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## Madoc, Ontario. No. 438 [ca. 1905]

Van Hise, Charles Richard, 1857-1918

[s.l.]: [s.n.], [ca. 1905]

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U. S. GEOLOGICAL SURVEY  
FIELD SECTION BOOK

9-891

# 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 pages is also arranged so that, if desirable, a larger or a smaller scale can be used, eight inches, two inches, one inch, or 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, the latter always being expressed from the north; for instance 4025, 250 N., 300 W., *Strike, N. 78° E., Dip 50° S.* Then follow with a full description of the ledge. 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. 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  $2 \times 2\frac{1}{2} \times \frac{1}{4}$  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 section 3, chapter IV, p. 44, Regulations of the U. S. Geological Survey. 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. Specimens may 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.

Spec. Nos. 41882-41999

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Memoranda

- 1 On road from Bridge Pt to  
Made Creek etc.

In England ist seit  
einige Jahre, ~~das~~ am  
Händlerisch, jepe &  
Jahre darauf.

Coming in places and marked  
on a certain sort of some  
faint or greyish - marble  
Schist - highly polished  
with the polished but  
crystalline or even  
massive limestone

Antonia the Copy like  
the ad device moving  
from Crumline Hb School  
ad felicitate in your  
series.

Exhibits to report US  
army files

As the color appeared  
Cry became common  
and took on a purple

of rock in ~~base~~ any -  
or tuff - although it is  
plainly deposited in water

How big brick is ~~shown~~  
worked by Con, uncertain  
as some a piece of  
red. action with white  
flame

Posibly regular sediment  
interrupted by white material  
and thus ~~just~~ give conditions  
in series for building up  
of conglomerate

As Macdonald used my  
iron found the fragments found  
up to 84 inches in diameter  
all same color. This suggests  
Keweenaw in dish 1

2 Where red part of the d.c.  
comes to the limestone south  
of Arch. rocks & are  
further down met-  
Cong crystalline - gas & sand  
full of bit. & etc.

3 At Colorado are with of some  
granite possibly dark or the  
porphyritic and includes  
very numerous fragments of  
same. Included is fine  
example of injection breccia  
as we saw. Quite typical  
dark reddish fragments and  
wedges out out in met-  
limestone. Some may be  
true in stone the being  
to limestone fragments  
but ~~there~~ the porphyritic rocks  
where lent that appear  
type of the plain volcanic  
breccia rocks. Both  
Eubankian and  
Eubankian effect. These  
changed to brown drab



looking such when in dry mass  
of granite.

Locally granite becomes  
more basic as humblende  
due to absorption of potash  
rich

- 4 About a mile or mile and  
half north of Eldred on  
Birmingham road was  
found one of green schist  
Chert, ~~Ortho~~ chert &c  
which is in these respects  
not so similar to the  
very similar to the  
weathering on road running to  
the west suggests to me  
very strong the possibility  
of the ~~first~~ <sup>the</sup> first rock  
of the ~~get~~ <sup>get</sup> ~~see~~ <sup>see</sup> in the  
red. ~~See~~ <sup>See</sup> ~~or~~ <sup>or</sup> ~~Horton~~ <sup>Horton</sup> ~~Chert~~ <sup>Chert</sup> -  
~~the~~ <sup>the</sup> ~~when~~ <sup>when</sup> ~~suggested~~ <sup>suggested</sup> ~~the~~ <sup>the</sup> ~~to~~ <sup>to</sup>  
me. This followed the  
with a ~~series~~ <sup>series</sup> ~~of~~ <sup>of</sup> ~~granite~~ <sup>granite</sup> ~~and~~ <sup>and</sup> ~~schist~~ <sup>schist</sup> ~~and~~ <sup>and</sup> ~~first~~ <sup>first</sup>  
by the limestone.



The non-climax sediments  
followed by the climax  
sediments long after time ~~but~~  
the same deposited & must  
have settled as fossils.

Cont'd of two sets of  
fossils chief skeleton  
but an engraving found.

This not surprising considering  
nature of sediments and how  
fast the earth & green  
sediment were not stable

If anywhere flow of  
sediment green sediment were  
such

5 Blinn's Conglomerate band  
Examined.

Examined chief section of  
gravel west of Helena &  
Helmer. Some sand seems  
to be igneous in character  
where limestone goes and  
gravel or well running with  
about 1 1/2 mile west of Hel.  
limestone becomes colored  
white. and in places gravel  
dips cut into the lime-  
stone.

The gravel cuts through  
and through double looking  
up which may be lime  
stone met a mylonite but  
if so must have been  
fused and re-crystallized.

~~In some places with~~  
~~later observations elsewhere~~  
show the thin rock is  
well as gravel and limestone

6 At Ormsby San Limestone  
just blue just white -  
The white part is in bands  
in the blue, is in  
veinlets some regular cut  
direct across at major  
quartz or near parallel  
to original. Placing  
them at places where with  
exposed and limestone  
very deluged. Thus have  
beheld structure very  
parallel to original due  
to pressure and water  
action.

7 Limestone shows more of  
this action as direct to  
South as north:  
Let the cuts limestone in  
compact position, lit part - lit  
injection. But very fine  
cut in chips to the mi-  
croscopic from cementation



8 At Coe Hill iron ore  
Magnetite & mixed in  
Cumberland shale.  
The ore is chiefly of  
granitic clts.

This iron ore is one  
of the "rust grains" having  
iron which have been seen in  
the limestone.

Some more ferruginous  
and less calcareous beds  
in limestone formation.  
Adams says in Pennville  
has composition of shale-  
and iron pyrite.

Believed that igneous  
rock came & second  
concentrated white sand  
and barilla.

Origin of these can  
seem perfectly analogous  
to the Magnetite iron  
Michigan & Spain

9 about mile out of  
Countryside & being to  
Countryside yet is a  
good find half a  
mile or more in width  
of the rust grains.  
Main mass of the  
thin state in place  
approaching quartzite.  
Behind of the rust-  
state. In place gets  
to contain so much iron  
as to stringy resemble  
L.S. iron formation.  
Included hard specimens  
could not be separated from  
But been magnetite fossils  
At one place where but  
perfecting done on sand  
which is been magnetite  
as. Adams says very  
dark on syngonites.

See one more before  
But the mining part  
appears also the (mostly  
grain represents admixed







