



River
Trips.



#33,

May 1915 to Mid 1916

Hopkins 683.

June 21-1913?

to the Tallahassee & Lake City.

From chairs & Lloyd's, land gradually level.

Just beyond chairs is a drain or swamp.

one or two miles beyond Capital the Ry cuts a hammock for a mile or so. This being the only hammock growth seen between chairs and Lloyd's.

Beyond Lloyd's low for two miles or more & becomes higher gradually.

June 22 at Ft. White. - The fossils found by M. (or W) Low are from Ichneumon Springs Run and include Elephas, mammoth, and Canis. of the elephant & mastodon there are several large leg bones, the largest being about 4 ft. Also many foot bones & parts of teeth. of the horse part some lower jaw. left side showing about 4 teeth. M. Low lives between Herlong & chairs.
 largest longest bones said by Thompson to be 4 ft long.

July 1 at Mr. Shepherd's place,
near Greensboro.

Mr. Shepherd showed that
when a stick was pushed into
the ground ~~that~~ in a swampy
marshy place that a go-
emerged that turns with a
blue flame. Sometimes the
gas turns only a flesh to
oily it turns for an
appreciable length of time.

July 2 at Quincy saw Mr.
Kemp. not shown any thing.

Oct. 25. Monona to new hutchins.
Lft. Public Bldg. & monona at 10.07
Rock Bank on north side.

at 10.20. rock bank on east side.
By Bridge at 10.30. Rock in ~~middle~~
west side of river, and the ones
at 10.40 to 10.45. The bluff on the
right side (west side) of the ones
shows about 20 ft massive
limestone above water. Films
1 + 2, exp. 1/6. 1 sec + 1/2, 1 sec.

10.53 Rock of second terrace on the
left side. ~~Still~~ main line leads to
near of this point.

11 am. River marks e w. +
Emmonau River says we are
just now "coming" from where we
are going.

11.10 a.m. soft white rock on the
right bank contains green (glauconitic?)
grains.

11.30 Llyfys Spring. a small
blue water spring about 50 yards on the
left side of the river.

11.40 a Sandy lens rock on the right
side much like Chattahoochee.

11.45. Sandy shelly rock on the right
bank. contains orbitoids. + looks
much like Chattahoochee, especially
the upper 2 ft or so

12 to 12.20. Slimes a hard ledge rock
on left side. Hard white rock full of
orbitoids.

Next bend shows this hard rock lying
on what seems to be typical Chattahoochee
limestone. Sandy, on right side
as Whites Landing. (Time lost 30 min +)

Bridge of L + N. monona at 2.10 P.m.
about 8 mi above the bridge rock 4 or 5
ft. is seen on the left side. This
is a yellow slightly sandy limestone,
much like Chattahoochee limestone.
contains orbitoids.

Oct 26. Lft L + N. Bridge at 6.30 am.
(when) water and air disagrees water gets
warm + air cold. about 9 o'clock when
air agrees with water water gets cold.)

6.50. 1/2 Pittmans Spring. The locality
at this place shows 2 or 3 feet of
yellow sandy limestone consisting of very
shelly sand. This rock is much like the
Vicksburg or Osbourne

7.20. about 2 mi from the bridge⁸
Ben Meritts including
limestone like that at Pittmans
spring, yellow + full of casts. This
seems ~~more~~ like Chifolia near
acids may be Vicksburg or of Ellomille.
The bank of the river though here
one low + the country is flat.
Coy bank a mile or so above
Meritts localities contains many
Serpentines.

8 am. Table Rock Shoals about
9 mi below the bridge. This rock
appears to be Vicksburg. It is light
colored limestone + has large orbitals.

8.11 am. Table Rock, The river here
cuts through Vicksburg typical the
rock stand 4 or 5 ft above the water.
Soft Vicksburg, large orbitals.

8.25. Lookpoint Vicksburg, large
orbitals or a monian. Sheds
4 ft above water.

8.45 am. Dry creek Shoals on R.R.
Smith place Vicksburg as
much of Dry Creek.

9 am. Dry Creek Eddy 10 mi by
land below monian, about 1/2 mi below
dry creek. Coarse pebbles in the bank.
about 6 ft of Vicksburg on right bank.

9.10 am. Big ~~rock~~ eddy, Bend.
Vicksburg on both sides of the river.
on the west bank about 4 ft of
soft rock. 1 ft very hard + 4 ft soft.
The hard stratum into the other part
of the section. Films 3 + 4

Film 3. 1/6 5 sec. Film 4. 1/6 4 sec.
at Big Eddie jump this hard
layer is with 1 1/2 ft of water.

9.30 am. Left Big Eddie.

9.35. Little Lake + Tremble cuts
thru Vicksburg.

9.40 Rock Creek. 5 or 6 ft of
Vicksburg on east side. River though
this part of its course is a channel thru the rock.

10.15 - $\frac{1}{8}$ mi above Pecum Bridge

Some section as at Big cady level.
on the left of the river the strata
dip + the hard stratum passes
beneath the water. at the place
about 10 ft of Vicksburg above the hard
stratum. Fossils 5 + 6.

11.10 - Flat shale. Hard rocks
Vicksburg or Chattahoochee. Hoss "stubs"
through the rocks at Line Oak. On
the lower end of these shoals the
rock banks stand up about 4 ft +
contain some pebbles + are sandy.
This may be Chattahoochee limestone.

11.45. about 8 ft very rough
limestone on right bank of river.
No fossils seen.

at the lower end of rattling
shoals at 11.55 about 6 ft
limestone apparently Chattahoochee.
Local ss seen here.

12 N. Stratification well shown

11

by layers which dip + rise.
One layer about 2 ft thick has the
"stubs" though it is at Line Oak.

11

12.15 Small outcrops 250 yds
above water + stratum is 5 ft

12.20 red Sandy Grit bluff on
the right side about 25 ft high
P.M. Silver Spring comes up in
the bed of the river about $\frac{1}{8}$ mi up
stream from the steel bridge near
west fork of the river.

1.05 P.M. Steel bridge (see photo)
second rock film 15 ft the Chattahoochee
about 2 mi above the steel bridge.
about 10 ft exposed on the west fork.

1.20 (above) Big Leap + Trumble
the rapids are formed across the
Chattahoochee limestone. The
strata so far as observed seem to
be about level. The fall
is not sharp.

12

2.15 Rock bank 10 ft high
The dip is often quite considerable

2.30 Bluff on the east side
probably 100 ft high, covered
except near or lower part of the
base.

2.40 Some bluff less at the
base a yellow very fine
mud, fossils of corals.

3 P.M. Some more in low but
on right.

3.10 at Bailey Ferry. At the
place where the ferry is operated is found
more with fossils of corals. The
chifolia mud with shells present
was seen first a few hundred
yards down stream from Bailey ferry.
This mud was seen in the bottom
for a distance of about five miles
or one hour rowing.

4th Bailey ferry at 3.30
Reached Clarksville at 5 P.M.

13

13

Oct 27. Left ~~Clarksville~~ Clarksville at
8.10 A.M. Bank sandy clay.

$\frac{1}{8}$ mi below Clarksville Bridge in
Bluff on right side is found alum
bluff gray white sands phylloitic;
contains silicified agates.

9 A.M. 1st bend above Hocking Slide.
Chert mud first seen
lying at the water edge + 2 ft
above. on right side. Alum.
mud clay and sand above,
at the lower end of this bluff
about 8 ft of the mud is seen
1/2 foot below water + 1/4 ft. above.

Left Hocking slide at 9.14 am
The landing proper is pretty much over-
grown by grasses. (Photo 2, film 2)
but a few rods below the landing on
the same bluff as much as 25 ft of
mud may be seen. 2 ft above + 1/4
foot below water.

15

9.30. Ales Spring Bluff. 14

6 ft more (Chesapeake) 5 dm x 1
below water. above this is aluminous
clay & sand on the top.

10 am (about) come into the
part of the stream known as
Crooked river. Here the banks are
low. ~~the river is~~ asked Monnier
why the river is so crooked. He
says the land made them
crooked.

11.30 The banks, aside from
river swamp bank, are chiefly
red sand & mottled sandy clay.
at 11.30 stopped at Conley on the
left side. Bank abt 5 ft high of
red sand. rather coarse sand
& pebbles.

12 M. Banks natural, Swamp growth
dense in on the river making it more
narrow.

12.15 Practically no bank.

12.45. Bluff on right side about
 $\frac{1}{2}$ mi above Scotts Ferry Bridge.
This bluff is probably 25 or 30 ft
high, is sloping & shows rather
coarse sand, light & reddish in color.

1 P.M. at Scotts Ferry, on the
right side of the river the bluff
is probably 35 ft high.
on the left the land is low
but not swampy.

2.30 P.M. left Scotts Ferry
by launch.

Half moon Bluff just below
Scotts Ferry is probably the
eastward extent of this ridge.
This bluff is sand probably
15 ft above water. Film 344.

Films 5 & 6 of the
dead lakes.

The head lakes so called are the flooded valley of the Chipoke River. In this valley the cypres now standing is flanked by no new cypres has come up for many years. The flooding doubtless is caused by the silting up of the Apalachicola River Valley.

See Higgins, Mc Daniels, Alderman old donkey.

~~see~~ S.S.
Mr. Alderman, age 75, has lived on the banks of the lake ^{Since Jan. 1867 (48)} years. Says there has been no appreciable change so far as he can tell since he first knew the lake. The cypres were dead then as now. The water level was the same. The upper cut of

from the Apalachicola was 17
when he first knew it, a channel not more than 2 ft. wide & was very swift. Afterward the channel was enlarged by the Government. Alderman says no new cypres except around the edges.

The "cut off island" examined just across from Alderman house & grove, is low, not over 2 ft. above water level of Oct. 28, 1915. It has a growth of cypres & numerous hardwood trees. The cypres is green, not dead as in the lake. The island is frequently overflowed.

Mr. Stone believes that the lake has certainly changed level within recent years as evidenced by the railroad trestle. The original water level is now up 8th road also gave evidence of sediments accumulation.
See C.H. Spencer. See Singleton

Capt Hale thinks no change
since he has known the lake.

Mr. Wallace says that an old
negro Jim Gothe, now living
at Blacketh about 8 mi below
Wenahitchlu over 85 years old
knew the lake about the time the
railroad was operating. & says that
it then stood higher above water
than now.

Capt. Spencer who has been
in charge of the Government dredgers
for some years in the lake says
that he saw no change since
he knew the lake unless it is
a slight lowering by reason of
opening the outlet.

Miss Rausch gone as
upstairs of the violin.

H. R. Knapp, 119 East 23rd St.
New York.

Stom Mill Creek & western

The country all around the
Southwest side of the lake from
Wawa to Scott's Ferry is high open
pine land. The small streams cut
deep into the uplands.

Nov. 8 to 16, 1910.

20

Nov. 8. Started from Ocklocknee at 4.30 P.M. Camped at 5 P.M.

at the Ocklocknee Bridge and just below is seen limestone probably Chattahoochee altho it also looks much like Alum Bluff. Both exposures on the east side.

Nov. 9. Left camp at 7.18 A.M.

about $3\frac{1}{2}$ miles from Ocklocknee is a bluff on the west side possibly 40 or 50 ft high. The rock seen at the base is much like that at Ocklocknee.

about $\frac{1}{2}$ mi above Butts Landing is a bluff probab 50 ft high at the base of which is seen rock which seems to be the Alum Bluff rocks. This bluff on the east side.

Nov. 10. Went to Galla to repair note.

Nov. 11.

21

Left Butts Landing at 10 A.M. Reached Jackson's Bluff at 3 P.M. probably about 12 mi by land. Between Butts Landing and Jackson's Bluff are occasional bluffs about 4 rock exposures all of which are on the east side. In all of these only a few feet of rock is shown which seems to be of Alum Bluff formation. Some contain numerous invertebrates as corals.

at Jackson Bluff above the bridge the bluff is pretty much covered. at one spot however a sample was taken which was close to fullers earth. This was only a few feet below the Chesa-piche more. Below the bridge is for this time a very clean section of the bluff.

About one or $1\frac{1}{2}$ miles above
 Jacksons Bluff is a bluff
 on the east side where 10 or 12
 feet of Alum Bluff lies below
 the Chesapeake marl. The
 marl bluff. also on the east
 side shows a good contact of
 Chesapeake + Alum Bluff.
 The contact is unconformable.
 Both formations are fossilif-
 erous, the invertebrates in the
 Alum Bluff being preserved
 as casts. a piece of fossil
 wood was found in the Ches-
 apeake marl. also fragments
 from the Alum Bluff
 beneath. Fossils 1-3.
 camped at The Bluffs

Nov. 12. Left camp at 8 AM
 or 9 PM. found entrance of
 Stoughton Landing at mouth of
 White Branch. about 4 or 5
 miles by land above Lexington
 Ferry. Reefs is found here on the
 west fork. 2 or 3 ft. The reefs
 here is very fossiliferous Chesapeake
 marl. Fossils preserved as casts.
 Trilobites. Pecten etc abundant.
 Left this Landing at 9.20.

Chert whorls marl seen near
 the lower end of this bluff.

at 9.45 Bluff on east side $\frac{1}{2}$ mi
 long. Alum Bluff at bottom. full of
 earth clay 2 or 3 ft. layer of
 concretions + a shell marl
 probably the Chesapeake Chert whorls
 Red sand above.

Left this landing at 10 AM
 This is wood landing.

10.10 am. Long high bluff
on the east side just above
Langston Ferry. Bluff much
like Jacksons Bluff & about
as high & long. Red sand at the
top. Alum Bluff formation
at the base. The place where
the Choctawhatchee flows
is covered by soil.

10.20 a minor small bluff
below Langston Ferry. Alum
Bluff material of the face on
east side of river.

10.50 am. Low Bluff on
west side, Alum Bluff
material. No Choctawhatchee seen.
Did not stop.

11.30 Johnsons Landing
no Bluff.

Leaving lunch 12.40 to 12.20
at 1.05 came to bluff on east
side & in a bow bend. 20 or 30 ft
of red sand & grit lighter down.

2 Pm. Smith Creek. Bluff here
25 ft high consists of sand & grit.
Bluff on east side.

4.30 Pm. Bluff on east side
consists of red sand etc.

5 Pm. Bluff on east side
Silver Bluff? covered here.

Nov. 13. - Left camp at 8 am.
at 8.45. Bluff on east side
about 12 ft high. Consists of
red sand & dirty sand.

9 am Bluff on east side
low. Ferry at this place.
Bank not more than 5 ft.

9.35 am Boykin west
side not more than 8 or 10 ft
sand.

About 10 am. Passed fork
of river turns to the S.W. the
From here to McIntire the
~~Sapclaffer~~ Acklockner has the
character of a new river. the
pine land at places extending
to the river.

Arrived Mc Intire 11.07

Left 11.27 A.M.

Arrived at the entrance to the Sapclaffer
at 12.20 P.M. The island in
the Acklockner here is caused
by the meeting of the waters of the
two streams.

Dinner Lunch 12.20 to 1 P.M.

Left 1 P.M. followed east outlet
from ~~Sapclaffer~~ for several miles
until 1.40 P.M. Tidal flats.

Entered Sapclaffer proper at 2.20 P.M.

Sapclaffer at 4.30 Tidal bars
to River on John Hedge above
fence.

Nov. 14. Left camp at 6.25

Along Bluff with a cross 1 mi.
above Sapclaffer. & at numerous
places on both sides above this.
Roads leading at 7.25

continued to 7.45. About
12 miles by river from Sapclaffer
Road said to be found on the river
5 or 6 miles farther up stream.
Returned to Sapclaffer 9.25.

Nov. 16. - New River.

Left Conshohocken about 7.45.
entered New River 8.15. Crossed
River going off to the right.
New River in its lower course

has low banks of sand and clay.
The pure land comes to the river
on one side as a rule, the other
side being marsh. The bed
of the river is rock & this no
doubt accounts for its "new"
appearance.

Knox still at 9.30 P.M. Rock
was examined on rock creels a
small tubularis from the west.
This is a lime rock with many
petrified oysters. many tubes etc.
Left Knox still at 11.55 am
Willis still at 11.40 "

Turned back at the Three Sisters
where the river divides temporarily
into 3 streams at 12 N.

Returning reached Knox still at
12.45 P.M. Carabelle at
Willis landing (still) about 2.19 2.2 m.
at river 10 or 12 by land from Carabelle

Flowing Otterion Wells at 29
Knox and at Willis stills.
message to Mr. Smith.

Am now ready & can be in Geneva
late Thursday or if equally agreeable to
you will arrange to reach Geneva
Monday Nov. 22. If you prefer to do
this with wife me at Tallahassee & I will
start for Geneva Wed. Attermore will
meet you there Monday afternoon.

Rock said to be found in the
Ocklocknee River near its mouth.
one channel of the river being known
as "Rock channel". From the
character of the river it is probably that
the channel cuts into rock from near
the junction of Crooked River

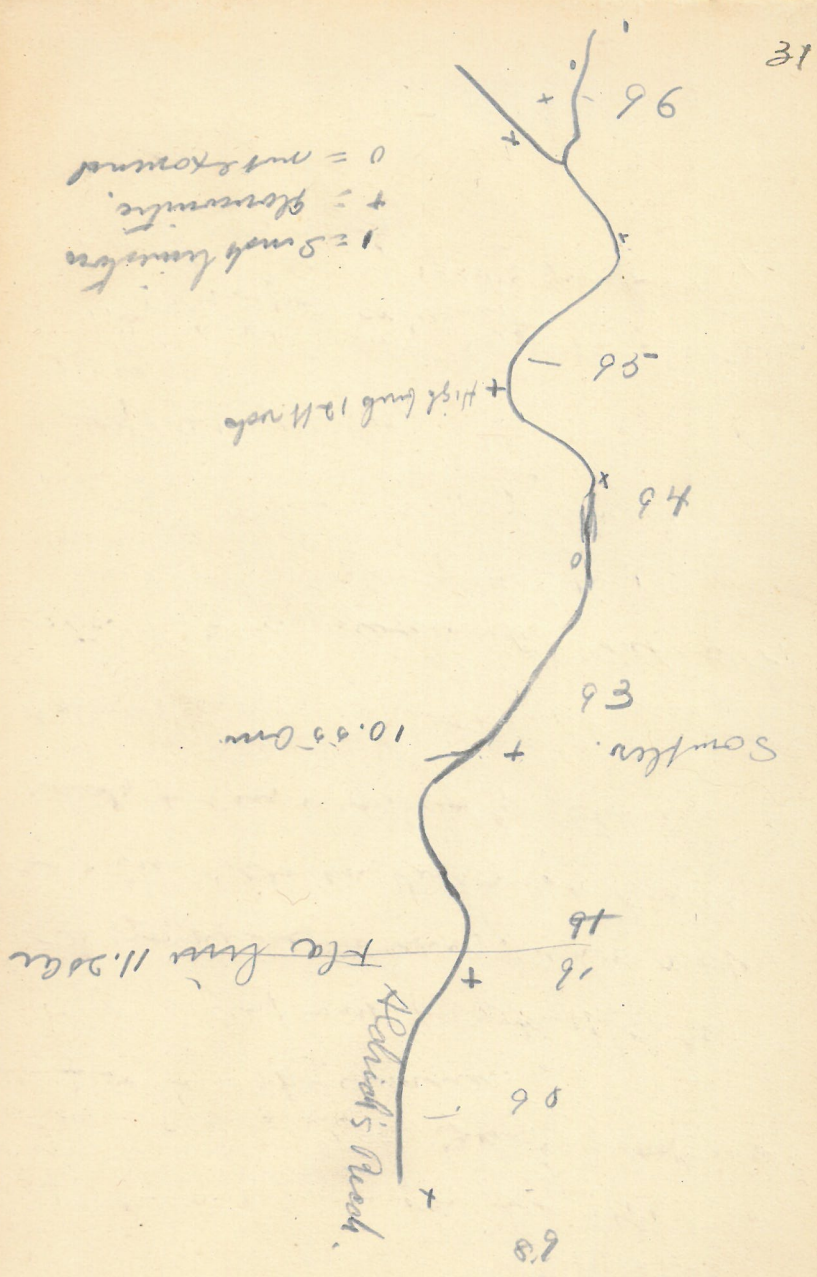
Nov. 22. 1915 - Geneva, 96.30 mi from.

Examined the exposure on Pea River at its confluence with the Chetowhatchee. The formation here according to Smith is near the top of the Claribone. It is a glauconitic sand, & resembles the glauconitic material seen on the Chetola River below Marionna, altho more sandy & harder. See samples.

Nov. 23. Examined rocks above Py bridge crossing, a sandy limestone. Also at Py bridge crossing some sandy limestone. 96 + mi from Left Geneva Junction to Pea & Chetowhatchee Rivers at 10.25 am. Traveling about 6 mi per hour & allowing for stops.



1 = 8 mi to Claribone
+ = glauconitic
0 = not exposed



Fla line at 11.30 am 91 mi. 32

For a few hundred yards the typical Green Glauconitic sandy limestone is seen on the left bank. Samples taken (3) also a small pecten two specimens.

From this point for about 1/4 mi both banks are covered, when met seen the rock in the banks is more sandy & less distinctly glauconitic. River within 12 in of dead low stage.

Section: Green Glauconitic Sand 3 ft.

Quartz in sedimentation,

Sandy, Scarcely a Glauconite 5 ft.
Photos #2 in Ala #3 in Fla.
Left the Fla Line at 12.30.

1.05 Lower end of long reach on
1 1/3 mi from Fla line 89 1/3
Left bank Green Sands, sub. 5 ft. 1 1/2 ft.
Less of the same sand. From Fla line about 8 mi.
1.25 Bluff on left
25 ft high Red Sand 7 mi clay
one fossil leaf from clastic clay.
89 1/6 mi from 6.5

33

2.10 P.M. on right side of
8 1/2 mi from light house at mouth of Choctaw
river or New Low Water rock one to 2 ft
2 ft above river. Hard partly crystallized
limestone with orbiculite, also
soft limonite with an abundance of
orbiculite. From the Florida
line about one or one half hour probably
8 miles.
9 or 10 miles by water. From Geneva
probably 12 1/2 miles by water. about
9 or 10 by land.

Cummins Ferry just below this. 2.30
Cerogrods said to be 6 ft but 8 ft water

4 P.M. very hard crystalline limestone
on the right side one or 2 ft above
water. mi 76.

Cerogrods Ferry on

4.10.

Camped at

4.20 P.M.

Nov 24. left camp at 6.25 am

First cut off obs 3 mi above
Coryville. second cut off 4 mi
above Coryville 7.15 am.

7.30 to 7.40 Ground rock 18.6 34
 (about 2 m above conynille) 68 3/4
 62 above water in left fork of river.
 Hard limestone with on abundance of
 orbitals. Weather rough like the
 Vicksburg. on right fork farther down.
 at 68 3/4 about.
 Conynille saw mill at 8.00
 Left Conynille at 9.00
 9.30 old way VT

7 in Boat dudge & 10.35 - 8 m.
 5+ miles per hour.
 Capt. Maton in chase of Government
 dredges. Left Government boat at 12.20.
 River said to be 2 1/2 or 3 ft above est low water
 See Mr. Hockers, Horgs

Douglas Bluff at 54.
 .. Ferry .. 53 1/6

1.12 PM Mile post 55

1.15 Bomb about 10 ft on the right side
 said said & sandy clay. Pine timber. First
 non swamp tomb below conynille. This is
 Douglas Bluff. Douglas Ferry at 1.23
 Douglas Bluff on right bank. 52

49 miles at 2.01 PM. (2.00) 35
 48 " " 2.08 "
 46 " " 2.25 1/2 "

2.22 Bluff on the right 8 ft above
 sand & sandy clay + Pine Creek.

Between miles 474 & 46. Just above cut off.

2.30 Another Bluff similar on the
 west side.

2.40 Another Bluff similar & on
 the west side (about a 5 m. stop below)

2.52 Another Bluff about 6 ft high on
 west side. Pine Creek. 3.30 Another on west.

2.59 miles at 43. (5 min)
 3.07 " " 43
 3.16 " " 41 (9 "...)
 3.26 " " 40 (one minute stop)
 3.34 " " 39 (8 min)
 3.42 1/2 " " 38 (8 1/2 "...)

another Bluff with pine bed at 3.34 PM

3.48 Bluff on the east side. Sandy clay
 + island in river. Bluff sloping but
 perhaps 12 ft to the upland. First leaf pine.
 This the first Bluff on the east side below
 carbeller.

3.53 mile post 37

4.02 1/2

4.08

Small Bluffs on east side
 Can't find here.

Mouth of Holmes Creek to Bay	27 mi.	36
across Clootwihatchu	30 "	5 "
Santa Rosa Soul	36 "	6 "

Mouth of Holmes Creek to the Bay	27 mi	36 hrs
Pine Log Creek & Lake & bays	24 "	5 "
Bay & Holmes Creek		7 "
Holmes Creek & Vernon		5 "
Vernon to Bonifay		5 "

Estimated

Thurs. Fri & Sat.

27 hrs.

Mouth of Holmes Creek to Vernon	5 "
Vernon to mouth of Holmes Creek	4 "
Mouth of Holmes Creek to Bay	5 "
Pine Log Creek exc.	5 "
To Freeport	1 "
Freeport & Dr. Limas	5 "
	23 "

Nov. 25 - Thursday - Thanksgiving Day

Examined Bluff at mi P. 35. Clootwihatchu.

North End of Bluff Rocks about 4 ft above water, a more fossils preserved partly as casts & partly as shells. In collection. The fossils are abundant. although the more is friable than rock layers.

~~Silicified~~ Silica pebbles are abundant some are as large as a bean. Some of the fossils are replaced by silica pseudomorphs. imperfectly.

The maximum height of this bluff about 25 ft. Evidently above the rocks seen only cross bedded sand & soil. At this point the pine land reaches the river on both sides.

Above the water where oxidized the mud is yellow & the fossils mostly casts. Beneath the water it is blue & the fossils mostly shells.

Near the ^{middle} lower end of the bluff 38
 was the following section:

1. mud fossils as casts + a shells
 crystals abundant near top 6 ft.
2. clay yellow & blue; fossil plants
 + fresh water char. 2 ft. 2 ft. Probably 2 ft.
3. Limestone fossils near as casts 3 ft.
4. sloping curved sand & pebbles 25 ft.

Near the end of the bluff south.

1. Limestone fossils with casts or water
 1 a blue mud to cover layer 1 1/2 ft.
2. sloping mud trace of the clay etc 4 ft.
3. Second limestone ledge
 + fossils as casts 5 ft.
4. Slopy soft + red 25 ft.

General. 1st rock at upper end may be #1.
 or may be #3.

Box 9 still station may be
 above & below, can't say.

The general section is 1. Limestone
 fossils as casts mostly

38

Boynston Landing.

39

Left camp & bluff at 12.07 PM.

About one mile down stream on the
 left side is a bluff showing #2
 or plus the repetition of #1 + 2 +
 #3 + 4.

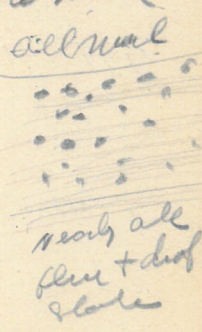
The blue clay here is about 4 ft thick.

The lower part contains a good many
 marine shells mostly in thin sandy layers.

The last 1 ft or so contains fragments of
 plants & fresh water animals. The

By leaning of the passage into the
 material shown was seen. The mud

comes in first in spots then
 that is falls in spots of the
 white mud first in the clay.
 This mud contains marine
 shells.



Left this bluff at 12.53.

Mile post 33 at 1.05
 24 " 3.13

3.30 Sand bluff on the right. Led
 8-45

Cow Ford at mile post # 20

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Nov. 26 -

From Cow Ford down East River & into Pine Log Creek.

East River is a ^{tributary} distributary of the main river. It starts just below the 19 mile post & comes in near the 6 mi post. The river itself is said to have about 7 outlets at the Gulf.

Pine Log creek is dammed back by the clactombatchee Volley forming a lake of the river valley. The lake is $\frac{1}{2}$ to $\frac{3}{4}$ mi wide & is said to be several miles long. It is 10 to 30 feet deep.

The water of Pine Log creek is full of redness at the colored blocks. There is no bar at its mouth. (Rain head)

41

Nov. 27 - Left camp at

41

6.30 am.

at about 25 $\frac{1}{2}$ mi post Bluff in east side of Red Head still oyster shell. Clay & remains of red when shown to about 5 ft above water.

The Micine rock is seen at the first landing on the east side north water. A large blue water spring comes in at this place.

a few miles up Holmes creek is a patch covered fluff on the east side. This bluff shows about 3 ft. limestone. covered & sloping about 7 ft. Second limestone 7 ft. covered 20 ft or 25 ft.

Pond cut off at 10.30 miles. Left at 10.53

42

11.07 - 11.15 - exposure of
sandy limestone + drayed clay on
east side of River. No fossils seen.
3 or 4 ft exposed.

The rock is seen again on the east
bank at the next landing 11.24

11.35 to 11.42 Bluff on east bank

This bluff shows the following.

Berth the water 2ft shell near	
at water level + above for 2ft	
typical blue shale	2ft.
slips + coral above	6"
Limestone outcrop	2"

Sloping face showing on the surface
sand with abundance of flint pebbles 2ft.

12.07 Bluff on east side. high
face sloping & curved.

12.10 Second Ferry.

12.12 Continuation of Bluff sloping.

12.25 - 12.35 Bluff on the east side
about 12ft high. Shows only sandy clays.
a stratum of recent shells in the top
soil probably indicates an indurated comp.

12.55 to 1 P.M. Bluff on

the east side 15 or 20 ft clays &
sands.

1.25 - 1.35 Bluff on the west bank

white colored sandy calcareous
rock probably unconformably beneath
clays. This rock suggests Alum
Bluff. See Samples.

1.35 Low Sand bluff on east side.

1.40 " " " " West "

1.45 - 1.50 Bluff on east side

1 to 10 ft white red + red sand clay etc 10 ft
or more.

2 P.M. long Bluff on the west side

red sands. Probably the halfway place
Porish Landing.

2.20 P.M. Bluff on west side

Hard limestone at the water resembling
the chertabuchee

2.26 Bluff on the east bank

some light colored rock. no stop.

2.45 Low Bluff on the east side
sloping. no exposure.

3 Pm Low sand bluff on the coast side. ²⁴

3.25 Bluff 25 ft or so on the east
side of sand bluff
arrived at Vernon about 5.30 Pm.

Fossils from Boynton Landing Bluff.

Cardium chipolomum
Venericardia hadra
Phacoides cf. glenni
Lucina cf. janus.
Yoldia?

Chama?
Elvancella chipolomum
Astarte?
Empholius?

Modiolus
Olivella
Callocardia
Glycymeris

Arca
Orthis
Pecten
Orbitolites floridanus..

March 18-

Mr. Murphy says see Mr.
W.L. Weedon ~~Doctor~~ physician of
Tampa.
Mr. ¹⁵ Edger Plati Kodu w.

Mr. Price Sept.

Mr. Powers Eng.

Mr. ^{2nd} Grace on the dredge
Alachua Fla.

Mr. Walther.

Florida clay co. Mr. Morris.

at the Edgers Co pit. about 3 ft. sand

10 ft. sandy clay. cross bedded.

40 ft. blue clay mixed with sand

blue mottled with shells.

Probably some rock.

coral from 20 ft below water line.

at mine of Fla clay co.

only 20 feet to limestone rock
Ocala?

At Ocala Mr. C.C. Meffert
Rett on fine iron.

m. 15. afternoon - Pits of the 46
muffed lime co 1 mi South of
Alcala. many filled cauls. from
the clay stand here &
many other fossils. su coll.
equiv. Biron. Bids. etc.
Plot # 1 & Plot # 2. water on rocks
as right above
Pit # 2. muffed lime co
upper 20 ft removed
Fossil in receiving 10 ft.

Pits of Blowers lime co +
of Standard lime co (m. well)
have few clay inclusion &
the clay apparently is oligocene &
has no vertebrates.

m. 17. Camps Flam - Fossils found
here as the result of getting road from
an abandoned stream channel.
In this channel is seen sand & gravel
near the rocks is fresh water marl.
a stream spring now comes up &
may have caused the marl.
Cephalopods. mammut. Equus. Biron
Chelonic. Cornu, Turtle. Dolphin.

Phil. Robinson. mures. 47

Adam Nobles mures

m. 20 at Brewster. The
pebble rock chucked dock
under the cliff is in place at
last bed rock strata running
high in shore plate.

The "island" represents a natural
depression. This was a pond at
the time mining began. Evidently
it was a freshwater pond for
sand has accumulated &
filled it to a depth of 8 ft. of
this the first 6 ft is sand the
last 2 ft is sand & much.
The deer ~~have~~ rather come
probably from this much.

m. 21. At Estero. Rock is exposed
on Estero Creek above & below Estero.
The hard rock stratum is about

5 ft deep thick. *Glyptothorax*
 hard rock at ~~the~~ one place below &
 or one place above Estero shell
 more is found lying upon the
 hard rock. The whole section here
 made up from the creek & from a
 dug well on Mr. Chas. Weiland but
 is as follows.

- | | |
|------------------------------------|-------|
| sand & soil | |
| shell marl. <i>Chione</i> , etc | 2 ft. |
| hard rock. fossils mostly as casts | 5... |
| above & below water clay | |
| uncemented shell marl | 5... |
| as shown by well | |
| Sand containing water | |

One or two miles below Estero the
 rock drops out & the bank shows
 sand only. a short distance above
 Estero the stream heads.

about 4 or 5 mi west of Estero on
 the road to St. Myers similar hard
 rock is seen, one or near the stream.
 Chas. Weiland, Estero. mailing his for examination.
 Mr. Audubon, Editor the American Eagle.

M. 23- Imperial River flows from
 above Bonito Spring & the Gulf. Some
 Pleistocene Rock in the forks. Bonito
 (Sulfur) Spring at Bonito Spring.
 a small spring affected by the tide
 not more than 2 ft deep. small flow.
 Poll probably 20 ft across.

1 to 2 miles below estero rock at the
 surface, irregular owing to deformation
 & solution. Beneath is marine rock.
 & probably marine shell marl.

Similar rock at Estero &
 between Estero & St. Myers.

Red point deposit on head of
 natural creek is on iron oxide. It is not
 deep as the rock sticks up in places.
 This rock is the usual hard rock with
 shell marl beneath. Red deposit
 evidently not dead as trees that
 have blown over show full thickness
 of not more than 1 foot. (Sample)

alligator from Vero.
 Thermal flats 3x2 in.

Apic of Vero.

Bone #1. In place 2 in above
 the shell wall. 100 ft east of road.

Bone 2. In place 6 in above
 shell wall. Just east of Road

Bone #3 from sand & muds layer
 which is 1 1/2 to 2 ft. found below middle

Bone #4. Same place

#5, 6, 7 from sand & muds

8. Fragment of bone from black sand
 below mud & sand.

9. From mud 5 1/2 ft east of
 humus. across included.

10. oyster from shell wall.

11. Bone from sandy muds 30 ft west
 where the section terminates

Section 2 Locality 7 seems more
 full

- | | |
|----------------------------|----------|
| 1. Sand & mud & vegetation | 1 - 6 in |
| 2. Black sand | 4 ft |
| 3. Shell wall | 2 ft |

12. Bone from sand & mud layer (1)

13. Pottery from this place.

14. Bone from black sand (2)

Note (2) as there was included part of (1). In (1)

15. Human ulna from line between
 sand & sand mud layer, trials

#16 turn side of bone.

17 From sand below the mud. w.

18. Base of jaw of sloth? w.

19. East of ulna. from sand (2).

19. Teeth

20. Radius. from #2. see sketch.

21. Shells from level of Radius.

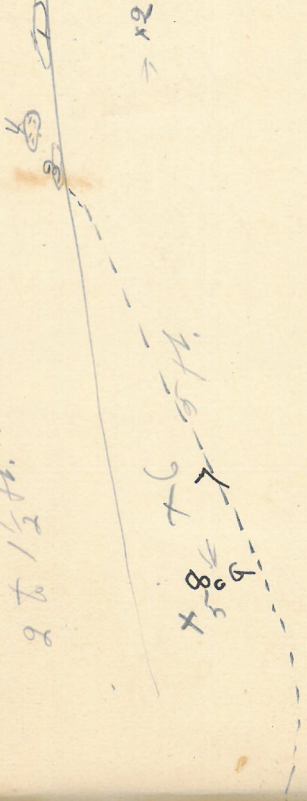
22. Shell from #2 of sect.

23. Found at #3 of section.

24. Alephos (from mud humus shell)

25. Bone implement from basal sand of
 No (3) of final section.

2 to 1 1/2 ft. mud. Sand & shells interbedded.



1. Belemn. 5 shells.

6. Pottery, 2 sh.

- 1. human ulna or fem #1 of the section.
- 2. Sand wood. location of turtle #19.
- 3. 2nd form.
- 4. turtle shell.
- 5. shell form?

vertical scale 1 in = 2 ft.

6 in sand

mud & sandstone.

mostly sand

Note made April 24. The section on the preceding page was drawn to show the structure as then understood, April 18. The dotted line was put in April 24 showing the section as now frequently worked out.

5. 6. 7. 8 + 9 all belong in # 1 of the section. not in # 2.

Fossils picked: April 17.

No. 23. Proximal part of ^{shaft of} femur (Left).
Found in place about 2 ft from the top.

No. 15 - Human ulna, Left. from
the sand & much alteration # 1 of the
section just on the base of # 1.

No. 24. Part of # 15 not found at a
different place.

No. 14 (marked 14 on pgs). Found. obs-
erved.

" 19 (a) plg marked bone not marked
Turtle found near # 19

No. 20. Proximal end of Radius. from
No. 2 of the section.

No. 13. Pottery from # 1 of section.

No. 24. Elephas. Horn & deer from # 2
see 9 on sketch

No. 14. Marked 14 on pg. Fragment
of tusk of elephant?

No. 7. Ulna of carnivore

No. 25. Plg marked w. 25. Bone imple-
ment.

14c Potter from # 2 of sect.

26. Deer horn from west
of human bones.

27. Turtle in place. 6 in 55
above the shell layer.

28. Shell from 3 in above &
6 in east of Radius.

29. Shells from level of Radius
& 1 ft. east.

Photo taken at 5:20 P.M. Numbered 11.

Bomb. # 1. the place of the ulna

2. the place of the Femur.

3 the place of the radius

4 Elephas. Eggs & new shells.

5. deer common bone.

Photo No. 11.

Details of the location of the Human
ulna. In marine cross bedded coarse
sand many marine shells are
found. 16 in above the solid
marine shell. & 3 ft from the
top of the stratum. Elephas &
Radius of some level & 1 ft to 1 1/2 ft
away. Oolocoids common bone 6 in
higher & 6 ft east.

~~Femur~~

Femur 3 ft west of in mud
 shelled $2\frac{1}{2}$ in wide interbedded
 with sand shell bearing. 2 ft 9 in
 from solid shell. Hence $\frac{1\frac{1}{2}}{1 - \frac{1}{4}} = 2$
 alone ~~ulna~~ radius

ulna 1 ft 6 in west of
 Radius. some here or 2 ft 9 in
 above solid shell. Lying on
 dividing line between mud
 station & shell beneath. many
 shells in sand just above.

Detail of the section above
 the ~~so~~ Femur.

scarcely decayed	6 in.
solid with little or no shell	3 in.
mud layer	3 in.
Sand	2 in.
mud	2 in.
some	1 $\frac{1}{2}$ in.
mud	2 in.
sand	3 in.
mud	3 in.
	2 ft 2 in

Below block sand

2 ft 9 in.

Root dentate to the level of
 the humerus & ulna but badly of
 the radius.

#30. Common fore leg

25 ft. E. N. 2 ft from bottom,
 & 2 ft from top. Also some
 turtle fragments under this number.

#31. Common bone of deer fore leg
 6 ft east of radius & possibly 6 in
 alone.

#32. material obtained by sifting.

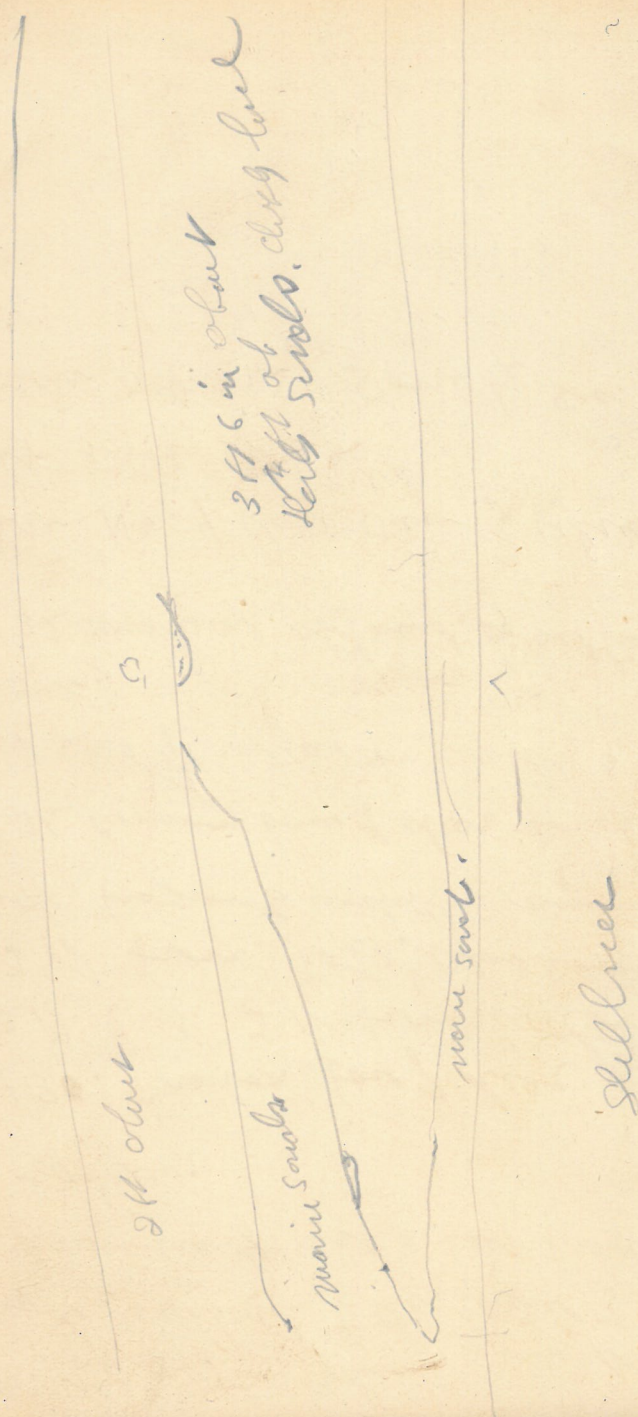
Film No. 9 done over of ulna
 about 3 in of 32

Film no. 12 some $\frac{1}{2}$ sec.

11 No 10. Birds & distal of

12 ft. 1. ulna. 2 femur. 3 radius

4 Elephant Equus
 Natural dip to the east.



20

33 Sand in which Radius rests 59

34 main sand just above Radius

35 Shell just above Radius
1 in to 1 ft. & back into last 1 ft.

36. Fragment of shell. pattern.

Elephant tusk & bone from shell,
marks above Radius. 4 in at 8 & 4 in
feet in fork.

37 Human bone with ulna (west end)

38. Shells from main sand
just above but more than 1 ft.
feet & as far as 3 ft to the side.

Dip at this place (thru Radius 5
1 ft in 5 ft. applied also to bones here.)

From Radius & ulna 5 ft.
dip a step 2 ft.

39 elephant tusk & other bones
from the main sand 6 in below &
1 ft in from the hammer. same level
as 38. also 35 36 & 37

#40. From mud & sand above
marine shell sand.

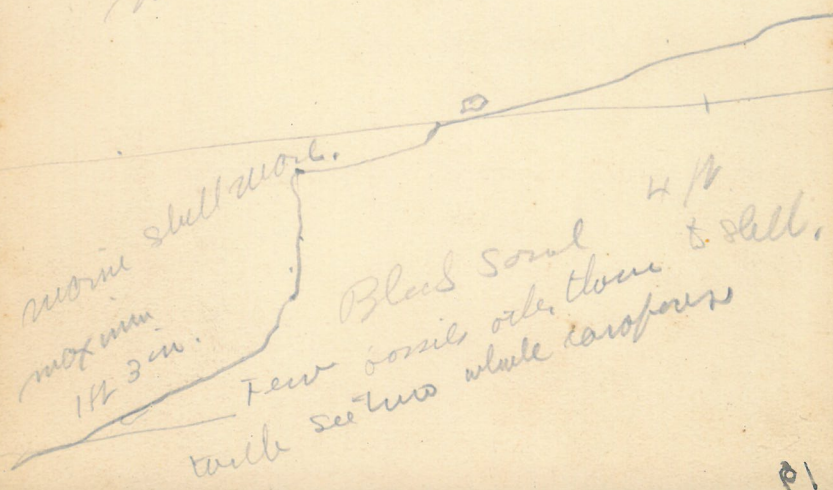
41. from. $2\frac{1}{2}$ ft for? radius
in Pleistocene sand

42. Coll. by Ayers from
mud bed.

43. Bones taken in bank coming.
11 am. April 19.

Sketch to show how the shell work
fits against the ~~main~~ old level back.

mud & sand bed 1 ft 6 in 8 in



marine shell work.
max 3 in.
Bleed sand 4 ft
Few corals, other things
with sections whole corals
to shell.

61

Wed. afternoon

61

44. Shells from mud bed above,

45. Shells from 3 in. above heavy
clay.

46. Shells from Pleistocene
sand above radius.

47. Shell unmarked from extreme
west limit of this ledge.

48. Foot bone from the coming W.

49. Chelomotherium. derma. Plate
and other bones & skull from
drift wood & sand.

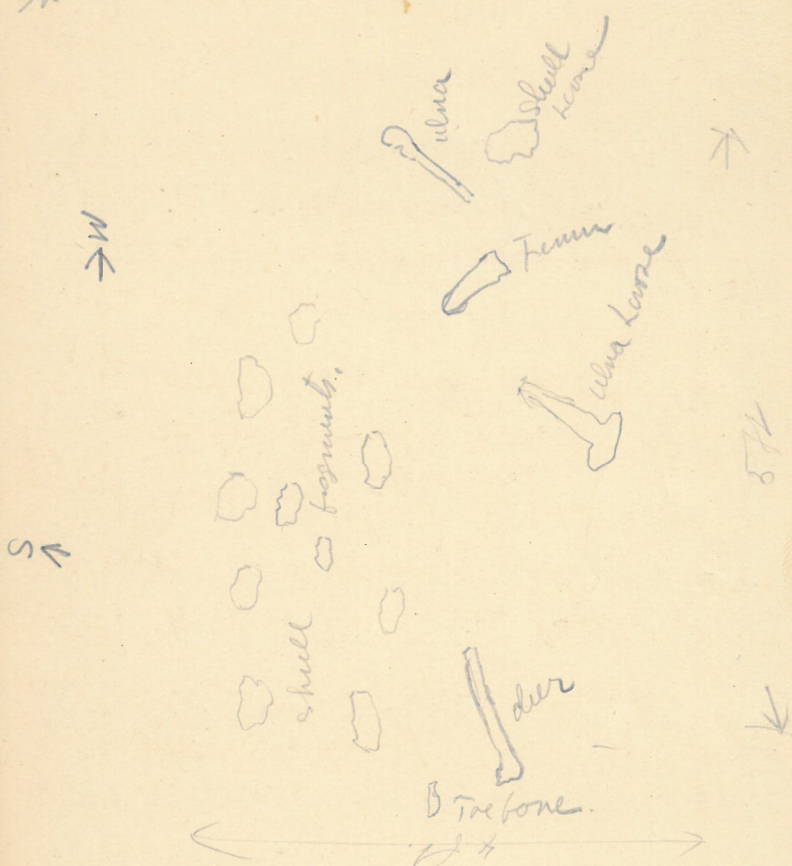
50. Taken by Ayers from under
the palmetto tree.

51. Radius & coon from radius
4 ft east. 2 ft stratigraphically above &
2 ft into Bomb south.

52. Fish Scale From sand mud

60

Ground plan of bed where
human fossils are found



53. humerus found by ayus as
float near second skeleton April 8.

54. Port of skull found April 10 or
11 by wells & ayus at new locality &
4 or 5 ft west of humerus, at base of
palmitto. Scapula & other bones some
number. These from coverings.

55. Human toe bone found
8 ft east, 2 ft S. ~~west~~ of radius and at
some level as the ulna and humerus.
Lying on or in the black sand.

56. Bone found 6 in. from 55.

57. Other bones near nos 55 & 56.

58. Tooth of camel? from sand
on north bank of coral east of
py fridge. E.H.S. April 20. 1866

59. Two shells from usual shell
more at the fridge to show preservation
of the natural colors.

60. Turtle from sand east of Road.

section at north side of canal
under Ry Bridge.

64

Soil. chiefly dark sand	1-6
sand holding vertebos	2-6
Bed of shell	2-6
chiefly sand	1 ft
shell mixed with sand	1 ft
water level in canal	

J. N. Welch, Fremont constructed
can Ballie. Flo. R.R.

Has after form of Monticlon 2x3 m. long
contributed to Survey

62

65



67

61 Bone implement
 from 16 ft due east of ulua
 62. potter from some place

no 55 is from 12 ft above due
 East from ulua.

no. Poolus lie north of east of
 ulua. 2 1/2 ft.

63. arrow head from
 near the bone implement, 6 in north
 + 8 in west. same level, that is on
 the brown sand.

64. Bone from near some
 place on the arrow head.

65. Bones picked up and
 contributed by Frank Ayers, } location
 debris &
 canoe

66. Bone from about 6 ft
 east of arrow head w.

67. Invertebrate, Fresh water
 shells, from mud just north
 of Py bridge at Vero.

68. Shells from mud ^{South}
 near but east of the human skeleton. ⁶⁷

69. Shells from the mud at
 the ^{South} human skeleton.

70. Teeth of carnivore from
 the mud 15 ft beyond the
 human skeleton. same spot as # 14
 (Right of cat)

71. from 10 in above sand and
 4 ft. East of N.E. of ulua. (N. of East)

72. From 10 to 20 in ^{in west of 71.}
 in the mud. Turtle shell

73. Piece of skull. 39 ft east

East of N.E. of ulua (N. of East).
 and about 6 in north of 70 + in
 sand or possibly on mud above the
 sand. Section here.

74. broken from mud 5 ft. W of 71.

Section of floor only up 71 was collected
 more rock dredged 1 ft
 much of sand 4 ft
 in str level to top of floor sand 4 ft 9
 75 Horse tooth from sand
 127 ft west of 14 skeleton

direction of coral Ry
ridge to inlet coral. East of NE
west of S. W & E. of N E.

distance ~~see sketch~~
mouth of canal at Ry ridge 75 ft.
Mud bed extends along Ry beds
100 ft east. North

Extends south of N 150 ft.
Total width of canyon about 375 ft.
width of small stream valley 100 ft.
width of stream valley from north
about 50 ft.

From former skeleton w. 15 ft.
Section same. Beyond here
observed to pass 75 ft west.
Locate next channel 30 ft w of
Former skeleton to not exceeding 75 ft

ed

Section at west side of inlet canal, 69
sheet sand probably about 4 ft

Hard rect. mud 1 3 in.

Indurated gray sand
bed of mud

1 ft 10 in.

Brown sand

2 ft 10 in.

shell about

4 ft

gradual downward slope to
for 35 ft. to section of low. see
which. Total distance from inlet
75 + 35 = 110 ft.

to human toe bone 20 ft = 110 + 20 = 130

section with level to towards

about drop level & thickening of
fine sand.

at 120 + 27 some brown sand.

Rise 2 ft.

120 + 34 = 154, level of extension

120 + 39 = 159, level of area

Rise level from level 2 ft thick

120 + 50 end of excavation

170 + 20 = 190 last exposure of sand

Section at 246. 180 N west of 1st 70
skilton. & top of bench 57-
mch clus 2 ft thick.

75 - Vegetable material from
pocket in stream wash sand above
the human remains.

76. *Chlamytherium*, dermal
plate, up lateral process 50 ft
not in place.

77. Deer toe bone east of 1st
skilton 20 & 25 ft. not in place

78. *Elephas* Bones from
coral on. Capt. Copelands place
west of View

79. Lower jaw of *Elephas* from
lateral coral on Judge Andrews
place west of View. in sand below
muck.

80. Shells from a hard
fossil sand like the *Elephas* sand
but possibly the same bed.

81. *Astragulus* of deer & 71
one other bone from same
place and level as ulva &
about 1 ft 6 in S.

82. Complete bone from the
muck about 30 ft west of ulva.

83. Wood from muck bed 30 ft
west of ulva.

84. Fresh water shell from the
muck bed at the Bridge. taken at the
palmetto tree. Fragments of *Elephas*
tooth in some muck. Blunt of
muck.

85. - Human toe bone from
river sand. at Big rock on east side
 $400 + 19 = 419$ ft from bridge

86. Deer toe bone $150 + 44 = 194$ ft
west from my bridge in Black sand at
6 in from top & not more than 2 in
below fresh water shells

87. Tooth from coming at
500 on east side

88. Various bones from the muck bed.

89. Bone from muck at corner 2nd skilton.

Sections on east side of 72

coral. Starting from is directly
under north rail of Py track.
or north side of vertical Pier.
Section under bridge see out.

Sand

outlet humors sue to 4
dominated river side 1-6.
150 ft. Top of Black sand 3-6
2-8
8-3

Fresh water shells & more first seen
at 194 ft west of Py bridge, where
it lies below loose river sand and
out of black sand. This more
thickens and shows as an old
land surface always beneath the
river wash sand through the rest,
but of 50 and is last seen still
beneath the river sand at 250
Beyond which it is cut out 273

by the dominated river sand to
300 where it appears. Beneath the
329 river wash sand 73

Humors sand layer continues
and near 300 ft thickens up to 1 ft.

Marl from 329. seems
as or above 329 the dominated river
sand thin and a more comes in
beneath the river humors & is cut
of the more partially exposed to.

Both marls contain fresh water
shells. The lower marl again
cut out by the dominated river sand at
370 ft. and ore not seen again.

The other marl on top of the river
wash sands continues all the way to the
stream from the north.

525 ft to west end of marls

90. Chlamotherium next fork in 74
coming.

91. Fat fire next fork, not in place.

92. Vertebra from River with sand on
next fork.

93. Alligator or turtle, possibly
next.

94. Turtle from the shell next.

95. Ribs from shell. 1 ft
below surface of Bridge.

Section at Ry bridge as measured
April 24. 1866 East side

Top soil from Rail 10 ft to 10 ft 6 in 6
to bottom of gray loam sand much

curved bedded bone. 9-6 to 14 = 4-6
shell local run up into the sand

climbs under ^{with} rail to shell
13-4 3-10
F.H. cork

Directly under ^{5 ft} ~~soil~~ east side +
13 ft. 3-6

at east end of excavation 13-3 3-9

Section at the place of the 75
2nd skeleton as understood
April 24.

April 24. nos. 96, 97, & 98. from Sand.

96. Front of skull of water rat from
mud & sand above Brown sand.

97. Chlamotherium dental plate (2).
From River with sand at 4.40 ft.

98. Femur of mammal & Plate of teeth
from River with sand at 4.40 ft.

Section at south side of bridge T.H. 8

East rail & to of shell 12 ft 8 in

Curved bedded shell 15-12-8 = 2-4

Sand no shell 16-15 = 1

Shell bed 11-6-16 = 1-6

Top of rail to top of foundation sill

is 16-6 in. To water level

17 ft 10 in.

On west side to top of shell 13 ft 6 in

To sand layer 15-10-13-6 = 1-4

section around ladders on the top 76
 shell bearing sand reaches into S of
 including the vertebrate. Pottery of
 shells in the sand.

From top 1 ~~st~~ sill to top 4
 section 16-6-8 ft 6 in
 From top 7 sill to top 7 shell
 layer 16-6-12-8 3-10 in
 From top 7 shell to top 7 section
 8 ft 6 in - 3-10 = 4-8

Rock at top	2 ft
vertebrate bearing sand	2-8
shell to water level	5-2

mud drops a little to 50 ft. ✓
 when the section is

	ft	in
mud rock	1	11
vertebrate bearing sand	3	11 3
shell	4	6

mud rock easily traced out ✓
 50 ft when it lies above water $\frac{5-6}{4-10}$
 1 ft of mud above it. $\frac{4-10}{8-4}$

at 150 ft. mud not seen 477
 sand reaches to within 6-6-3-3 = 3-3
 of the water level, see page 82

Fresh water mud seen again at ✓
 200 ft. where the section is

mud at top	1	-
vertebrate sand	4	-
shell above into 5-6-1-3 =	4	- 3

mud with fresh water shells seen
 at intervals 200 & 250 section at 250 ✓

mud	6	-
sand & muddy mud	2	- 9
shell above water	5	- 10

at 250 a mass of shell is seen
 to run up into the sand as much as
 1 ft. more rock seen though fresh
 20 ft of mud left at 270 lies
 about 7-9 above water. Remains dry

at 300 ft a yellow red mud comes
 in which has no or few fresh Section ✓
 at 300 ft
 mud rock 8
 sand 5-9
 shell less than above into. 3-6

1st human skeleton at 331 ft. 78

section here more red	1	3
light colored sand		4 in
shell sand	2	4 ft.
shell	7	7 ft.

250 ft. Inlet coral begins.

Coral down 4 ft. thick.

Section at 400

Reddish brown to shell	1-6
Scattered shells	5-0
shell 5-6-2-3	3-3

This more recent than 370 ft. ✓
where it apparently passes under the
river work sands

at 430 a more corals in at
the top of the section. This nearly
is not bad & it is seen for about
20 ft only, but it contains a
few fresh water shells & is as much
as 2 ft thick.

section at

440 ft.

79

more red here	1-0
river work sand	2-0
shell of sand combined.	6-6

Human bone at about 400 ft.

Human ulna at about 475

Section low

4 ft.

more

Brown sand } 6-6 in.
shell

at 50 ft from bridge ✓

Coast side. Corals	1-6
river work sand	3-
sand dregs of top	4-6
shell water to	

1/2 inch of shell here imbedded in sand

100 ft from bridge. section
starting at top. ✓

sand	2-6
shell	4-8

150 ft. west of bridge
 Soil 0 - 4 ✓
 River wash sand 2 - 0
 Black sand 2
 Shell 5 - 6

Section at 200 ft. from bridge. ✓

mud - 4
 River wash sand - 6
 some 2 ft. clayey mud 2 - 2
 Shell 5 - 3

Section at 210 ft. from bridge ✓

soil 0 - 6
 River wash sand 1 - 0
 Fresh water mud 1 - 0
 Black sand 2 - 6
 Shell 5 - 4

Section at 300 ft.

mud 0 - 3 ✓
 River wash sand 6 - 6
 Black sand probably same 0 - 0
 shell less than 5-6 - 2-8 2 - 10

Section at 328 where

mud not clayey sand 0 - 6 ✓
 River wash sand 1 - 6
 mud - notes 1 ft 4 ft
 Sand loose. fragments 5 - 0
 shell less than 7 ft 2 ft - 8 ft

Section at 350 + 17 = 367 ✓

where the mud is lost same.

soil 0 - 6
 River wash sand 1 - 6
 mud with decay 4 - 0
 Black sand, decayed mud & shells 8 - 6
 shell of 1
 Made shell 4 ft + (see p 86)
 some 4 ft.

Section at 400 ft from bridge ✓

Crystalline material 2 - 0
 shell & black sand combined 6 - 6

Section at 420 ft from bridge

soil 4 - 2 ✓
 mud 0 - 6
 River wash sand 1 - 6
 Black sand 2 - 3
 light sand 6 - 8
 shell 4 - 1

Section at 500 ft from bridge ✓

river wash sand 2 - 0
 mud 2 - 6
 Black sand 2 - 9
 light colored sand 2 ft
 shell less than

Section at 150 on south side 82

River water	1-0
Vertebrate sea	2-6
Light sand to	6 ft.
shell not noted.	

99. Took of deer. Teeth and skulls
found from 240 west of bridge Ford
by 7 rods up in the light sand toward
the base of the black sand.
(but devoids white sub may be
Theodorus glanis Co. N.Y.)

Section at 465 west of bridge

Black sand 1-3
Shell at 4-6

100. Here found tooth from old
palmetto stump where elephants teeth were the

101. From the stream bed at 367
at from bridge on east side. Layer of
wood & bone lying on the shell.
at this place 367 is a small 83

Amount of mud lies below 83
the fresh water more showing the
relation of the mud to be not with the
sand.

Section at 300

Shell at 5-6-2-6 =	3 ft
sand	3 ft.
River mud sand	3-6

Section at 419. Thicker

Black sand	7 ft
River mud	1-10

102. Fresh water invertebrates all from
one lump. South bank about 200 ft W.

103. Shells from Black sand
on the south side of about (200 ft)

104. Shells from west on
North side of canal near 7 bridge

105. Shells on canal on south
side of 400 ft west of bridge

106. Shell from 2d. level (above)

Swamp From canal bank south
on middle of road $44 \times 3 = 132$ ft.

width of canal on road 74 "

Swamp north of canal 148 "

width of Bridge. — 18 ft.

(width of Ry track 5 ft)

width to bridge from north side of

track $49 + 14 = 63$ ft.

width 167
 130

Swamp runs along canal on
west side 167×3.501 ft.

Swamp runs along north side of

canal $500 + 120 = 620$ ft.

to cut from bridge 63 ft + 15

to cut line of run $258 \times 3 = 774$ ft

$$\begin{array}{r} 500 \\ 12 \\ 18 \\ 49 \\ \hline 599 \end{array}$$

$$\begin{array}{r} 350 \\ 18 \\ 63 \\ \hline 431 \end{array}$$

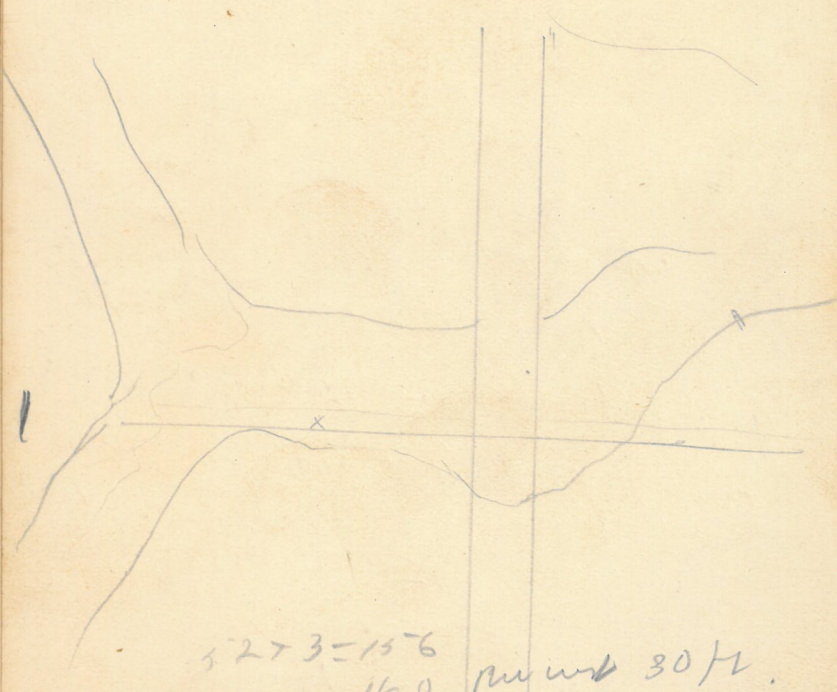
$$\begin{array}{r} 500 \\ 18 \\ 63 \\ \hline 581 \end{array}$$

$$\begin{array}{r} 63 \\ 15 \\ \hline 81 \end{array}$$

82

85

Pond holding Elephas
1000 feet east of last canal
the canal here the stream bed
section shows sand 26 ft. more
2 ft. Elephas with skull



$$527 \times 3 = 1581$$

$$160$$

run with 30 ft.

$$47 \times 3 = 141$$

3 x 13 feet run with 50 ft

Section of 367 + 5 = 372 ft

River work sand 3 ft
 Brown sand much. bones &
 rotten wood beneath 3 ft
 shell & water above 4 ft.

107
 Horse & piece of skull from
 372 on north side west of bridge
 both just above the shell at the
 bottom of 3 ft of from sub.

Shells 42 x 3 126
 Sums 43 x 35 not from shells
 Sums 25 made

North 132 ft. East 15 ft
 then dig east to corner of
 the

108. From Fish mole hole
 1000 ft east of stone bed.

Fig. 1. sketch map of locality.

Horizontal scale 1 in. = 450 ft.

4 11800
 450

450
 37
 102

Canal enters the swamp 312 + 26 = 538 ft
 a little north of the corner of the railroad track, & here is
 about 500 ft west of the corner of the railroad track, & here is
 about 600 ft west of the corner of the railroad track, & here is
 500 ft west of the corner of the railroad track, & here is
 a little over 1000 feet. Section of the
 section shown in Fig. 2 extends

April 28, 1916. Went to
 Brewster by Ford. with 2 men
 M. Wells & F. C. C. agents.
 Upon crossing the dunes of Ft.
 Pierce the land is very level & after
 crossing a wide swampy tract comes
 into the alluvial flats. These
 extend to the higher land south of
 Ft. Myers, not typical lake region
 as it has a row palmetto under-
 growth and no lakes. Very
 ranchy at Ft. Porter. From
 Ft. Porter traveling N. W. the

cross a long stretch of
"prairie" land, which has
however a growth of some
palmetto.

Arbuckles Creek crossed just
before entering the lake region
is notable for the width of the
valley which is possibly a
quarter of a mile wide.

The lake region from about
2 mi. south of the Arbuckles Creek
to Aron Park typical & very sandy,
well marked sand dunes common.

H. Meade at 7 P.M. did
not recognize the beach forming
the east boundary of the flat
work on the H. Meade-Aron
Park road.

April 29.

at Brewster collected a
very large turtle, a dolphin
with skin preserved. also parts of
the skull of a crocodile.
m. Moore

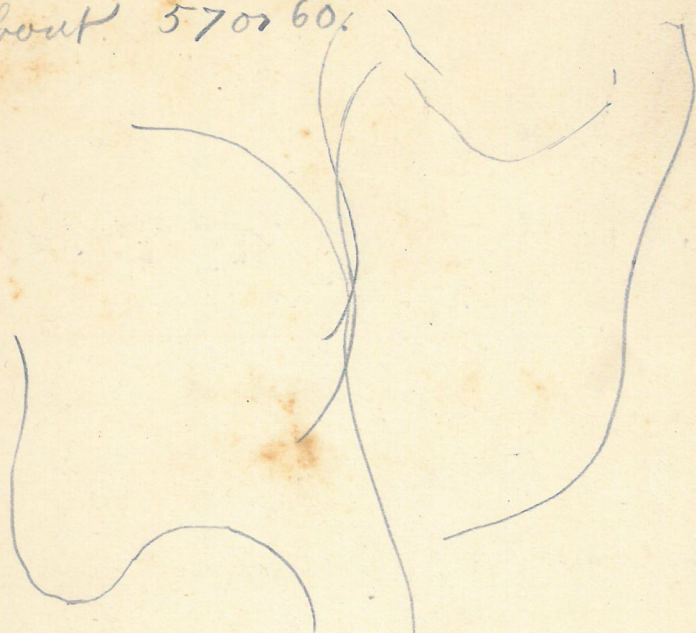
Tooth 1st right upper incisor
about 20 Kentucky inches skull
ulna of Kentucky indion 290.033
shows somewhat of a pit & is rounded
at the back but the ridges are differently
placed.

The amount of curvature of the
ulna is equalled by 290.027.

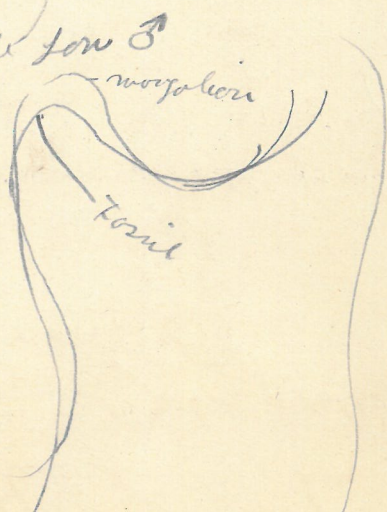
jaw of 290.025 - almost as large



Separated Jaws mongolian. 90
about 57 or 60.



Mongolian male jaw 3
equal large
#278. 920ac



These mongolian
jaws are some of
them about as
large, the ramus
exactly fixed but the process is more
nearly vertical.

Permian Jaws # about ^{78/}58, 100
all more slender than the fossil jaw.

Esquimaux jaws about 60 or 70
nearly as broad as high. very massive
differing from the fossil.

Albion's from Arkansas. many. some
equally long. some have a line at the back
almost as this ulna. No one equally deeply
pitted.

White Americans from New York
one of them equally large.

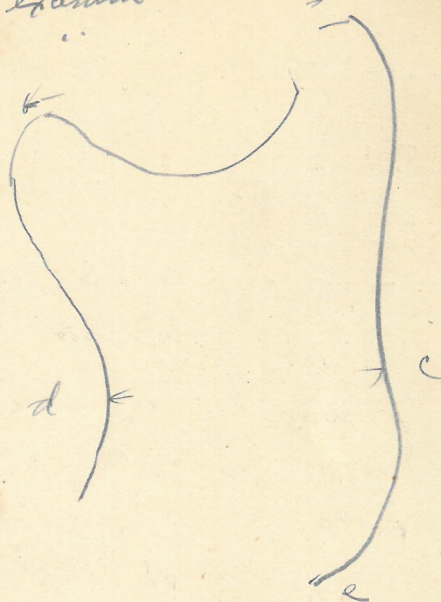
Egyptians. No close resemblances
among these.

The characteristics of this jaw one
low coronoid process. Great distance from
articular condyle to tip of coronoid. Oblique
notch or cut between art. condyle & coronoid

Histone at B. large
 c u d not examined
 .. a to e

92

Austrochilini
 skeleton L 9401



Ulna from Arkansas equal not
 constructed

Odocoileus

93

32 very similar to lost right
 upper molar of O. oreoleus 84016 ♂

49 right lower jaw with molars
 thicker than O. oreoleus + shorter.
 111402 ♀

30 Front ^{right} common bone, more
 slender ^{left} more deeply ground behind.

31 + 66 hind common bones very
 similar to Virginia.

64, Proximal end of right tibia

18. Right osteofolius # 40. dorsal den?

98. ^{left} femur, 78. right femur,

46 left humerus. 12 Right humerus,

64. Right femur, # 77. Prox phalange,

72 Right ulna. 49 Small phalange,

66 left ulna. 49 Left ulna

48. Bone of corpus. central of 1st row.

Nov. 20, 1916

Section on hill on St Augustine 94
Road Seven miles out.

- (1) east end of hill fine light colored sand 2 ft.
- (2) clay with no sand 4 ft. 6 ft.
- (3) cross bedded sand Reddish with white partings also 10 ft.
- 4 Red soil at the top about 5 ft.

~~Beginning at west end of Hill.~~ This section is pretty much the same though.

The three divisions 1-3 run thro the hill. They vary in level somewhat as indicated by the levels which follow.
as the west end of the hill is 1. 8 ft. 5 ft.

From within of clay & west end of hill

5 ft + 5 ft. The top of clay,

+ 5 = 15 ft to cross bed. + 3 = 18 ft

down 5 ft to top of 1 or East end,

Top of 1 is about 10 ft high on east slope of hill then on the west.

The soil exposure of each layer is red.

32

Hill on St. Augustine Road about 95
5 1/2 mi out. The strata at
this exposure shows evidence of
disturbance. See detailed section,
also photographs. At least
three small outcrops come up
in this section.

Nov. 21. to midway.

The unconformity seen in
the small pit is now seen to be
entirely local and terminates within
the section as now exposed.

see photo p. 2 exposure.

The overburden in the Cross pit is
about 28 ft maximum while the
cath is about 9 ft. Total 33 ft. The
well shows the section deep as
previously recorded ten or a foot &
though the several strata of cath.
See our photo. The calcareous
of the collection of this date is said
by the foreman to have come from
sand above the cath.

33

June 12, 1917.

96

Shipboard well #1.

- 80 to 85 ft. Oyster, thick shelled
100 to 115 Greenish gray calcareous clay
115 to 130. Greenish sand with much
130 to 140 Fuller's earth & heavy clay
140 to 143. Represented by a lump of
flint or mass of flint
143 to 240 Three scruple fulls
earth, greenish calcareous
clay and green clay.

300 to 330. Limestone, with white
chalky masses. one coral and
one foram.

330 to 390 Limestone. Light colored
soft no fossils.

485 to 583, mostly gray
limestone with dark streaks
and traces of shells.

585-590 Limestone hard, light
gray + dark flint.
plus much flint like in
wobulla well or about 940

97

White limestone at 800 ft

becomes at 130 to 150

clay like fulls earth to 200 ft

Oyster shells & 85

June 13. Talla to St. Marks.

Clavators

Tallohatchee

4 mi south of Talla. at Hughes well.

Limestone at this well.

Wobulla.

Limestone at the surface at

1/4 to 1/2 mi S of Rebels Tent site
or about 8 1/4 mi south of Talla.

Limestone quarried at

General. Linton to St. Marks +
cater say limestone at the surface
for two or three miles west of
Wobulla River.

Linton says Limestone of old
fort. Limestone in Bay 3 to 5
miles west of St. Marks a half way
to Shell point.

98
Limestone of Big Tree still
8 or 9 feet below the surface.

In the bay east of St. Marks
very abundant. One big rock
known as Moses Head.

June 14.
By Airs. Out to Mohu nato

Photo. close view of
(1) 218 ft from bridge on north
side.

(2) at place where berries
found. 367 ft from Bridge

(3) General view of north bank
taken from the road bank.

April 17.

Pullman fare to Jax
supper
Taxes Jax to Vers
Board Jax to Vers
Incidental

~~2.00~~
~~6.98~~
~~2.00~~
~~1.20~~

April 18. 19. 20. Labor time ~~stayed~~ 2.00

" 21. Tel. to Roma St; Schneider 61
Tel to Gust 20. Tel. to Shaw 47

" 22. Tel. to office 61.
Expense on box .57

April 18. 19. 20-27 Hotel at Vers 10

April 28. Gasoline + ~~exp~~ expenses
Incidental to transportation Vers to Puerto.

3.43. ~~Leisure~~ 15x
Ferry on Florida 50x.
" " Exp. on Florida 50x
supper for meals 25x. Tel. to Shaw 20x

April 28. Incidental at Puerto 50x
Board + train 40x

April 30.

