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## **Vicinity of Swanzy, Mich. and country westward: [specimens] 15302-15343. No. 131 1891**

King, F. P.

[s.l.]: [s.n.], 1891

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U. S. GEOLOGICAL SURVEY  
FIELD SECTION BOOK

*Book 131*

*Vicinity of Swanzy, Mich.  
and country westward.*

*J. P. King, 1891.*

*15302-15343*

# LAKE SUPERIOR DIVISION.

## INSTRUCTIONS.

1. Ordinarily at least two pages of this book will be devoted to one section. On the left-hand page, place a map of as much of the section as has *actually been seen*. Denote rivers, lakes, marshes, etc., by the usual topographical signs. Denote the ledges of rock, when no structure is made out, by cross-hatching, making the cross-hatching cover as nearly as possible the areas occupied by the exposures. If the rock is a massive one, but still more or less plainly bedded, use the same sign with a dip arrow and number attached, showing the direction and amount of the dip. Denote a shaly or other very plainly bedded ledge by right parallel lines, and a ledge having a secondary structure by wavy parallel lines running in the direction of the strike, with dip arrow and number attached as before. The greatest care must be taken to avoid confusing slaty or schistose structure with bedding, and in all cases where there is the least doubt about the true bedding direction, indicate it by a query. To each exposure on the face of the map attach the number of the specimen representing it. In mapping the section count each of the spaces between the blue lines as 100 paces, and twenty of these spaces to one mile, or 2,000 paces. Usually the southeast corner will be placed at the bottom of the page, or at the first black line above the bottom of the page, and at the right-hand side. If, however, for any reason, it is desirable to show portions of an adjoining section, the southeast corner may be shifted up, or the map may be turned around and the north placed at the left-hand side of the page. The ruling of the left-hand page is also arranged so that, if desirable, a smaller scale can be used, two inches, one inch, or even one-half inch to the mile. With the two-inch scale, the squares outlined in black represent sections, and those in red, quarter sections and "forties," while the space between the blue lines is 200 paces.

2. On the right-hand page place the notes descriptive of the exposures. Begin in each case with the number of the specimen, placing the number on the left-hand side of the red line, after which give in order on the right of the same red line the position of the ledges as reckoned in paces from the southeast corner of the section, and the dip and strike when observable, 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. When topographical maps are used for locations this paragraph applies only in part.

3. Collect a specimen from every ledge, or wherever there is a change of rock on any one ledge, taking care to get fresh material, unless for a special purpose the weathered surface is desired. In case of trips made on foot or in canoes, for long distances, neighboring ledges, unquestionably of one kind of rock, need not be specimened, but chips of them must be taken. The position and extent of the ledges not specimened should be marked on the map, with notes that each is of a rock identical with specimen so-and-so. Under the same conditions small sized specimens, trimmed to a uniform size of  $2 \times 2\frac{1}{2} \times \frac{3}{4}$  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 section 3, chapter IV, p. 44, Regulations of the U. S. Geological Survey. In all cases collect chips for slicing. Specimens should not be placed together without protection in the collecting bag as the fresh surfaces, important in determining the character of rocks, are thus destroyed. They should be damaged by no temporary mark, but the numbers should be at once marked in at least two places upon the inclosing paper or cloth bags. It is desirable that specimens be permanently marked in camp by painting the numbers upon them in white upon a black background, using Silver White and Ivory Black oil tubes for color, with turpentine as a diluent.

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

5. Forward this note book as soon as filled as registered mail matter to C. R. Van Hise, U. S. Geologist, Madison, Wis.

Field Notes  
of  
F. P. King  
Field Asst  
Season 1891

T45 R29.28.27.26.25  
" 44 " 29 28 27  
" 43 " 29 28 27

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Book # 131

1  
1891  
Swanzy Mich June 7

Left Marquette on 2.55 P.M.  
train and connecting at hegama  
with C. & N.W. arrives at Swanzy  
4.21 P.M. Camped at Small Lake  
south east of station

Have the following men in  
my party

Henry S. Smith Compassman  
Joseph Podett Packer  
Samuel Crane Cook (?)

June 8 1891

The compassman is laid up  
with "Piles"; the other men are  
new to the business so that  
the entire day in making  
food packs and arranging  
camp outfit preparatory to  
a long trip. During the day  
I went up to north line of  
T 46 R 26 on RR (Station called

Plains. Found the entire  
 region covered with sand.  
 On some of the rolls the  
 top is capped over with  
 packed sand arranged in  
 layers of a foot in thickness.  
 This at a short distance looks  
 like sandstone but its true  
 nature is discovered on  
 closer inspection.

June 9 1891

The compassman still in  
 bad shape but the camp is  
 moved to old saw mill on  
 east bank of Escanaba River

The sand plains continue  
 to the <sup>first</sup> small stream crossed  
 by road. There is a large  
 ledge of red granite covered  
 in patches by earth

Spec  
 1  
 15302

Took Spec 1 from  
 the large exposure fifteen  
 feet south of Swaney's Road  
 Road where it crosses the  
 small stream passing through  
 the north-west quarter of Sec

22 T45 R 25 W.

This is a rather coarse  
crystal granular red granite.  
A freshly fractured surface  
shows glistening red feldspar  
and quartz.

The ledge has an east and  
west trend.

Similar red granite appears  
along road to the Escanaba  
bridge, at which point  
stream cuts through this  
same granite.

June 10 1891

Ran north from Camp at Escanaba  
Bridge to Chessler Spur (R.R.)  
Was unable to find old Camp  
River Road.

Ran east to 450 paces west  
of west end of bridge & passing  
over East Beach Escanaba

Ran north two miles which  
brought us into Sec 4 T44 R 25 W

The country is completely bare  
of any timber and this survey  
marks are wanting.

Bedding of granite running east

and west continually cut our line.

382 paces north of R.R. found first ridge of granite.

1642 north of R.R. another ledge of same. Took Spec 2

Spec  
2  
15303

This would be in the north east corner of Sec 16 T44 R26W

This specimen similar to #1

1830 north of R.R. came upon an especially large exposure.

This drops steeply to the east into a large swamp. we run north upon it 190 paces

The next mile began in low land 300 paces brought us to a small creek.

Then 300 paces followed of granite ridges with continuous exposures.

Another Swamp of 400 paces was succeeded by a granite ridge.

383, paces north of R.R. took Spec #3. This is a pegmatite with pink feldspar.

Spec  
3  
15304

Just at the end of our 4000 paces north of R.R. we struck



the east branch

Crossing the river we run east  
200 paces through a low country.  
This brought us to a ridge of greenstone  
which runs east about 100 paces  
and then dips under sand.  
Took Spec # 4      Sw cor Sec 3  
T 45 R 25 W. This is a fine  
grained greenstone very fresh  
and tough.

Spec  
4  
15305

Completed our 2000 paces east  
running through a barren sandy  
country and then turned South.  
Run South 1100 paces over same  
kind of country 200 paces through  
swamp and then the compass-  
man made a sight of 950 paces  
which shows the character of the  
country without further description.

Came to RR from point where  
we turned to run South in  
3827 paces.

The track runs due west  
20° South for a mile.

In coming South we could see  
the country plainly for a 1/4 of  
a mile either side of us thus

6

the granite here can be traced fairly accurately.

June 11 1891  
Ouring team gave us a lift to the small ranch east of the East Branch.

Pacing 100 steps east on road from east end of bridge we turned south. I judged from the plat that we run south very nearly on east line of Sec 21 T45R 25 430 paces south 200 west is a large bump of granite.

651 paces south is another of some smaller than the first.

1200 paces south is a small lake 25 paces east of our line.

1615 paces south is a larger lake meandering it is on east side we continued south through swamp. Swamp very large.

6815 paces south of road we turned west.

1473 paces west we came to main river Escanaba No. 1 bridges. The river has sand banks and gravel bottom. The west

7  
side of river resembles sand  
area passed over yesterday.  
Followed west bank north for  
about  $\frac{1}{2}$  mile and then ran  
wild to gain the Escanaba Road.

The country is entirely devoid  
of government marks and this  
all running is made from  
some well marked starting point.  
June 12, 1891

Went over to Cheshire town and  
made acquaintance of Mr. Capt.  
From him we were able to find  
the east range line of T45 R25 W  
The south west corner of Sec  
18 T45 R 25 W is south of town  
Road (supply road running west  
to logging camp) about 700 paces.  
We followed the range line  
north from road 866 paces  
where we met a high bluff  
and ridge of granite running  
about north east. The magma  
of this bluff shows a differ-  
entiation of gneiss and



granite constituents  
 Spec. 5 Took Spec. 5 Greenstone (schistose)  
 5  
 15306 " 6  
 6  
 15307 " 7 Pegmatite  
 7  
 15308

This ridge forms western boundary  
 of Huronian.  
 Continued north from road one  
 mile and a half on west range  
 line of T45 R25. I arrived at  
 river in 1250 paces from road.  
 Granite exposures all the  
 way

Ran north from road one  
 mile and a half bringing  
 us if our starting point  
 was correct a short distance  
 into section C. Exposures  
 of granite still numerous  
 then east on an almost barren  
 granite country. We could see  
 granite exposures north as  
 far as eye could reach.

We ran east one mile and  
 then turned south reaching  
 the river in 2280 paces.

According to plat it would

seem that the compassman's work was very good, but government marks for correction are wanting. Only a few granite & pounds were seen on the way back; the ridges being covered with sand and growth over with small poplar

Jan 13 1890

Went to point on road from which we started yesterday and run south 460 paces.

Here we met cross line and running west 400 paces came to corner (Sw cor Sec 18 T45R25) showing that on yesterday's work we were 400 paces east of the west range line of T45 R 25 N.

Run south from south west corner of Sec 18 T45 R 25 N through a cedar swamp for about 200 paces and then over a high rolling wooded country. 878 paces south of corner we found a large granite ledge

Spec  
8  
15309

Took Spec 8. This is a red granite.

Continued south to SW cor. of Sec 19 - no exposures  
Continued south on west line of Sec 30 to its SW corner and then run east (meandering lake at 1/4 part on north side) to where SE corner of Sec 30 T45 R25N should be - burnt country - and then north over sand and gravel hills to the north east corner of Sec 30.

Run west to Escanaba supply road. 150 paces east of south-east cor. of Sec 19 T45 R25N

This road cuts across Sec 20 to river meeting the Swanzy Road at the top of Sawmill Hill.

Jan 14 1899

Moved camp to north end of Mud Lake on section

12

line between Secs 15 & 14 T 45  
R 26 W.

June 15/89/

Ran north from lake to  
river about one mile. The  
line was judged from plat  
and after rounding the bend  
of river and coming to crossing  
point, by good fortune we  
found our line and also a  
big tree stretched across <sup>casual</sup> river.  
Distance from lake to line at  
river about 1 mile.

(Camp 480 faces south of NW  
corner Sec 14 T 45 R 26 W.)

70 x 50 faces east of south  
east corner of Sec 3 T 45 R 26 W  
found a small outcrop of  
granite. Took spec 7. Specimen  
contains a great amount of mica  
and white feldspar together  
with red.

Spec  
15/310

Attempted to take variation  
of needle but found my  
instrument way off as



compared with variation given  
on plat. Later I examined instrument  
with known points and  
found it sadly in need of  
repair.

Spec  
10  
15311

Continued north one burnt country  
1250 n and 130 west of SE cor  
of Sec 3 T15 R26 N rises a  
granite-kent 100 paces in diameter.  
Took Spec 10. This is a  
course grained granite or pegmatite  
Specimens of different degrees of  
coarseness could be obtained  
but this specimen fairly  
represents the character of the  
outcrop.

Continued north to where  
the north east corner of Sec 3 T16  
R26 should be. Here a high  
granite ridge with many bare  
exposures runs north east  
across the country.

11  
15312

Run 149 paces west and  
took Spec 11. This seems to be  
a homblende granite with  
large porphyritic crystals

of white-feldspar.

Completed the mile west to  
nw corner of Sec 3 T46 R 26

To pass west of this corner  
Spec took spec 12. This is coarse red  
granite.

1/2  
15313

Continued west to river 780  
paces River has sand and  
gravel bottom.

Run west to nw cor Sec 4  
T45 R26. Saw no outcrop  
felt the country is similar  
to the northern part of T45.

Run south on section line  
one burnt country to road 420  
south of the north-west corner of  
of Sec 16 T45 R26 W.

East to camp on Supply  
Road.

June 16 1891

Heavy storm during night.  
Rain beat through tent  
as a sieve. The day dull  
and rainy did not leave  
camp.

June 17 1891

Measured lake on west side  
to west line of Sec 14 T45R26  
and ran south by compass  
line through burnt country to  
slough between secs 22 + 23.

Squand around this and  
continued south to lake - between  
27 + 26 T45R26 W.

Found a line on south side  
of this lake and continuing  
south came upon <sup>west</sup> 1/4 part of  
Sec 26 T45R26 W and later  
is south-west corner.

This corner is on a large fowlden  
hill. These fowldes are generally  
of an immense size some of  
them 50 ft in length diam.

at this corner I sent Mr.  
Smith east and I went west.

Mr. Smith ran west to south  
east corner of Sec 26

Mr. Smith ran east to SW  
corner of S 26. Country with  
exception of swamp at 1/4 post  
is hard wood and good

travelling but no outcrops.

Run north to lake 480 paces.  
Measured this on west side  
and picking up line found  
1/4 post 150 paces north of lake.

Run north through tamarack  
and cedar swamp to Supply  
Road 800 paces north of Sub  
cor. of S, 3 T 45 R 26

Back over road to camp.

I run west over a well  
marked line, finding 1/4 post  
and corner to south west corner  
of S 27 T 45 R 26 W. Country hard  
wood hilly boulders black

Run north on west line of Sec  
27 to 1/4 post. Country rolling.  
East half of west line of 27  
turnt country.

Continued north to Supply  
road 800 paces north of Sub cor.  
of Sec 15 T 45 R 26 W.

With exception of swamp, a few  
turnt country even rolling - no  
outcrops. Very few boulders

Run east on road to camp

June 18 1891<sup>17</sup>

Toward camp to take north of Supply  
Road in S. 23 T45 R27 W.

June 19 1891

I took the two packers and  
went to Cheshni mine. Started  
early and made this distance  
nine miles at least at 9.30 A.M.

Rode into Swazy by stage.  
Wrote to Prof. Van Hise & Sellwood  
and. On return to camp with  
50 lbs of supplies a price was  
not a walk for health. The sun  
beat the mercury down out of  
sight and our tender feet  
were badly bruised but we  
finally got there unharmed.  
The return in four hours.

Mr. Swift spent the day  
making a run into R 26

Starting from the Supply  
road which crosses the range  
line at the NW cor of Sec 19  
T45 R26 he ran south three  
miles to town line (SW cor Sec 31

T45 R26 East to south-east cor  
 SE of 31 T45 R26 then north to  
 supply road. 250 paces north of  
 north-east cor sec 19 T45 R26. He  
 said he saw no ledges and  
 very few boulders. The lake  
 had sand bottom and banks. The  
 hills on east side run all  
 sand and some of them very  
 steep. Section 31 is completely  
 burnt over and he could find  
 neither corners or lines.

Jan 20 1891

Went to NW cor 24 T45 R27  
 by road.

Run north two miles. East  
 line of Sec 12 burnt country.  
 - Sand and boulder hills.

Run west one mile to NW  
 cor Sec 12 T45 R27 Similar  
 country.

Turned south. 600 paces  
 south small stream. Burnt  
 country ends <sup>green</sup> - hard wood  
 to SW cor Sec 12 T45 R27

Hard wood continued for

about 800 steps then Jack Pine and sand country to lake on cont. 1/2 of east line of Sec. 13.

Continued south of <sup>Supply</sup> road which is just a few paces south of SW cor Sec 13 T45 R27.

June 21 1892

Followed supply road as marked on plat T45 R27 W. Road goes up to Dam in NE cor. of Sec 34 T45 R27 W. after this it is nothing but a Winter Road.

The Road follows defencible line until it reaches about the north quarter part of Sec 2 T44 R28 then it takes a series of logging roads through 2, 3 & 4 of T44 R 28.

In section 4 it comes out at a logging camp and supply road which connects with Floodwood Road.

June 23 1891

Mr. Smith run south east

on supply road to Dam in Sec  
10 T44 R28 and after considerable  
difficulty picked up the  
south line of Sec 11 T44 R28  
and run east to R line or  
no. 2 cor Sec 13 T44 R28.

Run south on range line one  
mile to SE cor Sec 13 T44 R28  
and back west to road. Road  
about 800 paces from the SE cor  
Sec 14 T44 R28.

I picked up south line  
of Sec 4 T44 R28 and running  
west 1800 paces came to Cor.  
SW cor Sec 4 T44 R28

Run west two miles to SW  
cor Sec 6 T44 R28. Timbered  
country - rocky.

Run south one mile and  
then <sup>east</sup> west almost four miles  
through burnt over country  
to Supply Road.

Neither of us saw any  
ledges and very few  
boulders

June 24. 25. 26

I went to town by way of



Flowerwood supply road to arrange monthly accounts. Made the distance of about 12 1/2 miles in their hours.

Mr. Smith moved camp to point where supply road crosses river in Sec 24 T44 R28 N and from this camp made a few runs.

He found section line between Sec 23 + 24 T44 R28 N. An old logging road follows section line south to SW cor Sec 24 and runs east to fork of stream in northern part of Sec 25. He then ran due south 1400 paces and west 1400 paces and then north to corner.

At another time he followed an old logging road west. This road leaves the <sup>east</sup> section line of 23 at about the south 1/8 and runs west to swamp, then south west to a point in vicinity of same. Then runs almost due west

on section line, two miles to south-  
west cor. Sec 27 T44 R28. Here  
he followed a logging road south  
for a half mile.

Returning to the SW cor Sec  
23 he then south on another  
logging road about 1200 paces  
to the end of logging road.  
He continued south through  
high, green hard wood  
country to the west 1/4 post  
of Sec 36 T44 R28.

With the exception of the above  
mentioned bit of hard wood  
and the swamps, the country  
is burnt over and covered  
with sand drift and second  
growth of poplar. No ledges

June 27/1891

Moved camp to old logging  
camps south of river in Sec 27  
T44 R27

The supply road crosses  
river just a few steps west  
of small stream entering  
river at northern part of  
Sec 28. In afternoon, without

line, we followed stream north  
above little lake as plotted in  
Sec 21 and then run west 2500  
steps. over ~~an~~ low sand hill  
country and then south 1200  
steps to supply road

June 28 1891

Mr. Smith took charge of camp  
and moved it from the old  
logging camp, along section line  
— having found the S.E. cor  
of Sec 21 T44R27 — three  
miles and 1300 paces  
to stream crossing section  
line between 4 & 3 T44R27 N.  
This was a tough trip the  
line running through a badly  
flooded country with numerous  
swamps and old wind fall  
burning.

I run north from S.E. cor  
Sec 21 a half mile then  
~~west~~<sup>east?</sup> one half mile; but  
finding that the dam in  
Sec 27 had spread the water  
from one stream to another  
in this low country I was

compelled to run north one  
mile, as the country did not  
improve as far as wading was  
concerned I run <sup>east</sup> west a half  
mile to East  $\frac{1}{4}$  part of 15 + 44  
R27 N then cut a corner  
Sec 14 to its ~~west~~ <sup>north</sup> ~~part~~ <sup>part</sup> which  
is on bank of stream.

To avoid swamp I run east  
three hundred paces keeping  
on a jack pine ridge and  
then run north half mile cut  
a corner north east to north  
line of 11 and then run west  
over a high rolling ~~country~~ (hills  
over) NW corner Sec 10 and then  
north to stream.

The camp had not come  
up yet but not knowing this  
I spent  $1\frac{1}{2}$  hrs hunting for  
it up and down stream being  
raising merrily all the  
time.

No ledges seen by either  
party.

June 29 91  
 Mr Smith again took charge  
 of camp and moved it north  
 to supply road at the nw  
 cor Sec 34 T45 R27 and then  
 west on supply road to sw  
 cor Sec 31 T45 R27

He ran north through hard  
 wood country to swamp 1200  
 paces from sw cor Sec 31 T45  
 R27 W. Camped

I ran south from river 1300  
 paces then west on south line of  
 Sec 4 T44 R27 to corner.

Continued west two miles to  
 west range line, 9 T44 R27 line  
 running over hard wood high  
 rolling country - patches of  
 old farming and wind falls.

Ran north on west line of Sec 6  
 T44 R27 W hard wood country  
 into T46 R27. to camp.

— No ledges —

June 30 1891

Mr Smith moved camp  
 north on range line to lake  
 between Sec 13 + 18 T45 R28 + 27

Two or three burnt planes slightly rolling no timber until a short distance from lake.

I run north to SW cor of Sec 19 T45 R27. Cut a cor. SW quarter of Sec 19 then <sup>east</sup> west one mile and a half over this burnt plane to river at east  $\frac{1}{4}$  part of S. 20 T45 R27

Run northwest one mile and a half to NW cor Sec 17 T45 R27 finding both corners. Burnt on planes.

Run west through a level highway to Jack Pine country to NW cor Sec 17.

Continued west over same kind of a country to NW cor Sec 18 T45 R27. This corner is at the north end of a meadow swamp. encircled by a ridge except at south west end which is a swamp.

Run south 600 paces to lake and camp.

Mr. Smith had in the mean time run back south

to SE cor of Sec 24 T45 R 28.

Run west one mile to SW cor  
Sec 24. - most things swampy  
and burnt country to NW cor  
Sec 18 - east to NW cor Sec  
15 T45 R 28 and south to lake  
and camp.

No ledges. still concealed by  
drift.

July 1, 1891

Mr. Smith and myself run  
north ~~the~~ Range line to town  
corner on Kowaleh hills. - burnt  
country. Separated here.

Mr. Smith run east three miles  
to NW cor Sec 4 T45 R 27. The burnt  
country extends about one mile.

Run south to SE cor Sec 4 - west  
one mile and then running <sup>south?</sup> north  
700 steps he took a south <sup>south?</sup> west  
course along a Norway ridge  
& stream crossing section line  
town 7 & 18 T45 R 27. a short  
distance from stream he picked  
up section line and run west  
to corner and south to camp.

I run west two miles on

Fowlder hills. County shows numerous  
kettle holes some of great size.

Ran south one mile to SW cor  
Sec 2 T45 R28. at this cor. there  
is a thicket of damonable charachs  
about 600 paces in diameter

Ran east two miles to range  
line. First mile through a prairie  
county. The second mile over  
the rough hilly bent country of  
the north. From range line  
ran south to camp.

July 2 1891

Mr Smith moved camp west  
few miles and 800 paces to supply  
road (Republic supply road). A clean  
line slightly rolling country with  
mixed timber growth.

This road crosses south line of Sec  
7 800 paces west of its S E cor  
(T45 R28 W). Mr Smith ran west  
on south line of Secs 12, 11 10  
9. 8 T45 R~~28~~ W.

I left them at the S E cor of  
Sec 10 <sup>T45 R 28 W</sup> and cut a corner sec 15  
to its south west cor. In following  
a fine ridge until very near



corner (Sec cor 15 T45 R28 N) where there is an open tamarack swamp.

Ran west from this corner on a blazed line (my own) to south 1/4 post of Sec 16 T45 R28. Here it began to rain and seeing that a thunder storm was brewing I ran entirely by compass to Republic supply road.

The line runs through rolling country. The flatland swamps are tamarack and cedar. There is a high ridge on east side of river Sec cor Sec 17 T45 R28 N

Found trap on road and had camp pitched at small lake about one mile from point where road crosses section line between Secs 7 & 18 T45 R28 N.

July 7 1891

Sick. Mr. Smith made a short run. He ran west on south line of T45 R28 1200 paces to range line and corner. Mr. Smith reports it a white pine country high but no ledges.

Continued west two miles over burnt  
sand and boulder ridges) country  
to the Sw cor Sec 11 T45 R 29 W

Run south one mile to Sw cor  
Sec 14 T45 R 29 W and east over  
low swamp country to range line  
Sw cor Sec 13 and east to  
road which is very near the  
Sw cor Sec 18. The last mile or  
again came into the pine country  
of the north of this section.

No ledges not very many boulders

July 8 1891

Left camp (old logging camp  
on west side of small lake which  
is very near 1/4 post of south  
line of Sec 7 T45 R 28) and  
run west Allen's RR logging  
camp in Sec 3 T45 R 29 W.

Hardly any line except at start  
The compass line took me  
over a rolling sand and boulder  
country which has been burnt  
over for some time.

I followed logging road around  
lake to the west. The lake to the

in Sec 4

west has swampy environments -  
in Sec 3 it has low gravel banks.

From north east side of lake I  
run north east 1000 paces through  
a tamarack swamp and came  
upon a lake in the north east  
corner of Sec 3 T45 R29 W. Traced  
this on south side and running  
north picked up the north west  
corner Sec 2 T45 R29. Continued on  
south side of lake to the north  
line of Sec 2 and running east  
on this found 1/4 1/8 and corner  
posts.

The north east corner of Sec 2 T45  
R29 W is 275 paces east of the  
Republic Road. After leaving  
lake the line passes over a gully  
rolling back into country.

Run back to camp on this  
road. It winds through Sec 1 T45  
R29 W as platted

July 9 1891

Run south on road from camp  
in southern part of Sec 6 T45 R28  
to the south E cor Sec 18 where  
road crosses river. Here took

road running to Dam on river in  
Southern part of Sec 19

Run South from west 900 paces  
to range line through Swamp and  
200 N to  $1/4$  post.

Run south on range line to SW  
cor of 19 T45 R 28 then west  
with R 29, two miles to SW cor of  
Sec 23 T45 R 29. Run south to SW  
cor of Sec 26. This western half  
of Sec 26 new burning.

Run east through low jack pine  
and occasional Swamp three  
miles and 129 steps to Road in R 28.  
Repeats entire country passed over  
low and level — no ledges.

I followed stream from Dam  
in Sec 19 to Road. About half  
way found a red granite ledge,  
land bare by the running water,  
fins bed of stream. It is about 25'  
ft in thickness but so smooth  
and flat that as it was covered  
with water I could not step  
a pace off.

At the bridge where road

Crosses stream 380 paces south of  
west  $\frac{1}{4}$  part of 29 T 45 R 28 and 100  
pace east of section line there  
is another of same. This trends  
east and south. Took Spec 13

Spec  
13  
15314

This is a dark porphyritic  
granite with a coarse ground mass.  
The phenocrysts are bright  
glittering feldspar. The groundmass  
contains a beautiful pink feldspar  
quartz, ~~quartz~~ ~~and~~ ~~chlorite~~ chlorite  
mica and limblende (?).

July 10 1891

Left the Smith with camp down  
Republic Road to Floodwood Road  
and west on Floodwood Road  
to stream which crosses road in  
the eastern half of Sec 35 T 45 R 29.  
This Republic Road runs about south-  
east through Sec 32 T 45 R 28 & 4.

I ran east on a  $\frac{1}{4}$  line of Sec 29  
T 45 R 28, which I had found the day  
previous, to the east  $\frac{1}{4}$  of Sec 29,  
south to Sec 29. The run  
west was through a high hard  
wood scrub very bushy and

rough - south through tamarack swamp

Run east from this corner  
325 paces and came upon an  
4 paces (2) of red granite.

Spec  
14  
15315

Spec 14 similar to Spec 13.  
Continued east through swamp to  
river east of 1/4 S of Sec 27 T45 R28.  
This run of South line of Sec 27  
through wind fall burning.

At a corner South west through  
Sec line 34 & 33 T45 R28 and run  
west to Floodwood Road. At Porter's  
fields camp was supplied with  
lunch and cake for boys at the  
cost of 250¢. This so run over  
hard wood hilly country very  
rough.

July 11 1891

Rainy day but Silvera shows record  
camp west on road to the west  
line of S 34 T45 R29.

July 12 1891

Fork Sam and went into Floodwood  
for supplies. Beauty hot & some  
very near roasting our tongues on  
way back.

Lu Smith took Joe and run

north west on road through Sec 33 &  
 28 + 20 T45 R29 W to meet  
 Republic Road. This road runs  
 along Michigamme River. They  
 run north to town line then back  
 to south line of S & T45 R29 and  
 east on line to west end of  
 lake on south line of S & T45 R29 W.

July 13/1891

Mr. Smith and Joe return running  
 the south line miles and six hundred  
 feet for the south east cor of Sec 9  
 T45 R29 W. They report no ledges  
 but numerous boulders. Only passed  
 one almost entirely from country.

July 14 1891

Moved camp south on west line  
 of Sec 34 T45 R29 W and Sec 3  
 T44 R29 W to small stream.  
 Camp about  $\frac{1}{4}$  of a mile west of  
 east line of Sec 19 T44 R29 W.  
 A well cherty rough country. Came  
 upon the Felch Mt. RR Survey  
 and used it in running for  
 Sw cor. of 3 T44 R21 to small stream

July 13 1891  
 Tr. Summit run east from Sw con  
 Sec 3 T44 R 29, two miles to nr  
 Cor. Sec 11 T44 R 29. Country high  
 with hard wood except swamps  
 as platted.

Run south over high, hard wood  
 country very rough, hills not high  
 as platted, to Sw con Sec 11, ~~Returned~~

Run west on south line Sec 11  
 and 10 F.M.R.R.S. Country hard  
 wood high and swampy.

Run north west on right of  
 way to camp.

I run west over a swampy  
 country two miles to Sw con Sec 5 T44  
 R 29 W.

Found a splendid exposure of granite  
 50 paces S 260 E of north 1/4 part  
 of Sec 8 T44 R 29. This has been  
 exposed by late fires and covers  
 an area of about 200 paces in  
 diameter. There are two exposures  
 about 10 ft high both line with of  
 west. The Spec 15 shows a gray  
 granite with plenum crystals of feldspar

Spec

15  
 15316



It is very similar to other specimens kept in color of feldspars. The change seems due to weathering.

Found lumber camp just west of Sec cor Sec 5 and went over for a lunch. Had tea bread and syrup.

Run south about 100 paces east of west line of Sec 8 T44 R 29, 900 paces south of corner and 150 paces east of line; Took Spec 16

Spec  
16  
15317

This is a hilly area and shows exposure for some distance on account of thin grass fires.

Continued south to cor SW Sec 8 T44 R 29 N and then east two miles to E cor of Sec 9 T44 R 29. Run north to 1/4 post through hard wood country and east to camp.

Found Joe lost on returning. He had started out early in morning to locate FMRRS right of way. He had taken an axe and also a lunch. We yelled, fired guns, and pounded hollow tree with no effect. Toward dusk we

heard a peep off in the wilderness. —  
 more ammunition and beast wasted.  
 Chased up peep and learned that  
 some Swedes had taken compass  
 on our nose and were ~~at~~ about  
 one mile from their Hoggins Camp  
 trying to call us in. But we  
 went & bed without Joe.

July 16 1891

Joe lured up early in the  
 morning a saddle and wisai  
 foy. To the remembrance of Season neither  
 of the men went out of sight of  
 camp.

We all put on our packs and  
 started south with light hearts  
 on a hairy trail F.M.R.R.S  
 right of way. We passed through  
 Secs 10 15 22 and into 27  
 T44R29W. Jim kept in swamp  
 almost entirely.

July 17 1891

Started from south line of Sec  
 22 T44R29W where F.M.R.R.S  
 crosses it 546 feet west of S.E.  
 corner.

See Smith run east three

miles. passing one mile into  
 range 28 cut a corner Sec  
 30 T44 R 28 and run north 500  
 paces on east line of Sec 25 T44  
 R 29 to find ledge as planned. He  
 found no ledge here but said  
 there were plenty of large boulders  
 principally granite.

He then ran south to corner  
 and returned to camp (which  
 the boys had moved down logging  
 road into Sec. 35) on the south  
 line of 25 & 26. Found the country  
 generally high and comparatively  
 level covered with a mixed growth  
 of timber.

I run west or south line of  
 Secs 22 21 & 20 T44 R29 to SW cor  
 Sec 20. This will bush out  
 and newly chained and blazed  
 25 paces E of  $\frac{1}{4}$  post or 475  
 paces west of South  $\frac{1}{4}$  post of Sec  
 20 I found what I supposed  
 to be a ledge from its general  
 appearance (note spec 17) although  
 the exposure is small and  
 concealed by vegetation.

Spec  
17  
15318

Located it  $\frac{1}{4}$  post west of  
 $\frac{1}{4}$  post between Secs 28 + 29 T44  
R 29. This is a coarse grey granite  
Run west to SW cor of Sec 20  
T44 R 29 and found it on a  
Supply road. (This road starts  
for Ford R. Road - Sec 17 T43 R 29  
and runs a very little west of  
north to Floodwood)

Run south on road 570 paces  
The road runs east of line but  
only for a short distance. Then  
turns back to line again.

Continued south to river line  
crosses it at dam.

I took the road which runs  
south east for dam and followed  
it to a F. R. S. Co Camp in NW  
corner of Sec 32 T44 R 29 W. Was treated  
to a lunch by the Cooks.

The Cooks directed me to the  
SE  $\frac{1}{4}$  post of Sec 29. From this  
point run east to camp on  
south line of Sec 29, 28 27  
26 T44 R 29 W to camp.

Last part overlain by hail storm  
and severely used.

41

Country generally level, coarse with  
pine and occasional tough swamps.  
No ledges.

July 18 1891

Sent camp under charge of  
Mr. Smith south to Ford River  
Road. He ran south on west line  
of Sec 35 T44 R29 W. Sec 2 + 11 T43  
R29 W. On west line of 11 he found  
a number of ledges but not seeing  
any lead, did not stop to locate.

I ran south from north west  
corner of Sec 35 T44 R29 to its south  
west corner and then ran west  
on town line to a supply road  
which runs from Ford River Road  
to Floodurst. Supply road 250  
paces east of south west cor of Sec  
32 T44 R29 W. This line passed  
over a level pine country.

Ran south a little west on Road  
to F. R. Road striking it near  
the north east corner of Sec 17  
T43 R29 W. Ran east to camp  
on road. Country generally  
level swamp and pine  
lands.

July 19 1891

Went thru Smith's tract on west line  
 of Secs 14 - 23 - 26 - T43 R 29. and  
 East or South line of 26 and  
 north of East line of same sections  
 to road. He found no corns but  
 many logging lines. which together  
 with old fire concealed the  
 true line. On coming back to camp  
 he spent considerable time trying  
 to locate his camp so as to locate  
 the specimens found on this day  
 previous. but with no success

I run west on road to east  
 line of Sec 17. Went down to river and  
 after a short delay found east  $\frac{1}{4}$   
 part of Sec. 17 T43 R 29

Run south on east line of 17  
 20 29 32 T43 R 29 to town line  
 found  $\frac{1}{4}$   $\frac{1}{8}$  part and corners the  
 whole distance. Country very level  
 and covered with hard wood.

Run west on town line to SW cor of  
 Sec 32 T43 R 29 and north on west  
 line of these sections to Road.

No leadings. Country generally hard  
 wood and comp. level.

July 20 1894  
 Moved camp to Camp 4 ARL Co  
 wh. is very near the 1/4 post  
 between Secs 27 T 26 T 43 R 28

Mr. Smith was to take the supply  
 was running & to take the mail  
 and make a run but he  
 spent the day treating himself.

I spent the day clearing up  
 his work of the last two days.

Succeeded in finding the 1/4  
 post between Secs 3 & 10 T 43 R 29

Ran east to nr cor of Sec 10 T 43  
 R 29. Lure covered with granite  
 ledges.

Spec  
 18  
 15319  
 20 paces south of 1/4 post 500 paces  
 west of nr cor of Sec 10 T 43 R 29  
 took a spec 18 from a small  
 granite outcrop. This is similar  
 to other red granite specimens

Spec  
 19  
 15320  
 300 paces west of same corner  
 took a spec 19 of greenstone which  
 seems to form a belt in granite  
 900 paces south of nr cor of Sec 10

Spec  
 20  
 15321  
 on section line took spec 20  
 schist.

July 22 1891

Sent Mr. Smith back to his run  
on Indianapolis Road. A heavy  
storm however prevented him  
from it entirely. The road  
runs about south-west through  
Secs 28 T43 R28 and a little west  
of south through Sec 32 T43 R 28  
Crossing the south  $1/4$  post 732.  
He runs east from this  $1/4$  post  
~~to~~  $1\frac{1}{2}$  mls to south-east corner  
Sec 33 T43 R28

He found a large outcrop of  
Chert 440E 110N 75W cor of Sec  
33 T43 R28. Took his horse

21. & 22. One containing iron  
minerals.

I run east of F.R. Road through  
pine swamp and hard wood  
country high and level to dam  
and lumber camp in NW cor of  
Sec. 36 T43. Then took a trail  
road north east to stream in Sec  
24. Road was platted for me by Alpin

Spec

21

15322

22

15323



McCoy's "Walking Boss" for F.R.L. Co.  
and has been changed some from  
old roads found on maps.

County in S E cor of T 43 R 28  
has high sand hills (setts in them  
at dawn) and this are generally  
bare in fact almost the entire  
corner is void of trees.

Bought supplies at farm on  
way back - They lured me.

July 23 1891

Sent Mr. Smith to make a run  
north. When I returned at night  
I found he had spent another  
day locating horses. He however  
started road and made the  
following lines:

The south line of 10 x 11 T 43 R 28  
cut a corner sec 15 on trail slaking  
to line 600 paces north of S E cor  
of Sec 15 T 43 R 28.

Run south to corner and then  
east to road at S E cor sec 14

I run south west on Melopola  
Road. <sup>beginning of county</sup> Run west 2000 paces and find  
a tree square. This county corner is

so will with the SW cor of Sec 29 T43R28  
 as plotted that I run north and  
 pick up line and came to NW  
 Cor Sec 29 T43R28 1800 paces  
 north of my starting point on  
 Square line.

Run north on west line of 20  
 17 and 8 T43R28.

1500 paces north on west line of  
 Sec 8 T43R28 I found west in  
 account of apparent storm.

95 paces east of N 1/8 post on  
 west line of Sec 7 T43R28 W  
 I found a large outcrop of granite.  
 It consists of two ridges almost  
 100 paces long (N + S), with perpen-  
 dicular walls about 10 ft high.

Spec  
 23  
 15324

Distance between ridges about 20 paces  
 Took Spec 23. Spec is a red  
 granite - similar to albis

Run south on logging road to F.R.  
 S. Road. Can't hit hard wood  
 tamarack swamps much better.

Camped north during day  
 to NE cor of Sec 23 (Logging Camp)

July 24 1891  
 Found camp on Road & Sw.  
 On Sec 4 T43 R27. Road  
 runs through a *Picea* scrubby.  
 Run. Limit. run west on south  
 line of Sec 11 cut a cor 10. Run  
 north to new cor of Sec 3 T43 R28  
 east on town line to new cor of  
 Secs 2 T43 R28 W. Cut Sec 11  
 and run south to road.

I found west line of S 8 T43 R27  
 Run south. 200 paces &  $\frac{1}{8}$  post  
 Here the line stopped. Continue  
 south on west line of 8 and did  
 not see a blaze until near the  
 SW cor of 17 T43 R27. Found  
 the corner and continued south. to  
 SW cor of Sec 20-43-27

Run east on new line finding  
 all posts to the SE cor of Sec 21  
 Large spruce open swamp at  
 this corner. *Picea* scrubby on south  
 line. Run north 1500 paces most of  
 it in the this spruce swamp  
 then turned east on  $\frac{1}{4}$  line. Run  
 east half mile and then north  
 west on logging roads to supply Road

Saw no sign of ledge

June 25 1871

Run north on west line of sec 4 T43 R27W to nw cor - west on north line of sec 5 43-27 to corner. Pine thick.

Run north on west line of sec 32-44-27 to nw corner of same east one mile and south to camp. No ledges

427  
June 26, 1871

Broke camp and found east 1/4 part of sec 10-43-27 run north on newly surveyed line to north east corner Sec 10-43-27. Mr. Smith with two packers run north on section two miles. to n.w. cor Sec 35-44-27 east two miles to ne corner Sec 36-44-27 north about two and three quarters miles to trail on south side of river. He followed this trail which

passes through Secs 12  
and 2 44-27 and 33  
+ 34 <sup>45-27</sup> Dam on Supply  
Road in the north west  
part of Sec 34-45-27.

I run east from Sw cor  
Sec 2-43-27 to SE cor  
Sec 1-43-27 and then north  
along range line to north-  
east cor Sec 1-44-27  
then cut a cornered 36  
and 26 to Supply road

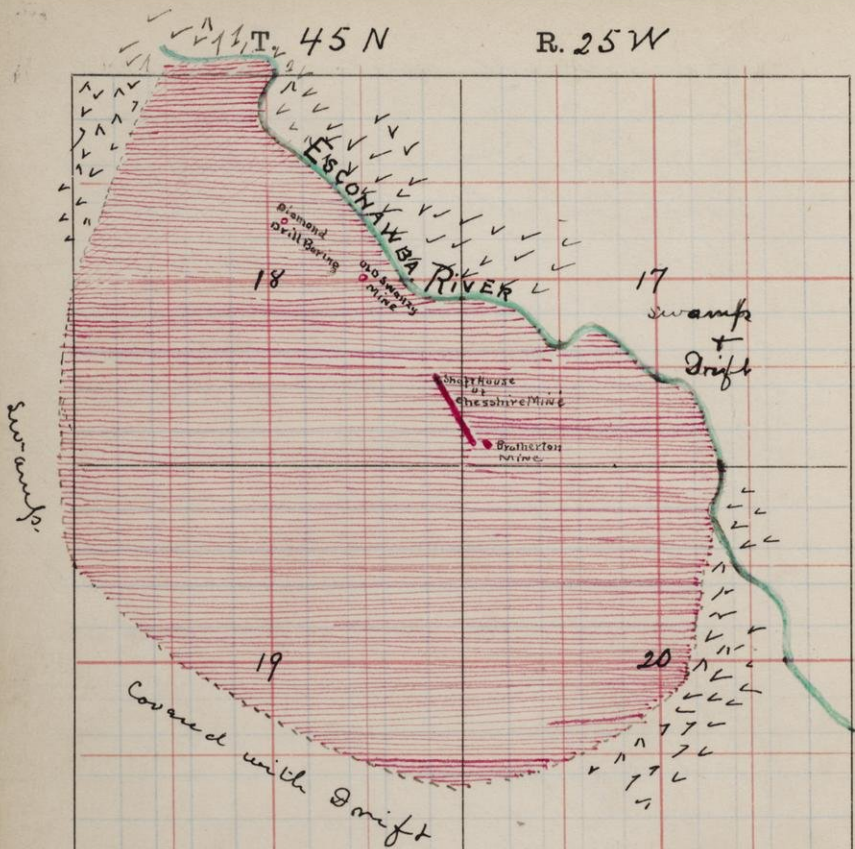
Neither saw any sign of  
outcropping.

At the Lumber Camps in  
the north-west cor of Sec  
27 there is a large ledge  
of red granite - Took spec 24  
Spec 24 1500 paces north  
about 350 E of Sw cor sec  
27 T45 R 27

Spec 24  
15325

T. 45 N

R. 25 W



Granite



Huronian

In T45 R25 Sections 17-18-19-20  
and Sections 12 & 13 T45 R26 24  
there is a small extent of  
iron bearing rock. As far as  
could be learned by observation  
and inquiry it is completely  
isolated from like formations  
and forms an area by itself  
in a granite country.

In mapping the locality  
I was assisted by an old  
woodman who was able  
to show me all the exposures  
in the neighborhood, having  
been employed by the various  
owners since the opening of  
the mine.

The rocks in area are black  
slates, banded chert, hard  
or lean ore, soft ore of the  
highest grade and in the  
south west corner a sandstone  
capping over the slates.

The slates and cherts have  
a steep dip to the south  
a general east and west

Charcoal of  
 strike. The foot wall has not  
 yet been determined. The ore  
 having been taken up to the  
 present operations entirely from  
 surface drifts. The hanging  
 wall is the black slate.

Workable ore has been found  
 only at the spot <sup>on map</sup> marked "Old  
 mine" and the present Chesler  
 + Protection Mines. They are  
 now working with a diamond  
 drill but as yet have not  
 penetrated the slate at the  
 place on map marked "Diamond  
 drill boring."

I was able to found the area  
 very closely & kept on south  
 side where the country is  
 covered with drift and devoid  
 of exposures. The map on  
 preceding page shows position  
 of iron rocks and their  
 extent.

Spec 25  
 15326 Spec 25 Hand on 1300 feet  
 south of NW cor Sec 20-45-25.

Spec 26  
 15327 Spec 26 Park Granite 300 E 400 N



of Sw cor sec 20-45-25

Spec 27  
15328 Spec 27 Black slate 300 S 30 W  
of NW cor Sec 19-45-25

Spec 28  
16329 Spec 28 Sandstone 200 S of  
NW cor Sec 19-45-25

Spec 29  
15330 Spec 29 Black Slate 700 N 150 E  
of Sw cor Sec 18-45-25

Spec 30  
15331 Spec 30 Red Granite 1000 N  
of Sw cor Sec 18-45-25

Spec 31  
15332 Spec 31 Red Granite 1500 N  
100 E of Sw cor Sec 18-45-25

Boring and tests as located  
on maps scale 100 paces to  
a blue square

Spec 32  
15333 Spec 32 Black slate from  
Boring. The man in charge  
of this drill gave me his  
results up to date.

First 50 ft of sand

262 " " Black slate  
35 " " colored quartz  
20 " " white "

Spec 33  
15334Spec 33 Red Granite 1200 E.  
500 S of NW cor Sec 20-45-28Spec 34  
15335Spec 34 Red Granite 500 N  
1350 E of SW cor Sec 20-45-28Spec 35  
15336Spec 36  
15337Ore }  
Banded chert } from Cheshurine mineSpec 37  
15338Spec 38  
15339Ore }  
Ore } from Brotherton mineSpec 39  
15340" 40  
15341" 41  
15342Spec 39 Banded chert }  
" 40 Lean Ore } Old mine  
" 41 Slate }Spec 42  
15343Spec 42 Black Slate from  
test pit just east of Old  
mine.

The area traversed as mapped  
was found to be mainly granite.  
In section 10 743 R29 found the  
only ledge of schist.

In the southern part of Sec 30 743  
R 28 the French Hill Range felsic  
out.

In Sec 17 18 19 20 of 45-26 is a  
small area of iron bearing rock  
The age of this is unknown but  
it is probably Lower triassic  
at the eastern portion of area  
sand sweeps in and completely  
covers the region

R29

R28

R27

R26

R25

T45

T44

T43

