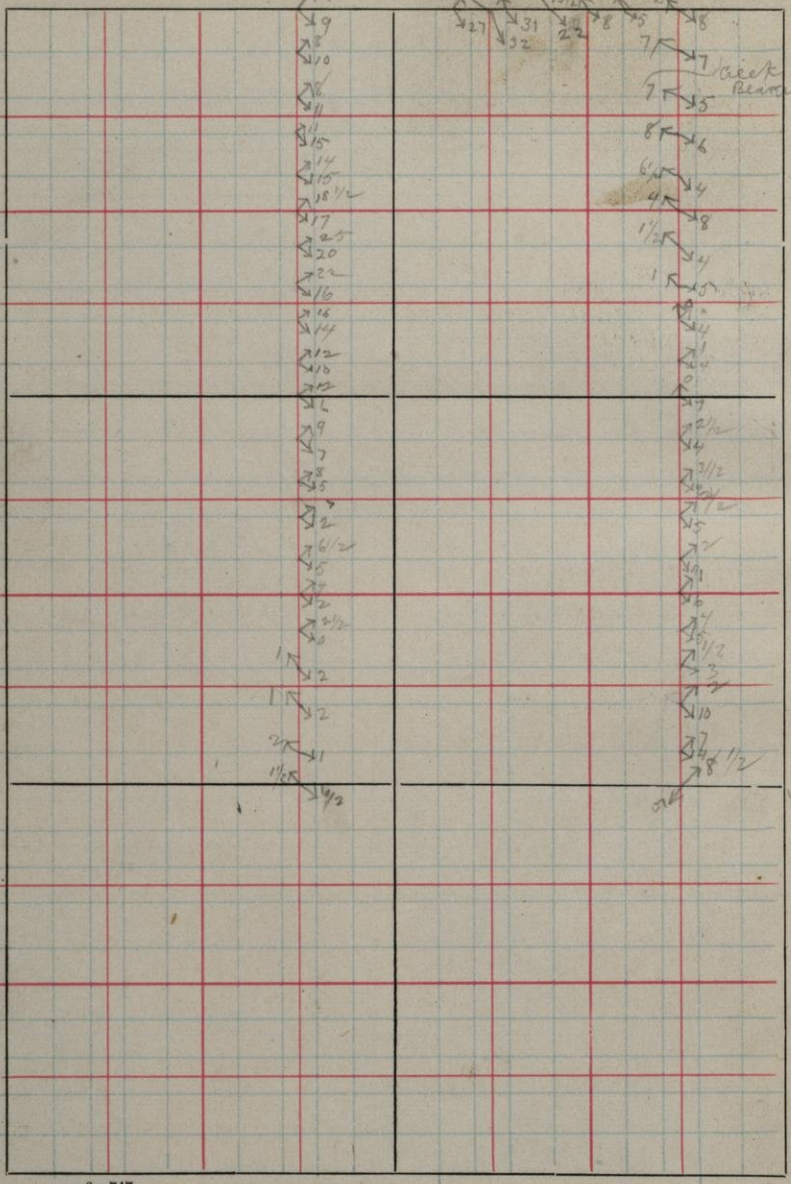
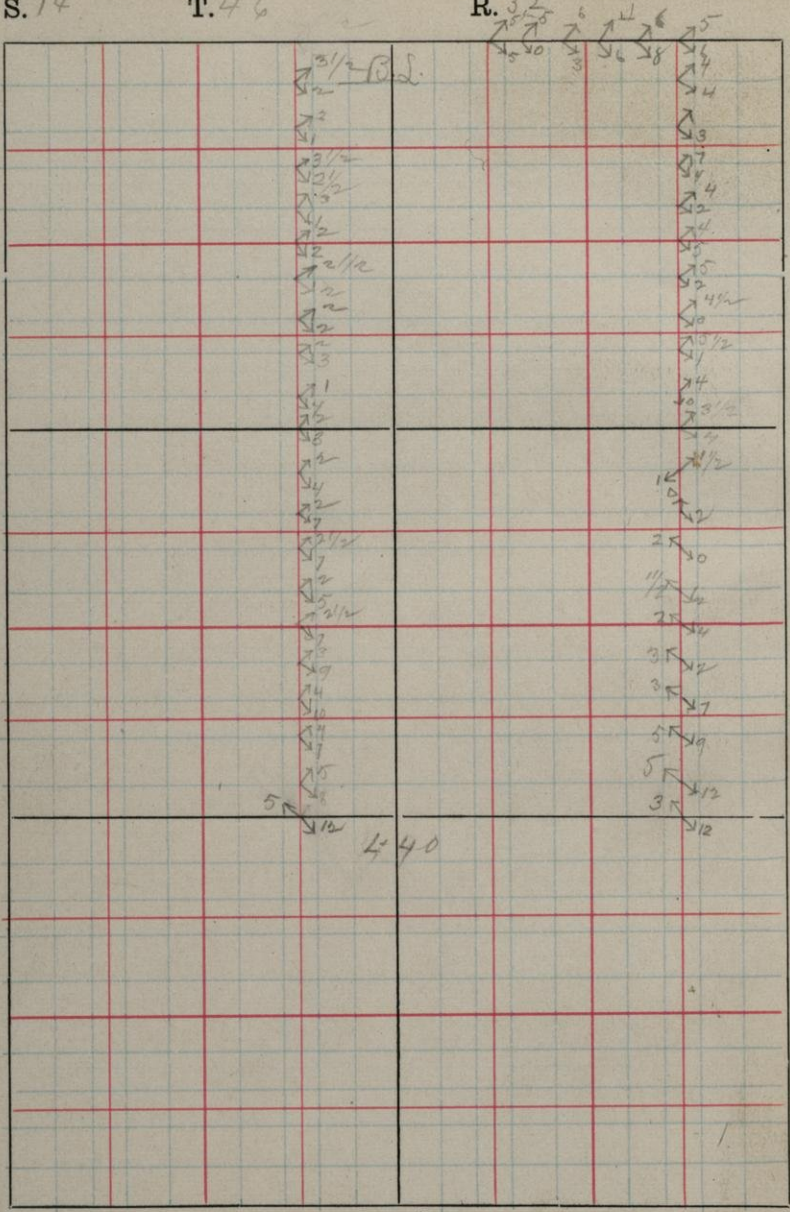
S. 13 T. 46 R. 32

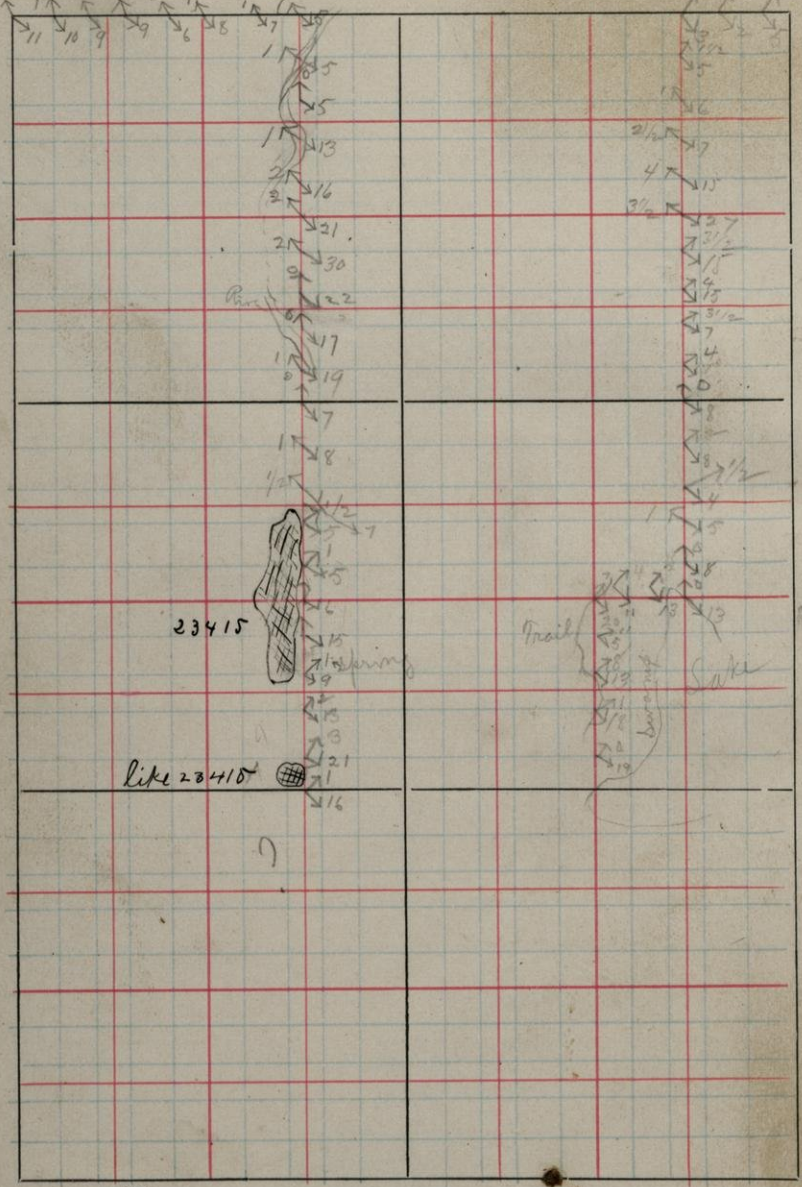


S. 14 T. 46 R.



6—747

S. 16 T. 46 R. 32



6—747

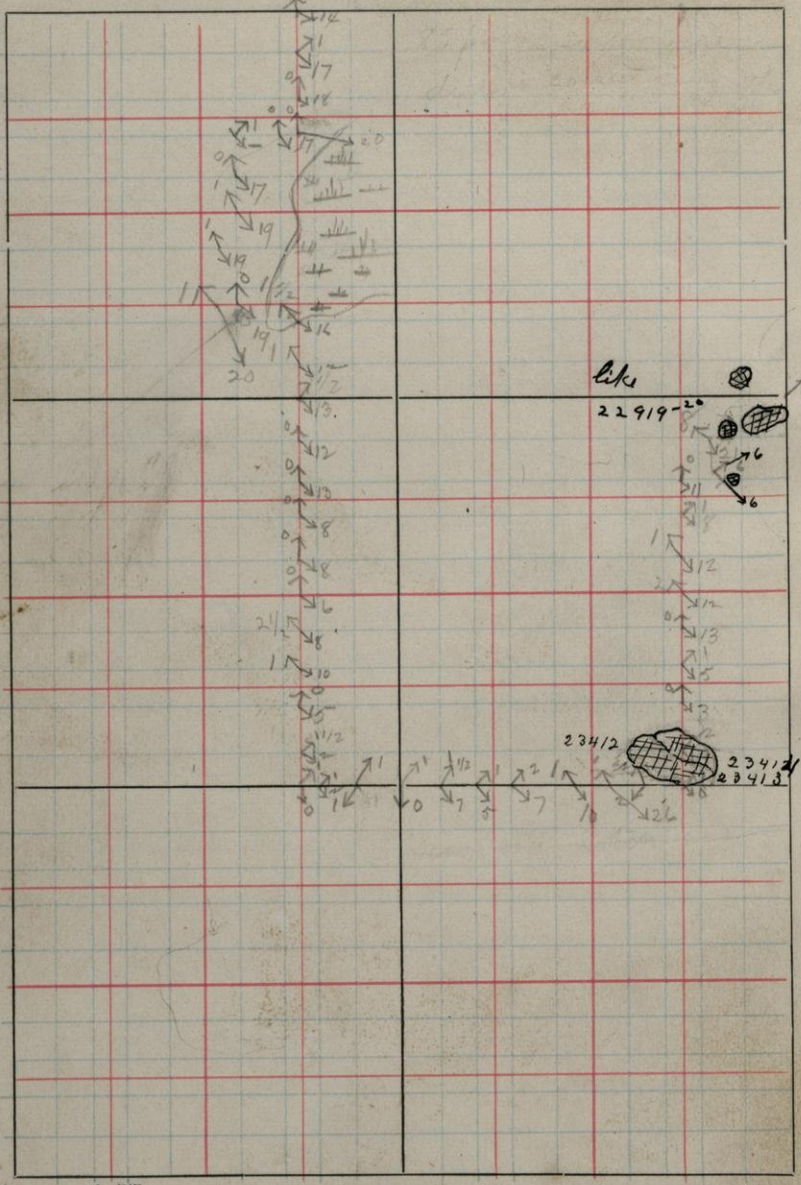
Note These rocks affect the needles somewhat

23415 350 N 1250 W
Hornblende schist (altered greenstone)
a large exposure, The rock is the
same as that near our camp
at Bone lake x

Like 23415 1250 W 50 N

x The specimen 23415 was taken
from a thin sheet in the
exposure which exposure as a whole
is like that from which 22919-20
were taken. Like them it repre-
sents a special phase of the
rock, the general character
of which is shown by other
specimens.

S. 21 T. 460 R. 32



6—747

like 22919-20 960 N 15 W SE Cor. S 21-46-32.
Large outcrop same as at Bonsdale camp

like 22919-20 1060 N 100 W. Same rock

like 22919-20 900 N 150 W " "

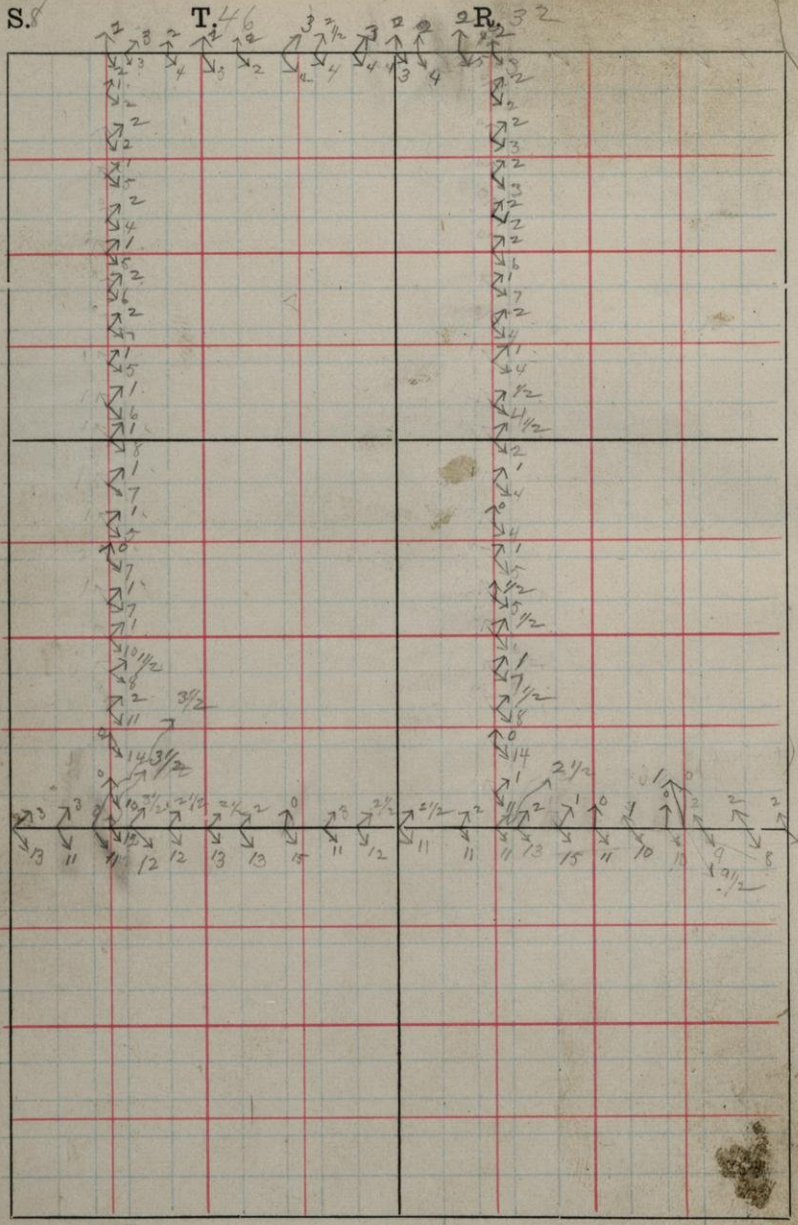
like 22919-20 800 N 145 W " "

like 23412 170 N 250 " " " " Large body

23412 70 N 400 W Same rock but shows much hornblende in layers

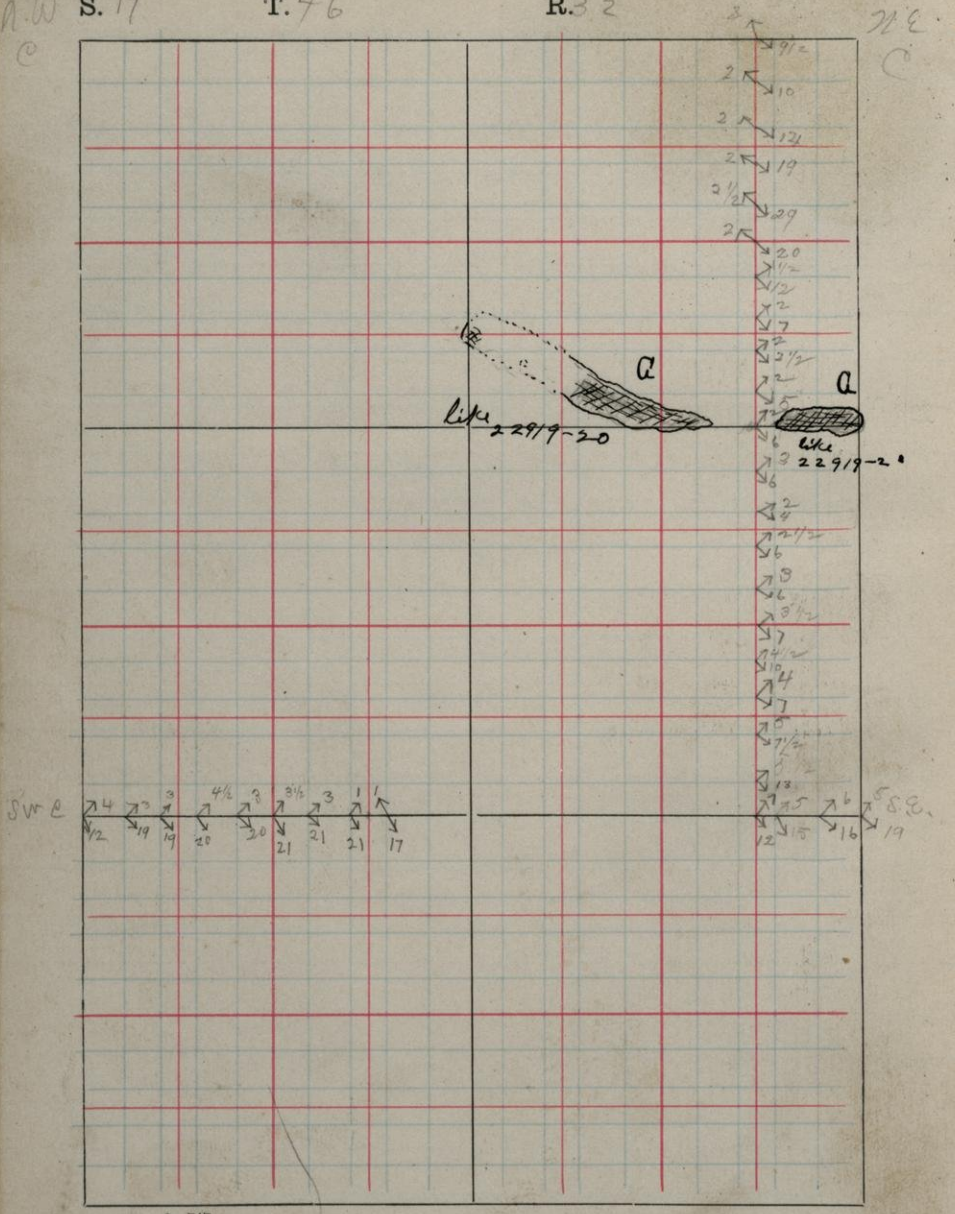
23413 270 W 15 N fine grained phase
23414 250 W 50 N coarse " "
Same rock

S. 8 T. 46 R. 32



6—747

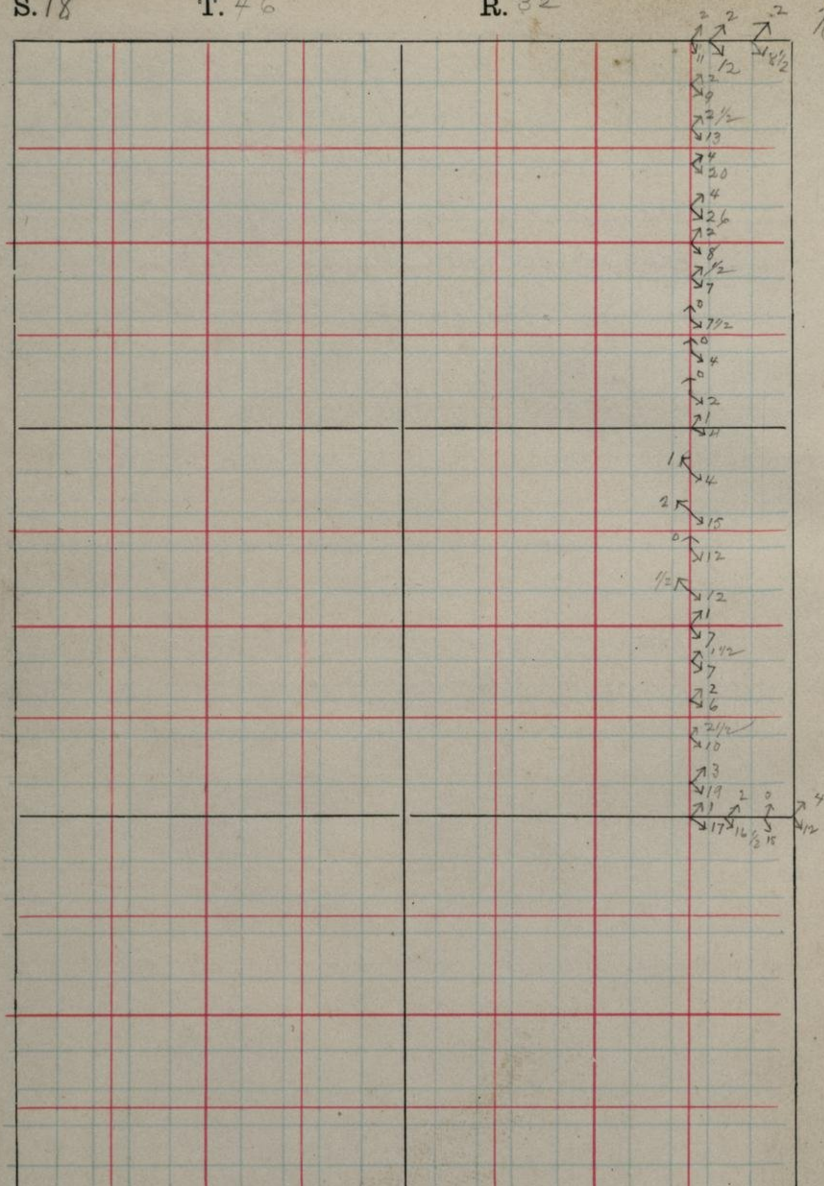
N.W. S. 17 T. 46 R. 32 E.



6—747

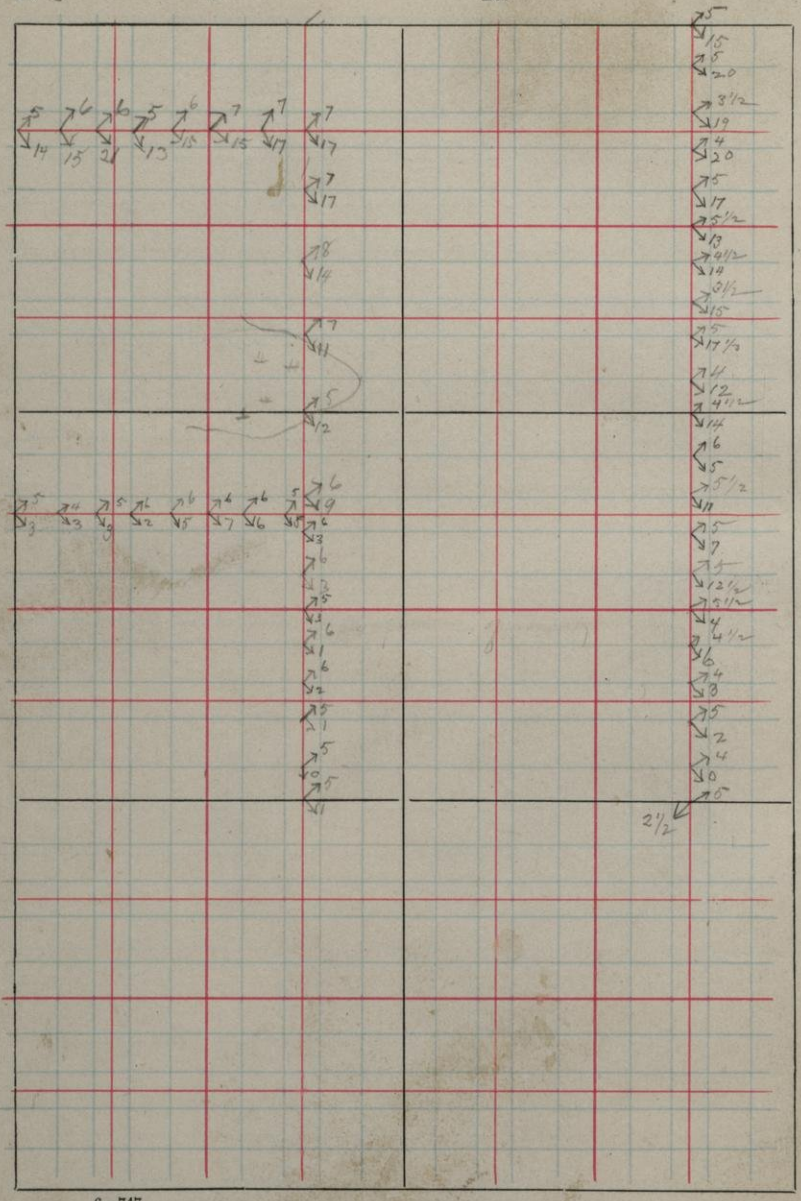
Lake 22919-20 1000 ft SW to 700 ft a large outcrop forms the north wall of a valley. The rock shows at frequent intervals along the side of the valley and forms cliffs 25 ft high at the east end of the exposure. It is the same rock as at camp at Bone Lake No. 22919-20

N.W. S. 18 T. 46 R. 32 N.E.



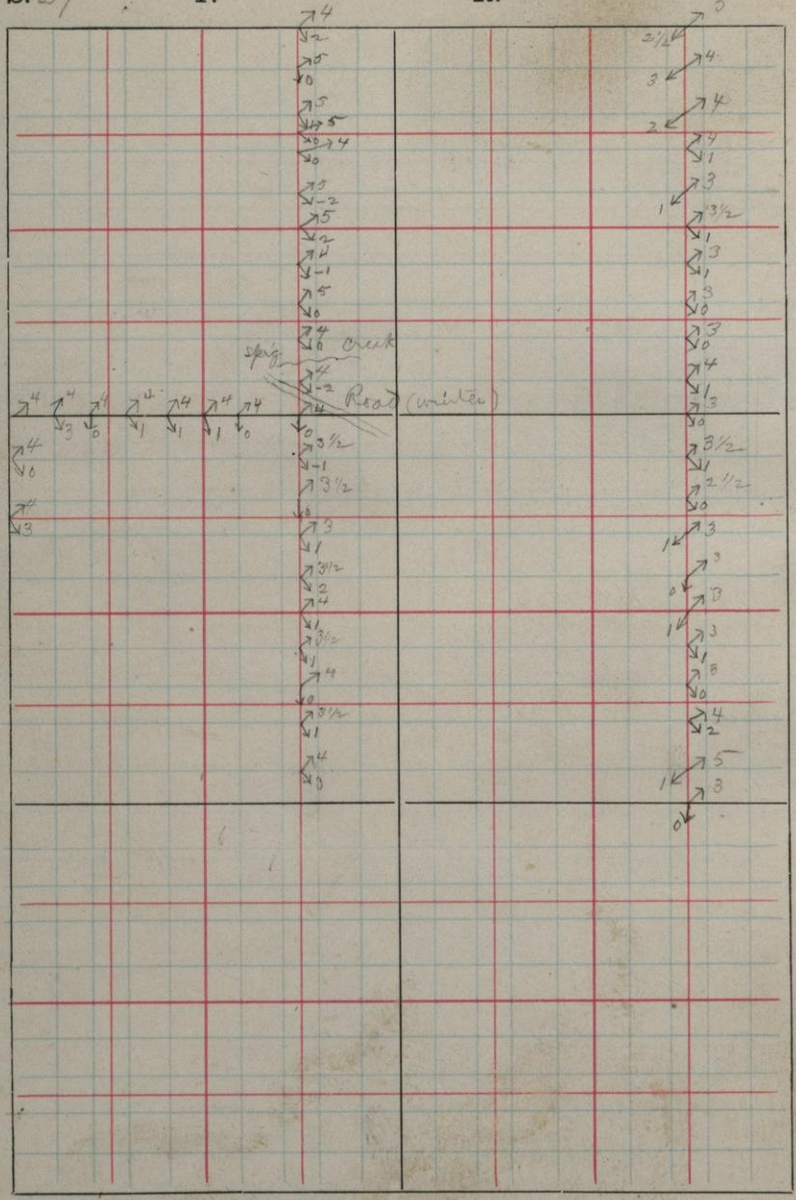
6—747

S. 20 T. 46 R. 32



6—747

N.W.C. S. 29 T. 46 R. 32 N.E.C.

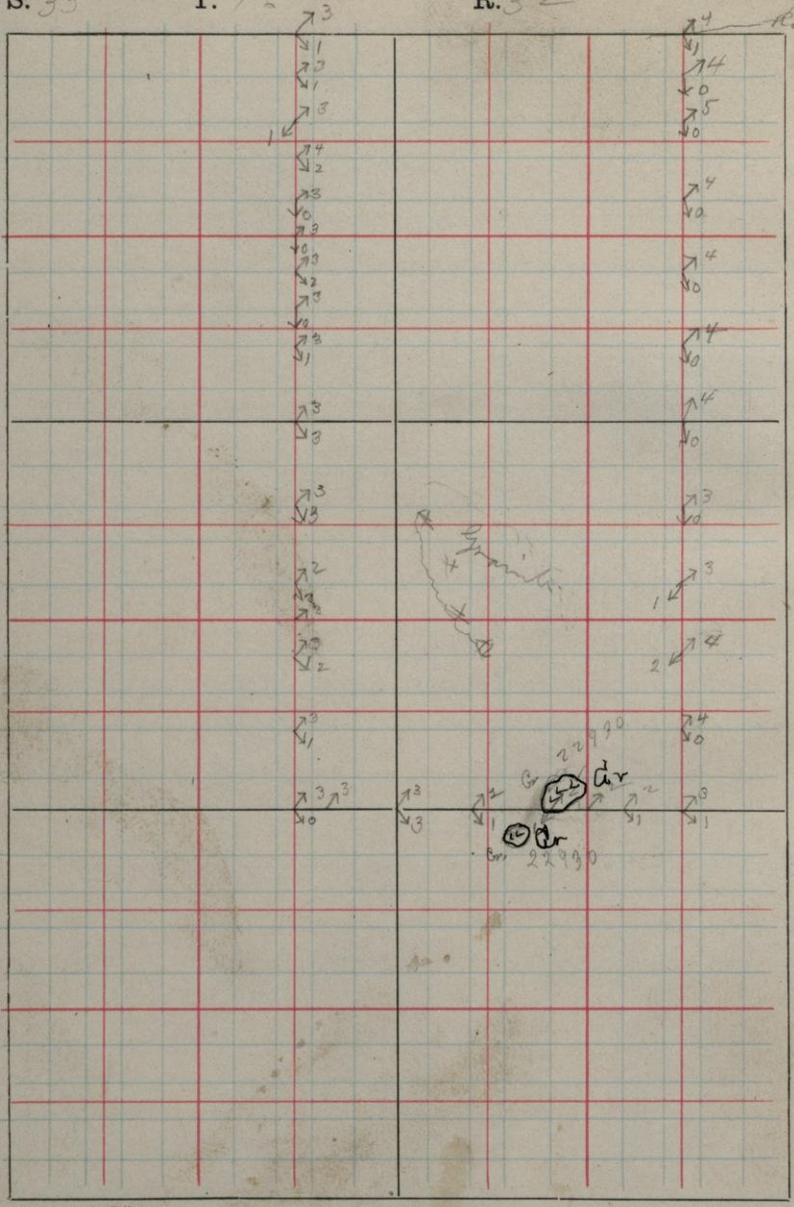


S.W. Cor.

S.E. Cor.

6—747

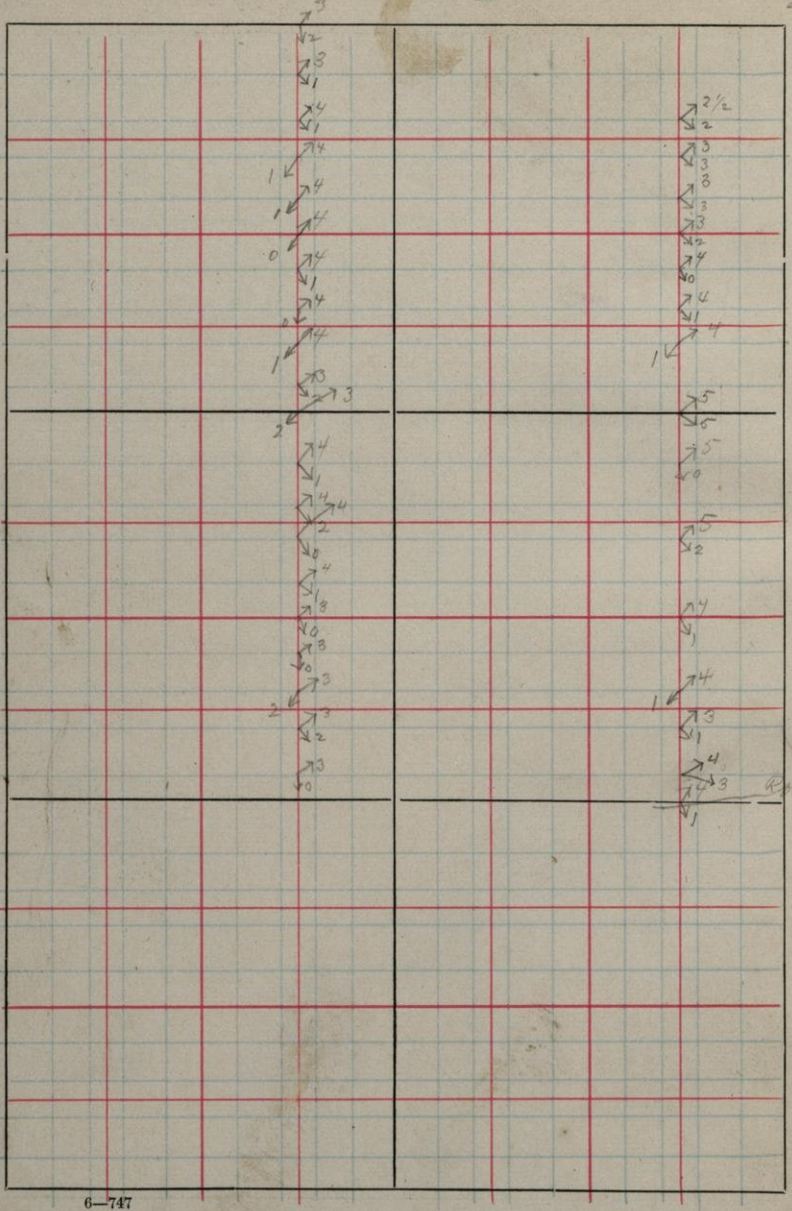
S. 33 T. 46 R. 32



6—747

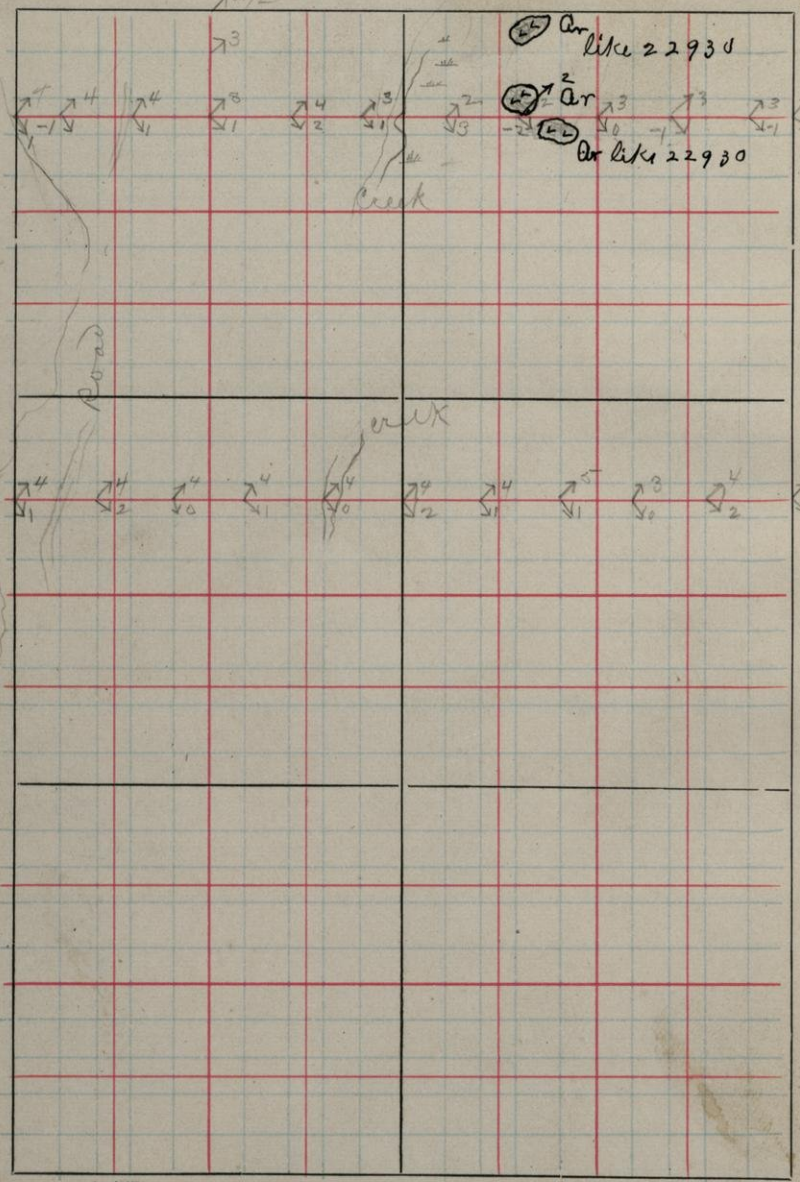
Ark 22930 Granite – o n. 550 w, same as

S. 28 T. 46 R. 32



6—747

S. 4 T. 45 R. 32



6—747

like 22930 1752 N 680 Granite-like
~~22430~~

like 22930 Another outcrop 80 p S.E.

like 22930 1940 N 700 W outcrop of same rock

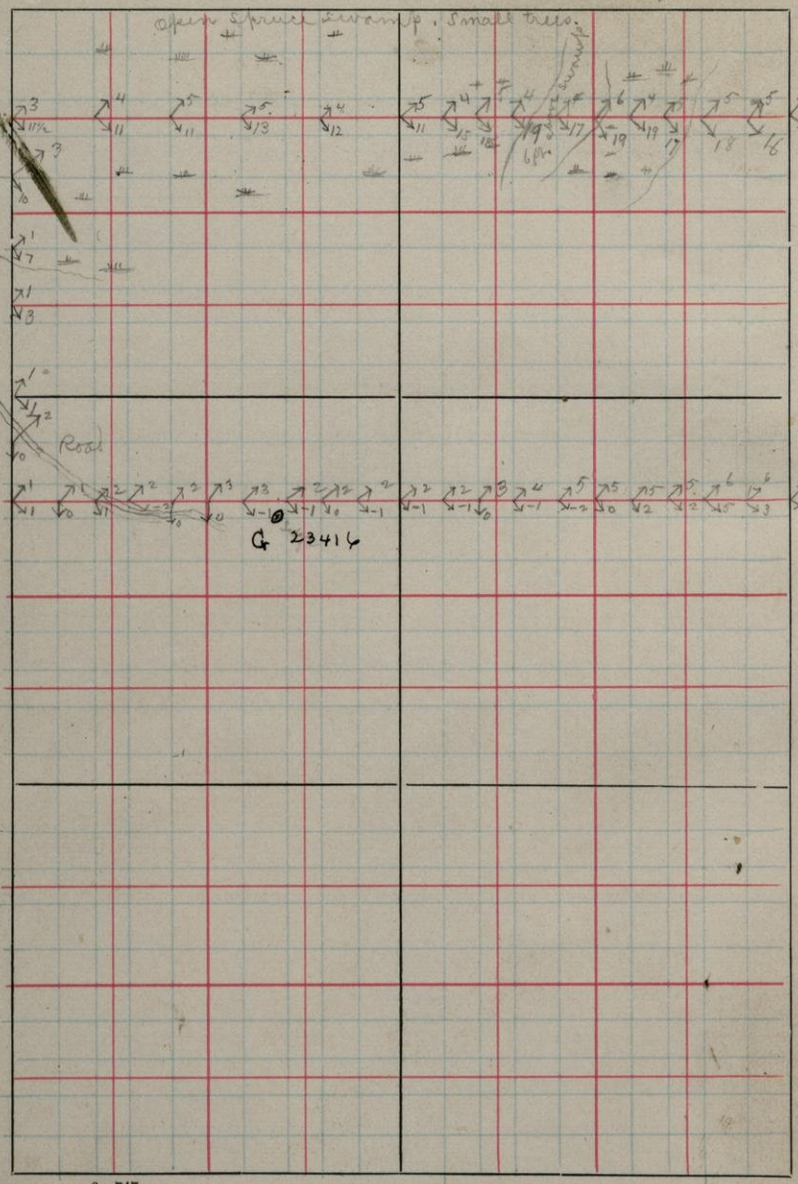
S. 19 T. 46 R. 32

NW cor

NE cor

SW cor

SE cor



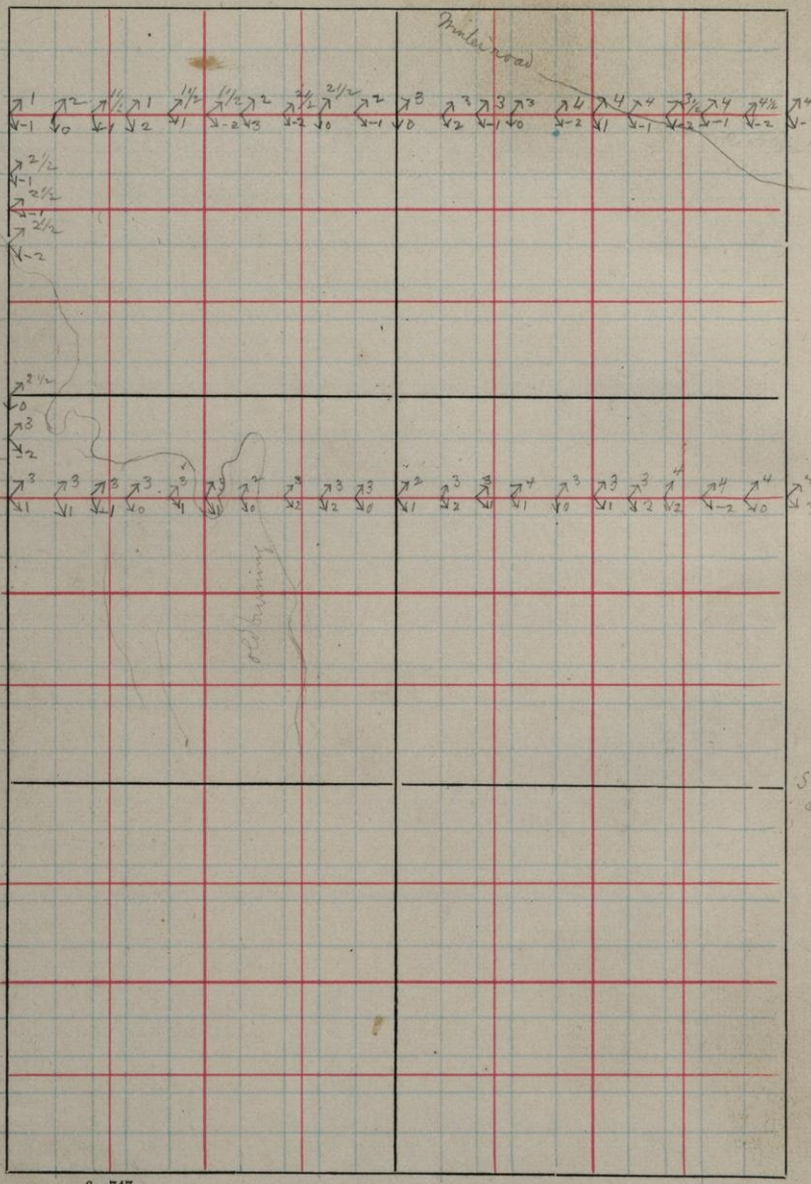
6—747

23416 Ledge (2) of greenstone (2) ~~490~~ 690 N. 1325 W
The outcrop is a very little one on side
of a small hill. It may be a boulder

N.W. Cor

S. 30 T. 46 R. 32

N.E. Cor



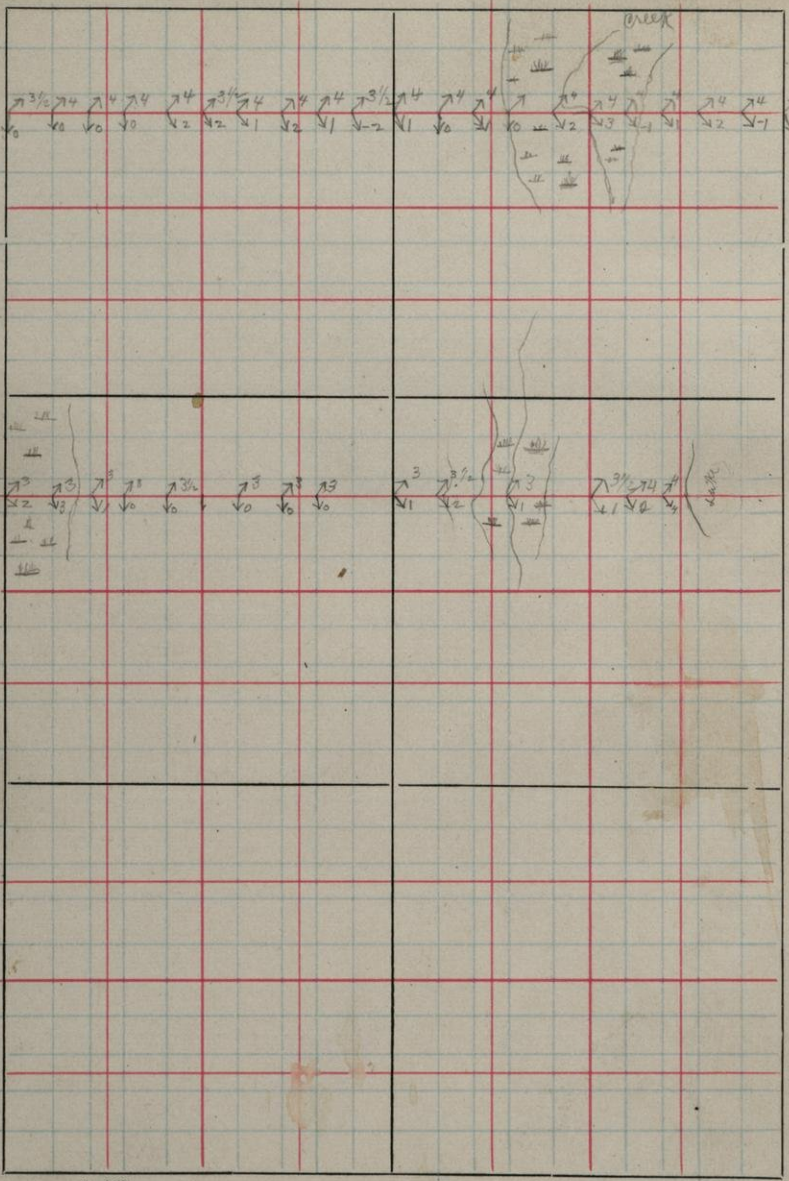
S.W. Cor

S.E. Cor

N. W. Cor

S. 32 T. 46 R. 32

N. E. Cor



S. W. Cor

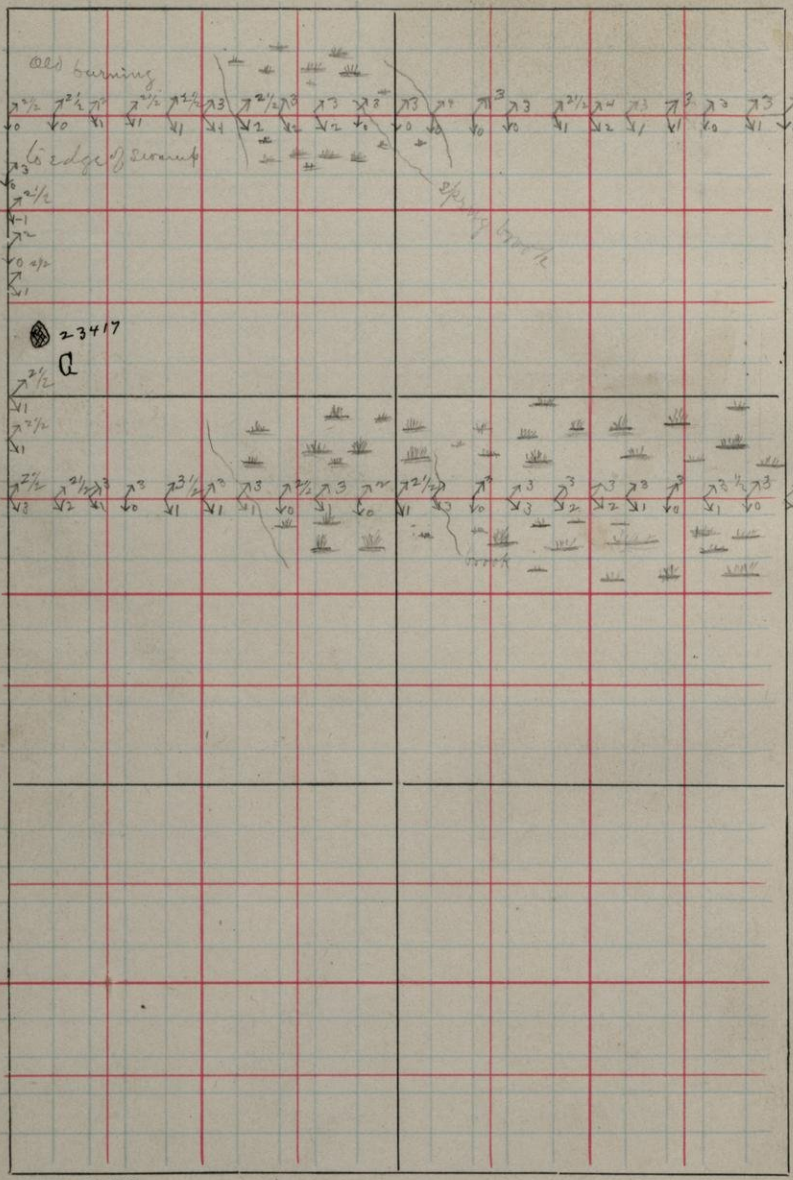
S. E. Cor

6—747

Cor

$\frac{1}{4}$ at Lake

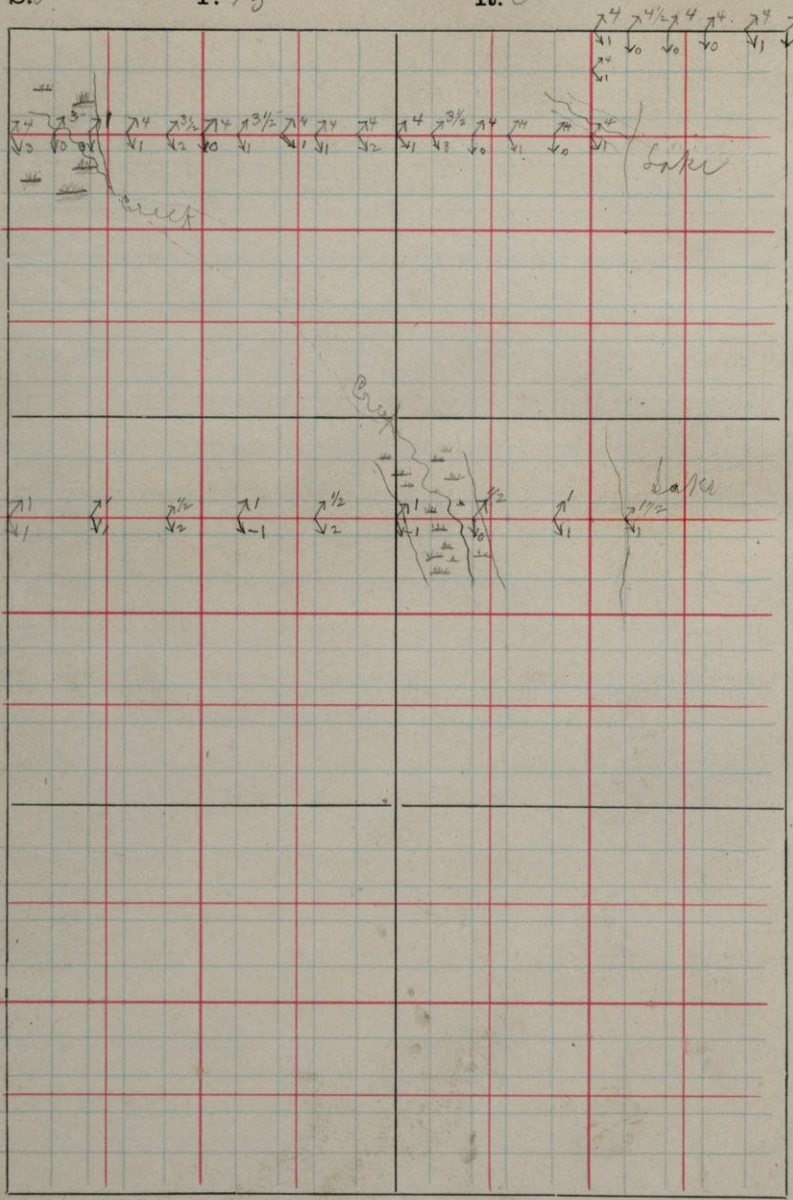
N.W. Cor. S. 31 T. 46 R. 32 N.E. Cor



6—747

23417 1160 ft 19/10/15
dip steep 6 ft. Strike S.E by S

S.5 T.45 R.32



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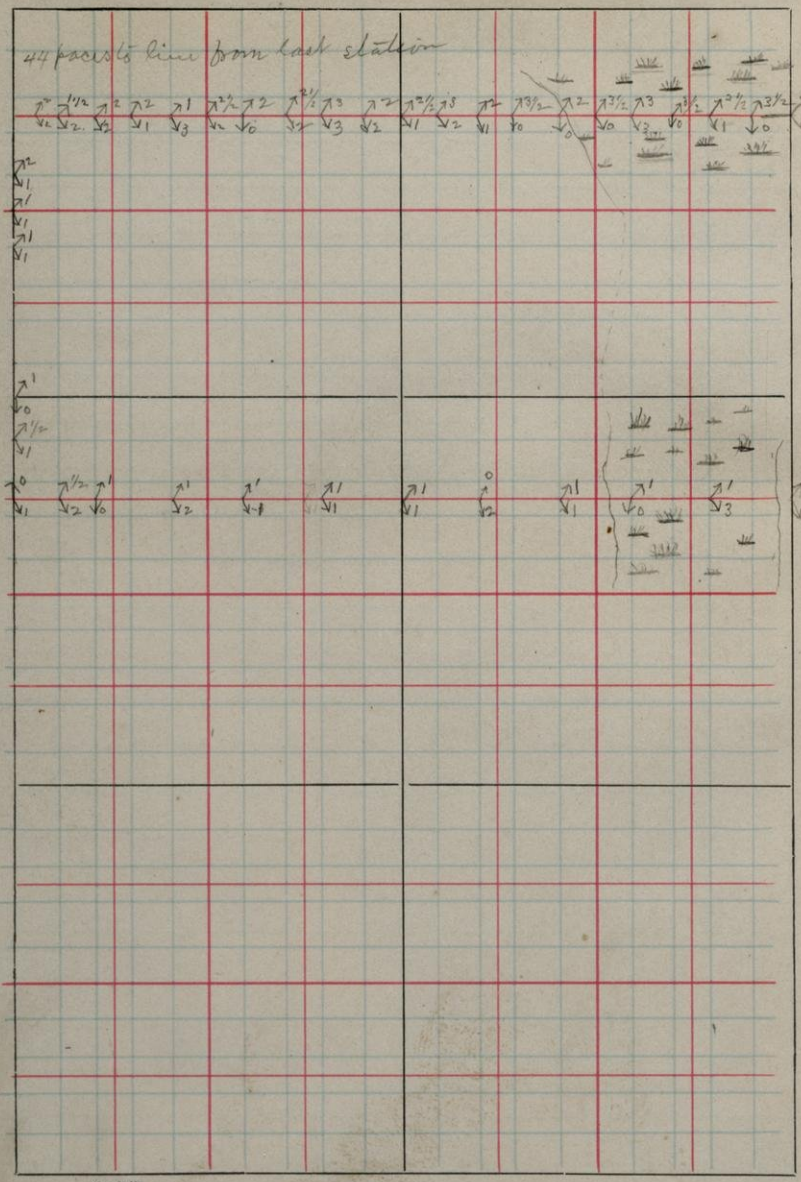
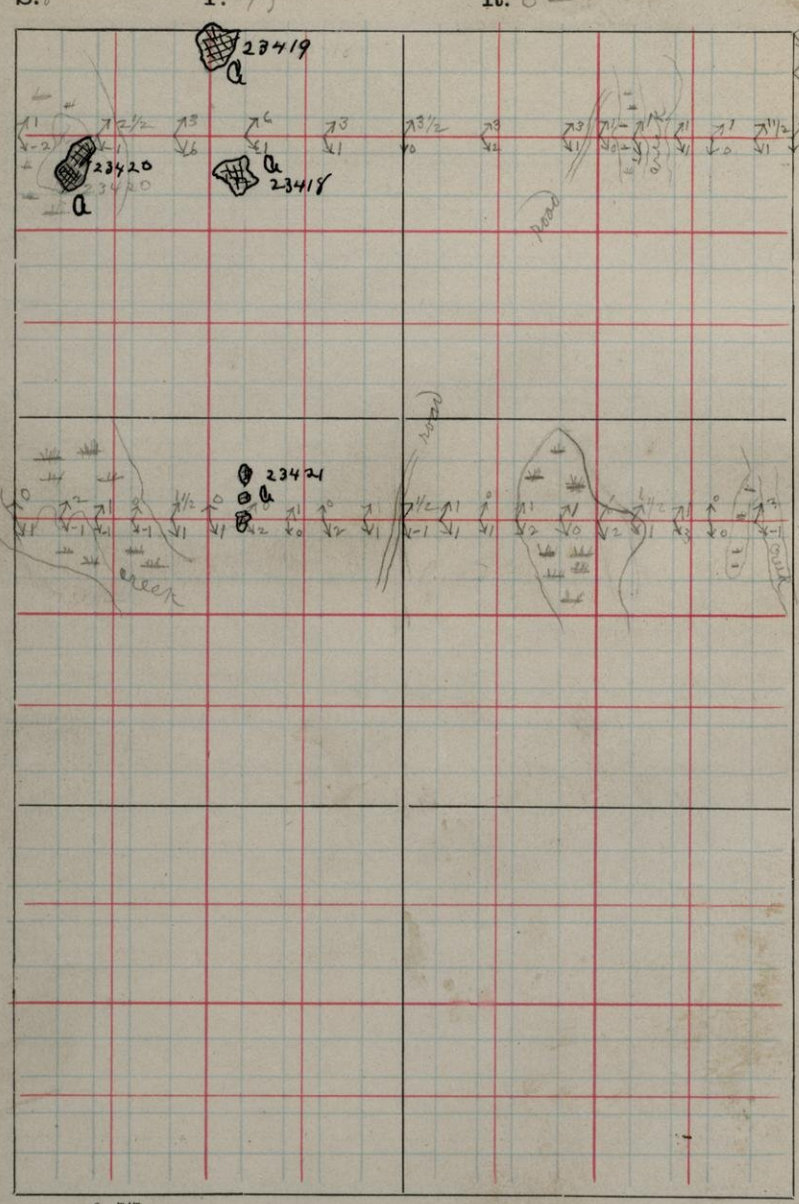


S. 8 T. 45 R. 32



6—747

23418 1690 N 1400 West. Greenstone

23419 1500 W 1900 N same as 23418

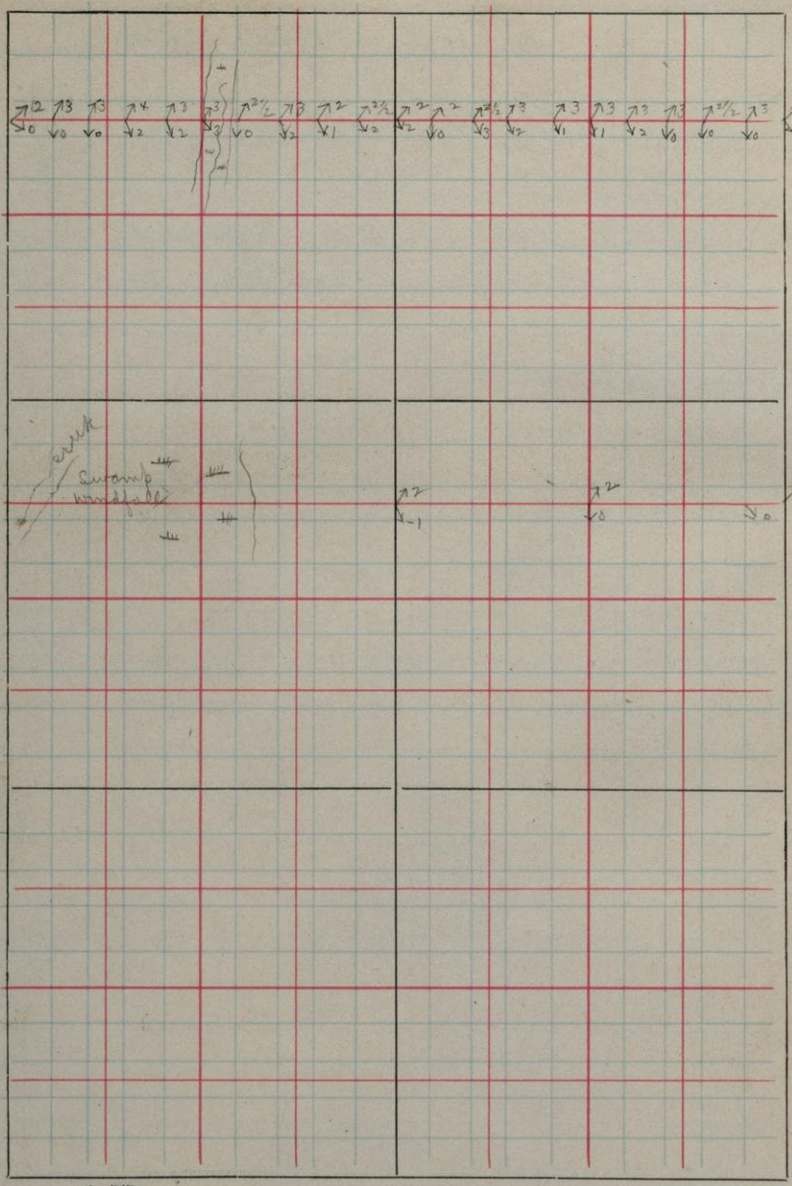
23420 1810 W to 1900 W 1740 N Coarse phase of 23418 (Coarser in southern part of ledge)

23421 750 N 1400 W. also 80 p and 125 p N Greenstone

S. 9 T. 45 R. 32

NW cor

NE cor



SW cor

SE cor

6—747

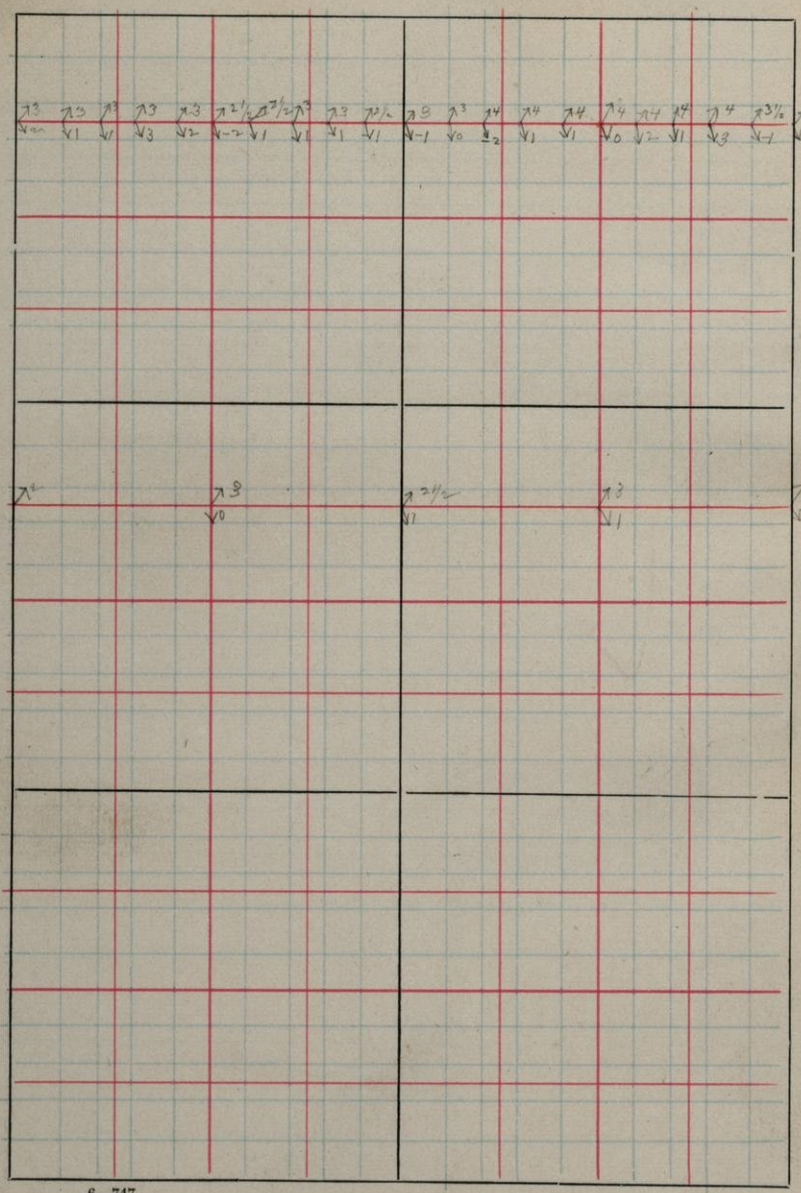
S. 10 T. 45 R. 32

NW Cor

NE Cor

SW Cor

SE Cor

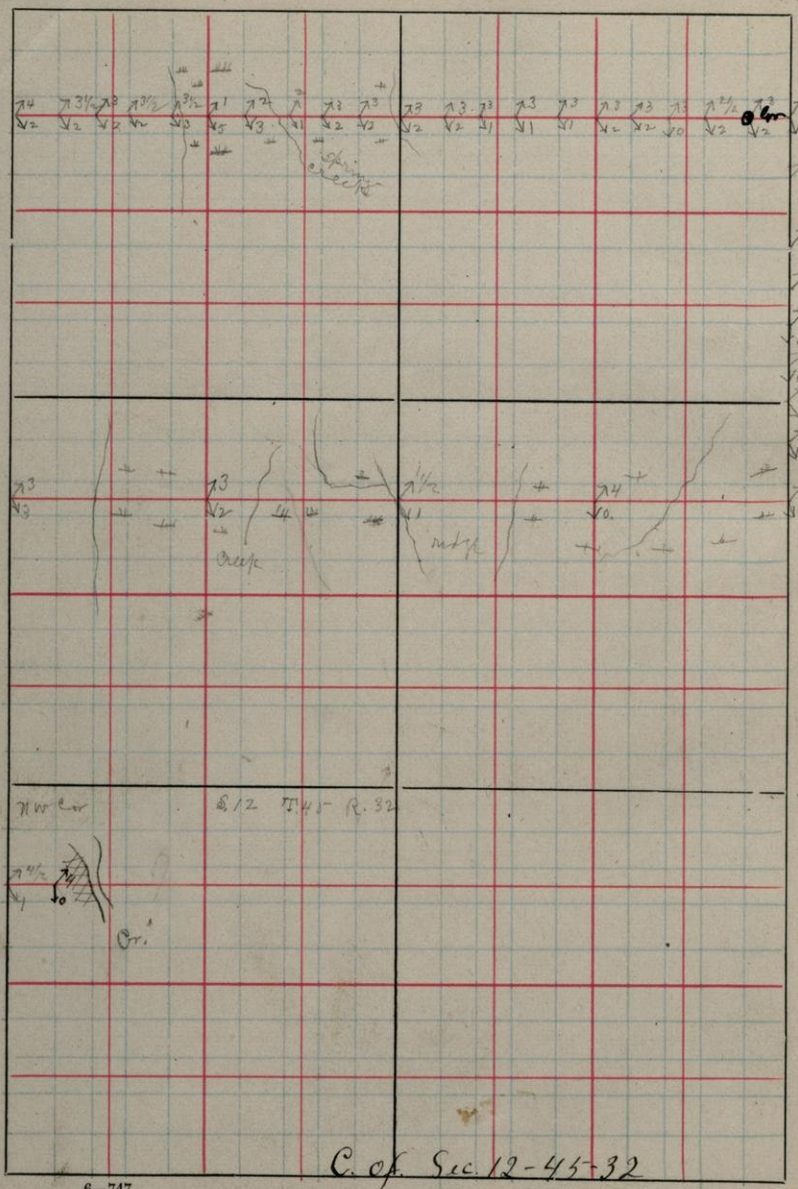


6—747

S. 11 T. 45 R. 32

N.W. Cor.

N.E. Cor



S.W. Cor

NW Cor S 1/2 T. 45 R. 32

S.E. Cor

C. of Sec. 12-45-32

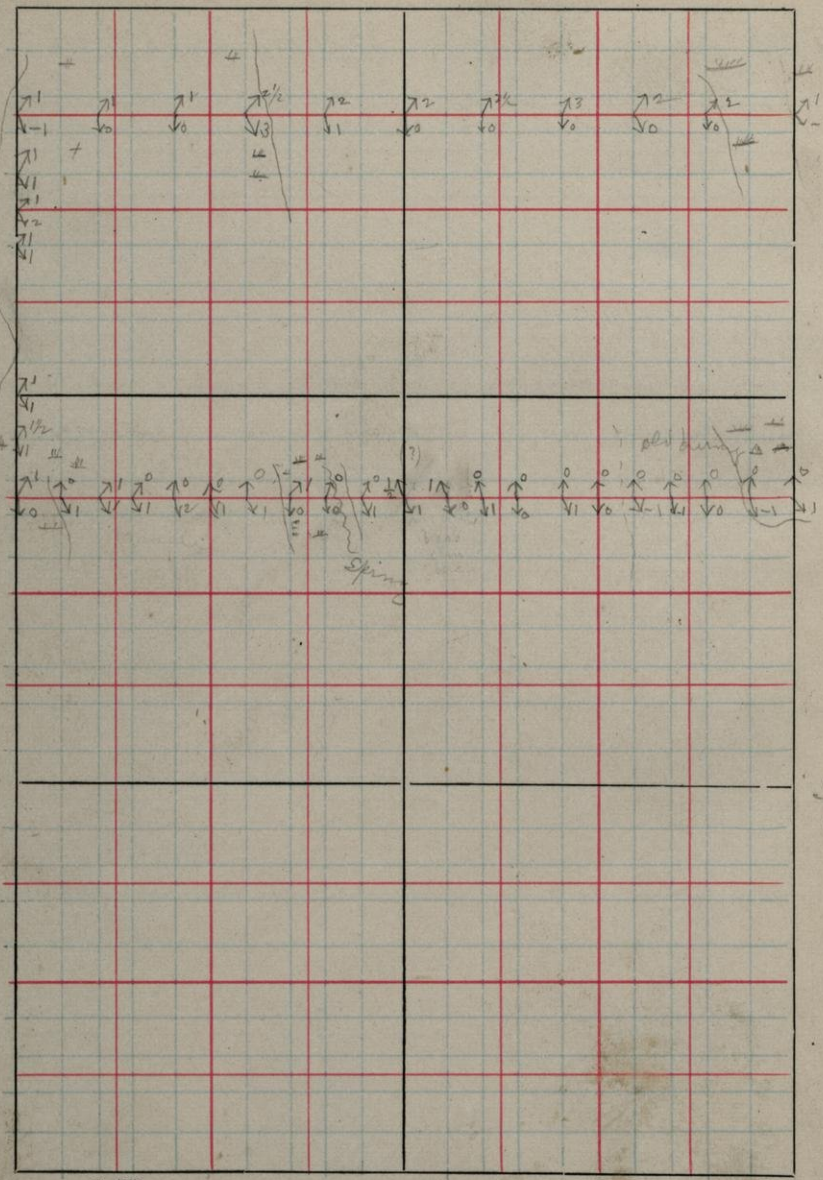
6—747

like 22930	1780 n	100 w.	grazifiz likin

NW cor

S. 7 T. 45 R. 32

NE cor

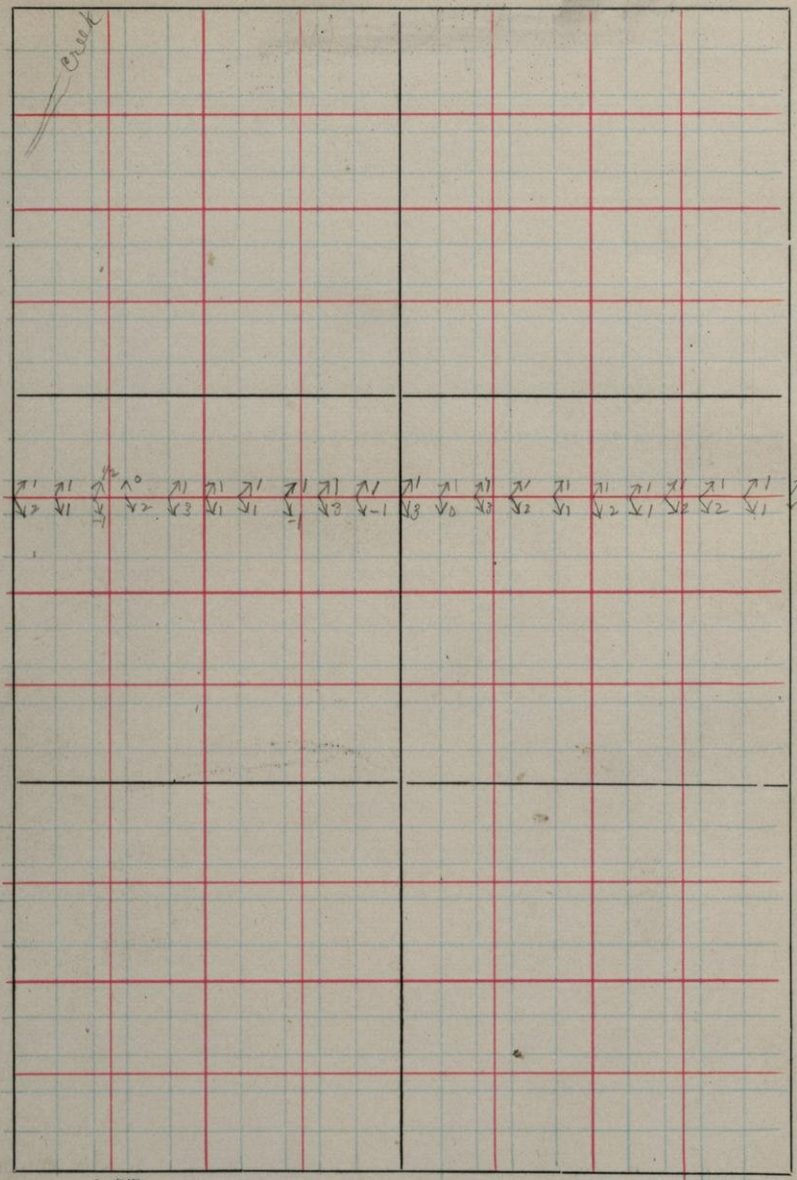


SW cor

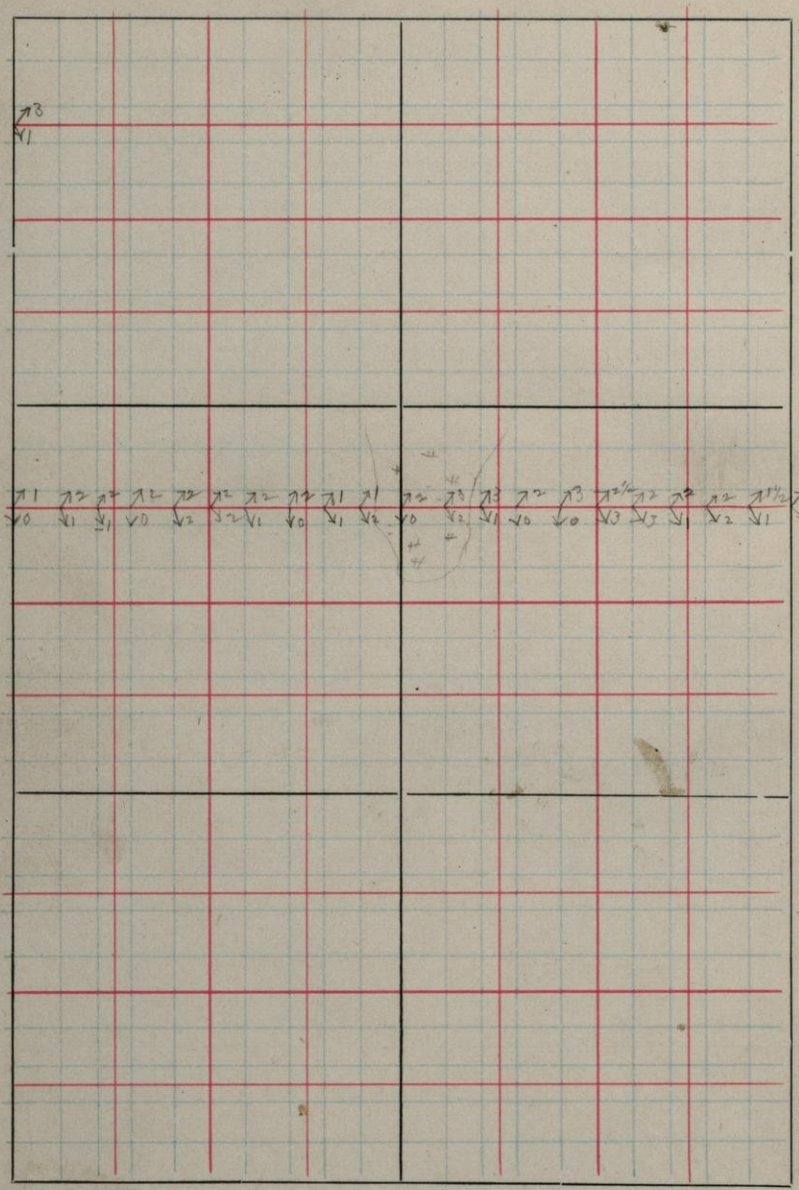
SE cor

6—747

S. 16 T. 45 R. 32

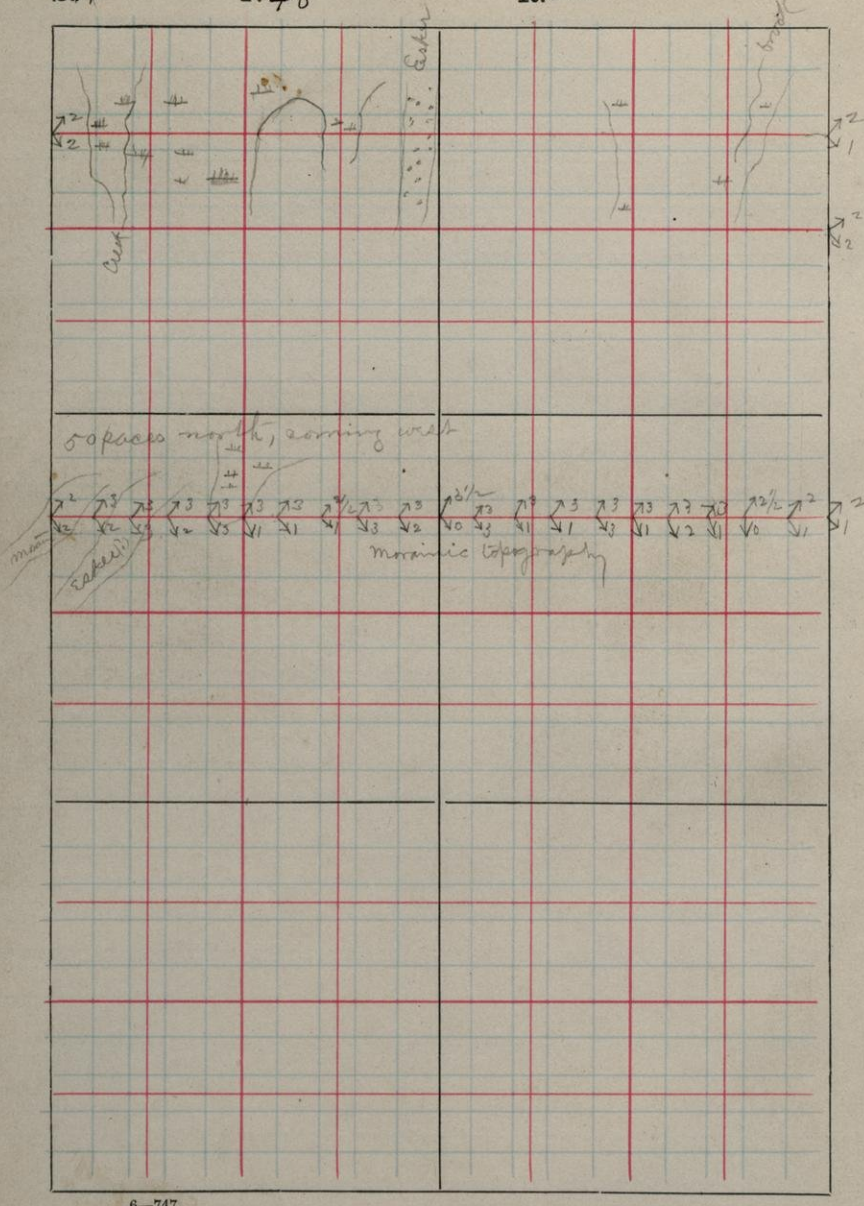


S. 15 T. 45 R. 32

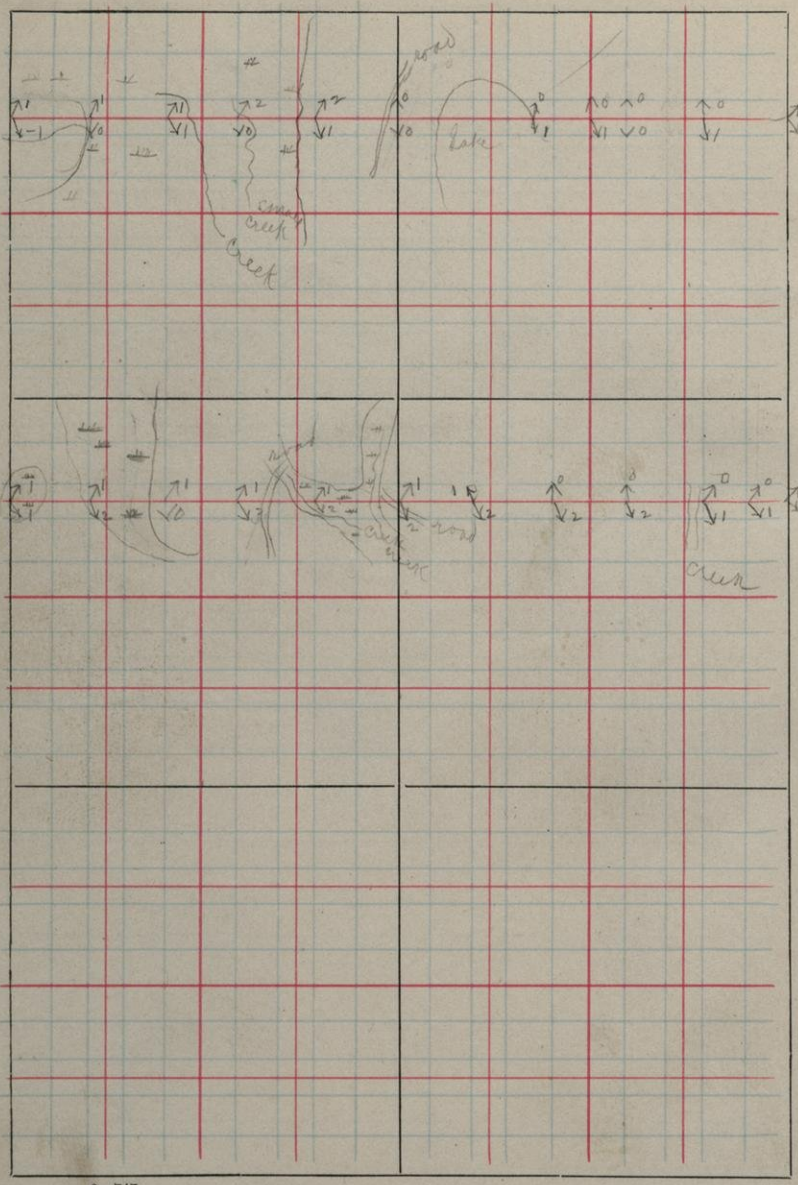


6—747

S.14 T.45 R.32

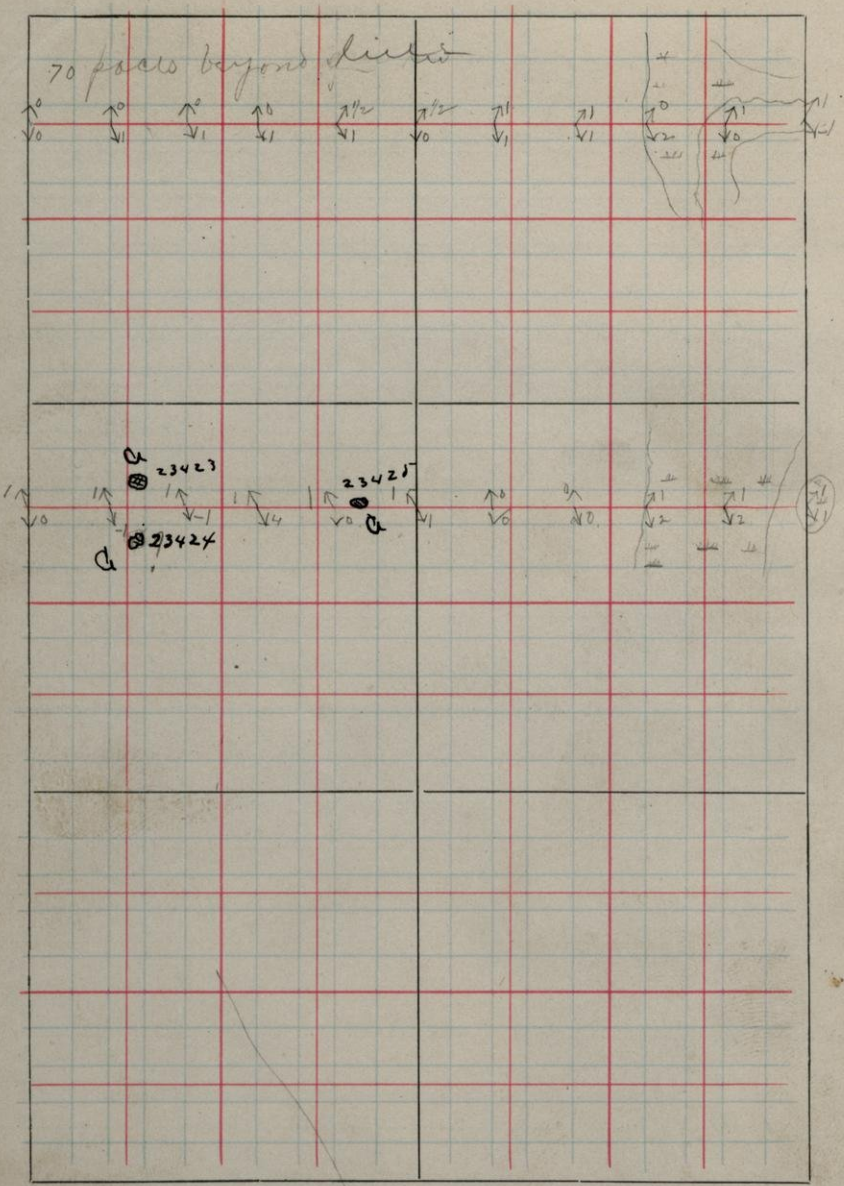

Esker
Creek
50 paces north, coming west
Morainic topography
Esker

S. 17 T. 45 R. 32



6—747

S. 18 T. 45 R. 32



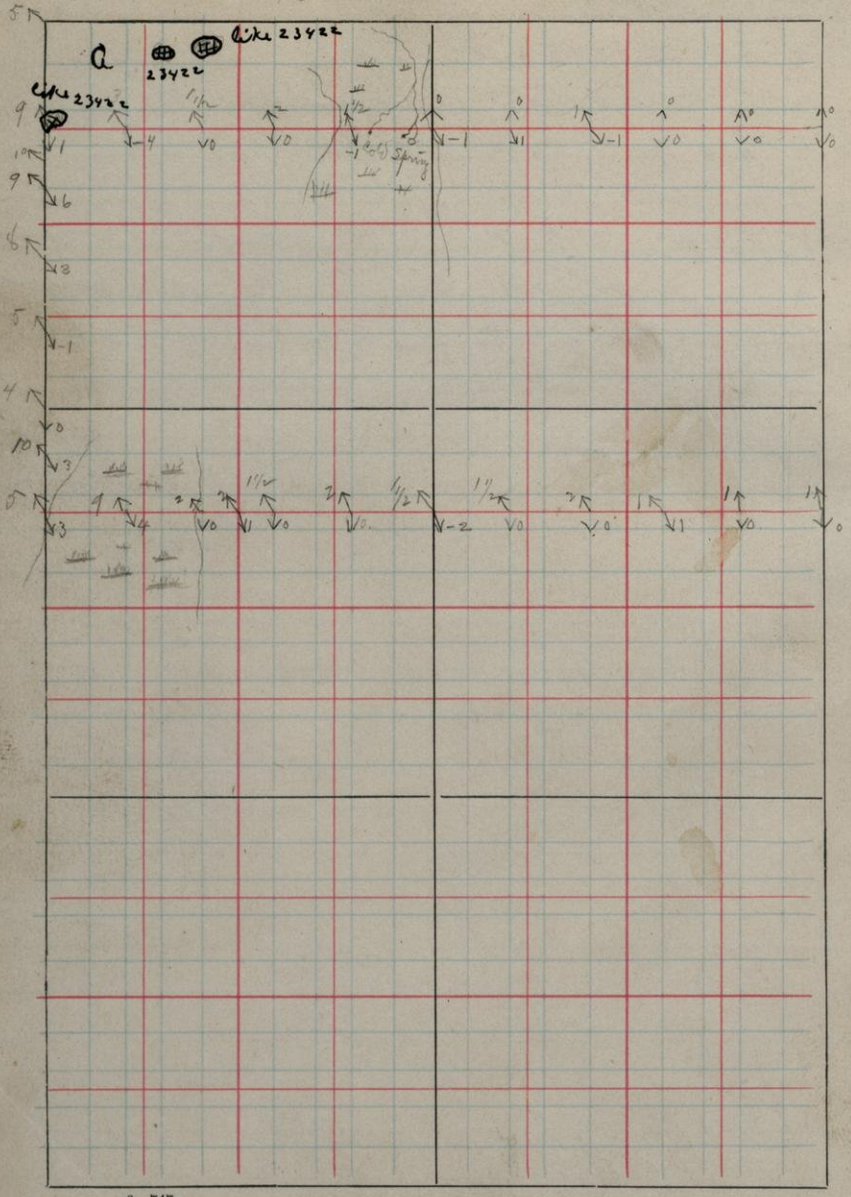
6—747

23423 845 N 1720 W
Trachyte amygdaloid

23424 675 N 1720 W Ditto

23425 1160 W 750 N Breccia bed or perhaps an ash bed with basalt lapilli etc It is badly decomposed and a very small outcrop

S. 13 T. 45 R. 33



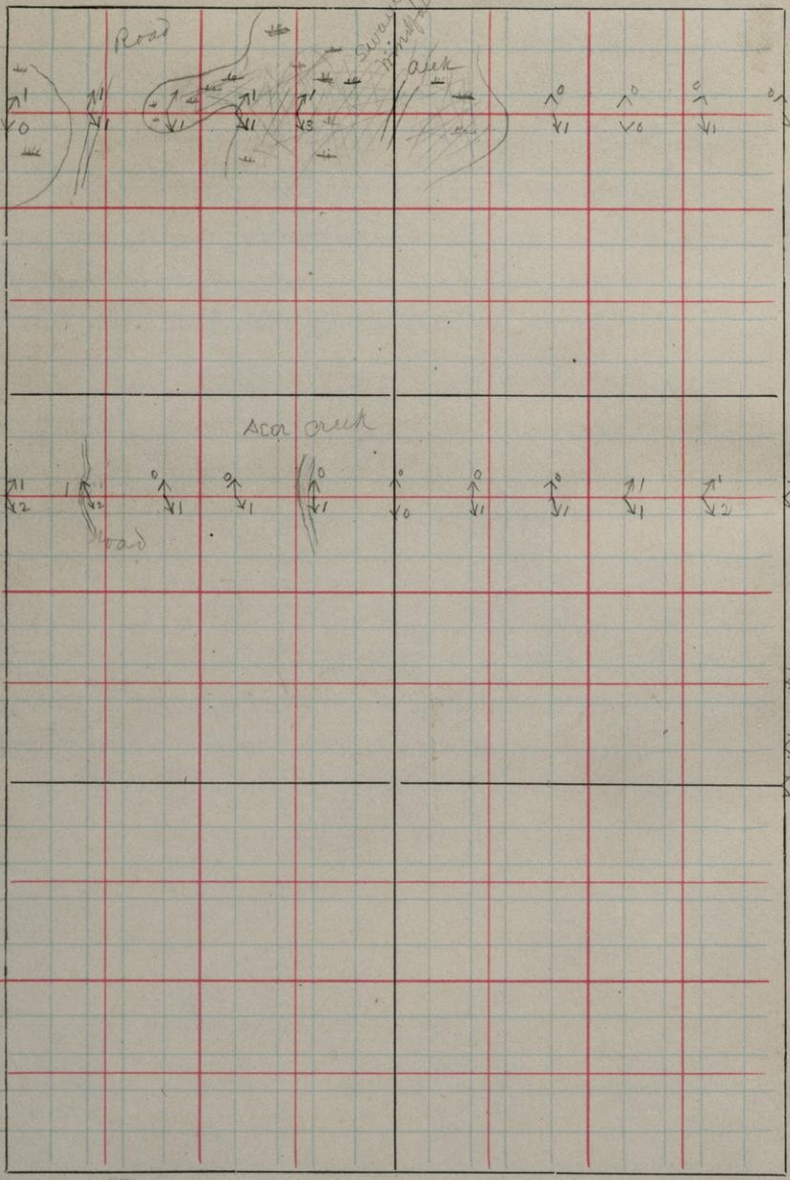
6—747

Like 23422 1945 N 1600 W Like 23422

23422 1935 N 1700 W Greenstone, small exposure
Several large masses of this rock
near by may be outcrops.

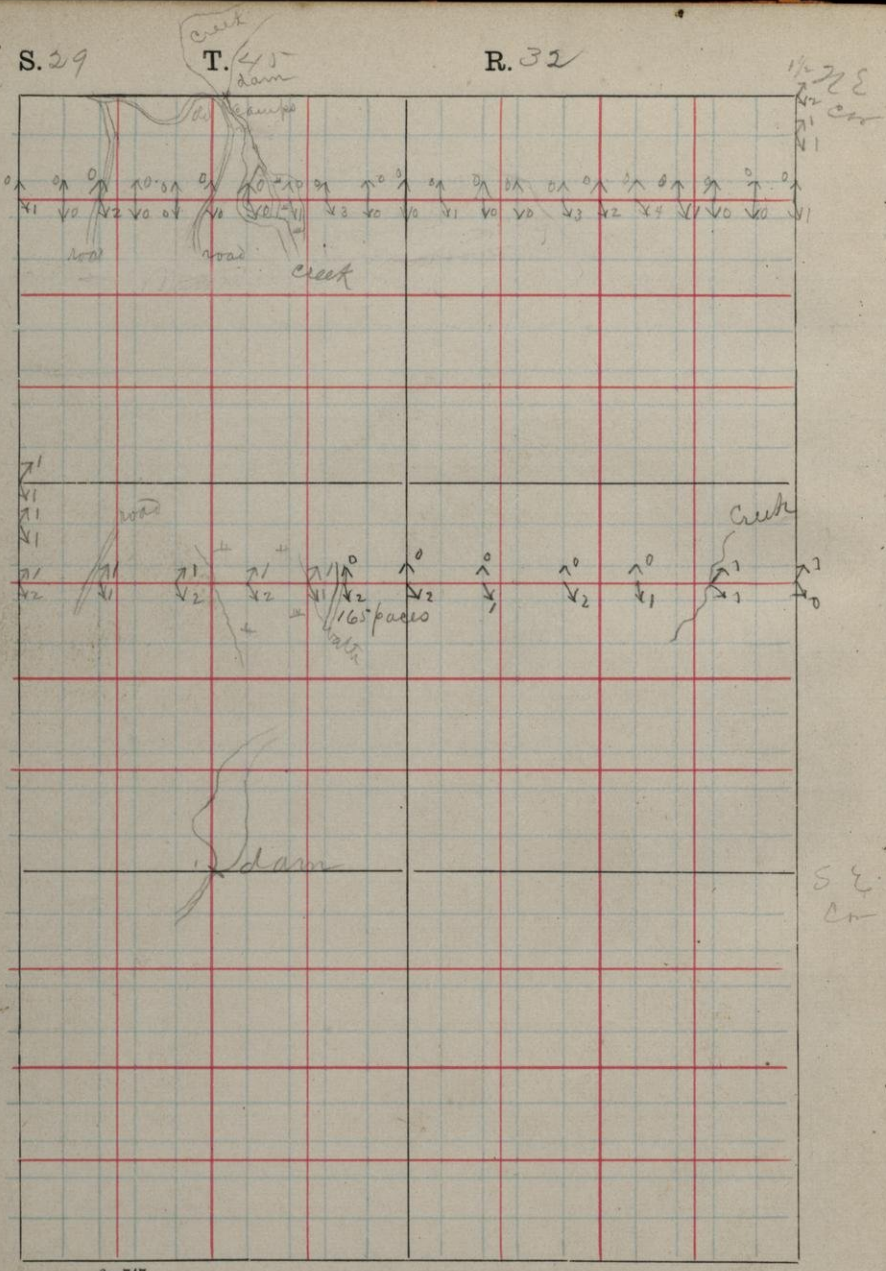
Like 23422 2000 W 1750 N same as preceding
all show vesicular structure

S. 20 T. 45 R. 33



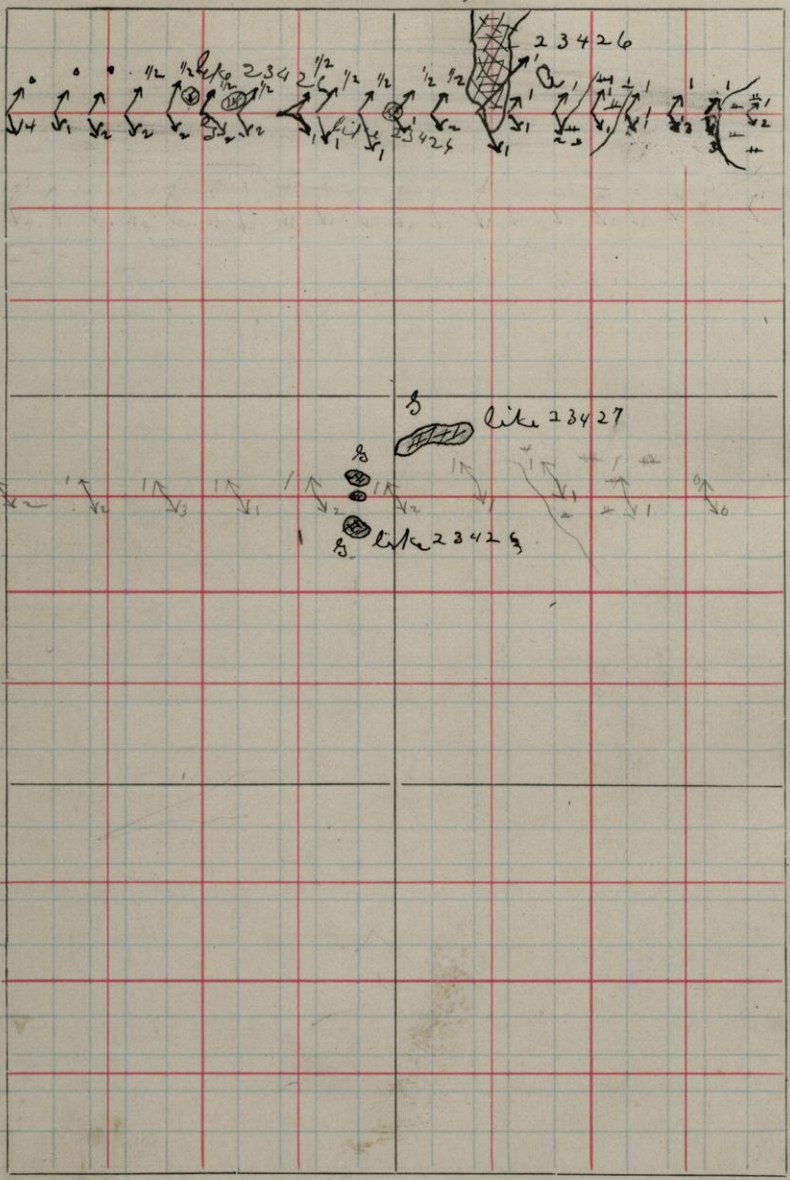
6—747

S. 29 T. 45 R. 32



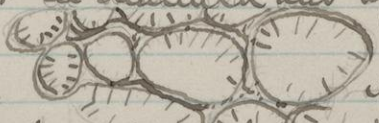
6—747

S. 19 T. 45 R. 32



6—747

23426 Large outcrop of greenstone 750 W and extending from the N section line 300 p south. Face of exposure shows blocks of lava up to two ft in diameter and appears like this



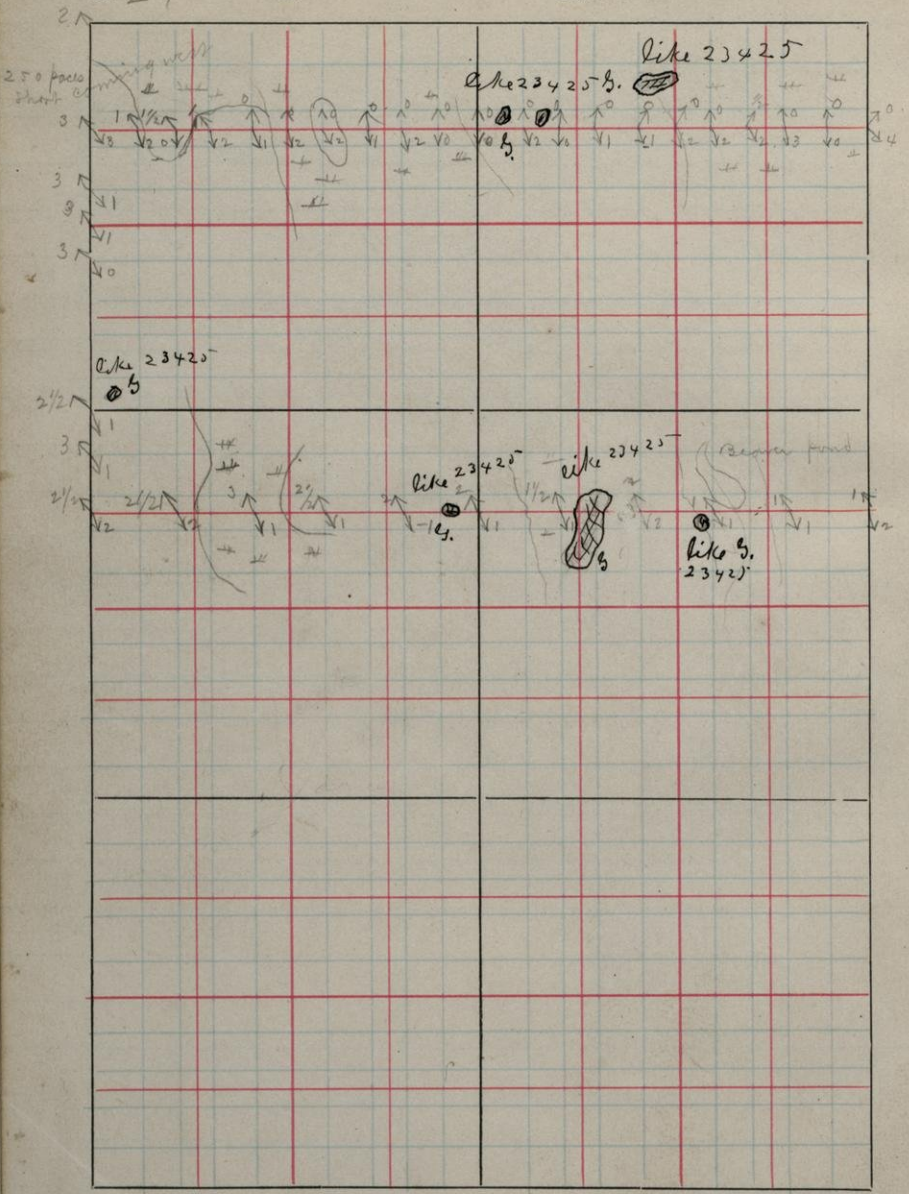
The specimen is from one of these blocks and shows the cracks [Glacial striae in several places nearly S.W.]

The bands separating blocks are about one inch wide

like 23424	1000 W	1750 N	same as 23426
" 23424	1400 W	1765 N	" "
" 23424	1820 W	1800 N	" "
" 23426	800 N	1100 W	
" 23426	750 N	1100 W	
" 23426	650 N	1100 W	
23427	905 N	825 W	
23427(a)	" "	" "	

Note. above sketch spoiled by coarseness of pen

S. 24 T. 45 R. 33



6—747

Like 23425 1850 N 530 W ash-bed or breccia
" like 23425

Like 23425 1790 N 840 W greenstone
" 23425 1765 N 960 W another breccia. Weathered surface like figure above blocks from pea up to the size of my fist, angular and showing distinctly on weathered surfaces

These ash beds or breccia beds do not split up like the other greenstones but occur in more massive exposures

Like 23425 1950 W 1050 N greenstone
" 23425 1085 W 750 N "
" 23425 700 W 700 N "
" 23425 700 N 480 W "
" 23425 720 N 440 W "

all of same type as those just mentioned though not all breccia

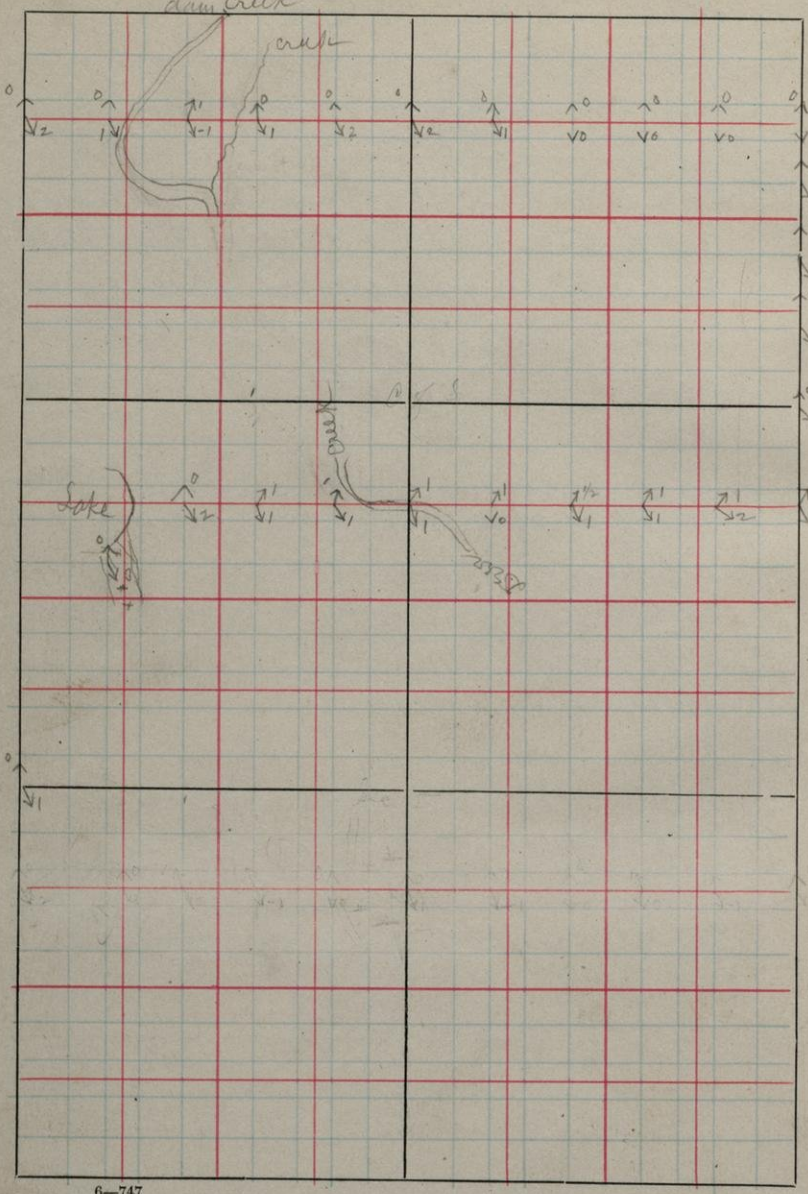
S. 32 T. 4 R. 32

NW Cor

NE Cor

SW Cor

SE Cor



6—747

July 24, 1894 Dr Clements dip needle gives 3° greater dip than mine at Camp 3.

Aug 4 Dr Clements needle gives two less than mine