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Pigeon Point and neighboring islands: [specimens] 11864A-11963. No. 78 1888

Bayley, William Shirley, 1861-1943

[s.l.]: [s.n.], 1888

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U. S. GEOLOGICAL SURVEY
FIELD SECTION BOOK

No. 78
1888.

Pigeon Point and neighboring
islands.

W. S. Bayley

11864A-11963

SURVEY OF THE PRE-CAMBRIAN ROCKS OF THE N. W. STATES.

INSTRUCTIONS.

1. Ordinarily at least two pages of this book will be devoted to one section. On the left hand page place a map of as much of the section as has *actually been seen*. Denote rivers, lakes, marshes, etc., by the usual topographical signs. Denote the ledges of rock, when no structure is made out, by cross-hatching, making the cross-hatching cover as nearly as possible the areas occupied by the exposures. If the rock is a massive one, but still more or less plainly bedded, use the same sign with a dip arrow and figure attached, showing the amount and inclination of the dip. Denote slaty or other very plainly bedded rocks by lines running in the direction of the strike, with figures and a dip arrow attached as before. In all cases where there is the least doubt about the true bedding directions, indicate it by a query. To each exposure on the face of the map attach the number of the specimen representing it. In mapping the section count each of the spaces between the blue lines as 100 paces, and twenty of these spaces as one mile, or 2,000 paces. Usually the southeast corner will be placed at the bottom of the page, or at the first black line above the bottom of the page, and at the right hand side. If, however, for any reason, it is desirable to show portions of an adjoining section, the southeast corner may be shifted up, or the map may be turned around and the north placed at the left hand side of the page.

2. On the right hand page place the notes descriptive of the exposures. Begin in each case with the number of the specimen, placing the number on the left hand side of the red line, after which give in order on the right of the same red line the position of the ledges as reckoned in paces from the southeast corner of the section, and the dip and strike when observable, for instance: 4025 250 N., 300 W., *Strike, N. 6° E., Dip, 50° E.* Then follow with as full a description of the ledge as possible.

3. The ruling of the left hand page is also arranged so that a smaller scale can be used. Each one of the black lines may represent a section line and the red lines quarter sections and "forties." The scale of the maps may thus be reduced, if desirable, to two inches to the mile (the ordinary town plat scale.)

4. Collect a specimen from each separate ledge of rock, or wherever there is a change of rock on any one ledge. In case of trips made on foot or in canoes, for long distances, neighboring ledges, unquestionably of one kind of rock, need not be sampled, the position and extent of the ledge being marked on the map, with a note that it is of a rock identical with specimen so-and-so. Under the same conditions small sized samples, trimmed to a uniform size of $2 \times 2\frac{1}{2} \times \frac{3}{4}$ inches will be allowed, but in all other cases *large sized specimens*, trimmed to a size of $3 \times 4 \times 1$ inches, must be selected, in accordance with § 3, chapter IV, p. 44, Regulations of the U. S. Geological Survey. In all cases collect chips for slicing. All specimens are to have numbers painted on them, in white on a black background, in the field.

5. On the last twenty-five pages of the book give, as may seem desirable, a general account of the examination of the region mapped in the previous pages, correlation of observations, sketches, cross sections, etc., etc.

78

Pigeon Point and
neighboring Islands —

July - 1858.

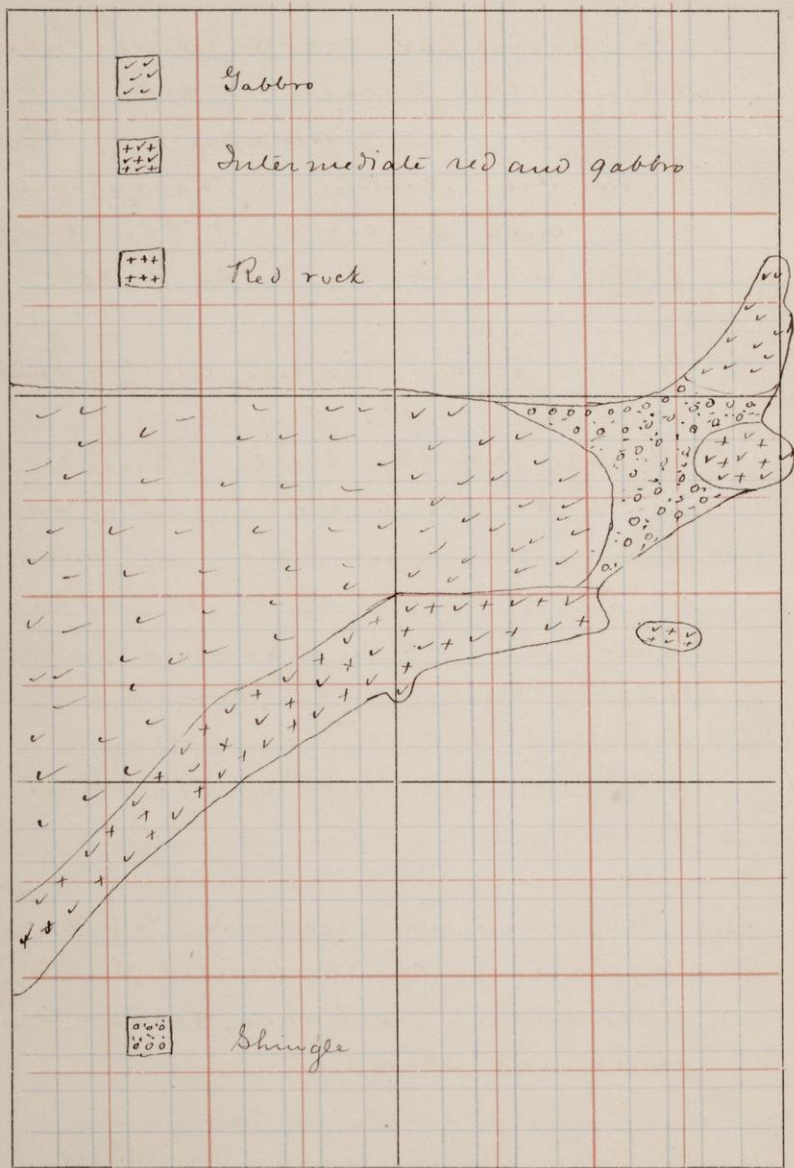
W. S. Bayley

Chas Oley - woodsman

11864 - 11963

T.

R.



The principal work undertaken during the present visit to Pigeon Point, was a remapping of the areal distribution of the various rocks and a study of the relations of the red rock and the gabbro.

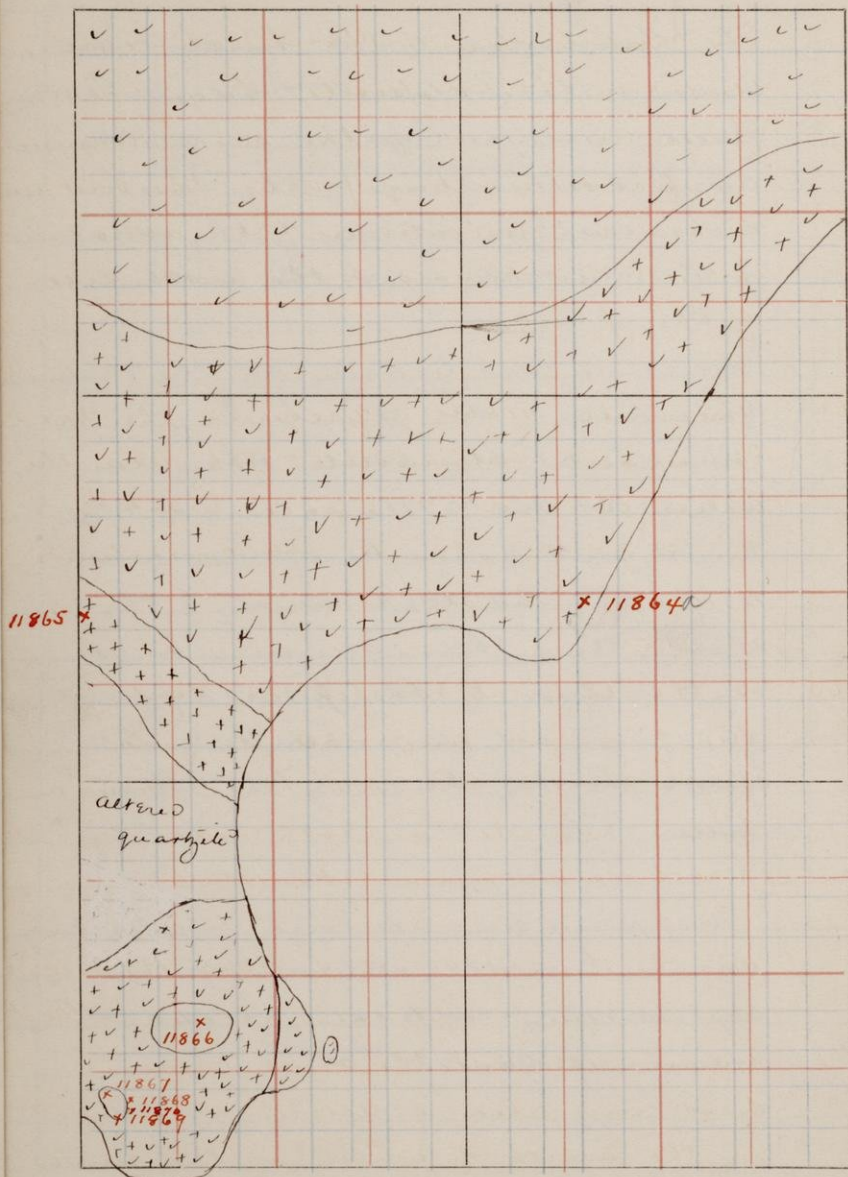
Mapping was begun at the eastern extremity of the Point.

Started at the little shingle beach at the extreme end of the point, and from here ran west 100 fathoms and then south to the shore, etc. thus gaining a general outline of the principal features, which was afterwards filled in by tracing the shore line.

Mapping was all done by pacing 1 square on the opposite page representing 10 fathoms, except when otherwise stated.

T.

R.



In that portion of the fault represented on the opposite page (200 paces westward of the area mapped on preceding page) only the southern portion is indicated as the gabbro extends northward to the north side of the fault.

11864a Specimen 11864 represents the predominant intermediate rock near the water edge at 275 paces west of the end of the point. It corresponds to 11209 of the old series.

11865 is the typical red rock 400 east of end of point and 135 ft. of its south shore. The rock here forms a hollow bounded on both sides by a rock something like 11864.

On the point south of 11865 the rocks are in very complicated relations. Between 11865 and the shore there is first an area of altered quartzite on the south of which is the mixed

red and gray rock, in which are hollows, due apparently to the weathering of inclusions of an altered quartzite.

11866 is a specimen from one of the large hollows - a platy, soft rock resembling an altered slate.

Occasionally these hollows are surrounded on all sides by a very coarse reddish gabbro, which may be nothing more than an intermediate rock closer in composition to the gabbro than to the red rock.

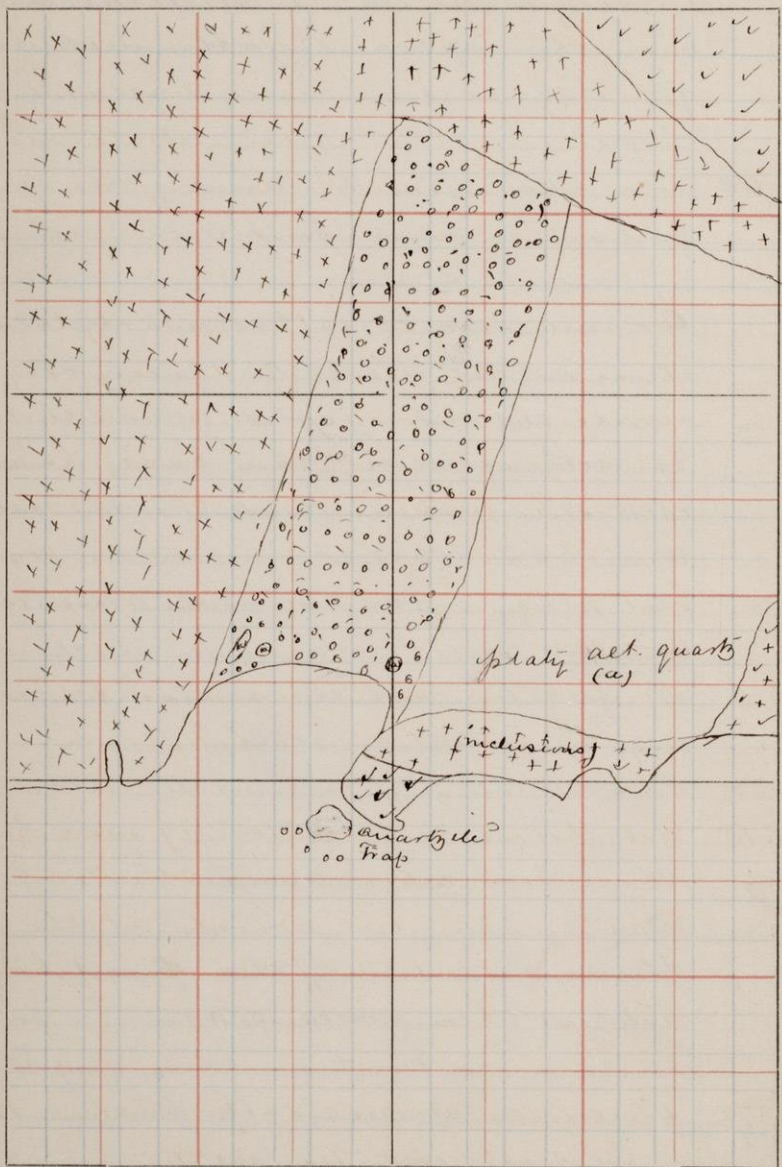
11867 A platy rock, somewhat similar to 11866 but containing much more red feldspar, which occasionally occurs in little crystals.

11868 Surrounding intermediate rock.

11869 Specimen of inclusion.

The eastern end of this point is capped by a little gabbro. Its interior is, as has been said, very complicated in structure, the prevailing rock, however, being 11868, although

R.



it seems as if the typical red and the ordinary gabbro were frequently intermingled without producing the intermediate rock.

11870

is a specimen of drusy red rock from the same point.

Around many of the quartzite inclusions are rims of drusy red material looking very much like the red rock. In this case, however, it would appear that the red material had been formed by segregation from the surrounding material.

11871

piece of red vein material surrounding quartzite. (Chip)

N.B.

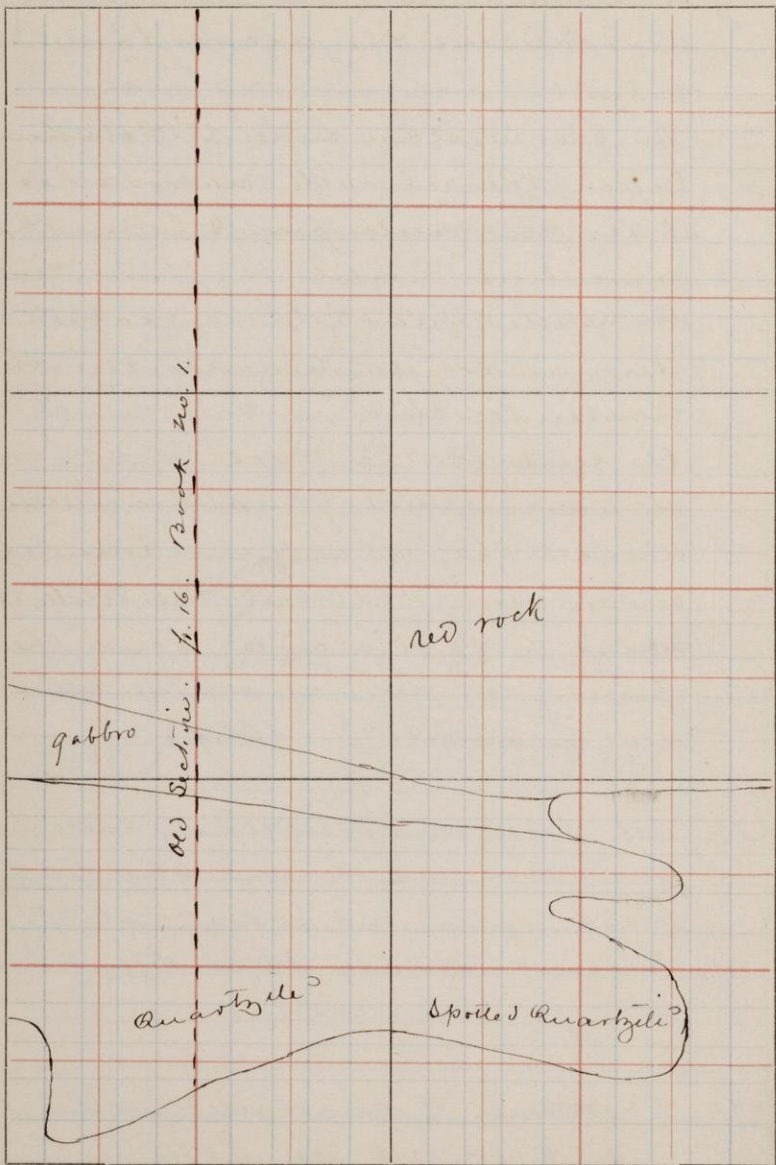
All pieces marked (chip) were packed in box, which was started for Washington, but which at the present writing (Dec 15/88) has not yet been received.

11872

Specimen of quartzite within the rim of red rock No. 11871.
(Chip)

T.

R.



Westward the rocks are found as indicated on the accompanying maps.

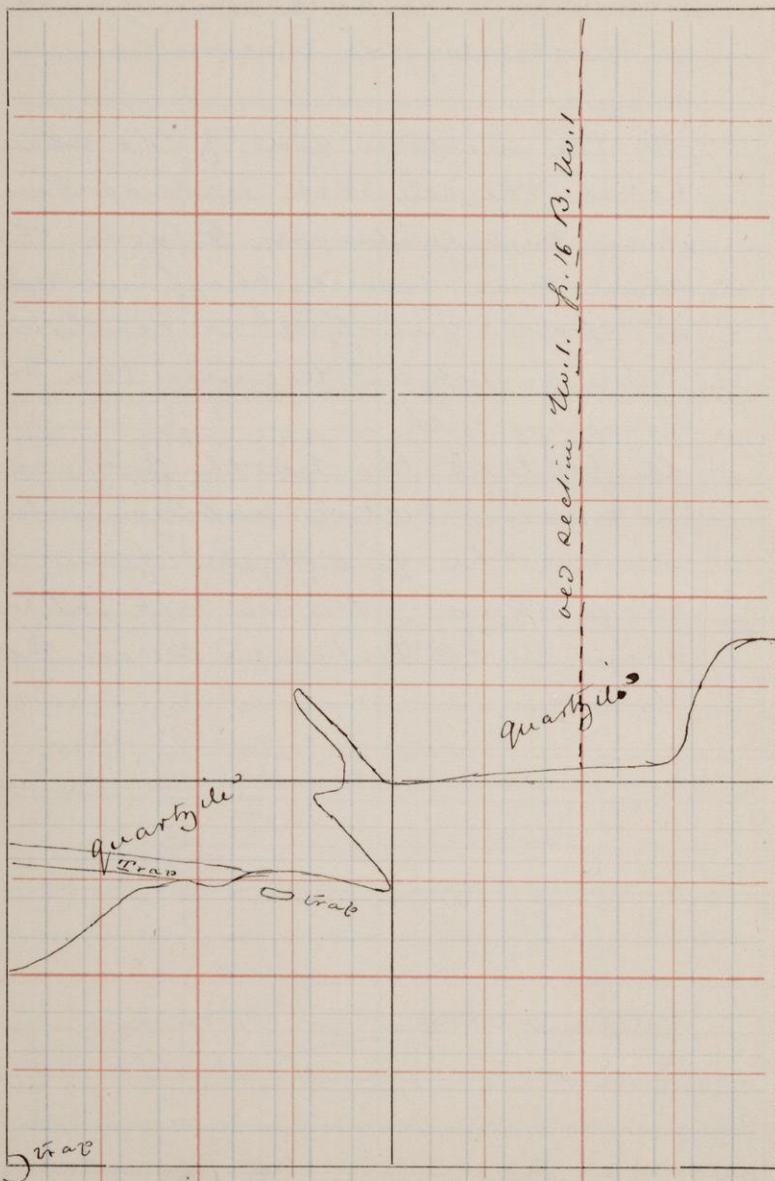
On the western side of the shingle beach the red rock approaches the shore and continues to form the shore line, until the first marked 'spotted quartzite' is reached.

Here quartzite becomes the shore forming rock.

A little to the north of it is a narrow belt of gabbro, which divides the quartzite from a large mass of the red rock; extending about $\frac{1}{4}$ the distance across the point.

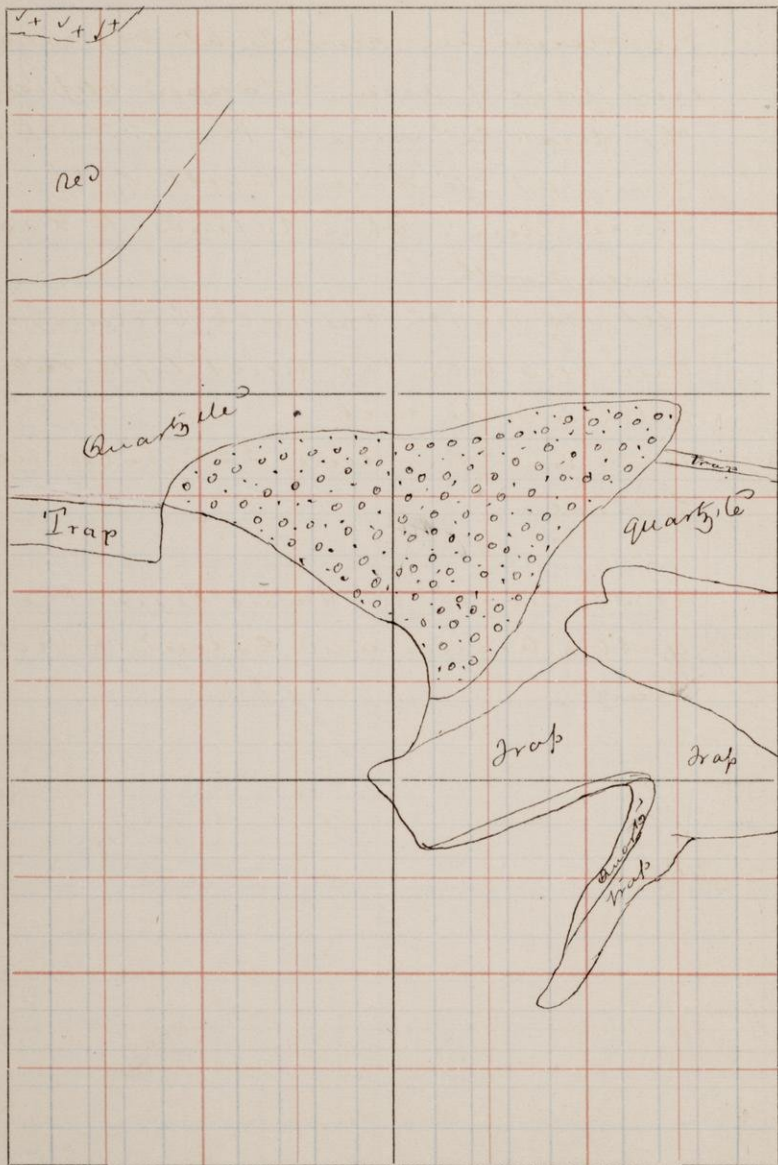
T.

R.



T.

R.



In running north at the western edge of area mapped opposite the first exposure of the red rock was found at 70 fathoms north of the shore line. This extends to 225 fathoms north.

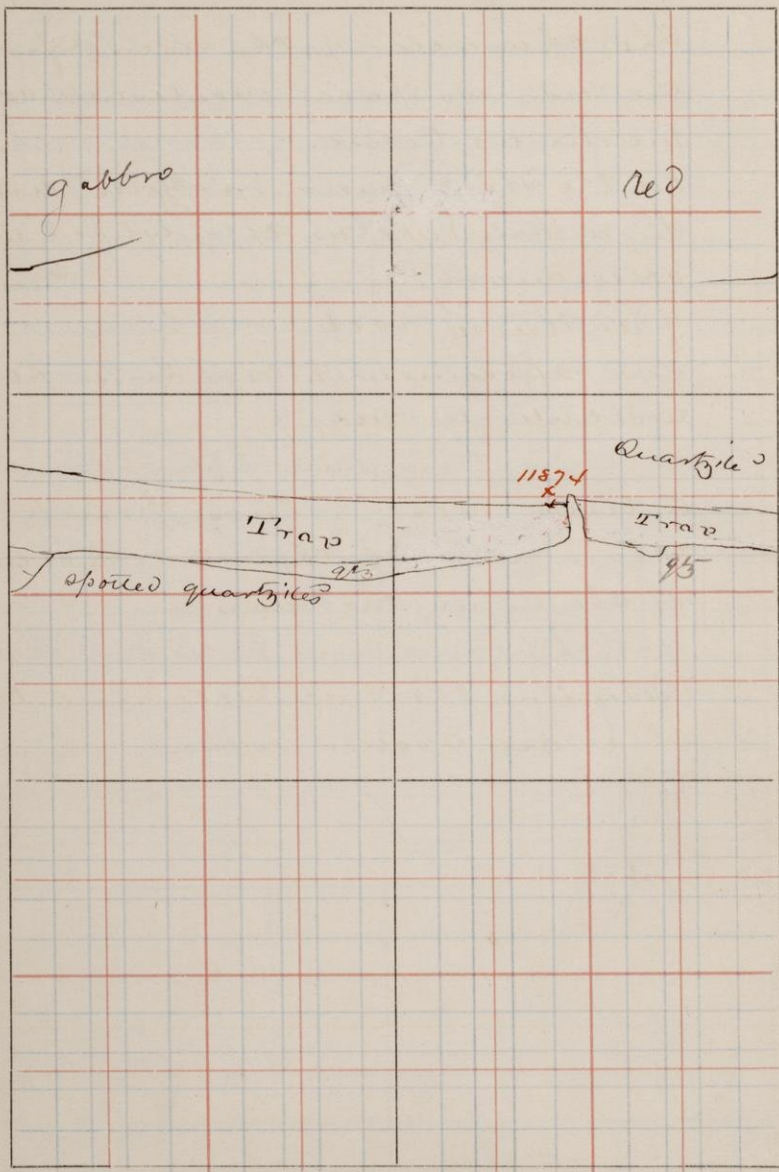
At 135 north the rock becomes dark and very like the most typical intermediate rock.

11873 is from this line 225 fathoms north of shore.

At 350 north in same line the gabbro begins and extends to Pigeon Bay.

T.

R.



The character of the area for the next 100 paces westward remains as before.

On the shore are quartzites, cut by a trap dyke, north of which are other quartzites, filled with veins of red drusy rock.

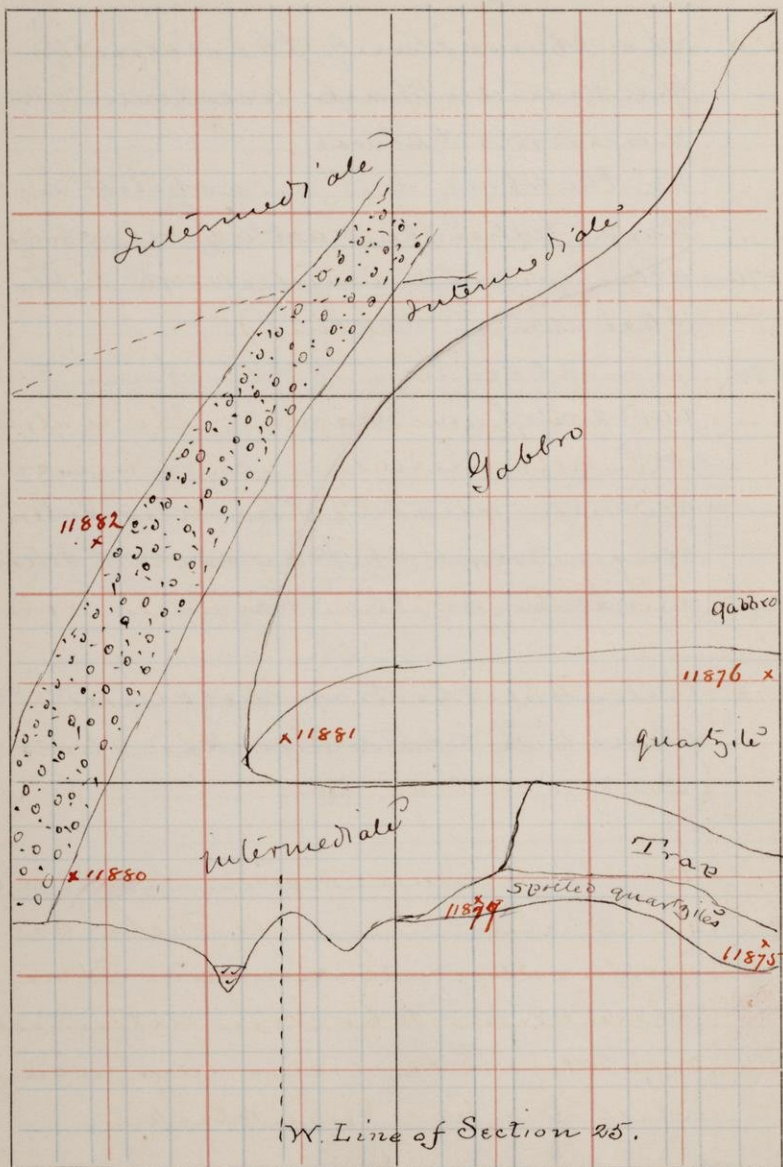
11874 is a specimen of this from place indicated on map.

A little west of this point a larger mass of the red rock occurs as shown on the map.

Between the trap dyke and the shore are spotted rocks

T.

R.



11875 is a specimen of the spotted rock from little point between trap dyke and shore.

11876 North of the trap are about 50 paces of quartzite of which 11876 is a specimen (chip).

At 200 paces north of the water the intermediate rock (mixed red and gray) begins and extends very nearly to the bay shore - the point here being 400 paces across.

11877 is a specimen of the spotted quartzite in which the spots are of a reddish color.

At the middle portion of the map on opposite page the rocks are confusedly intermingled. Here there seems to be an intermediate rock close to the water's edge, against which the trap dyke abuts.

At the western part of the same

T.

R.



map a little shingle beach is noted. This beach runs back 15° - 20° E of N to Pigem Bay.

At 200 paces from the south shore on the side of the hollow occupied by this beach an intermediate rock was noticed, of which however, no specimen was obtained. Beyond this red rock appears and extends to water's edge.

11878

11879

} are not represented by specimens

11880

is an intermediate rock from the east side of shingle beach at 15 paces from shore.

11881

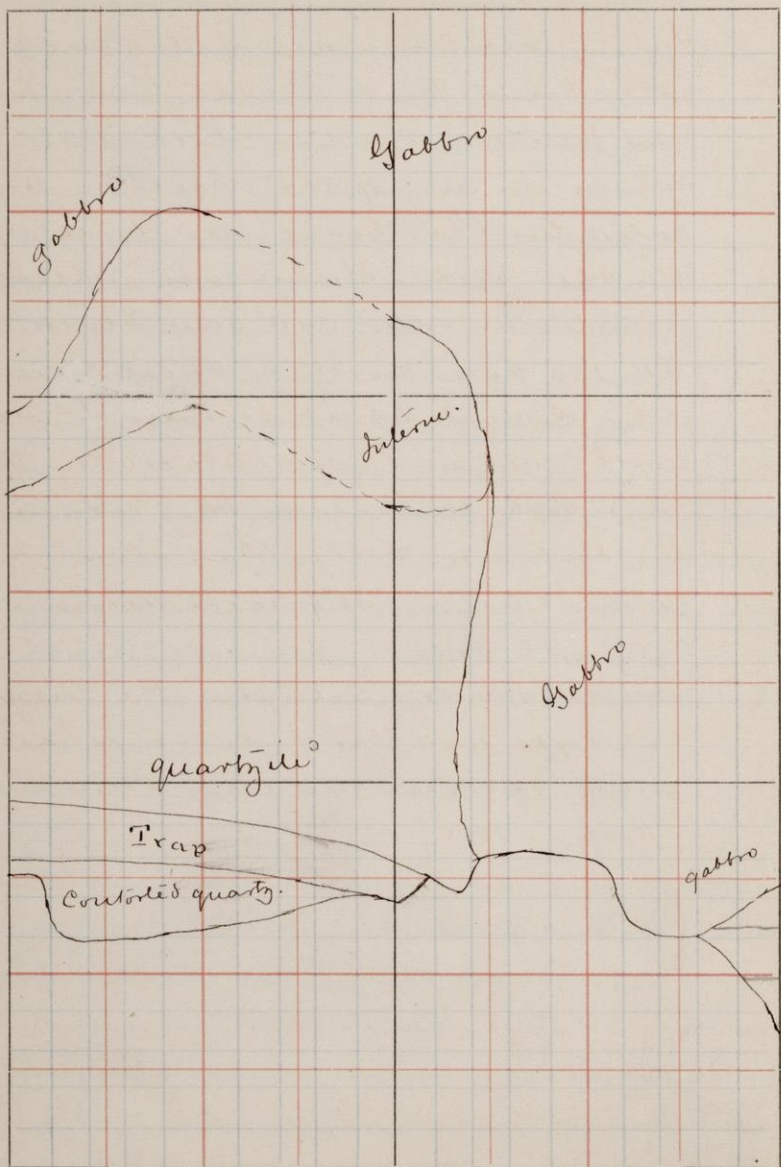
is an altered quartzite or slate(?)

11882

banded quartzite, west of shingle 100 paces north of shore line (chip)

T.

R.



11

In the western half of the map
on opposite page, at the first mid-
way between the two black lines
run north along the direction indi-
cated by the heavy red line.

On this section found an outcrop
of intermediate red and black rock
at 135 paces north of shore line.

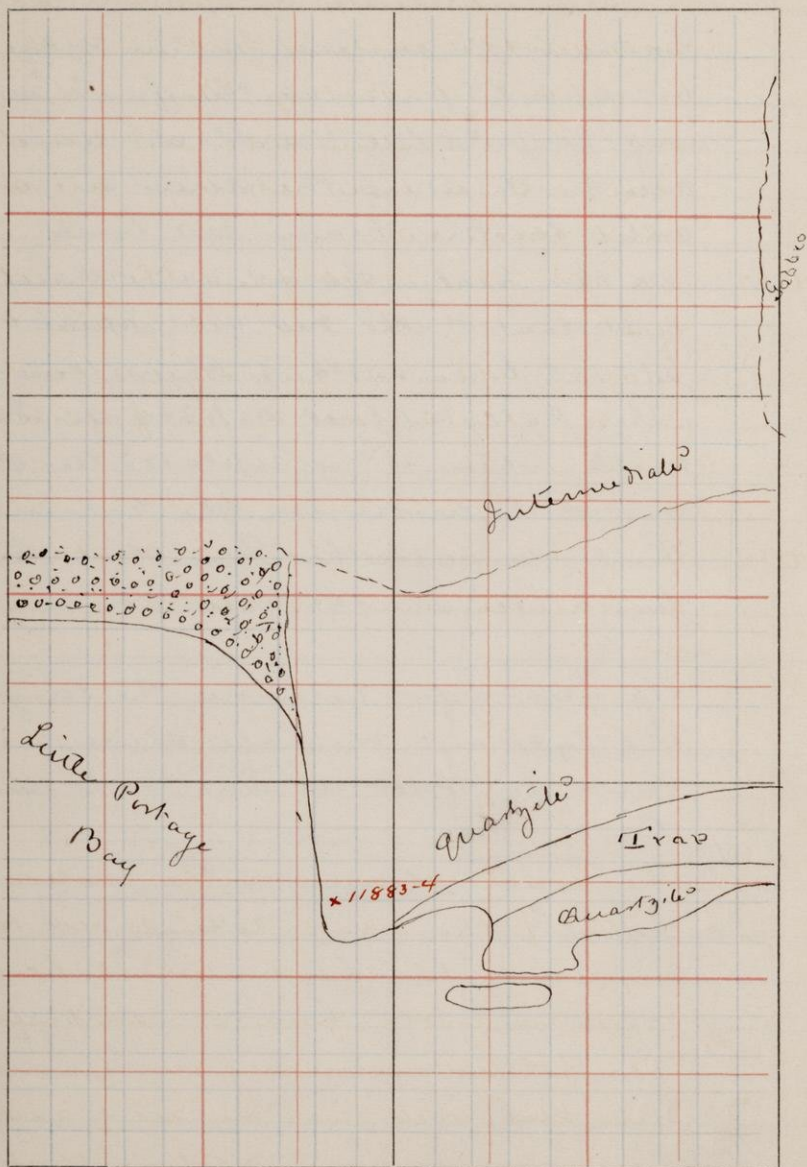
This extends about 50 paces further
north when it is replaced by gabbro,
which continues the balance of
the distance to the Bay shore. The
point here is 325 paces across.

The quartzite between the large
trap dyke and the Lake shore are
much contorted as was noted in
Book 1. 1885.

Tiglen Bay

T.

R.



The area represented on opposite page includes the eastern portion of the beach of Little Portage Bay. The rocks on its eastern side are much altered. Their true relations are somewhat obscured.

11883 is a red platy rock from the point just east of the Bay. It appears to be an altered quartzite, containing a few small veins of red material.

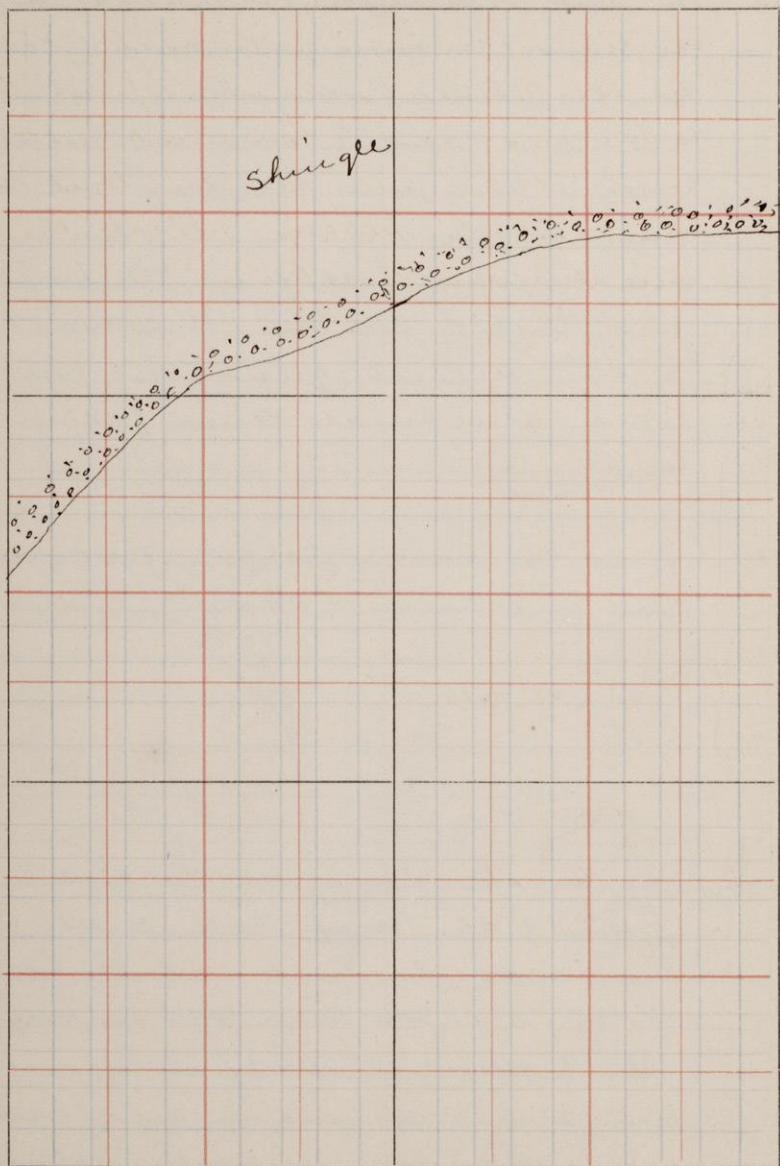
11884 From the same place, contains an inclusion of slate.

The beach shown in the eastern portion of the map extends all the way across the point, which here varies in width from 87 - 200 paces.

The pebbles are nearly all of a reddish platy rock, and in are of quite a large size - an indication that

T.

R.



the rock underlying the beach is the red or intermediate rock.

As this same rock was found both to the east and to the west of the beach it is quite certain that in this case the pebbles indicate the true nature of affairs.

11885

15

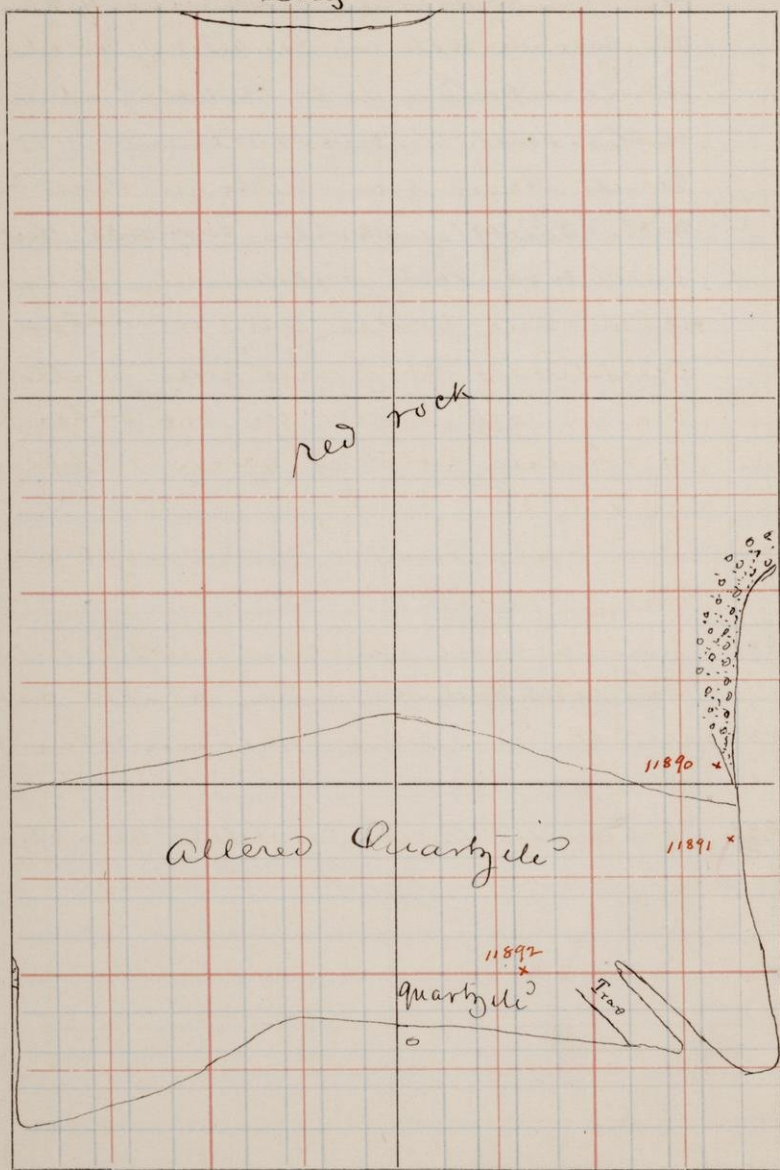
11889

Page. - 15 & 16

T.

Bay

R.



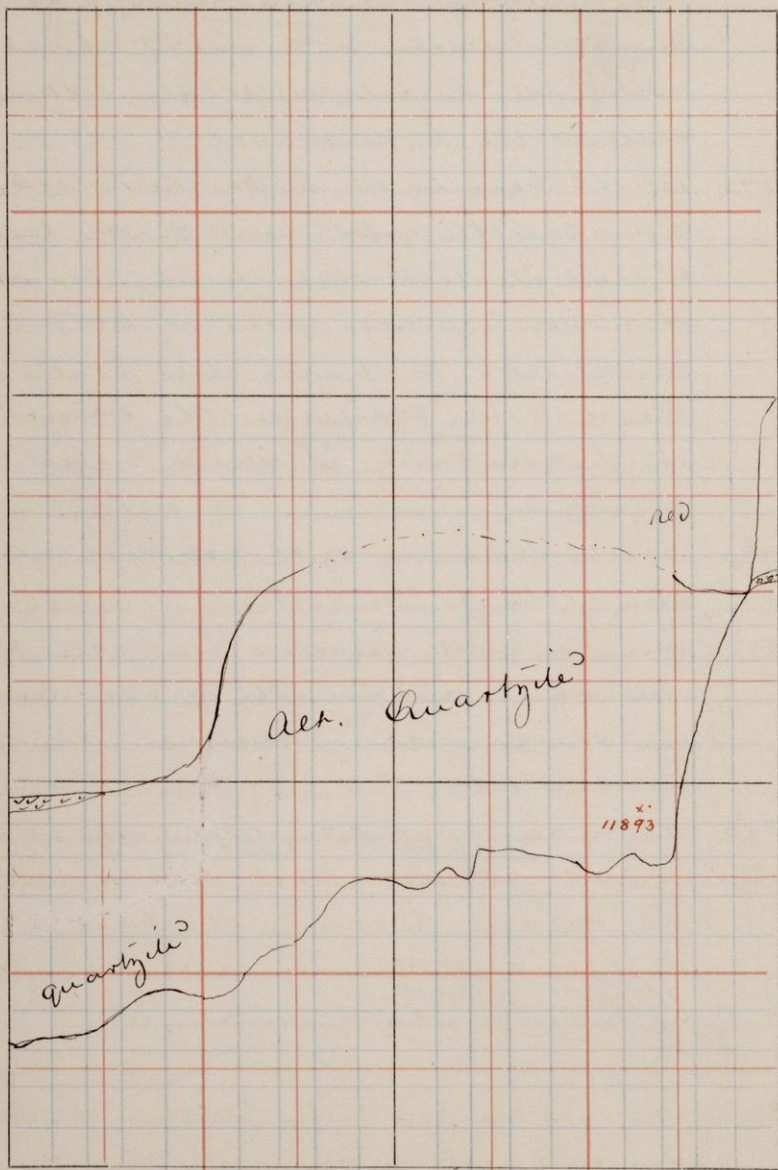
The point on the west side of the Shingle beach is made of rocks whose relations to each other it was impossible to unravel.

At its base is a little red rock which to the south appears to grade into a redish rock apparently fragmental in some places, and at others eruptive. It parts into plates like the red rock, while on the other hand it passes into a green mottled quartzite.

- 11890 is a specimen of the red rock at the base of the point.
- 11891 from a little further south - is the rock which apparently grades both into the eruptive 11890 and the fragmental 11892.
- 11892 ordinary green mottled quartzite?

T.

R.



The quartzite^d pebbles on opposite page is altered to a light pinkish rock with a few little green spots scattered through it.

- 11893 is a specimen from the end of the point on the west side of the inner Shingle beach whose position is at the western edge of the map.

Back of this quartzite^d the red rock is found in large quantity. As this is followed westward it culminates at the eastern side of the map in a high hill, whose top is covered with quartz porphyry and an altered quartzite^d. At the base of the hill on the south side, a little strip of gabbro is found. This gabbro underlies the quartz porphyry, which at this point looks very much like a lens.

The red rock between the base and the top of the hill resembles very closely Rensselaer's granophyres.

- 11885 is from the top of the bluff. It resembles and altered quartzite^d in general

appearance; is slightly mottled but contains occasional porphyritic crystals of quartz.

On the north side of the bluff, upon descending, this same rock is met with until about half way down a red rock is discovered, which looks very much like some phases of the recrystallized sandstones, i.e. the most altered varieties of the quartzite. Associated with this is a fine grained gray rock, that seems to be present as a dyke. The specimen shows the contact of the two.

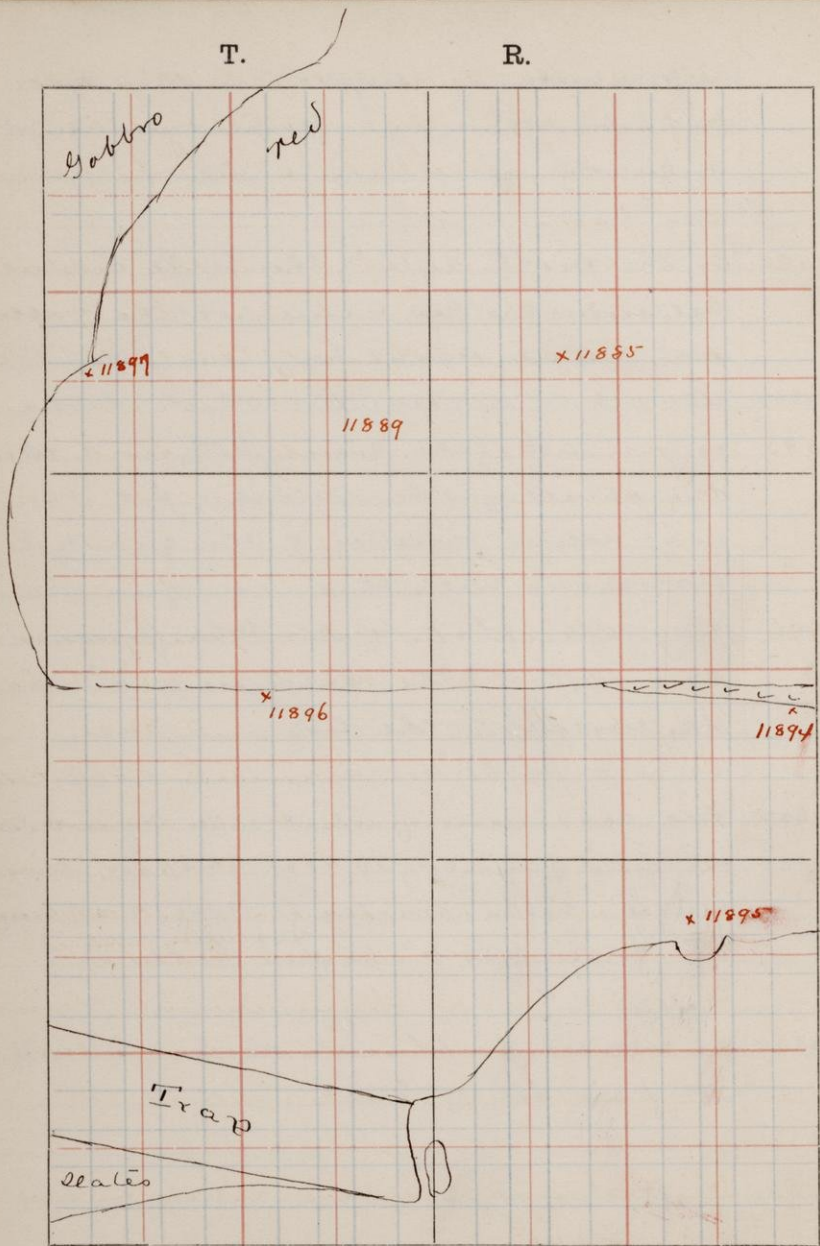
11887 are specimens of what was regarded as

11888 the fine grained red rock. These were collected before reaching 11886, i.e. they are from points higher in the hill.

11889 is mottled porphyritic altered quartzite from top of hill.

T.

R.



The south side of the hill is about 65 paces from the water's edge, and runs parallel to the shore for about 300 paces.

11894 is a specimen showing the contact between the red rock and the gabbro at the south base of the cliff.

11895 is an altered quartzite from near the shore

11896 is a specimen of the granophyre from the side of the hill about half way between its top and base. It is a light red granitic rock, containing numerous little rounded pieces of quartz. The shape of these is somewhat irregular. It appears not to due to original ^{crystallographic} planes. The rock breaks from around them leaving a surface that looks like the surface of frosted glass.

11897 It has the macroscopic appearance of a quartzite.

T.

R.

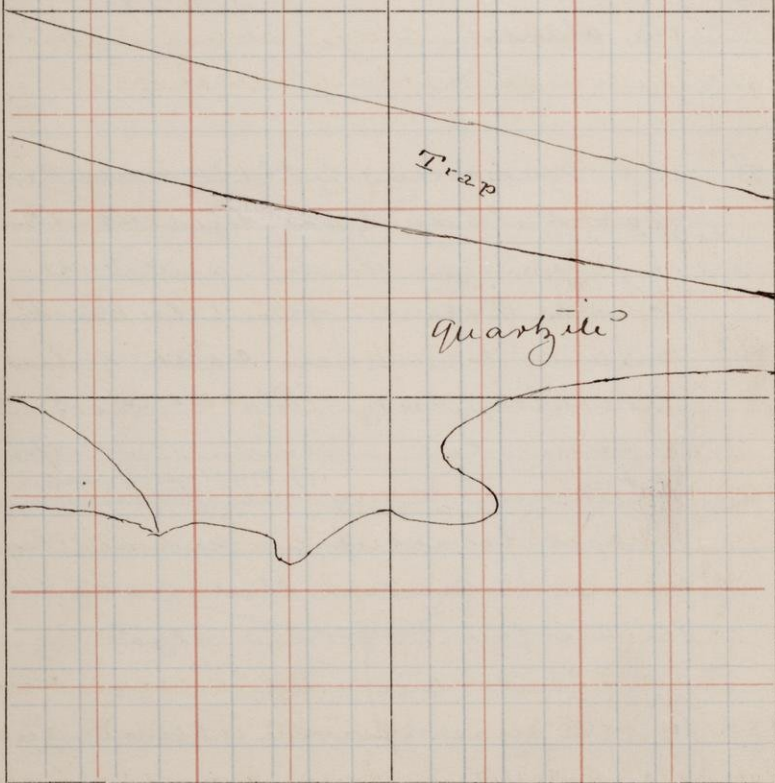
x 11900

alt. 95.

Low ground

Trap

quartzite



Went north along the direction indicated by black line in center of opposite page.

At 300 north of the Lake shore is an outcrop of red rock.

Between this and the big trap dyke, running 10° N of W and forming a high ridge, is a low piece of ground without outcrops.

At 430 paces from the Lake shore gabbro begins and runs to Bay.

At 330 paces north of lake shore and a few paces east of line in which ran north, found

11898 }

11899 }

No specimens corresponding to these numbers.

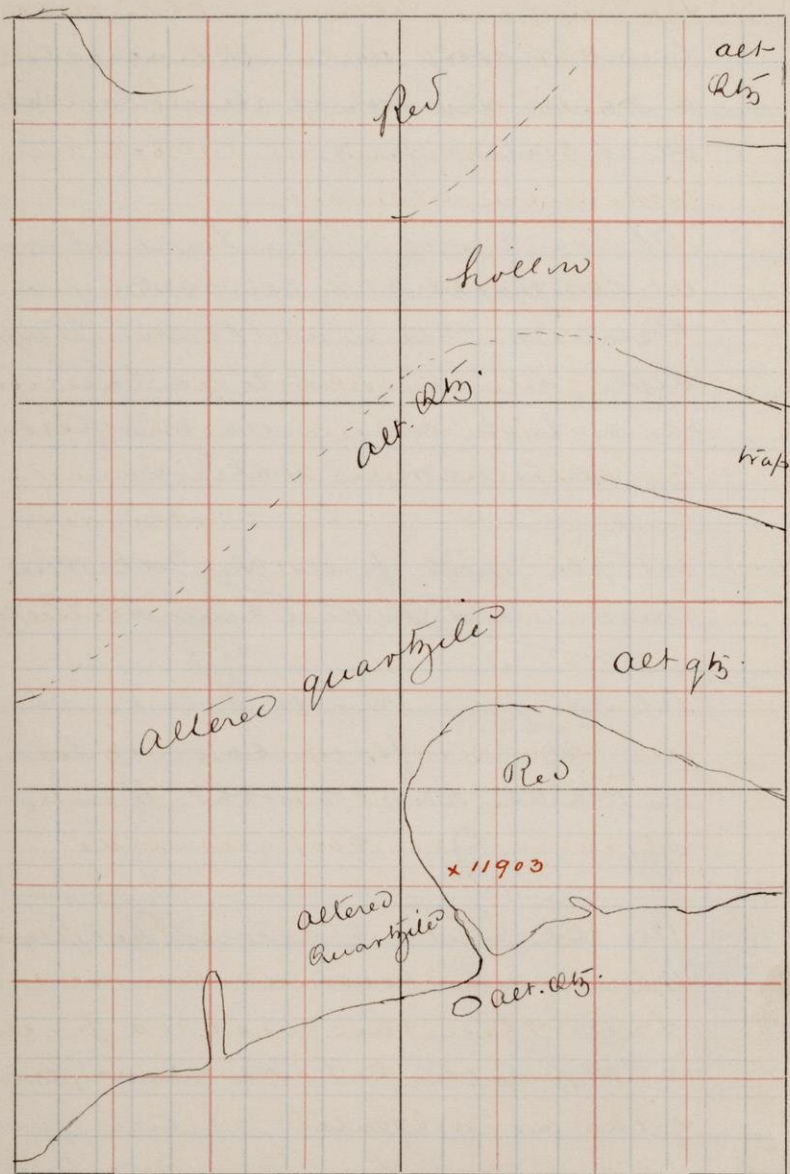
11900

on the section on the west side of the map found altered quartzite extending from 200 - 250 paces north of Lake shore. (chip)

Sabbro

T.

R.



The surface between this outcrop and the trap Dyke is covered with a thick growth of underbrush. It is low ground in which no rocks were observed.

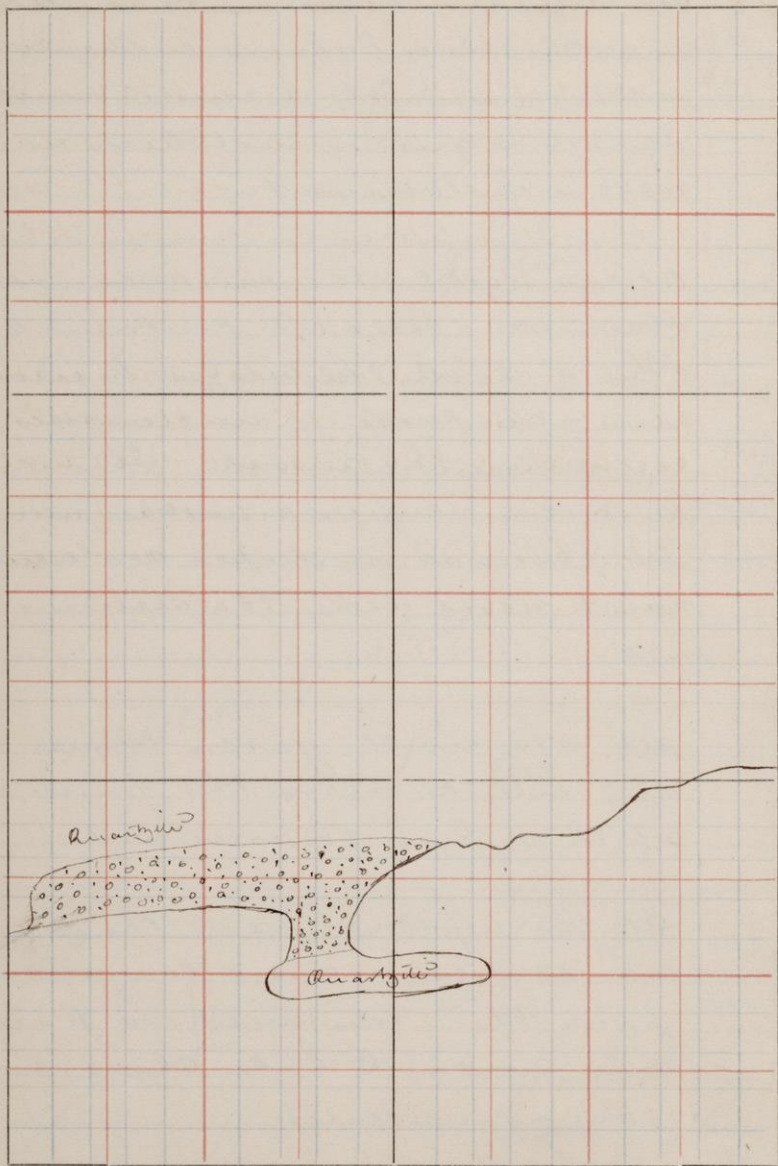
- 11901 At 250 north the red rock was observed. There it contains quite a lot of dark chloritized basaltic, thus approaching in composition the intermediate rock. This extends for 100 paces northward-
- 11902 In places it is deeper red and even more like the intermediate rock.

At 380 north gabbro begins and extends across the point, which is here 500 paces wide.

At the north shore of the point turned and retraced course 100 paces then ran west 100 paces and south to lake shore, crossing rocks as indicated.

T.

R.



11903

On the west portion of the area marked red on map - on the east side of Little Bay is an abundance of a red altered quartzite^d, which in the field was taken for red rock. It appears, however to be a quartzite^d in which are veins of red material.

This rock extends westward with about the same characteristics except that the amount of red material in it is in much smaller quantity^d.

The boundaries of the different rock masses are indicated.

T.

R.

esabro

Gabbro

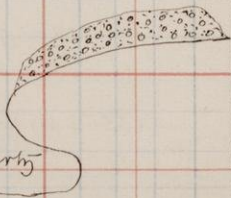
no outcrops

quartzite

Quartzite

alt. quartz

See line bet. Secs 26 + 27



The section line between sections 26 and 27 coincides with the position of the black line in the middle of the opposite page.

Here the point is 470 paces wide, gabbro occupying a belt extending from 260 - 470 paces.

The quartzite extends from the lake shore back 225 paces. In many places it shows evidence of great alteration.

On the north shore went west 100 paces then returned at western margin of map, where point is 500 paces wide.

In running south found first 100 paces gabbro - then a narrow strip of what appeared to be altered quartzite, and again gabbro to 300 paces. Here quartzite begins and continues south to lake shore.

N. B. The altered quartzite mentioned as form-

ing a narrow strip may be platy red rock.

Made a section across the point at the western edge of the map opposite, resulting in the finding of quartzite to 240 paces north. There gabbro begins and extends all the balance of the way across (to 525 paces to Bay shore)

Returning went west 100 paces then south 500 paces to south shore

Gabbro extends southward 180 paces. At 240 the red rock begins and goes to 200 when quartzite takes its place and runs to water's edge.

11904 }
11905 }

ing a narrow strip may be platy red
rock.

Made a section across the point at
the western edge of the map opposite,
resulting in the finding of quartzite
to 240 paces north. There gabbro begins
and extends all the balance of the
way across (to 525 paces to Bay shore)

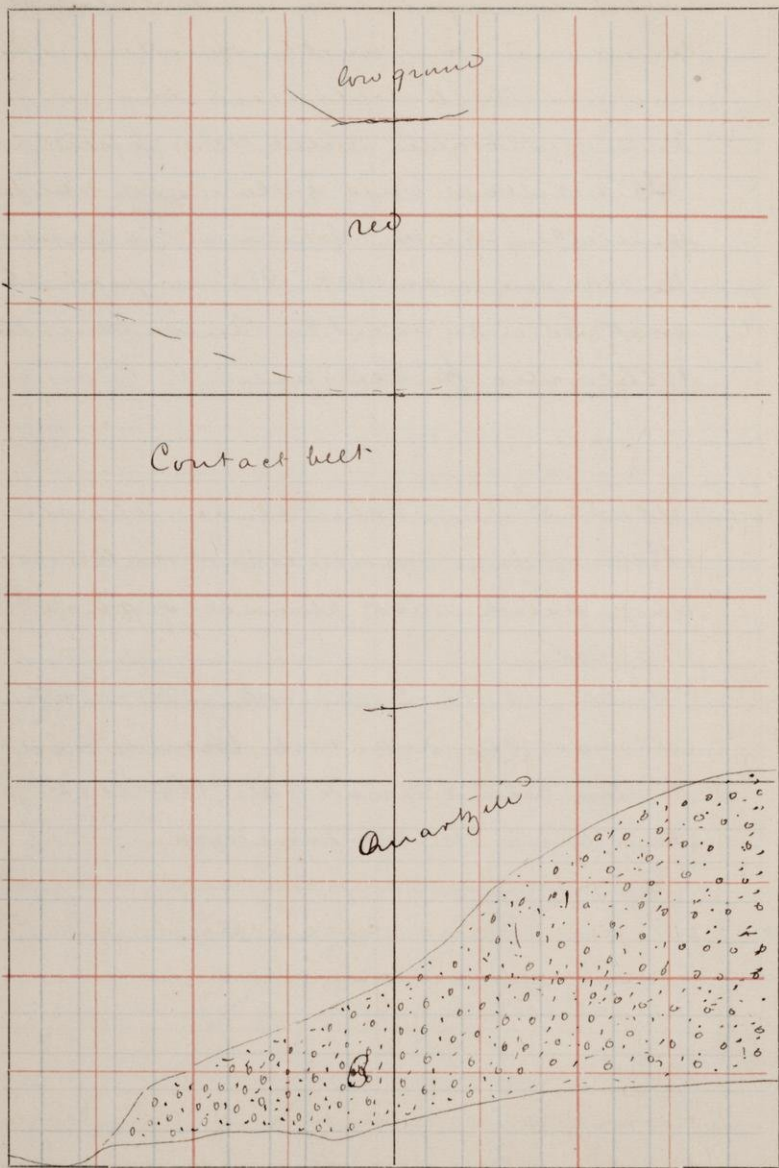
Returning went west 100 paces
then south 500 paces to south shore

Gabbro extends southward 180 paces.
At 240 the red rock begins and goes
to 400 when quartzite takes its place
and runs to water's edge.

11901 }
11905 }

T.

R.



went in again 100 west of last line and ran north finding the contact belt between the red rock and quartzite well developed.

11906 This contact belt extends to 230 paces from the shore, when it is replaced by the red rock, which nearest the quartzite contains a large amount of chloritic material.

11907 At 325 from the shore the red rock is fine grained, bright red, and filled with druses of quartz-enfrals.

At 410 paces gabbro, with red feldspar begins and extends all the rest of the way across - 530 paces wide.

A little further north it loses its red feldspathic constituent, and becomes ordinary olivine-gabbro.

From the intersection of this line with the Bay shore, went west 100 paces

T.

R.

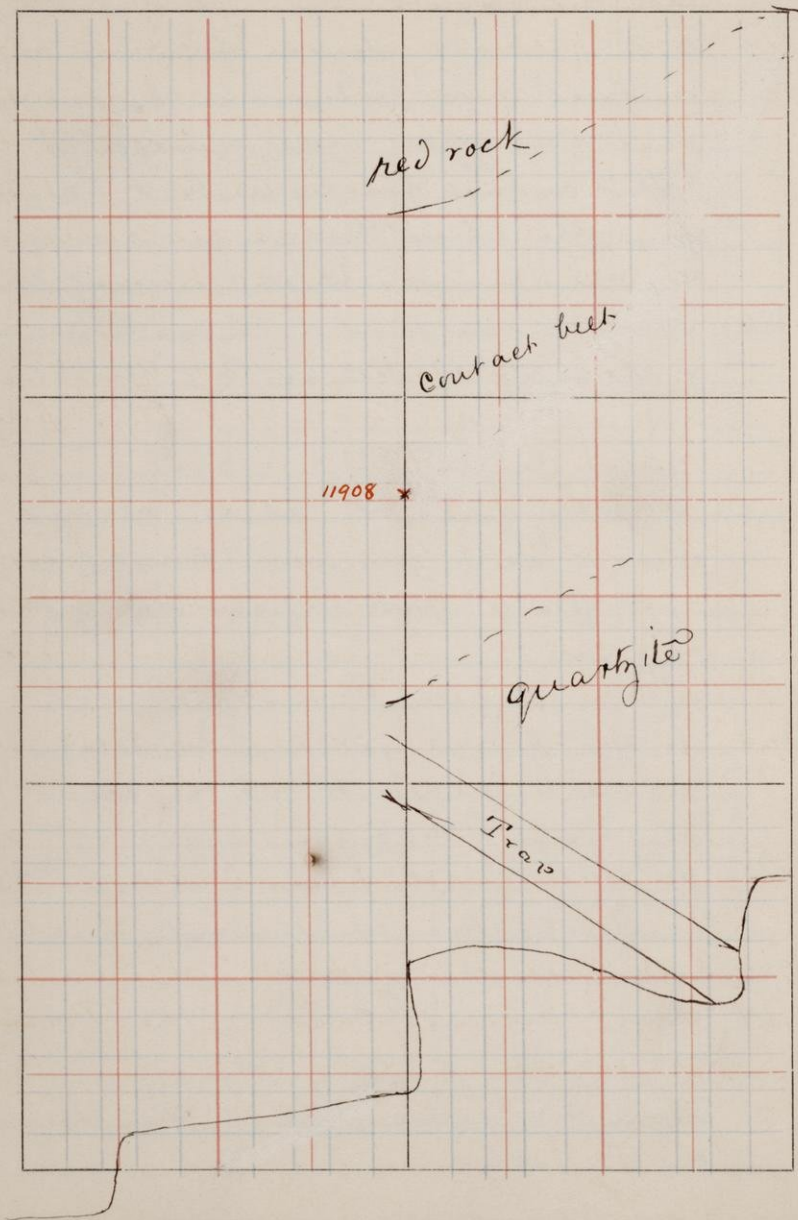
red rock

Contact belt

11908 *

quartzite

Trap



and then south.

The gabbro appears to extend only 130 paces south, when it gradually passes into an intermediate rock and this gradually into the typical red, which begins at 213 paces south and continues to 350 paces.

Contact belt begins at this point and extends to 480. At this point quartzite begins.

The contact belt here is composed of the large pieces of mottled rocks, in which the green mottlings are so beautifully developed.

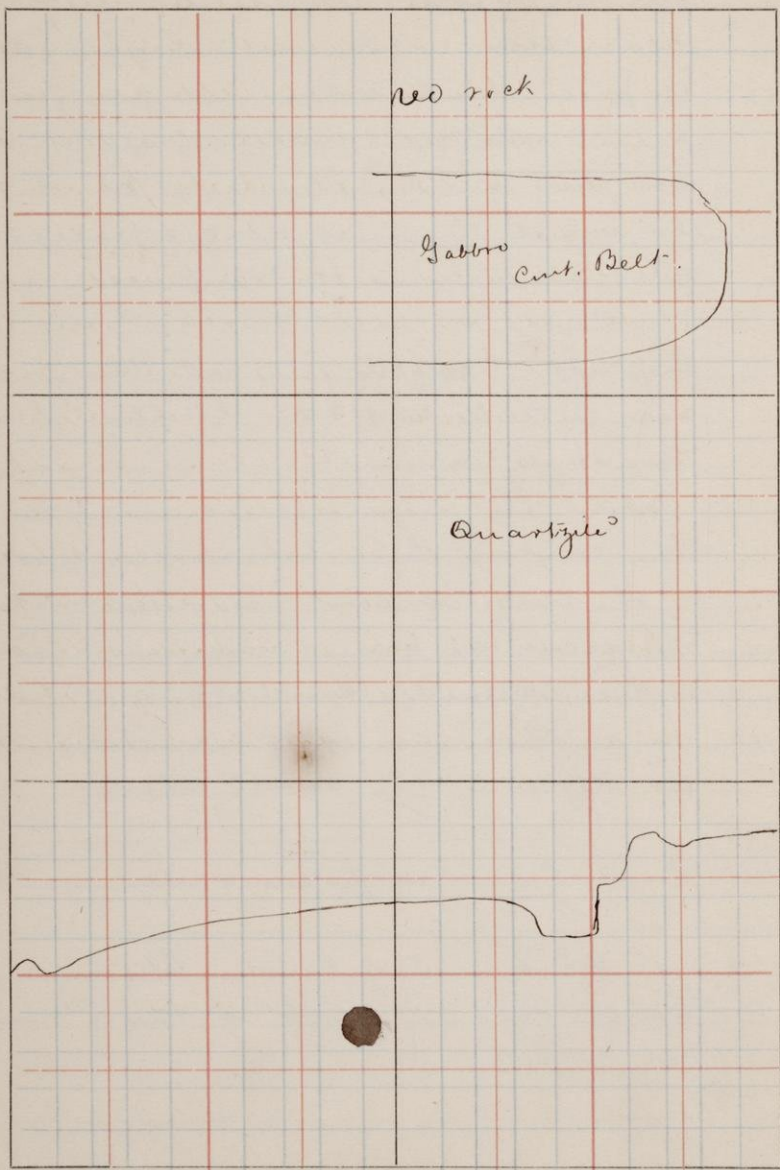
11908 is a specimen of the mottled rock at 158 ft. of the south shore.

Point here 580 paces wide.

11909 At back end of book. Specimens
 11917 from Islands East of the Point.
 pp. 41-45

T.

R.



On the section represented by the black line in opposite page quartzite and the contact belt are found to 175 paces north, when red rock begins and goes to 455, at which point gabbro begins.

At 488 paces north ^{100 paces} run ^{west} and south. At 55 paces south from turning point gabbro ends, and red rock begins, extending to 320 south when gabbro begins again. At this point the gabbro contains inclusions of various kind very much like the contact belt. It runs 90 paces east and there stops.

The contact belt is 50 paces wide, and is bounded on the south by quartzite extending to water's edge 510 paces south of turning point.

T.

R.

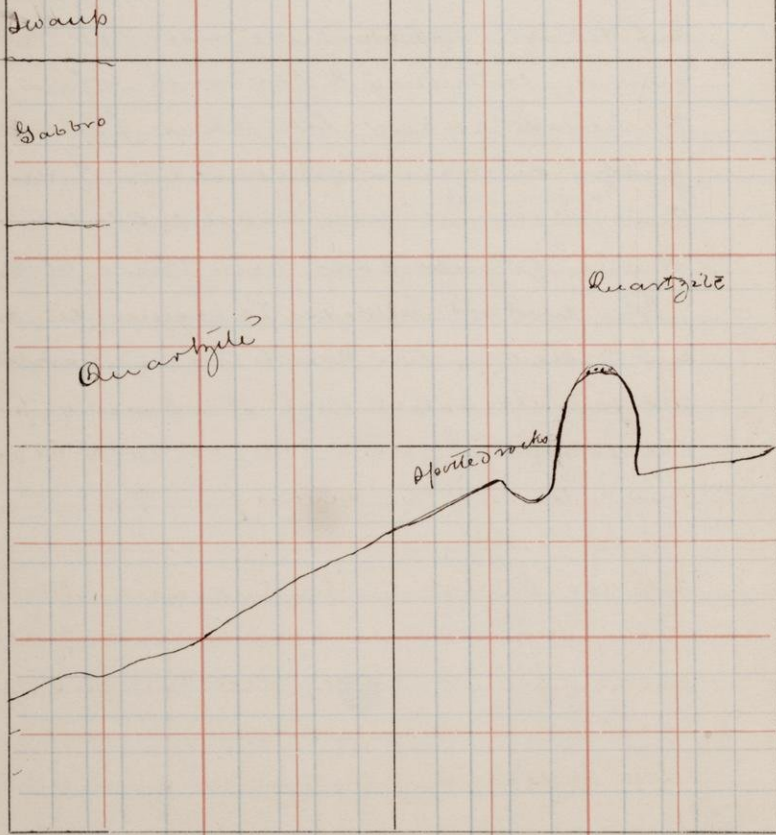
Swaup

Gabbro

Quartzite

Quartzite

Spotted rocks



The rocks along the section at the western margin of the opposite map are as indicated until the low ground marked 'Swamp' is reached. Here there is a scrubby growth of low trees and bushes, which conceal the rocks.

At 413 the red rock begins and extends to 500 where gabbro is found.

The point at which turned (500 north) is in low ground, probably underlain by red rock, on both sides of which are knolls of gabbro.

Went west 100 paces up upon the western hillock, and then turned south.

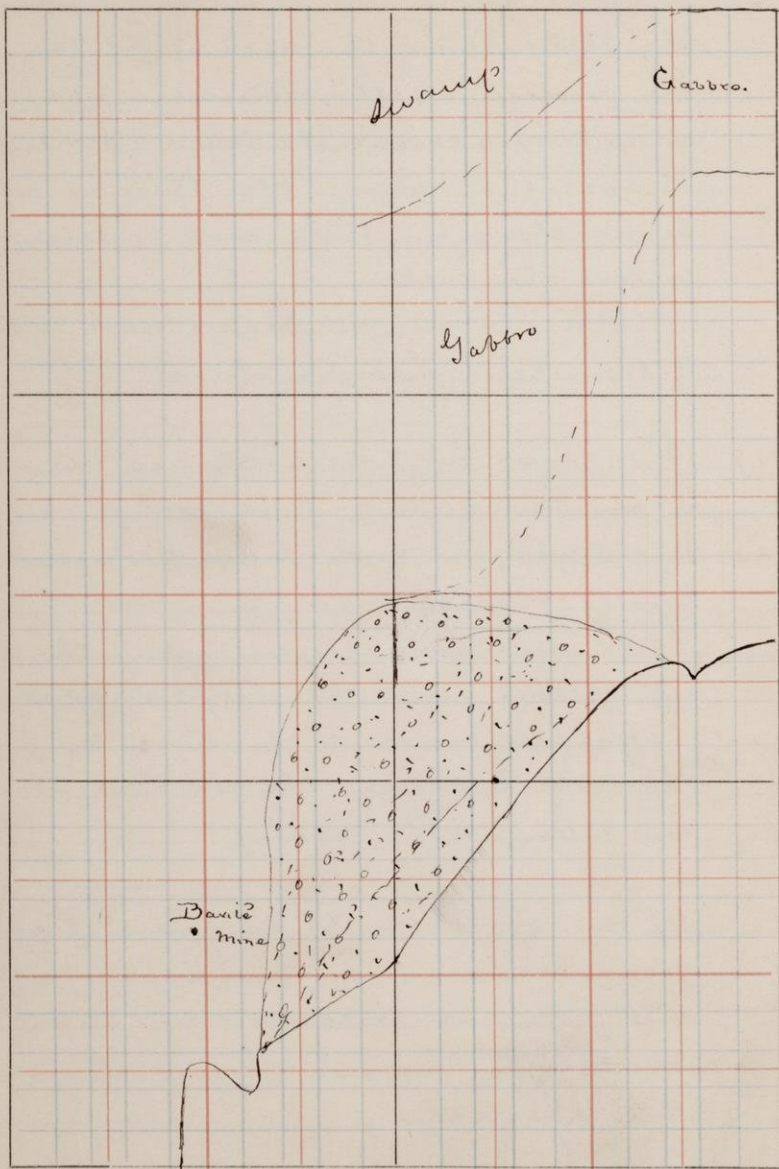
At 490 paces south of the turning point the gabbro ends and the red rock begins, and extends to the swamp.

At 400 south of the turning point gabbro begins again and runs 100 paces south, when it is replaced by quartzite covered with shingle.

590 to water.

T.

R.

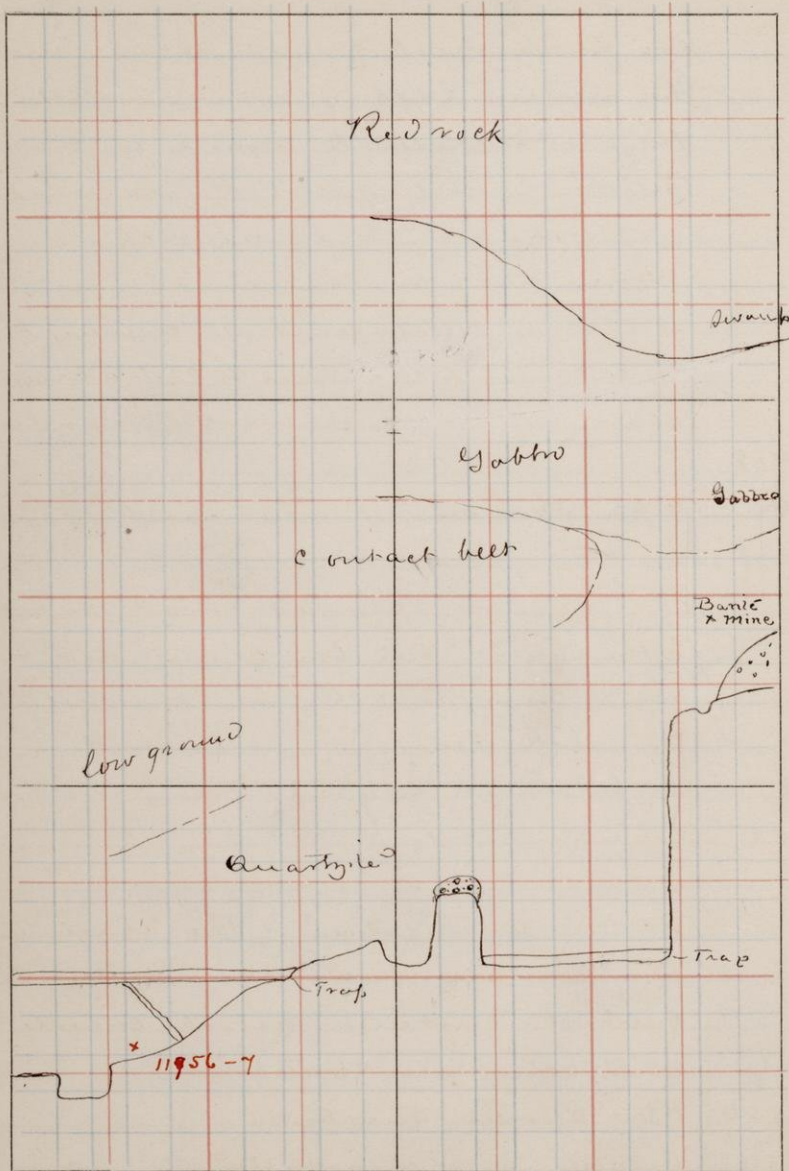


The western half of area on opposite
page is represented again on next
page.

11918 }
to } pp. 33 & 34.
11923 }

11924 }
to } pp. 46 et seq.
11955 }

T. 1 square = 20 acres P.



200 paces west of last section went
in again and found quartzite and
the contact belt to 300

At this point gabbro comes in and
extends 140 paces to the red rock.

From 400 - 700 this continues, but
at the latter place it gives way to the
gabbro which appears to end abruptly
about ten (10) paces west of our line.

Upon returning went west 150 paces
and then south.

The red rock extended about 100 paces
to the south. Here low ground and swamp
appear and run to 660 south, where
quartzite ledges are discovered. These
run down to the water 770 paces from
turning point.

At the intersection of the beach by
this line are spotted quartzites, some
of which contain much calcite,
while others are spotted red.

11956 Red spotted quartzites.

11957 Calcite " quartzites.

1 square = 20 paces -

T.

R.

low ground with red outcrops



red

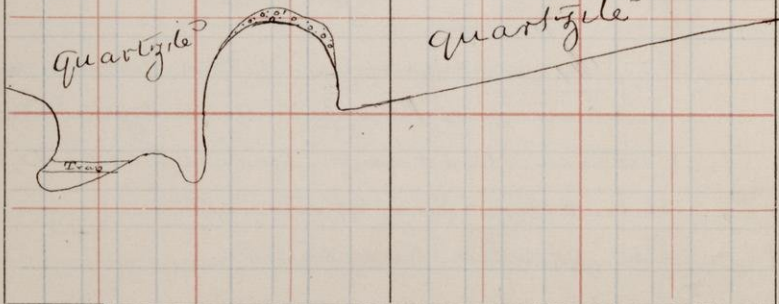
low ground

contact belt

Trap

quartzite?

quartzite?



Went north as indicated in opposite page crossing contact belt from 200 - 320 paces north.

Red begins in swamp at 320 from Lake shore and runs to 670 north, where gabbro is met.

From this point went 200 paces west then south.

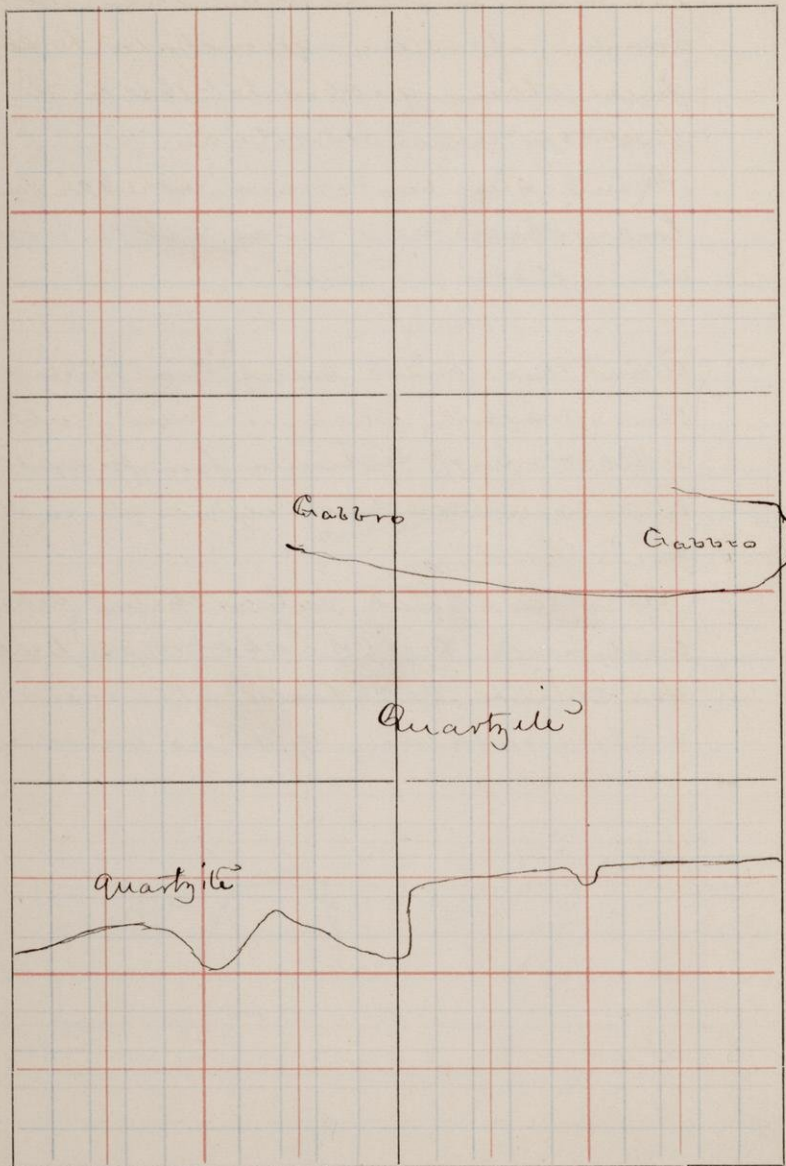
At 173 S. of turning point gabbro ends, and red begins, running to 500 S.

At this point a few paces to the west is a hill of gabbro, in which are clumps of chlorite - the result of the weathering of some constituent.

1 square = 20 paces

T.

R.



250 w. of last section ran north again finding quartzite to 200 paces, then gabbro to 425 and probably across the lake.

From 540 - 640 was a stretch of low ground

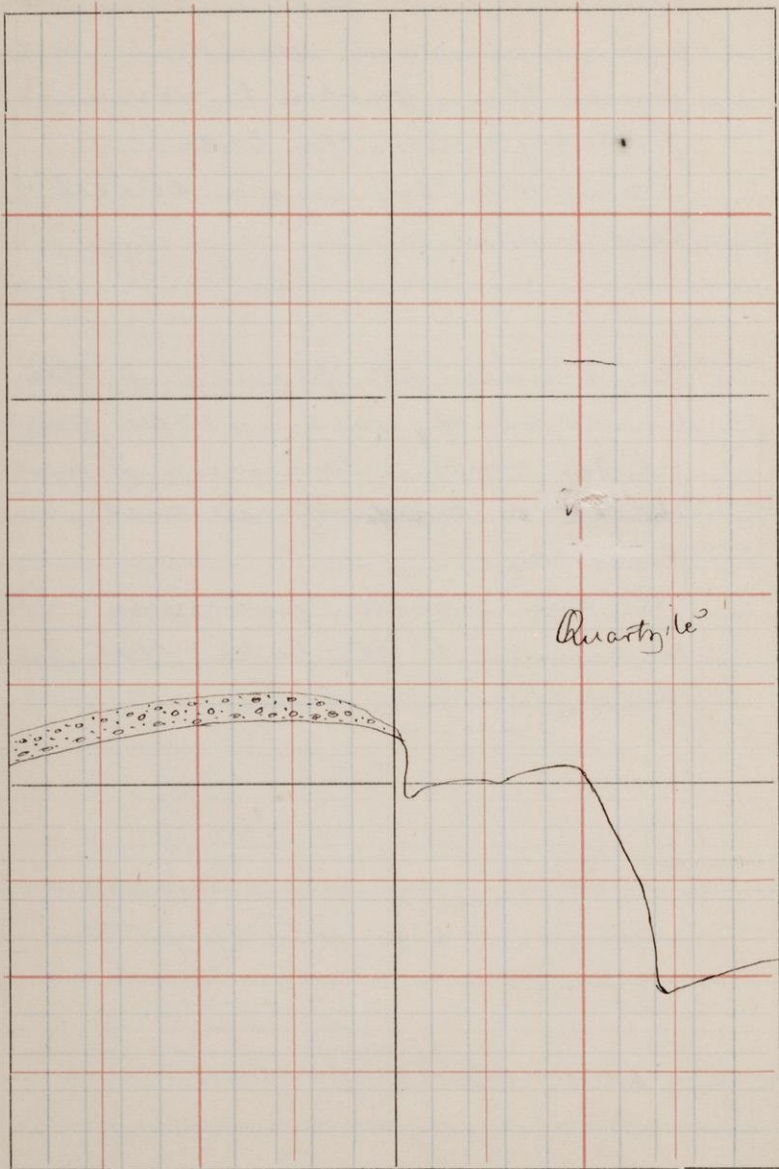
Went west 250 paces, and then turned south, walking over gabbro. At 350 south of turning point struck a strip of red rock 100 paces wide.

At 560 struck quartzite which continued to the Lake, 785 paces from turning point.

1 sq. = 20 acres

T.

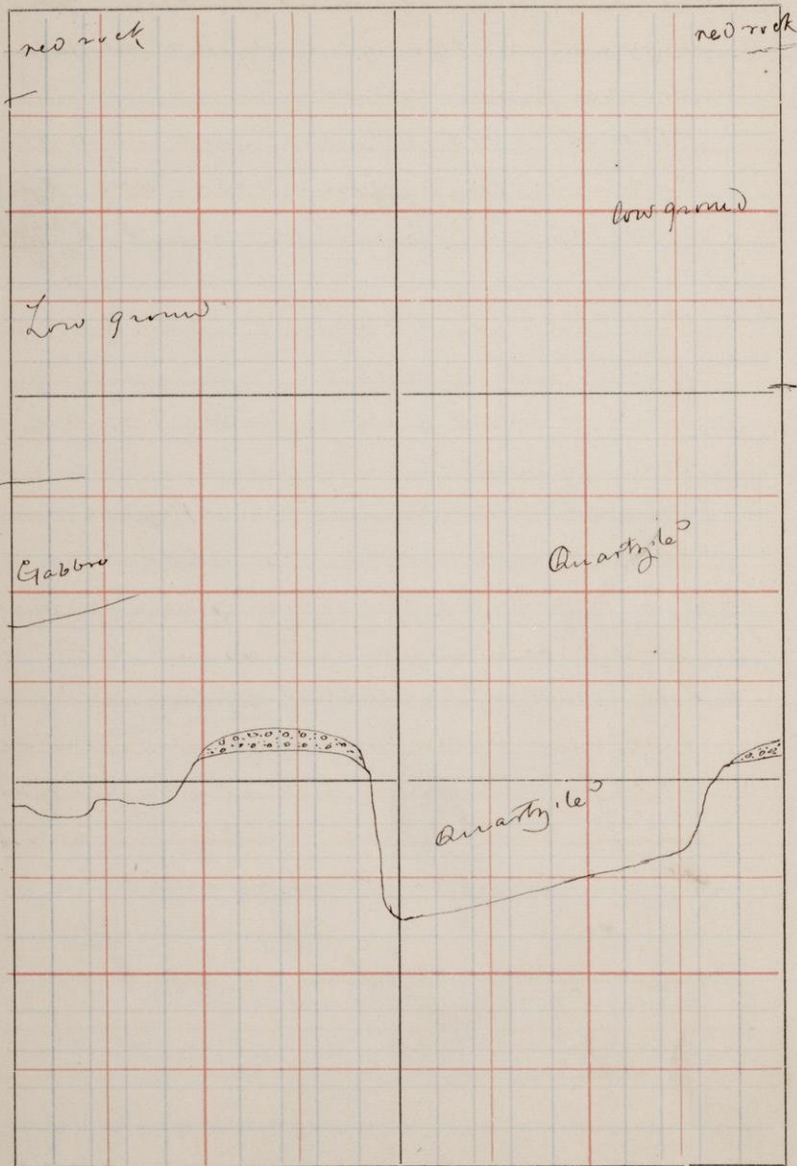
R.



1 sq = 20 faces

T.

R.



At 300 west of last section ran in and found the quartzite stopping at 195 paces north.

At 250 - 450 the red rock is well exposed, and from 450 - 575 intermediate rock, and beyond 575 gabbro.

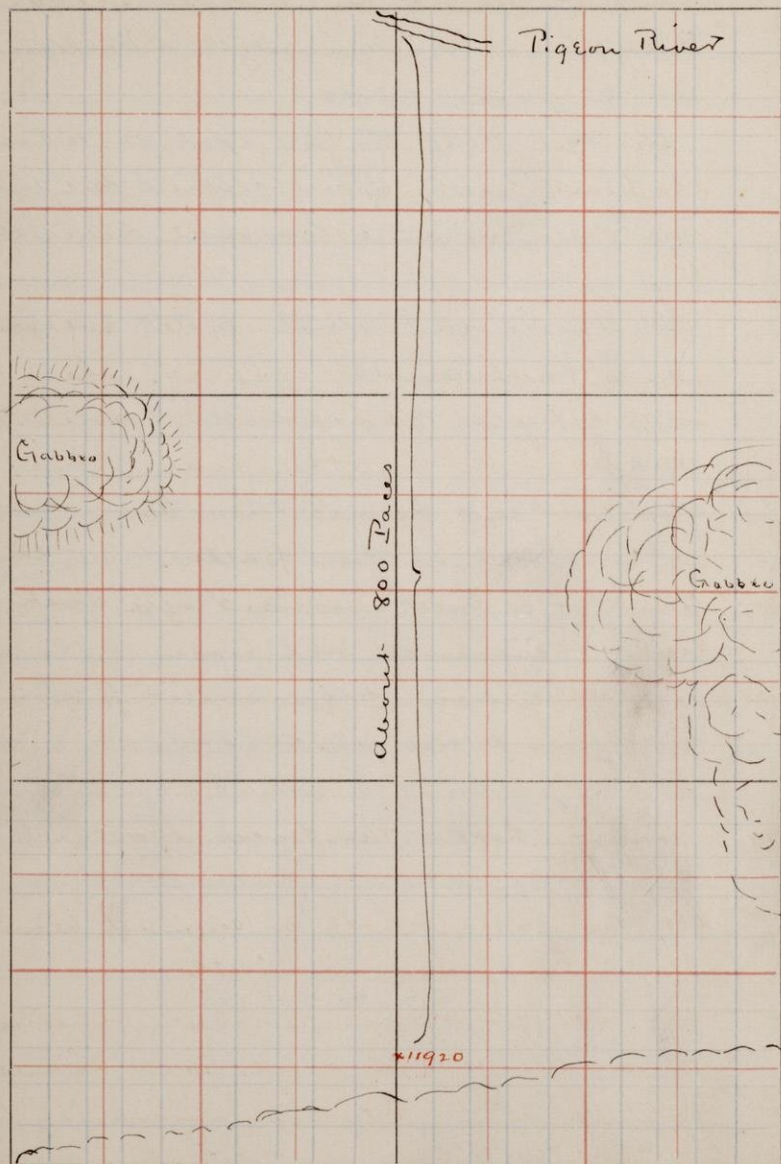
At this point went west 300 paces and then south.

At 250 west was a little knoll of red rock.

Gabbro extends beyond this knoll and to the south as far as 200 paces. From here to 100 south is a little swamp with occasional exposures of the red rock. At 100 gabbro again appears and runs to 180 where it forms a cliff, at the bottom of which quartzite again makes its appearance and runs to the lake 580 paces south.

T.

R.



From 2nd Camp in S. E. 1/4, Sec 32
T. 64 N. R. 7 E. ran north, starting
at the point.

Shingle extends from point about
250 paces northward, broken only here
and there by an occasional outcrop of
trap.

At 300 north is quartzite which
extends northward to 500 paces, when it
is cut by a 45-paces-wide strip of
red rock. On the other side of this
quartzite is again found. This reaches
as far north as 760 paces. At this
point is a hill composed of a rock
looking very much like trap.

11918 is a specimen of quartzite from a-
bout 450 paces north.

11919 From the hill 760 paces north.

At 760 paces north a swamp begins.
This is 700 paces in width.

At 1460 north is a ridge running
15° S. of W. North of it is a swamp
running west to Wauwauquining Bay
east to the Lake, and extending north
between two gabbro hills to Pigeon River.

T.

 $1 \text{ sq} = 20 \text{ acres}$

R.

Red Rock

Quartzite



At this point 1460 north turned East and went 200 paces, then ran South to the Lake.

A few paces to the east of 1st turning point a little red rock was observed

11920 is a coarse trap from 30" paces North of 1st turning point.

After turning South ran 480 paces through swamp to quartzite ridges - of which there are several between this point and the shore - 1200 paces South.

At the point where line struck the shore is shrub. From here went East 200 paces to rocky point composed of spotted quartzite.

11922 predominant black quartzite

11923 Black quartzite spotted with green spots and pitted in a weathered surface.

Ran north from point marked "A" on map in back of book.

Crossed a band of intermediate rock at 200 fathoms north of shore. At 280 north found large mass of the red rock. This red rock continues to 550 north. At this point there is an almost perpendicular cliff facing the west. About $\frac{3}{4}$ up the face of this cliff is a fine contact of the red rock and gabbro. The latter appears over the red, and ~~at~~ its contact contains red feldspar. The red rock, near the contact takes on the character of the intermediate rock.

From this point went west across a deep valley to a contact of the same rocks on a smaller cliff. The contact here is not as fine as it is in the higher cliff, but its character remains the same. The ridge upon which these latter rocks occur runs westward to Wausaugung Bay.

T.

R.

Gabbro

Red

x 11959

Low ground

Gabbro

x

11960

red

red

inter.

Gabbro

x 11958

Quartzite

Lake

Sup

From this ridge ran south to Lake Shore.

The last knob south is close to the lake shore. It is composed partly of gabbro and partly of quartzite without any traces of contact action.

11958 is a specimen of the quartzite from this knob.

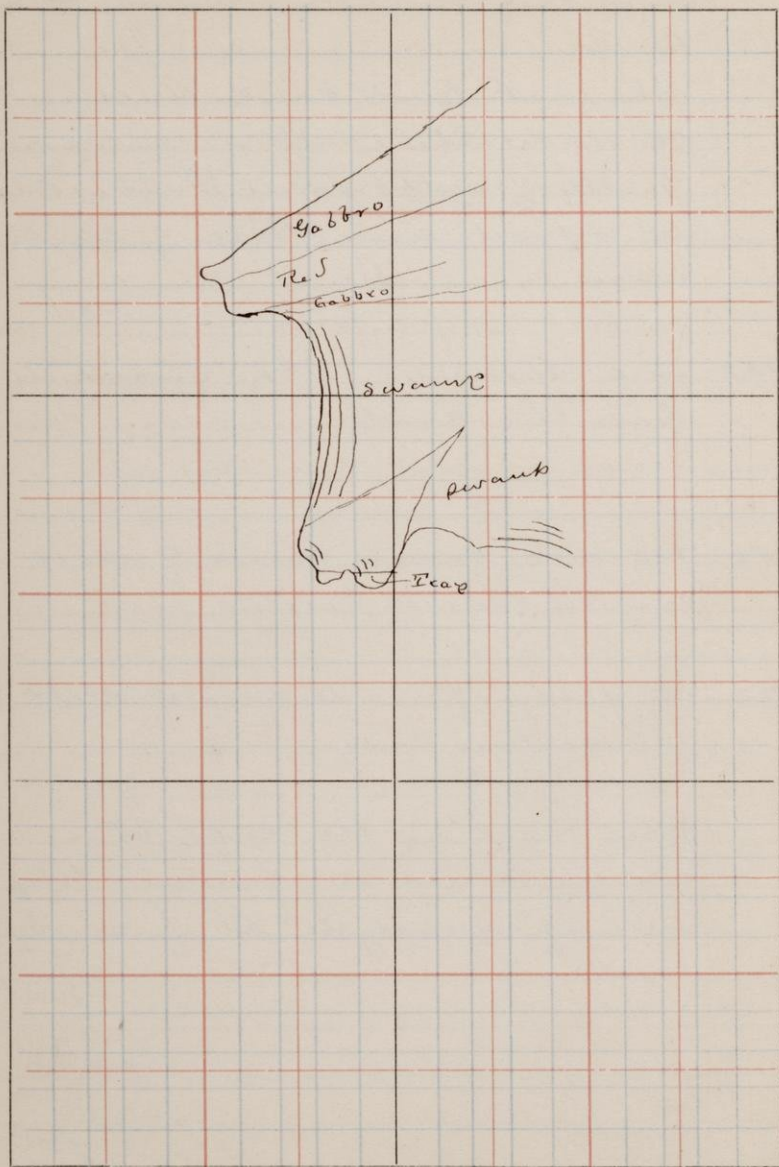
11959 red rock from talus of cliff on Eastern side of hollow.

11960 is gabbro from debris of cliff on the western side.

Upon reaching the lake shore coasted westward, finding trap cutting quartzite at first point west.

T.

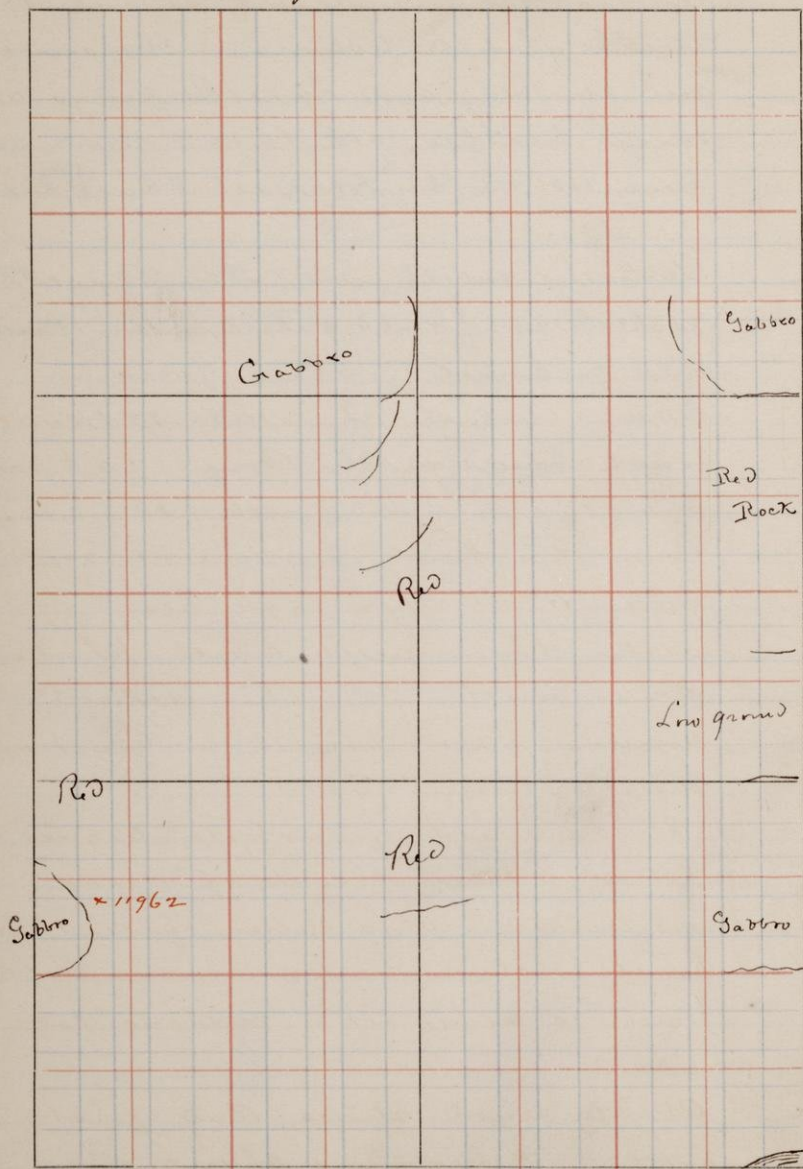
R.



At the Joint between Wausawan-
going Bay and Lake Superior are
raised beaches whose contours are
parallel to the present shore line

Passing north into the Bay the
red rock is found overlying a gasper
and quartzite. Then follows
Gaboro which runs along the
south shore of the Bay.

T. 159 = 20 paces R.



At 200 (12) paces west of section described in p. 32. again ran north and struck high gabbro ridge at 200 paces from the Lake.

From 286 to 440 ft. is a high hill of red rock.

At 470^N west west across another high hill of gabbro 200 paces; then turned south.

From turning point to 150 south walked over gabbro. From 150 to 300 was red rock, and south of this swamp. From this point went west 245 paces to another high hill of gabbro, then went south to lake.

At 150 south from this second turning point struck a big trap dyke running E.W.

At 225 south quartzite begins and at 312 another trap dyke was crossed. This latter faces the south with a perpendicular cliff which is made up of vertical columns.

At 375 south struck Bay just north of Fisher's Shanty.

From the point where the last run ended, i.e. on the shore of Mark's Bay, directly north of Fisherman's houses, went west 250 paces, striking trap dyke at this point.

Then turned north over quartzite. At 115 north of turning point found more quartzite trap, which extended 10 paces to a contact belt, from which took specimen 11963

11963 mottled quartzite

At 225 north struck red rock running ten paces, then low ground to 500 where found gabbro.

11962 Mottled quartzite from same contact belt further east than 11963

At 500 north turned west and went 225 paces over gabbro, then south. At 115 south altered quartzite begins and at 580 south is crossed by trap.

41

From Pigeon Point made a trip
to Spar and Victoria Islands, coast-
ing along the Canadian shore the
entire distance.

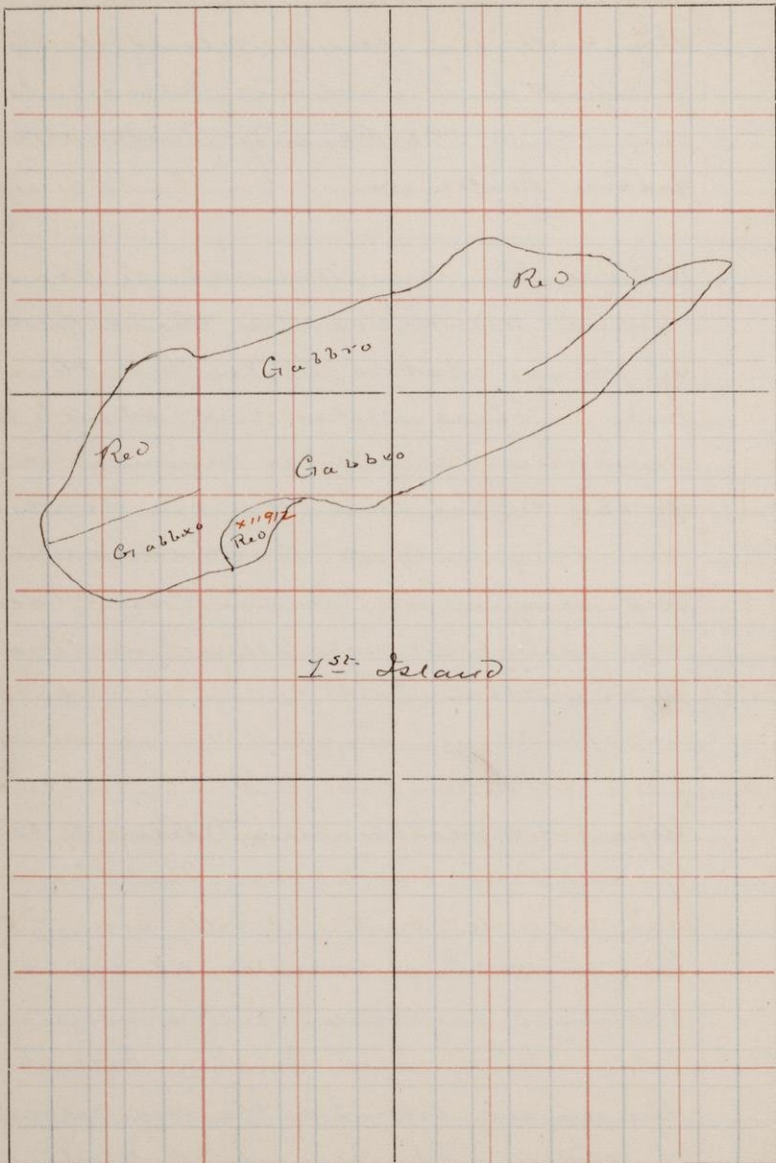
Along the Canadian shore the
points are made by the extension
of large gabbro dykes into the
Lake. These dykes cut slates and
quartzites having the normal dips
of the Antrim Series. Nowhere
are they altered in the manner
so common in Pigeon Point, nor
was any evidence seen of alteration
of any other kind.

Map. Copper-Bearing Rocks. p. 329

The first three islands as we go
eastward are called for convenience
No. 1. No. 2 and Inner Island.
The inner island is the one nearest
the shore. It consists of slate and

T.

R.



gabbro. The scales occurring on the S.E. side are slightly contorted dipping N.E. over small areas. The gabbro is the ordinary dark olivine gabbro so common in the region.

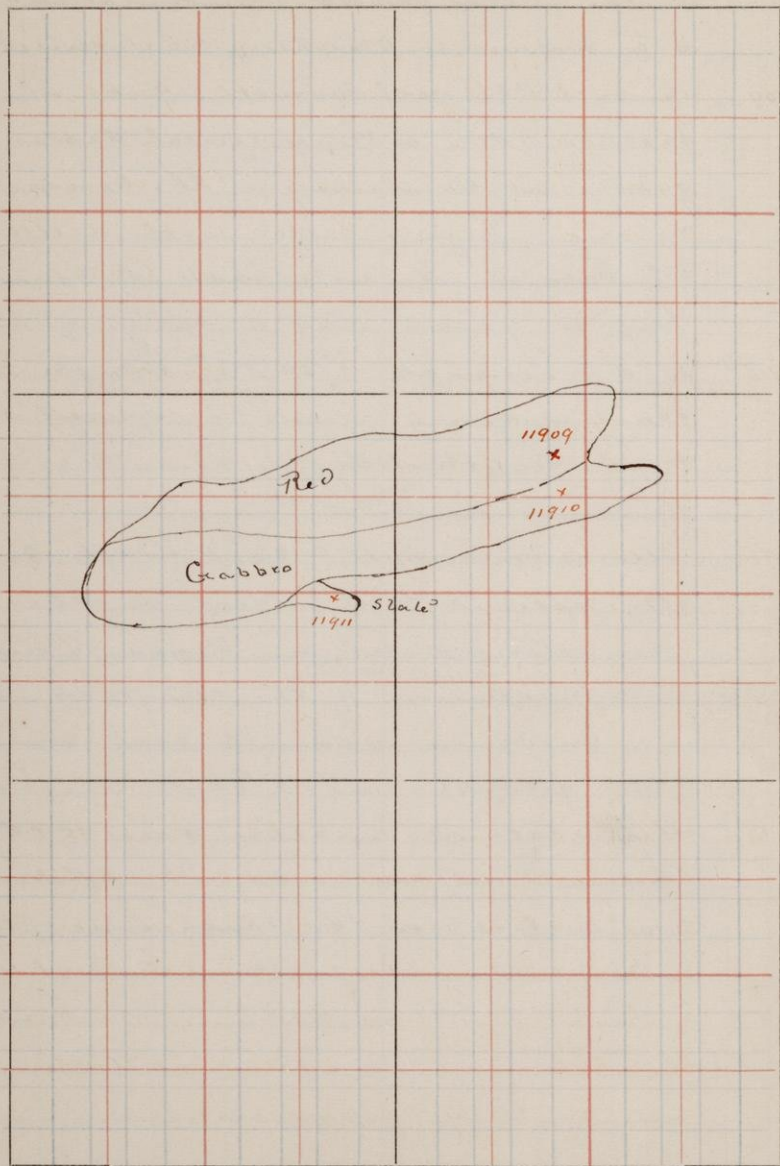
1st Island is composed of coarse trap or gabbro and a large quantity of a red rock. At the south side the two form quite a sharp contact marked by a vein of red drusy granuli.

An intermediate rock is probably also present, but is not so sharply characterized as on Pigeon Point.

11912 is a specimen of the red rock. It is a medium grained rock composed of red feldspar and a dark micaceous mineral, resembling some of the Pigeon Point red rocks. The specimen was collected on the south side of the island near its western end.

T.

R.



At the west end of the 2nd island
 is a large exposure of the same
 11909 red rock together with gabbro.

The red rock is very much like
 11912 but is drusy, the druse
 cavities being filled with little
 crystals of quartz and feldspar.

11910 is a specimen of the gabbro - a dark,
 heavy, coarse grained rock, with a
 little red feldspar.

11911 Altered quartzite from south side
 of the island.

11912

N.B. These islands and the ones to the
 eastward as well as the neighboring
 main shore were all examined in
 a single day, during much of which
 a high wind was blowing; so that
 the examination could not be more
 than a very superficial one.

were driven upon the main shore
by wind.

At the point in which landed.
10° 41' of W of lighthouse on Victoria
Island (Compass). Found a porphy-
11913 ritic red rock, which appeared to dip
S.E. and may have been the portion
of a flow. The porphyritic crystals
are feldspar, and the groundmass is
of a pinkish gray color.

From this point went to S.W. corner
of Victoria Island (Island with
lighthouse upon it) where found
a large development of a red
11914 rock, but little different from the
red rock on Pigeon Point.

This is cut by trap dykes like
those everywhere throughout the
region.

In several points on the island
are slates which appear to be un-
altered.

11915 is from an exposure near an
old mine in a calcite vein, just
south of the shingle beach on the

west end of the island.

11916 To the north-west of this beach is a contact of the slates with gabbro or trap. The slates are somewhat contorted and look slightly like the contact belt in Pigeon Point.

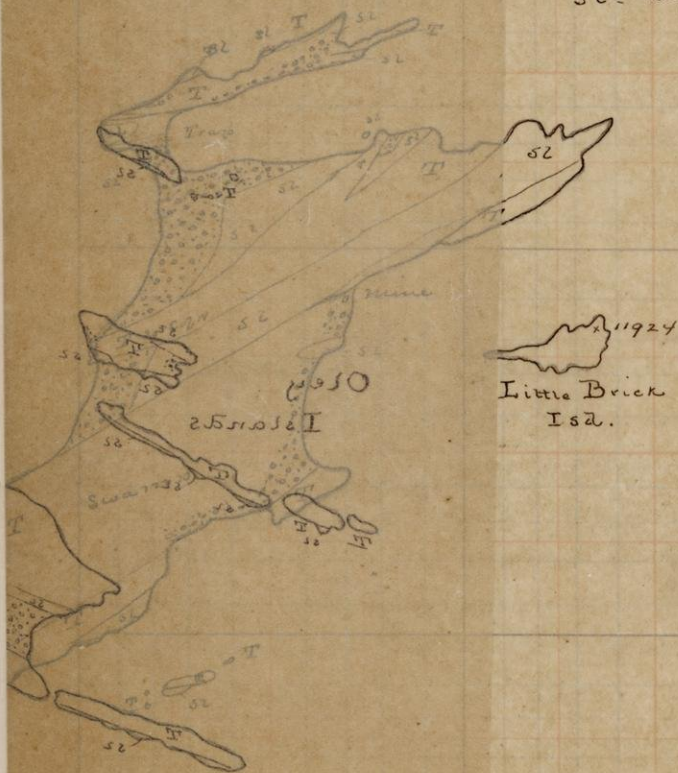
11917 Gabbro from north side of island.

From what I have seen to-day would conclude that the red rock is certainly eruptive and is not always an accompaniment of gabbro, although gabbro is always found in its vicinity.

The contact between this rock and the gabbro not very well defined at any point. The intermediate rocks seem to be a necessary consequence of the mingling of the two.

No direct evidence bearing on the Pigeon Point contact phenomena was collected.

T = Trap
sl = slate



T = Trap

sl = slate



Lucille Islands

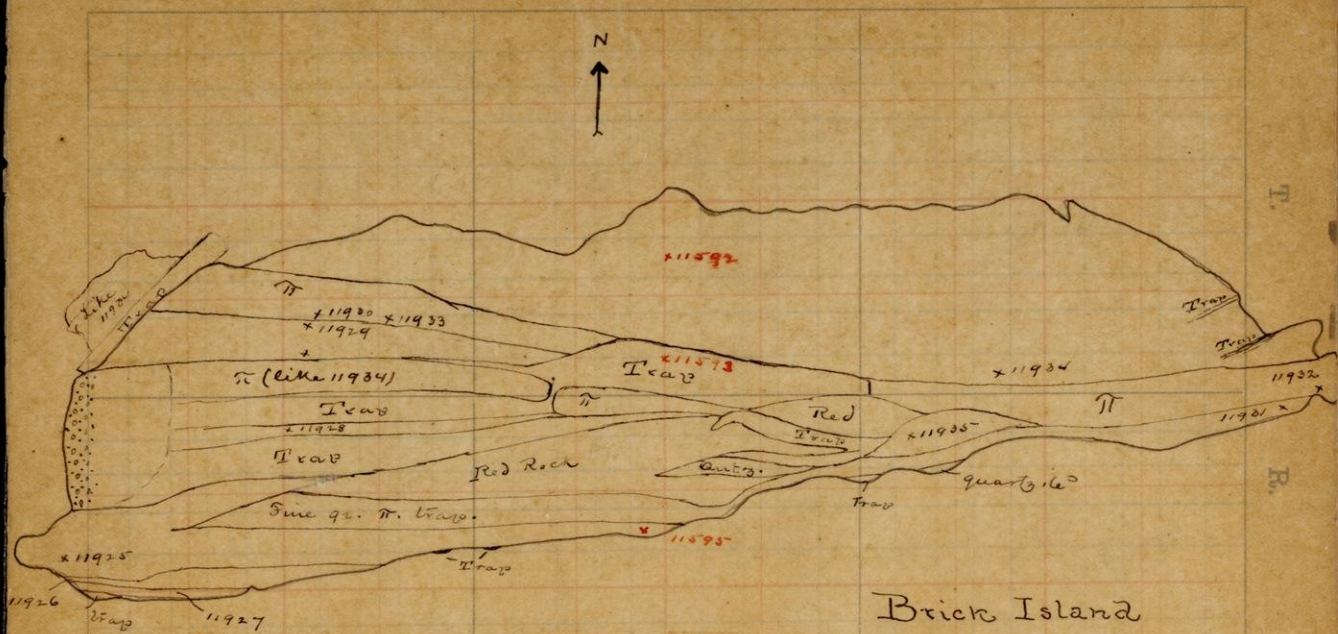
Busic Island consists^d of slates and trap dykes distributed as indicated on the accompanying map.

The shape of the islands depends principally upon the direction of the dykes, since these were the origin of the various points.

The slates have the same characteristics as those in the main land. On the south side of Busic island they dip 20° E. of S. Otherwise they possess the same low dip of the Animike' series.

The area marked Swamp was not thoroughly examined, but a birds eye view from the high slate ridge in the center of the point island revealed no large rock ledges in the interior of the S. half of the island.

The small islands to the south and west of Busic are but extensions of the trap dykes in the latter



Little Brick Island is composed entirely of a platy red rock, like that at Pigeon Point. It seems here to form a flow or part of a flow.

11924

The rock is fine grained light red granite?

Brick Island.

Brick Island the most complicated of the Lucille Group, in the eastern portion consists of ^a large mass of a reddish Diabase porphyry, containing quite large sized crystals of plagioclase.

In the western portion is a ribbon like arrangement of bright red, black and dark brownish red dykes. The distribution of the rocks is shown in the map.

11925

is a bright red very compact platy rock from the dyke (or band) in the extreme western end of the

island

11926 is from a small trap dyke in
11925.

11927 is just south of the trap, near water's
edge. - Prob. like 11925.

11925 + 11927 seem to be different from
anything thus far collected.

North of 11925 is a large trap dyke
and north of this a narrow band
11928 of thick red rock varying but
slightly from 11925.

North of this is a band of porphyritic
ic rock like that forming the
eastern part of the point,
and north of this again a
11929 band of quartzite, pink and
very vitreous.

11930 is a dark porphyritic trap, with
large clear crystals of plagioclase
in a fine grained dark
groundmass. (It is in maps)

11931 from the eastern end of the island
~~from~~ is a medium grained trap.

11934 from just north ^{and west} of 11931 is a porphyritic trap with medium grained groundmass containing red feldspar. Prevailing rock.

11933 is a specimen from near 11930, exhibiting same characteristics as 11931

11932 from eastern end of ~~from~~ island. Porphyritic rock with fine grained porphyritic groundmass. Resembles 11930 except in color of groundmass. Some of porphyritic feldspar crystals are bright red.

In several small localities on the south side of the island there are exposures of quartzite which seem to be pieces of this rock which have been broken from their original position and

included within the eruptives
surrounding them.

11935 is such a quartzite?

Belle Rose is simpler in geological structure than is Brick Island.

The rocks are all heavy basic hornblende kinds of which 11937 is a specimen of the typical fresh variety - a bluish-black rock containing large crystals of hornblende or tringite.

11936 It has a much more decided ferruginous tinge. It appears to grade insensibly into 11937 of which it may be an altered variety?

11939 } Are other specimens of more or
11940 } less altered phases of the same
11941 } rock from the interior of the island.

This rock with its altered varieties makes up, perhaps, the greater portion of Belle Rose island.



Belle Rose

Inch = 120 paces

It is cut by dykes of trap, and is replaced on the north side by a porphyritic trap with red feldspar rock of which 11938 is a specimen. This appears also to occur as a dyke in the prevailing rock, but this can not be stated positively.

11938 Porphyritic Diabase with red feldspar very like 11930 on Brick Island.

11942 is from a small dyke in 11936 at location indicated on map.

11943 is from a larger dyke that runs in from west end of island and is soon lost in the interior.

11944 is like 11938, but redder. From interior of island.

11945 From trap dyke (chips)

Many of the dykes marked trap (T) are very similar to 11944 in character, some appearing to be identical with it.

The trappean rock apparently

cuts 11936 & 11937, of which the former is but an altered variety of the latter. When it weathers it breaks up into plates, giving the mass the look of a flint, which indeed it might well be.



Lucille Island
1 in. = 666 ft.

Lucile Island - is composed almost entirely of flows of basic rocks and dykes of trap.

11947 the prevailing rock a dark heavy granitic rock containing much feldspar.

11948 } Cutting this are traps with red feed.

11949 } spar like 11930, 11931, 11934, of
Brick Island, and 11944 of Belle Rose, except
for the lack of porphyritic feldspars.

In several places on the north side of the island are inclusions of quartzite, like very large boulders, imbedded in a platy rock, which underlies 11947 and seems at first sight to be but weathered portions of this latter.

At the points represented on the map are what look like little dykes of a red rock

11950 in an amygdaloid 11951.

11950 appears to be fragmental, and 11951 and altered form of 11947.

On the south side of the island near the water edge the relations between the platy rock mentioned above and the massive rocks

11947 are clearly seen

The latter 11952 extends as a sheet about 4-5 ft thick, over the former 11953 which is everywhere platy like the red rock on the south, and dips 20° to S.E.

At the west end of the island are dykes and irregular areas of a red rock 11954

which is not very different from 11925.
It is a deep red very dense rock, with little
porphyritic feldspar crystals and green specks
of chlorite?

11954 is from a dyke

11955 is from an intrusion at the base
of a cliff. It weathers into foliated layers
and resembles 11913 in some respects, and
11927



