

AUGER DRILLING

Log

8-90 / 9-93



LIETZ

SINCE 1882

FIELD BOOK

No. 8152-60

16545
A-66-13

10077
A-66-18

16577
A-66-15

16586
A-66-14

16603
A-66-32

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SFWMD Okeechobee fld stn.

MARTIN BROWN (813) 763-2197

- Rod Chandler ~~Chawston~~ fld. stn. 1431

GENE TANNER (941) 983-~~941~~

U.S. ACE (LD-3 Access)

AACA engr Rick ALVAREZ (813) 983-8101

Luther Goodwin - FL Dept Forestry
PALMDALE Tower (813) 675-0646

LUCY MCCARTAN (H) (703) 631-0166

JEFF BURDICK (813) 979-9294
(USF) 974-2236

John Morrill
CONTRACTOR #
NWFWD 2589

GLADES COUNTY

DAVID WHIDDEN - Gl. Co Rd Spr.
(813) 946-0771

or TOMMY GREENWOOD

TALBERT NELTON DOT (Labelle)

BOB HILLIARD

LOCAL 675-1737 / (6) 721-7765

DOT (SEBRING)

LOCAL () 1385-0038 / (6) 721-7012

W 16545

Glades Co Auger site #13

Setup height 2.5'

hit water at ~ 9-10' clu
uncorr. sd 8-13'

T41, R 28 Xc 2 & 6

cell
CANNOT
MILLING

(561)
601-8981

21 site 12
 22 sec 22.385 9.2147
 23 sec 22.385 9.2147
 24 sec 22.385 9.2147
 25 sec 22.385 9.2147
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 99 sec 22.385 9.2147
 100 sec 22.385 9.2147

07.2.38

41 site 12

00.22° 22' 13"

11.22° 18' 13"

22.385 9.2147

22.385 9.2147

22.385 9.2147

22.385 9.2147

22.385 9.2147

22.385 9.2147

22.385 9.2147

W 16565

Site 16

27° 01. 34" 38' TD
 81° 27.36" 22"

1/4 mile S of Highlands Co line
 Elev 65'

End day 6:30 pm - 1 hr lunch
 T40S, R29E, sec 6 c a b

9-26-90 8:00 am start

W 16567

Drill site 12 / 33.5' TD Elev 59'

Lat 26° 52.22' 13"

81° 26.13' SNR 8004689

T41S, R29E sec 20 dr s line

4.0 miles S of Hwy 74

6:30 quit 1 hr lunch

9-27-90 W-16570

Brighton Lewis reservation

Site 24 13"

27° 04. 21' N ~ 27' Elev

81° 05. 94' 36" 1000

T39S, R32E, sec 22 b c b

V Poor spl memory 235-285

small quantity of shelly, sd
 recovered. This litho not
 encountered previously up hole

28.5-33.5 V. poor samples
as before

33.5-38.5 NO SPTS - TD

W 16569

GRADES site 30 / 375' TD

LAT 27° 07.69' 41" SNR
LON 81° 01.88' 63" 95 72 99

T38S, R33E sec 33 abc elev 25'

W 16568

SITE 22

LAT 27° 05.5' 33" SNR
LON 81° 04.53' 32" 96 79 94

2.1 mi

East of I-22 R?

Elev ~14' TOPO

8 AM - 7:30 PM
NO LUNCH

T40S, R32E, sec 12 a and

1978

GMC 6000 SERIES

gas V8

5 spd manual transmission

TRUCK SN TCE 618 V558401

Estimate

replace clutch disc

pressure plate

release bkg

reface flywheel

Sugarcreek Motors West

Labelle 675-3600

Clewiston 983-8161 cant handle it

PO: \$800,
DENNY

Bill Branch Chevrolet SVC 936-8561

corner of Fowler + Winkler

I-75 south to Exit 22 - go Rt 5 mi to fork
turn Rt 2665

~~Bob~~ A+C Truck Service 334-1196

2665 St

Watts Auto + Truck repair

337-5823

2470 Rock Hill Rd.

A+E Truck Service 334-1196

2005 South St ~~Anderson Ave~~

~~Hwy 80 to pawn shop
go left to end go right
to end gate in R.R.~~

Hwy 80 - pawn shop
go left on pawn till it
ends,

MARTIN'S GARAGE Hwy 27

JASON of Hwy 80

prob. Clewiston #

Art's Automotive La Belle

MARTIN'S Mechanical &

Machine service

Hwy 27 1 mi N of Hwy 80

983-2366

Clewiston 983

Okeechobee 357, 467, 763

La Belle 675

Moorehaven 946

Telephone
Exchanges

LD-3 ACCESS

(813) 983-8101

CONTACT MARTIN HARN US ACE

Clewiston 7:00-3:45 -

take 27 S thru Clewiston - take
a left at the Jolly Roger Marina

- 1st compound on left 284

- will issue key
after 284

Site 3 U Tele ticket # 50932

9 " 50933

10 " 50935

U.T. Dispatcher (813) 997-0100

GAIL or Betsy

Cable loc. Bill Harn

Red Carpet Inn Moorehaven

946-2642 Hwy 27 N

Motel 27 412W Sugarland Hwy Clew 983-8810

PLAZA Motel 621 E US 27 Clew

983-5181

946-2029

Lakeport Lodge Hwy 78 + Harney Pond Canal

Rivers edge 675-6062

Hoosier Bass Inn Hwy 27 946-2094

Rivers Motel Hwy 27 946-0424

Porterhouse E 983-9309

(813) W 983-9161

20-16-90 KMC+FR

Martin Machine location

Site 2A W 16582

grd water ~ 6" b/s in canal
adjacent to drill site

- samples get clayey at ~ 13'

T 435 R 32E sec 12 666

8:00 - 7:30 PM After lunch

10.5 hr worked

10-17-90

Stop by Gl. Co rd dept - ck on print

- to Clewiston Army ACE to pickup
key to LD-3 gate

- phone calls to U.T. re cable loc.

W 16584

GL site 20 LD-3-W 38TD

1/2 mile W of road crossing LD-3 dike in
NE corner sec 12

- hole loc at south toe of dike

T 415 R 31E sec 1 AAA

RAW LAT/LON (Loren)

CAT 26° 56.68' Lon 81° 11.13'

- bed repr. by 8 1/2' spc starts at 7 1/2'

litho chg below 8 1/2' bed ^{thin} clayed

as to pbl. - all rock frag to

11"

stopped to put on rock bit

- hit hard rock at 13'

conc finger bit no good

- 4 finger appeared to brk thru

- rock layer or boulder spc not

collected - aser below - gy shell,

clg sd at 1 1/2'

more hard rock at 15' - best drilling

appear to be low (1st) gravel + interstratified

fine -

- note 28.5' spc appears to be

mostly wash -

color change + clay content increase

at 31.5' - repr by 33 1/2' spc

16581

Gladesco Site 21A - LD-3-E

at N toe of dike ~ 30' E of

guard rail fence ^{26° 55.48'} ^{81° 07.41'} correct

CAT 26° 55.48' Lon 81° 07.41'

O-1 or pos 2 may be felt

litho chg at 7 1/2' (8' spc)

TD at 28' Due to

Darkness

T 415, R 32E, Sep 9 66

8:00 AM start 7:30 PM end

1 hr for lunch

10.5 hr worked

11 Mike Stewman - Songhshre
1-800 654 1948 Wamwre.

~~1-800 654 1948~~

Intersection LD 3 + Hwy 78
JCRAN correction station
plotted lat $26^{\circ}55.47$ JCRAN lat $26^{\circ}55.71$
lon $81^{\circ}07.37$ $81^{\circ}07.15$
 $\therefore$ correction: $-.24$ lat
 $+1.22$ lon

10-17-90

Rechecked LD 3 + E. container
to 43' + D

get RUN ground from U.T.
Central location - mt. sch.
for W at site 3 -
at 255 pm still not connected
Telish + Labelle

one up 0.25 knots m/s
down 0.25 knots
down 0.25 knots

10-18-90

8 AM start

16583

SITE 9: Bee BRANCH - .8 mile

E of bridge on S side Hwy 720
T 425, R 28E, sec 14 middle of E $\frac{1}{2}$
of N line



JCRAN lat $26^{\circ}49.85'$ SNR 9575 9
lon $81^{\circ}29.10'$ 247'

- in bottom of rd side ditch - gnd ~ 1'
below NAT gnd
gradational chg betw 8/2-11

Retn to TELH 7:30 pm -
NO LUNCH break

W-16589

Glades 10

elevation

8 AM Meet United Telephone
didn't show
went to site 10
Meet U. Tele at 2: PM

Lat $26^{\circ} 49' 32''$

Long $81^{\circ} 33' 23''$

27.5 T.P.,
Hawthorn?

T425, R 28E
SEC 18 bab.
N section line
S side of rd
elev ~ 35'

16585

Glades #3

T425, R 34E, Sec 31
NW corner
elev ~ 14'

Lat $26^{\circ} 46' 78''$

Long $80^{\circ} 58' 67''$

TD 32' in olive green clay

W-16588

Glades #8

T425, R 29E, Sec 34
North line ab

Lat $26^{\circ} 46' 86''$ elev ~ 18'

Long $81^{\circ} 24' 72''$

W-16586

Clades #5

lat $26^{\circ} 50.79'$

long $81^{\circ} 14.84'$

drilled 37.5'
und. clayey sand

moved to site 6

T423, R 31E
see 5 ctp
N side of rd at
ben
Elev ~ 24'

16587

Clades #6

~~lat~~ ~~long~~

lat $26^{\circ} 47.24'$

long $81^{\circ} 18.55'$

T423, R 30E
Sec 27 abd
E side of rd
Elev ~ 15'

50 yds north of campground
east side of road.

16590

Clades #17

lat $27^{\circ} 01.59'$

long $81^{\circ} 20.84'$

Contact at ~ 14.5' Brown
Clayey sand w/ lt green
clayey sand below.

T405, R30E
see 5
at a
Nat. grad elev
~ 58'

~~Budget Int. District~~

Stevens & Friedman
Arch. & Biological Station
P.O. Box 12057
Lake Placid 33582

GI 26.

W 16601

Natural grade 5'

16603
GL-32 T335, R33E, sec 36 c6d

S side of canal opposite water level station
Nat. grad elev. 15' 43' TD

T335, R 32E, sec 6aaa
385 TD

12-13-90

collect sps fr outcrops
along Hwy 78 B

- 3-4' hd ledge vxrl ls
over softer granular ls

loc ^{sample locality} GL-1
T39S, R34E, sec 8 ca
GL-2 T39, R34-sec 7 dd

GL-3 T39S, R33 sec 15AA

W-16602
Auger site 27

C40 - INDIAN PRAIRIE CANAL
E of Hwy 78 B; S side of
CANAL inside dike

- natural grnd is buried
by spoil
T39S, R33E, sec 24CCD 38.5' TD

NATURAL ground at 35.4'

Natural ground at 35.4'
4-5.5' muck, peat

5.5 - 6 contact

5.5 - 6 gray green sand

19

6' - brick in peat, muck
becoming sandier w/ depth
(less muck, peat)

spec
locality

GL-4 - FTMP caprock in place
+ shelly spoil from canal (shallow)
- caprock highly xrl, brecciated
from apparent solution draping
- on Hwy 221 to N + S of
Gladwin elec coop / substation
T40S, R33E, sec 6 sec
66.9 69.3

W-16600
GL-25 Auger site T39S, R32E, sec 6 deb

Litho change / contact at 4.5'
Bn organic muck to green clay
sand

Shells / at 15' (begin)

Litho change at 20'
Rld Rck 20-21' O/C

N.R. at + below 26' to + at 33.5'
2 mile N of S-70 on W side
dike

12-10/12-14-90

12-10 to Merritt Island to put
core for Seals injection proj.
to FT Pierce 8:00-5:30

12-11 - to WARD Okeechobee
verify site location, to Caladale
put auger rig, refuel etc -
head to site 32
- Brakes fail on auger - to
Oke - hire a wrecker +
service 8:00-5:15

12-12 To Big Lake Truck Parts
for service - completed
~ 10:30 - drill site 32 +
26, 8:00-6:30

12-13 - check out site 31 - New
ACE key for access - do more
sites 27. Adjust clutch on rig
- oil pump gear broke
- rig pumps oil out - repair line
+ re oil - drill sites 27 + 25
Put oil + filter etc chg oil
+ filter on rig - no major
damage apparent.

8:00-7:00 JD

8:00-8:00 RE

12-14 Pack auger rig at WMD
Okeechobee field office - return to H

1-15-91 Mitch Covington + F Rush.

W-16605

A-OE-1 At SFWMD District office
compounded T37S, R35E, sec 13ACB
Elev ~ 30' (Topo) TAYLOR Ck Quad 2010
O-32 WDSC 32-TD CLSCK?

W-16606

A-6L-31 T38S, R35E, sec 19 CA
(by STR grid - not marked on
topo) - on W side of Kissimmee
R ~ 1/4 mile N of Hwy 78
Elev ~ 15' (topo) O-27S WDSC
27S-TD FTMP

W-16607

A-6L-28A SW corner of intersection
Hwy 721 and Indian Prairie Canal
T38S, R32E, sec 14 d5C
Elev ~ 27'

W-16608

A-6L-23 T40S, R31E, sec 2 A
At N end of L-50 Elev. ~ 28' (Topo)

W-16612

A-6L-1A NE corner int C-19
AND Hwy 27 T42S, R32E, sec 9CCA
Elev 20' (topo)

4-1-91 / 4-6-91

Mitch Covington + Frank Rush

W-16626

A-Hy-1

T435, R 34E, sec 11, CAC 1P-2

Elev 18' topo

Owner U.S. ACE

Lat $26^{\circ}45'34''$

Lon $80^{\circ}55'06''$

TD 37.5'

16627

A-Hy-2

T445, R 33E, sec 4 deld (SE corner)

Lat $26^{\circ}40'58''$

Lon $81^{\circ}01'55''$

Elev 20' topo

Owner SEWMD

TD 32.5'

16628

A-Hy-3

T445, R 34E, sec 32 BBB

Lat $26^{\circ}39'22''$

Lon $80^{\circ}52'02''$

Elev 21' topo

Owner SEWMD

TD 32.5'

16629

A-Hy-4

T455, R 34E, sec 33 CCC (SW corner)

Lat $26^{\circ}31'15''$

Lon $80^{\circ}56'54''$

Elev 21' topo

Owner SEWMD

TD 37.5'

16630

A-Hy-5

T475, R 34E sec 22 Caa

Lat $26^{\circ}23'09''$

Lon $80^{\circ}55'48''$

Elev 18' topo

Owner SEWMD

TD 37.5'

16631

A-Hy-6

T485, R 34E, sec 12 bbb

Lat $26^{\circ}19'52''$

Lon $80^{\circ}52'56''$

Elev 14' topo

Owner SEWMD

TD 20'

16632

A-Hy-7

T43S, R33E, sec 36 ddd

LAT $26^{\circ}20'44''$

CON $80^{\circ}58'47''$

Elev 18' TOPO

OWNER SEWMO

TD 275'

4-5-91 - transfer case - ~~Anger~~
Big rig dies - returned to
Martin machine for repair
return to TCH 4-6-91

4-22-91 KLT + FR to
Cheriton - P.M. Anger rep. of
Martin Machine Mikeage 58880

LOC GL-X 1/4 mile S of old sugar
plant S of Moorehead spec
collected - rock exposed in
Mange, and - hard caprock
overlying "marly shell beds"
ORGANICS 2' plus over rock

L-HY-A - T43S, R33E, sec 22AA
Angler airport - bed is caprock
at 650'

3 photos of L-HY-B
photo across road at original
even nearly true

16637

A-HY-8 T44S, R33E sec 33 CCC

N 41' NE of sec corner Elev 21'

D-4' fill

LAT $26^{\circ}36'28''$

CON $81^{\circ}02'48''$

quadrant of the dig at ~16.5' - 100
clay, coarse gr

3B' TD

16638

A-HY-9

possibly as much as 3' above nat
gnd.

T4BS, R34E, sec 32 ddc

LAT $26^{\circ}15'29''$

CON $80^{\circ}57'10''$

Elev ~15' TD 38 37.5'

LOC-HY-B Reclaimed rock pit
CTR A, sec 24, T43S, R34E

LOC-HY-C - T43S, R34E, sec 35,
BD, E edge - Ditch W side of
high 832 - Rock ledges

L-Hy-D T445, R 33E, sec 35 DDD
rock exposed in canal w of hwy 832

L-Hy-E T445, R 33E, sec 34
3 edge N side of canal

L-Hy-F - 100 yd E of A-Hy-B
T445, R 33E, sec 33 CCC

L-Hy-G - rock ledge w of hwy 832
just N of old rock pit
T455, R 33E, sec 13 dbd

L-Hy-H - rock in ditch N of hwy 832
T465, R 33E, sec 35 DC

L-Hy-I - rock, tabular rock at
lsd on S side of rd
T485, R 33E, sec 2 bc

L-Hy-J - ls at lsd in old rock pit
w of hwy 846 & S of Dorsey Rd.
T455, R 33E, sec 24 ddd

L-Hy-K rock ledge w of hwy 832
T445, R 34E, sec 14 dd

4-23- start 8 AM 1/2 hr lunch compl 27

4-24-91 start 745 AM end 645
W-16639 1/2 hr lunch break

A-Hy-10 E side west feeder canal and dirt pit
T485, R 33E, sec 18 DCC

0 - ~2.5' canal spoil
2.5 - Nat grd surface
38.5' TD

L-Hy-L rock exp in ditch
T485, R 33E, sec 8 str b

L-Hy-M T465, R 32E sec 26
6 N edge

L-Hy-N T465, R 32E, sec ? 1.8 mi
N of hwy 833+846 rock ledge in
ditch w of hwy

A-Hy-11 Alico (Devils Garden)
Fire tower T455, R 32E sec
4 dbb

38' TD
0-4' prob fill
Elev ~ 28'
LAT 26°36'11"
CON 81°07'41"

4-25 745 start 645 end no lunch CCC
L-HY-D T43S, R33E sec 20
rock in ditch spoil

L-HY-P T44S, R32E, sec 11
south edge
rock + marl in canal spoil

L-HY-Q Caprock pt. at LSD
T44S, R32E, sec 32 d. sedge

L-HY-R - Rock ledges in canal
T45S, R31E, sec 6 aad
S side of Hwy 832

16641

A-HY-12 Keri Fire tower
~ 70 yd W of Hwy (~ 50 yd S of
tower)

T45S, R30E, sec 4 6ac
encounter rocky sed at ~ 8'

TD 38.5' elev 28'

LAT 26° 35' 44"

Lon 81° 20' 08"

L-HY-S - T43S, R29E, sec 33 ac
west side of Hwy 29 - rock + shell
in canal

ALACHUA CO Radon Proj. 29
USGS/EPA/FGS

Jim Otton USGS DVR. (303) 236-8020

- Have Jim Otton call Walt
tues ~~pm~~ wk 8-4191 or
home 877-3455

SAN FELASCO Hammock site
call Vic Daig FPS
(904) 336-2135 Dist. Jc
or 336-2008 Devils M.H. Jc
pref. drill ~~thru~~ WED

Econolodge

2649 SW 13th St.

904-373-7816

2RMS confirmed #05435234

574 start 545 AM end 630 P

7.8

-2

-4'-6

2'9" + 5 + 2

6-8

2'9" + 5 + 2 + 3

12.9

-8

4.9

8-10

2'9" 5 + 5 + 2

14.9

(4.9)

12-14

2'9" 5 + 5 + 5

14-16

2'9" 5 + 5 + 5 + 2

19.9

18

2.9 15 + 2

19.9

20

20-22

2'9" 20 + 2

24

2'9" 25 + 2

W-16649

FA-A1 - Alachua Co Argen

site 1

0-27.5' TD

T9S, R 19E, sec 28 dd

Archaeologist 75N take Alachua

EXIT (441) - take 441 S to

1st bridge (1st bridge back)

- passed on right side of

in rd take left (6241) - go

~ 3 miles (1st bridge) north bank

of bridge to 75 take left on

service rd - go 1 mile

turn L on drive range road

to shop.

5-15 745 start 730 pm end

W-16650

FA-A-2

0-2 + 2-4' spurs compacted

not lost 8m take

6-8' 2'9" + 5 + 5

8 + 47"

14' + 4 18

23.5' TD

T11S, R 17E

Sec 13 d

ctr - just N of

dirt rd + sink

Archaeo Quad

N 90' Elev

16654 FA-A-6

16649 FA-A-1

16650 FA-A-2

16651 FA-A-3

16652 FA-A-4

16653 FA-A-5

125

W-16651

FA-A3 SAN FELASCO

T8S, R18E, SEC 35

E 1/2 irregular sec just
S of sinkhole + E of
house elev ~168

Mitch meet at Austin Cary
monument.

- 1-75 to 150 Gainesville
exit (Hwy 222) go E
9-10 miles to Wards rd
(Hwy 222) go left - 6-8 miles

Austin Cary Forest Monument
on rd to pt
~3.5 mi SW of weldon

5-16 7:00 AM START END 2:45 PM
W-16652

FA-A4 AUSTIN CARY FOREST

T8S, R21E, SEC 33 Qd Q

ELEV ~152'

33

weldon + Cindy Collier

J. Mitchener Covington
385 7299

0-8.5' sand - high wt - 450
split spoon sand locked - retrieved
by pulling auger + drill rod
on high as pass thru pouring
water down below stem
td at 14' in tight clay sd

- bent auger must - forgot to
remove job chain - spent
2 hrs set straightening must

W-16653

FA-A5 Beef ranch unit
(pasture)

0-10' then thinner stem
shut down till storm over
then packed up - return in
AM

T9S, R20E, SEC 2 1KR E of
Hwy 225 125' - 135' N of gate
Elev ~142'

5-17 700 Am start

Reentered hole 5 drilled +
sped 10-16' hole abcd.
at 16' due to blowing sand
filling hollow stem

FRANK owes me 50.00
for motel room

work to be done on rig

- engine - carb + air filter
- second safety switch
- rope for bailed
- BAKER
cath head valve huber

W-16654

FA-A-6

AG. exp. Stn 35
U.F. Hawthorne Farm
T 95, R 19E, sec 9 AA-1
Elev ~ 170' TD 20'

5-28-91 KC, JD, MC + TS

FA-A-7 W 16655

LONGCAL Phosphate: Buda Limestone

Qy T 85, R 17E, sec 32

At end of rd 11 to RR hand
line a little pit rock at
~ 28" (LOCAL)

recon second site between
sof old pit rock phos pit just
west of ls 94 (32 ada)

W-16656

FA-A-7A

5-29 - KC, JD, MC FA-A-8

LONGCAL phosphate T 95, R 16E
sec 24CD Elev ~ 87'

TD 27'

W-16657

FA-A-8

T 95, R 16E, S 24CD

LAT 29° 41' 05"

Lon 82° 39' 53"

Elev 87'

TD 28'

7-15-91 KL + PR
to Pennsdale then Oke
for Angus trip

8:30 - 6:30

1-A-A7

7-16- 7:30 stand - to
wind of Oke re Angus
sites

Drill site A-Hi-1

37

W-16664/38.5'

A-Hi-1

T 385, R 31E, sec 21 ~~MOD~~
on outside of dike EA
appx 1.5' above natural grade (avg)
0-4.5' into sd

litho chg at 4.5'

litho change at 17'

transitional litho chg

~ ~~28~~ 29-31'

TO 385'

Elev. ~~385~~ ~ 30' TOP

Made for site DE-2: thunderstorm
move in - no drilling done
on south side of canal

7-17- BACK TO A-OE-2 W-16670
TS/KL/ER TO 385'

1st shell 21'

to 38.5'

T 375, R 35E sec 19 ddb

Elev. ~ 27'

0-3 ft / 32-28' UOCL / 28- ~~32~~ ^{ftmp}?

A-Hi-2 W-16665

~1' fill

1st shell at 18'

T37S, R32E, sec 25 bca

100yd N of Hwy 70 on NE side of canal
Elev ~30' TOPD

A-Hi-3 W-16666/33.5'

100yd south of STR on W
side of canal

1st shell at 32'

TD at 33.5'

T37S, R31E sec 11 a ccc

0-3' fill
3-31' WSC
31' 1ST MP

7-18-91

W-16667/33'

A-Hi-4

Kissimmee River

Valley near S-65D

LAT 27° 18.80' SNR 262

lon 81° 01.59' 96 80 99

W side of lock + ~200yd to N

NAT grid at 6.5'

1st shell at 28.5'

TD 33'

W-16668/33'

A-Hi-5 of Kissimmee River at

S65E

T35S, R32E, sec 27 cbbc

~~LOAN LAT~~

~~lon~~

top of gravelly clay at 25.5'

TD at 33'

0-3' fill
3'

W-16669

A-Hi-6

Kissimmee R - E side of
orig channel - W of S65B; S side
of Access rd.

T34S, R31E, sec 23 IRA

Elev ~38'

(LOAN

A-Hi-4

LAT lon correction - .03' lat

- .05 lon

corrected lat 27° 18.77' = 18.76"

lon 81° 01.54' 01.32"

note: corrected lat lon does
not match grid loc (prob. loan
interference from dike str)

DIRECTIONS to Tony

- take hwy 27 to Miami
to hwy 820N - will curve
to east - take 27th Ave
exit - go south to 135th
st - go left (E) to NW
19th Ave - go left to end
of street

Jimin leakin feed cyl
cut drill head base
steam clean
rapid retract valve
sand blast rust
adjust slide rail clearance
leak in angle drive top seal

7-30 KC + FR to Miami - Jerry
Angus rig to Tony Dally Co
for upgrade
start 700 AM KC / 730 AM FR
END 5:30 PM

10hr FR

DIRECTIONS TO FLA Inst. Tech. MELBOURNE

take hwy 192 E into Melbourne
to BANCROFT ST. - go rt. - 3/4
miles to UNIV. AVE - go rt.
appx 1 block to 1st paved pk lot
on rt.
- Oceanography dept in link
BLDG - 1st floor

Mon. Oct. 7 - FT LAUDERDALE
DAYS INN 3355 N. Fed. Hwy
(Near F.L. Int. AP.)
(305) 566-4301 (Tony) 32.00

Tues + wed 8th + 9th - Belle Glade
DAYS INN Hwy 90/441 1075 S MAIN
COND. # 891 CBB 5E \$30.00/ite -
DL svgr. spl. ✓
402-992-8690

Thurs Oct 10 Lakeland FL.

Ramada Inn Lakeside

910 E Memorial Blvd.

(813) 682-0101 govt rate 35.00

CONF.# 0125910

get well to
Cindy - put a hold on
letter together for winter
Bryan.

to V.C. Hollinsworth
108 S. Park
Arcadia, FL. 33821

2.5 miles W of Arcadia, ^{DESOTO CO} at
intersection of Hwy 70
and Lilly Grade Rd.

- my files (SF Prop) has
previous letter

- FAX to Jeff Burdick at USF

- he will call w FAX #

- get ED Petuch's phone #
from Tom's Rolodex

OFC 407-367-3727

H 969-2848

sec 88 bbb 43
LOC-PB-1 T445, R 37E, NW corner
1st. ~~drill site~~ but not real good
access

LAT 26°20'16", LONG 80°37'42"

A-PB-1 Griffin Bros pit

in 1/4 mile N of co. line sec 22 read
just E of canal. T445, R 37E

- peat stripped off of site - caprock
at surface - 1st sample at 2'
collected split spore spec at
4-5' and 6-7.5'

drilled to 8.5' lost drillbit down
hole - unable to retrieve
Elev 11'

The [unclear] [unclear] [unclear]
[unclear] [unclear] [unclear]
[unclear] [unclear] [unclear]

most [unclear] [unclear] [unclear] [unclear]

← F63
FAX (904) 488-8086

10-10-91

KC + FR met Jeff Brudick +

W 16687
drill A-DS-1 .15 mi N of
Hwy 70 on inside of Lilly
Grade Rd V.C. Hollingsworth

TD 53.0'

T 37S, R 23E, SEC 14dbb

ON E section line

Elev 53'

LAT: $27^{\circ}15'41''$

LONG: $81^{\circ}58'33''$

Pick up cores at Chishill - Tampa
Friday morning Jan 31

directions: take I 275 W past
int. airport to Hwy 60 (just before
Tampa bay) - go past Hilton to
second stoplight - turn L
Rocky Pt. Dr. - second bldg
(large - white) - 8th floor
park in pk garage
- see Dan Arthur 813-281-0777
Phil Waller

Proposed sites
SA. Co.

T 39, R 22 sec 1-18 (15-16)

T 37 R 19 sec 31 STRAWZERRA

T 38S, R 19, sec 36 SE

T 39 R 22 sec 7, 17, 18

MN

ANNI T 35, R 19, sec 14-17, 24 2566

DS T 37, R 21, SEC 6 - Myrtle R. St. PK

A-DS-3 39S, R 23E, sec 27, 28, 33, 34

A-DS-239J, R 25E sec 1, 2 CARLTON 2x4

Best Western - Arcadia
(813) 494-4884

Hwy 54 exit - west -
3-9 miles just before
Hwy 41 intersection
Just before we want
to spray - go left -
- 1710 on left

Schroeder Marquette etc.

75 - Hwy 70

67550 Clarinet

8:30
W 16741 A-MN-1

1-28-92 Schroeder Marquette Ranch

355 T 355, R 195 SEC 25 NE NE

49' ELEV LAT 27°24'57" N
LONG 82°21'09" W

2.75 miles E of GRAND RD.

.05 mi N of Hwy 70

34' TD

- RAIN from 1000 PM ON

ARRIVE Arcadia 7:20 PM E-25-A

4:25 AM TPA 7:15 AM S-21-A

0-14 USDC sd
14-32 VAR shly, sd 22 32- PCR V
clg sd - sl. plus

pre cutter
exh manifold
carb kit

gasket

47

W-16742

A-DS-2 CARLTON 2x4 Ranch

SE corner sec 1, T 39S, R 25E

Elev 53'

sample intervals

0-1

0.5-2.8 - upon recovery (shells, tube)

4.0 -

6.5

9.0 - shelly tube spz lost during recovery
went back in w. SPR - i.e. spz
is not depth disturbed
but from ~ 9-11' interval

11.5

14'

16.5

19

23' TD

16.5' interval had 3' sd in
bottom - barrel

LEACHED MARL exp in ditch
E line sec 2 (NE corner), T 39S
R 25E

16741
A-MN-1
Schroeder MN Rd

16742
CARLTON 2x4
Ranch A-DS-2

16743
A-DS-3

16746
Myrtle River
A-MN-2

16749
A-S-1
Stauwerson

W16743

A-DS-3

1-30-92

T 39S, R 23E, sec 28 C - cbr - sq
ck. elev ~ 20'drilling w solid stem flites
good recovery thru 33'

sdy stringer 30-31'

clayey or clay sd (d. gw)

at 31 - 33' spc

TD at 48' in PERU clay

1-29 - 8:00 - 6:30 pm

1-30 8:30 - 5:00 pm

Repair needed
to mobile drill

Exhaust sys - leaks / tp

Fix motor

Fix power breaker

Engine trouble - repair

carb? problem

P.M.

Repair leaking hydro jacks

Rock pit w of old town ~

1/4 mile w of town 19

somewhere near Prospect

Boggs Church

T3.6

2 miles off hwy 55A

old rock pit ~ 50 yd E of town

(19 - ls ~ 1-3' below rd)

385.9

rock exp in brown pit

at 80.9, 88.7? 90.0 DT-12

Fire tower at 90.8 (area)

Cross City west. Quad

T 9S, R 11E, sec 28 cbr ?

ON NEXT auger trip -
CALL

Bill Morris - Myakka River Reserve

Laurel

484-5133

re his prop - any little info etc.

5-4-92 RZ + F. Rush - SA/MN

Angus dip

W-16748/40'

Myakka R. St. Park

A-MN-2 T 37S, R 21E SEC

7 DCA 58 clay gully ELEV 25'

LAT 27° 16' 28"

LONG 82° 15' 03"

Drill rig mileage at start of hole
62325/ed62440

Drill 0-32.5' w solid stem auger
hit rock (refusal) at 32.5'

shutdown - return tomorrow

to SA for mobil room

work, 8:00 - 8:00 pm

11.5 hr 12 hr lunch

5-5

return to Myakka State park continue

hole - drill to 40' to

grout hole - 4 bags portland

fed in carbonate rich bed of

PK? lime?

work 7 AM - 7:00 pm 1/2 hr lunch

0-23 UDSC / 23-40' TO PCRV

5-6-92 W-16749

A-SA-1 Strawzer property

T 37S, R 19E. Sec 31 add

Elev ~ 18' topo

drill w solid stem auger

top of shell bank at ~ 3' LSD

base at ~ 5'

hit 15/85? stringer - hard - at
14.5' ~ 1/2' thick

18.5 and 21' spls - shell frag +
phos gran predominantly contained

44.5-48.5' rock - rough drilling
+ clay prob rock stringers in
clay

53.5?

TD - 48.5' pump 4 bags
portland

drill mileage at end of hole 62497

7:30 - 7:30 1/2 hr lunch

11.5 hr work

LAT 27° 13' 07" LONG 82° 26' 31"

0-3 UDSC

3-13.5 FTMP

13.5 - ARCA

16750
Longino Rd.
A-SA-2

16751
A-SA-3

16752
-MN-3

16753
A-MN-2

16754
A-SA-1
Strawzer

5-7-92

53

W 16750/43'

A-SA-2 LONGINO RANCH

T 38 S, R 22E, SEC 16 SE CORNER

ELEVATION ~ 35' TOPO

43' TD IN PEARL RIVER clayey sand

~~TD~~

0-10.5 UDSC

10.5-21.5 Qsa - wht calc. phos sd

minor shell

21.5-43' TD PCRV

W - 16751/38'

A-SA-3/38

T 39 S, R 22E, SEC 7 SW : at NE
CORNER of borrow pit for I-75
ELEV ~ 27' TOPO

drilled with solid stem augers,
TD in tight green clay (VENICE
CLAY ?) pump 4 bags portland
CEMENT.

work day 7:00 AM - 8:30 PM ; 1/2 hr
lunch

0-16 UDSC

~~16-PORT ?~~ 16-18 FTMP

18 AREA

~~Banks Supply 923-2817~~

~~6055 Clark Cr. Ave~~

~~Don't see 391 A 2575~~

~~Gobran Co 921-9797~~

~~5757 S McInnis Rd~~

~~Greenwell & p.p. 71-4311~~

~~6101 Portia Rd~~

~~Deane Machine & Supply 746-2115~~

~~Cell 4 7000 Bradburn~~

TREETOP Anchorage

1884 Univ. Pkwy

351-4166

America Pump

"12' 25" 8 Wd "50' 8" 9 CS TAN

3200 E-0

OUTS 21-3

1024 21-3

MONARCH BSGFB

5-8-92

0-43' TD
WJSC

55

W 16752 / 43'

LAT

A-MN-3 B.B. MANATEE ASSOC.

T 365, R 216, SEC 11 DAC between
Hwy 70 and small borrow pit
on N side of road

ELEV. 44' TOPO LAT 27°21'22"
Lon 82°18'01"

START DAY 715 AM - drop off J.M.
WATER tub at CARLETON RESERVE
SITE, drill A-MN-3 leave for
TALLAHASSEE 300 PM. Rig stored
at MYAKKA RIVER ST. PARK
ARR. TLM 830 PM

8-17-92 KC AND F. RUSH to MRSP.
for AUGERING for COOP PROJ
- Auger rig will not start -
800 - 630 PM 1/2 hr lunch

8-18-92 work on mobile drill -
start + do pm work in AM

16832
Myakka R. St. pk
A-SA-6
16833
Tuttle Bld. PK
A-SA-7
16752
A-MN-3
BB Manatee Assoc
16789
A-SA-4
1790
Tuttle R. St. pk
A-SA-5

8-18-92 CONT

W 16789 / 38.5

A-SA-4

T 375, R 20E, SEC 24 bdc

150' W of hiking trail on N
side of powerline at edge of
fill area

ELEV: 30'

LAT 27°14'32"

LONG 82°15'45"

0-3.5' fill

3.5'-4.0' DARK organic rich sd

4-5 lt gy sd

5-8.5' grades downward to med
dk bn org rich sd8.9' into gy bn cly sd - somewhat
stiff - continues to 13.5'; 2 small
zones cleaner sd in 11.5-13.5 int.

14.5 cly sd w small blebs y. gy & cly

18.5' clean sand

28.5' ol. gn cly sd + cly - predom.
cly sd.TD 38.5' in PCRU - gn phos. sdy
clayey sand

Pump 4 bags portland

work day 800-730 pm

35.5
PCR
35.5 fill
35.5-38.5
PCR
35.5-38.5
PCR

0-3.5' fill
3.5-35.5 UDSC
35.5-38.5 PCR
or newark PAV

8-19-92

W 16790/38'

A-SA-5 MYAKKA RIVER STATE PARK

T 375, R 205, SEC 3dd b¹ south edge

along park boundary

LAT 27°17' 29.5"

LON 82°17' 13"

ELEV 40'

18-23' poor recovery - washing off slits
grey sand in place - brown
sand is washed down

TD AT 38' in tight blue-grn. clay
and clayey sand

Pumped 3 bags portland - ~1 bag
thru tremmie - tremmie locked
in by sd + clay - would not pump
remainder - tremmie line cut
off below LSD + remainder of grout
poured into place

work day 8:30 AM - 10:00 PM

0-20.5' UDSC 20528 PCRV?
20.5-38' TD PCRV

8-20-92

Recon next site - too wet
to reach it - return to TALLAHASSEE
work day 9:00 AM - 7:45 PM

JEAN HUFFMAN - park biologist
(813) 361-6512

USGS WAREHOUSE - SARASOTA -
off of Fruitville Rd.
(813) 371-0821

JOHN TROMMER
MO BOWAN
LARRY WINDAM

PORTLAND CEMENT for FGS/USGS
proj.

Home Depot - BEE RIDGE RD.
(813) 378-1920 - call 2 days
ahead - at SERVICE DESK in
"will call" file under Lucy's name

8-30-92

Green next site - for water
to road to water - disconnector
work day - no work

triploid tang - unattached work
(813) 301-0215

11262 warehouses - Sarasota
off to Fruitville Rd.

(813) 351-0851
John Thomas
MO BOWMAN
LARRY WILLIAM

Portland cement for foundation

Home Depot - Bee Ridge Rd.
(813) 358-1932 - call today
at service desk in
"will call" area under trees

8-30-92

~~RC + ~~Frank~~ to M.R.S.P. for
F63/USGS auger proj. drilling.~~

go n on caprice - go L on
Lowbladh - take first L
windsong - take 1st Rt. ^{on} Errol

1st set of appts on R 3201-D
422-3175

USGS
SA Co.
F63 etc

Fruitville - go E 2 1/2-3 mi
Myron Gardens on Rd
SA-INT. Trade Ctr.
Fieldand Rd go L
2-3 bld down

8-31-92

RC + Vin GAGALIS to SARASOTA
Co - USGS/F63 Auger proj

LEAVE 5:30 AM - Meet Lucy
McCartan at USGS - SA fld.
ofc then to park + drill
A-SA-6

16832
Myakka R. St. pk
A-SA-616833
Corte Bld. pk
A-SA-716834
Myakka R. St.
park16835
White Salt Spg
A-SA-0
16836
A-SA-4

W 16832

A-SA-6 My Atka R. S.PK.

Lucy site #3 T37S, R20E sec 19
Elev (tops) 30' LAT 27°14'38" Lon 82°21'00"

per punky shell ~ 10' - 12'
spec coll ab 11.5' - litho at 12'

31' and 33.6' spcs - sparse - EASY
rotation but tough penetration
∴ much disturbed spc - spcs
collected prob in place.

top of carbonate rich clay.
chatter hard penetr. - pass
top AREA 38.5' - 39'
to at 43.5'
pup 3 bags portland

580 start 800 pm

65

16832
Myakka R. St. pk
A-SA-6

10833
Turtle Bch Pk
A-5A-7

16834
Hynakka R. St.
Wark

16835
Little Salt Spgr

16836

9-1-92

4-SA-7 W16833

67

Turtle Beach Park - SIESTA KEY

T375, R18E SEC 32 bd

Elev ~5' LAT 27°12.92', 82°31.10'

0-1.5' fill - NO spec coll.

NATGRD at 1.5

shell basically from Nat qnd
to 21'

hit grey calc? clay w hard
phls at 21'

35.5-38' vncly? - no shells -
shells are common.

TO at 43' in tight of gw cly
- prob veneer

backfill hole w/o penetrating
clay.

0-1.5 Fill

1.5-21 Qtz sd + sh.

21- Area

35.5 vncly?

9-1-92

A-SA-B W16834

69

Myakka River State Park - Lucy Site 6

Elev 21'

T 375, R 20E 27th ~~27th~~ 2 mi N of Hwy 72

0-6" fill fr. ditch

6" - ~3' sd - grey blk at top grad
chy light at bottom

humate rich sand starts at 3'
~1.5' of th. sd recovered next flite
also ~1' of y.l. chy sd.

massive f-stems interrupted wk
-td reached but spl not retr.
leave rig - finish in am

7:30 AM - 7:30 PM 1/2 hr lunch

9-2-92

retrieve final sampler TD 38'
pump tremmie pipe into hole
(caved) pump 3 1/2 bags Portland.

Dr 270134" 82017'53"

16837
A-MU-4
Crawville

16842
A-MU-5
Pamlico

16834
Myakka R. St.
Pamlico

16835
Little Salt Spr
A-S-A-O

16836
A-D-4

2012-12-12 10:00 AM

SP-1-9 10:00 AM

Group got to old mine - 10:30 AM

1/2 to start. Group also found
old mine. Group also found
old mine. Group also found

SP-1-9 10:00 AM
Group got to old mine - 10:30 AM
Group got to old mine - 10:30 AM
Group got to old mine - 10:30 AM

SP-1-9 10:00 AM
Group got to old mine - 10:30 AM
Group got to old mine - 10:30 AM
Group got to old mine - 10:30 AM

0-6 UO3C
6-20 FTMP
20 ARCA

9-2-92

W 16835

A-SA-9

Little Salt Springs

Lucy site 5

T 39S, R 21E, SEC

17 CCC South
~~20-22~~ sec line

LAT 20' LON

Elev ~~20'~~ Topo

0-1'

1-1.5'

1.5-2.5'

little change at 6'

hit phos clay ^{w shell} at 17.5-18'

hit hard rock at 21'
spw highly churned

36.5-37.5' Hgn clay - phos set above
to at 43.0' in rock

pump 3 bags portland.

to Home depot - pur. portland cement
fill up water tanks;

START 7:00 AM END 8:00 pm
1/2 hr lunch 7:30 pm J.G.

16837
A-MU-4
Chawville

16842
A-MU-5
Dawnlec

16839
A-MU-10
Nylac Ranch

16835
A-SA-9
Little Salt Springs
A-D-4

16836

9-3-92

A-~~54~~ DS-4 W16836

T 375 R 23E S 31d CC south sec line
 LAT 27°12.30' LON 82°03.26'
 ELEV ~41'
 TD 43'

0 - ~1.5 blk org. rich sd. gets lighter
 w depth

1.5 - 2.5 bn dly sd

~25-35 dly sd w orange mottling

hit first rock at 32.5' - spl
 above lost - 28.5-32.5 prob
 phos sd w little or no dly.

TD 43'

pump & barge portland

0-10.5 UDSC

105- TO PCRV

43

50-20-2

9-3-92

75

16837

A-~~AA~~-~~10~~ Lucy's site 10 Edgeville

T 365 R 22E' S 28 bd

LAT. CON

Elev 70'

TD 53.5'

0-5 dk org. vich sd

5-2 what is

2-3.5 mb b/w sb - permeable?

TD 53.5' w/o hitting anything but
UDSC - NO CONFINERS
backfilled hole

7:00 AM - 7:45 PM
15 min lunch

16837
A-MN-4
Edgewille

16842
A-MW-5
D&M/CC

16839
Taylor Ranch
A-SA-1D

16840
Sci/webs with
A-CH-1

16841
Zilchachs wasser

27
9-4-92 W16842 Parmalee
A-MW-5
T365 R NE S 5000
LAT LON
Elev 71' Topo
TD 48
0-33' USDC
33' PCRV

opening betw tool boxes
48"

height bottom box 16.5"

mostly sands w sl. clay flumate
no recovery in a couple of instances
td in clay sd of PCRV. backfill w
cuttings.

drop off Auger at Myakka R. St. PK
+ return to TLH

NOTE
 SAMPLE DEPTH
 is ON AUGER SPEC. INTERVAL
 BASE of samples are collected
 When samples must specify
 let a little chg
 ie top of INTERVAL

16838
 Bliss Fire Tower - M-7

16839
 Taylor Ranch
 A-S-10

16840
 Sciluebs wua
 A-C-11

16841
 Sciluebs wua
 A-7

PT

10-4-92

Auger sites

- Myakka R St. PK East Palmdale
- Myakka R St. PK S. Myakka lake
- Taylor Ranch
- MANATEE Co Bliss Tower site (PARISH)

ED FLOWERS - Re Bliss
751-7627 tower site

well - Myakka city driller

Doug Boltolinski
ok'd by phone 10-5 for
thurs or Fri

Doug Taylor - SA. Co
(813) 955-2325

81

10-5-92

KC + FR leave for SA. Co. 8:00 AM - DETOUR to Div FOR. Bliss Tower (PARISH) Arrive to drill at that site.

- Arr Myakka R. State Park - Fire up Auger in the recon wilderness areas for remaining sites - access to Lucy? possible remaining FCS sites prob still too wet

8:00 AM - 7:00 PM

11 hrwk

10-6-92

Taylor Ranch - SARASOTA Co
A-SA-1D W 16839

W#

LOC T40S R20E S8 a.a.

LAT 27°00.92'

LONG 82°20.25'

Elev ~12' TOPD

TD 31.5'

Plotted lat 27°01'04" lon 82°20'18"

top of humate rich zone at ~1.8' - color lightens w depth
2.5-3.0 clay sd - grad w lower unit
3.0-5.0
5.0 - sl. shly sd - grad w upper unit

16838
Bliss Fire Tower - M-7
16879
16839
Taylor Ranch
A-SA-1D
16840
FCS sites w/MA
A-SA-1
16841
FCS sites w/MA

Thin organic lens at 11.5' (1")
16.5-19.5'
~~16.5~~ 16.5-19.5' spl - pass p.u.

18.5-19' tight drl then softer below
spl lost below 19' EXC for bracer
clean plus sd.

hit hard rock ~ 28.75' - 29.5'
then ~ 1.5' soft
drill rock to ~ 31.5'

pump 4 bags portland

Retn to Myakka R.S.P. 5:00pm

Wk on Rlg 500-645 PM

hrs wk'd 10.75

0-2.5 UDSC

2.5-26 FTMP

26-31.5' TD AREA

10-7-92

85

16840

A-CH-1

Cecil M. Webb WMA Seaboard Grade

T415 R 24E SEC 5aab *

LAT

CON

Elev 23' TOPO TO 38'

* 150yd S of Hwy 74, 70yd W of Seaboard Grid #L

0-.5' soil zone > grad. color

.5-2.5' > grad. color

2.5-30

hit top of shell at 12.5'

hit top of rock at 15.5'

Hard rock fr 15.5-17.0' ~~then~~ then slightly softer stuff - clayey?

15.5-17.0' SPL sieved at -1.5φ

and hand picked fr sieve ∴ some grains / types may be from above.

td in plastic clay sd. - Add by filling w cuttings

16838

16874

16874

16874

16840

16840

16840

16840

16840

16840

10-9-92

87

16841

1-CH-2

Cecil M. Webb WMA

T 425 R 25E sec 7 dcc

CAT

CON

Elev 27'

TD ~~28~~' 33

- color chg at ~4' - below primarily gray w orange mottling
- 8-10.5' rubble, shelly, poor spec recovery - sample sieved - 1.5 lb may incl material fr. above
- top of hard (coherent) rock at 14.5' thin layer

TB in gn chgsd at ~~28~~' 33

not enough cuttings to fill hole

- place 1 bag bentonite then cuttings - cap top w 1/2 bag portland

16838

16874

16874

16880

16841

16841

10-8-92

W-16838

A-MN-6

Bluffs Fire tower

T 335 R 19E SEC 20 b6c

LAT 27° 35' 36"

LON 82° 25' 36"

Elev 43'

TD 38'

0-13 WDS
13-38 TD PORN

- gradational contacts - primarily color chgs above 5.5'
- thin organic rich bed (~1") at 5.5' at top of next unit.

TD at 38' in gn clay sd
we at 15' BLSD throughout
backfill w cuttings

Citrus Co. 3 mi E of 486 int with
barren pit w 15 exp ~ 46'
BLSD on N. side of 44

16838

Bluffs Fire Tower A-MN-6

16879

16879 A-MN-8

16880 A-MN-11

16983 A-MN-9

SP. 8-0.
8881-0

12079 2943
64331 2989
12-1-92 130 AM start - will end 5:30
- to Myakka City - drill A-9 (Lucy)
W-16881
A-HD-1
HARDEE CO
LOC T355, R 23E, SEC 18 C6C
Elev 78
TD 43'
LAT 27°25'46" Lon 82°03'00"
0-1.25' fill
1.25-1.75 spl - grad to
2.5-3'
4' lighter clay - per darker - clay?
sds mottled in - becomes darker
w depth to 5.5'
whit sd 5.5-6.25'
color chg at 9.01-10.5
10.5-13' in wh grad color chg,
spl at 12-12.5'

11-30-92 KCT will Evard to 9'
Myakka R St pk
800 - 536 ~~the~~
Ment w Lucy McCatus

12079 END mileage 2943
64331 2989

12-1-92 130 AM start - will end 5:30
- to Myakka City - drill A-9 (Lucy)
W-16881
A-HD-1

HARDEE CO
LOC T355, R 23E, SEC 18 C6C
Elev 78
TD 43'
LAT 27°25'46" Lon 82°03'00"
0-1.25' fill
1.25-1.75 spl - grad to
2.5-3'
4' lighter clay - per darker - clay?
sds mottled in - becomes darker
w depth to 5.5'
whit sd 5.5-6.25'

color chg at 9.01-10.5
10.5-13' in wh grad color chg,
spl at 12-12.5'

16881
A-HD-1
16879
A-HD-7
1687A
A-HD-8
16880
A-HD-11
16983
A-HD-9

13-15.75 SAME as 12.0-12.5 spl
15.75-~~18~~²⁰ SW organic - no st
fragments - org deer toward
base.

20-21.75'

21.75

23-23.75 SAME as prev spl

23.75-28' SAME

gradational litho chg ~~at~~ 34.25-35.5
per clay bed w orange blebs at
35.5'

-litho phos shows up at

38.5' +

litho brk at 40' - Top PCRV?

TD at 43'

fill w cuttings

0-40' w/sc
40'-TD PCRV

17004
A-PE-1

1016874
A-MU-7

16874
A-MU-8

16880
A-MU-11

16983
A-MU-9

W# 12-2-92

W-16879

95

A-MN-7 Lucy loc 7
 MAN MAYAKKA R. St. pt.
 DEER Prairie Blough site

Co: MANATEE

Loc: T37S, R 21E, Sec 33 add ctr

LAT: $27^{\circ}12'28'' + 12'' \text{ corr} = 27^{\circ}12'40''$ CON: $82^{\circ}12'40'' - 06'' \text{ corr} = 82^{\circ}12'34''$

Elev ~ 34' TOPD

TD 28.5

~~Atlat~~

0-3.5' sd

~ 3.5-4' litho chg to weathered ox

chy sd

~ 5.5' pr. unweathered chy sd

8.5-9.5

chy sd w traces weathered phos?
 shell?

minor clayey zone at base 9-9.5

then 9.5 - 11.75 repeat w somewhat

more shell/phos? and clay at base

11.75-13.5 grey chy sd - coarser

- chy sd to 14.5' - stiffer

mottled - grey or chy w sd filled

burrows/root casts to ~ 15.5

predominantly grey chy below

litho brk 21.5 - fr gy ch sd
 w phos to soft calc mud +
 granules - white
 23.5 - ~~25~~ 25.5 - sl ch sd w phos? shell
 frag - less clay - washed off again
 ~ 25.6' start hitting shell or rock
 frag. at 27 ~~28~~ 1/4 hit rock
 - poor recovery this run -
 chg bit to rock bit for remainder

td at 28.5' in rock
 hole clear to TD - washed
 bentonite chips in - filled
 to 20.5' bdsd

0-14 uds
 14-TD PCRV

17004
 A-AL-1
 17003
 A-AL-10
 1687A
 A-M-N-8
 16880
 J-A-11
 16983
 A-AL-9

Handwritten notes on the left page, including various measurements and descriptions, mostly illegible due to bleed-through and handwriting.

W-16878

A-MN-8

MANATEE CO. Myakka R St. pk. 15 mi

~~to~~ N+E of Oak Grove Primitive
campsite.

LOC T375, R21E, Sec 26 bab

LAT $27^{\circ}13.93'$ $27^{\circ}13.56'' + 12''$ conv $27^{\circ}14'08''$ LONG $82^{\circ}10.69'$ $82^{\circ}10'41'' - 06''$ conv $82^{\circ}10'35''$

Elev 45'

TD 43'

Plotted (lat $27^{\circ}14'08''$. long $82^{\circ}10'33''$)

0-1 soil horizon

1-3.5' wht sd - grad contact to
organic rich sd to ~5'5-8' lt brnslky sd
thin clayey layer at ~5 1/4'.light clay sd + clay 13-18' - some
internal depths approxFinish day depth at 23' raining -
running out of light

7:30 - 5:30 pm quit

0-16 UDSC
16-43' TD PCR17004
A-PE-117003
A-AE-1016878
A-MN-816880
A-AE-1116983
A-AE-9

12-3-92

7:30 start - complete hole from
prev. day

lith chg at 29 - 30.25
at 30.25 - 31.5
31.5 - 33

33 - 34.5 y.l. plos chg sd
34.5 - 35.75 dk gw gy chg sd
w or bn dolomite clasts
35.75 - 36.25 grayish bn calc chg sd
36.25 - 38 gray calc chg sd

litho chg 35'
TD at 43' in PCRV
fill w cuttings.

Hollingers Corner - 1A1, RD grade
10RAN - For correction

27° 13.94' 27° 13' 56"
82° 14.34' 82° 14' 20"

plotted lat 27° 14' 08" corr +12"
lon 82° 14' 14" 306"

17004
A-PE-1
17003
A-AL-10
17005
A-AL-11
16880
A-SA-11
16983
A-AL-9

converted
locan
does not match
to po

Plotted

W-16880

12-3-92¹⁰³

A-SA-11

Myakta R. St. Pl - south
wilderness area

LOC. T385, R20E, SEC 8 aa

LAT. ~~27°11.52'~~ uncorr +10" corr = 27°11'46"

LAN. ~~82°19.97'~~ uncorr +16" corr = 82°19'42"

Elev 15' Topo

TD 43'

LAT 27°11'39" LAN 82°19'57"

0-8'

.8-1.25

1.25-1.75

1.75-3.0 - 4.5' gray poly sdy clay - calcareous

4.5-5.75' red or cl sdy w some shell

5.75-8' gray sl. clay sdy w minor shell

28.5-29.1 blk clay

lith & chg at 33.4 34.5

41.2/4 lith chg

TD 43'

130 AM - 130 PM

5.8
0-40 WDC
5.86. FTMP

17004
A-PL-1

17003
A-AL-10

17005
A-AL-11

16880
A-SA-11

16983
A-AL-9

- ~~dr. vabs/duets~~
- ~~chg fuel filter~~
- ~~chg hyd filter~~
- drain hydr tank +
- chg hyd fluid
- tube charin
- ck all fluid levels
- ~~fuel gage~~

12-4-92

Retn to TLH

8:00 - 5:30 - rig trouble

17004
A-AL-1
17003
A-AL-10
17005
A-AL-11
17006
A-AL-12
12983
A-AL-9

rough sketch of
wireline assembly
+ shoe block
bit
latch
recess

SAMPLE ASSY 6.8' long from
lock latch to nose of shoe
bit, 5' died flt, adaptor + latch
to latch recess = 7.45'

5' died
.5' adap
3' mbl

6.4

8-4-93 KC + FR to SANTO.
HAM. St. Paea. In Auger w
KREIS Sam

W 16983

A-AL-9 95, R 19E SE 38 1/4 NW elw N 150'

shakedown hole for wireline spec
sys.

Note - not enough drill head travel
to start wireline ASSY from LSD

- Push 5' of spec w AW rod + 2 1/2" spec

- Drill down 5' w Auger flite +
flex plug

- remove flite - pull flex plug
- go back in to 5' and insert
spec.

= NOTE lock bolts must be
loctited -

Auger string came apart at
mbl fit/lock any fit ~ 4' b/scl
attempted to sand lock AW rod
will try to pull in AM

work 800-830
1/2 hr lunch

12 hr wk

17004
A-AL-1

17003
A-AL-10

17005
A-AL-11

17006
A-AL-12

16983
A-AL-9

8-5-93 start 7:00 AM

109

pu supplies + retu to S.F.H.

~~put~~ pull stuck auger w hook
thru bolt hole w hoist
Depth 12.5 from last nite

reassy spc w Loctite to ensure
bolts don't come out

bit.

5-died 6.4'

Adap

lock any.

3' mbe

Adp. .5

5' died — 15'

spc #3 12.5-13

13-15.5 - lost some spc - plugging

15.5-18' - plugged only ~ .3' spc

- extended spc nose .2"

18-20.5 full recovery clay sd

20.5-23' full recovery gr clay

23-25.5 full recv.

25.5-28 ~ 1.5' recovery - shoe plugged
in hard dry clay - prob. lost foot

msg

28 - 28.5 short run

28.5 - 31 clay sd w phos? + forams?

31 - 33.5 full recov. clay sd on above

33.5 - 36 drilling chgs at 35'

36 - 38.5

38.5 - 41
~39 drilling chgs

41 - 43.5 - harder drilling (less rotation resistance but more penetration res.)

43.5 - 46

46 - ~46.5 - hit the material - poor penetration - back up spc now still poor

Carbonate at 46.5 - ~4" recovered

- move now back - try again

td at ~46.5 - 47' in/on carbonate?
SS.

site cleanup prep for grouting in AM

End day 7:00 pm

1/2 hr lunch

11.5 hr wk

17004
A-AL-1
17003
A-AL-10
17005
A-AL-11
17006
A-AL-12
17007
A-AL-13

8-6-93

Retn to A-AL-9. pull auger flts
 & plug. pump 9 bags portland
 clay section squeezing in - locked
 pvc tremmie line in hole - cut off
 below LSO.

Retn to TLH
 work day 7:00 AM - 4:30 PM, 1/2 hr
 lunch

9hr wk

9/7 9:40 AM Wrong Numbers
 LARMAR

9-8 12:35 - call for Lamar Rudd
 545-8073 wrong#

17004
A-AL-117003
A-AL-1017005
A-AL-1117006
A-AL-1217007
A-AL-13

9-7-93 to
KC + FR
Benton - Homeland
Jr Resr. mgmt

Site 1

0-2' sd + soil - cln. gt 2 sd
w 5.15% plus grains
2- 3'4" SAME

SAND TAILS 6-12' NOSM
start getting soft zone at
~12' - spl 15.5-18'
~1' recovered - sd tails w
~25% clay - H. y. bn
abund grain phos

- 18-21' mixed clay +
sd tails - clay var.
✓ soft drilling

- 18-21' clay heaved into TSA
while chg. auger

730 leave site - RAIN storm / low light
8:00 pm END WORK

9-8-93 - instl ctr bit +
push auger to refusal -
at 25' drill 2' into "org ch
sd - "oh"

sd tails 0-10
mixed tails + clay 10-25

site 2
adjacent to
old workshop
or "Natural gas?"

9-8-93

117

- 0-8' sd tails - slowing
- could not keep HS clean
- pulled HSA
- went back in w solid mg.
- 0-12.5 sd

12.5' start getting ol. gn ch
mixed w sd + phos
15' - ~18' gray, yel. br + blk
clay. sticky plastic

19' gy ch w abd ss frg. - black
matrix - phos?

20' gy ch, ~~phos~~ sd, clayey,
+ phosphatic - top of perv
at present time

+ dat 23' in perv

200 - move to N end of old
workshop shed - wait for
T storms to pass

9-8-93

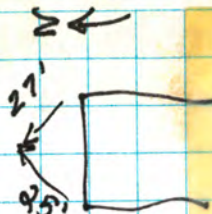
A-PK-1

T31S, R25E, sec 3ada

W17004

elev 116' 119

Site 3 - N of wk shed

~~Site 3~~

0-1 fill y.l. or sd, clay

1-6.5' sd tails - clean qtz + phos
sd6.5-8.9- color chg dr (t y.l. bn to ltgy
- still qtz sd w phos - little or
no matrix9-~11 dk sl. + pale ylt gnm ch
intermingled with phosphatic sd. w
minor clay matrix11-13.5 ch sd, phosphatic.
lks like PCRV in place

13.5-~15.5 clay - to sd ch

16-18.5 ch sd w y w

18.5 same but p.r. pbls - cement
sd

TD at 23.5' in PCRV ch sd

Wooded hole #4 ~ 9' w of sw
corner of shed foundation

0-~6" fill

6-3.5' wht sd

3.5-8.5 wht to 2T sy phosphatic
sd sd - little or no matrix

8.5- 11.25 dk sl. to y. or chy ~1' total
interbedded with phosphatic
clayey sand

11.25- 14.5' phosphatic sd, sl. chy,
some clay lenses

14.5- 18.5' lt to dk greyish gr +
yl or + lt grey clay - mostly pure
- soft, sticky, plastic. some fine
qbz + phos in lowermost portion

18.5- 22.5' y. gy + lt or chy
soft. plastic

22.5 - pass btm? chy - lt gy bn
phos sd w chy. + phls (ss)

22-28.5' phos, sd, clayey, some phls
etc soft, plastic
to det 28.5'

postulate that mining
went right up to edge of
sandstone? - or shed
was moved

17008
A-AL-14
17003
A-AL-10
17005
A-AL-11
17006
A-AL-12
17007
A-AL-13

$$\begin{array}{r} 6' 12'' \\ - 1' 5'' \\ \hline 6' 4\frac{1}{2}'' \end{array}$$

9-9
8 AM start
8:30 PM end

A-A-10

9-9-93 CONT

W17003

125

Drill bit + 5' Aug = 5' 1"
+ lock ring Assy = 7.0'
6' 10" to bit nose from lock ring
6' 4 1/2" -

Elev ~ 182'

uncorrected (oran) Lat 29° 43.33'

SNR 93, 92, 70 (100%) Lon 82° 26.66'

0-15.2' drilled

9-10-93

drilled from 15.2 - 50.3' TD.

29° 44' 56" (oran for
82° 20' 39" workshop loc

Plotted Lat Lon
correction -9" Lat 29° 44' 50"
-2" Lon 82° 20' 37"

Corrected Lat Lon FA-A-10

29° 43' 16"

82° 26' 38"

T 9 S, R 19 E sec 38 1/4 N dc

17008
A-A-14

17003
A-A-10

17005
A-A-11

17006
A-A-12

17007
A-A-13

5' Auger bit
.5' bit

start 8:01A
end 8:50 pm

9-28-93

9-27-93

127

KC + ER to SAN FELASCO
HAMMOCK - meet w KRIS SAUM
- DNR 2989 - dead battery.
dead ALT - repl. ALT -
still not changing battery

W-17005

A-AL-11 SANCHEZ PRAIRIE

T 85 R 196 S 37 SW 1RR

Elev ~83'

lat
lon

0-16.5' sd + ch
16.5' chert & 17.5' either boulder
or bed - ocala chert.
no spec 16.5-17.5

decide to Abd hole + move short
dist

W-17006
A-AL-12

KC, FR, KRIS SAUM
DAN SPANGLER (PM)

moved N ~150' along powerline
ROW - drilled down to 16.5'

no spec - will have to go back
+ get spec - doesn't look same as
A-AL-11.

hit water in 29-31.5 run
hit rubble + rock in last 8" of
31.5-34' run.

36.5-39' norm

W4 1:20pm 61.5' depth 25'4" bld

TD 54.0' TD in ocal ls top ocal
~ 48.5'pump hole w clear water
to flush finesplug bottom with 3.5 bags
bentonite to 39'

6-20 20' to sand to 24'

30.65 - 21

1/2 bag bentonite over 30-65

screen set 35-25'

start 7:45 AM

SE end wk 7:30 PM

9-29

pump cement to grout monitor
7 bags to ~~start~~ surface
set protective casing
then drill 0-16.5' w ~ 10'
off set to set good spuds of
upper portion.

near PE-206

0230 "A" 22 11:00 "B" 22 11:00 "C" 22

loss got 21 loss in 11:00 "D" 22
'284"where well is still going full
windy about 10spodice this would be
'22 of this'22 of base area
15 - 2000co-02, water finished 11:00
'25 - 22 for water 11:0011:00 water 11:00
11:00 water 11:0011:00 water 11:00
11:00 water 11:00

PS-P

11:00 water 11:00
11:00 water 11:0011:00 water 11:00
11:00 water 11:0011:00 water 11:00
11:00 water 11:00

water level 9.29 past 131
well completion
25.7' blow top of csq
2.5' stickup

9-30-93 12:15 PM WL 25.8 below
Top csq

9-29-93 W-17007

A-AL-13

T9S, R 18E, sec 12 IRR NW 1/4
LORAN LAT 29°43.98"

Lon 82°28.28'

SNR 92, 82, 69 102'

Elev topo ~ 115'

on flank of cover subsidence sink/
fracture

0-51.5' drilled before dark
no water hit by that depth

START 7:45 AM

END 8:00 PM 1/2 hr lunch

9-30-93

CONTINUE A-AL-13

8 AM START KC, FR. KRIS Sauer
drill to 59.0' TD - NO WATER
Add well, pump 8 bags
cement to plug

~~A-AL-14~~

improvised lecture to DR DAN Spangler
interdisciplinary hydrology class
re Survey, drilling & sampling etc

W17008

A-AL-14

TBS R 19E S 39 1RR CA

elev ~ 100' topo

Locat lat 29°45'42"

Long 82°26'57"

drill 0-32.5

sd + clay to ~ 29'
hit calc ls at 29, we hit
chert at 32' - no spec
recovery - poor penetration
no water.

Abd. hole - move to
~ 100' downhill drill
we spurs to see if int.
water. hit hard rock
at 21.4' - chert prob.

long PS-2 level water
interdisciplinary class
re Survey, drilling & sampling etc

W17008
A-AL-14
TBS R 19E S 39 1RR CA

elev ~ 100' topo

Locat lat 29°45'42"

Long 82°26'57"

drill 0-32.5

sd + clay to ~ 29'
hit calc ls at 29, we hit
chert at 32' - no spec
recovery - poor penetration
no water.

Abd. hole - move to
~ 100' downhill drill
we spurs to see if int.
water. hit hard rock
at 21.4' - chert prob.

10-1-93
 Complete cleanup at site
 then pack truck for return
 to TCH.

10-1-93

Complete cleanup at site
 then pack truck for return
 to TCH.

Rig maint. needed

- ~~repair kill switches~~
- ~~repair remote starter~~
- ~~locate problem w/ign sw.~~
- ~~check charging system~~
- ~~R.R. jack leak~~
- ~~check hyd. hoses~~
- ~~Adjust feed relief pressure~~
- ~~adj. port. relief pressure~~
- ~~make stop and/or work platform~~
- ~~wire pin for travel~~
- ~~(shift lever)~~

order repl. seals big unit
 order 2 pair ch bit
 2 1/2" / 2 3/4"

- ~~- make new turbo shaft~~
- ~~- level pump, rods and~~
- ~~split.~~
- ~~- replace seal in centrifugal pump~~
- ~~- get new seal for same~~
- ~~- rebuild adaptor cover~~
- ~~- check engine & carb. working~~
- ~~well~~
- ~~- change choke cable~~
- ~~replace seal in centrifugal pump~~

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200

200

200

200

200

200

200

200

200

200

200

200

200

200

200

200

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81-10-A 24201

81-10-A 04201

21-10-A 17201

41-10-A 02201

01-10-A 24201

51-10-A 70201

65-10-A 05201

18-10-A 90201

22-10-A 80201

12-10-A 28201

05-10-A 48201

115-10-A 18201

9-10-A 28201

01-10-A 98201

2-10-A 28201

8-10-A 88201

2-10-A 08201

2-10-A 78201

71-10-A 09201

05-10-A 10201

28-10-A 20201

75-10-A 50201

25-10-A 00201

1-10-A 20201

18-10-A 00201

26	A-GL-28A	W 16607	21
27	A-GL-23	16608	21
28	A-GL-1A	16612	21
29	A-Hy-1	16626	22
30	A-Hy-2	16627	22
31	A-Hy-3	16628	22
32	A-Hy-4	16629	23
33	A-Hy-5	16630	23
34	A-Hy-6	16631	23
35	A-Hy-7	16632	24
36	A-Hy-8	16637	25
37	A-Hy-9	16638	25
38	A-Hy-10	16639	27
39	A-Hy-11	16640	27
40	A-Hy-12	16641	28
41	FA-A-1	16649	30
42	FA-A-2	16650	31
43	FA-A-3	16651	32
44	FA-A-4	16652	32
45	FA-A-5	16653	33
46	FA-A-6	16654	35
47	FA-A-7	16655	35
48	FA-A-7A	16656	35
49	FA-A-8	16657	35
50	A-Hi-1	1665864	37

[illegible]

51	A-OE-2	W 16670	01-37A
52	A-NL-2	16665	1-38A
53	A-Hi-3	16666	2-38A
54	A-Hi-4	16667	2-38A
55	A-Hi-5	16668	1-39A
56	A-Hi-6	16669	7-39A
57	A-PB-1	81801	8-41A
58	A-DS-1	16687	11-42A
59	A-MN-1	16741	9-44A
60	A-DS-2	16742	1-45A
61	A-DS-3	16743	01-46A
62	A-MN-2	16748	11-47A
63	A-SA-1	16749	1-48A
64	A-SA-2	16750	1-49A
65	A-SA-3	16751	41-50A
66	A-MN-3	16752	55
67	A-SA-4	16789	57
68	A-SA-5	16790	59
69	A-SA-6	16832	65
70	A-SA-7	16833	67
71	A-SA-8	16834	69
72	A-SA-9	16835	71
73	A-DS-4	16836	73
74	A-MN-4	16837	75
75	A-MN-5	16842	77

1992

76	A-SA-10	16839	5-30	81
77	A-CH-1	16840	5-34	85
78	A-CH-2	16841	5-34	87
79	A-MN-6	16838	4-34	89
80	A-MN-1	16881	2-34	91
81	A-MN-7	16879	2-34	95
82	A-MN-8	16878	1-29	99
83	A-SA-11	16880	1-20	103
84	A-AL-9	16983	1-63	107
85	A-PK-1	17004	3-20	119
86	A-AL-10	17003	3-20	125
87	A-AL-11	17005	3-44	127
88	A-AL-12	17006	monday	127
89	A-AL-13	17007	5-42	131
90	A-AL-14	17008	8-42	133
91		16839	2-44	4
92		16840	4-42	9
93		16841	2-42	4
94		16838	2-42	4
95		16881	5-42	4
96		16879	8-42	4
97		16878	1-42	4
98		16880	1-20	4
99		16983	1-63	4
100		17004	3-20	4
101		17003	3-20	4
102		17005	3-44	4
103		17006	monday	4
104		17007	5-42	4
105		17008	8-42	4

1993

Volume of grout required to grout 10 feet inside the casing for abandonment

Size of Casing

Volume of Well

Bags of Cement
(94 lb.)

2"

.22 ft. 3

.2

4"

.87 ft. 3

.7

5"

1.36 ft. 3

1.13

6"

1.96 ft. 3

1.6

8"

3.49 ft. 3

2.9

10"

5.45 ft. 3

4.5

12"

7.85 ft. 3

6.5

Cubic Feet → gallons multiply by 7.48

NOTES RE GROUTING

one 94 lb bag neat cement pdr.
contains 1 ft^3 (7.6 gal) pdr.

MIX 5-6 gal water / bag (8.3 gal)
yield = $\sim 1.2 \text{ ft}^3$ (9.3 gal) grout

50' x 8" hole = 17.5 ft^3
(not taking into account any
hole squeezing in or infiltration
of grout (1E +/-))

App 14.5 bags cement + 72.5-
87 gal water

2-6% bentonite add. ^{increased fluidity}
_{reduce shrink}

1 US gallon = 1.3568 ft^3

55 gal drum (22.5' inside dia)

10 gal = 6" depth

15 9" 3 bags 16.5 gal = 10"

20 12" 4 bags 22 gal 13.2"

25 15"

30 18"

35 21"

40 24"

CAPACITY OF HOLE

Diameter of Hole (Inches)	Gallons per Lin.Ft.	Lin.Ft. per Gallon	Sacks Cement* per Lin.Ft.	Lin.Ft. per Sack Cement
2	0.1632	6.1275	0.0199	50.2513
1/2	.2550	3.9216	.0311	32.1543
3	.3672	2.7233	.0444	22.5228
1/2	.4998	2.0008	.0607	16.4748
4	.6528	1.5319	.0791	12.6422
1/4	.7369	1.3570	.0893	11.1982
1/2	.9262	1.2104	.1006	9.9404
3/4	.9206	1.0862	.1118	8.9446
5	1.0200	.9804	.1240	8.0645
1/4	1.1246	.8892	.1367	7.3153
1/2	1.2342	.8102	.1500	6.6667
3/4	1.3489	.7413	.1639	6.1013
6	1.4688	.6808	.1785	5.6022
1/4	1.5938	.6276	.1937	5.1626
1/2	1.7238	.5801	.2095	4.7733
3/4	1.8590	.5379	.2259	4.4267
7	1.9992	.5002	.2430	4.1152
1/4	2.1445	.4663	.2606	3.8373
1/2	2.2950	.4357	.2789	3.5855
3/4	2.4505	.4081	.2978	3.3580
8	2.6112	.3830	.3173	3.1516
1/4	2.7769	.3601	.3375	2.9630
1/2	2.9478	.3392	.3583	2.7910
3/4	3.1237	.3201	.3796	2.6344
9	3.3048	.3026	.4016	2.4900
1/4	3.4910	.2865	.4243	2.3568
1/2	3.6822	.2716	.4475	2.2346
3/4	3.8785	.2578	.4714	2.1213

* Cement calculations based on the volume of an average
cement mixture being 1.1 cubic feet per sack of cement.



FIELD BOOKS

Rain resistant fine quality ledger paper, bound in high visibility chrome yellow imitation leather. Printed in waterproof ink.

Left page: blue horizontal lines; red vertical lines.
Right page: 4 horizontal and 8 vertical blue lines; red vertical center line.

Stock No. 8152-00 Transit Field Book. Size $4\frac{1}{2} \times 7\frac{1}{4}$ inches.
Stock No. 8152-05 Economy Field Book. Spiral Bound Paperback. Size $4\frac{1}{2} \times 7\frac{1}{4}$ inches.

Left page: blue horizontal lines; red vertical lines.
Right page: 8 x 8 blue lines; red vertical center line.

Stock No. 8152-20 Mining Transit Book. Size $4\frac{1}{2} \times 7\frac{1}{4}$ inches.

Left page: blue horizontal lines; red vertical lines.
Right page: 10 x 10 blue lines; red vertical center line. Inch lines heavy.

Stock No. 8152-30 Engineers Field Book. Size $4\frac{1}{2} \times 7\frac{1}{4}$ inches.

Both pages: blue horizontal lines; red vertical lines. 6 vertical columns.

Stock No. 8152-50 Level Book. Size $4 \times 6\frac{1}{2}$ inches.
Stock No. 8152-55 Level Book. Size $4\frac{1}{2} \times 7\frac{1}{4}$ inches.

Left page: blue horizontal lines; red vertical lines.
Right page: 4 x 4 blue lines; red vertical center line.

Stock No. 8152-60 Field Book. Size $4\frac{1}{2} \times 7\frac{1}{4}$ inches.

Both pages: 10 x 10 blue lines; inch lines slightly heavier.

Stock No. 8152-75 Cross Section Book. Size $6\frac{1}{2} \times 8\frac{1}{2}$ inches.

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.9333
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.9667
.9833
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Inches in Decimals of a Foot

$\frac{1}{16}$	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{8}$
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729
1	2	3	4	5	6	7	8	9	10	11
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167



LIETZ

SINCE 1882

