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Keweenaw Point, Michigan: [specimens] 6967-6985, 7129. No. 26 1884-10

Irving, Roland Duer, 1847-1888

[s.l.]: [s.n.], 1884-10

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U. S. GEOLOGICAL SURVEY

FIELD NOTE BOOK

No. 26

Oct. 1884.

Keweenaw Point,
Michigan.

6967-6985 7129.

R. D. Irving.

Survey of the Pre-Cambrian Rocks of the N. W. States.

INSTRUCTIONS.

1. Devote at least two pages of this note book 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. 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 smaller spaces as 100 paces, each of the spaces between the red lines as 500 paces, and four of these large spaces as one mile, or 2,000 paces. Usually the southeast corner will be placed at the first red 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 down one space, 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, after which give in order 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 exposure as possible. Very often the notes for one section will cover more than one page in which case pass to the next right hand page, *repeating the map on each left hand page* as long as the notes, with regard to one section, continue.

3. Collect a specimen from each separate ledge of rock, or whenever 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 the note that it is of a rock identical with specimen so-and-so. Under the same conditions small sized samples will be allowed, but in all other cases *large sized trimmed specimens*, with chips for slicing, must be selected in accordance with § 3, chapter IV, p. 44, Regulations of the U. S. Geological Survey. All specimens are to have numbers painted on them, in white on a black background, in camp.

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, etc., etc.

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

Keenececece

Point.

Rev. J^{act.} 1884

Specimens Collected on K.P.T.

R.O.P. T.O.C. 1884

Bete Gino
6963 altered D.ⁿ Gab.

Bete Gino
6964 altered D.ⁿ Gab.
6965 altered D.ⁿ Gab.
6966 altered D.ⁿ Gab.
6967 altered D.ⁿ Gab.
6968 altered D.ⁿ Gab.
6969 altered D.ⁿ Gab.
6970 altered D.ⁿ Gab.
6971 altered D.ⁿ Gab.
6972 altered D.ⁿ Gab.
6973 altered D.ⁿ Gab.
6974 altered D.ⁿ Gab.
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6987 altered D.ⁿ Gab.
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6989 altered D.ⁿ Gab.
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6991 altered D.ⁿ Gab.
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6993 altered D.ⁿ Gab.
6994 altered D.ⁿ Gab.
6995 altered D.ⁿ Gab.
6996 altered D.ⁿ Gab.
6997 altered D.ⁿ Gab.
6998 altered D.ⁿ Gab.
6999 altered D.ⁿ Gab.

6990 ferrug. S.S.

1 altered fine gr. basic rocks
2 altered fine gr. basic rocks
3 altered fine gr. basic rocks
4 altered fine gr. basic rocks
5 altered fine gr. basic rocks
6 altered fine gr. basic rocks
7 altered fine gr. basic rocks
8 altered fine gr. basic rocks
9 altered fine gr. basic rocks

6970 " "

71 " "

2 " "

3 " "

4 " "

5 " "

6 " "

7 " "

8 " "

9 " "

6980 " "

1 " "

2 " "

3 " "

4 " "

5 " "

6 " "

7 " "

8 " "

9 " "

7125

6

7

8

9

7130

1

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3

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7139

7140

Wadsworth's black & K.
Hengana

Wall Larue

pebble a. pebble

quartz. sand.

ferrug. S.S. E. Sand & h

hermans 12

Douglas Houghlin.

D.H.
8 ferruginous
9 do. S.S. E. Sandst.
6- do

1

Specimens collected on Wall
Ravine Keweenaw Point by R. D.
Irving + J. C. Chamberlin Oct. 1884.

- 6967 Lo Pebbles and matrix of conglomerate
immediately below the wall.
- 6968 White sandstone, ^{immediately} at the junction
with trap.
- 6969 Amygdaloid immediately above
porphyry conglomerate.
- 6970 Pebbles and from the conglomer-
ate and sandstone at junction
Wall Ravine.
- 6971 Matrix and pebbles from the con-
glomerate, Wall Ravine.
- 6972 Amygdaloid immediately below
the porphyry conglomerate and next
above the Eastern Sandstone.
- 6973 Parts of large pebbles or boulders
from the red shale or joint
clay immediately below 6972 at
junction of trap and sandstone.
- 6974 Matrix of the red conglomerate
immediately below the wall.

- 6975 Peculiar veined material immediately above the porphyry conglomerate
- 6976 Fragment of a large pebble or boulder in the conglomerate immediately above the ~~stone~~ (up stream) the stone wall. Supposed to be a fragment of a porphyry conglomerate.
- 6977 Red sandstone holding amygdaloid pebbles from immediately below (down stream) the wall.
- 6978 Amygdaloid from the uppermost rock sample i. e. furthest up the stream.
- 6979 Conglomerate and clay below the wall.
- 6980 Shale from three feet below the conglomerate at the junction with trap.
- 6981 Sandstone from just above the wall.
- 6982 Porphyry conglomerate (?) immediately above junction with ~~sand~~ Eastern sandstone.

- 6983 Same as 6982.
- 6984 Rock 25 paces up stream
from junction with Eastern sandstone.
- 6985 Red rock, Porphyry conglomerate
just above junction with Eastern
Sandstone.
- ~~6986~~
7129 "Clay from immediately below
conglomerate layer in excavation on
Wall rock creek." T.C.C.

Sec.

T.

R.

Wall Ravine.

course at & above junct. N. 81° W (true)
 Depth at upper end not more than 20'
 14 steps down stream. diab. gives
 place to porph. congl.

59 paces along ravine of porph. congl.
 to junction.

At junction depth 35' feet.

From junction down stream ravine

trends N 75° W or S 75° E ^{true} 20 paces

then N. 66° W or S 66° E ^{true} 100 paces
 to the stone wall.

There is not an abrupt change of the
 at one course into one another - they
 curve into one another gradually
 at wall, ravine 90 feet deep. (Meridian)

Slope of side at wall 45°

32 steps up stream from wall, have
 fall, dip of rock at 85° down str. Height
 of fall 16 feet

15 steps further up stream from this fall
 another, 5 feet high, dip same.

Wall 3' wide.

From wall down stream ^{or} 794 paces course
 of ravine N. 52° W or S 52° E. (true)

Dip at base of wall 78° - halfway up
 80° at top 85°

94 steps down from wall have red shale
 dip 75°, curving

113 steps below wall red shale dip 65°
 down str.

[See next Square (page)]

Oct. 16.

Rocks immediately above ~~the~~
the junction at Wall Ravine is
a fine porphyry conglomerate.

Later found a little amyg. just
at junction below conglomerate.

Congl. above junction is mainly
quite fine but occasionally good-
sized pebbles up to $\frac{1}{3}$ - $\frac{3}{4}$ inch.

33 steps above junction. dip 35° N.W.
strike N. 60° E but this not very satisfactory.
dip is good - on conglomerate.

59 steps from lacinal rock. laminae
curving dipping high N.W. What
is it? Is it veining or lamination.

Above junction 59 paces Congl. the 1st
p. green amyg + amyg

Just above junction amyg. silicified & hardened.

Sec.

T.

R.

Big slide on south side
 Ravine runs 20 steps down from trail
 Ravine continually deepens
 and widens

Sandstone wall heads N. 2 ~~10~~⁶⁰ E
 true —

266
20

53,2
*1

Ravine deepens greatly from junction
to trail, and again below trail

At junction not more than 40-50
feet deep - At trail much more
than this - at least double - (35?)

Top of the ravine also rises rather and
(up stream)

At junction ravine trends $N. 85^{\circ} W.$ -
may. curving from this ^{to} meet the
Course below

Strike of slickensided surface at
junction $N. 12^{\circ} W.$ this in junction
material. Dip of strata about
vertical.

Sec.

T.

R.

Tackson. 1st Less 30 & Cong.

Vol. II No. 2 - 175-230

Senate Docs.

Tackson 2nd Less 30 & Cong.

Vol. 2 No 2

Bete Guie Bay

8

References.

Jackson.

Journal of Genl. Turrey for 1848 -
in Report of Genl. & Men. S. of Min. Lands
U.S. in State of Ariz.

1st Sess 31 Cong. & Dec. 1 for p 450
Drang Sept. 5. also July 14

Forster & Whitney

Genl. Rept. Copper Lands L.S. Land. Dept
1st Sess. 31 Cong. Ho. of Reps. & Dec. 69
p. 112 & p. 66 - 1850.

Forster. J. W. 1849.

Senate Docs. 1st Sess. 31 Cong. & Dec. 1
pp. 766, 767 also p. 782 Letter to
Jackson

St Louis ravine

9

Lac. La Beche.

References.

Fowler J. W. 1849

1st Len 31 Cong. Ex. Doc. 1 ~~767~~ 767

also p. 782

Letter to D. Jackson

Houghton?

10
Douglas H.

Fulton J.W.

12th less 31 Cong. Sen. Ex. Doc. 1 p. 768

also p. 782

Letter to Jackson

Hungarian

Gen. Discussion
References

Credner Jergye p. 416

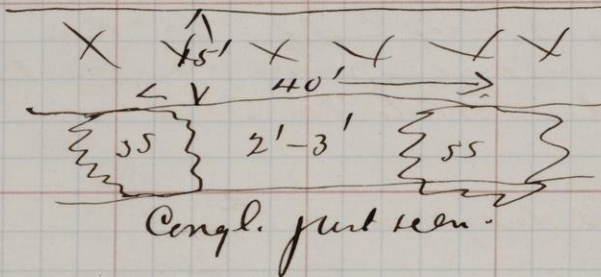
Figs to draw.

Sec.

T.

R.

Face runs $40^{\circ}-43^{\circ}E$
 Hill 30' high (over this mean elev.?)



St Louis Ravine

Old drift in ravine

Congl. bed 6 1/2 ft thick; the underlying
amyg. overlying² diab. not seen

dip. on this 47° h.w. Strike $N. 32^{\circ} E.$
Magnetic (i.e. $N. 36^{\circ} E$ true)

Top of overlying diab. was found also
+ the dip taken at 47°

Immediately opp. the junct. met
ss. on other, i.e. S.W., bank quite
a large ledge (of sandstone) 9-10
Strike $N. 25^{\circ} E$ - dip 75° N.W.
(this on large exposure, rocks 12'-15'
high -) white sandstone

Opp. diagram

S.S. dips into hill ~~$N. 40^{\circ} - 43^{\circ} E$~~
i.e. $68^{\circ} - 70^{\circ}$ - N.W.

Strike met face of hill $N. 40^{\circ} - 43^{\circ} E$

This dip & str. taken on Congl. o.s.
junction, so no doubt.

at junction ss. indurated.

47 paces down sl. fr. junction
found S.S. dipping 85° S.E. - this
on h.g. bank - strike N. 10° - 15° E
So we have passed the overturn.

75 steps further down got a
very nice dip on red sandy
Congl. & sandstone seams - Dip
 50° - at bottom of layer - and 58°
at top - down stream - strike
N. 35° E on ripple marked surface

Above last point on other side -
i.e. S.W. side - find large face
on cliff showing S.S. & Congl. dipping
high to SE. 70° - 75° - a large
exposure -

Below above named point met 50° dip
(on opp. side stream) about 25
steps - have dip ~~70~~ only 90° -
S 45° E. on S.S. & shale fine exps.
This on l.o. bank.

Pacing back now. along top S.W. bank
30 steps - course h. 35° W (mag) - here
dip 10° S.E. At 52 steps up on same
course ~~at~~ from beginning have my
vertical stick dip 88° - strike N. 25° E
(any the observation on other side sl.
On other side stream

comes betw. these lying about 17/8
back of last point.

from this point pace nearly due
west - or a little touch of it on left
of S.W. bank 135 steps - here opposite
junction -

40 steps from last point N. side
brings opp. old stamp mill

+ 30 steps more or same course to
Opp. opening on Congl. or 70 steps
to opp. centre of Congl.

Sec.

T.

R.

~~6998~~
~~9~~
~~7125~~
~~6~~

7

8

~~9~~
~~30~~
~~31~~
~~32~~
~~33~~

7127 W. baked st.

7135⁹₆7136⁹₆ -

7139

~~2704~~
~~2705~~
~~2706~~

Hungarian River.

First rock on Hungarian ravine south side is heavy massive sandstone with an average dip ^{up stream} of some 7° . Partly white and partly brownish; highly quartzose. Interstratified with these are thinner seams of soft red and white sand with very handsomely marked false bedding. See fig. on opposite page. At least 50 feet in thickness of the sandstone must be visible at this point. Some of the individual layers are 8 and 10 feet in thickness. Pebbles almost wholly wanting. Immediately opposite this exposure on the north side of the gorge similar large ledges are exposed.

Fifty steps further up stream, south side dip upstream 4° or less.

Above uppermost fall of Hungarian river diabase is seen in low exposures on the sides and in the bed of the stream. Course from here to crest of fall N. 45° E (magnetic) x Bank 10 feet high. 13 ~~steps~~ ^{paces} on this course to beginning of conglomerate. 7 paces on same course to crest of fall. Cong

Conglomerate rises 5 feet over crest of fall into bank of stream. Fall faces due E. (magnetic).

Due E. course to second fall 25 steps. Top of ravine continues at about same level.

Upper leap 25 feet high over conglomerate. In conglomerate quartzless porphyry pebbles predominate.

From foot of upper fall to first amygdaloid closely examined 10 paces; thence to lower leap 15 paces. Vertical between base of 1st and top of 2nd fall estimated at 5 feet. Dip of conglomerate 25° to 30° N. N.

Second leap about 8 feet high over amygdaloid. From foot of second leap to flat sandstone in bed of stream E. & E 15° S. ^{magnetic} 25 feet, tape line measurement

Stream 10 paces wide at this point.

Banks very steep. Estimated 45 ft high. From last melaphyr seen on north side

of stream to last seen on south
5° W of S (magnetic.)

Ditto from Ditto to uppermost
sandstone in bed of stream 10° W of
S.

27

The upper limit of the sandstone in bed
of stream plainly cuts obliquely across the
course of the stream.

We could detect no dip up stream in
the flat sandstone lying in its bed.

Course of stream below uppermost
sandstone S. 45° E (magnetic.)

Where line S 5° W from uppermost
sandstone in bed of stream strikes
south bank melaphyr rises from
bottom to top of bank.

Then on the down stream side of this
comes a little gulch 5 ^{feet} ~~feet~~ wide.

On down stream side of this have
heavy white sandstone horizontal.

2
See figure on opposite page

Where Whetzel sandstone CD is horizontal but much undermined at base and ~~causing~~ presenting variations in different as to direction from horizontality. Nevertheless as a whole this sandstone is distinctly horizontal.

A lower end of CD sandstone in bed of stream presents dips both up and down stream of 5° to 10° .

Note that the direction of the junction line is not that of the strike but is transverse to it.

Figs.

Bete Gris

- ✓ Gen. maps.
- ✓ Skelct 1 (view)
- ✓ Skelct 2 (view)
- ✓ Exposures plat of in h.w cut
- ✓ plat of Embayment
- ✓ R.D.I. Fig.
- ✓ Photo.

Wall Rock.

- ✓ 2 photos
- ✓ gen. plat
- ✓ 2 profiles
- Chamberlins fig.

St Louis.

- ✓ plat
- ✓ profile
- Cut of junction

(over)

Douglas H.

Plat -

Profile of n. bank

" " s. bank

2 Generalized profiles

Cut of penclun n. side

Do. s. side -

✓ Photo.

Hungarian.

✓ Plat -

2 p profiles

Cut of trenches

Do of one trench

✓ photo

Chaurennet.

Torch L. Querns

✓ photo.

over

General.

✓ Map. Kew. Pt.

Flw-fen. profile.

Wadsworths view.

R.D. I. view.

Prempeely view.

Information received from
Mr O. C. F. West Jan. 16. 1885.

Location of main Hungarian
Fall 264 feet N and 123 W. of S.E.
corner Sec 11 T 55 R 33 W.

Altitude of Torch Lake Quarry
above Torch Lake 340 feet.

Elevation of top of uppermost
fall of Hungarian River above
Torch Lake 361.29 feet.

Height of uppermost ^{Hungarian} fall 26 feet.

Elevation of top of second fall 275.5
feet.

Elevation of top of main fall 245.5
feet.

Height of main falls Hungarian
River 1440.3 feet.

Elevation of foot of main fall
Hungarian River 101.2 feet.

Horizontal distance top of main
fall Hungarian River to uppermost
fall 1725 feet.

Elevation of top of Douglas Houghton
Fall above Torch Lake 368.49 feet

Location of top of Douglas
Houghton Fall 480 feet N.
and 235 feet South of the Quarter
post on the E. side of Sec. 36,
T. 56, Range 33 Wis.

Douglas Houghton Ravine
Oct. 10th 1884.

2

2

1

Dip 18° N 50° West. Sandstone, red shale, conglomerate.

Another dip 22° .

These dips are lessened by position of the slope.

Another 48° on south bank near foregoing. They must be nearly true.

— steps further down stream dip only 1°

Dip of traps at top of Falls 25°
N. 75° W.

For some 100 steps on each side of the ravine traps continue.

Oct 15. 1884

Note that the indurated sandstones
is in layers interbedded with
soft arenaceous shales

The induration thus occurring
away from the trap and not
only near to it. Moreover at
the junction the sandstone
is frequently quite soft.

See for the remainder diagrams
in old note book

St Louis Ravine Keweenaw
Point. R.D.I. + T.C.C. Oct. 1884

1
6986

Indurated at sandstone at
junction with trap N. side of
Ravine.

