Maryland doc. 82

1899 – 1900 – 1901
Litchfield, N.Y. 1901.
also 1904.

D.B.B. Oct 22 - 1899 doc. 82
Sep 25 - 1900
" 27 - 1900
[illegible] " 29 - 1900
Viaduct Cumberland
Oct 1 - 1900
Pinto July 13 - 1901
D.B.B " 14 - 1901
[illegible] " 15 - 1901
Long Run " 21 - 1901
Litchfield N.J. Sep 14 - 1901
again Sep 18 - 1904

Oct 20 R. to Cumberland }
round trip } 8.65

Oct 21-1899.

Cut in Point of Knobly Mt for the extension of the W. Va Central.

dip S.E. about 30°

Weathered SS with [illegible] producing [illegible] Fossils 10

Seam of rotted dark blue argillaceous limestone weathering into soft [illegible] shaly rubble. Fossils

[illegible]

The [illegible] for [illegible] of the [illegible].

[illegible]

Near the base [illegible] in Oriskany the London collected abundantly Platyceras and Spirifer arenosus. Also [illegible] elongatus and Rensselaeria cumberlandia, [illegible] like the L.O. ones.

S. arenosus very thick.

Trilobites come from near the top.

The great majority of fossils come from the lower third. However the sand probably becomes higher.

Hillsboro

Oct 22
1899

Gordon says there is
75 feet best one of
Orislay.

[illegible]
[illegible] at abundant here

150 feet

S. arrecta & C. complanata here.

= Up. Orislay.

at [illegible] the base of the Orislay
[illegible]

dark-blue.

Are [illegible] limestone
pieces [illegible] the [illegible]
[illegible] an [illegible]
[illegible] are [illegible]
shale [illegible].
= L. Orislay.

125

7

Lep. [illegible] feet [illegible]
Shaly [illegible]
Trid. Sometimes. C. [illegible]
} Recurrent Shaly.
R. R. Scratch house

light-blue
[illegible] in Clinton [illegible]
[illegible]
[illegible]
= ? Up. Pent.

60'

[illegible]

[illegible] [illegible] [illegible]

Rails Creek lime, Knightaum Shale.
Are the beds omitted.

[illegible]

doc. 82

W

E


A. Hoen & Co. Lith. Baltimore

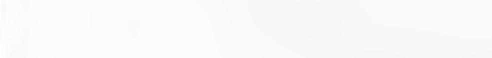
VIEW OF "DEVIL'S BACKBONE" IN LEWISTOWN FORMATION, NORTH OF CUMBERLAND, ON THE BALTIMORE & OHIO R. R.

Calonne [illegible] section [illegible]
[illegible]

Wills Creek
↑

Gordon says there is
75 feet [illegible]

Oct 22
1899



[illegible]

60'

Heavy and thin bedded limestone
with [illegible] [illegible] gone of.
Stromatopora. The Stromatopora
[illegible] weather yellowish.

Gordon found 50 feet below Stromatopora bed Cyathophyllum
typical. Thought higher rocks [illegible]

Thin bedded cherty limestone with
[illegible] shale, [illegible]
[illegible] [illegible]
[illegible] = [illegible]

Gordon found forty feet from top Favosites
[illegible] see his letter of Nov. 8-1899.

160'

Gordon found here [illegible] alta [illegible]
[illegible]

[illegible]

on B. & O. R. R. along Kelly's Creek.
For a picture see Md. Survey I, p. 186.

Limestone Ridge, Rice Hill

[illegible] main line, [illegible] R.

[illegible] 175

feet of Trinucleus limestone. Saw a few fossils. Trinucleus, [illegible] [illegible] [illegible]. Also a Retzia near [illegible]. [illegible] are in the upper third although the Trinucleus goes through, [illegible] is rare here and was found only in one bed about [illegible] the top.

[illegible] on [illegible] with [illegible] the top [illegible] 1st [illegible].

The thickness of the entire L. H. could not be made out but it can hardly be less than 1000 feet. Lith.

[illegible] are all the [illegible] horizons and the [illegible] but not the Lower Pentamerus. This horizon does not appear to come to the [illegible] are here. But 15 miles away the [illegible] occur many Pentamerus associated with Atrypa reticularis. Corals are also abundant here.

Cumberland section
for comparison. Sep. 25-1900.
[illegible]

Marcellus shale

Oriskany

[illegible] not seen. Fowler says shows in [illegible] on face, with much [illegible].

About 150 ft. Dark blue, arenaceous, heavy bedded limest. abounding above in S. arenosus, S. arrectus, [illegible], and Hipparionyx proximus. Below in [illegible] intermedia and Chonostrophia complanata.

Kingston or Oriskany

120' Black blue, arenaceous li. with chert [illegible], Heavy bed above passing into thin beds. No fossils seen

New Scotland and Becraft.

Thin bedded, shaly li. and shale with chert. At top shales with U. [illegible] chert. At top shale with [illegible]

about 75' lite, then a thin zone of black li,
followed by the Trilobite bed (6) and
macrophthalmus(?) bed (5),
Railroad "watch box" [illegible]
[illegible] limestone ([illegible]).

60' (4) [illegible] li. with chert. [illegible]
[illegible]. Does [illegible] occur here?
[illegible] be considered a part of
the [illegible] bed?

50' (3) Heavy and thin bedded blue-black to
[illegible] li. with [illegible] zones. [illegible]
[illegible] zone
[illegible] and [illegible]. [illegible]
[illegible] [illegible].
[illegible] occurs
[illegible] here near the base.
[illegible] small.

Transition.

100' (2) [illegible]. [illegible] thick
[illegible] shale. [illegible]
standard. [illegible] variety of

[illegible] and Favosites [illegible],
160' [illegible] vanuxemi, Formerly [illegible]
[illegible], has also Leperditia alta, [illegible]
[illegible] in abundance. Sp. vanuxemi
[illegible] also were found the Stroma-
[illegible] and Cyrtoceras. One from
Capt. Talley near Clarks Distillery
the [illegible] [illegible] road
and [illegible] side near Folets
Mills. In the former valley it is
found with S. galeatus

Manlius Limestone Rose Hill
175'.
Base not seen

Sep.-27-1900

Arrived at Cumberland last night and am stopping with Mr. R. H. Gordon.

Spent the day at the Devils Back Bone section.

We first collected back of the R. R. [illegible] and soon learned that [illegible] here at the base [illegible] the cliff to the right [illegible]. In this [illegible] found [illegible] [illegible] with [illegible] Spirifer gebhardi [illegible] that [illegible] [illegible] we were [illegible]. Some of the [illegible] in the same beds [illegible] [illegible] punctulifera and Whitfieldella [illegible]. This assemblage [illegible] to the Helderberg

(Over to fifth page)

Sep.-27-[illegible]0

mor'n less

Heavy bedded [illegible]
then shaly li. [illegible]
[illegible]
about 15' [illegible]

8'

12
2.6
2.9
9.
11.
32.6
31.8
7.7
65.
70.6
305.0

[illegible] Have [illegible].

cut 3"
dense

49'

small cut

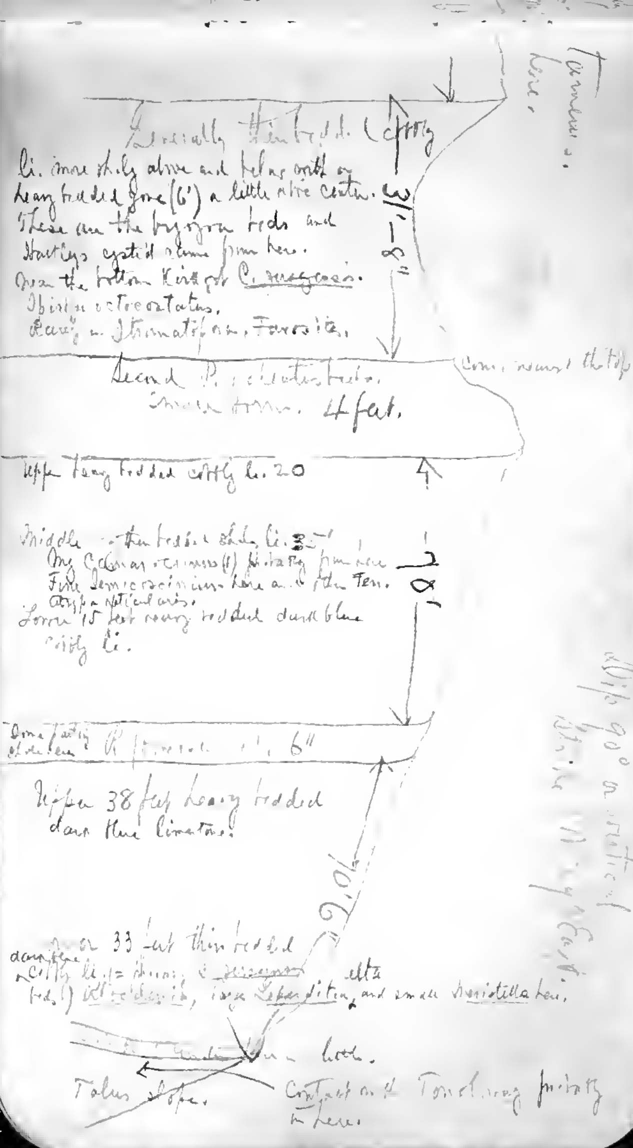
9' [illegible]

11'

Heavy bedded dense lime, [illegible] li.
[illegible] throughout. [illegible]
[illegible]
[illegible]
[illegible]

32'6"

Upper [illegible] +7 [illegible]



Trenton is here.

Generally thin bedded (cherty li. more shaly above and below with a heavy bedded zone (6') a little above center.
These are the bryozoan beds and Hartley's cystid came from here.
Near the bottom Kirk got C. [illegible].
[illegible] [illegible].
Rarely in Stromatopora, Favosites.

38'

Second R. [illegible] beds.
[illegible] form. 4 feet.

Comes near the top.

Upper heavy bedded cherty li. 20

Middle thin bedded shaly li. 35'
My [illegible] (?) [illegible] from here
Fine [illegible] here and other Ten. [illegible].
Lower 15 feet heavy bedded dark blue cherty li.

78'

Some fairly [illegible] R. [illegible] 6"

Upper 38 feet heavy bedded dark blue limestone.

71.0'

Lower 33 feet thin bedded dark gray cherty li. (= [illegible] & [illegible] etc. beds) [illegible], large Leperditia, and small [illegible] here.

[illegible] in both.

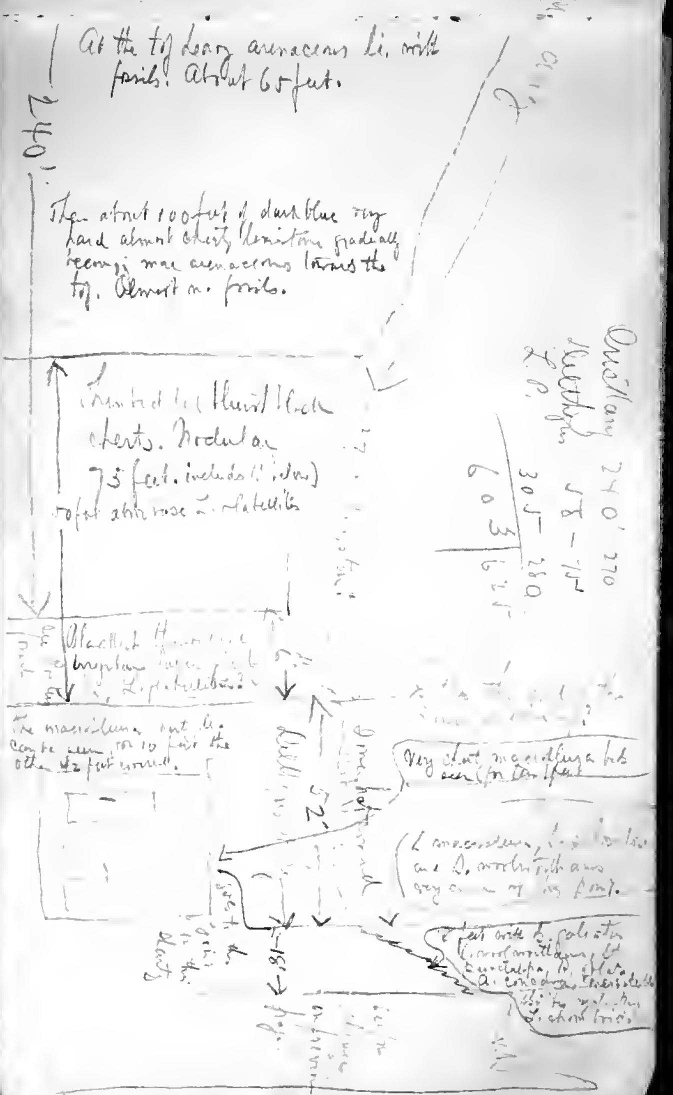
Talus slope.

Contact on the Trenton [illegible] in here.

Dip 90° or vertical. Strike N [illegible] East.

65
190
25
280

21.6
11
32.6
31.8
12.6



At the top heavy arenaceous li. with fossils! About 65 feet.

Then about 100 feet of dark blue very hard almost cherty limestone gradually becoming more arenaceous towards the top. Almost no fossils.

Crowded [illegible] bluish black cherts. Nodular 75 feet. includes (? above) 50 feet above base [illegible] flabellites

Blackish [illegible] [illegible] [illegible] L. flabellites?

The marcellus not li. can be seen for 10 feet the other 42 feet covered.

Very short marcellus beds seen for ten feet

L. concentricum, [illegible] and D. [illegible] very common [illegible] fossils.

7 feet with L. [illegible] [illegible], [illegible] D. [illegible] A. [illegible] [illegible] short brick.

Onondaga 240' 270
Hamilton 58 – 75
L.O.
305 – 280
603
6[illegible]

[illegible] 12 feet
C is a ser[illegible] of blackish
thin C [illegible]
[illegible]

[illegible] the [illegible] large
[illegible]
[illegible] is here about
[illegible] black [illegible]
above [illegible] C [illegible]
[illegible] Dalmanella [illegible] C
C [illegible] all [illegible]
[illegible] the highest
[illegible] in the
exposed [illegible], Favosites [illegible]
and [illegible]. The
[illegible] and 161'5" from
the top is a thick seam made up in
a few inches of small shells like
[illegible] galeatus. Just above these

Pentamerus galeatus. Just above the

shells bryozoa are very abundant and it is here that Stellarocystites is also found ^along with crinoid fragments. Seventy two feet below the zone with the immense P. galeatus is a zone with an abundance of Rhynchonella formosa, being thus a typical Lower Helderberg species all above must go into the zone Pentamerus. Below the R. formosa and the rest [illegible] continuous [illegible] and in appearance are not different [illegible] above. Certain [illegible] [illegible] [illegible] any [illegible] Therefore the bottom of the [illegible] Pentamerus is not exposed here.

[illegible] at the Devils Back Bone

305 feet of [illegible] Tonoloway
52 " " Helderberg
246 " " [illegible]
603 " exposed [illegible] D.B.B.

Sept. – [illegible]

[illegible] Natural [illegible]

[illegible] and [illegible]

[illegible] the trees are covered [illegible]

[illegible]

Collected a number of fossils from the second Stromatopora limestone which is rich in corals.

Hardly picked up here a single shell of the little Rhynchonella lamellosa like those from the Tentaculite zone at Kegen.

No fossils seen in the clean fine slaty zone.

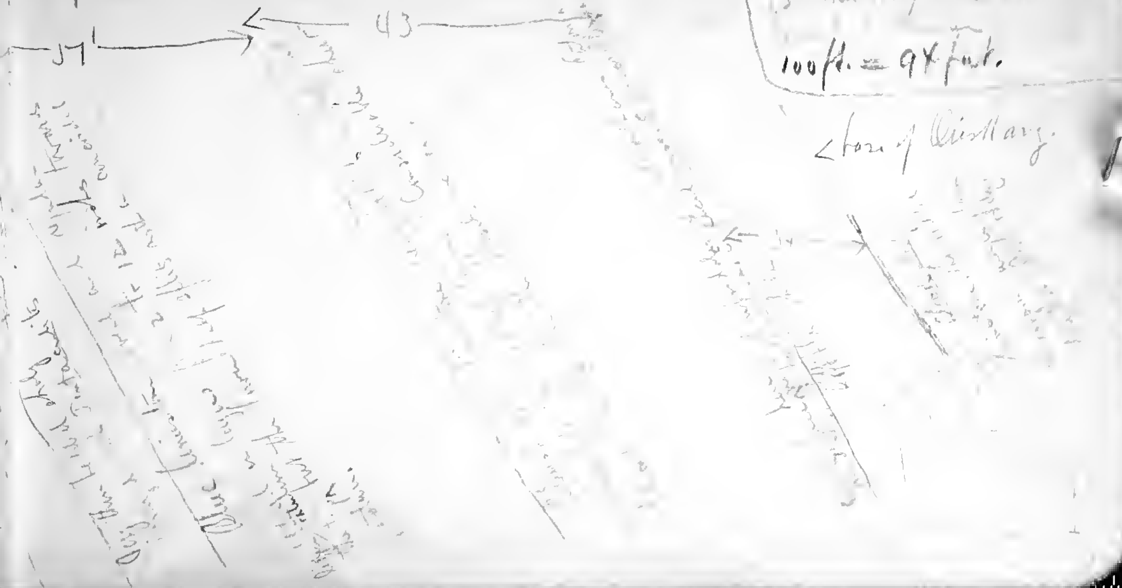
Section along the B. & O. R. R. [illegible] Hagers, [illegible].

[illegible] line

Sep. 29-1900 <— down into section.

Oriskany
10' [illegible]

100 ft. = 98 feet.



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] once [illegible]

[illegible] Jones [illegible]

[illegible]

[illegible]

[illegible]

[illegible] Pershing says he

[illegible] here.

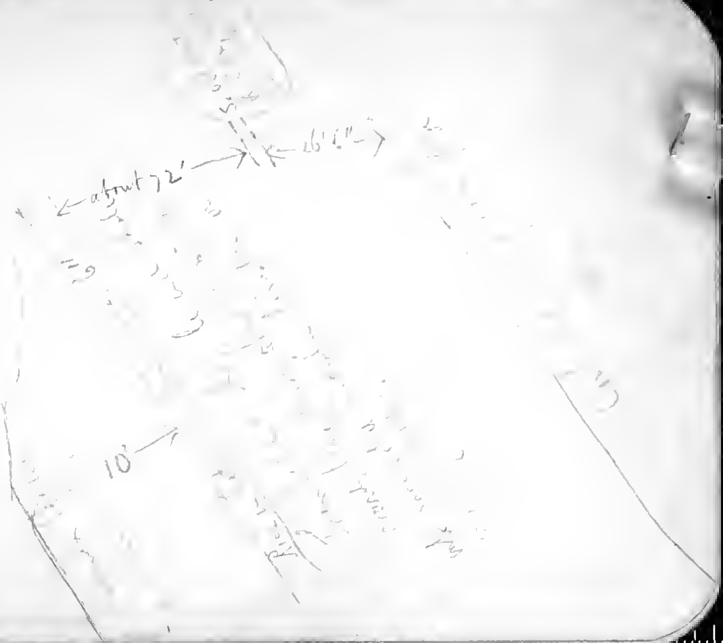
[illegible] more

[illegible]

[illegible] one, [illegible]

[illegible]

Sep. 29-1900



[illegible]

[illegible]

200 ft.

Sep[illegible]

[illegible]
[illegible] started
[illegible]
a [illegible] 160 miles [illegible] to the
[illegible]
[illegible] 40 [illegible] alta
and [illegible]
[illegible] About [illegible]
[illegible]
[illegible] of [illegible]
[illegible] with the little [illegible].

In the [illegible]
[illegible] house [illegible] found of [illegible]
and Love.

Sep. 30. 1900 S.W. ¼ P.2 B.B. about 12 mile

In [illegible]'s quarry there is a
[illegible] of [illegible] Pentacrinite [illegible] a [illegible]
175 feet. Above this occurs [illegible]
[illegible] Then [illegible]. These beds are
burned for cement. [illegible] the cement or
[illegible] at least 50 feet,
[illegible] beds exposed [illegible]. Being
a little [illegible]
The dip [illegible] 35° the distance is
about 25 = 258.3 ft [illegible]
[illegible] = 737 ft.
[illegible]
[illegible] 4 ft [illegible]
[illegible]
= 487 ft
35° [illegible]
[illegible] about 30 feet
[illegible] Waterlime here.

[illegible]

Oct. 1- [illegible]

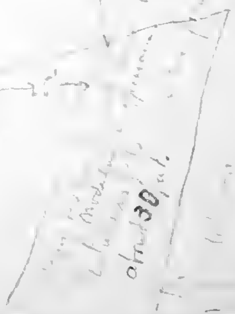
[illegible] morning. [illegible]

[illegible] disappeared.

[illegible]

[illegible] ~~[illegible]~~ [illegible]

Oct. 1 — 1900



15

= 177.7ft

[illegible] Density of [illegible]

[illegible]

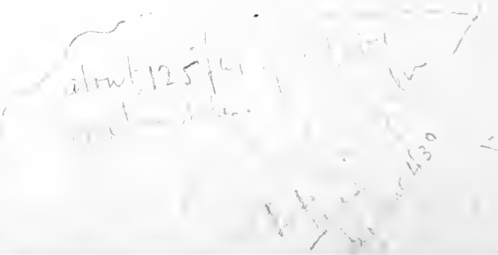
27° n.e - 5 h.

[illegible] 50 feet [illegible]

= 204.3 ft.

Continued on -

Oct 1 – 1900



= 75'


Gravel
Cuttings

June 12 - 1901 Wednesday

Left Washington on the 10:50 A.M. train for Cumberland. Arrived at 2.50. Talked shop with Gordon and Stanley the balance of the day.

June 13 - Thursday.

Spent the entire day at Pinto, 10 miles S. W. on the B. & O. R. R.

From the station west and to the Winchester road is exposed a very complete section beginning in the Clinton and terminating with the [illegible] bed.

I had a copy of Rowe's section and on it I have made alterations and remarks to adjust his work.

In this section it will be best to begin the Salina with the first introduction of the large Leperditias, or with bed no. 5. For the present I think bed no. 4 will terminate the Salina.

The Tentaculite formation will include beds 3 and 2.

Bed 1 goes according my old interpretation into the Lower Pentamerus. Rowes estimate of 95 feet takes in the beds from the Tentaculite up to the cystid bed.

Just before coming to the shaly cystid zone there is a bed with Favosites and Cladopora. The latter in great abundance. In the cystid zone here we picked up several of the characteristic brachiopods.

The Lower Pentamerus zone should come in just beneath the cystid zone but was not able to find it in close association with this zone. However Mr. Hardy found the bed on the hill east of the Winchester road in the east of the [illegible] ridge in the

woods. I think it is in the proper place just beneath the cystid zone but could not positively determine this.

The general thickness appear as follows:

Clarks Mills beds from Tentaculite bed up to cystid zone.	95'.
Tentaculite beds.	388'.
Waterlime or Salina.	704.
Niagara	340
	1527

To this must be added.

Beds above cystid zone at D.B.B.	146
[illegible] beds.	52
	1725 ft.
Oriskany D.B.B.	246!

June 14 - 1901 Friday.

With Hartley started out for the Devils Back Bone. After we were there about one hour it began to rain and kept it up for the day.

I first corrected my section and then collecting fossils marking them according to the zones. Instead was having picked up a few Camarocrinus.

Hartley called my attention to bed 14 with its crinoid layer of 5 feet thickness. It is apparently this bed (14) that is the equivalent of the Keyser cystid zone and not bed 12 as formerly supposed. It may also have been the lower cystid zone seen yesterday at Pinto on the Winchester road.

Hartley will allow me to pick all the desired material out of his collection the desirable material out of his collection

and purchase it or his entire collection.
Or almost any other desirable offer,

June 15 - 1901, Saturday.
Keyser W. Va.

Left Cumberland at 7.45 for 21st bridge and Keyser. Got off at the former place and collected a few fossils and noted the section. Then walked west about 1 mile to the Keyser quarries.

In the Keyser quarries had great success. Found quite a lot of fossils and purchased some of the laboring men.

Rained a little all morning and again on our way to Cumberland.

June Sunday

Rained all day. Spent the morning adjusting Perdue's collection.

Spent the afternoon and evening with Gordon and Hartley.

June 17th Monday.

Rained in the morning & I packed Perdue collection. Spent the afternoon in Cash Valley with Hartley.

The Pentamerus occurs in the Cash Valley in two zones, one beneath the upper quarry bed and the other in the arches of it. About all that is exposed here is found a little below the Pentamerus bed into the second Dawsonpora bed.

Sorted a few Lower Oriskany fossils from the Newport black chert.

June 18 - 1901 Tuesday
Hyndman

There are 2 quarries west of Hyndman
The section is about as follows.

Top bedded dark blue li.
Have Leperditias

Nodular li.
About 50 ft. Quarry here
Have Favosites
①

Thin bedded li. and shale. About 30 ft. [illegible] of bed
Have Fossils.
②

Bed 2 has
Calymene
R. formosa
Rhynchonella
Orthothetes 2 species
Crinoidal

Section Here

= D.B.B. Crinoidal rock. R. formosa zone.

3a Stromatopora against water (possibly 5 feet) see specimen
Quarry. 33 ft.

3b Small Saleatus, a [illegible] runs through 10 ft. of beds. See specimen
all strata.

marlin.

Covered [illegible]
[illegible]

90 feet

Stromatopora against both [illegible] and through quarry
Stromatopora beds are at top Quarry
④ Second St. bed of D.B.B. 24

Bed 4 has
Stromatopora 2 sp.
Favosites 1 "
Cladopora
Heliophyllum?
Rhynchospira.

⑤ Covered but some [illegible] for 30 feet more

See the specimen of branching stromatoporoids.

This section brings out prominently one fact i.e. that there is another [illegible] zone just above the lowest Cystid zone in the Middle Manlius. [illegible] says a similar bed occurs at the D.B.B. only less prominently. Another zone is above the crinoid bed of the D.B.B. (= Lower Manlius) [illegible] a strong [illegible] there [illegible] more prominent than the one above the Cystid [illegible] at D.B.B (= Mid. Manlius)

The large Leperditia must have come from lower than although I found it on the dump of the cystid bed.

Spent the afternoon in the Jamesville quarry. It is in the last [illegible] the Upper intermediate beds and up into the [illegible] beds.

June 19- 1901 Wednesday
Keyser.

Camarocrinus occur in a zone about 5 to 6 feet thick just beneath the Pentamerus bed.

With the Camarocrinus and below for 30 feet is the greatest abundance of Spirifer modestus. No cystid was found in the Camarocrinus but occur from here down Spirifer octocostatus.

R. campbellanum also occurs with the cystids of above my table. The R. campbellana from my fossil bed occurs below in bed 17.

Saw the Pentamerus collected by Swartz 40 feet below S. octocostatus.

The dam is [illegible] that the second Stromatopora reef is to be readily distinguished here although the stromatopora are scarce on the dumps.

Received a great lot of mail.

June 20 - Thursday
Cumberland.

Passed fine morning today at Gordon Smithley and [illegible] homes.

Very warm with rain in the late afternoon.

June 21 Friday
[illegible] — Washington
[illegible] Cumberland on the 21st
[illegible] at Cherry Run

Cherry Run, W. Va

About 3/4 mile west of Cherry Run on the B. & O. R.R. there is a hill side cut through a very fine [illegible] to the evidence [illegible] of the [illegible] after the day [illegible] following is the section.

[illegible] limit of the [illegible] the following

Lowest bed.

covered area, [illegible]

① A series of thin bedded limestones with some shale. Was thin layers with an abundance of Meristella and some Tentaculites, Spirifer [illegible] about 15 ft. see my fossils. Passing upward into more massive lt. about 35 feet Much Bryozoa of the Trematospora kind here. Also large Fistuliporoids. These upper beds then become more and more arenaceous and finally become a 50 ft

② Calcareous heavy bedded only sandstone with some pebbles; weathering out the fossils in a siliceous state. Macropleura some. About 55'

③ then passing into dark blue arenaceous limestones with lumps black chert. No Macropleura here but with Rensselaeria [illegible] as the most characteristic fossils. About 85 not seen, 85' —

Nearly all the fossils in the upper half.

[illegible] contemp [illegible] valley across a small stream at a distance of 300 feet the dip of the rocks is about this 

Saw no evidence in the [illegible] at the [illegible]

town

typical [illegible] points
of this are [illegible] by Crane. Some
some large [illegible] in the bottom of O. com-
[illegible] or L. [illegible].

Chalk [illegible] is [illegible] feet [illegible]
[illegible] where the beds
dip at above 100 [illegible] at the axis [illegible] anticlinal
[illegible] they dip about 20 to 25 degrees. [illegible]
exposure [illegible] about 50 ft [illegible]
[illegible]
[illegible].

In the [illegible] zone the [illegible]
are most common in the lower half. The
[illegible] fails in the upper third where
[illegible] is most abundant. [illegible]
goes through.

[illegible] in [illegible] to
on the side of Mt. [illegible].

	May 21	R R to Harrisburg	✓	3.74
	" 21	dinner at "	✓	.50
x	" 22	Hotel at N. Bloomfield	✓	1.75
x	" 23	" "	✓	1.75
✓	~~" 24~~	~~" " Mifflintown~~		~~1.75~~
	" 24	Mifflintown to McVeytown	✓	.71
	" 24	dinner at "	✓	.50
	" 24	McVeytown to Mt. Union	✓	.39
	" 24	Mt Union to Rockhill	✓	.46
	" 25	Supper and breakfast at "	✓	.75
	" 25	Rockhill to Mt Union	✓	.40
	" 25	Mt Union to Lewistown	✓	.70
	" 25	Hotel at Lewistown	✓	2.00
x	" 25	Dinner at McClure	✓	.50
✓	" 26	Hotel at Middleburg	✓	2.00
✓	" 26	Dinner at Selinsgrove	✓	.50
	" 26.	Selinsgrove to Sunbury	✓	.15
	" 28	Hotel at Northumberland	✓	1.50
	" 28	North. to Bloomsburg R.R.	✓	.72
	31	Box and paper	✓	.10
	" 31	Hotel at Bloomsburg	✓	5.50
				25.86
		over		
	" 21	[illegible]	✓	.40
	21	2 meals	✓	.75
	" 21	Baggage to home	✓	.25

acc. rendered
June 25-1901 | 46.88.

Typical [illegible] [illegible]
of the [illegible] [illegible] by Crane. Saw
some large [illegible] on the sides of [illegible]
[illegible] [illegible] [illegible].

[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] where the beds
dip [illegible] about 10° [illegible] at the next outcrop
[illegible] they dip about 20 to 25 degrees. [illegible]

				25.96
May	31	Lewisburg to Sunbury	✓	.73
"	31	fees at Lewisburg	✓	.20
"	31	R R to Selinsgrove ret	✓	.30
"	31	Lunch & coffee	✓	.75
~~"~~	~~31~~	~~Coffee~~		~~.10~~
"	31	Sunbury to Harrisburg	✓	1.60
June	1	Hotel Harr. "	✓	3.00
"	1	Street cars "	✓	.10
"	1	R R to [illegible]		3.74

June	12	Dinner on cars	✓	1.00
"	13	R.R. to Piedt	✓	.60
"	13	" " " Stanley } Sahn:	✓	.60
"	13	Street car	✓	.15
"	14	" "	✓	.20
"	15	R.R. to Keyser	✓	1.10
"	15	" " for Stanley	✓	1.00
"	15	meals	✓	1.10
"	17	Street car	✓	.20
"	17	Cotton	✓	.30
"	18	R.R. Hyndman for 2	✓	1.40
"	19	Meals	✓	.65
"	19	R.R. to Keyser		1.40
"	20	Hope & Cotton	✓	.50
"	20	[illegible]	✓	[illegible]
"	21	Train thru to Cumbr	✓	.60
"	21	2 meals	✓	.75
"	21	Baggage to home	✓	.25

acc. rendered
June 25-1901 / 46.88.

Trip to Goldfields with
Becker
September 1901.

Sep. 2 - 1901
Left Washington at 11 A.M. for Atlantic City where I stopped over night at the Stafford House. Had breakfast next day at the Windsor.

Sep 3 - 1901
Started for Philadelphia at 10 A.M and put up at the Hanover Hotel cor Arch and 12th.

Sep 4 - 1901
Started for N.Y. at 9 A.M. and remained there until

Sep. 7 - 1901
Went to Albany on the day boat leaving 22nd street at 9 A.M.
Called on Ast in the morning.

Sep. 8 - 1901
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] over a [illegible]..

Sep. 9 - 1901
Left Lucerne at 3.45 P.M. and
[illegible] for Ilion N.Y. where we arrived
at 8 P.M. [illegible] at [illegible] Home.

Sep. 10 - 1901
Had a team to take us to Mr.
[illegible] house near Cranes Corners (Litchfield)
and nearly opposite Jerusalem Hill.
Dug all day with Lucke for crinoids
in the Coeymans but found none. Found
a few small fossils chiefly Ostracods
of the genus Leperditia.

Sep. 11 - 1901 Wednesday
Abandoned the digging of yesterday and

Sep. 11 – 1901 Wednesday
Abandoned the diggings of yesterday and started a new one in another face of the same quarry, which is diagonally opposite over the road from the house of Maxwells and on the top of the Jewel^er^y Store. By noon we had discovered the crinoid bed. Cleared away more rock in the afternoon. Rained several times today.

Sep 12th Thursday.
Cleaned up the diggings of yesterday and washed the layers with crinoids.

Sep 13 Friday.
Dug again with 2 men for a full day in the place of our first excitement. Saw more Dorycrinus but nothing more excepting a few Macrocrinus stems

Dec 15 Saturday.

Collected all day along the stone wall and [illegible] the section. The latter is as follows:

The [illegible] is steep over the [illegible] at the base of which issue springs. Short and deep gullies are in the limestone and usually stop where the ~~[illegible]~~ ~~Pentamerus~~ [illegible] [illegible]. It is near the top of the limestone that [illegible] are [illegible].

Above the [illegible] is a steep slope covering the Tentaculite. Above the [illegible] about 60 feet is a bench of shaly bedded limestone of the Lower Coeymans. These lower beds may be called the [illegible] beds. The thickness of the lower Coeymans is about 35 to 45 feet and in layers abounds in *[illegible]*. Other fossils are [illegible] (rare) and corals, *Chonetes* *[illegible]*, *Platyceras* [illegible] on the [illegible] are 2 or more specimens of *[illegible]*, *Spirifer modestus*, *Whitfieldella*, and 1 *Rhynchonella*.

Then follows a gentle, crowned slope rising for about 30 feet to the road at the base of

species of [illegible] and of [illegible]
Then follows a gentle covered slope rising for
[illegible] Jerusalem Hill. Then a sharp rise to exposures of heavy bedded limestone about 50 feet above the road. These heavy solid beds abound in segments of a large crinoid, and great quantities of the calices of *Aspidocrinus* and A. reticularis. Also *Zaphrentis* occurs here (rare one) and rarely *Stromatopora*.

Above the last bench there is another covered rise of about 20 feet to the quarry level from which many years ago were taken the Homocrinus rock for stone walls.

The Quarry (Aneyfrotts) horizon is the steep, wooded zone of Jerusalem Hill. The face of the quarry is about 20 feet and the *Homocrinus* layers are about 5 feet above the lowest part of the quarry. About six inches above the *Homo-crinus* layer is the one with *Mariacrinus*. Above the latter about one foot is a hard crystalline layer with small black *[illegible]-dites*.

In another quarry more back on the same hill higher beds are shown and at the very top is a Stromatopora zone about 30 inches thick almost completely made of these corallums. I should judge they were there about 5 to 10 feet higher than the Homocrinus zone. Irregular shells comes in the zone with Leperditia. These upper reds may be 20 or more feet thick.

Dec. 15, the [illegible] day.

Spent the morning at Cedarville where we collected in the Lipher (O. [illegible] bed) [illegible]. Fossils rather scarce.

In the afternoon collected along the stone walls on the [illegible] farm. Found a Lepadocrinus, Anomalocystites and a fine Tentaculite slab.

Sep. 16 (Monday.

Spent the morning in 2 small quarries about one mile east of Wheelocks farm. Both are in the upper Pentagonalis exposing about 25 to 30 feet. Above at others there may be 15 or more feet. The lower and upper beds of these quarries are thin and even, bedded while in the other there is a coarse bedded dolomite with gasteropods. Most of the Sp. vanuxem and Leperditias occur in the lower beds. T. gyracanthus is very rare here. The Manlius here may exceed 40 to 50 feet.

About 10 to 20 feet of Coeymans are shown on the top of the hill. Saw some [illegible].

In the afternoon walked to a large quarry at Days store about 3½ miles west of Wheelocks farm. The horizon is the same as the little (Wheelocks) quarry on Jerusalem Hill in which we dug for Homo-crinus. After looking around a little we began to find indications of crinoids and I soon found a fine Mariacrinus. We also found another new crinoid of which I secured two and Beecher 4 or more. The quarry belongs to [illegible]. We asked the three quarry men — Charles [illegible] and Theodore [illegible] — to collect ammonites for us. Offered them 50 cts to 1.00 each. Made them [illegible] in strong [illegible] and address them to [illegible] [illegible].

[illegible] Tuesday.

Rained all morning.

In the afternoon looked over the lower Cenomanian beds in [illegible] area. This zone is a great thickness of the Cenomanians a few 100 feet above the Mantelli of the latter here has the same [illegible] as at [illegible], 40 feet.

Sep 18 Wednesday.

Spent the morning examining the various quarries near Days Corners. I examined the quarries to the right of the Sallsbury one while Beecher visited the one about half mile to the left of the same quarry. The entire series of quarries here begin a little below the Stomocrinum zone and continue to the top of the Corniferous which is overlain by the Onondaga.

In the Sallsbury quarry we again found more crinoids and Beecher discovered the crinoid bed. There can be no doubt that a good colony exists here. We gave the two quarrymen full instructions to preserve all they find and I believe they will soon send us a lot.

The section following is a composite of the quarries near Days Corners.

Days Corners Section of Coeymans.

Onondaga li. with much chert, some corals and large crinoid stems.
About 10 feet to top of hill.

Covered slope to large quarry.
About 15 feet.

Heavy bedded dark blue li, nobbly bedded towards the top. P. galeatus leading fossil in upper 15 feet.
About 30 feet.

Grey heavy bedded brittle dolomite, almost barren of fossils About 5 ft.

Thin even bedded greyish shaly li. Almost barren of fossils. About 5 ft.

Thin bedded brittle blue li 6 ft.

Mariacrinus zone 6 inches.

More or less heavy bedded li. with thin beds all of a dark blue li.
About ~~20~~ 11 feet.

Western quarry

2'

2'

Tallsting quarry

In the afternoon got our material from the Wheelock quarry and packed up. Left Maxwells house at 4 P. M

In the afternoon got our material from the Wheelock quarry and packed up. Left
[illegible]

Wheelocks quarry section.

Jerusalem Hill, opp Wheelocks farm.

1	Heavy bedded crystalline li. Coeymans	About 12 feet.
break?		
2	Gray dolomite bed of Days Corners.	4'
3	Thin bedded flaggy li.	3'
4	Cryst. li with Leperditias	6"
5	Blue brittle li.	14"
6	Cryst. li with Leperditias	8 to 12"
7	Thin to heavy bedded blue brittle li.	3'
8		Marcasinus bed. 6"
9		6'

For beds below this down to Waterlime see page Sep. 14th.

According to my estimates the Coeymans in Litchfield township is not less than 187 feet thick. It may be 202 feet if the topmost 15 feet under the Onondaga are added. Since my estimates are nearly always under the mark it is probable that the thickness is nearer 225 feet and may be 250 ft.

The lower third of the Coeymans may be called the Illionia zone (30 to 40'), the middle the Crinoidal zone (about 120 ft.) and the upper third the Gypidula zone (about 30 feet).

Stromatopora occur throughout the Coeymans but are most abundant in the Gypidula zone, less common in the Crinoidal zone and rarest in the Illionia zone.

Lepadocrinus as stems are very common in the middle zone but good specimens appear to occur only in the Stomocrinus bed.

In 1904 I noticed that the upper crinoid slice is actually a transitional zone between Coeymans & New Scotland. Saw several Favosites, (F. helderbergiae), many other [illegible], E. medialis, E. singularis (Brach. prom.), [illegible] woolworthanus, Uncinulus mutabilis,

Friday Nov. 15 - 1901
Left Washington at 3.45 P.M. for another collecting trip to Cumberland and arriving at 8 P.M. Gordon came to the station to meet me and I [illegible] with him [illegible] Stidger.

In the evening Gordon showed me much new ostracod material, some 4 or 5 new species.

Saturday [illegible] 16 - 1901
Spent the day at [illegible] where collected very little. [illegible] seemed [illegible] Carried away all the [illegible] material and [illegible] sand [illegible].

Sunday Nov 17 - 1901
Spent the evening at [illegible] rooms

Picked out the new agates for the U.S. Nat. Mus. and paid him $10 for the lot. In the afternoon [illegible] away into the country Knolly Heights to look at [illegible] where Knolly [illegible] any more [illegible] of.

Monday Nov. 18

Returned to Washington on the 8.12 A.M. train.

1904

Left New Haven Wednesday Sep. 14 for Ilion to meet Dale. Left at 12.05 for New York, and at 3.30 for Albany where I stayed over night because of poor connection.

Sep. 5 - 1904

Left Albany at 7.45 a.m. for Ilion where I remained the balance of the day being sick.

Sep. 16 - 1904

Left Ilion at 8.30 a.m. for Days Corners and Mr. Sallsbury quarries where I arrived at 10.30. Stopping at Sallsbury house.

Dale had a man stripped down around 18 feet to the crinoid layer. The space uncovered is nearly 30 × 15 feet. Took off the top layer till gave a crinoid bed 15

but found the seam of crinoids very
few and scattering. Not wanting any of
this layer as it is concluded to go down
2 inches to the next layer with larger
stems and larger crinoids. Of this layer
concluded to take up a piece about
four square

Sept 17th Saturday

With Clarke took up the slab and
were stripped off all the remainder of
this layer because another crinoid
layer showed on the lower side. This
had long and large columns but
no heads were seen until near the
close of the day when 3 or 4 fine large
heads of Mariacrinus turned up.

[illegible] of *[illegible]* turned up.

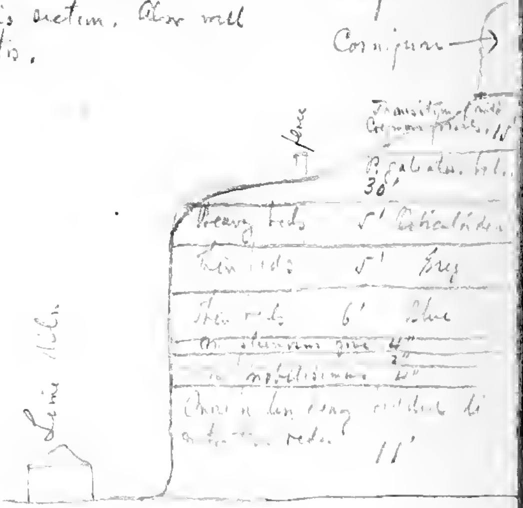
Sep. 18 – Sunday.
With Earle strolled over the collecting ground of three years ago. Saw nothing particular.

Paid particular attention to the *Illinois* horizon and the Coralline zones. The latter lies just beneath the former. Of the *Illinois* zone saw about 5 feet - though the same rock with these fossils has a greater thickness. The Coralline horizon is thinner bedded lighter in color with the fossils much more distinct. The common fossils are the *Favosites*, cup corals and *Spirifer eriensis*. What can be seen of the coral [illegible] zone is only a few feet in thickness. Then there is a sloping [illegible] [illegible] for about 30 feet to a bench or flat which I take to be the Traverse lime.

Sep. 19. Monday
[illegible] [illegible] Sallomy [illegible] [illegible] at

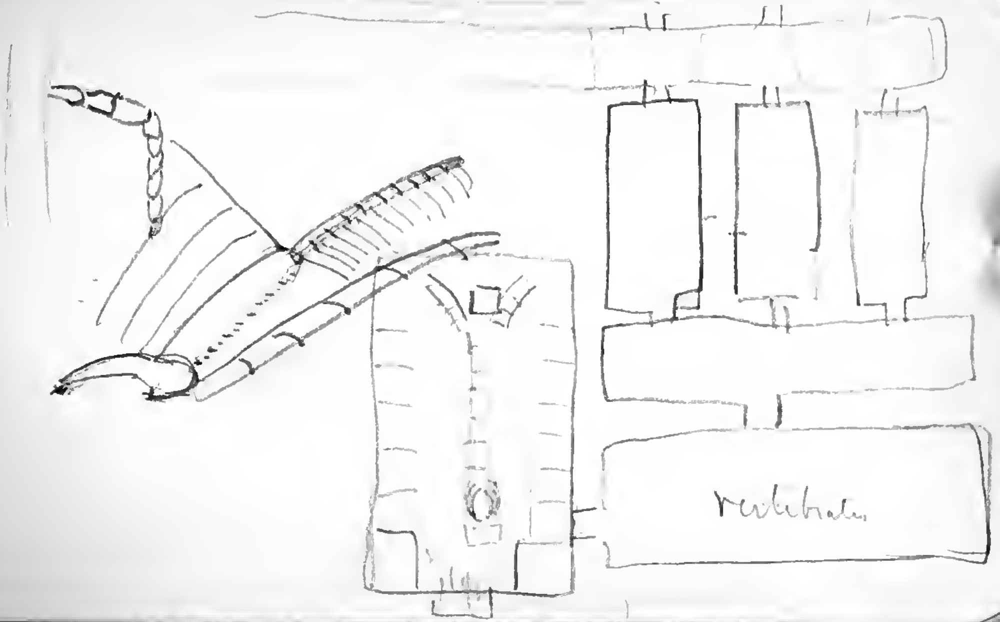
Saltsburg quarry near Rays Corner, Hunterdon Co. N.J.

Bayle will make a more careful estimate of this section. Also will take 2 photos.



9 A.M. and arrived at Utica at
11. [illegible] [illegible] for three days board and
carriage to Utica.

Left Utica at noon and arrived at
[illegible] at


reichhalen

The Ritter Dental Mfg. Co
Rochester N.Y.

Am. Mus. N. H.
Halysites at Rondout bet. Cement beds

Acervularia inaequalis like one Centrolina
sp. occurs ~~at~~ near Rondout N.Y.

See Cobleskill N.Y. for coralline.

Mrs. Thomas B Bishop
Crocker Building
San Francisco Cal
See for eye Stone artifact of hers

Beecher says that a Palaeozoic
Eucharis specimen may be found at
Mr. Bromwell
Syracuse NY
Also Syracuse Univ.
" Hamilton College ? Clinton NY
" Cincinnati Library and
Scientific Association.
" Union College, Schenectady,
Hamilton man, Dr Bull Sch. No. A

Beecher has a Syracuse [illegible].
" " 2 from Litchfield.

Send Charlie the Thetford
Specimens

Send also the Md. Smithites,

The Ritter Dental Mfg. C

[illegible]

Hudson River sandstone,

Clarke has a letter from Bather in [illegible] written the following:

Coronocrinus is of at age for Ste-[illegible]crinus;

[illegible]crinus appears to recur in the [illegible].

Brachiocrinus is prob = Herpetocrinus

"[illegible]crinus appears to be identical with [illegible]lithus which in the work of [illegible]crinus, is a [illegible] recurring in E_1 and E_2"

[illegible] the [illegible].

Cheirocrinus is [illegible] identical with [illegible]-crinus. The latter [illegible]

[illegible]

Coccocrinus is [illegible] in Europe,

[illegible] not of [illegible]

[illegible]

These notes relate to Clarke's [illegible]

[illegible]

The following label is copied and in prof. Hubbard's section.

Lower Helderberg Group.
Up. Pent. Crinoidal
Up. Pent.
Scutella Lime stone
Delthyris shaly
L. Pent. Crinoidal
L. Pent.
Fonerid
Tentaculite Li. stone
Black Marble
Mud stone
Cave spec. stalactite etc
Clay balls
Strontianite
Natural Hydraulic Cement.
Coralline Lime-stone
Iron pyrites. Nodules
" " vein
Alum shale

[illegible] sandstone.

Bateleine.

1558 Strophodonta beckii. This is prob. the same species as the S bipartita.

1552 Hederella This should be looked into

1556-7 Orthothetes here marked Strophodonta bipartita.

1551 A small globular Favosites near to or ident. with the coralline of

1555 This is small lot marked Bateleine and has Pl. lamellosa S. [illegible], The former in great abundance

The Bateleine fossils [illegible] are not stratigraphically to be separated from the coralline. The latter is not the [illegible] one is clearly the low. horizon in the Md. [illegible] Pentamerus.

The Upper Pentamerus collection is fair and better than the [illegible] shaly. However it is not what it should be to be a fine representative collection.

1469. Strophomena bipartita. Same as a ~ Str. [illegible] a new beckii but smaller and without corrugations.

1467 Has a Leptaena [illegible] the Ord. species is so much like a common [illegible].

1466 A [illegible] just identical with the Cumberland modesta All have indistinct plates

This Coralline collection is good and much is yet to be learned in the way of an increased fauna. The fossils however are not good. There is a Bellerophon here more than 2 inches in diameter.

[illegible] [illegible] not in the Coralline. This much like the one from the T. P.

The Coralline Ls. is rich in Favosites and Stromatopora.

Brooklyn Institute

Coralline species.

1462 "Chonetes" from Coralline Ls. This is my sp. of fossil Ind and Pa. It is a Chonetes = C. geneseensis. It is the one most ancestral [illegible] others.

1443 Columnaria inaequalis. Looks much like a very large callous [illegible] [illegible] [illegible] this genus. It may be an [illegible] [illegible] Corallites and [illegible] [illegible] inter-Corallite walls.

1464 [illegible] [illegible] mella [illegible] in the [illegible] are [illegible] [illegible]

1463 [illegible] interstriata Hall?
[illegible] [illegible] [illegible] [illegible] plate

1465 Aulopora [illegible] [illegible] [illegible] in evidence more than one species. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] This is the ancestor of [illegible] bella.

Charles Hill
N. Litchfield N.Y.

(~~Taylor~~ King
Theodore)

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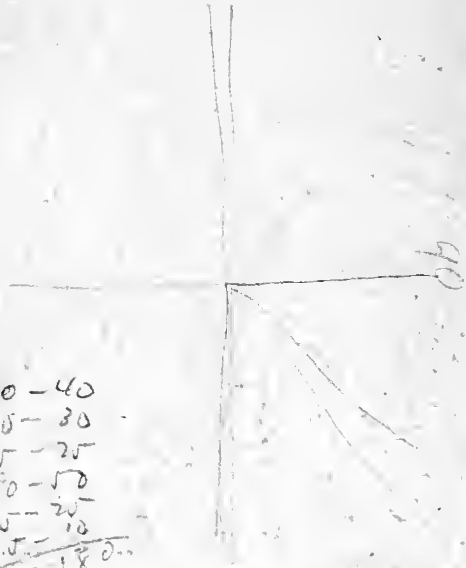

30 – 40
35 – 30
25 – 25
50 – 50
– 25
25 10
5 – 180
160 20
20 200
110

9/cr