



28,

Feb. 1, 1915 - to

March 1916

5-13-14

33
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Received p. 61. June 18 1915

E. M. Olin
E. M. Olin

Miss Clara Schell.
Olya, Fla.

Mrs. R. H. Meeks.
Fort Meyers
Box 437 Fla

Miss Edna Feltz
Olya, Fla.

Donna
Vernie Hawk
Olya Fla.

Emo.

Alva Nov. 16 -

more yellow, granular & clayey

exposed 2 or 3 ft. blue loam water.

Ostraea abundant & other shells.

one phosphatic shell taken from the
foam. Other phosphatic shells
abundant with bed 7th river. There
have been dredged up at John English
place about 3/4 mi down river from
the Alva bridge one most fresh.
The pebbles here are small, and
dark colored. often they represent
phosphatized shells. gastropods &
bivalves. Fresh goat & shark
abundant. some few fishes. fish
vertebrae etc.

Wells flow of Alva from a depth of
about 100 ft. $\pm$. Mr. English (not I)
reports that he drilled a well which
showed shell up to about 50 ft.
Some mudstone had not 300 40 ft.
quartz sand 30 ft. to 120 ft.
well flowed.

9160 7 3

1 1/4 mi by land from
Alva to Lohelle. 7 1/2 to Ft. Stuart.
1 9/10 mi by land to Ft. Myers.
from Alva.
Ft. Myers to Lohelle 33 mi.

Rough road seen as more
taken for it at 1 mi above

Alva 10 A.M.
seen as a stratum in place at 10.4
Landing of 10-15 coralline layer
well marked & lying at the top of the
section. This landing is Flower zone.
No phosphate. Among fish Rectoria.

Folds 10-5. 1st syncline

The principal fossils seen at the
locality were large and small
corals, large echinoderm & a few ostraea.
The coralline layer grades into the sandy
soil. no chone layer. no freshwater moll.
no planorbis & physas. The coralline
stratum here is about 2 ft thick
sand soil 4 ft. lower sand 2 ft. to 8 ft. 5

Left Flowerree Cove #
at 12 M.

on shore above Flowerree Cove
n — E

at 12.10 W — E. on top of Yellow
mud seen beneath the conventional layer.

Rise height at 12.25
conventional layer seems to be
4 or 5 ft thick.

Shelly layer on north fork at 12.30
First appearance. (4 only)
Relation to rough layer not apparent
(unlike it).
Horsford at 12.35 conc.

layer at top of section. Above 20
3 ft of yellow mud beneath it.

12.40 4 ft of mud below conc. layer.

12.40 on north fork First appearance
of shell mud on top of conventional layer,
probably lying in small syndine.

12.47 conc. layer 2 ft thick at top
of section 5 ft of mud below. 1st bend
below landing with yellow house.

12.53 Small slowny &
shell mud on north fork.

12.58 Conc. layer seems to be
on the top on south fork. 6 ft of
mud under it (opposite landing)

At Landing 1 P.M. syndine
slowny shell mud. yellow limestone
& shell mud all probably above
the conc. layer which lies near
under the water.

1.08 limestone plainly on top
of rough layer.

1.10 Ft. Howard Bridge.

Ft. Howard landing on rough
limestone. shell mud on top of it.

1.15 Quantities of concretions lying
weathered out from the limestone.

1.20 shell mud on top of rough
limestone now fairly pointed

1.25 small bit of shell mud on top
of the rough layer.

1.30 yellow mar. shell
to green in outline beneath
the wash limestone 2 ft 2,

1.33 Funnis Port open.
yellow mar seen here,

1.39 about 371 ft yellow
mar without wing in
position. Core. layer on top
+ shell mar. mar

1.48 landings on each side.

1.44 Angel wing seen again.

1.45 Huggitts landing.

concretionary layer here is on the
water edge. on this is 7 ft
colorable mar with its
usual characteristic fossils. Then a
thin seam of limestone laminated.

From Huggitts landing to
Lalille for row boat leaving at 2.05 P.M.

The concretionary layer thickens just
above Huggitts & of Repe Bed
makes the whole section of 7 or 8 ft.

2.45 Every oyster face out of
7 in core layer. prob 1/2 mi
above Repe head.

3.20 to row boat on shelf
bed below Huggitts & near old
lower V. Bed is bed of
grey bluish sand above con-
cretionary layer.

4 P.M. left F.H. Huggitts

Went over to Paul
Orin & Lalille about 5 P.M.

Shovel from Harris Bros
Lalille.

From near T.A. Hendry (under)
 & Lohelle the conc. layer
 is almost absent showing only
 pieces. or + above Lohelle it is
 also only occasionally seen in pieces.
 The mud below the conc. layer
 is here replaced by clay, sandy
 natural.

This exposure of the Myriam
 is in a bed 1/2 mi east of Lohelle
 are very distinct unconformity
 on the Pliscu eroded work.
 Also filling for holes in the more
strat. irregular. on south fork.

Fossil turtle found above the ~~unconformity~~
 unconformity. Fragments, plates
 visible etc from below.

The shale mud below the unconformity
 holds Chione + presumably is the
 Chione cancellata bed of Hall.
 also Bulla striata.

The whole bed of 1/2 mi
 slender mud, unconformity, also
 shows the conc. layer & its mud
 above on west side more +
 below below Chione mud.

at the next bend the
 Pleysa more is 1 1/2 & 2 ft thick
 + rests in place directly on the
 concutaneous layer. Main beds
 north of the bottom.

at first bend down from
 Lake T. list Prairie + opposite
 cut of bend is clay layer
 100 ft or so + a max of 3 ft
 thick. See four notes. Many
 turtle shell fragments in this.
 of this bed below this on
 north fork is found the large
 unlik. Fine + po. of Copper
 Horned more at cut N 2 1/2 ft
 from water gate below.

Oyster more of the Calves
slows below Indian lands,
concretionary layer joints
resting under the Fresh water
mud of H. Thompson section.
No question but that the
excursion is

coffe flowers more
H. Thompson section to
more

Calveschite mud contains
conc. layer.
sandy mud.

The first bed on north fork
above Lohell slows 1 & 2 ft of
mud uneven shale on the
conc. layer.

conc. layer this bed 1 ft
sandy clay mud fine fossils 5 ft
Planorbis. Anomia & full shells in
the mud, also test of Elephas in
place. Elephas above 1 in
above the mud.

This mud runs to 1/2 mi
below Lohell T. A. Hendry
loading

About 3 mi to River below
Lohell mud all Calves
contains some shells.

at 2 finds alone
where found in a syncline
a shell more 3 ft or more
thick lies on the conc. layer
This mud is Calveschite
in collection of fossils.
4 lots of fossils all from
Huggett's loading about 5 mi
below Lohell. with each is
included a run all rock from
about 1 mi farther down stream
to about 10 ft lower stratigraphically
+ under the conc. layer

g. 30 Sleef mul 697 to dec 12

The section above 1 1/2 or 2
mi below Lenox. 1 P.M. 7
up trip. H.C. Hiers found
is a perfect duplicate of that
at F.H. Thompson & up
the Aurora schists was not
found. it is rough limestone
or not. Shell were much
Platystrophia large. 8 ft.
very hard limestone 2 ft.
shell were with Platystrophia
all lying in Symplocaria not
more than 30 ft across.

1 mi above denoult
deer horn etc thrown
out by the diuige refuted
by the Hiers.
Hospital 4.48 PM.

Многъ същъ и олга.

Nov. 18. - Examined phosphate dump
at Devil's Elbow. on north fork.
phosphate here is much like that
of English's place or above. The
phosphatized shells are probably
somewhat larger.

with little doubt all this
plotting comes from the
Calcutta work.

Made Long Creek entrance
7.50 A.M.

8 A.M.
at 8.30 or Ed arndt

at 8.30. From
place offput landing. From
recent dredging tool zone of
deer also found + white ^{bone} ~~bone~~ core.
also sample of the mud. This
mud is distinctly phosphatic
+ contains dark & light pebbles.
much like the Arcadia mud.
Ostracods & pecten.

much like the ...
9.15 AM - ...
from the place of ...
more phosphatic.
Harris ...
The Bridge

The greater exposure of blue loess /
water on. Large cuts above 5 ft.
to 9 ft. found near the ridge. This is
not so very porous. The marls
dredged from the river & those
exposed farther down stream are
more highly platy.

12

15

Enc. Philoia.

Butcher Vol. 111. pp 521-529.
1910. E.A.B. 11th Ed. E.H. Paulsen,

~~Low~~ Feb. 4 - Thursday.

At Robert Ransom's place on Pablo Creek.
Ransom says that the Museum or St.
Augustine contained a small publication,
a report made by an agent sent out
by England soon after Florida was
acquired by England. This report
Ransom says, contained the
statement that at that time
a small woolly buffalo was found
in Florida, smaller than the
bison. This report written about 1863.

Ransom is now taking material from
the beds of the canals. It is first
passed thru a crusher, then to a rotary
drier, then over a screen. The second
material is carried to the storage bin.
The material remains in the drier
possibly 4 min or so. It moves by rollers
and by the air current forced thru the drier.

Feb. 5 - St. Augustine. 126

Examined collection of F. H. Allen
on King St. It contains:

1. Mammals *Quereuonum*. Several good
molar teeth.
 2. Elephas. Probably *Columbi*,
several very good teeth.
 3. Mylodon. one good tibia
longer than the one at Tallahassee.
 4. One bone of horse's leg.
 5. a few crocodile or alligator scales.
 6. Said to contain some turtle (not large)
 7. Vertebrae of the whale, very large.
- The locality is the coral bank
about 20 miles from St. Augustine (South)
on Mr. Allen's farm.

From the coral bank about 20
mi. north of St. Augustine or station
120 was found mastodon & elephant
the remains of which were found
in the St. Augustine firm.

Examined locality on beach
20 mi. n. of St. Augustine where
the fossils were found. Collected
Bison ant bones. Turtle and
mammal shells. The relation of
the shells to the vertebrates not
known as all are thrown
on the beach.

Feb. 6. Saturday, Feb 7 & Feb 8.
Coral from St. Augustine to
Hatonah. St. Augustine to Allen's farm
on Feb 6. Hatona to Allen's farm
on Feb 7. From St. Augustine to
Matanzas the inland water way
follows the present Matanzas
River which is the same as the
Pleistocene Matanzas River.
Some place below Matanzas
the old dune begins & lies west
of the present dune and at
Allen's farm the two are about
1 mi apart. Just below
Allen's the coral of Fox's cut

turns S.E. across the Coquina
 dune (see plates x. v. & 6).
 The dune here is made up of
 broken shells thrown up by
 the waves. after crossing the
 dune is seen 5 or 6 ft of
 hard pan. The canal
 continues S of S E cutting
 more or less coquina rock for
 some miles until it falls
 into the river which it joins
 at Holston.

The vertebrate fossils land
 animals are found in the
 mud and clay that accumulated
 on the shell mounds. They are
 therefore lots thicker than the shell
 mounds. Fresh water shells are
 with the mostodon remains.

Rib contributed by Dr. Carroll.
 Turk " " Dr. H. C. Morris
 Both from mud pit at Holston.

79. Inland water way
Holston to Packbridge to Tennille.

Left Holston at 8 AM.

Passed New Smyrna at 10 AM.

The sand dune is continuous, but above
New Smyrna is cut across by a
 shallow inlet. mosquito inlet.

at 10.40 entered canal. mud deep
 but summer. out at 10.58 - 2 in
 turtle mound at about 11.10.
 waves cut into the side. plate 1.

Allegheny. Holston canal

at 1.10 P.M. from

mosquito rapid into
Indian River. ruins of Tennille at
 2.45 P.M.

Mr. Robbin Jr. says drainage of
 place 4 mi south of Tennille
 see Mr. E. W. Ellis. Indian River city.

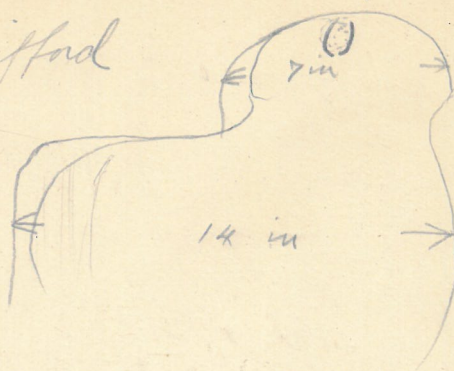
2/10 - Fellsmere - Marl is seen
 from all the deep cuts both on the
 promontory and under the mud, including
 the dike which rises 3 ft above
 sea. Evidently the Pleistocene sea
 covered the entire area.

21. at Vero:- The fossils found²⁰ at Vero occur where the bed of canal cuts into the bed of an old stream. The matrix holding the fossils is a cross bedded sand, evidently a river work sand. Immediately on the sand frequently is $1\frac{1}{2}$ ft. of vegetable material, then the usual soil. The bedded sand is of variable thickness but on a rule 2 to 4 ft. Some broken logs and limbs much rotted are found in the sands with the fossils. All of the fossils found here are dissociated.

F. C. Gifford. Trumb Ayers
Mr. Colver (Gifford Rd.)
Hays. Hill.

A. B. Michaels, Wabona!²⁰
J. H. Garner, New Smyrna

Specimen contributed by
Mr. F. C. Gifford



W R Copeland, May 18
Bones of Mr Hays
near
311.3

2 ft.

Smallest about 17 in

" " 12 1/2

cross
chamber 9 1/4
7 in



circumf. 17 in

about 12 in ~~12 1/2~~



circumf. 12 1/2

Mr. Chillingworth of Stuart.
+ Mr. Burns of Stuart.
as west Palm Beach see Frank Scott
Philo Farms Co. Jupiter, Fla.
Palm Beach Farm Co. West Palm Beach.
(Land of Baynton Fla)

23

Palm Beach County Land Co. Stuart.
Ft. Pierce Farm Co. Ft. Pierce Fla.
also known as the Collegiate Land Co.
see M. G. Robt. Eng.

Seachmere Land Co. Titusville Fla.
Felsmere Farms Co. Felsmere.
Indian Ring Farms Co. Vero, Fla.
Stuart-Turn Construction Co.
see Palm Beach and Everglades Railway Co.

when at Lohelle see John Bukotz
who lives between Lohelle and Hall City.

Stuart
Palm Beach County Land Co. 24
Sect, 27. N.E. Corner 21.7 ft Elevation
on of Stuart obs. mi.
about $\frac{1}{2}$ mi. further south 22.4 ft
about $\frac{1}{2}$ mi. south is the limestone
which consists of clear grained Quartz
with a calcareous cement.
Limestone in public road between
sects 34 & 35 - T. 35 - R. 40.
Elevated on N.E. corner of sect 3 21.8

Frank McLeod Churn Stuart

Frank McLeod

The Hotton Public Library

of Indian River City see

E.W. Ellis. Telephone Fruit Farm

some dredges of Helosfine

major Tom Murray, Hotton

Feb. 14 - 1913.

25

up the Palm Beach canal
with Mr. Hays. Left at about 8:10

The cut through from
Lake Clarke to Lake Worth has
at present a depth of only about
8 ft. at this depth the canal
touches only sand and hard pan.
Ultimately this canal will be
cut below sea level.

Lake Clarke has a maximum
depth of 19 ft. The Lake is 2 mi across.

$3\frac{1}{2}$ mi from the Ry canal 6 or 8
ft deep reaches no rock, merely sand and
hard pan.

Marine shells first seen
at the ferry at 9 A.M. at 4 mi.
continuous to

at stake 306 (30600 ft)
from the west side of Lake Clarke
about 8 mi west of Ft. Pierce
the limestone lying on the shore
is here a stratum reaching a

maximum thickness of 2 ft. 26
It shows here as a stratum of
white chert & coffee mill
honed as found of former
especially at the top. The
rock here as elsewhere is not
very fossiliferous. At least
last one. marine shell was
found imbedded near its base

Captain Jackson
J. Johnson & Co. West Palm Beach.
shells very abundant as
far as we went. turned back at
10, 17 AM. about 10 mi
from the Ry. not yet to the
swampy by 2 or 3 miles.
The limestone does not
extend east beneath the sands.
The limestone lies at an
elevation of about 16-17 ft
above sea.

22

Feb. 15, 1915 - The Horsfield 27
Canal. The Miami limestone
is seen on this canal first
within one mile west of the
F.E.C. Ry where it lies within
3 or 4 ft of the surface.

For one mile from the Canal
down the rock is abundant and
is quite fossiliferous. At the
bottom the top of the limestone is
about 20 ft above sea. Here
it is overlaid by about three
feet of clayey mud & black mud.
The rock is cut to the 2000
ft stratum, that is 2000 ft. from
the mouth of the canal or
about 6 mi above the dam,
or 10 mi above the Ry.
The Miami limestone is
thin and sand is beneath on
the west side of the canal.

28

10.25 Apr 28
at the dam the limestone is
seen at the water edge. It
extends not more than
 $\frac{1}{2}$ mi. about 600 yds. seen again
within about 1 ft of the
surface at 10.35. The bank
is chiefly a very sandy shell
mud.

1st note noted at 10.45.

The rock just beyond the 1st
note lateral is much like in
appearance that seen on the
into New River canal, the rough
limestone.

at 10.35 or about 2 $\frac{1}{2}$ m above
the dredge the bank is
largely made up of hard
rock. The rock is or like.

at 11 to 11.40. stopped to collect
at this point purely a shell

mud. No hard rock. Among 29
the shells Chione predominant.

The collection was made in a
cypress swail. Beyond this the
rock is seen again lying at the
surface or nearly so.

11.20 here rock + mud shell
mud.

11.23 The Ensigns & the
last 9 to 10 m. Sample here.

The rock here is some or rather
rough edged. It contains a good
deal of sand. Not distinctly or like.
Some of the rock here is composed of a
mass of shells or casts. Some also
shows a laminated top surface
like that of Palm Beach.

after some repair on the boat
started on the return at 10.45

Feb. 16. Jackson River city.

30

cut through old beach.
cut 27 ft deep shown
chiefly evening to a depth of
about 15 ft. still broken sand to
about 1 ft. fine sand bedded sand
out 5 ft. Covered about 2 ft.
No vertebrate fossils seen.

To the west the ridge dips off
abruptly. To the east it slopes
slowly, much part of the ridge
probably 15 ft. deep. several
hundred acres. Rather high
land around this much.

About 1 mi inland is
a less well marked ridge but
structurally much the same.
part of this is a small mud
deposit.

Near this another ridge, all sand &
look of it is like Birk's the bottom
is white & much.

The mud here is very full of
Planorbis and of *America*.

Feb 17
Tells.

Feb. 17

31

Beck ridge and lakes
a few miles west of
Esplanade. also lakes.

Neoga is on the west slope
of these beaches.

Beach crowned on
Lincoln Park or the west
suburbs of Argus.

a slight sand ridge
crowned about 10 min from
Argus.

Something of a sand ridge on
the turpentine camp 15 mi from
Argus.

Greenfield place, well at March 1, '15

Soil & sand about 4 ft.

Red sandy clay about 5 ft.

Blue clay, less sandy, do 5 ft.

This apparently is the clay that was tested for fuller's earth. It is not at all like a fuller's earth in appearance, altho it somewhat does clarify oils to some extent, especially vegetable oils.

Greenfield's test from a commercial co. gave the report that it could not be used for a mineral oil. Not a minable proposition in any case.

Below the bed of clay is sand.

a phosphate calcareous more underlies this section: It seems to be the same as at Howthorne, at the south of Lake City, etc. altho there is much phosphate pebble in it. Secondary deposits of phosphate pebbles are found in the stream beds. They having been derived from the stratum referred to. This material is seen at the coming of the cluster creek and on the roots of our tulip trees generally for some miles down stream.

March 2, St. Augustine, 34
the recent sand dunes on the
coast. The corals dunes + coquina
beach. The direction of the dunes has
changed on Anastasia Island.

March 3 Island. Hot supper
with Mr & Mrs Baercke.

The skull of the whale came from
the excavations for the foundation of
the Codrington building at a depth
of about 10 ft. in sand.

The human skull sent by
Mr. Fisher came from a shell mound.

From Cois bluff Mr. Baercke
has two teeth of *Elephas columbi*.

From the mole pits Mr. Baercke
has found fragments of ribs
evidently of the whale.

From the mole pits the
Putnam Hotel has a fragment
of a rib of the whale.

Section on the South side of the
City pt. March 4, 1915 35

- 1 Soil as usual, sand etc about 4 ft.
- 2 Sandy clay, bluish + sticks below 4 to 5 ft.
3. Dark yellowish brown sand 2 to 3 ft.
4. Shell finely broken about 4 ft.
clay stratum with concretions. 2 in
more similar to that above to below 4 ft.

General remarks

The soil ^{and mounds} deepens in places to a number
of ft. The sand #3 is coral filling the
holes in the mole. It is absent in places.

an oyster mole stratum lies in
places at the base of #3. to clay.

The roots of pine trees reach through the
mole in places as much as 10 ft.

General Section.

Soil.

clay.

sand.

mole

Pit of W C Connor

The section in this pit which is only a few rods further south is practically the same. Thus

Soil & in some soil
4 ft

Sandy clay, tinged with red, or the top, more bluish & with only more or the bottom 4 ft

Yellow sand which seems to grade below into the marl about
1 to 3 ft

marl 3 to 4 ft

clay shales - nodules
second marl clay 10 to 12 ft

Pits at Lehigh Springs

The marl is here overlaid by rich yellow sandy clay, 1 to 2 feet. The top of the marl is totally irregular being in peaks & sinks like the Vicksburg limestone.

Sandy clay

Sink
Sour

Marl

Another similar sink hole has a central core of white sand

March 5, 1915. Silver Springs ³⁸
a vertebra? or the bottom
of the fossil chamber.

Carey Morrow, Ocala Fla.
Thomas L. Mitchell, ^{earliest} Ocala Fla.

See Sunday Bluff on the East
side of the Ocala area about
35 mi down from Silver
Springs. at the bottom blue clay &
shells about 8 ft. then top is
sand & shell, whole bluff 180 ft.

See also 40 ft. bluff about
6 below Sunday Bluff shows
the same and over 100 ft high. East
Inchon Bluff is further down
K. Brook Bluff sand

Cedar Landing about 60 mi
from Silver Springs. Shows shell
with rock at the bottom.

The channel of Silver Creek is thin
fresh water clay marl like that in
Lake Flint. Some shell. see sample.

A similar shell probably
unobscured by the Ocala valley. 20

March 6. - at Estachatto. 39

Visited the limestone sink near
Pineola. Vicksburg limestone.

March 7. with Byrta at Huley,
Loronia. Echinoderm from the thin
pile at Dunellon. The species common
in the Chattahoochee formation. Silicified
and containing water and a bubble
of air.

Soft Phosphate Co of Ocala
The Leland Phosphate Co. Tampa Fla.
McC. Ardell L.S. Morrow.
Property of Ocala.

The Florida Soft Phosphate and
Lime Co. Ocala
Property of Kendrick & Celtic
Ames. agric. Co. said to be beds of this Co.

From Hudson, fossiliferous limestone.
and flint. also a sample showing
fossils. perhaps worn fossils in a
yellowish matrix. ~~found~~ This sample
is found at a depth of 3 ft. in damp sandy
soil about 5 ft above low tide. 1/2 mi
from the Gulf.

In Pinellas Co. Indian Rocks R.R.
Friedlander
Send Robert Morrow possible.

For early planting use 7 40
Cov peas use

Lady pea, or Crowder pea
yellow or white
50c. & T.W. Wadsworth Richmond Va.
for table use
Plant cov peas in May or June

March 8, 1915 -

at Lohelond. Mr. Memminger
reported some hard limestone
near Jourdenville still on
the road north of the Ry. to Oubunadole
found near on old mill site. Mr.
about 5 mi N.E. of Lohelond. Mr.
Gunter was unable to locate the
rock, but found some phosphate
pebbles.

with regard to specimen found
in the pit at Coont by C.F. Merritt
this was found on test by W.F. Whitney.
suit for the Crown Co. to be high grade
phosphate. Test made March 8, 1915.
Mr. Whitney's father-in-law is Col. Webster.

with regard to the fingers two of
them are in Mr. Memminger's
possession. The one not conclusive

in appearance but seem to be 41
the cost of fingers. They are
about



They look like tips of small
ribs in all things except the nails.

a third finger not seen by
me was picked up from the screen
by John Henderson & given to
Mr. Greene. All were found
late in 1910.

See Rich Levins in Power House
of Prairie Rebble. See also Horsey
lost heard from about Toupa.

S.E. Wiggins now about Homestead.
Wiley Boggett, whereabouts not known.
Schumacher seen. He knows nothing of
the bones.

The pit being worked at the time Mr.
Greene says was one foot west of
the washer.

As bearing on the Question of
grade, etc of the lead pipe note
the following from prospect records.

Pz Os -	78.29	77.26	73.50	71.14
	1.82	1.42	1.24	1.74
2 3/4 ft -				8
overburden - 25 ft.	22.		10.5	
stratum	4	6	16.1/2	8
Thickness	14.76	25.79	35.87	32.16
Percentage of pebble	14.6	17.0	8.6	15.9

Pz O.	78.81	73.37	70.44	71.54
	1.38	3.31	2.02	2.29
2 3/4 ft			7 ft.	7.5 ft.
overburden	21.0 ft.	12.5		
stratum	6.5 ft.	4.5 ft.	10 ft.	4.5 ft.

March 9 - Tampa

See Supplement to Eng. News
March 12, 1914 for table of
conversion of metric measures into
English. (Vol. 17. #11.).

For the Hillsboro River. Go by
trolly to the dam.

By S.A.L. to Crystal Springs.

Sandstone from Boca Ciega bay
has the block mineral.
Limestone from the same place

about 7 mi. below Tampa
along the channel, covered by
20 ft of sand and cypress
limbs & ~~logs~~. Project out from
Godsden point due E from
this + Calfish point about 2 mi. or
600 or 700 feet across the river.

For Ester Creek go by auto from
H. Myers to Flowering Landing. then
by motor down the creek.

Thursday for Monatee Creek.

Along Hillsboro River from the dam
to the Sulphur springs. Confined only the
Chattahoochee limestone which forms
the bed and banks altho seldom rising
above water level.

2.7. corner. Thonatorassa ⁴⁵

March 10. - Thonatorassa.

Along the Hillsboro River the sub-formation is the flint and other rocks of the Apalachicola group. Flint ~~is~~ Hard rock apparently flint is found in some abundance on the land of Mr. Roberts about 1 mi N. of E. of Thonatorassa station.

Silicified corals and pieces of flint one found in his grove near by and is a somewhat high level. Also flint fragments are found generally over the upland 50 ft or more above the river on which Mr. Edwards & Wrigleyhouse stand.

Tampa to Lithia - at six mile creek is seen the soft rocky phase of the Tampa limestone. At River View in the fork of Olofia River is seen soft rock with black phosphate pebble. At a small creek one mile East of River View is soft limestone

much like that at Six mile creek ⁴⁵ some clay inclusions as usual in the Chattahoochee limestone. The level is higher actually than at the river.

at the public road crossing about 1 mi N.W. of Lithia station at the right of the old Moravia phosphate co. there is now to be seen only mud banks & some sandbars. The sandbars consist of dark phosphate pebble like that on Peace Creek. Shark teeth ray teeth are abundant. silicified oysters are found also.

at the S.A.L. bridge crossing about 1 mi N. of Lithia station the "Bed rock" with an abundance of phosphate pebble is seen on the south fork ^{4 above} near the bridge. The pebble in this rock is mostly black smooth & shiny or brown smooth & shiny.

Blue Springs in Hillsboro Co. is about 3 mi west of Lithia on the south side of Olofia River. Said to be about 8 ft deep & clear sulphur water.

March 11 -

46

at the fuller Earth plant Mr. Etter.
~~Edith~~ ~~Edith~~ Mrs.
Mr. the large

Point of Elephas 7 or 8 mi South
of Manatee River. on outcrop
rock.

On the Manatee River the latest
change in elevation has been a
submergence. This is indicated by
the fact that the river is not con-
fined to a channel but is filling
in on both sides at one time.

The ~~the~~ soil around Ellenton is
derived from the Red rock formation
which is nowhere more than 1 or 3 ft
deep. This is shown in all the cuts
and ditches.

Few ~~the~~ fossils other than one shell were
obtained from the bed rock. Broken
ribs are abundant. Also found
one broken tooth.

The Ellenton plant is now working 47
very little overburden scarcely more than
the soil to be removed. although the north
side the earth deepens.

The Manatee Fullers Earth Co.
is working about 12 ft overburden
or fullers gray sandy soil 2 ft. Hard pan
soil 2 ft. grading into decomposed
bed rock. This is a depth of about 7 ft.
Fullers earth states about 6 ft. thick.
using team to haul the earth.

On the Manatee River above
the fullers earth plant no chert banks
is seen until within about 3 mi
of Mitchellville where a thin
stratum of phosphate mixed with
pebble lies on a clay unbinding
fullers earth. ~~Diffusion~~ found in
this stratum two teeth.

at Mitchellville and for a few
miles below the banks are made of the
blue bluish phosphate "bed rock"

Mitchellville is $\frac{1}{2}$ mi below Rye - 48
is about 8 mi due east of Ellentown.

March 12 -

The ditches and conals one to two miles south of Bradentown show shell marl. On top of the marl is sand in places, all the elsewhere the marl is overlaid by a laminated sandy rock identical in appearance with that found overlying the Coffee Mill Homrucks marl at Coffee Mill Homrucks, west of Palm Beach. Stuart, Hillsboro Conal. Like Abbeville etc. Collection of shells to John H. Hoppin & to the Survey.

Approaching Sarasota shell marl is seen in the ditches about 2 mi north of Sarasota near Tallahassee.

Mr. Rankin and Mr. Dunbar. 49

See cut of Cow Pen Slough into Shady Creek or Knight's Creek. Shady Creek comes over a divide. Cow Pen slough formerly flowed into Manatee River, its diversion into Shady Creek having occurred recently.

at the celery farm which is about $1\frac{1}{2}$ mi S. of Bee Ridge the alum bluff phosphatic limestone is cut by all the ditches.

at the bridge on the Osprey road across Platte River the alum bluff is seen overlaid by a thin stratum of Plaster marl a few feet above the present water level. a bone conglomerate marks the contact.

near this junction alum bluff to be within one foot of the surface.

March 16 - Crystal Springs on the Hillsboro River about $1\frac{3}{4}$ mi west of Crystal Springs station & on south side of the river.

Mitchellville is 2 mi below Ryer - 48
is about 8 mi due east of Ellenton.

March 12 -

The ditches and canals one to
two miles south of Bradentown
shell mol. On top of the 50

March 13 - Rained - at Asprey.

.. 14 - Up North Creek by
foot. Alum Bluff mol
seen on right + left banks for
 $\frac{1}{2}$ mi or more above the old
fidge. Pleistocene shell
mol seen above this up to
second old fidge. collection

at White Beach is seen
the Alum Bluff with casts
of oysters. The rock there is
slightly porphyritic - small
nubbles occurring in places.
a thin stratum of Pleistocene
mol lies on top of it. In this
core is seen sandy clay.

no oysters in the fossils in this neighborhood
Mr. West says there is only pond with small
oysters near the mouth. 21

Potts - Mr. Gault reports no rocks to 51
to seen at the stage of water then prevailing
in chopier creek + in Cowpen sloughs.

March 15 - Asprey + Potts, + Potts to

Just at the north limit of Sasarota
the yellow mol is seen thrown
from the ditch. Evidently the
Alum Bluff mol. down to
a small creek. Beyond which is
seen shell from a ditch on the
south side of the track to or
nearly to Shell Beach station.

From near Tallmont to above the elevation
is somewhat greater and may be sufficient
to exclude the shell mol.

The ditches in + near Palmetto show the
yellow mol of the Alum Bluff.

Slitching along the S.A.C. from
Ellenton junction nearly to
Terra cotta junction shows the
Alum Bluff to be within one to 2
feet of the surface.

March 16 - Crystal Springs
on the Hillsboro River about
 $1\frac{3}{4}$ mi west of Crystal Springs station
+ on south side of the river.

at the spring is found 52
hard flinty limestone
which is much like the
Chattahoochee flint rock altho
no good fossils were seen. an
occasional softer piece is found
which resembles the ichneumon
+ spine phase of the Chattahoochee
limestone see sample.

maybe has put down
several drainage wells
at Crystal Springs. One of these
at 38 ft reached a large cavity said
to be 20 ft. + flowed out on the
surface. Another 48 ft. receiving
water slowly. another 175 ft.
was said to be no good.

53

March 17 - mulberry.

53

The pit of the Nichols Co. ^{west} ~~north~~ of
mulberry shows irregular bed
rock. perhaps 8 to 12 ft.

at the bottom the phosphate
bed is clayey + sandy with mostly
rather small or light pebbles
coarser rock occurs in a bed
near the top.

much of the large fragments
consist of phosphate pieces
of the bed rock. also clay balls.

Fossils obtained include mastodon
teeth. lower tooth of Hesperomys and
shark teeth. materials of the matrix.

Location of plant. Phosphate
property within 3 mi of the S.A. & French
to Sawtooth at south side of the townsite.

Large turtle seen from Nichols
No. 4 about 3 1/2 ft long to 2 1/2 ft wide.
called on Mr. Martin of the P.P.
only two pits running.

21

March 18 - ~~Pit # 4~~ of the
Phosphate Mining Co. $\frac{1}{2}$ mi N.E. of
Mullens P.O. -

The bed rock at one of these pits
shows an erosion channel having a
depth of about 10 ft and a width of
40 or 50 ft. It was followed in
mining a distance of 300 or 400 ft.
according to Mrs. Abrams and Mr.
Rube the channel proper was
filled with coarse pebble & sand
with little or no clay. (Drift rock)
above this the phosphate stratum
was continuous & bedding uninterrupted
showing that the channel
precedes the formation of the phosphate
beds. All of the large pebbles of
this bed were found to be
phosphatized fragments of the
bed rock. Some taken from
this place. Bed rock. phosphate matrix
& washed but not dried pebble.

of Christina Mr. Fuller Jr.
& F.T. Glouff chemists.
Mr. Baggett. Pittsford.

Prarie Pebble Phos. Co.
Mr. Martin. Gen. Mgr
Mr. Kuhl chemist
Mr. Ford.

R.H. Cason. Pit. # 10.

See Mr. Drigger & F.H. Meade
S.L. Peck. in the office of Prairie Pebble

at Prairie Pebble #10 the phosphate is
nicely bedded and consists large &
light colored pebbles so much so
that the rock when well dried looks
light or nearly white.

at the same place near the
middle of the pit the clay extends to
a depth of 12 or 15 ft. not being
phosphate bearing or at least not
workable. This clay appears to
represent the Bone Valley formation.
The impurities of this pit & that it
represents a deep water deposition.

March 19 - Pierre Ploz Co

Mr. Lumsden Gen. mg.
 " Turner onis mg.
 Kid Longford } These two
 Shaman }

according to Horvey can witness
 that Merritt made the specimen
 as reported by him.

The bed rock at the pit of the Pierre Co.
 near the plant is very phosphatic. It contains
 large as well as small pebbles. Also
 light as well as dark ones. See
 samples.

Four
~~Two~~ dozen pieces of phosphate
 from the ~~last~~ storage pile were
 cracked & examined and it was found
 that most of these were conglomerate
 fragments consisting of rock pebble
 & sand grains. A few were
 mostly uniform beige limestone
 replaced by phosphate. In this case the
 fossils were isolated mostly by concretion.

S. W. Smith Pembroke

In the Pembroke pit #1. The bed
 rock is extremely irregular. Just on the
 bed rock unconformable was deposited a
 sandy clay matrix with little rock to
 a depth of one or two feet. This is quarried in
 use. As a rule this is not removed in
 mining. It is likely to be above in place.

Next following is a coarse stratum
 approximately within a mile of
 4 further west bed rock. 8 ft.

Next a more clayey stratum about
 2 ft. made from top bed rock &
 containing large pieces of the
 bed rock in masses 1 x 3 ft in
 sections.
 Next 3 ft of coarse beds noted
 + 2 or 3 ft of conglomerate with
 much good pebble.

soil abt 2 1/2
 intergrading 2 1/2 2
 rock 6 1/2 ft. at 25% Ca P₂O₅ -
 stratum 8 to 15 ft.
 Bed Rock.

Soil 2 1/2 ft.

Sandy overboulder 5 ft.

Clay 6 ft.

Cover + with in. of lead 2 1/2.

Blair by 2 R

Red rock

march 20. Ft. Meade to Arroyos over
" " " trailport.

Mr. Knapp may at armours
Mr. McCaff. Smith.

Mr. McCord.

The bedrock on Vermorel is about as usual, very phosphatic. The phyllostratum as seen at Smith is as usual.

your small stream
P. R. M.

Back of 3 Rm

level bond

Scrub of 3. 12

2 ope bills 9 3.20

20th May 1951
93x Brock. Sample photo.

330 11 sample.

3. 50

1st beach about 18 mi N. & East of Ft. Maud
rise in elevation probably 10 ft.

Vegetation changes from palmetto to 59
scrub. consists of sparse pine. live oak.
palmetto, larger of pine.
Bottom - men, 22.

Bortom - men, 22.

See Mr. J. J. Ham carb. quarry.

Mr. Ham obtained a tooth of
Elephas from near mumbery,
Exot place not known.

From Barton N.E. 1st rise in elevation is
at Gordonville about 4 mi. No evident beach.
To the west beach dune at about 8 mi. See
sample.

Sample.
Mr. Stuart says that the bed rock
lies about 25 ft at Portown & under the
flat woods generally.

storke iu m. Løsergren

March 23 - Stark - A mch. 1 work
very cold. - 2 in on the back porch.

Mr. Byrd says ice at Talla on
march 22, 23. & 24. 1875.

as Jox was not able to find any
surface exposure of the Jacksonville
limestone.

Mr. Lantz reports the presence
of the Queen Bluff along the west
coast of the Penillos peninsula.

May 30, 1915 to
 Parish and return via chairs.
 with Dr. VanBuren & Byrd.

Left Talla at 7.40 am about
 arrived at Scuss's place

Talla. Court house to City limits	alt	1 mi
" City limits to Scuss		16.1 "
" " " 2 lay road		13.7 "
" " " intersection of		
" " " Lloyd-Thompson Rd		17.2 "
" " " Lake Marshall alt		19. "
" " " "		20 "
" Court House to "		

width of Lake at Parish and est. from
 a boat as follows: -

Lake shore to channel (16 ft)	350 ft.
width of channel (2 to 3 ft)	250 "
Channel to opposite shore 16 1/2 ft	600 "
Total width of lake not over 1/4 mi.	

Low land beyond the lake

From the lake fairly high	350 steps.
North corner	75 "
Fairly high and dry	335 "
Low + wet area not reached by	140 "
the lake	900 "

Total distance slightly over 1/4 mi 2700 ft.

Total distance high to high both 3/4 mi.

Returning. Sandy road out of
 chairs for alt 2 mi. Surfaced
 during high water as reported by
 two different residents in regard
 for a distance that could not
 be less than 1/2 mi.

Indexed & here June 18, 1915

Feb. 2, 1916. Brooksville.

62

Bystra block. also Boskum.

and Norman Platt. Pratt

has corner of deer & horse & said to have leg bone of Proboscidea. ~~Set~~ Pratt found piece of Proboscidea tusk in the river wash road of crop mill. also tusk in shell rock.

Feb. 3. Pits 2 & 3 of the Coroner phosphate Co. verified former observation of union-forms in the phosphate bed. a piece of bed rock estimated to weigh 5 # by wheelstone & set taken from the contact line in the bed. worn corals up to several pounds.

collected a pebble with a slab broken off at the time the rock was moved to its present location. The rock was imbedded with the flat (broken) side down. also bull's teeth & bone.

63

Feb. 4. - Lakeland. - Plant of

63

Lakeland Phosphate Co. S.W. of Lakeland.

This plant is less than one mile from the high land. The beach marking the shore is not evident on riding from the high to the low land.

The phosphate rock produced is being ground to a grade so that about 80 or 85 % will pass 100 mesh. See sample. Difficult to keep grade of fineness owing to sand. The rock used is the medium pebble, the highest grade being reserved for export. The price is said to be \$ 0.75 in large quantities per ton.

Almost no shark teeth found in this lot. ~~fish~~ fish, only one of any size. Many rib bones however.

In grinding a Sturtevant mill is used.

Feb. 4. afternoon - Pit # 1 of
the Phosphate Mining Co.
 $\frac{1}{2}$ mi. or so N.E. of Mulberry.

In this pit of the west side is
seen a layer $1\frac{1}{2}$ or 2 ft thick
unconformably on the phosphate
bed the relation being as at
the crown mine. a very careful
search failed to reveal any fossils
that were identifiable in this bed.
~~a turtle bone from this mine~~
~~a left femur was presented by~~
~~one of the pit men.~~

Some ribs left from a mass
of ribs. From this pit was taken
a large off femur of turtle, was
taken from the runway ditch in the
phosphate matrix.

also skull of a dolphin from
the phosphate matrix.

Feb. 5: 1916 - Pit # 3. Phosphate
Mining Co. Mr. Hewitt pit
foreman says that he found the
large turtle & that it was in
the drift rock, that is in the
block rock which lies unconformably
on the phosphate proper & hence
may be Pleistocene or late Pliocene.
Send report to B.B. Hewitt,
Mulberry.

Feb. 6 - 1916 - Took up part of
whale jaw, many teeth & a section
of a rib from Pit # 3 the phosphate
Mining Co. about 2 mi west of
Mulberry. Also received from
Mr. ^{B.B.} Hewitt Fish head, mandible, tooth
& vertebra. The whale was in the
phosphate bed also pictorially of
the following:

Report to Prof. Frank Richard, Mulberry -

Feb. 7. Monday at Brewster.

Took up skull of gorial. This skull lay on the bed rock at the foot of the cliff in pit # 2. The cliff of rock here is fully 10 ft. high. The rock dips 77° to the SW rapidly, each stratum making a cliff. Rock a coarse conglomerate of pebbles. See photos.

Feb 8. At Brewster. Packed the gorial jaws, and other fossils. see notes on p. 88

Feb 9. at Pease. This company has been for some time mining a stratum of bed rock fully 10 ft. thick. The rock yielded it is sand about 11% plus plate pebbles in the matrix. grading x 6 to 56. The low grade was in

the first 2 or 3 ft. with the latter grade beneath. The pebbles itself in the bed proper grades 66 to 69%. see photos 2 to 6. 67

afternoon at Tiger Bay.

Swift & Co has a mine at Alafia. & a new mine will be opened there.

Feb. 15 - Fri. morn. - at the

Pembroke mine invertebrates were collected from the phosphate beds, mostly in the ostra layer. The oyster masses in the old pit weighed in some cases Mr. Smith. his men say as much as 250 #.

Send report to S. W. Smith.

Pembroke, T. H. will preserve specimens. Send Mr. McDonald prints of various views. also report.

at Brewster.

68

Mr. Fortner must suit.

W. S. Washburn, his foreman

Engine. Shumow night

H. Withridge day

Tom Wolfolk night

W. H. Turner night day

at Brooksville

Brooksville Lime & Rock Co.

send paper to J. A. Creeks River

" " " E. C. Wise H. Meall

" " " S. W. Smith Pembroke

Feb. 10. - Smith reports two
plants making fullers earth at
Ellenton. Obtained tooth & ~~some~~ ^{conchoidal} bone
of Equus. C. M. Schaeffer, owner of
mine. Otter in charge.

69

69

Shore tooth in
collection of
C. M. Schaeffer
Ellenton, Fla.

Feb. 11. at Sanford. In the
office of the Herald Editor B. Fuller
has part of a femur of an elephantid.
Mr. Elder took us to his soft water
spring about 5 miles out on the
Orlando road.

at Lakeland - The skull of Globicephalus
has the condyles upward, but they seem
to stand more up & down than the modern.
The foramen magnum is 60 mm across by
55 mm up & down.

at Hatoria - The skull in the
yard of John Hamilton is a recent whale
strand on the beach.

69

Feb. 12 at Vero.

70

Crude oil samples from
Pa. contributed by Mr. Weills
All from Washington County oil
fields.

1. from well 2400 to 3000 ft.
2. Smith well, deep
3. Crude oil from the Sour
Sooty well, ?? well in
Washington County about 1884
still pumping in 1901.
4. Crude oil from workman
wells. drilled about 1885.
5. Crude oil from Tanks on
Sulphur hill from Smith well.

Fossils from Vero. contributed by

Isaac Weills.

Frank Ayers.

C. F. Gifford.

E. Z. Wood. clow of stock.

Z. McCullers, Gifford, H. A. son. ^{150 yds} below ^{Shelby} ^{Shelby}

N. F. McCall " " most on ^{St.} ^{St.}
(Took from east of the county bridge)

Notes on the conal.

71

The conal has now cut several feet into
the Pleistocene shell marl. The
fossils are found in the sand up to
the soil.

The human bones were found in
place in the bank by Mr. ^{Frank} Ayers. He
called Mr. Weills + together they took
them up. The location is about

feet west of the F. E. C. Road crossing
+ on the south side of the conal. The
section here is soil + fresh water
marl 15 in. the usual dark sand
about 3 ft. 9 in. The bones of the
leg + a part or least of the foot were
in place. ~~other bones including finger~~
~~bones had dropped down.~~ all the
bones were in place except a few
phalanges which were in the sand blown
Tow part towards the east. mark on a
level at the present a slight incline 9 or 10 in.

The section at this place is

as follows.

Soil.

Does make appearance of fresh water origin

From water must left Dec 29 327

Below water level	160
By	158 yds
Clay in place	160
Iron with nodules	2 1/2
Lower section	279
Stream	287
Shallow water	307
	309
	317

Pleistocene shell work.

Plutonic: some with vertical joints

Soil

From water must

Send Mr. Weills 1st 2nd 3rd & 4th Bound. Has 5th 6th & 7th Bound. Mr. Weills also has Amer. No. Vol. III and #1 & 8 of Vol. II. on p. 443.

Oct. 1868. Portals disclaims any great use for the skeletons on Rock Island in the marine. associated with *Poludina* and *acupelloria*

Feb. 14. View. Send 7th Bound to Mr. Hill. Ver. ~~measured~~
rather nice & thick 2 - 0.

J.W. Whilden, Eau Gallie
Elephant tooth. contributed.

W.H. N. Glasgow, has
elephant & other teeth.

Mr. Green at Eau Gallie.
Has some specimens.

The canal at Eau Gallie was made by Hoppins and is a small round dug canal intended to drain Lake Washington.

Mr. E.W. Ahi, a Japanese has tree ferns on the canal about 2 1/2 mi from Eau Gallie. Some bones found on his place. ^{St. Erv.} ^{obovatus}

Section at Ry bridge.

74

water level = 0

Top of shell stratum = 2 ft. 10 1/2 in + 2 3/4 =

" of base

5 ft 2 1/2 in
4" 7 in

Section at wagon bridge

shell from water

5 ft. 9 in.

Soil

2 ft 10 in

Soil

1 1/2 ft.

Section at shale shell

5-5 1/2

Brown soil

3 ft 9 in.

more

15 in.

Soil removed.

Section was rich of inlet canal
shell ?

5-7 1/2

Brown soil

3 ft 10 in.

more

15 in.

Soil removed.

Sec 67 ft from skeleton

shell

5 ft 6 1/2 in

Brown soil

3 ft 4 in

soil 1 ft or 20.

skeleton 0.

75

Brace 50 ft.

width of inlet canal 50 ft.

width of canal 50 + 50 + 50 = 150 ft.

to end of Plucking series odd 25 ft.
or a total from the skeleton of 195 ft

canal enters from skeleton 15 ft.

From skeleton were added 37 ft.

" skeleton to section 37 + 29 66 ft.

" to mound 66 + 203 = 271

" north rail of Ry 331

bridge is 271 + 60 =

From skeleton to sec end 331 + 50 881 ft.

" Bridge up to 500 ft.

Section ^{250 (hor)} 200 ft below ledge
 shell rotten 5 ft
 Brown sand 2 or 3 in
 mud sub 1/2 & 1 ft.

76

Section at 350 feet below ledge
 shell 5 ft.
 Brown sand 2 or 3 in
 Soil dis 1 ft.

Feb. 15 - at West Palm Beach.

Specimens contributed by
 Dwight Allen showing bones
 preserved in cognate shell rock
 from the foundation of the Hotel
 Royal Poinciana, Palm Beach.

Feb. 16. Specimens from the
 West Palm Beach canal. contributed by
 Mr. Hager.
 Elephant tooth. from canal 1/2 mi
 west of entrance of Range line canal
 Elephant tusk on the range line canal
 1/4 mi south of main canal.

Horse teeth about 1 mi from 77
 main canal on the range line canal.

Bone of Bison? about one mi
 east of range line canal on the
 main canal. (But formerly was
 from the same place).

Roots in canal about 1 mi from
 sand dune on south side.

Feb. 17. Palm Beach Canal at
 Station 732, about (73200 ft from
 Lake Clarke) (5250) 73200 (1/4 mi).

Livingston here is a station one foot or so
 of sand & lime cemented. Gives place
 below to shell marl.

Hard 1 & 1 1/2 ft thick seen just
 beneath the soil at Station 658 & 676
 This rock is also a marine marl
 indurated. Some shells are
 preserved mostly as casts. Shell
 clear grained sand in the rock. This
 rock is probably indurated marl
 or marl "hardpan"

at a place ⁴⁰ ~~to~~ min new from
the range line, probably about 2 mi.
on the north side of the canal found
mammoth americanum
deer. antler.

Turtle.

vertebra not det.

claw not determined.

Part of skull of racoon?

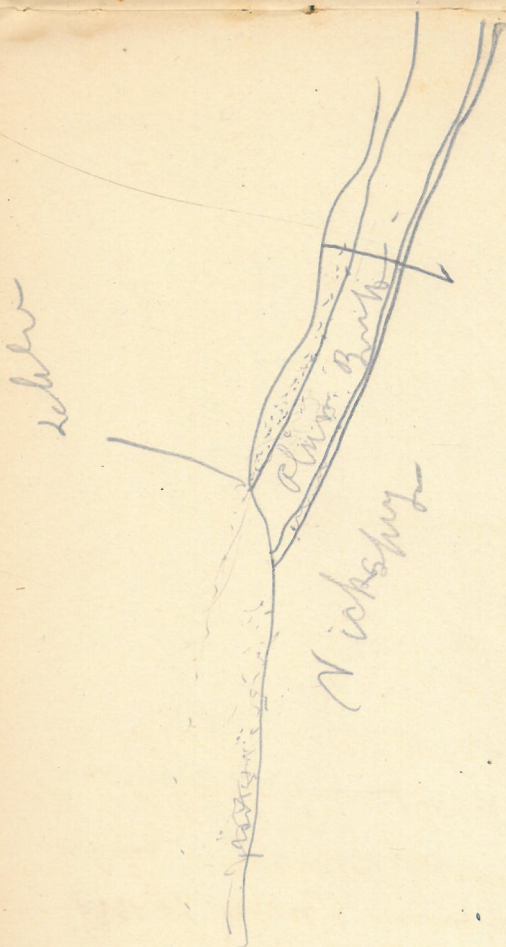
had limestone rocks found below.
in the bank of the canal. (Not below
the fossils which were in muds)

to be
m. 6.

Feb. 18 Miami
" 19. on Miami canal with Mr. Ball.
Indian Kitchen midden of 12 mi
island about 15 miles from Miami. This
midden contains at least 2 ft + prob
48 7 ft of chiefly bones of small animals.
in rock of abundance. turtle amyda +
snails. fresh water species.
alligator. not abundant. others found
one prairie dog of lotus, Lepus, microtus.
snake + bird bones probably known.
also other. pottery. some possible
+ rocks found in the mound. also charcoal

50

79



at a place ⁴⁰~~50~~ min new from
the range line, probably about 2 mi.
on the north side of the conal found
mammoth americanum
deer. antler.

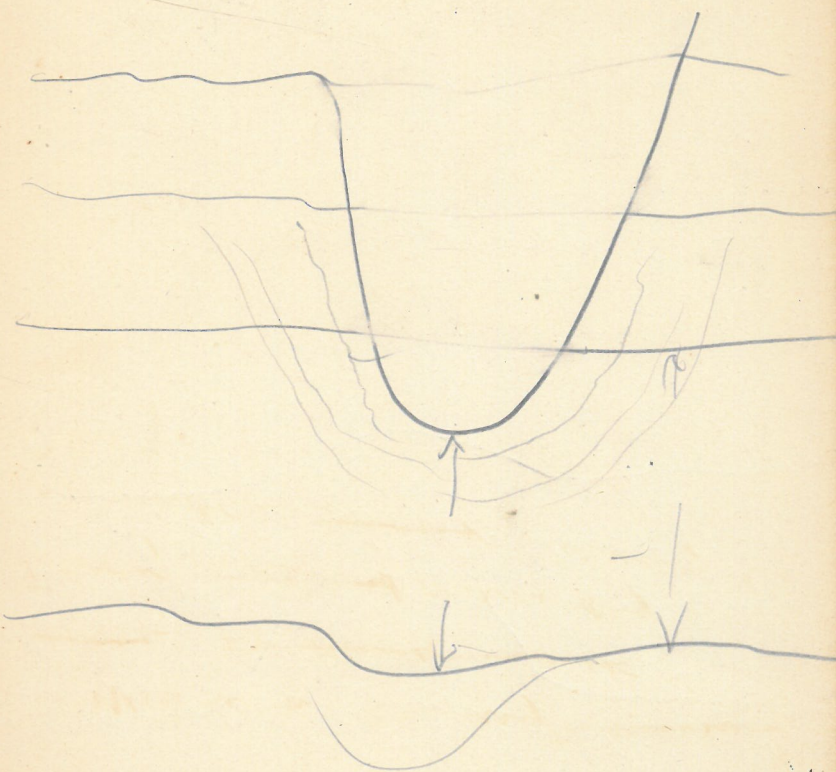
Tenth.

to line
to 6.

Will be in Mulberry ~~to~~ ⁸⁰~~marsh~~
night. F. H. made about
Tuesday night and Wednesday
F. H. made about Thursday &
Friday. E. H. Sells.

Bed Box

This for no. 3.





Bed

at 9 mi island hammock
beneath above. It of
humus is a fresh water
mud (see sample) and it
contains 8% phosphoric acid.

Feb. 20. Left dock at Lauderdale at 8.20 A

South Fork at 9.09

5 mi port of 9.25 A

Lugg from left dock at

10.9 A.M. 6 mi from Ft.

Lauderdale. There is a mound on
a small ham mock on the farm
having many tons of fish turtle
and alligator etc. also humus
fossil.

about 6 1/2 mi on South road
web is not seen & dredging shows
only road.

Back again at Houie's from 10.25 A

Fresh water mud above the rock 1 mi
beyond Houie's farm.

9 mi out at 4 min of 11 A.

12 mi out. Quite a heavy fresh 84
water mass resting directly on the
limestone This is 14 8 6 in thick.

13 mi from Ft. Lauderdale at 9 mi 8 1/2
"16 mi hammock" on east side of
canal about 200 yards from
the canal. about 16 1/2 mi from
Ft. Lauderdale. Indian
accumulation of fows in the
hammock. Turtle fish & alligator
predominate. Left here at 2.30 P.M.

Turned back at 3.33. over
20 mi out. Heavy chugging
here. Rock like the morning
not so distinctly oolitic.
small bushes coming up over
the glades.

15 mi out at 4.31.
9 " " 5.36.

Feb. 21. - Ft. Lauderdale. Mass
oolitic limestone extends to the
coast being more than 12 ft thick
the surface

Feb. 22. at Florida City 85
Hamsted.

The marl prairie at
Florida City are fresh water
marls & contain fresh
water shells especially the fleshy
coiled form, Planorbis &
Physa.

Photo #1 & 2 of the marl
prairie, pine land in the distance.
(#3 is hammock in the Everglades.)
(#1 & 2 of Indian camp)

Ralph Powers, Salesman for
the company at Florida City
says that the marl does not
extend under the hammocks, but
that is not true. A hammock
near the station (about 1/2 mi east)
is being formed. The well dug to
get more shows much 1 1/2 ft. then

fresh water more exposed 2 ft. 86
* sounding wd showed hard rock
at 5 ft from the surface.
Probably therefore the mud is only
3 1/2 ft thick.

mud said by Powers to be
on an average 3 ft thick. Now
forming the hammock says
mud this & the pine lands on the
north. Says also on hammocks
6 mi east on which rock comes
to the surface.

Z. H. Tate. Miami.
Brainard T. Ball. Letter from
Nat. Mus. of Feb. 8. 1916.
List of fossils from section around.
Amyda sp. turtle.
Lutia conocleus. one lower jaw.
Pteryon of lotus, two " jaws.
Lepus sp.
Microtus sp.
Turtle. & vertebra of Crocodine or alligator
snake. (Two kinds of soft shelled turtle)
Bones of bird probably Heron.

A sample of mud was taken 87
from the canal 1 mi. above
Bright farm & 7 or 8 mi from
Miami. Send analysis to B. T. Ball
Box 1 Miami.

carb supplies at Ft. Lauderdale.
Six pkgs. as follows

1 large box.	1 bundle tents.
1 gasoline can.	1 box over tent pole
2 photo beds.	

March 7. 1916.

Analysis of fossil bones by Hensbey.

- 1) m 2270 = 4874, jaw of M. Jeffersoni
2) m 2271 = 5199, scapula of deer.
3) m. 2272 = 5200, right tibia of man
4) m 2273 = 5337, recent tibia of "
5) m 2274 = 5449 Femur of C. d. mus.

Lower jaw, in both sleeping forward.

Space between 1st & 2nd teeth. 4th the mandibular teeth very large.

Measure of symphysis is $2\frac{3}{4}$ in.

width between 5th & 6th teeth 6 in.

7 teeth to the splenial.
11 " " symphysis. symphysis
begins opposite the front margin of the
12th tooth.

Front bone of mandible.

Left tibia 23 in long, $3\frac{3}{4}$ in width at middle.

Right lower jaw of mordodon

Total length, as preserved $26\frac{1}{2}$ in.

molar tooth $6\frac{3}{4}$ in

Front molar 4 in

Height of jaw & middle 7 in.

maximum thickness 4 in.

Rhinoceros, part of right
upper jaw, molar 1 to 3 + part
also tip of tusk.
Cone, premaxillary process 3 in long

cone not size.

See plate of specimen # 5871 89
the corral in the lower jaw reaches
to a point opposite the 6th tooth.

Section on Bainbridge road. 4 mi
out from Tallahassee

1. Yellow sandy clay 26 ft $1\frac{1}{2}$ ft
2. dark clay

Section fully exposed Herdner

- | | |
|------------------------------|--------|
| overburden middle sandy clay | 20 ft. |
| 1st fully exposed | 7 ft |
| Sand & bone bed. | 4 ft |
| fully exposed | |

96

11

97

98

\$3

\$1
\$1
601

Feb 12.
Feb 13

10.88	slit
1.75	cells
.25	slit
1.25	cells
.25	
<u>13.40</u>	

pt

April 1.	inst. stand for the 25¢ per ix	30
	Handling wood for the	1.00
	Office supplies	.50
Bar or		
" "	3465 alkali, post	35-21

