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Menominee branch C. and NW ry. township 44 and 45 n., ranges 36 to 39, w., Michigan: [specimens] 15293-15301. No. 105 1890

Oley, Charles

[s.l.]: [s.n.], 1890

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U. S. GEOLOGICAL SURVEY
FIELD SECTION BOOK

No. 105
May, 1890

Menominee Branch C & N W Ry.
Towns 44 and 45 N., Ranges 36 to 39 W., Mich.

Charles Oley.

15293-15301

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 $2 \times 2\frac{1}{2} \times \frac{1}{4}$ 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.

Oley
105

C. & N. W. R. R.

Menominee

Branch

Towns 44 and 45 N.
Ranges 36 to 39 W. 1/2 Sec.

by

Charles Oley

May 17-1890

Maps

Town	Range
45	36 W
"	37 "
"	38 "
"	39 "
44	39 "
"	38 "
"	37 "
"	36 "

May 17 1890

I started from Elmwood
T 44 N R 37 W Sec 11 and went
west on rail road track to ledge
near the road (track) on south
side where specimen #1 was taken
Location is 600 paces south of
east of north west corner of
Sec 9 T 44 N. R 37 W.

Spec.

15293

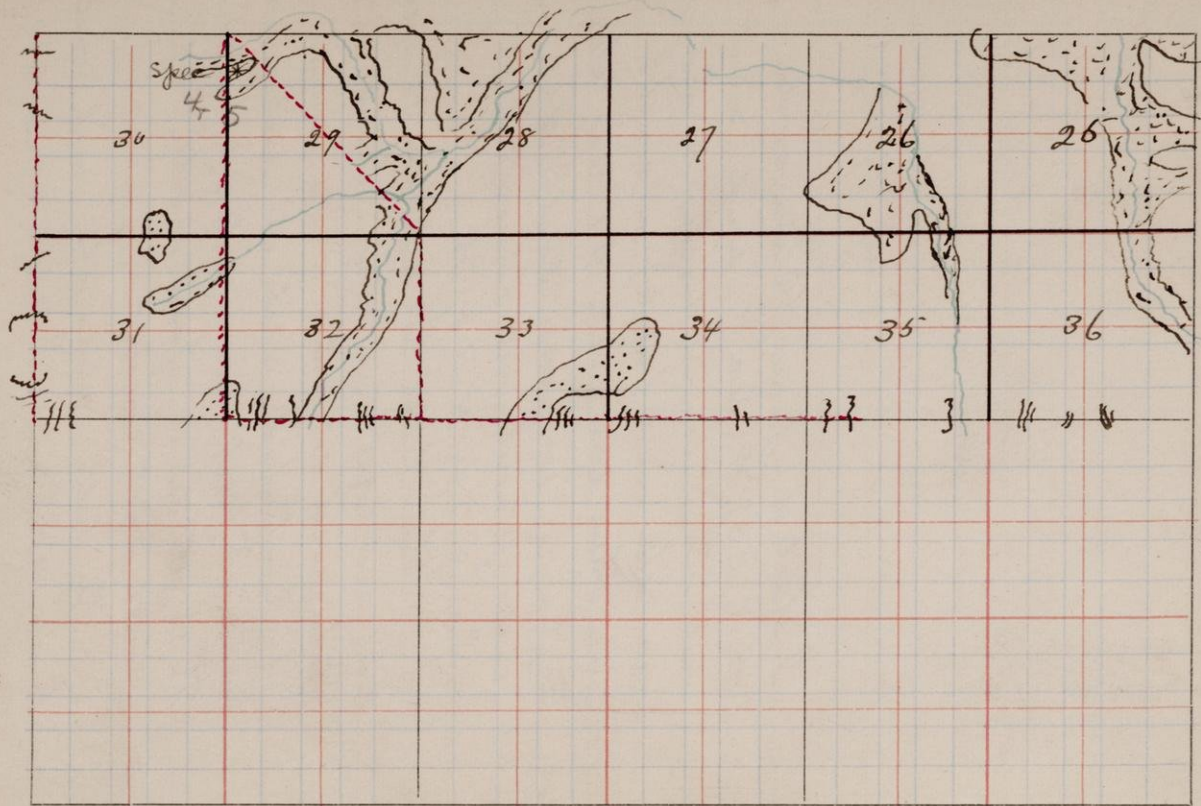
15293

This ledge is exposed 35 paces
east and west in low land.
Strike west 10° north.

Continued west on rail road
track to west line of Sec 24 T 45 N
R 38 W. 1400 paces north of
south west corner.

The hills along the rail road
track are sand and gravel

T. 45 N
R. 36 W.



Run south to south west corner
of Sec 24 T45 N R 38 W.

then north east to north east
corner of Sec 24 T45 R 38 W.

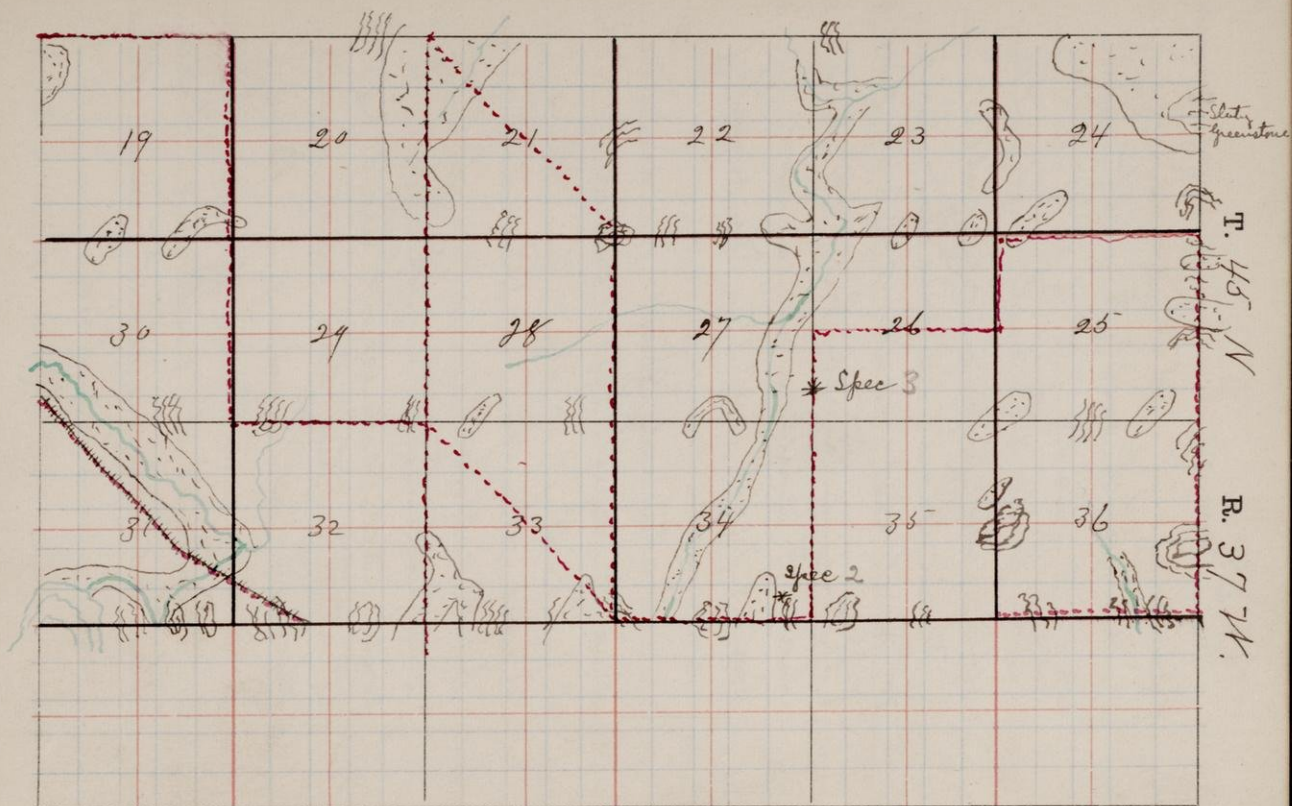
The land is high and rolling
with sand and gravel hills.

Went east on Section line
to north east corner of Sec 19 T45 N
R 37 W. — South on section
line to south west corner of
Sec 29 T45 N R 37 W. The country
low and level.

Continued east on section
line to south east corner of Sec
29 T45 N R 37 W. This line
runs through a Burning —
land rolling.

Continued south east to
south east corner of Sec 33 T45 N
R 37 W. This line also runs
through a Burning — land
rolling.

Continued east 400 paces,
then 250 paces north, and then
back to section line



Continued east to south $\frac{1}{4}$ part
of Sec 34 T45 N R37 W

Spec
15294
15294

Specimen # was taken
from small ledge in low land
600 paces east: 250 paces north
of south $\frac{1}{4}$ part of Sec 34 T45 N R37 W
Description:-

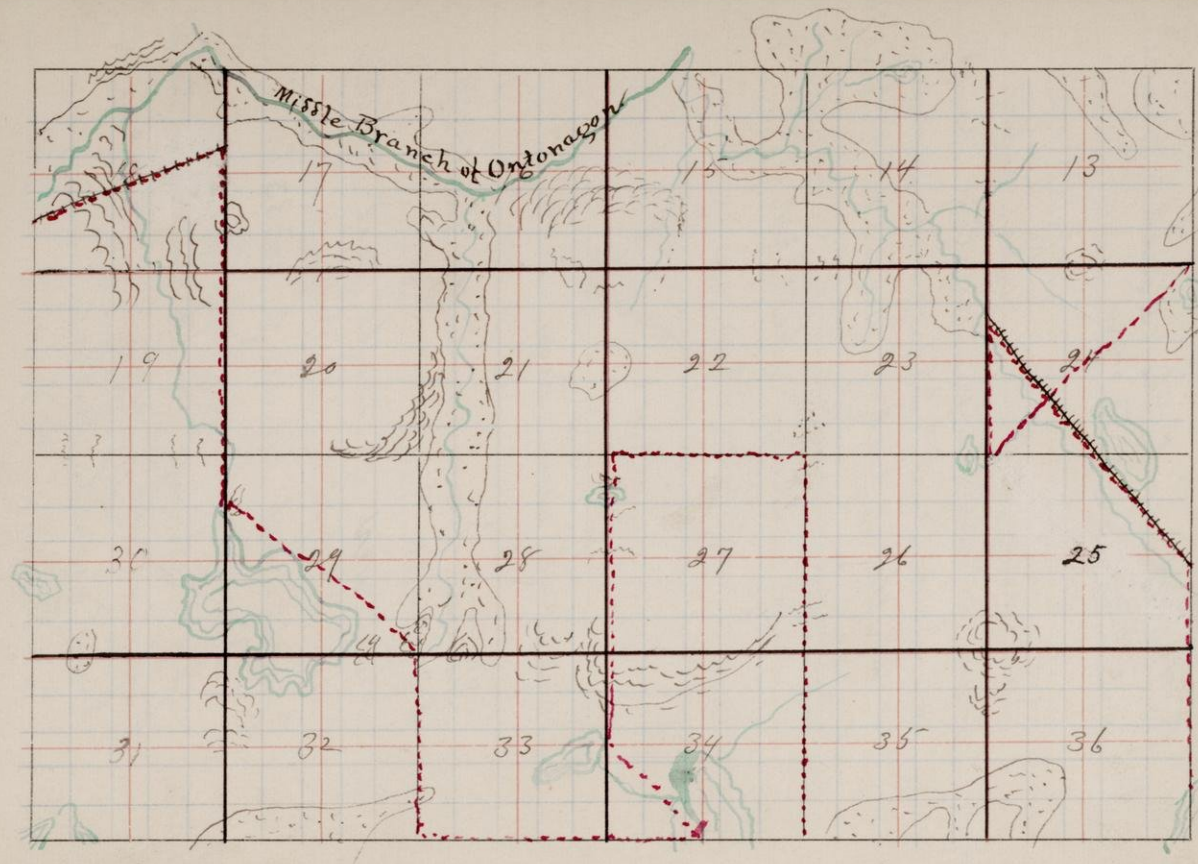
Strike west - 20° N.

Snow and rain May 18 & 19

Started from south $\frac{1}{4}$ part of
S 34 T45 N R37 W

Ran west: to south-east corner
of Sec 33 T45 N R37 W — north-
& north-east corner of Sec 33 T45 N
R37 W.

Line through a Burning - land
high and rolling with sand
and gravel hills.



T. 45 N

R. 38 W.

Continued north to north-east corner of Sec 28 T45N R37W. —

land rolling soil sandy

Continued north-west to north-west corner of Sec 21 T45N R37W

— line through Cedar and Tamarack Swamp.

Continued south to south-west corner of Sec 21 T45N R37W.

— line through Cedar and Tamarack Swamp.

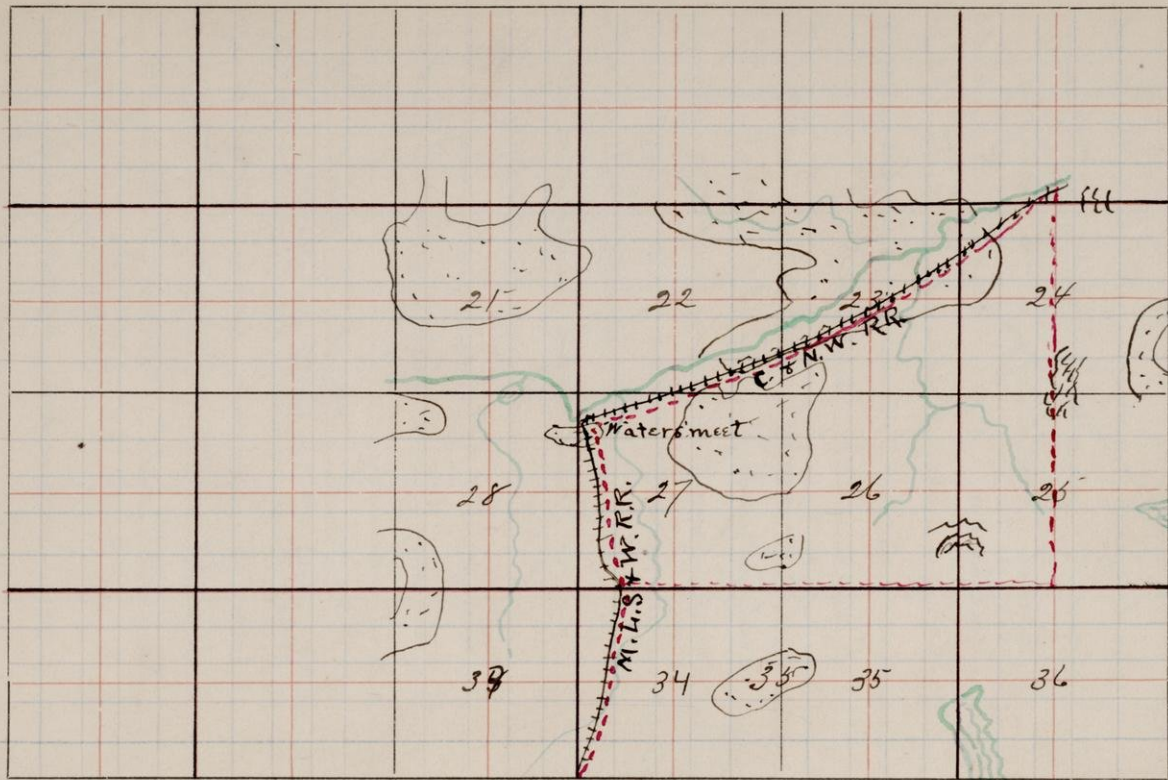
Continued south on section line to rail road track 600 paces south of north-west corner of Sec 9 T44N R37W — line through Burning, land rolling soil sandy.

From south $\frac{1}{4}$ post. of Sec 34 T45N R37W I run east to south-east corner of Sec 34 T45N R37W then north to north-east corner of Sec 34 T45N R37W.

Continued north 340 paces

T. 45 N.

R. 39 W.



to small ledge

Specimen # was
taken from this ledge in
low land 340 paces north of
south-east corner of Sec 27 T45 N
R37 W.

Spec.
3

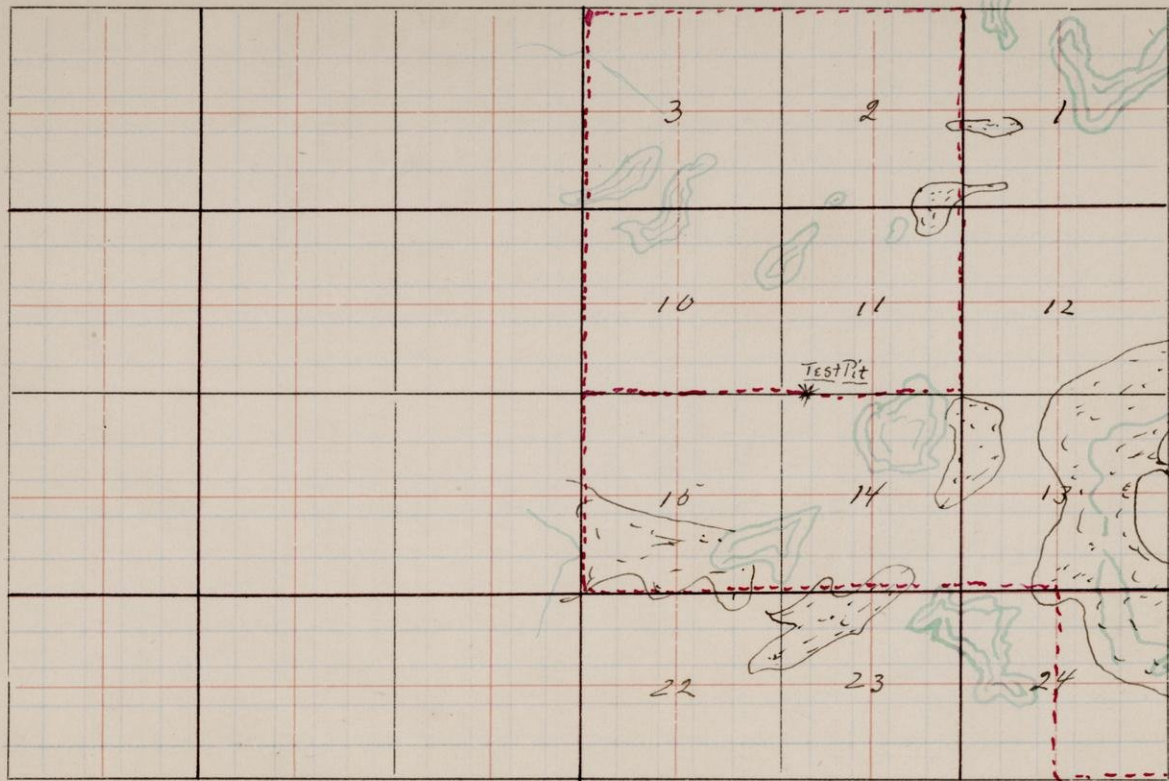
15295

Description

Continued north to east-1/4
part of Sec 27 T45 N R37 W then
east to east-1/4 part of Sec 26
T45 N R37 W. — land gently
rolling.

Continued north to north
west corner of Sec 25 T45 N R37 W
runs east to the north-east corner of Sec 25
then south to south-east corner
of Sec 25 T45 N R37 W

Continued south to south
east-corner of Sec 36 T45 N R37 W
then east to north-west corner



T. 44 N.

R. 39 W.

of Sec 1 T45 N R37 W.

Continued south to south-west corner of Sec 1 T45⁴⁴ N R37 W — land gently rolling, timber maple and Birch, soil with a sandy loam.

On account of rain moved camp on rail road track to south west corner of Sec 1 T44 N R37 W then east to south $\frac{1}{4}$ part of Sec 1 T44 N R37 W

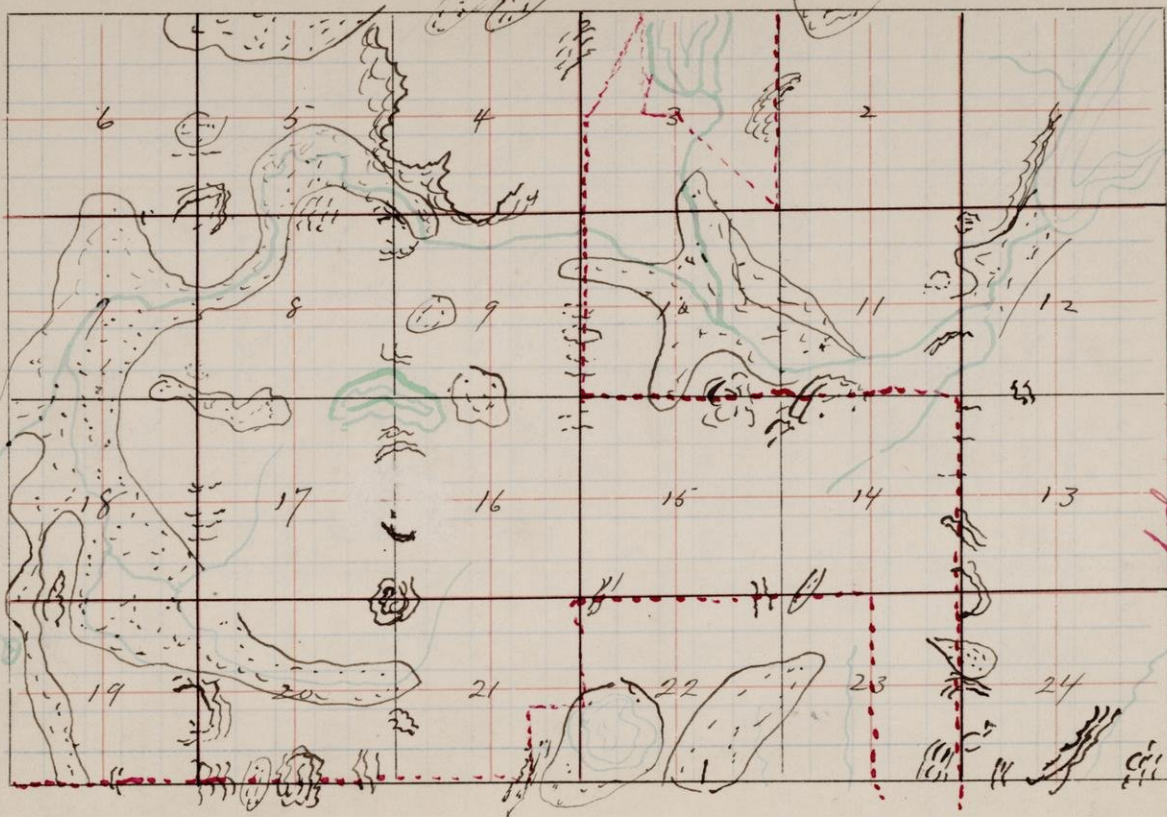
From the south- $\frac{1}{4}$ part of Sec 1 I run east to south-east corner of Sec 1 T44 N R37 W then continued east to south-east corner of Sec 5 T44 R36 W — land gently rolling, live through a chopping.

Continued north to north east corner of Sec 5 T44 R36 W — land level, with a hard wood growth.

T. 44N

R. 38W.

Continued on page 1



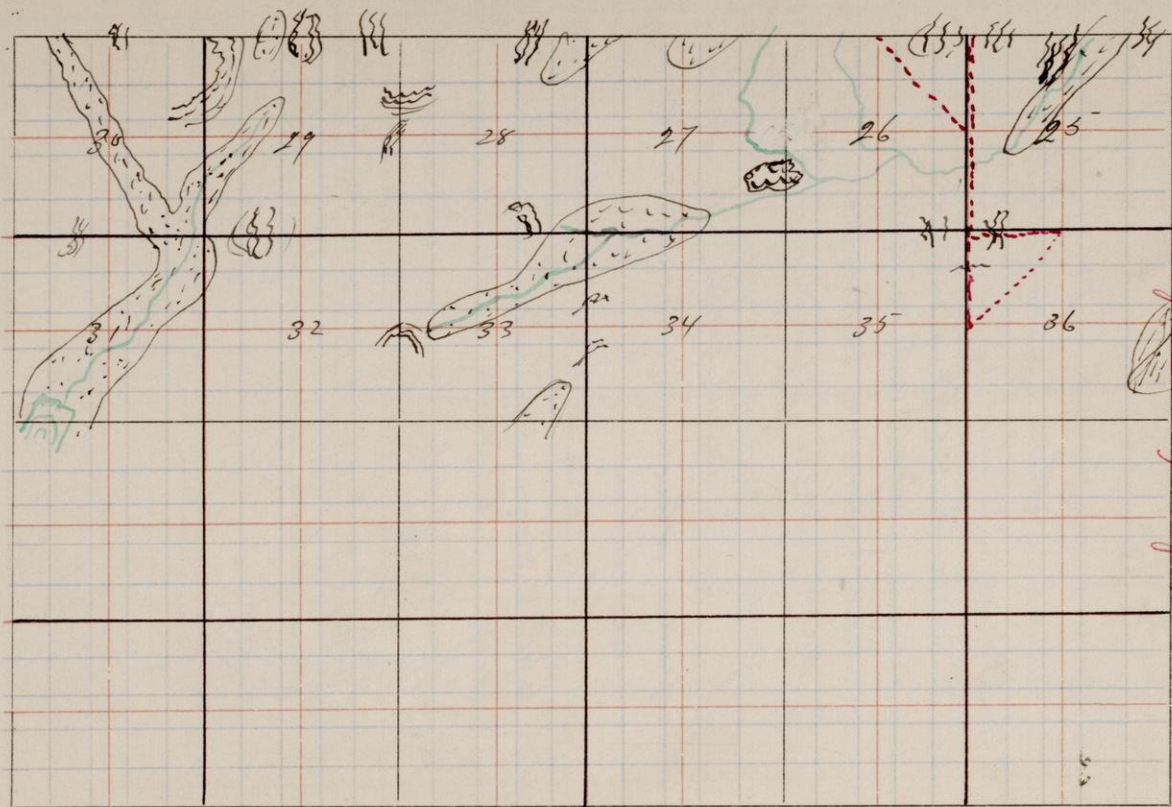
Continued west. to north-west-
corner of Sec 5 T44 R36 W —
land rolling, soil with-sandy
loam.

Ran north to north-west-
corner of Sec 32 T45 R36 W —
line through swamps and
over ridges, soil sand and
gravel

Continued north to ledge
from which specimens
were taken

Specimen # was
Spec. taken from the bottom of the
#4 ledge situated 1825 paces
15296 north and 40 paces east
of South-west- corner of
Sec 29 T45 R36 W. The specimen
was taken from the west-
side

Description



T. 44 N.

R. 38 W.

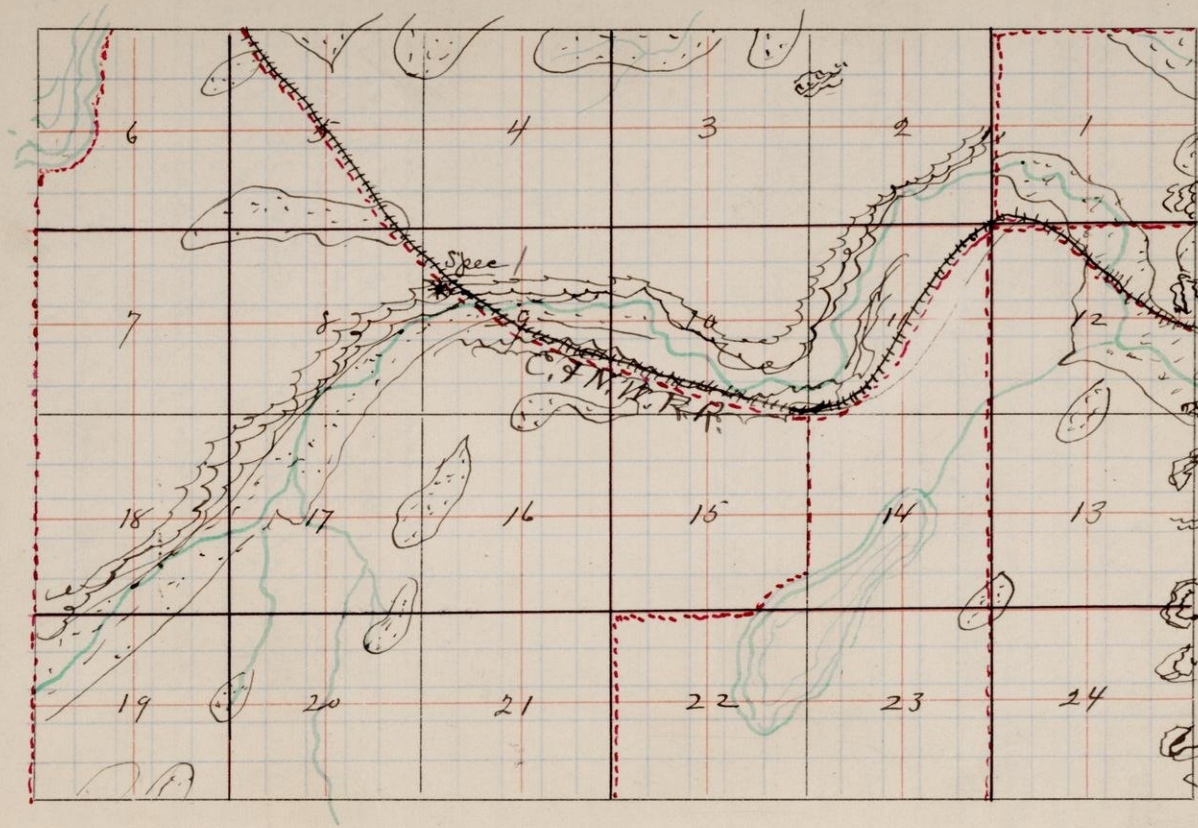
(see preceding map.)

Specimen # was taken
 Spec # 5 from the same ledge as specimen #
 15297 This ledge is exposed
 50 paces east and west
 25 paces north and south
 and is about 15 ft. high. The
 surrounding country is low
 and level

Strike of ledge West.
Description

Continued north to north-
 west corner of Sec 29 T45 R36 W
 then south east to south east
 corner of Sec 29 T45 R36 W —
 line through an old chopping
 land rolling; soil sand and
 gravel.

Continued south to south
 east corner of Sec 32 T45 R36 W.



T. 44 N

R. 37 W.

(See following page)

From the south-east corner
of Sec 32 T45 R36 W we run
east on section line to south
east corner of Sec 33 T45 R36 W.

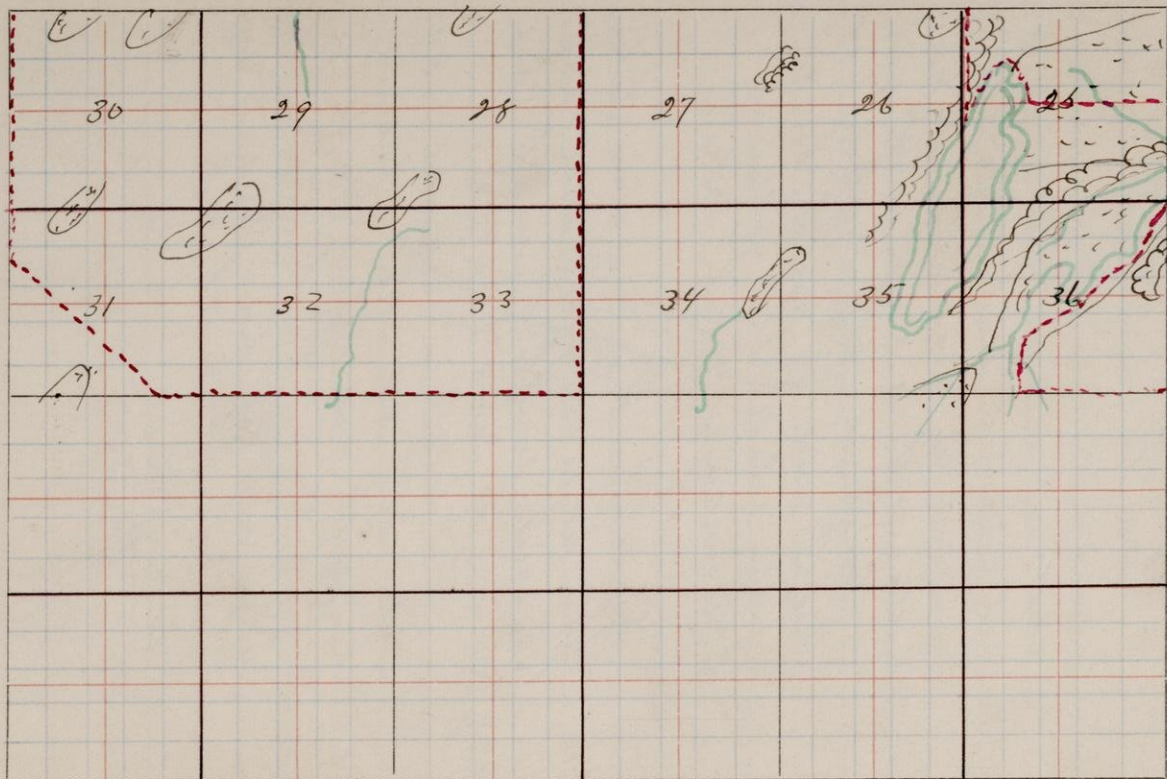
— country gradually sloping
to the north; hard wood growth.

Continued east to ledge 1550
paces and 60 paces south-
from which the following two
specimens were taken

Specimen # was taken
from ledge 450 paces west and
60 paces south of north east-
corner of Sec 3 T44 R36 W.

This ledge is exposed 150
paces east and west, facing to
the north and about 30 ft from
the bottom to the top. The
ledge cuts off from three to six
feet on the north side

Description



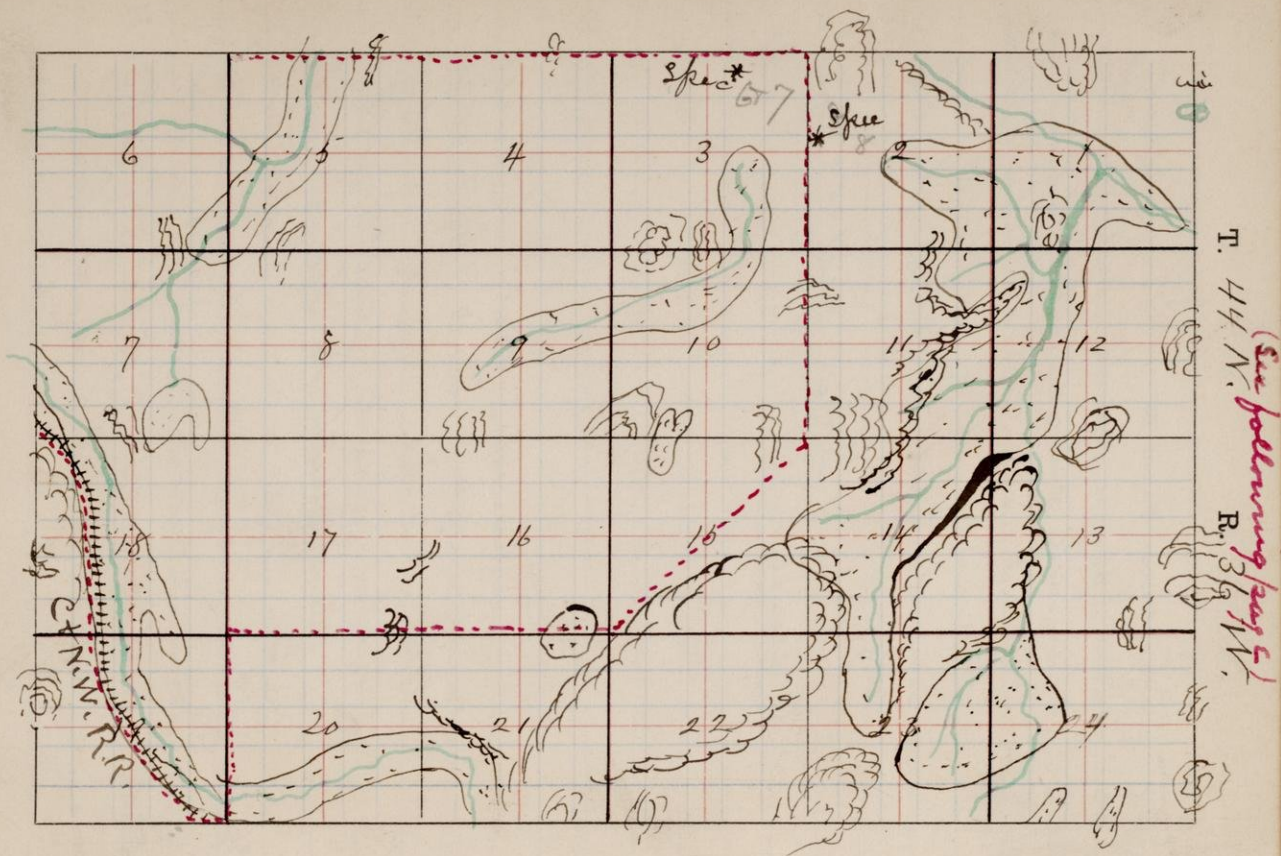
T. 44 N
See preceding page
R. 37 W.

Specimen # 7 was
Spec 15299 taken from same ledge. This
specimen seems to be finer
grained and more slaty than
specimen Both are
mixed together through the
ledge.

Strike of ledge west 5° South.
Description

Continued east to north-
east corner of Sec 3 T44 R36 W
line through hard wood
country land gently rolling
Then south to ledge

Specimen # 8 was taken
Spec 15300 from ledge 925 paces south
and 12 paces west of north
east corner of Sec 3 T44 R36 W
This ledge is a low



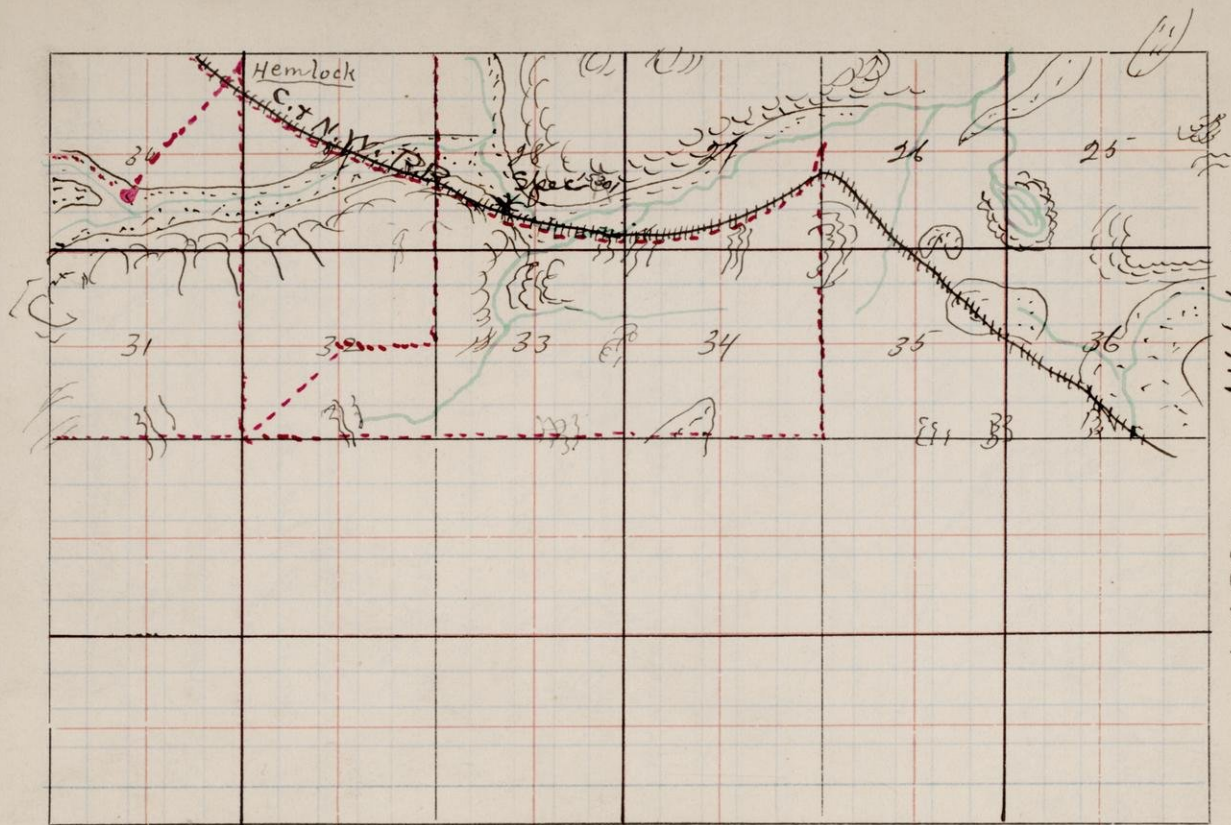
out crop. running 50 paces
east and west. Surrounding
country. Strike $N 10^{\circ} S.$
Description

Run south to south east
corner of Sec 8 T 44 R 36 W.

Continued south to south east
corner of Sec 10 T 44 R 36 W, then
south west to south west corner
of Sec 15 T 44 R 36 W, then west
to north west corner of Sec 21
T 44 R 36

Continued west to north west
corner of Sec 20 T 44 R 36 W then
south to Hemlock Station
near the south west corner
of Sec 20 T 44 R 36 W.

In coming through on lines



T. 44 N.

R. 36 W.

(See preceding page)

and sections just mentioned
I found the country about
the same i.e. lands gently
rolling, timber nearly all
hard wood.

Starting from south west-
corner of Sec 20 T44R36W we
run east on rail road track
to ledge.

Specimen # was
taken from ledge 800 paces east
of west line of Sec 28 T44R36W
on rail road track.

Spec

15301

Description

Continued east on rail
road track to east 1/4 part of Sec
27 T44R36W. This 1/4 part is
10 paces south of the track

Run south to south-east corner
of Sec 27 T44 R36 W, continued
south to South east corner of Sec
34 T44 R36 W then west to South
east corner of Sec 33 T44 R36 W
then west to south-west corner
of Sec 34 T44 R36.

Continued west to south-west
corner of Sec 32 T44 R36 W then
north to north west corner of
Sec 32 T44 R36 W. then north
to north west corner of Sec 32 T44
R36 W.

Continued north to north
west corner of Sec 29 T44 R36 W

Country still continues about
the same, land level, timber
growth hard wood.

Run east on rail road
track to west line of Sec 28
T44 R36 W, then south to south
west corner of Sec 28 T44
R36 W.

Continued south to east-
 1/4 part of Sec 32 T44R36W
 then west 1000 paces then
 south west to south west-corner
 of Sec 32² T44R36W.

Run west to south west-
 corner of Sec 31 T44R36W and
 continued west to south west-
 corner of Sec 36 T44R37, then
 north 300 paces to the River.

Followed the river down
 to near east side of Sec 30 T44
 R36W to a trail-road.

The river has a sandy
 bottom.

On these lines I found
 the land rolling, timber
 hard wood - no traces of rock.

Starting from north-east-
 corner of Sec 30 T44R36 we
 run south west 2100 paces

The country was flooded
 here - water backed from
 the dam

Run north west - to west - 1/4
 post of Sec 30 T 44 R 36 and
 continued west - 1300 paces to
 the lake.

We meandered the lake on
 the north to the west - 1/4 post
 Sec 25 T 44 R 37 W.

The lake has sandy bottom
 and low banks.

I found no sign of outcrop
 in coming through - land
 level with exception of one
 hill in Sec 25 T 44 R 37 W 400
 paces west of the 1/4 post. This
 was found of sand and gravel.

Continued north to north-
 west corner of Sec 25 T 44 R 37
 Kept on north to north west
 corner of Sec 24 T 44 R 37, still.
 Kept north to north west corner
 of Sec 13 T 44 R 37 and north
 to north west corner of Sec 12
 T 44 R 37

Country - about the same

i. e. level timber growth
hard wood. Travelling good.

Run west - on rail road
track to Elmwood station
to west line of Sec 11 T 44 R 37 W
then south to Lake near
the South west corner of Sec 14
T 44 R 37 W — country gently
rolling, timber hard wood.

Starting from the lake
run west - on South line of
Sec 15 T 44 R 37 W to south
west corner of Sec 15 T 44 R 37 W,
then south to south west corner
of Sec 22 T 44 R 37 W.

Continued south to south
west corner of Sec 27 T 44 R 37 W,
south - to south west cor. of Sec 34
T 44 R 37.

In following these lines I
found the country level, timber
maple and Birch, travelling
good.

Run west to south-west corner
of Sec 33 T44 R37 W.

Continued west to south-
west corner of Sec 32 T44 R37
— level country, timber hard
wood

Continued west 500 paces
then north west to west line
of Sec 31 T44 R37 500 paces
south of north west corner,
then north to north west
corner of Sec 31 T44 R32,
north to north-west corner
of Sec 30 T44 R37, north to
west $\frac{1}{4}$ part of Sec 19 T44 R37

Country level with the
exception of one high hill
which is about 300 paces
north of south west corner
of Sec 19 T44 R37 W. — this
hill is made up of sand
and gravel.

Judging by lakes and
streams and hill etc

soil is very deep.

Started from west $\frac{1}{4}$ post
of Sec 19 T 44 R 37 W and continued
north to north west corner of
Sec 18 T 44 R 37 W.

Continued north to north
west corner of Sec 7 T 44 R 37 W,
north 600 paces to Lake
then around the east side
to west line of sec 31 T 45
R 37 W.

Country has now changed,
lands have become very
broken and wind falls
occur. It looks very
much like a granite country
The hills are gravel drift

Run from the Lake on
the west line of Sec 31 T 45 R 37 W
to north west corner of this
section

Continued north to the

rail road track near the
west $\frac{1}{4}$ part of Sec 30 T 45
R 37 W.

Land still broken with
gravel drifts.

Then run east on rail road
track to Elwood station
and took the train for
Watersmeet.

From Watersmeet run east
on rail road track to East
line of Sec 18 T 45 R 38 W.

The track crosses this
section line 350 paces north
of the $\frac{1}{4}$ part.

Run south to south-east
corner of Sec 18 T 45 R 38

Country very broken, with
gravel drifts. Timber Hemlock.

Continued south to
south-east corner of Sec 19
T 45 R 38 W — land rolling
timber Hemlock — then

run south on section line
(T45 R38 N) to the Lake.

Continued south west to
south-east corner of Sec 29 T45
R38 W.

The Lake has high banks
and sand bottom. Neighboring
timber growth Pine and
Hemlock.

Run south to south west
corner of Sec 33 T45 R38 W, then
east on town line to south
east corner of Sec 33 T45 R38 W.

Continued east to south
 $\frac{1}{4}$ pt. of Sec 34 T45 R38, ^{the Lake} then
north west to $\frac{1}{4}$ pt. of Sec
34 T45 R38 W.

Run north to north west
corner of Sec 34 T45 R38 W and
continued north to north
west corner of Sec 27 T45 R38
then east to north east
corner of Sec 27 T45 R38 W,

then south two miles to Town line.

Continued south to south east corner of Sec 3 T 44 R 38 W then north west to center of this section.

Run north to $\frac{1}{4}$ pt. and to Lake.

This Lake has high banks and a sand bottom.

Country about the same i.e. very rolling and broken with granite hills.

Now and then granite boulders occur but no sign of ledge.

Run from north $\frac{1}{4}$ pt. of Sec 3 T 44 R 38 W south west to west $\frac{1}{4}$ pt. of Sec 3 T 44 R 38 W and south to south west corner of Sec 3 T 44 R 38 W.

Continued south to south west corner of Sec 10 T 44 R 38 W

South 700 paces and back
to corner.

Run east two miles to
north-east corner of Sec 14 T44
R38 W. and south to south
East-corner of this section
Continued south to south
west corner of Sec 24 T44 R38 W
and ^{South} to west $\frac{1}{4}$ Sec of Sec 25
T44 R38 W

Country high and rolling
Hills, made up of gravel
and boulders.

Started from west $\frac{1}{4}$ part
of Sec 25 T44 R38 and run
South to south west corner
of Sec 25 T44 R38 W, then
east to north $\frac{1}{4}$ part of sec 36
T44 R38 W, then south west
to west $\frac{1}{4}$ part of this section

Run north one mile
to west $\frac{1}{4}$ part of Sec 25
T44 R38 W, then north west

to north $\frac{1}{4}$ part of sec 26 T44 R38^N
 then north to north $\frac{1}{4}$ part of
 Sec 23 T44 R38 W

Run west to north west
 corner of Sec 23 T44 R38 W.

Continued west to north west
 corner of Sec 22 T44 R38 W then
 south 1250 paces.

Country level with hard
 wood growth almost entirely.

Started from west line of
 Sec 22 T44 R38 W 1250 paces
 south of north west corner run
 west 600 paces, south 750 paces
 to section line and then west
 to south west corner of Sec 21
 T44 R38 W

Continued west to south
 west corner of Sec 20 T44 R38 W
 line over sand and gravel
 hills.

Continued west to Range
 line — Country rolling

Continued west to south
 $\frac{1}{4}$ part of Sec 24 T44 R39 W
 then north to north $\frac{1}{4}$ part of
 Sec 24 T44 R39 W.

Country very much broken.
 Run west to north west
 corner of Sec 24 T44 R39 W to
 Lake.

This lake has high banks
 and sand bottom.

Continued west to south-
 west corner of Sec 14 T44 R39 W
 - land rolling.

Continued west to south-
 west corner of Sec 15 T44 R39 W

Country generally level.

Run north three miles
 to Town line on road.

Started from north west-
 corner of Sec 3 T44 R39 W and
 run east to north east corner
 of this Section

Continued east to the

north east corner of Sec 2 T 44
R 39 W — then south to
south west corner of Sec 1 T 44
R 39 W. Land rolling.

Continued South to
south west corner of Sec 12 T 44
R 39 W then west to south
west corner of Sec 11 T 44 R 39 W.

On this line I found
a test pit about 30 ft. deep
but it did not strike a
ledgr.

This pit is situated 300
paces east of south west corner
of Sec 11 T 44 R 39 W.

Continued west to south
west corner of Sec 16 T 44 R 39 W
then north to camp.

Started from near south
west corner of Sec 34 T 45 R 39 W
and ran north on rail road
tracks to north line of this
Section 500 paces east of

north west corner then east
to north east corner.

Continued east to north
east corner of Sec 35 T45 R39
and east to south $\frac{1}{4}$ post
of Sec 25 T45 R39 W.

Continued north to $\frac{1}{4}$ post
of Sec 25 T45 R39 W.

Run north to north $\frac{1}{4}$
post of Sec 24 T45 R39 W and
still north to rail road track
then west on rail road track
to north west corner of Sec 27
T45 R39 W

I found the country very
broken - high hills and
ridges of gravel and sand.

Note

The object of my trip was to collect specimens which should serve to locate the line between the Huronian slates to the north and the Archean schists to the south.

During the Summer of 1889 this line was carried as far East as the N.W. Cor of Sec 3 T¹ 45. R 39 W. where it is running S.E. Here it was lost under drift.

To the South-East some 15 miles it was thought that the line between these two areas was again discovered, but this could not be determined for lack of a sufficient number of specimens. Even the microscopic examination of the few specimens collected did not afford any very good ground for separating the rocks in this region, since it was not possible to decide whether certain schistose rocks were undeniably fragmental or not.

It is hoped that the specimens
collected by Oley will afford enough
material to enable us to trace
the rocks of doubtful nature ei-
ther into the schists or into
the fragmentals -

W. L. Bayley

