U. S. GEOLOGICAL SURVEY

TRAVERSE BOOK

9-904

Savin Hill

Thompsons Island

Dorchester Bay

Commercial Point

Harrison Square

Squantum

QUINCY BAY

North Quincy

Atlantic

Station

Wollaston Heights

East Milton

Quincy Center

Milton Creek

Moo

Hall

Black Cr

Q U

Quincy

Quincy Hugg

South Quincy

Rainsford Id.

Quarantine Rock's

Windmill Pt

Hull

Sunken Ledge

Peddock's Id.

Hangman's Id.

Harry's Rock's

Prince's Head

Bumpkin Isl.

Sheep Id.

Nut Id.

Moon Id.

Grape Id.

Slate Id.

Hough's Neck

Raccoon Id.

Rock Id. Cove

Weymouth Fore River

Weymouth Back River

Great Hill

Hunts Hill Point

Ferry Pt.

Weymouth Harbor

Squirrel Hill

Old Spain

North Weymouth

Quincy Neck

Old Boat Pt.

Pine Pt.

Mill Cove

White's Neck

Beals Cove

Fort Hill

West Hingham

Wymans Hill

King Oak Hill

Braintree

Weymouth Landing

Weymouth

L M N O P

Beacon

Pt. Allerton

Little Hog Id.

Nantasket Beach

Strawberry Hill

Bumkin Id.

World's End

Crow Pt.

Chandler's Id.

Sailor's Id.

Ragged Id.

HINGHAM HARBOR

HINGHAM

COHASSET

Nantasket

Little

Black

Hingham Harbor

Old Colony House Station

SOUTH SHORE BRANCH OF THE

Weir River

Turkey Hill

Situate Hill 177 ft.

Hingham Cen.

Lower Plain

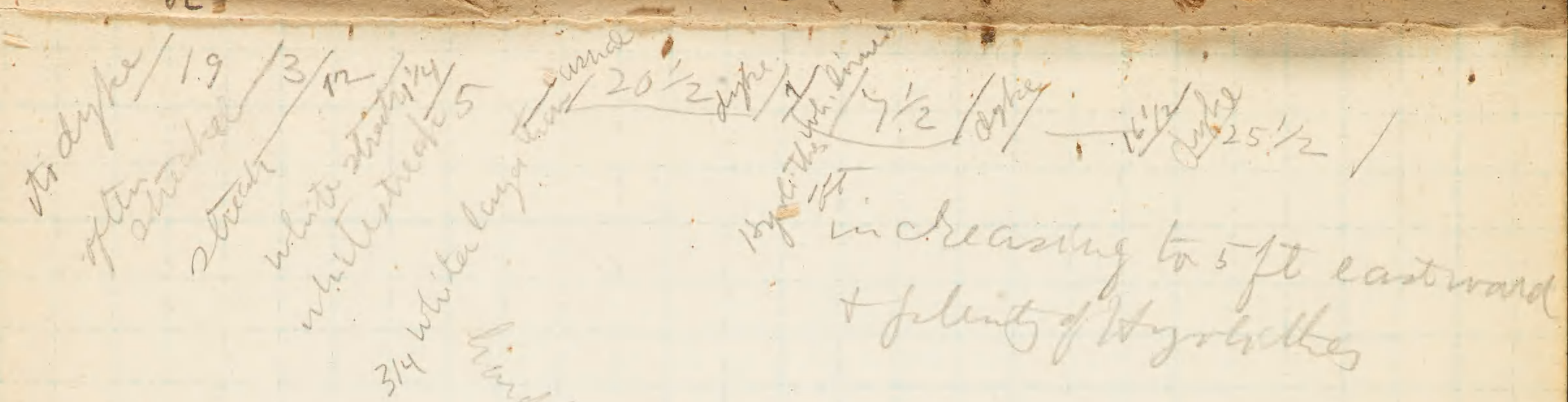
Triphammer Pond

Black Rock

Rock

Minot's Ledge Lt.

R



Ber W. Millett,
Bradford,
A little N of Com between Prospect & Henslow.

f 4 1 Farthest northern exposure is a dyke of diabase I think running N 85 W. and cutting across the slates whose strike is N 70-75 E, dips nearly vertical or faintly towards N. The real strike can be detected by the fine banding caused by changes of color or by fine mud layers. East of this dyke and just south of the same I think stratigraphically are 4 bands of quartz following the true strike of the slates. This would seem as though they must be metamorphosed sandy sedimentary beds but they seem to pass across the slatey layers a little between which they have come up, and although they have a decided sedimentary appearance I concluded they were veins. The cleavage has a direction here in the slate of N 75 W dip vertical, and stops abruptly at the "sandstone"; In the sandstone are grapes running N 60 W. In one or two layers of shale intercalated the cleavage is the same as the general cleavage with strike. This leads me to believe that the cleavage of the shales was induced after the intrusion of the quartz veins. and perhaps at the same time or after the dyke intrusion. At the north side of the road the strike is E+W. Road the dip is 75 N. The cleavage is N 65 W and its dip vertical. On the south side of the road is a dyke like a or a sandstone, probably the first since it resembles a which looks more like a dyke than a sandstone. At the southern end of the exposure is what I think is another dike. It looks like a sandstone but breaks across the slates irregularly like a dyke. This would make at least 8 dykes in this locality, all of the same trend. The strike and cleavage here seem to agree N 65 W. dip 80-70 N. The distance across the strike from the most southern to the most northern exposure is 112 steps = 225 feet. The slate of the entire series is finely banded, greenish, or dark bluish green, sometimes very slightly purple not resembling the red shales however at all.

f 4 1 The ridge f.4.1 — f.4.2. runs N 65 W. This would make the ridge pass to the south of Raccoon Island. It is composed entirely of dyke rocks. There were several [illegible]

series is finely banded, greenish, or dark bluish green, sometimes very slightly purple not resembling the red series however at all.

Of 4 1 The ridge Of.4.1 — Of.4.2. runs N 65 W. This would make the ridge lead to the south of Raccoon Island. It is composed entirely of dyke rocks. There are several flows here. Along the western margin at Of.41. and thence along the northern edge occurs a greenish more dense, and homogeneous rock, which near Of.4.1 shows porphyritic feldspar crystals and nearer Of.4.2. looks like an indurated slate, but I satisfied myself at least that it was not a slate but only the same porphyritic rock with no porphyritic crystals. Along
Of.4.2. the centre and southern side of this border is a more purplish rock, amygdaloidal often densely filled with small dark specks which I suppose are chloritic amygdules often filled with larger, often 1/4 inch in diameter, amygdules, which consist chiefly of quartz or first chlorite with an interior of quartz, or limonite, or chlorite or serpentine & the last two in smaller amygdules. No sedimentary rocks, either slate or conglomerate were seen here by me At the Eastern end of this part of the neck, Rock Island Head I saw no conglomerates or slates although I notice Crosby for some reason or other marks in conglomerates. I was there however at low tide.

Of 4 3 Coarse reddish conglomerate runs as a ridge to
Of 4 4 which ridge has no slate, or sandstone to any great amount. Almost entirely conglomerate, of variable coarseness N 65 W to N 75 W. The cleavage seems dip southward, I am not sure that the strike is southward although I presume it is about 70 S. The rocks at least dip at a high angle, since the stratification of two does not vary plainly in the conglomerate, which I think would not be the case in more horizontal strata. Along the southern side, a little east of the middle of this ridge is the greenish diabase which forms the conglomerate in two places. This ridge lies south of the diabase ridge 1-2, at least 50 feet.

Hf. 4. 5 This is intended to locate another wedge, separating earth of the last, and is confined by the granite on which glen distance only. At least I found no conglomerate dipping any short search here. All these wedges are separated from each other by low nearly depressions having a direction of N 30 W.

Hf 4 6. is not separated with the same distinctness from Hf. 4. 5 Indeed I doubt whether any fault remains here to be brought out. If there any its direction is N 70 W. which is also the direction of the wedge Hf. 4. 5. because a faint depression lies in line with the granite edge of the diabase ridge, towards the south of which the conglomerate exposures of Hf. 4. are found. No diabase was noted here.

Hf 4 1 Just at the landing northeast of the house. blackish grey slate, same as at Hf. 4. 1 and Wallaston Heights. Strike N 80 W. dips 70 N. to 85 N. The slate is banded towards the north. more massive further inland. Then banded again. Just east of the same 20 feet is some of the rock I called mansion slate, which looks like argillite. On both sides of this last slates are much contorted and there are included contorted slates. It would be called a dyke here I think did it not look and break like argillite. What is the meaning of the included contorted pieces.

Hf 4. 2. Strike of banded slate along shore. fine exposure N 85 W. Dip 85 N. Mansion argillite to faultless to land.

Hf 4 3 Strike of banded rock fine bay exposure. N 80 W. dip 70 N. — 80 N.

Hf 4 4 The slate extends out into the sea in ledges under the water for 100 feet at least. keeping up its strike. This is the place to go to see contorted strata still preserving their general strike with great accuracy. Dip northward 85°-75°. N 80 W. Re contortion of the included banded slates in the more massive argillites in my estimation makes nothing.

Hf 4 5 There seems to be a dike here along the strike of the slate similar to the dikes at Hf 4. 1.

Hf 4 6 Strike N. 85 W.

Hf. 4 7 Strike N. 85 W. Dip 80 N. Dike there. The same

slates in the more massive argillites in my estimation and means nothing.

Gy 4 5 There seems to be a dike here along the strike of the slate similar to the dikes at G.4.1.

Gy 4 6 Strike N. 8 E W.

Gy. 4 7 Strike N. 85 W. Dip 50 N. Dike there. Fine grained banded slaty rock.

Gy 4 8 Dikes south of the house.

Gy 4 9 Dark greenish slate N 80 W = cleavage? dip 70 N. Whether cleavage or strike I could not tell. Presumably the same as the banded slates near by.

K 5 4 Granite.

K 5 1 Amygdaloid diabase runs among conglomerate N 63 W 45° N. Also near as the strike & dip of red conglomerate can be guessed.

K 5 2. Ledge a distance south bold, E + W about, conglomerate band in the middle N 73 W. 45° N. diabase north of the conglomerate

Y 5 1 A dividedly fern-like slate. N 50 E. where fine grained. 80° 70° W. The rest of the ledge is greater part, diabase gneiss.

Y 5 2 Red conglomerate same as K. 5, 1 and 2. A large amount of stones & rocks here included as pebbles & boulders of the diabase & large rock. The diabase still penetrates the same in large and dykes although not so frequent & so largely as at the more eastern localities. There is a depression between the last conglomerates and these slates and the strike seems to be different, but it must be remembered that the strike of the conglomerate can be only indifferently determined.

Y 5 3 Slate Cambrian N 50 E Dip 70 E

Gy 5 1 Cambrian Slate N 15 W. Dip 85 S.

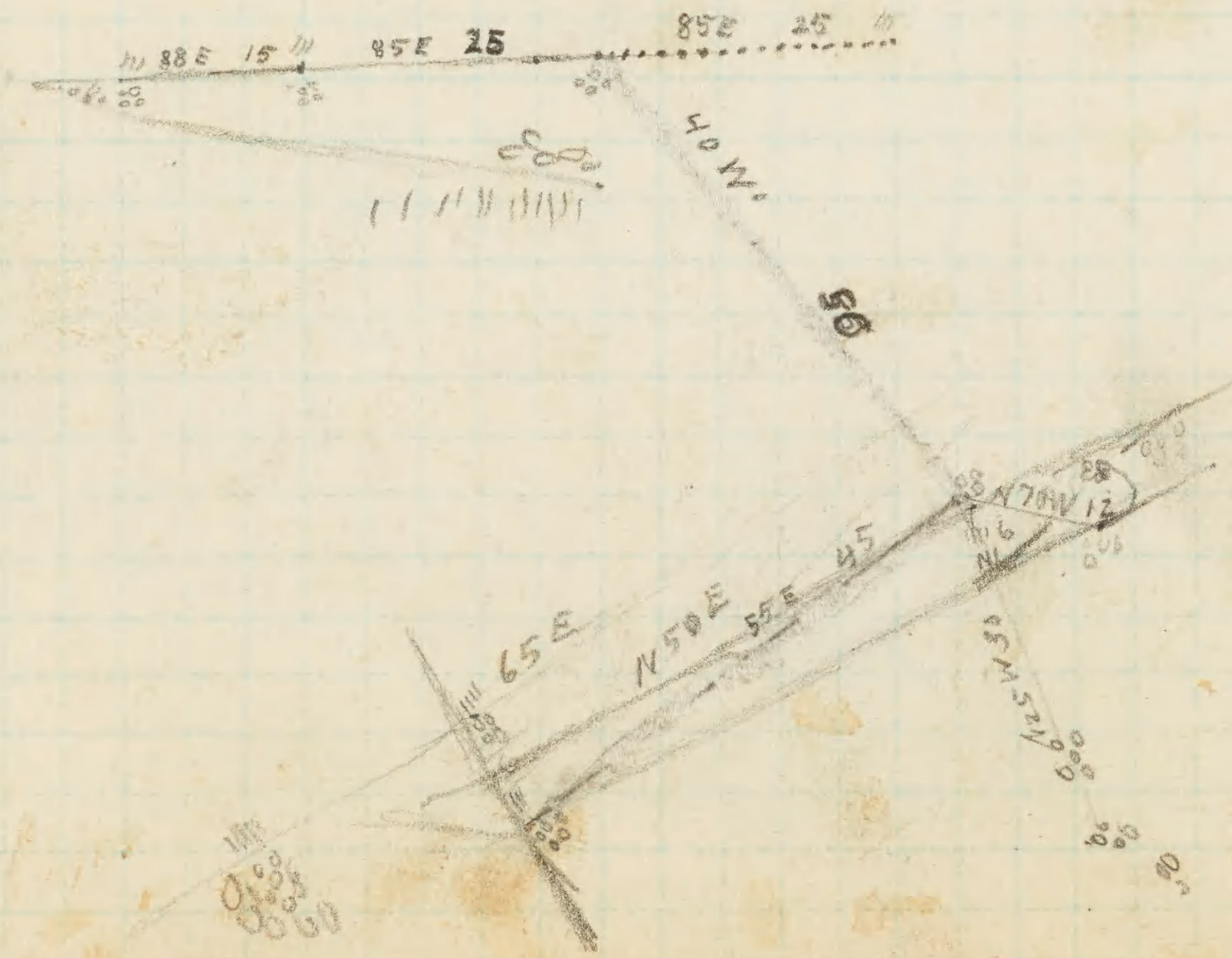
Gy 6 1 Slate fine E + W. 85 N. Greenish fine grained.

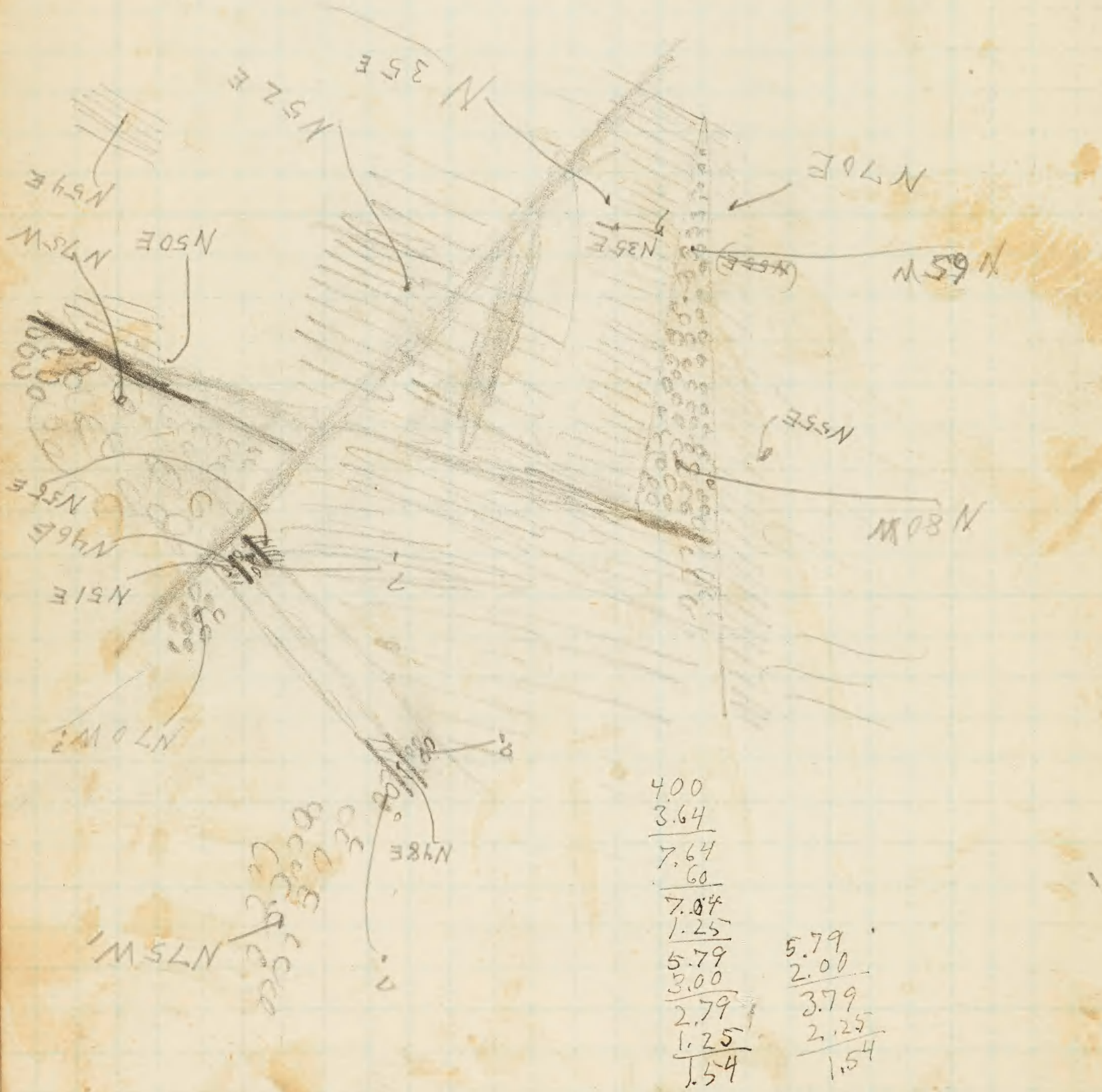
Gy 6 2 Slate fine N 75 E 85 N. + veined S? also fine grained.

Gy 6 5 E + W. Dip 80 N. Fine grained

Gy 5 1 Red Cambrian - fragments N 57 W. (70 S?)

Y 5 4 Conglomerate, white. Not much amygdaloid. In another road further north. Located.


N 88E 15
85E 25
85E 25
N 70W 12
N 50E
55E 45
65E
N 45W
95



400
3.64
7.64
60
7.04
1.25
5.79
3.00
2.79
1.25
1.54

5.79
2.00
3.79
2.25
1.54

Y. 3. 1 Banded grey slates like those of Racoon Island. N84E dip 80 S. Most prominent cleavage N65W. dip 85 S. About 115 steps across the strike of slates, all similar.

Y 3 2 Finely cleaved slate of dark purplish grey color, in some respects like the slate in the R. R. cut at Weymouth. N84E dip 80 S. This clear slate was apparently banded at one time, a little further north it is readily seen that the slate was banded. Cut by a dyke N 4° west, width 3 feet. Thirty seven steps across the strike to land exposure at low tide, Two dykes in the plane of the slate, 15 inches wide, evidently a fault of single dyke, A third dyke not in line with the last but following the strike belongs to a different system. The exposure is a long one.

K 3 1 The dark colored banded slate of Y.3.2. N82E. dip vertical, missing dyke intervenes parallel to bedding, dip vertical at 85 S.
Farther east for a long stretch the strike is N70E dip 85 S. The banded structure is also well exhibited. Still further E. strike N63E 85 S.

K 3 2 Strike N76E. dip 85 S.

K 3 3 Strike N85E dip 85 S.

K 3 4 Strike N74E dip 85 S.

K 3 5 Strike N76E dip 85 S

Numerous dykes of whitish color, transverse both with the strike and cutting across the same ocean in this island. Slate Island.

K 4 1 A ledge above water at low tide only. Pre Cambrian red conglomerate and sandstone, chiefly sandstone, the purple color sometimes almost absent, at other times present. Strike E + W. dip southward 4 thirds.

L 4 1 The red Cambrian conglomerate but with lighter red color. Strike E + W. dip 45 S. At this particular locality bands of sandstone intervene in the conglomerate, especially towards the bottom. An E + W diabase dyke cuts across the strike dipping 45° to the North.

L 4 2 Red Cambrian conglomerate with sandstone intercalated. Strike E + W. dip 45 S. Sandstone

L 4 2 Red Cambrian conglomerate with sandstone intercalated. Strike E + W. dip 45 S. sandstone sometime 3 ft thick. Conglomerate in this end not quite so coarse as at Chandler's Island. The conglomerates contain granite, felsite, and melaphyre pebbles, also banded slate pebbles. Just north of the west corner of the island a large boulder, 2 ft long and 1 ft broad is imbedded in the conglomerate. This pebble is composed of greenish banded slate, similar to those of Slate Island and elsewhere. Raccoon Island for instance. A homogeneous purplish rock which might represent the purple Cambrian is also included. Massive greenish sandstone 15 feet thick form a layer along the N.W. end of this island. On looking about I found several additional pebbles of the banded slate further east.

L 4 4 Granite in abundance in place.

L 4 3 Red Cambrian conglomerate N 81 W. dip 45 S. Sandstone, usually greenish in color, conglomerates, intercalated. Purplish sandstone was intercalated at L.4.1. A fine purple sandstone occurs at L.43. sometime intercalated for short distance with the coarser green variety. These purplish bands are especially common along the northern side of the Island, but are always thin. The massive green sandstone is very common here especially on my third band on the north side of the island.

031 At the most northern point is greenish conglomerate then red slate, 3 feet. N 80 E, dip 15 N south. then coarse conglomerate, towards the south the conglomerate pebbles are held by a slaty cement. and next come red slate comes in with strike N 65 E dips 25 S with slate is banded. South and west of this the rock is all metaphyre. itself split by large diabase dykes.

R 4 2 Conglomerate rather coarse. with a depression or valley between the conglomerate region and the metaphyre hill on the east.

R. 4. 3 Coarse Conglomerate with metaphyre pebbles and felsite. red.

R. 4 4 Coarse conglomerate. reddish in general with felsite. metaphyre etc.

R 4 5 Much granite.

R 4 6 Granite.

R 4 7. Granite on the west and coarse conglomerate on the east. There is a contact here, but with the most time spent here & the night this evidence was considerably in favor of the conglomerate containing pebbles from the granite, but sections are needed to establish this.

R 4 8 Coarse conglomerate.

R 4 9 Coarse conglomerate.

R 4 10 Coarse conglomerate

R 4 11 Coarse conglomerate

R 4 12 Coarse conglomerate with coarse granite and metaphyre pebbles and a metaphyre as a dyke or faulted on the north side.

R 3 1 This whole knob is metaphyre = amygdaloid.

R 4 1 On this promontory is coarse conglomerate, one coarse granite boulder is 3 ft X 2½ in diameter. The metaphyre and felsites are also well represented. A metaphyre dyke is on the south west end. No first satisfactory signs of stratification were found here. Strike is E-W and the dip 15° S. Even this exposure is scarce by large enough to determine the dip for the whole region. At the very southern edge of the promontory is another metaphyre dyke.

R 4 22 Granite. coarse. in abundance.

R 4 23 Greenish metaphyre.

proximity to another metaphyre dyke.

RC 4 22 Granite, coarse. in abundance.
RC 4 23 Greenish metaphyre.
RC 4 13 Pc coarse conglomerate included in the granite several boulders and a long narrow strip of the same conglomerate.
RC 4 14 Granite coarse.
RC 4 1 Coarse Granite
RC 4 2 Coarse granite
RC 4 3 Coarse Granite.
RC 4 15 On the west coarse conglomerate. Slaty and sandy layers of very limited extent, strike N 65 E. dip 15 S. On the east is the massive amygdaloid.
O 3 2 Amygdaloid.
O 3 3 Conglomerate - Strike of included constituents 1 inch length N 65 E dip 15 S. Pc is the coarse conglomerate with granite, amygdaloid and felsite pebbles. Granite pebbles are unusually numerous here.
O 3 4 Numerous small layers of interbedded conglomerate. Strike N 60 E dip 35 S.
P 4 1 Gneissoid looking granite.
P 3 1 Only loose boulders.
P 4 2 Gneissoid granite
P 4 3 Gneissoid granite
R 4 1 Gneissoid granite. This granite is different from the typical variety and although the gneissoid structure is not always marked, variations to divisible types often become locally prominent.
R 4 2 Gneissoid granite
R 4 3 Gneissoid granite
R 4 4 Gneissoid granite
R 4 5 Gneissoid granite.
O 4 5 Gneissoid granite
P 4 4 Gneissoid granite.
O 4 6 Gneissoid granite.
O 4 7 Granite
O 4 8 Granite
RC 4 16 Granite
RC 4 17 Granite
RC 4 18 Granite.

O 4 9 Granite

O 4 10 Arroyo d'alvid.

O 4 11 Coarse conglomerate.

R 4 2 Nearest the water. diorite. Next slate. Vein of dd, strike N 60 E dip NW Bent strata + flexed. Next Much arroyo d'alvid at south.

R 4 3 Slates N 70 W. same as R. 4. 2. dark, slightly purplish but apparently nearer the slates of Slate Island & dip in general north. In places much contorted. 32 steps across the strike. Runs for 200 steps south is slate dip S. then comes diorite. Run for 100 steps south about comes slate dip north & contorted. Ten several hundred steps of arroyo d'alvid with either breccia'ted arroyo d'alvid or conglomerate at two small places

R 4 4 Slate. N 60 E. dip. north. rock after 4 paces the strike & comes & remains near N & S.

R 4 5. Slate. Banded. Rock same since R. 4. 2. Strike changeable, much contortion. In general E & W. but also much nearer N & S. strikes.

R 4 6 Slate with conglomerate composed of slate pebbles forming layers (ft thick in it)

R 4 7 Abundant conglomerate passing into slate on the east. No arroyo d'alvid pebbles E & W, cb through cut & the same. N 40 E dip 45 N.

R 4 8 Dark slate with purplish tinge. as at R. 4. 3 near shore. Much of the slate since then has been garnish.

L 4 1 Conglomerate, reddish, down to the creek, numerous exposures, no metallum pebbles found, per-

L 4 1 Conglomerate, whitish, down to the creek, numerous exposures. no metaphyr pebbles found, perhaps this is only a metamorphosed form of the common conglomerate of this region but it differs at least in not having a large pebbled form.

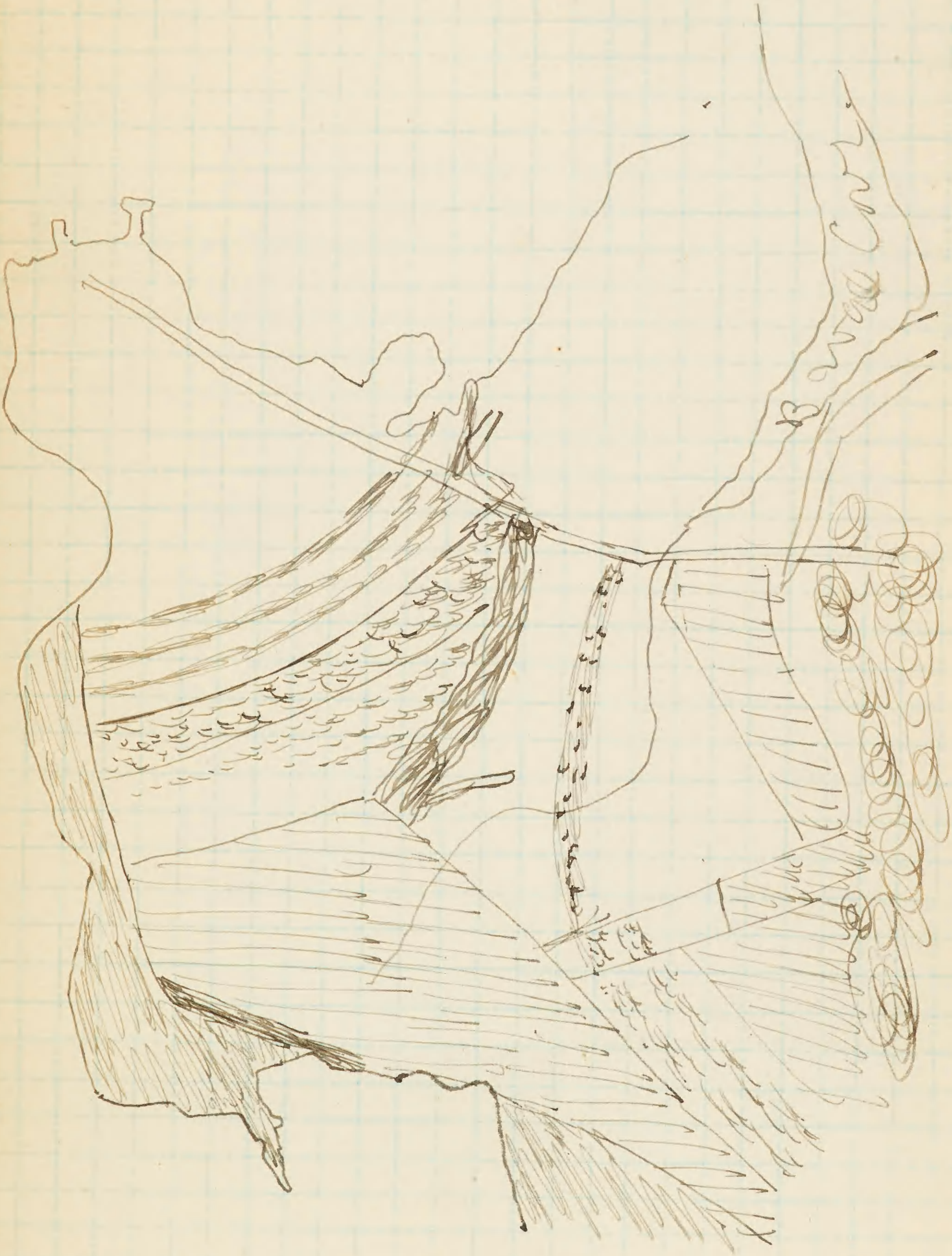
R 5 9 Amygdaloid. a good-sized exposure.
R 5 10 Granite. plenty.
R 5 3 275 steps west of the Squirrel Hill road junction is the purplish slate outcrop with fine laminations similar to the Blackhawk rock. Strikes of slates E+W dip almost vertical. Conglomerate towards the South coming in on an E+W. line by a fault? contact fossiferous. Conglomerate of broken reddish + some metaphyr
R 5 5 145 steps west is more of the rock. cleavage, joints shafes strike (real) N 75 E. dip vertical, hidden 4/5 from sight.
Y 5 5 75 steps west. plenty of amygdaloid.
Y 5 6 75 steps west. plenty of conglomerate, whitish. Weathered surfaces at least well exposed. No amygdaloid recognized at least
R 5 7 Conglomerate. same as at Wallace in R R station, very reddish broken ones. dark brown red. plenty in place.
R 5 8 Plenty of amygdaloid. Some conglomerate towards the South east. Also some included banded "red slate?" in the amygdaloid.
R 4 9 Red conglomerate of Dorner Landing type.
R 4 10 Amygdaloid.
R 4 11 Slate, dark black with sandy courses. Strike about E+W. dip 10 South. Much indurated. rather massive
L 5 1 Granite
L 5 2 Very coarse granite
R 4 12 Amygdaloid. A fine grained conglomerate in considerable abundance, with interlaced thin sheets of red Cambrian slate in moderate quantity, E+W. dip 25 South

R 4 13 At the south end is amygdaloid.
Farther north (50 steps) are greenish slates, Strike N 25 E dip 25 E, This greenish slate has the gemmed red tinge of the Cambrian at various places, At some places the pimpled color is very marked and the strike changes to E & W, dip 65 S, Bordering this red slate on the West is some of the amygdaloid.
Farther north is plenty red conglomerate N 30 E dip north 0 think. Therefore cut in between the slate.
R 4 14 Slate on west, red pimple Cambrian N 10 E dip 20 W. Conglomerate forming long broad ridge to the east.
R 4 15 On west towards middle of this hill is conglomerate, on the slate on west showing faintly in places, at north end is rotten brownish conglomerate dip 45 west, East of this red brown Cambrian sandstone and slate, dip 45 west, Strike N 4 E about, the two join conformably, Farther east is a large amount of red Cambrian slate Strike N & S. dip 45 W. Across the strike 50 steps, Farther E is 50 feet more of slate same dip Then 15 steps of conglomerate. Then 50 feet of slate. Then 50 feet of conglomerate red pimpled. At east end is abundant conglomerate, Following the east side of this ridge Southward I find that the slate bended sometime lines the east side for quite a long distance.
R 5 11 Diabase.


Bad
Cree
Waymouth Back River.

slate overlies the conglomerate. all of the general age.

020



22
22

Gy 5 2 Greenish shale. Strike about E & W. about 200 feet south of
limestone limit 2m.

Lg 5 2 Greenish shale. Strike about E & W. about 200 feet south of limestone horizon.

Lg 5 3 Greenish shale underlaid by limestone layer very full of Hydrolites & Lithellus at one place. Three steps southward thinner limestone layers continuing for 3 more steps southward, then greenish shale. Strike N 54 E dip vert or slightly S. = strike towards breccia 16 on next road west. 15 steps southward the more of nodular limestone nodular courses come in.

Lg 5 4 On west side of road south of line of station 5 the purple shales contain one to show the scattered nodules of limestone & epidote.

Lg 5 5 Along Pearl St running E & W. is mine purplish slate with epidote nodules.