Field notes on the Menominee Iron Range: [specimens] 26373-26400, 26601-26684. No. 189 1896

Weidman, Samuel, 1870-1945
[s.l.]: [s.n.], 1896

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.

Notebook 189

Field Notes on the

Menominee Iron Range

by

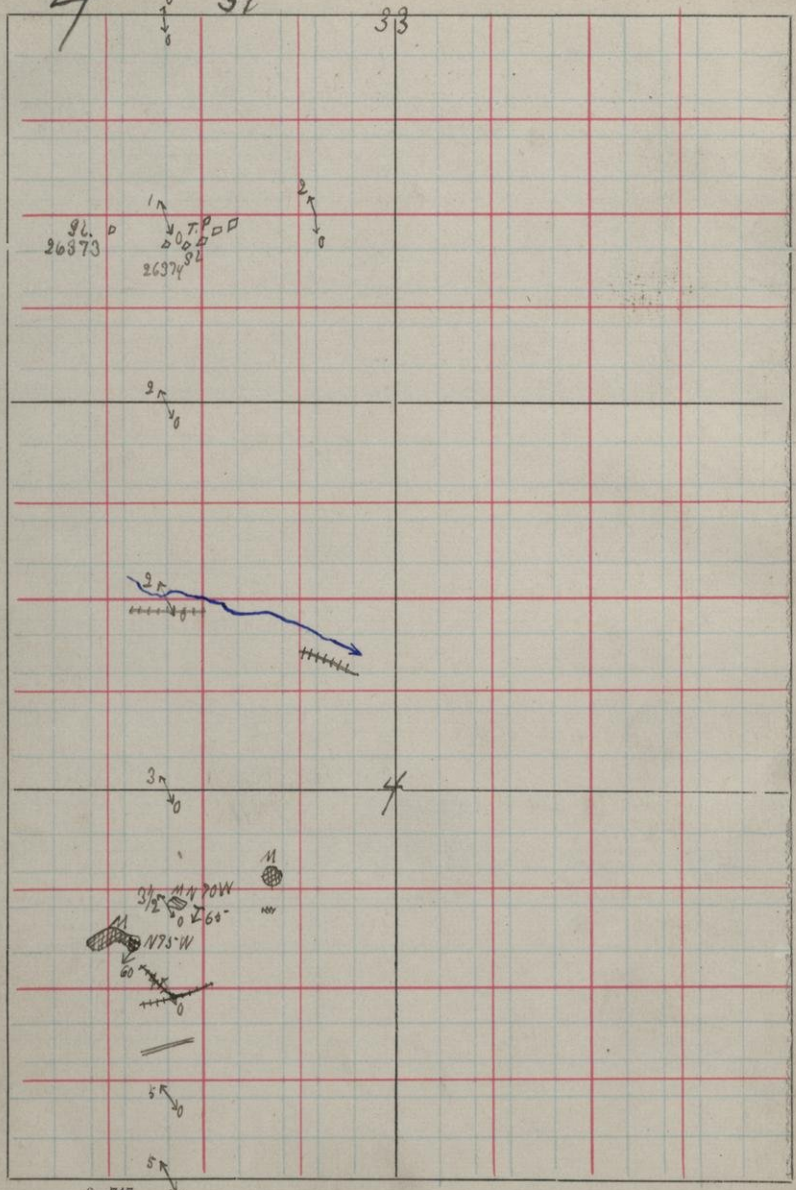
Samuel Weidman

Compassman Ira B Wells

Aug. – Sept. 1896

26373 – 26400
26601 – 26684

S. 1½ 33 / 27 T. 40 / 39 R. 29



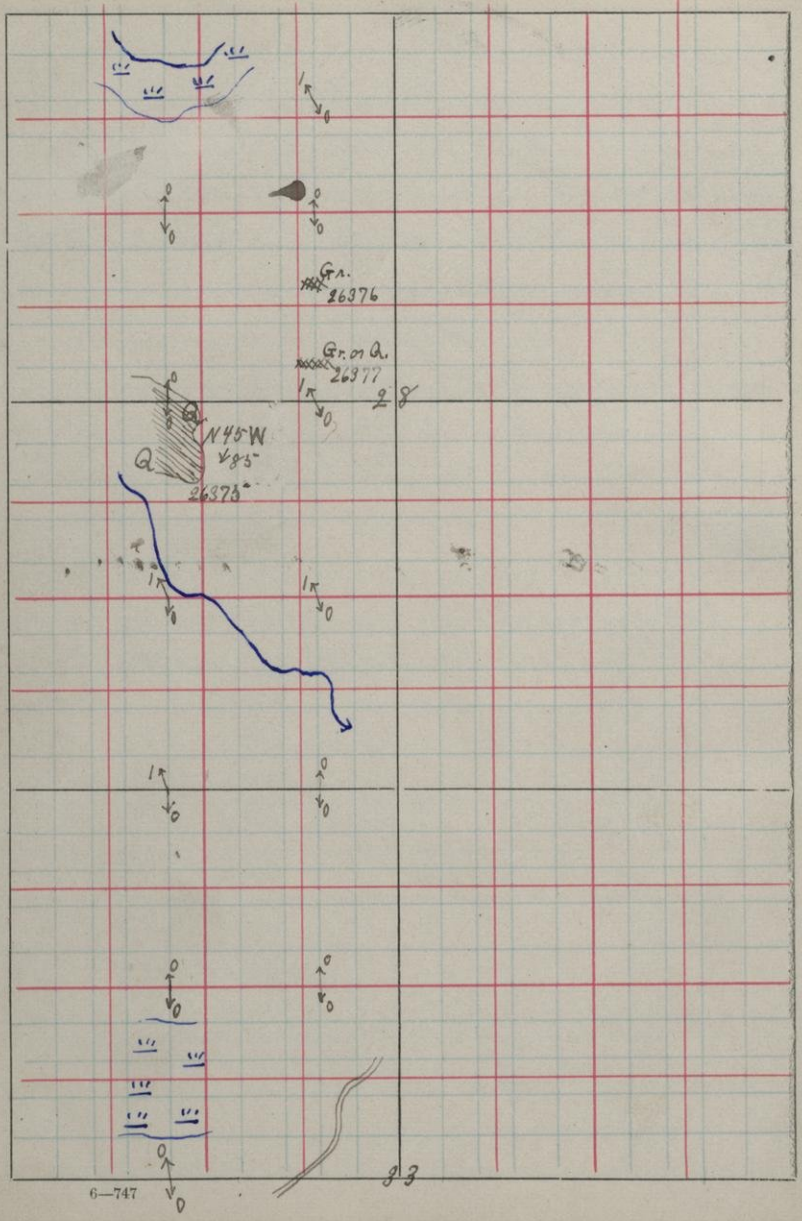
620 N 1660 W 4-39-29
Ledge of marble like 26368.
Strike N 70 W Dip 60 S.
Much faulting is seen in this ledge
the west end of beds being pushed
to the south W ═══ E.
Patches of Potsdam conglomerate
lie against it.
At 700 N 1580 W is marble ledge
Strike N 70 W Dip 65° S. The beds
are much crumpled.

26373 425 N 1910 W 33—40—29
Test pit in red slate like specimen.

26374 425 N 1590 W 33-40-29
Test pit, mostly in Potsdam conglomerate
but some of rock is like specimen.
Another test pit like it 20 paces E.

At 800 N 1320 W 4-39-29 is a
ledge of marble, bedding could
not be made out.

S. 28 & 33 T. 40 R. 29



6—747

26375 845 N 1600 W 28-40-29
Ledge of white quartzite. Specimen shows ripple marks upon both sides. Strike N 45 W Dip 85 S.

26376 1330 N 1200 N 28-40 29
Ledge of granite on summit of hill.

26377 1100 N 1200 W 28-40-29.
Ledge of saccharoidal granite or quartzite, but probably granite.

The following specimens were collected South of Lake Hanbury with the purpose of showing the relation of the greenstone and slate formation.

26380 480 E of W end of ridge.
Greenstone, as fresh a specimen as was available near contact with slate formation

26381 next to the greenstone like 26380 comes quartzite like 26381.

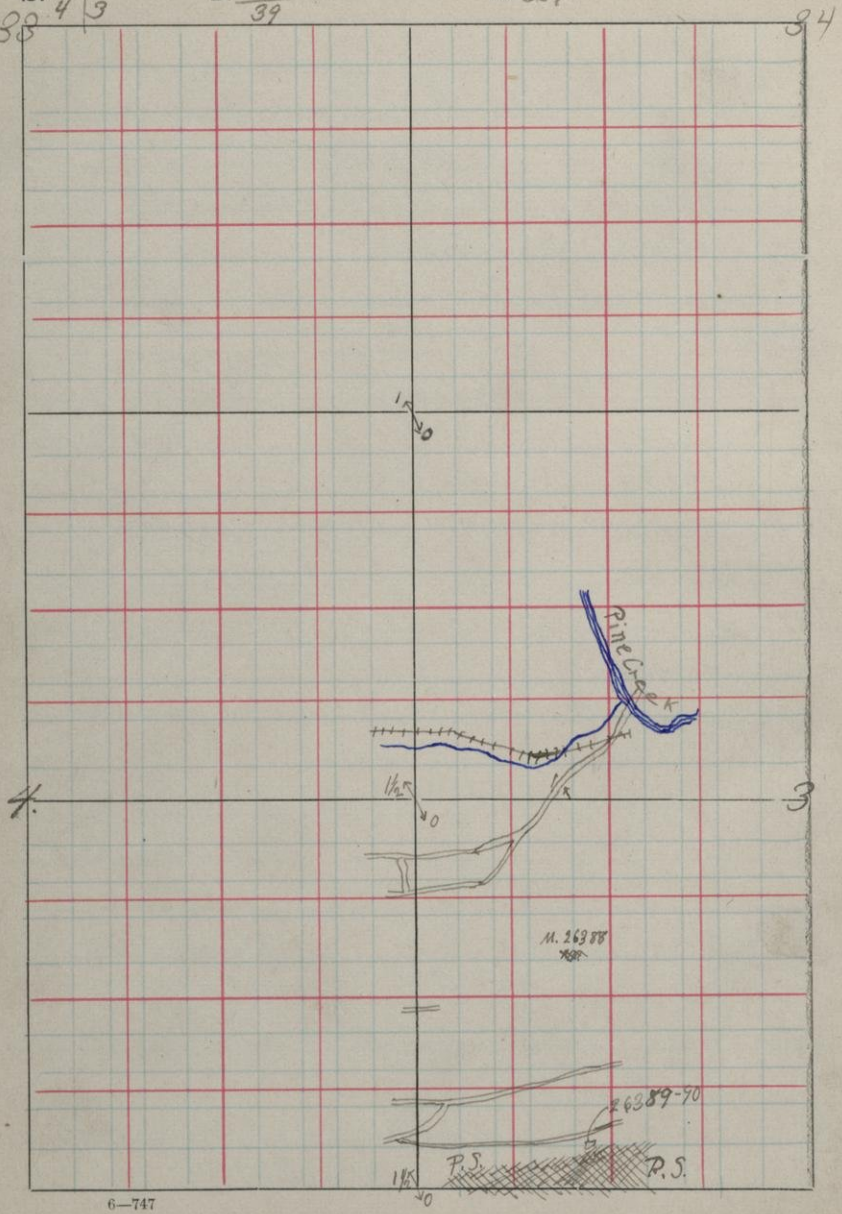
26382 slate lying next to the quartzite opposite the greenstone.

26383 Quartzite and slate of above shown in this specimen.

26384 Conglomeratic(?) specimen near contact within a few inches all the above 26381-84 are taken from within 6 or 8 inches of greenstone like 26380.
This slate formation lies just north of the greenstone. Strike N 45 W Dip 78-80 NE

26385 Micaceous quartzite lying a few feet south of greenstone.
It is impossible to tell from

S. 33 | 34 / 4 | 3 T. 40 / 39 R. 29



6—747

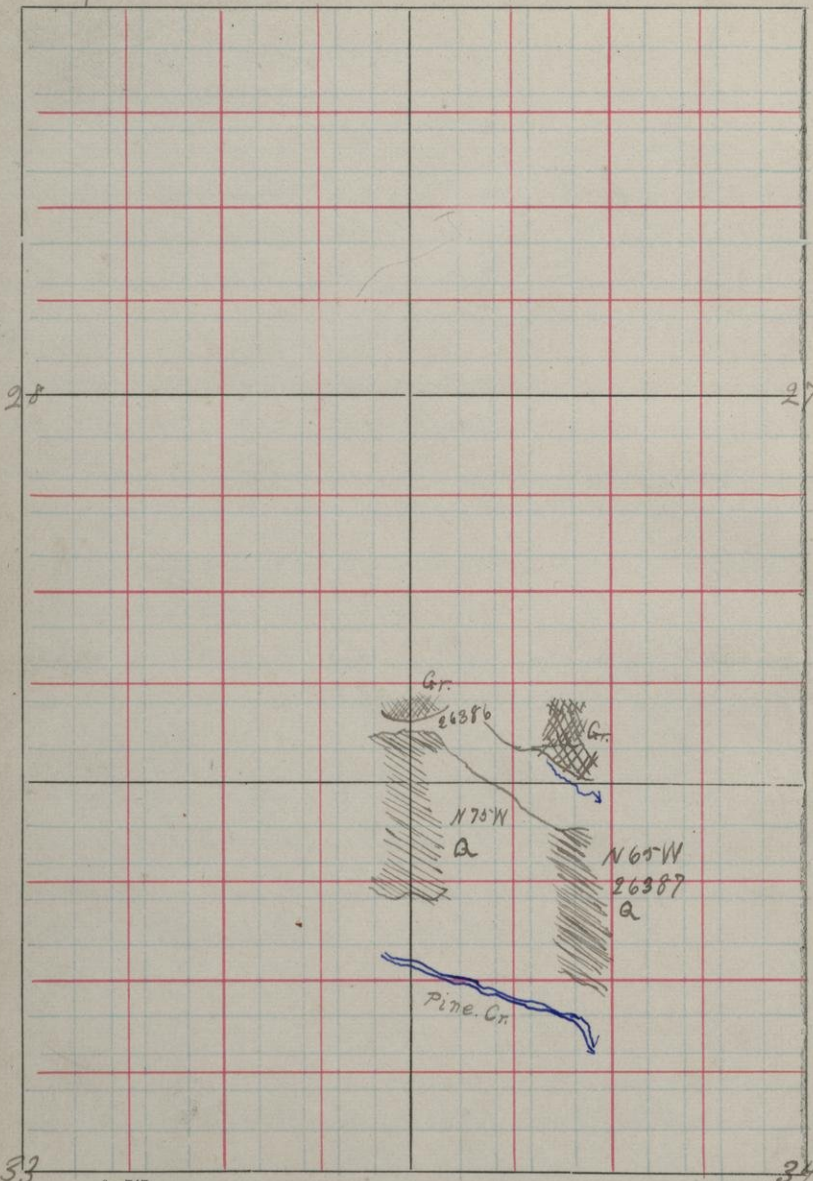
the exposure at this place ~~that the~~ the greenstone is extrusive and dips but seems intrusive. The slates dip nearly 90° both on the north and south side of greenstone and the contact between the two is also nearly vertical.

26388 620 N 1000 W 3-39-29
Ledge of marble. Bedding is not distinct but it does not agree with secondary structure. The marble beds are much crumpled and seem to have a low dip to the west.

26389 120 N 1570 W 3-39-29
Test pit at base of large ridge covered with Potsdam sandstone. 26389 is specimen of the sandstone but 26390 is
26390 a slate coming from same pit.

50 paces SE of this pit and further up the ridge is another deep pit in the sandstone only.

S. 28/33 27/34 T. 40 R. 89



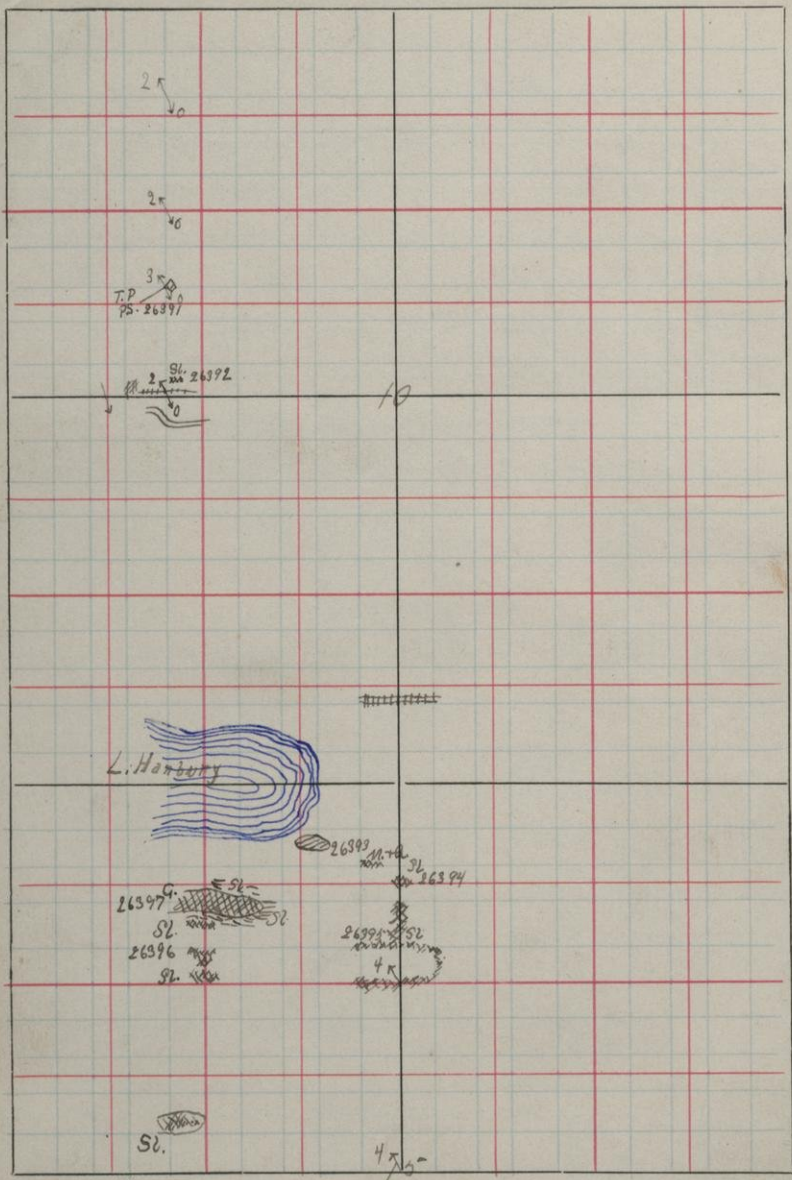
6—747

At 1740 N on section line 33-34
the quartzite has a strike of N 75° W.
Dip. 90° Quartzite extends to 140 N
in 27-28.

26386 160 N OW 28-40 29.
Edge of granite. Laminated as
banded the bands running at
right angles to the contact with
the quartzite i.e. N-S.

26387 1900 N 1600 W 34-40-29
Edge of the quartzite
Strike N. 65° W. Dip 86. S.

S. 10 - N½ 15 T. 39 R. 29



6—747

10?

26391 1300 N 1600 W X-39-29
Test pit very deep in Potsdam and rock like 26391.

10?

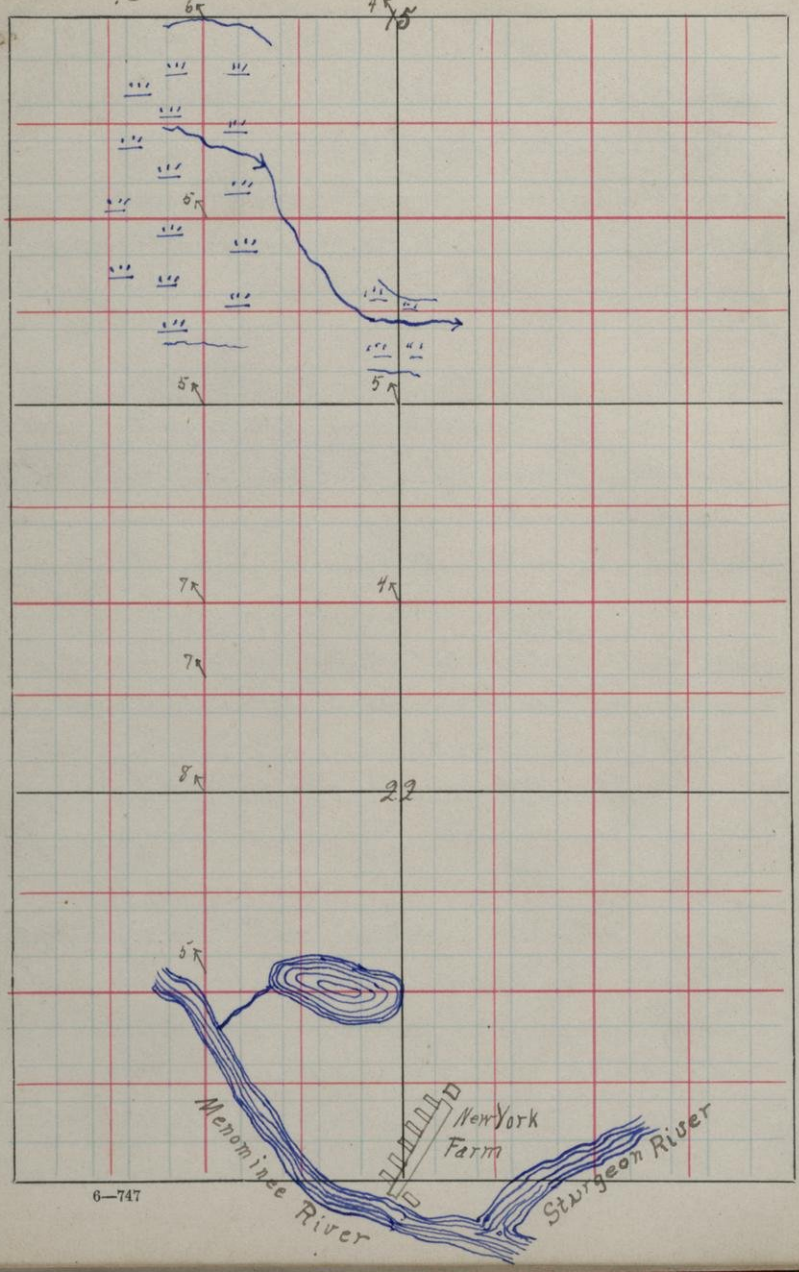
26392 1000 N 1600 W X-39-29
Ledge of slate on South side of ridge

26393 1800 N 1050 W 15-39-29
Ledge of micaceous quartzite forming north face of ridge. No structure made out.

26394 1760 N 1000 W 15-39-29
Calcareous slate immediately south of micaceous quartzite The structure not made out at this place

26395 1635 N 1000 W 15-39-29
Ledge of slate. Micaceous quartzite between this and slate of 26394 No structure made out except except that the slate is intricately folded and crumpled and the cleavage structure whose planes have a strike N 70 W has cut across the bedding.

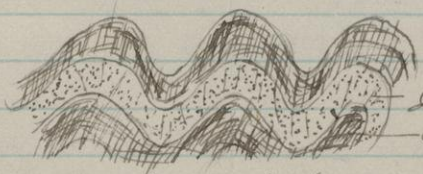
S. 22 + S½ 15 T. 39 R. 29



6—747

At 1500 N 1000 W is ~~summit of~~ slate ridge

At 1550 N 950 W the quartzite and slate are folded as in sketch



These folds pitch towards the East at angle of 20° to 30°

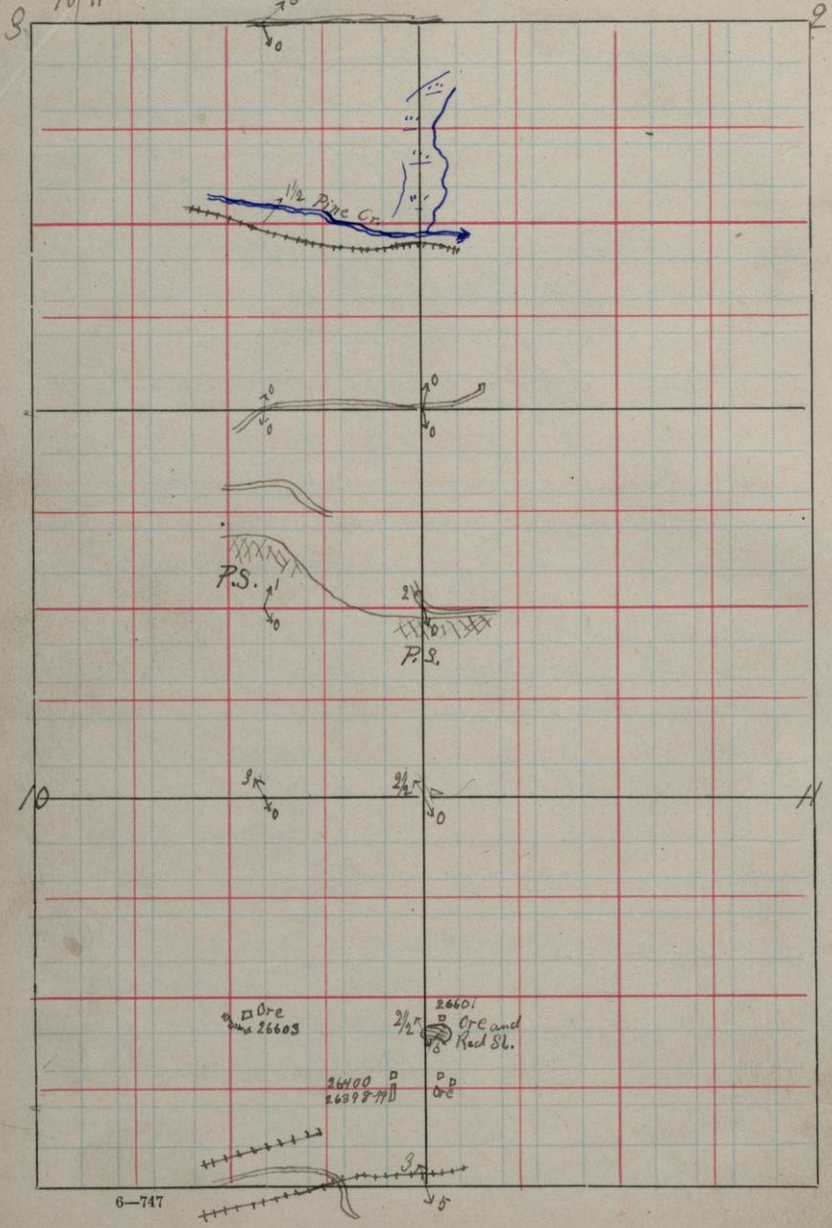
At 1120 N 1500 W 15 – 39 – 29 the slates and quartzite are closely folded together

26396 1580 N 1540 W 15 – 39 – 29
Ledge of slate in southern part of ridge comes in contact with rock like 26396. Greenstone schist or micaceous quartzite schist.

26397 1660 N 1500 W 15-39-29
Pass with over slates and thin beds of micaceous quartzite and find new north face of this ridge rock like specimen which is very probably a greenstone schist.

Follow east along ridge in greenstone

S. 2 3 / 10 11 T. 39 R. 29



6—747

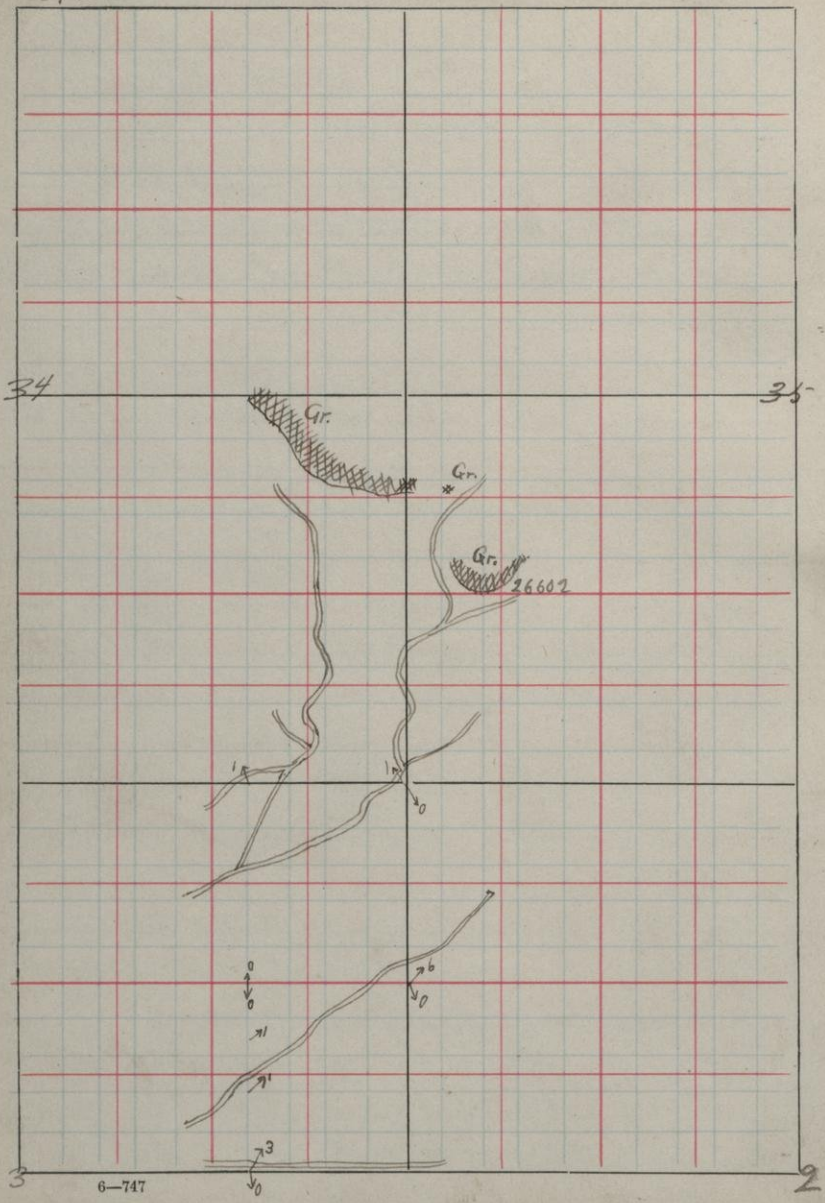
and then south east to about
1700 N 1450 W 15-39-29 and come
to slate with a strike nearly E and W.
and Dip. 50° to 60° S.
Further east at 1700 N 1250 W. 15-39-29
is calcareous slate. Strike N80E
Dip about vertical at this particular
place.
Further north 1850 N 1200 W 13-39-29
is a knob of slate much folded.

26398 215 N 70 W 10-39-29
Test pit and drift in ridge. Specimen
is from iron formation
26399 From same drift. a soft red
slate, don't know the relation

26400 260 N 70 W 10-39-29
Black ore from pit further up the
ridge
970 N 1970 W 11-39-29
Outcrop of disintegrated ore formation
at 260 N 1950 W 11-39-29
Quite a deep pit in ore formation
at top it seems to be a reddish
soft decomposed ore but at
bottom a harder ore like 26601

120
24
720
240
360

S. 34/3 35/2 T. 40/39 R. 29



370 N 1965 W 11 – 39 – 29
Ledge of iron formation like 26601
The beds are folded and the little
folds pitch to the E

26601 400 N 0 W 10 – 39 – 29
Ledge of iron formation, much
Briar folded the little folds apparently
pitch to the east.

420 N 1985 W 11 – 39 – 29
Test pit in ore and red soft slate.

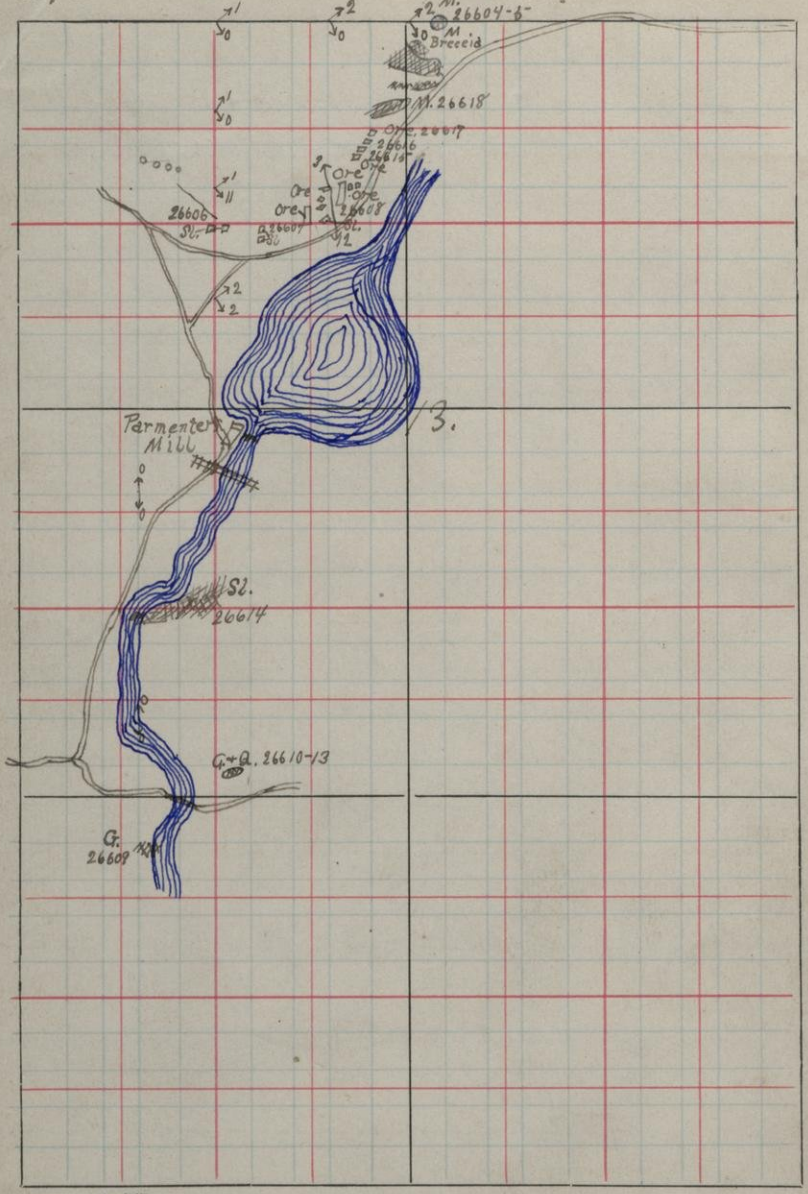
26602 560 N 1870 W 35 – 40 29
Large knob of gneiss. The lamina
or bands in gneiss strike N & S.
i.e. at right angles to contact.

26603 400 N 400 W 10 – 39 – 29
Ledge of black slate or ore formation

260
26
1560
520
676

370
26
2220
740
962

S. 13 T. 39 R. 29



6—747

26604. 2000 N 930 W 13-39-29
Ledge of brecciated marble. Water
26605 worn material was closely looked
for but nothing nearer than 26604
was found.

26606 1460 N 1530 W 13-39-29
Red slate, rather soft. Passed
through sandstone before striking
the slate.

26607 1475 N 1380 W 13-39-29
Test pit in hard red slate through
drift.

26608. 1460 N 1260 W 13-39-29
Iron formation shown in
drift mode into side of the
ridge.

26609 1860 N 1660 W 24-39-29
Ledge of greenstone.

Contact between Greenstone and Quartzite.

26610 75 N 1440 W 13-39-29
Contact of greenstone and cherty quartzite

26610 shows the contact.

26611 Shows contact of greenstone with quartzite and the greenstone is shown cutting across the bedding in both specimens.

26612 Specimen of the cherty quartzite

26613 Specimen of greenstone within six inches of the quartzite.

26614 465 N 15 30 W 13 – 39 – 29
Ledge of slate in place quartzitic and micaceous. Bedding is much folded and contorted. The little folds always pitch to the east in some places as high as 40° E.

1475 N 1180 W 13 – 39 – 29
Test pit in soft red slate like 26606
This pit is through drift
1525 N and 1535 N 1200 W 13 – 39 – 29
Test pits in ore formation like 26608.
1555 N 1200 W. Test pit in iron formation
1575 N 1225 W Pit in ore formation
1535 N to 1575 N 1135 W. Uncovering of iron formation 45 paces across

the secondary structure. All of it belongs to the iron formation part of it being very cherty and a part of it quite soft due to decomposition

26615 1660 N 1100 W 13 - 39 - 29
Test pit in soft ore red slate

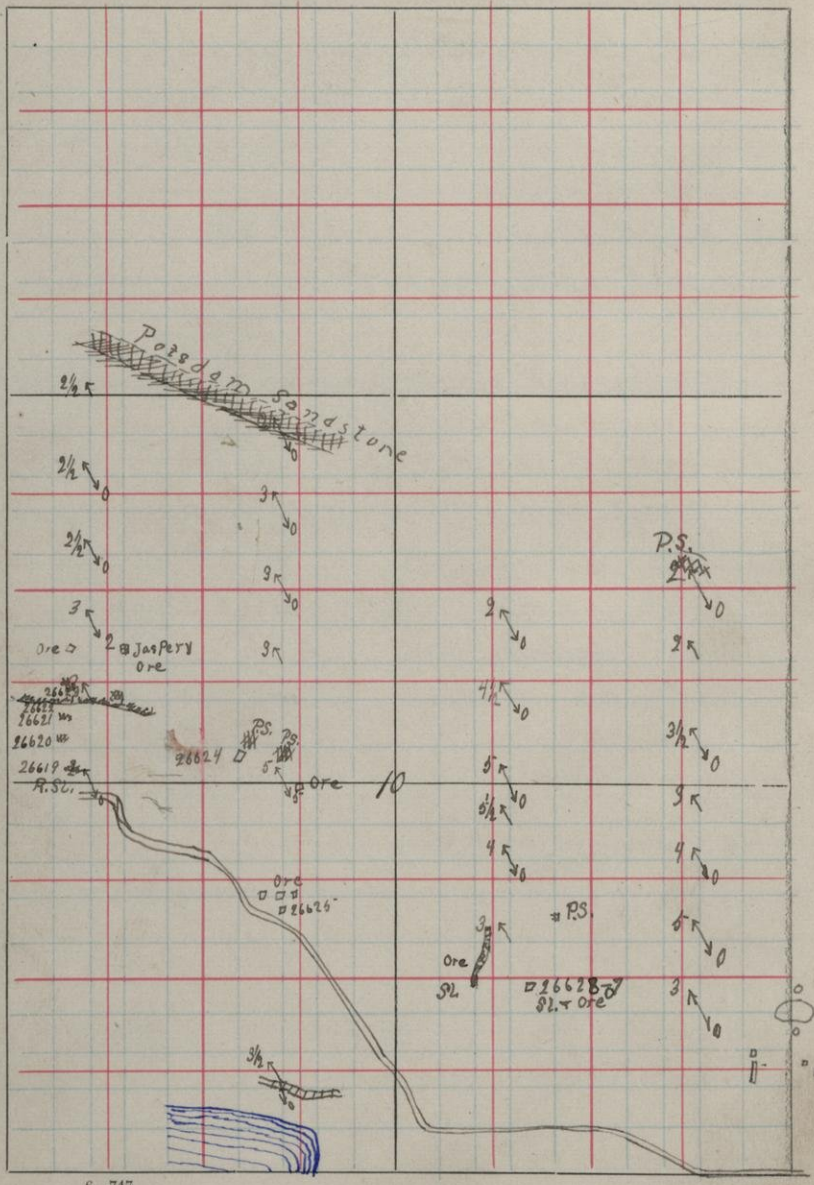
26616 1675 N 1100 W 13 - 39 - 29
Much like 26615 but more ferruginous from a deep shaft.

26617 1725 N 1100 W 13 - 39 - 29
Deep shaft in ore, much like 26608

26618 1800 N 1000 W 13 - 39 - 29
Ledge of brecciated marble but bedding not wholly obliterated
Strike N 85° E Dip 70° S.

C)

S. 10 T. 39 R. 22



6—747

26619 1035 N 1810 W 10-39-29
Ledge of reddish schistose slate

26620 1125 N 1865 W 10-39-29
Ledge of cherty brecciated ore and slates

26621 1155 N 1865 W 10-39-29
Ledge of ferruginous quartzite or jasper.

26622 1165 N 1900 W 10-39-29
Printed Specimen of iron formation which seems to grade into a more clayey ore and also grades into or is interbedded with jasper like 26621

26623 1165 N 1800 W 10-39-29
Iron formation outcropping along R. R. It is a clayey ore or a somewhat reddish slate rich in iron. The strike of the schistosity which may or may not be bedding is N 65 W Dip 60° S. 26623 is a variety of the more clayey kind. Going S. from 1900 W and 1165 N for a short distance to 1200 N pass over the iron formation showing alternating beds of rich and poor ore.

1355 N 1835 W 10 - 39 - 29
Deep test pit in ore like 26622
1355 N 1700 W 10 - 39 - 29
Test pit in jaspery slate like 26621

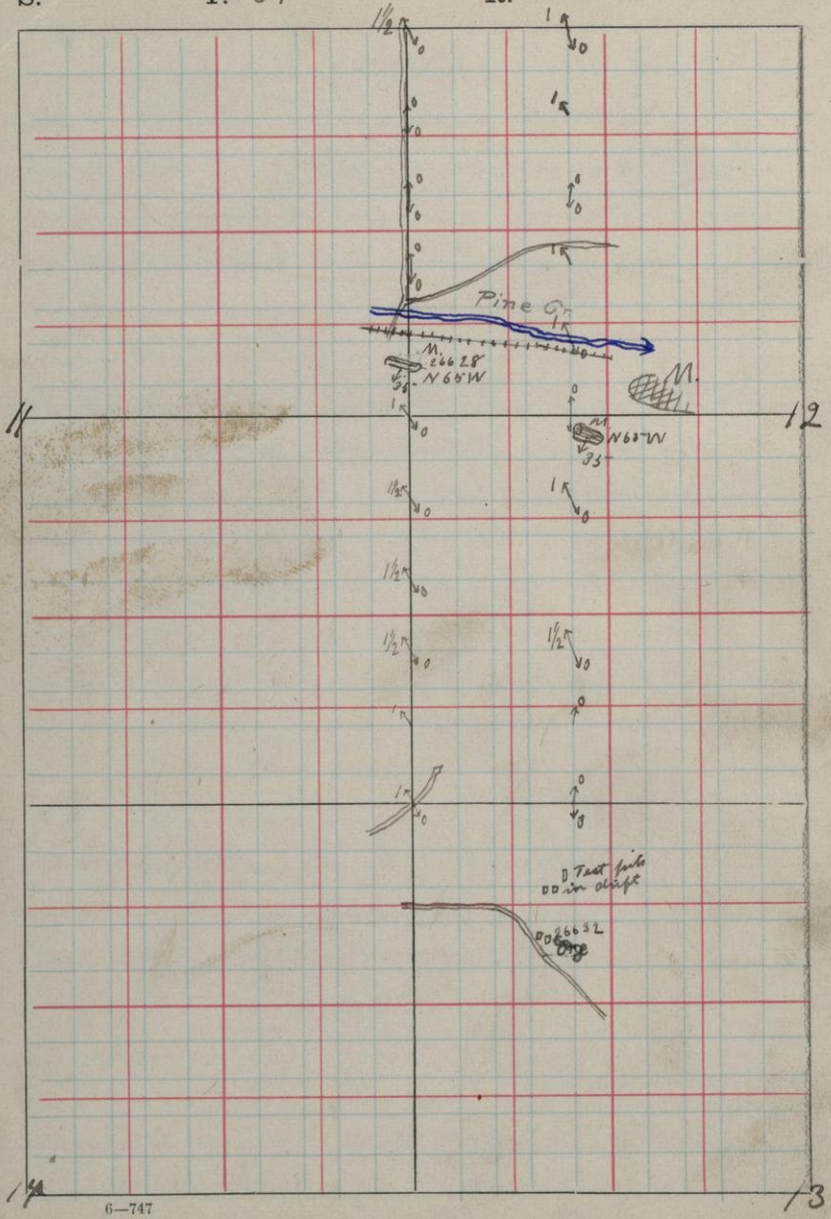
26624 1050 N 1410 W 10 - 39 - 29
Test pit in red ferruginous slate

At 1050 N 1300 W 10 - 39 - 29
in ledge of Potsdam sandstone
on the summit of large ridge.
at 975 N 1275 W - 10 - 39 - 29 in a very
deep shaft all material taken
from it evidently being from the
iron formation. cherty and brecciated
jasper and ferruginous slate.

800 N 1600 W 10 - 39 - 29
Ledge and pits in the iron formation
like 26622. Apparently a large quantity
of fairly good ore has been taken
from these pits.

26625 700 N 1300 W 10 - 39 - 29
Central Adirondack Mine. Not now in
operation. There is much iron ore
lying about the place like 26623

S. 1/2 11 and 1/2 12 T. 34 R. 29

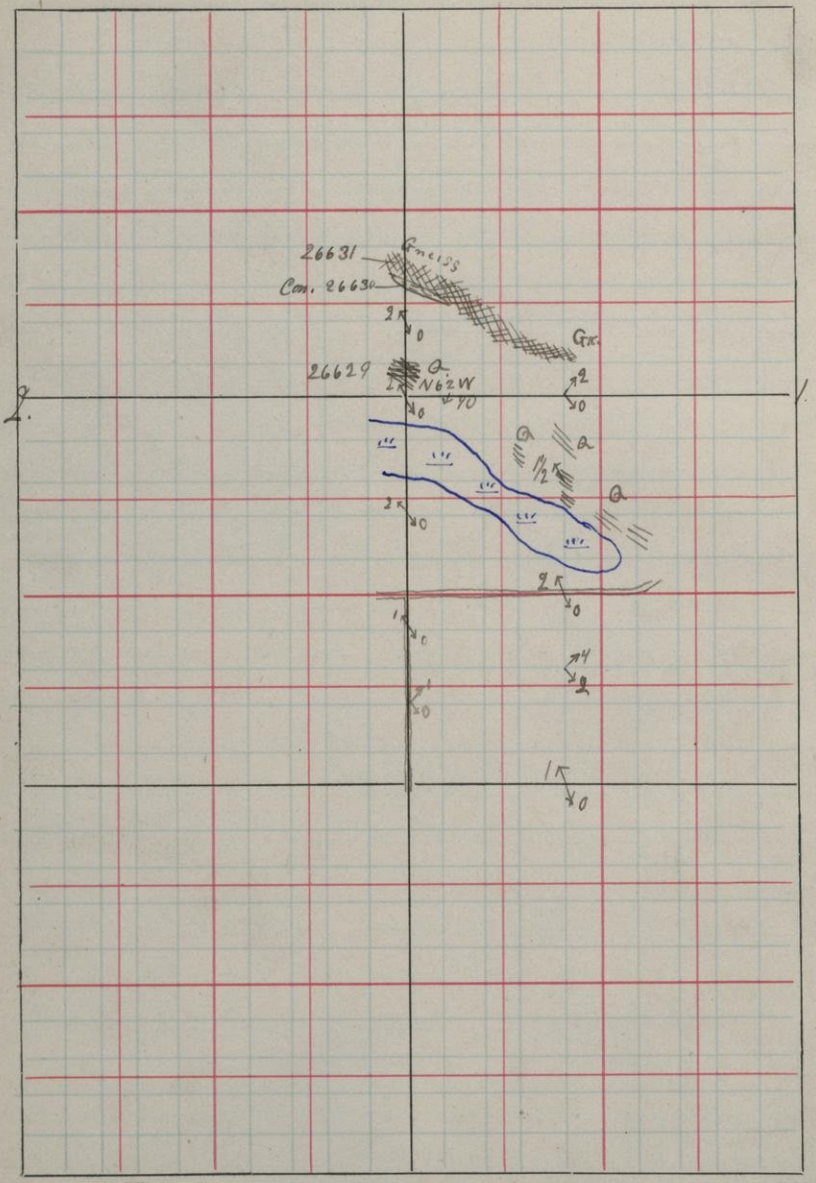


6—747

26626 475 N 65 O W 10-39-29
Reddish slate from deep shaft now
filled with water and which seems to be
vertical. Apparently passed through slate like 26626
26627 and then into iron formation like 26627
Iron formation outcrops just 15 paces
N of shaft which shows that the
slates like 26626 lie to the south
and now above iron are like 26627.

At 475 N 800 W 10-39-29 is drift
running N. into the side of ridge
which passes through red slates
at south end into iron at
north end. This drift shows
the iron formation as far
north as 680.
At 630 N 590 W 10-39-29 is test
pit in Potsdam and iron formation
at bottom ~~as~~ or else at bottom
is Potsdam conglomerate
composed of ore fragments
26628 1165 N O W 11-39-29
Ledge of dolomitic marble containing a
very few beds of slate and quartzite in thick-
nesses from 1 to 4 inches. Strike N65W. Dip 35 S.

S. 1/2 1 and 1/2 2 T. 39 R. 29



6—747

1070 N 1450 W 12-39-29
Ledge of marble, much fractured so that the bedding could not be made out.

970 N 1530 W 12-39-29
Ledge of marble. Strike N 65 W Dip 35° S

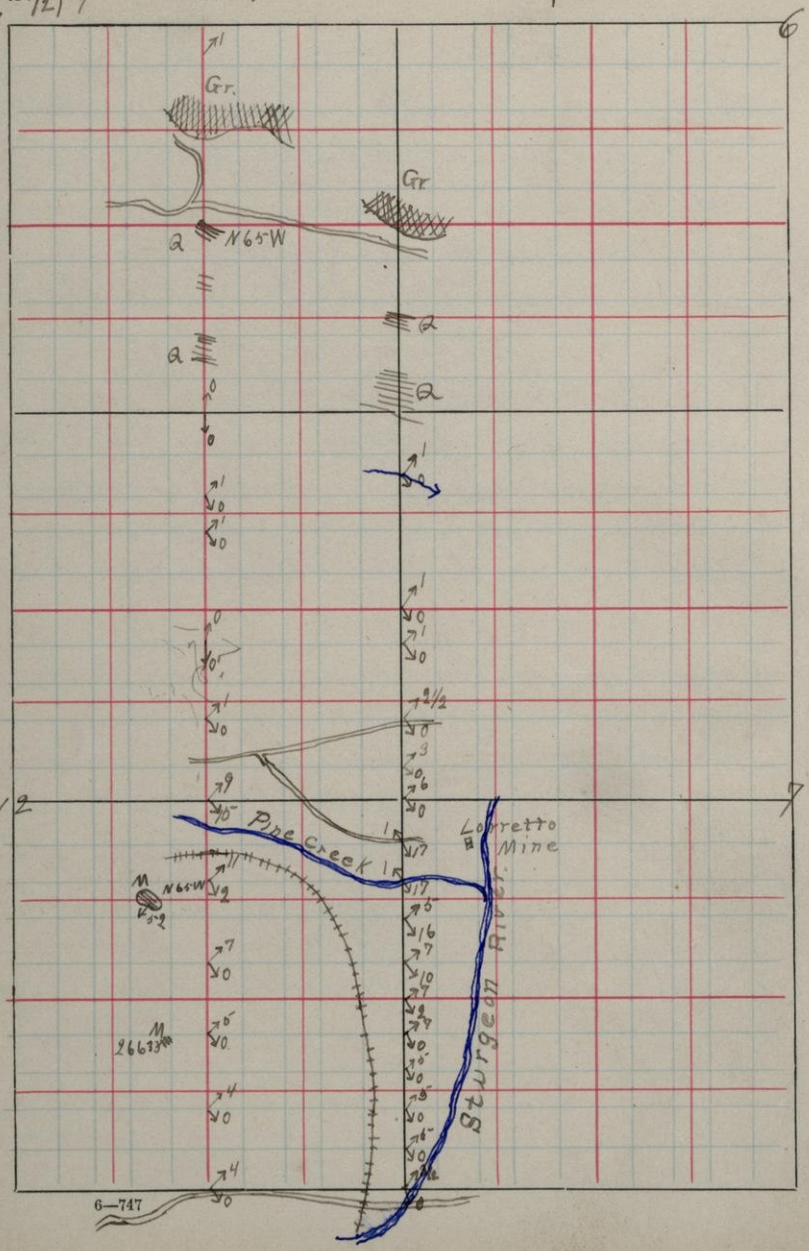
26629 1060 N 0 W 2-39-29
Ledge of white quartzite. Strike N 62 W Dip 90

26630 1300 N 1930 W 1-39-29
Bed of conglomerate lying next to the granite gneiss.

26631 1300 N 1930 W 1-39-29
Granite gneiss within a few inches of the conglomerate bed.

26632 1642 N 1700 W 13-39-29
Test pit in iron formation. One very deep pit at this place in ore.

S. 1/12 | 6/7 T. 39 R. 29/28



26633 375 N 600 W 12-39-29
Ledge of marble, small anterop and much contorted but seems to have a general strike of N of W Dip 35-40 S.

750 N 650 W 12-39-29
Ledge of marble not so contorted as 26633. Strike N 60-65 W Dip 52° S

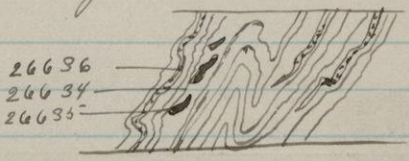
165 N 500 W 12-39-29
Ledge of white quartzite.
at 475 N 500 W 1-39-29 the strike of quartzite beds is N 60° W Dip 90°

Series of Specimens from the Archean.

26634 770 N 570 W 1-39-29
Specimen of the squeezed granite or gneiss
26635 Same location. A blacker and more basic rock occurring as squeezed patches in the gneiss. It seems to have been caught up in the gneiss and not to have been intruded in it.
26636 Same location. Pegmatite veins which ramify throughout the gneiss like 26633

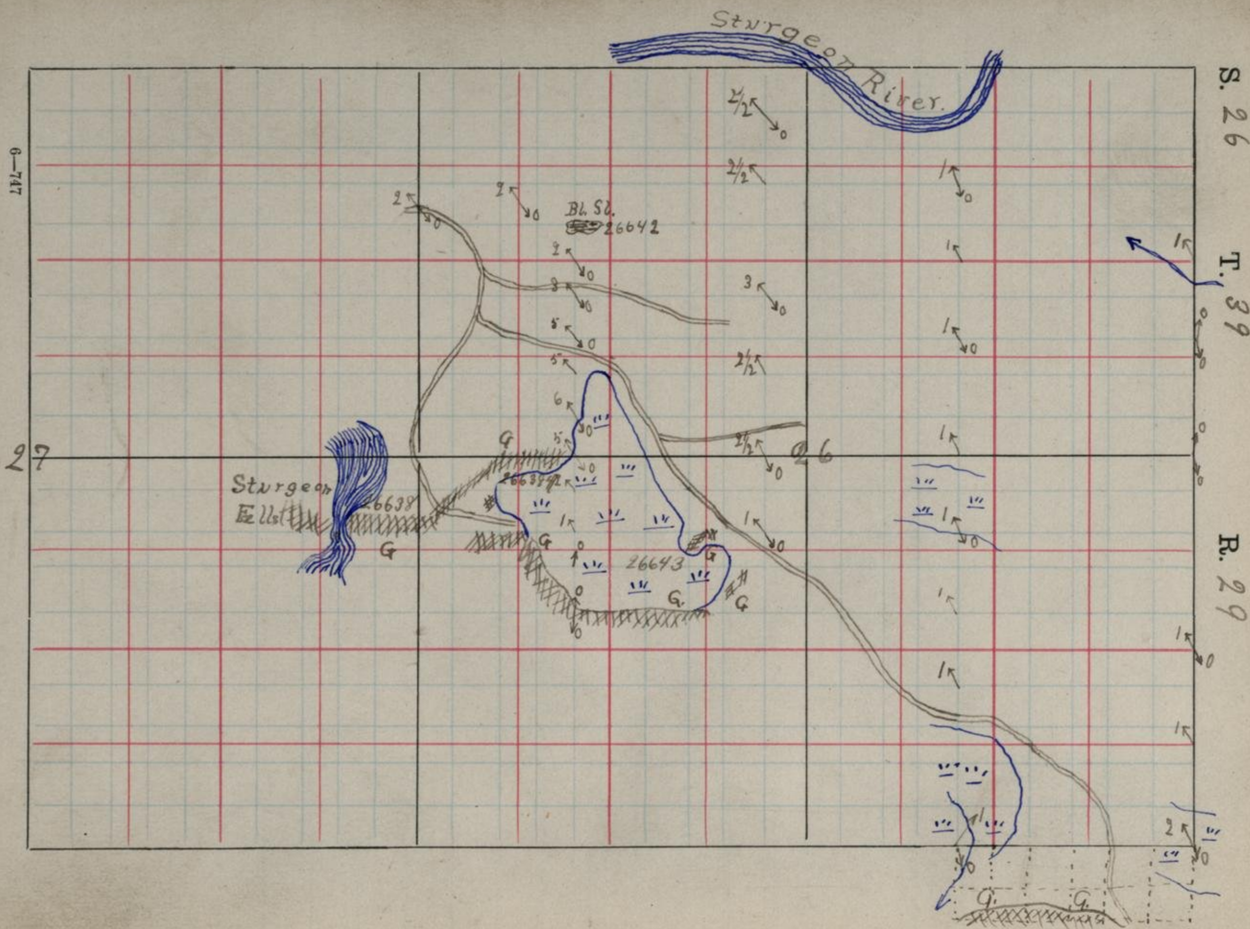
26637 A specimen of porphyritic granite which seems to be a gradation of 26634 or closely related to it.

Sketch of Archean rock showing folding.



1950 N 0W 12-39-29
Quartzite Strike N 60-65-W Dip 90

Location of Loretto Mine working shaft is 900 N 1825 W 7-39-28


Sturgeon River
Bl. Sl.
26642
Sturgeon
26638
26643
27
26
S. 26
T. 39
R. 29
6—747

26638 850 N 150 W 27-39-29
Ledge of granite forming Sturgeon Falls.

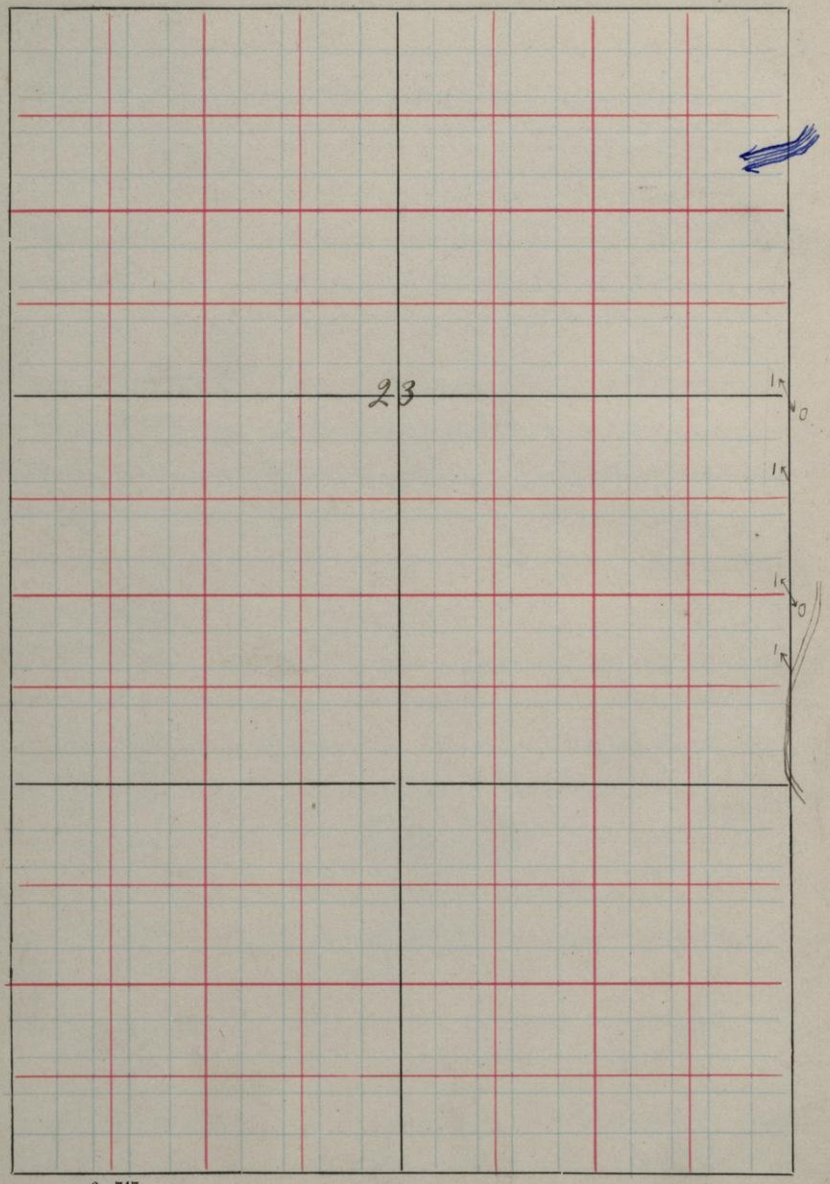
26639 1000 N 1830 W 26-39-29
Ledge of coarse chlorite or hornblende granite much like 26638 which cuts and has included within it a fine grained fairly massive
26640 greenstone like 26640. In places the two are have been squeezed but not usually.

26641 Specimen of what is thought to be a phase of 26639, much squeezed and showing veins of albertson accuring in concentric layers.

26642 1580 N 1375 W 26-39-29
Ledge of black jaspery slate, a small ledge outcropping on the north side of the bluff. The slate is closely folded and contorted.

26643 800 N 1270 W 26-39-29
Ledge of greenstone.

S. 23 T. 39 R. 29



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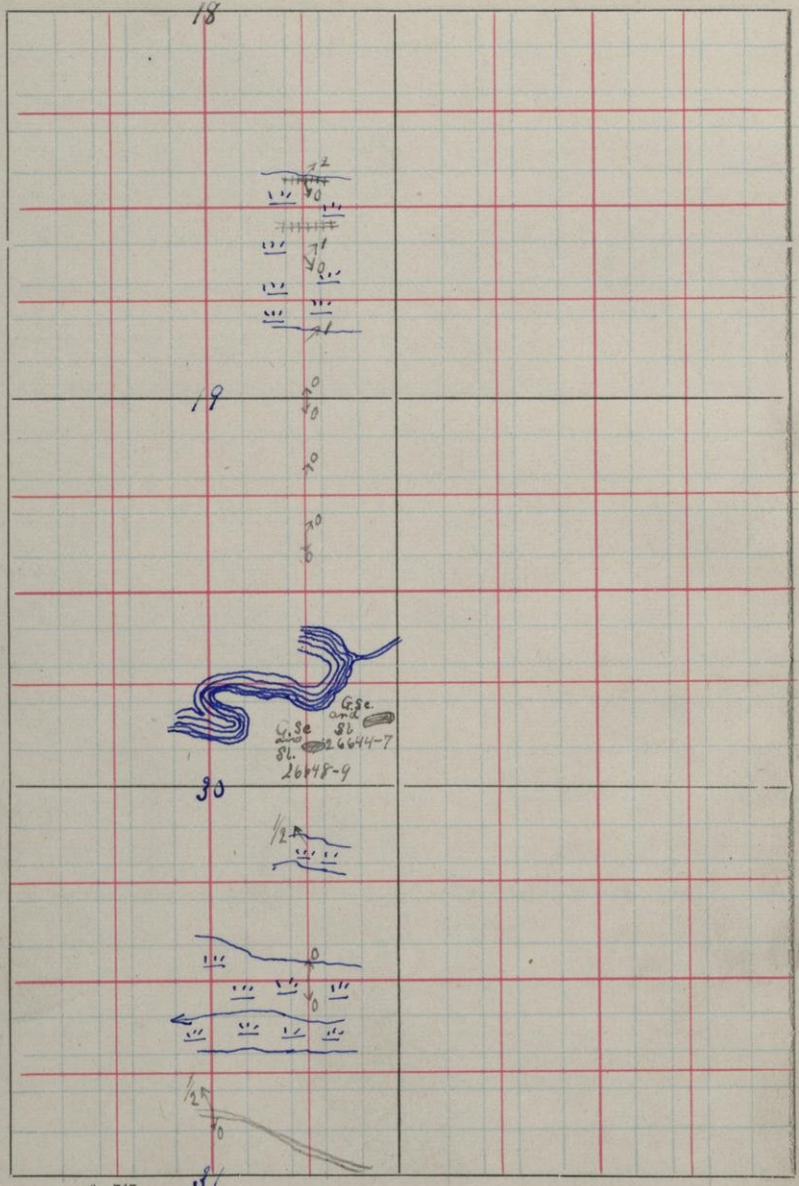
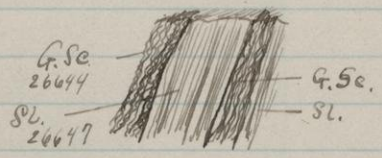
S. 19 & 30 T. 39 R. 28



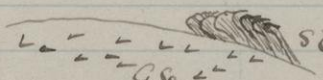
6—747

1325 N 110 W 30 — 39 — 28.
Ledge of greenstone schist and slate. The greenstone apparently cuts the slater.



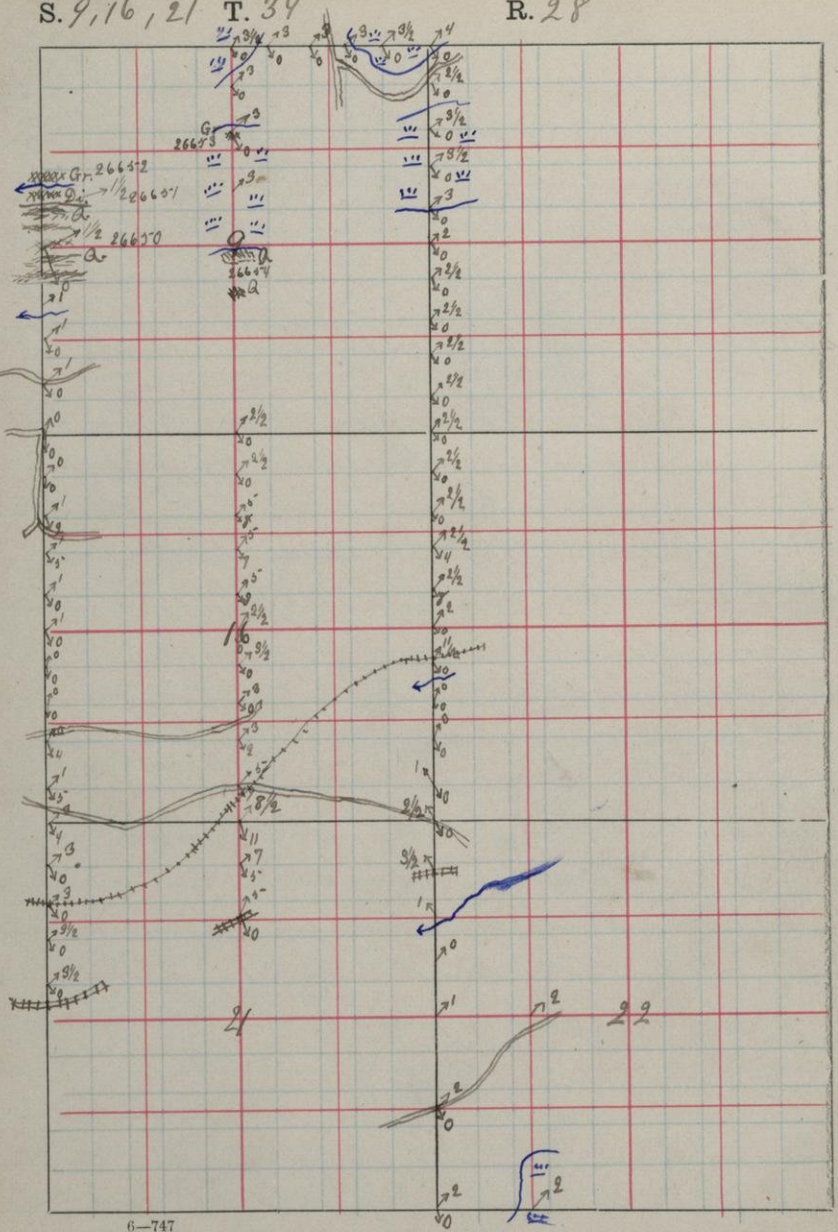
26644 . Specimen of the greenstone schist.
26645 Specimen showing contact of schist & slate
26646 Specimen like 26645 along contact
26647 Specimen of the slate.

26648 1300 N 400 W 30 — 39 — 28
Ledge of greenstone schist and slate
26649 . Specimen of slate from this ledge. The bedding of the slate is much crumpled and folded and the little folds pitch to the West at various angles directly against the greenstone



The little folds pitch downward against the greenstone schist ~~and~~ as though the greenstone was intrusive

S. 9, 16, 21 T. 39 R. 28



2665-0 825 N 2000 W 9-39-28
Ledge of quartzite much fractured not bedding determined.
At 1280 N 2000 W 9-39-29 the quartzite contains some pebbles.

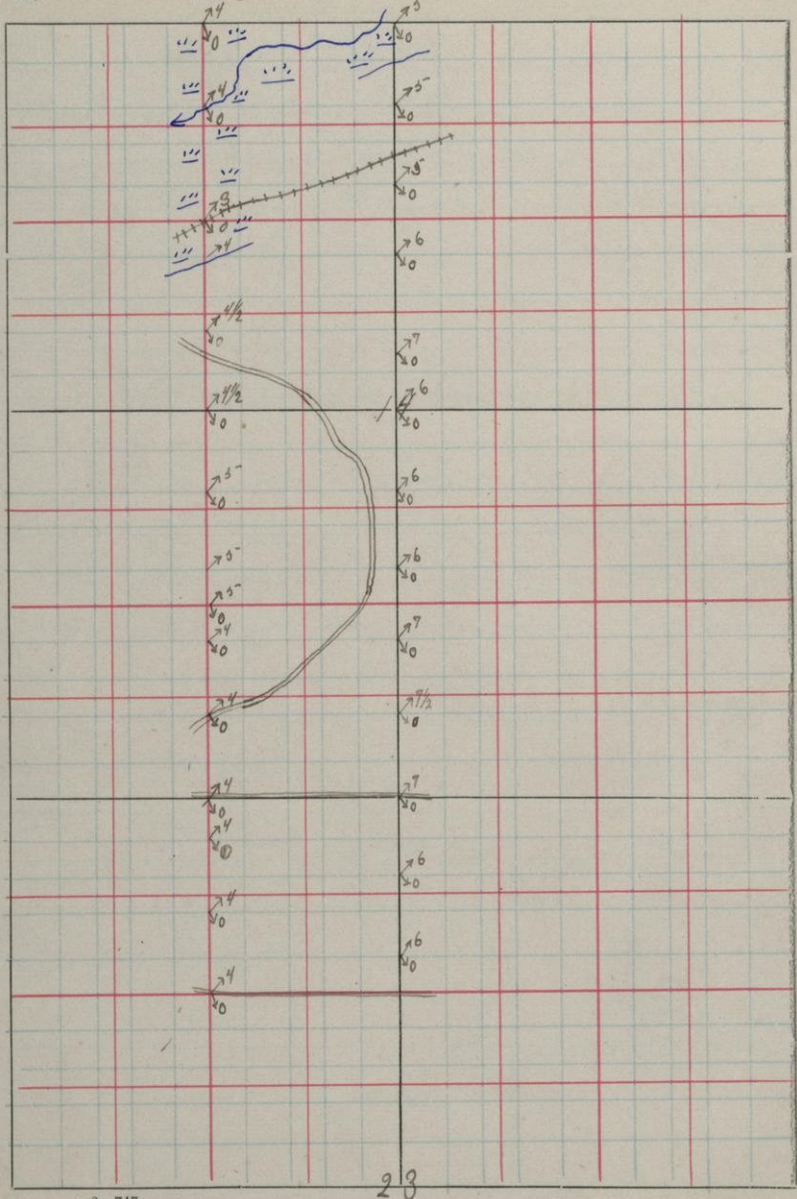
2665-1 1390 N 2000 W 9-39-29
Hornblende schist, or apo-diorite.

2665-2 1375 N 2000 W 9-39-29
The Archean granite. It contains many squeezed fragments or clypes of the schist like 2665-1

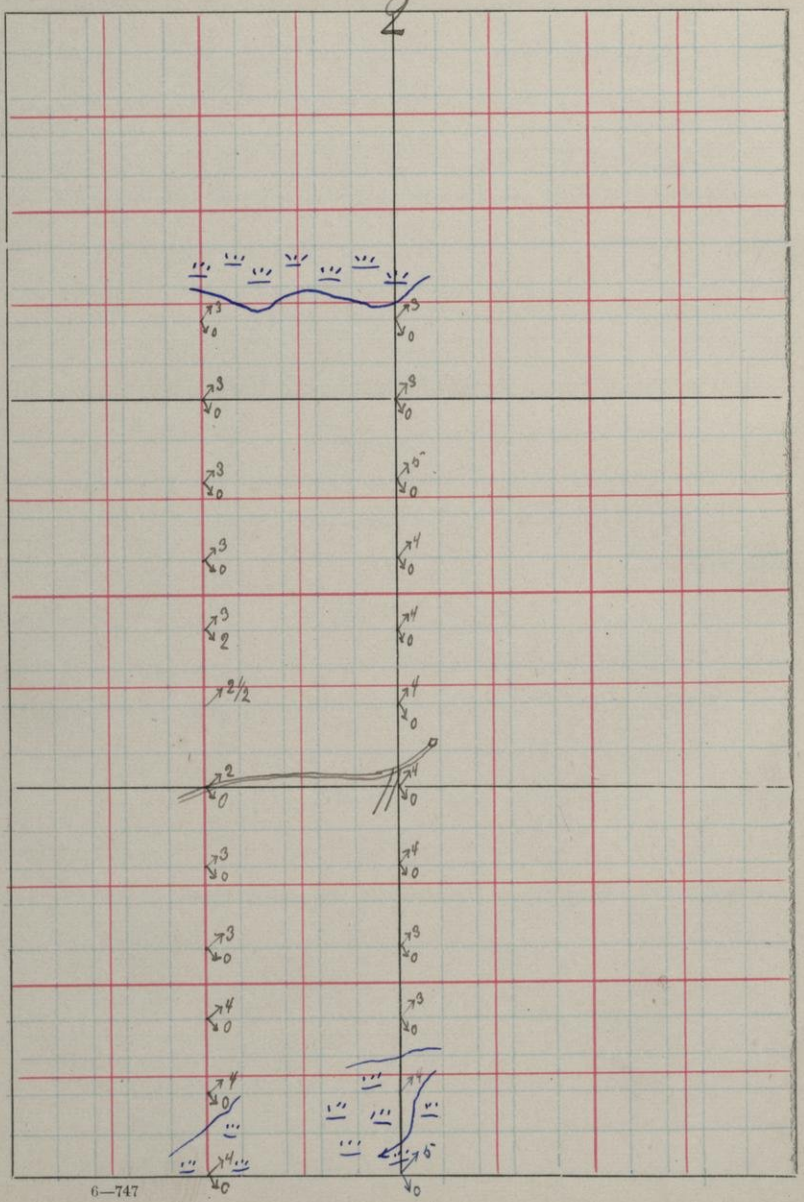
2665-3 1570 N 1000 W 9-39-28
Small ledge of granite gneiss.

2665-4 980 N 1000 W 9-39-29
Ledge of the white quartzite.

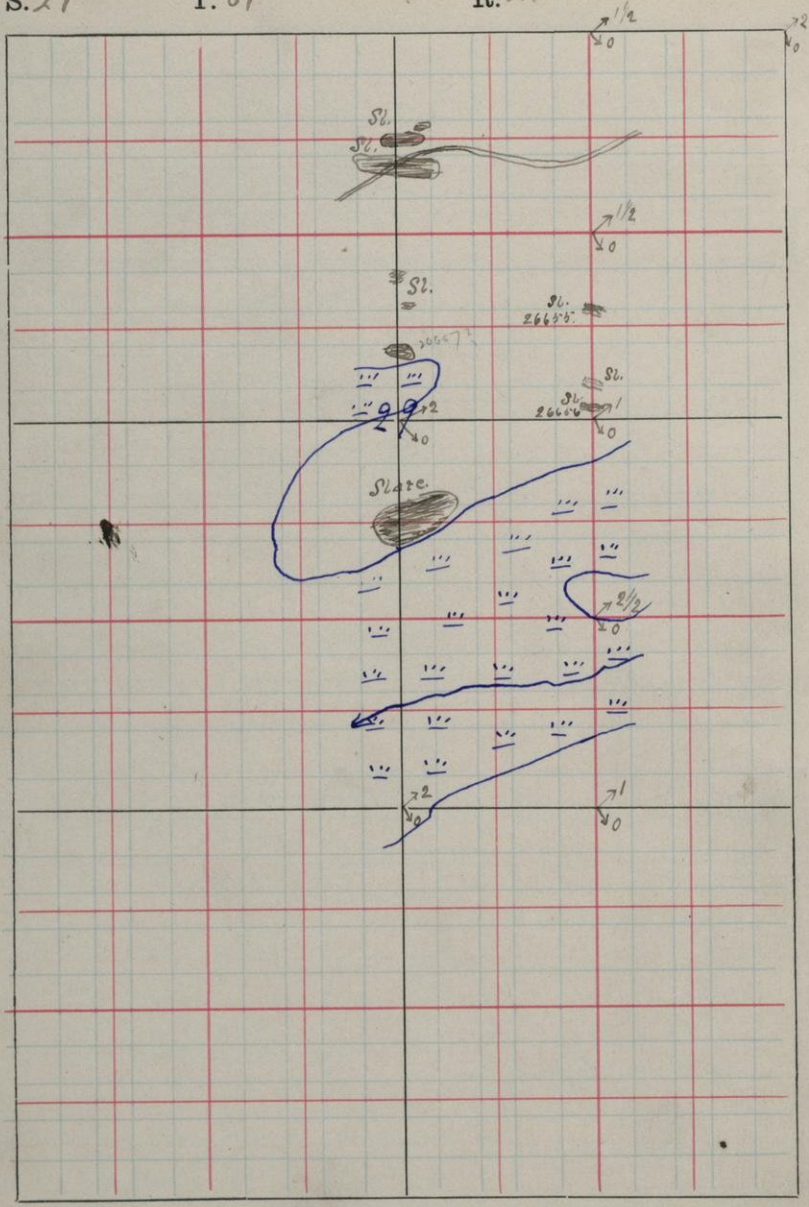
S. 14 T. 39 R. 28



S. 11 T. 39 R. 28



S. 29 T. 39 R. 28



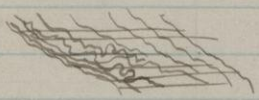
6—747

2665-5 1835 N 3500 W 29-39-28
Ledge of rather soft gray slate. Exact strike and dip could not be ascertained. The beds are much crumpled and the schistosity cuts across the bedding.

1180 N 3500 W 29-39-28
Ledge of slate like 2665-5.

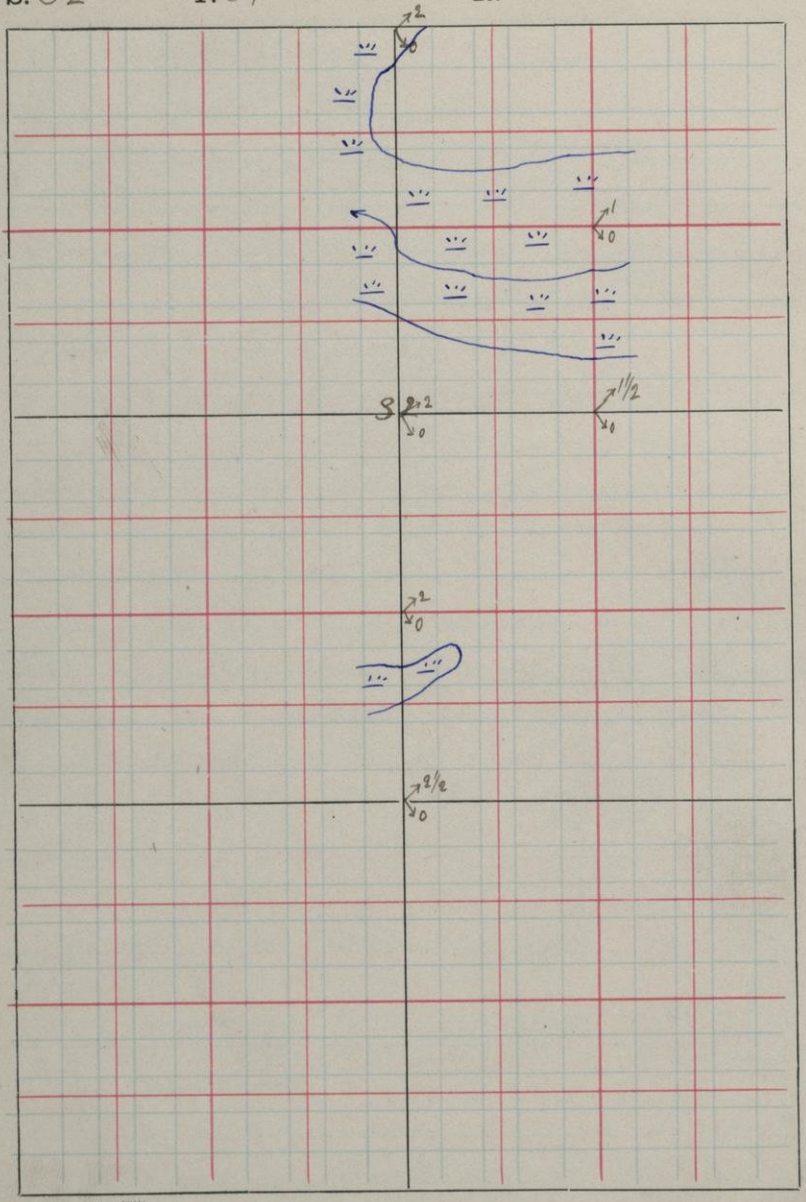
2665-6 1030 N 3500 W 29-39-28
Ledge of slate like 2665-5 interbedded with a calcareous slate (2665-6). The structure not made out. In places much quartz is contained in the slates but it seems to be cherty and is probably secondary.

700 N 1000 W 29-39-28.
Large ledge of slates like 2665-5



The slate is much contorted and folded, the little folds pitching at varying angles to the East. general strike is N 45° W The schistosity is nearly E and W.

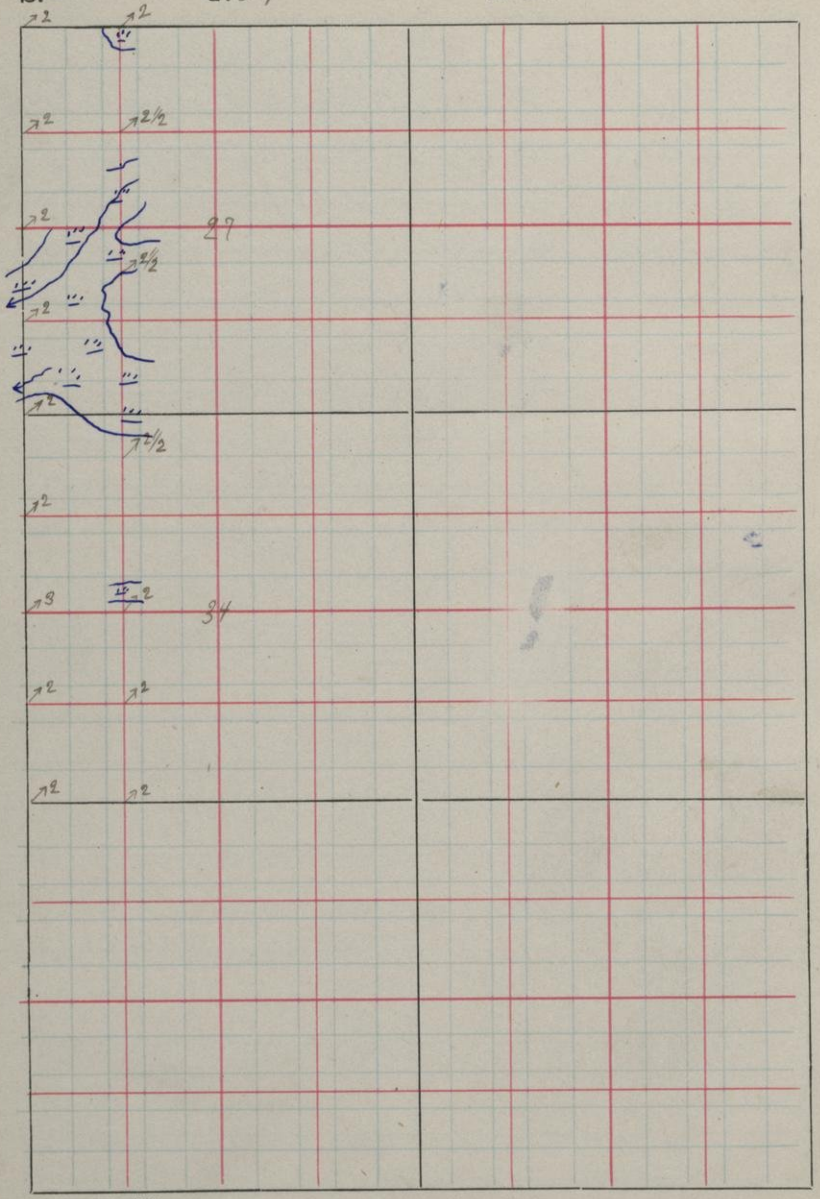
S. 32 T. 39 R. 28



6—747

2662-7 1160 N 970 W 29-39-28.
Ledge of slate, not structure made out

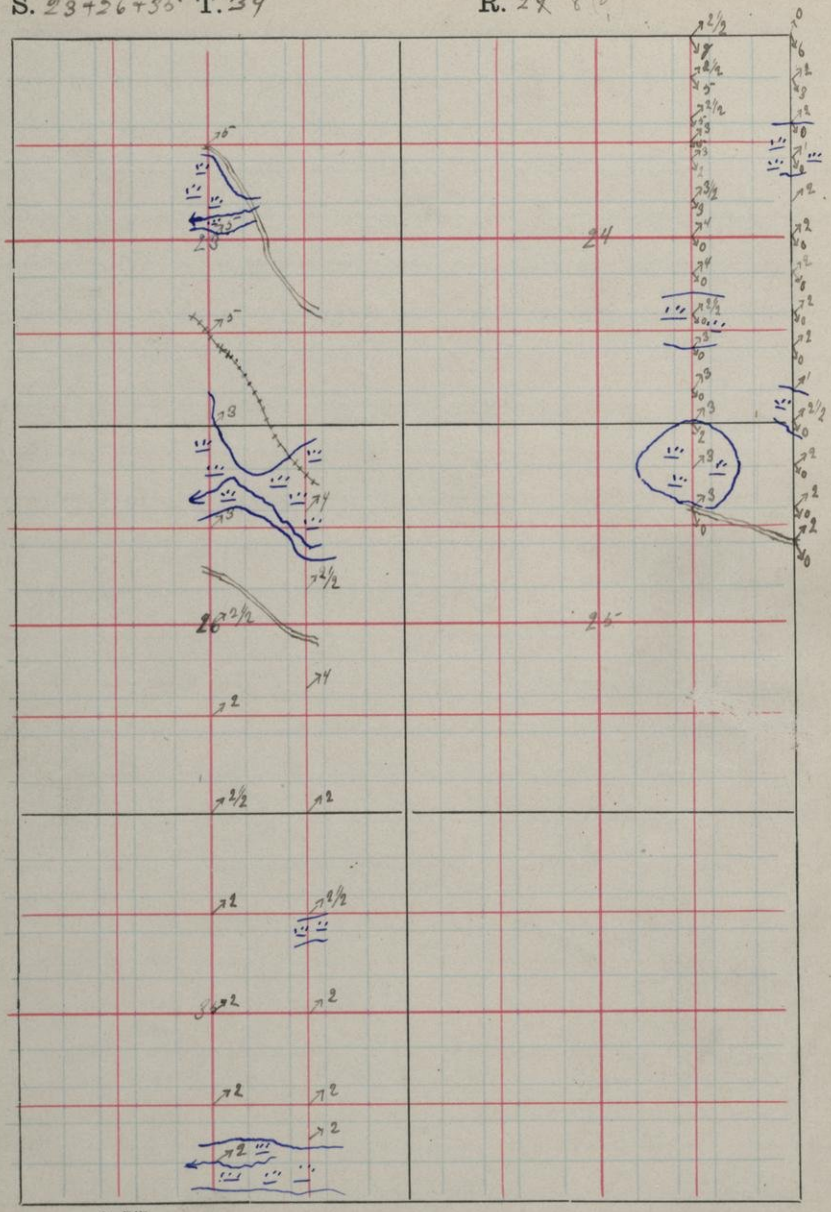
S. 27 & 34 T. 39 R. 28



6—747

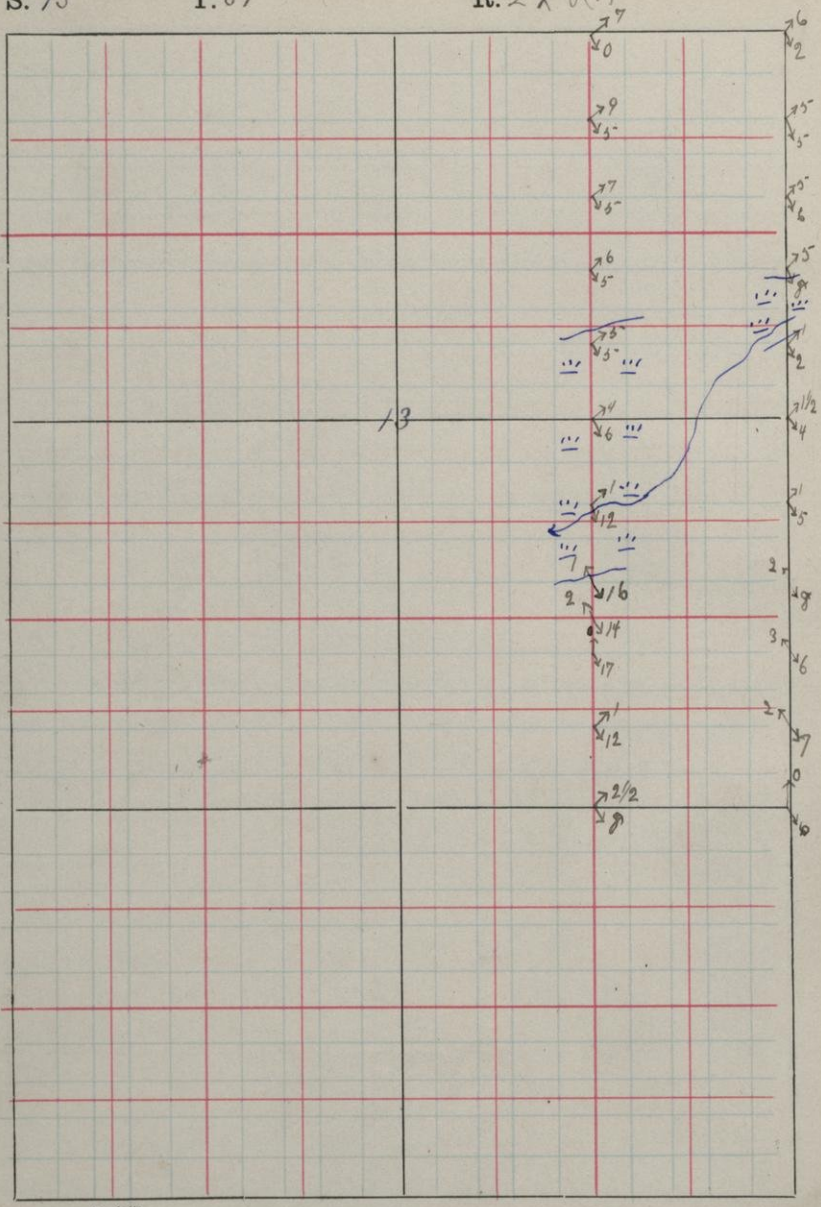
24725

S. 23 24 25 35 T. 39 R. 28 8 12



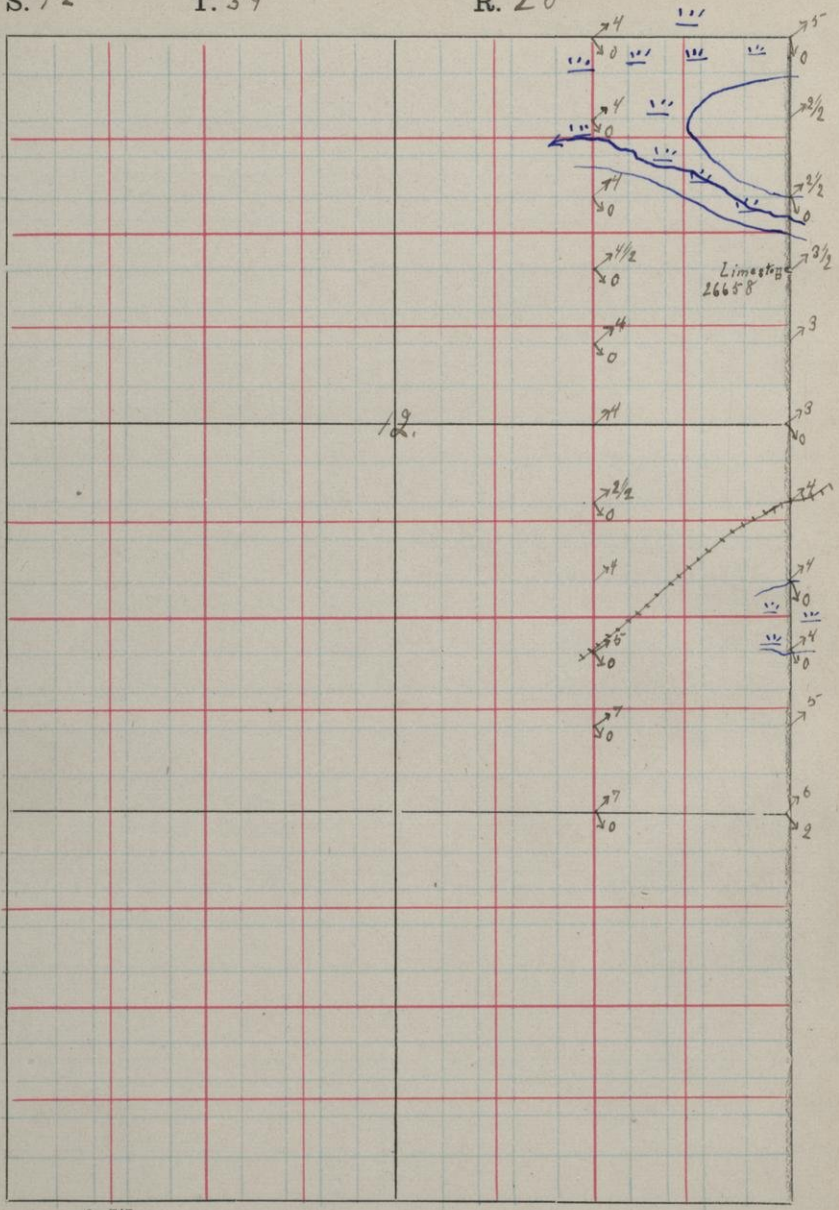
6—747

S. 13 T. 39 R. 28 E.



6—747

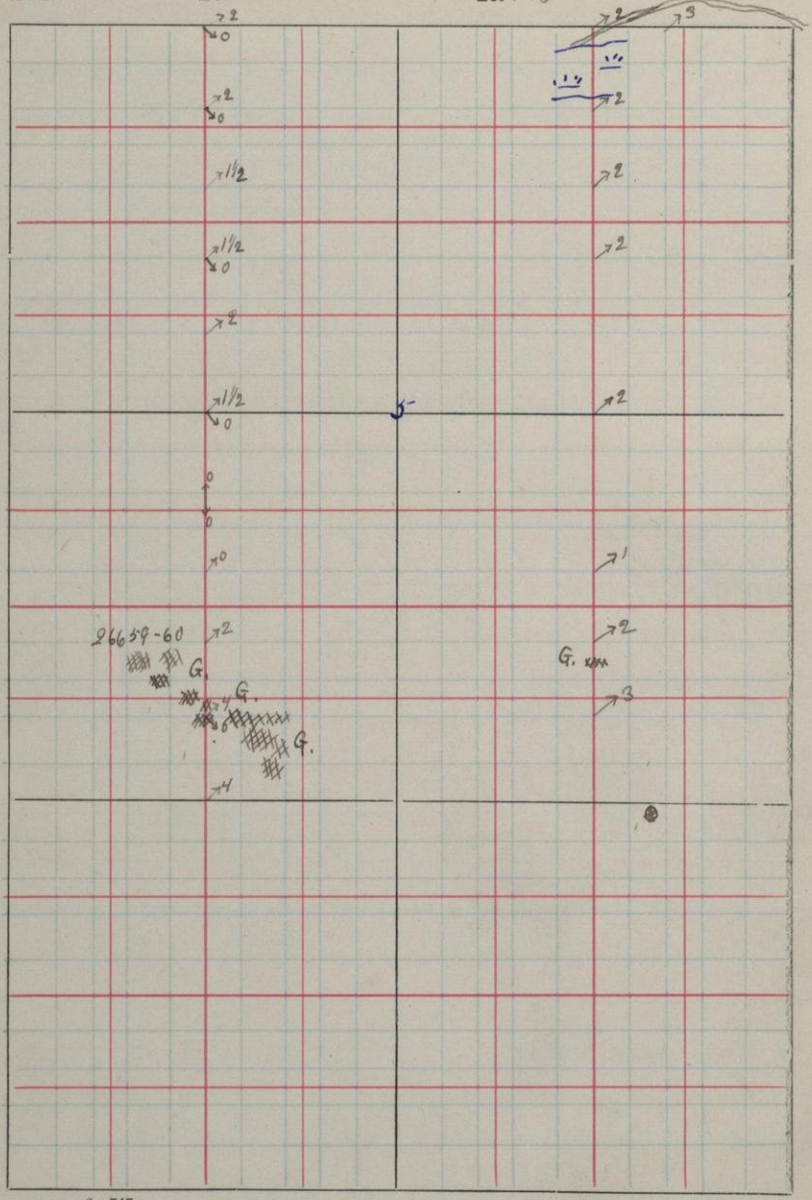
S. 12 T. 39 R. 28



2665-8. 1370 N 35 W 12-39 -29

Test pit in sandy limestone

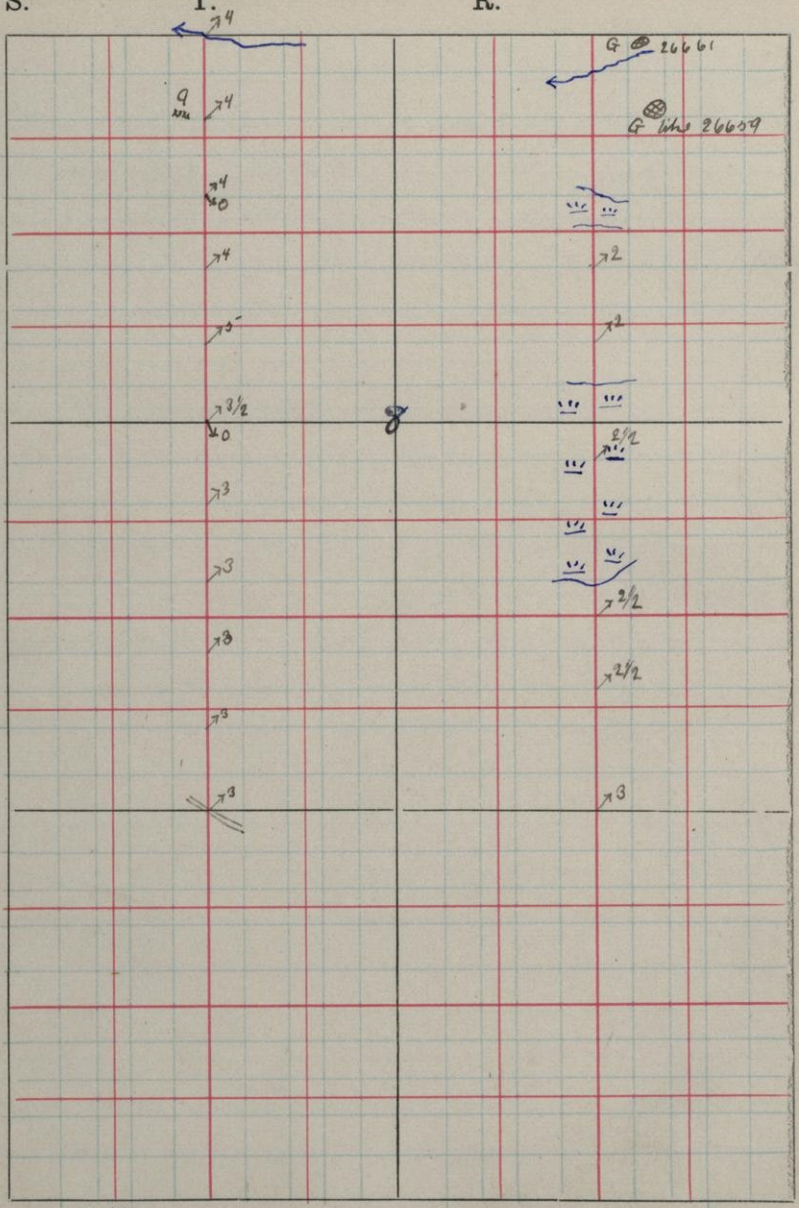
S. 5- T. 38 R. 28



6—747

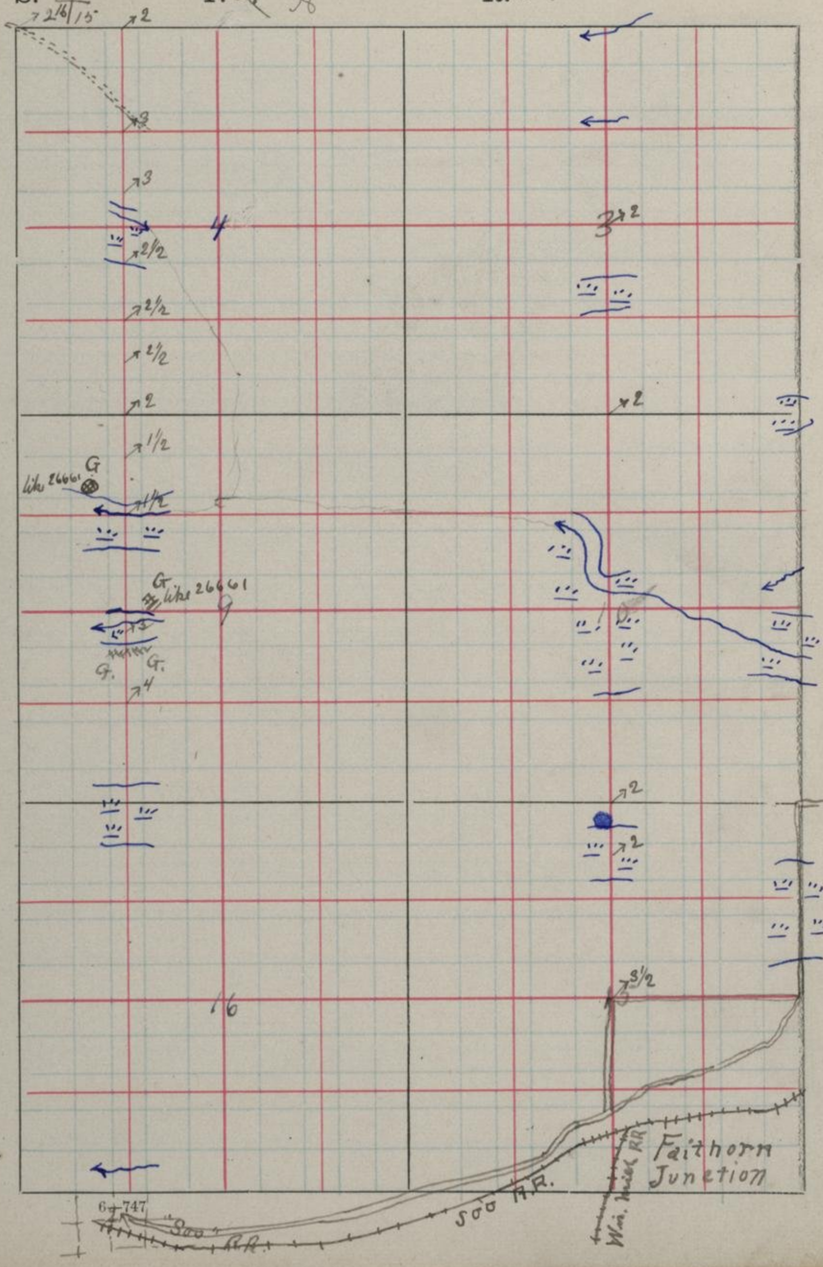
26659 360 N 1700 W 5- 38 -28
Ledge of coarse diorite containing
inclusions or dykes of fine
26660 grained greenstone

S. T. R.

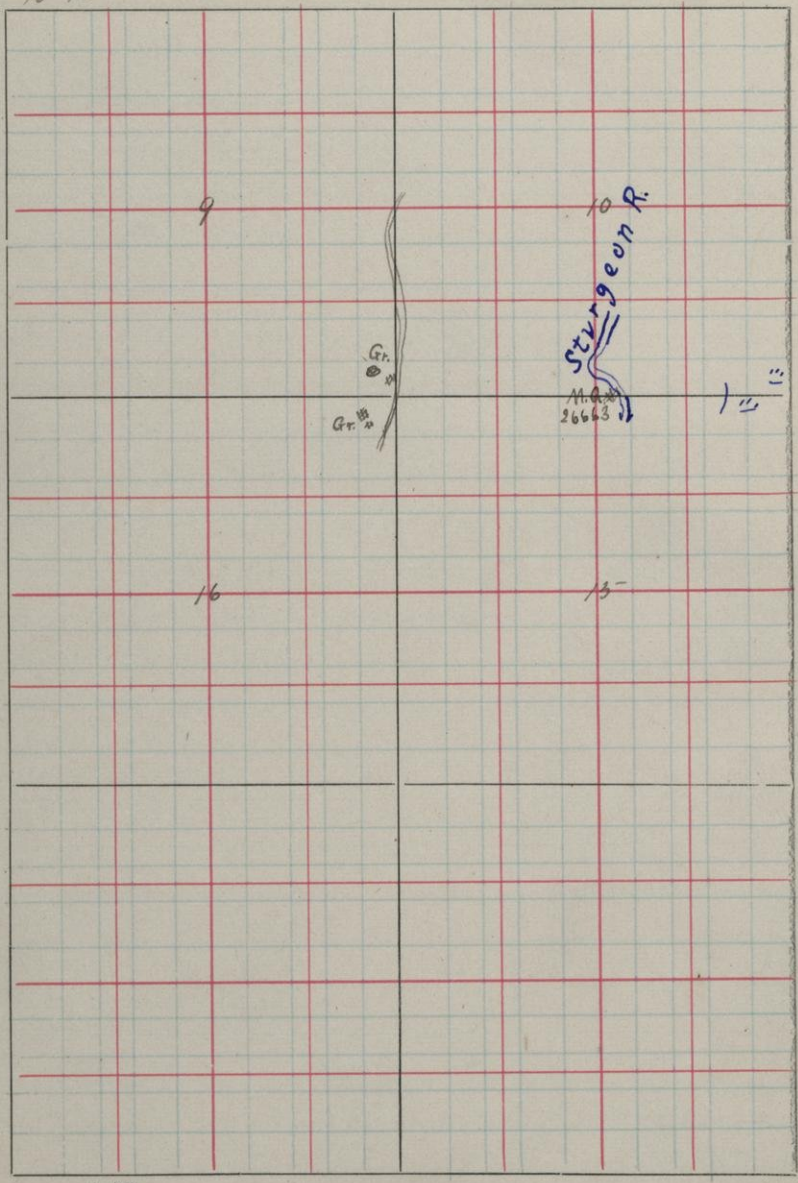


26661 1980 N 365 W 8-38-28
Ledge of greenstone quartz schistose.

S. 4|3 / 9|10 / 16|15 T. ~~39~~ 38 R. 28



S. 9/10 / 16/15 T. 40 R. 28

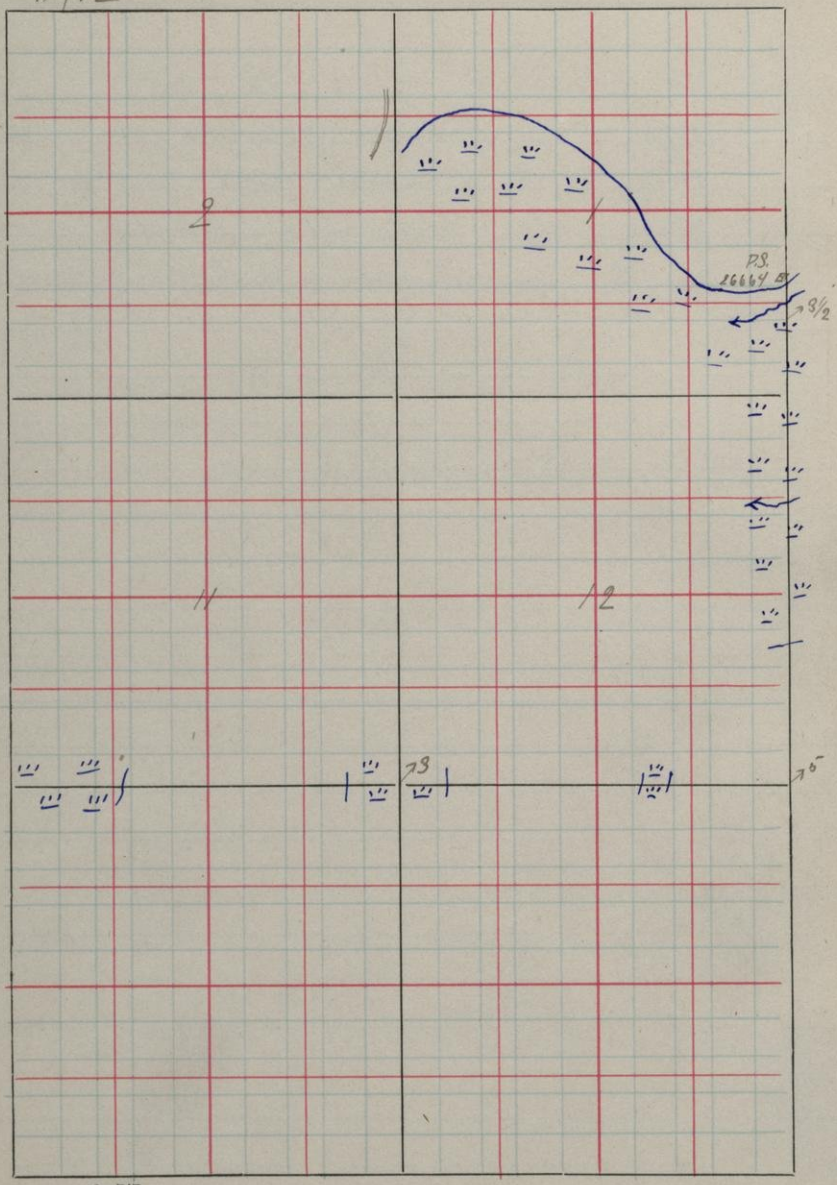


6—747

26663 ON 95-0 W 10 - 40 -28

Ledge of micaceous quartzite on river. Some of it is more soft and friable than the specimen which is a more quartzose and harder variety.

S. 2/11 1/12 T. 40 R. 28



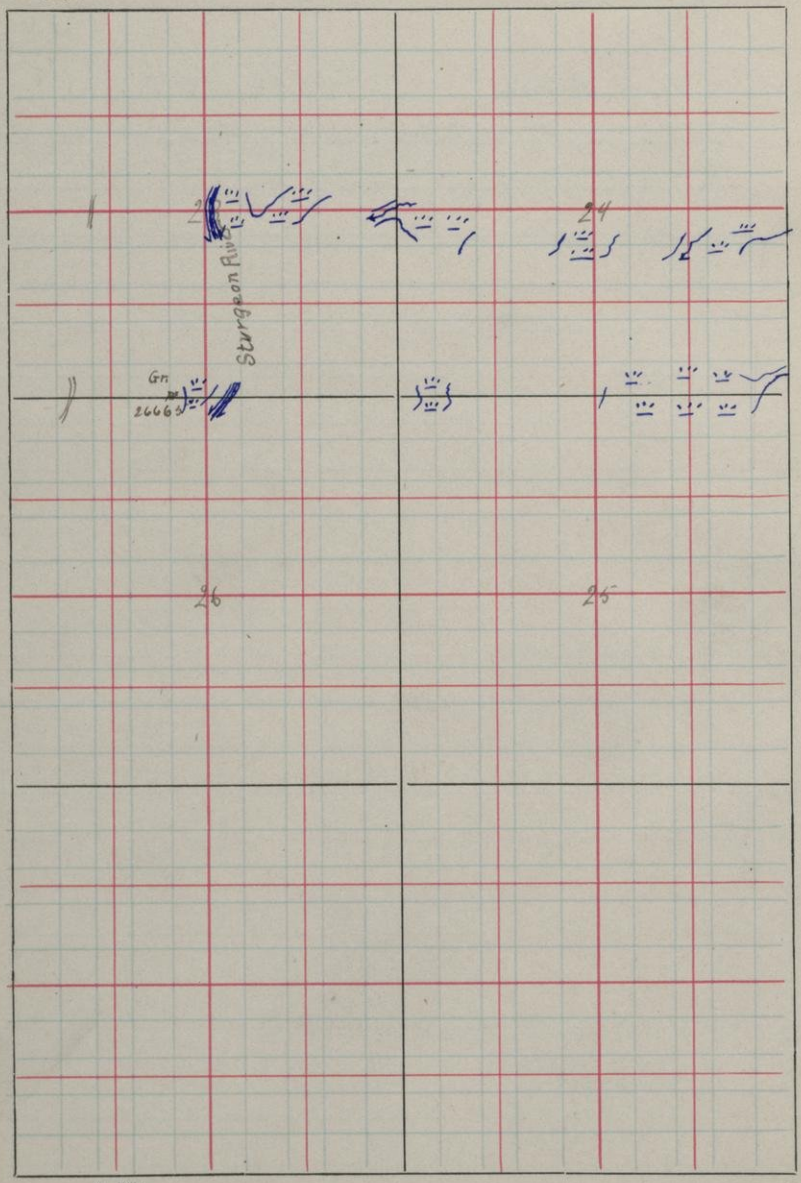
6—747

26664 673- N 30 W 1-40-28

Ledge of calcareous Potsdam sandstone.

Covery small one.

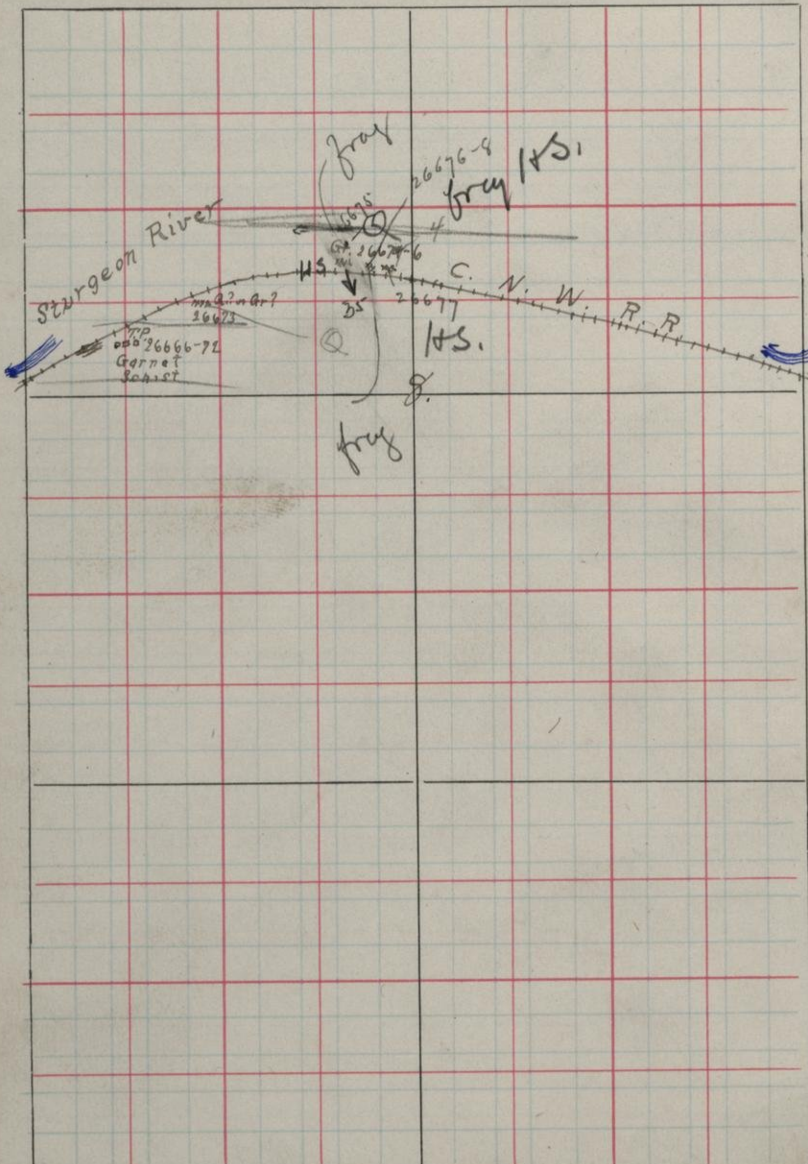
S. 23 | 24 / 26 | 25 T. 40 R. 28



6—747

26665- 0 N 1200 W 23-40-28
Sedge of hornblende granite lying east of the common granite of the archean

S. 8 T. 4?1 R. 27



6—747

1050 N 1850 W 8-41-27
Ledge of garnetiferous schist on R.R. Specimen taken from this ledge in 1895. Strike of schistosity N 10° W Dip 40° E

Test pits at 1170 N 1790 W Sec 8-41-27 in soft garnet schist.

26666 1110 N 1765 W 8-41-27
Test pit about 15 feet deep showing a schistose micaceous rock.

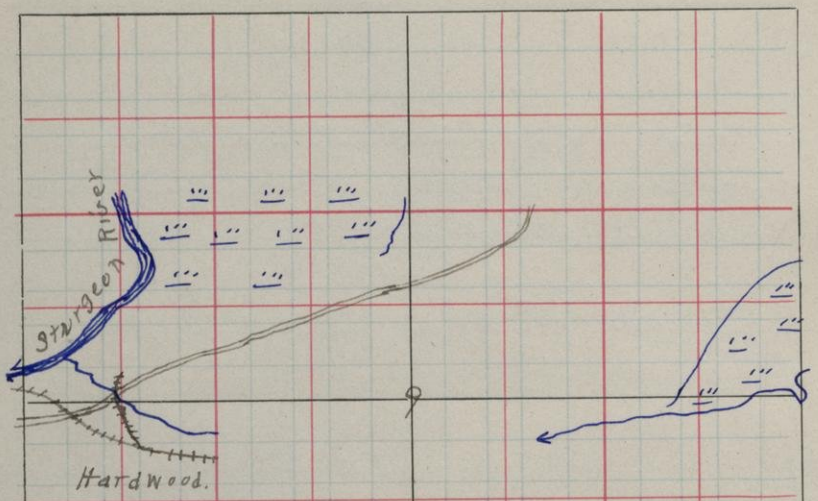
26667 1100 N 1750 W 8-41-27
Another test pit, 20 feet deep through four feet of drift, a few paces from above. Specimen shows large crystals of garnet with the schistose laminae winding about the garnets, evidencing the squeezing of the formation after the garnet was formed.

26668. Same place. Like the above but not quite so decomposed.

26669 Same place. Specimen containing tremolite.

26670 Same place. Specimen showing many small crystals of garnet.

S. 9 T. 41 R. 27



The rock shows either a few large garnets or many small ones, the larger number compensating for the size.

26671 Same place. Specimen containing much chlorite and no garnet.

26672 Same place. A much squeezed micaceous garnet schist.

On the R. R. these differences in the rock as shown by the various specimens seem to be characteristic of beds or laminae parallel to the schistosity. The one variety grades into the other across the strike. But the exposure is small and the above relations may not be true. But it seems that the garnets lie in beds as some for in the pit from which 26666 was taken there were very few if any garnets in the schist while in the other pits almost all the material taken out was garnetiferous.

26673 1215' N 1625' W 8-41-27
Ledge of fine grained gneiss containg some mica. This looks much like a quartzite.

26674 1390 N 1175 W 8-41-27
Ledge of gneiss showing alternating bands of quartzose and hornblendic material General strike of bands is N 45°W Dip 35° SE (almost parallel to the garnet schists).

26675 Same place. A more quartzose specimen. The gneiss is much contorted and folded.

26676 1315 N 1100 W 8-41-27
Ledge of black mica hornblende schist. It looks much like mica quartzite.

26677 1340 N 1040 W 8-41-27
Ledge near above and shows it to be hornblende schist.

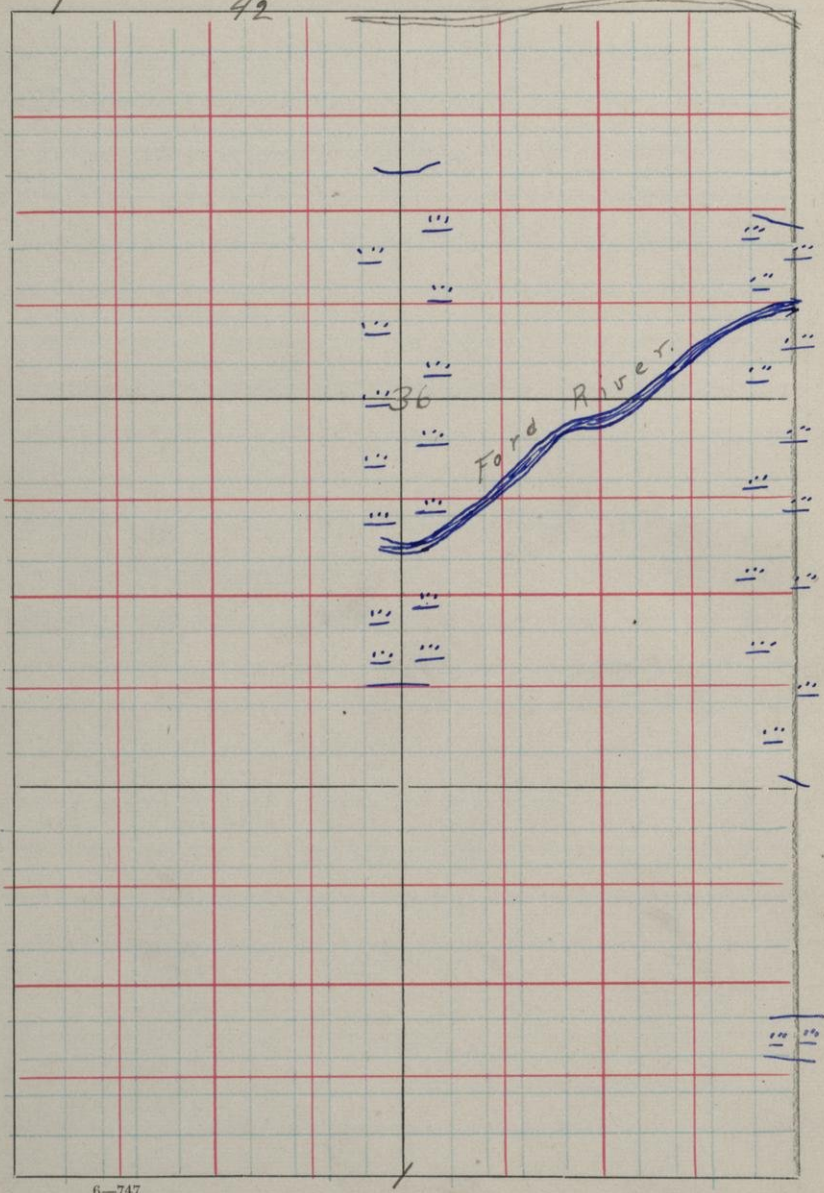
26678 Same place as 26676 and like it.

26679 From same place as 26673 and much like it but seems to show a more quartzitic character.

26680 About 1500 N 500 W 41 – 27

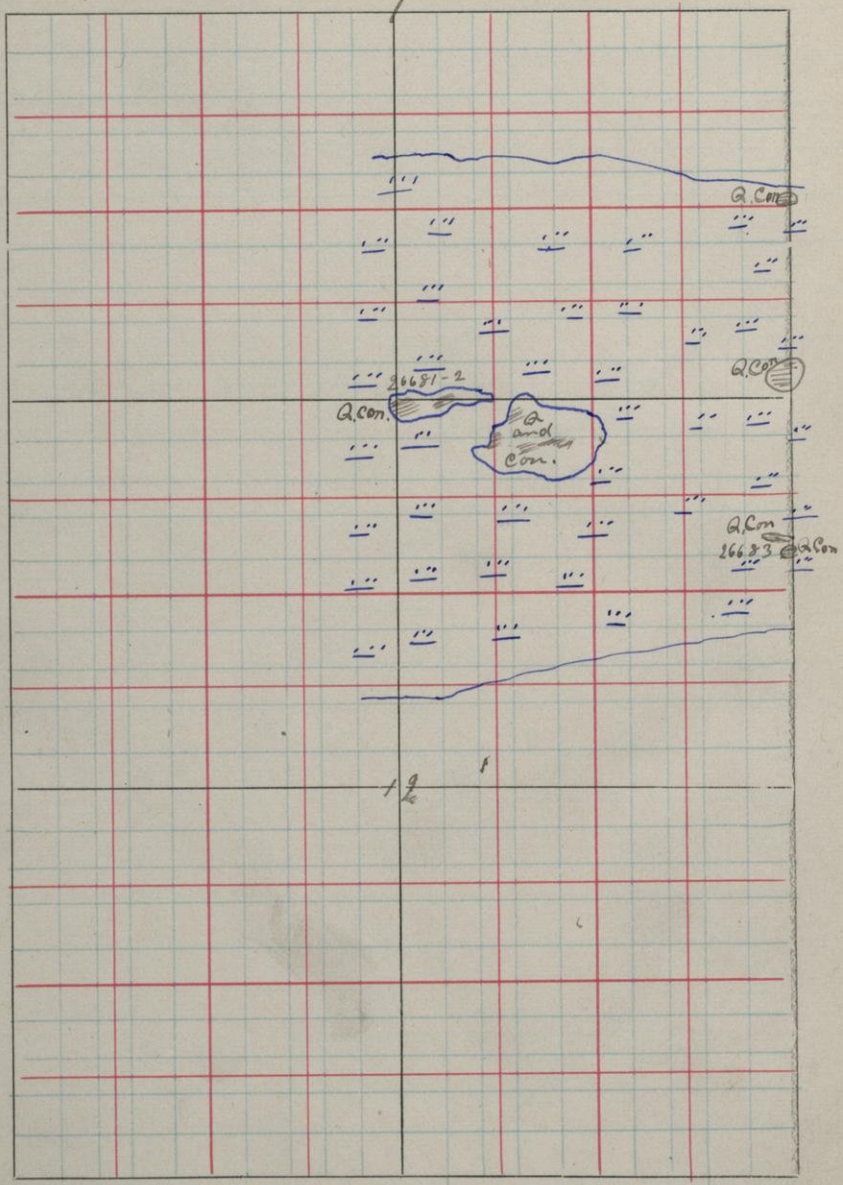
At new marble quarry & mill at Foster Cy. Probably a phase of of the garnet schist. See ledge platted on R.R. near here. Note book of 1895 –

S. 36 T. 43 / 42 R. 28



6—747

S. N½ of 1 & 12 T. 42 R. 28



26681 0 N 900 W 1 - 42 - 28
Ledge of quartzite with beds of conglomerate which are from a few inches to more than a foot in thickness. 26681 is a specimen of the usual coarse
26682 quartzite. 26682 is from the bed of conglomerate. The rock has been much squeezed and the pebbles are quite flat.
Strike of bedding N 80° E Dip 90°
Some very coarse conglomerate is shown in many places.

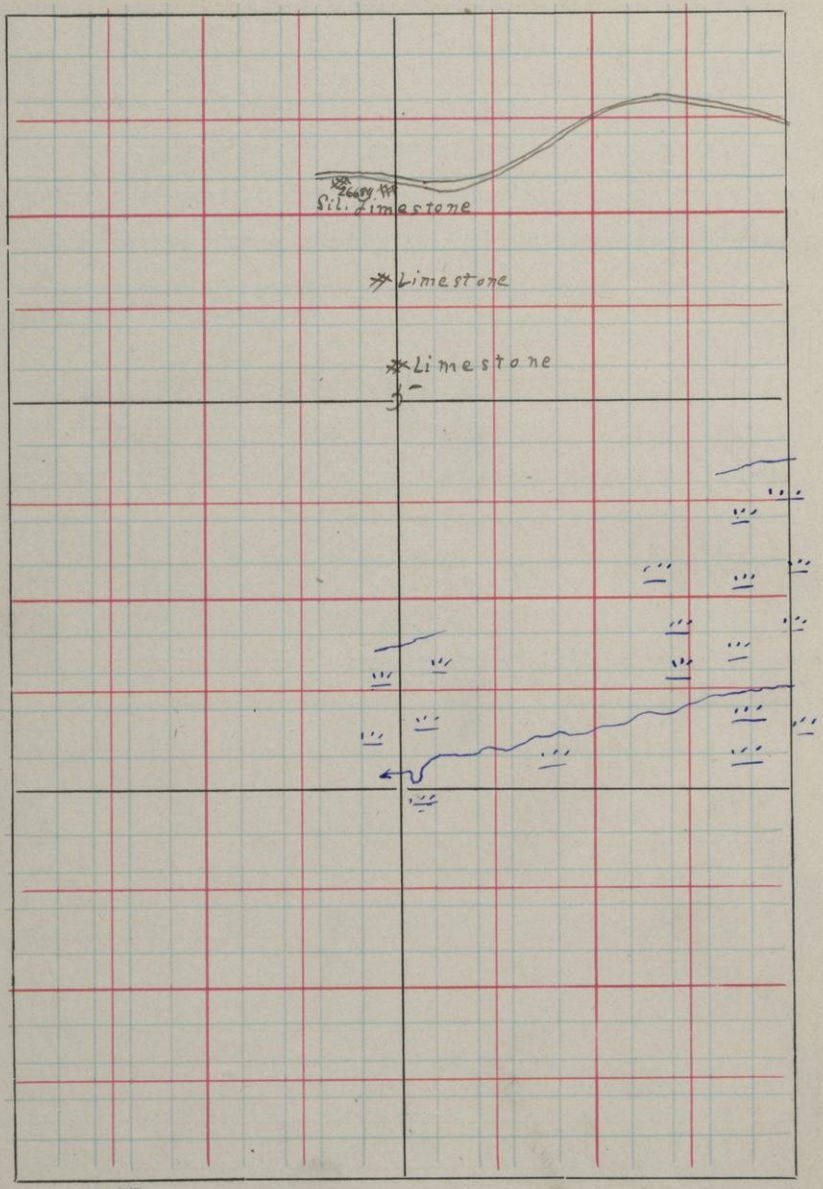
26683 1630 N 40 W 12 - 42 - 28
Ledge of quartzite and conglomerate in about equal proportions, in swamp.
Strike N 80° E. Dip 90°.

60 - 120 N 0 W 1 - 42 - 28
Ledge of quartzite and conglomerate in swamp.
540 N 0 W 1 42 28
Another ledge of quartzite and conglomerate in the swamp

S. 31 T. 43 R. 27

31

S. T. R.

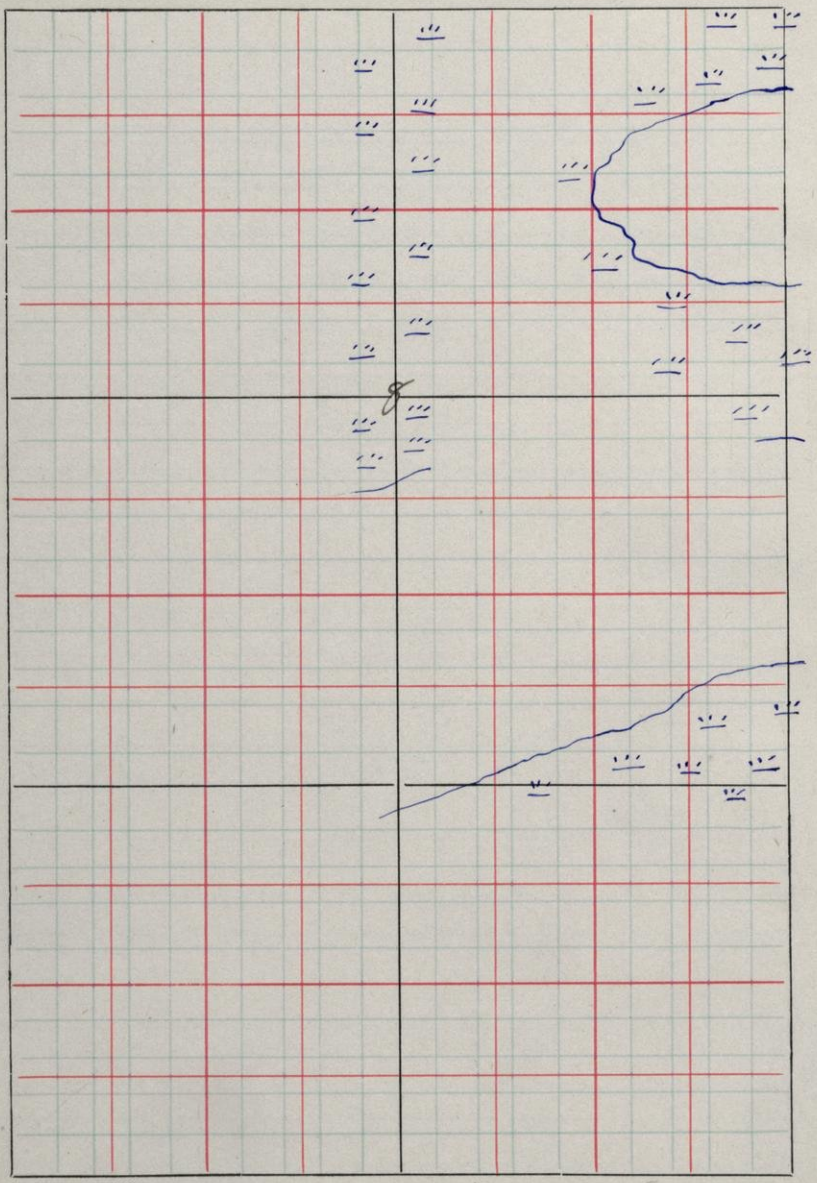


6—747

26684 1600 N 1100 W 5-42-27

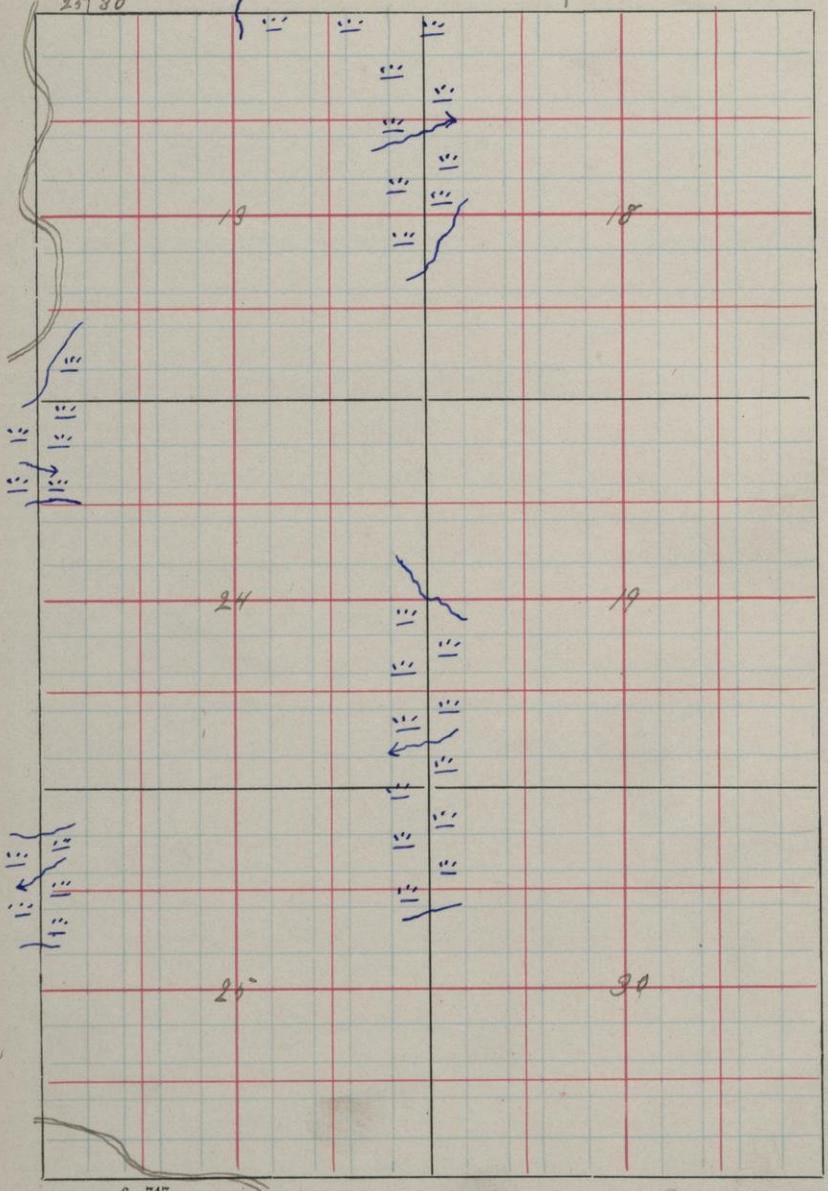
Horizontally bedded limestone in wood on ridge. Quite a number of ledges of this limestone are shown just at the surface capping this large hardwood ridge.

S. 8 T. 42 R. 29



6—747

S. 13/18 24/19 25/30 T. 43 R. 28/27



6—747