Crystal Falls region, Michigan: [specimens] 32299-32374. No. 291 1892

Merriam, W. N.
[s.l.]: [s.n.], 1892

LAKE SUPERIOR SURVEY

291

Crystal Falls Region
Michigan
H. N. Merriam

32291-32374

LAKE SUPERIOR SURVEY.

INSTRUCTIONS.

Topography.—On the left-hand page map as much of the section as has actually been seen, counting each of the spaces between the blue lines as 100 paces, and 20 of these spaces to one mile, or 2,000 paces. The scale is four inches to the mile, and the heavier blue lines, outlining one inch squares, mark forties. Denote streams, lakes, swamps, marshes, etc., by the topographical signs annexed.

The geologist will consult with the compassman, and describe as accurately as possible, the timber traversed. When pine is found, give its proportion; tell whether good or poor, and indicate kind—white, norway, jack. If hemlock is found, note the relative amount. In hard wood districts, designate as good or poor, heavy or light, and indicate predominant kinds, oak, maple, birch, etc. Cedar swamps, spruce swamps, tamarack swamps and meadow swamps will be always discriminated. Outline burnt timber.

Each day, just before leaving camp, the geologist will compare his own and the camp aneroids, and the reading of each, with time, will be recorded. At work the aneroid will be read on gentle slopes at intervals of 200 paces; on steeper slopes at intervals of 100 paces; also at all maxima and minima. When minima are streams the map and notes will indicate this, showing width and character of streams. When a stream has made a cut of importance, aneroid readings will be made where the banks break off and at water level. If instead of an abrupt break, the stream valley has steep slopes, aneroid readings will be made with sufficient frequency to show this character.

At reading points the compassman will stop, read the dial compass, and remain until the records are complete. The readings will, as fast as made, be placed upon the map at the right-hand side of the line traveled, and in the notes, the numbers being inclosed in parentheses, basing the work upon the bench-mark which served as a starting point. At bench-marks the absolute reading of the aneroid and the altitude as shown by the bench-mark will be recorded to serve as a base for subsequent readings. For instance, aneroid 29.13 inches; altitude on bench- mark, 275 feet. At each subsequent reading, by setting 275 on the altitude circle at 29.13 on the fixed dial, altitudes may be directly recorded. When the next bench-mark is found at two miles distance, the difference between the aneroid reading on the basis of the first bench-mark and the second bench-mark will be recorded. At intervals of a half hour during the day the time will be attached to the aneroid readings. Upon reaching camp, after the day's work, the geologist will record the readings of his own and the camp aneroid, and also the time. Interpolations will then be made, based upon the bench-marks and times (not distances) if the day has been one of no abnormal atmospheric disturbances, or upon both bench-marks and camp aneroid readings if there have been unusual disturbances, and the corrected numbers, less a constant of 4 feet, will be placed upon the face of the map at the left-hand side of the lines of travel, and in the notes without parentheses, but the parentheses numbers will not be erased.

At each aneroid reading the trend of a horizontal contour line will be indicated upon the face of the map, making the length of the line correspond as nearly as may be with the actual distance seen. In passing directly up or down a slope, the contour lines will be at right angles to the direction of travel. In passing up a hill diagonally the contour lines will intersect the lines of travel at various angles, which can be estimated and plotted with sufficient accuracy by an appreciation of the north and south direction.

The course of travel will be always north and south. In starting from a quarter or a sixteenth post, the work will be plotted on the assumption that the true course is followed, but upon reaching the next section line the geologist will remain in the position at which the line is struck by the compassman until the latter finds the adjacent bench-mark. The intervening distance will then be paced by the compassman, and the point of intersection of the section line marked. From this point to the starting-point, a right line will be drawn as the actual course of travel. The positions of the contour lines, aneroid readings, etc., will not be changed.

Geology. — In running the north and south lines, the compassman will, if possible, determine the course by the dial compass. At the time the geologist reads his aneroid, the compassman will determine the magnetic variation, which will be given to the geologist and recorded in the note-book. Each morning the watch of the compassman will be set to apparent time (corrections being made for the equation of time and for longitude), so that he will need to make no correction in reading magnetic variation. On cloudy days, and at times when the sun is too low for the use of the dial compass, the course run will be by needle upon the supposition that the magnetic variations indicated on the township plats are right when corrected by deducting 3° if the variation is east, or by adding the same amount if the variation is west.

Not less than once per week the accuracy of the watch of the geologist in charge of a party (who will give time each morning to the compassmen), will be tested. This may be done, first, by obtaining correct time from a railway station by means of a packer when sent out for provisions. Such time will be mean, i. e., watch time for the nintieth meridian. Second, corrected time may be found by blazing out a north and south section line, preferably a range line, for some distance, setting a signal on the line and placing the dial compass duly leveled, in a north and south direction upon a Jacob's-staff just before mid-day, and setting the watch at 12 at the time the line strikes the noon hour. In a watch thus set all corrections are made.

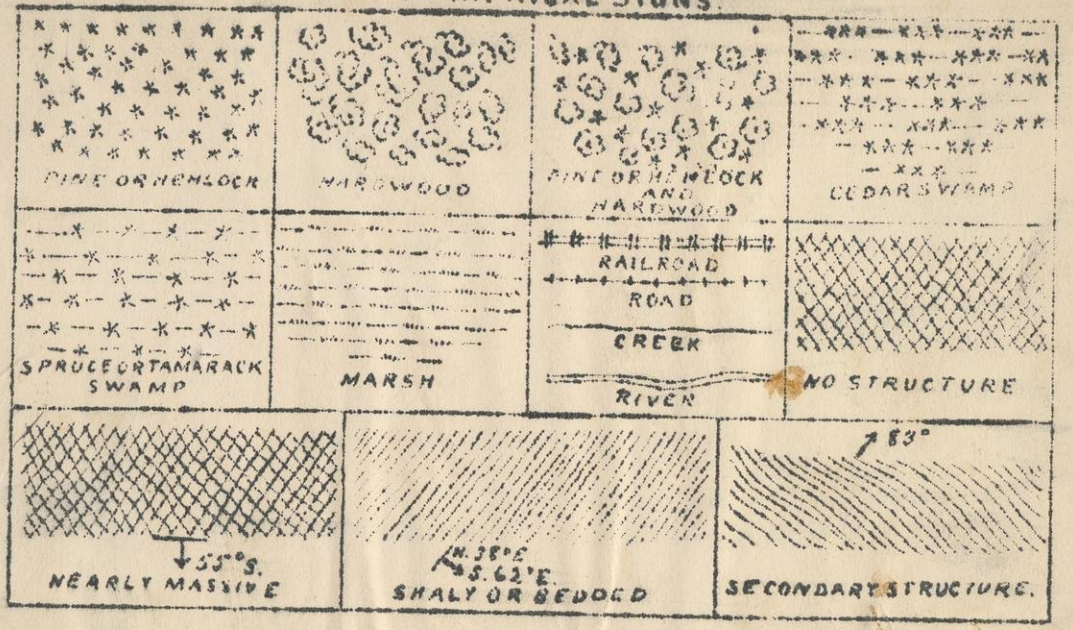
It will be the constant business of the geologist to search for outcrops. All hills within a reasonable distance of the course of travel will be examined. Oftentimes upon the steeper slopes of a hill a rock surface is covered with a coating a few inches thick of moss, leaves or vegetable mold and can be stripped with the pick. Where the exposure is small and there is the least possibility that it may be a large bowlder, indicate this fact in the notes and by a query on the map. All ledges off the line of travel of the compassman will be located by the geologist pacing to this line in an east and west direction, his course being determined by compass.

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, having strike line and dip arrow with numbers attached. 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 specimens representing it. 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, *No.* 437, 1226, *N.*, 353 *W.*, *Strike*, *N.* 47° *E.*, *Dip*, 68° *S. E.* Then follow with as full a description of the ledge as possible.

Collect a specimen from every ledge, and if the ledge exposes different kinds of rock, collect a specimen of all varieties. Take care to get fresh material, unless for a special purpose the weathered surface is desired. Where ledges are infrequent the normal size of specimens will be 3x4x1 inch. In case several specimens of the same ledge are necessary, and when ledges are numerous, specimens 2x2½x¾ inch will be allowed. In all cases collect chips for slicing. No two specimens will be given the same number. In the cases in which several specimens come from the same ledge, the different numbers assigned to them will enable an easy description of their relations. Specimens will be placed at once in paper bags provided, upon which shall be marked in at least two places, with a blue or red pencil, the specimen number.

TOPOGRAPHICAL SIGNS.



TIME EQUATIONS FOR 1892.

Days.	Min.	Days.	Min.	Days.	Min.	Days.	Min.

MAY.

Add to mean local time.

1- 5	3	6-21	4	22-30	3	-31	2

JUNE.

Add to mean local time.

1- 5	2	6-10	1	11-15	0		

Subtract from mean local time.

16-20	1	21-24	2	25-29	3	-30	4

JULY.

Subtract from mean local time.

1- 5	4	6-12	5	13-31	6		

AUGUST.

Subtract from mean local time.

1- 6	6	7-13	5	14-17	4	18-22	3
23-25	2	26-29	1	30-31	0		

SEPTEMBER.

Add to mean local time.

1-	0	2- 4	1	5- 7	2	8-10	3
11-13	4	14-15	5	16-18	6	19-21	7
22-24	8	25-27	9	28-30	10	-31	11

OCTOBER.

Add to mean local time.

1- 3	11	4- 7	12	8-11	13
12-15	14	16-21	15	22-31	16

Dip at Amasa 76°20' ±

SEPTEMBER.

Add to watch time.

1- 2	0	3- 5	1	6- 8	2
9-11	3	12-14	4	15-17	5
18-19	6	20-22	7	23-25	8
26-28	9	29-30	10		

OCTOBER.

Add to watch time.

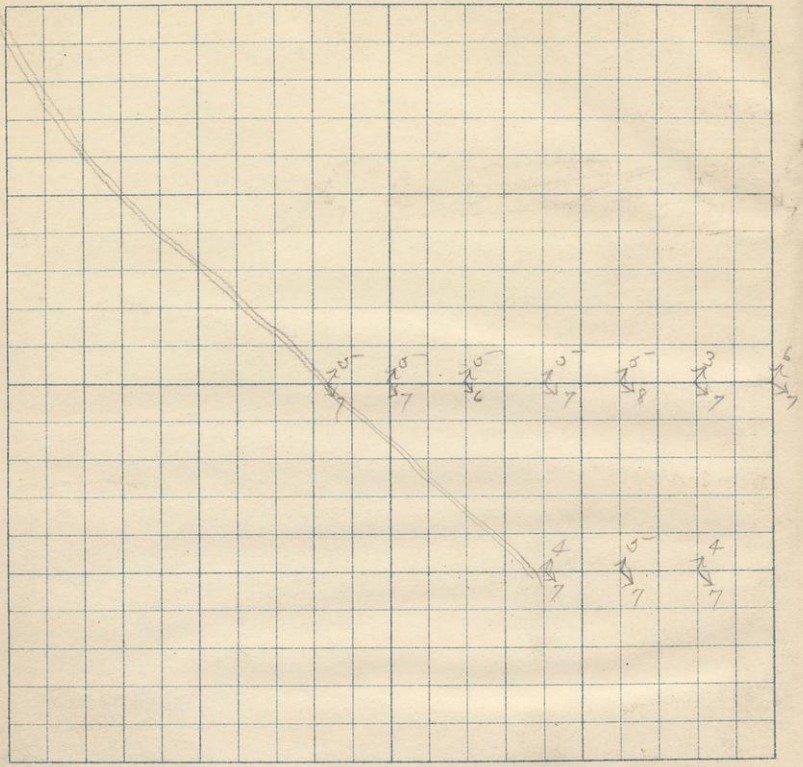
1	10	2- 4	11	5- 8	12
9-12	13	13-16	14	17-22	15
23-31	16				

NOVEMBER.

Add to watch time.

1-13	16	14-19	15	20-23	14
24-26	13	27-29	12	30	11

2 N.E.¼ S.1 T.43 R.33

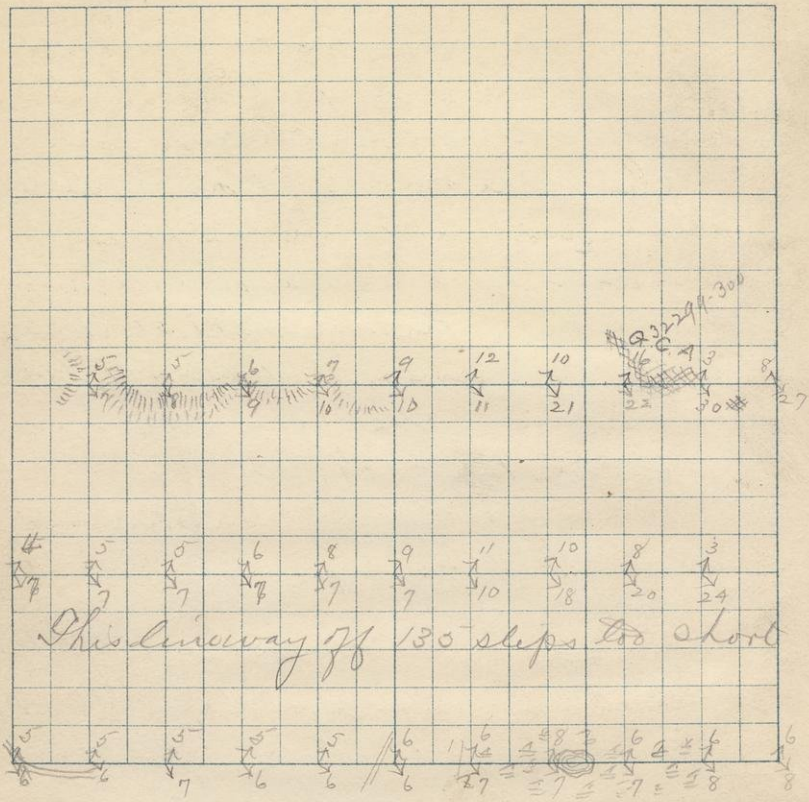


790 N. 1600 E. D. E. 6-43-32

a ledge of greenstone conglomerate that is also porphyritic.

The rock is a dark grey weathering lighter grey and carrying masses of an amygdaloid the amygdules of which are in many places filled with a jasper. The surface of the exposure is dotted with white spots due to the white weathering porphyritic feldspars.

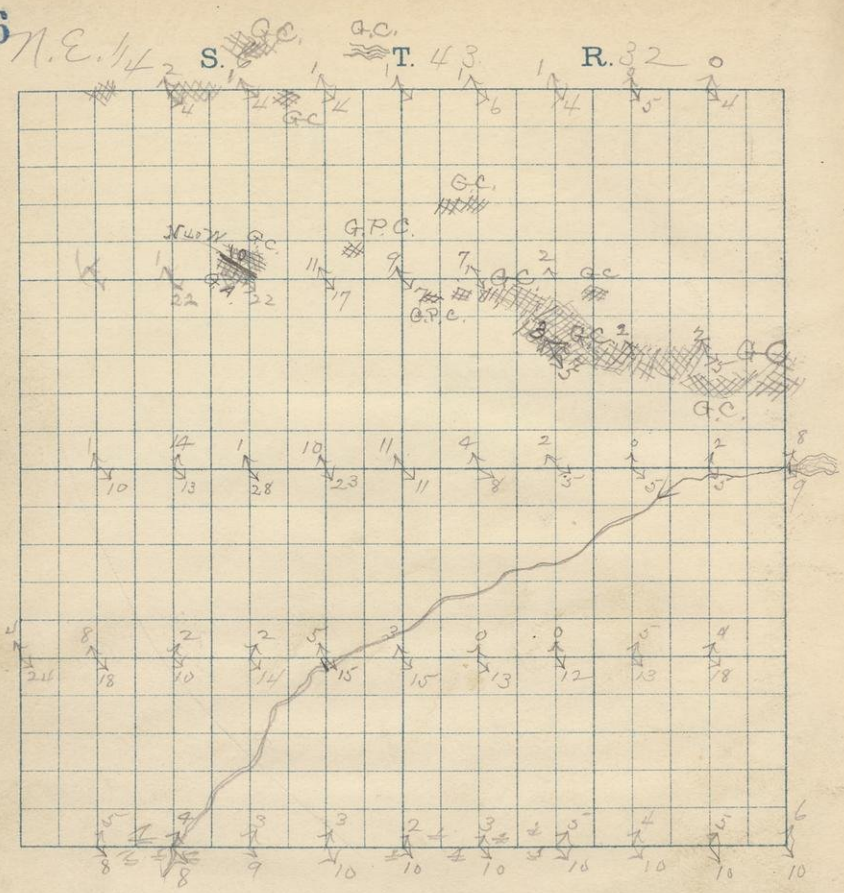
4 N.W. 1/4 S. 6 T. 43 R. 32



1550 N. 1200 W. D. E. 6-43-32

A ledge of greenstone congl. or breccia
The rock here shows the flowage structure
nicely, being brecciated from that
cause. A seam of red oxide of iron
about ½ inch wide was noted in this
exposure together with several quartz
stringers. The rock is schistose the
structure running about N. N. E & S. S. W.
and is I think the true strike of the
rocks; the dip of schistose structure is
about vertical. The westernmost
line of attraction runs through this
exposure. These rocks show
32299 continuously for the next 100 steps east
in places they are very amygdaloidal
with quartz, calcite, and epidote fillings
and again they show the flowage structure
They are very similar on the whole to
the amygdaloids N. E. of the Hemlock M.
32300 Drilling & inclusion in these rocks

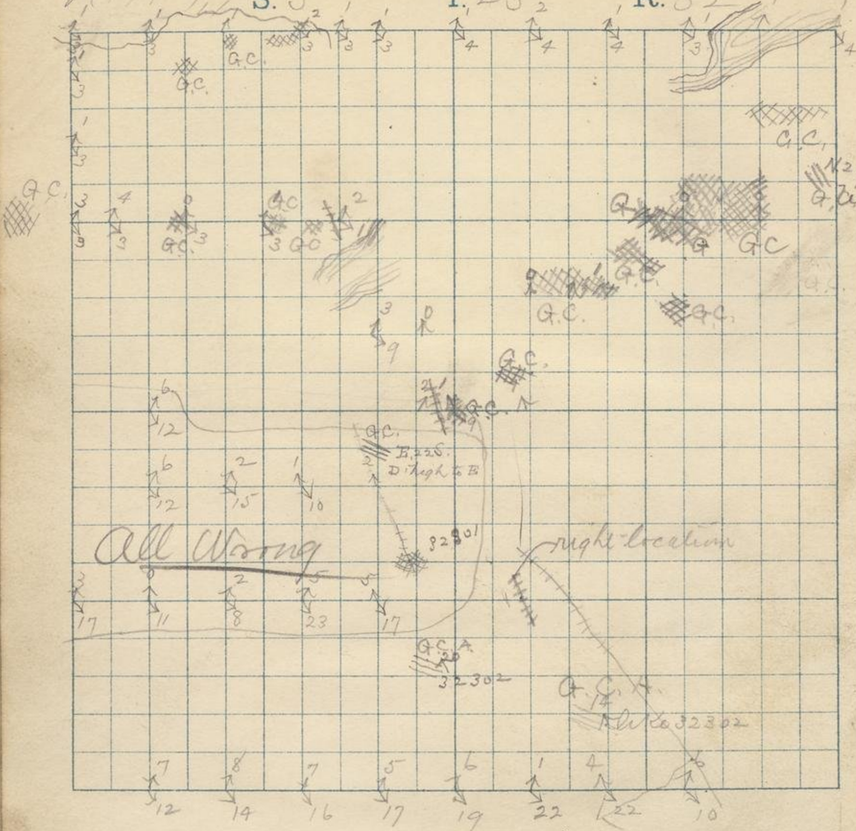
6 N.E. 1/4 S. T. 43 R. 32



32301 1560 W. 1300 N. S. E. 5-43-32
G. A. A mixed fine and coarse black eruptive
A portion of this rock is a very dense
fine grained black eruptive the
remainder (which seems to include
the finer portion in masses of various
sizes) is a coarser grained rock with
a greenish cast; the exposure is
amygdaloidal in places. Is it
broken and shattered by a dike?

32302 1550 W. 1160 N. S. E. 5-43-32
G. A. A large ledge of Greenstone conglomerate
in places this rock is amygdaloidal
carrying quartz and chert as fillings.
Other portions of the surface are porphyritic
being filled with large feldspars.
The rock is perhaps more of the nature
of a flowage or pressure breccia than
a conglomerate. The strike is N. 60° W.
Dip vertical (?) The schistose structure
and the strike coincide.

N. W. 1/4 S. 5 T. 43 R. 32

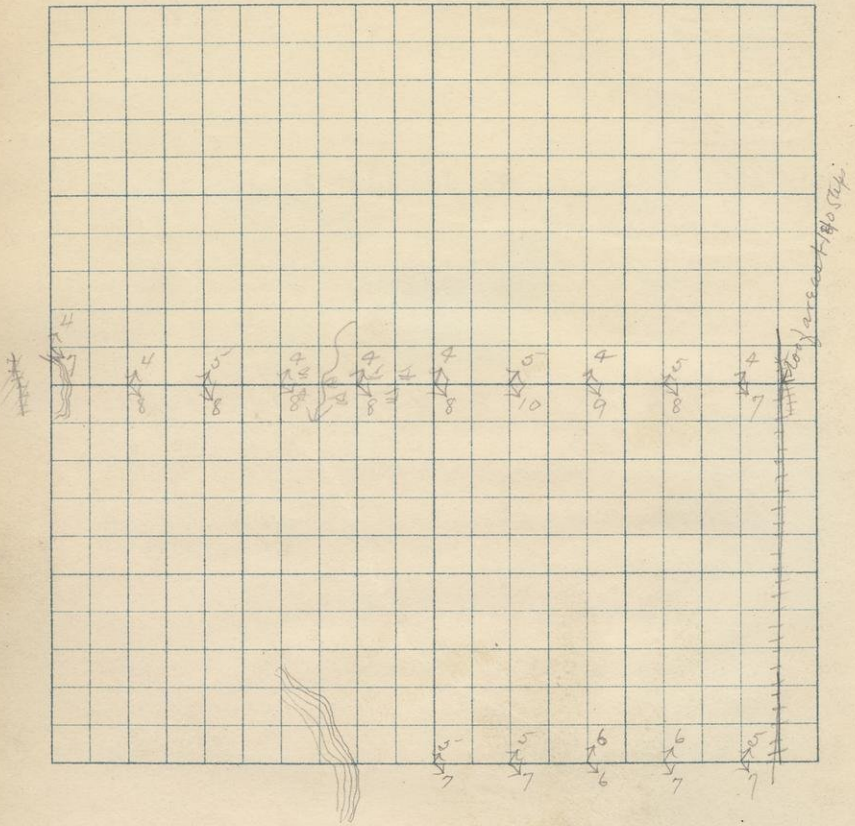


32303 100 N. 1400 N. S.E. 7-43-32
G.D. Diabase from the north slope of a high east & west ridge of the greenstone. This is an entirely
32321. new phase of eruptive, none having been seen to the north. This looks like a large dike cutting across a little north of west and south of east

32304 1000 N. 1475 N. S.E. 7-43-32
G.D A greenstone exactly like 32303 on the north side of Crystal Falls & Amasa road

10

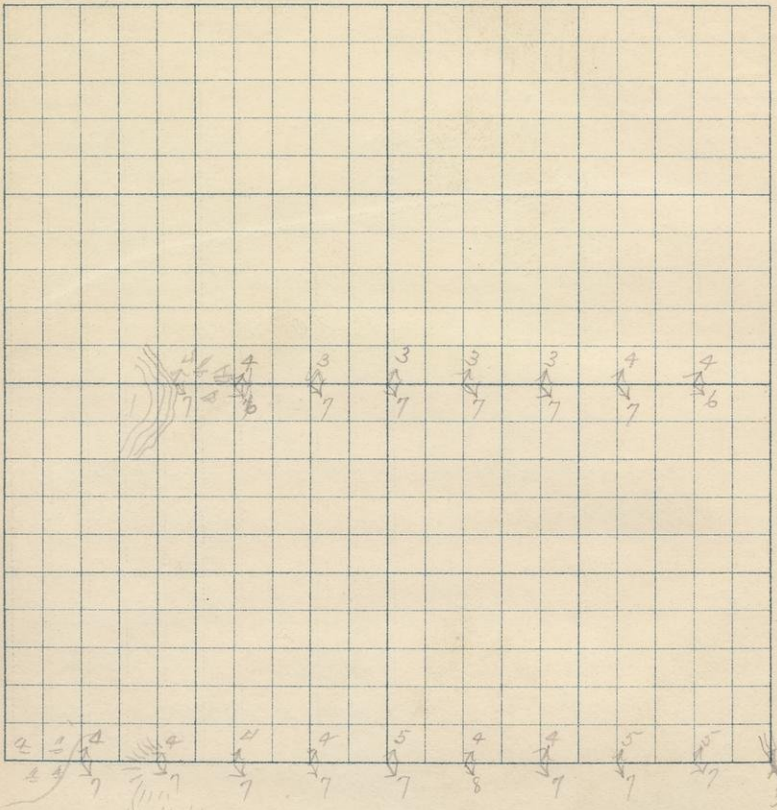
S.H. 1/4 S. 5 T. 43 R. 32



32305 1825 W. 1100 N. S.E. 8-43-32
At this point the slate and greenstone are shown in contact on the east side of Holmes Cr. near the dam
The slate lie to the south of the greenstone and strike east and west with an average dip to the south of about 80°
At the contact both rocks are much shattered and it is difficult to tell the exact line
The contact runs east and west as nearly as could be determined
On the west side of the creek the slate are more contorted
32306 Slate from within a few inches of the contact
32307 Greenstone within a few inches of the contact
32308 Slate about 3 ft. from contact
32309 Grist " " " "
32310 Showing general character of slate
A.D. Greenstone from bluff just west of dam

12

S. E. ¼ S.6 T.43 R.32



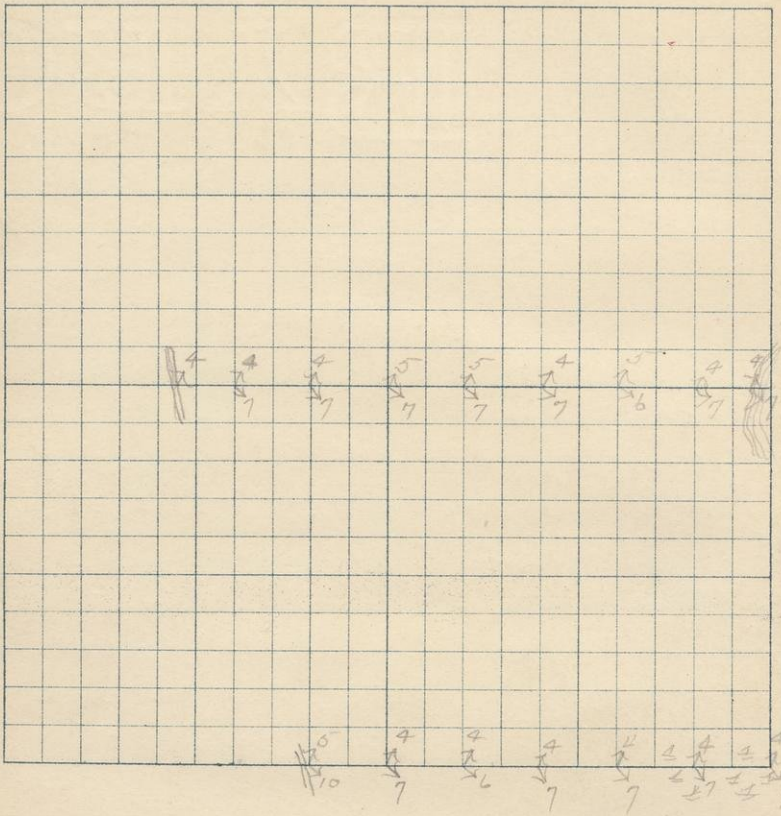
1000 N. 130 W. D. E. 12-43-33
A small exposure of slate similar to that exposed along the fault of the greenstone. I am not positive that this rock is in place

32311 250 N. 940 W. D. E. 12-43-33
32312 GC A very fine grained eruptive; the rock in hand specimen looks much like a fragmental, but its appearance in the exposure together with its fracture seems to point to an eruptive.
32312 GC In one place a band of breccia only a couple of feet wide shows, running as nearly as I could judge about E. & W.

32313 GSp. 320 N. 1020 W. D. E. 12-43-33
Similar to 32311, except that at this place the rock shows signs of flowage and on the weathered surface has a ropy appearance something like the following figure probably spheroidal parting

14

S. W. 1/4 S. 6 T. 43 R. 32



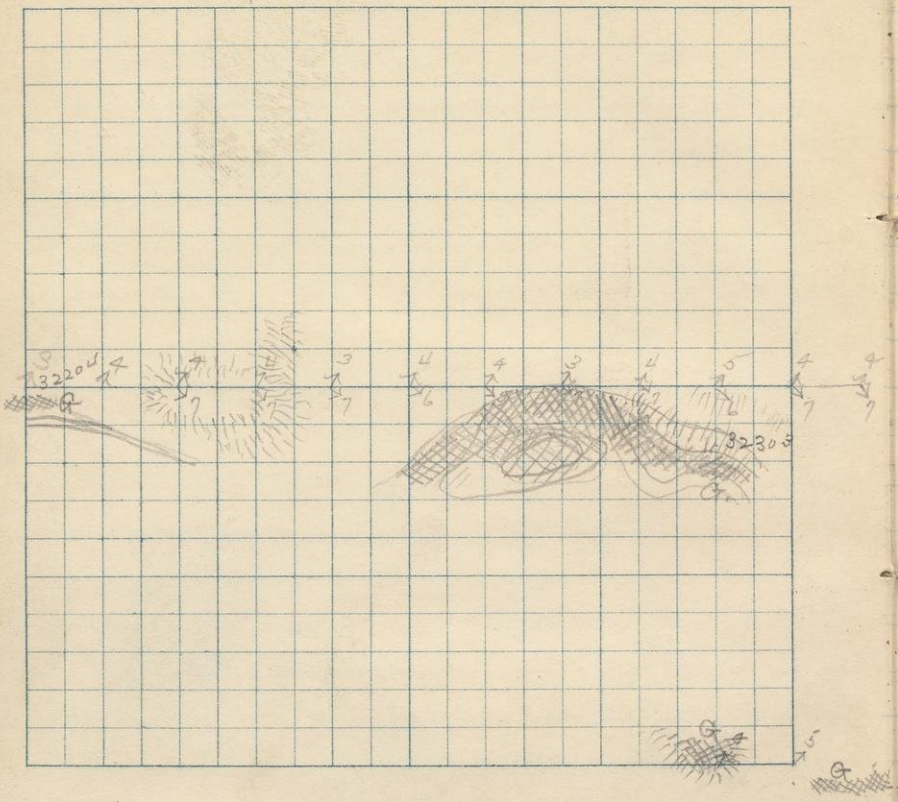
75 steps west the same rock shows again here very much brecciated but perhaps meant a conglomerate being built up of fragments of the fine grained grey eruptive cemented by apparently a softer phase of the same material

32314 690 ft. N. 1130 ft. N. D. E. 12-43-33
Q.C. Similar to all of these fine grey rocks in this vicinity. At this point the ledge as a whole is more massive but shows slight traces of flowage

32315 700 ft. N. 200 ft. N. D. E. 12-43-33
Q.C. A schistose band only a few feet wide in beds similar to 32314 The strike is E. 8° S. Dip high to S. The strike and schistose structure do not exactly coincide the latter striking more to the N. E & S. W

16.

N.E. ¼ S. 7 . T. 43 R. 32



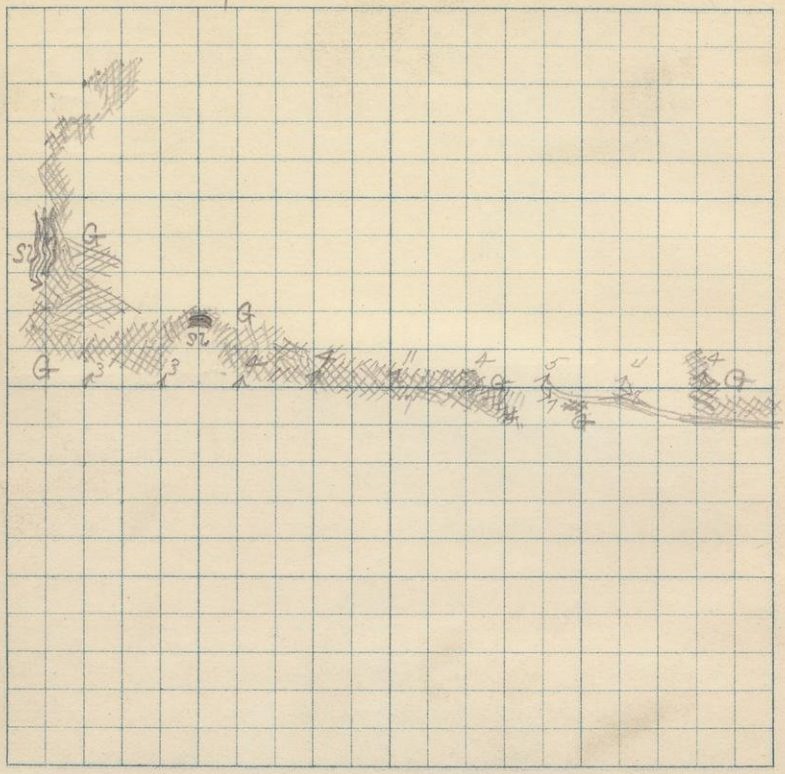
32316 1840 N. 700 W. S.E. 5-43-32
a.c. a very fine grained grey massive rock It weathers white and on the whole looks very much like the rocks exposed in Sec 12 of the town west. No pebbles were seen at this point

32317 Taken only a few paces west of 32316 A short distance east of 32316 the rock shows a brecciated or cong'l appearance

32318 1800 N. 300 W. S.E. 5-43-32
a. a dike in the Cretaceous congls I think it runs N.E. & S.W. but am not sure could not get its width. Just south of it a few paces the cong'l shows The same dike shows again 40 steps west and 50 south

18

N. W. 1/4 S. 7 T. 43 R. 32

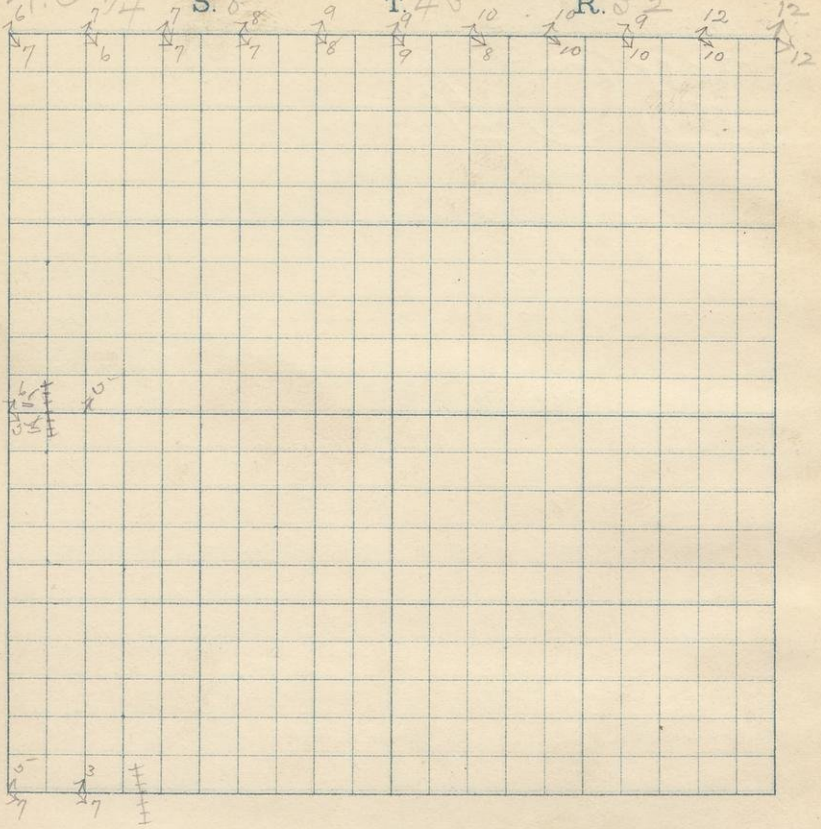


32319 1670 N. 370 W. S. E. 5-43-32
A banded phase of rock only a few inches wide and much contorted
The rock associated with it and for some distance to the west & north is the fine grey white weathering rock shown in 32316-17

32320 450 N. 1770 N. S. E. 5-43-32
Q.C. A ledge of banded black slate (?) the strike is E. 40° S. Dip vertical
The rock in this vicinity is banded in several places but none of it shows such a fine grained uniform rock as this. Can it be a layer in the greenstone congl? The congl lies only a few feet to the north
32321 South the rock passes into a massive phase, a grey fine grained eruptive, largely exposed in this vicinity Is this a later eruptive?
These rocks grade into a congl and through different phases of coarse and fine banding
I think they are all phases

20

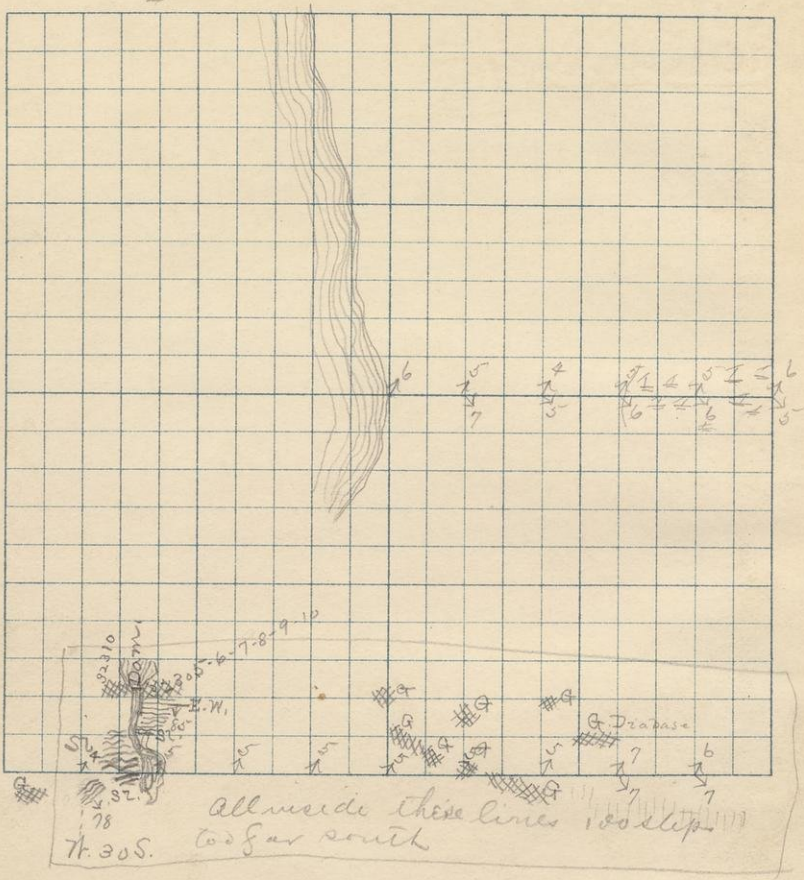
N.E 1/4 S. 8 T. 43 R. 32



of the Greenstone conglo or surface flows

758 W, 1725 N, S.E. 5-43-32
A beautiful banding in the conglo the banded portions in places approaches a fine grained black slate from this it passes through a coarser material into the conglo which lies just south Strike at this place 20 N of W. Dip about vertical; a little to the north if anything

22 N. W. 1/4 S. 8 T. 43 R. 32

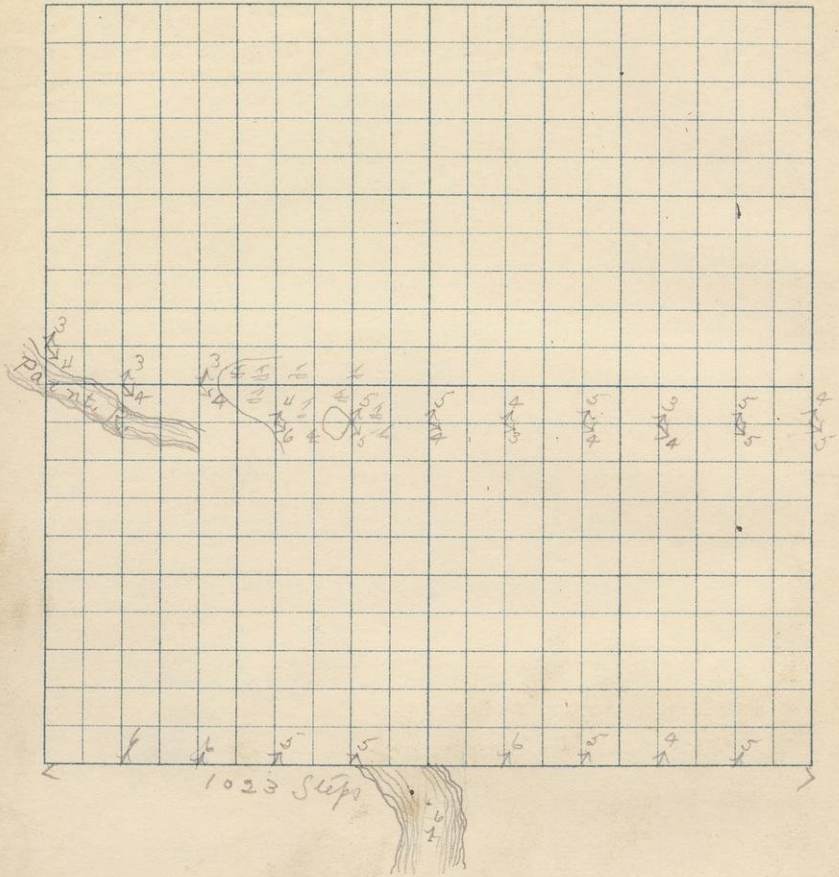


Blank Odd Pages

23-35

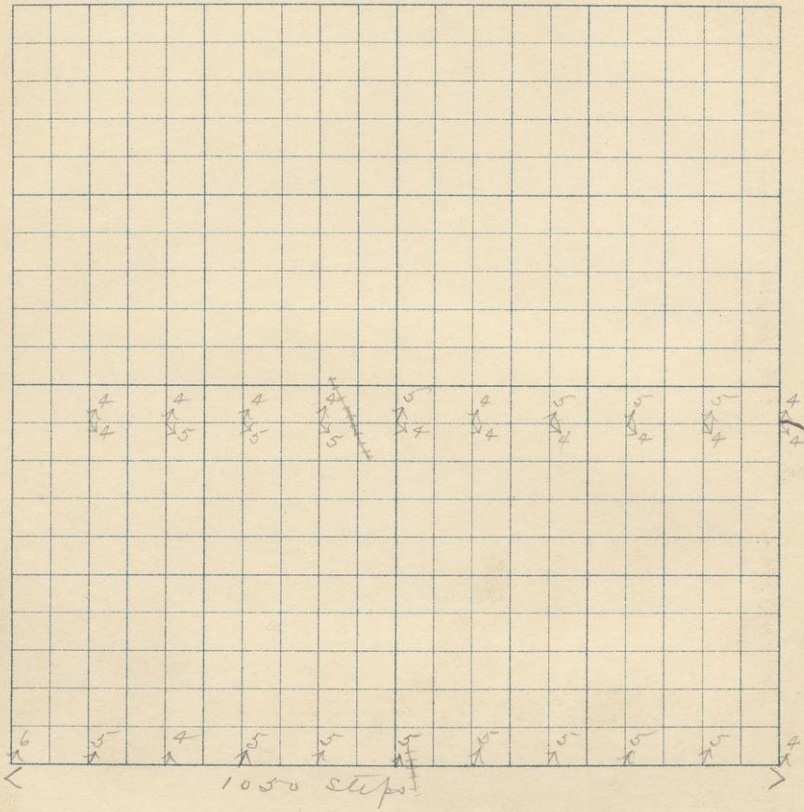
Skipped

S. W. ¼ S. 8 T. 43 R. 82



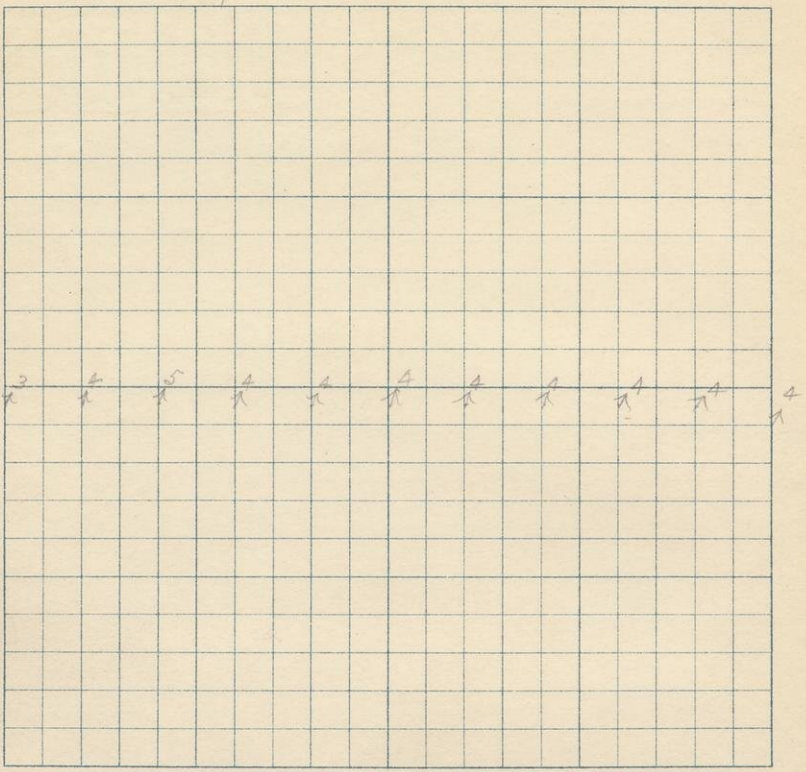
26

S.E. 1/4 S. 8 T. 43 R. 32

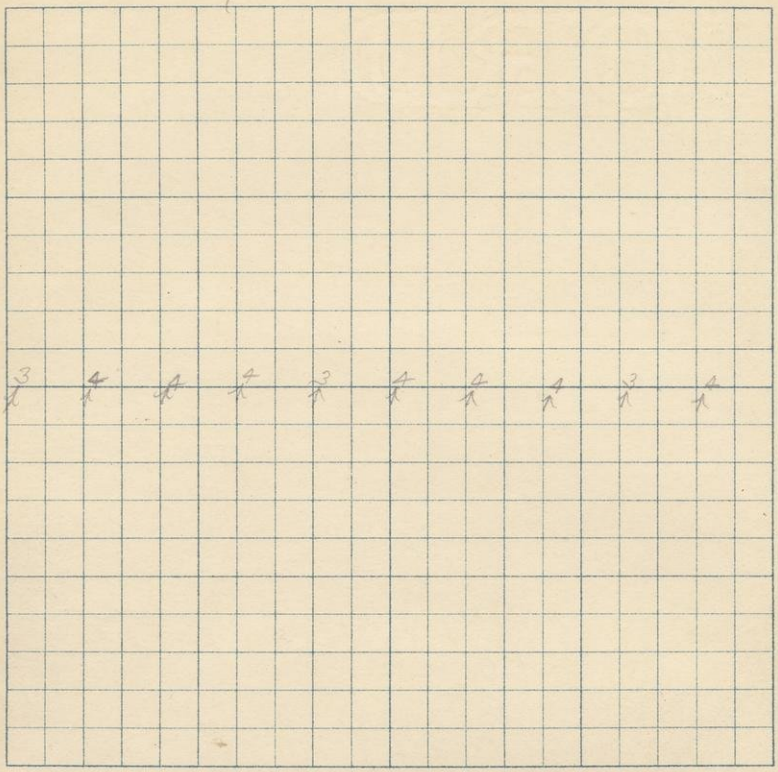


28

D. E. 14 S. 7 T. 43 R. 32

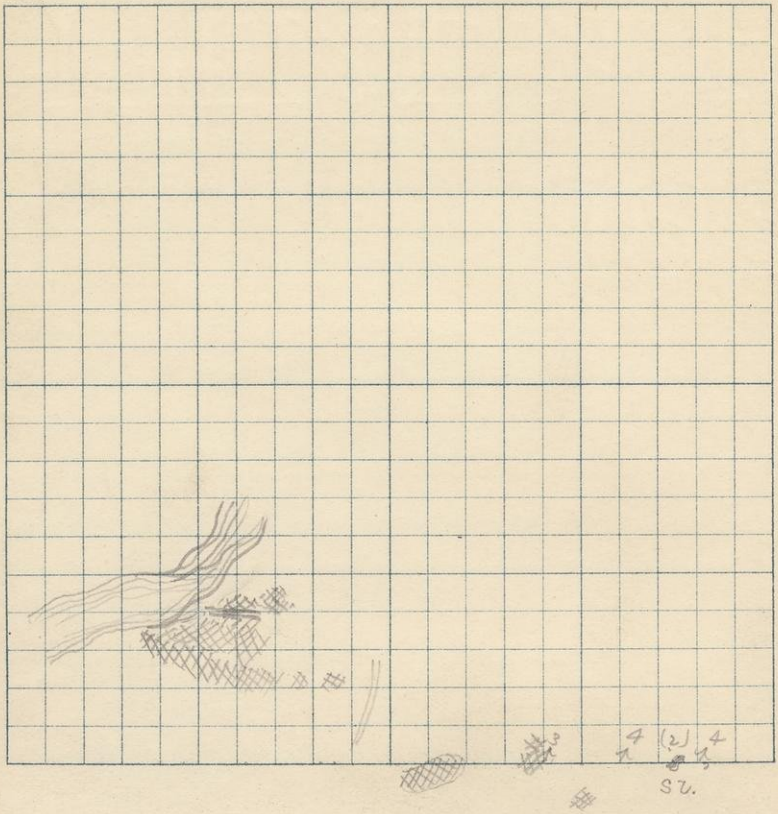


30 N. W. 1/4 S. 7 T. 43 R. 32

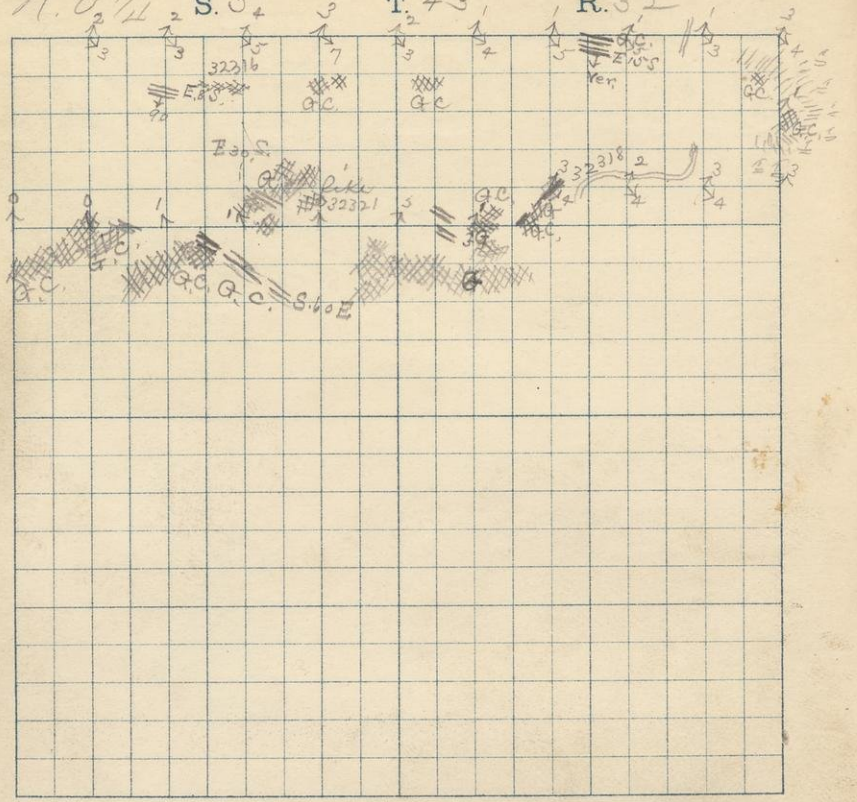


32

N. E. ¼ S. 12 T. 43 R. 33

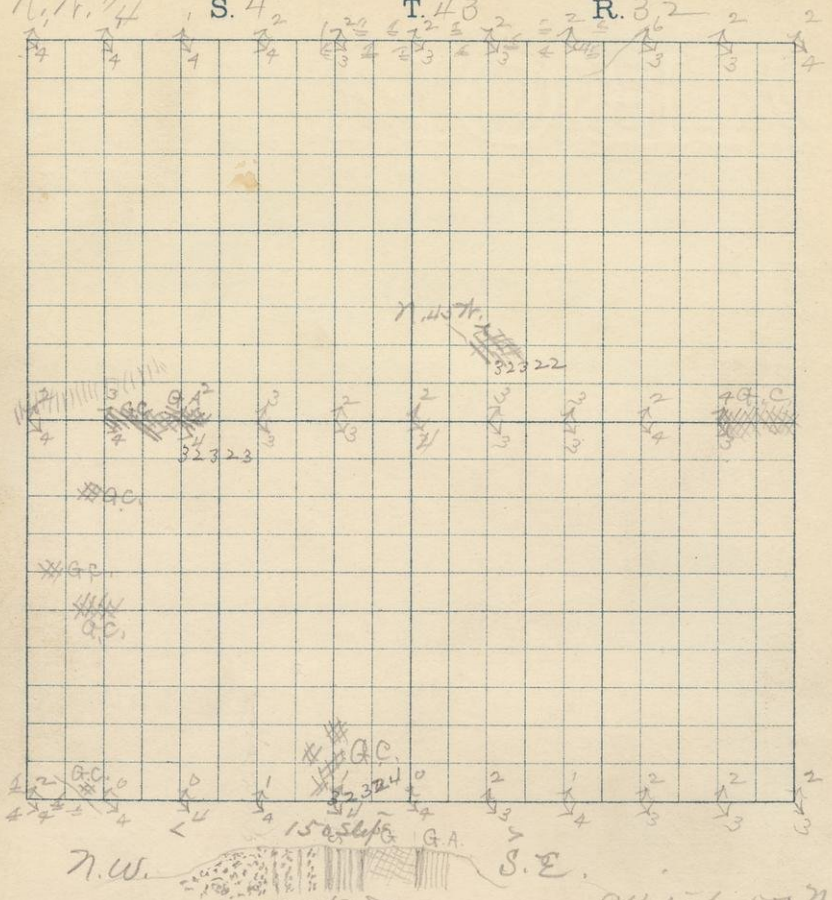


N. E. 1/4 S. 5 T. 43 R. 32



N. ½ N. ½

S. 42 T. 43 R. 32



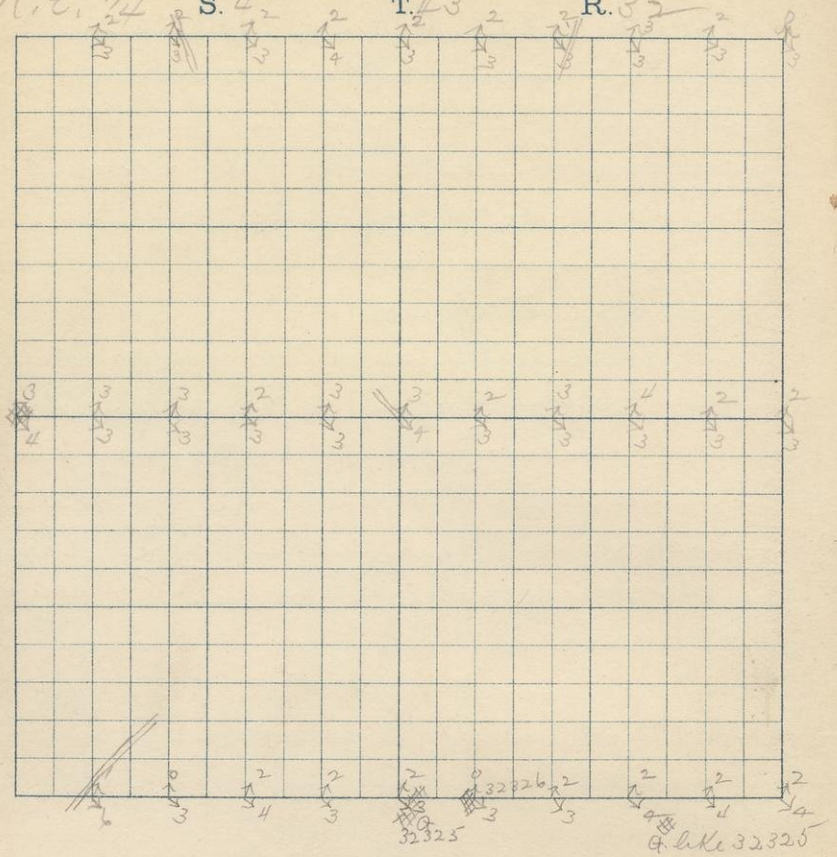
Sketch 500 N.
1750 to 1900 N.

32322 1400 ft. 1075 N. S. E. 4-48-32
G.C. A fine grained grey eruptive similar to those found in Sec. 5, associated with the greenstone conglt. The rock is somewhat banded here showing a strike of N. 45 W Dip high to N.E.
In places the rock is brecciated probably a crushing breccia. This rock seems to be a layer in the large mass of greenstone conglts. and near their upper edge, there is however quite a thickness of congl above them

32323 1800 ft. 1500 N. S. E. 4-48-32
G.A. Amygdaloid lying as shown in sketch

38

N. E. 1/4 S. 4 T. 43 R. 8



32824 1000 - 1600 N. 0. E. 4 - 43 - 32
G.C. Spec. from the Greenstone congl

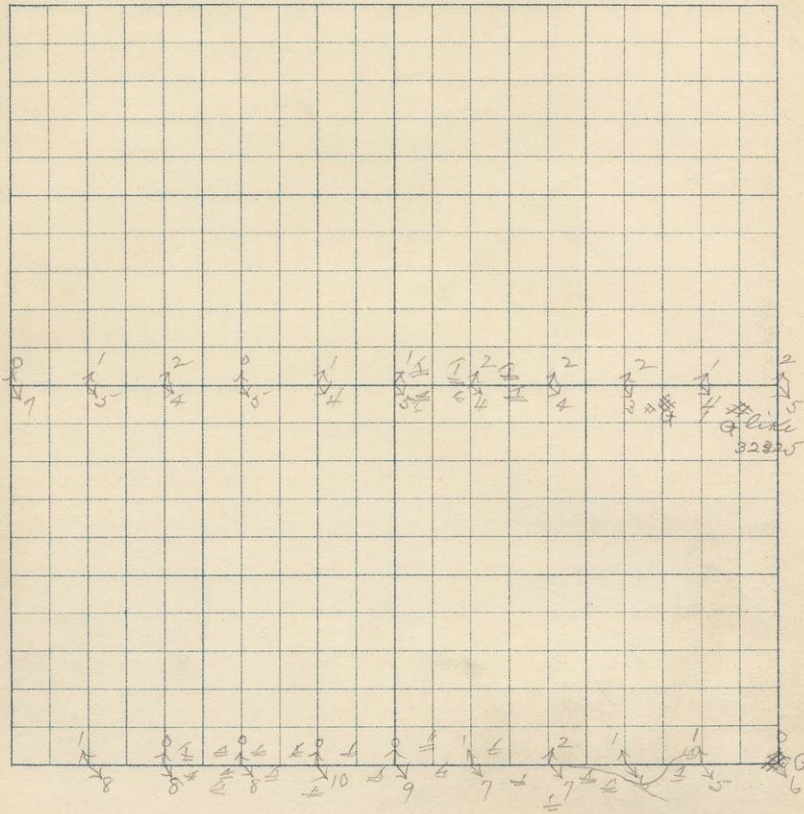
32825 1000 N. 600 W. S. E. 4-43-32 -
G.C. Similar to all the fine grey greenstone interbedded with the congl to the N.W.

32826 100 N. 400 W. S E. 4-43-32
G A small exposure of a fine massive greenstone

32827 300 W. 500 N. 0. E. 9-43-32
G.D. Coarse greenstone, dioritic or diabasic from the eastern continuation of the the large masses found in Sec. 8.

32828 2000 W. 600 N. S.E. 9-43-32
Like 32827

S.E.¼ S. 4 T. 43 R. 32

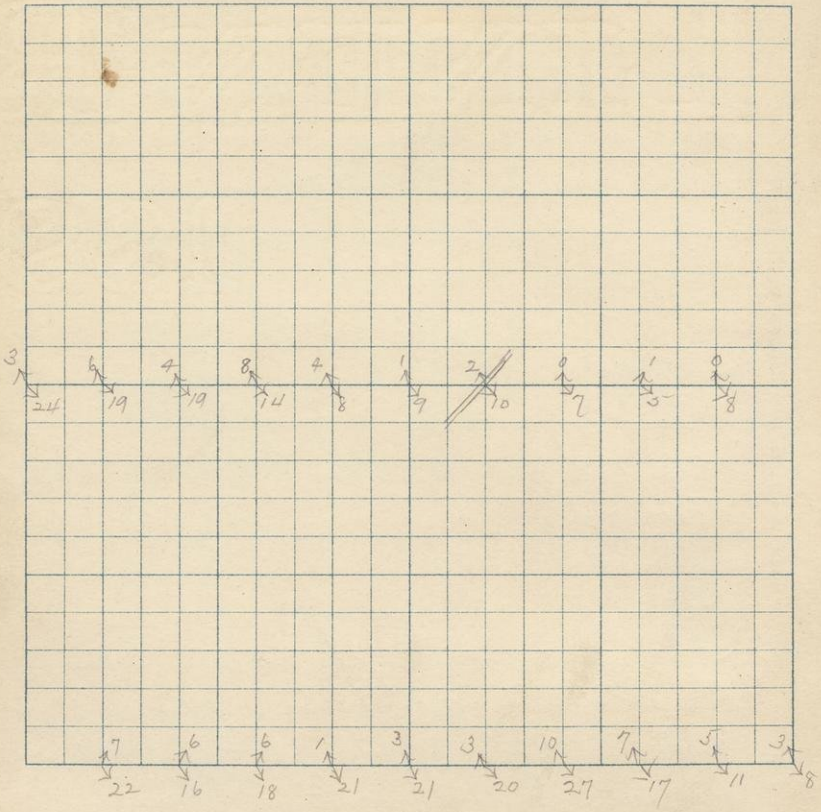


32329 590 N. 2s W. S. E. 16-43-32
G.S. A large ledge of greenstone schist
The rock is very schistose, fine grained
grey, and contains considerable calcite
It has in the specimen much the
appearance of the older green schists
In some parts of the ledge the rock
is flaker more nearly approaching
a slate
The strike of the schistose structure
is E. 7 N. The ledge is badly
covered

32330 570 N. 30 W. S. E. 16-43-32
G A coarse greenstone, one of the
newer crystalline rocks. Either
a dike or intrusive flow

42

S.W. 1/4 S. 4 T. 43 R. 32



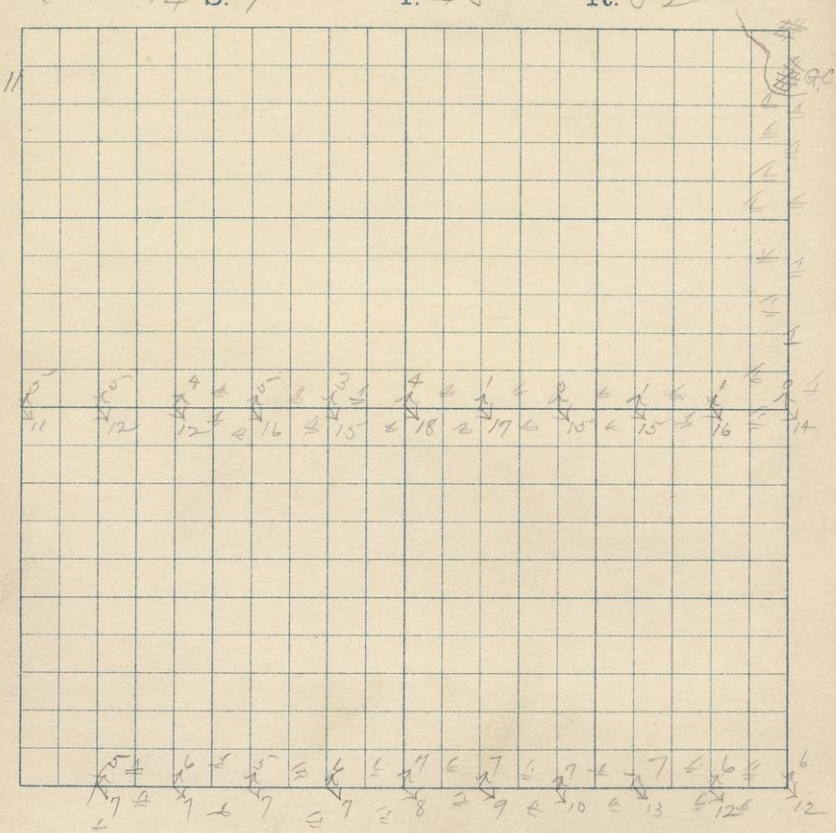
32331 910 W. 480 N. S. E. 16-48-82
Q.S. A fine grey massive greenstone
It breaks along two sets of joints

32332 1450 W. 1000 N. S. E. 17-43-82
Q.Sp. A fine grained grey massive greenstone weathering to a dirty ~~green~~ white
The rock is I think a surface
or intrusive flow as it seems
to slow flowage. It probably
belongs with the rocks found
in Sec. 12 of the town west.

32333 50 steps east of 32332
Q. A coarser phase of this greenstone
Is it all a newer intrusion?

44

N. E. 1/4 S. 9 T. 43 R. 32

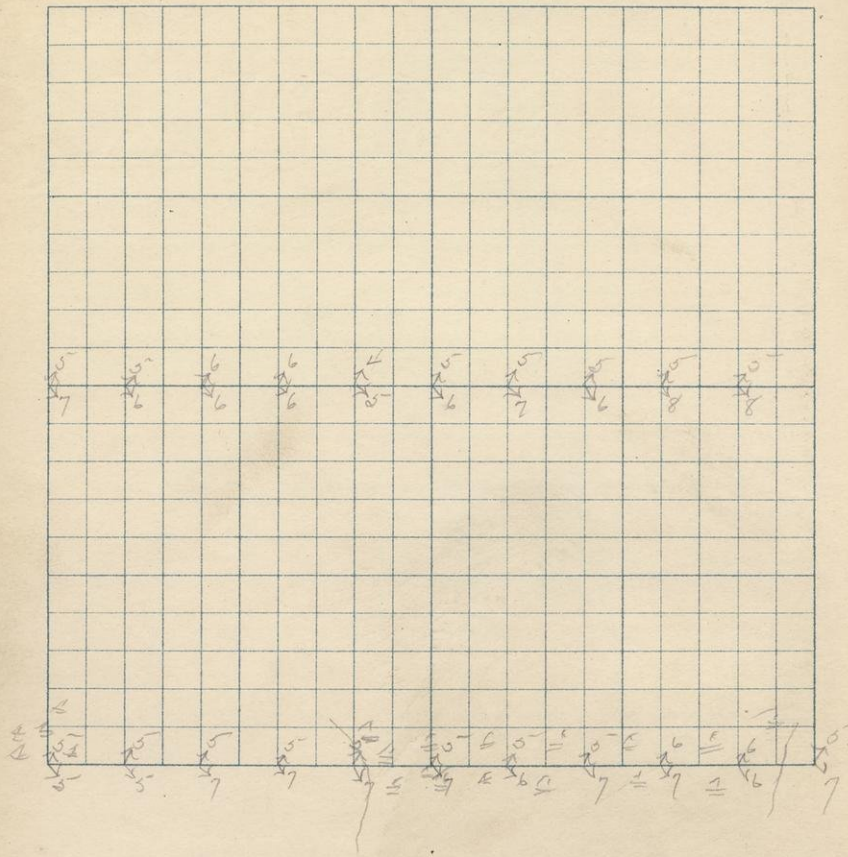


32334 650 N. 640 W. S. E. 17-43-32
A large ledge of ferruginous slate striking N. 10 W. and dipping south 78°. This slate appears to lie to the south of the greenstone ~~just~~ above 32332-33 and strike about in the same direction as those ledges. These rocks are strongly magnetic and well banded. No signs of chert or jasper. Veins and patches of vein quartz are numerous in places.

32335 G. D. Coarse greenstone lying in large exposures just north of the slate — no contact was seen. Is this slate a true fragmental or of eruptive origin

32336 1350 W. 450 N. S. E. 17-43-32
a still more slaty phase of the slates. There are several exposures in this vicinity — all the strike being a little north of W.

46 N.W.1/4 S. 9 T. 43 R. 32

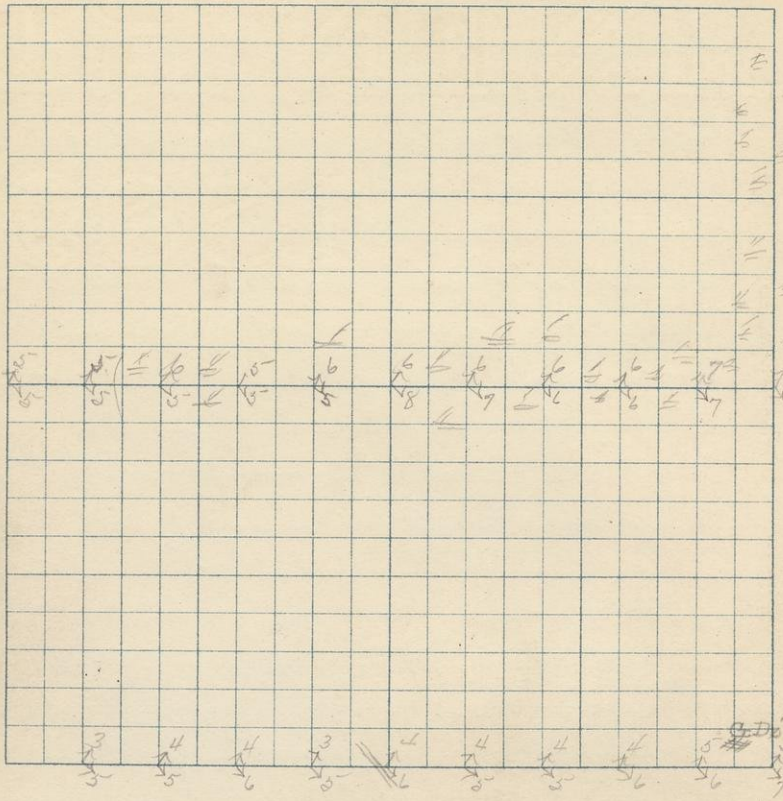


The rocks lying along the south line of 17-43-32 in places look very much like the green schists of the Magnetic and Vermilion countries. They are fine grained, grey to greenish gray in color in places quite schistose and carry calcium considerable quantity of a fine white "sugar like" appearance. They are very much like the rocks in Sec. 12. 43-33 in places where they are most massive and fine.

To the north in 17 lies either a fragmental slate or a very slaty phase of the green schists in one place quite magnetic and highly banded. North of this again lies a newer coarse grained eruptive, either as a dike or an intrusive flow.

The course of all these rocks is a little north of W.

48 N.E. 1/4 S. 39 T. 43 R. 32

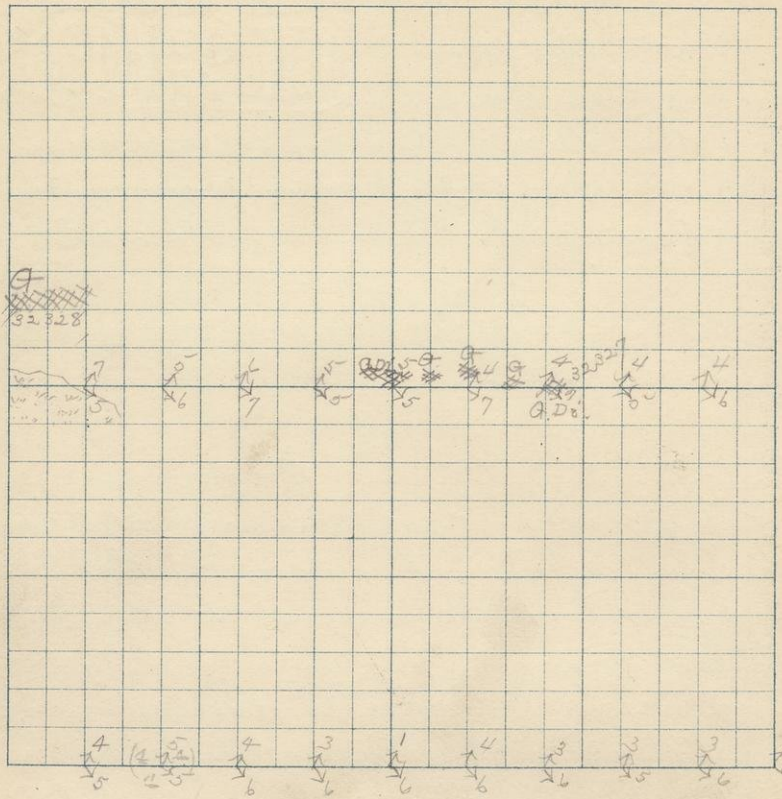


32337 1700 W. of N. S. E. 17-43-32
G.S. From the west end of a high bluff
A fine, gray, fine grained rock
like those in Sec. 12-43-30
and also like some seen with
the congls to the northeast

32338 475 W. of N. S. E. 17-43-32
G.S. Like 32337

32339 1000 N. 1675 W. S. E. 17-43-32
G.S. A green schist(s) from the belt that
lies north of the slaty rocks in
17. These rocks run nearly east
and west, and were originally a
porphyry(?); one of their most pronounced
characteristics being the feldspar
crystals which weather out, which
gives the rock its porphyritic character.
The rocks have been badly squeezed
having in places a conglomeratic
structure across narrow belts.
At other points they show a ropy flowage
structure.
In places they get almost slaty
So they grade into the so called

50 D.N.U. S. 9 T. 43 R. 82



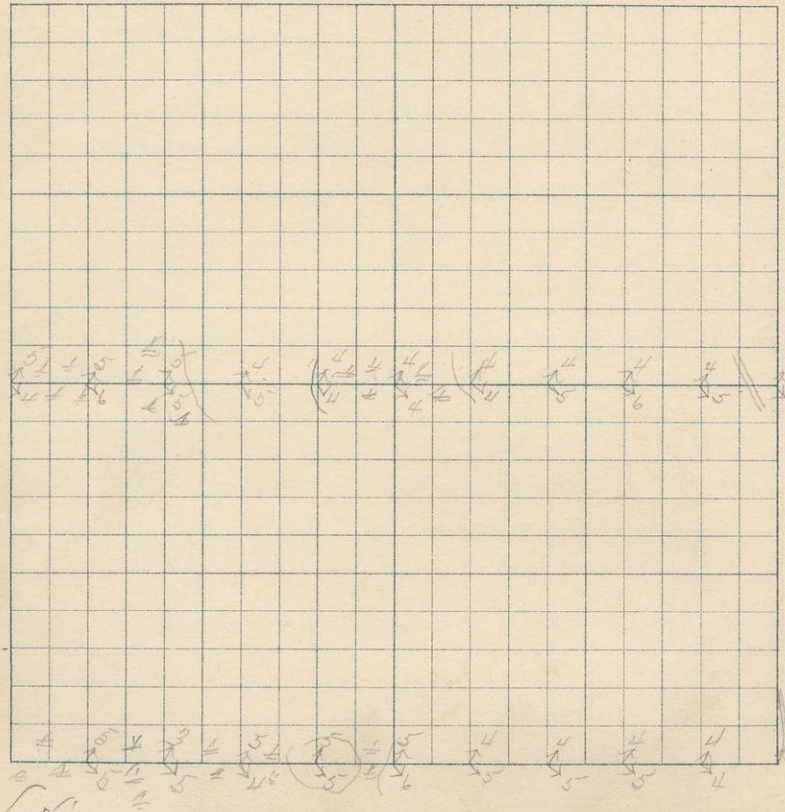
slates to the south

32340 400 N. 400 W. N.E. 18-43-32
Q.S. Similar to the "green schists" to the east in Sec. 17

32341 Slate from fragments in the
32342 conglomerate near the Hemlock mine. Are these from the iron-bearing series or slates from some of the more slaty portions of the greenstone conglomerates; or possibly from a lower layer of slate in the greenstone congls

32343 From an amygdaloid fragment in the greenstone congls in the N.E. ¼ sec. 6-43-32

52 N. E. 1/4 S. 16 T. 43 R. 32



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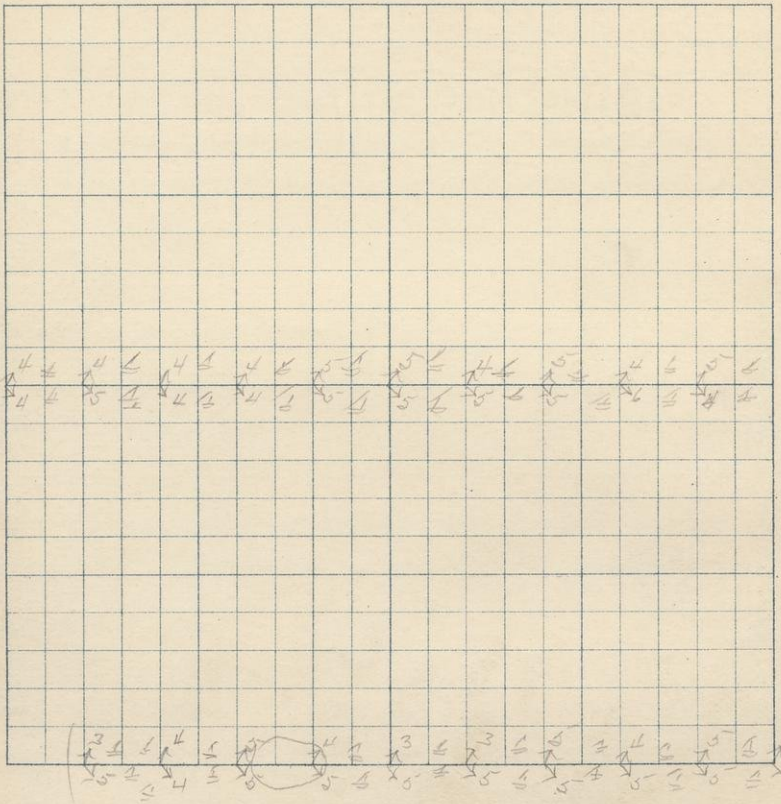
53-75

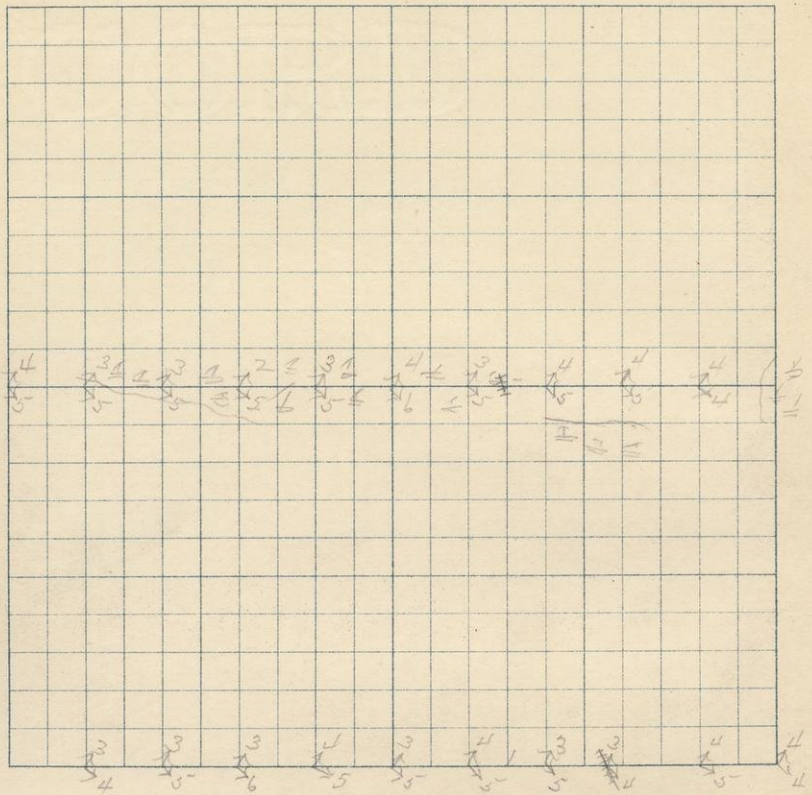
Skipped

N.W. 1/4 S. 16 T. 43 R. 32



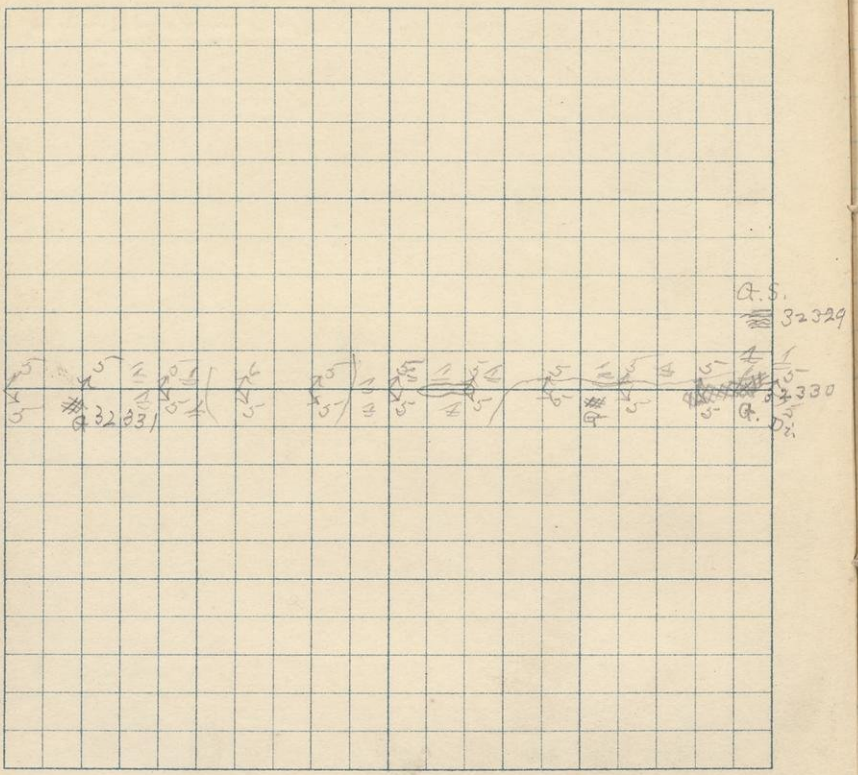
56

N.E. 1/4 S. 17 T. 43 R. 33

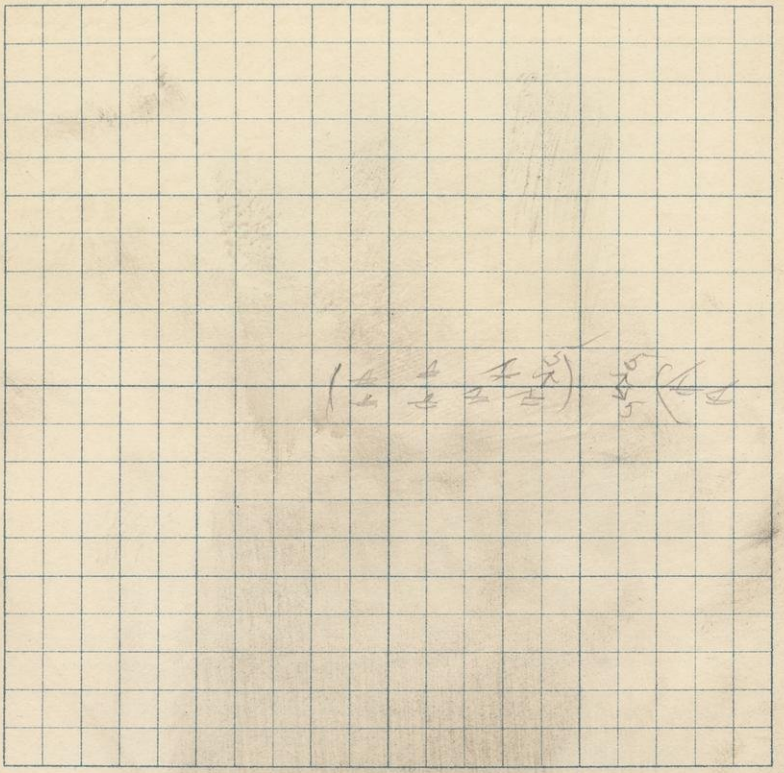


58

N.E. 1/4 S. 16 T. 43 R. 82

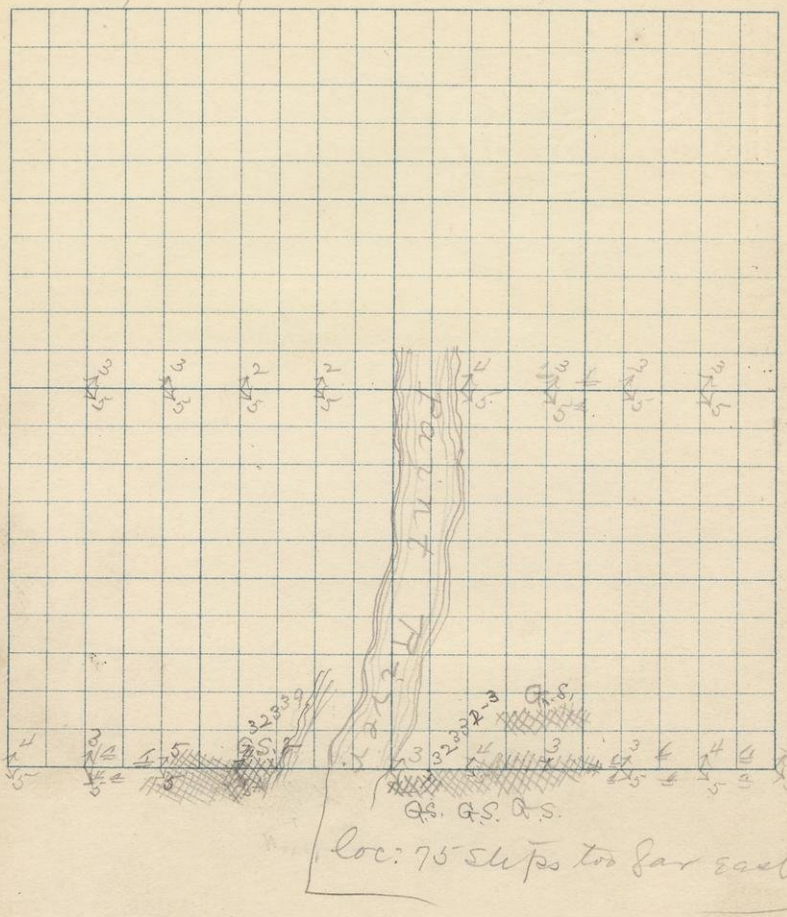


N. ½ ¼ S. 16 T. 43 R. 82



62

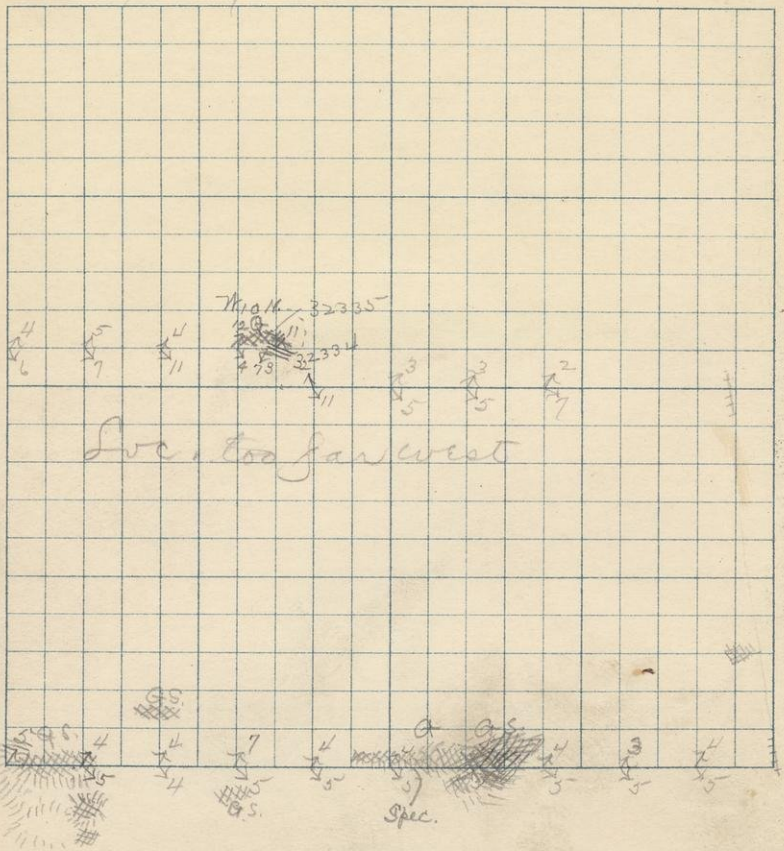
N.W. 1/4 S. 17 T. 43 R. 32



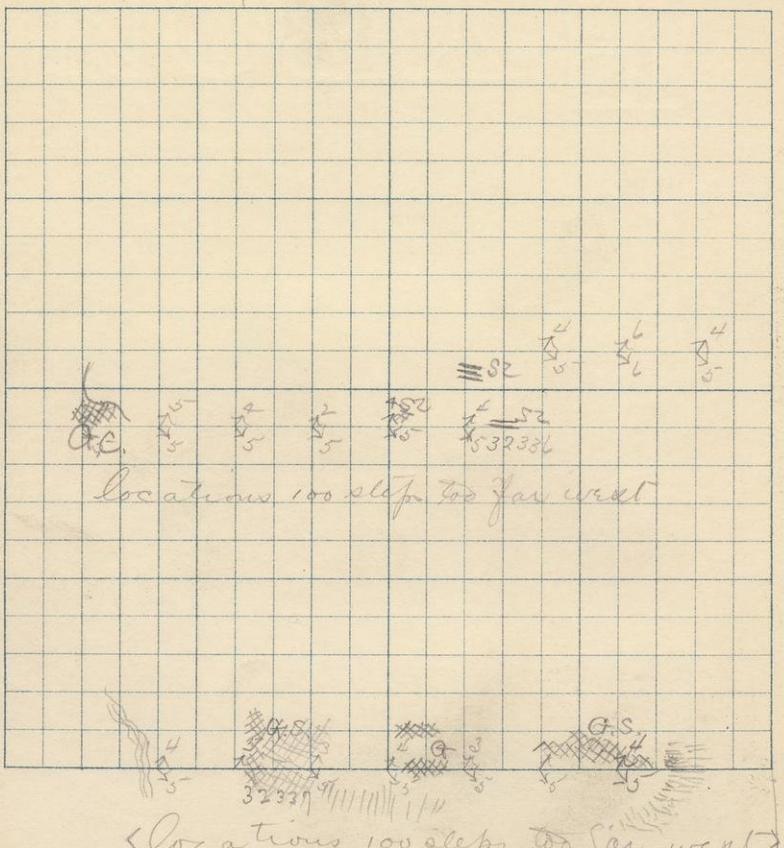
Loc: 75 Slips too far east

64

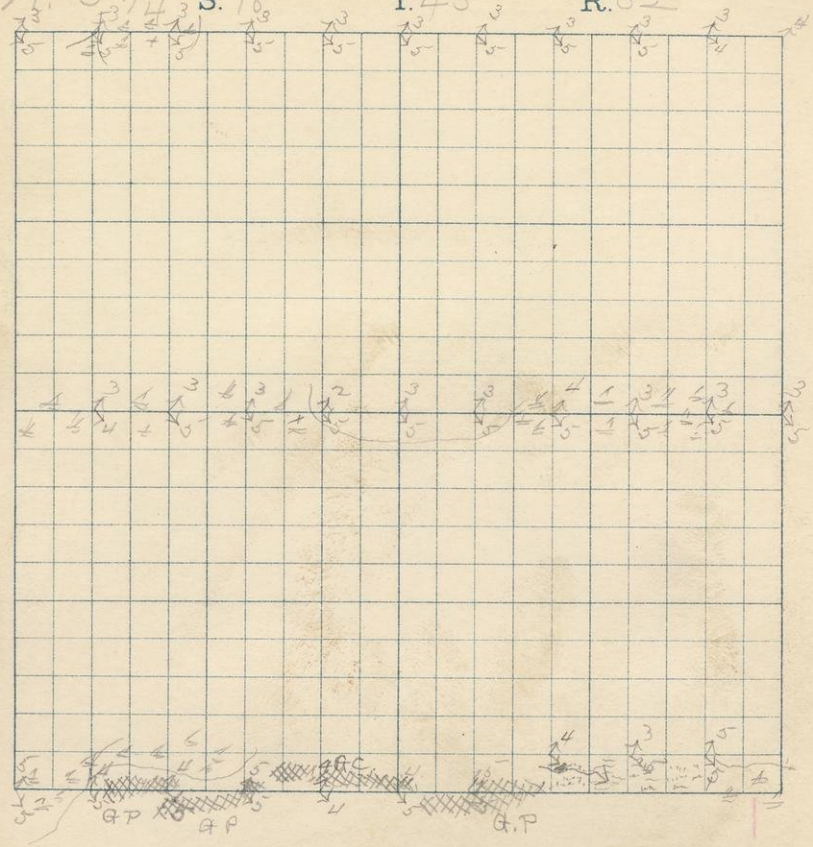
S.E.¼ S. 17 T. 48 R. 32



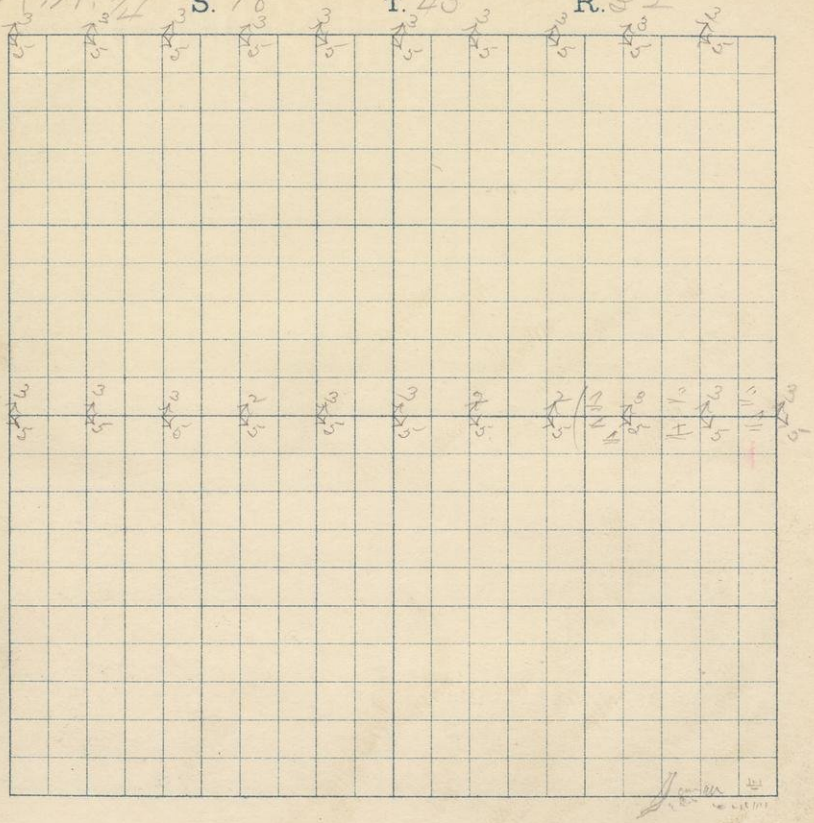
66 S.½ N.W.¼ S. 17 T. 43 R. 32



N. E 1/4 S. 18 T. 43 R. 82

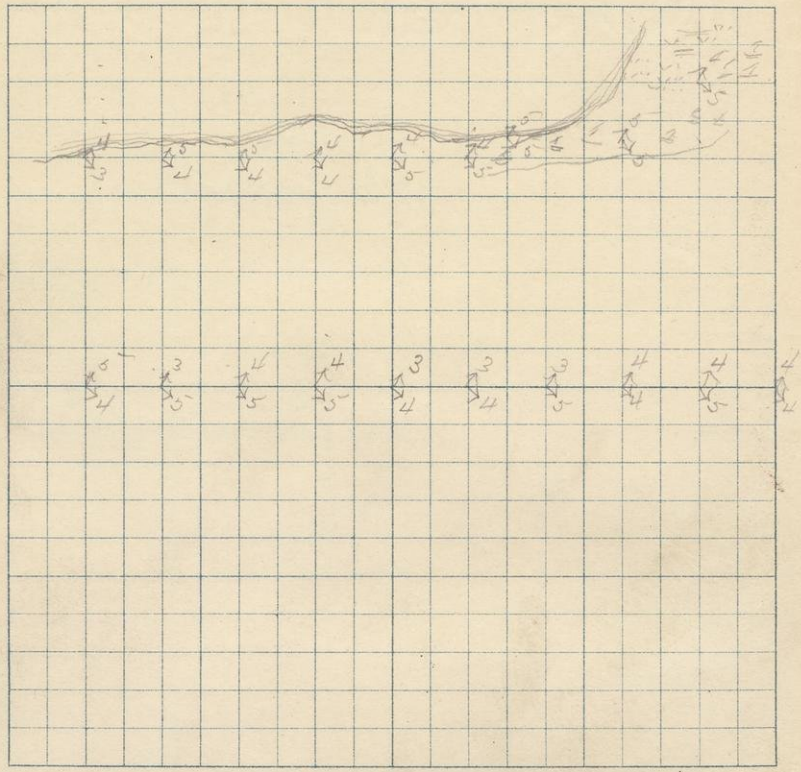


N. H. 44 S. 18 T. 43 R. 32

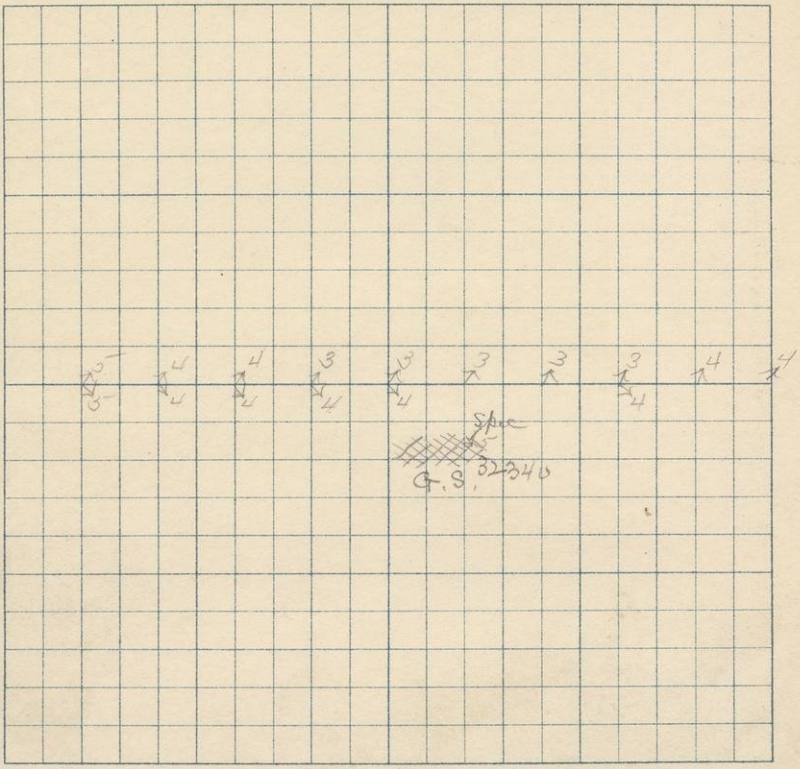


72

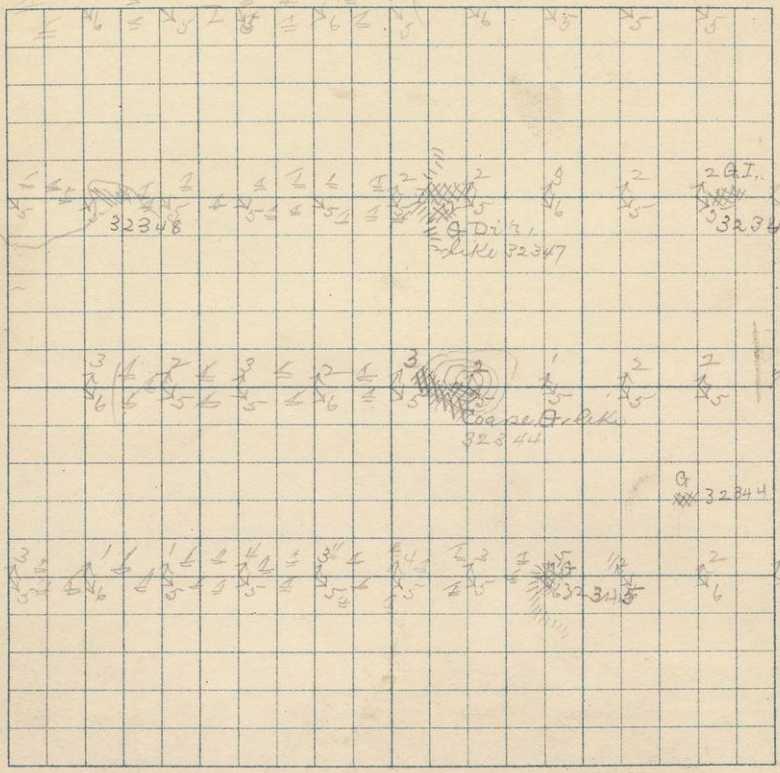
N. ¼ S. 18 T. 43 R. 32



74 S. 26 E. 1/4 S. 18 T. 43 R. 32



76 S.E. 1/4 S. 3 T. 43 R. 32



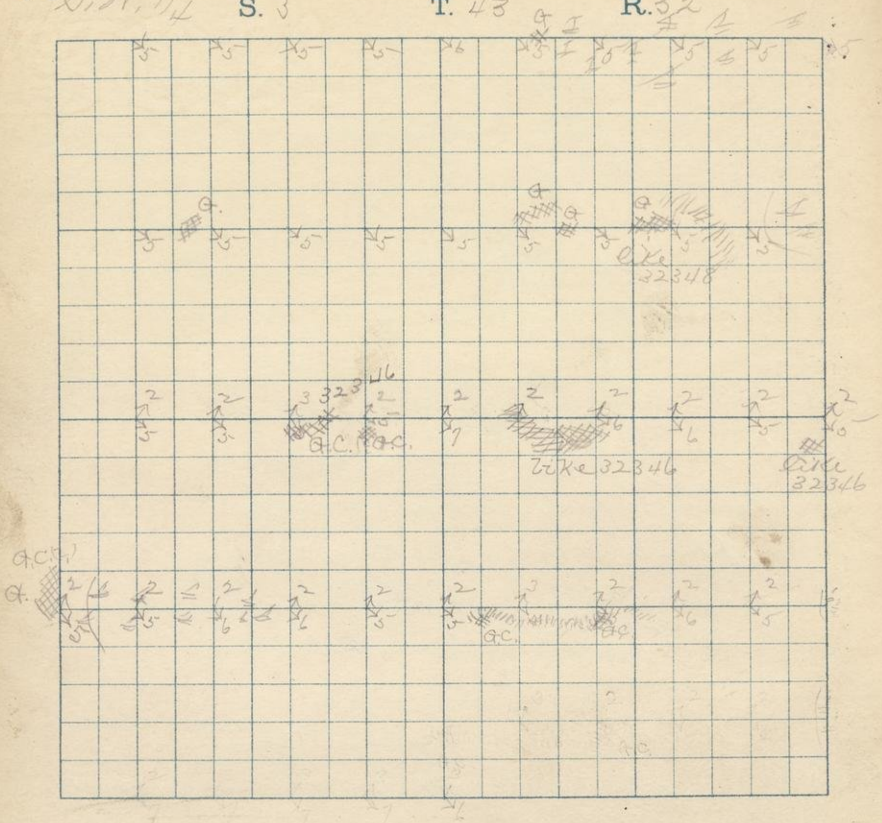
32344 1200 N. 300 N. of S.E. 3-43-32
G.P. a ledge of coarse greenstone. The ledge is too badly covered to see it well

32345 300 N. 200 N. S.E. 3-43-32
G.P. A very coarse grained greenstone

32346 500 N. 1660 N. S.E. 3-43-32
G.P. A very fine, fine grained, grey greenstone, It is much like some of the bands or layers in the greenstone coming in Sec. 8 badly covered.

32347 750 N. 60 W. S.E. 3-43-32
G.P. A large exposure of coarse greenstone (Altered diabase) A newer eruption than the coarse. probably of same age as the coarse greenstone in Secs 7-8. etc.

S.21.14 S. 3 T. 43 R. 32



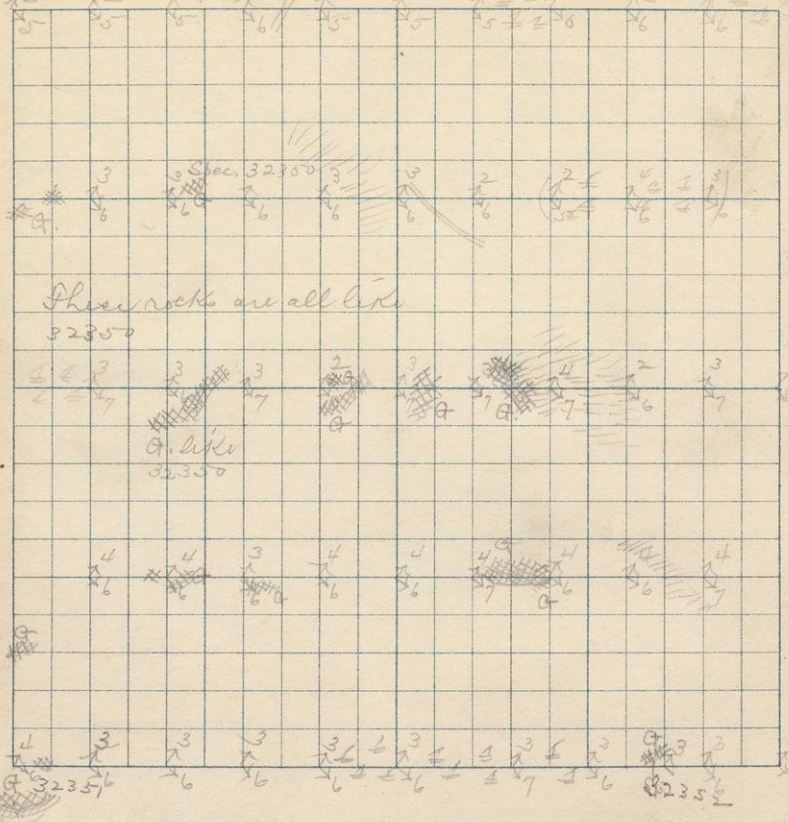
32348 85° N. 75° N. S.E. 3-43-32

Q.D. A firm fine grained grey rhyolite similar to those found a short distance to the south

32349 25 chs west of 32348

Q.C. a schistose phase of this same rock Strike of schistose structure S. 65° E. . Dip high to west

S. 2 T. 43 R. 32


Spec. 32350
These rocks are all like
32350
G. like
32350
G. 32351
32351

32300 755 N. 1760 W. S. E. 2-43-32
G.P. A coarse feldspathic greenstone

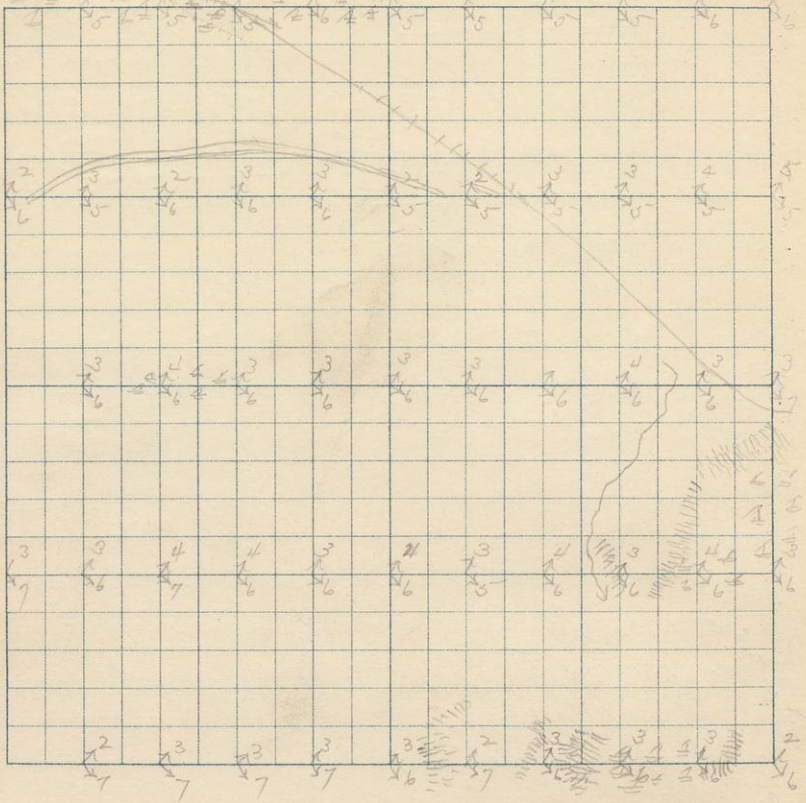
32301 At S. W. corner Sec 2-43-32
G.D. A darker phase of this greenstone exposed in Secs. 3 & 2

32302 1150 N. 00 W. S. E. 2-43-32
G.D. A dark phase about intermediate between 32300-01

Along the east side of Sec. 3 and in Secs. 2 and 11, a coarse greenstone shows in numerous exposures It has a diabase structure, is very feldspathic, from a light grey to almost black color, and shows on many of the fresh surfaces beautiful lustre mottlings. It seems to be a younger eruptive, and from its nature, intrusive, being perhaps the mass ~~from~~ with which the isolated exposures in the greenstone rocks are identical

They appear to grade from the

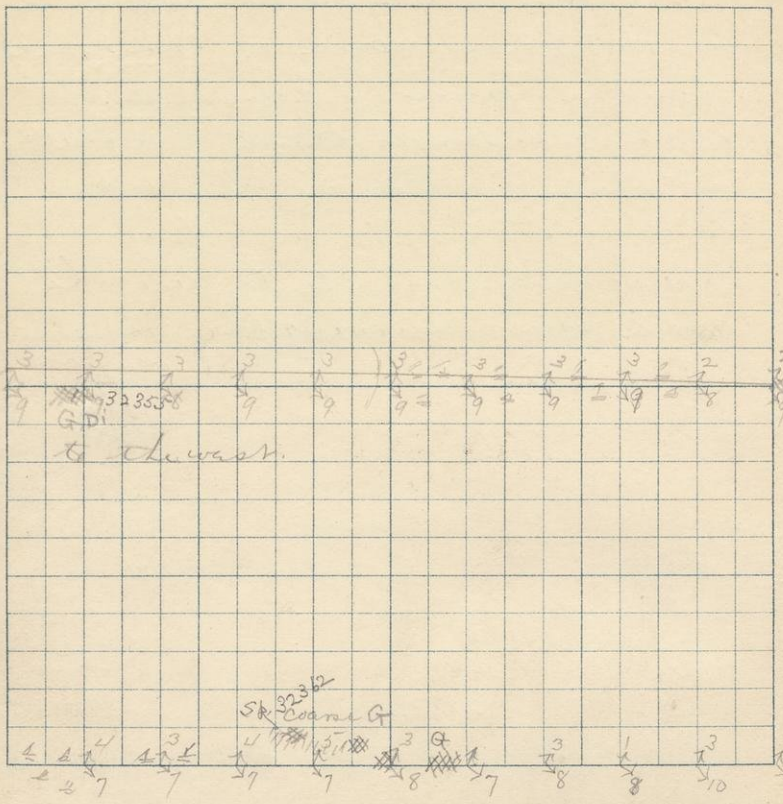
82 S.E. 1/4 S. 2 T. 43 R. 32



light gray variety to the almost black phase, and if they are not the same I can see no way to separate them especially as the exposures are all moss covered to such an extent that it is only possible to see the rock after removing the moss.

84

N. E. 1/4 S. 11 T. 43 R. 32



32353 1650 N. 30 E. P.E. 11-43-32
G.D. a coarse black grunstone. I think it is only a phase of the grunstone to the northwest

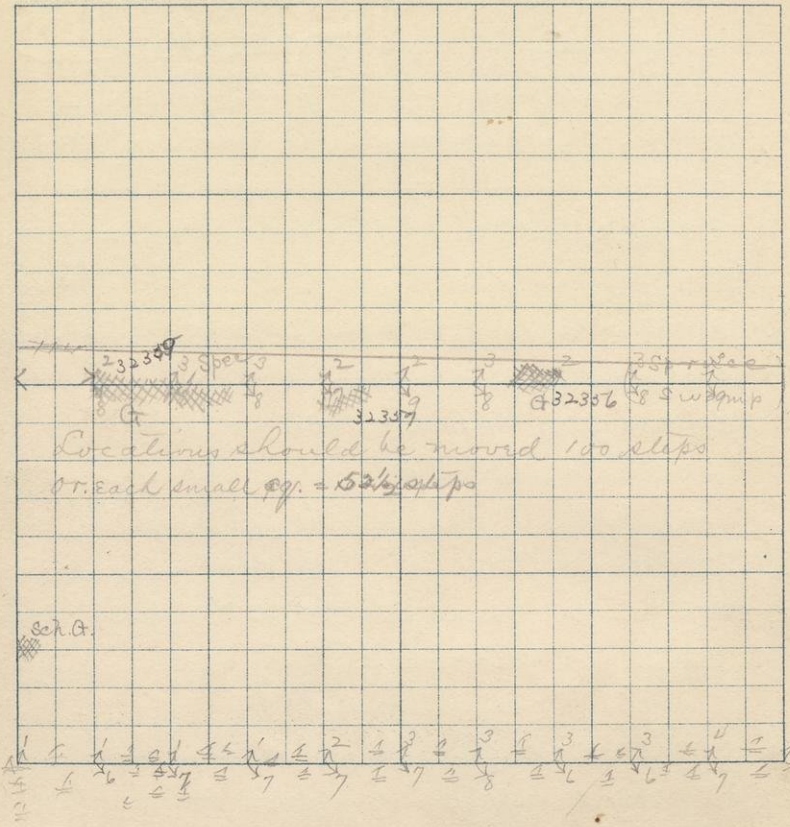
32354 1540 N. 20 E. P.E. 11-43-32
G.D. Very similar to 32353 only finer grained. These rocks are very feldspathic and weather white. Many of them show beautiful basal shellings (see above)

32355 900 N. 1000 N. P.E. 11-43-32
G.D. Coarse diabase similar to many of those to the north

32356 1320 N. 1500 N P.E. 11-43-32
G.D. A grey eruptive mottled with small black spots. It is similar to many in the sec. north

86

N.W.¼ S.11 T.48 R.32



Corr. lines should be moved 100 links
E. & W. each small sec. = 52½ links

32357 1050 N. 147° W. S.E. 11-43-32
A.C. A firm fine grained grey rock breaking with a conchoidal fracture It is the nearest in appearance to a fragmental of any rocks seen in this vicinity

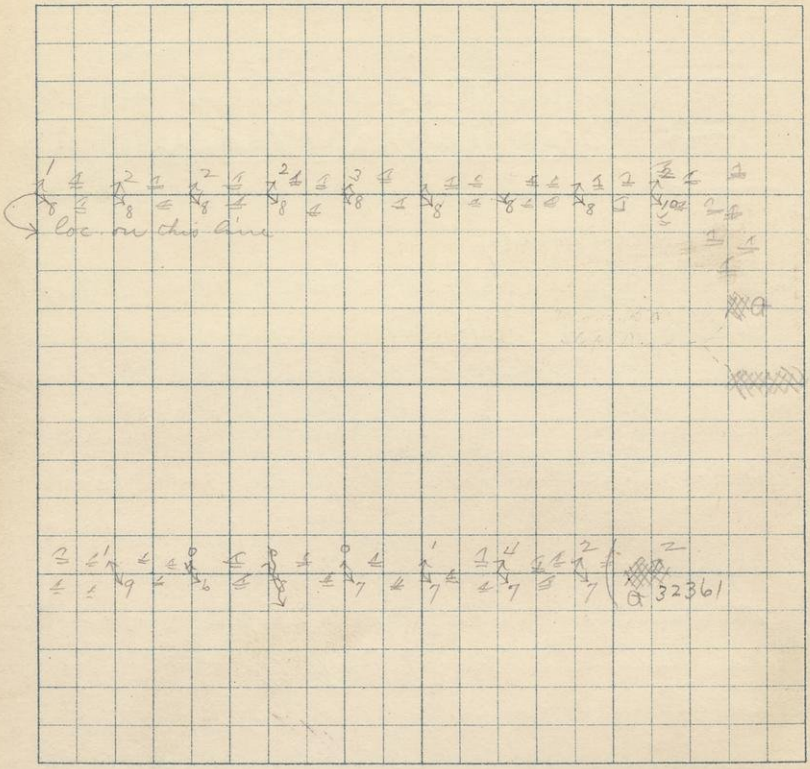
32358 A few paces S.W. of 32357 along the
G.C. ledge the rock becomes somewhat coarser and looks more like an eruptive ~~as~~ Are these fine grained phases of these eruptives?

32359 1000 N. 187° W. S.E. 11-43-32
A.D. A fine grained greenstone or diorite similar to the bulk of the rock in this vicinity

32360 1000 N. 50 W. S.E. 11-43-32
A slate from what appears to be the western continuation of the same ridge as 32359 Everything is so covered here that it is impossible to see what the relation is
The structure (schistose) of these slates seems to be east & west. Dip Vertical.
Are they a fragmental?

88

N.E. 1/4 S. 10 T. 43 R. 32

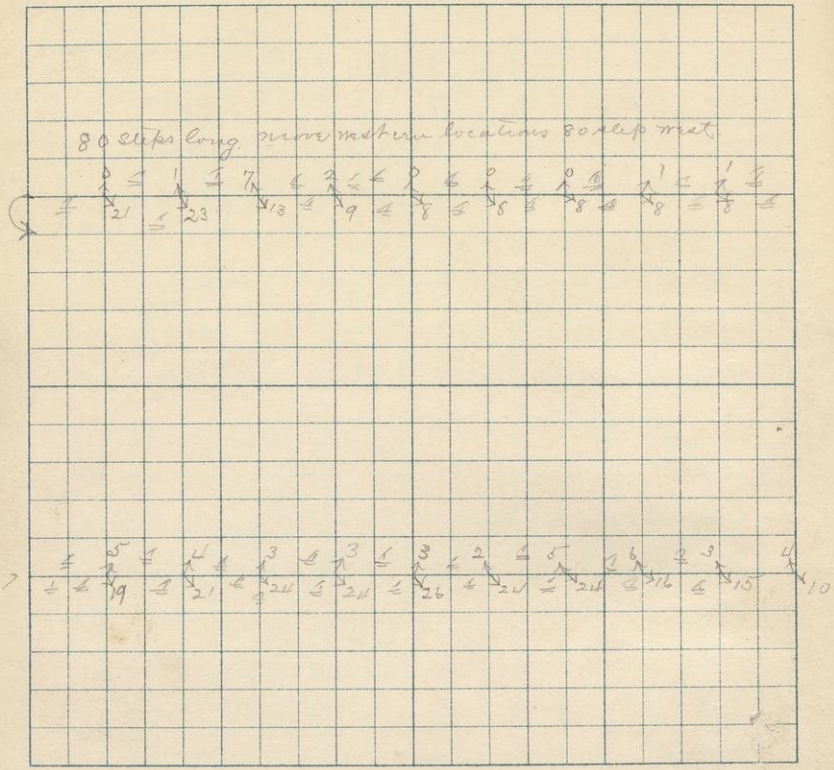


32361 1250 N. 200 W. S.E. 10-43-32
G.A. A fine grained grey rock with black mottling It carries iron pyrite and quartz grains of either porphyritic or amygdaloidal character

32362 1000 N. 600 W. S.E. 11-43-32
G.D.P. A black very much decomposed eruptive. The specimen seems to be a feldspar porphyry although the mass of the rocks is not so porphyritic. I think these rocks should be placed with the coarse grained intrusives lying to the east of the fine grey flows.

90

N. Nr. 1/4 S.10 T.43 R.82

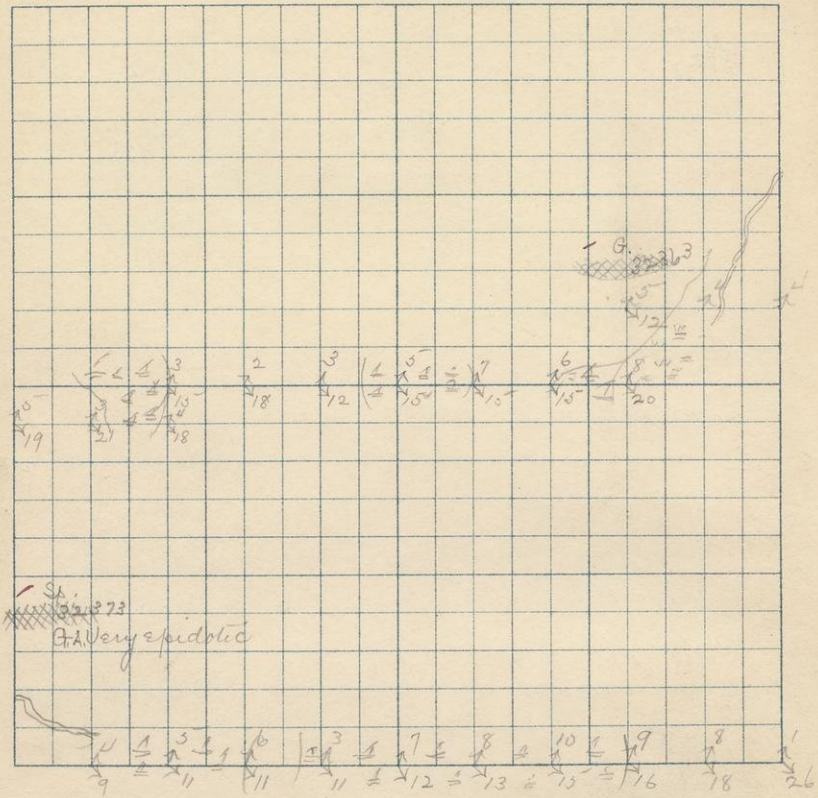


32363 600 N. 200 W. S. E. 11-43-32
G.C. A large south facing ledge of fine grey eruptive. The rock is greatly shattered as shown by the hand specimen having a "clunkery" look. Does it belong with the greenstone conglo

32364 600 N. 1800 W. S. E. 11-43-32
32365 A small ledge badly covered
G.A. The rock is a light dirty green color approaching a fine grained actinolite schist in that respect. It seems to be somewhat conglomeratic, and is highly magnetic even in the hand specimen. In one place two fragments or concretions from their occurrance I should say the latter, of beautiful red ~~chert~~ jasper was seen

92

N.E. 1/4 S. 11 T. 43 R. 32



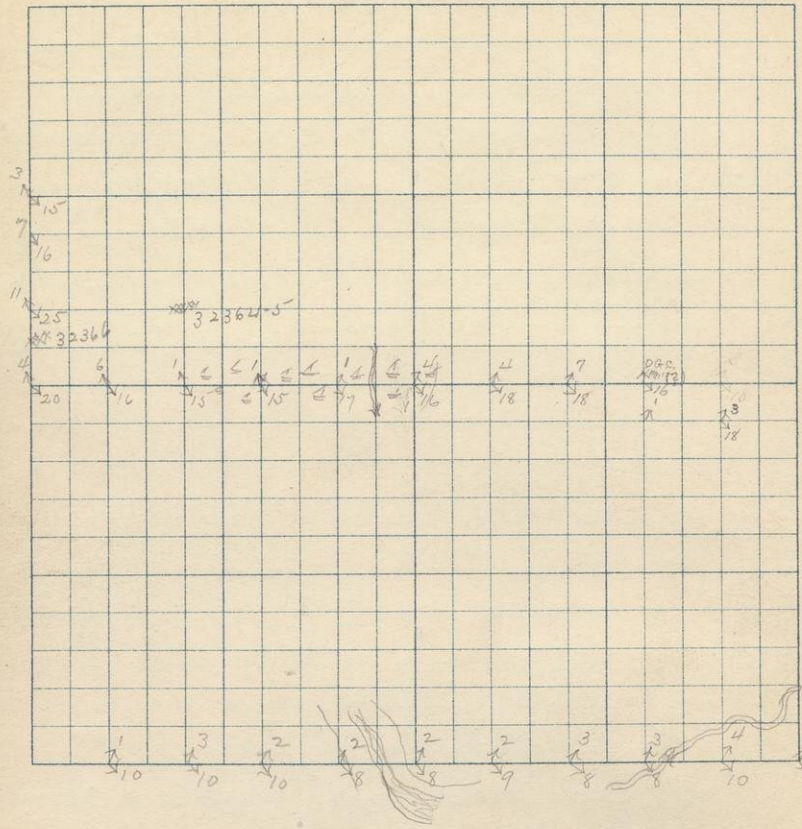
32366 580 N. 1970 W. S. E. 11-43-32
AA. The westward continuation of 32364-5
The rock here shows plainly to be
either an amygdaloid or a conglomerate
derived mainly from an amygdaloid
The amygdules show the ordinary green
filling as well as the quartz filled ones

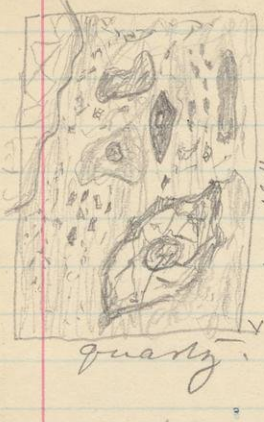
32367 300 W. 790 N. S. E. 10-43-32
A large ledge of conglomerate similar
to 32364-6 The rock here shows
better and show nicely its congl. or breccia
character. The fragments are from only
a fraction of an inch to masses two or
three feet across The smaller frag-
ments are very angular and seem to
be the result of crushing

Sketch shows a surface of about
2 × 1½ inches

The large fragments are mainly
an amygdaloid, and perhaps in
places an appearance of fragments that
is due to the flowage structure combined
with the weathering or cooling
The dip seems to be vertical

D. N. ½ S. 11 T. 48 R. 32





The centers of many of these "fragments" are much more quartzose than the rim; this is the case in the large one shown in the sketch where the center is almost pure

32368 850 N. 750 W. S.E. 10-43-32
G.A. An amygdaloid, very ferruginous aphanite of the stood rocks

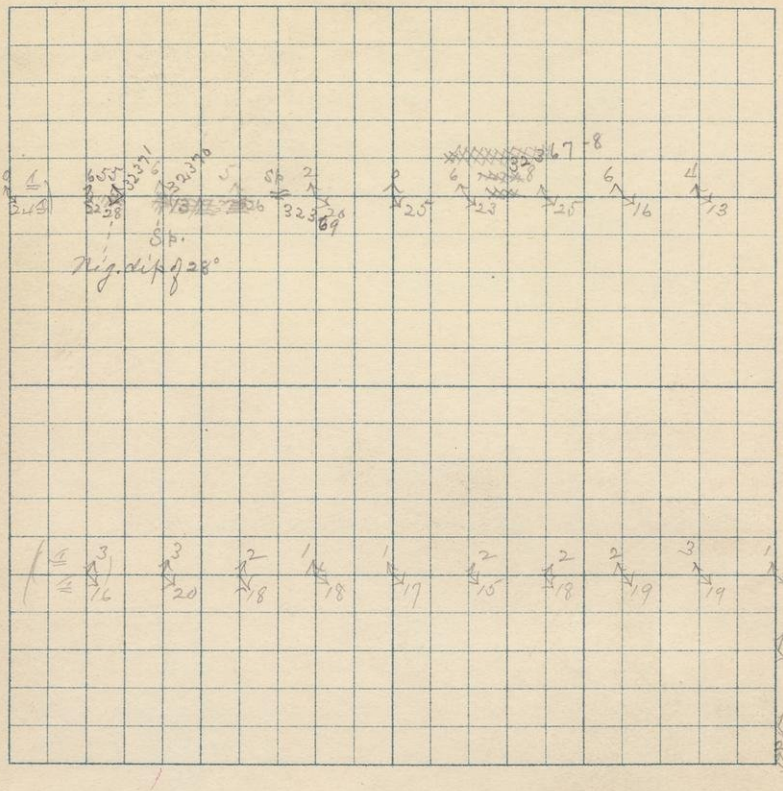
32369 700 N. 650 W. S.E. 10-43-32
G.C. A low ledge (covered) of black slate(?) In places the rock is quite slaty or schistose and again massive as see by spec. 32370-71

32370 700 N. 800 W. S.E. 10-43-32
G.C.

32371 700 N. 860 W. S.E. 10-43-32
G.C.

96

N.E.1/4 S.10 T.43 R.32



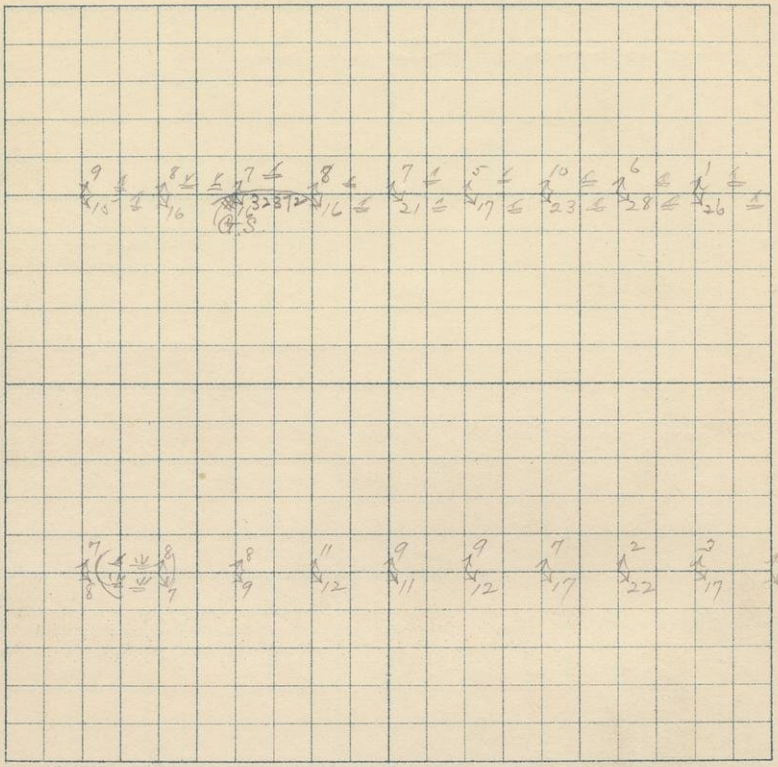
32372 750 N 1700 W. S. E. 10-43-32
G.S. A fine grained green schist
Small exposure covered

32373 950 W. 200 N. S. E. 10-43-32
G.A.E. A large ledge of schistose greenstone
slightly amygdaloidal. Very
epidotic

32374 800 N. 1300 W. S. E. 1-43-32
G.D. A large ledge a couple hundred
paces long and about 30 or 40
feet high. Of coarse black
greenstone

98

N.W.¼ S.10 T.43 R.32



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99, 101, & 103-116

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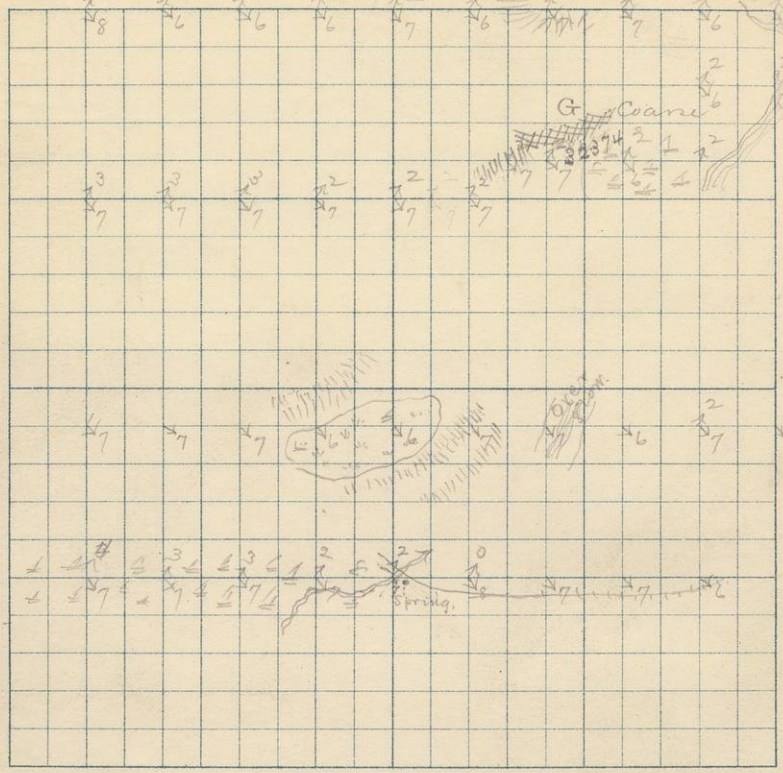
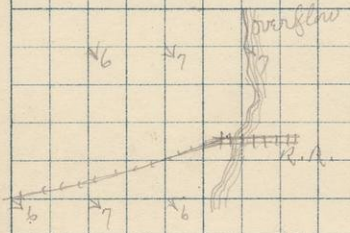
100

S. 12 T. 43 R. 32



N.E 1/4 S. 1 T. 43 R. 32



264
.25
1320
528
6.60

138
3
414

60
80
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24
19200
9600
115200

Road		
100		
200		
300		
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700		

1900 / 2000 / 100
1900
10000