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Penokee-Gogebic Region, Michigan: [specimens] 12925-12975. No. 69 December, 1887

Charmming, J. Parke

[s.l.]: [s.n.], December, 1887

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No. 69

U. S. GEOLOGICAL SURVEY
FIELD SECTION BOOK

No. 69.
December, 1887.

Penokee-Goebie.

J. Parke Channing

12925-12975

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 line 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.

6. Forward this note book, as soon as filled, as registered mail matter, to R. D. IRVING, U. S. Geologist, Madison, Wis.

Notes collected by
J. Parke Channing E. M.
Bersemer
Mich.

12925

Mottled Jasper, quartz and magnetite 45 paces south of Sta 297+64 (i.e. at R.L.s) of the Gogebic Iron Syndicate Base line.
Tramway w. 25 file.

6

Banded Magnetite 54 paces S.

7

Fer. quartz. 70 " "

8

Hard black banded plate
ore - - - - - 80 paces South.
90 paces south is a pit in mixed
ore - quartzite. From 100 to 122
paces pits no good mixed ore
325 feet south of line is shaft.

9

Slate which constitutes the footwall of the deposit of hematite. The demarcation is however not marked very strongly.

30

Pit in fer. quartzite 129 paces south of base line.

Then ran another line of pacing
~~down~~^{up} the R. bank of the River
 (Tyler's Fork) running S. to base
 line from Sta. 289

At 23 paces found ledge of
 magnetic ore with a little
 gasfer in it.

At 33 paces lean banded mag.
 ore no spec. piece lost.

Then came a blank space
 low and swampy which I
 think is the place of the hem-
 atite belt.

12931

Lean banded mag. ore + quartz
 N end of gorge. and extending
 south forming gorge. Spec. was
 from point 105 paces S of line.

From here (105 p) it runs to 150 p
 At 163 paces to Her. quartz some
 magnetite in it specimen lost.

2

173 paces south.

At about 185 paces south of
 base line the contact of the
 fragmental & non-fragmental

series is found. Could not find absolute point of contact.

A phenomenon however shows itself here which is present as far back as Sec 32-45-1E on the farther Hennepin, the Pence mine and on Sec 1-45-1W on the Seura.

Between the unquestionable fragmental quartzite & the chemical iron deposit is a layer of hard flint varying from 1 to 3 feet thick lies between the quartzite & the paint rock.

This flint appears to be about 1/2 yd or fork. Paint rock is absent however.

129 33

Fragmental quartzite

From 220 to 233 paces is a close grained quartzite verging to the variegated slate.

At 250 paces river swings & runs // to line and bed in hard variegated slate.

288 faver north + 100 faver E from
paving line in variegated slates.

See blue print accompanying
these notes. The mine shows
a narrow 23' of soft good
hematite runs 64 $\frac{1}{2}$ " in Iron
.084 of 1% of O hor.

The above examination was
made in Sept 1887.

12934

Basal conglomerate from Pot-
tore River

12935

Horstall of Sunday Lake illine.

12936

Yellow Jasper + quartz + quartz crystals
from the City of Chicago specimen
found near W $\frac{1}{4}$ part of Sec 9-47-45

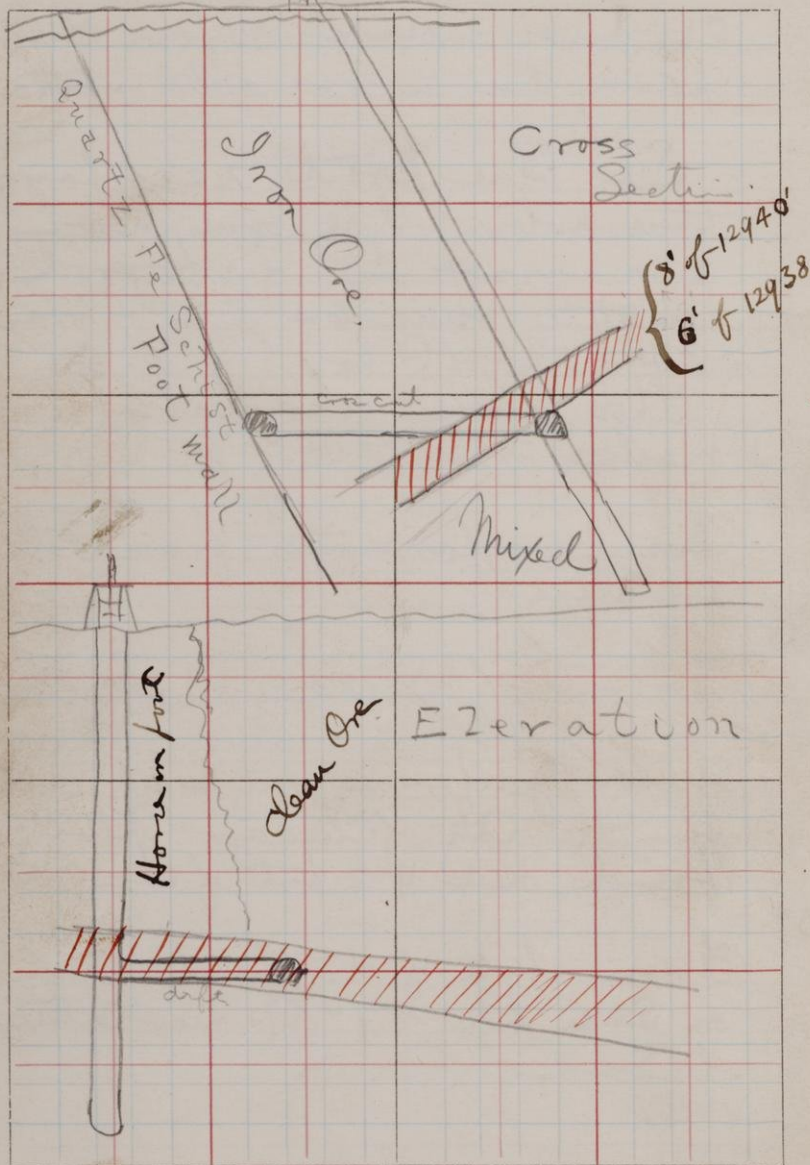
12937

Iron shaft of North Aurora
on Sec 23-47-47 near Center
of Sec.

No 5
Shaft

T.

R.



12938

North Vein dyke of Iron
King mine, lower portion of
dyke, 6 ft thick

39

South Vein dyke; this dyke
is only shown up in a single
drift near the foot and
runway towards the East showing
that the clean ore lies West
of the dyke material

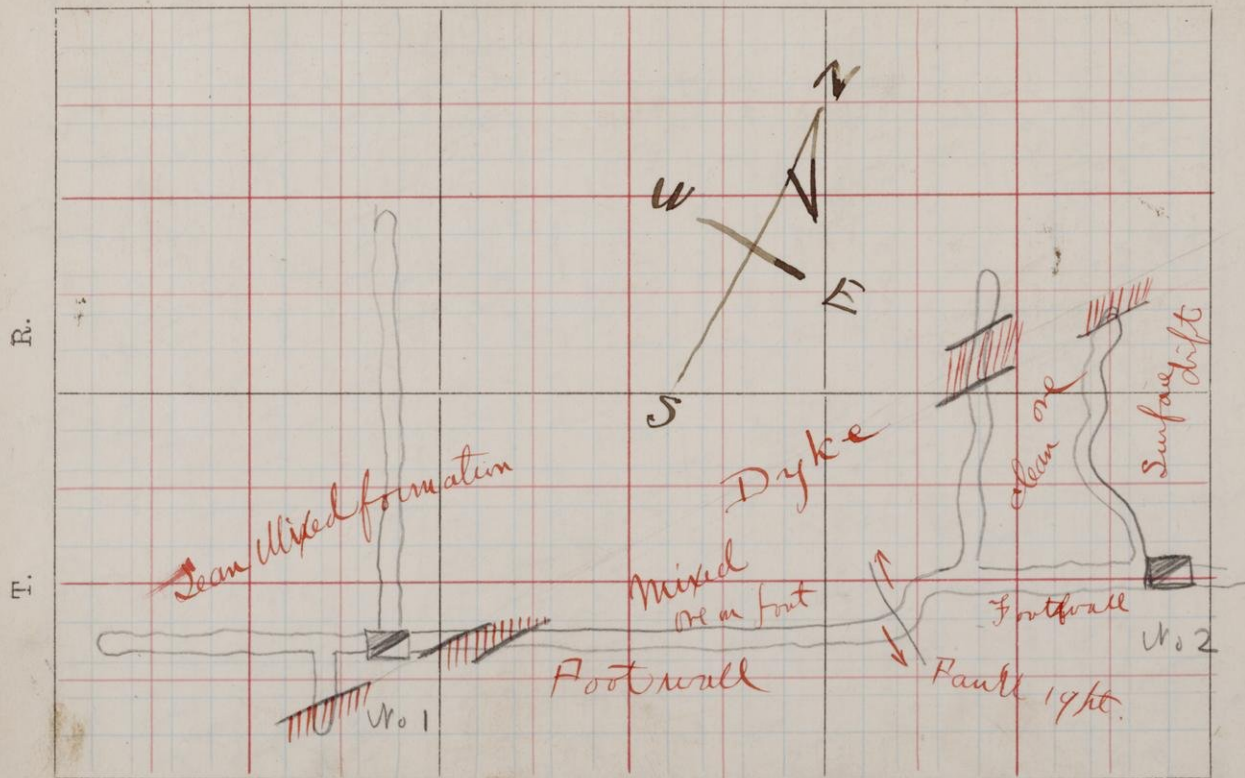
40

North Vein dyke of Iron King.
This is the same dyke as 12938
is from being the top layer
nearest the ore, 8' thick

This N.V. & K. dyke dips
to the south at about 25°
and contrary to the usual
custom of the dykes has
a dip to the west instead
of the east which however
is very slight say 10°

The dyke is shown at
W 05 on the north or East
shaft. This shaft was
sunk inclined on what was
supposed to be the foot
but turned out to be a
hoove in the foot. It

Pence Plan $1\frac{5}{11}$ level 175' down



poor still drift was run west through
~~soap rock~~ & then a cross
cut south finally cutting
through the dyke and getting
into clean ore.

No dyke shown anywhere
else in North Vein & N.

12941

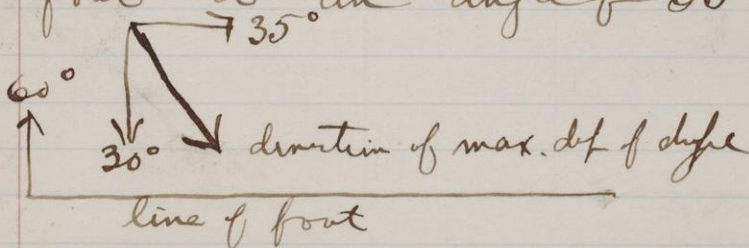
Soap rock from Pence
line on Sec. 32-45-1E
from cross cut 105 ft W
of foot wall.

12942

Same dyke where it runs
in the footwall quartzite.

The drawing shows plan at
1st level of the various ex-
posures of the dyke.

The dyke dips to the south
or rather towards the foot
wall at an angle of 30°
and towards the East or
rather in a line $\parallel$ to the
foot at an angle of 35°



7
The small cross cut to the
north and West of No 1 shaft
was put ~~down~~ through the
fragmental quartzite to the
dyke from where we get
12942. Dyke is 20 ft thick

Will send accurate trac-
ing of above survey.

12943 I found a piece of a small
3 foot dyke crossed in
sinking No. 1 shaft at least
50 ft before the main dyke
was found.

It is supposed that it is
found in a very decomposed
state in the footwall near
where the 1st cross cut East
of No 1 shaft is started.

The specimen was taken down
to the foot and no clear
ore near.

44 From Worrie mine in the
ore. i.e., ore is on both
sides of it. It is only a
bout 2 ft thick.

45 Same dyke. There was some
of the same dyke that was

grey in color failed to ⁸ ~~show~~ any.

This dyke dips to the East & the South as the Pence dyke does.

This is the only dyke shown up on the Morrie Uline which is one of the largest deposits of ore on the range.

Its basal dyke has not been reached but probably comes to surface between the Arkland No 7 shaft & the Morrie No. 1 shaft.

No. 1 shaft is not very deep yet.

12946

From Sunday Lake Uline
Thin seam of point rock
in the ore not in plane
of deposit. Is it a dyke?

47

Top layer of one of the
Arkland dykes.

48

Next layer from same dyke

49

Some layers of dyke

50

" " " "

51

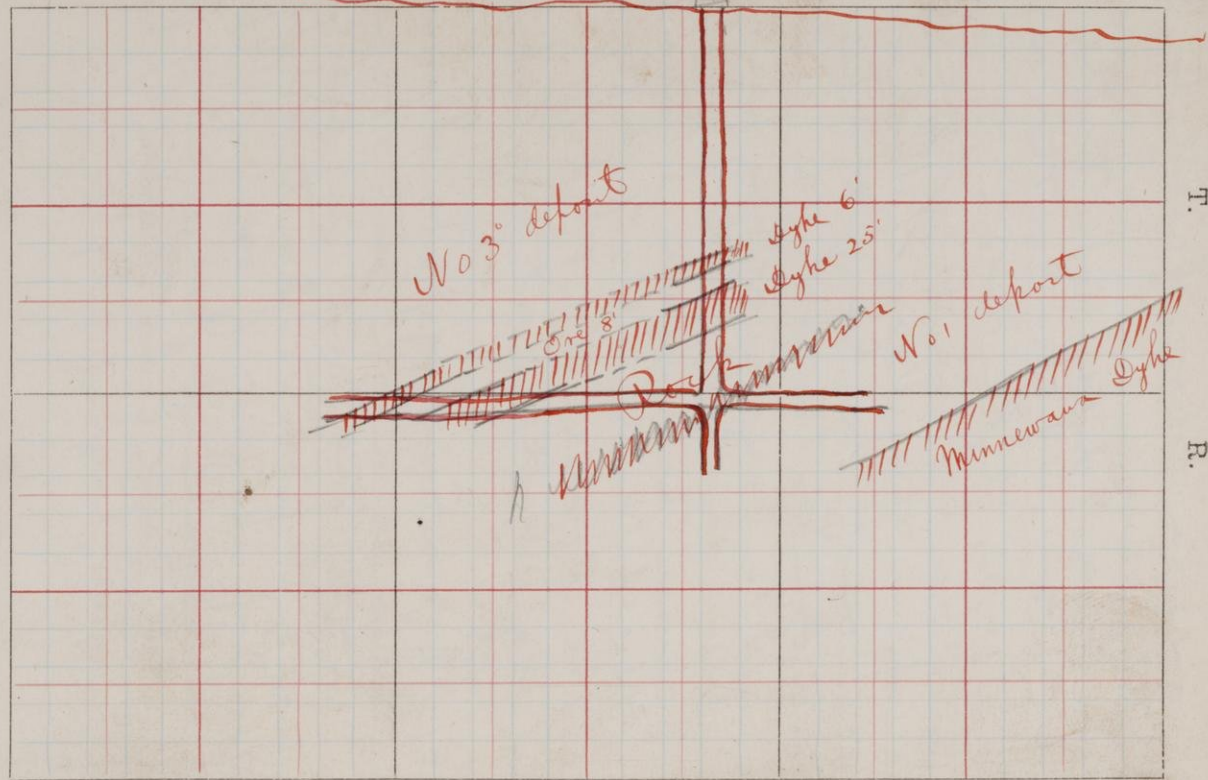
" " " "

52

" " " "

Ashland Elevation

N^o 3



Munnewawa

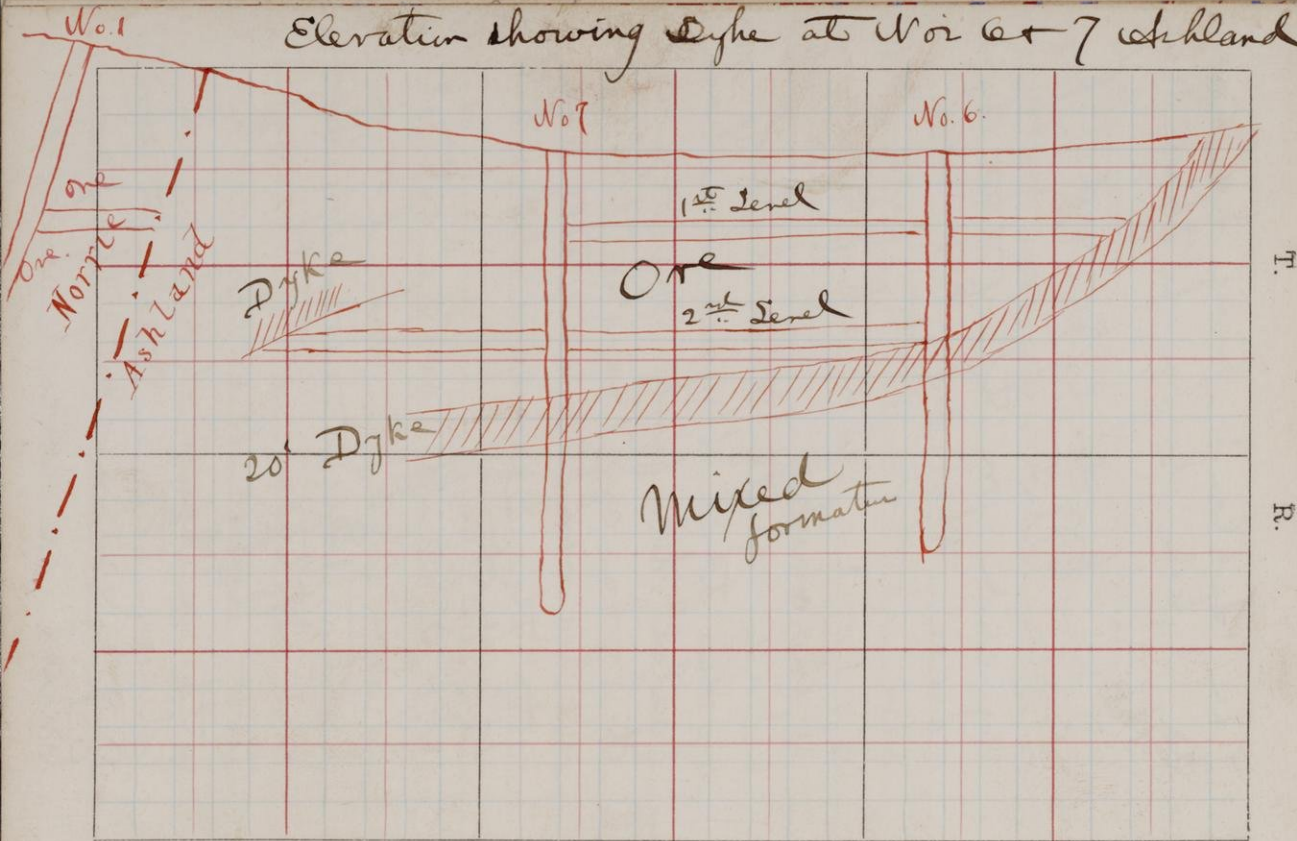
The Ashland mine has more ~~dykes~~ dykes shown up than any other.

The first dyke outcrop on the Munnewawa in Hurley and on top of this dyke comes the deposit of ore now worked out from shaft No 1 + 2. said shafts being abandoned.

Underneath this dyke of rock the Munnewawa has failed to find any ore and it looks as though there was a barren area till we get to the Germania deposit to the West.

No. 3 shaft next Cart is down 200 ft and for a bout 130 ft was in clean ore. It then went through two dykes of soap rock with a layer of clean ore between them. And at about 200 ft ~~down~~ I then continued in mixed stuff till

Elevation showing Dyke at No 6 + 7 Ashland.



it reached the soft level ¹⁰
where it cut the No. 1
deposit of ore. The sketch
on the preceding page shows
the elevation.)

Shafts No. 6 & 7 of the Ashland
are bottomed in soap rock
which cuts out the ore
at least on the foot &
whenever the dyke has been
penetrated.

Dec. 31, 1887 each shaft
was at least 70 or 80 feet
below the dyke sinking on
the foot and no ore
had been found.

East of No. 7 shaft and
on the 2nd level a dyke
is shown up which evidently
lies on top of the ore.)

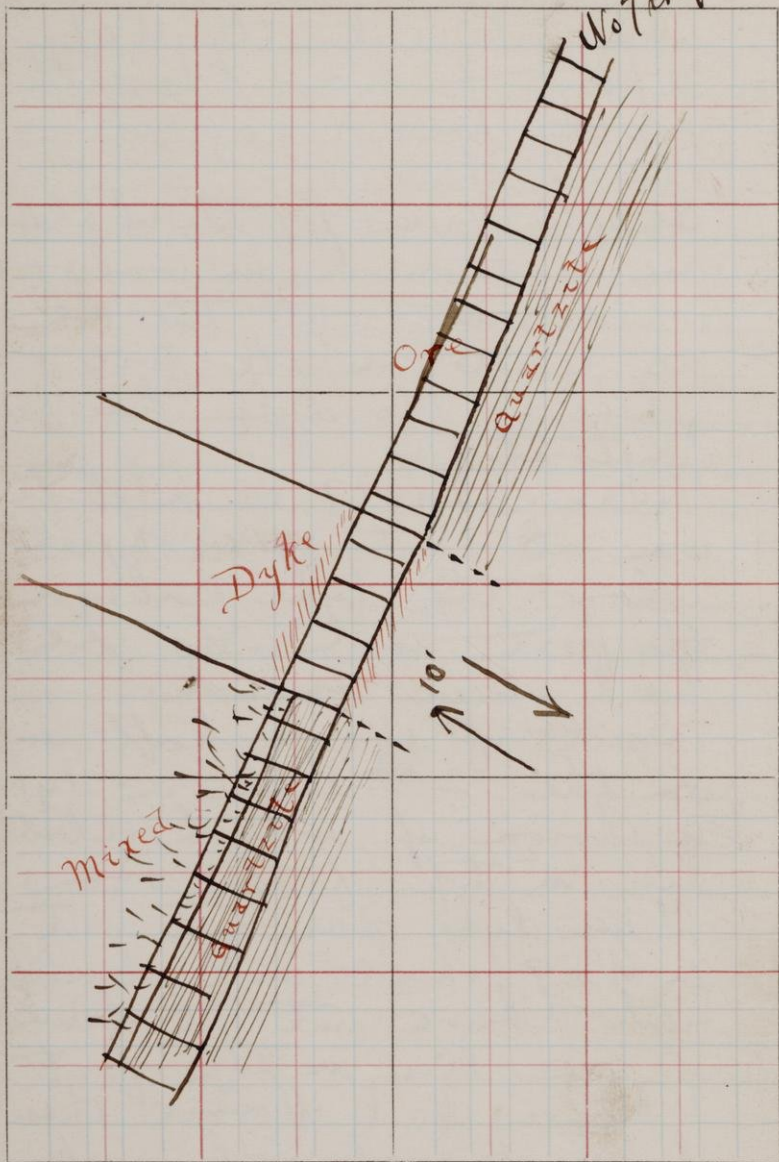
This dyke was not cut
in No. 7 shaft and develop-
ments have not yet shown
if ore lies on top of it.

Between No. 1 & Worrie this
showing of soap rock under
ground there is an unexplored

Ashland Cross Section No. 7 shaft

T.

R.



area.

In No 7 shaft a fair proof
of the dyke's cutting the foot
wall quartzite is shown.

No 7 shaft was sunk on the
foot in ore when it reached
~~the~~ dyke the shaft was con-
tinued on the same line but
the quartzite was lost the
shaft being entirely in rock rock.

When the dyke was cut
through the shaft struck
quartzite over ten feet of
its bottom with mixed for-
mation the other two feet.

12953

Piece of hard ore lying close
to ore. Compare this specimen
with 12962.

T.

R.

Cross Section.

"A" shaft

15

Foot wall of
Intrusion
no contact

Collected sample for 3414

major fault

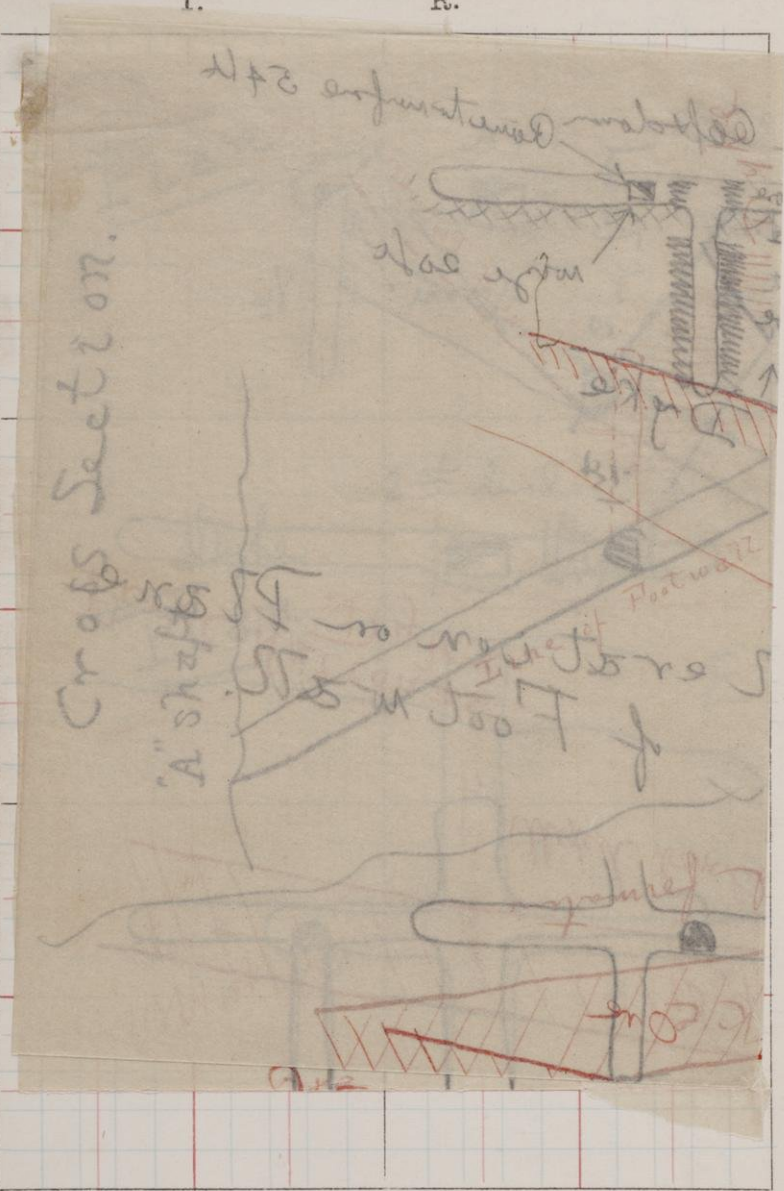
dyke

float wall

quartzite

ore

742

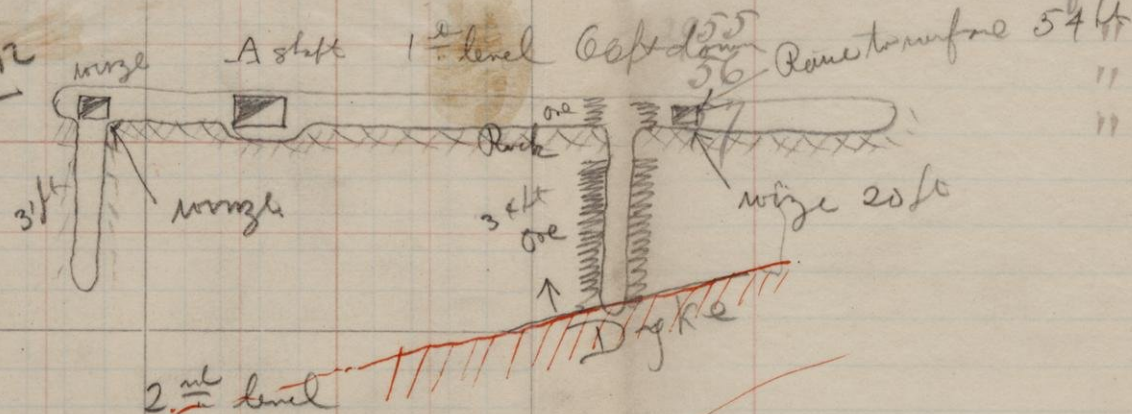
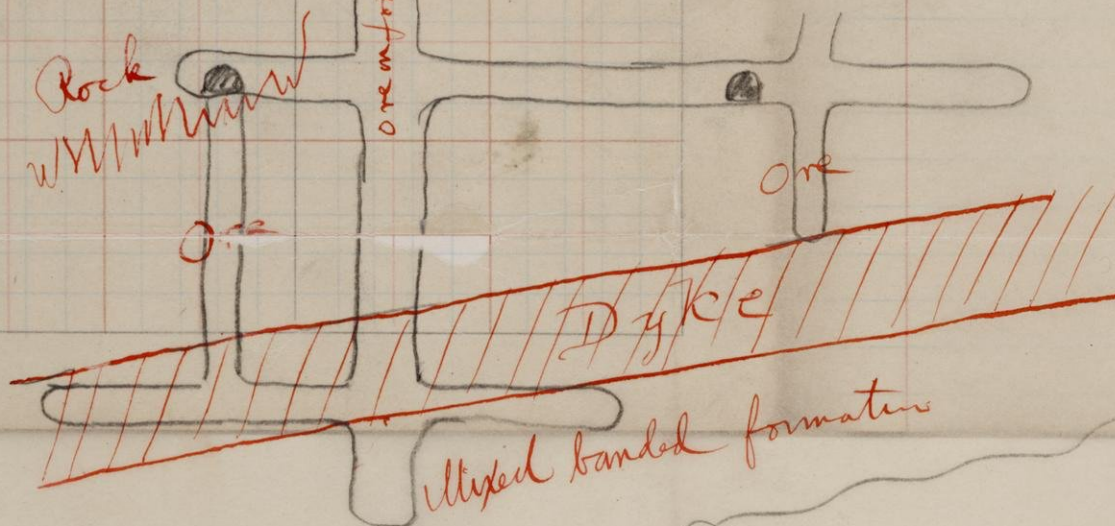
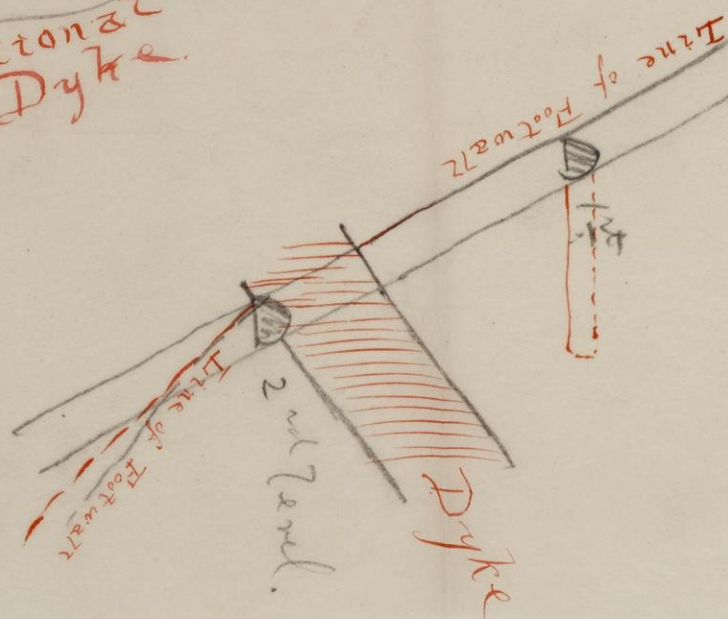


T.

R.

12954 From First National dyke at "A" shaft 12

Plan

Dyke
PlanElevation on Plane
of Foot wall.First National
Dyke

"A" shaft.

Cross Section.

12954 From First National dyke ¹²
at "A" shaft.

12955 "

56 "

57 "

12958 North N. Colby dyke, dips ¹³
to south, no dip to east or
west, at least 30' thick.
Apparently runs under
south N.

12959 Dyke in N. N. ore, supposed
to be a spur. The connection
with the main dyke is not
known

12960 Same des. as 12958.

12961 Main Colby S. N. dyke,
supposed to be about 5' thick
dips to south and east.
Its dip to the east is
about 1 in 5. This dyke
apparently cuts the foot-
wall, but abruptly ends
as the hanging.

12962 Contact of dyke and ore
in gen. pit, Colby S. N.
dyke material same as 12961,
Compare with 12958

12963 Dyke from sec 15, T47R46
(Hilden) Position of this
yet obscure. From its
appearance, am inclined
to think that it is not
main dyke.

12964 Narrow dyke in Puritan
mine. West of No. 7 shaft,
Has ore upon both sides of it.
Could not tell whether it
cut the foot or not, dip
to South and East.

12965 "Magnetite" found in Puritan
ore, no observed connection
with dyke.

12966 Aurora main dyke 13' thick
 as on discovered north up to
 East river line. This is the
 only dyke on the Aurora prop-
 erty.

12967 South vein dyke of the Mon-
 treal, ~~position not yet~~
~~adequately determined.~~ ^{dip} S.E.

12968 Montreal N. V. dyke.
^{North vein.}
 near easterly of two dykes
 on this N. V. These dykes
 both dip to the south
 and east.

- 12969 In pit about 300' N. of ¹⁷
Old Crown Point shaft,
N. line or in vicinity
- 12970 Decomposed diorite in shaft
on N. line of east $\frac{1}{2}$ S.E. $\frac{1}{4}$
sect, 47, 45.
- 12971 Same rock mass about 50'
down in shaft.
- 12972 From main shaft on N. $\frac{1}{2}$,
S.E. $\frac{1}{4}$ sec 7, 47, 45.
- 12973 Piece of quartzite from
Mottal Mine, South
vein. This kind of quartz-
ite does not lie close
to the ore. Cherty materi-
al as much as 2' in
thickness lies between.
- 12974 Cobble soap rock. Location
12975 not accurately known.

