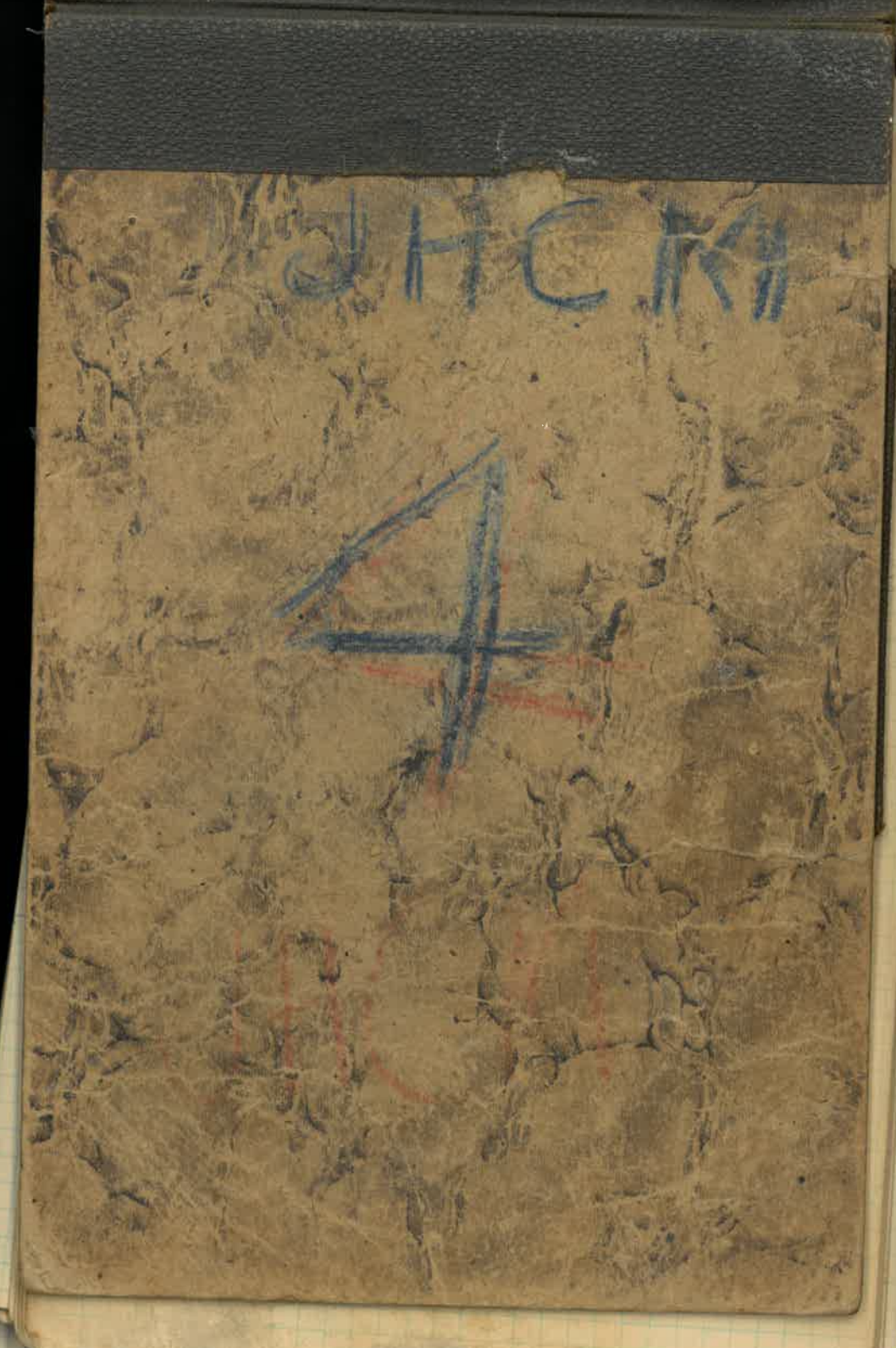
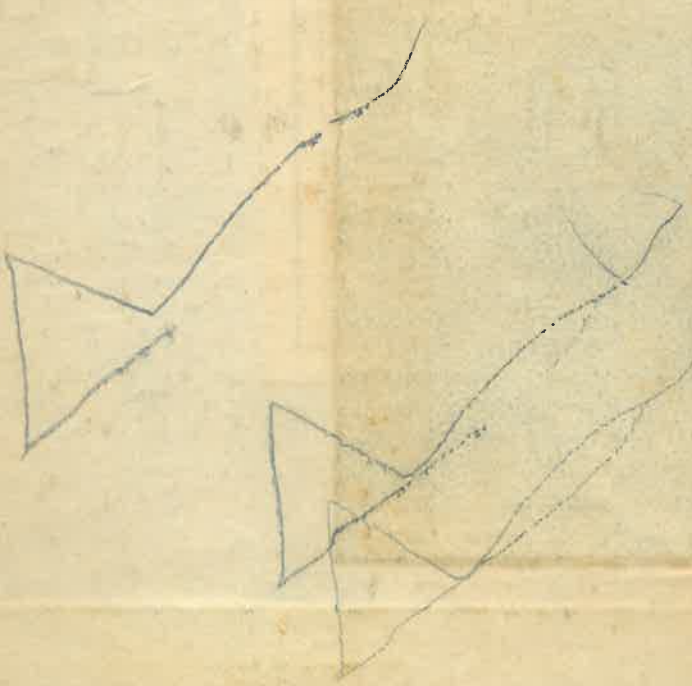
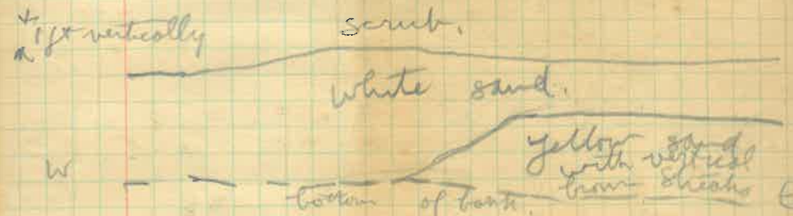


Gulf Refining Co.
Clay water tube
Separation of fine granular
What is under the fullers earth



1

Two miles East of Lakeside.



Specimens in bags 32 and 33

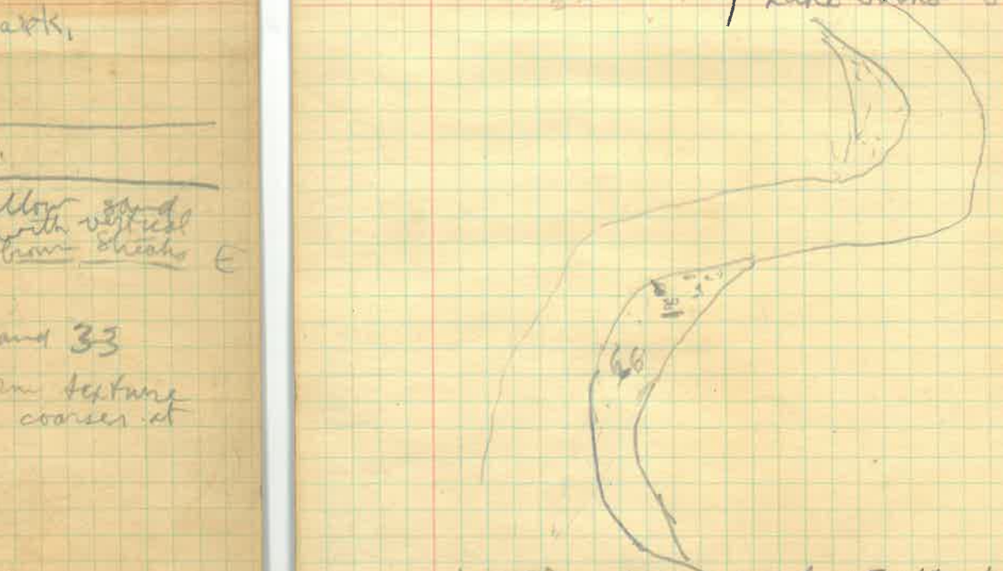
White sand is not of uniform texture in deepest part it is much coarser at the bottom

Sept 27

2

Oklocknee River

1½ mi W. of Lake Jackson Station.



5076

bag 80 coarse sand - 50 ft downstream from upper end of bar 4 ft back from waters edge represents thickness 18 inches. - all the way to water level. Shows thin regular beds of alternating coarser and fine, but the coarse predominates.

bag 66 Medium sand 220 feet downstream from upper end of bar, 16 ft from waters edge 2 ft section represented. Total height above water level here about 3 ft.

Bar continues approx 300 ft further downstream with still further decrease in grain size.

Highest part of bar about 6 ft above water level and 100 ft from upper

Oct 1, 1927

3

Jackson Bluff

Oklocknee R.

Jackson Bluff
Section on west side of excavation for dam

5074 (1) Fine gray sand becoming nearly white at bottom 3 ft.

5073 (2) Hard fine grained yellow clayey sand, 2½ ft.

5072 (3) Loose fine white sand, streaked with yellow - cross bedded

About the middle of this is a 1 ft bed of clay (dark brownish gray) interlaminated with sand 7 ft.

(4)

Slumping covers up the lower part of the sand bank but it is probably about 15 ft from the surface to the top of an impervious layer which is composed of rather coarse sand in a clayey matrix partly white and partly green, the green is a coarse mottling and does not seem to be distributed with any regularity.

5075 (4) wet green clayey sand from upper part of this layer

(5) discarded Hardened clayey (or marly) sand from dump.

Oct. 1

On W. Side Ocklocknee R
Two miles S. Jackson Bluff.

Sand is dredged from a bar in the Ocklocknee R about 8 inch centrifuged pump operated by a tractor. Sand comes from pipe discharges into wooden hopper through screen which removes sticks and mussel shells. Water partly escapes through cracks. The rest runs off through a trough in the corner and carries some of the dirt and fine sand. Trucks run under the hopper and are loaded from it.

181 Washed sand. Ocklocknee R
1 mile downstream from Jackson Bluff Liberty or Gadsden Co ?

Used in concrete dam at Jackson Bluff.

Oct 5, 1927.
Florida Gravel Co
River Junction

Coarser screen, ½ inch sq mesh.
Finer screen 3/16 x 1 inch

They are changing screens so that they can get a coarser grading

500 ft x 1 mile above R.R bridge dredged
½ mile below R.R. bridge

Flood in 1925 washed in very little good gravel in area that had been dredged out but large amount of sand

In Chattahoochee River fine stuff dredged 50 ft deep in places
8 to 10 to 16 ft usual depth
No clay x through sand and gravel

Not saving any of the sand that is dredged at present so do not know anything about relative amounts of sand and gravel. No market for sand and very little for gravel. Likely to have to shut down unless they find some way to sell the stuff.

Practically nothing retained on 3/4 in. screen here. They are dredging now about 3 1/2 mile below R.R. bridge.

Actual openings of test screens. 1.050, 0.742, 0.525 and 0.185 inch.

Very seldom runs 40 % gravel

Before changing screens

Passing	1¼ in. 14 oz	¼ to ½ inch. 228 oz	½ to ¾ in 44 oz	¾ to 1 inch 5 oz
After changing screens	3 oz	128 oz	14 oz	5 oz

Alaga - Ala - working on gravel in Chattahoochee R. - Dragline

Mullin - Columbus - Georgia.
46 ft deep. 200 ft wide. 1300 ft long working on gravel.

Clam shell bucket used in unloading barges and loading cars from stock pile.

Oct 5, 1927

Apalachicola River is within a foot of the low water mark about 1 3/4 ft downstream from R R bridge at Rugg junction, & upper end of Island.

On top near the upper end of the island is a thin layer, often only one or two pebbles thick of almost clean gravel which might make it look as if the bar were all gravel. Below this is a semi-consolidated gravel with large amount of sand and a very little silt and clay. — Not really cemented but simply hardened by compaction and drying out of the finer material.

Only small proportion of pieces over 1 inch diameter and these are either thin and flat or irregular in shape or else light and porous.

Mr. W. B. Richards.

presented arrowheads and other Indian Relics dredged out of Apalachicola River mainly within about a mile south of the junction of the Flint River.

He says that according to all tradition of the country near the mouth of the Flint R was a favorite place for Indians and large numbers of them are supported to have lived within a short distance down stream from where Mr. R. says he has obtained several bushels of arrow heads nearly all of which he gave away x Many pottery fragments and a few unbroken pipes and dishes.

Went with Mr. Richards about 7 miles upstream on Chattahoochee from where it joins the Flint. Many bars of coarse sand along the banks dredged out in channel improvement work. Very small amount of gravel seen and no indications at all of commercial quantities

Larger gravel and pea gravel both loaded on same barge in small piles which are kept separate in loading and unloading. Excess pea gravel so that much of it is not save

Necessary pitching cut stuck from pile as it accumulates on barge. Also some pieces of soft rock.

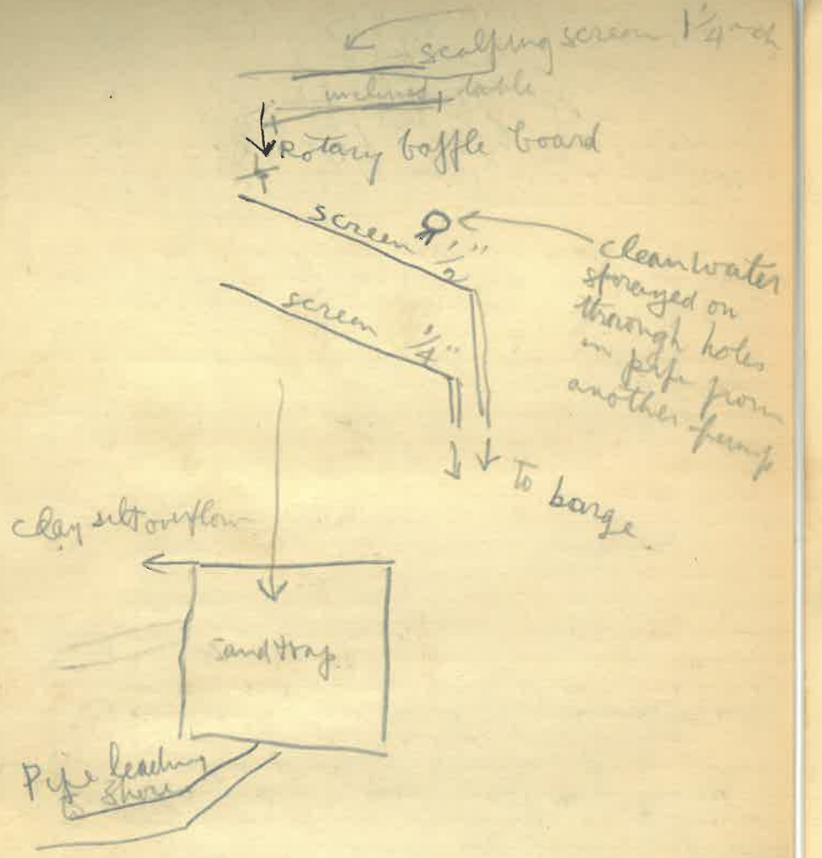
Dredging in water 2 ft deep 10 inch pipe suction dredge

1/2 mesh } screens
1/4 mesh } square opening.
gravity.

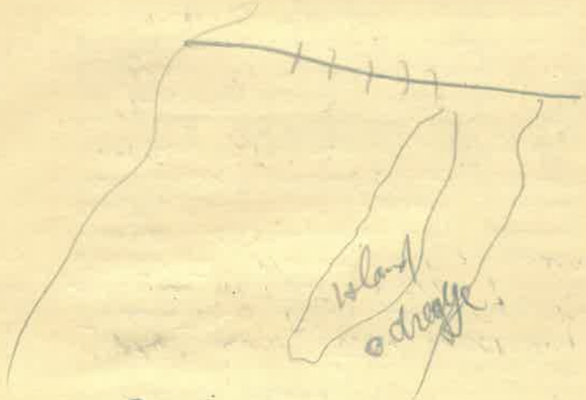
Slant away Hot screens at about 45° angle = gravel fully by gravity. Extra water added.

Trough carries sand over to side of channel to have enough water for dredge.

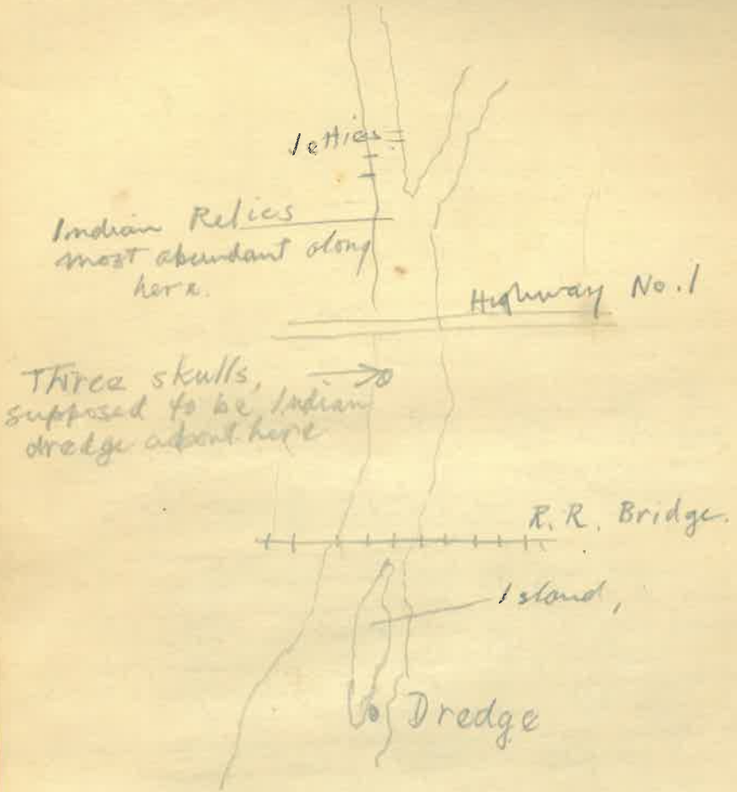
Although the gravel is feeding onto the barge very slowly there are from three to four men picking sticks and soft rock off the piles. They do this mostly with shovels and in skimming off the sticky waste a large part of the coarser gravel which is the thing sought for and which has been



Stationary gravity screens.



Dredge is working upstream making a channel for itself on the east side of the island



obtained by removal of so great great amount of sand and pea gravel.

About 9 miles upstream from the highway bridge over Apalach. R. near Butlers landing there is said to be gravel in the river for a length of about a mile and nearly the full width of the river.

Mr. R. says they once tried dredging 3 miles down stream from R.R. Bridge, and got very little gravel - not over 5 %. They cannot give any very definite information about % of gravel but probably around 40 % is the best that would hold for any considerable amount.

Oct 8.

sp 500 =5000

Yellow surface sand.

5½ mi. W. of Tallahassee Station on Jackson Bluff Road.

Roadside bank about 6 ft below the top of high hill which the road climbs up from the east.

Sample to 4 ft depth from surface down. Seems practically uniform. Shows no bedding concretions or pebbles. Upper part slight grayish from vegetable matter.

Typical of sand hill type of soil

Sp 501 =5001

~~Yellow~~ Gray surface sand.

16 mi W. of Tallahassee Station on Jackson Bluff Road.

going up hill on west side of a northward flowing creek road cut through loose sand similar to preceding sample but coarser in texture.

Cut into the sand extends along the road about 400 ft with probable difference in elevation of around 30 ft. Greatest thickness exposed 6 ft. Shows no bedding but there are considerable variations in [illegible] in general finer toward top of hill. Color is gray with slight yellowing [illegible] but at deeper part (below about three feet) almost white except for [illegible] stained streaks. Some places in lower part of cut [illegible] to slightly cement the sand. Sample taken to 5 ft depth not

including the top soil. This represents the average material at about half way up the hill. Upper part of [illegible] [illegible] gray from organic matter.

17½ mi W. of Tallahassee Station where road dips down to cross a creek cuts show up to 10 ft. of sand. Poorly sorted for the most part. All of it contains coarse grains and in parts there are pebble up to almost ¼ inch.

The upper part is all a yellow gray. Further up the hill there is limonite stained sand, some in streaks through the lighter sand and some in interrupted masses below. Does not come closer than about four feet of the surface.

On the ~~S.~~ north side of the road near the bottom of the hill is a bank from which sand has apparently been dug. Some of this is coarse with little fine in it but apparently are [illegible] deposits of any size. Most of it has the finer grains predominating and gray color indicating vegetable [illegible] to depth of three feet or more.

creek
road
limonite stain sand in
lower part of cut along
here.

Gulf Co.
Feb 6. 1928 43

St Joe.

S7.8 4.1 base of peninsula
7.7

4003 Sand Beach at eastern extremity of Cape San Blas at about 1 high tide level but to six inch depth.

from this point the beach slopes gently to the water - 18 inches in 25 feet; water is shoaling for a long distance out.

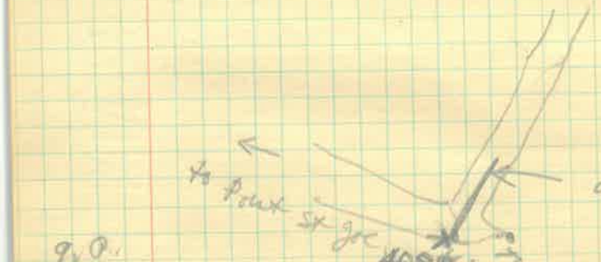
This entire southward eastward projection from where the lighthouse is shown on the chart is a sand beach with nothing growing on it.

3.6 mi from base of peninsula.

4004 (5.7) Sand heavy concentrate.

.1 mi N W of 4003, on outer beach of Cape San Blas, scraped up from a thin layer on the surface a little above high tide level and about 30 ft back from low tide line. The surface is somewhat rippled marked and there are some small dunes on the landward side of where the heavy concentrate occurs so it may be a accumulation from wind action

Rain has ruined the topographic work somewhat by the detail but it can be cleared to see that there are more heavies in the troughs and more light on the crests.



9.0.

Very perfect dune ridge of uniform height comes all the way out to the beach and runs down the central part of the peninsula which Point St. Joe is hooked onto.

Here, (0.3 mi N W of locality of 4004) there and still heavy concentrates on the upper part of the beach and on some of the small dunes. Apparently in part at least the result of wind action. Max. thickness seen less than ½ inch, usually the thickest layer is on the surface and below that several very thin ones separated by white sand.

At this same locality (near the right angle bend in the peninsula) the coast is evidently wearing back as shown by the dune ridges truncated almost at right angles by the beach and by the stumps and top roots of pine trees on the beach both in and out of the water. It is not necessary to assume any change in relative height of land and sea to account for this, since the point where the tree came out of the ground is always well above the sea.

Very fine example of small regularly spaced beach cusps (30 ft) a little farther west along the shore.

Pictures

(1) Pine tree stumps on beach Cape San Blas.

(2) Patches of heavy concentrate on upper part of beach near right angle bend in peninsula, Cape San Blas.

(3) Beach cusps, Cape San Blas.

(4) Look W. along front of dune ridge 5 mi from Cape San Blas toward point at which small recently formed dunes at base of main dune ridge – see note on next page.

(5) Sand dunes on peninsula leading out to Cape San Blas.

5 mi (W) of Cape San Blas along the outer beach well developed regular dune ridge along the shore. In back of it a system of other ridges parallel to it, sparsely vegetation – scarcely any pine trees. It would appear that this part of the coast has built up recently and may still be building up at the present time.

In front of dune ridge small drifts or dunes with crests inclined to main ridge and parallel to each other. They were formed by west wind as can be seen by the way sand is piled behind obstructions.

Each one shows some concentration of heavies on the surface, which is more pronounced on the top and a little to the windward side of the top. Ripple marks well developed.

4005 Sand heavy concentrate 5 mi (W) of Cape San Blas. on outer beach.

100 ft back from low tide line and 40 ft in front of dune ridge. Average to depth of about 15 inches showing many thin light and dark layers.

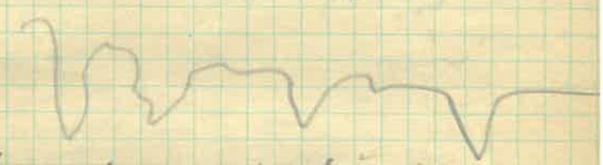
(19.1)

4006 Sand dune leached upper portion

4007 Sand dune, two feet of bank below both upper part.

Both of these are from the same bank 1½ mi N of Cape San Blas. A dune is truncated by the waves giving a cliff 9 feet high, the upper 1 to 3 feet is leached by much of the coloring material and is nearly white.

Uneven boundary



The unleached portion shows the bedding much more distinctly than brown lines or occasionally broader bands indicate concentrations of iron bearing minerals which have been partly weathered.

The "runs" referred to by Mackin can be seen very well here because in some cases there is enough of the heavy mineral associated with the limonite stained band so that it leaves are plainly visible


Wind
water line
Dune Ridge
Small dunes or drifts
section

and it can be seen that the
limonite goes downward.
The portion of the bank which
has not been leached white
has a little yellow all the way
through it.

4008 Sand Cape San Blas — leached
upper part of dune ridge referred to
on page 14. This is at the south end
of it. Depth about 1 foot or a little more.

4009 Sand — yellow — immediately
below 4008 unleached portion.
Slightly limonite stained. Bedding
shows rather well in undisturbed bank.

Drove about 7 miles along
beach from Cape San Blas toward
point St Joseph whereupon the
beach became too soft to drive
farther — Practically all of the way
some heavy concentrates in sight.
At the present time however
no concentrates are visible in the strip
which the waves are working over,
and it appears that nearly all are
lighter than ordinary waves reach at
high tide. On the beach
facing the east leading toward
the mainland from Cape
San Blas, scarcely any heavy
concentrates — much less than
on beach facing the south.
Toward the base of the peninsula

Gulf Co
Feb 6, 1928

between Cape San Blas and the
mainland, the two principal dune
ridges down the center of it get
much higher — Probably at least
50 ft in places. Semiarbve at
present time — and only partly
covered by vegetation. Fairly
thick long leaf pine woods
in valleys between the dunes and
even on the dunes there are some
fine trees.

4010 Ordinary beach sand.
3/4 E. of base of peninsula leading
out to Cape San Blas.
Cut to six inch depth a little above
high tide. Beach is here wider and
flatter than out beyond Cape San Blas.

See no concentration of heavies here.

Continued east along the beach
as far as the pass (Indian Pass?)
cutting off St Vincents Island.
This is approx 4½ miles
from where Cape San Blas
peninsula makes out from the
mainland — Rather broad
beach — probably 300 to
500 feet back to the dunes
a large part of the way.

Feb 6,

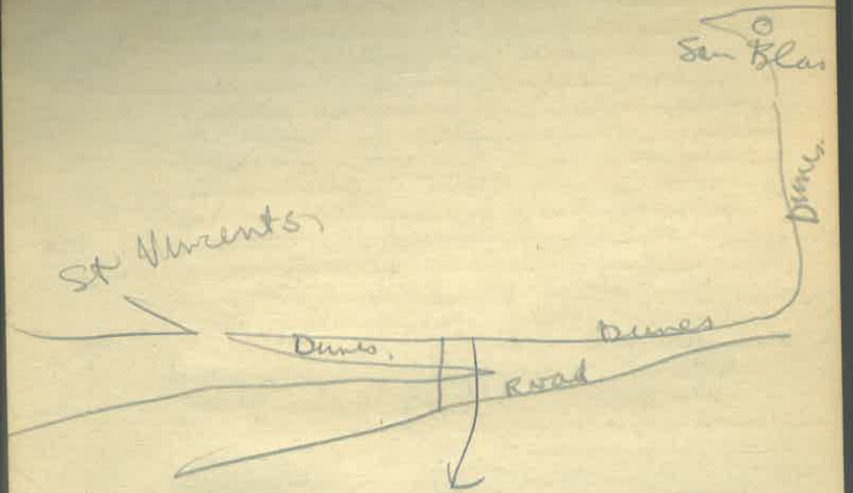
Neither the beach nor the
dune sand looks clean enough
for glass sand except
probably the leached upper
portion of some of the
older dunes and this is in
far too small amount.

Rather fine for concrete or
plaster. Amount of shell is
too small to have any
economic significance. Large
cardium rather abundant.

This applies to all the
coast examined this date
— From Island to pass W of St Vincents
Island to 7 mi beyond
Cape San Blas toward
Point St Joseph.

Along the entire beach
from base of San Blas
peninsula to pass near
St Vincents saw no concentrates
of heavies either on beach
or dunes.

The water has a brownish
look and in places a thin
brown scum has deposited
in back of the beach ridge.
This suggests clay washed
down Apalachicola River.
This applies even as far as
beyond Cape San Blas.



Dunes most of the way along ~~this~~ stretch of beach except for half a mile or so about where the little peninsula sticks

Gulf Co.

Feb 7, 1928

22

Out on highway no. 6 to the north of Port St. Joe about 7 miles x as far as the canal crossing. Inbetween low flatwoods with frequent patches of swamp or marsh. About 2 miles out of Port St Joe a distinct ridge of sand about three or four feet high above the surrounding country crosses the road x Probably an old beach ridge ^

Where road crosses the canal material thrown out on the banks is fine sand with much organic matter and some iron oxide impregnated about shells but could not learn of any x Canal banks are water & thickly overgrown with trees x

Just south of the canal turned east 1½ mi to old clay pit used in clayey the road into Port St Joe. It is located on the edge of a flatwoods area next to a swamp. It is now full of water and no clay can be seen around it either in place or otherwise x Some yellow sand which has been thrown out containing limonite concretions. Perhaps this is what was worked for clay.

19-115-10

Gulf Co.

23

Feb 7, 1928

H. H. Bullard, owner

0-118 Clay 7 mi N. of Port St Joe.

outcrop begins about 400 ft N of Canal Crossing where road comes out of swamp into flatwoods, and continues about 300 feet north in the roadside ditch

Section exposed

(1) overburden 2 to 2½ ft yellowish brown clayey sand with fossil limonite concretions, not very hard.

(2) Clay – 3 ft in sight bottom not reached but 3 ft or possibly a little more farther back from the canal as much as is thought enough to be drained

Mottled gray and reddish – sandy in upper part – less so below.

About 2 miles north of here along the road in the ditches a very sandy clay is exposed. Color being almost identical with that near the canal but too much sand.

Gulf Co.

24

18.9.9 About 7 mi from Port St Joe on road to Panama City

The road is going along a broad flat topped ridge immediately south of it is a swamp and then two or perhaps three dune ridges parallel to the shore.

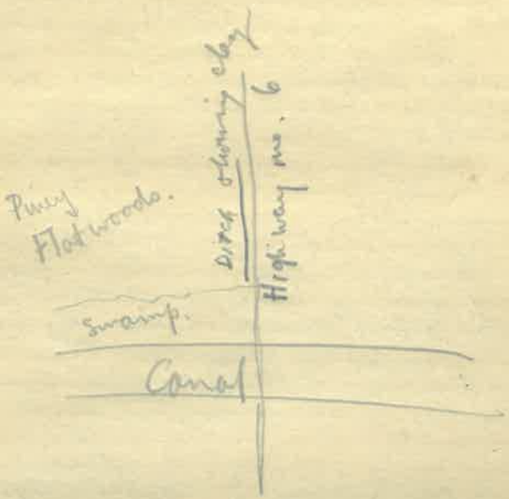
7.1.0

About opposite the end of St Joseph Point dune area on the mainland about ½ mile wide x good beach — Sand somewhat whiter than about Cape San Blas. There seems to be very little activity to the dunes at the present time. The new highway grade is along the outermost dune ridge and therefore on the beach itself x

Port St Joe Light.

Road comes out near the beach. Near road is being built to the beach. No dunes in sight from the top of the bluff on back side of beach.

Little doubt but this cliff or bluff about 8 ft high is cut into Recent sand. Some [illegible] three [illegible] days ago [illegible] and still show bedding


Piney
Flatwoods.
swamp.
Canal
Dirt driving clay
Highway no. 6

Feb 7, 1928

2 m Ferry
Beacon Beach.

25

Overstreet

Stevens Branch

Along Wetappo Creek.

Last worked about 8 or 10 years ago. Got clay another they called.

0-19 Clay abandoned clay pit at Overstreet.

Wetappo Creek / Canal.

Branch
Clay pit

About 100 feet back from branch of Wetappo Creek begin to go down into the Canal.

The clay crops out also in the bank of the creek and along the road where it crosses Stevens branch about ½ mile S of Overstreet

Section at brickyard is about 3 to 5 feet of clayey yellow sand overlying with 2 ft* of sandy clay below mottled gray and red.

Brick taken out by water

Feb 7, 1928

Overstreet Gulf County 26

to Panama City. Would not make brick that were good for anything. Too sandy

It is reported that still longer ago a brick works was started at Wetappo but was unsuccessful. Machinery operated by horsepower

Bay County

Road follows the central part of the peninsula between East (St Andrews) Bay and the gulf as far as seen from the country is mainly flatwoods x The last 5 miles or so toward the northwest contains many scrub areas and probably the last two or three miles is nearly all typical scrub

Beacon Beach Hotel.

Beacon beach is not where shown on the Dept Agriculture map but is on the main peninsula about three miles from the end x Good supply of fresh water from well in sand only two or three hundred feet from the shore. It is said to never fail even in dry weather x Total depth of well 38 ft — depth to water not

27

known x

Past 3rd Convict camp on new grade. Pine barrens and scrub land. Curve and little creek. Culvert out — ¼ to ½ mile — road turning off to south on right — must go down to bluff — don't go down.

South on grade crossing road at right angles to road Lonnie on the shore — to x

Ferry 11 KM. 4 PM

Feb 8, Beacon Beach 28
Bay Co. (at hotel of that name)

Little dune ridge on beach is fringed with a number of people still living around here

Bluff in back of it is older since it shows subsoil rather dark yellow from weathering.

Just in front of the dune ridge there are some thin layers of heavy concentrates with white sand between

Even the front part of the beach has a little grass growing on it but not enough to entirely stop movement of sand beyond it. Beach is about 70 ft wide in front of the dune ridge. Some concentrations of heavies but only as thin streaks. Evidently due in part to winds would only be effected by waves during storm because tide high up to be reached otherwise.

4011 Sand Beacon Beach beach part about 10 ft in front of dune ridge. Cut to 6 inch depth. Contains some thin dark streaks but

Feb 8, 1928
Beacon Beach. 29

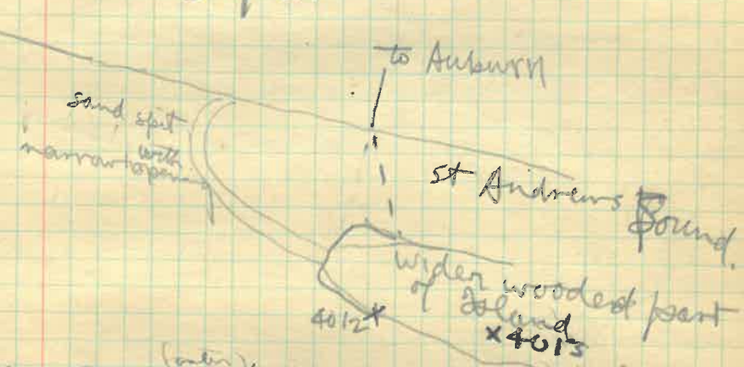
continued
was not chosen as being particularly rich in heavies in fact may be about an average for the beach

Crooked Island

shoreward side (St Andrews Sound) opposite end of road across peninsula to Auburn. Here there is a gently sloping sand beach with shallow water in front of it. On the part of the beach left bare by the tide going out are very good wave formed ripple marks parallel to the shore with concentration of dark heavy minerals on the crests of the ripples. At high tide these are some thin streaks of heavy concentrates parallel to the shore and underlain by formed by gentle wave action

heavy minerals →

Feb 8, 1928
Crooked Island 30
Bay Co.



4012 Sand (calm) (beach) Crooked Island near west end ✕ little cut to above high tide line; 6 inch depth. Contains several dark streaks and is as a whole considerably more concentrated in heavies than the dune and beach sand in general of this locality. ✕ part with dunes and trees.

4013 Ordinary dune sand Crooked Island ✕ about 500 ft back from seaward side; cut to 1½ ft depth in upper part of dune (10 feet) About 1/4 mi from W end. of Western most wide place shown on chart

see chart

Dunes take up the entire width of the island here 1/4 to 1/2 mi and they are all slightly active although not rapidly advancing.

Feb 8, 1928
Crooked Island.
Bay Co.
31

Covered with scant growth of rosemary and other shrubs — also grapes. In low spots between the dune ridges trees — not Spruce pine of scrub areas but probably long leaf pine although they do not look exactly like the long leaf pines grown on better soil.

slack

The sample supposed to be typical of the dunes of this island and all of the dune and beach sand seen around here, the heavy minerals are in evidence but so far as known not likely to be in commercial amounts. Inquiry from boys engaged in gunning at Crooked Island as to black sand — they had noticed it but only as very thin streaks.

both within of few hundred feet of no. 4012

4014 Sand Crooked Island, Outer beach about opposite end of road to Pulgoon across peninsula — whitest obtainable on beach. Taken carefully from between thin layers of dark minerals. Does not occur in any considerable quantities in this state of purity only layers of three or four inches.

4015 Sand same locality — heavy concentrate. (over)

Feb 8, 1928
Crooked Island
32

4015 layer about 1/4 inch thick between layers of lighter sand. In places on the upper part of the beach there are several such thin layers of dark separated by layers either of pure white or of white with only a small amount of dark scattered throughout.

Shell mounds

On W. end of Peninsula between Cat, Andrews bay and the gulf and several shell mounds from which shell has been used on the roads. Many gastropods.

On Peninsula Between Watson's Bayou and Gaines Bayou in chart vegetation is mostly of scrub type Spruce pine and dwarf evergreen oak and scrub palmetto. Some sandy soil and yellow subsoil.

Areas nearby of Norfolk fine sand with about the same texture somewhat greyish near the surface and then pale yellow to considerable depth. Black jack oak with a few long leaf pine

Also some scrub in main part of Panama city itself where not knelt up too much to obscure it.

Feb 9
Panama City
33

About 1 to 1½ miles west of the main part of town, examined shore of bay. Bluff 15 feet or so in height runs close to the water They are mostly covered with vegetation.

Beach narrow gently sloping beach of rather dusty sand. Some small concentrations of black sand on upper part of it.

Pine trees and stumps on the shore show that the water is encroaching back the shore. Small amount of mica on the beach suggesting possible outcrops of Ocmulgee nearby. Small proportion of the grains are coarser than any on the ocean beach of Crooked Island and Beacon Beach.

Bluffs no good section exposed except of upper two or three feet. Top soil of white to light gray fine sand with light yellow clay. Nothing to indicate other than typical Pleistocene marine deposit but perhaps something different in lower part, which is not exposed.

Shell mounds remains of some here along the shore but apparently no great amount

Bay Co

Feb 9. 34

Econfina Creek

8.2 mi E of Youngstown by road—

½ mi upstream from where the road crosses Choctawhatchee outcrops in small bluff on left bank of Creek. Also outcrops in two small branches within a few hundred feet of here. Has been dug to small extent for local application on fields

Mostly sand with small proportion of shell — coarsely weathered and shells rather friable in all the outcrops. Maximum thickness seen about 4 or five feet.

The creek itself flows mostly through swamp and water is black — carrying little sediment except vegetable matter. Too high a stage to see anything directly about the deposits in the bed.

In the valley there is besides the swamp some well drained land with sandy soil of medium to fine texture. In places where the rain has beaten upon it some grains up to 1/10 inch or a little more have been brought to the surface giving a first impression of much greater than the true coarseness

Bay County

Feb 9, 1928 35

if not recent alluvium they may be older alluvium or terrace deposits formed when the streams had not worn down quite so far

Between Econfina and Youngstown some flatwoods but more dry sandy blackjack oak land gently rolling.

At a few places along the highway between Youngstown and Bayou George there is a yellow clayey sand soil with limonitic concretions in the upper part of it. This is similar to what was seen in the vicinity of Blountstown Mt. Pleasant and other places in west Florida. At some places where it does not come to the natural surface of the ground, what seems to be the same formation (weathered Citronelle) shows in highway and railroad cuts beneath a cover of light yellowish gray sand, superficially Pleistocene.

What I take to be clayey sand of the Citronelle shows occasionally along the road to within five miles or so north of Panama City

Feb 10, 1928

Callaway, Bay Co. 36

Deposits worked on east side of Callaway Bayou, on both sides of the highway. Belongs to Citronelle formation

Coarse sand stands along the bayou

Mixed pine and black jack oak vegetation. Upper part loose light grayish yellow, lower part shows more variation but usually at depth of 3 to 7 feet begins to have more clay and iron oxide. Texture is variable but there is plenty that is coarse.

On the other side of the bayou an area of scrub. near the bridge. Has white top soil 18 inches deep with sharp contact between it and bright yellow subsoil.

At the waters edge on this side also there are some outcrops of rather clayey sand of the Citronelle but the contact with that and the soil producing the scrub was not seen. I have an idea that the sand of the scrub is a younger formation. It looks finer grained and better sorted than the upper part of the deposit where it is worked on the east side of the bayou

5050

Sand — Citronelle — micaceous

east side Callaway bayou

in sand pit about 6 feet below surface. From a layer from there most of it.

Gulf Co
Feb 10, 1928

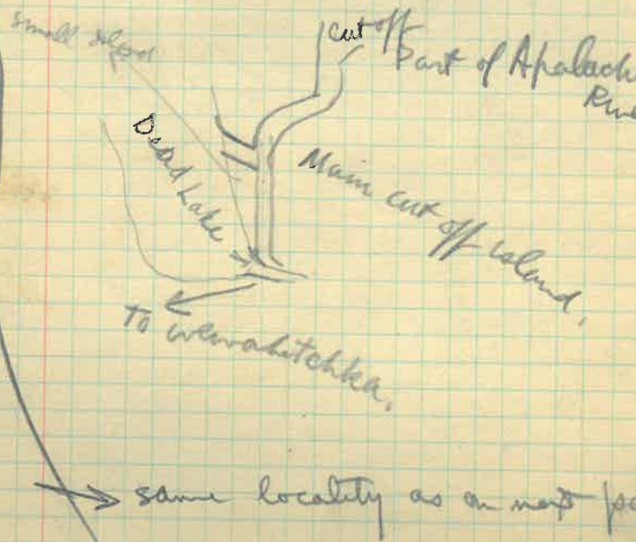
37

Wewahitchka 48,2

Lake Grove (Corporation owner) Troy, Alabama
South end of Dead Lake.
(Kelley)
8 miles motte to cut off — 12 miles south to where Chipola runs back.

Overflows occasionally at high water. Steamers going up river go through Dead Lake and cut off.

Lake Grove Fishing and Hunting Club, owner — Club house is here.
The place goes by the name of Lake Grange Stock Company x



→ same locality as on next page

Feb 10, 1928

Wewahitchka 38

O-120 Clay in ditch on roadside.

about 800 feet north of Club House of Lake Grove Hunting and Fishing Club on their property

2.8 miles by road from Wewahitchka x At south end of Dead Lake x Cut of Apalachicola River comes by here and is the main route for river steamers.

Section Topsoil - sandy loam 18 inches.
Clay, mottled yellow and red, sandy 2 feet x
Bottom not exposed x
Similar clay occurs elsewhere about here and there can be little doubt of the deposits being of large extent x The land here is covered by highest floods, but most of the country nearby is either covered by ordinary floods or has standing water on it most of the time x

This is Apalachicola River alluvium x

This part of the country is all so low it is difficult to tell the limits of the Apalachicola flood plain but probably it is about 1/2 or 3/4 mile east of

Gulf Co.

39

Wewahitchka
Around Wewahitchka the "sandy upland with clay subsoil" as shown on the map really has a clayey sand subsoil x
Citronelle most likely x
The same might be said of the areas similarly mapped between Callaway and Wewa

Dead Lake

1.6 mi. N. of Wewahitchka on highway No. 6 just north of bridge over flooded swamp. Road material put in the hillside showing in section of Citronelle, Rather clayey coarse sand for the most part. Upper weathered part yellow and below that red and harder. Some lenses of layers containing manganous clay pellets & stones with a few igneous pebbles.

A very good sand clay road material since clay and iron oxide are just about sufficient for binder and sand is coarse. Contains a little mica x

Some pockets of loose sand with very little clay

Feb 10. Pictures. 40

Roll 1
no. 6. Dead Lake S. end.

Roll 2
no. 1 Apalach R. swamp near S. end Dead Lake.
no. 2 – blank.
no. 3 – Dead Lake. – Idlewood

Feb 10, 1928 41

Idlewood.

On the hillside west of the Dead Lake are many of the limonite concretions in the sand. Apparently the main channel through the Lake is here on this side. At least there is a space near shore clear of trees with a perceptible current through it.

On the other side of the Lake pine woods can be seen over the tops of the cypress (mostly dead) in the water.

Along this (west shore) small bluffs of red clayey sand (Citronelle)

Fresh water mussel shells packed up by a small stack on the shore where they have been shucked to eat.

Calhoun Co.
Feb 10, 1928 42

In cut on main highway just south of creek crossing 11 mi N of Wewahitchka small showings of clay, mottled gray and bright red. Does not seem to be a deposit of any size.

Just north of the same creek a stand of black jack oak along the hillside. Cuts and borrow pit show 8 ft of sand medium to fine but rather poorly sorted. A few pebbles – Maximum ½ inch. Mostly light yellow yellowish brown to grayish yellow and buff. Lower part which also seems a little coarser is in places more compact and darker colored from greater amount of clay and iron.

Jackson Co
Feb 11, 1928

43

W. W. Skinner.
Send copy of clay report
Florida Industrial School for boys.

O-121 Clay used for brick making by school at Marianna
grey with streaks and spots
of red, some sand in red
portions x

Above this clay is 8 feet or
so of clayey sand and sandy
clay. Upper three feet or so
rather uniform orange color
Below that a mixture of gray
or light yellow and red
The clay is dug only to a depth
of two or three feet but bottom
is not reached. In making
brick a small amount of the
clayey sand is mixed with the
pure clay but in general enough
sand is dug with it accidentally
without puddling and no intentionally
One difficulty is in not getting
the lumps of clayey sand
thoroughly mixed with the
clay x The sandy lumps do not
shrink much and the clay shrinks
around them causing cracks

They have not made any brick
here in two years, because of lack of
the policy of the Board to sell away
brick outside.

Mr. Skinner says if clay is allowed
to once dry it can not be
satisfactorily mixed because dry lumps
will not become wet through x

Jackson Co
Feb 11, 1928

44

Mr. Skinner says surface clays
in northern part of Jackson
County are too calcareous to be
any good.

I have no doubt that the clay
at Marianna is of residual origin
presumably from the Glendon
limestone

36.0 turned north from highway no 1
on E. side of Chipola R. - Marianna

Green Wood

Surface soil around here mostly
grey sand and sandy loam - Few
cuts through to subsoil but
in places it is seen to be a orange
or red dial clayey sand
Frequent boulders of chert in the
fields about here x

3 hand specimens of compact chert
from 4 miles N of Greenwood.

Within two or three miles to the
east of Bascom there are some
patches of rather coarse sand with
a few pebbles, but does not extend
to much depth and is rather loamy

Feb 11, 1928
Jackson Co.

45

East of Bascom on the road toward
the suspension bridge there is
most of the way soil which would
probably be classified with the
Norfolk sand and Norfolk coarse
sand, and loamy varieties of them x
often a very few grains up to
1/4 inch or a little more in diameter

The obvious descent into the
river valley does not begin until
about a mile from the bridge x
Here the red residual soils show
up again but nothing that looks
very favorable for clay, generally too
sandy and too variable x

Suspension Bridge in NE part
of Jackson Co. across Chattahoochee R

The west side of the river here
is on the outside of a bend and
the alluvial deposit on this side is
narrow x About 1/4 to 1/2 mile
downstream from the bridge there
are bluffs 25 ft or so in
height showing good sections
of the alluvial material x
Bedding is irregular and x
sections variable but in general
there is 3 to 5 ft of fine to
medium textured clays, sand at
the top then reddish silty
or silty, sandy clay and below
that coarse sand with some
gravelly streaks x This does not
seem a favorable locality for
sampling the clay
① Narrow flood plain

(2) Clay is sandy and lacking in plasticity

(3) Overburden not less than 3 ft and usually much more

Walked downstream about a mile. After the bend near the bridge it becomes fairly straight and flood plain widens out. At the river bank it is generally 20 ft or more above the level of the river. Surface material is fine sand, and fine sand is principally what is seen in the river bank but there are no good cut banks along here to show clean sections.

In the first half mile downstream from the bridge there are a number of small outcrops of Glendon some out in the water's edge and some projecting a little above the surface for a short distance out.

5051 Sand ½ to 1 mile ± downstream from suspension bridge on W side Chattahoochee River.

Small bar formed by a recent flood and not yet covered by vegetation. About 25 feet above present stage of river and 200 feet back from bank alluvial

At this locality did not see any swamp even where the alluvial plain had widened out considerably. Along the west bank of the river there was a low ridge of fine sand a little higher than the land farther back. Just below the bridge (a few hundred feet) where this sand is somewhat cleaner and coarser than usual a little has been taken out.

Para – landing on W. side Chattahoochee 9 miles south by road from Suspension bridge about 5 miles by road from Butlers landing.

Here again we are on the outside of a bend – bluff rise 20 or 25 ft above the water. Mainly alluvial but in the lower part the Glendon shows up. Mainly as variegated clays red gray and purplish. Also pisolitic chert and residual limonite.

There are some quartz pebbles firmly cemented onto the outside of chert boulders. Also a platy limonitic sandstone with coarse grain, in some cases containing pebbles. One or two hollow concretions made of sand and pebbles cemented with limonite. Not much doubt that the limonite and concretions etc are formed during the weathering of the Glendon. Very likely the coarse sand and the

Feb 11, 1928

Para - Jackson Co.

quartz pebbles came from outside this formation since they are not found in the clay but on top of it. Some of the chert boulders sunk down into the clay while others are on top.

The Glendon clay is here at too low an elevation in relation to the water of the river to be of any account even if it were not so messed up with limonite and chert. Alluvial clay seems to be sandy except some small lenses. Collected here.

Chert showing fossils – two spec.
Chert with pebbles cemented onto it 1 sp.
Limonite, porous 3 spec.
Limonite, platy 1 spec.
Limonite shiny, with pebbles etc 4 sp.
Chert pebble 1 sp (associated with the residual material of the Glendon but lying loose on the surface) two or three feet above the water of the river

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At this same locality the largest quartz pebble seen was approx. cubical but considerably rounded as to the corners and edges and 4 inches

Feb 11, 1928

Jackson Co.

49

in diameter. It is not chert

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3 mi S. of Pera (about)

drove out to the river again. Here there is very little alluvial material on this side of the river. Mainly residual material of Glendon.

On the south side of road leading out to the river and only about 300 ft back from the river between the river and a turpentine still is a grey rocky hill. Silicified fossils full of foramns. Some masses of it stick up 8 ft into the air. This locality is Old Fort Jackson

---

Talked to ferryman at Butler's ferry (name of Ranch?) Says he does not know of any clay showing up on this part of the river.

On the road going south from the suspension bridge which runs generally one to three miles west of the river there are a number of outcrops of red sandy clay, presumably Glendon residual but none of it seems worth further investigation.

Feb 12, 1928.

Jackson Co.

Marianna Lime Products Co. 50

Quarry 4 mi NW of Marianna

Clay is well exposed and is undoubtedly residual from the underlying limestone

0-122 two bags.

Clay Cut on RR. head just crusher and immediately north of the quarry. Depth of spot about where sample was taken 6 ft. was taken by it varies greatly and in short distance — Picture taken at the same spot. General color of clay is red but where only partly oxidized it is greenish brown and where scarcely oxidized at all it is pale greenish grays or green.

Very full of cracks or joints through entire thickness. Upper part of clay contains a little sand. Soil above the clay proper is only about six inches thick and also contains some sand. The sand in the upper part of the clay is very likely derived (by falling into cracks) from some younger formation which has since been eroded away.

In only a very few places are there small cavities bored down in the limestone which are filled with the red clay. Nothing like the frequent cylindrical holes observed in Thompsons quarry near Branford.

Feb 12, 1928

Jackson Co.

Marianna Limeproducts Co. 51

Quarry

In the lower part there is a large amount of glauconitic limestone. There may be some in upper part also but this was not investigated. In places the glauconite has become oxidized so as is speckled with little brown spots instead of green.

Much of the residual clay contains scattering pieces of concretionary limonite which are no doubt of residual origin also. In places small masses of limonite in the limestone mainly the upper part which I believe to be an infiltration from above. In some cases this limonite shows impressions of fossils.

Specimens.

Limonite — 1 spec. showing impressions of foramens. Boucharded in soft limestone.

Glauconitic limestone 4 spec. occurred in lower part of quarry.

Limestone 3 spec. — with large foramens shown on edge from loose blocks in quarry.

Limestone 3 spec. — same kind as preceding with large foramens shown flatwise

Chert part of flat concretionary mass in soft limestone 1 spec from loose block in quarry

Feb 12, 1928
Marianna. 52

First outcrop of limestone on East bank of river upstream from new bridge on highway no. 1

Collected some orthofragmina from about water level up to 2 feet above it.

Just east of Chipola river at Marianna scattered quartz pebbles were seen in several places on top of and perhaps to some extent mixed with red residual material from limestone. In first cut through limestone east of the river and old stream channel is crossed with the red clayey sand containing some pebbles. No doubt some of the red clay has worked it after the destruction of the rest of the material and is the result of subsequent weathering of the limestone.

Above at the east end of the same cut which is on the opposite end of the little hill from the river is some more of the same clayey and pebbly sand.

Feb 12, 1928
Chipola R. Alluvium 53

Just east of Chipola River crossing at Marianna on side of highway no. 1 alluvial deposits are exposed to depth of 2 to 3 ft which material has been taken out for fill across the bottom to the bridge. Excavation is deeper but lower part full of water.

Greenish silt, fine sand and sandy clay. Some of the clay has a fair degree of plasticity but general impression is that much of it is too sandy.

Aside from that what would otherwise be the best part — that farthest from the river — contains a few pebbles of quartz and iron sandstone. These are presumably washed in from the side of the valley since the river itself could not be expected to carry such coarse material onto its flood plain even in small amounts.

Jackson Co. Feb 13, 1928
Cottondale. 54

Brick Plant.

Small poorly constructed drying shed. Disintegration of brick around the sides and end and where the roof leaks, show that better results could be obtained by more carefully constructed sheds.

Brick are end cut stiff mud. Show concentric lamination

This is evident in some of the brick before burning as well as after.

Pug mill

Stiff mud machine by JC Steele and Sons Statesville, N.C. No. 3

Pit has water in it to within 4 ft of surface.

Have gone to depth of 12 ft and got a little sand at that depth.

It is occasionally all under water in real wet weather.

300 feet or so from the clay pit is a stock hole which is said to have 15 feet of water in it at the present time. Mr. Barbour says they made off a few bricks from clay taken out of this

Jackson Co Feb 13, 1928

Barbour Brick Works

55

and they burned a pinkish color. A little clay now shows on the side of the pond above the water. It's very light colored spotted a little with red — probably residual from limestone.

The entire deposit of the dark gray clay is in a depression most of which however is so nearly flooded that it is not swamp. I believe the gray clay has been washed into this low place and is sedimentary.

The drainage is a problem but a man who has lived near for a long time says that sometimes the water has flowed suddenly out of the bottom of the pit — further suggests the possibility of drainage by wells.

Mr. B. says he has had a number of inquiries about the deposit & has had opportunities to supply many more brick but could not make them.

Machine itself has a capacity of 20,000 brick per day but it is impossible to operate it at that capacity because of lack of drying sheds and lack of means for handling the brick from the machine to the sheds.

Jackson Co. Feb 13, 1928

Round Lake.

56

R.R. cut in the town — the first cut north of the station

0—12.3 Banded red and (almost) white clay. [3 or 4 ft thick

The minimum overburden in this cut is 8 feet near the north end of the cut where the sample was taken. This consists of coarser ferruginous sand containing some pebbles and ironstone concretions. Toward the center of the cut the overburden becomes greater — an increased thickness of the ferruginous sand and on top of that up to 5 feet or more of loose underlying surficial sandy soil making up to 15 feet or so of overburden. Before the south end of the cut is reached the bed of clay disappears entirely below the cover of other sediments.

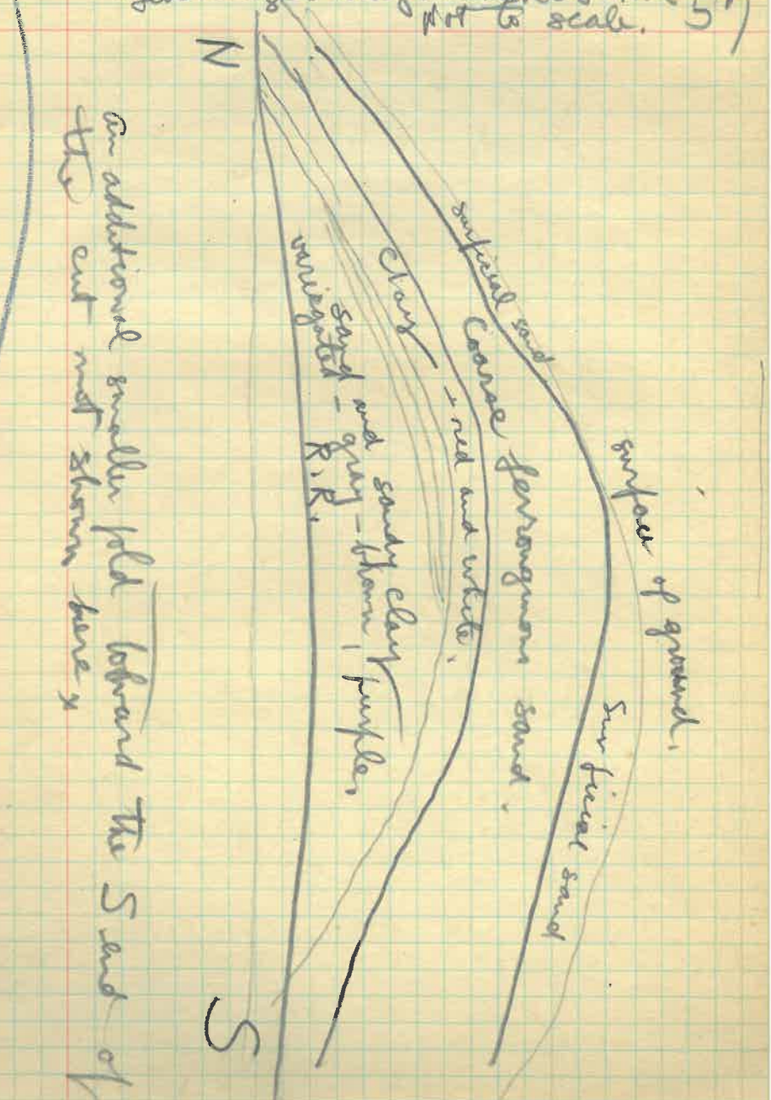
From near the center of the hill the beds dip away on both sides — this keeps the bed of clay from coming very close to the surface on either side of the hill.

Below the red and white laminated bed which was sampled and separated from it by a couple of inches or so of coarse sand there is a foot or so of pinkish brown clay which has about the same feel as the variegated clay above but there are streaks of sand through it.

more complete

R.R. cut at Round Lake
generalized diagrammatic section
not to scale.

57



Jackson Co Feb 13, 1928

Alford

58

In town of Alford — going down hill to south of main part of town — roadside cut bank and ditch shows section of residual material almost the same as that at the Boys School Marianna. About 7 or 8 ft of mottled clayey sand and below that small appearance of light gray and bright red clay. This is already described in note book 1. Too little can be seen about the extent and thickness to make it worth sampling.

Alford to Cottondale

Along the highway many exposures of "gravel" or to general to speak somewhat more properly — pebbly and clayey sand. Seldom is the proportion of pebbles larger enough to make a true gravel.

In general deposits seem to be too thin and irregular for exploitation except on a small scale for nearby use. The clayey material for roads and the rarer moderately clean sandy gravel for concrete aggregate.

Cottondale north on main highway

Most of the distance for the first seven miles red residual material (Alendon?) for the most part very clayey sand but considerable true clay clay. The larger and deeper cuts seem to show very irregular variations in texture.

Jackson Co
Feb 13, 1928

59

Campbellton — some outcrops of residual clay but mostly well covered with either nearly pure sand or very sandy red clay — likewise on road from Campbellton to Graceville.

5.6 mi W of Campbellton numerous concretionary masses of limonite in residual sandy clay. Specimens collected. The bed in which the occur is not particularly ferruginous + partly gray and partly yellow. Largest ones about a foot in diameter. Some hollow and some with concentric shells — some fibrous and mamillary limonite with bright luster.

Graceville.

Some small exposures of residual clay clay never here but nothing of uniform quality which is sufficiently large enough to be worth testing.

In this vicinity looked at three occurrences of what at first glance looked to be deposits of clay similar to that of Balfour Bros at Cottondale — similar topography and vegetation — dark color and smooth look where cut in ditch — however closer examination shows it to be mainly sand with good deal of vegetable matter and only moderate amount of clay.

Jackson Co.

60

The occurrence of the beds of gravel and pebbles so common and thick in this county seems to have little if anything to do with the topography. Probably the best way to explain this is to assume a large amount of solution of the limestone, since the deposition of the gravel and considering the indications of weathering of the gravel this seems reasonable enough.

Feb 14

Washington Co. - Chipley 61

Excavation for new Court House at Chipley

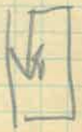
Shows many red clayey sands. Bedding in places is fairly distinct and shows steep and irregular dips — up to 40° or so. A bed of light gray clay around two feet thick or perhaps more could also be seen but structure does not show any too well. Cracks into rather small pieces. Dig is too steep to do anything with it here.

Vernon Brick Co.

J.E. Howell, Manager.

next corner to right first house to right

20,000 end cut this way



Sold some in St Andrews and Panama City — Also Caryville

Brick for court house were made here in 1896

0-124 Clay — used by Vernon Brick Co. — S — Vernon

cut in bank to depth of 3 feet

Vernon Brick Co

Feb 14

Vernon, Wash. Co

62

Two specimens of brick, well burned. Burned harder they are almost black. Not burned so much they are brighter red but too soft and show lamination on end.

Clay is partly red and partly gray.

In pit there is much red sand with some pebbles as well as the clay. The clay occurs as one or more inclined beds interlying in the hillside and has to be selected from the sand.

Drying sheds with good galvanized iron roof but so narrow that there is an appreciable loss from rain.

Ordinary temporary scove kilns.

Inclined beds — True thickness of clay bed could not be very accurately determined because much weathering has occurred thereon generally but it can not be much more than 4 or 5 feet.

The pit from which the clay for the court house brick went was taken off a little farther up on the hillside.

Feb 14,

Vernon Washington Co 63

on land of J.E. Howell.

2 mi S. of Vernon on S. side of hill obtained sample of clay dug to depth of 18 inches.

0-125 Clay. Section 1 township 2. Range 15.

Sample sent to state chemist and reported to be "too rich."

Red clay with a little sand.

Note This sample was taken at the special request of Mr. Powell who acted as guide in visiting the localities in the vicinity of Vernon. As little work as possible should be done on it because there is nothing whatever to indicate either a considerable amount of material or a favorable situation for working it. Clay is found under top soil on the south side of a steep hill near the bottom. No exposures to tell anything about structure, thickness or extent. Higher up on the hill the soil is mostly sand and probably rather deep and scrub black jack oak are plentiful.

Feb 14
Vernon, Washington Co

64

owner J.E. Howell

O 126 Clay. 3 mi S. of Vernon on S. side of Cravey Mill Creek. on road (not much road) running from Vernon to Moss Hill.

Shows on hillside for half an acre or so directly on the surface. It is probable that some earth was removed from here long time ago for the mill dam.

The greatest undrafted thickness exposed is 3 feet but sufficient that it actually extends vertically from the highest to the lowest part of the outcrop it could easily be much more.

Light gray somewhat streaked with red. Looks a lot like that at Round Lake but bedding does not show up so distinctly.

Some plastic clay also under water in the creek

3.3 back on road Vernon to Waseon
6.0 Vernon
2.7 miles to Vernon from where one turns off the road to Waseon to reach this deposit and by this road some 4 miles. By turning left from the road connecting with the South post road one may reach the locality in 3 miles. Very bad road for a mile or more either way.

Some clay also shows along the road on hillsides on both sides of creek at a little higher elevation than where sampled.

Feb 14, 1928
Vernon, Washington Co

65

J.H. Lang property
1.2 miles N of Vernon
site of old brick works (25 years ago)

Mr. Howell says they did work good brick here but that the upper laying ground are very soft and sandy.

Red somewhat sandy clay below top soil in field. No bank to give any idea of structure or thickness. Ordinary clay such as may be found at many places in this part of the state and information is too scanty to make it worth sampling.

66

Gravel.
3.5 mi N of Vernon on Bonifay road.

owner Brown-Florida Lumber Co.

Hill covered with black jack oak and a few long leaf pine. Coarse sand soil over most acres contains pebbles in amount anywhere from very scarce up to about 10 percent. Concrete aggregate has been hauled to Vernon from here. Several small pits only two or three feet deep.

Material has been much weathered as shown by the staining of the pebbles, the cracks and penetration of limonite along them and the actual breaking off of little pieces, of which we can be absolutely sure from the jagged places on the pebbles. The upper part naturally has organic impurities as well as a little clay — generally yellow with a tendency to grayish as far as it has been dug. However at a depth of three feet or so — where the pit shows it becomes more clayey or perhaps only more ferruginous — orange colored and more compact. Would be good for roads.

Remote location as well as doubt as to depth of deposit would make the latter doubtful as a locality for commercial exploitation.

Feb 14

Vernon, Washington 67

On south side of Holmes creek at north edge of town bluffs 15 ft or so high of typical clayey sand with a few pebbles.

A short distance upstream from this there is alluvial material on the south as well as the north side of the creek. The flood plain is mainly swamp with standing water on it in many places at the present time. Some slightly elevated area and these consist of fine sand or in places more properly loam than sand because there are notable amounts of clay and organic matter.

One side ridge of sand along the north (or right) bank of the Creek.

Chipley to Vernon.

By straightest road between the two towns. Mainly clayey sand - yellow to orange and red on the upland and gray on low flat ground near Holmes Creek.

Frequently a few pebbles and sand rather coarse. Few small exposures of probable residual clay.

Feb 14

Holmes Co.

Bonifay - "Sand Pass." 68

Although rising only a few feet above the water table this strip of sand is so well drained that it has a scrub vegetation - Rosemary, small evergreen oak and other bushes - However no spruce pine on it at present.

Sample taken to be analyzed for glass sand since this is so much coarser than most of the other white sands of the state.

Both north and south of the strip which we can see to be white sand is dense with thicket. On the north side it has a few long leaf pine growing among the tate. On the south the tate forms only a narrow strip and there is a glum swamp beyond it.

Holmes Creek - crossing between Bonifay and Chipley. 69

On west side of creek long fill approaching the bridge. Shallow borrow pit along side where earth for fill has obtained. Slope is so gentle and character of material so undiagnostic that I can not tell while the alluvial material begins. However as far as I can see the borrow pit material is too sandy for brick clay. Some of it is merely fine clayey sand. Some parts are really sandy clay but too much so. Availability of better material?

0-127 Clay

Hall Brick Co. - Chipley

In two bags.

Feb 15, 1928

Washington Co.

Wausau

Clay pit (for roads)

On road starting out of Wausau toward Vernon — about 800 ft W. of R.R. Just across a little branch to W. of R.R. track.

Clay is exposed for approximately 150 ft in E-W. direction and 100 ft in N-S direction.

At point where samples were taken from bank, section is.

Top soil — sandy clay 6 inches.

0-128 in two bags — Clay — gray mixed with red and brown, crumbling into small pieces. 4½ feet

[sand — rather coarse yellow not included in samples 8 inches]

0-129 — Clay — very light gray mottled with lavender, thin streaks of bright yellowish brown along cracks. Very tough and coherent. — 2 ft.

Bottom of the lower clay was not seen. Had to dig to see this much of it.

Over the most of the pit a lesser depth than this is exposed.

Beside the streak of sand mentioned in the section, the upper clay (and perhaps the lower also) has some small

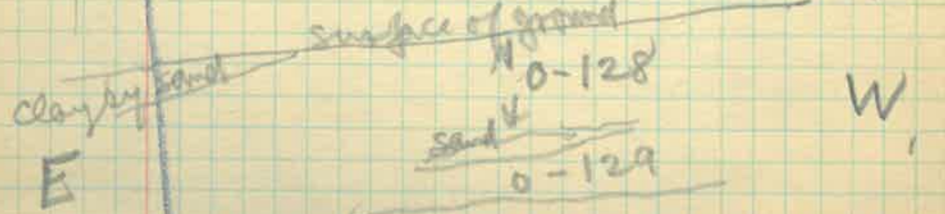
Dekle Land Company owner

lenses of sand which might have to be excluded for some classes of burned ware but are probably not extensive enough to be objectionable if included in the clay for brick manufacture.

The lower clay sample here looks very much like 0-126, and this would be a more favorable locality as far as transportation is concerned.

Weathering and lack of clean cut banks makes it difficult to tell much about the stratigraphic relations. However I believe that it is in itself a stratified deposit rather than residual from limestone, although in places the way the sand and the clay are involved with each other suggests slumping as a result of solution of underlying limestone.

In general there seems to be an eastward dip a little steeper than the slope of the hillside which is in the same direction.



Wausau, Washington Co.

Between Chipley and Wausau on the road which keeps some distance east of the railroad saw a number of exposures of clay which I take to be residual. Generally dark red but in places gray. High shrinkage.

~~Dekle Land Company~~ owner.

post master Wausau

Sodom farm 2½ mi off on Southport road. — dirt road to left — 1½ mi to clay p

St. Andrews Bay lumber Co. 4 mi. S.E.

graded road on E side of rod to end of grade — Three roads. Take middle road — About ½ mi to branch Lead on left side ½ way

Feb 15 1928
Wausau, Washington Co. 73

2.6 mi S of Wausau.

— Very hilly country. — Apparently getting well within area of the Citronelle — Yellow clayey sand

Some white quartz pebbles scattered on the surface and considerable amount of iron sandstone concretions x

At top of hill facing the south a small exposure of the clayey sand about 5 or 6 ft in height. On top of it

the concretions scattered about may be surface one particularly abundant.

Sand and Gravel.

3.9 mi S. of Warrsaw — going out on graded road east of R.R. on continuing straight about 3/4 mi beyond end of graded road.

Here the country is a sandy plateau somewhat dissected but not cut up into separate little hills.

Here on the north side of a branch head on the west side of the road is a small pit. The postmaster at Wausau referred to it as a "gravel pit and said it was owned and operated by St Andrews Bay Lumber Co and that they had a spur in here.

I inferred from this that he meant a RR spur but this is not

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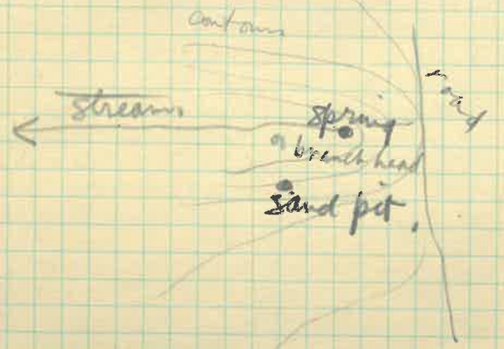
Wausau, Washington Co 74

indication of there having been anything of the kind. Just is the amount of sand which has been taken out sufficient to have justified any RR connection. Perhaps it merely referred to the road leading in to it.

Depth of pit about 8 or 9 feet. Coarse sand with some pebbles all the way down but coarser yet in the lower part. None of the same here in sight has much clay in it. On effect for two feet or so at the top. Perhaps if more weathered it would do very well for concrete as is.



As far as I can see what has been used has been hauled out by road.

Feb 15, 1928
Wausau
Washington Co. 75

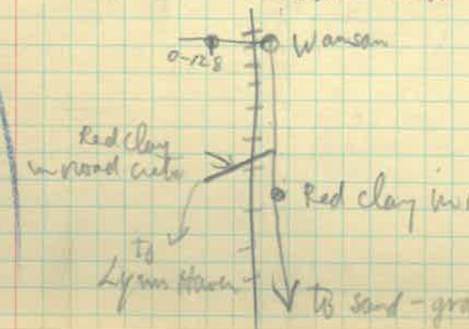
5052 Coarse pebbly sand — about 8 ft depth. Citronelle locality described on preceding page x 3.9 mi S. of Wausau.

Except for remoteness from market this would be very good sand deposit. Pine woods thoroughly destroyed and only scattering black jack oak

→ May not be residual from ls. perhaps merely weathered sedimentary clay

Going south from Wausau on road east of railroad the last outcrop of residual clay seen is 1.8 mi S. and at the top of a small hill (not as high as the country to the south)

The real Citronelle plateau begins 3 miles S of Wausau on the road x For a mile or two south of this is the much dissected rim of it which is rougher than either the plateau itself or the country between Wausau and Chipley x



0.9 mi S. of Wausau first cut bank on highway after turning west across RR on road to Lynn Haven. Alternations of clay mostly red and clayey sand. Deposit seems too much lacking in regularity.

Slightly over a mile and at almost exactly one mile south of Wausau on the road which stays east of the R.R. there are some interbeds of red clay of which the high shrinkage suggests residual origin.

Continuing on the road toward Lynn Haven, the ascent onto the plateau is made more abruptly than on the other road, at 2.6 miles from Wausau getting definitely onto it although there is still some gradual rise.

Going up onto the plateau there is a rather steep hill on the road with the rest that it is cut to expose the underlying material to some extent.

Near the top of the steep part of the hill 5 ft. of loose grayish yellow sand, with a few pebbles and concretions, grading down into clayey sand, mottled, red, gray and red. This sort of material continues most of the way down the

hill, the loose sand on top thinning out and on the lower half of the hill being entirely absent much of the way. Most of the way down the hill no bedding can be seen plainly enough to allow of measuring a section. About half way up the hill we see the following:

Surface soil - sandy clay — 6 inches

0-130 Weathered clay mostly red, a few gray spots, becoming more admixed as traced back into the hill — 2½ feet

Sandy - clayey variable in texture, color mottled gray and yellow — 3 feet.

0-131 Clay - gray laminated some thin streaks of sand and limonite — 2 feet

This locality is a mile from the railroad or perhaps a shade more by the road and the clay from the pit at Wausau is apparently

just as good. However these samples are taken as showing further extent of clays in this region and to perhaps show physical properties more favorable for some particular use.

The red clay is somewhat sandy but it is doubtful if at any of the several localities where red clay was noticed near Wausau any considerable amount could be obtained much more nearly free from sand.

Crossing a branch 1.1 mi farther on or 3.1 mi from Wausau, small exposure of clay beneath loose surface sand and clayey sand. This branch has here cut in about half of the depth from the top of the plateau to the lowest land near Wausau.

On this same road (toward Lynn Haven) the first sink hole was passed at 4.4 mi from Wausau. On top of ~~hill~~ near it the ferruginous clayey sand has been dug for road. Total width of this depression about ¼ mile and depth about 40 to 50 feet. Small pond in bottom which looks as if it might be temporary

5053 Sandy clay (white)

from small spring on side of this sink hole about 40 ft below top of plateau. This looks as if probably in place but can not be absolutely certain.

clays

At 1.3 and again at 2.9 to 3.6 miles east of Wausau toward Vernon good exposures of clay, mostly red in road cut.

3.9 mi W of Wausau on road to Vernon is top of fairly high hill. In cut banks and gullies along the road going down each side of this there are large amounts of clay in sight. Mostly red but some gray. There is even clay on ~~top~~ of this hill

Round about near here mostly orange clayey sand, some pebbles in it and lying about on the surface.

I am inclined to believe that most of the clay seen about Vernon and Wausau is not residual from Glendon, but sedimentary in origin. Laminated ochre and alternating layers of sand and clay are strongly in favor of this.

However I think there is some real residual clay rather near Vernon on the road to Chipley. That there is some two miles of it on the road because of the same of limestone still remaining.

For about the first 5 miles out of De Funiak to the north the surface is practically all covered by the common grayish yellow loose sand, as far as can be seen this is generally 1 to 8 ft thick and underlain by the iron stained clayey sand. In reasonably small proportion of pebbles on both surface material and that underlying it.

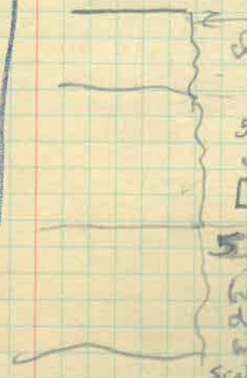
From about 3 to 5 or 6 miles out of De Funiak on the Glendale road plateau upland sandy black jack oak high but comparatively flat - nothing like as much cut up as around De Funiak Springs. At 6 to 7 miles on the same road can look off to the east to much lower country and along the line of the road we are on the plateau has been cut into rather deeply from the west.

From here on north to Glendale sandy clayey sand at the surface practically all the way. In places the small bryozoan concretions scattered about. The plateau upland seems to extend around all sides of Glendale. The country here looks very much like some of the northern part of Santa Rosa Co. as for example where we went to look up the occurrence of coal.

Glendale Brick Works
Formerly Murphy Bros.
Manager G.H. Murphy
De Funiak Springs Route A.
Have not made any brick for 4 or 5 years — not since he was working at Argyle.

O-132 Clay. Glendale Brick Works.

Pit is located at the top of a slope where the land drops away from the plateau into a valley to the west ward.



It is soft and crumbly with little plasticity and in place almost a rock

Mr Murphy says this is a very poor clay to make brick out of. — Evidently stiff mud. Badly laminated. Burned to light red color will flake off and disintegrate badly when exposed to frost action.

Burned to higher temperature got almost black, harder and comparatively free from laminations but the sandy or limonitic material will melt and run.

Some of the brick in store buildings in Glendale have been damaged badly by frost.

Thorough mixing might give somewhat better results.

Mr M. Lee burned with wood and says he has trouble to get high enough temperature.

There is very little sign of activity in Glendale and most of the buildings seem to be deserted.

O-133 Clay 4 mi N. of Argyle farm of Robert Edwards.

The clay deposit where Mr. Murphy made a few brick is about 3/4 mi E. of Sandy Creek & hill 1 fully 80 feet high between.

The clay pit is spaced by a very small stream. To the west the ground rises steeply into the hill just mentioned which seems to be a remnant of the dissected Citronelle plateau. Little can be seen of the clay since the excavation is nearly full of water and digging nearly did not give anything but sand above drates which is about a foot from the surface. The sample taken is from the bank of the small ditch or branch which runs through here and is within 20 feet of the pit.

The pit itself is not more than 20 feet square.

Apparently very fair brick were made.

Looks something like the Chipley clays. Burns first light red and then nearly white. Black cores in some.

Stiff mud and cut. Shear laminations distinct in the unburnt ones. Many cracked badly.

85

East of this point the land is nearly level. Cannot see any high ground which could be the source of the clay pits and Sandy Creek.

Near Mr. Edwards house, on the left bank of Sandy Creek is what appears to be a fairly important section exposed in the gullies where Sandy Creek comes against the hillside and forms a bluff. Section of approximately 50 feet — mainly micaceous clayey sand — about 20 ft shown both from top of the bluff, which itself is well below the top of the hill is bed of dark colored fossiliferous clay and below it a light yellowish clay also fossiliferous. Should take samples all the way down for comparative micrological study as well as clay for testing.

86

5054 Catronelle.
Fine clayey sand
locality referred to on preceding page — left bank Sandy Creek 4 mi N Argyle. — above the dark clay but exact height not known.

To reach this locality in going west on the highway no. 1 turn right at the foot of the long hill going out the Sandy Creek Valley to the west. Then take three right turns, on before and two after, passing Scotts Mill & by all about a mile by road from the highway.

5.9 this is 5.9 mi from the bridge over the creek in Ponce de Leon

87

Feb 16.

94? 89? 5 miles W of Cottondale.
L. L. Apple gate
on S. side of highway no. 1.
Silicified limestone. piece of it first dug up in field. Then attempted to dig hole to test it out but with rain of last few days water is within a foot of the surface.

Cleyey to Cottondale.
Mostly rather flat poorly drained country.

Cottondale to Marianna
more rugged hilly. Limestone has notable effect on topography & few depressions.
Numerous outcrops of clay supposedly residual

Gulf Refining Co, fertilizing
of mill near Jamestown
or Attapulgus.

Oct 11, 1928

Midway - Fullers Earth Mine

About 1 sq = 100 ft.

The designations No 1 and No 2 for the mines are for convenience only and are not necessarily those used by mine officials

E - W Cross section No 2 Mine South of Mill on E side of Valley

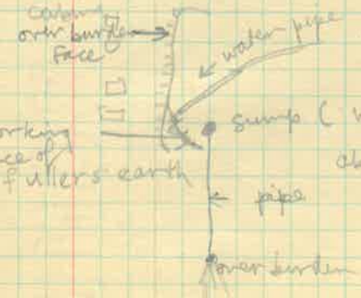
Scale about 1 sq = 10 ft.

Muggers cleaning off last of overburden from bench. Trench shovels and wheelbarrows. Wheeling it around the south end of the dump. Other muggers cleaning the working face of fullers earth where overburden has washed down

Mine No. 2

On the hillside between the mine and the mill there is some fullers earth which they expect to mine. Over burden up to about 40 ft in present workings and getting higher toward the west so that they will not continue working that way much further. The No 1 mine opposite the mill is now the principal one

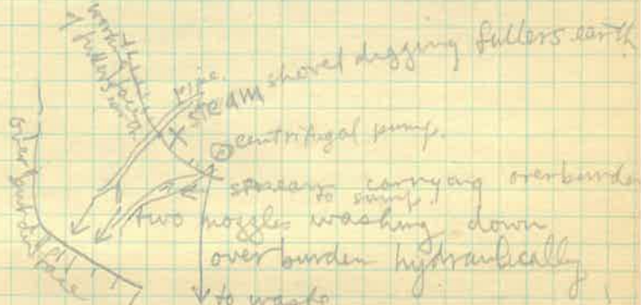
No 1. Mine - across valley from Mill. Pond in between.



1 sq = 100 ft.

Working at south end of bank

No. 1 Mine opposite side of valley from mill



Larger scale than preceding page

About 150 ft N of S end of mine the following section.

1. Top thirty feet mainly clayey sand brown to reddish & some gray. Some parts subtler clayey but no clay deposit of any size.
2. Oyster bar (limestone) 1 ft thick.
3. Conglomerate fullers earth pebbles in matrix of clay, 12 to 15 inches.
4. Fullers earth, about 40 feet.

At North end of No 1 mine overburden about 10 to 15 feet. In places there is two or three feet of limestone in the lower part of it. Soft nearly white fine grained. Above this lumps of limestone and flinty material which suggest a larger bed of limestone partly weathered away.

~~The~~ Much of the fullers earth near this end of the pit is shot through with thousands of calcite veinlets in all directions. By these it is mostly separated into pieces about 1 to 2 inches across. They still show the lamination and remain parallel to each other. Some places there are enough of these to form a coherent mass and in others it falls apart as easily as the fullers earth itself. ~~that~~ Within the bed of fullers earth are very abundant concretionary masses of granular crystalline limestones. In places there seems to be somewhat of a gradation from the clay into the limestone and there is usually some of the greenish clay through the limestones. These concretions are from about 1 inch to 3 ft. in greatest diameter, the small ones are round and ellipsoidal. The larger ones irregular in shape flattened parallel to the bedding. The larger part generally not over 18 inches thick but projections may make the maximum thickness twice that.

Some of these are left in the pit but a large amount still remains to be thrown out in the mill

Midway

Fragments of bone mainly manatee rib scattered about seem to be fairly common.

Some pieces of flint. I did not find one definitely in place in the fullers earth but some of the pieces on the floor of the pit have fullers earth stuck on in such a way as to show that it belonged there rather than that it came there afterward.

<u>Marcasite</u> in one of the large granular limestone masses.

The amount of the concretionary limestone masses becomes greater toward the north end of the mine and also the amount of the calcite veinlets which in places make up such a large part of the fullers earth bed that it might as well all be a solid rock as far as any use is concerned.

Toward the south end where the steam shovel is working now there is no great amount of rock and most of it is near the bottom than the top of the bed.

About directly west across the valley from the mill on the west side of the mine a ladder goes up over the bank to some negro cabins on the hillside. Gray clay shows near top of this bank beneath a few feet of loose sand. A foreman in charge of some of the mine work tells me that clay of this type occurs in the other mines also but there is not a continuous bed of it.

Oct 12, 1928
Fullers Earth Mine
Midway

8-150 Clay. From bank of overburden of Fullers earth, directly west of the mill and about one mile S.W. of Midway, on the west side of the valley.

Approx section at this point.
Top soil and dirty sand 2 to 4 ft.
Clay (sampled) 8 ft.
Mostly clayey sand with some marl or soft limestone about 15 feet
Fullers earth

The clay is light gray somewhat spotted with brown. Sample is slightly contaminated with surface sand. Fine grained but not very plastic. Cracks into small pieces.

The clay bed is not continuous nor of uniform thickness. Only about 30 ft to the north the material exposed at the same level is mostly compact gray sand. Sections exposed are not good enough to give any suggestion as to whether this is due to irregular deposition or to subsequent erosion.

The clay seems to break up easily enough to give no trouble in removing the overburden hydraulically.

8-151 Clay. Fullers earth from conveyor belt in mill of Fullers Earth Company Midway

Floridin Co Mr Hopkins in charge

Quincy

94

0-152 Clay overburden of fullers earth - from the mined northerly workings of the mines near Quincy. This is on the east side of the creek in the northerly continuation of the former workings.

A trench about 20 ft wide has been dug by steam shovel in N-S direction down to fullers earth, which is here only about 6 ft deep because the land is rather low. The clay as sampled overlies the fullers earth and is around four feet thick. Overburden about 2 ft of loam and the roots, the land being heavily wooded. Clay is exposed for about 300 ft. To the south it ends at the worked out mine and to the north it grades into more sandy material.

The clay as sampled is somewhat sandy but seems to have high shrinkage as shown by wide cracks when it is dried. The surface clay has a general dirty brown color where slightly weathered but on fresh surface is gray spotted with a large amount of orange-brown and reddish brown.

Probably a weathered part of the Ochlocka formation.

It seems likely that this may be a weathered portion of the fullers earth bed itself, since a short distance to the southeast there is fullers earth (where the ground elev. was higher) at the same or slightly higher level.

95

0-153 Clay - Fullers earth

Good quality unweathered material from the upper bed, Floridin Co. - Bank sample. Chips and fragments somewhat dried in the sun

99

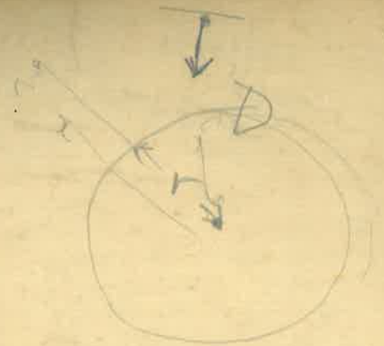
Oct 5

Breakfast	0.50	
Dinner	.50	
Supper	.75	1.75
4 gal gas Tallahassee	.92	
4 gal gas away	.92	1.84
7 gal gas Tallahassee	1.84	
	.30	= 1.91

Oct 14

23
7
1.61
.30

2.35
.50
.65
1.70
1.06
3.15



$a = g$

velocity acquired by falling to the earth from a point at distance X from center of earth

Initial acceleration $= \frac{r^2}{x^2} \times g$

after a very small interval of time dt

velocity $= \int a\, dt$

$D = \int v\, dt$