

UHE M



UHE M

Book no. 3

J. H. C. Martens.

If found please return to
State Geological
Survey
Tallahassee
Florida.

Publisher of "Put and Quarry"
Complete Service Publishing Co
538 S. Clark St
Chicago
\$5 per year.

Canal and Docks Assoc

7th Ave to 22 St. Green Bay
The South paved St to river.

Sept 4 1927

At Sebring yellow sand similar
to that at De Soto City has been
dug and used to some extent

At Hartt station between
Avon Park and Sebring white
scrub sand has been used in small
amount for making concrete block
It is rather fine.

Clay pit. - $\frac{1}{3}$ in left side
road - find cars, mud.

S. 12 mi. E side of road
Box 4 or 5

two story house - orange grove
oak forest - to right all the
way

W. Grand Canyon Co.
De Soto City

De Soto City

Sept 4 Avon Park

~~163~~ 163 Red molding sand.

=7163 Bank sample from road material
pit owned by City of Avon Park
Two miles $\textcircled{N}$ of Avon Park station
W of Wanchula road

Sample represents 6 ft thickness.
Did not dig down until I came to something
else below it but this must be near
the bottom or they would have dug
deeper since there is no water in this
part of the pit. Irregular workings
over probably two acres in a hill
overburden about two feet of
loose yellow sand. There does not
appear to be any sharp line of separation
between this and the molding sand below
as there was at De Soto City. There are
some splashes of white through the
red sand clay but not enough to
amount to anything. Also some
iron stone concretions up to four
inches or so in diameter.

The material is rather widespread
about five to be found rather
in the hills than the flat woods.
Can not say anything of extent of
individual deposits but total about
1/4 mi. long.

The sand in the part sampled
is least at the top and increases
toward the bottom.

Beyond point where this sample
was taken continuing west along
road to Zolfo Springs. It is missing
all flat woods. Some small areas of slightly
elevated white to light gray sand appearing

Sept 4

Sunberg Van Hynning

Two tusks
Two teeth

$\frac{1}{2}$ mi S. of Sunberg

haul surface road west - then
right hand road. Large sand bar.

Tom Budds

coming out of city take first
 $\frac{1}{3}$ mi. $\rightarrow$ left hand hard road - then
right hand road. Inquire for sand road. (used)
Lut

Mr. Sunberg says that
much of the sand used in
Arcadia is hauled from the
tailings heap of the old river
pebbles phosphate workings.

water is now too to see beds
as low as where tusks were
excavated.

60.4 Sept 5

4

Sand tailings from phosphate workings cover many acres of land in the vicinity of Arcadia near the Peace River.

The coarser part of this sand consists of phosphate and the finer part silica. Dug from bank by hand usually to depth of only two or three feet. Contains a small amount of clay which is concentrated in certain thin layers. More fine quartz particles than would usually be desired in a sand for heavy concrete work. Graded from about 1/10 inch down but a rather large proportion of the fine stuff.

Hauled in small trucks three miles total distance over very bad road part of the way to center of town.

There are other larger tanks also which are even less accessible than this one.

The sand bars, which could be seen above water level in the Peace River at this time are of very fine sand but it is said that at lower water bars of coarser sand can be seen and at one place 7 or 8 miles upstream from Arcadia (4 or 5 miles above Mac Sutherby's place there is a bar of gravel).

Sept 5.

From Arcadia to Sarasota by most direct road. It is flatwood all the way except for some short stretches of swamp. Only sand showing is very fine and full of organic matter.

Beach (Lido) on Sarasota Key. Most part is very fine siliceous sand and shell fragments mixed in but it is dominantly silica. The material dredged in the vicinity of Sarasota is a mixture of shell and fine sand like that on the beach. Oyster shells none or very few. Clam shells up to large size. Many around 4 inches across and 1/2 inch thick. These are removed before using the material for concrete. Aggregate as used consists of fragments from about 1/2 inch down. Smaller shell fragments take the place of coarser sand grains to a certain extent.

However all of the sand in the vicinity of Sarasota is excessively fine and not suitable for concrete, plaster etc. Shell has been used to a considerable extent in Sarasota. Do not know to just what extent, local sand has been used with it.

Learned later from Mr. Thornton of Southern Testing Laboratories that some of the shell concrete in Sarasota is standing up fairly well and that he is designing a mix to be used in some country highways.

5

Duncan Concrete Works 10/3/92
Duncan Geo E. Brick S. A. H. Ry at
Manatee R.
Duncan Lumber Co. 7 ft. 2 in. 10 ft. 2 in.

Sand dredged from river,
Pillsbury Bros. Palmetto.

(Fogarty - Palmasola
sand pit
Palmasola Rd. Manatee Ave
2 mi W of Bradenton.)

3 miles to bridge; 1 mile to river then to left.

15 miles up river from Palmetto

Pillsbury Bros. Palmetto.

Expect to send in sample of sand dredged out of Manatee River

Samosit - through Manatee to end of shell then turn to right.

Learned later that Geo E. Duncan operates a sand-lime brick plant at Bradenton. He was away when I passed through there, and I did not realize that he was directly concerned with the production but rather that he was a dealer who would be likely to know of local sources of sand.

Sept 6.

Sarasota to Bradenton

6

Followed Tamiami Trail which goes rather close to the shore of the bay most of the way. Some very fine sand deposits probably of dune and beach origin. No indication of anything of any value.

Bradenton.

Two miles W. of Bradenton a sand bank was formerly worked by a man named Fogarth. As nearly as can be learned it was a rather fine sand not unlike that seen elsewhere about here. All along where the sand bank is supposed to have been it is made of a flat woods type of country indicating that there cannot be any considerable deposit of clean sand above water level. Mixing some of the fine local sand with some of the sand shipped in from Lake Wales etc. is said to improve its working qualities.

Sand dredged at Bradenton is also rather fine.

Pillsbury Bros at Palmetto say they have dredged sand from about 15 miles up the Manatee River. They do not have any of this on hand but elsewhere saw a sand reported to be from the same source.

Bradenton to Tampa

7

Sept 6

20 miles out of Palmetto toward Tampa on route 5 a white scrub sand of E. side of road has been dug to small extent. It is fine and in texture although not so fine as the present day beach sand in the vicinity of Sarasota.

Less than half a mile farther on crossed the Little Manatee river and saw alluvial deposits of singular fine white sand on its banks, piled up higher than the country a short distance back from the river. This sand has a scrub type of vegetation. Mr. Symmes says that at long ways up the L. H. Manatee River from here it has coarse sand in its bed but the locality is inaccessible.

From Bradenton to Tampa along highway No 5 it is practically all a flatwoods type of country although some is slightly rolling rather than absolutely flat. Must have relatively impervious subsoil judging from amount of water and vegetation.

Sept 6.

8

Riverview

Saw Mr. L. F. Symmes about supposed deposits of fullers earth. He lives two miles south of Riverview and $\frac{3}{4}$ mile W. of highway No 5, on a mile unimproved road.

Showed me outcrops of fine claylike material in bed and banks of Bullgrove creek on his farm. It looks to me like a weathered limestone. Differs in color from white to yellow and different groups from one layer to another. Differs also in feel and the way it breaks.

Some of the bed of creek has rather abundant phosphate pebbles and Mr. Symmes says sharks teeth have been found there.

In 1920 Mr. S. sent a sample of this material to the state chemist and in the absence of Mr. Rose the answer was returned that it was fullers earth of ordinary quality.

In 1926 Mr. S. sent a specimen of the powdered material to a testing laboratory in New York which reported it as 10% more effective in cleaning oil than a fullers earth purchased in the market.

It is dirty and has fragments
of roots etc. Rather fine for
concrete aggregate.

The shell near Bradenton
is said to be larger and less
suitable for concrete aggregate
than that at Sarasota.

Samoset (S. of Manatee) 9

Saw Mr. E. N. Staples x He thinks he has a larger geological collection than anyone else in Florida. He knows of six or seven clay deposits of which he is willing to give the locations.

Showed some specimens of a very fine grained rock of shell water bonded yellow and almost white. He says it is a sandstone from a deposit which he has tested out and found to be 12 ft. thick over a considerable area - I think he said 300 and some acres, - spent over 400 day prospecting it.

Has a specimen of coquina which he says came from the west coast.

Mr. Jones has gone north and is probably going to purchase some machinery for the travertine quarry.

Sept 7. 7th Ave. 10

Alafia Sand and Shell Co. Tampa (operated by Hillsborough Sand and Shell Co.) Sand from Alafia River several miles up (about two miles above bridge on highway No. 5) goes over a screen as pumped cone classifier. sand is coarse. Contains considerable phosphate, suction dredge.

Shell - half oyster Bay x around Giddens Point x

sometimes 6 to 8 ft deep. Mostly for road base.

164 Sand dredged from Alafia River by Hillsborough Sand and Shell Co. - from stockpile at yard - foot of Harrison St. = 7164

The shell is mostly oyster shell. Varies in size from whole half shell down to very thin flakes. Beside the shell there is considerable dark colored silty material mixed in. No sample taken.

Sept 7 11

Hillsboro Sand and Shell Co. the St. Petersburg is operating the Alafia Sand and Shell Co. at Tampa. They are dredging in exactly the same things.

Tampa Sand and Material Co. for sample of sand.

Tampa Sand and Shell Co.

Sand Alafia River.

Sand is about exhausted. Mud from phosphate mine comes differently. Some also from Big Manatee River - about 6 miles above Bradenton.

Sand all screened. Takes out sticks, pebbles etc. Some clay shell remains. (name of dredge)

Sandy 6 inch pump.

Double clutch - 50 H.P. engine propels boat and operates dredge.

Bay sand very poor - cannot be used.

Tampa Sand and Shell Co. say their sand is the same as that dredged from the Alafia River by the Hillsborough Sand and Shell Co. and comes from the same place.

Tampa Sand and Shell Co. ¹²

Amount of sand in Manatee River is supposed to be very large.

They say local sand and shell both have been used in highway concrete around Venice.

Shell is oyster shell mainly like Hillsboro sand and shell Co. used in road base.

Tampa Sand and Shell Co. at Clearwater have not been found any sand or shell that could be used, although they have done much dredging around there.

29.2

Clearwater, ¹³

Mr. Eaton, operating dredge adjoining Rio Vista property near 4th St. St. Petersburg and electric dredge.

From safety harbor at Head of Tampa Bay to Dunedin mostly upland. Deep sand soil according to soil maps. There are some strips of white scrub sand but rather fine. Intervening areas look as if they would have hard pan at moderate depth.

A+ Clearwater fill from the town to Clearwater Key (beach) has been made from material dredged out of the bay. It is a sand shell mixture. Shells are mostly small and white. Scarcely any oysters or large clams. Much dredging has also been done to fill in and make new land along the inside of Clearwater Keys.

1/2" concrete pavement on Clearwater Key local shell was used with local sand. The concrete is showing considerable evidence of disintegration. Irregular cracks in various directions through it, chipping out along the sides of these cracks, also elsewhere on the surface. This was laid only about a year ago.

At the Beach on Clearwater Key a small Pavilion has the roof supported by masonry columns built of concrete blocks. These columns should have easily supported this weight but have cracked down through the blocks.

at a slight inclination from the vertical in several places.

165
6165 Sand-shell mixture Clearwater Key - 1 1/2 mile north of road from mainland. Dredged out of bay for fill. This is what was used in the concrete pavement. Building inspection in Clearwater says very little of this fine local sand is used. Since he has been there he does not allow in building.

Local sand was formerly used for nearly all the work done here. A fine local sand obtained from the southern part of Clearwater, "P. Ark White, fine but sharp".

A. K. Selden Building Inspector Clearwater, send copy of sand report.

This represents just about the mixture which was used in most of the concrete pavement on Clearwater Key. It is there in vast quantities where it has been dredged out of the bay. Varies some in proportions of sand and shell but comparatively uniform and little difference in the size of the sand or of the shell.

As far as can be learned, Clearwater sand and shell Co. is not active at present.

No sand beaches could be seen
on Lake Butler from point near
Clearwater to Tarpon Springs 15

Many small hills and ridges
longitudinally representing old beach
and dune deposits. They are not
far from the present shore of
Clearwater Bay. Cuts show magnificently
fine yellow sand with too little
bond for molding sand. Possibly some
could be used for sand lime brick
but I don't know what else.

Between Tarpon Springs and
Lake Butler similar yellow sand
forming still higher hills

St.

Ram prevented seeing much
between Clearwater and St. Pete
but seems to be largely flatwoods
along the road. Material dredged out
in fills along bay shore and
St. Petersburg and for Gandy
Bridge is a mixture of fine
sand and shell mostly of the
coquina type. Did not see
anything here which looks usable

Interview with Mr. Rordam 16
geologist and chemist, Florida
Portland Cement Co., Tampa.
Dade City.

Sand with clay in it - finer
than Leesburg, 8 mi. S. of Brookville
on Dade City Road.

Clay portion of it has composition
more like bentonite. 15 to 18% clay
near Trilby north of Dade City. Carroll D. Johnson
Approx anal 18% Judson

quoted
from
memory
see anal.
below

SiO ₂	18%
Al ₂ O ₃	42%
Fe ₂ O ₃	3%
CaO	2%
MgO	3 1/2%
P ₂ O ₅	

P₂O₅ all remain with the clay

Top of hills - better soil.

Mr. C.D. Judson owner -
lives in Lakeland.

Low silica clay.

(Brookville Clay mined for cement
Residual - probably rephosphated
As deep as 43 ft. to base 31 ft. X)

washed	SiO ₂	29.5	} <u>agitation 14.5</u>
kaolin	Al ₂ O ₃	45.9	
Judson from	Fe ₂ O ₃	3.4	
Trilby	CaO	2.5	
rough washing	MgO	0.7	
	P ₂ O ₅	3.5	

Rordam - Fla. Portland Cement 17

same original material as preceding
carefully washed. clay portion.

SiO ₂	18.
Al ₂ O ₃	4.1
Fe ₂ O ₃	52.5 - incl. P ₂ O ₅
CaO	6.3
agitation	16.4

R.P. Thornton - Southern Testing
Laboratories - Tampa.
Phosphate sand.

45% phosphate
55% silica
phosphate is saturated with
lactic acid which cannot
be removed by washing. This
is what hinders setting of cement

Standard Color test - on original
material - on crushed material -
about four times depth of color.

(Tricalcium phos. has practically
no effect on cement.
Aluminium phosphate, sol. in either
weak acids or weak alkalis. Causes
breaking down of concrete.
Cement acts as alkali in dissolving
Al. phosphate.
Test aggregate by 3% caustic
soda for soluble phosphate -
this dissolves out about 1/2
of phosphate. Aluminium phosphate
is very finely divided form adhering
to much larger grains.

Absorption of phosphate as compared with ordinary sand.

(13-14% for phosphate x
abs.)
Soft white, partially
may be important in itself.

says Alafia R. sand will not make concrete at all

Aluminum phosphate is in clay portion of phosphatic sand. Presence is shown by phosphate soluble in caustic soda

shell sand aggregate

County engineer Sarasota County
G. W. Corson.

Southern Testing Laboratories are designing mix. of shell sand aggregate
to white to county engineer for results of tests x

Probably too little sand
to use local sand x
sand practically all below seashore

This will be the first attempt at scientifically designing a mixture of this shell sand aggregate. One difficulty is that there is no material intermediate in size between so much and coarse aggregate. Difficult to get clay shells filled

Sept 8

Interview with Mr. Weakley

19

Lakeland,
Sand Lime Brick - Duman-Bradenton.

McDonald -

W. E. Jones - flume - baffle mercury
slender waste
Electrolytic process - sodium
chloride - Mercury lost before
testing for gold x

Assays from \$3.80 down to nothing

two types of rock - for fossils
1. semicrystalline - iron stain
2. other softer and more fossils x

- Clay - 3 types - brownish oxidized
① top of overburden - 3 to 5 ft thick
② light gray - old brick yard x
③ in around rock - yellowish clay

Samples of
① hard semi-crystalline to
every piece with brown stain

② fossiliferous

③ one of each kind of clay

Wm P. McDonald put up money

(Hamilton - has not finished

sludge about \$0.20 per ton is
only one reported so far

.20 to .40 cent per ton on samples
taken by Mr. Weakley - taken so as
to be general average of particular
kind of rock.

Jones took samples probably not
representative - a lump here and there,
thru values.

Hard rock quarry 2 1/2 miles E of
Brooksville - By the first west of quarry
Mundon Hill Road

stasichthys

Loren

Ludlum Supt Brooksville
Calcite crystals

The first assays were made on
sample taken by Mr. Jones were
all the way from \$3.80 down
to nothing. Jones did not do in
sampling in any systematic way and
these assays probably represent
single fragments picked up here
and there.

Mr. Weakley then selected 10 samples
for assays taken so as to be really
representative of a large amount
of material including the two
principal kinds of limestone and
other kinds of clay. Assays for
these in these independent laboratories
\$.20 to .40 per ton by one,
higher in all the rest, one .30 by another.
Higher by Byrd and had no other info.

Auburndale

Auburndale

Lake Prietha - Lake Shore Garage
Sun

Mr. Seland Graff

Sample
166
= 7166
167White sand Auburndale 3 1/2 ft
Mr. Seland Graff ownerYellow sand Auburndale Mr. 6 ft
Seland de Graff owner

= 7167

The deposit is on a hill on back of the Lake Shore garage on the east side of Lake Prietha on the eastern outskirts of Auburndale. Hill rises probably 125 or 20 feet above the Lake.

On top is the white sand (166) not in a horizontal layer but as a surface covering of approx. uniform thickness corresponding to the topography so that in a general way the surface of the underlying yellow sand is parallel to that of the ground surface above. Where sample was taken, total thickness of white = 4 1/2 feet. Considerably 1 foot at top as overburden, sample was taken from bank 3 1/2 ft.

The contact between this and the underlying yellow sand is very sharp and definite and while in general it conforms to the topography there are many small irregularities - cylindrical projections of white sand down into

the yellow below the general contact line only an inch or two thick and two feet long. (Effect of roots?)

Yellow sand has been dug into for depth of 10 feet below the white but in caved condition of bank it was only possible to get a good sample from the upper 6 feet of it.

Organic impurity seems to be very bad in the form of coating on the grains rather unevenly distributed so that although a large part of the sand is yellow some of it is nearly black, approaching a hard pan condition. Small upstanding columns are left by rain wash where most of this material is present. Tendency for this fine of it to be concentrated along contact with the white sand.

No pebbles whatever were seen here. White sand shows no bedding whatever. Uncertain and unjustified indications of it in the yellow.

Between Auburndale and Haines City mostly rolling country with many citrus groves. City shows some yellow sand finer than 167 but with less of the black coating.

Sept 8

G. 2
1.8

4 1/2 mi. W. of Haines City

On Auburndale Road, no 17
on S. side of highwayRoad material pit
2 ft. overburden yellow to gray
loose sand

6 ft. road clay - mottled red and white, medium, (partly fine sand than sample 166) fairly good sand. Might do for road clay

Appears not to have been worked recently x

Sept 8

24

Additional notes from conversation with Mr. Rordam

He says they had assays made on their clay which is partly directly residual from the Tampa Limestone and partly redeposited and found no gold at all.

He has prospected all of West Florida for clay. Except perhaps along the Escambia River where the overburden runs very high deposits are of too small extent to be considered for cement. Largest deposit in clay Appalachicola R. about 16 acres.

He says that iron must be less than 1/2 per cent in burned clinker for a white cement. Remember by the connection that iron in limestone will be nearly doubled by removal of CO₂ and that in clay will be increased some by loss of water. Coal ash?

H.H. Branner
Davenport Lumber and Supply Co. 25
other side 3/4 mi.

3/4 mi S. of Davenport

Holly Hill Grove and Fruit Co pumped it with the intention of filling in swamp. Since then they have sitting sand at \$0.50. Taken from bank about three feet high.

During the boom Holly Hill Grove and Fruit Co. pumped sand from a small pond and filled in some of swamp land around it to depth of 3 to 4 feet with fairly coarse sand. This has been hauled to Davenport and Haines City for playgrounds, bricklaying and concrete. It was not pumped to use for sand and was not washed. Is very dirty. Men hauling it says that only about 40% of strength with standard sand. Very small flat oval pebbles up to 1/2 inch.

It is of no importance as source of sand but may indicate that by proper working good supplies of sand may be obtained. Holly land all around the pond and marsh.

In Davenport about a mile to the north similar sand has been dredged out of another little pond.

Past Davenport Lumber and Supply Co. 26
stone filling station on left 50 yds. then
side. Then 50 yds. from road to left.
Old Asphalt Sand Pit
18 feet thick
MacDonald Construction Co.
8 mile road.

Beyond golf fence. - to southwest corner of golf fence.

1/2 mile N. of Davenport
abandoned sand pit used by
MacDonald Const. Company
as source of asphalt for road
from Haines City to Seaboard
County Fair. About 12 feet
deep. Banks are all covered.
Shows yellow sand with particles
graded from fine to coarse.
Very few pebbles from 3/4 to 1
inch. Like those that Lake
Wales district. In lower
part also the same sandstone
concretion with white cement.
Probably belongs to the
sand formation wherever that is.

Less than 1/2 mile S.W. of the
preceding locality at the S.W. corner
of the golf course on the north side
of Davenport is a sand pit with
about 5 feet of loose yellow
sand on top and 4 to 5 feet of
settled red and white sand-clay
below. When yellow sand is
used by H.H. Branner, Davenport
Lumber and Supply Co. for making
concrete blocks and building and

Sept 9

27

Davenport.

roofing tile is said to be better than the more nearly white sand dredged on south side of Davenport.

Both upper and lower part have concretions of iron cemented sand. Sand clay material has probably not over 25% of clay and for the concretions might do for molding sand.

The yellow sand here is similar to that at the old asphalt sand pit. It is on higher ground which may have something to do with the presence of the red sand clay.

From Haines City to Loughman it is all rolling country. Yellow sand frequently shows on hill tops in highway cuts etc. It is similar to the Dade City sample, often a little coarser.

From Loughman to Kissimmee country is low and flat. Partly pine flat woods, partly prairie and partly cypress swamp. Out of Kissimmee towards Vineland on road following branch railroad there is a similar type of country for about 9 miles with the exception of some small low sand hillocks. Then enter a scrub of white sand.

28

Orange Center

Vine St. - out on main st. 7 or 8 block turn left on Vine St. - brick st. Gulf-Tex filling sta. - Shingle Creek to end of hard road of straight - then out on grade - one mile past hard road for Charmont

Lake Bryan Sand Co.

Plant located 10 miles N.E. of Kissimmee on railroad. Operating on white oolite sand. Deposit continues a mile S. of the plant, toward Kissimmee.

Some sand has been dug dry from banks. Lake Bryan Sand Co. plant consists of dredge with about six inch pump and hydraulic conveyor without any provision for getting in water for washing.

168 White Sand Lake Bryan Sand Co.

Small stock pile below canal. Washing seems to have been very fairly done, since roots twigs etc. still remain.

Bottom of deposit is not anywhere exposed. Beneath dredge water is 5-6 feet deep with bank along side 5 feet high indicating depth of cut less than 10 feet. Where the

29

ground is a little higher sand has been dug dry to depth of 6 feet.

Also took small sample from bank.

This is evidently in the large patch of "St Lucie fine sand" shown on the soil map to the west of Lake Bryan.

1/4 mi. W. of K. Harney

Examined site of Mosses No. 43, but can not see any indication that bank is 10 to 12 feet high. R.R. and highway are both in cut here going over a hill. The highest bank that I can see here is only 7 feet. Probably he did not consider that material taken out of the R.R. cut is piled up on the sides.

This sand looks very much like that seen around Haines City, De Soto City etc. Not as coarse as the yellow part of the sand mined at Lake Wales. Might do for plaster or sand lime brick.

1/2 mi. E. of K. Harney could not see anything of white sand. Mosses No. 43. R.R. at shows dirt & yellow sand similar to no. 43 but dirt is green. Cut is only about 3 ft deep.

5 miles E of Clermont on north
one of two roads.

Road material pit showing bank of
(maximum) 13 ft. of very coarse
sand clay with 3 ft. yellow loose
sand (Norfolk fine sand probably)
upper contact of sand clay conforms to
topography. This is shown very well since
excavation is on a fairly steep hill
upper part of sand clay is red.
thick of lower part is white. Clay in
it looks like kaolin. The white
part is somewhat streaked with
red. Red probably has better bonding
power. Sand clay has great proportion
of sand over clay. Some pebbles
up to 1 inch or more. Flat oval
shape.

Clermont.

General Supply and Construction
Co. - successor to both Walton
and Morrison and Burwell Sand Co.
They have dredged some sand out of
Lake Minnedota up to two months ago.
Dredges about 50 feet from shore.
Sand dredged to depth of about
10 feet. Kaolin is streaky in places.
Sand is not washed or classified
and is therefore rather dirty and too
fine to pass State Road Dept.
specifications. Used locally for
sidewalks, plastering etc.
The producers themselves use it
for making cement brick and tile etc.

In town of Clermont is another red
sand clay bank on hillside, with
yellow loose sand above.
4 to 5 miles west of Clermont on
seaboard road cuts again show
the red sand with clay band.
 $\frac{1}{4}$ mi. W. of Maskotte Sta. a
pit shows 6 ft. of red sand-clay
(with some yellow at top) with
2 ft. of loose grayish yellow sand
above it.

Sept 10 Dade City.

Molding Sand

J. J. Brown -
Says he thinks he shipped all that
was later shipped out of here.
About 100 cars from one place where
it was thrown out from railroad cut.
Shipped to Tampa, Lakeland,
Jacksonville.
As far as he knows none shipped
in five years.

169
= 7169

Molding sand $\frac{1}{2}$ mile S. of
Tribby. Old road material
pit on Highway no. 23. Supposed to
be owned by Pasco County
with $\frac{1}{2}$ mile of junction point
(Owensville) of Seaboard Airline
and Atlantic Coast Line.

Thickness sampled $1\frac{1}{2}$ feet.
Bored below this to prove total
thickness of at least 3 feet.
Mr. Brown says usual thickness
of molding sand is about $3\frac{1}{2}$ feet.
and overburden 3 feet.
Overburden is 3 feet here, yellow
sand which grades down into the
molding sand with no sharp
line of separation. Most of the
overburden would really do for
molding sand in some types of
foundry work where strong
bond is not needed. Below
molding sand something passes
into material which is too clayey
in other places (sharp sand, rare)
usually a brown or reddish sand
clay mixture with too much clay
for molding sand.

=7170
170

sect on 16 11 - 21 -
Molding sand. owner W.A. Le Heup
4 mile S. of Dade City Court
House on top of high hill.
Elevation 380.

Hauled 1 mile to Cordova Station

No overburden except about 6 inch
loamy soil which seems to be good fertile.
Thickness represented by sample
2 1/2 feet. Taken from bank on
road side.

Mr. Brown has shipped some
sand from here. Says it is as
good as any in the region.
Contains a few ironstone
concretions. Mr. Brown thinks at
least 100 acres in this particular deposit.

Bright orange in color.
Sand seems to be in upper part.
No indication of bedding.

171
=7171/

Molding sand.
3 1/2 foot bank with 1 1/2 ft loam
overburden.
Locality R.R. cut south of ~~Pasadena~~
Cordova Station (Seaboard)
main used to be Pasadena
Mrs. Brown load more than 100
cars here from material taken out
of cut. There is a siding
just north of the cut where he
loaded. Mainly for foundries
in Tampa during the war.

The molding sand is exposed in
R.R. cut for 1/4 mile to south
of station.
No sharp line of separation
between the molding sand and
the loam overburden above or the
too clayey material below which
has considerable sand but so
much clay that it cracks in
drying and can not be readily
tempered because of being so
lumpy.
There are a few ironstone
concretions in the molding sand
here.

In some places a joint clay
residual upon ls. is found below
the molding sand. The only
place where I saw it. This
was not much molding sand
and it was at lower elevation than
most.

Molding sand occurs on the
hills and the least overburden is
near the top of the hills.

not necessarily the highest ones
although the least overburden
was where sample 170 was
taken near the top of one of the
highest hills in the table.

My. Brown's permanent address
is Lakeland

9 miles
past Blanton. past Justinian grove.
about 1 mile long - then red
molding sand.

From Thibody to Dade City to
5 miles S. of Dade City on road
to Tampa (and beyond) high rolling
country. Molding sand shows
frequently in cuts. The overburden
is not the Newport sand but
is a darker yellow and more loamy
when it is thin say not over 18 inches
the overburden is more of a mixture
of orange with grayish organic
matter. When it is thicker, as it
usually is the dark yellow to orange
color shows in the lower part and
there is little organic matter.

Out on Brooksville road 10 to
11 miles from Dade City road
material pits in red to orange sand
clay with light yellow loam sand
of Newport type above it, making
of 3 feet or so of overburden. Some
of the sand-clay may do for
molding sand.

Mr. Brown reported the best molding sand he has seen as about 4 or 5 miles beyond Blanton on Brooksville Road.

He also says that he knows of no good building sand in Paso Co.

Along Withlacoochee River in Hernando Co. he says there is some good sharp & strat sand, but probably too small deposits for commercial exploitation.

Brooksville

Dr. Bystra says gold to amount of about \$1.00 per ton has been found in sand near Lake Wales. Can not be separated by panning.

Dr. Bystra is making assays of additional samples. Says some samples show no gold so it is impossible to get specimens known to contain gold except by taking remaining portions of samples which he has cut down for analysis.

While Dr. Bystra remarked especially and without prompting that c.p. reagents and litharge in particular were not to be relied upon without testing but did not allude to the errors told of by Mr. Weakley caused by gold or silver in this litharge.

Dr. B. has some specimens of Arkansas granite that he would be willing to give the survey.

Sept 11, 1927

Specimens from Dr. Bystra

① Hard limonite, near Brooksville, F. Elmer Dixon. 30c -

② Red loam, near Brooksville Mr. Starkey 20c

③ L.B. and F.E. Varn 20c
Reddish brown clay with flint

④ L.B. and J.E. Varn Trace
white, clay and lime rock

(5). Fred Springer Judge 9.10c
Clay sand, some limonite

These are Dr. Bystra's own analyses on what he considers ordinary or typical material.

At least one of the highest (6.85) assays reported as being on Brooksville material was on a sample from outside that state.

Cyanide mill is not working properly - Cyanide is being used for filter but water goes through far too slowly and slime goes through with it. The cyanidized slime could not be filtered with three thicknesses of G.S. and S. densest filter paper even after boiling.

Sept 11, 1927

39

Interview with Mr. Jones
at Tangerine Hotel Brooksville

His samples were taken from quarry
faces by having muggers break out
boulders of limestone, break them up
with sledges and then quarter. He
tells of having four muggers work all
day to sample one quarry.

Values in samples he took ran
all the way from nothing to \$4,000.
However there is no locality as from
which samples will run consistently
as high as \$4,000. He thinks gold
is more with the hard or "semi-
crystalline" limestone, perhaps
associated with the little brown
streaks in it (or with pyrite?).

All his samples this limestone
showed at least a trace of gold.
Brooksville Conely Rock Products Co.
has installed an automatic sampling
machine which takes a sample
of tailings every three minutes.
Also a machine to take a grab
sample from the primary crusher.

Mr. J. has not much confidence
in discovery of paying quantities of gold.

He thinks that one of the reasons
why Mr. Wasky got lower values
for his samples was that he
crushed the limestone rather
fine before quartering and that
rock tends to break in size
a way that the fine particles
higher in gold drop out and are
lost. (But then why should
not tailings sludge carry
high values?)

Mr. Jones thinks for the same
reason that the experimental
cyanide mill should have a
conveyor tight enough not to
lose the fines.

40

Sept 12, 1927.

Leesburg Sand and Supply Co.
(same company as operating
at Edgemoor with Mr. Cox, Supt.)

they dredge sand out of
Lake Harris near shore Vapour
1 mi. S. E. of southern part of
Leesburg. suction dredge
sand is said to washed through
in barges through canal.

172

Sand from stock pile in yard
Leesburg sand and supply
Co.

A nearly white sand but
slightly dirty. Texture varies in
different parts of pile. Approx
an average sample, taken
Pebbles up to 1/2 inch.
larger pebbles rounded but
oval rather than spherical.

Sand 25 to 30 ft thick is dredged.
6 to 8 ft of water. Depth of dredging
is limited by striking kookum
or hard material of some sort.

41

Okahumpka Sand Co.
Mr. L. P. Clark

3.0 mi S central part of Leesburg at probable locality of Mossom # 51, highway cut exposes 3 ft of gray loamy sand on top of 6 ft of bottom not seen of coarse clayey sand. This clayey sand is white to pinkish and streaked with dark red. Beside the clay around the sand grains has clay lumps (rather scarce) up to 1/2 inch size. Deposit shows bedding & distinctly varies from horizontal to about 15° dip. Shown by variations in both color and texture. Loose sand on top probably joined by weathering.

Between this locality and Leesburg mostly swamp near west side of Lake Harrow.

(Lake Co. Clay Company, Okahumpka. send copy of sand report.)

Okahumpka Sand Co. at mine of Lake Co. Clay Co. two miles east of Okahumpka. The sand is obtained as a by product in the mining of the kaolin but the Okahumpka Sand Co. is not a subsidiary of the Lake County Clay Company.

Two hydraulic cone classifiers (scale beam automatic regulation) made by the Link Belt Company have been installed as the first sand traps into which the material pumped from the mine discharges after having the clay lumps broken up and going through a screen.

The sand from these two cones, which are operated in parallel, discharges into the ground and is washed into a sump, from which a centrifugal pump raises it to the sand washing plant, where it is screened again and goes through another hydraulic cone classifier. Here again two are operated in parallel. Of course one only of them can be used if desired.

Both a concrete sand and an asphalt sand are produced. Cone classifiers can be regulated so as to vary the amount of fines left in.

Sept 12, 1927.

173
=7173

Concrete sand Okahumpka Sand Co., Okahumpka. sample of washed sand from small stock pile at plant.

A very small proportion of clay lumps and flat quartz pebbles are screened out. High too small an amount of the pebbles to attempt separating from the clay lumps and doing anything with them.

The ground about the Lake County Clay Co. Mine is level to gently rolling. The overburden over the lower level part is all gray sand. Some probably fairly high in organic matter. On the slightly higher ground on the south side of the pond overburden consists of about 3 ft loose gray sand and below that 5 feet or so of reddish clayey sand. Probably this is a weathered part of the kaolin sand and very likely the loose sand above is still another stage of weathering of the same thing. Contact between gray and red sand looks as if due to weathering rather than to unconformity.

61
Mossom

About 1/2 mile or so east of Lake Co. Clay Company mine and 2 1/2 or 3 miles of Okahumpka. Highway cut through hill shows about 9 ft sections of red clayey sand with a few white clay lumps. Weathered above to

three feet or so of loose loamy material

Okahumpka to Yalaha around Lake Shale.
Yalaha to Howey it is much more hilly. Roads built of local clayey red sand (mossy clay) from pits on roadside.
Across bridge over little Lake Harris to Astatula.

Sept 12, 1927 x Mr. Hodges manager

46

Acme Sand Co. EUSTIS x
Sand runs from 2 to 8 ft down to hardpan - black much like material in some places. In other places more like a sand cemented by clay, much coarser sand below the hardpan - some streaks of brown sand.

SiO ₂	96.6	} Southern Testing Laboratories x
Fe ₂ O ₃ + Al ₂ O ₃	1.4	
CaO	1.66	
MgO	1.26	
Ignition	+15	

SiO ₂	97.6	} Pittsburgh Testing Laboratories
Fe ₂ O ₃ + Al ₂ O ₃	1.93	
CaO	tr.	
MgO	max	

Kaolin found in places.
Also in the place a layer of blue clay said to be 8 feet thick.
No good sand in Lake Dora

174 Sand Car Sample - Sept 12.

7174 One grade concrete sand.
Cone classifier - Pumped from dredge in

Sand is very fine on other side of lake.
Plant is about 3/4 mile N. of central part of Eustis.

In lake at Clement tough clay also is sometimes found.

Dredge is working about 600 feet out at Depth of water?
Light mining tubes and chipped flints are dredged out with sand.

Sept 12, 1927

Magid - "blew up" ceased operating

(Lake Weir sand Co - dredge sunk.

Lake Weir sand not being worked.
Poorly washed. High tartrate acid.

Rumor of gravel deposit somewhere east of Ocala.

19.2 On highway no. 2 Leesburg to Tavares 8 1/2 miles E. of Leesburg road material pit.

(layer at top fromogenic matter)
6 ft. light gray to yellow sand
3 to 5 ft. red clayey sand mottled with gray and yellow, below this lighter colored and too weakly bonded. This is part of the country. May not be unusual thickness for the yellow sand, but places where it is thinnest are generally selected for pits.

Picture of this pit no. 6 roll 6.
sample of overburden and red clayey sand below

On highway No 2 between
Tavares and Leesburg noticed the
patches of St. Lucie. Fine sand
indicated on the soil maps. While
the content of organic matter is
small from the point of view
of the podologist it is far too
much for the sand to be used
in concrete or mortar without
washing and since the texture is
too fine for high grade concrete
sand washing is not justified.
Where this sand had been taken
out for highway fill could see
yellow sand below at depth of
about three feet.

Sept 13, 1929

going out of Leesburg on Ocala road
3 1/2 miles N. of Leesburg road
intersects pit on east side of
road. Shows up to 11 feet of coarse
clayey sand below about 2 feet
overburden of loose gray loamy
sand. Upper part of clayey
sand redder and more evenly colored
lower part a general brownish
pink color. On closer examination
a really white streaked and finely
speckled with red. White clay
around the sand grains and in
little lumps. In large weathered
parts nearly horizontal bedding
can be seen.

Between here and Leesburg
some small cuts into the red clayey
sand. Usually two or three
feet overburden of loamy clay
gray to yellowish gray sand.

Lake Weir Crystal Sand Co.

Plant located 1/2 mi SE of Lake
Weir station. They dredged sand
out of the lake and also on the east side
of the railroad about 100 feet from the
lake. There is one dredge ship
in the lake and another in the
pond formed by removal of sand.
Can not tell anything about
sand dredged out of the lake
except that I have heard it was
rather fine. As for the other
sand, there is two to three
feet of dirty white sand on top
and then a typical black hard pan.
I can readily believe the statement
of Mr. Hodge that it was impossible
to wash this sand clean. Aside
from that it is no coarser than
many areas of scrub sand which
could easily be washed. This
hole is on the edge of a piece of
oak woods which gradually into
scrub on the north with thickening
of the white sand. At the corner
of the lake near the station about
6 feet of white sand shows in bank.

In places along shore of lake
is a thin strip of very coarse sand
but this is due to sorting by ripples
and is no indication of a worthwhile
deposit.
Smiley sand Co. at East Lake
is also very much dead.

Lake Weir to Belleview rolling country
with fine yellow sand small oaks
from Belleview north to near surface.

Ocala Iron Works. -

got small amount of molding sand
near Montague & Sawyer Hampton.
(Lee Miller)

said to be very inaccessible x

can from near Archer - Lums
out a little quicker than Alabama sand.
Skinner - filling station x
mostly heavy iron castings -
machinery etc.

About 1 mile out this side of where
siding gets into main line.

175 Molding Sand.

40.5

R.R. cut $\frac{3}{4}$ mile S. of Archer
Sta.

sample represents 3 ft bank
with about $1\frac{1}{2}$ foot overburden
of loose gray sand.

Cut goes through a small hill
and on the sides only the gray sand
can be seen where the cut is less.
Upper 1 foot of bank sampled
is yellow and even textured and
uniform color. Have less sand than
the 2 feet below which is more
clayey and mottled red, yellow and
pale gray. ~~Below this material is~~ Below this material is
got much different for the next
foot or two to the bottom of the

175 cut but appears a little too
clayey.

Mr. R. Skinner gets this molding
sand for Ocala Iron Works.
foundry in Gainesville.

The same kind of molding sand
is said to occur at a number of
places around here.

M.E. Sanders

Mr. Gooch
Lake Wales.

52 ft to Kaslin - all of this is mixed.

Says he can trace same sand from Edgar into Georgia.

Around Apopka etc.
Due east of Starke - Lake Kingaleysa

15 to 20% of sand thrown out by washers.
Traces discarded contain practically all the
limestone - 198 acres of coarse sand
shipped 52000 tons per acre
Says Not right for asphalt

Says deposit of Lake Wales Concrete sand Co
is very spotted - that is texture is not so
uniformly coarse.

Says Heapsides

Double A.C. south Brewster -
coarse sandy matrix.

For asphalt sand right texture.
can be obtained by mixing Denard
sand with about same amount of
fine sand.

28 day strength of phosphatic sand
less than 7 day. Some other sands
with organic matter decrease.

176 Specimens of Brewster sand.
sent by Mr. Mead of
American Cyanamid Co.

176 Coarse concrete sand.

177 Ordinary concrete sand.

178 Brick mortar sand.

179 Asphalt sand.

180 Plaster sand.

Suwanee Co.
Branford.

nearly white sand used in
making concrete block, south of
station on east side of Suwanee
R. - a surface deposit, probably
formed by the river itself.

Not very clean - roots etc.
Medium texture

57

Sara E. Sweet.
Sand Union Co.

Day.

Gannville to Worthington Springs
then north Sweet's plantation
through woods about 1 mile north
of Worthington - 240 acres.
Duke - anyone could give
directions.

G. I.
Mr Singleton.
algae Bank.

G. I. Singleton.

Baker & Jarman Lake Weir, Supt.
plant closer to East Lake,
office at Lake Weir.

2.9

58

Oct 18 1927

59

On Bradenton - Tampa Road about
3 miles S. of Junction with Tampa
Lakeland Road.

Shell marl cut into in ditch
on roadside, for 200 or 300 ft.
exposed by about 3 ft.

section surface soil about 1 ft.
Hardpan (black sand) 2 ft.
shell marl.

south of outcrop of shell marl
calcareous concretions in impure
sand - look like petrified
rocks.

Oct 19

60

Dunham - Manatee

Geo. E. Dunham Brick & Manatee

Have not been working for some time.

- ① Chat & hoeses Sand.
- ② Manatee R. sand. a little Rhodite
- ③ White scrub sand - very fine
- ④ ~~Yellow clay and apparently mixed~~
~~in for testing~~ ← not used yet.

Began about first of year.

Most of sand used is dredged
10 miles or more up Manatee River.

No washer - pumped directly into barge.

~~Cost \$4.50 per ton~~

\$14.50 per ton

About 125 cu yds present in carrying
 cured 10 hours
 cost \$14.50 per cu yd
 delivered in town about \$17 at yard.

Shell dredged out of Manatee River
 above bridge at Bradenton.

Bradenton Dredging Company
 used for road material
 much of it.

61

sample
185

H.H.

Manatee R. sand

about 10 miles up river from
Manatee. Between there and Rye.

Can't get into most of the brick [not used]
 Dunham says Manatee R. sand
 is better than Pittsburgh but gave
 greater strength at 2 days than
 28 days.

Yellow sandstone.

up river - sandstone overlies by
 20 feet of sand. Contains gravel
 up to about 1/2 inch.

Clay - beyond 5 or 6 miles up the
 river - large amounts of clay in bed
 of river - when water is near
 clay is exposed.

Best sand out of bottom of
 river - for concrete or masonry.

Strength about 80% strength
 of standard sand at 14 days and
 60% at 28 days.
 Sand is coarse and covered by

62

203 - Chalkwater Sand
 10 yds. from

Traverse Quarry
Same set

- 3 spec. pebble phosphate
 3 spec. brown fossil bone.

7 mi E of Manatee on
Manatee - Arcadia road.

Collection of shells from marl
exposed in drainage ditch.

Ditch just reaches top of
marl at about 2 to 3 ft
depth. In other places the
marl is not reached at 3 ft.
overlying loose sandy soil
and harpam.

Oct 19, 1927 64

"Rye Bridge" over Manatee
River. Opposite 10 miles E
of Manatee.

Bluffs along river up to about
8 or 10 feet above present water
level. Phosphate and sandy
Chippewa formation extends to about
5 feet above water. It shows
in the banks but back from
river is mostly covered by alluvial
sand. The river sand and the
bed of the river and up banks
along the sides, as well as that
deposited above the banks in
floods carries phosphate
grains and pebbles. A few
quartz pebbles also, well rounded.
Most of the quartz sand is
fine. None of coarse size
as coarse as that at Danan's
reach yard.
8 ft deep in channel.

On bar on North side of
river below bridge exposed
a nearly white sand with very
little phosphate. From
the state of the river
the sand on the bottom seems
to be covered with a thin layer
of mud because there is
scarcely any current, but the
underneath the river sometimes
overflows its banks.

Oct 19, 1927 65

about 1/2 mile upstream on
Manatee River bridge from
Rye Bridge.

Large amount of alluvial fine
sand filling ~~the~~ River
in the bed of the channel
and in places a little above
the water there are very
small amount of coarse phosphate
sand and fine gravel. Very
scarcely quartz pebbles off
to about 3/4 inch
well rounded.
Not any commercial amounts
of coarse sand.

The shoals here are only
about 8 inches or less deep
for the entire width of the
river and there is a very
appreciable current.

Small sample coarse phosphate sand
no number on bag
Large sample coarse sand and
fine gravel from bar of water
edge washed by strong
water up out of from the
river

700
=700b

701
=700f

Oct 20

Anna Maria Island

outer beach at north end
Anna Maria near north end
(about 1/2 mi from north end)a pond of three or four acres
is cut off by a wave built bar
which the waves break over.
channels cut through the bar by
waves have banks 6 inches high.Rill marks in bottom small thin
striations of heavy concentration
these channels. Also some thin
dark streaks of heavy concentration
on the outer beach itself. Further
grains covered away by the wash
of the waves.

Samples from North end.

=6000600 Beach sand.(from "map" about 8 inches high
formed by small waves in beach
built by larger wave=6001601 Heavy Concentrates.Beach at north end
Anna Maria Island.Most of the sand is mixed
with considerable shell both
whole and broken. The
siliceous part is all fine.

Beach sand on Santa Maria Island
is probably as clean as any
in the region. Containing a
considerable proportion of shell,
both whole and broken.

The natural sand-shell mixture
was used in a reinforced concrete
house 2 miles S. of Santa Maria.
It is also being used for a wall
in proportion 1 of 4.

Similar

On Long Boat Key
(partly in Manatee and
partly in Sarasota Co.)
is sand shell mixture along beach
similar to that on Santa Maria.
Large amount of material has
been dredged and used for
fill. This is being used
by Sarasota Co. for highway
laying (with possible canals).
Large amount of similar material
have been dredged onto
Sarasota Key especially on
the east side and at the
northern end. Laminated shell
are scarce.

38.5

1 Banded Limestone.

3 spec.
exposed in Manatee ditch and
material thrown out from it.
Thin banded part was seen only
in places two or three thick or less.
Softer limestone without the
banding associated with it.

1 1/2 miles west of Manatee -
Sarasota road (highway No. 5)
on road to Cortez.

Oct 20
Sarasota County
Engineer's Office
Sarasota.

are having 3/4 mi with sand
shell aggregate on Long Boat Key
(E. O. Parsons
(Norman G. Corson) county Eng.
(Ed. E. Youngberg) Mani
or steam.

Using 1/4 mile.
8 to 8 1/2 gals water per
sack of cement.
Shrink to 2 in.
to dry as possible.
About 5 to 6 gals water in the
aggregate as used.

Expansion just

Curing with salt water but
mixed with fresh.

Showing obvious wells of
fresh water, no source of
fresh water.

Tests of compressive strength
by Pittsburgh testing laboratory
give higher results by far
than Southern testing laboratories
in Tampa.

In measuring sand to get

Oct 20

72

[E.O. Parsons Sarasota]

The 1:4 mix the bulkings
of the sand due to the midline
is allowed for by using additional
volume of sand. The material
mixture is ~~used~~ used and it
varies to some extent.
Large shell screened out.

Oil Well

Sugar Bowl Road

Section 8 or 5 - 20 - 37

Roughing Well - Section 32 near
Salt Springs

H. L. Ferguson - Curator

Taxidermy Department

City Museum - Sarasota

Moore - interested in vertebrate
fossils - collecting with GidleyMyakka - small clean
snails

73

Venice Oct 21.

74

Pictures

Roll 1 N.B.

Wind blown sand at foot of wave cut
cliff on beach side of beach 1/2 mile
S. of Bath House at Venice.
Sand containing a large percentage
of heavy minerals is piled up
to depth of 2 or 3 feet.
Surface is beautifully rippled
marked. Tracks of sand delivered
across it.

No. 2

Outcrop of Plaster rock

3/4 S. of Bath House on Venice Beach.

Very rough surface.

Contains coarse sandy phosphate
pebbles, someTwo specimens. One showing
irregular cell structure. The other
apparently pitted.

same
locality
190
paces
N. of
Pholok
with
outcrop

No. 5

(trench across)

top of
beach ridge
↑ picture over?

scale about 2 square = 1 ft.

No. 3

No. 5

trench in sand showing section
from beach ridge down to where
wave wash

Tide appears to be falling

No. 4 View with along beach

water back ridge 602 wave cut cliff
wind blown sand

1900

S dark heavy minerals N
light

wind blowing from north
yesterday @ 20 probably
formed these ripples
North slope is more gentle and
has more of the heavy minerals.

Venice

602

=6002

Wind blown sand with large
minerals. At back side of
beach piled against wall with cliff
cutting 100 ft north of north side
of outcrop of Pleistocene rock.
190 paces + 1/2 mile estimated S. of bath house
= about 3/4 mi. ? to 1 mi.

603

=6003

Sand from wave cut cliff at
back of beach 190 paces north
of "Pleistocene" rock outcrop, at mouth
of a ditch. Represents about a
1 1/2 ft thickness of fine green sand.
About this is about 15 inches of light
colored sand with shells which was
not included. This appears to have
been piled up on a very recent
by waves. Total height of cliff
along here about 5 ft. That
wind blown sand is piled against
lower part in most places.

603

very light gray
dark - brown places
real brown
gray to grayish
yellow

604

=6004

Same general locality as 603

Top of beach ridge

To depth of 2 ft.

Shell and coarse sand getting
finer toward the bottom. Fine
dark streaks all the way through.
Most prominent one at about two
inches from bottom.

605

=6005

Sand same locality as
603 and 604
Spot on a ditch of 1 ft
6 ft in front of beach ridge
This is washed by waves at high
tide in quiet weather

606

=6006

Sand - Heavy concentrates from
almost pure layer at top between
beach ridge crest and line
reached by waves at about half
tide. The layer is one foot
about 1 to 2 inches thick with
only very thin streaks of light
material.
in front of beach ridge
between 603 to 606 about 1/4
mile (estimated) S. of bath house
at Venice

607

=6007

Coarse shell sand, large sample
near bath house on beach at
Venice. This is in the stuff washed
over by the waves in ordinary
calm weather.

0.7 mile from bath house
at Casey Pass

Much of the work along
the beach south of the bath house
there is a wave cut cliff on
sample 603 particularly to
the south. Well exposed to
the sea smaller patches of
the sand. Much of this sand
is typical hardpan.

608

=6008

Northern end of Venice beach
at Casey Pass 0.7 mile
north of bath house referred to
on preceding page.
Sample taken 15 inches at the
edge of the high tide of the
last few days. (Note about such a
high)

25 ft to edge of water & present
stage of tide appears to be at
least halfway out.

It seems as if material had
been dredged out of the mouth end
of the beach, so it does not have
normal profile.

With tide going out there
is a strong current in Casey
Pass. Heavy concentrates on the south
side of it for a few hundred
feet upstream. Probably
is dredged material at least
partly.

It seems likely that a delta
has developed in front of Casey
Pass, pushing by the beach
and then being rid of waste of
the outermost beach.



Oct 21

Treasure Island west of Nokomis
separated from Venice Beach
by Casey's Pass. Walked south
from the where road from
Nokomis reaches island to
south end.

Very small amount of heavy
concentrates in most places
not noticeable at all.

The half a mile or so from
the south end of the island it
looks as if there was a very
recent deposit of sand on a part of
a little sand cut off by a
corresponding to top of Venice
Beach south of the bath houses.

609

=6009

Sand - 100 paces N. of S. end
of Treasure Island near
Nokomis.

2 inch layer on surface
of beach close a little below
high tide level.

610

=6010

Same locality.

Average at the depth of three
feet or that upper limit reached
by waves in calm weather. The
top of the steep, inner slope of the
beach.

The part of the beach between
high and low tide is probably
not more than 80 or 90 ft wide.

Treasure Island

Sand shell operation at west
end of road from Nokomis
Andrew M. Anich - owner.
material used is stored in Venice

dry with gasoline operated
clam shell bucket to depth
of around 5 ft. About 4 ft
about low tide, and dug perhaps
a foot or so under water.

Largest area excavated
100 to 200 ft wide. It is
all a natural deposit. Not
dredged in.

The mixture of whole shell
broken shell and gravel sand.
Contains also a little phosphate.
The sand and shell more or
less sorted into thin layers which
can be easily mixed by digging.

The largest excavation is at
the site of the original Casey's
pass. - The ~~original~~ present
Casey's pass was open
artificially. The hole was filled
in naturally, some about
1900 so the ~~pass~~ ^{pass} ~~was~~ ^{is} ~~now~~ ^{is} ~~working~~ ^{is} ~~into~~ ^{into} ~~a~~ ^a ~~natural~~ ^{natural} ~~one~~ ^{one}.

There is a bar about 150 ft
out from the shore. The
water breaks on it in part
by the so it goes to the
beach. Extends for a long
way along the shore.

It fills in to some extent some
extent with fine sand. Fills in
very readily up to the level
but slowly under that.

186

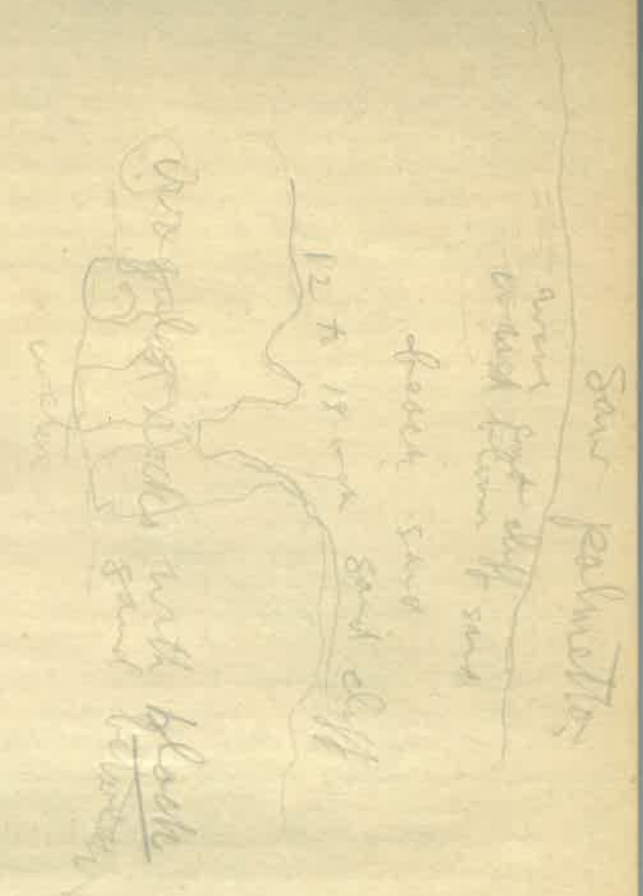
=6186

Sample from 4 ft pass
used in concrete without
any further preparation
except to break.

Picture of this operation roll
2, number 6.
Roll 3, number 1, 2, 3.

Concrete pavements in and near
City of Venice are made with the
sand shell. So far these seem
to be little better than the concrete
other than being of 100 ft on the
surface and to the level of the
mixture falling out of a shell which
had the ~~pass~~ ^{pass} ~~side~~ ^{side} ~~up~~ ^{up} ~~or~~ ^{or} ~~by~~ ^{by} ~~the~~ ^{the} ~~breaking~~ ^{breaking} ~~through~~ ^{through} ~~the~~ ^{the} ~~cover~~ ^{cover} ~~side~~ ^{side} ~~of~~ ^{of} ~~a~~ ^a ~~1~~ ¹ ~~inch~~ ^{inch} ~~deep~~ ^{deep} ~~hole~~ ^{hole} ~~filled~~ ^{filled} ~~shell~~ ^{shell}. Very few ~~shell~~ ^{shell} cracks
in the pavements. Made with
a roughish surface and curbing
about an inch higher than
the paving so it extended to
put on an asphalt top.
Sidewalks also of shell concrete.

40 paces S. of beginning of Harwood
road on left

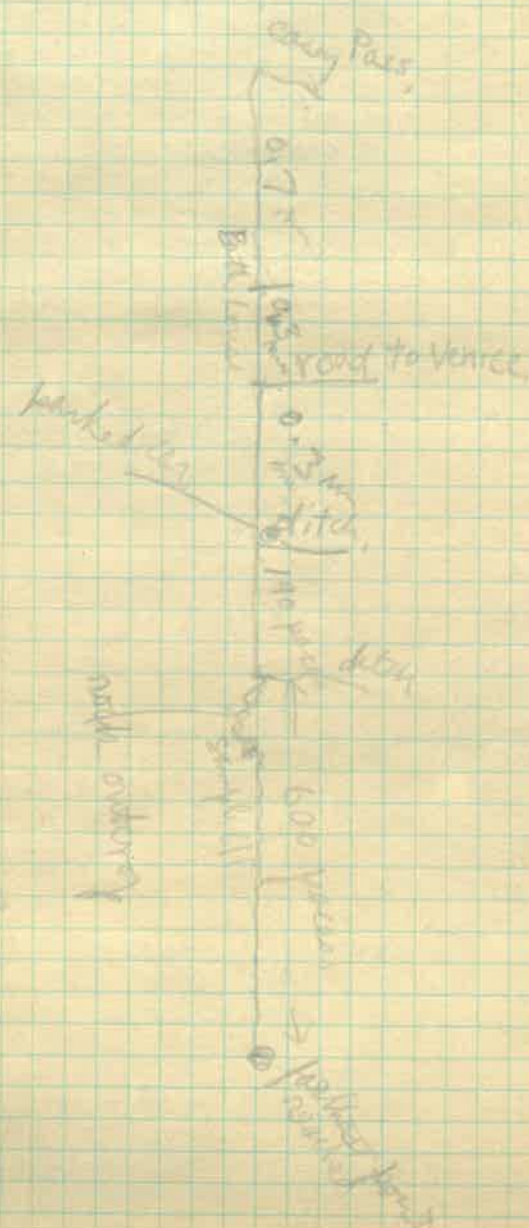


Oct 22, 1927

84

Venice Beach

about 1/2 mile S. Venice still better to the south
to a large house & garden back at a short
road in the forest just where I am now
S. 100



Oct 22

85

walked 190 + 600 paces
south from Little Island. Samples
603 & 606 were collected
the ditch is 600 yds
S. of Venice Bath House.

The Pliocene rock outcrop
is about 200 ft long.
Walked 600 paces S. from
the north end of it. In this
interval there is some black
sand all the way. The
thickness and character of it
varies. Much of the way
hard pan is exposed on the
beach and is being scratched
by waves. Spands 1/2 to 1 in
irregular shapes like hard
rock.
Part of the way there is a small
gull bar with a marsh in
back of it and part of the way
(more) Paine's scrub and
flatwoods.

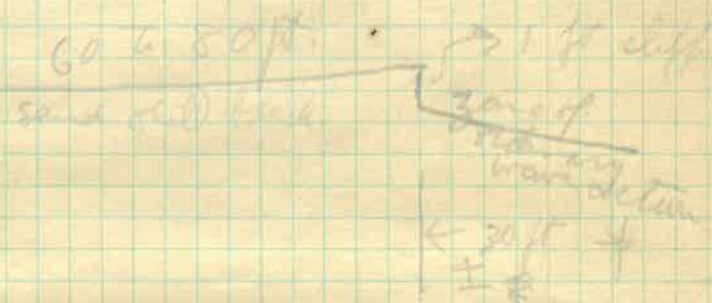
Phosphate in the sand
wherever it is coarse enough
to recognize.
Black fragments of rocks
in some places probably like
the Pliocene rock outcrop.

Roll 3 No. 6 Hardpan outcrop

Oct 22
Manasota Beach
7 miles south of Venice

86

Caltrage
Palmito



812
=6012

Sand. Manasota Beach
Little cliff at limit of ordinary
wave action at high tide.
The is 1 ft high. I put sample
entirely through it and below
to total thickness of 2 ft.
Gravelly sand and poorly sorted
bottom. Some phosphate
and much shell.

At this locality there is very
little black sand beyond
the disseminated grains of dark
colored phosphate.
On the sand worked over by
the waves there are some thin
dark streaks but there are
no larger phosphate.
On the beach are some pieces
of upper limestone like that outcropping
at Venice and on the first sand
ridge back of the beach are shells
of *Strophomena* and *Strophomena*
the same as in the Pliocene limestone.

level. ridge ridge
Calcareous sand
coralline
calcareous pebbles
water
marginal ridge
ridge

Manasota Beach Oct 22 ⁸⁷

613

=6013

Sandy Manasota Beach
1/2 mile south of where road comes
out to beach.
Heavy concentrations?
Trawl with layer on surface
at about high tide line.

614

=6014

phosphatic shell sand
Manasota beach - large bag
Three specimens of phosphatic
coquina
Several spec. of fossil bone,
shells, sponges etc

Walked fully half mile
south from where road reaches
Manasota Beach. Very little
black sand concentrated
and the black and brown
grains were seen to be mostly
phosphate. Will work whole
shell and shell sand in both
directions as far as can be
seen. The beach looks about the
same. The sea appears to be
adding to the coast here. Beside
the two sand shell ridges forming
the higher part of the island all
apparently built up entirely by
waves other ridges are forming
on the present day beach.

Oct 23.

Captiva Island.

In 1921 a pass was formed
about 5 or 6 miles from the north
end. This is still opening.
The about 1/2 mile in more
south of the pass the outer
beach has apparently been deposited
back since man-made path
up through the sand shell deposits
down to the water edge.

615

=6015

Sand 2 inch layer on surface
little above ordinary high tide
1/2 mile S. of new pass
between Captiva Island.
The was selected as being
mostly free from whole shells
and large much more siliceous
sand than the beach deposits
in the water. Could not see any
phosphate pebbles which could
be definitely recognized.

Passage to Island

Very faint indication of separation
of sand minerals on the surface
of the beach. Not more than
a very sparse sprinkling.
On both Captiva and
Captiva Islands the beach is
made of a mixture of aragonite
whole shells, silica sand, and
broken shell. Seams to be of
the same general nature. (I think)
but probably less favorable for
use in agriculture. The sand is
fine. More seaward mixed with

~~the other beach deposits. Much of
the same as the~~
One concrete fence observed built
of the material.

Oct 23

616 Sand South side of Sanibel
Island ~~to~~ from the northeast
Ends Bay of two beaches
on the surface where the
the sand more collected than
the beach deposit as a whole

$$= 6017$$

Oct 23, 1927. 91
Sambel

$$\begin{array}{r} 618 \\ \hline = 6018 \end{array}$$
$$= 6019$$

618
619

very concrete. Local large sand also used in concrete but requires special selection since the sand in most parts of the beach is too fine to be better. Gravel shell of sand to be better than clay shell because of stronger bond between the shell and mortar. Oyster shell from the mounds also used on roads.

Clam shell from local canneries is used in road clay. Some mixed shell from beach has been used in concrete sidewalks.

620

=6020

Dune sand - top of hill on road 1 mi. N. of Capamboa. Gray sand - occurs immediately below surface. - about 18 inches thick.

621

=6021

Dune sand - same locality as 620. Yellow sand - immediately below gray sand of 620. Sampled to thickness of 2 feet. Total thickness not known.

Boundary between gray and yellow sand is somewhat irregular. Sand is marked by a thin brown layer about 1/4 inch.

No bedding apparent. Sand seems uniformly fine.

Oct 17

9 gal gas madison 2.34
6 gal 30 1 qt oil 1.48
50 s. - 50 1.00

Oct 18

Room, Dunellon 2.00
5 gal 6.70 d. 67 s. 75 1.15
2.12

Oct 19

Room, Bradenton 2.00
5 gal 6.80 d. 80 s. 75 1.15
storage 5 gal oil 1.40 5 gal 1.50 3.40
shovel 1.25

Oct 20

Room, Bradenton 2.00
5 gal gas 1.15

Oct 21

Room, Bradenton 2.00
5 gal 6.70 d. 67 s. 75 1.15
shovel 1.25

Oct 22

Room 2.00

Oct 23

5 gal 6.5 d. 1.00 s. 80 2.45
gas 1.20 storage 50 1.70

Oct 24

Room 2.00
5 gal 6.5 d. 1.00 s. 80 2.45
gas 1.20 storage 50 1.70

Sept 9

Room 2.00
5 gal gas 1.45
b 30 d 40 s 60 1.45

Sept 10

Room 1.50
B. 55 D 50 S. 75 1.80
5 gal gas 1.15

Sept 11

Room 2.50
B. 55 D 75 1.25
9 gal 1.47

Oct 25

40 d 50 s 60
storage 50 5 gal 2 qt oil = 2.70
Hotel 50 5 gal 1 qt oil = 2.50

Oct 26

Room Dade City 2.00
Dade City 6.85 d. 50 s. 75 2.32
8 gal gas 2.08 1 qt oil .25 1.30
5 gal gas .15

Oct 27

Hotel, Ocala 2.00
b 35 d 70 s. 75

2.70

1.10

2.10

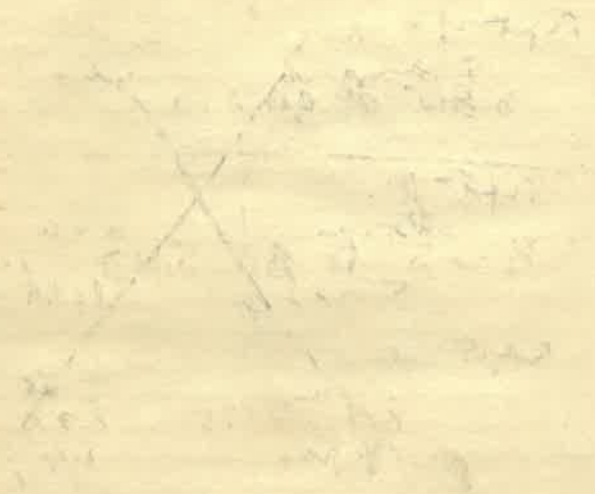
1.20

2.30

1.30

Oct 28

ferry Oklawaha 1.92
5 gal gas 1.30 1 qt oil .00 1.60



$$\begin{array}{r} 8.25 \\ \times 26 \\ \hline \end{array}$$

$$\begin{array}{r} 2.15 \\ \times 2.15 \\ \hline 4.6225 \end{array}$$

St. Petersburg
 Pimellas Sand and Shell
 1. Hellsborough sand and shell Co.
 L. Molander, E. G.
 E 126 18th Ave.
 sent two samples of clay
 from Pimellas Co.

Cleanwater
 Cleanwater sand and shell Co.
 A A. Zimmerman and E. N. Eaton

Sept 7

Sent by height from Clearwater
samples no.153, 154, 155, 156, 157,
158, 159, 160, 162, 164, 165

2. when
the Wellston
Rayleigh

Tampa

1. Plant City Brick Co. offices
Citizens Bank Bldg.
2. Alafia Sand and Shell Co. succeeded
by the Hillsborough Sand and Shell
Co. foot of Harrison St
3. Tampa Sand and Shell Co.
~~at Tampa Ave.~~ foot of Oak
Ave.

1015 Oak Ave. Barber
Poke & Clay Rock and Sand Co.

G. Co. Sunbury Acadia

Workers Point Seaboard Terminal
Tula Portland Cement Co. Plant
Mr. William Kane Chemist
Mr. Cowham, Engineer
O. A. Hartley Supt of Coast

Last sample sent 152