

Ledger

E. H. Sellards.
Entomologist to the
Fla. Exp. Station.
Lake City, Fla.

This book contains notes
relating to experiments in
progress by the State Ex-
periment Station. Kindly
forward papers
collected to above address.

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Hypobryetes -
springs

Archer -
Vicksburg limestone extends
west to about Archer.

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Ballast Point Type locality of
Siles beds.

Bayport - Acala limestone?

Barton - Acala limestone
about six ft. beneath surface.

Conrad - described the Tampa
siles beds + described a few species from
it in 1846.

Charleston (Fla) - Vicksburg
limestone found at depth of 60 ft.
and 330 ft. thick. Mississippian below.

Andrew P. Conner
Lopeland, Fla.

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H. Foster - Vicksburg limestone
under lies of old miocene beds.

Gainsville - Vicksburg
limestone observed here.

Acacia limestone from a
well 5 mi west.

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Heilprin - Some fossils from
Tampa Silr. Golo L. (Orthoceras beds)

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Jones' Spring - Dickerson limestone
Jacksonville

K. M. Clayton
R.F.D. No 1 Pine Bluffs
Pine Bluffs, Fla.

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Little Sarasota Bay (See Osprey,
see white beach

Lake City
Miliolite limestone
exposed 5. mi southwest of Lake City.
reported by Neal. Tough limestone
full of foraminifera mostly Mil-
iolidae. Vicksburg reported
doubtfully.

Line Rock - Vicksburg here
covered by thin coating of marl.

Levyville - Ocala limestone
20 ft. thick. covered by bog iron
ore deposit.

Monon Station - Vicksburg
limestone collected here. very cherty.

Nath Creek near Sonasota.
Type section of Pleistocene.

Numulitic limestone (see local limestone)

Asprey - Man. Co. - Post Pliocene
deposits on banks of North Creek.

Ocala limestone (see minuticelled)
fine yellow sand rock, casts
of mollusks. Ex. at Richards
Quarry. rock used as ballast. here
now J. M. Meffert Quarry.

Ocala l. fossils first found by
Wilcox on Chehawishka creek.

Clcheese - Cheese beds.
exposed 5 ft. white creamy stone at
bottom and 10 ft. green-yellow limestone
Estimated total thickness 250 ft.

Ofner - Tivy Hall reports that
"Little creek" goes under ground
above C. & comes up in the Swamp.

Ocala - Tivy Hall reports his father
having private under ground sewage.

Pemberton ferry 10 mi. E. Brooks-
ville. Ocala limestone.

Brick Road

southern exposure of Vicksburg
limestone

River Junction (Chattahoochee)

9 mi above R.D. type locality of

Ocheese beds. or at least 1st described.

Rock Bluff - 3 ft. of Ocheese beds

Sarasota (See Caspary) (See White
Beach)

Silver Springs - Vicksburg
limestone identified here by
Le Conte 1866.

St. Augustine - Vicksburg bed
at 212 ft. and 1066+ ft. thick.

Shell Bluff Group some
in Claiborne. - Eocene.

Tampa - Tampa Siliceous beds at
Ballast Point. Siliceous pseudomorphs.

Tampa Limestone or Arbotolith
beds on top

Vicksburg limestone -

350 ft. + west of Gainesville.
at Lake Worth top of v. l. reached at
1000 ft. through late accumulations.
212 + ft. thick at Lake Worth.
at Jacksonville 900 ft. without
reaching v. l.

Windermeers

Starr

Gall, Bull. 84, page 102.

Paleo, 40 mi. N. Palatka.

Gainesville, west to Archer
Silver Springs.

Martin Station } Marion Co

Jarvis Spring - Pasco Co.

Homosassa -

Wilcox - like Plinth. of
north creek. Claprey. also humon remains.

Webb Judge, disov. humon
bones at Claprey

Wakulla, Wakulla Co. 15 south
Tallahassee. Fossil common to Selby

White Beach little son. bay. Forma-
tion near north end of bay.

Wheeler - Homosassa river,
1 mi from mouth. Fossils be. miliolite.

1.
11/9/03 Examined the north Creek
section (Pleistocene) in company
with Judge Webb. Section is
on south fork of N. Creek about
one mile east of Defney and just
below bridge on old road to Sawata.
Shells apparently some as
those in Cedar Hammock Braich-
town. Shells observations

of stratum horizontal @ 1/4.
It is however more than 3 ft.
thick - not less than 5 or 6.

skintown of exposed strata only
40 or 50 ft along stream.
apparently a harder sandstone
on top.

2. 11/12/05.
locality for human remains
on Little Sarasota bay.

Judge Webb pointed out
locality to me. It is on bay
2 mi. below J. Webb house and
around point B from his house.
It is in a hard sandstone
containing much limonite.
above the sandstone is bog
iron sandstone, as told by Webb.

11/12-05

Visited outcrop of *Aligium*
on ~~Little~~ at north end of
Little Sarasota bay. the "white
Beach" exposure. directed to
locality by Webb. Examined at
house of Marsh. Rich found to
be dark sandstone hard, fossils
as internal casts shells gone.

The recent acolian sandstone
was not seen. Marsh stated
that it was found in rubbing
a well near the shore.

Internal casts of oysters
common. a ~~lot~~ dozen or so
specimens collected.

11/19-05 General observation
on region from Sarasota
to Claprey - near the coast
almost without exception
higher than inland.
Soil different being an almost
continuous hammock cov-
ered with scrub oak.
Good orange land. Back from
the coast good low pine land
with scrub palmetto. Farther
back marshy and needing
drainage.

Artesian water flow
reported weak. Send the
well deep & the flow is
stronger.

11/20-05

Sarasota to Fruitville
Country very level. except for
"Sawgrass" a few feet below
General level. Reported by
Mr. Brown to be sand a few
feet then layers of hard pan
and a hundred feet or
more sand before reaching
limestone. - No sink
holes in this region. On the
scrub oak hammocks sand
8 or ten feet - pure white fine
sand. Layers of hard pan &
sand below. Artesian water
flow very weak. A 400 ft
well 2 in net of sawgrass,
slit around sawgrass
shows about five ft of sand.
In one locality runs through a
marl rock like.

11/22-05

Sarasota to Okech.

Country becomes less level about
Okech. Some rock below
the surface.

11/22-05. Region about Point
switch from river coast of
Palmetto throws out a good
deal of rocky looking rock.
Some of this is Pleistocene
apparently.

11/22-05

mouth of Manatee
river. Shell bluff on
south side 15 or 20 or more
ft high. tide cutting at
base leaving bank of
shells exposed.

11/23-05

Tampa - Ballast Point
 at side of bank - just
 above high tide. a
 marly, clayey limestone
 very full of fossils. shells
 mostly dissolved away - numer-
 ous lamellibranchs of varying
 sizes. a close well
 gastropod. a sigular
 but somewhat harder
 and more fossiliferous
 limestone down to the
 water's edge. at medium
 tide above all this on the
 top of layer above is a good
 deal of siliceous material
 with numerous imperfect
 and some perfectly silicified
 byzovon.

This limestone is best

seen below the rocks &
 below where it is clearly not
 less than 4 ft. not much
 siliceous material in it.
 Cores of large gastrofods
 and medium sized bivalves
 exposed on weathered
 surface. Transition
 becomes distinctly more
 clayey towards the top.
 At one place it is noticed
 to pass horizontally very
 suddenly into a yellow
 clayey matrix here. It
 would seem that the
 limestone dips up the
 bay - north. Towards the
 south end of the exposure
 is seen above tide a hard
 yellow white limestone
 irregular in bedding and
 with large, usually

16. Circular clay inclusions
not many found & the
broken & small. weathered
surface smooth except on
boring shaped holes (originally
closed) in contrast to rough
surface of layer above.
at the point on south
the layer of corals & bryozoa
is seen again at limit of
high tide. One reef to
3/4 mi down by limestone
low pass.

See 8 if all wanted.

11

11/23 - Marion Co. in com. for
largest & best coll. of Fla. min.
not entered.
min. Phosphate very large ex-
var. lis.

1. Pebble phosphate
2. white boulder Phos.
good grade. Good.

3. Oyster shell Phos.
~~Same rock for phosphate~~
limestone good grade
oil bearing shale
Fuller's earth

One min. only entered
under no. 718. - Hard rock
phosphate. Esch. of this min.
excellent. Quantity good.
arrangement 1st. down.
not given with work for
entered according to Card

12. Polk Co. Entry longest
& best En. Tila. Min.
Phosphate.

13.
mineral products - no. 19.
Polk. Hills low.
marion & Parish. marion.

¹⁴
✓ Marion Co. En. for

Nos. 19, 610

Requested ad. for 611
613, 618 requested

¹⁵
✓ Hillsboro Co.
En. 19. 614

✓ ~~Park~~ 19. 610. 613 ~~118~~

✓ Point remote 19. 612 (613)

✓ Citrus. 611 718

Holder Citrus Co. 611

✓ Orange Co. 613. Naval St.
9th St. & High School polk. 718

16. Marion Ex. 19.
mineral products.

- 4 / Flint rock for building.
lime rock for building
lime for cement
Fullers earth

Polk. No 19.

Brick

3 / ~~marion~~

Pebble conglomerate or road material
Bozeman ore or road rock

Hillsboro -

Manatee No. 19.
apparently no entry.

- 2 / Fullers earth in a very general
sense a mineral product, rocks
or a mineral product.

2. / Hillsboro Fullers earth
building stone, etc. marble

Marion No. 610 Pebble
phosphate (1) largest (2) best

- 3 / 1. Small display well arranged
2. Quality apparently good
No analysis

Polk 610

- 9 / 1. large excellently arranged
18 to 20 inches & smaller
2. Quality of pack good, analysis
about 71 1/2 % bone phosphate

18.
monon requests ad. for
611. Sargent & Best hard
rock phosphate.

- 8/ (1) Very large exhibit. Ex-
cellently arranged.
2. Quality apparently
medium to good.

D. S. 8

Citrus 611

1. Small exhibit rock
phosphate well arranged
and large supplementary sam-
ples.

2. no analysis. Quality
apparently good.

Crown

- 6/ 1. medium exhibit.
2. no analysis qual. good.
3/ 2. C. Phosphate. First city

monon 612 - Sargent &
Best fullers earth. Requests
admission.

- 8/ 1. Small ex. well arranged
2. in powder only. hardly
possible to test.

Manatee 612.

- 8/ 1. Large exhibit well
arranged, both ground &
in blocks.
2. Quality of most of it
good. Some blocks of poor

20

Polk 618. Largest of
 best col. T la min.

| Phosphate.

pebble 18 to 20 nos. 10

3. | Bog iron ore - poor
 some of it not bog iron at all!
 CoCo_3 in form of fossil bones.

Citrus 718.

Phosphate

2. | Hard rock.
 softer surface rock

9th Gr. + High School Polk

- 2 / Bog iron ore
 CaCo_3 as bone
H. G. Hall - Polk

/ no exhibit.

Washington Co. app.
 entry 19.

2 1/2 Brick
 Building stone
 clay

8

Washington apply
entry 618.

Brick making clay.

limestone conc.

Silica in form of flint.

Terra cotta clay.

red clay

Kaolin.

green shale

SiO₂ - variety of sand

18 colors.

CaCO₃ in form of
fossils.

iron ore or iron
hematite

By CaCO₃ soft stone

pottery clay

ignitable deposit.

SiO₂ as gravel

A. talcum like
mineral.

a piece of unburnt
limy rock (marked as
v. leonite)

Siliceous sand

8 sp. 43 + 3 + 4 = 10 var.

Hillsboro ~~618~~ 618 -
not entered largest coll Fla
minerals.

Fullers earth

CaCO₃

as fine skulls.

bone

Siv 2 as recent shells.

Sand 5 var.

fossil coral

sandstone

Blue clay.

Phosphate

Hard rock

hard pebble phos.

soft phosphate

run pebble phosphate.

5 sp. + 3 + 3 + 4 = 10 var

11/73 ready to submit the
 following.

19.1. Marion

610 Polk Co.

611. Subsequent inst. may be found

B. L. Abbott

612 monette co.

Hillsboro.

718 - Washington

8 sp.

Callisto

5 sp.

P. Marion

47. 5 var.

Polk.

1. 15 var.

23. 10 sp.
 23. 10 sp.
 23. 10 sp.
 23. 10 sp.

11/23 03 Mammulite limestone
Ocellar.

Top Soil 1 to 4 ft.
white friable limestone
estimated 30 ft.

Flint in masses irregularly
scattered through limestone
sometimes in large masses
as in photo. Fossils abundant.

In the old part of
the pit the flint
masses are allowed to
remain in place as seen
in photo.

11/23 '05 - Alcala to
Silver Springs. First two miles
or so a good road made
of Alcala limestone. Clay
road rest of way. Pit open
about $1\frac{1}{2}$ mi east of Alcala.
Good exposure 20 ft. or so.
fossils numerous.

11/23-05. Silver Springs.

First spring largest.
water comes from beneath
sharp edge and with wall
on east side from which
most of the water comes.
Of perhaps 40 ft. Another
spring basin shaped
and with water from
edges of rock. 2nd.
Both of these the rock
opposite the opening
has a moderate slope.
Another spring shows hot
water coming through
an irregular opening
in the lower layer of
rock like this  20 ft or
so long. 3rd & 4th miles. The
boil is shown by the
large amt. of calcareous

material lifted up
vertically and all the time
settling back. Two other
springs have water come
from the side obliquely
and tossing up small
shells like snow flakes.
These are all the time
being falling back to be
retossed.

Rock from spring - flint
& limestone, flint like that
at Ocala shells silicified &
well preserved. & graptolites
showing in natural section.
Shell & other fossils of lime-
stone as molds. Limestone
not so friable as that
at Ocala. Limestone
at depot 5 or 6 ft
above level of spring has
no large fossils but *Trinacrinus*

Silver springs to Baldwin.
 medium rolling country
 30 mi or so from
 Silver springs. More
 rolling, change height
 type from Chang M. to
 15 or 20 miles west.
 Forest east of Change
 Heights.
 very few lakes
 on this run.

12/21 '03

Lakeland! - Tugboat Hotel.
 Medium size lake. Circular.
 outlet to the north. otherwise
 looks rather high, much
 like a sink hole lake.
 Topography type atypical
 peculiar except on this
 interpretation.
 Water from fairs
 reaches to near the
 surface. no flowing
 wells however.

12/21/15 Lakeland to Ft Myers
 Bartow - region through here
 much hammock. a good
 deal of trucking and other
 farming. Frozen grapes
 numerous. Bearing gums
 clean foliage. No evidence
 of white fly.

Ft Meade - hammock
 type of country continues
 water of this region said
 to be not good drinking.

Jamez Day - Pebble
 phosphate being mined
 here by hydraulic process
 reported to be no solid rock
 beneath.

Bowling Green - Tarpeater
 still here - Hammock country
 continues. Sand from muck
 hills mostly the pure white
 sand. much scrub oak.

Torrey - Some mill.

Mockala - Good trucking
 region. much trucking being
 done. a few white fly
 reported.

Golfo Springs - Some type of
 country. a few good orange
 groves. country through
 here open. little scrub
 palmetto or other underbrush.

No lakes - a few
 small ditch like streams.
 Golfo to Bushawm
 pine & scrub palmetto.

Arcadia - a good deal
 of trucking land again.

Ft. Yoder - a few pond
 like lakes not too large

From Santa Gerda to
 Myers. - very flat.
 mostly pines num-
 erous small swamp
 areas with grass.
 depressed probably
 not more than a
 foot or two below
 the general pine
 level. - Suggestion
 can there be the be-
 ginning of lakes
 to be deepened later
 by solution from
 the acids of decay-
 ing grass.

length of boring in bog here in 1880s shown.

within on rapha
 each in motion
 12/22. St Myers to

12/22/05. Ft. Myers to
~~Apia~~ ~~table~~. The Colorado
 a tene very wide really
 an empagement for three
 or four miles above
 Ft. Myers. Controls
 above R.R. bridge. Very
 low banks for ten miles
 or so. at Ogda Banks
 have become apparently
 about 4 ft. in the
 average. at Ogda looking
 a sticky clay 4 or 5 ft.
 exposed. filled with
 broken pebbles. above
 Ogden bank of six feet
 is no exposed apparently
 clay. River prob. 100 ft
 wide very winding

mangrove. Growing
 along sides for first
 1 1/2 hrs. more probably.
 12 mi. Banks of river
 mostly thick set with
 some palms. across.
 usually the pines
 come to the banks
 more often a stretch
 of some width is
 open. Country very
 flat. At places
 many cabbage
 palms along the bank.
 Some places on one
 or both sides very heavy
 growth of various shrubs
 impenetrable. This often
 at mouth of stream or
 lower banks on one side.

5 panish moss always
 abundant. a great deal
 of the other two plants
 especially on small
 light colored dead looking
 trees resembling hard mangrove
 also with much moss
 on the small saks.
 water lilies along
 the sides. a good
 deal of trecking of
 sugar ~~also~~ orange
 groves.

Alva. Long sandy
 bank on north side.
 cabbage palm hammock.
 at beach.

above the bridge
 across the river south
 bank has above

5 ft. of sand with
 light yellow clay
 beneath. - Bank
 along here has sand
 at top.

12/23 - 1/4 mi below Lake.

Shell Pliocene at water level.
above lime rock blue clay
1 ft. above.

8 ft white Sand.

Brown rd crumbling Sandstone
3.4 ft 14 in.

white Sand to top 3 ft.
pine woods come to the
banks here.

12/23 - T. J. Thompson and
Lake Flirt - To T. on north
bank of river. burned only
stumps of posts left. Thompson
rough house on south
bank. Rapids of river just
in front of rough house.
at this point the banks
become very low and
the land for a mile or
two on either side.
This is splendid meadow
land. over flowed every
year by river. The grass
or it is known as Thompson
grass differing from the milk
chiefly in coarser stems. This
grass is said to be found only
here and at coffee house
in Lake Hitchcock.

The river above Ft. Thompson
widens and very gradually
into Lake Flint an opening
has been made through the
grass which covers this lake.
at the upper end begins the
canal and here the river
grows narrower down to the
edge of the canal - the river
grass is a kind of wild corn.
Its description as a combination
saw dog & spear not noted.
It is said however that cattle
will not eat it. It grows ten
feet or more high.

at the riffle of Ft. Thompson
piles of rock thrown out in
dredging still at the sides are
very hard almost non-fossil-
iferous. River is high during
winter but no falls were
evident. Immense Coals
on lake flint & incessant chattering.

Labell to Leavitt by shift

Just above ^{mill} Leavitt
sounding ^{H.A. Hurley} unmistakable
evidence of a bony
at sounding hard rock dis-
olved full of holes exposed at
high water levels. a few
costs found.

a half mile or so farther down
on north bank a soft
mud with small shells.
these in "Hevdy" patches.
- about 3 or 4 mi down
from Labell mud at side
of river very fossiliferous.
at one level a notable
layer of oysters occurs.
A considerable collection
made here. Sack no 2.

Perhaps midway between
2 feet & 7 ft. diameter. Photo
of exposure of very rough
by solution lime sand stone
the same as that holding
oysters farther up river.
Although here nearly
bare. Just above or
at the top of this stone is
a good deal of shells which
may be river deposits of
worked over beds shells.

One or two miles below
photograph evidence of
anticline. The coarse
lime rock rise above
water level and within
 $\frac{1}{8}$ mi stands 4 ft above
solution here effervescent. Chunks
of rock of 1000 lbs to a ton

dropped in. Others doubled
full of holes & ready to drop.

Shell work exposed at
Hennault. Sand m. 4 ft from
directly in front of stone
on north bank at Hennault.

1725' 05'

Hennault & Alva - Banks
mostly of soft mud & of
medium height. At a
little distance from
Hennault very heavy rocks
from the reds have fallen
in. Soft mud at
Hennault landing. A line
of contact between shell
mud (Pleistocene) & sand
above Pleistocene is often
well marked along here.
Another exp. of soft
mud at Alva. Many
broken shells here.

12/25 - J. A. Myers. -

The sandstone seen
at above upper part of
a shelly concretionary
appearance - an occasional
all fossil.

12/25 Punta Gorda -
some rock used as breaks
around large mill
a very hard sand lime rock
very full of fossils. The
fossils are calcareous
have dissolve almost
as rapidly as the rock
and no one not fossil
free in any members.
A small collection
made - Rock coming
from 1 1/2 mi N.E.
Punta Gorda.

12/26. Punta Gorda to Arcadia

Flat. numerous young
swamps. little or no
cypress

12/26 - Arcadia pebble
phosphate. all water worn.
evidently worked over by
river action. found only in
bed of old river? Bones
weld & worn. Shells?!
mined by dredge - Peace
River phosphate Co. Phos-
phate at Marlbury and
north reported different by
Mr. Blood.

12/27 - Kissimmee to
Orlando. numerous circular
or sub-circular. New Kissimmee
without cypress.

12/28 Orlando to Sanford.
Numerous small solution
lakes. & a few large
lakes. Probably not
solution at least lack-
ing the circular form of
solution lakes.

12/28 Sanford to Palatka
after passing Sanford
fewer lakes.

12/28 Palatka to Lake
City, a few lakes.

12/28 Lake City to Pensacola
Lake City to Shreds. The
country is pretty much the
same to the Suwannee
from the Suwannee on
it becomes pretty

much rooting with more
hammock. modern to
monticello and Shreds there
is much hammock espe-
cially north of the roads.
Only a few circular
lakes throughout this
region. A good many
cypress swamps. Many

— Entering Tallahassee
a very different country.
hilly with hammock
land.

Beyond Tallahassee
the ordinary type of
north Fla continues
to Pine Junction.

Flomaton west,
coastal plains topog-
raphy much more
broken. Just west of
Flomaton bright red
with sandstone in the R.R. cuts.

Near mobile several
rivers & inlets from
the gulf all with low
bank and swampy
hammock land.

West of mobile
and to
exceedingly level as
much or more so than
in Fla. The solution
swamps and the
circular lake are both
looking as on sink
holes. moreover when
a stream occurs it
denotes normal streams
& tributary valleys with
sloping sides.

1/4-'06-
Pensacola to DeFence
Springs. - For a half
hours ride or so from
Pensacola then on
many exposures on
side of track of both
and bright red sandy
loaming clays. One
brick factory noted. After
crossing the broad embay-
ment (a mile or so of
traveling) the region
at DeFence is much like
typical west Fla. topog-
raphy. Hard clay con-
taining. at DeFence
is a typical circular lake
of considerable size.

14th 1886
St. Louis to River
junction.

coastal plains

Red and yellow clay
seen at about Marianna
at Marianna hills
and many exposures
of the red & buff shales.

Good exposure of
bright red shale in
A.R. Cut at Sneads.

Just before crossing
the Chattahoochee strata of
limestone seen in the
ditches. across the river
limestone coarse, soft
imperfect appearance
a tendency to nodular.

Red clay seen again
at Quincy, probably
on the higher ground.
The Calorobatchie

a good stream with some
fords full & muddy at
the time 4/4 '86.

Red shales at Tall-
ahosse & Heyd. Buff
yellow at Grainville.

Lake City to High Springs
Occasional sink holes. also
a few small runs.
Phosphate at F.V. fute
and vicinity mostly near
the surface. In pockets in
limestone. Bottom of
very irregular limestone
projections, reaching up
through the phosphate
partly. Above the phos-
phate usually sandy.
no core formed with hard
rock (limestone) above phos-
phate. A concretionary

layer flinty concretions
often seen near top of
phosphate. some of them
very large most of them
elongate flattened 2 to 3
ft long by 1 or 2 through.
So called natural wells
at High Springs i.e. dry
rinks with open bottoms.
North of Ft. White occurs
the rather large spring

very clear blue & with
considerable basin discol-
ored out. It is reported
that the course of this
stream under ground
can be followed by the
sink holes opening into it.
Report not investigated.

High Springs to Gaines
ville. - cross Santa Fe
river. apparently

solution channels, rocks
exposed at sides. Probably
very few tributary surface
streams. At Gaines-
ville on University grounds
four large & numerous
small sink holes. Largest
sink hole lake like &
source of stream which
going to lower right dis-
appears. Drainage of grounds
goes into sink hole. (See
map)

High Springs to Inverness.
South from High Springs
barren country. No lakes.
First lake seen about
25 mi South of H. S. This
a wide shallow pond,
not deep, reported not to
go dry. basins irregular,
called salt water pond.

N. of rough scrub pal-
metto through here.
country very desolate,
very few pointed houses,
few flowers of any kind.

Blue Springs of
Juliet. Good sized, very
clear blue water.

Source of run leading to
Milk Creech river.
Hardly any surface stream
about here. Juliet
seems to be consid-
erably lower than Ft. S.
First of cypress pal-
metto along Blue Spr. run.

Phosphate at Glen
Allen. Some ponds
beyond dwelling to
a good deal of stagnant
water & pond holes

about the Milk Creech.

Tarpon Springs to St. Peters-
burg. at Ft. S. fresh water
spring comes up through
salt water at head of em-
bayment. Ft. S. to St. P. very
flat, mostly pine. No
sink holes observed.

Lake City to Jacksonville-
Circular lakes at Lake City.
mostly dry sandy barrens
of pine at Alvester & beyond.
marshy stream McHenry
to Baldwin.

Lake City to Palatka.
only a few lakes, a
good deal of timber country

12/22 '04

Jacksonville to Miami.

(Only very brief notes taken)

Mostly a sandy stretch. Very dusty. Sand dunes near coast. Many beautiful Cabbage palms at Daytona and below. At Miami limestone at Sanford mined for building stone. One oolitic limestone, specimens taken.

12/29-'04 Miami to Homestead. Limestone all the way. pine trees have cluster of roots spread out flat. v. top rot. only very little soil on top & in holes of limestone

Homestead to Everglades (5 mi). Limestone at the surface. All of it oolitic, exceedingly rough from solution of surface. Some stone in edge of glades, probably dissolved out of it. Water clear. Taste good.

Miami to Keys (See notes in) Keys mostly limestone. Edge exceedingly rough from solution by sea water

1/20 '06

Lake City to Gainesville
Via Geo. S. - to Sampson
city very flat. no lakes
in sight. a good many
small swamps.
cypress starting. a few
trees with heavy scrub.
One small surface
stream crossed. water
two or three ft. wide
very dark.

Sampson a lake seen
at some distance.
country to G.
somewhat higher.

1/31 '06 Lake City to

St. Petersburg. L. City to Fr.
white see earlier account p.
Fr white to High Springs.
unproductive looking
country. pretty well cleared
apparently loamy soil.
numerous old dry ricks.
run one stream Santa Fe?
water very dark. stream looks
like solution channel.

Phosphate of Clark
Sink one mile south
of Juliet. Sink occurred
in the early part of night of
Jan. 30. It was about
12.00 AM. across. perfectly
circular. Sides perpendicu-
lar. Sgd about 4 ft.
below this on imper

clayey looking lime sta-
water stood in hole up to
about 10 ft of top. water
reported 34 ft deep at time
examined 5 P.M. Jan. 31. and
after a great deal of dirt
had been put in in
an effort to fill the sink.
Sink bridged over by
two large pine trunks
cross ties laid on trunks.
The engine crossed & the
conductor reports not
having felt the sink.
Just cor to go in was a
grain cor. The end of
it fell into the
hole. Hole too small
to let it go down.
After the cor left the
track two of them
crossed.

Trilby to St. Petersburg.
selection lake forms in all
stages. from the circular young
marsh to the good sized
lake with heavy vegetation
around edges. Just before
reaching Ekren several good
types begin. one
mile beyond good large
one.

Region just to south
of Torpor Springs rolling
somewhat. Then to St.
Petersburg unusually flat.
scarcely an elevation, no
depressions except the small
marshes.

Braidenton & manatee
to Turkey Creek. - many
beginning circular lakes.
some good ones after passing
swallow and before
reaching Turkey Creek.

Region very flat. Sand
in R.B. cut, white. Stream
beds like a channel
and of sand.

1/4. Winston to mulberry.
(Borne Valley branch)

Phosphate clay bedded
lines of stratification shown.
In pit no. 1 of brown phos. co.
Sandy layer at top of each
cut bed & dipping irreg-
ularly. In pit no. 2 a
skeleton probably of
manatee articulated
in phosphate. or all
600 to 650 ft. thick 10 ft
rising to the top. made
to flow strongly by
air pressure.

Biscayne to Orlando. Feb 4.

Not many smaller lakes. a
fair number of swamps starting

Orlando - lakes near
Sliver and Highland lake
back of some depth. Re-
ported twenty feet or so.
Lake near C. drained by
putting down found
on one corner according
to the driller reaching an

March 23. Ocala
to Leesburg - Atlantic Coast R.R.
Lake near about half
way between is unusual
in the bluff like bottom
around its outside. There
is evidence also of the
lakes having been higher
in former times as the
lake now reaches 40 ft
or so reaching its former
bluff the R.R. track now
running between the
bluff and edge of the
lake.

March 25 - Seesburg to
Orlando - Seaboard.

Lakes very numerous
first 10 or 15 miles mostly
large to medium sized.
above Apopka and
beyond one seen a
fair number of the
small depression cir-
cular lakes. Most of them
in the early stages.

well at Public School Orlando
bottle 260 ft.
piping 49 1/2 ft. water below
solid weight to stand
8 in well.

comes off water from 3 lines
3 in line.

water stand within 47 ft. of top.
sand, clay & shell rock more
down towards bottom of 106 ft.
lost 15 ft. shell rock with
fleshy layers. water comes
off through porous layer.

well in drainage ditch.
Inside City limits $\frac{1}{2}$ mi S.E. P.O.
well 340 ft. 12 in.
water stood above top while
drilling.

First layer carries small
stream 105 ft. ^{1st} Second
layer 330 ft. stuck very
soft horizon. no water brought
up. water rushed down.
Hor. 10 ft. thick solid below.
piping 87 ft.

well at Sink Orlando.
1 mi South east of P.O.
two 12 in wells. 3 ft apart.
Country stuck at 136 ft.
tools dropped clear $4\frac{1}{2}$ ft. solid
below.
piping 85 ft.
mainly natural below.

well 25 to 30 ft. East. 12 in.
at top. 10 at bottom reported
also about 140 ft.

8 in well also reported 140 ft.
2 in piping air coming up.

Look up to the Lorna Home
" " " Seoria
" " " Eola

The two old mills at the
sink 125 ft. Soundings. 3/27.

The following Lohs shown
by map in office of city water works
drain into the sink.

Hardeman, Lucerne
Minnie, Edith, Cepelwood
and Harris.

well 4. water stood on
march 27 at 2 1/2 ft. below
level of lake being drained.

3/19/06 line look to Howling Gap.
Rolling clay country.

reported 60 ft or so clay.
No water until rotten lime-
stone below clay is reached
& penetrated.

at Howling Gap three
mills. The first reported as
45 ft. sulphur water.

Two fair inch mills reported
65 ft. water standing at 45 ft.

Small spring of sulphur
water 1/2 mi or so down river
from H. Gap. covered by high
water. Woods spring a
interesting flow reported as
sulphur water & above high
water of river.

at Howlugs ferry.
limestone at low
water level. Banks of
river 20 ft. 1st 12
yellowish clay. 8 ft
of sand at top.

at the old turtle bowler
Pt. 5 ft. 30 ft. water of
soft yellowish limestone
of broken fossils
Immediately & conform-
ably above 4 ft. white fiss-
ile porous limestone weathering
rough & full of holes, above
this the twelve ft of
yellow-red fine infoss
clay. only a little sand at
top.

1892 in paper
the volume
the way
the volume

12/22 in nophia sawed
on the Calceolate

This is the way the
book is sketched.

Tree no I Harrison Grove.

Snails in considerable
numbers put on the tree
in marsh. In Nov. 18 tree
practically entirely free
from snail. foliage bright
and glossy. Surrounding
trees of same variety much
smoother. Trunk noticeably
freer from algae than that
of surrounding trees.

Fruit. Clean except for
a good many scales. Not
noticeably ripened.
Only a few oranges on
tree no 1.

Scale - very bad. Leaves
spotted but no worse
than on surrounding trees.

Red fungus of scale just
as abundant as on surrounding
trees

Snails in clusters under
old rock in the fork of
tree. one egg seen here.

Willis Grove - Esti-
mate of 100 trees
apparently too high. in
actual count about 50 trees
were seen. Fewer
large & more small snails
than on lot 28. many
large snail dead on the
grounds

Notes on History of plants

April 1904.

Find

well at Public school building.

well in ditch.

well at waterworks.

well at novelty works.

well at sink.

Expense 11/17 -

1/17 Hock 2⁹

Ticket 1.12

1/18 Breakfast 57

Room & Supp 1.00

11/20. Hotel Sander 3 00

city clerk thinks

2000 acres more under water

Johnstown - Suburb of

London

Rate L. C. to Lawrence

32.00

Round trip to Hot Springs

38.40

no. 20 Fox

Mr. Bennett
Chas. Fox

