

8

JHCMA

160

Clay - next No. ~~143~~ ~~154~~

Boach sand (~~4007~~ 4031

Next No. (~~5085~~ 5085

Dafunah } Dr Buckmaster
 } C H Vreeland
J H Sand. - Panama City

around circle to Methodist
Church 1 block to right
turn of alley &

Pond Creek

~~Blackwater Bay~~

Blackwater Bay

Dog farm

Dolly King
King Co Store

Walton Co.
May 25, 1928
Camp Creek -
cont. from book 7, p 87

2

Although under the main part of the dune it is not necessarily true that this is a heavy concentrate entirely of dune origin (wind blown). Beds seem too near horizontal. There is hardly nothing much against it being formed on the beach. Some of the pebbles nearby is as high as the dune on it - this so big that it could not possibly have blown there. The top of the highest prominent dune (which is also the thickest) is 4 ft above the sea and nearly pure of thickness of three inches. The dune has some grass growing on it mostly on the back side. But lack of weathering shows it must be fairly recent. Shortly out back most of the way to top above the part of greatest concentration.

The heavy dark layers are more coherent than the light. They stand out slightly from the lighter layers where the sand has fallen away as it dried out or been blown away by the wind.

- 4021 Heavy concentrate - three with heavy layer in lower part of dune 4 ft above sea level
- 4022 Heavy concentrate average from two to four feet above sea level including several light and several dark layers.
- 4023 Ordinary beach sand 200 ft E of Camp Creek Inlet. Average to 4 ft depth from high tide with 100 ft in front of dune and 100 ft in back of dune with slope of beach.

Walton Co.
May 25, 1928
Camp Creek Inlet

3

This is the first inlet and the first lake to the NW of Phillips Inlet and is shown as such on the Chart (U.S. Coast & Geod. Survey). The chart appears to be very accurate as regards the topographic features. The oak and pine trees still seem to be about as shown. Also bluffs around lake shore.

Heavy minerals are visible most everywhere in the sand seen on the dunes - dunes as well as beach proper.

My impression is that the sand here is coarser than any I have seen on Florida beaches (confining only quartz sand). Perhaps as coarse as on Santa Rosa Island.

Phillips Inlet.
Hotel is on bluff rising well above the lake and looking over the bay that separates the lake from the Gulf. Mr. Sammons the hotel keeper says that one of the state road department surveyors told him the ground elevation at the hotel was 65 feet. It does not look that high to me. I should guess 45 ft. He gets an ample supply of water at 20 ft depth. This is not surprising. Considering the area of higher ground to north and west.

Walton Co.
May 26, 1928
Gulf Beach
between Camp Creek and Phillips Gulet

4

Come onto beach at about $\frac{3}{4}$ mi.
SE of Camp Creek Gulet some $\frac{1}{4}$ mi.
S.E. of beach. At about
250 to 300 paces yellow sand dunes
to show in bluffs at back of beach.
At about 350 paces first dune of
hardpan at back of beach at base of
dune. Yellow sand above it.
At 400 paces the top of the highest
dune which is directly in the beach
along this part of the coast. It is
said to be 58 ft high and it
looks like. Made of yellow sand with
hard pan at the base.



In back of the bluff along here
is dry sandy land covered with small bushes
and with pines further back. Most of the
way this is only slightly lower than
top of the bluff. In back of the
beach and is probably 15 to 20 ft
higher than the flatwood which begins
to be 2 miles back from the shore.
Here where the dune is highest
it appears that more sand has been
recently added to the top by blowing
in from the seaward slope of it and
climbing in the sand at the top. It
therefore rises higher above the level
of the flatwood than the bluff at
the end of the way.

Walton Co.
May 25, 1928
All of the Gulf Beach between

5

All of the Gulf Beach between here
and Camp Creek Gulet (about $\frac{1}{2}$ mi.)
has considerable dune in sight.
Much of the sorting is evidently
produced on dry sand on upper part
of beach by wind blowing away
light material and leaving heavy.
Further out on beach small mounds
of sorting are produced by waves in
low and weather. I believe the
thickest layers (some two inches or more)
near the back side of the beach are
produced by wave action during
storms or rather high tide. It is
quite possible that this sorting
may be more effective because
at close of tide sand somewhat
exposed in heavier has already been
piled up by the wind.

Beach cusps most of the way along
here. Spacing not very regular
but would average near 30 ft much of
the way. Picture roll 5 and 4 of
beach cusps bordered by waves.

Profile across highest part of bluff
this is very nearly to true scale
1 square = 10'

1 1/2 mi S.E. of Camp Creek Gulet

Walton Co.

High bluff (58 ft) 1/2 mi S.E. of
Camp Creek Gulet along beach.

6

The cattle actually have worn trails
around the steep and wind sloped of this
bluff so it seems probable that they
are at least partly responsible for
the blowing out of the sand which the
wind has carried the sand up to the
top of the bluff.

90 paces S.E. of standing point
Two well developed beach ridges.
The waves just barely reach the
top of the outer one at present stage
of tide. It would probably take
a tide a few inches above ordinary
high to reach the inner one.
Picture. Roll 5 no. 5. Outer beach ridge
looking N.W. Highest part of bluff in
distance.

Note that it is on calling this a
bluff rather than a dune ridge.
Much of the way there is something
of a dune ridge on top of the bluff
but the thing as a whole cannot
be a recent dune because of
hardpan. This hard pan has some
sand grains much coarser than
any in the dunes and even a little
coarser than any on the beach
although I would not say that
the hard pan sand as a whole is
much finer or coarser than the
beach sand.

Right here the dune ridge is
partly well defined up back of beach.
Small depression like about 30 ft
from shore and 15 ft above sea.
Picture no 6. Roll 5. Wind blowing
off in dune ridge covered by

Nearly two mile S.E. of Camp Creek Gulet

apparent inconsistency
is accounted for by
the fact that the
dune ridge is not
a single ridge but
a series of ridges

Walton Co.
May 26, 1928

Beach between Camp Creek
and Phillips Inlet

vegetation being worn away in cable
trail. Looking toward the beach
just in back of the gap is
the sand which was blown out and is
still bare of vegetation.

Many small springs along the back
part of the beach. Seepage under top of
hardpan layer.

At 800 paces S.E. of starting point (about
2.4 mi. S.E. of Camp Creek Inlet)
hardpan is still outcropping on the
shore. It has been in sight at rather
frequent intervals since 400 paces, and
looking ahead to S.E. it can be seen
or probably 800 ft. more. Hardpan
is a dark colored sand approximately hardpan
is exposed in some places along shore to
thickness of 10 ft. - usually less.

Yellow sand - average of 2 ft vertical bank
- bluff facing sea, about 35 ft elevation.

Hard sand - average of 6 ft vertical
bank at base of bluff. At a distance
clearly visible in the air which may
be evidence. Some variation in
hardness vertically.

Wind blown sand on back part of
beach. Extends 1 ft depth. Surface
marked in surface. Thin layers of
leaves. Some of them mixture of
material from hardpan.

→ or $3\frac{1}{2}$ mi W of Phillips Inlet

Walton Co.

May 26, 1928

Picture

Rolls

No. 1 fresh water spring on beach
2 mi S.E. of Camp Creek Inlet.
quantity of water variable.

No. 2 Bluff about 25 ft high, 16 ft above
sea at (low tide) showing hardpan
2 mi S.E. of Camp Creek Inlet.

No. 3 Highest bluff on this part of beach (including
dune on top of it) 1/2 mi S.E. of Camp
Creek Inlet. The point of water to be
left in the higher of the two, include
this blown out places. Hardpan (light
sand, N.W. side) shows mostly yellow
spray (getting down near the hardpan).

May 27, 1928 Inlet Beach

Diabase, stamolite and flint
are everywhere in evidence in the beach
sands.

From inlet beach 7 miles toward
Dothan Washington (as far as possible) on
fairly direct road. After getting out of
the coastal strip of dry sand which
seems to be about 1/2 to 1 mi wide.
There are flatwoods. Some fairly
dry with a few black jack oaks and
some small cypress swamps.

Spring from Inlet Beach to West Bay
flatwoods all the way after getting
out of the dry sand near the
Phillips Inlet Lake.

Santa Rosa Co.

May 28, 1928
Walton

Kahoe place at the road. Convert road towards

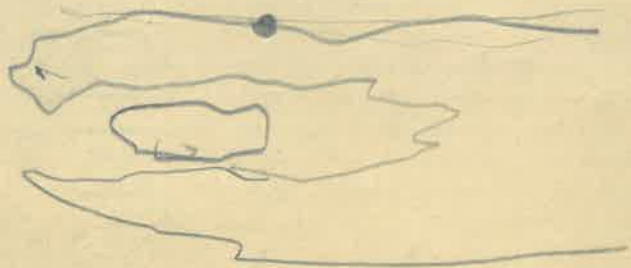
Two fillings station 0.8 mi. road to right
1 mi or 1 1/2 on this road under house
on right (pass) down road to right
through woods.

the
Road got on through to Johnson farm
just clear creek. Back railroad
1 fence beyond R.R. on left.
Sprague first house on right
after crossing Clear Creek.
Take long right turn at fork.

Doan farm - cross river S.E.
to school 1 mile out right hand side
road Doan farm ask direction, about 1/2 mi.

going out to East from Walton on
Old Spanish Trail.

Sprague farm
just beyond fork in road
about 200 yds. Back of house
across railroad. Beyond leads
up there. Buck in barrenes.



2

Santa Rosa Co.
May 28, 1928

Holmes farm clay, near Milton
To get to this take concrete road out
of Milton to North

At 0.8 mi on this road turn
right at two fueling stations.
At 2.0 mi from Milton take rather
dim road to right, down to
Blackwater River (total 2.4 mi from Milton)

Bricks were made here long ago
during Civil War as evidenced
loading with bricks was shown here.
This is probably the locality where
Bell refers to where Sellers got
samples to be tested for firing bricks
by Bureau of Standards.

Tree stumps up to 10 inches or so in
diameter are growing on the old workings.

O-139
micro
logs

Clay, from bank of old pit where
clay was dug for bricks - about 200 ft
from west side of Blackwater River.

Section
soil - dark gray silt loam - 15 inches
clay, silty, brown 1 ft.
clay, mottled gray and 1 ft.
yellowish brown
bottom not exposed

Numerous small pits in flat land
near the river and three to five feet apart
it is. The deeper pits are filled with
water.

Numerous bricks are lying around here
in the woods - some in heaps.
Shelf made from cut on broadest
side is smooth, pink to pale buff
in color - but general color is pink or
light red, the other colors being
mixed in in clumps or streaks.

Santa Rosa Co.

The bricks (some of them at least)
are concentrically laminated.
The laminar lines in part of different
color. These break apart along the
laminations. Some of the bricks
seem rather dense and hard-burned.

Holmes Co.

Ponce de Leon

About 1 mi W of Ponce de Leon
the main highway goes over a
fairly high ridge with clayey
sand outcroppings along the road.
We should look along the north
side of this to see whether
Sandy Creek cuts into it enough
to give any more outcroppings
of the clay which was seen
to the northward of here
on the north side of the creek.

Seminole Hills Bay Co.

May 25, 1928
(note written May 29)

13

At the Seminole Hills plantation south of Pine Log in Bay County there are probably 4 or 5 square miles of cleared and cultivated land. This has a rolling topography and the surface soil is a fine light gray sand. It seems to have originally had pine and black jack oak vegetation.

Looks like a dune area.

Leon Co.

July 21, 1928
32.0

14

Road material pit 6.6 mi from Martin building. Presumably the same one sampled by Bell and described as 6 miles south of Tallahassee. Banks are mostly 1' high and pine trees grow in bottom. Overlaid material thrown around near the pit makes it difficult to determine undisturbed section. One north side of the pit when the road is cleared the about as follows:

Light grayish yellow loam sand 2 ft
Dark gray clayey sand 1 1/2 ft
Mottled gray and red sandy clay 1 1/2 ft
2 ft.

In a few places within bottom of the pit small amount of clay would seem more or less mixed with sand.

Piece of glassy substance picked up from at top of sand in bottom of pit.

At 8 mile post S of Tallahassee on old Woodville Road 1.8.9 mi from Martin Bldg. Pits on both side of road. One on east side. About 20 ft from surface of ground to water level which was raised to near sea of yesterday. Section about as follows.

Leon Co.

(cont. from preceding page)

15

Loose gray sand 15 inches
Yellow sand 10 inches
Mottled red and gray sandy clay 12 inches

Some spots in the clay are lighter color and very sticky. Presumably as residual clay & somewhat mixed with the overlying sand.

Wakulla Co.

Wakulla Station 47.9

Lime pit 3.7 mi W of Wakulla station on Crawfordville Road (about 1 mi W of Wakulla River) Shallow pit in hammock south side of road. Collected:

- 2 large oysters
- 2 spec. of erosion surface (shin' typical cracks off the surface of limestone)
- several pieces of hard limestone with mollusc casts and with forams with fine spiral markings.

In some parts of this lime pit there is a thin layer (less than one inch) of sweet yellowish gray clay. This is the most clay that I saw anywhere between Wakulla and Crawfordville. Other sand or limestone all the way.

Wakulla Co.
Greenville 58.5
60.5

16

On Oklawaha Bay.

J. P. Williams Land Co.
formerly thought to be on Crowders Land.
section 2 6 S. 1 W.

West of Ochlocknee River
Start out as to go to Ochlocknee
and "white beaches" but do not
turn to left. Outcrop on beach
black mud at low tide between
clay bars and water.

1/2 mile on this road. Take
right hand road. Another mile
till cross second branch.
Take right hand road at top
of hill. Large house.

3 miles
Little branch the side of house.

at end of clay road.

94.0
97.0 / branch

3.0 mi N. of Sopchoppy on
road to Rouse Mill at crossing
of Duval Creek, outcrop of
various clay on both S. & N. side
of road. Sand W side of road.
3 ft. Max thickness exposed perhaps
some but suggests hollow
earth, a few small fragments

Wakulla Co.

Sopchoppy Limestone

W.C. Rouse,

Rouse Mill Creek
sect 32 4 S 3 W.

Sopchoppy, R.

Landing
East Branch

shares with out of Sopchoppy Limestone
presented by W.C. Rouse.

17

C.W. Burrey

Leon Co.

Aug 1, 1928

18

Out of Tallahassee on Milledgeville
Rd. 1.5 mi from Tallahassee
into 1.5 mi W of Milledgeville.
going up to roadside cell glass
about 2 ft 1 dark yellow to brown
fairly heavy brown at surface
gradually deepened into very solid
clay mottled red, yellow and
white or light gray. Not sandy
for clay produced. Structure
of weathering is very compact.
It may make beds which are
quite unlike all else to be the
same or nearly the same.
Parallel outcrop on hillside often
do not show as great a thickness
of a certain class of material as
might appear at first sight. The
rather compact clay, however
has a very rough surface and the
quite probable that some sand
falls down into it from above.

29.8 Turn right from home on
right New Highway.
Mr. Burrey at Ford place

415

Leon Co.

19

2.8 mi S. of Macquibee on road
Tallahassee, Fla. going up hill
outcrop of clay in road cut. Total
thickness about 5 ft. Upper
part red lower part whitish.
I think most of the color
differences are the result of weathering.
The part appears to have good
strength and plasticity but subject
to a few small pieces. Some white
toe sands and others have iron
concentrations in spots.

Near crossing of highway No. 1
by N-S branch of A.C. Railway
in eastern part of Leon Co.
all of the red surface material
appears to be too sandy to be of
any value for clay products.

At county line Jefferson - Leon
where concrete bridge on highway
No. 1 out of Tallahassee turned
east. One mile south, then
1/2 mile east.

Leon - Jefferson Co.

Aug 1, 1928

24

Turned south at Lloyd 55.6

3 - red man Capicola on road to Lloyd.
shallow roadside pit shows gray
clayey sand. No real clay but
this is in flatwoods 52.8

Capicola

Looking at borrow pits around here
I can not see any real clay, although
some of the sand has a mottled
gray tinge.

1/4 mi S. of the main part of
Capicola (R.R. yard) there
is a borrow pit on N side of road
and S side of S.A. Ry.
This has some moderate clay
material but nothing that I should
call a real clay. There are
abundant concentrations of soft
sandstone. Some with limonite
cement and some lighter colored
perhaps with lime cement.
I can see no indication
whatever of any clay deposits in
this region.

1.3 mi S. of Capicola on
E side of road about 200 ft W
of A.C. Ry. bank hole
8 ft deep and 20 ft diam
and solid could be seen on the
interior of a brown sand on surface
and a few loose particles white.

Leon - Jefferson Counties

Aug 1, 1928

25

Sand after digging in 8 inches or
so.

El. Ducting
1/2 mi E. of intersection of
A.C. Ry. and Highway No. 19
on N. side of highway there is
a sand pit with a level in it
about 15 ft deep down to
water level. Only sand is exposed.

Extensive borrow pits at E. end
for building of railroad crossing.
The sand is fine sand and loam
but clay.

W. of S. Ry.

At Wagon and 1/2 mi E. of
there, along the road just north of
the S.A. & R. there are some
small clumps of clay - gray
sandstone, mostly with red.
Road cut in origin - probably from
a sand pit. Some of the clay is
in places around the
(which is usually in the swamps) the
clay is well covered with sand.
The clay well does not look as if
it would be a good one and small
outcrops as well as fragments of
concrete make it unsuitable
for sampling.

Gadsden Co.

Aug 6, 1928

26

Chattahoochee, Gadsden Co.

gauge on bridge near east side of river shows stage of about 54 ft.

At present stage of river the part of the flood plain immediately around the east end of the bridge is about 8 to 10 ft above the river. River has recently been two or three feet higher.

River bank (west side) at bridge shows 4 to 5 ft of clay from surface downward. This appears to be good. Some sand in it. Upper part brown, lower part mottled gray and brown or reddish. Below the clay is a three feet of clayey sand exposed.

Only 100 ft north of the bridge the upper 3 ft of the alluvium is red sand. This is exposed in a small bluff separating the flooded cypress swamp from the low bottom lands. Only by the larger floods.

North

Cypress swamp
River

dry bottom
bridge

Gadsden Co.

27

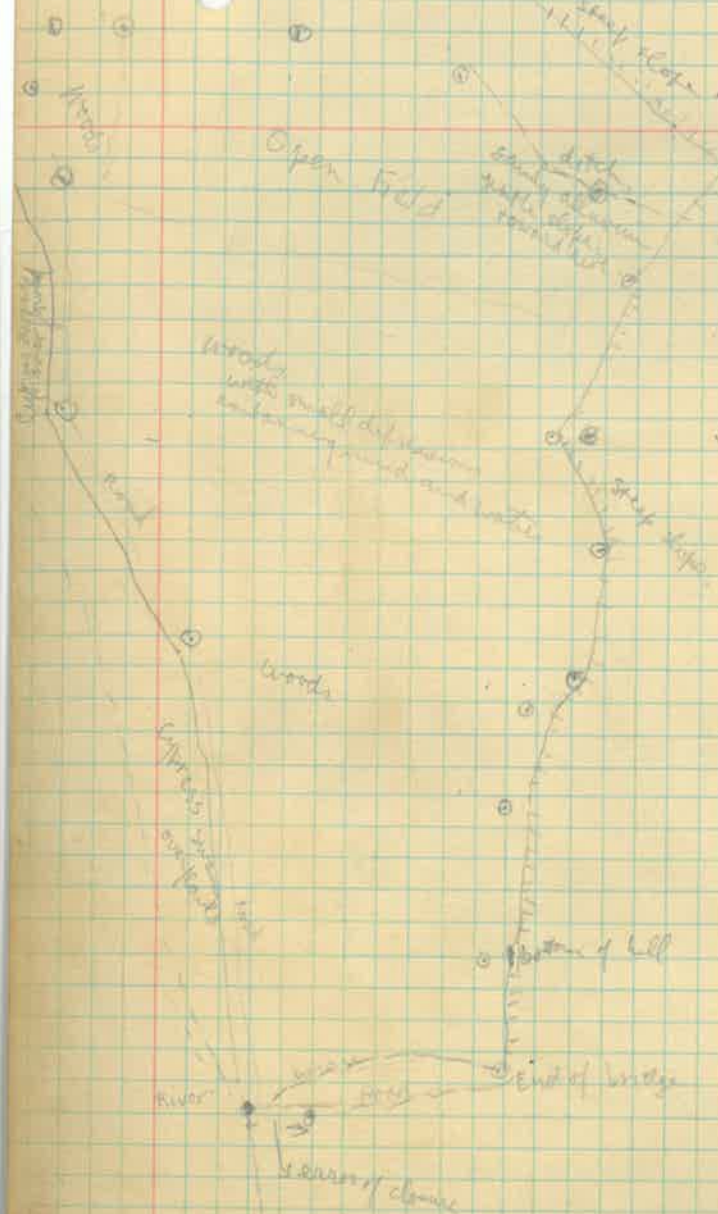
Walked north from bridge 2500 ft along outer edge of dry alluvial woods. Between this and the river there is cypress swamp, now flooded.

Here (2500 ft) north of bridge the woods are magnolia and to the east of them is an open field. On the west side of this field where logs have been rooted there are many chips of flint and a few pieces of crystalline limestone. One arrowhead of white flint and perhaps more properly chert. Lower part of field is apparently alluvial sand. Upper part has iron stone concretions and is more clay. Slope is gentle so it may still be alluvial but it looks more like the weathered older stuff.

Also about 200 ft south of the bridge the uppermost material on the river bank is sand so the clay outcropping at the bridge is probably a small deposit - most likely a filling of a slight depression on the alluvial plain.

Gadsden Co.

28



Traverse of bottom land north of
Apalachicola River Bridge, Gadsden Co.
Scale 1 in = 10 paces
Aug 6, 1928

Gadsden Co.
Aug 6, 1928

44. River Junction

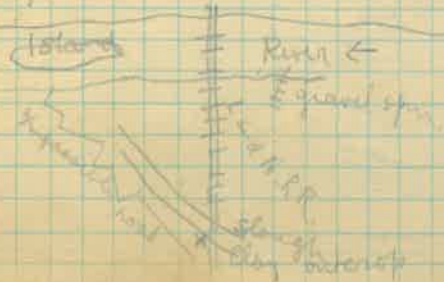
29

$\frac{1}{2}$ mi. NE of R.R. station
road to migger quarry
crosses a valley without any
permanent stream in it
leading up the hill on the north
side of this valley road cut
shows a small outcrop of clay beneath
the surface sand on the west side of
the road but none at the corresponding
elevation and distance below the
surface on the other side. The old roadbed
is supposed to have been near here but all I can see is a few
fragments of brick.

45.6

Starting W. from River Junction -
load on N. side S.A.L. Tracks.
Left load here at 0.3 mi.

For about the first $\frac{3}{4}$ mi W of River
Junction the R.R. follows along the south
side of the valley of (imagine) creek
with the road on the north side of it.
The road is on an alluvial deposit
all the way (1.3 mi to where I
parked) while the R.R. cuts into
Chattahoochee formation a small
part of the way. Did not see any clay
in driving out there.



Gadsden Co.
Aug 6, 1928

River Junction

30

See sketch at bottom of preceding
page. Clay outcrop on east bank
of slough which passes under R.R.
trestle $\frac{1}{2}$ mile west of River Junction
and about $\frac{1}{2}$ mile or a little less
east of the river. Best exposed
where old unused road and concrete
cross just south of the railroad.
No current flowing in slough at
present time. Cypress trees growing
in it. Low banks and uprooted
trees suggest that with higher water
there may be a fairly strong current.

Walked down here out to the river to
the south west along old lumber road.
Distance 310 paces = about 3100 ft
- not more than that since in places
there was slippage due to mud.
Soil is clayey $\frac{1}{2}$ mile of the way.
Except along a zone narrow alluvial zone
of this is really swampy but most
if not all would be under water
at short time and year. Mud marks
from floods of this spring are well up
on the trees. Cane cut to the river
bank appeared about the middle of
the island. The river bank is
higher than the land in back of it
for half a mile or so. Sandy on the
surface but there is some clay
in slight mounds the water edge.

Gadsden Co.
River Junction

48.3 Aug 7, 1928

31

0-140 Clay 0-140 (in two bags)

1.3 mi W of River Junction
and about $\frac{1}{2}$ mile or so from the river
Same outcrop referred to in sketch at
bottom of page 29 and at top of
page 30. Outcrop adjoins L and N
R.R.

Section

- sample {
- ① Dark brown clayey soil - a scant foot not
included in sample
 - ② Lighter brown silty clay 3 ft
 - ③ Orange or reddish silty clay 2 ft
 - ④ Fine water bearing sand, runs into
the hole so it is impossible to bore
through it.

Sample was taken mostly from the
vertical bank after cleaning off the weathered
and coral portion. About 10 ft of
lower part of clay obtained by first hole
auger.

This is undoubtedly Apalach R.
alluvium. No deeper or quantitative
estimate of area but clayey surface
soil for some distance around would
seem to indicate that if tests are
favorable it would be worth looking
into as source of clay for bricks.

County Line 62.2 - 1
Liberty Co.
Aug 7, 1928

Aspalaga

32

11.7

Cedar Bluff - lower on
H. Aspalaga landing about six feet
of brown silty alluvial clay shows
on the river bank with very little
overburden but here the alluvial
deposits extend back only a little
more than 100 ft from the river
before there is old rock white
to the north flood plain narrow
down to nothing at all.

Bluffs of limestone north of Aspalaga
landing

Going down steep hill toward Aspalaga
landing the present road runs for
part of the way part of an old
abandoned one which is represented
by a trench in which saplings have
now grown up thickly. This shows
the border of some of this land to
reflect itself when a change
comes at the bottom. The road now in
use also occupies once a trench formed
by water washing the soil down the hillside.
Some of the upland near where the road
turns off from the River - Junction -
East of road to go to Aspalaga is gullying
rather badly. Forest cover recently
removed - On summit of hill
erosion seems to be a little better
near the top of the hillside. In
sandy to reddish clayey sand.

Liberty Co.
Aug 7, 1928

Aspalaga

33

What is taken to be the lower end of
of Aspalaga is on a limestone bench,
fairly well above the river.
A grassy plot now mostly grown
up with small cedar trees.
Around this are many small trees
of large shrubs of a kind which I do not
remember having seen before. Up to
about 15 ft high. Several slender trees
coming up to the same bunch of trees.
Smooth bark, peeling off, exposing highly
color beneath, similar to a sycamore tree.
Bark smooth, shiny bark about one inch
long. Flowers individually about 1/2 inch
or 1 ft high, show in large bunches
at ends of highest branches.

While at Aspalaga about 14 ft
there was a small river a small bank
showing which probably was of which
there appeared to be a ridge of which
the hill has descended since for higher.
Pushing a scow with only a small heap
of gravel in the middle of one a
small fraction of a load. It
came from as far down the river
as I could see - at least a middle

Across the river from Aspalaga
thickly wooded bottom land, but
seems to be little cypress swamp.
Shore is lined with willow bushes
and no good bank exposed.

About 1/2 miles downstream from
Aspalaga landing on East side river
flood plain is wider and more typically
developed. Small sand ridge (3 or 4 ft high)

Liberty Co.
Aspalaga

34

along the shore and lower flat, but not
sandy, thickly wooded land in back for
several hundred feet. Below the sand
ridge the alluvial deposits are exposed in
the bank of the river - about 8 ft of
clay, silt and fine sand, most brown color,
appears not much weathered and of fairly
recent age. At this point the thickness
layer of clay is about three feet and
there is so little that it could not stand
much impure of the sand above and
below.

Chalk
beds
16.

Several irregular specimens - not
across the bank to the south of the bluffs.
To show flat forams.

3 1/2 mi. The end of Eastfjorden
major road out of town, field with
great amount of a golden yellow
road and ground

Clay

0-14

Bristol, Land mg. - Pam. can handle
Apalach R. River, Ga.
Hydro. Ramsay, owner. Br. work made
a big brush lease. Red bushes.
Old pit still there. - sample taken
from it.

Superburden varies from 1 ft of sand
silt to blackish mudstone. Thickness of
clay about 5 ft. but scarcely
this is much exposed in the pit.
Exposures in river bank extend a little
more than 500 ft downstream from
serpentine shales. The pit is ^{150 to} 250 ft
back from river.

Upstream since the limits of the clay near the river are well defined since only sand shows in the banks. The clay is variable in color, some gray with only occasional streaks or spots of brown and red, while some of it is a real red clay. Most of it has appreciable amount of sand mixed in but practically

Liberty Co.
Aug 7, 1928
Bristol.

Seems good

Road runs south from line along the east bank of the river $\approx \frac{1}{2}$ mile downstream from where sample was taken road crosses a branch which has cut well into the alluvial deposits. Six to 8 feet deep down to water level which is back water from the river, as far as they are not obscured by vegetation the steep banks of the winding branch show brown silty clay similar to that deposited by the river on its banks in the mouth of recent floods.

Liberty Co.
Aug 8, 1928

27

Exit of Bristol on main road south
ft. by 8 mi. from Bristol passed
what I take to be the main part of
Woods. Two or three houses and
a road intersection.

At 7.7 mi from Bristol went down
a hill from the dry sandy upland
into what seems to be an unusually
such type of flat woods. Pines are thoroughly
tall and straight, but much of it is destroyed
by fire. I take this to be the higher
part of the Apalach. R. alluvial plain
which is only rarely flooded.

8. 4 mi. from Birch, Toward Est. Wapiti
road, crosses a branch in a small valley
on both sides of the branch clay is
exposed in road side bank to a depth
of about 3 ft. Upper part about
1/2 ft. reddish brown, lower part has
considerable green mixed in.

Clay
10-142

Followed the branch downstream
1/4 mile or so. The valley gets so deep
and the long leaf pines grow up and
down such a range of elevation that
it does not seem possible that this
plain is recent alluvium. The river
probably backs up into the valley but
I do not think it can cover the
whole plain.

Bearing of road $S 40^{\circ} W$

Wentzle
Aug 9, 1928

Esti familia.

38

9.0 mi from Bristol on
road to Estefaniga

Flatwoods plain is around 20 ft or perhaps a little more above the level of the water (probably connected with the main river) on the edge of cypress swamp. Bluff separating the flatwoods from recent alluvial plain doubtless formed by main current of river flowing against it at some time past. At one place where the bluff has little vegetation and soil is washed away the underlying material is seen to be mainly clayey, sandy, orange colored showing that clay is not a uniform all continuous layer. However a ditch which crosses the road shows just north of the road, more than two feet of red clay and still in clay at the bottom.

Several small gullies just starting to
work back from the bluff.
One large one going back several
hundred feet, with a few
smaller ones branching off from it.
The soil is a light gray and

Liberty Co.
Estiffanville.

39

reddish, some fine chromated clayey
sand associated with it. No clean
cut banks to make it possible for any
good estimates of thickness or stratigraphic
relations of the sand and clay.

9.5 mi from Bristol on same road
going in a general direction about SW
or a little more south. Conditions
about the same as at last note. Edge
of river swamp is 500 ft N-W of the
road separated from flatlands by bluffs.
Between road and pool where drainage
is better and perhaps there is not so
much fire there is some oak gum and
dogwood mixed in with the pines.
Bluff is likewise dissected by numerous
gullies extending back a few hundred
feet and often branching. There is some
hemlock vegetation in the gullies but it is
plain that erosion is going on fairly
actively. One gully here extends as
far as back as the road, the upper
land of it however being no more
than a ditch. In two there are
good outcrops of clay, mostly
orange. It is likely that gray clay at
the Stiffanulga Quarry. Just a short
distance to a clay which is a vertical
bank of five feet high is exposed.
A few feet at short distance down
toward the river orange sand is
exposed at the same elevation showing
that beds are lensular.

Liberty Co.

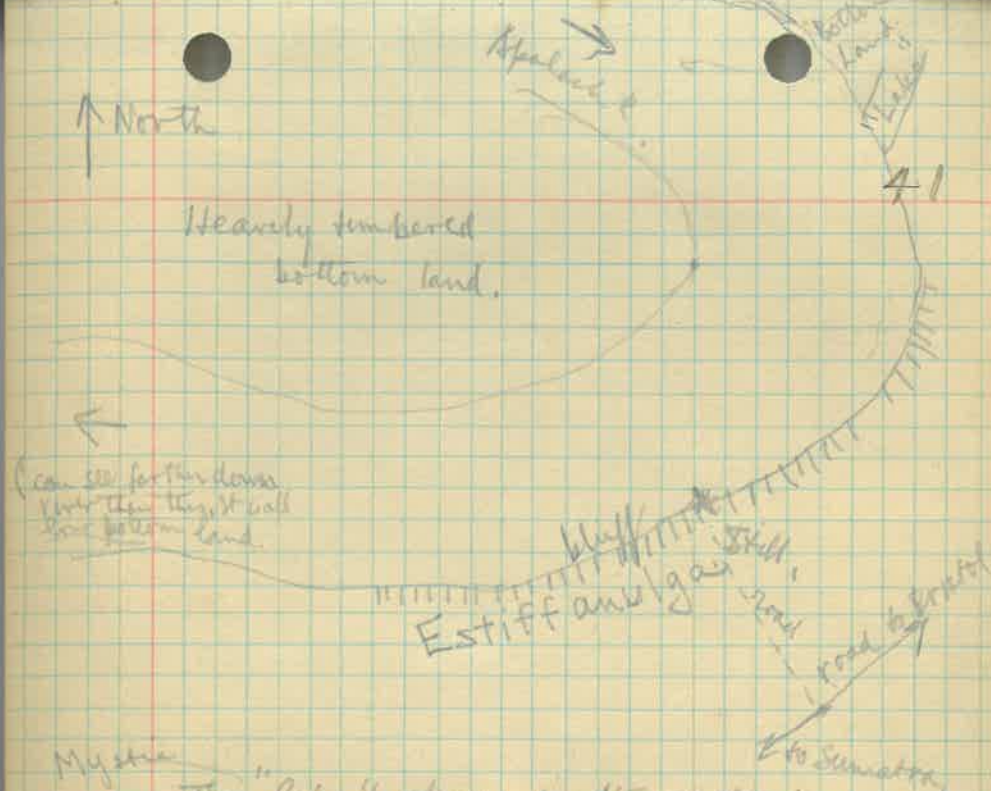
40

at 9.8 mi the road dips down a little and crosses two of the gullies, those outer of of them in road cut and in the gullies

10.9 mi - Turned right for
Estiffanulga Landing. Some cypress
in sight. 1/4 to 1/2 mi East of
main road along here. K

11. 1 mi. - *Apelasia* *kuwa* at
Edipungu,

man about 50 years old says that when the river was at a flood stage which the "old settlers" told him was the highest it had ever been it was still at least 8 ft below the highest part of the bluff and that it does not ever get up to any part of the road between here and Graceland although it does flood a great amount of bottom land up and down streams from the top of the bluff. Says water never gets over the land to the east of the lake which branches off to the east just above here. He says that there is clay under all of the island round about here.



Myosine

The "lake" shown in NE corner is called a lake by the natives. It is the same as I have called a slough in the preceding pages. It runs fairly close to the road to Bristol for a couple of miles or so.

At present stage of river, max. height of bluff is 21 feet, this is in the middle part.

Where the ladder is a little upstream from the middle of the bluff, the upper clay is 11 feet high, including the 10 inches or so of top soil. So we may say actually 10 feet of clay.

Below this there is earth with very little clay in it some parts of this part are covered by material fallen from above & I cannot say for certain that there is no clay at the water level. Under this soil there is

Liberty Co.
Estiffanulga.

42

it is very thin. The gray clay seen here before seems now to be below water. The upper clay near the ladder is mostly gray-red and yellow but general color might be described as light pinkish brown.

Section 250 ft north of ladder

Soil - Clay mostly gray 5 ft
Thin clayey sand 7 ft
Contains a few streaks of red clay
About 4 ft above water level not exposed

North end of bluff

At water level land extending in places about 2 ft above it is light gray very plastic clay. About this is limonite sand and sandstone - about 1/2 to 3 inches. Contains much petrified wood. Some pieces of it are encased in the limonite cemented sand, a good illustration of the way in which some like concretion are formed. A small trunk of spruce completely surrounded by limonite cemented sand. The wood inside is only partly petrified. Some of the other pieces of wood are hard solid and heavy, which others are rotten and crumbly.

Liberty Co.

Aug 9, 1928

43

Estiffanulga

day
0-143

Estiffanulga top of clay from upper part of bluff near middle between top of fine still and ladder. 10 feet. Overburden only top soil.

At 110 paces downstream (nearly W) along the top of the bluff from the ladder it begins to get appreciably lower. Top clay is still around ten feet or a little more.
At 117 paces downstream bluff is only about 10 feet high and is all clay - mixed gray yellow and reddish.

At 150 paces downstream section is Soil - clayey sand 15 inches.
Clay - gray and reddish 5 ft
Sand 1 ft

Shrubbery, trees growing up to river bank along hill.

175 paces downstream bluff is 10 feet or so of red clay rather sandy immediately below the top soil. Below that only red (or dark orange) sand is left.

210 paces - end of real bluff. It is here about 5 ft high. red clayey sand - almost clay. All the way to where the river begins the next turn toward the left (about 1000 ft) it is eroding.

Liberty Co
Estiffanilga

44

this bank as shown by the uprooted trees and there may be some occasional sections of a foot or two exposed but no real bluff since the shore is low

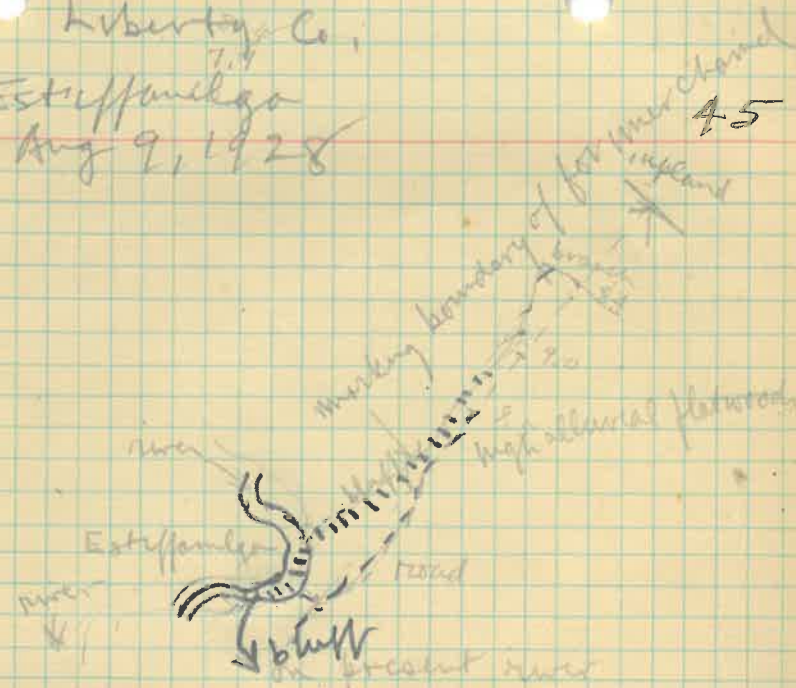
Other bank of river

Trees in slope

Real large mounds of old man cottonwood some are perhaps more sycamore bigger willow a little bigger sycamores - very small to water sand bar.

The upstream or NE end of the bluff is about as high as the middle and in this direction the river bluff is exposed on the main river and as abruptly as the bluff continues eastward away from the present course of the river. Southward the bluff the west end of the bluff the decline in height is more gradual and the slope is a fairly gentle slope of fields and open woods

Liberty Co.
Estiffanilga
Aug 9, 1928



Scale about 5 squares = 1 mile except that size of bend in river at Estiffanilga may be exaggerated.

Bay Co
Nov 14, 1928

46

11/1/28
Middleville - Callaway -
across Locke Bayou - store across bayou
Mrs. Schladt

Two wells about 100ft apart
Principal water bearing stratum
about 28 ft deep. Water in one
well carried red sediment in
suspension and the other one yellow

Bay Co.
Nov 15, 1928

47

O-154 Clay 1/2 mi E of Panama City
on N side of road to
Wewahatcha about 100 ft from
road on west side of branch
(Cusling Creek) flowing south
small excavations on hillside
a little above creek about two
feet of this gray clay exposed
with sand above and below

O-155 Sand a little ways up hillside
from preceding. No continuous
section exposed but digging
down here shows what is
apparently the top of O-154
at about the same level as
where sand was collected.
3 ft thickness - may be more.
open pine woods.

O-155
clayey sand
gray clay
sand. Branch

Jacob Godert
Parker - Route 1
Mrs Schmidt's son in law

Washington Co.
81.3

Nov 15, 1928 48

O-156 Clay 5 mi from Wansan on main
road to Chipley. Road cuts



Road going N.E. passes over
east side of hill. Ditches and
cut banks for several hundred
feet show clay like the sample
at intervals but not continuously.
Much similarly colored material
but more sandy with occasional
pebbles in some parts. No
bedding or definite relation
between the more and less
sandy parts can be made out.
Mixture of red yellow and
gray colors. Generally appearance
similar to some of red clay
in Tallahassee region. The
more clayey part which is
represented by the sample seems
somewhat like weathered
quartzite earth. Maximum
thickness showing at any one
point about 3 ft. Outcrops
appear for a considerably greater
vertical distance
down the hill but with no bedding
showing mean nothing about thickness

Walton Co.
Nov 16, 1928

49

Ponce
Turn left at Cape.
3 miles
under bridge property on road to
Chalk Hill
Lynette Conger (mine boss)
J. (de) Conger
Thorpe

O-157 Clay Choctawhatchee or Shoal
River
4.00 mi S.E. of Poyale on road
to Knox Hill and Red Bay
Overburden about 8 inches ordinary
soil, then red sandy clay for
a foot or so. Dug down
it is mottled gray, yellow
and red.
Road cut shows about 2 1/2 ft
of clay

O-157a 2 1/2 ft thickness
from cut bank on roadside
O-157b post hole 3 ft
deep in ditch

Total depth represent about
5 ft in two bays
Most yellow one is deepest

Walton Co.

Nov 16, 1928

50

J. O. Conyer Fluorite prospect
on east side of west prong of
Whites Creek
They say shaft is 51 ft deep
shell bearing dark clay from
bottom about three or four feet
upward.

Limestone concretions in the shell
bearing material. Some of them
are hollow and lined with calcite
crystals.
Piece of crystalline purple
fluorite supposed to have been
picked out of bed of creek by young
Conyer.

Holmes Co.

Nov 16, 1928

51

0-158 Clay - Two bags.
3.3 mi NW of ~~Pointe Leon~~ perhaps a
little west of ~~sublate~~ prospect
on Widow Bishop property.
Pt about 20 ft in diameter near
base of hill sloping toward south.
Clay is hard and tough resembling
that shown in bluff on north
side of Sandy Creek 4 mi
N of Pigeon. Max thickness
of clay exposed about 1 ft
including some slightly weathered
sandy material. ~~Mineral~~ overburden
about two feet of red sand.

(11:30 AM)

Farther up the hillside nothing
shows but red sand in natural
gullies and prospect trench.
In this red clayey sand show
a few clay pebbles and some
small quartz pebbles. Also thin
limonitic crusts.

Last night Vreeland said the
shaft digs about 40 ft
deep so far as can be
seen the material which has
come up out of this is sand,
mostly red and slightly clayey.
It is well above the clay
outcrop just sampled and
evidently has not yet reached
down to it.

Small specimen of sand from pile
near shaft. Supposedly washed out of
material excavated.

Dec 10 Okauchosa Co.

52

Rather deep valley of branch of
Yellow River crossed by highway
No. 1 about half way between
Gall river and Millport (68.7)
Small outcroppings of clay in roadside
ditches on both sides of valley.
Heavy overburden of sand, ~~but~~
except for a narrow strip where
the clay outcrops.
This section is worth more
study.

Dec 10 Holmes? County 53
 5.5 miles E of Caryville
 on highway No. 1 several
 outcrops of clay interrupted
 by more sandy material.
 Not checked as closely. The
 apparent variability may
 be due to disturbed bedding.

Dec 11. - Santa Rosa County 54
 Kahoe Farm - Blackwater Creek
 See Notes of May 28. & check
 the distances there given.

I thought before that this was an
 alluvial deposit of Blackwater R. but
 now I am not so sure of it. On
 looking around some more I see that
 old pits extend into sloping land where the
 natural surface is six feet or so above
 the flat land of the river. I doubt
 if even the natural surface at the pit
 where I took the sample is ever flooded
 unless perhaps by the combination of
 an extraordinarily high tide with
 a great flood of the river. This
 material worked looks like the loess
 of the Mississippi Valley. It is more
 of a silt than a clay. There is fine
 sand over it in many places.

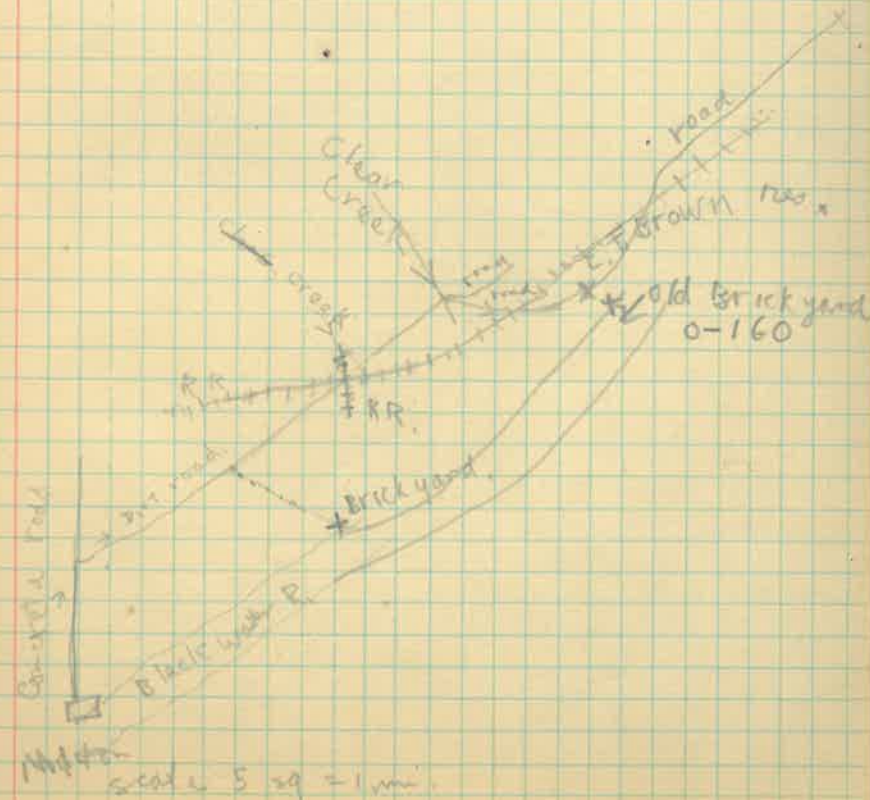
The workings extend irregularly over
 an area of perhaps six acres.
 The intervening area is greater than that
 from which the clay has been removed
 but probably some of this has been left
 because of being too sandy. Many old
 heaps of brickbats near site of Railway.

Most of the alluvial land along here
 which is clearly defined as such, is
 swampy where the water and vegetation
 prevent telling anything about the
 clay if present.

Along the road, about $\frac{3}{4}$ mi
 N. of Kahoe farm brickyard
 and about 500 ft S of R.R. crossing
 I saw 2 ft of very fine clayey sand
 mostly yellow to yellowish yellow and
 probably belonging to same formation
 as material exposed in clay pits.

Dec 11, 1928
 Santa Rosa Co.

55



C. T. Brown

Must have been at night
that you saw them to P

Dec 11, 1928 Santa Rosa Co.

56

Continuing on cut down Milton in
general into the easterly direction after
turning right from concrete road
0.8 mi N. of Milton x At
3.0 mi from Milton cross RR
and are beyond RR on just N of
Saw Creek. ditches along roadside
show
4 ft yellow and grayish yellow
loam and clayey sand.
2 ft mottled gray and purplish compact
clayey sand.

~~Feb 7 and 8 visited what I supposed
to be the Sprague Iron Louse~~

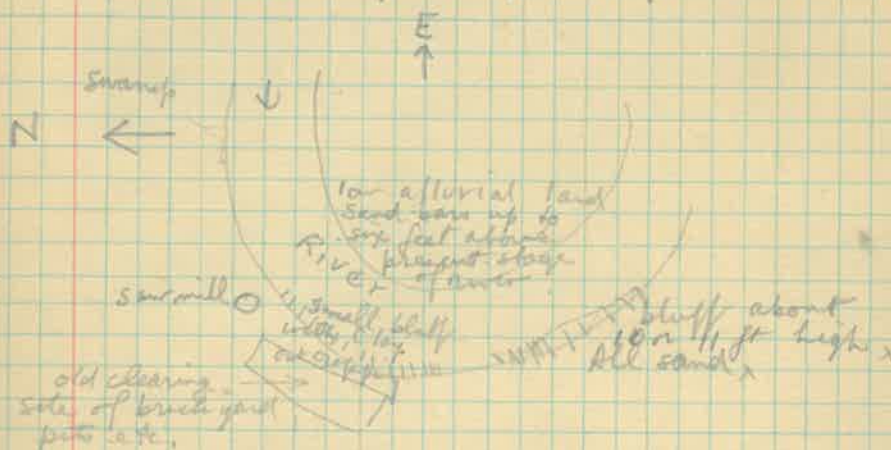
31.9 mi. cross large creek, probably
Bear Creek, and just beyond this
take right hand road at fork

4.9 mi. from Milton residence of G. T. Brown
walked east, about $\frac{1}{2}$ mile to
Blackwater River, site of abandoned
saw-mill and brick yard.
The brickyard is supposed to
date back to before the Civil
war.

Dec 11, 1928 Santa Rosa Co

57

Q-160. Clay C.T. Brown farm on
west side of Blackwater river
5 miles (by road) NE of Milton



The clay is exposed only on the upper one of the two small bluffs, and there only for a distance of two hundred feet or less.

Some of the old workings were right on the bank of the river so it is difficult to be sure of an undisturbed section but I think the one where I took sample is O.K., as follows.

Fine grayish yellow loam 15 inches:
 Clay sandy, mostly gray, some spots
 of red and yellow * Tongues toward
 bottom 3 ft.
 Compact sand, gray and brown
 medium texture, somewhat clayey 2 ft
 — To water edge

It is evident that the top of the Little Wharf where this section was taken is subject to overflow since there

Dec 11, 1928 Santa Rosa Co

58

is loose sand on top and at some level on other side of river which has been left there within 5 years. The clay as sampled is probably an alluvial deposit although looser than I would expect. It is not the same as the clay on the Rebel farm.

The bluff of sand 10 or 11 feet high and 400 to 700 ft downstream from where the sample was taken may be slightly above the highest floods but I would not be sure of it.

There is nothing to indicate any great extent of clay like the sample in immediate connection with it. If it was an alluvial deposit, it might be supposed that others like it would be found along the river.

5.7 mi from Milton Crossed over
to the west side of the R R

7.7 mi crossed Coldwater
Creek. A clear, swiftly flowing
shallow stream. Bottom of gravel
sand with a few small pebbles.
Swampy, narrow and not continuous.
An alluvial ridge of sand on the banks
of the stream between it and the
swampy
sand white. Recent alluvium of
Coldwater Creek 7.7 mi
NE of Milton.

Cut to depth of 18 inches in
bar formed on back side of
alluvial ridge of sand washed through
a gap in top from the main
stream & shows usually hidden

5085

Santa Rosa Co.
Dec 11, 1928

59

of stream deposits. Slight concentra-
tions of dark minerals in thin
streaks. (This is not the same as the
road to museum but one further downstream)
at 8.3 mi Road forks. Take
right hand one which is graded but
the former of the two.
at 9.6 mi cross a small branch flowing
east or S.E. Orange clayey sand
subsoil shows going down the hill to
cross it. R.R. 800 ft to east.
This part of the country generally
is sandy upland with small hills
and thick growth of wire grass where
not burned. Much ore to be seen
together to indicate fossiliferous
subsoil but material is so light that
that it is generally clayey sand rather
than clay.

At 10.5 mi cross another small
branch. Outcroppings of yellow to
red sand with a few pebbles and
limonite concretions.

At 11.2 mi cross R.R. in northern
part of town of Indian Ford. The
road then swings away from the
railroad to the east and a woman says it
goes to Holt.

At 12.3 mi road goes down at steep
hill into the valley of Sweetwater
Creek. Sweetwater Creek, which is a fairly
prominent topographic feature. Shells
along roadside on the hill show
that a few feet of loose light gray
surface sand and below that old
and orange sand with some pebbles.
There are some layers that contain
enough pebbles of 1 to about 1/2 inch

Santa Rosa Co.
Dec 11

60

that they might almost be called
gravel. ^{Juniper}
Sweetwater Creek is also clear and
swiftly flowing. Practically no
swamp on this part of it. The
alluvial land is sandy and mostly
dry at present stage of stream.

5086 Gravelly sand & coarser material
from near upstream end of bar
section about 1 foot thick.
Juniper Sweetwater R. 1 1/4 mi E or NE of
Indian Ford.

5087 Finer sand from downstream end
of bar. Cut to about 1 foot
depth. Same bar as preceding.

500 ft N of bridge over Sweetwater
on road to Indian Ford to Holt. There
is an outcropping of limonite sandstone
and partly semiconsolidated gravel. Such
of the gravel as could be reached from
the shore is easily broken up by the
hands but the whole of it is broken
by the stream is like a hard rock.

12.6 mi from Milton crossed
Sweetwater Creek. On east side
of the creek there seems to be a
fairly well defined bench or terrace.

Two miles east of Indian Ford
(12.1 from Milton) gullies around
a bench head on east side
of Sweetwater valley show as
much as 10 foot sections in a
single vertical wall. Resembling

Santa Rosa Co.
Dec 11, 1928

61

that there were any continuous beds
the actual working section exposed
would be much greater. On
surface Norfolk sand with a
few pebbles. At depth of
three or four feet coarse red
sand which extends down to the
bottom of all the outcrops.
In one of the gullies there are
some thin stretches of gray sand
clay through the red sand.

returned to Indian Ford and
started in general northerly direction
on dirt road through woods. Winding
about considerably for 2 1/2 miles &
through some grassy land. Much
of it is good pine land but most
of trees are destroyed. Some so sandy
that there is considerable small oak.
Came out on main road from
Milton to Museum where it is running
along the top of a part of ridge
slightly higher than the surrounding
country. The ground here is almost
completely covered with limonite
concretions which have weathered out
of the underlying ferruginous clayey sand.
Limonite concretions - 2 1/2 mi N of
Indian Ford.

5088

14.6

To 2.2 miles farther north along this road
(16.8 from Milton to road
of Indian Ford) turned east toward
Red Rock. The road along
here is on high ground from which

Santa Rosa Co.
Dec 11

62

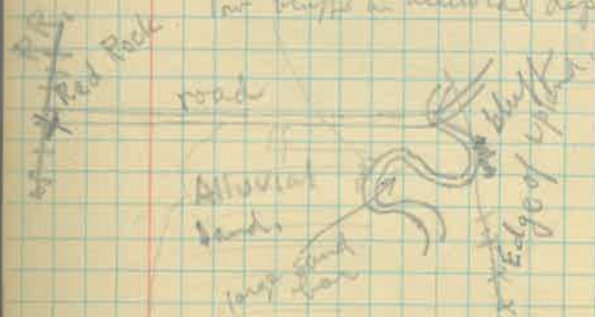
it is possible to look across the valley of Coldwater Creek to the westward.

Red Rock or Fontross

A limestone outcrop on both sides of the valley. The main part of it seems to be about 50 ft above Sweetwater Creek. 1 to 2 inches thick irregular surfaces. More often in separate pieces than as a large continuous for long distances. Patches of it are found at various levels on the hillside below the main bed and also in the creek.

Scale 1" = 100 ft

low bluffs in alluvial deposits



At this locality there is an alluvial plain nearly 1/2 mile wide on the west side of the river but on the east side the stream comes against the hillside forming a bluff in which gullies have formed. Total section there is probably at least 50 ft. It is made up principally of clay and ferruginous sand of various yellows and reds in the

Santa Rosa Co.
Red Rock

Dec 11, 1928

63

lower parts more or less mottled with gray. Upper part more strongly colored. It is especially in the lower part of the section exposed about the limestone sandstone.

5089

Red sand at water edge, E. side Juniper. Sweetwater R. opposite Red Rock. Citronelle formation. This red material is very local in its occurrence. What is apparently the same sand a few feet away is mottled with red rather than red all through.

5090

Fine sand, - alluvial deposit of Juniper Sweetwater R. - from W bank of river at Red Rock. Represents material from two to four feet below surface. Sand, above is of about the same fineness but has more clay. Pure sand underlain by the material.

Too late in the day to make a thorough section of the bluff in Citronelle formation on east side of the creek but it is evident that it contains no clay of any commercial importance and is too much mottled to have any fossils.

Beds can be seen to be somewhat lenticular.

5091

Yellow sand - from about the same bed as 5089 or a little above. Only four or five inches thick.

Santa Rosa Co.
Dec 11, 1928

Red Rock

64

The alluvial material of the Sweetwater River flood plain at Red Rock is well exposed in the cut banks of the river itself. As far as seen it is principally fine sand, with some silt, but not having sufficient clay to develop good plasticity. Some streaks of white quartz pebbles such as may be seen in the bed of the river and the recently formed bar along it. The road crosses the river and apparently continues on eastward. Did not see anyone at all at Red Rock.

This is actually Juniper Creek. Sweetwater comes in from the east a short distance upstream.

Escambia Co.
Dec 12, 1928

Clay

Just west of west end of Escambia R.
Bridge on Highway No. 1, cut about
15 ft deep. Below lower of gray clay
with clayey sand above and below.
Max. thickness of clay exposed by
two feet. On the north side of the
road, to the east it pinched out
entirely within the limits of the
outcrop while to the west it grades
into more sandy clay of brown color.

Sandstone

3/4 mile WSW of Escambia Co. end of
Escambia R. bridge on Highway No. 1.
Coordinates on War Dept. Map 7935-1188.5
Large road material pit at about 100 ft
above section as shown seems to be fairly
uniform over face some 500 ft long in E-W
direction.

3 ft. grayish yellow loose surface sand
Red sand compact and indurated
clayey about 6 ft exposed to bottom
of pit.

The most prominent projecting nose
on the hillside north of the pit is
largely composed of formation sandstone fairly
coarse textured. It has a peculiar
fluted and tubular structure. The fluted
surfaces may be well marked.

General strike of these structures
N 30° E about the same as that
of the axis of the nose which they
compose. A little farther
east on the hillside at about
the same elevation, another but
small nose projecting shows the
same kind of sandstone with
strike of fluting N 30° to 40° E.

65

Dec 12.

Escambia Co.

Lower Daxland Bluff

2.5 mi E of Gonzales.

Height of bluff by hand level

$$6 \times 5.7 + 3 = 37.2 \text{ ft}$$

This is the highest part of bluff.
The river is not over the swamp on
the opposite side of the river so must
be at a fairly low stage & it
least it could hardly get enough
water to raise the height of bluff
to 65 ft.

My measurement agrees better with
the old Dept. Map than Bell's.
There is only one bluff and
not two, unless a small part of the
bluff which is wooded a little north
of the middle may be taken to
constitute a division into two bluffs.

Section measured and sampled is
400 ft from downstream end of
bluff (along top of bluff)
and for description of the
gully starting back into the bluff.

Lenses of gray clay near base of
bluff at several places at about
the middle contain plant remains
bark, wood (light).

This is all the lower bluff but
is around 1200 ft long rather than
500 ft.

66

Escambia Co.

Dec 12

Lower Daxland Bluff

400 ft from downstream end.

	Top soil 1 ft, not sampled	Total depth
5092	Loose grayish yellow sand	1 to 3 ft
5093	Compact red sand	3 to 9 ft
5094	Sand, white and brown.	9 to 15
5095	Sand, coarse, white and light brown	15 to 21
5096	Sand - mostly white, rather fine cross bedded, siliceous streaks	21 to 27
5097	Sand - mostly coarse and yellow to yellowish brown.	27 to 30
5098	Very light pink and gray clay with streaks and patches of sand	30 to 31
5099	Coarse yellow sand.	31 to 35

The loose light colored sand immediately
below the surface, and the compact red
sand below it extend the whole length
of the higher part of the bluff, and seem
more related to the surface of the ground
than to the underlying beds. The "compact
red sand" is bluish and somewhat yellowish
in the upper part. The lower two feet of
the section is noted above (sample 5093)
is really a gradation into the underlying
loose sand and has streaks of light colored
sand and reddish brown through it
rather than being uniform.

Where the sand shows any bedding at
all they are cross-bedded with steep
dips. Sudden variations in texture.
Some parts have numerous pebbles up to
about 1/2 inch. Then streaks such
as heavy minerals are more especially
in the lower sands, but are more
apparent than I have seen in stream

67

Dec 12, 1928
Lower Deyland Bluff
Escambia County

68

deposits. Then consists of hard limonitic material. One tubular piece of limonitic sandstone. Some large lumps of coarse sand partially cemented by limonite.

Trilobites in coarse sand of lower part of bluff. About two feet recovered in small pieces. Traced down to a few inches below water level.

The section as given on the preceding page may have a little less than the average amount of clay for the bluff. However it is certain that there is not a sufficient amount to be of any value in the higher part of the bluff.

Beyond the downstream end of the bluff directly exposed on the river still. In which the notes on the preceding pages refer. The bluff continues as a distinct topographic feature. It is there about 25 ft high and forms the boundary between the wooded river swamps and the uplands. It was followed 100 ft from where it departs from river. Its continuation is shown by close spacing of contours on War Dept Map.

Fossil wood. One specimen from gray clay near base of bluff.

It seems entirely possible that all of the section is an ancient alluvial deposit (trace) formed before the river had worn its bed down so far.

Dec 12, 1928
Escambia Co.

Lower Deyland Bluff

69

O-161

Clay upper and Deyland Bluff. Represents 6 ft of gray and red mottled clay (mostly red) with 6 ft sand overlying. The bluff is here reduced in height to about 16 ft. I do not think this represents a commercial deposit. It pinches out to almost nothing about 50 ft away upstream from where there is swamp on both sides of the river. The lower part of the bluff is rather the sand in back of it. It may represent a lower terrace since there is a fairly steep slope from one level to the other. I think this clay layer is about the same as the others near the bottom of the bluff. It contains some plant remains.

Upper Deyland Bluff

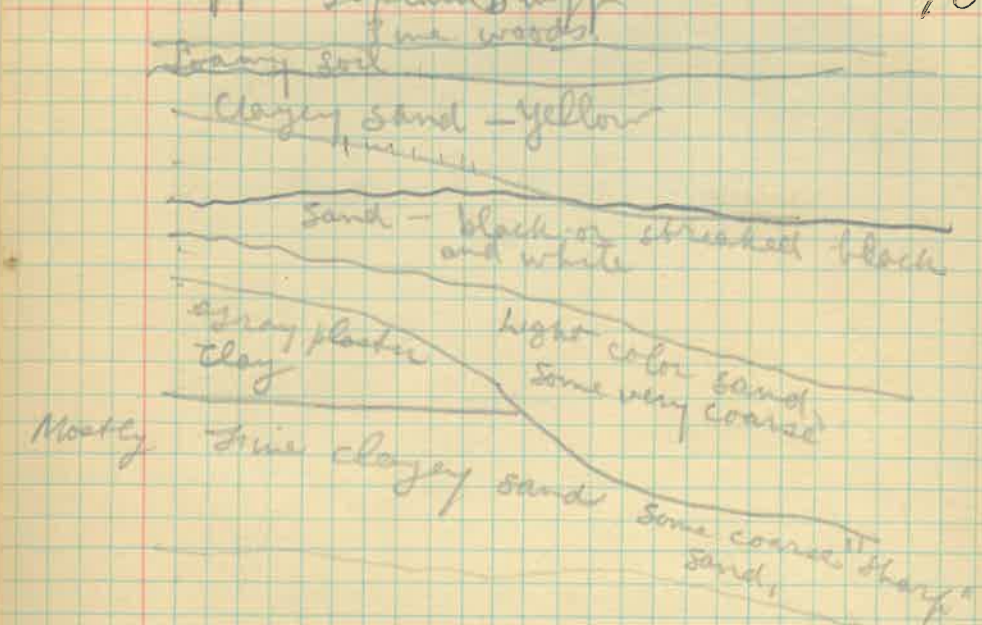
Actually reached upper Deyland Bluff. All of preceding notes refer to lower. Upper one is as shown on War Dept Map. Max height between 20 and 25 ft. About 600 ft long (approx half as long as the lower one). Section considerably different from lower bluff.

The upper bluff is a mile or a little more from the lower one but it is necessary to drive 7 miles or so to reach it by land.

Dec 12
Escambia Co.

Upper Deyland Bluff

70



Vertical Scale 1 sq = 1 ft

This shows very roughly the approximate structure of the upstream half of the upper bluff. The downstream half of it was not examined.

I do not see any clay of any possible commercial importance. Carefully cleaning the bank shows the gray clay to be not more than 3 ft thick and overlies 8 to 12 ft of sand. Back of this bluff is a flat area between it and the uplands.

Santa Rosa Co.

Dec 13, 1928

Dog Farm.

3.8 mi. from Milton by road.

0.9 mi. E on Old Spanish Trail
then turn south. Site of old
brick works is on east side of
Black water Bay. Clay pits about
1/2 mi. back from water.

Apparently the material used was
more a sand than a clay. Dig down
to total depth below natural surface 4 ft
on side of old pit and saw only fine
sand with perhaps up to 20% of
bedding material.

6 inches gray top soil -

Then yellow sand, then mottled
gray and yellow with some spots of
brown. Found some of the other old
excavations the brown spots are
fairly conspicuous.

Many pieces of brick lying
around. Some are fairly hard but
porous, harder than the ones are
dirty brown color with darker
brown spots.

5132 Fine clayey sand - depth about
4 ft below surface. Dog farm,
East side Black water Bay.

This is in flatwoods, as all of the country
nearby. Estimated by eye at
a mile or a little more south of
the mill at Bagdad of which the
chimneys are in sight.

Santa Rosa Co.

Dec 13, 1928

Interview with Dr. T. S. Kennedy
Milton

Elemente - Navarac on Santa Rosa
Sound. - Cross East R. bridge ^{turn of main} road to Camp
Milton ^{Walton}
① Turn off 4 miles E. of Milton

Jay - from Blounton. across
river over flats toward Jay up
hill. Light colored clay - Chalk hill
Loring deposit.

Jay district - Mr. E. J. Joiner
County Commissioner.

Campbell. Postmaster Jay.

gravel hills near Jay - close to
river.

M. J. Caldwell, legislator from
Milton district. Says he will
help to pass appropriation for stream
gaging and topographic mapping.

Santa Rosa Co.

Dec 13, 1928

5133

Change
to 5135

Heavy concentrate
layer on surface of beach about
1/2 inch thick. Robinson Point
on peninsula south of Bagdad.
Old Mill site. Please Lindsay owner.
The concentration is very local
only small parts of the beach being
protable for its formation.

Most of this peninsula south of
Bagdad between the two arms of the
bay is flat woods. Mr. Lindsay
says there is some clay but
according to my observation it is
rather a clayey sand which is
locally forming the subsoil and is
exposed in ditches at some of the place
where the road crosses gullies.
General yellow somewhat spotted with
red & gray clayey sand exposed in
some of the deeper cuts.

Escambia County
Dec 14, 1928

74

West side Escambia Bay
first bluff south of end of R.R.
bridge shows two or three thin
layers of plastic clay, gray, pink
and purplish. All in bottom half
of bluff. Too thin and too much
overburden for any commercial
importance.

At the same locality some thin
streaks of heavy concentrate on the
beach. Staurolite and diathase
are prominent among the heavy
minerals.

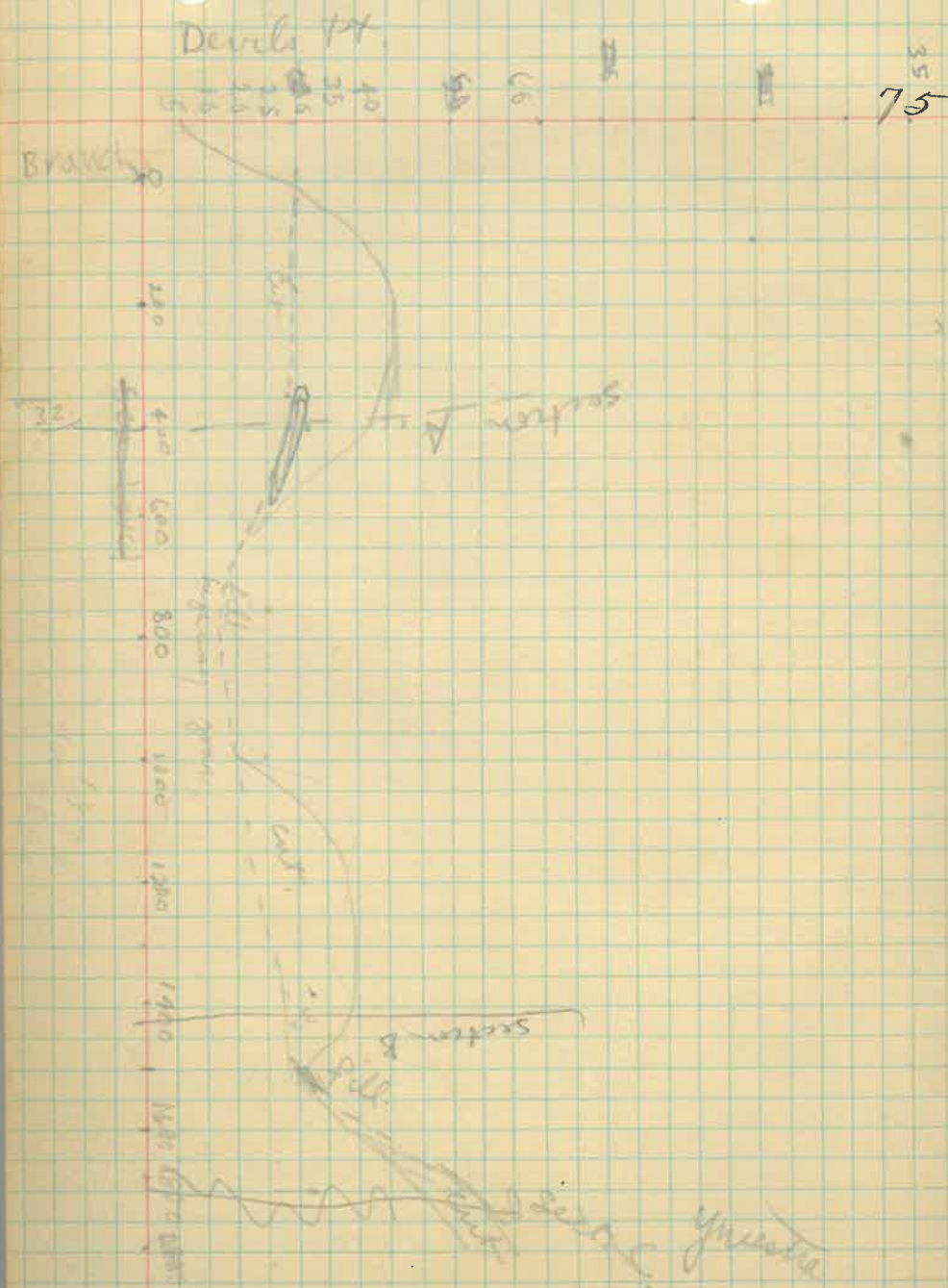
Bluff on N. side of Devils Point
of War Dept Map, which is presumably
Gull Point of Bell's report.

Mostly covered
with trees and bushes
upper part about
all sand
RR

highway

All sand
about 20 ft.

No good exposures of the clays seen
along the road a little to the north.
Total height to top of bank on
south west side of road about 70 ft.

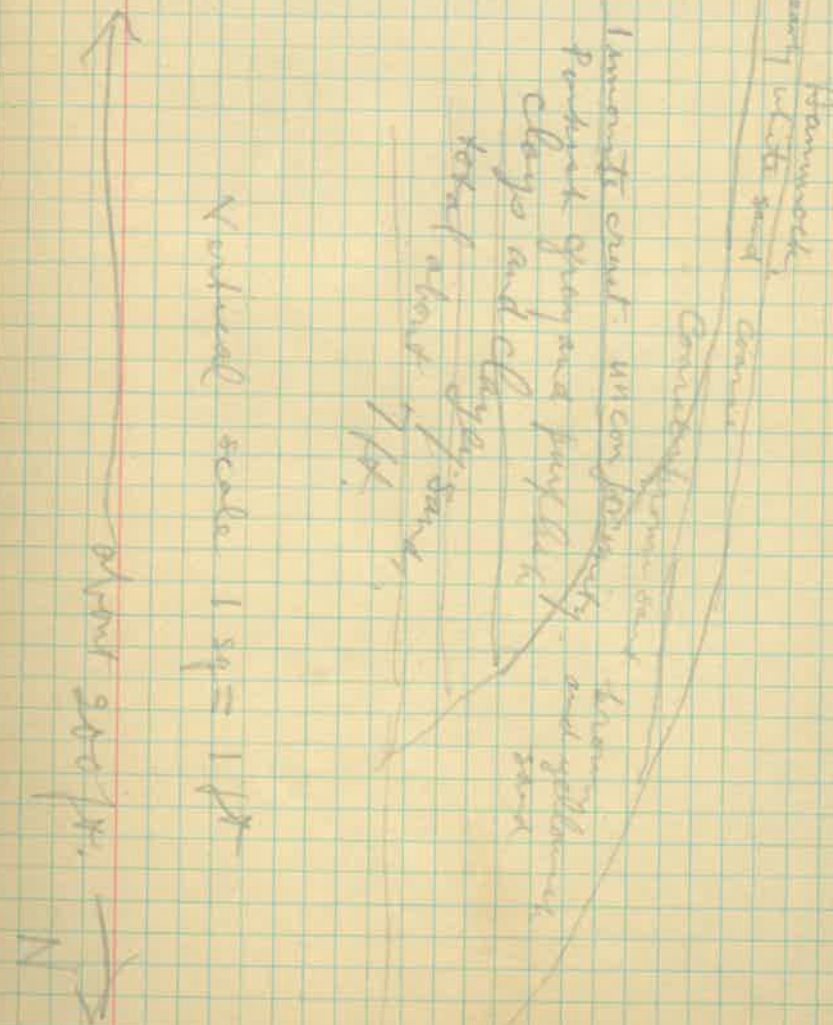


Escambia Co.
Dec 14 Highway cut between Devils Pt and
Ynestrá.
Section A

76

sloping bank covered
with sand.

Vertical scale 1 sq = 1 ft



Dec 14

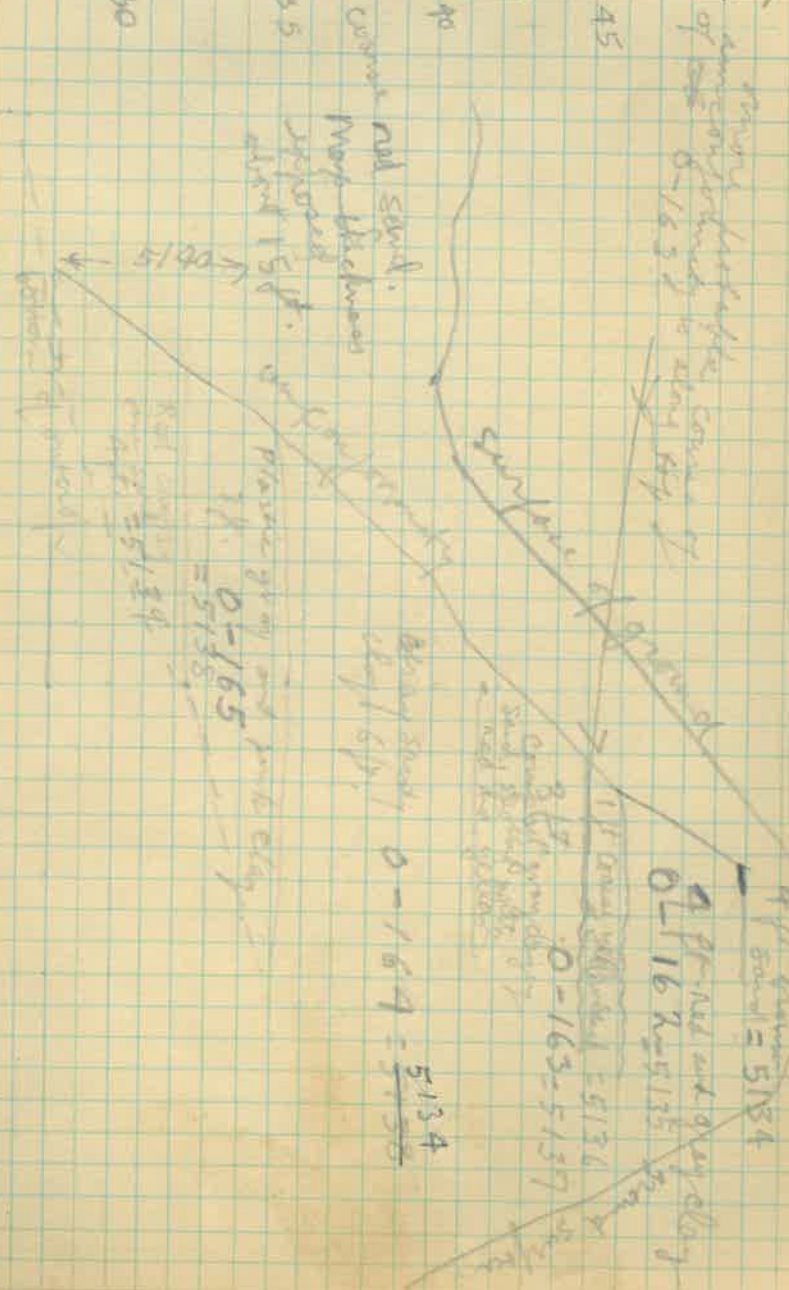
Escambia Co.
Ynuestra

Section B, see p 75

also was Dept map

Feet above sea level

77

25
↑
SW

Dec 14

Escambia Co.
Ynuestra

78

Robinson Point Mill Site
Hague Lindsey - Hutton Box 48

The unconformity is marked mainly of the way by a thin crust of about 4 inches of laminated sandstone. The unconformity undoubtedly occurs at cuts sharply across several fields. On top of bank west of road some fields are laying around and it looks as if there was an overgrown excavation there suggesting that fields were formerly made here.

0-162

Clay - mottled gray and red - overburden of sand in cut bank where sample was taken. Natural outcrop of this as of the others at this locality is small because of steep slope of ground.

0-163

gray clayey sand - see section on preceding page. Includes also the one foot bed of yellow sand above.

0-164

Gray sandy clay slightly spotted with yellow.

0-165

Plastic gray and pink clay

not sampled

Brown sand at top of section. Weathering makes it difficult to tell whether this comes above or below the unconformity - must be above. See note on section.

5135 = 0-162

5136

thinly coarse yellow sand about 1 ft

Dec 14

Escambia Co.
Ynuestra

79

(near) Mr. Hayward Plant Building
Major - Escambia

5137

fine gray clayey sand - Same as 0-163 except that it does not include the one foot of yellow sand.

5138 = 0-165

(taking care to avoid contamination from sand in cracks)

5134 = 0-164

gray clay
5139 fine red clayey sand - lowest bed in section - about 4 ft. In places this is more pinkish or purplish than red. It is not like the red sand above the unconformity, but finer, not so hard and probably has less iron.

5140

Red sand - above unconformity just above where clay 0-165 pinches out. Represents about 3 ft thickness.

Readers on the property says that brick were made here about 50 years ago. He points out large excavations where clays was taken out for bricks. He says he is 61 years old. Worked in Kohler pottery in Pensacola. Says he can flat as handle on a jug.

name of Majors.

Dec 14

Escambia Co.
Ynuestra.

Section C. 500 ft NE of
Section B across a fill
and up hill. This is also a cut
bank on W. side of road. The
bottom of this section is surely
about the top of section B at
P. 77. By hand levelling &
square the bottom of the beach 60 ft
at. but it looks to be nearer
50. Section is about all sand
approximately as follows, from top down

80

- 5141 Loose sand - 7 ft. upper part
rather uniformly grayish yellow
lower part light gray and irregularly
streaked with brown.
- 5142 Mottled red and yellow sand 8 ft
dark parts are darker than yellow.
A few spots of light gray.
- 5143 Loose sand - white and light brown
Thin streaks of heavy concentration.
Small pebbles in lower part - 2 ft.
- 5144 Reddish coarse pebbly sand 6 inches
- 5145 (clay only) Red sand with streaks of white plastic
clay. about 2 ft.
Much more sand than clay.
- 5146 Coarse sand white and light
red, some pebbles. 3 ft

This makes the total height
of the bluff 22 1/2 ft which
seems reasonable when looking
at it.

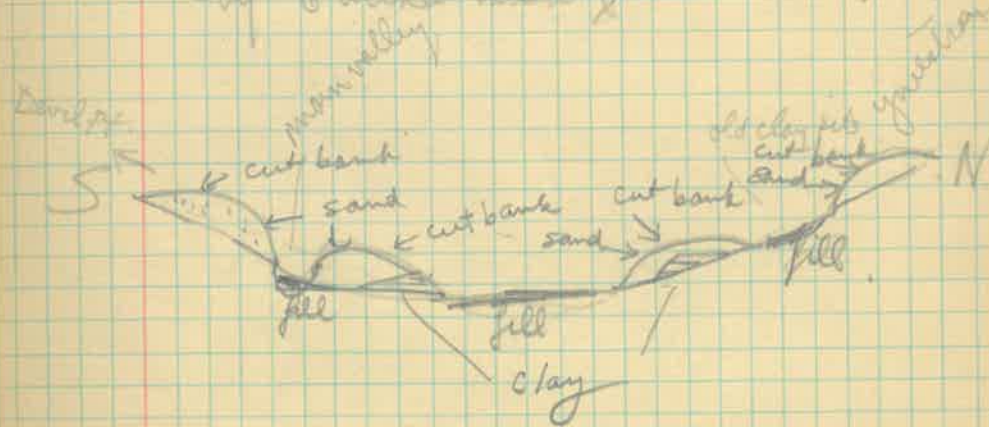
Dec 14

Escambia Co.
Ynuestra.

81

There are many old brick lying on
the shore at Ynuestra and the narrow
point is practically formed of them.
On account of the steep slope
of the ground only a very small area
has an overabundance where nearly
as small as that shown in the section.

In the old pit west of the highway
(which could now scarcely be distinguished
from a natural gully) are large
pieces of heavy blue and sandstone
which have fallen down from the
natural point. One about 6 by 5 ft
by 6 inches thick.



Dec 14

Escambia Co.
Santa Rosa Co.

82

The shores of Pensacola Bay
and its branches show very well
the processes of beach formation.
Wave cut notches or cliffs
of all heights up to those bluffs
E and NE of Pensacola, Red Bluff
etc.

Transportation of sand from bluffs
to parts where the shore is lower.
Sorting of heavy minerals.
Beach ridges. Ripple and
till marks. Amount of driftwood
and other rubbish is so great
that these beaches on the bay cannot
have much scenic or recreational
value until cleaned up.
Is the water deep enough for
bathing?

Some small dunes on the back
part of the beach on the west side
of Blackwater Bay, about 2 miles
south of Bagdad. These are at
the foot of the wave cut cliff
which must have required rather
stormy weather for its formation.

Santa Rosa Co.
Dec 15, 1928

83

Large borrow pit for fill across
Escambia R. delta west of head
of bridge. Mostly sand white to
red and reddish brown. Max.
depth exposed ground 3 ft.
Some streams with abundant
quartz pebbles up to 1/2 inch.

Near SW corner the bank
shows a lens of clay for a
distance of about 200 ft.
Max thickness 8 ft.

pine and black jack oak
yellowish clay sand

clay red sand
red sand

Since the clay pinches out at
both ends within the limits
of the outcrop it can hardly
have any commercial importance.
Is mottled red, yellow and gray.
Sand through it is rather irregularly
in spots.

Pledges out mostly on the bottom
rather than on the top showing
that is probably filled in a
channel or depression.

Escambia Co.
Dec 15

84

Cut NW of Pensacola to Klondike
on main Mobile road.
Pensacola Ala. and Tenn. R.
shown on map as going through
Klondike north along 11 mile
creek is abandoned and rails
taken up. Nothing but sand
seen on sides of valley of 11 mile
creek.

The alluvial flat of the creek
is made up of fine sand with
some weeds.

Through Bellevue westward to
Eleven mile River near the mouth
of Eight miles River. Down along
the river bank a mile or so
out of black jack oak land
into flatwoods, near edge
of large swamp. Small bluffs
on Eleven mile River show
sand and clayey sand.

Passed two abandoned railroad
grades and saw that neither of
the railroads shown on the
War Dept map is there at
present.

Dec 15
Escambia Co.

85

Magnolia Bluff

Section there and for 2000 ft or
more to the north is all sand,
principally brown and white, more
of the brown in the upper part and
white in the lower.

About 3/4 mile N. of Magnolia
bluff the bluff is higher and
much of the sand begins to be
red, especially in the upper part.
Also some thin layers of light
gray clay and small isolated
pieces of it. No real continuous
layers and lenses are only an
inch or two thick. Lower half
of bluff is still mostly white
sand with only a small amount
of disseminated clay.

Red Bluff

The high bluff along here
both north and south of the gully
shown on the War Dept map
is composed almost entirely of
sand, red and compact in upper
part, lighter colored and more
easily washed below. Clay only
as lenses an inch or two thick.

Bluff is worn into gullies hoodoos etc.
Typical alluvial fans on small
scale at base of it.

Escambia Co.
Dec 15

86

Bohemia

$\frac{3}{4}$ mile S. of at S. end of swamp. Site of old brick works on hillside block of scenic highway. Broken bricks lying around also a pile of unburned brick mostly disintegrated.

What I supposed to be the excavations for clay are well up on the hillside. I can not see any clay there, only sand and limestone sandstone.

Also a deep cut in the road as it goes up the hill from the swamp shows nothing but sand. Brick are mostly sand.

Going up the hill from the swamp at Bohemia highway cut bank shows some small clay lenses in the sand but nothing worth sampling.

Devils Point

The bluff to SW of Devils (or Bull) Pt. shows only red and white sand. The sections exposed to the north of here have already been described.

On the oceanic Highway about a mile S. of the S. end of Escambia R. highway bridge are some overgrown beds of brick in various stages of disintegration. Also what may be some old pits but bricks are so thick it is difficult to tell. These bricks too are mostly sand. I can not find any clay here.

Escambia Co.
Dec 16,

Gulf Beach SW of Pensacola.

87

The road comes out to the beach near the west end of Big Lagoon, where there is no body of water to cross to get out to the beach.

A short distance back from the beach the road crosses several well defined dune ridges evidently of rather recent origin and associated with the present day sea level.

The resort place at Gulf Beach is as desolate looking as one could imagine. No one living there. Several unoccupied shacks. A large concrete building shored and abandoned. Scaffolding columns up to second story. Some of frame still left over.

Walked as far east as inlet which I think is about $\frac{1}{2}$ or $\frac{3}{4}$ mile W. of where shown on soil map. Apparently no one has been going on beach this inlet since stumps are sticking up on the beach.

In the mile or so from the inlet west to the beach resort the beach is apparently adding on. There is a well defined beach ridge with steep outer slope. Behind it a little lower than the top of it so that there is a temporary lagoon at high tide.

Mud deposited in thin layer on top of sand in back of this ridge, cracks, dried and rolls up.

Beach cusps on outer slope of ridges.

Sand is white but I think not as white as at Inlet Beach, or the gulf. Very little shell.

4031

Escambia Co.
Gulf Beach

Dec 16.

88

beach opposite Camp Walton.

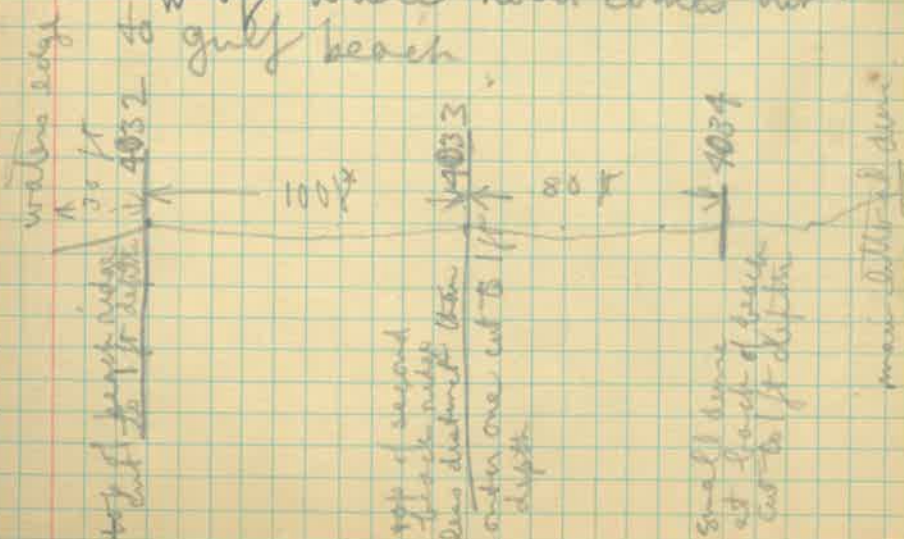
Thin concentrations of heavy minerals.

No well defined dune or outer dune ridge on this part of beach.

In back of beach is an area of very irregular low dunes up to about 15 ft high. But part thickly grass-covered. A little farther back some patches. Some remains of oak and pine trees now about all destroyed.

I think most of this area of dunes between the west end of Big Lagoon and the gulf is composed of blown dunes or sand dunes. On account of their small size and interference one with another typical forms are not very clearly seen.

1360 paces = about 13600 ft
W of where road comes out to gulf beach



Escambia Co.

Gulf Beach Dec 16.

89

The sands represented by the three samples, dated on preceding page show only the very faintest traces of heavy concentrates. In fact heavy concentrates appear to be rather scarce on the part of the beach although the dark specks of disseminated heavy minerals can easily be seen.

At the locality the outer beach ridge still continues & in places there is another less distinct beach ridge about 100 feet in back of it.

Going westward about four tenths there is to be somewhat of a littoral dune ridge but rather ragged, heavily blowed. Some small low dunes, beginning to form in front of it.

In places it can be seen that the water, supposedly entering in time of storm, has swept all the way across the peninsula cutting under the dunes and leaving smooth beach of sand with shells scattered on it. Driftwood scattered among the dunes.

4035

Dune sand - same locality as preceding. 500 ft back from shore. Represents dune foot vertical cut in dune which has been partly eroded away.

The dunes are so irregular and cut up that it is impossible to tell just what part of a dune.

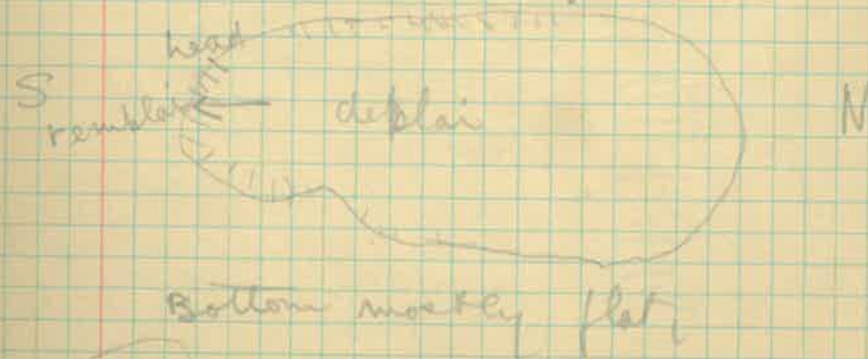
Pensacola Gulf Beach about 2 1/2 mi from where road comes out to beach

90

from a constructional point of view is represented by the sample. The upper half is lighter than the lower, and doubtless a surface where soil had begun to form is included in the section.

The back part of the peninsula along here has been covered with pine woods, now mostly destroyed by fire & cleared. Trunks of stumps still standing. Scattered young pines are starting up.

Caradegre about 40 ft wide by 200 ft long. Most of it only 1 or 2 ft deep. It is formed in this flat sand filling which has been previously covered. General strike of axis S 10° W. It was formed by wind from a little east of north. Head is between six and seven feet above the lower part.



Longitudinal Section

Escambia Co.

Gulf Beach Dec 16.

91

There are some dunes also along the landward side of the lagoon across from here.

A short distance to east of this Caradegre a small dune is encroaching on marsh in a northeasterly direction.



Many more small blow outs in the back of the dune forming the back side of the outer peninsula about opposite Port Island. Surface elevation is too low for them to enter & very deep. On the roughly triangular piece of land between the two lagoons, dune ridges fairly well developed and regular in profile. The fact that the dune ridges have retained their shape here better than a mile or so to the westward, may be accounted for by the lesser destruction of the vegetation. Fairly typical scrub with a few slash pines but still fairly open. A little remainder makes fairly strong the sand between the bushes. Scarcely any grass as there is when the blowouts are developing.

Escambia Co

Gulf Beach. Dec 16, 1928

92

In all walked about a mile east and $2\frac{1}{2}$ miles west of where the highway comes out to the gulf beach. The profile of the outer beach proper is fairly uniform with about same slope and crest of beach ridge in same position relative to water but width of nearly flat bare beach in back of beach ridge widens slightly to the westward.

No yellow sand seen in any of the dunes on the peninsula between Big Lagoon and the Lagoon to the west of it. On the north side of Big Lagoon and crossed by the Pensacola - Gulf Beach Highway are some older dunes, covered with scrub, with white sand on surface and yellow sand two feet or so below. I mapped as sand, but on soil map this S.W. corner of Escambia County has a distinctly different appearance from the rest, and I have no doubt it should be mapped as Pleistocene and recent, although it might be difficult to draw the line between the two.

93

Pictures

- 3 } ~~the~~ Sand-Clay pit about $\frac{3}{4}$ mi. WNW
 - 4 } of far end of Escambia R. bridge on highway No. 1. Elev. about 100 ft. Shows effect of weathering on Atmore formation.
 - 1 } same locality, a little way down
 - 2 } hillside toward river x Limonite sandstone outcrop.
 5. Small Blowout - Pensacola Gulf Beach.
 6. Small hummocky dunes held by bushes.
-
- not included

1. Over beach, showing deposit of mud inside of beach ridge.
 2. } Looking across near the head
 3. } Looking back from the head, along blowout.
 4. Dune encroaching on marsh, near backside of peninsula.