

Core Book #2 TS

Core
Book #2

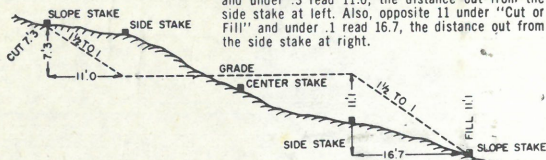
LEVEL BOOK

82.0340

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1 1/2 to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

DR. THOMAS M. SCOTT
FLORIDA GEOLOGICAL SURVEY
TALLAHASSEE, FLORIDA

FBG	File	No.	W-	DEPTH (To 0.1 Ft.)	ROCK TYPE	COLOR	POROSITY	SAND	DOLOMITE	OTHER FEATURES									
										Grain Types	1 2 3	% A	Size mm	Mode	Range	Alteration	Crystallinity	Mode	Size Range
										Sphericity	1 2	Roundness	1 2	Size mm	Mode	Range	Alteration	Crystallinity	Mode
										Accessory Minerals	1 2 3 4	Type	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
										Sedimentary Structures	1 2 3 4 5 6	Type	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
										Cement Type	1 2 3 4 5 6	Type	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
										Induration	1 2 3 4 5 6	Type	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6

For use in this book is
made rag stock with
surface sizing.

KEUFFEL & ESSER CO.

South Seas #1 Continued from
CORE BOOK #1

567-568 Dolo^{vf}, lgt brn gry, mod-good ind
phos gravel 1%, phos sand 4%
qtz sand, few fossil molds
bored logs at top

568-572 Dolo^{mod. gry}, microxtalline, good ind
phos 1-2% sand 1-2%
fossil molds

scattered phos gravel
burrows filled w/ soft dolosilt
often washed out
becomes softer & more calc
to 572

572-73.5 ls^{multicrystalline stone}, lgt gry to white, poor-mod
ind, phos 3-4%, sand 5%(?)
some phos gravel, fossil frags

573.5-76 Dolo, lgt to med brngry, good ind
phas 1-2 sand 1-2 fossil
molds.

576-78 Ls, mudstone to wackestone, lgt gry
to white, mod ind phos 3-4
sand 5+? few fossil frags

578-87 Dolo, lgt ~~to med~~ brngry, ^{to lgt gry}
good ind. phos < 1% sand ∇ 10-20
abundant algal clumps

sand, phos content varies as does
xtallinity (micro- ∇ f).

587-89 Dolo, ^{micro- ∇ f} lgt brngry, mod-good ind
phas 3% sand 10% silt(?)

589-93 Ls, ^{packestone} white to lgt gry, mod ind
to poor ind, phos 1-2%
sand ? (∇ f) abund fossil
Frags. Forams.

Zone from 590-90.75 has abundant
mollusk molds. Thin clayey zone

at 590.75-91

593-98.5 Dolo, mod brngry to lgt gry
good to mod ind, phos, 1-4%
sand (5%) few algal frags

598.5-613.5 Ls, packestone, lgt gry to white
mod ^{to good} ind, phos 0.5% sand 20%
fossil frags & molds, forams
Sorites noted

phos and sand content decrease
to 1-2% by 601 then
fluctuates 1-10% sand and
phos are ∇ f to silt sized

613.5-615 Ls, pack-wacke, lgt gry to
lgt gry, soft, phos 0-2% sand
5-10%, possibly clayey, fossil
frags, forams? grades into
moll moldie Ls at 615%

615- Ls, lgt-med brngry, mod to good
ind, phos 1%-5% sand 1%-5%

soft zone lost 617-19
then soft ls ⁶¹⁹⁻⁶²⁰ then to harder
moldic ls at 620

retal grain to wackestones
w/ grain? pack - mod common

624-27 more phosphatic

627-629 less moldic very
well ind

large Turritellid molds
at 628.5-9

629-631.5 Ls, lgt brn gry poor - mod ind
very moldic, plus 1% sand 1%
fossil molds, moll forams

631.5 - 632 Ls as 627-29

632 - 638.5 Ls, ^{md. - f-m} grainstone, lgt brn gry
poor - mod ind, plus < 1% sand < 1%
very moldic, fossil molds, moll
forams. Coar. frags.

Becomes vf grained 637.5'

638.5 - 640 Ls, wacke to mod? lgt grn gry
w/ green stringers of clay, soft.
plus to 5% sand 15-20 clay < 5
fossil frags

640 - Ls becomes more ind 640
641

clay appears to follow burrows
clay is ^{mod to dark} gry green, w/ plus & sand
grades into underlying arg and

641-643 Ls ^{mudstone?} lgt gry, ^{mod to} mod ind
appears to be very silty (quartz)
but may be dolosilty
plus < 1 to 1 1/2% sand < 1% silt

643 - 658 Dolo, lgt gry, mod ind
plus < 1 - 1% sand < 1% silt
micro - vf

656-58 softer more rubbly
w/ some clay thin (2cm) organic
rich zone 657.85-58

658-660 Dolo (more calc. than 653)
lgt brn gray, good ind, trace
phos, sand, few fossil
molds & frags

660-662 Dolo, med gray, med ind,
phos sand
organics some thin bedding
apparent.

662-65 lost possibly soft clayey
Dolo.

665-75 ls, wacke white to lgt gray
poor-med ind, phos 1% sand 1%
fossil frags & molds
grades to pack stone to 67'
variable ind.

poor recovery 672-675

675-681 Ls, ^{med, fine-c} grain to pack, med to
"Os" well ind, fossil frags & molds
mold molds, poor recovery

681-700 Ls ^{med} grain, ^{med-c} mod gray brn
poor to mod, mod to high textural
forams, fossil molds.
lighter color and less sorted
687 and below

thin hard zone 691

thin clay 691.5

abundant forams throughout
very rich 692.5-93

grain size varies from uf to
med med

more textural ~~and~~ below 700

700-703 Ls, grain to pack stone, f-m,
poor to med ind. moldic small
forams.

703-704? - Ls & thin clay

703-707 poor-recovery apparently
interbedded soft and hard Ls

707-713.5 ls, ^{v lgt brn to lgt gry brn} pack-grains, vf-f, poor-mod ind, fossil frags, forams mod nertal

713.5-15 Ls, ^{vf-m} pack? lgt gry brn soft, clayey(?), fossil frags forams

715-717 Ls as 681

717-722 Ls, lgt gry, f vf, grains to pack, poor ind., forams fossil frags.

thin zone w/ root traces at 721

722-726 Ls, ^{v lgt gry brn} lgt gry brn, pack, vf to f, soft. forams, fossil frags.

thin grainstone zones.

very nertal, very moldie ls

725-726

726-29

Ls white pack - poor-mod fossil frags.

variably moldie (moll)

729-742.2 Ls, ^{vf-m} grains to pack, lgt gry brn soft to mod ind, fossil frags, forams

thin zone of abundant gastropod molds 738.5

742.2-760 Ls, lgt brn to lgt gry brn, grains ^{vf-c} to pack, mod to poor ind, very moldie (Moll) fossil frags, fossil molds, forams

760 TD

15 Feb 89 Corkscrew #1 15287

0-4 Sand

4-6.5 sand, probably was shelly
by dissolved a. it

6.5-7.5 Sand lgt gry to tan, f, fn,
poor to now ind.; shell common
Chione cancellata

some zones lithified w/ CaCO_3
more toward a very sandy ls
w/ shell at 8'

7.5-13 ls; lgt gry to tan, med to poor
w/ few well ind. zones,
F+calcos

13-33
~~But from~~
calcos
ls, lgt gry to white, sandy, poor to good ind.
shell frags, mudstone to wackestone

35-46 Ls, dark gry to lgt brngy
good ind., high rextal, moldic
sand 30 fossil molly
sandy white ls at 42' has

root traces

46-51 Ls, med-dark gry, good ind.
sand many moll. moldic
corals

51-56.5 Fresh H₂O Ls, dark gry
to lgt gry brn, well ind.,
minor sand, Fresh H₂O gastropods
some mix of marine moll

56.5-82.5 Ls dark gry to lgt brngy,
good ind., sand minor, abund
Moll molds, some shell. traces
of phos. appears to have been
a grain to pack time before
high rextal
some sandy zones

82.5-90 Ls lgt grn gry, Grain-pack
vf, med to poor ind., sand &
phos minor abund moll
molds

90-92 NO recovery

92-99 very poor recovery
sandy, phos silty Ls to
calc, phos, silty sand
few Ostrea fragments

Top of HAW may actually
be in this interval but
is best placed at 99 for now.

99-109.5 sand, lgt grn gry, poor coral
PR of, vff, fossil frags

phos 3-5%, calc mtr.
very little clay(?)

Pecten's noted
forams(?) very small

clay content increases
108-109 thin clay to
109.5

109.5-112 CLAY: lgt-med olive gray,
mod ind, silty, sandy (vf)

with interbedded, thin sands (vf)

112-117 Sand, lgt olive gray, vf
poor ind, clay and carb,
phos to 10%, gen. ground 5?
Forams and diatoms noted
few shell frags

117 Clay, med grn gry, mod to
poor ind, silty minor fine
sand, very little carb.

siltier and sandier (slight) 119-125

~~119-125~~ noted diatoms 129-131

Sandier btwn 128-131

131-132 shelly zone w/ leached
shell, brachiopods?

132- as 119-131

134-138.5 Sand, clayey w/ forams, diatoms
some shell at 135

vf, mod olive gray.

138.5-147 Ls., mod gry, grainstone
mod-good ind., sand 5%
phos trace, abund. Moll molds

147-202 Sand. lgt grn gry, v f, poor
mod, phos 2-3% fossil molds
few fossil frags. calc mtrix
abund. molds (moll) btwn

150-157

calc mtrix to 50%

poor recovery 167-197

202-211 Ls, sandy, phos (min)
lgt grn gry, good ind, abund
Moll molds

211-246 grades into calc cemented sand
lgt gry, mod to good ind
shell frags and molds

Poor recovery due to unconform
zones of sand (noted by Driller)

Note: These Carbo are
also in Badluck Sue #2

246-308 Clay, dk gry grn to olive
gry, mod to poor ind. sand
variable, minor phos.

Becomes more sandy
around 265

very poor recovery 258
to 308 driller says
silt and sand unconform
to very poor.

308-313 Phos rubble in a carb mtrix
Anchite poor ind. lgt grn gry
Ls. phos 2-3% w/ some
phos gravel.

313-320 as 308 but lost
due to core barrel failure

Make a mt

32

in ficks

appears to have been a
soft clayey shelly unit w/
phos gravel and sand.

332-82 Ls, lgt brn to lgt gry, mod med
sand 3% plus to 5%
shelly variably moldic
recovery not good due
to softer beds washed
out

362-380 Ls, lgt brn gry. to lgt gry.
grainstone w/ pack zones
mod med, slightly sandy
very little to no phos
very moldic
TD 380

Buckingham #1 15286

16 Feb 89 See log last of this
Book

reworking 1st 18 bxs to determine
correct top of Hawk Gp.

I still feel uneasy about that
published in Bull 59 and MGS
Symposium vol.

Possible Buckingham Mnd
6.5-52. This seems thick
and puts some clays in Buckingham

52-104 Tami

104 - approx 148 might be top PR
but has some Tamiish looking
marly zones also has litho
of more characteristic upper PR
in southern most FLA

148 good PR

at approx 207 changes from
greenish siliciclastic PR to carb-rich

SCOTT

W-15287

W-11430

W-15557

W-12948

W-15556

W-15286

W-15286

W-15556

W-15556

W-15556

W-15556

variably sandy & phos zone

Arcadia contact occurs some where

between 261-275

GAMMA log suggests
256

soft poorly consol. very sandy mud

10-22

AIVA core 15556

main 4-10

PR type beds to 208

1st Tamiami

22-28

Buckingham

28.5-

Tamiami w/ sand zone 47-

ALVA clay 68-

then a short Arcadiaish interval

then resume PR siliciclastics

to TD 466(?)

See log thru Bk
Last log

Appears there is NO

Arcadia present

GAMMA log
Agrees

Bad Luck Sue #1 14071

0-16 Soil and weathered, leached
Ft Thompson / Caloos.

16-17 less weathered

17-57 Shelly sandy ls and calo,
Caloos shelly sand.

LAboos Hatchee

57-100 Tamiami 1s

TD 100

Bad Luck Sue #2 14072

Cuttings to 60

Ft Thompson / Caloos to 45(?)

Tamiami 55-60

PR clayey silty sands and
clays at 60

251 is top of a carb section
w/ some silici beds
to TD 362

But is this Arcadia or
is it still a carb/silici
unit w/ in Peace River??

Klinging places top Mn at 100'

210 W-15557-161 A

Janet #1 15557

16 Feb 89
850 outside
Too nice to be inside

Cuttings 0-18

0-10 Ft+Thomp and sand

10-18 Tarniam

18-35 Ls white to lgt gry, mod to
good ind, variable sand
Trace phos, abund moll
molds35-43 no recovery Driller says
calc clay.43-65 Sand, lgt grn gry, fuf-f
poor ind calc minor clay
phos <1% fossil frags
leached calc. brk mtr
variable to 40%
zones of sandy ls (mudstone to
wackestone)65-84 Ls sandy white to lgt grn
poor to mod (in few zones) ind

sandy, shell

68-122 Ls, white to lgt gry mod to good
ind, variable sand, very
moldic (moll)

TAM

122-127 Qtz sand not recov

PP 127-128 Qtz sand, fuf-f, poor formal
Trace phos, shell calc mtr

128-132 as 122-127

132-133 Sand, lgt to mod yell grn,
mod-good ind in recovered part
Trace phos

133-141 as 122-127

141-152 Qtz sand lgt gry fuf-f
mod ind in recov part, phos 1%
minor shell poor recov

phos increases w/ depth

152-192 cuttings Sand fuf-f variable
clay, calc mtr, phos
shell.Cape Coral
W-15487ved a
ounge
re is 1Darw
nsis W

amiam

W-16536

192-193 Dolo silt, lgt yell gangry
mod ind, sand highly variable

10-40% more sand at

193-194 w/ phos gravel and
phos sand

194-197 lost prob sand

197-199 Dolo, lgt gry, mod ind
sand 30% phos 3%

199-222 Ls, lgt to mod gry, mod ind
PR carb sand 1% except in thin sand zones
section phos 1% very small maldivic

222-235 Dolo silt, lgt gry to mod gry
PR carb section poor to mod, sand ^{20-40%} phos 1-3%
clay in some zones
variable to dolo mtrix sand

235-242 Ls, white-lgt gry, poor to mod
sand 25% phos 2%, shell frags
NOTE: sand is m to vc and granule

242-243 Ls, lgt gangry, poor-mod
sand (if) 20%, phos trace
fossil frags, minor clay

243- sand, med gry to mod gangry,
vf; vf-f, poor to mod ind,
phos clayey, calc to dolo
fossil frags

clay con 245-247 w/ interbedded
very thin vf sand

very silty 249-254.5

becomes much coarser 254.5 to
256 including a few small
discord qtz pebbles

254.5-9 Sand, lgt to mod gangry, f to vc
and granule, discord qtz
phos 2-4% gravel, becomes calc mtrix
below 259. 3 mes of coarse
sand in dolo ls mtrix 262-62.5
292-96

Cape Coral
W-15487

erved ar
younge
ere is h

s Darw
ensis W

tamiami

W-16536

296-300 poor recovery - 2"

very sandy (vf) lime mud
phas 2% shell frags very
leached.

300-302 Dolo, lgt gry grw, poor to
mod ind, sand 30% phas 5-10
fossil molds scattered.

302-304(?) Ls, lgt gry to white mod
poor, sand 25 phas to 10
shell frags, some phas
gravel.

304(?) - 318 Sand, med gry gry, f, vf-m
poor, phas 10%, some phas gravel.
few fossil frags. Dolo
mtx, minor clay
phas reaches 20% in zones

318-342 Ls, lgt gry, poor to mod
Sand 25%, phas 4-5%, very small
moldic
Poor recovery

342-348 Sand lgt yell gry
vf mod ind, phas 1-3%

Dolo & calc mtx Dolo dominant
very leached shell frags

348-352 Ls, white - lgt gry,
pack, mod ind to poor
sand to 60% phas trace
mold molds & frags

352 TD NO Arcadia apparent
Gamma shows NO
Arcadia signature

199-243 PR carb section
silici section over PR carb section
is lighter colored than that
Below it.

200-352 2nd Carb section
of PR

17 Feb 1989

Cape Coral W-15487

0-8 Sand maybe weathered/
leached FT/calcareous

8-13.5 FT/calcareous shelly sand

13.5-16± Tannian moldic ls

18-89 Clayey w/ sand w/ 33 phs
shell frags and leached material
variably clayey w/ calc
mtx some silty clay
laminar

clay by 4/7' thru

various sand & clay

all ~~lt grey~~ to ^{to mid grn} lt grn grey
diatoms in some intervals

89-92 Sand, vff, carb mtx

phos, shell frags

lt grey.

phos gravel 94' now

phosphatic below 94

97-102 Ls hard, sandy fine
molds

102-183 Ls very moldic, sandy
mod to good ind lgt grey
to lgt brn grey, minor phos
variable recovery

183-198 Dolo clay - silty, some
sandy zones, variable clay content
PR lgt grn grey to grn grey
sand near base

198-203 no recovery

203-215 Ls, lgt grey, poor to mod

ARC phos 208, sandy, ^{abund} moldic

215-220 Dolo, hard lgt grn grey
minor sand & phos

220-223.5 Dolo Ls to ls, lgt brn grey

mod to good, phos 3-5 sand 5%

abund mold - moldic, less moldic w/
depth

223.5-236 Dolo silt to dolo clay
and clayey every little sand
or phos.

240-263 Ls lgt gry; mod ind ^{soft at top}
phos 3-5%, sand 5% _{harder w/ depth}
abund moll molds & shell frags

236-240 Dolo lgt brn gry, mod ind hard
Phos 5% sand 7-10%
very moldic from shell frags
and small shells

263-271 no recovery

271-297 Dolo, lgt gry to lgt grngry,
mod to poor ind, phos to 20%
sand to 10%, Fossil fragments
becomes Ls by 279
poor recovery 279-293

297-303 Dolo, lgt yell gry, mod
phos to 30%, sand to 20%

303-309 Ls to dolo, lgt grngry
mod to poor ind, phos to 30%
sand to 30%

more calc below 304

Moll molds & shell frags

309-322 Dolo, lgt grngry to grngry
mod, clayey (variable) silty
phos to 10% sand (uf) 15%
increasingly calc toward 322
shell frags very leached

322-342 Dolo & minor Ls mod to hard
phos to 20%, sand to 10%, intra clasts
and phos gravel scattered
moll molds

becomes bryozoan rich 327

become bryozoan " Ls at 327
abund shell frags

342-

Ls hard nextal

Time running out will
give very brief descript from here

clay zone 410.5 - 412

very moldic "Tampa" like

Ls 480's - 315

continues as ls w/ intermittent
dolo, variably sandy and

phos. often shell moldic

TD is 662 in a Turritellid

moldic, sandy phos ls.

Arcadia to TD

Top of Arcadia appears

to be a 203

Gamma suggests this

also but it seems high

Babcock #12 10759

FT/Calas to 32

TAMiami 32 to TD (41)

Babcock "B" 11490

Box 1 starts
FT Calas at 30 - 35

green silty clay 35 - 64

TAMiami 64' to TD 69
15

11669 ' See Haul Core Bk

Ft/Calas in soil zone to 38

38 - 40 phos, sandy mud

40 - 66.5 sandy clay to clayey
sand, phos, some shell

66.5 - 109 Hard rubble, phos

TAMiami
carb grade to

white, soft to hard phos ls
nextal coquina minor phos

109-

less nextal below 113

becomes very phos gravelly
120

calcrete crust 128.2

128.3 dolomitic cemented sand
w/ phos

12050 NO Ft/Culass
type material

Dolomitic to sandy zone
from about 30 to 50+

Brooks Sink core
in pocket

23 Feb 89 cold day
32° high

Morgan #1 12948

Very interesting core

Qtz sands w/ phos start
at $\approx 20'$. Not PR prob
younger reworking.

50'-qtz sands w/ minor shell
and abundant phos

May be = to upper PR in
Lee Co grades from 50 to
54 into characteristic PR
NO Tamiami



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Department of Earth Sciences

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6/16/92

Dr. Thomas M. Scotte
Florida Geological Survey
903 W. Tennessee Street
Tallahassee, Florida 32304-7700

Dear Tom:

These barnacles are beautifully preserved and, for a change, easy to identify. There is no doubt that all of the samples are Pliocene or younger, and I was particularly pleased that your deepest sample from W-15556 was identifiable. Here is how they sort out:

<u>Well</u>	<u>Species</u>	<u>Age</u>
11669 - 35-35.5 ft	? <i>Balanus venustus</i> Darwin	?Pleistocene
11907 - 30-31 ft	<i>Balanus newburnensis</i> Weisbord	late Pliocene (lower Pinecrest)
40-42 ft	?	?
100 ft	<i>Chesaconcaus tamiamiensis</i> (Ross)	early-late Pliocene (lower Tamiami)
Cape Coral 15487 - 133 ft	? <i>Arossia glyptopoma</i> (Pilsbry)	early-late Pliocene (lower Tamiami)
Alva 15556 - 212.5 ft	?	?
219-220 ft	<i>Arossia glyptopoma</i> <i>Chesaconcaus tamiamiensis</i>	early-late Pliocene (lower Tamiami) "
269 ft	<i>Chesaconcaus tamiamiensis</i>	early-late Pliocene (lower Tamiami)

All of the Pliocene calls would be from the TB3.6 Cycle, and all but 11907 - 30-31 ft are from the transgressive systems tract of that cycle (= Muriel's Murdock Station Member) and probably equivalent to Mitch's CN11 calls.

Hope this information is helpful. All of the letters of invitation for Bald Head are out. So far I have heard from one person, Jack Wolfe, who cannot attend. Will keep you posted.

Best regards,

Victor A. Zullo

Encl.

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⁰
~~74.75~~ - 74.75 und. if
sand-shell clay
make note that Ft. Thompson
calcareous and perhaps
sandy phase of Tamiemi ^{may be} ~~is~~

present
74.75 - TD HAW GP
74.75 - 442.5 P. R. HILLIARD
442.5 - TD Arc 16329

Tops are tentative (25')
Labels 4 NW

18 April 89

Hilliard #1 Hendry C. W-16329

0-7.5 Sand, f-m, t, varying color
variable organic content, unconsol

7.5-7.8 - Sand f-m, f mod brn grey
poorly consol, clay (<3%)

7.8-10 Sand, f-m, f, poor mod calc
FT shell? frags & whole shells below
Thomp 8'

10-25 Sand, f-m, f, unconsol,
mica, mottled. unfoss. isaps
in one thin zone at 11' w/ shell frags
and clayey unconsol at 16.75-17

color variable mod grey to lgt brn
grey. dark grains - heavy mins?
phas? <1%, looks bit fresh.

25-27.5 more clay

25- clayey sand, mod grey - mod brn grey
poor consol, unfoss. mica

small amt of carb. present
prob. remnants of shell
frags. shell frags (badly
leached) increase in abnd.
w/ depth also become less
leached. Barroade frags
present. minor phos

47.75 - Sand, lgt-mod grey
f-m w/ few discord gravel pebbles,
poor consol, carb mod clay
abund shell frags, few whole
shells, abund Turritellids at
50' Barroades, Pecten frags ^{trace} phos

50-57 Carbonate content increases
from above some argonitic
shell frags present

Lithoclasts of hardened sandstone
some Fresh H₂O spalls of 30'
Forams?

looks
like
"Lemo
Green"

calcos?

carb mud content high
54-57, sand is more coarse
cutting
59- sand, lgt gray, f-vc.

~~Top PR?~~ gravel, poor to unconsolidated
~~Top PR?~~ phos (mostly coarse sand to gravel size)

confusing section
few thin clasts of PR looking
rock few shell frags
phos gravel up to 3%

Samples in cuttings bags seem
to get more coarse (overall) to
70 or 71 feet then more fine
sand occurs mixed w/ the coarse
73-74.75 Sand, lgt-med gray to
lgt brn gray, f to vc, (minor gravel)
phos, poor to unconsolidated, infoss.

74.75-142 Sand, med gray, m-vc, poor
Looks like sand PR
Consolidated, clay < 1%
carb (Dolo?) phos → 4%
Few shell frags, clay clasts, mica
Some thin. zones are vc w/ minor finer sizes

more coarse between
82-89 (in cuttings bags)
then as 81'

many burrows filled w/
clean qtz sand 89-94
sand becomes finer grained (avg)
below 90' f-m. w/ few coarse
grains then loses coarse
grains altogether. by 95
grades to vf-f w/ phos 1-2%
thin clay beds

vc cavings on outside of core
113-115.5

Samples absent 117-122'
but same below.

142-143.75 Sand, lgt gray, coarse to vc, unconsolidated
Some coarse phos.

143.75- Sand, lgt gray, vf vf-f, unconsolidated
phos 1-2% scattered thin clay beds, mica

coarse bed (mixed vc, c-f)
at 152-153 then back
to vf-f.

another zone of vc-c
at 160-161.25

Becomes slightly calc
around 173± (no visible carb)
intermittent

Seems to have increasing % of
coarse sand between 198-204

212- f-c
c-m sand 212- white
slightly calc to calc mud.
phos 1%

finer grained 223-224.5
silty clayey zone 224.5-225.1
then back to coarser

variable calc

silty zone 231-31.75

" " 233-33.75

thin hard calc cont ss 233.75
-234

234- f-c, m ^{lt grey} sand variable
coarseness calc mtrix
thin ls stringers 249-251

251- thin silt beds, calc, lt-med grey
grey poor ind, forams
very sandy (vf) phos mica
sand becomes more coarse w/ depth
poor recovery 3/10

252 - Mammals
No you never
then did middle Mio

FR.

260-270 very calc ss or very sand ls
at approx 260, sand (f to c).
w/ beds of very fine calc mud
w/ minor sand, little to no phos
5/10 recov

270- Sand, lt grey to lt grey,
m-c, c, poor to unconsol
some fossil frags and calc mtrix.
Trace phos.

interbedded w/ very sandy
Ls below 271 to 273.5

moll molds in Ls few fossil
frags remain Ostrea, Salpinx
(Tarusoma)

273.5- Ls, lgt gry, calc mud,
skeletal debris, poor to good and
softer zones lost. fossiliferous
moll molds. some zones
are coquina now just molds.
Sand in vc-c

Some beds are calc cont ss

vc-c

poor re cov 273.5 - ³²²~~289~~

289 by 289 becomes sand, lgt gry,
c, c-vc, poor ind to mod.
calcite cont, molds of fossils
preserved by rims of calcite.
Calc mtrx to 5%

the poorer corals beds have washed
out during drilling
bag sample 310-20

m-c sand w/ calc mtrx
+ trace phos. become

f-c, m at 325 bag

f-c, m w/ fine c grains by 340

m-c, c 370-75

m-vc, c 375-85

385.

Appears to be P.R.
top. See note last page

carbonate (Ls) w/ sand,

phos increases over
< 385' levels,

Prob is a Ls, ^{lgt gry} poor ind, calc mud
mtrx w/ sand (variable %)

phos 5% sand is generally

fine, chunks of harder ls/dolo
cuttings to 421

421-24.5 Sand, vf-f, vf, med gry to lgt
gry gm, poor ind, carb mtr 5-2%
phos 10-15% Bioturb.
fossil frags in lower 1.5'
Bryozoans, forams

424.5-430 ls, white, lgt gry gry, poor-mod
? ind, sand 25%, phos 3-5, silty
Arc. abund. Bryozoans, forams
few oyster frags. Bioturb
very silty (Dolo?) zone 429-430
abund shell frags 429 and
430-30.5

430-435 Sand, lgt gry gry - lgt gry, vf-f, vt
poor ind to mod., carb mtr
calcite 15%, phos. 15-20
shell frags, Bryozoans, forams.
Bioturb

Nearly all beds are Bioturbated.

435 - grades into very sandy
ls, lgt gry gry, mod ind,
sand 30%, phos, 3%
shell frags & molds,
some dolo(?), Bryozoans
grades to white ls w/ depth
437 grades back to very calc sand
439+ then to white ls.
phos varies from 3-10%

ls harder 442-442.5



442.5- Black weathered surface,
irregular.
hard ls, med gry, good ind
sand 25% phos 4% mod molds
softer below 443
very sandy ls to very calc. ss
phos to 20% avg 10%
med gry to lgt gry gm.

scattered l. ch. clasts around
455'

457-8 Very shelly, Ostrea

461+-62 Sand w/ clay; med grn gry,

vf, vf to silt, poor ind, phos 10%
distinct change fossil frags. dolo(?)

462-67 Hard ls, lgt gry to white,
good ind, sand 1-2% phos 1%
few molds.

thin clay laminae & stringers
clay content increases w/ depth
fossil frags

467 hard bored clast of dolo.

thin hard clayey dolo silt
or dolo silty clay w/ vf to

467.5-68 silt.

468-476.7 Clay, med grn gry to med gry, poor
ind, silty, vf sand(?), dolo silt
phos(?). Variable dolo content and silt

and more phos
becomes sandier 472.3'

473.5 shell frags (leached), more calc

474 sand decreases, diatom molds
present

Bioturb. - Burrows noted throughout
often filled w/ sandier, more phos
sed.

476.7- Sand, lgt grn gry to lgt gry,
vf, vf to silt, poor-med ind, calc mud
calc mud to 25%, silty, phos to 15%
planktic, Benthic Forams, fossil
frags. ^{& molds} Variable carb mud
content. Sandier near 476.7
more carb 478.

481-83 Becomes a sandy, silty, phos, ls
large Pecten frags. near 481.8

481.8-83.7 Mixture of sand w/ carb mtrix, phos,
clays in thin laminae and sandy
phos ls all w/ fossil frags molds/casts

483.7-

Dolo^{ls}, lt tamed grey, ^{i: lgt gingery} poor - med ind
sand 25 phos 15 clayey
few fossil frags remain

Burrows filled w/ sand, plus i: dolo
varies to Sand, med grey, vf, vf-silt,
poor ind ^{dolo ls} phos 25-30, dolo, clay,
becomes more calc below 486

482.4 very phosphatic > 25% (+ 40%)

Highly Bioturb

497 dolo ls to dolo as above

Note: Phos in this section 476.2 to 508
occurs as vf to med sand sized, ^{rounded} grains
w/ some irregularly shaped coarser
grains to fine gravel size. coarser
fraction appears to be primarily a
phos replacement of fossil debris.
colours range from shiny black to
brown & amber w/ black most common.
Phos. fish bones, gastropods, Bryozoa

grades from dolo to ls 499-500

500. Ls white to med grey, poor - med ind
sand 5-15 phos 3-15 fossil molls

moll, Bryozoans minor clay content
more indurated (med) 502 and
below sand and phos content
decrease but remain highly variable
appears to be dolomite below 504 to
506.

much less sand and phos. 509

grades into dolo

512.5 Dolo, med gingery, med ind
sand 10 phos 7 fossil frag.514 Ls, lgt grey to white, med ind
sand 20 phos 10. moll molds
zone of dolo. 2-3" thick 515.5sand & phos content increase
below 516very phos (20) sandy (30) 522 w/ scattered
Dolo

526-

Sand, ^{Burrows} mod gray to dark gray
vf-cilt, vf, poor ind, dolo, clay,
phas 35 variable to phos, sandy, dolo
varies to dolo, sandy, phos, at
528.5-29 / sharp contact w/ underlying unit
scattered oyster shell frags

534.5

Ls, lgt gray, poor-mod ind
phas 1 $\frac{1}{2}$ sand 1-2 $\frac{1}{2}$, silty
some interbedded zones as 526
sand & phos increase around 535.5
-36

Burrows filled w/ ^{overlying} sand-type
grades into underlying unit

540.5

Silt, med gray, poor-mod ind dolo, clay
minor vf sand and phos scattered
burrows Fossil frags appear 543
more calcitic towards 544 ^{grades into} underlying

544

Ls, white-lgt gray, mod ind
sand 02 phos 1 Bryozans
moll frags

becomes dolomitic w/ depth
more phos (irregular frags)
w/ depth

Grades into underlying
increasing silt & vf sand & clay
to 546.5

546.5-552 Clay, mod gray to med blue
gray, mod ind, clay, silty
burrows filled w/ silty clay w/
phas, fossil frags / mica

552-552.7 3 one of gradational change
from clay to carb.

Very abundant, phos to 358
much of it is replaced fossil debris

Ostrea

552.7

^{while to lgt orangey}
Dolo Ls, mod-good ind
phas 5 sand 10

Bryozans (some w/ phos nucleating
in structure) mollusks (molds & frags)

Dolo₂ is more common in the
burrow fill in this interval

553- Ls, lgt grn gry, mod ind
photo 1-2% silty, abund v f fossil frags
numerous burrows which stop at
557. mol molds, phos. fossil frags
v f sand increases w/ depth

561.8 - 66 Ls lgt grn gry, mod-poor ind
sand to 30%, silty, phos 3-5%
spicules, fossil frags

566-68 Dolo, lgt grn gry poor
very silty, phos 1%, many Bryozoans
fossil frags. clayey
more calc w/ depth gradational

568 Ls lgt grn gry, poor ind
silty, sand (v f) 10% phos 5%
abund, v f fossil frags
Bryozoans, moll
more indurated w/ depth

zones of dolo, gradational contact
w/ underlying unit

573- Fragmental Ls, abund fossil frags
Ls white + lgt gry, ^{to lgt grn gry} poor-mod ind
sand phos 2%, fossil frags
Bryozoans, moll. most phos
is replacement of fossil material
580-82 increase in silt (dolo?)
thin zones of higher clay content
1-3" thick.

583.5 Ls lgt grn gry to white, mod
silty, phos 1%, Bryozoans
fossil frags, some relict
to dolo? in mtrx.
clayey at base grading into
underlying u. w/ increase in ^{coarse} phos

596- clay dolomitic, very silty
mod gry, poor ind, dolo
phos 5% fossil frags, ^{phos} intradact

597.5 - 605 Dolo, ^{micro-vf} mud gray to mud gray
microxtal - vf good to mod ind
silty, sand (vf), phos 0/2
fossil molds, moll (Turritellids)

605 Ls, white-lgt gray, good ind
sand 25 phos 3 Forams
noted, rectal foss frags
vice burrow structure 607

phos increase to 7-10% around
609.5, Inclination decrease
to mod below 609 to 612

612 back to good ind

Barnacles, moll, forams

613 Ls, lgt gray good ind
sand 10% phos 10% moll molds
(Turritellids most common)
Forams fossil frags.

618 Dolo (calc), lgt to med ^{micro-vf} gray, good ind
sand 10 phos 7 moll molds forams

echinoid plate, crab claw
grades into underlying ls

621

Ls, lat-med gray, mod-good ind
Sand 30 phos 7-10 moll mold
Turritellids common foss frags
grades into Dolo

626.5

Dolo med-dark gray
good ind, micro-vf, good ind
Sand 15 phos 5-7 moll molds
are abundant

(628)

629-32 lost, Diller says soft rock
or clay

632-32.5 Sand, mud gray, vf, vlf,
mod ind., dolo cont, phos 25%

632.5-38 as 626.5

638-42 poor recov. rock chips from
washing hole, prob. soft sand

642-43 as 632-32.5

643-46.75 Dolo, mod gry, vf-x

good ind. atz sand 30% phos
10% fossiliferous
sand phos decrease

as moll molds increase

644.75-47.25 Sand, as 642

647.25-52 Dolo, mod gry, vf-x

good ind. atz sand 40% phos 5%
Biofurb very evident

variably foss. moll molds

652-60 L₁ white-lyt gry, skeletal, biogen

textal, mod-good, sand 10

phos 15% moll molds

fossiliferous

poor recovery.

660-61 Dolo mod gry to gry brn

vf-x, good, sand 15 phos 10

few molds

661-80 Sand, mod gry to gym gry
vf, silt-f, poor to good, Dolo cnt
some clay (min). Dolo-35 Phos

2-8% few molds

thin zones of very sandy dolo
Biofurb. Harder near base.

no recov 674-77

680-84.5 Dolo mod gry, vf-x, good
dolo cnt, sand 10 phos 2
moll molds

684.5-89 Sand, as 661

grades into ~~very~~ clayey sand

689-92 - loss diathermy, sandy clay.

prob. as 684.5

692-98 Sand, mod gry, vf silt-vf
mod to poor, dolo cnt, phos 2%

dolo-30% clay. few fossil
molds. Barrows. interbedded

may vary to very sandy
slightly clayey dol.

698-713 Sand mod gry, vf-silt-vf,
mod to poor, dol, phos 1-2
dol to 20% very few fossil
molds. Bro turb. becomes
more clayey 713-117.

713-36 Sand, mod gry to dark gry,
VF silt to vf, poor-mod, clay
i dol, clay to 50%, phos
2-3%, decreasing w/ increasing
clay content.

Zones of silty, sandy clay
more indurated 722-25

Zone w/ few fossil frags 727-28

★ Abundant intra clasts 734-6? (poor sum)
Some w/ borings.

736-37 Dol, gry gry, x, good, dol &
silt, sand, phos, clay

737-740 Sand as 713 grading into
dark gry to black sticky
clay. has thin sand stringers
& burrow fill.

740 T1)

Be careful of fm assignments
until other Hendry Co cores are
worked. The Arcadia has
more silici clastics in it
than noted in Lee Co or northward
PR is strange if the sands
above 385 are placed in it.

NOTE: γ log suggests top of
Arc at 450 $\pm$, litho suggests 442' or

462 (this looks but; check core)

Peach River fm section is uncharacteristic in that it has less clay and carb in matrix and have very coarse sand grain size. The coarse sand has little to no phos.

elev 85-90 G: M core Baldwin FIA

starts at 110 in good upper Coos.

very coarse phos 133 - 156 (7)
" " " at 184

change from primarily clay
sands w/ plus to carb beds
at 232.5 232.5 - 236 carb

Z36 hard phos surface

Top Marker Head Fm 232.5-236

more clay in MA section
than normal in clay Co

Top Penny Farms Fm 293?
gradational appearance
very common dark gray green
to black clays in PF
carb at TD 353

Gamma log Shores Top Mn
at 104-105 Coos

230+ m#

290-2 PF

W-16387
U.S. Sugar Core 3 July 89

0-9? Overburden, spoil etc

9-35f Thompson/Caloos. ^{1st gry to 1st gry} ls & shell

abund. Turritelids 27-35

sand w/ abund shell frags (fine)

Sand 35-97 ^{1st brn gry to 1st gry} may be part of FT/Caloos

fine to med w/ zones of

med to coarse - vc, poor incl

seems to become more coarse w/
depth, Trace to 1% phos, mica

carb mtrx varies maint.

more calc mtrx below approx

77', ^{1st gry to white} most coarse below 77'

^{mod-good} more indurated below 83'-88'

more shell below 77' moll mols.

below 88' to near 97' sand w/

carb mtrx med ground

97-101 ^{white + 1st gry} ls, ^{poor incl} variably sandy, moll moll

TAMiami? noticeable increase in phos

to 1-2% grades in to
101-112 very calc mtrx sand, f-m, m.

poor consol., Barwachs, moll
frags. variable calc mtrx
and sand ls, mica

TAMiami? 112-142' Ls, very moldie, very sandy

mod-good incl, 1st gry to white
poorly consol bed 117-118

abund Turritellid molds 123-134'

Peace, m? 142-198' Sand, ^{1st gry - 1st gry} f, vf-f, ^{poor incl}

2-3% phos slight calc mtrx
leached shell frags, mica

Appears as a "sugar sand" - Beach?

some coarse grains below 177'

still fine med sand. minor mica

Sand & phos become more coarse

around 184 to med,

some phos gravel 184-5

mtrx is dol. Back to fine med ^{at}

0-9 wds

9-35 FT/CALLOS

35-~~142~~ TAMIAH
142

142 - TD HAW GY

142 - 403 PR

403 - TD ARC

~~112 FPM~~
112 CLSCR
US SUGM

16387

~~121 FPM~~

Tops are Tentative

NOTE: 112 CLSCR - CONTAINS
FORT THOMPSON / CALLOS. UNDIFF.

to vf, very little matrix material
Faint laminae of more greenish
silty(?) layers very disrupted
by bioturbation 192-198

198-208 Sand becomes more silty and
lgt grey gm, vf-f, vf, poor ind
phos to 15% (vf), very minor clay
<1%, some dolomite in matrix.

See Note 1% mica

208-210 sand as above but up to 30%
Next page phos. abundant clasts of dolomitic
clayey silt. that appears similar
to the litho at 214-15

210-214 Clay, lgt olive grey to olive grey,
poor ind, dolomitic, silty, sand to
30% phos to 10%, mica 1-2%

Thin bedded, diatoms and leached
forams(?).

214-239 Silt, light grey, poor ind
dol & clay, sand to 10%, phos to 2%
thin bedded w/ sandier layers inter-
bedded. diatoms abundant.

clay content variable w/ thin
zones being silty clays
diatoms noted throughout

zones of clay clasts as at 218-19
many zones are thinly laminated
w/ no signs of bioturb.

Note: above 210' the
sands are similar to the
Wabasso beds in T R Co - Mutua
Co. but less calc. Much of
the sands 142-210 look
like "near beach" sands.

W-12050
11490
10-10759
sand content increases between
235-39 to a max of 25%

239-41.5 Silt light gray gm, poor ind,
dolo & clay, dolo 25% (?) sand 20%
phos 5%, mica, diatoms
not nearly as abund.

241.5-252 Silt to vf sand, lgt olive gray
to mod olive gray, poor ind
clay w/ minor dolo, sand - 35%
phos - 3%, diatoms more
abund than above. Thin bedded
but due to more sand it is
not as evident. Little to no bio
turbation, poorly preserved forams

252-258 Sand, vf; silt to vf, poor ind
clay, carb mud (calc), clay 3-5%
phos 15-20% fossils, forams, spicules
thin clay laminae, phos up to 40%
in zones. mica

258-62 very sandy clay to very clayey
sand, olive gray, poor, phos 5%

spicules, forams (?), fossil frags

262-280± Sand, ^{lgt olive gray to olive gray to brown gray} silt to vf, vf

poor ind, clay, clay 10%, phos 10%
appears mottled due to burrowing.

Sand becomes f, vf-m below
278

280-287 poor recovery

Sandstone, m, vf-c, mod-good
ind, calc, phos 5%, shell frags.
Oyster shell

287-92 Sand, olive gray to mod gray in
zones, f, vf-f, poor, ind, clay,

phos 5%, minor calc, clay - 5%, mica
calc increases around 290-1

292-98 poor recovery, sand, f, vf-f
mod gray poor to mod ind, calc, clay, phos 5%
mica - 1%

298-316 Sand as 287-92
becomes more calc & lighter
colored 301.5-305. Buturb
lt 1/2 coarse well rounded qtz
grains, traces of very leached
shell frags mica

316-318 Clay, olive gray to lgt olive gray
poor, clay, sand to 35%, phos 5%
shell frags, forams mica
some more calc zones

Sand increases to a clayey sand
by 318

318-23 Sand, f vf-m, lgt olive gray to
mod olive gray, poor ind, calc
clay, clay 20% phos 2-3%
forams, fossil frags mica
calc intrs increases at 320
sand becomes more coarse
around 323

to med, few zones of med
sand around 321.5-22

323-26 Sand, lgt gray, poor
calc, very minor clay, f-m, m
subrounded-rounded, phos 3% fossil frags,
thin calc cemented zones, mica
forams.

326-32 more recovery driller says
sand.

332-334 Sand, lgt olive gray, f, vf-f,
very poor ind, calc, very little clay
phos, 2% forams, fossil frags
more clayey & calc 334 & below, mica

334- Sand, lgt olive gray to light gray,
f, vf-f, poor, clay & calc,
phos 2-3% clay to 10%, mica, silt
forams, spic. calc
more clayey below 342 but
interbedded w/ less clayey zones
becomes vf, vf-f and siltier

below 347±, includes zones
that are clayey silt w/ sand
& phos., phos variable 3-10%
less clayey, more calc in mtr
below 354, very silty

Worked to 370 7 July 89

20 July 89 continue

at 370 to 378 w/ thin clay
beds. 0.5 to 1 foot phosphite
bed at 376.75-377.75±

v f to f phos grains w/ qtz sand
(10%) and clay mtr.

Burrows often filled with high
conc of phos.

378-785 Dolo, silt sized, lgt grngy
sand 1% phos 1%. Burrows as
above mod ind, clay, dolo,
grades into clay

378.5-89 clay, mod olive gray to
dark olive gray, mod ind clay
dolo (variable from <1% to 10%)
variably silty,

389-89.5 Phosphite, dark olive gray
to black, poor ind clay
and carb, sand 2% silt
clay 25% moll, frags very leached

389.5-403 lime mud, lgt gry to lgt grn

gry, (sand is v f, silt to v f) poor
calcareous minor clay, fossil
frags very leached.

more clayey w/ depth to 397
very clayey in some zones

v f sand to 10% min phos. to 7%
maybe slightly dolo.

Gypsum abundant at 396.5

Top of Arcadia 403

403-422 Ls, ^{to sand} v. lgt gray to lgt gry, Skel., Bio
 poor-mod, calc, sand to 50%, Bryozoa

Note: Ls and generally weathers stone w/ some mudstone and pebbles

Coar. frags, moll? phos 2-15%
 Zones are predom sand variable
 btwn ls & sand, sand is of
 zones w/ forams 411-12, traces
 of organic matter (plant remains?)

Sand, v lgt gray to lgt olive gry
 v f silt to fine, poor-mod calc
 clay, carb to 50%, Bryozoa
 Benthic forams,

Ostrea - rich zone 417-19

Leached shell frags (Pecten?) 419-422

422-25 Ls lgt gry to white, Skel, Bio
 mod, calc, sand to 15%, phos 1-2%
 moll molds, moll frags
 grades into sand & ls as 403

425-441

Sand as 403-422

w/ phos to 20% mostly fine
 grained, poor recovery

441-46.5

silt, lgt gry to lgt grn gry
 poor-mod, carb, sand, phos 1%

Coar. frags, forams.
 variable clayey
 burrows,

grades into sand at 442.75
 back to silt at 443.5

gray clay 443.75-444
 botub. contact 446.5

446.5-53.5

Ls lgt gry to lgt grn gry
 poor-mod, sand to 50% phos to 15%

Fossil frags, moll usks
 moll most common in 1st one
 foot. ~~in general less silici-~~
~~clastic below 446.5 than above~~

Becomes more shelly 451.5

Pecten to 453.5

Some very sandy zones 455-

453.5-70 Sand variable to ls

Sand, lgt gry ^{to lgt grn gry} v f v f-silt, mod

carb to 50% phos to 15%

mol frags, Bryozoans

highly variable btwn ls & sand
as primary litho as 446.5

470-88.5, lgt yellow gry to lgt gry

poor-mod, calc, silt, sand 30

phos 1-15 moll frags, foss frags
forams, Bryozoans

much less phosphatic ^{below} 476

more shelly 479.5-88.5

488.5-92 Ls, lgt ~~gry~~ to lgt grn gry to

mod gry, poor ind. calc, clay,

sand to 45% phos to 20%

burrows

scattered foss frags.

492-93.5 Clay, dk grn gry

poor-mod ind, clay, calc,

sand 10, phos 2. Foss frags

variable sand, phos. Bioturb.

grades into clayey sandy carb

by 493.5

493.5-98 Ls, ^{wide to mod} lgt grn gry poor-mod

calc, clay, sand 20 phos 2

foss frags, forams.

clay decrease w/ depth

mottled appearance due to

burrows filled w/ very phos

sand. more common w/ depth

Ls becomes very phos.

498-99 zone of very phos. sand

w/ clay w/ abundant clasts(?)

of Ls. as above. Thin bedding
in clayey sand

499-502.5 Sand, dk gry to mod gry
vf silt-f, poor clay, calc.
phos to 40%, bioturb
some clay pebbles and ls pebbles
shell frags at base

502.5-504 clay, lgt to mod gry gry
mod clay, sand 30% phos 5%
foss frags, thinly bedded

504-05 Ls, ^{weathered mud} dolomitic, white to lgt gry
gry mod ind, spar, dolo, sand
phos 5-8 small molds & frags

505-06 Dolo, lgt gry to lgt gry gry
well ind, dolo, sand 5 phos 1
gypsum 2-3
some large gypsum crystals
present.

506-522 Clay ^{to clayey sand} mod yell. gry, poor, clay
calc, sand 5 phos 5 silt
faunal frags, bryozoans, Moll Frags

Forams?
percent dolo, clay and sand
varies widely, some diatom molds
lime mud increases with depth
grades into ^{silty} ls. & calc, silty
sand around 513 then back to
clay by 517, many burrows
filled w/ very phos. sand
clay sh. thin partings
more calc below 521

522-34.5 Sand, lgt gry gry, vf vf-f
poor clay, calc, phos to 25%
clayey.

Some zones are 35-45% phos
more calc 526-27.5 than
more clayey forams, few
foss frags. phos ranges from
vf to c

becomes more sandy and calc
533-34 grades into ls 534.5

534.5 - 48 ^{waikiki to mud} Ls, 1st gun gry to white
poor ind. sand 20 phos 25
foss frags, & chonoids, moll,
very rubbly appearance 536-38
some molds, maybe ^{slightly} dolomitic
phos f to v c & fine gravel
phos content decreases around
541 to less than 1% from 542-46
phos content increases slightly
below 546

548-49.5 Dolo, 1st yell. gry to grn gry
poor-mod, dolo, sand 10 phos 5
foss. frags, moll.
undolomitized foss. frags in
dolo ground mass.
sand and phos content highly
variable, phos is fine to gravel

549.5 - 62 Ls, mudstone to wackestone
1st gry to white, poor-mod
calc. sand 25 phos 10'
fossil frags, moll
some irregular shaped dolo-
mitized zones
sand & phos content highly variable
phos vf-coarse, 5-35%
in general increasing w/ depth
to 562 where it disappears
sand content follows same pattern
zones of sand 558-60
moll. molds more common near
base as are Ostrea frags

562-69 Dolo 1st yell. grn to 1st grn
^{mod dolomitization} gry, mod, dolo, silt 20 sand 3
phos 2 fossil frags & molds
many unreplaced frags.

amt of calc material varies
w/ depth. ~~They~~ becomes a
dolo ls ~~unit~~ in zones, grades
into ls by 568

569-71 ^{white} Ls, lgt grn gry, mod ind
calc, dolo, dolomite, sand 5
phas 1, small molds, fossil
frags.

571-74 dolo, grn gry mod, dolo, clay
mod rextal, sand 5 phas 1
silt. more unreplaced
fossil frags w/ depth

Bryozoans moll.

574-79 ^{Packstone to wackestone} Ls, white to lgt gry poor
calc. sand 5 phas 1
foss frags, Bryozoans, moll
forams, fossil frags often
leached. Grades rapidly into
underlying unit

579-83.5 Clay mod grn gry, poor
to mod, clay, dolo sand 25
clay, phos 1-2, ^{silt 25} foss frags,
spicules, forams

Burrows often filled w/ very
fossiliferous sed., Highly
variable clay content,
varies to a clayey silt

583.5-83.75 clay mod grn gry poor
clay, carb, sand 3 phas 35
silt, foss frags

583.75-87 Ls, packstone, lgt grn gry to
mod gry, good, ^{calc idolo} sand
phas clay mod to high
rextal, some dolomitization
shell frags, molds very
rubbly appearance w/ 20% phos

586-87

587-93 Ls (back to wackestone)
vt-f poor-mod calc, sand 1 phos 1
fossil frags (very fine)
mottled by burrows

Driller notes Flow at 592'
variable sand content

593-95 Ls (back to wacke) lgt grn gry
to mod grn gry, f - mod
calc, clay sand 1 phos 1
foss frags. silty
more clay and variable clay
than 587-93, thin zones of
clay.

595-601 clay, mod grn gry, poor-mod
clay, calc, sand 3, phos 1, silty
caliche, fossil frags
very calc, variable to very
clayey, silty Ls.

601-05 clay, mod grn gry to lgt olv
gry, poor, clay calc, sand 1
phos 1 silty, foss frags
few foss frags above 603

very abund. frags (Bryozoa
moll, foam?) below 603 to
605. Carb content in matrix
increases between 603-5

605-07.5 silty, lgt yll gry, poor mod clay
calc sand 2 phos 1
foss. frags
clay content increases w/ depth
to 607.5

607.5-09.5 clay, dk olv. gry, poor-mod
clay, little calc., sand trace
phos trace, very few fossils
many burrows, often filled w/
carb.

609.5-611± Clay lgt grn gry poor
clay & calc, sand 5 phos 3
calc 30% abund fossil frags
more carb w/ depth grading into
Ls

611±-621 Ls, ^{much} v. lgt grn gry poor
calc, clay, sand 30 phos 4
foss frags

highly variable clay content/
clay as 609.5 at 616-17

618.5 to 619.25

Ls w/ abund Ostrea 619.25 to
621

621-22.75 Ls, ^{pack} lgt gry to lgt grn gry
poor-mod calc clay in some zones
sand 1 phos 1 abund foss
frag, thick Ostrea at 622.75
mod.

622.75-24.5 ^{walce} Ls to clay lgt grn gry
poor ind clay calc, sand 1
phos. 1, foss frags mod

clay content decrease to 624.5
grades into underlying bed

624.5-33 Ls, pack to pack, lgt grn gry
mod-poor calc clay sand 1

phos. 1 foss frags mod
lts clayey than above

variably dolomitic Bryozoans(?)

633-35 lost returns

635-36 Dolo mixed w/ Ls as 624.5
Dolo, lgt brn gry ^{micro-vf} good ind dolo
calc, mod dolomitization, sand 7
phos 2 foss molds, frags
Bryozoans

636-38 ^{pack} Ls, white lgt gry mod, calc
sand 2, phas 1, some phas
gravel < 1%
mixed w/ dolo clasts

638-41 Clay, lgt to mod gun gry,
poor calc, clay, sand 2
phas 5 Foss frags
calc 30

~~clay increases below 641~~

641-646 Dolo mod gun gry, mins
good dolo Sand 10 phas 4
many burrows filled w/ clay
silty, some zones are dolomitic
clay Foss molds

646.5-58 ^{pack towards} Ls, gun gry to lgt yell gry
mod to poor calc, clay
slightly to mod. dolomitic, clay
sand 1 phas 1 abundant Bryozoa
in some zones Foss frags

leached forams and foss frags
pyrite filled molds
Thin zones of dolomitic sands
clay

658-662 Ls, pack, lgt gry to mod gry
good spar, calc, sand 5
phas 7 small molds
very vental, Tampa-like ^{but too} phos
some softer zones are very
phosphatic

some zones maybe dolo

T.D. 662

Basal zone of mollus Ls
looks like zones seen in
many other cores in Lee
Collins Eos and in
Port Bougainville core

3 Nov 89

W-16434 Immokalee Core

0-2 soil, ^{dark grey} sand, fine, f-f

uncensal, organic matter

2-12 sand, pale orange to med grey brn,
f, v f-f, uncensal to poor,
clay in 4-6' section

12-13 sand lgt grey, f, v f-f, poor

FT carb mud, shells common, mollusks
Chione cancellata

13-16.5 Ls, lgt brn, mod to good ind

-? sand 35%, mollusks frag. & molds

16.5-23 Ls, pale orange, mod to good ind

calcos? sand 25%, mollusk molds

Tamiami?

some frags.

23-27 Lost. Butler says clay

27-

Tamiami to 131

Sands below silty f to pebbly
some phos

3 Nov 89

W-16434 Immokalee Core

0-2 soil, ^{dark grey} sand, fine, f-f

unconsol, organic matter

2-12 sand, pale orange to med grey brn,
f, v f-f, unconsol to poor,
clay in 4-6' section

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calcos? sand 25%, mollusk molds

Tamiami?

some frags.

23-27 Lost. Butler says clay

27-

Tamiami to 131

Sands below silty f to pebbly
some Phos

FAG-tahatchee Strand - Alley Core

W- 16505

Soil zone 0-4

Calops ? 4-7

see description
after Koreshan
Core near back
of book

TAMiami (Ochopee±) 7-78 to 80

(very sandy in some zones - very sandy
moll noddic ls to sand w/ carb mud mtr)

64 fine sand in ls w/ moll/molds
mid ind

64-66 fine to pea gravel sand in
same lith

66-78 to 80 coarse sand to pea gravel
in same mtr ^{grades into vc to gravel} sand

78- Sand fine to vc to gravel
to 268

268-282 calc mtr fine to gravel sands

282-293 vf sands poor concol very little
mtr

293-380 vf sands w/ lg t gyp mtr

380 more granitic w/ more clay

to 422 Top PR ???

422 Carb top Arcadia

to 702

few clay beds near base

W-14885 TR 21-3 C. Tins Co

L. Ocula 1st samples at 32'

problems picking top AP Fm.

SW FWD log indicates 200'

(way off) TC 103 suggests
97'

in core AP lithos (good
ones) up to at least 80'

some indications bring it
up to 55'

Quality Aggregates

W 16536

0-14 Soil zone & sands

perhaps paleo-soil at 13.5-14

14-26.7 shell bed, sandy, calc mtr
shells leached at top few inches

then better preservation, ^{greenish} gray
good ^{reco.} zones of broken shell interspersed
with zones of whole shells

26.7-27 hard zone, retool ls
mod ind root casts

27-30 shell bed poor reco.

30-32.5 NO reco

32.5-42 Shell bed, gray to whitish
(more so than 14-26.7)

Sandy, calc mtr, shells leached
appearing below 34'

42-47 poor reco - sand, gray green
to greenish gray, abundant phos

no shell noted

47-49 sandas 42-47 w/

hard zone at 48.8-49

49-50.7 - very rubbly sand w/

clasts of carb, phos (sand
and gravel sized) button

Quartz, mod gray green. <sup>poor ind
and clay</sup>

50.7-74 fine sand w/ dolo? ⁱⁿ

mtx interbedded w/ sandy
clays. Poor ind

74-79 clay, sandy green gray

thin bedded interbedded poor ind
w/ phos sand & silt laminae

79-84 sand, clayey, green gray, phos
w/ scattered clay beds poor ind

84-88 fine sand, very little clay
phos (5%) more clay 87-88

88-88.5 Rubble zone, sand

phos, qtz, gravel, dolo

88.5-97.5 Dolo., sandy, phos,
mod ind lgt yellowish gray
variably sandy

zones of dolo, qtz sand

zone of fossil molds at 96-97

97.5-106 Dolo, variably sandy

to dolo, qtz sand, poor ind
greenish gray.

TO 106

TO ps

Pinecrest (?) 14-42

HAW Gp P.R. (?) 42-89.5

Arc (?) 89.5-106

mollusk work by Ward (1990)
suggests zone around 42'
to be early Late Plio

2/18/92

Dogtown Core 16744

elev
245'

(Quick log)

0-22.5 Microstrat, v f to c sands w/
clay mix, noddis & mottled colors

Top Haw Gr Dogtown mbr 21.5-111

slight to sandy clays to clayey sand

21.5-45.5 Clay & sand kids variably

Fe stained mottled, greenish to
yellowish, zones of clasts
minor phos noted 37-39

45.5-65 Ls, sandy, fossil molds &

silicified oysters, some minor
phos. lg + gry to white w/ orange

quick clay to sandy clay w/ clayey sands.

65-111

Clay w/ sand, v f to blue gray to gray
good Polygonalite - Fuller Earth
zone some carb zones scattered111-165 Clayey sand, v f to sandy clay
w/ minor carb lg + gry - dk gry
and blue gray. abundant litho-
clasts in zone from 138 ± to 152 ±

also noted biofurb.

a hard ^{noddis} ls at 163 then back to
clay etc

165-204.5 Carbonates (Ls & bldg?) interbedded

w/ clay & sand

very hard near top softer below
carbs are white to gray
clay & sands are dk gry grn to
dk gry204.5-227.5 Sand very clayey to sandy
clay, v f, carb beds, med gry grn227.5-251 Carb (Dolo to ls) sandy w/
many clay bldgs and clay filled
voids, variably sandy.

many lithoclasts at base

Top Chattanooga / St. Marks sequence

251-329 Hard carb, w/ clasts v f sand in
mtx becomes less concol w/ depth

Lgt to med grey
scattered fossil moldic zones

occasional clayey to clay lenses

329-353 very mixed (interbedded)

variable hardness
clay-clayey sands w/ sandy clayey
carb (Dolo?), some carb zones
fossil moldic, dark grey grey
to lgt brn grey clays

353-375.5 Carb, sandy vf, minor clayey
zones, lgt grey carbs, drk grey grey clay
variable hardness

375.5-392 Carb becomes rubbly & moldic
w/ zones of non moldic, abundant
lithoclasts, fossil molds

vf. sandy, soft to very hard.

392-402 Clay, slightly silty, sandy, med grey
w/ vf sand in thin layers, some mica
minor carb in zones
Some zones very mottled

TD in a vf-f sand w/ clay mtrix
mod ind. lgt grey

Did not reach Os

0-21.5 Micco

21.5-251 Haw Gr Torrey A fm

21.5-111 Dogtown Mn

111-165 Siliciclastic Torrey A

165-251 carb Torrey A

251-402 Chatta / St. Marks

Phred #1 W-13958

5/21/92 w/ Bill Harris &

Vic Fultz

Sequences

- 1 ³⁶⁷ Top of Suwannee - Base of Arc
to 318 small opaline piece may
mark the unconformity
also 311 definite unconformity

- 2 sands of Peace River in Trans.
gressive fining upward into
silty clays etc to CS then
becomes coarser in highstand.
thin coarse sand stringers in clay
282-3 are highstand coarse sands
top of Seq. 2 at 279.5' at
zone of hard interbeds.

- 3 coarse phos sands begin trans
phase fines up Trans to 274
beginning of CS Highstand to 234'

Boomer! Starts 234'
coarse phos sand thick sequences

poorly pres. shell at 211-12

~~silty above 200 to clay by 181~~

Seq may end at 211' with coarse
5? sand 200-211 being beginning
of Seq 5 to 153'

6 153-128.5

Tamiami - 128.5 - 90 ? TB 3.6

Caloos 90-30?

FT

128.5 - TB 3.5
153 - TB 3.4
211 - TB 3.3
234 - TB 3.3

PR - 279.5'

318-311'

Arc

367

3.5 upper Wabasso 128
3.4 lower " 153
211

MS Cancun 13076

Base Mn 230.5

1.0' of Arc carb

PR 228.5

into highland PR

Seg 1 228.5 - 196.5 due to coarse sand
mud clasts

Seg 2 196.5 - 172.6

CS at 185 - 182.5

172.6 break at coarse sand in carb

Former
Seg 3

172.6 - 149 carb.

carb seq. carb due to postulated
rapid rise in sea level shutting
off sed supply

Seg 4 149 - 142.5

coarse gravelly seq. may rep
several cycles.

142.5 - 90

Seg 5 may be base of Pinecrest
as indicated by Pecten frags
(Zullo)

90 - 15 Caloos? ?

or

OKeechokee
FT-Caloos

15 - 90

Tamari Pinecrest sand + Wellesboro equiv? 90 - 142.5

PR 142.5 Wellesboro? 129 - 142.5

The sands 90 - 142.5 look like the

Fudpacker 130 - 112 + 102 - 82 w/no

carb seq. as 102 - 112 in Fudpacker
the better preservation of the Pectens
in interval 142.5 - 129 equiv
+ 112 - 126 Fudpacker

Fuducker 13957

Seq 1 Ocala / PR 2022-188

No transgressive only High
stand

Seq 2 all carb 188-160 ± (due to
lost core)
near shore to caprina

Seq 3 Bonner, 160-130

maybe 160-142

then Seq 4 142-130

Seq 4 130-55 Due to Pecten TB3.6

TB3.6 very thick

UOSS 0-10/15

FT-B-Callos 10/15-82

Tami 102-112 ±

Good PR 130

Pinecrest? 82-102

Wabasso? 130-112 ±

Sends from 130 - approx 112 Prob
Wabasso Age

Hogan #1 12050

2 seq in "O_s" between 600-573'

573' base M_h

① calc sand w/ phos
573-563'

② 563-461.5 sand w/ minor carb, phos
biofurb

about 522 start CS : highstand

possible
para seq body 471.6'
" " 507

③ 461.5 - 403 carb sand & bck rock
carb breccia at top
seq

④ 403-379 good break at in hand
actual carb

note zone at 392 & 382 prob due

to slight flex in SL

④A 403-392 ④B 392-379

379-356

- (5) No transgressive carb to clay
good contact 356 top of Nocatee

- (6) 356-307 carb sequence
CI seen as abund. lithol. layers
351.5-329 very little

- (7) 307-305 very mollus. ls
(Behre)?

- (8) 305-291 carb sect.
w/ phos crust

- (9) 291-258
272 CI ^{Bryozoa rich bed} on marine hardground

- (10) 258-170
Transgressive sand to clay
CI (CS) Top SMF (Smurf) 243

From 243 up ^{evenly} coarse
and more phos
late highstand dolomitic
seds 180-172

- (11) 170-114.5 very sandy plus
carb up into sand
top on Dolo Clay 116-114.5

- (12) 114.5-82

Note: 12-13 sequences in Haw Gr
= what is shown on chart

→ Bill suggests a very complete
Midland section.

Top Tannian: Between 92-82'

Top ~~Bas~~ TB-3.6 82'

- (13) 82'-58' clays sands low phos
TB3.6 CI? 68'

Factahatchee Strand
Alley Core W-16505

ImmoKolee Core
W16434

W-92050

Alva Farabee
W-15 W-11669

W-122

Camp Miles
W-11907

- (14) 58-21 to base of sand soil
Zone minor plus pebble in
32.5-21
100's Buckinghamia 32.5-58
even 60'

UDSS D-21'
TAMIAMI Facies 21-82'

P.R. top 82'-170
Arc 178

Balcode Deep
10761

TD 450

(1) 450 - 432.5

carb. shell & bryoz

(2) 432.5 - 357

into Early Hi stand clay-silt
w/some carb lenses

(3) 357 - 333

trans sand fines up
↳ 333

(4)

333 - 307.8 mhandls

abund bryozoans 323-327

SMP 323'

307.8 - 288

(5)

top is in loess sand
zone based on coarser
sand in burrows 290-2
and finer sand 282 and
up.

288 - 260 -

(6)

to last recov. zone
carbs above clays
below.

(7)

260 - 170 to phos surface

(8) 170 - 118.6

zone of sand filled burrows
in carb. clay contain
by clay

(9)

118.6 - 103 clay

(10)

103 - 98 Back
Tami

(11)

98 - 70 Tami

(12)

70 - 14 Begin calcos

(13)

14 - LSD FThomp

WDSS - FT 0-14

Calcos 14-70

Tami

70 - ~~118.6~~ 103

NO PR

~~118.6~~ - ~~170~~ 167

Ar.

~~170~~ - TD

See discussion
after RAMP 28

Tami clay 103-113

Buckingham

113-162

clay 162-167

Hogan #1 12050

Overburden

soil, sands

21

sand, phos silt, calc, sand
Fossil (shark teeth, gator teeth)

Re-worked from Hawk

32.5 gray to buff

clay, calc, thin silt to f. sand layer, Amber

33.5 phos minor

39, missing

as 32.5-33.5

42.5

buff colored carb silt, possibly slightly dolo. minor clay more clayey below 43.5 minor phos

thin shell stringy 50.5

sand stringy increase below 50.5

53.5

grades into gray gray clay w/ sand

more calc in sand than clay

w/ sand beds variable phos

56.5

grades into sand

Sand, gray gray, med-f, phos 10%, minor

to no clay; some goes w/ more phos.

58

burrows or borings filled w/ overlying

phos sand.

60

Buff colored carb silt, w/ gtz silt, sand

minor phos more clayey below

61.5

sand, gray, f, phos 10%; silt calc mtr

thin clay beds 64-65.5

65.5

67

calc to dolo, clay, 1st gray to gray gray

68

loss of salt clay w/ thin ls section

72

ls, phos, sandy

76

silty clay, calc, phos silt to fine sand

76.5

1st gray gray to gray

76.5

poor recov. sand varying to clay, calc, silt 1st gray to gray

76.5

ls shell - Pecten frags 76-77

81

more sandy below 81 w/ shell

82.5

ls, very sandy, phos 5-7%, hard to mod.

moldic 1st gray gray to gray

phos varies

Poor recov. very moll. moldic near

92

sand, f-m, poor, carb mtr (dolo?)

phos 7-10%

no fossil, clay clasts

variable, variable clayey

82-92 good PR top

surf

5/28/92 11907 Comp miles

soil zone, org rich near top f-vf, silt
black to gray brn

sharp contact

shelly carb, sandy, minor clay?

poor ind. lgt gry, shells leaded

variable sand. some zones hard

abund C. cancellata, grades

into sand w/ less carb mbrs and

fewer shells at 14 to 16 then

back to as above w/ restd zones

few zones mod grn gry = clayey

Chione abund to approx 29.5

minor break at 26, drk gry gradu

into lgt gry 1st wtace of Turritulids

at 27' fresh H₂O gastropod 27'

Sharp break to clayey shell rubble

Pectens, berrades, to 31 thin

clay, calc few to no shell seems to

be a hard zone w/ abund organics as

indicated by pyrite nodules

none 30-31 may be a shell lag

32.5

some forams

carb, w/ sand, phos shell, mostly

Pectens, slightly clayey lgt gry

sand in vf to silt varies to calc sand

zones are very phos 10-20% occasional

phos gravel. more sandy less carb

below 40 to 43 42-43 drk gry gry

poor recovery 43-48 sample is

mainly shell frags w/ abund

phos. appears to have been poorly

consolid sand, clay carb & shell

shells phos lag at 51.5 due to drilling (?)

clay & carb drk gry to lgt gry

variably sandy, few zones of shell

grades into vf sand interbedded w/

Sample 55 poor recovery 54-56

clay lenses. abund forams

fewer clay lenses below 58 more

sand minor shell 13-20% phos forams

more shell, mostly Pectens, sand w/

variable clay lenses continues to

sand, grn gry, vf to f, abund phos to 30%

phos gravel sand to 81.5

Sand surface of carb mud, silt, vf sand

borings to about 82.3 infilled w/ overlying

sand grades into lgt gry sand and calc mud

traces of leached shell, bioturb, variable

phos 5-10% becomes drk gry 88" more

clay & v. (?)

90

90

yellow gy / vt
 lgt gry, sand and carb mud
 3-10% phos bioturb variably clayey
 trace of shell & Barnacles
 sand is f to mf below 98.5
 Barnacles at 100 sampled
 phospho grains coarser 98 to 104
 poor re cover, 104-108 appears to be
 a rubble of pebbles in yell gry carb w/
 sand lying white to lgt gry moldic ls
 very moldic, slightly sandy w/
 1-2% phos. vugs often filled w/
 overlying sand, some zones more phos
 looks like Ochopee ls

at approx 111' ls becomes ^{brn gry ds} dol
 ds at first appears to be same as
 ls but ds then grades into gry
 phos. (3-10%) sandy, now mollic dol

this looks like Good PR ds
 grading into sandier ds

sand becomes much finer
 around 128 to 129' also clay
 content increases

grades into silty clay or
 clay dol silt by 132'

Note sand is
 m-c - much
 more coarse
 below 111
 then above

132

Discussion 11907 0 - 132'

Seds to 30' appear to be Caloos

B - FT (Okeechobee fm) at

30' begin Pinecrest??

30' - 81.5 reminds me of

lean green in Osceola & Bvd

Co

Ls 104 - 111 reminds me

of Ochopee Ls

Good PR starts around 118'

but top is prob best placed
 at 111'

Arc top 186

Sequences noted

- ① 250 lost box inspected - 186
- ② 186 - 167(?) ⑥ - 184 - 81.5 ^{well bored}
- ③ 167(?) - 162 ⑦ 81.5 - 48(43)
- ④ 162 - 127 ⑧ 48(43) - 30
- ⑤ 127 - 104 ⑨ 30 - 16 ⑩ 16 - 11 ^{split}

Imp't note

This core has a clay zone
between 29' - 30' just as
Babcock # 10761

5/29/92

W-11669 Faraabee Charlotte CO

Soil, sand v-f, unconsolidated to
poorly consol by Fe. grades into under-
lying shell bed

Shell bed, sand v-f, sattered
heavily, phos, from 10.5 to 13 shells
mostly broken, very minor carb in
mtrx, more carb in mtrx below 13

and slowly increases to a max. of
10%, more whole shell, abund

Chione cancellata few gastropods,
variable shell content approx 10 - 40%
Sample 20'

become mod gry around 21' w/l,

less carb in mtrx. grades into v-f

sand w/ minor shell (broken & whole) at

25', mottled, bioturb, Traces of clay

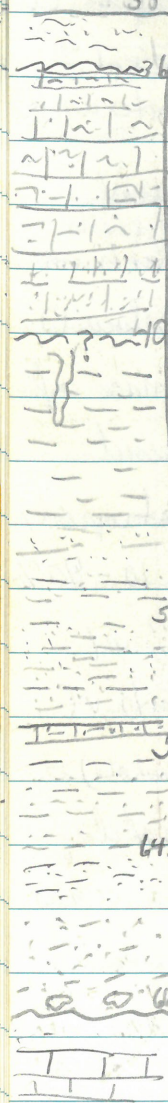
shell content increases at 27', some hard
Sample 27'

clasts. Very sandy ls to very calc ss

29.5' mal incl 29-29.5' Poor recov to 35'

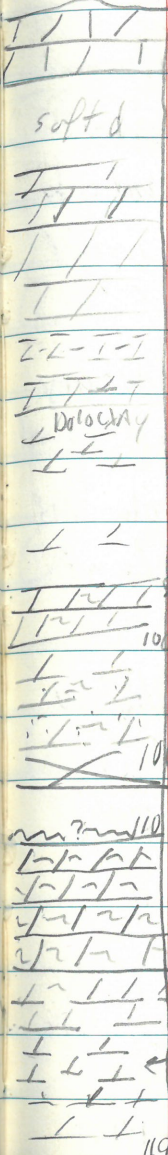
abund shell, hard clasts, one large, thick
oyster w/ boring. Sampled 30' appears
to be poor recov of material similar
to one at 14.16'

19tgr
35 Sand, v f, w/shell as above becomes



poorly consol to mod and of Ls, white
w/shell molds, sand, trace phos
root casts w/ some burrows filled w/ sand
large Oyster (*H. hyattensis* ??) about 38'
sandier & more phos 38.5-40
clay, mod gry, ^{silty} minor sand on partings
slightly sandy, trace phos. Burrows filled
w/ phos sand. Gypsum nodules 45'
no shell, very poorly preserved forams
more sand w/ depth below
50'. Also sand filled burrows. grades
into very clayey sand to sandy
clay w/ 3-5% phos, forams. 19tgr
few shell frags Pecten. Thin calc
mud zone w/ 10-15% phos 57.5-58
Then back into clay and clayey sand
loss recov. 58-62
64.5-66.5 Sand, v f, mod gry
grn, 5-20% phos clay & carb
intr. 66-66.5 has clasts of underbrn
carb
66.5-70 poor recovery interbedded
carb and phos sand. Ls is hard
19t fdk gry, muddic sandy, phos
Ls prob starts near 76'

70 Dolo
Ls, hard between 70-71, mod gry



to buff, muddic, ^{slightly sandy} phos clasts at
soft d 70. softer w/ depth poor recov.
71-82 but prob. very soft
fine grained ^{dolomitic} carb mud silty
very f. the sand, trace - 1% phos
muddled
clay zone 86-87 muddled dolo
mud 87-89 poor recovery
due to loss of soft zones. Hard zone
87' may be unconf.
Poor Recov 89-102 appears
to become coarser grained, sand
also becomes coarser below 93'
hard zone 98-100 approx due to recov.
few shell molds sandier wearing
106
NO recov 106-108 108-110
appears as above but little sand
110. Dolo, 19t brn gry to 1st gry
Bch Rk, Coquina, all molds
white leached phos sand, leached
Bryozoa? algae? poor recov 113-116
Becomes softer, muddier grades into
Dolo silty by 115.5. 19t grn gry sandy 10%
phos 1-3%

Hayden #1 W-12050 W-16744
Kearns W-13076
Biback Deep W-1076
W-13957
Quality logs W-10536

119

9/9/00

dolo, lgt brnry, algae, sand, phos sand
gravel poor recovery 128 appears

to have lost soft dolo silt zones

becomes more phos by 123 sand gets

more coarse. Very ^(medium) sandy and

int ds w/ 10% phos 127-128.1

dura crust on very ^{hard} sandy lgt gry
grn ds w/ 2-3% phos. very phos sand
in borings (barrows)

by 130 grades into dolo crust
SS w/ variable phos sand and
gravel slightly clayey

Notes: dolo section below

70' to approx 127' is
very interesting: appears to be

Tami w/ PR underlying

FT Caloss to ~~29~~ 38

Tami 29 ~~38~~ - 128 ^{23 to} missing section

PR 128 - 175.5

Arc 175.5 ^{total} as at 106 in 11907

w/ bored surface filled
w/ phos sand

(B) Bored section (contact) at 66±
prob equates w/ contact at 81.5'
in 11907

(C) Rubbly zone w/ poor recov
at 35' may equate to 11907
just above 48' in poor recov
zone

(D) section from 48-81.5 in
11907 may equal 35-66±
in 11669

(E) Dolomitic to ds section
66± 70± to 127' may = 11907
81.5-111

Ds Beach Rx at 110-114±
may = moldic ls 11907 104-111

(F) Has clay zone in Arc 279-287
Like 11907 & 10761

Hagan #1
W-16944
W-12050

Caneus
13076
Caneback Deep
W-10761

Empicker
W-13957

Quality Agg
W-11636

⑥ in general it seems in both 11907 & 11669 that the Arc above the clay bed is softer sandier and more phosphatic

Note: v f sand w/ carb mtrix
to carb w/ v f sand 439±
to 508± many intervals
of no recovery 458-510
due to soft sand & clay
as per driller's description.
below 510 to TD is variably sandy
carb very rental
maybe Nocaster from 439-TD
Nice duracrust at 128.5

5/29/92

W-12242 Defoto Co

sally
sand

FT L5

sand

w/

abund

phos

...

...

...

...

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...

L5 minor shell, sandy
becoming more sandy & phos
with depth to 5 sand

sand is v f w/ 5% phos becoming
more coarse and more phos
w/ depth by 9' coarse sand
(-m, 10-15% phos phos in c-v
pebble phos below)

zones of coarse sand interbedded
w/ zone of f phos to 70%
in zones between 10'-16'

16-17.5 thin weathered sandy
clays w/ some carbonate

17.5

near 17-17.5

sand clay carb phos w/
weathered shell

L5 17.7

L5 soft sandy, phos, white

Some shell

v f - f sand phos to 4%, some shell frags
at top becomes shell w/ depth

22.5

Sand, v f lgt gry, phos to 3%, shell
frags. zone w/ ^{minor} carb intx shell
very leached

25.5
Poor recov
27.5

Shell, L chunks, sand rubble poor recov

sand, lgt gry v f, phos 1-5% minor carb
in intx weathered shell frags few
whole grades into underlying Bio turb
sand w/ only a few shells in zones
sand becomes lgt brn gry to light grn gry.
abundant Mulinia below 40.5

43

grades into clayey sand to sandy
clay 43 then back to sand v f, yell gry
by 45.5 Section is bio turb. bl. gry
continues variably clayey sand to sandy
clay w/ weathered shell
zone w/ Pecten shells 52'

54.5

No recov
62

duller says as above

62-66 poor recov of moldic ls
w/ sand & phos, lgt gry hard pieces
recovered, soft lost

poor recov of carb - sand ^{clay?} interbeds

66-77 only hard ls recov except
small amt of soft clayey ls w/ sand
and phos between 66-72

77

81

appears to be an unconformity 77-81
Based on bored rock w/ infill

81

abund. Buried frags

carb rubble 81
then soft sandy, clayey phos
dolo to sand w/ dolo intx
sand is f-vc well rounded

90.5



ls. ^{very} moldic, white to lgt gry, sandy
phos. 5-20% looks like a textural Bch
rk that is phos variably dolomitic
sand & phos often most common
in "burrows" ?? amt of shell and
shell molds highly variable
poor recovery 90-97 and 97-102
TDs in a very sandy very phos

106 Moldic ls.

Is this equal to Tami?

I think so!!

Camp Miles
W-11907

W-12242

Farabee
W-11669

Immo
W-1

Hogan #1
W-12050

GB-1
W-168

Alva #1
W-15556

Koroshan
W-16523

TR4-2
W-14871

6/2/92

Carlton Reserve

w/ K.C. & Marc Bursick

top O₅ 572'

Heavy mins abund 539'
and 510'

appears to be a very sandy

section of Arcadia Fm

Tampt section may be ¹³⁻²⁴⁰
~~249-320~~ish
becomes NDC like

Very shell mallee section
around 70' does not appear

as typical Arc

Venice clay 49' - 33' ^{top 33-3p}
^{into clay}
^{33-49 max}
^{clay}

top is at rubble zone

seeds above Venice clay look

like Arcadia

Venice clay

33'

poorly sorted

grades into

1st gray silt/clay

49' silt to 515'

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

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1-49' Venice clay

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1-49' Venice clay

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1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

1-49' Venice clay

ARC

6/9/92

Alva #1 15556

quick look at this core reveals
Pliocene looking barnacles
212 to > 270'

button qty at 360-90

button qty to near TD at 462

Bet - Pliocene to TD

Buckingham 15286

Quicklook shows clay

430-440 appears equiv

to clay in Arcadia in

Babcock Deep around 390±

Hogan #1 around 370'

& others.

Dolomite below it is significantly
more phos than above

Babcock Deep

Hogan #1
W-12050

Babcock Deep
W-10761

W-13957

W-116336

Venice Clay 33-49'

9 14 shell sand

18.5 in. (sand)

5-20.5 in. (sand)

15-21.5 in. (sand)

16-24 in. (sand)

18-25 in. (sand)

20-25 in. (sand)

22-25 in. (sand)

24-25 in. (sand)

26-25 in. (sand)

28-25 in. (sand)

30-25 in. (sand)

32-25 in. (sand)

34-25 in. (sand)

36-25 in. (sand)

38-25 in. (sand)

40-25 in. (sand)

42-25 in. (sand)

44-25 in. (sand)

46-25 in. (sand)

48-25 in. (sand)

50-25 in. (sand)

Sept 11, 1992

TR 4-2 14821

Venice Clay 78-95

Top Os still appears to be around
468

TR 5-1 15168

59.5-74 Venice Clay

12/8/92

16814 South Venice
core

Picking tops w/ K.C. & R.G.

Arcadia top 81'

Top-Down

0-20.5 organic silt & sand f-m w/ coarse
ndise phos. zones of high phos

conc.
reworked shell 20-21.5

21.5-

FThomp shell

shelly section 21.5 - 25.25

sand, v f f, shell frags phos
25.25- carb, clay inter

Peace Rv

31-52.4

phos, qtz, sand. ^{grayish}

reworked PR

minor inter

52.4-81'

clayey
phos, qtz, sand, gravel
and clays

all PR appears to be younger PR
as compared to the east and north

81-

Arcadio

120-136 Venice Clay starts 120-122

(core loss at this pt) more
dolomite at base

254.5 - ^{333.5} Tampa Litho

back into undif Arcadia

some zones are Nacatoeish

coal bearing rubble zone 381.5-392

→ organic material 483+

Top Os 681

Venice Clay

120-122 missing washed out

122-133 gray clay

133-136 1st gray clay silt and

2/23/93

120 to

133

1 RAVE
collo silt bed
out PVC

City of Sarasota Core 2/23/93
16999

0-6.75 sands

6.75 - Arcadio

Venice Clay appears to have
a 5 to 6 foot carb lense in it

top VC 19. carb 22.5-27.6

Base VC 41.6

TD 5/3 1000' Top Avon pk should be 1090 ±

Ocala dolostone 961.5 to TD

Tip Ocala 781 approx

Top Suwannee 549 on quick pick

Top Tampa 376 (Base not examined yet)

Next piece of core at 392

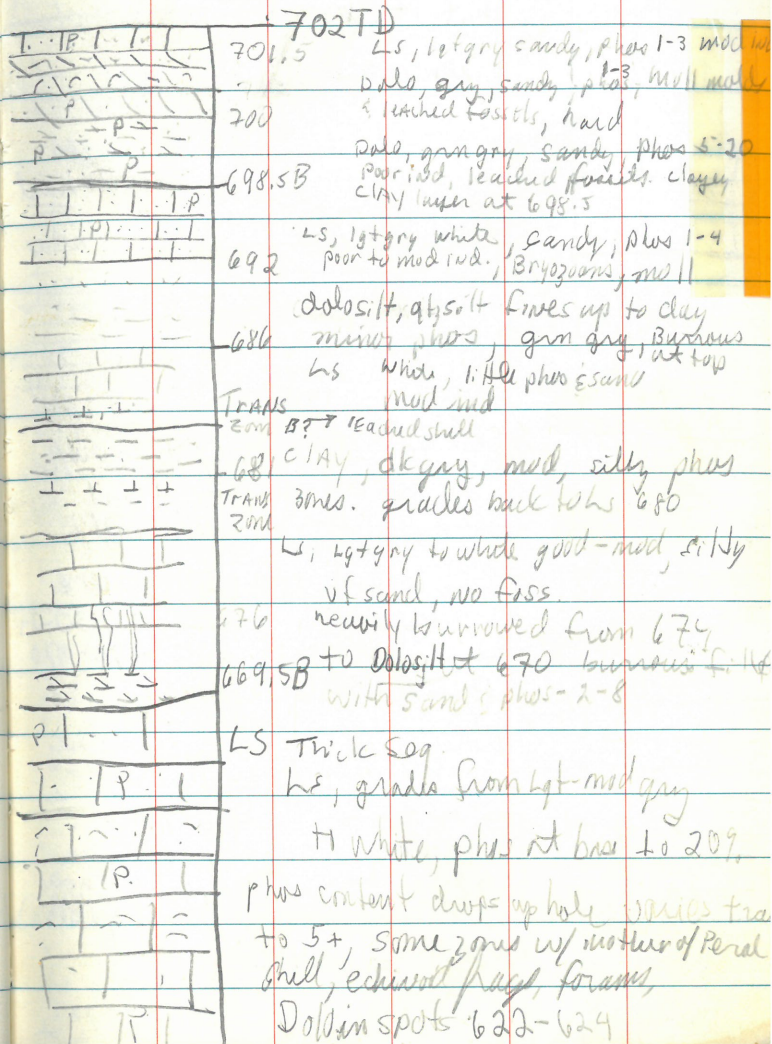
1/4 core length-wise is fine grained litho

3/4 core " " is coarser w/ small
molds

Koreshan Core W16523

Top Trinitini
 Top PR approx 61'
 Top Arc approx 183

29-Alley W-16505 Hot 1000
 Factahatchee Strand S. Woodbine
 worked 7/16/93 - USGS crew here



15. differs from below in that it has all fossils headed much more mollic, more

604 diverse fauna, little sand, no phos
 rectal zone w/ thick clasts, mudier, hard
 more phos, more sand
 gradual all top & bottom is co. kelas

595 B
Dolo silt, 1st gr^{minor sand}, bioturb
grade to 1st sand w/ dolomite

588.5 phs
ls, lgL gry, vF sand, poor-mul
phs 589, very sandy to ss w/c

highly variable much less fossil
ls w/ highly variable sand &
plus content, some fossils; more

Fossiliferous in intervals (530-2
- 522), 508, then 496-470
shells, forams variously leached

470.5 Dolo, lg + brn, loss. molds. Highly
rectal, pods of phos at sand.

LS, lgt gry to lgt gry brn, mod
vf sand, phos to 5+ decedens
upward. Abund. Bryozoans, some
moll. Corams, oysters (Hyolissa)

Bags start at 450.

450 Pages of cuttings

is as below
continues to approx 422 +
5 ft. sand, phos. dolomitic
variably foss.

330 δ low Fe grains
Vf sand, minor phos
contains variable calc
mtr. unconform to mod
mica, some grains are calcite
coarse grains increase uphole

194W/ moll comb m. rx grades s
-S, poorly consol Ls, 1/4+ gray sande
moll (leached) minor phs
Sand is vf- coarse moll bear
are leached, better cond. also

22J Sand, VC - gravel $< 1\%$ phos
sand, grav - fine, little shell and
to no shell 220 $< 1\%$ phos, fines w
Some very hard clasts of cemented sand

Also increases ^{above} ~~below~~ hard zone

gray-f sand phos #1-
also coarse w/ shell frags

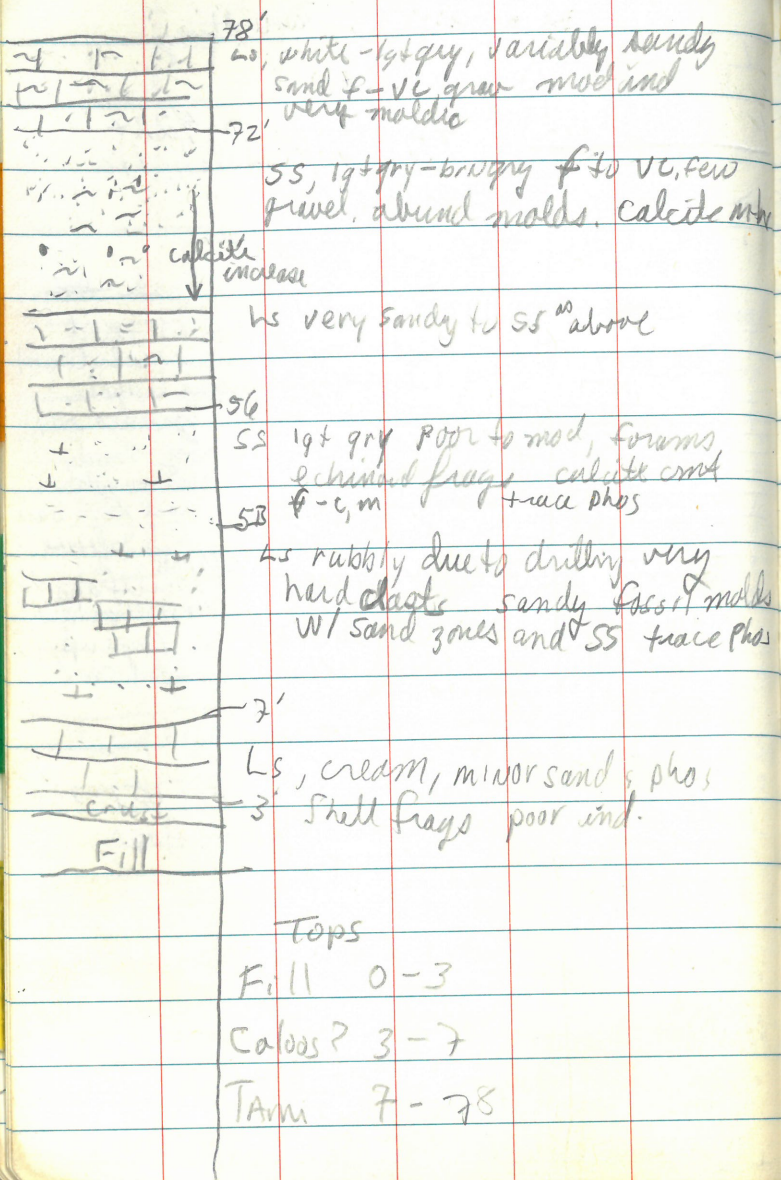
49			
435			

fine-grav sand, phos. 3%
trace shell, shell increase
up hole to 12 ft

23' VC-grow w/ shell frags

18' f- gray
sandstone mod / good fossiliferous
75' calcite cmta

Quality Agg. W-1653 S. Venice W-16814
 Fuelwacker Babcock Basin TR-4 City of San Antonio W-16999
 Haysan #1 Stanton Core #1 Packer Hatch Co. Street W-16505
 0-16782



78 - 330 ? Sand/shell
 330 - 422 PR?
 422 - TD Arc

7/19/93 w/ S. Weedman

G-B-1 16890

1009.5 TD

Ls, lgt gry to lgt gry brn micritized
greenstone, fossiliferous, zone of bryozoans
in duration varies widely
soft to very hard at top
(at base)

Very hard zone 974-5 few moll frags preserved, most
dissolved

Hard zone at 981 has burrows filled
with carb w/ phos clasts

Hard zone at 981-983 w/ burrows,
phos clasts, dendroid(?), corals

981 BASE
HAN

Ls, lgt grv gry, mod ind, minor
sand < 2%, 1% phos, few foss frag.
very sandy Ls to very calc ss, 1%
phos, planktic forams, few moll?

977

lgt grv gry, burrows filled w/
limestone

Ls, lgt gry, sandy 35% (?) 1% phos
mod ind., moll frags grades into
sed as 980.2-977, highly variable

Sand content
Seems to have a series of fining
up sequences in carb

981-977, 977-74, 74-69,
969.5-65.5, 965.5-61, 961-37?

Sequences have burrowed contact
w/ burrows extending a few feet
downward, at the beginning
of each cycle the carb is lighter

Hot Hot
HOT

colored and becomes darker upward
in sequence.

961 Base of seq that is thick
LS, trace(?) sand, trace phos, very fossiliferous

abundant Pectens, forams, Ostr
fossil content decreases up hole
becomes chiefly (slight) at 947

937

935

LS variably sand lgt grv gry, tra
phos, fossiliferous forams, mol
etc. mod ind appears to have
some spheres of dol

some zones are calc and ss,
less clay above 910

seq to 890 then 890-885

885-849, 849-836.5,

coarser zones have fossils
reached and removed, fine zone
have some preserved fossils
Some zones almost or nearly do
sand. grades to very sandy

799

836.5-23, 823-799

799-Ls, lgt gry to lgt gry brn
slightly limed sand, trace phos
to wave, mod ind abund
oysters 794-789, 789-777
zone 775.5-769 is a greenstone
w/ abund forams, trace sand
and phos.

769-747

765 to 747.5 is very macro-

TR4-2
W-14871

Koreshan
W-16523

Alva #1
W-1555

GB-1
W-16840

Buckingham
W-15286

colors more gray in Oolite clay than calc
Polo in mbr 210' - 204.5' then
then back to calc. and finer
grained sand fossil frags

194 - very calc ss to very sandy ls
trace phos. vf to f sand w/ few
med. moldic frags

187.6 sand vf to f, f, few med
slightly calc, phos & 1%
No fossil, san
more calc and an abund of
forams (planktic & benthic) vf
at 155 in a vf sand

forams

155 shell (leached) starts about
120' TOP of silice

114 BOX missing

106 Ls, hard to soft, variably sandy
w/ sand f-med. moldic trace phos

92 Ls to 92 Looks diff from
above 92 in that it is more
moldic (very) moll. and
Hard, sandy, trace phos
sand is med, well med.
finer above 75
less moldic above 73'
with some zones more moldic

very rextal

35.5 Ls, very rextal, sandy to very
sandy very moldic, some
w/ calcite xtal lining to 26'
less moldic above 26'

14 Breccia at 17.5 - 18.5
Burrows

Consultants Picks

0 - 5.5 fill

5.5 - 18.6 Miami Ls

18.6 - 92 Ft Thompson / Caloos

92 - 114 Tamiami

114 - 405 Hawthorn

405 - 98 Tampa Stage St Mark Ls

981 - TD Olig Suwannee

Tenative pick

OS TD - 981

HawGP 981 - 2114

Arcadia 981 - 403

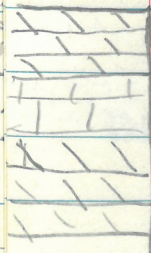
PA(?) 403 - 2114

TR 4-2 W-14871
 Kershaw W-16523
 HVA-1 W-1555
 GB-1 W-16890

W-15286

98° ROMP 28 Kuhlman W- 7/20/93 w/ Woodman

TD 1304.5



Dolo 1288.75
 LS 1244.75 forams, scattered leached zone
 Dolo, some breccia moldic 1237.5 clasts calc w/ dolo intr (brn)
 LS forams, some wavy bedding 1228.5, 1219.5, 1217.5
 1216 beach Rn overlain by breccia 1214.5
 another Breccia at 1210, 1164.5 organic laminar at a interval never in this zone
 1156 Dolo few inches 1155.5 LS w/ zones of laminar thin clay zones 981.5, 1042, 1055
 954.25 Dolo, laminar, silt sized 956.5 Brn
 956.5 LS, some goes are entirely, brown 911.5 clayey zone 909.5
 909 LS Problems w/ overlaid Bokes 58-63 885-921
 Laminations lost about 900'

Neolaganum dalli stops at top

863 Top of Avon Park
 Ls, w/ forams, Leps white abund. Leps start around 819
 627 Rotularia vernoni
 580 Top of Ocala 580
 Ls, guinstone becomes more chalky upward
 zones of moll molds
 478 sharp contact w/ sand 108 plus
 Dolo mxd of 444-440.75
 440.75 Hard bored surface 440.75 w/ clasts in sands above
 Dolo, poor-molded, grey
 428 Very sandy, phos 10-20% grades up into sandy, phos hard dolo
 411 Hard Dolo top Base of LS
 LS, 1st gry, sandy (to very) phos 10%
 Breccia zone 401-390.7
 Bryozones 381-374
 LS, hard plus sandy
 373 Dolo, 1st brn, silt size minor sand phos

Quality Ag. W-1053
 Romp 28 W-1700
 City of Sarasota W-16949
 City of Sarasota W-16505
 TR 1 actinotachae stratification Reserve U-16782

Buckingham
W-15286

Polo to 370. then L_s

20. LS, clayey, sandy becomes very phos

357 Hard ls w/ clasts
sand, phos, dol, clay gradation
into silty clay at 356
Silty, w/ sand, clay w/ phos
slightly dol becomes more dol
upward. gradational.

venice
CLAY??
equiv

352 Dolo, silty, sandy clayey
to 349 then ls sand, phos
to 346 then Dolo ls sand, phos

338 very sandy & phos ls w/
abund buccia, thin clay at 329-230

309 sandy, phos, clayey, dol. fines
upto 303 then coarse into dolostn
w/ atz silt

-295 More calc. up to 295
sandy phos dolomite brown and
-296.5 Black

288.5 moldre Dolomite Ls
w/ phos curcs clasts

sand, vf-m, variable clay
grly grn. 1-3% Phos mica
few leached cossils.

274 few leached fossils. ^{no fossils} much
color change at 274 ^{1st gray} to ^{1st gray}
sand stays same size (f) w/ 1/2 plus
but looses clay becomes coarser
up

10R(2)

top
appears
to grade

into
clean
sands

1st
Color
Chart
213'

may not

be PR
is not
characteristic

233 becomes more clayey
olive green color
finer grained v.f.f

coarser at 208 (m) f-c

171 $c, f \in$ some VC

168-7 VC - C

Finer above 148 m-c

then f-m, some c 142

w/ coarse zones above 128

C-V above 102

m-c above 100

92 m-f lgt brn to mod brn
sand

organic rich zones above
38' w/ some coarse zones

WFM D
Picks (DeW.H
O-203 WDS C
203-4778.5 HNW bp
~~203~~-288.5 PR
288.5-478.5 Arc
441-478.5 NOC
478.5-580 SWW
580-860 Gcla
860-TD AP

TR4-2
W-14871

Koreham
W-16523

HVA-2
W-1555

GB-1
W-16890

W-15286

Babcock Deep 10761

Discussion

Covington's ~~man~~ data shows
L. to E. P110 ~~EN~~ CN 12/11
boundary at 123-126

Seds 103 are Tamiami ls
above gray silty clays
below to 115

Dol silty below
Is this part of Tamiami
Sequence?

7/21/93 w/ Lucy Mc
Suzanne W. 100°

Corkscrew #1 15287

- 382 TD ls fossiliferous, corals, moll, mids
- 382 trace sand, phos, mod ind
- 382 1st gray, folams, Turritellids
- 382 368 366 ls, very moldic, moll, corals
- 382 368 366 ls, 1st gray, poor to mod ind, Pectens
- 357 Oysters, minor clay, phos 47, sand to
- 357 grades into greenish sd, 357-56
- 357 very sandy Turritellids
- 357 some zones of sand and ss
- 349.5 grades to very sandy ls moldic
- 344 becomes very moldic ls w/ muddy
- 344 less sand, variably sand upward
- 344 less moldic above 342 to 335
- 332 moldic to 332
- 332 clayey calc ss, phos, foss, frags
- 332 poor recov oysters
- 320 lost returns 310
- 317 very sandy ls, phos 104, mod ind
- 317 minor fossil
- 317 poorly sorted above 310 rubble to
- 308 308
- PR 308 sand, silt, clayey phos
- 265 much lost
- 262 sand
- 262 not recov 258
- 258 clay, variably sandy gray grn
- 246 minor phos
- 222 lost

rubble

ARC

PR

308

265

262

not recov 258

258

246

222

Fuel pack
 Babcock Deep
 W-10761
 0-17000
 0-16921
 0-16505
 0-16782
 0-14871
 0-12
 0-16890
 0-1555
 0-16523
 0-15286
 0-15287

232 sand poor recov. phos calc mtr.

227

ss, hard moldic (moll) very
sandy, phos 35,
soft layers washing out given
poor recov.

221

ss, calc, lgt brn gry fine sand
1% phos, moll mold
very moldic above 212
to 199

199

mottled sandy, calc cont clay phos
2% fossil frags oysters Peckem

197

moll molds poor recovery
oysters in sand and ls
mostly sand lost

190

ss, lgt gry, mod-poor, calc mtr
phos 1%, moll frags
sand & m few crse
few zones of very sandy ls
less moldic 151-147
147-139

139-138 gry brn ls, some sand
2% phos, moll molds

138 sand, silt, clay increases
upward,

135.5 - shelly clay silt phos 30,
fossil frags.

130 - sand, silt clay calc phos 5%,
fossil frags

132 - as 135.5 phos 30%

PR
w/??

Tami

131 silty of sand phos lgt gray
abund diatoms. few shell frags

119 very phos zone

117 shelly phos zone
mtr more calc above 117

116 of sand, silty clay phos 5-15%
calc mtr varies to clay
w/ fossil forams
clay 109-112

109 - sand, of poor clay calc
phos 3%, few fossil frags

99

Oysters poor recov 92-99 as recov 90-2
ls, lgt gry, very sandy, minor
phos, foss molds.

moldic ls, moll of faun
mod to well ind gry brn to brn
some zones clol

56.

Fresh H₂O ls w/ gastropods root traces

51.5

Hard dense ls dk gry moldic
some sand.

45

ls, cream, sand, mod-good ind,
moldic, becomes dk gry 38 1/2 -

35 - mottled, root traces very rextal
38.5 - 35, ~~has some~~ Fresh H₂O
compacted forams ls

35

33

lost sample

calves/
FT

sandls, poor to good ind

TR4-2
W-14871

1-12

Koreshan
W-16523

Hiva
W-1555

GB-1
W-16890

W-15286

fresh H₂O Ls 29-30

Soft to hard Ls creamy
fossil frags. sandy, med
grades into sandstone cmt calc
w/ shell frags then to sand
at 6.5 sand f-m

soil zone

Note: is Ls to 35' Tamsam
or Calpos?

7/22/93

Buckingham 15286

w/ S. Weedman
100%

770	Ls, sandy, forams
701.5	very sandy 768' trace Phos
crust 760.5	Dolo, sandy trace phos to
crust 758	crust minor breccia, hard
758-747	Ls, very sandy, phos 1% foss.
	minor moldic
crust 744	
crust 743	Ls, sandy minor phos
737-736	no moldic zone
Breccia 732	
Dolo	Dolo, very sandy minor phos
730.5	crust very hard
725	Ls
717	Dolo, sandy 1-2% phos moldic
709.5	very hard
Ls	Ls, mod med, sandy phos 15%
702	very moldic above 698
698	Bound surface?
Ls	Ls, poor-med, very sandy, very phos
	very moldic
688	
686	SS, calc ant, mod, phos 15%
Ls	mod to good, sandy phos 5%
674.5	abundant moldic
672	dentate grey at 674.5
	Large Turritellid mold
	Ls w/ less sand & phos

Quality App
Daprock Deep
W-10761
J-17000
GMP28
City of San Jose
W-16911
Cor Recreational
W-15287
5505
tchae Stratification Reservoir
0-16782

601 Ls w/ very few molds
may be some dolo around
601.5
600 Ls chalky minor phos, sand
finely mudic
591 Dolo, graygy, good ind, sandy
575.5 trace phos, burrows, Bioturb
few molds, clayey zones
574 and burrow fill
Ls slightly sandy
568 foss. poor to mod
Dolo Dob, mod, graygy, sandy
trace phos, zone of algae?
at 561-62, burrows filled w/
sandy phos clayey zone
clayey zone 556-7
then calcitic dolo mix 555-
555 BRYOZOANS
Ls Bryos Ls sandy
543 Sandy, phos 1-3%
538 graygy mod ind
528.5 silty clay trace calc burrows
become lighter up. few shell frag,
v f sand, trace phos
Ls sandy phos, poor-mod, burrows
524

524 Dolo very sandy, phos 10-20 Bioturb
to ss
grades into Ls by 518
518 Ls very sandy phos 10-150
highly variable sand & phos
highly Bioturb Bryos
few molds
Bruciat
473.5
472.5
Ls very variably sandy & phos white
shell frags some molds
446 color change to light graygy
wt abund bryozoans
darker up. sandy, phos (to very)
grades into more silty, clay
clay
440
silty clay
more carb
430.5
Ls
376
Dolomitic
Ls Dolo 374
Ls Bryo Ls, poor-mod, sandy, phos (very)
Bryos, Rectens
332
Bryo 327.5
321.5
silt to f sand, calc, clayey
phos. graygreen Bryo at 363

LS

303

ls, mod into to good, variably
sandy phos, moldic zones
and areas of Redens appters

GRY GRW

thin grn gry zone 251-237
w/ forams 0/5000s Brgd

1' of

222

Arc

214

LS,

PR

207.5

LS, soft, sandy phos
foss frags at contact

VF sand silt trace carb
5% phos (varies to 20%)
slightly clayey

194

clay w/ sand phos
grades to clayey sand phos to 20%

188

sand, darker, minor clay, phos to 20%
more clayey upward

165

sand to clay
shell in sandy clay
ostracods, forams
mica appears about 172

PR

161

LS

150.5

Sand

148.5

Tannian

142

VF of phos 1-2% foss forams
very calc. grades into

LS, sandy, trace phos, foss frags
gry to lgt brn poorly consol
LS

Poorly
consol

118

Becomes less sandy, finer
grained

112

to calc clay (dolo?)
clayey ls 1/3.5 silty, foss frags

Ask

S. Wadman

104

slightly sandy mod consol

Very moldy dolo - dolo LS ?
trace sand

Becomes less moldic up. then
very hard carb to about
90

very

hard

87

soft zone lost

82

Tamihs

hard sandy carb to carb ss few mold
w/ loss of soft zones

much less sand above 70'

Building hkn

57-58

Very sandy marly silt grade

Loss

49

47

light tan to gry VF sand, silt w/
carb mark forams

variable clay content

clay increases around 30'

Ruhka

250 to 24

24

22

tan clay to sand w/ phos at 23.5
w/ shell frags

Rubble

22-23.5

21

as 24-22

21 Rubble

20.5

uf sand, silty, carb mfrx
phos 4%

to carb w/ uf sand

16'

Pecten flags

very sandy carb to carb mfr
sand

Buckingham

6.5

Sail zone

Nanno fossil Data

Coring for

Early Plio

16-154/160

E. Late Mio 156/160 - 164/172

11907

29 - TB 3.6 L

47 - Plio

TB 3.5 E

73 -

TB 3.4

121 -

158 - mid Mio

Koresan

16523

75 - L Plio
E

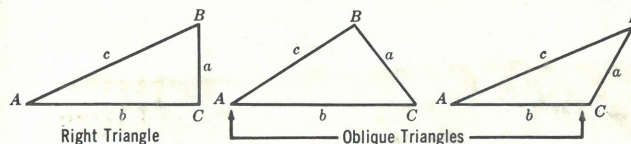
147 - mid Mio

493 - E M

Brooks Sink Core

- 0-22 Sand, dark gray at top, mottled red to orange to 8.5' then
gray brn, fine to med grnd. minor clay fr. huys., well rounded
to med rounded qtz grains
- 22-27 Clay, gray grn (mottled w/ rusty brn in top 0.5 ft) also from 24 to 27)
- 27-34.5 Sand, gray brn, fine grnd, sub-rnd, minor clay fr. huys
minor white phos to 32.5 then blk phos becoming abund.
also green clay increases 33'
- 34.5-42 Carb layers mixed w/ clayey sand zones all w/ abund phos
tan to gray green. carb zones hard and broken up.
soft carb w/ abund sand & phos 39.5-42
- 42-46 Carb layers hard mollusk molds sandy and phos
soft layers lost in drilling
- 46-51.25 clay and sand w/ phos, variable carb, some hard clasts
gray grn. carb zone at 42-46 at 47.75-48.25
hard carb 51 w/ very phos sand 51-51.25
- 51.25-54 Very moldic carb w/ sand and phos gray
- 54-60 Hard carb med gray to dk gray sandy, phos, microphoritic
surfs. coarse pebble phos at 56 1/2; thin clay (sandy)
at 56.75.
- 60-61.5 very silty clay (dolomitic? dolosilt?) gray gray
very phos rubble 61-61.5
- 61.5-62.5 as 54-60
- 62.5-63.1 as 60-61.5
- 63.1-69 Rich phos pebble zone blk phos pebble w/ coarse qtz sand
carb pebbles clayey (dolo?) zone? near 68
coarsest pebble at 68-69

SOLUTION OF TRIANGLES



Solution of Right Triangles

For Angle A, $\sin A = \frac{a}{c}$, $\cos A = \frac{b}{c}$, $\tan A = \frac{a}{b}$, $\cot A = \frac{b}{a}$, $\sec A = \frac{c}{b}$, $\csc A = \frac{c}{a}$

Given	Required	
a, b	A, B, c	$\tan A = \frac{a}{b} = \cot B$, $c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B$, $b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90^\circ - A$, $b = a \cot A$, $c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90^\circ - A$, $a = b \tan A$, $c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90^\circ - A$, $a = c \sin A$, $b = c \cos A$

Solution of Oblique Triangles

Given	Required	
A, B, a	b, c, C	$b = \frac{a \sin B}{\sin A}$, $C = 180^\circ - (A+B)$, $c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}$, $C = 180^\circ - (A+B)$, $c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A+B = 180^\circ - C$, $\tan \frac{1}{2}(A-B) = \frac{(a-b) \tan \frac{1}{2}(A+B)}{a+b}$, $c = \frac{a \sin C}{\sin A}$
a, b, c	A, B, C	$s = \frac{a+b+c}{2}$, $\sin \frac{1}{2}A = \sqrt{\frac{(s-b)(s-c)}{bc}}$, $\sin \frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{ac}}$, $C = 180^\circ - (A+B)$
a, b, c	Area	$s = \frac{a+b+c}{2}$, $\text{area} = \sqrt{s(s-a)(s-b)(s-c)}$
A, b, c	Area	$\text{area} = \frac{b c \sin A}{2}$
A, B, C, a	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL

Horizontal distance=Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance=319.4 ft. Vert. angle=5° 10'. From Table, Page X, $\cos 5^\circ 10' = .9959$. Horizontal distance=319.4 × .9959=318.09 ft. Horizontal distance also=Slope distance minus slope distance times (1-cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. $\cos 5^\circ 10' = .9959$, $1 - .9959 = .0041$, $319.4 \times .0041 = 1.31$, $319.4 - 1.31 = 318.09$ ft.

When the rise is known, the horizontal distance is approximately: the slope distance less the square of the rise divided by twice the slope distance. Thus: rise=14 ft., slope distance=302.6 ft. Horizontal distance=302.6 - $\frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.

Brooks Sink Core

- 69-70 Clay, sandy abund phos pebble, green guy
 70-70.25 thin hard tan carb
 70.25-71 thin zone of phos pebbles as above
 71-72.5 Silty clay grading to clayey sand (vf-f) w/ phos sand
 72.5-74 hard tan carb little sand or phos
 74-77 Clay w/ variable carb and vf sand guy green to brn guy.
 Carb increases w/ depth
 77-~~77.5~~⁸⁰ carb, hard sandy phos brn guy
~~77.5~~⁸⁰-80.5 sand and clay
~~80.5~~^{80.5} carb, sandy, phos, moldic, med guy, soft zones
~~80.5~~^{80.5}-85 clayey carb garbage, maybe carb rich clay minor sand and
 phos. hard and soft zones, some clayey some carb.
 85-89.5 Clay, minor sand, silt and phos, dark organic looking, blebs
 green guy to guy grn.
 89.5-91 very sandy clay w/ abund phos. then back to clay as
 88-89.5
 91-92.5 Clay as 88-89.5 w/ abund last of clay
 92.5-103.25 Clay as 88-89.5 w/ carb zones and pebbly zones
 103.25-105.75 Carb hard to soft variable clay minor sand trc of phos^{lgt brn guy}
 105.75-107.5 very hard carb med brn guy
 107.5-109 carb w/ increasing med guy grn clay increasing w/ depth
 109-109.5 hard brn guy carb as 105.75
 109.5-113.5 Clay w/ carb, mod ind, abund clasts (carb and clay) sandier
 w/ depth
 113.5-122 hard to mod med guy clay minor sand trc of phos

TOPS

Hawthorn Gp 22 PF 136?
 Coos - Charlton 22 Ocala 172
 MH - ~~22~~ 254