

No 22.



PROPERTY OF
FLA. STATE GEOL. SURV.



C. H. Sellards
March. April & May.

Indeget. June 18. 1910. 1910.



Clay County.

Line from Peoria to Middleburg.
at Bush plot see Mr. C. H. Taylor map.
Mason & Buck &.

At Middleburg see F. H. Buddington
owner of plot late used on Black Creek.

Line up Black Creek & onto Yellow Creek.

Line from stake to Kingsley pond
& to Sand Hill Lake. see well at Waller.

Line from Baldwin or from
Peoria to the headwaters of Yellow water
Creek. see well of Long & Buddington.

Putnam County.

4

Gravel deposit near Interoceanic.

At. Noshua $\frac{1}{2}$ mi south of Noshua.
Dine from Sotsuma High or
from Penona.

See H. A. Ring, abt certain wells of Sisco.

See Noshua road of bridge over
St. Johns River.

Nonan Co.

Dine from Baldwin to St.
Marys River. excellent water.

Dine from Callahan to St. Marys.
Get team from Micbler.
Good water

At or Hillyard get elevations.

See abt driving from Folkestone.
or tent outfit from Callahan.
can stop on right of Kings ferry. One
Bluff is Clock Bluff is abt 3 or
3 $\frac{1}{2}$ mi above Kings ferry.
Orange Bluff gives no exposure.

See Bluff near Crowdsells 294
mi above St. Marys.

See Frank Shuler in sat.

One day at Fruendling.
Florida House.

Lincoln Co.

One day at Maypat.

see att RA well Flo. E. Cent.
East Maypat well. 495 ft. deep

Line from Boddum + Head
of Yellow water Creek.

see Hugh Portridge obt. well.
Now 750 ft. 2 in. Being enlarged to
4 in + will be enlarged to 8 in.

Baker Co.

Line Melony + St. Mouns.

Burford County. made 5.1810

~~For a well at Old Indian Field on
the St. Johns see Mr. S. J. Norton
pool wren, Titusville. Worthington Ave.~~

~~Old well at Stockade. obt. 6 mi
west of Turnbull. see
drilled abt. 3 years ago. 7 ft. lower.
At first water was fresh, + used to water
mules. became salt afterwards. now
abandoned.~~

~~For a well drilled at Minimus see
Phil Roberts of Minimus.~~

Head of slough going to salt
Lake is near the Sonted Rock just
west of Turnbull at $\frac{1}{2}$ mi. obt
2 mi from Indian River.

Head of slough going to St. Johns
south of salt Lake at $\frac{1}{2}$ mi west of
Minimus + at 2 mi from Indian River

Send 1? A.H. to S. G. Harmon, at
Minimus

Survey for canal from
Flounder Creek to St. Joseph
Clyde line dock. Pat. & lease of
Capt. B. G. Water 1910

~~Mr. L. H. Griffith, at Shilo.~~

Tom Murry near Synona. has wells
put down around but 1 near river
see well better over these
are well good enough to drink very light
salty. ~~see~~ ~~thorough~~. 1 mi from Synona 1914.
First flowing well south of

Titumville 13 mi. S. of Titumville.
about Fabr. slightly salty.
stock drink but not for
house use.

see J. Smiths place 1 mi N. of Cocoa
" C. H. Key. in cocoa

see Mr. J. Thompson at
Frontier. 6 in well used
to run mill for bath. etc.
a little ~~used~~.

see John McCarty with water
alt well at Indian field. ~~broken~~.

see C. B. Hecker, Titumville, Fla.
alt well at mine. in same old well
see.

Rotary drill,

Cable tool.

getting outfits.

From Baldwin to yellow nats
franch. School House ^{6 mi} very level
open land little or no scrub palmetto.
From school house ^{1 mi} beyond
more scrubby. peeing clay not red &
yellow nats. back bones very sandy
within 1/2 mi of Baldwin pine &
scrub oak.

Black creek is not bigger or
on the smaller creeks. It seems to
be cutting deep in an old valley
bottom. The fogs are unusually
numerous. The stream is too
sluggish to give clean bank
exposures. at one place however
6 mi from Maxwell or Long
Camp A bluff of 10 ft. borders
the river. This bluff shows or
fore blue sticky clay & the
red sand & boulders & to the flat
white clay pebbles point,
this one see. Finby sawaya & middle

on the return road to Baldwin
scrub & scrub oak a mile or so. Then
open pine land. Typical ground
just to topography. Steep flat
bottomed.

See well at Byrville, Mrs
G. W. Byre owner. Said to be
500 or 600 ft. deep. Flowing,
3 or 4 in. well, drilled off 4 years ago.
Stuffed diller. Quatre land from some
of owners that flow now by, this is ditching & lower land.
See mud by motion.
McBart Co. 300 acres 2 mi out from
Baldwin including some hamlet. & stream
running through land. price \$1,000
also 160 close near Baldwin, high \$1,000.
also 1000 acres in Baldwin bay 1 mi N.

Section in pit of Union Dick co.
middleburg.

13

sonda

Red very sonde clay 7 days sep	1 1/2
Sticky blue clay, jar clay on	7 1/2
to & very clay	10 "
white sand & little	3 "

See will Woxham. middleburg. abt
foot.

~~Phone Mrs Hoyle off team~~

✓ Black Creek - south of at
middleburg Bluff on south side of
river at Hogon's landing. some

Loose grey sand	10 ft.
yellow clay no phosphate	
yellow sand & clay & black pebble, & ..	
phosphate	7 ft.

Moses landing 1/4 mi below on south side.
rich which from the hot carb some

Bluff on south side .14
Just at mouth of south
fork.

section

✓ surface sand with some
sandy clay & some sticky blue clay
like that of rich blue. 5 ft.
nearly vertical yellow clay
coarse sand with very small
flock pebble included to 20 ft.
water edge

The pebble seen at this landing
is all small. possibly the 7 ft.
of coarse pebble seen at 1st bluff
dipped beneath water

✓ Bluff on north fork of
North fork of Black at High
landing 1 1/2 above mouth
slow lime sand with small black
pebble 3 ft. above this 17 ft yellow
& bluish clay road.

Bluff on south side of
North fork at Bratus place
2 1/2 mi from mouth or 3 mi.

Limestone sand with some coarse &
with very small pebble 17 ft.
above this sand 3 ft.

This is the place where mining
was done by Stephen & Broward.
is a new road.
along the bluff is level country.

On the gin house bend the
limestone exposed at the water
edge is quite finely indurated.

7.5 mi 3 of south fork of
Black water.

✓ 7.5 mi 3 of south fork of
Black water landing 1 1/2 mi
above Middleburg. &
section

sand & red sand 4 ft
full of fine clay 2 ft
limestone 17 ft

old pits holes near here show
some red. S. 17 ft

mouth of Bull creek.
 Pit hole at Oldflesh plate
 flat waled into the ex.
 limestone. Black pebbles in
 buckets. 8 ft exp.

Landing on river side, sunny side
 landing. Just below mouth of
 Bull creek. alt 6 ft of dals.
 sand the lower part peaty with
 well preserved bones & limbs
 & one leg.
 Light colored sand the N 5 ft.

Just below at landing
 Sandy & clay 7 1/2 ft.
 Light sand above 7 1/2 ft.
 from the bluffs general trend.

~~East~~ Fowler Landing
 Sand & top 6 ft
 limestone & pebbles 15 ft
 This landing 1/2 mi or so from mouth of
 Bull creek.

At fork of Bull creek. long 17
 Bluff 1/4 mi or so.
 Horn creek 3/4 mi landing
 with sand of sandy clay 5 ft feet.

Bluff 1 1/2 or 2 mi below
 falls on N. side of creek
 sloping dry 10 ft
 clay & mud 12 ft
 limestone (exp) 8 ft

Landing 1/2 mi on down on
 South side of river.
 Sand light 6 ft
 clayey sand 15 ft
 limestone 10 ft

Landing 1/2 mi down also on
 South side. alt 3 ft of the
 rock. 25 ft clayey sand &
 10 ft of light sand.

South bank of house & pier
 ordered alt 5 ft of rock for 1/4 mi. sloping
 shore. Opposite Indian mound 20 ft

Bluff on south side

18

1/2 m below.

white sand

8 ft

Reddish
made in this line

15 ft 25 ft

Bluff small out 2 1/2 m of
Bridge on south side road
the the last bluff on the
river shows only light sand &
reddish sandy clay. 15 ft 25 ft
made in this line.

Locking in. 24 m. 1/2

At Birch plant. Johnsonville

well started after 15 ft clay
had been taken off.

4 ft 3 clay sandy.
1 ft blue sand

4 ft 7 shell & bottom

Fish remains found in the clay.

Section at Birch plant. 19

Incoherent sand & soil

3 ft

Clayey sand, top oxidized
reddish

8 ft

Sandy clay stretched

5 ft

Clay with some shell

3 ft

Another section. 19

Sand & soil

25 ft

Sandy clay, the top 4 ft

more sandy & removal is evident

The lower 12 ft blue & clay

16 ft

used for fish, some shells &

occasionally red bottom.

well of fish & shell road south of

for 23 ft from. It shows imp.

ew.

well in desert parts
Ortega property?

10 in, coming 110 ft.

2 (to be) 500 ft.

1st flow at 500 ft.

Shall not at 110 ft no water in.

1st red 416.0 altitude last

8077 red 8 280 ft.

500 clay for 281 8 368 ft.

6 sand.

clay 366 4 400

sand again at 400 + or 450

400 to 500. not very hard.

cut bed at 410 ft.

500 to 750 white limestone.

—

82.

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Flowing well on Melan's farm

about from P.O. 4 1/2 mi from P.O. W. of

N.W. on North side of Prof.

3 1/4 mi south of Kew Pond &

S.F.A.

— Flowing well just north
of S.A.T. opposite machine shop.

— Flowing well at Stark
Jackson A.C.L. north of track
opposite Murray Hill property.

— Flowing well at Brewery.

— Flowing well at Plowden's farm
about 3 miles south of Jackson.
on ~~the~~ North side A.C.L.

Mickley & Co. Buick Fleet 22
product 2400 00 hrs in 1908.
abt 1/8 mi N. of Dept on east side
S.A.s.

clay of some formation probably on
gr. Pub. c. is micene.

1st. Sand & soil.

mottled clay becoming

blue below (180) 10 to 8 ft

sand, of light color up to 8
acres below. Shell said to be
reached occasionally & where
that rock.

Pr. from map that the
clay is invariably blue below &
around a draying stump. Limestone
pimples said to occur occasionally.

Callahan Buick Co.

~~1/2 mi S.~~ Just beyond Mickley

Buick Co. Section same.

Both of these plants have open
filus.

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Soil conditions at these two
plant Sand 1 ft. less than
mottled clay. Good growth of
sine originally, no palmetto.

Van. J. Byrd, Callahan,
1st. Annual. Temp.

1st. Being on public road 1/4 mi
E. of Callahan. Potomac, dark.
sand 18 in. clay at 18 in.

2nd. Being 1/2 mi E. of Callahan &
across stream. sand 2 ft. clay at 2 ft.
no palmetto

3rd. 1/4 mi beyond. slight ridge
cut across by dense ditch.
sand 2 ft. hard pan. no clay at 3 ft.
sine plants. ridge & hard pan of same soil.

1 mi S.E. Callahan. Soil & Sand 1 ft
clay at 1 ft. sand. no palmetto.

1 1/2 mi S.E. of Callahan. level with slight
slope. Sand 1 1/2 ft. hard pan. No clay.

Norson Brick Co.

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Plant bestoe just east of
A.C.L. & 1 mi S.E. of Colclough
depot.

Section. Sand 1 ft.
Clay is usual 8 ft.
Sand like that of better
shell sand to be present here.

made 1,000,000 bricks in 1909.

Lately the clay flows to creek. supposed
to contain lime.

Southern Brick Co.

Section Sand & soil 1 ft.
Clay is usual 8 ft.
(supposed) Sand beneath 2 ft.
The clay is blue around the deepening
stump.

only one bln. this open. output
during 1909 small. Output only a
day or two times.

25

1 3/4 mi S.E. Colclough. just
north of Southern Brick Co. just to
A.C.L. sand & clay mixed rather
no bed form. much palmetto.

Cerro stream palmetto
6 to 8 ft high. Sand 2 1/2 ft
Clay. no bed form

2 mi north of Colclough.

Sand 1 ft. Clay 1 ft. no
palmetto.

3 mi South of Colclough

at Plowden farm.
Clay 4 ft. Sand 2 ft.
gradual slope. no palmetto
good timber land as indicated by
the stump.

2 1/2 mi South of Colclough

much palmetto.
Sand 2 ft. - had none.

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$\frac{1}{2}$ mi N. E. across Swamp
creek.
 $2\frac{1}{2}$ ft. sand.

Beyond 3 mi. Swamp 2 mi. mil.
then end last, no palmetto off
2 mi + beyond row mil.

Then Swamp $\frac{1}{4}$ mi

" end last no palmetto $1\frac{1}{2}$
up to 12 mi of Jax.

From here walk palmetto
to Jax.

From Callahan to St. Marys River.

clay at 21 mi from Jax. + not
much palmetto for a couple of
miles beyond Callahan.

Swamp of old Son mill. the
swamp of clay beyond
much palmetto of 2nd Sonwell
& only of 28 mi from
Jax of continues to for
Hillside Creek. Bologna to
St. Marys River.

Flat beyond the St. Marys.

27

St. Marys River
section at ~~Orange~~ ^{Chalk} Bluff.

Clay and soil 2 ft.

cdaceous clay weathering
with conchoidal fracture at $2\frac{1}{2}$ ft.

lime str. & clayey limst.
weathering with conchoidal fracture
or lph. note at 3 ft.

at Camp Pinberg 3 mi
from Johnston.

on the Georgia side of the river
is a bluff 150 or 200 ft. sloping &
showing only clay, with 18 in.

on the side there is also in
river swamp. the bank being 6 or 8 ft
+ sandy. This is the point at
which the river turns east
after the north bend from
Pigeon Creek.

About 8 ft of the Apalachicola Group exposed here at low tide.

section.

1. Clay decomposed & soil . . . 2 ft.
2. Calcareous clay mottling with
roughish fracture and remain-
ing fullers earth . . . 2.
3. Stratum of white fine grained
material "chalk" 6 in to 1 ft. 1
4. Ledge of Brk. 1
5. Clay mottling fullers earth 1 1/2 ft.

The Apalachicola Group of formations at Chalk Bluff and at Orange Bluff on the Florida side of the St. Marys River above Kings Ferry exposure occur which resemble the Chattahoochee formation & is referable with little doubt to the Apalachicola Group. At Chalk Bluff fully eight feet of rock is exposed at low tide. The exposure of Chalk Bluff includes at low tide fully eight feet of of the alternately hard & soft materials. The strata are approximately

horizontal although slight departures from the horizontal occur.

The ~~total~~ ^{stratum} member at this exposure seen at low tide consists of an ^{fuller} calcareous clay mottling fullers earth. Above this is a ledge of rock 1 ft to 1 1/2 in thick.

Soils of the Kings Ferry section.

Chalk Bluff & immediate vicinity clay as a very near the surface. Chalk Bluff & Kings Ferry. Clay 6 in to 2 1/2 ft from the surface. Kings Ferry & Cob forge swamps clay of 6 in to 4 ft. The four feet of sand found on a ridge.

Just across cabbage swamp & in the south edge of swamp rather palmetto or at Callahan. Clay 1 ft. no hard pan found in this section. palmetto also very rare. Cabbage swamp & Birch bluff many small mounds. Hard pan at all 20 in. in one of these. clay of 3 ft. on the south side of Long

fronch rock palmetto as 32
above. Also more sandy &
some scrub oak.

Exposure of bluff at
Brick Yard landing shows

sandy soil	1 1/2 ft.
mottled sandy clay	4 1/2 "
sovel grayish with some clay	2 "

at north end of the bluff
the clay is green & sticky.

Mr. Gross, Lesning.

18,000 oars of land from King Ferry Bay. ^{part.}
mainly of Cellophane & Tonops King Ferry

streams in this section. Not swampy
& only a few feet below the general level.

Long Point & Lesning.

Plot 2. of school house

Going beyond head pond & clay
at 3 1/2 ft. Taken on hill with
some palmetto.

33

Going south from clark 33
fronch & Little St. Marys. Country
much the same. Small knolls as
usual. Some palmetto & hard
pon. Swamp with cypress & hard
wood. Former forming ridge with
sand 2 to 4 ft.

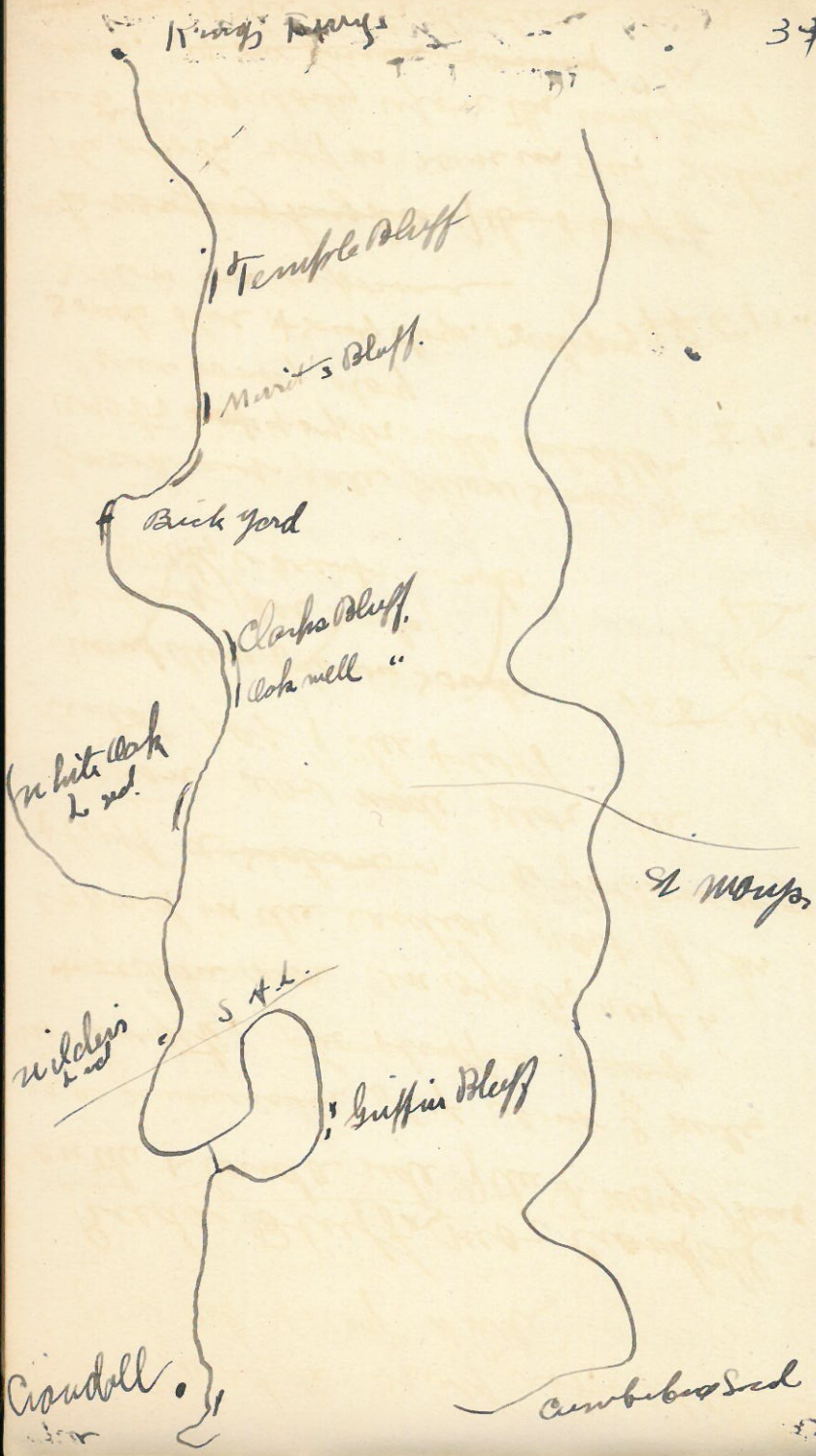
Little St. Marys. ^aflow stream.
nearly running, swamp of the
usual hard wood & cypress. on the
north side is a sandy upland the
rise being 15 or 20 ft. On the
south side the land is more level.

Second crossing of Little St. Marys
much like first. a good deal of cabbage
palmetto at the in the swamp.

See Jim Alexander of
Fernandina for photos of the St. Marys.

Photo 3. Mouth of Little St. Marys
looking back on white oak plantation.

25



at Crandall Bluff alt. 12 ft
all sand gray white.

Reeds Bluff near Crandall
on the Florida side of the St. Marys River
is a semicircular bluff about $\frac{3}{4}$ mile
in length. ~~The bluff is of very~~
~~a section near~~ an oyster reef is
exposed in the central part of this
bluff. ~~a section~~ The following
section was made near the
central part of the bluff.

- | | | |
|---|--------------|-------|
| Recent deep flower sands | 15 ft | 20 ft |
| Irregular pale sands | 10 ft | |
| Slightly coherent sands | 10 ft | |
| Incoherent pale yellow sands | 20 to 40 ft. | |
| Oyster reef & oyster shells imbedded in | 10 to 15 ft | |
| blue sandy clay | | |
| Sands blue & sandy clay. ridging | 5 to 10 ft | |
| yellow on exposure | | |

~~The varying heights of the bluff~~
The oyster reef as seen in this section
rests irregularly upon the underlying
sands. At one point ~~forming~~ the
~~oyster reef~~ the oyster stratum being

10 to 20 ft. Above low tide. 36.
The oyster reef is local; extending
for a distance of ^{about} 200 or more feet.
Shells were not found elsewhere
in the bluff.

The unusual thickness of pale
yellow sands at this bluff is
due to recent dune action. Sands
from the face of the bluff are
carried by the wind forming dunes
at the top. ~~of the bluff~~ Subsequent
~~migration~~ coming & washing of the
bluff cuts into the dunes the giving
increased height. Recent dunes
of this character 15 to 25 feet
in height are now ^{accumulating} ~~forming~~
on the bluff.

~~Brazos Bluff.~~

Brazos Bluff on the Florida
side of the river about two
miles below Cordall is
semicircular in shape and
faces the Bell River. This bluff
is fully two miles in length.
A section near the middle of this
bluff was as follows.

Dark colored sand & silt. (vrt.)	4 to 5 ft.
Dark iron stamp sand. (vrt.)	7 "
Light yellow sand. (loose)	8 "
Sand with some clay	5 "
Dark shell bearing mud	4 "
Blue oxidizing yellow	5 "
sloping to low water	

~~The shell bearing mud here~~
consists of
The height of this bluff is less
irregular than is that of Pecos bluff.
dune action being less pronounced.

Palmetto grow in abundance
above.

section at Rock Bluff

38

incubent sand	10 ft.
Sandy clay	15 "
clay blue with roots	5 "
through 2. fresh recent	5 "
sloping & low tide beach	

another set.

incubent	20 ft.
stony alternating clay	5 "
sand	15 "
sloping & low	5 "

Section at South end of Rock Bluff

incubent sand	15 ft.
slightly coherent	3 "
clay structure	3 in.
sands, oxidized yellow	10 ft.
Blue sand clay & sand	

section of second highest place

incubent sand	18 ft.
partial coherent	10 "
sands blue oxidized yellow	1.5 "
Rock possibly recent at base in 11 of 10 & 13 ft	

The open marsh begins at the big bend just below the S.A. Crossing. Brookside water is said to reach to the A.L. Crossing. Tide water reaches to some point above the A.L. Crossing.

39

April 4.

Tulahoma to N.Y.

Tall a to chain rolling red sand hills. Chain to two or 3 mi beyond Doyle, level with much scrub & some palmetto.

From here to a few miles beyond median rolling sand hills & over the swamps.

From here to Sumner level sand & sandy soil open pine & no palmetto. scrub oak for some miles.

Sumner to Lin. Oak. sand & sandy soil. scrub oak for some miles then open pine. no palmetto. some clays of peat in Lin. Oak.

Lin. Oak to a few miles beyond Houston no palmetto. open some clays. Houston to Watertown. some palmetto. some clays. Lakes to Watertown to Wrentham or Wadby. some much some palmetto. get additional notes

section of High Bluff abt
5 mi above middleburg.

Sand & silt 5 ft
sloping some shaly clay 3 ft
yellow med. decayed 8 ft
& instead not much phyllite 12 ft

very phyllite 5 ft

Blue, some phyllite, oxidizing 12 ft
yellow - from water edge

Country from crossing of Little
Black creek to R.R. of Hector miles.
sloping enough for drainage.
clay of 6 in to 2 1/2 ft. some good
potato farms.

R.R. to Swimming pen creek
mostly too flat to drain.
near creek slope enough.
clay of 6 in to 2 1/2 ft.
drain 15 ft to Swimming pen creek.

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along west side creek 41
clay of 2 1/2 ft. good slope

clay of 2 ft.

Soils. - Hillard to N. Mary.
N. v. along A.C. to Andrew,
scrub juniper & hard pon. No
clay to 3 ft.

Tannin with a N.W. of Andrew.
much the same. Hard pon there
on some of the slope.

offspring of prairie hills
with wolf road

Section of High Bluff Landing
on N. Mary.

Coned sloping sand.

25 ft 30 ft

coned, sloping some blue sandy
clays as well

12 ft

But clay containing scales etc.

5 ft

Blue sandy clay with horizontal layers

3 ft

40

Henry Nettles.

42

Prolegue - The
act. note Rpt.

after crossing creek 2 mi E of
Nettles county chrys. low. clay.
near surface, ~~also~~ palmetto?

Some pit fluff is like old Bluff
in appearance & in type of country around
it.

One plot of Roll B & J. H. Parker
traders hill. Sec.

Roll B. 1. 2. 4 & 5 Son Pt Bluff

1. Int. 2 + 3, 4, 5 sec. each.

section of son pt bluffs

greenish clay 5 ft
apothecary limestone in bed 5 ft

limestone

limestone less prominent 2 ft

Prominent limestone fossils 1 ft

slating ledge. Buff & red clay shale 2 ft

beds below with a or low note (pt) 1 ft

Roll B. 4 & 5 of cut at
A.C. Parker, Camp Peary.

Sect of R.R. cut on Act. 43

at St. Marys Min. Camp Peary.

Low red 3 ft

interbedded red mottled clay 6 ft

Some more sandy 12

clay mottled by decay 4 1/2 ft

covered. probably by 5 ft

clays 18 ft

alternating clay & limestone 40 ft

Norfolk soil nearly to Andrews.

Soil on East side A.C.L. to
Andrews & Hilliard better
than on west. much of it
probably for Patuxent fine soil.
not much palmetto?

Low from this for 1 mi or
until near Dobson.

Potato land very level. took
of 60 acres examined hard ball
of only a foot or so. From
depth two miles S.E. a rise of
only abt 2 ft. land best level
so as to irrigate well. Sloping
grains more twells
soil prevaillingly a dark
gray fine sand 1 to 3 ft. then
sandy yellowish clay. sand
very dark. where there is is
much or 3 ft. of sand the lower
foot is light yellow, little or
no organic matter.

Scrub palmetto knolls very
occasionally. There are underground
by hard pan or 18 in to 2 ft.
These knolls are useless for
potato land or other farming.
less knoll formed for 20 years
& no change. sand is light
colored in these knolls & thirsty.
potatoes wilting, land "dead."

Birds plant at Rice Station 45
on north side of Rice creek
may be found at creek bank.
shown in p. 2.

Sand	
Hard pan sand	1 1/2 ft.
Blue sandy clay or dypis	1 1/2 "
yellow & mottled	10 "
Bird & tile made by the plant.	13 ft.

Palatka to Rice Creek. Level. thick
set with scrub palmetto. low
Rice creek & 1 mi beyond. Some
as abt 1 mi from the creek a
rise & traces of olive, 15 ft across
beyond this is sand level & scrub oak.

Palatka to
one mile abt. pers into sand level
dark & not much palmetto 2 mi or so
more palmetto but sandy & rather
solonchaks & Frank
Approaching next station some open
pine in palmetto. In general
less palmetto between the stations.

Some land over of plenty of ⁴⁶
Hollister sandy with some palmetto

First hole abt $\frac{1}{2}$ m east of Mon-
ville. Hilly somewhat. Only a
palmetto here.

Continues with wet lands & interlocking
& beyond to Edgemoor.

Pit of Interlocking Gravel Co.

Section of west end.

Sand coarse & soil	8 ft.
Red sand iron stained & fully cemented so as to stand vertical	5 "
Lighter colored & coarser.	5 "
Extensive white siliceous pebbles up to size of 1 in by one	

That the top sand here is undisturbed
is shown by its coarse texture
similar to the undisturbed sand below.
Pits at 2 Rock C. pits.

The formation here resembles the
Altamaha grit as seen along the Apalachicola
River.

Sand deposits over east end of pit 6 ft
+ farther east 5.0 + feet.

Sand to J. H. Nylie Interlocking ⁴⁷
elevation of station + highest to which
water stands here.

Jacksonville & Hastings

Int to sandy land in general
from King to Bayard.

a good deal of palmetto
just across the river. Not
so much or none at Son mill
& at Greenland, apparently
too sandy for palmetto. Some
type of soil on to Bayard.

Pecan grove at Bayard on
sandy soil probably no
palmetto. This soil probably
derived from Norfolk.

a short distance beyond
Bayard palmetto appears
& continues to St. Augustine.

St. Augustine with palmetto
to station Elberton. not much
palmetto at Elberton. Palmetto
again at Armstrong. Beyond
Armstrong a good deal of palmetto
to Deep Creek. Across Deep Creek is
nearly free from palmetto to Hastings.

Soil of Lake City.

48

In slight depression in S.E. part

of city. dark sand

12 in

light "

6 in

clay. mostly sandy at 18 in.

On side of slight ridge.

light gray sand yellowish below 2 ft.

2 -

clay at

On top of ridge

4 ft.

Some forming on this soil

Soil of Lake City.

Boring west of A.C.L. dept. pine

land with some oaks. no palmetto.

gray sand fine

6 in

yellowish "

3 1/2 ft.

Some forming on this soil

Soils Lake City & Ft. White.

A small patch of scrub palmetto about

1 to 2 1/2 mi. ~~west~~ of Lake City A.C.L. dept.

except this light sand sandy soil,

slightly rolling surface. no pal-

metto. some low hills. and some

oaks at surface. to Ft. White

considerable forming especially of oaks.

Beyond there sand deeper & scrub oaks.

Types of soils in Florida. 49.

Light Sandy soils.

The belt of deep sand, little or no clay

& much scrub oaks of the pine is cut

runs from head of Ichleefnee river

past Cullers mine, ^{passes north} of Ft. White

about 1 mi. & extends on both banks

South Fl. It extends south to the South Fl.

High spg. & Ft. White. Sandy, no

marked clay band. no palmetto

High spg & Archer. Sandy from

High spg. From made on some

scrub palmetto on sandy pine

land. No hard pan. On the

south of the track in the typical

phosphate country some scrub oaks

is seen.

Just beyond Newberry some palmetto

not much, and this gives place

within a mile or so to open

pine sandy land. no palmetto.

some sandy rolling land with

scrub oaks 3 or 4 mi from Archer. Clay band

with some palmetto around Archer.

Soils residual from the 52
Vicksburg limestone.

It may be doubted whether any
soils occur in the state which are
purely residual from the Vicksburg
limestones, There are more or less
material foreign to this formation are
everywhere present. There are
however certain sections in the
state ⁱⁿ ~~out~~ which the principal soil
characteristics are determined by the
underlying Vicksburg limestone.

A considerable area of soils of
this type occurs in Southern
Columbia County extending east
and west from the town of
Sheras or Columbia City. These
soils consist of light colored
sands underlain at a depth
of 2 to 5 ft by firming clayey sands.
This in turn resting upon

the Vicksburg limestone. see 53
(Drift in previous page.)

Other localities of which these soils
occur are Archer + immediate vicinity.
Marion along the Chipola river
in Jackson County.

Soils residual from the
Chatahoochee limestone. } chalk bluff + ^{young}
sandy fit bluff. ^{at} ~~near~~

Soils residual from the
Cretaceous marls + clays. The
palmetto fur soils of ^{the} ~~the~~
Marion + Clay counties.

Soils residual from the Alum
Bluff sand. - sand soil.

Soils residual from Pliocene marls.

Soils residual from saprophytic sands.

Soils affected by recent sand dune action.

General note to Capt. T. Setzer. Ft. White.

Archer to Gainesville 54

The soil with red clay subsoil & open pine woods gives place a few miles 2 or 3 north of Archer to sand with scrub oak & with occasional oaks & outcrops. This continues to a mile or so of Kanapoka. When open pine comes in again, mostly open pine sandy land, some large oaks to Gainesville.

Gainesville to Richelle

Some palmetto just out of Gainesville. Sandy land onto Kellys mill. Palmetto thick at Kellys mill, & some palmetto to Richelle.

Richelle to Subletchere. (see introduction to Palmetto) some palmetto two miles or so of Richelle, sandy pine lands some forming to F. Park. A pond flat woods to Hawthorne or nearly to Hawthorne, some palmetto. This down hill of sandy from Hawthorne, red clay in cuts. hilly. No palmetto. Lakes begin or near station from Hawthorne & continue. Hilly or mountainous.

Palatka to Gainesville 55 S.S. & F.

approaching station out from Palatka. woodruff? is a good deal of open land with only a little palmetto. This continues for 2 or 3 miles beyond this station.

Some oak ridges come in and at Goudin the typical Lake County is seen. Lakes, many of them now dry and hills at least 100 or 100 ft in elevation along the banks. Sandy land, red clay beneath. oaks grow on the upland. This continues to Brooklyns where the Lake region ends. From here to Hampton is level pine lands, some swampy streams & cypress swamps, some palmetto. Beyond Hampton somewhat more swampy. oaks much to some. some open pine land backing Little River creek. Beyond this palmetto again more to Lake City. Not a great deal of palmetto about Lake Butler.

Leaving palatka the A.C. shunt the
road ridge for a mile & two to the
first switch. This road ridge seems to
be between the A.C. to Rubelle & A.C.
& Pison. From the stop low
flat woods with much scrub palmetto
2 or 3 miles. Then sandy land with
pine & oak, no palmetto & river.

Across the St. Johns River is sandy.
no palmetto. pine & oak. Seemingly in
general up hill to Seville.
all of this is sandy. altho out
rolling altho fairly level parts are
seen in places as at beyond
Lake Como. a few palmetto patches
seen as ~~at~~ approaching Panama &
beyond Lake Como. This region
looks much like the lake region.
particularly at Lake Como & Conestoga.

~~From Seville to Pison the~~
grade seems about level. the
country is sandy pine land with
a good deal of scrubby palmetto.
Gunter says within sandy to 2 mi
beyond Barberville. Then open flat
country pine no palmetto to De Leon. St.
de Leon Lake Alvarado Homoch. Beyond to
Pison. (St. palmetto pine, sandy water to Pison)

Sonford & Vicinity

57

Sonford to Cornetown.

Land predominantly level
with considerable & much
scrub palmetto. Hard pan
under the land at depth
of $1\frac{1}{2}$ to 3 ft. Occasionally
the hard pan is rising &
more acute. The clay is
a sandy blue green gray
clay. In irrigating the
hard pan seems to be so
thoroughly saturated that
it becomes a quick sand.
The clay seems to be the
real stopping material
altho popular report has
is that the 'hard pan' is
mercury.

Section. 100 ft. sand 8 in. grading
into lighter yellow sand 8 in. clayey
completely to hard pan dark 8 in. colored
at the 3 ft. sand grade.

Sandford - cont. 58
In the ditch cut beyond Lees
turn, the hard pan is now
to have a fairly uniform top
surface, but to have both
uniformity below. At one place
in the ditch the hard pan is
looming and clayey material
come in.
Section in this ditch

Sand fine, abt 1 1/2 ft

Hard pan, abt 2 ft. irregular
lower surface

clay sandy & calcareous
at 3 & 3 1/2 ft. two feet exp.

Sandford & Palatka 4/10. 10.
Okecho

Just out of center 18 & 3 miles
scrub palmetto low lands.
Then sand, oolite, no palmetto &
in general from here to Okecho
sandy soil rock land. A few palmetto
come in in places as beyond Lake Mary.
and between Longwood & Altamonte Springs.

Okecho & vicinity.

59

Sandy land for about 2 mi S. W of
Okecho. Low flat lands. palmetto &
hard pan to about six or seven
miles out with big sand dunes.

Mr. L. S. Floyd
St. Cloud Fla.
L. S. X + 5.

Soil at St. Cloud.

Dark Gray Sand 1 ft.

Light colored sand, yellowish white 4"

Brown or hard sand called ~~hard~~ 5 ft.
in this locality hard pan. at

Below this hard pan is said to be sand

Country continues to St. Cloud.

Sandy scrub palmetto and pine land.
The pine land consists of much 6 in to 3 ft.
underlain by very white sand.

well depth 18 ft at St. Cloud.
Sand the red soil to abt 60 or 70 ft. blue
mud to 90 and of shell 80 to 120.
Coarse sand little and shell 190.

Soil at Kissimmee.

Experiment garden has
much soil about 1 ft.
sand, light colored & light brown & 1 ft.
sand when full of water acts as a
grit sand. vs clay or 5 ft.

This proved being mixed by
sub migration & by surface migration.

Kissimmee & Lohelord.

From Kissimmee for several miles
is flat with some palmetto
also swamps. a timber swamp
near Kissimmee, and beyond
atoughness the sandy point
scrub & cokes begins. some palmetto
not much. This continues until
a short distance beyond Auburndale
where flat roads come in. &
with scrub palmetto past Carter.
Beyond Carter the scrub &
cokes come which last to a little
beyond Lohelord.

61

Stombray soil of Lohelord.

Gray sand 1 to 1 1/2 ft - 1 ft

Yellowish sand 4+ ft 4+ ft

Orange soil

yellow sand

5 ft.

For the stombray soil is selected on
the lower lands usually forming the
lobes or in the natural small basins.
No clay was reached in any of these localities.

Lohelord & Bowling Green.

Some palmetto & sandy pine cover
in a few miles out from Lohelord.
Athrose sandy pine & oak to second
station from Lohelord.

From beyond it is low pine.

two swamps. & palmetto.
Apples Porton with sandy, pine
no palmetto. From Porton cross
stream & some palmetto. Then
sandy again. just beyond Henselord
is seen on west side of track some
palmetto with trees 5 to 6 ft. above
ground.

60

Open sandy pine for several
miles beyond Barton. S. towards.
About half way to Jones Dry.
pine & palmetto comes.
Below Jones Dry some open
sandy land & some farming.
This continues to Bowling Green.
soil of Bowling Green.

East of town $\frac{1}{2}$ mi. towards index.
~~no palmetto~~
dark gray soil & sand $1\frac{1}{2}$ ft.
light sand w/ clay $3\frac{1}{2}$ "
Across stream $\frac{1}{4}$ mi. or. palmetto
flat woods.
Soil slightly gray 6 "
light sand $1\frac{1}{2}$ ft.
Bluish sand pon 6 "
light sand $1\frac{1}{2}$ "

2 ft.

Bowling Green creek is sandy orange sand
Across Peace creek is $\frac{1}{4}$ mi. level.
Horned growth. soil subred 6 in.
Dark clay 4 in. dark sandy clay 2 ft.
Beyond this is a terrace like elevation
of 20 ft or more to sandy pine land.
A ~~terrace~~ slope down sand to 10 ft.

At the public ~~road~~ crossing
of Peace creek about 1 mile
east of Bowling Green just below
the bridge. the marls lying under
the phosphat are exposed on
both sides of the stream. This is
the typical hard sandy lime marl
with phosphat pebbles & shells
casts as seen in the pits. The
phosphat strata should
lie immediately above
this marl, & remnant of
the phosphat pebbles, dark
in color does occur on the
east side about the east fork.

~~Some first mining co. Charleston.~~
Germofert mining co. Charleston, S.C.
At the bridge at old 4th made a flint
representing same marl occurs in the
river. The pebbles in river along the
fork. The elevation of the fork
on both sides of the Peace River low is
about 20 & 25 ft.

Get map of Hillsborough Co⁶⁴
of Betts Tampa, Fla.
(R.F. Betts)

Crossing of Peace Creek 3 mi
S.E. of Bowles Green. Some "beds"
on both sides of stream. particularly on
east side. rise from the river valley
here not more than 5 ft or so.
pebble and road material found on
rise on east side.

Country south from here to Wuchula
on east side mostly low pine &
palmetto. Rises 2 ft higher road.
Had son at 2 ft. 1st 6 in 7 in / per
form & soft. below becomes darker
& harder. Rises at off 3 ft. Rises
dark 8 ft. 10 had to put to bed 4 ft.
✓ R.F. & F. J. Hubson. Yolo Co.

Charlie Atkinson over for near Crossville
and coming his son with him.

Atkinson public road coming on Peace
Creek & Yolo 8 pp - the road rises above
outlet of 1 ft pebble the plot & on this
12 ft. road.

Atkinson public road. Crossing 1/2
mi west of Gardner more
is exposed along 8 ft. the upper
5 ft or so is much decomposed. This
material contains a good deal of the pebbles.
just up stream on east side
is 8 ft material with bones & pebbles
plentiful above.

On Charlie Atkinson 1/2 mi from
mouth is 3 ft flow day of water
edge & pebble conglomerate
3 ft above. The bed rises with
plentiful above contains 1 mile of
more on the creek. In place to 5 ft
exposed like the finger head a pebble
sack.

is 1/2 mi from the last 2 mi or so
approaching the R.R. Bridge

The limestone in faunston 66
runs again at the Public
road bridge N of Gardner & the
off 1/2 mi above the bridge.
No or little river except where
rubb runs. This channel has
mended more while it is so red.

Send Ark + F. E. Fielder
Gardner, Fla. Turner family
mined phosphate. Has well 40 ft
deep. water minus - 15 ft. elevation
25 ft above river bottom.

Hall Fla. flowing well in river bottom.

Chin Pierce has a well
3 1/2 mi N. of Arcadia 30 ft deep
water stands at - 3 ft. A
ditch runs down hill flowed.

A well in river bed. old 15 ft bore
or old phosphate mine. Flowing
at the flow is reduced from
the original flow - little sulphur water.
Flowing well about 15 ft above river. 9

The more or more creek runs
at the mouth of the creek & for 1/2 mi
up the creek & the River. It
is identical with the bed rock.

on elephant bone found lying on
the mud & many bones on top
of the mud representing the pebbles
under.

The soil on the slope & near
creek (small side) consists of gray sand 2 ft.
yellow sand 3 ft.

The soil in the flat north 2 mi N. of
Arcadia consists of sand 2 ft. Hard brown 1 ft.
sand 2 ft. Black hard brown 2 ft.

The soil on prairie 6 mi east of Arcadia
consists of blackish white sand 1 ft. yellow
sand 2 ft. sandy clay 2 ft. t. . . .
emphatic hard sand with it 3 ft.
In sand much 4 ft. of yellow sand below.

At Yolfo was unable to find and made
deep creek or shall near as described on Roll. No
creek between Yolfo station & the river. At the
river is 5 ft or so of the usual phosphate (see
shell) mud. This at A.A. bridge & about 1/2 mi. 77

Mud on Orange river
 1 1/2 miles below the bridge has
 a small amount of dark +
 yellow phosphate mixed with
 shell. Apparently not the
 mud seen on Pease River.
 At the bridge the phosphate was
 not noted.

At a place a few miles below
 Calovera decayed mud was
 observed in which is found on
 occasional dark phosphate pebble.

A few pebbles are found at
 Calovera in the mud. None of
 these pebbles however show
 mud so phosphate as the
 "Arcadia" mud.

Soil in the flat woods

2 mi. n. of Ft. Myers.

Soil with little organic matter 3 ft.

Hard pan, dark + had become 2 ft.

chocolate + light colored below

Plots 6. See C.

Soil on "pine tree" land near. but
 having subsoil. same as above.

Plot 1. See d.

Soil just across the George Creek at
 Buckingham.

yellow sand + soil (dried mud) 1 to 2 ft.

white mud 4 ft.

Plots 2 + 3. See d.

From Ft. Myers to Punta Gorda.
 very level + flat. pine, small growth.
 with many small "pines". Temperature
 of the river begins about 2/3 the way to
 Punta Gorda. At Ft. Myers the river
 does not produce temperature.

Punta Gorda to Arcodia 70
much the same type of country
not so many pines. palmetto &
pine.

~~At~~ just above the R.R. bridge
between Arcodia & Buena Vista is seen

sand	
conglomerate of dark pebbles per.	10 ft.
photo. elephant teeth. shells found	
on coast & dark colored.	2 ft.
connected to the water	3 "
	15 ft.

is usual & found here.

Country across Boone River
from Arcodia rises by a terrace
15 or 20 ft. On this upland as at
Buena Vista the soil is of the upper
pine rock type. Sandy. Slightly
palmetto & pine.

Palestina to Black Water Creek. 71
From Rice Creek sandy pine
land, becoming low pine forest
from palmetto approaching next
station 3 or 4 mi. Continuous low
pine land past Butwick. Some
sandy land comes in at Wallhill.
Low pine forest from palmetto
again to Green Cove Sp. or
nearly so, about 4 mi. Passing
Green Cove rather sandy & beyond
magnolia sp. some sand oak
comes in beyond magnolia sp. &
swampy trunks. Low pine again
beyond magnolia where clearing
is being done. Continuous pine from
palmetto to the river at the ~~next~~ station
for all the rather sandy & broken up
by small swampy trunks.

Across the river palmetto for about
1/2 mi then very level pine with
palmetto for 1 1/2 to 2 mi.

Baldwin to McClemy.

72

Beyond Baldwin open pine no
palmetto for several miles to the
trail ridge. This ridge is road
and oak no palmetto.

Beyond the ridge which is a half
mile or so wide is again open
pine no palmetto. somewhat
sandy or McClemy.

Soils Tallahassee to Lake Jamoma.

Throughout this section the
red formation from which
the soils are derived lies at
the surface or near the surface
occasionally on level stretches
of country a few feet of light
colored residual sand accum-
ulation. For the most part the red
partially decayed material reaches the

surface.

73

The red formation in this section
probably is not the sapropeite.
At the basin to Lake Jamoma
coal & oysters occur in the formation.
In the public road cut $\frac{1}{4}$ mi
west of Stricklands store residual
limestone fragments remain &
these show bedding. thus

Residual limestone fragments.

The anticlinal arrangement of
this material is very probably due to
creep rather than to actual folding.

The evidence that the red is a
formation existing red is seen frequently
throughout this country. As well
as from Tallahassee west on
the Quincy road.

74

Level near & north of P. C.

Depth 7/2 1140 ft.

Size	10 in holes, 8 in circ.	270
	6	442

	4	1000 ft.
to bottom	1140 ft.	

material.

Sand

30 ft.

Rock. Limestone yellowish
rotten limestone many
concretions. Some sandstone &
Some flint, especially blue 200 & 400 ft.
white chalky rocks, mostly blown
400 to 1000 ft.

Below 1000 ft harder rock
thin. Some blue mud several feet.

to

1140 ft.

Sample is coming from 1125 ft
this is from brown hard limestone.

Sand & Soil around & in Perry a
loamy yellow sand, alth light
in color after bleaching.

County. S. W. from Perry.

Sandy hammock at Perry.

1/2 mi or so out sandy upland open
pine land. No palmetto, some
Sabalum. Small oak 18 24 high.

This passes gradually within one
or two miles into lower swampy
some palmetto, acornwood
cypress fronds. w. Salicubra.
to Hampton Springs.

Hampton Springs comes out
on east fork of creek 25 ft or
so from stream. Sulphur water.

Flow about 1/2 of 10 in pipe.

On the banks of the stream a yellow
fossiliferous limestone exposed.
much like Tampa limestone

Flow of Spring 250 ^{gals} per min.

Perry to Houlihy Park.

Out from Perry east for two or three miles is high open sandy pine land. No palmetto & little or no oak. This passes gradually into lower land some very scrubby now palmetto & some shrubs, & with water. This type in 4 or 5 miles passes into typical palmetto flat woods, palmetto about knee high & pine of medium size. Bay galls occur here some cynarae.

Within about ten miles of Houlihy Park the country passes again into sandy pine land with some & is now a good deal of oak. No palmetto. Some farming especially at Hays. watermelons, corn & oats.

Houlihy Park to Mays. 77

Sandy upland pine land to about 10 miles. Then passes near way into sandy pine with little or no oak & other undergrowth.

Just of Mays sandy barrens as at Perry. oak & pine

Film 5. Profile $\frac{1}{2}$ mi S. of Mays. vegetation

Soil section, light sand	1 1/2
yellow sand	1 1/2 to
white sand	1 1/2 "
sandy clay at	4 1/2

Film 6. Sandy pine upland 2 mi South of Mays. Soil section yellow very fine sand to 1 ft. top cloth discolored by organic matter. Solonchaks hills. vegetation long leaf pine near some. Some oak when upon upland of oak.

Roll E. Film 1.

78

upland pine bed partly cleared &
planted to velvet bean & oats.
9 m. S. of Mayo.

Soil section. fine yellow sandy
loam to 5 ft. top dense a little
by green matter.

Soil Section in Short Handed
6 m. N. of Gosh. yellow soil to
3 1/2 ft. Hard and vegetation.
Seed in dry & loose but the hole filled or
put on when set to have to have & auge.

Film 2. - upland pine requiring
thick with some oak. soil section
light sand with a little green with 1 ft
yellow fine sand

Soil in 2 m. of Bernal.
yellow sand

5 ft.

The flat road road from 79
Mayo to Bernal runs about 5 m.
from the river & as the west edge of the
upland pine bed between this & the
flat road. & good many lakes occur
along this border. Another
road runs close to the river &
through good farming land all
the way. i.e. upland pine bed.
Some long staple cotton grown
about 300 ft. by one mile but the
corn about 10 by 1/2 acre with beans
st. many.

Probing to st. many river some
wells well drained ^{soakly} fine sand on
Mc Cherry.

Soil 1/2 mi beyond Hector
Inlet station near 2.2
mile dist. Soil sandy loam
dark 3 ft. Clay at 3 ft.
Plots 3 + 4. 5. 6. Station.
Lunard Lunham
Laroe Lunham St. Augustine
Lowe Lunham.

Roll E. Film 1.

78

upland pine land partly cleared &
planted to velvet bean & oats.
9 m. S. of Mayo.

Soil section. fine yellow sandy
loam to 5 ft. top 2 inches a little
sandy matter.

Soil section in Short Hammock
6 m. N. of Mayo. yellow soil to
3 1/2 ft. Hard wood vegetation.

Brainerd to Line Oak

80

Sandy pine upland for a
few miles.

Approaching McAlpin & on
to Line Oak red clay near
the surface. long leaf pine &
some oaks.

81

Watertown to McClenny.

81

Clay of water worn sandy pine land
with a little very scrubby saw palmetto
for a few miles. passing into sandy
pine with a good deal of very scrubby
saw palmetto to Alachua.

Much the same with some
swampy land and with cypress ponds
to Sanderson.

Beyond Sanderson open pine
land with no palmetto & with a
good deal of swampy land to Glen
St. Mary.

Approaching St. Mary river some
well drained ^{sandy} pine land on to
McClenny.

Soil 1/2 mi beyond Hector's
Inlet station near 2.2
mile mark. Soil sandy loam
dark 3 ft. Clay at 3 ft.
photos 3 ft. 4 ft. 5 ft. N. S. Station.

Lunard Lunham

Laroe

Lone

Lunham St. Augustine

Lunham.

soil rest feet from bluff
soud not much organic matter
18 in. Had four to 5 ft. clear
Had four here dab on s.c. almost
obs 1st. dark again to 5 ft.
4 p.m. Time 124. cloudy 5 ft. 6.
with small bluff on the. cross ridges
in. 5 man road to be done

Exposure of shell most common
in the edge of Green Cove Springs
near depot. Also about 2 mi
north in ditch cut by
Tom Roberts, Southerly here.
Soil section sand with little
organic matter 2 ft
Sand with coarse clay &
with shells 3 ft
Shell of oolite 60 ft.
alt No 6.

Brick plant at Green Cove
Springs.

Section. Light sand 3 ft.
Red. color sand on 2 ft.
clay sticky to 5 ft.

Brick Plant at Hurford.
N.J. water not running.

Hastings to Matrona
just beyond Hastings a little palmetto
a good deal further on approaching station.
Beyond this station nearly free of
palmetto for a mile or so. Then
a good deal of palmetto to
East Pataha

Beyond East Pataha sandy & 85
passing into Palmetto flat woods
for several miles. Approaching Yel-
vington 2013 mi open flat woods.
Beyond Yelvington mostly some
to & beyond Bay. From Bay to
Lincoln Island a good deal of swamp but
land so wet as to grow no swamp pines.
A good deal of low palmetto from
Lincoln Island to Neoga. Small
lake at Neoga. thence sandy. Contrary
sandy on to Espanola.

From Espanola palmetto flat
woods on to Burrill. & on to beyond
Harwood. The palmetto along the stretch
is usually very low 6 in to 1 ft high. on the
higher land however it grows 2 to 2 1/2
ft. high. Cypress ponds & local
patches too wet for palmetto occur.

Approaching the crests sand
first but yellow sand to a dist of 15 ft.
across and coquina cut. Beyond
the coquina ridge is grass marsh.
Cabbage palmettos & coquina rock seen on
Cabbage palmetto to Pataha

Plot # 2. 1/2 mi. S.W. of 2nd watered on 86
1 mi. S.W. of station. Soil. Hum 38 6 in
non-pulchra pine
shell cement 3 1/2 ft

Film 3. public road cut through
the sand dune 1/2 mi. S.W. of station
station. Soil section white

Sand 3 ft.
yellow sand, largely calc +

Some palmetto + short leaf pine
+ some palmetto.

4. Some looking to the west.

2 sep. 16. Cloudy.

Soil Sect in flat woods 1/2 mi
out from station

Sand gray with a green 1 ft

Sand light 6 in

Hard pine 1 1/2 ft

in grass & near station.

no palmetto

Sand light 2 ft

Sand yellow 2 ..

Sand Brownish yellow 1 ..

No: 5 - Palmetto flat woods 87

3 1/2 mi west of station.

2 sep. Cloudy. + raining some.
vegetation palmetto + pine.

Soil Gray sand 1 ft

light colored coarse sand

From Miami to Homestead the
country is largely limestone pine beds
limestone of the surface + carbon
pine and some palmetto.

On the Keys Krome says there is
mud flat.

Limestone at Key west much like that
at Miami. oolitic, a top crust forms
due to carbonate dropped from solution.
Exposed very generally over the island.

Well of S. C. Johnson at Key west
cor. Division street & alley near Watson.

driller J. F. Brown, Tampa, depth 5/23. 1910. 1010

ft. 8 in casing about 150 ft ±, drill hole 7 1/2 in
on to bottom. Brackish water is reported at about
170 ft ±; Sulfur water at about 300 ft ±.
drine water, white at 700 ft ±. Principal
water at 950 ft. Water in the well as it
now stands is said to be 40 ft from the surface
+ very salty.

At West Palm Beach the sand dunes 88
 lie abt 1/2 mi west of the water & just
 west of the R.R. It is covered with growth
 of sparse? pine. with some scrub
 oak & some palmetto.

West Palm Beach & Sebastian

From Palm Beach dunes continue for
 a few miles, then flat woods palmetto
 cropping past. Dunes
 come in again at a just above
 north of Jupiter. At this sound the
 dunes are particularly high, plot # 9
 Palmetto flat road at Fruit.

An inlet comes in at Stuart.
 & there are no dunes here. across the
 inlet ^{north} is found sandy lands, dunes &
 pineapple farms. At Jensen the
 sand dunes are well developed &
 are used for pineapple culture
 extensively. Back of the dunes
 as later occurs low lands. Plot made
 the railroad crosses the dunes of Jensen.
 at Ft Pierce the dunes are used for pineapple
 culture. also at Ft Pierce.
 Plot made palmetto & pine on dunes &
 on for some distance to Suwannee.

Sand dunes come in again at 89
 Quay & are seen into distance to
 Sebastian. where the offshoots meet
 the coast. There is a good deal of
 cabbage palmetto along the shore from
 Ft. Pierce to Sebastian.

Soil section 2 mi west of Sebastian

Gray sand	1 1/2 ft
light sand	1 "
Hard brown ^{very pale} soil	2 1/2 ft. +
Plot 1 of H.	2 1/2 "

Soil section 3 mi west from Sebastian. edge of prairie

Sand light	3 ft 2.
Hard brown dolo	3 ft 5 ft +

Section well out in prairie

Gray dark sand	2 ft
light sand	2 "
Yellowish brown soil	2 "
Plot # 2 - H.	

Tomato made 2 mi. S. of Sebat
 made 7 ft 1 ft } Painter's lime
 seed 1 1/2 " } fertilizer used.
 still at 3 ft.

Palmetto pine land east of RR + 2 mi south of Sebastian
Sut section + 4th road.
no hard pan, vegetation
long leaf pine & palmetto.

Sut section 2 1/2 mi west of
H. River.

gray sand

light sand 1 1/2 ft

1 1/2 ft

1 1/2 ft

2 1/2 ft

hard pan. dark of

section near town.

light sand

2 1/2 ft

hard pan 2 1/2 ft

2 1/2 ft

Pine scattered for ten miles or so
west of H. River. Then largely open
prairie with occasional pine clumps
for 20 mi. Heavy pine of H. River.
Hornum bed about 30 mi out.
Sut & Co.

Plot 1. Purples 1 yr
old in sand dune bed
1 1/2 mi west of H. River
west end 3 1/2 miles west 2 1/2 ft

Sebastian to Hattara -

91

Just from Sebastian the dunes are
seen for a few miles north on the
west side of the track. After this there
is a good deal of palmetto flat
woods. Approaching Melbourne a few
miles south of Melbourne the dunes
come in. From Sebastian to
Melbourne, 15 miles or so, the dunes if
present lie north west of the R.R.

From Melbourne to Rockledge the dunes are
seen occasionally.

At Rockledge the dunes lie close in to
the coast. east of RR. a few miles north
of Rockledge the dunes pass inland lying
west of the track. From Cocoa to
Ormond the dunes lie west of the
R.R. giving a wide hornumbed. at
Titusville the dunes may be seen
1 to 2 mi west of track. at Hattara
they lie 2 mi west of track. They
are finally crossed west of Ormond.

From New Smyrna to Hattara a good
deal of palmetto flat woods. From
Port George to Hattara 5 mi. fine old timber

22 to Mayport.

92

From S. Dr. Sandy pine lands with
little or no palmetto. Refuted
with oak. This continues to a
short distance beyond Hogon.
Beyond Hogon flat lands. Sand
palmetto & pine & some scrub oak.
one or two sand ridges come in
beyond Hogon. rather sandy or
spongy and sand ridge
appearing Pablo Beach. Sand dune
over from Pablo Beach
Mayport.

Plots	3.	Leaves of Mayport.
"	4.	" " Atlantic Beach
"	5.	South of Hogon $\frac{1}{4}$ mi.

93

15

5/30. Jomter Lumb by nurse 1.00 ¹⁰⁴
 5/31 Express (P -
 5/31 Freight (P -
 5/31 Cem. & Eng. Sewer pipes 2.78

5/21 B. 50. H. 50 ¹⁰⁰
 Hocktine & Jor. & Rogge turf .90
 supper at 2.50; 2.30 1.50
 Team hire at Hattone (P 2.50
 Pullman to Knight Key 2.50
 5/22. Breakfast on route .60
 Ticks Homestead to Knight Key 3.30
 dinner Knight Key .50
 Ticks Key west return 5.90
 Supper Key west .60
 lodging 1.00
 5/23 Breakfast 50; dinner 50. 1.00
 supper 50 & lodging 1.00
 Post 2.50

5/24 Ticks Key west Knight Key 3.30
 Homestead
 dinner at Knight Key .50
 Hook of main .25
 Supper & 2 lodging 1.00
 5/25 Breakfast & dinner 1.00
 Hook & 6/28 3.50
 supper 50 & lodging at next P. Rank 50 1.00
 Hook for 4 next P. Rank 3.50
 5/26 Breakfast at next P. Rank 3.50
 Hook & 6/28 50
 dinner at Sebastopol 1.50
 Team hire of " (P 6) 1.00
 Supper & lodging of H. Rank 1.00
 5/27 Breakfast at H. Rank .50
 Team hire " (P 6) 2.00
 Pullman fare to Jacksonville. 1.25
 Hook fare and 6/28 3.50
 dinner on route .60
 supper & lodging 50 1.50
 5/28 B. 50. dinner 50. 8.50. Pullman & Toll. 75
 Hook & Toller 2.00

5/11	Hack fare at Tallahassee	20	106
	Pullman to Greenville	25	
	Supper at Greenville	30	
	Boys to camp	10	
	Ticket Greenville to Perry	1.05	
	Lodging at Perry	30	
	7/12 B. 50. R. 50.	1.00	2.75
	Boys to camp	20	
	Supper and lodging at Mayo	1.50	2.70
5/13	B. & R. at Mayo 30 dinner 10	1.00	
	Telegram hire (R 1)	4.35	
	Supper & lunch	.45	
	Pullman to Tallahassee	25	
	Hack fare at ..	25	6.70
5/16	Hack fare at Tallahassee	25	
	From Wells to Tallahassee	75	
	Pullman fare to Jax	60	
	Home supper	3.50	
	Hack fare at Jax	1.00	8.95
	Lodging	1.50	
5/17	B. 50; R. 50; S 50	1.50	
	Lodging	1.50	
	Exemption note to Tallahassee	1.00	
5/18	B. 50; R. 50; S 50	1.50	
	S & L	1.00	2.00
5/19	B & R. at Remondelara	3.50	
	Post hire (R. 10 2)	.25	
	Telegram N. Mather	.35	
	Hack fare & baggage transfer	1.50	6.60
	Supper 10. L. 10	.85	
5/20	B. 50; Hack to Jax 35	2.50	
	T. N. Mather	3.00	
	Dinner at Green Cove Springs	2.00	
	From hire at Green Cove Springs	1.50	
	Supper & baggage at Jax 12	25.00	30.10
	Milrose work (R. 1. 3)		

April 1.	Postage	107	
	Freight (R. 10. 1)	2.50	
" 4.	Hack. (R. 1)	1.09	
	Pullman to Jax	20	
	Hack fare & baggage transfer & Jax	75	
	Hotel at Jax. (R. 1)	40	
	Dinner.	2.00	
	Hack fare & baggage	.50	
	Post fare to Middleburg	.30	
	Supper & lodging at Middleburg	.80	
4/6	Bus hire at Middleburg (R.)	.75	
	B & R. Middleburg	3.00	
	From hire (R)	.50	
	Supper .50	2.50	
	Hack fare at Jax.	.25	
4/7	Hotel (R)	.70	
	Dinner w/ & dinner at St. Marys	2.50	
	From hire (R)	.95	
	Supper .50; Hack fare .25	4.25	
4/8	Hotel (R)	.50	
	Hack fare & baggage transfer	1.60	
	Ticket Jax. to Hastings	.50	
	Dinner	.30	
	Ticket Hastings to Palatka	1.25	
	Hack fare	1.00	
	Supper & lodging at Palatka	1.50	
4/9	From hire (R)	.50	
	Breakfast at Palatka	.50	
	Dinner at Palatka	1.00	
	Supper & lodging at Palatka	.75	
4/10	Bus hire .50; Hack. 25	.55	
	Pullman to Tallahassee	.25	
	Hack fare	.25	
4/11	Telegram to H. Senter	.25	
	Sober	.25	
4/12	Hack fare at Tallahassee	.25	
	Milrose work (R)	20.00	
	Baggage transfer & Lin. Deb	.20	

4/13	Hotel (A)	108
	Boys 2e	2.00
	dinner, supper & L. T. white	.10
		1.30
4/14	B & dinner T. white	1.00
	Livery of T. white (A)	2.50
	Hab. on Baunille and boys de T. (A)	.35
4/15	Hotel of Baunille (A)	2.30
	Boys 2e T. white	.10
	Pullman Polotha to Soufoul	.35
4/16	Two Hotel of Soufoul (A)	2.50
	Hotel of	.50
	Two wills films	.80
	supper	.30
4/17	Hotel of Lileulo (A)	2.25
	Team hire (A)	3.50
4/18	Hotel of Lileulo (A)	2.00
4/19	Hotel of Lileulo (A)	2.00
	Boys 2e T. white	.20
4/19		3.00
4/20	Hotel of Bowling Green (A)	6.00
	Team hire (A)	.45
4/21	Hotel of Arcadia (A)	2.00
	Team hire of Arcadia (A)	3.00
4/22	Hotel of Bowling Green (A)	
4/23	Hotel, Bowling Green (A)	4.50

4/24	Team hire of T. Myers (A)	109
		2.00
4/25	Boat hire (A)	10.00
4/26	Hotel of T. Myers (A)	6.50
	Q. S. & Lodging, Punta Lda	1.50
4/27	Boat hire, Punta Lda	10.00
	B. Punta Lda 50	.30
	dinner Arcadia	.75
	Team hire Arcadia (A)	1.50
	supper Arcadia	2.50
	Boat hire to Punta Lda	2.00
4/28	Hotel of T. Myers (A)	2.00
	Boat hire to Punta Lda	20.00
	Boat hire to Punta Lda	2.00
	Boat hire to Punta Lda	2.00
4/29	Boat hire to Punta Lda	2.00
4/30	Boat hire to Punta Lda	1.00

110
Mr. C. E. McInnon, Optician.
228 Hogan St. phone 3219

Treatment.

- 1st seated on table. Rub back of head, then
across the shoulders, then twist the body.
- 2nd ^{sitting} Lying on side on the table. Hold one
twist body. hand under twist body, the whole
arm.
- 3rd Lying on right side same.
- 4th Sitting on stool, twist body.
- 5th On table on back, twist head &
rub eyes. & take exercise of eyes.
- 6th on face on table rub back.

124. " " " " 110.17

