

Mobile Drill Log Book

#5

3-96 / 8-96



DIETZGEN

---

ENGINEERS'  
FIELD BOOK

No. S400V

Ambert '96  
~~Overclades~~

17383

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17390

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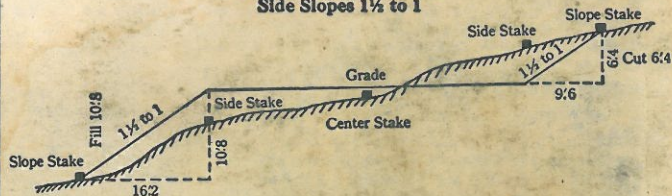
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DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING  
Roadway of any Width  
Side Slopes 1½ to 1



In the figure above: Opposite 6 under "Cut or Fill" and under .4 read 9'6" the distance from the side stake to the slope stake at right. Opposite 10 under "Cut or Fill" and under .8 read 16'2", the distance from the side stake to the slope stake at the left.

| Cut or Fill                              | 0    | .1   | .2   | .3   | .4   | .5   | .6   | .7   | .8   | .9   | Cut or Fill |
|------------------------------------------|------|------|------|------|------|------|------|------|------|------|-------------|
| Distance out from Side or Shoulder Stake |      |      |      |      |      |      |      |      |      |      |             |
| 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          |

Property of

KEN CAMPBELL

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32304  
(904) 488-9380

This Field Book contains special paper which is impregnated with resin to make it substantially stronger as well as water resistant. Your field notes will come out sharp and clear even when the page is wet.

*Wobbe Drill*

MADE IN U.S.A.

317-787-6371

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17372  
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A-W-1-2



| JOB NO. | PROJECT                    | PAGE<br>NUMBER |
|---------|----------------------------|----------------|
|         | Fredrick Jones<br>242-7847 |                |
|         | R. S. Smith<br>242-7879    |                |
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 Janna 575-7504  
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 ID # 95-~~DATE 2007~~  
 beginning mileage  
 78860  
 ending mileage 78979  
 Milt Switank X 6747  
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 Kris Bardsley - Flamingo Ranch  
 Bob Parco - Pine Key Ranch  
 Bruce Miller, Bill Kahge - Fire - 242-7850

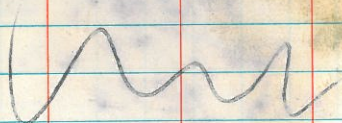


Permit T9600804  
W 17353/38.5'  
T6N, R16W, Sec 10aa

W 17353

38.5'

Pdop 2.9



W 17353

3-8-96

KC-AH, DV to  
A-HO-1 Chockawhatchee River

7 AM START

LAT 30°56.905' LON 85°50.302'

Discover "popping" noise in  
main hydraulic pump.

attempt to diagnose etc.  
bleeding lines etc.

Finally appeared to go away

push 0-2.5

2.5-5.0 - split spm spc

5.0-6.0

6-8.25 spl. + or sand - uneven  
saturated - sand sucked in

- drill 8.25-10.5 - NO recovery  
clean sand

10.5-13.5 - drilled w/o spm.  
as above (drill) - pump spm.

pumped spm 10.5-14'

13.5-16' - spm spc

no recovery - clean sand

pumped spm minor iron stained  
fracture

16-18.5' flap valve spc -

no recovery - lost in sp. hsn

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A-HO-1

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Rex Beach  
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A-W-2



drill + pump spec to 24'  
and dry miscell - Rds 81331  
1:30 pm netw

3-11-86 KC, AH, DJ 3AM start  
- gas, air water  
netw A-HO-1  
STATIC WL 7'2" b/wd

hole goes to bottom of HSA  
attempt to seat sampler -  
pulled 6' sand in  
drill down w/o sampler  
pump spec 24-26.5' - sand  
w pbl - minor clay  
26.5 - 29' relatively clean  
pbl y gty sd.  
29 - 31.5' - sand as above  
- hit litho chg at ~30.9'  
- soft ls? sd + blue green  
clay.  
31.5 - ~31.8' - sd w blue green  
clay matrix then hard ss  
sandstone.  
31.8 <sup>33.5</sup> 34' drilled thru ss bed  
boulder(?) - into softer stuff  
33.5 - 34.5 - blue green clayey sand  
w indurated stringer

CRVZ  
↑

top AMBF ?



34.5 - ~36' - no recovery  
 36-38 - blue green clayey sand + ss.  
 poor recovery - splr plugged  
 38-38.5' - blue gr clay sd w  
 hard string  
 38.5' TD

pulled 2 hsa - sand filled  
 and capped auger hole w  
 bentonite chips to - 29'  
 (top of interval where  
 first encountered blue cl.)  
 bottom pull remainder 3 1/4  
 hsa.

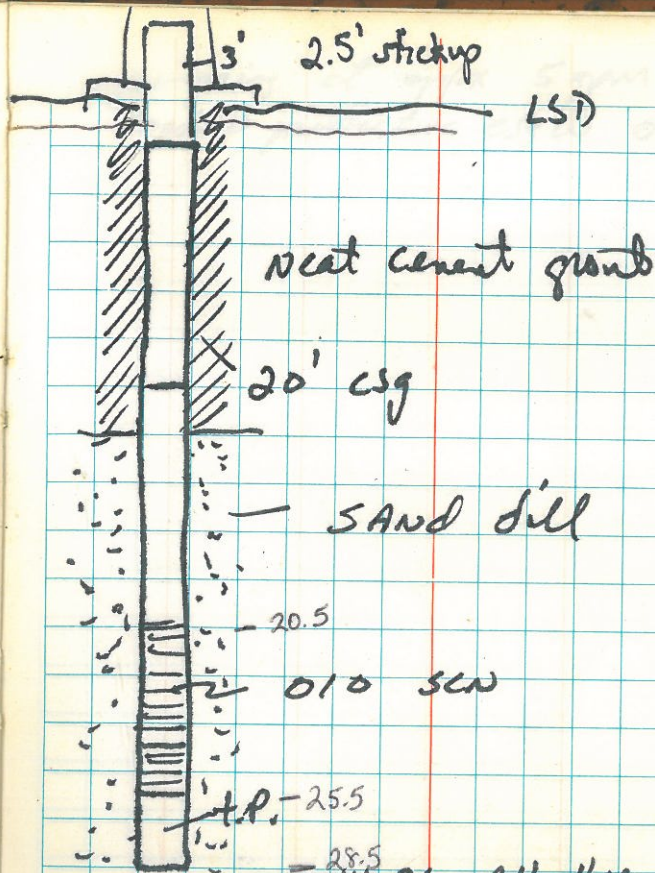
Drill in 29' (2) 6 5/8 hsa  
 - set 20' cs, 5' sen + 3' tp  
 (~1' bsd)  
 pulled 15' of 6 5/8 hsa.

sands filling in as soon as  
 auger are pulled

frommie 5 bags portland  
 while pulling last 3 auger  
 flights - sand fill to -14'

note FH 8:15 PM





3-14-96 AH, HM 7AM-7PM  
 SCREEN set 20.5 - 25.5' BLSD  
 well depth 28.5'  
 stickup 2.5'

MIXED 4 bags portland to  
 top off grout + construct pad  
 set protective casing  
 STATIC WL 6.9' BLSD  
 surge + pump for development

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5

quarta 2.2

920 '06

226 6042

202  
010

2.2.2

$\frac{1}{2} \times 2.75 = 1.375$

5.2

27.5 protective covering  
top of drum + constructed pad  
mixed of pads, Portland to

27th Nov 1960  
2nd Nov 1960

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REX Bn  
ACA

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2  
map 2 x 100 ft  
dredging of area  
dredging of area  
dredging of area

6  
W STATE MAP. E.N.P.

3-18-96 KL, RG, Terry & Shelia  
Kester to ENP for  
state map drilling  
7 AM start, 8 PM arr  
at ENP. 1/2 hr lunch

3-19. meet with park pers.  
at Beard Cbr. re drill sites,  
mon. wells etc.

Site selection/conditions

GATE II (our site 12)

X gate II

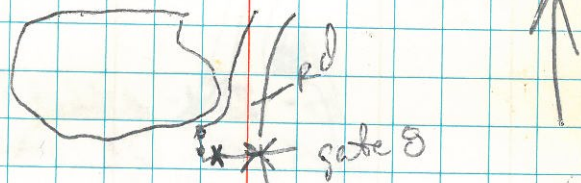
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drill just away old isd  
~ 200' S. pond rd

---



Five Glades Lake  
- behind fire barricade



in grassy area adjacent to  
brush area

Play lake = in far right  
corner of parking lot.  
- back into large bro-  
spots at its end.





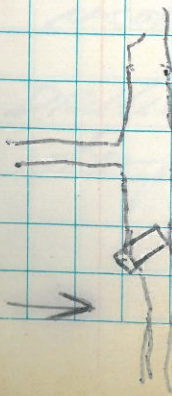
West Lake Site



Flannings  
UTILITIES:

- Harold Turner  
Ted James

NENE. Bear Lake Rd



back take right  
at T - to construction  
- back in on  
diagonal - pup well  
down on slope

\* NOTE need more  
in + out it



W17354

W17354

0-2.5' asphalt & fill  
2.5-9' Qh marl  
9-21.5' Qm  
21.5-24.5' Qst/cloos  
24.5- TT

W17354

3-20-96

ENR WEST LAKE Site

LAT 25° 12.788' 47"

LONG 80° 51.051' 05"

well located on s edge  
of parking lots, 2nd parking  
spot from west end.

0-~2.5' Asphalt & fill  
~2.5-4' soft sediment - N50  
recovered - see push  
core for upper material.

4-9' grey marl & fibrous  
material to ~8' - recovered  
approx 1.5', rubble ls at  
8'-9'

9-14' rubble ls - head gone  
at very bottom - only 2'  
recovered

Drilled in 14' hole as  
temp closing



~~Re  
draw  
sand  
from  
logs  
manipulating~~

24-26.5

5.5 Shokun

26.5

5.5

21.0

7.5

22.5

5.5

27.0

hard b at 14' bsd

14-17' Vuggy ls.

17-19' hard b

19-21.5 var. ls.

Shut down for day

and work 630 pm

TK 7-11:30 to Naples  
per boat plug from J.T.

3-22.

630 AM start retro exp

21.5-24' var ls

24-27' hard b. - exp lower

part - get sed. repl.

27-28' hard - slow drilling

- inner bbl plugging - gage

blower wiped?

- pulled core string - bit

wiped - instl. diamond

bit + adj inner bbl

~28 - diamond bit cut

like butter -

19.5 - 23

23.5 - 24.5' TD LS

good recovery - soft

17383  
REX Branch  
ACA

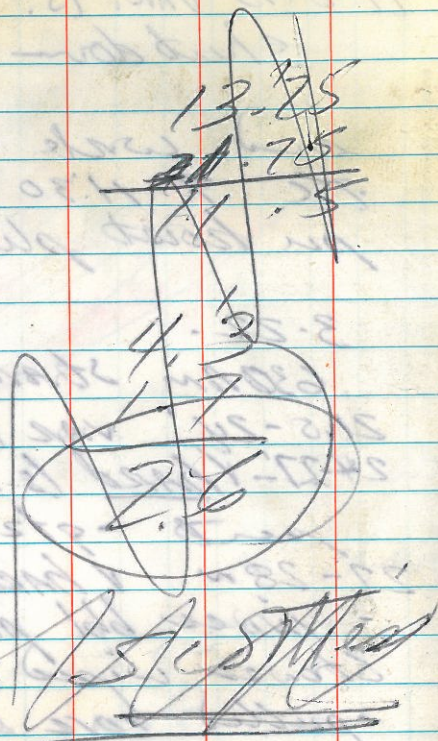
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A-W-2





backfill w sand to 25' LSD

bentonite to 21' LSD

20-30 sand filler to - 11.5'

bentonite to - 10'

pour 2.5 bags portland cement to grout

3-22 - KC, Shelia -

static wc 4.5' below top of csq (temp) - 23" stickup

~~1 1/4" pipe~~

~~3/4" pipe nipple~~

~~coupling~~

~~3/4" pipe~~

~~1 1/4" drill bit~~

FINAL well depth 21.1'  
top of casing at ~ LSD  
0 - 13.1' csq

13.1 - 18.1 3/4" pipe

18.1 - 21.1' tail pipe



at approx 4 pm  
 pumps yd. gr. water - saline  
 static w/c 2.75' below top of  
 casing

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 Rex Branch  
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W17355

Payhokee for miles  
 0 - 24.5' Qm  
 24.5 - 39.75' FT/CLC.  
 24.5' 9 - 24.5' Qm  
 24.5 - 39.75' TMIN?  
 box dropped 9.75 - 19.75'  
 Qm/FT contact in  
 this interval

ENP Pa-hay-okee  
 W17355

LAT 25° 26.46' 28  
 LONG 80° 47.00' 00

Drilled 0 - 19.75' before  
 shutting down for day  
 lost circulation at ~ 6-7'  
 end day 630 pm

3-23-96

KC dropped core box #2  
 9.75 - 19.75 - KC + R6

will have to reassemble  
 jig sawn segment to  
 recover any interval depth

730 am start.

19.75 - 22.25' vuggy sandy  
 sand s.

22.25" - 24.75' mostly hard  
 ls. - thin (1/4') soft zone  
 near bottom. - last 24"

1 hard dense dbb.  
 24.75" - 27.25' softer rock  
 - left ~ 2" stick at bottom of core

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M1322

27.75 - 29.75 - Harder ls.

✓ good recovery

29.75 - 32.75 - ls. ✓ good  
recovery minor original (?)  
Shell material present

- quartz sdy ls.

32.25' - 34.75' - Hard top -

✓ 1.5' soft bot ~ 6" - no recovery  
of last 6"

34.75' ~ 36.75' - soft, sticky

no recovery

~ 1.5' sediment in bbl.

- use inner bbl to

ext. shoe or bailer

clear quartz sand,

36.75' - 37.75' as above

37.75' - 37.75'

37.75' - 39.75' filled with

bbl - same as above

TP - 39.75'

plugged w 2.5 bags  
bentonite chips



PMN 444  
192  
Blue  
W17356

ENP gabb 11.  
24' calcite

W17356 3-23-96

GATE 11

LAT 25° 25' 11.2" 06"  
LONG 80° 34' 9.11" 54"

rock at surface  
0-2.5' ls. - crumbly,  
2.5-5.0 ls. crumbly - some soft  
zones not recovered  
5.0-7.5' crumbly ls. vuggy,  
some vugs w/ mud. ~ 2' rec.  
7.5-10.0 med hard ls., crumbly,  
vuggy, mostly rubble filling  
~ 1.5' recovered  
10-12.5' hard vuggy ls  
12.5-15' hard tex/ ls  
15-17.5' med hdb. - some lam. crst.  
17.5-20 - ls., med, vuggy, muddy  
last ~ 2"  
20-22" (plugged) ls. med soft  
22-25 - softer, some v soft zones  
only ~ 2' of 3 recovered  
25-27.25' white shell moldic ls  
w/ dense grey dolo(?) lowermost  
4" (plugged bbl)  
27.25' dense ls. w/ grey dolo?  
30' -

17355

A. hay-okec

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Rex Branch

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A.W.L-2



W13328

80° 30' 11" 25° 11' 25"

16

W13328

TD in white sugar sand at  
43.  
play w 3 bags bentonite  
and clay 8:00 pm

3-24-96 pickup + return to TLH  
7:30 → 6:30 pm

0 - 15.25 Qm  
15.25 - 26.5 FT/Clods.  
26.5 - 43.5' TD Timin ?

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W17358

W17358-2

9.25  
2.5  
6.75

12.5  
3.25  
9.25

BEAR LAKE TR.

FM PICKS

0-10.25' Fill plus Holocene MARL

10.25-19' Qm

19-23.5' QFT/CLSCR

23.5- T4?

Get push core  
at West Lake

BEAR LK TR

4-8 KC RG, AH + JB  
to ENP

4-9. KC + AA - stand dull  
BEAR LAKE TRAIL site 7 AM start

LAT 25° 10.444

LONG 80° 55.306

Push core to 7'

WC core 6.75-9.25'

WC core to 10.25' - top of rock

- diamond core to 48" + 49.75'

- no notes due to RAIN

all day. - poor recovery zone  
predominantly interbedded sand  
+ silt

end day 8:30 pm

4-10-96 Bear Lake trail

49.75-52.25 - rock - no recovery

- soft at N end - remains

interbedded sd + silt

52.25-54.75' SAND - retrieved

with extended shoe

"bored" add'l spec at 54.75'



BEAR UK TR

54.5' TD

18

pump 1 bag portland to plug  
bottom of hole.

Move to FLAMINGO wells  
will ck cement set this evening  
+ add more if nec.

4-10 pm. cement to -46'

add 1 bag -

4-11 cement to -45'

backfill with 20-30 SAND

to

then 30-65 to - ~~22~~ - 22

place 1' of cement on  
top of 30-65

to - ~~22~~ - 21

set 2' TP, 5' SEN AND  
20' CSG.

appx 21.1' land surface to  
btm of tp.

∴ tp. 19.1-21.1 SEN 19.1-  
19.1' CSG to land surface (orig  
fill pad)



4-12-96

T44

Dear LK TR

20-30 SAND to - 13'

30-65 SAND to - 12'

pump 2.5 bags portland  
to grout

grout set at - 2.5' in  
am

mix addl. grout to top off  
Add filter sand for  
manhole cover + constructed  
surface pad

well pump: 44 gal in 1:45  
min 15-20 gpm

yellow, surface smelling water,  
little or no fines in sand

lined well depth 21.2'

from top of casing  
casing tip at a p fill pad  
surface

static wt 4.5' BTC.

# 3358 MASTER LOCK

low exp ~ 12 in into to

T44

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W17359

25-27.5 soft rock

27.5-30' soft interbedded w harder  
rock - poor recovery

30-32. hd. ls. interbedded w soft.  
poor recovery.

32' inner bbl + retrieved sand  
packed - pulled

4-12-90

Flamingo Wells  
W 17359

LAT ~~25~~ 25° 19.154 ± 300  
LON 80° 47.725

push core - avg 8-10"  
marl over rock.

0-4' fill - NO sample

4-5' marl (PC) + L

5-7.5' ls.

7.5-10' - poor rec. - soft crumbly  
ls. - prob grinding in bbl

hit v hard rock - 17-22'  
end day at 25'

9:00 pm work day end

drill to 32.5' - hit sand.  
core bbl locked next run -  
pulled pipe to get inner  
bbl free.

drilled to 26' - pumped H<sub>2</sub>O  
sample for ENP - Robert McGee - Ed  
Ballenger

push addl. 10' to 33.5' -  
sand. - TO 33.5' 33.5'

17359  
Flamingo  
Wells

17383  
Rex Branch

17387  
17372

17449  
17300  
17373  
17374

17390

17382  
A-W-2



ck on sub NQBOK\*  
NQBOK  
NxB \* NXB

small trays

2" casing

chg. oil in pumps

small locks - 3358

clean truck water tank

chk on steam cleaner

bushings for feed cylinder

get guide keys

get 2 bgs Holeplug ready (4 in)

get 6 bgs sand - 343

get 4 bgs Portland

~~the core barrel~~

abd. with 2 bags bentonite  
ships

4-12-96

complete Bear Lake Trail  
monitor well - see prev. pages

return FLH 10:30 pm

4-22-96 KC, AH, DJ  
to ENP 7AM start

ARR ENP 5:30 pm.

do 2hr maint/setup w  
rig - end day 730 pm

0-4' fill

4-4.75 holocase mail

4.75-16.5/16.75 Qm

16.75-23

23-33.5 TD

FT/calbas

train?



W 17372

W-17372

0-17' Qm  
17-32.75 FT/c/det. 2  
32.75-40' TD Tmin.

22

4-23-96  
W-~~11~~ ~~10~~ 17372

West end Research Rd. (62")

LAT  $25^{\circ} 23.464' 45.2''$

low 80° 44.543' (32) pdop 2.7  
534

0 - ~ 2" mark

2" - 2.5' ls, molche iron  
benches

- hole defective - moved + drilled - save addl 0-2.5

spcs for convert

|     |      |    |
|-----|------|----|
| 2.5 | -5.0 | 45 |
|-----|------|----|

G.O-2.5 "

715-10' " lost circula  
at 9'

10-12.5' - int. hd + soft zone  
only ~ 10" recovered

12.5-16' - 5878 to 1915'

then transfer both sides

~~at 13.5~~ soft to 13.5 - good run  
below.

15 - 17.25' ls. vhd ab 30m

17.25 - ~19' V hd - 1/2 ~19'

then soft stop run

17383  
Rex Brauch

17372  
W END  
RESEARCH RD

17449  
17380  
17373  
17390  
17374

17382  
A-666-2



W-17373  
 LAT  $25^{\circ}25'41''$   
 Lon  $80^{\circ}43'16''$

see next  
 page

19.25-22.25 hard next ls?

22.5-25 ls - softer

25-27.5 as above

27.5-30 shelly ls,

30-32.5 shelly ls to ~31.5 - then so

32.5-34.5 hard well ind shell middie  
 ls

34.5-37.5 ls.

37.5-~39 hd by mudic ls

-39-39.5' hd brn dolo?

~39.5' hit white unconsolidated

gty sd - bailed sample of  
 sand w inner 361 w ex  
 shoe.

40' TD

plugged w 2.5 bags benton

4.24-96 KC, AH, D.

Drill at Pine Glades La.

TD. 34.5'

Hit sand at about 32.0'

Reamed hole to 13.5'

Still H<sub>2</sub>O level - 3.5'



W17373

W17373

0-15.75 QM  
15.75 26.5 ft  
26.5

4-23

Move to Pine glades lake  
set up + drill 0-5'  
START day 7:30 AM  
end day 7:30 PM

LAT 25° 25.685

LONG 80° 43.270'

25° 25.685

80° 43.248

Elev -4'

pdop 3.1

41" 15" pdop 3.1

Reached to 13.5 GLSD - hole  
bentrite to 7' open to 23'  
-17'

sand to -9'

bentrite to -8'

next count ground to 1:0

4-25-96 - return Pine glades  
lake - develop well,  
complete surface fixture  
STATIC WL -3.5

pump RATE 20 gpm

7:30 AM START

0-10'  
10-15'  
15-20'

17383  
Rex Branch

17387  
S. Smiths VFD

17373  
Pine Glades Lk

17388

17390  
WALDO

17382  
A.W.L-2



W17374

W 17374

0-2 fill  
2-4.5' Holocene  
4.5-18.5' Qm  
18.5-30.5' FT/Calow  
30.5-44.5' TD  
Thin?

44.5 TD  
only hp for so had lot

Old Ingraham Hwy

25

4-25-96 Old Ingraham Highway  
W# 17374

25 21 23 30  
80 38 124  
LAT 25° 21' 14" Lon 80° 38' 7"  
pd = 1.9

high elev ~ 2' above mark  
30" mark in probe

0-2' fill NO SM

2-4.5 MARL

4.5-5' N.

5-7.5' - 1st.

7.5-10.0' 1st. w/ xtls

10.0-12.5'

lost circulation @ 11.25'

got it back at 12.0'

still have circ thru

22.5-25' soft, interbedded

+ soft

27.5-30' v soft - some thin

strucks. no recovery

Sand @ 42.5 - Bailed sand drawn  
core barrel w removal of sample

Drill run from 42.5 - 45.5' feels  
like sand mixed w/ hard 1st

frag alternates easy/hard drill

17383  
Rex Branch

17387  
Potts VFD

17388  
S. Williams

17390  
Waldo

17374  
Old Ingraham Hwy

17382  
A.W.C. 2



backfill hole in sand to -20'  
bertrandite -20-1sd

end day 600 pm

4-26 - load up - return 4LH

ARR 4LH 9:30 pm

7:30 - 9:30 work day

Pine gladden lake

Qm - 15.75 - 16'

Fl. Thompson / Calosacthakee 16-27

? Timm - 1sd 16 + sand 27-34

TD

17383  
Rex Branch

7387  
Pointe VFD

17449  
17388  
Kulline Wessel

17390  
14D0

17382  
A.W.L-2



# W17382

LAT 30° 29' 50"  
 LONG 85° 53' 10"  
 elev 10m

3.28  
 11  
 3.28  
 328  
 360.8

TUN R 16w  
 SEL 1860

27

5-14-96  
 A-WL-2 PERMIT # T9600803  
 WELL # 17382  
 KC, JB, FRR 7AM START  
 elev 11m - 36'

0-2.5, 2.5-3.0 push spl  
 5-7' ss spl - 50% recovery  
 clayey sand, orange  
 7-8.5'

8.5-11' or-red cly sd w thin  
 beds wht sd

11-12.5 ss spl  
 12.5-13 1/2 white sand  
 13.5-16' wht sd

prep to run ss spl.  
 Jennifer cuts left index  
 finger w saw - Lks senior  
 shut down take Jennifer  
 to dr. in Bonifay + pharmacy  
 - call Jackie Lloyd to  
 assist. injury  
 return to site to put Frank  
 return to a leave site 5pm  
 all OK 7pm

17383  
 Rex Branch  
 7387  
 Point VFD  
 17449  
 17388  
 Sullivan Murrel  
 17390  
 ALDO  
 17382  
 A-WL-2



5-15-96 MC. FRR. DT

return to Area-2

2 AM START

NO standing water in hole at 18.5'

16'-18.5' SAND gl. br.

18.5-21' ss spl - white sd  
- damp.

21-23.5' - hrb WT at ~22.5'

white + orange sand - then

greenish silty sd? only  
upper sand recovered.

- tried purging spec. - no rebn.

drill to 26 3/4' try again

- purged spec. - disturbed region  
23 - ~26.5' -

btm spec 26.5-27' -

NOB seeing much matrix material.

- most water flowing down hole.

27-29' Drilled down w/o

SPLR - bailed sample

unconsolidated gtz sd w Red br  
stained water29-31.5' 25. bailed sample  
as above

31.25-33.5' - as above +

minor gtz pbls. bailed spec

17  
17383  
Rex Branch387  
with VFD17449  
1738817390  
1739517395  
17395



33<sup>34</sup> - 1st 1.5' ca above  
last foot soft then rubbly  
26-38.5. rel. soft but rubbly  
- bailed spec - sand w shell  
+ L3. - pumped spec - lots of  
1st shell - unknown quantity  
of sand

38.5 - 41' - shelly ls + clay  
41 - 43.5' - soft - sand again? - could  
not get remaining hard material  
off top in flight. 1.5' left.  
add add flt. - to push spec  
43.5 - 45.5TD - ls. - var hardness

5-15-96 Call to W.S. 4:40 p.  
on per ATT CARD  
904-488-4191

retN TRH 6:30 pm

5-17-96 KC, DJ, HM  
7AM start

pull remaining 3 1/4" HSA  
spec - ~ 2 1/4" w dk blk gr cl  
matrix from bit



~~To do~~  
~~Call~~ ~~Foran~~  
~~6510 phage~~  
~~and red light~~  
~~each side~~  
~~211 flap valve~~  
~~Properly~~

~~Call~~ ~~in~~  
~~each~~ ~~bit~~

1739 Rex Branch  
 17383  
 Alaska

17449  
 17388  
 to VFD  
 17388

17390  
 17395  
 17395  
 17395



~~6 5/8 wood plug~~  
~~add rod 1/2"~~  
~~slap valve 2 1/2" spr~~  
~~core catcher 2 1/2" spr~~  
~~" " 3" spr~~  
~~carbide bit~~

weld brace  
fill w. tnt  
weld links on well protection

Call - set up re property  
side

Safety glasses  
Add to ENR mfg. po  
per 4" pre and caps  
make heavy batter  
make dump spike

A-WE-2 CONT 5-17

drill in 6 5/8 HSA 39'  
38' well ASSY 1' stickup  
bentonite fill in clayey  
zone

20-30 sd 2 bgs + fm  
SAND ~ 37-23'

30-65 SAND to 21'

bentonite to 19.5'

pumped 1 1/2 bags portland cement  
19.5 - - 2'

5-22-96

KC + EPR.

STATIC WE 21' BLSD  
grout settled to -3'

pumped + surged at up to  
5 gpm - ending water  
clear

set protective log  
sand - 3 - 0.1'



well depth 37.0'  
 trail pipe 34-37'  
 screen 29-34'  
 CSG + 2.5' - 29'

STATIC WATER level 23.5'

below top of casing  
yield ~ 5 gpm

yield ~ 5 gpm

2.5' stick up

2.5' stickung

count

12 bags

portland

cermet

grout

Bentonite

30-658A

20-30 sd

+ 5m fill

29.

5'52N

34'

7A

37



33  
5-21 - KC to Alachua Co  
meet w Randy Chambers  
examine ambient sites  
- KC cell phone

5-22 - KC cell phone

17396  
Alachua

17383  
Rex Branch

VED

17449  
17388  
S. Line W. Marshes

17390  
ALDO

17395  
H. Canyon



W 17383

165.  
Elev 135' TAPD

6-29-96 KC, JB, DJ  
to Prosperity

A-Ho-2 Rex Branch #1

go w 1.0 mile on 181  
from int of 81 + 181

go North thru gate ~.15 mi

LAT  $30^{\circ} 51' 28''$  27°

CON  $85^{\circ} 57' 37''$  47°

S 8 TSN R 17W

Permit # T 9601448

0-2.5 push

2.5-5.0' push spec + sp spec

~5.0-7.5' ~~sp~~ spec + red clay sd.

7.5-9' red clay sd

9-11.5' spec spec red + spec clay  
sd.

11.5-14' red + spec clay sd. but  
water table in this run

14-16.5' spec spec ~ 1.2' red  
pk-red, spec clay sd

16.5-17.5' pk spec clay sd

17.5-18.75' flap valve spec  
+ red sd.

17396  
Alachua

17383  
Rex Branch

17449  
VFD

17388  
Sullivan Masses

17390  
HADO

17395  
HADO



18.75 - 21.25' split spn  
- soft at bot v. poor  
m. - plugged in stiff  
clayey sand

21.25' - 23.25' - pink sand  
1st 6", then gray + dk red  
clay. 21.25' - 23.25'

clay: 20.25  
23.75 - hard penetration  
1.5' - then soft push  
no recovery (spt. spnl) -

-bailed out spe - crs sand  
orange water

26.25 - 28.25 - drilled w/ 4  
spc - then pumped - still  
2' spc in hsa - pulled  
up - cleared hsa  
have sampler in - no rec

28.25 - 28.25 - clayey  
~ 27.25 - SAND - flap valve - 8"  
new

29.5 - 29.5 split spore  
orange clayey sd +  
clay. yf. or v.f. sd w  
gls ppl.

17396  
Alachua

17383  
Pex Branch

17388

17390  
1A4D0

17395  
11 CANOPY



5-30-74

7 AM start

36

pump out hsa to -30.5' (w)  
2' ahead of bit.

29.75 - 31.25 - chy sd - only lowest  
portion measured

31.25 - 33.75 split spn spl.  
hard 1st + feed thru

softer lower 1st - full rec.

33.75 - 36.25 - pk chy sd + gage

36.25 - 38.75' - pk chy sd

38.75 - 41.25

41.25 - 43.75' spn full rec

harder (sandier?) at botm

43.75 - 45' cutting - pumped

out in front of hsa

45 - 46.25' clayey sand

46.25 - 47' pumped spl - SAR

47 - 48.5' pumped spl - SAR

48.5 - 51' drilled w/o spl

- sample pumped at bottom

depth - spl depth 51 - 52.25

52.25 - 53.5' drilled w/o spl

spn pumped 53.5 - 55'

53.5 - 56' drilled w spl

17396  
Alachua

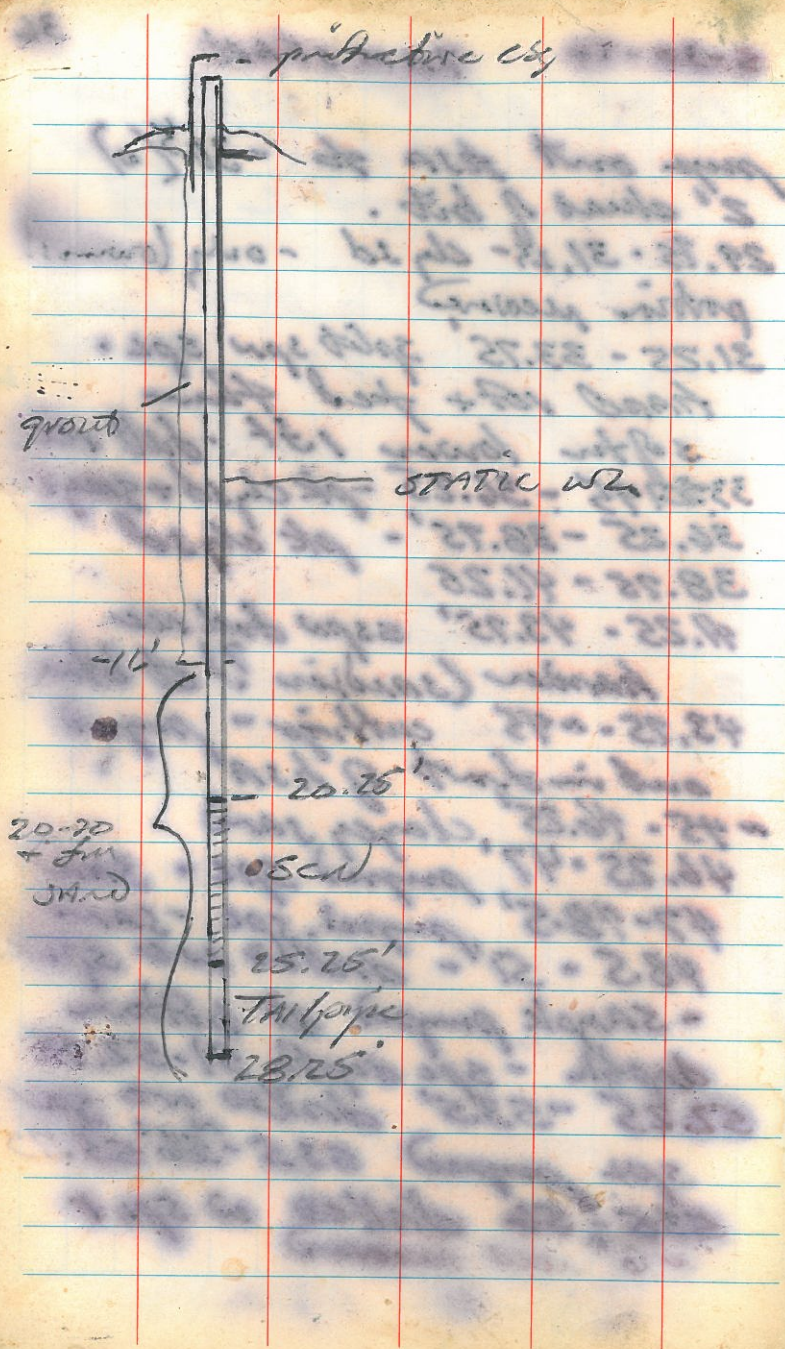
17387  
5 points VFD

17449  
17388  
Sullivan

17390  
ALDO

17395  
LCAHOV





56-58.5 - white clay sd  
 58.5 - 61'  
 61-63.5  
 63.5-66 grey clay  
 66-68.5' TD - red & brn clay sd  
 unisegated

installed 27.75' assembly  
 top is 0.25 BWD  
 well sen ~ ~~20.25~~ 20.25  
 20-30 + 5m sd to 22  
 30-65 21.5 23  
 ∴ well depth 28.0' BWD  
 2.5' stickup  
 natural fill to -16'  
 pump 8 bags portland  
 to surface  
 end day 7:30 pm

5-31-96  
 STATIC WL 10.0 BWD  
 surged + pumped - ~ 5 hr  
 pumps clear water at  
 ~ 15 gpm

17396  
 Alachua  
 17387  
 5 points VFD  
 17449  
 17388  
 17390  
 17395  
 17399



W-17387

1 45' CS9 10'  
" 5'  
" 2.5'

SEN

END CAP

10-20-30 SAND

2 30-65 SAND

2 Bentonite

on 20 bags portland at lower

**W17387**

6-10-96 KC, DJ. to  
WASHINGTON CO.

W# 17387

5 points Vol. fire Dept.

T 4N R 15W S 33 22

LAT 30° 42.809'

LONG 85° 45.036'

Perm # SB1001/RW001

well located in NE corner  
of lot

0-2.5' pink spl. - but set  
than ylbw 0-1' white  
SAND - pink fill

1.0 - 6N than ylbw sd - look  
like NAT. grd.

2.5-4.5' ylbw ch sd

4.5-5.0 ssp spe red + orange  
clayey sand.

5-6' ch sd. ssp. spe

6-8.5' red + cm br ch sd

8.5-11 - softer - sticky

11-13.5' soft sticky or above

13.5-16' as above cm ch sd

16-18.5' softer sand + red

water table is in the

17396  
Alachua

17387  
5 points VFD

17449  
17388  
5 white wrapped  
1420

17390

17395  
HCA004



Bess T. Ranger

547-5643 39

Myron Pierce 547-3859

Landowner who donated land  
for VFD - mad cause she says  
VFD does not have the rt. or  
authority to authorize well  
- wants VFD and or WMD to  
call her. Called Myron Pierce  
and K. Miller to try + rectify  
situation.

LOC: 30° 42.809, 85° 45.

18.5 - 21 ssp spc

21-23.5' creamy pink clay sd

33.5' hole depth end of day  
the first couple of spc

17396  
Alachua

17449  
17388  
St. John's Island

17390  
ALDO

17395  
HAWAII



6011-96 KC, FPK. 15 40  
to mud - get Abdi mud  
then to 5 pbs VFD

Start WC 6.5' bld  
b/c open to bottom

33.5-35.5' red plastic  
exposed clay

35.5-37.5' clay sd

37.5-38.5' clay sd

38.5-40.5

40.5-42.5' harder mud.  
hard y.l. clay sd by Bay?

42.5-43.5' softer than above

43.5-46' crs gling clay sd

46-48.5' crs clay sd

48.5-51' mainly white clay sd

51-53.5' wht. clay sd

53.5-56

56-58.5

58.5-61

61-63.5

63.5-66

66-68.5 TD



pull frs. Frm hull to  
-15'  
drop 4.5 bags portland  
to surface

Drop rig and trailer off at  
Falling Waters S.P.  
End day 7:15pm

Alachua Farm - copper  
2279

7-10-96 KC, AH, JB, DJ.  
to Alachua Co. - rigging  
at San Pedro - Flooded  
AH to WH20 site to de-  
well  
out to Micahay site

17396  
Alachua

17449  
I 17388  
S. line water

17390  
ALDO

17395  
MICAHAY



W-17388

W17388 / 73.5'

6-12-96

42

KC, VB + DV to Falling  
Water - 7AM start

Falling Water State Park

A-WS-2

W<sup>th</sup> 17388

322<sup>00</sup> T<sup>4N</sup>, R 13W<sup>11</sup> 45"

LAT 30° 43.72' 48"

CON 85° 31.70' 48"

0-2.5' push - compressed

2.5-5.0' push gl. ch sd

5.0-6.5' - ssp spl 1.5' m

6.5-9' red + gl. br ch sd

9-11.5'

11.5-12.75' ssp spl gl. + or. ch sd

12.75-14' - wt in this run

14-16.5' or ss ch sd

16.5-17.75' ssp spl ss + br

ch sd w granules

17.75-19' lt gl. ss ch sd

19-21.5'

21.5-22.75' ssp. or + ss ch sd

22.75-24.25' 24' lt ss ch sd

24-26.5' lt ss ch sd

17396  
Alachua

17449  
17388  
Falling Water

17390  
Waldo

17395  
Nash



26.5 - 29

29 - 30.5 ssp. spl

30.5 - 32.5' gy ch sd

32.5 - 34' ssp. grey + or ch sd.

34 - 36.5

36.5 - 37.25 ssp. spl - plugged - no  
penetration

37.25 - 39' grey ch sd

39 - 41 grey ch sd

41 - 42.5' grey ch sd (bluish)

42.5' - 44' ssp

44 - 46 blue ch sd.

46 - 48 blue ch as above then

greyish gn harder ch sd

48 - 49 - as above interbed - to buff  
tan

49 - 51' ssp. tan - poor recovery

tube's collapsed

51 - 52.5'

52.5 - 54' grey ch sd

54 - 56

56 - 58

58 - 58.5 - same v little clay

- pull 20' hsa

17396  
Alachua17449  
Duquoin REEF17390  
UVALDE17395  
UVALDE



Harley W.C.  
travel with  
ck 15 3 Rivers

6-17-96 KC, FRK, ~~and~~ DJ  
800AM start - loadup,  
to NEWFUND for abd. print

static wc 30.75' bwd  
hole open to btm of pipe  
(~38.5')

drilled in 20' hsa to  
prev. btm.

collect sp sps

58.5 - 60 sp

60 - ~~62.5~~ 62.5 61.5

61.5 - 63 62.5 - 64' sp sd then ccs sd

63 sd 63.75

~~64~~ - ~~64~~ - no penetration - plug  
in the clay

17396  
Alachua17449  
Darius Reter17390  
WALDO17395  
WALDO



63.75 - 66

64.75 - ~~67~~ clay sd

- note: these depths are  
Fixed 0.5' too deep - ? starting  
when?

67.75  
65-~~66.75~~ clay? ls? rubbly  
feeling white drilling

~~69.75~~

67, 67.75 - find grv clay, lining

67.75 - 68.5 or above

68.5 - 71' 2 runs lining clay

71 - 73.5' TD drilled w/o  
sampler - stiff + somewhat  
sludgy while drl. - soft

backfilled/nat. fill to

- 15'

pump 6 bags grout

0 - 15' Add 1.5 bags or  
grout settled

retn. FH - End day 8:40 p



W17390

W#

W 17390

46

4-24

Call to Lee Vincent (Waldo  
City, Mo.)

1-352-468-1001 - n

paid call CARD  
W#

KC, AH + DJ - to WALDO  
Alachua Co. - Community  
Center site.

TBS, R 21E 14CC

0-2.4' - push

2.4-4.8' - push

4.8-6.5' ssp spl

6.5-8.5' mottled clay grey + brk m

8.5-10.0' - SAME

11.0-13.5 grey + red clay

13.5-14.75 grey clay + red + black

14.75-16.75 mottling

16.75-18.25

18.25-19.5 ssp spl grey + red clay  
above

19.5-27.25 white + pk fine clay

27.25-28.25 chyd on top grey clay  
at btm.

28.25-29.75 chyd

29.75-32 grey clay

32.25-33.25 w.b.w. clay + chyd



33-38.25' to 11-mly. or clayey  
dolomite

LAT 29° 47.530' padop 4.5  
LON 82° 10.689'

6-25-96 7:45 start  
static wt 3.2' bwd  
~ 5' sediment in hole

place 2 bags bentonite  
30.5 - 38.25'

-5 bags 20/30 - 15 1/2' + 4.5'  
-1 bag 30/65 - 15'  
-1/2 bag ~~to~~ hole plug - 13'  
3 bags portland to grout 0-13'  
- static wt - installed well  
6.5' below top of csg (+2.5')

17396  
Alachua

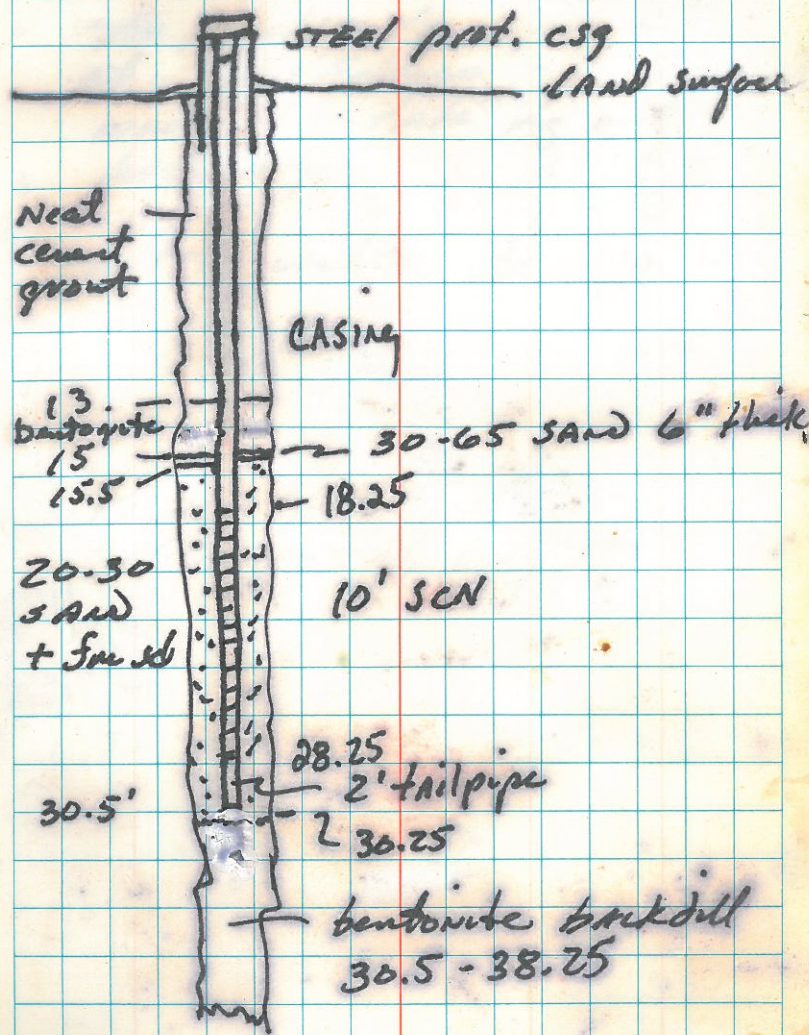
17449  
Dupuis Reserve

17395  
McAfee



# WARD well constr

48



17396  
Alachua

17449  
Duquoin RESERVE

17395  
McANOLY



9-10 K.C. AH, D.J., J.B.  
to Alachua Co. - pu rig  
at San Felipe - rd then  
made in - take rig out  
back way.

AH to waldo to deep. well

Payson Prairie St. Rk  
Michigan - off hwy 441

17396  
Alachua

17449  
Duguis Reserve

17395  
Michigan



W17395

7-10-96

1 AM start

with 17395/73'

Michigan Ball park

S26 CA T113 R 208

CAT 29° 30' 31"

CON 82° 17' 19"

0-2.5 pink ssp

2.5-5.0 pink

5.0-6.5 ssp. spl

6.5-9 grey chyd

9-11 - grey chyd

11-13.5 grey chyd. stiff

13.5-14 ssp. played up 2"

14-15.5 ssp. pulled splr back

2" - stiff chyd. grey

15.5-18.5 grey chyd upper 8"

blue clay below

18.5-20.5 lt grey chyd

20.5-22 ssp.

22-23.5 chyd w ss. frg.

23.5-25.5 lt con bd chyd

25.5-26 3/4 - ssp. spl splayed

6" measured.

26.75-28.5 lt con chyd

17396  
Alachua

17449  
Dapuis Reserve

17395  
Michigan



$$\begin{array}{r} 15 \\ 6.15 \\ - 3.15 \\ \hline 3.00 \end{array}$$

28.5 - 30' white cm dy sd  
 30 - 31.5' ssp  
 31.5 - 33.5 cm dy sl.  
 33.5 - 35.5' no sm  
 35.5 - 36' - cm dy sd.  
 36 - 37.5' ssp -  
 37.5 - 38.5' gy dy sd  
 38.5 - 41' bn gn + 4. or clay

end day 8:00 pm

7-11-96 7:30 am start. get  
 flat tire repaired - return to  
 Micangay site

static use 2.75' bsd

41 - 43.5' gn & bn mottled clay  
 within sand stringers

43.5 - 45' ssp.

45 - 47' bn sdy clay

47 - 48.5' open clay + dy sd

48.5 - 50' ssp. gn + bn clay + sdy

50 - 52' cl of bn clay + gn clay  
 52 - 53.5' blue gn clay - poor recovery

- forgot some catcher - bailed  
 part of sample out.



clean fine sand  
 ~ 6.5-9.5  
 ~ 11-12.5  
 18-18.25

52

53.5-55 - blue gr clay  
 55-56.5 ssp.  
 56.5-58.5 blue gr clay w cm mottling  
 58.5-59.7 - blue gr clay & well indurated  
 clay - claystone  
 59.7-60.9 as above  
 60.9-61.9 as above  
 61.9-62.25 ol. gr clay  
 62.25-62.5 on shore - expanded  
 section  
 62.5-63.5 ol. gr clay - exp. section  
 - need to make sample nose out  
 63.5-64.5 - ol. gr clay  
 64.5-66.5 same

pull 50' hsa - hole  
 backfills to 47' - pour  
 1/2 bag bentonite chips +

17396  
 Alachua

17449  
 Dupuis Reserve



approx 6 bags sand w/o  
brigs level up.

pulled remaining hsa to  
back fill fr. surface - hole  
collapsed at w2.

drill in 20' hsa

8:45 pm end day

7-12-96

retx Micropy - hole open  
to 29' poured 11/4 bags  
bentonite + 4 bags sand  
only brigs level to 27'.  
- worried open conduit to  
Floridan ? - decide to  
grout hole + drill  
another hole fr. shallow  
test well.

~~Retx~~ Robin H. doesn't want  
a micro well (< 0.5 gpm)

pump 5 bags portland  
- 1 - 20' (hole back filled  
to 20' level)

start day 7:30 AM



To Do:

- replace ~~impeller~~ <sup>(sp)</sup> on new pump
- find oil leak in old pump
- finish extending valve on water tank.
- repair hoses
- ~~2943 to motor pool~~
- get  $3\frac{1}{4}$  tapered plugs
- get 60' hose
- get plug kit
- get ~~but off of HSP~~
- make new wt. tie tape

To load:

Bentonic  
new wireline

To get:

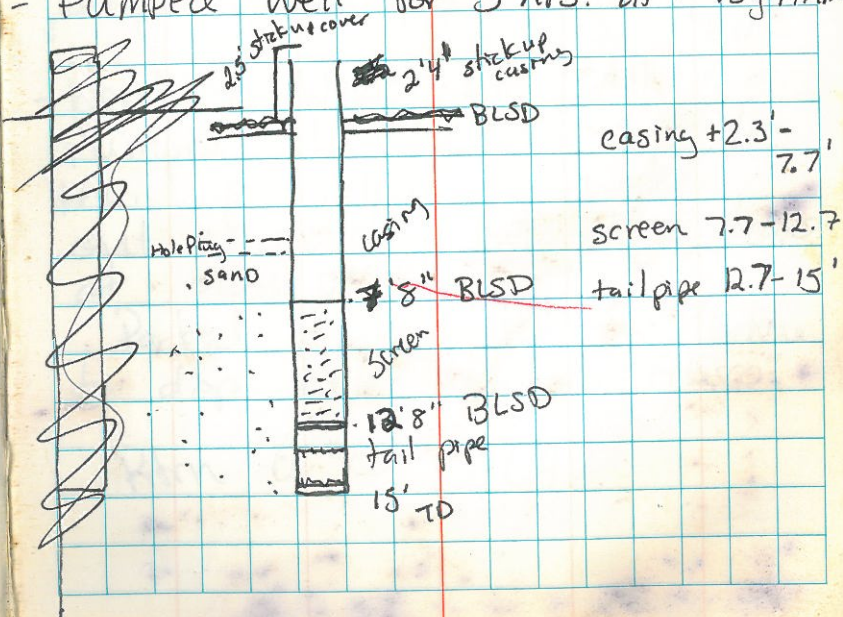
- wheel barrow
- plug kit
- duct tape
- ss caps
- $\frac{1}{4}$ " lag bolts (x2)
- 2- 18" AL Rod
- make wood m. stick (up stick)
- 60 Footer
- $3\frac{1}{4}$  plugs
- 4' x  $\frac{1}{4}$ " nipple
- pipe clamps

7-16-96 JB, DS, AH

7AM start at WltSE

- picked up rig at San Felasco
- & proceeded to Micanopy Ballpark
- drilled ~~17'~~ 17'
- dropped 17' of casing.
- pulled flights.
- sanded in casing w/ 3 bags 20/30 sand &  $\frac{1}{2}$  bag 35/65.
- sand ~~at~~ at 5' BLSD.
- poured thin layer 3/8 hole plug to 4.5 BLSD

- Pumped well for 3 hrs. at  $\sim \frac{1}{3}$  gal/min.





55  
-set protective casing w/ 1 bag  
Portland  
End day 7 PM

7-17-96 JBD, AH

-tapped off well and built  
foundation w/ ~~1~~ 1.5 bags  
portland & 20/30 sand.

-Randy Chambers photographed  
core and took samples.  
Said he had 2" submersible  
pump to help w/ developing.

-Went to Waldo sight 11:AM  
Pumped til ~2:00. Got less  
than a gallon of water  
out of well. New hose leaks  
at clamps.

Packed up - headed for Alachua  
to drop Riglet at San Felasco.

Rtn 6:30. TLH.



W17396

W17396

56

City of Alachua well

W# 14329 Elev 80' T9290'

0-20 sd, sl. ch

20- clay, gty sd, phos, dol.

40 wackestone - ocala

this well immediately adjacent  
to proposed Ambient site

City of Alachua

W# 17396

Tan. sand.

KC, VB, AH, DJ

loc

S14dA T8S R18E

-LAT 29°47'34"

CON 82°29'30" Elev ~ 70' top

well corer print # 58656

0-3' dug by hand - 2 sm

grab sampler

3-5.5' - push spec sd + ch sd

5.5-6.5' push

6.5-8.25' pu

8.25-9.75' ss p

9.75-12.25' v ch sd + clay - milled

12.25-14.75' gty bn ch sd

17396  
Alachua

17449  
Duguid Reserve



14.25' - 16.25' ssp

16.25' - 18.75' bn dyed - - pass wash  
ls. ssp

18.75' - 21.25' hit rock at ~ 19.5'

then back into clayey material  
- rock at v. end of run

21.25' - V. HARD rock - chert?

to ~ 21.75' - run w

center bit - NO ssp

21.75' - 23.25' - clay s. w. ls. ssp.

23.25' - 25.75' bn clay top 1/2

white, mky. ls. bottom part

25.75' - 28.25' 1/2 cr. + yl. or w

ls. on top then back to mottled

clay to ~ 27.5' then thin

ls. + clay at botm

28.25' - 29.75' ssp - clay + ls.

29.75' - 32.25' cream calcareous -

lowermost 4" yl. or.

32.25' - 33.25' - cream to bn mudd  
calcareous

33.25' - 35.75' 1/2 yl. or ls. ssp.

35.75' - 37.0' 1/2 cr. + 1/4 ls. ssp  
b.

37' - 38.25' cream - H. bn ls.

38.25' bailed sample - screened at  
38.25' + 1'



setup 2" barter w/ forb valve  
 In surging yields  $\ll 0.5$  gpm  
 water milky, still prod same quantity sand  
 WALDO S.W.C. 6' 3" BL TOP 7cy  
 - yield  $\approx 2.75$  gpm

17449  
DUPUIS RESERVE







cotton twine  
 3/4" breaker bar  
 5" VISE  
 1/4" shackle

T3151 R31E  
 SEC 11 60

0-17.25 fill  
 17.25 -

S65-10  
 S-65B-3'

DR 5-44

SUPPLY PUSH

8-5-96

Lat 27 48 10  
 (bad read) Lon 81 11 44  
 W-17448

S-65 - OSCEOLA Co

KC, VB + DV 7 AM start

~~S-65-10-10-10~~

ELEV

LAT 27° 48' 12.0" pdop  
 LON 81° 11' 47.6" 3.2

appx 15-20' fill on site

push 0-2.5 - bag  
 2.5-5.0 bag

5-7.5' - WL SPL bagged  
 7.5-9.5' " " bagged  
 9.5-12' " " bagged

12-14.5' - btm 4" poss NAT  
 gvd

14.5-17' mottled org. yel sd

17-19.5' org rich ch sd

19.5-20.5' org. rich clay w  
 white uncon. sand lob 3"

20.5-22' DORM. splr plugged  
 - prob. clean sand

22-24.5' grey sand - fine



Sampler locked in (SAND loc)

- returned spur & pupal

hisa clear

pupal spur from 23.5-26

+ 26-27.5'

~ 27.5-28.5' green clay

28.5-31' - sampler sand lock

- end day still locked 8:20pm

8-6-96

7 AM start

SWC 13.4' BLSD

pulled hisas to retr.

sampler - drilled hisa back

in, re rigged first cable

- bailed sample 28.5-29'

pupal spur at 30', 33', 36.5'

36.5-38.5' gn clay / clay sd

38.5-40.5 dk st. clay - stiff

top part 16 to 8.97 sandy shelly clay. lower

40.5-43.5' ol. gy clayey shelly sd

43.5-45.5' ol. gy sl. ch shly sd

45.5-46- pupal spur

46-47.75' grey calc(?) shelly chly sd

- lower most 6" phosill

CLDSC

17449  
Dyquius Reserve



47.75-48.5' ssp spr - grey calc  
 - shelly sd  
 48.5-49.25' - pumped spr  
 49.25-50.25' - grey calc shelly sd and some  
 above - lowest part hard - splr phos  
 50.25-52.75' ol. gy grading to ol. gr  
 shelly sandy clay (?)  
 52.75-53.5' - ol. gr shelly clay  
 sand - expanded section -  
 need to extend sampler short  
 end day at 53.5'

8-7-96

7AM start

SWC 11.0' BLSD

53.5-56' - v poor recovery  
 - plugged spr - only 4"  
 56-58.5' grn clayey sd w  
 some shell

58.5-61' - splr phos  
 green - shly clay

61-63.5' ssp spr -  
 63.5-66' ol. gr sdy shelly clay  
 66-68.5' - splr stuck (bowed)



Lake Kissimmee St. Pk  
 941-696-1112  
 Alton Morrell  
 George Ayerigg  
 Donnie Sessions  
 Tony Morrell  
 George Ayerigg

68.5-70' ssp  
 70-72' ol. gn sdy clay  
 72-73.5' ol. gn sdy ch  
 73.5-75' ssp - ol. gn clay  
 + sdy ch.  
 75-77' dk. ol. gn sdy ch. sl. slty.  
 77-78.5' ol. gn sdy ch  
 78.5-81' ssp. run - gn sdy  
 clay  
 81-83.5' ol. gn sdy ch. w  
 shell  
 83.5-86' dk ol. gn sdy ch.  
 w phos pbl. + minor shell  
 86-87.5' ssp  
 87.5-89.5' green sdy ch  
 w minor rotten shell  
 89.5-92.0' ol. gn clay  
 TO 92.0'

- die w T Hen + Marty Brame  
 re well constr. - went sep.  
 well for more well.  
 20' casing & ~18' run in  
 superficial sugar sands



will need for next trip

new footer board

paper towels

NECK for sand funnel

64  
to plug core hole  
pulling ksa. backfill nat  
to n - 59. Placed  $\frac{1}{2}$  bag  
bentonite - 57-59 - back  
fill w cuttings to - 38  
 $\frac{1}{2}$  bag bentonite  
- pulled cement - 37 to - 14  
top off in AM (settled to 1)

FOR monitor well  
Drill in 38  $\frac{3}{4}$ ' ksa w  
wood plug  
placed 5.5 bags 20-30 sand  
in filter pack to 20'  
 $\frac{1}{2}$  bag 3065 to 19'  
~1.5' csg  
20' csg  
15' screen  
3' tail pipe  
2 bags bentonite  
chips to - 14  
Final well TD 40.35'



WARMAN

cheap locks - kept same  
de greaser  
x chg. bolts

1 x 4's  
paper towels  
pt. posts

NOTE - NEED elev off of ~~BB~~  
BM at lock 2 NOT MARKED

8-19-96 KC, JB, DT 7AM start  
hole open to ~~11.5~~" 9.25  
SWC ~~11.5~~" BLSD 14.1'  
Rough level from lock stage  
gage ~ 59'

Well to 40.35'

pump + surge at ~ 49pm

pump 2.5 bags neat cement  
grout

End day 7:20

KC end day 900pm

8-20 7:30 AM start

surge + pump well at ~ 49pm  
2 hrs

construct above grid Assy

- manhole cover

- top of CSG ~ 6.5D

sealed locking cap.

American lock  
still prod. vt sand - needs adell.  
deep time

17449  
Dupuis Reserve



Dupuis

DUPREE RESERVE site - MARTIN Co  
 Take Beehive Expy (710)  
 from Okeechobee to SR 76  
 just past Indian town (go over  
 St. Lucie Canal) go W on  
 76 along canal ~ 6-7 miles  
 to Dupree Reserve gate #5  
 ~ 2 miles to site  
 Meet CARA Milliman at tidgtrs

Dupuis RESERVE

S 180 a T 40 S R 38 E

LAT  $26^{\circ}59'37''$ LON  $80^{\circ}34'24''$ 

Elev 24' (topo)

0-2.5' push - sand  
 2.5-5.0' push - sd  
 5-6.5' ssp. lt. bn sl ch sd  
 6.5-9 - lt. bn sd w shell  
 frag. - unconsolidated  
 9-11.5' bailed spec - as above  
 11.5-14 bailed spec - as above  
 14 - at ~14.5' hit rubble  
 material - hard - 15 or  
 incl shell bed - hole defl.

W# 17449

17449  
Dupuis RESERVE



pull hsa - move up 5'  
+ start again  
- 14' bailed spl - clayey w/ rk ps  
14-16 bailed spl "  
16-17 ls/ss - mod bed  
but crumbly - drilled thru  
bailed/pumped  
end day at 17'  
END DAY 8:00 pm

8-21-96 7:30 start.

h/c clean to 6:45

17-17.5 ss spl - plugged after  
" 5' soft ss

17.5-18.3 pumped spl

18-20' sl. shly sl. ch sd.

splr stuck - pulled hsa  
re packed joints. pumped  
out. trash. sed thru hsa  
after drilling in.

20-22.5' - rubble rock/ch sd  
hit hard zone at 22.5'  
bail spl

22.5' bed ls. - high rexl - Auger  
won't cut it  
chg over to NQWL



22.5 - 24.25' hard shelly 68  
excl. 13/85 - soft zone in middle  
lost.

24.25' - 25.0 - mid br hard  
carbonate cemented ss, w  
shell

25.0 - 28.75 sand + shell - v poor  
recovery

28.5 - 29' pumped spcs - cgs + fine  
fracture - shelly sand or  
sandy shell - matrix material  
is washing out

29 - 31' as above - this material  
is (ble) permeability - either  
due to v f sd or clay which  
is being lost.

31 - 31.5' w/c spc - plugged  
clayey, shelly sd

31.5 - 33' pumped spc sl clay.  
v sandy shell

33 - 35.5' pumped spc - grey. sand  
shell

35.5 - 38.5' sandy shell  
end dig at 38.5'

gate 6

gate bridge

935.1

937.5

End work day 7:30 p



8-22-96

7:30 A. start

to 500' - per cement & same  
static wt 4' ASD

drill + pump. spcs at

38.5 - 41 - shell. uncom.

41 - ~~42~~ 44 " "

44 - 46 " "

46 - 48.5' - per some gray black  
cemented ss48.5 - 51' drilled with minor  
slender - pass some rock  
frag. - dk ss frag.\* - prev. spcs prob under  
represent sand fraction

51 - 53' shelly ss

55 - 56.5' shelly sand - A little  
coarse shell56.5 - 59' shelly sand w black  
cemented shelly ss

59 - 61' shelly sand w blk ss frag.

61 - 63' shelly ss w ss frag. - sand  
is common63 - 66' Attp. pump sample - lose  
SEAL on first - failed sample  
of sand w plus ? & shell frag.



1 ft. sand to -14  
ss & shells ss to 20  
shells & ss to 25  
shells ss w/ VF - 56.5  
shells ss w/ blk ss pg.  
shells ss w/ coarser  
(56.5-63 coarse  
below 61  
63-69 no more  
w/ 0 lg ss pg.

f. SAND  
SS & shelly ss to 26  
shelly ss - 56.5  
14.5' of ss  
blk ss

shelly ss w bl  
shelly ss w bl  
-63- conserv  
above

shelly:  
(56.5-63 below 61 no trace  
63-69 1 of 25 pg.  
w/ 0

66-65 drilled down 70  
+ pumped gas from 63-69'  
69-73' TD as above

set 60' CSG, 10' SCN + 3' TP.  
washed in tot.  $\frac{1}{2}$  bag 20:30  
before fm sediments covered  
HSA + well sand leaked at  
 $\sim 50'$  - pulled well, drilled  
back in + reinstalled well  
pulled HSA to  $\sim 27.5'$   
with fm. collapsing whole way  
- capped well + trenched  
cement down HSAs while  
pulling HSAs - pumped 7.5  
bags Portland with water  
displacing up surplus.  
CEMENT to surface

end day 836 pm  
8-23-96 75.95,

WELL TD ~~70.15~~ 5' fr top of CS9  
CS9 top 3.1' above original  
land surface

pumped & surged well at ~ 25 gpm  
 sys clear yellowish water  
 American lock



~~THU ON RIG~~

~~2-2" x 10' CS~~

~~1-2" x 5' SCN~~

~~2-2" MALL plug~~

~~2-2" fm. plug~~

~~6-50lb bag 20-30 SAND~~

~~2.5-bags bentonite chips~~

~~4.5-bags portland cement~~

~~order AW couplings (2)~~

~~large blocks~~

~~pressure washer~~

~~QC Bron bullets~~

~~2" pvc slip caps~~

~~1 1/4" fm x 1 1/2" slip~~

~~2" x 1 1/2" slip~~

~~extended shoes - N x B~~



give me air

5-2' x 10' 10'

1-2' x 3' 20'

5-2' x 10' 10'

5-2' x 10' 10'

5-2' x 10' 10'

5-2' x 10' 10'

5-2' x 10' 10'

5-2' x 10' 10'

5-2' x 10' 10'

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5-2' x 10' 10'

5-2' x 10' 10'

5-2' x 10' 10'

5-2' x 10' 10'

# Dupuis Reserve

NEED good lat lon  
ck well depth

## Load list

68 10' CSG

1 10' SEN

1 5' CSG

2 25' CSG

1 5' SEN

large blocks

pressure washer

26 59 37

80 34 24

\$76.00'

TD

± 1000



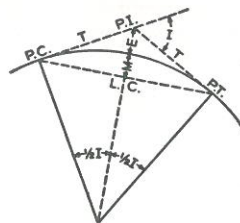
1996/97 P.O. #5

Acct# 4506

|                     |              |
|---------------------|--------------|
| ENVR Mfg            | 53700-790507 |
| Lowes               | 790510       |
| Am. Pump            | 790514       |
| Mid America         | 790513       |
| Toney Drilling      | 790515       |
| Atlantic Drilling   | 790516       |
| Holley              | 790518       |
| Tallahassee Welding | 790504       |
| L + C Machine       | 790509       |
| Gorman              | 790512       |



# CURVE AND REDUCTION TABLES



## CURVE FORMULAS

1. Radius :  $R = \frac{50}{\sin D/2}$
2. Degree of Curve:  $D = 100 \frac{I}{L}$ . Also,  $\sin D/2 = \frac{50}{R}$
3. Tangent :  $T = R \tan \frac{1}{2} I$ . Also,  $T = \frac{T \text{ for } 1^\circ \text{ curve}}{D} + C$ .
4. Length of Curve:  $L = 100 \frac{I}{D}$
5. Long Chord :  $L.C. = 2R \sin \frac{1}{2} I$ .
6. Middle Ordinate:  $M = R (1 - \cos \frac{1}{2} I)$
7. External :  $E = \frac{R}{\cos \frac{1}{2} I} - R$ . Also,  $E = T \tan \frac{1}{4} I$ .

## EXPLANATION AND USE OF TABLES

Given P.I. Sta. 83+40.7,  $I = 45^\circ 20'$  and  $D = 6^\circ 30'$  find:

**Stations**— $P.C. = P.I. - T$ .  $T = \frac{T \text{ for } 1^\circ \text{ Curve}}{D} + C$ . From Tables V and VI

$T = \frac{2392.8}{6.5} + 197 = 368.32 = 3 + 68.32$ . Sta. P. C. =  $83 + 40.7 - (3 + 68.32) = 79 + 72.38$ .

P. T. = P. C. + L, and  $L = 100 \frac{I}{D} = 100 \frac{45.33}{6.5} = 697.38$ . Therefore, P. T. =  $(79 + 72.38) + (6 + 97.38) = 86 + 69.76$ .

**Offsets**—Tangent offsets vary (approximately) directly with D and with the square of the distance. From Table III Tangent Offset for 100 feet = 5.669 feet. Distance =  $80 - \text{Sta. P. C.} = 27.62$ . Hence offset =  $5.66 \times \left(\frac{27.62}{100}\right)^2 = .432$  ft. Also, square of any distance, divided by twice the radius equals (approximately) the distance from tangent to curve. Thus  $(27.62)^2 \div (2 \times 881.95) = .432$  ft.

**Deflections**—Deflection angle =  $\frac{1}{2} D$  for 100 ft.,  $\frac{1}{4} D$  for 50 ft., etc. For "X" ft., Deflection Angle (in minutes) =  $.3 \times X \times D$ . For Sta. 80 of above curve Deflection Angle =  $.3 \times 27.62 \times 6.5 = 53.86'$ . Also Deflection Angle = dfl. for 1 ft. from Table III  $\times X = 1.95 \times 27.62 = 53.86'$ . For Sta. 181 Deflection Angle =  $53.86' + \frac{6^\circ 30'}{2} = 4^\circ 8.86'$ .

**Externals**—From Table V for  $1^\circ$  curve, with central angle of  $45^\circ 20'$ ,  $E = 479.6$ . Therefore, for  $6^\circ 30'$  curve,  $E = \frac{479.6}{6.5} + \text{Correction from Table VI} = 7.378 + .039 = 7.417$ .

~~4M~~  
~~Screen~~ w  
~~40' casing~~ w  
~~pump~~  
~~stake phone book~~ → dot  
~~short handled shovel~~ w  
~~flashlight~~ K  
~~metal trash can~~ w  
~~hip waders~~ K  
~~Bungi cord (s)~~ K  
~~weather forecast~~  
~~Charo-orange cake~~ K

~~compression~~  
~~2" PVC~~

Lisa  
 # 7393 Main  
 # 1293 - 1173  
 Buddy Malone



Table X.—Calculation of Earthwork.

| Width | HEIGHT |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|--------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
|       | 1      | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14    | 15    |
| 1     | .02    | .04  | .06  | .07  | .09  | .11  | .13  | .15  | .17  | .18  | .20  | .22  | .24  | .26   | .28   |
| 2     | .04    | .07  | .11  | .15  | .18  | .22  | .26  | .30  | .33  | .37  | .41  | .44  | .48  | .52   | .56   |
| 3     | .06    | .11  | .17  | .22  | .28  | .33  | .39  | .44  | .50  | .56  | .61  | .67  | .72  | .78   | .83   |
| 4     | .07    | .15  | .22  | .30  | .37  | .44  | .52  | .59  | .67  | .74  | .81  | .89  | .96  | 1.04  | 1.11  |
| 5     | .09    | .19  | .28  | .37  | .46  | .56  | .65  | .74  | .83  | .93  | 1.02 | 1.11 | 1.20 | 1.30  | 1.39  |
| 6     | .11    | .22  | .33  | .44  | .56  | .67  | .78  | .89  | 1.00 | 1.11 | 1.22 | 1.33 | 1.44 | 1.55  | 1.67  |
| 7     | .13    | .26  | .39  | .52  | .65  | .78  | .91  | 1.04 | 1.16 | 1.30 | 1.42 | 1.55 | 1.68 | 1.81  | 1.94  |
| 8     | .15    | .30  | .44  | .59  | .74  | .89  | 1.04 | 1.19 | 1.33 | 1.48 | 1.63 | 1.78 | 1.92 | 2.08  | 2.22  |
| 9     | .17    | .33  | .50  | .67  | .83  | 1.00 | 1.17 | 1.33 | 1.50 | 1.67 | 1.83 | 2.00 | 2.17 | 2.33  | 2.50  |
| 10    | .18    | .37  | .56  | .74  | .93  | 1.11 | 1.30 | 1.48 | 1.67 | 1.85 | 2.04 | 2.22 | 2.41 | 2.59  | 2.78  |
| 11    | .20    | .41  | .61  | .82  | 1.02 | 1.22 | 1.43 | 1.63 | 1.83 | 2.04 | 2.24 | 2.44 | 2.65 | 2.85  | 3.06  |
| 12    | .22    | .44  | .67  | .89  | 1.11 | 1.33 | 1.56 | 1.78 | 2.00 | 2.22 | 2.44 | 2.67 | 2.89 | 3.11  | 3.33  |
| 13    | .24    | .48  | .72  | .96  | 1.20 | 1.44 | 1.68 | 1.92 | 2.16 | 2.41 | 2.65 | 2.89 | 3.13 | 3.37  | 3.61  |
| 14    | .26    | .52  | .78  | 1.04 | 1.30 | 1.55 | 1.81 | 2.08 | 2.33 | 2.59 | 2.85 | 3.11 | 3.37 | 3.63  | 3.89  |
| 15    | .28    | .56  | .83  | 1.11 | 1.39 | 1.67 | 1.94 | 2.22 | 2.50 | 2.78 | 3.06 | 3.33 | 3.61 | 3.89  | 4.17  |
| 16    | .30    | .59  | .89  | 1.18 | 1.48 | 1.78 | 2.07 | 2.37 | 2.67 | 2.96 | 3.26 | 3.56 | 3.85 | 4.15  | 4.44  |
| 17    | .31    | .63  | .94  | 1.26 | 1.57 | 1.89 | 2.20 | 2.52 | 2.83 | 3.15 | 3.46 | 3.78 | 4.09 | 4.41  | 4.72  |
| 18    | .33    | .67  | 1.00 | 1.33 | 1.67 | 2.00 | 2.33 | 2.67 | 3.00 | 3.33 | 3.67 | 4.00 | 4.33 | 4.67  | 5.00  |
| 19    | .35    | .70  | 1.06 | 1.41 | 1.76 | 2.11 | 2.46 | 2.82 | 3.17 | 3.52 | 3.87 | 4.22 | 4.57 | 4.92  | 5.28  |
| 20    | .37    | .74  | 1.11 | 1.48 | 1.85 | 2.22 | 2.59 | 2.96 | 3.33 | 3.70 | 4.07 | 4.44 | 4.81 | 5.18  | 5.56  |
| 21    | .39    | .78  | 1.17 | 1.55 | 1.94 | 2.33 | 2.72 | 3.11 | 3.50 | 3.89 | 4.28 | 4.67 | 5.06 | 5.44  | 5.83  |
| 22    | .41    | .81  | 1.22 | 1.63 | 2.04 | 2.44 | 2.85 | 3.26 | 3.67 | 4.07 | 4.48 | 4.89 | 5.30 | 5.70  | 6.11  |
| 23    | .43    | .85  | 1.28 | 1.70 | 2.13 | 2.56 | 2.98 | 3.41 | 3.83 | 4.26 | 4.68 | 5.11 | 5.54 | 5.96  | 6.39  |
| 24    | .44    | .89  | 1.33 | 1.78 | 2.22 | 2.67 | 3.11 | 3.56 | 4.00 | 4.44 | 4.89 | 5.33 | 5.78 | 6.22  | 6.67  |
| 25    | .46    | .92  | 1.39 | 1.85 | 2.31 | 2.78 | 3.24 | 3.70 | 4.17 | 4.63 | 5.09 | 5.56 | 6.02 | 6.48  | 6.94  |
| 26    | .48    | .96  | 1.44 | 1.92 | 2.41 | 2.89 | 3.37 | 3.85 | 4.33 | 4.82 | 5.30 | 5.78 | 6.26 | 6.74  | 7.24  |
| 27    | .50    | 1.00 | 1.50 | 2.00 | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 | 5.50 | 6.00 | 6.50 | 7.00  | 7.50  |
| 28    | .52    | 1.04 | 1.55 | 2.07 | 2.59 | 3.11 | 3.63 | 4.15 | 4.67 | 5.18 | 5.70 | 6.22 | 6.74 | 7.26  | 7.78  |
| 29    | .54    | 1.07 | 1.61 | 2.15 | 2.68 | 3.22 | 3.76 | 4.30 | 4.83 | 5.37 | 5.91 | 6.44 | 6.96 | 7.52  | 8.06  |
| 30    | .56    | 1.11 | 1.67 | 2.22 | 2.78 | 3.33 | 3.89 | 4.44 | 5.00 | 5.55 | 6.11 | 6.67 | 7.22 | 7.78  | 8.33  |
| 31    | .57    | 1.15 | 1.72 | 2.30 | 2.87 | 3.44 | 4.02 | 4.59 | 5.17 | 5.74 | 6.32 | 6.89 | 7.46 | 8.04  | 8.61  |
| 32    | .59    | 1.18 | 1.78 | 2.37 | 2.96 | 3.56 | 4.15 | 4.74 | 5.33 | 5.92 | 6.52 | 7.11 | 7.70 | 8.30  | 8.89  |
| 33    | .61    | 1.22 | 1.83 | 2.44 | 3.05 | 3.67 | 4.28 | 4.89 | 5.50 | 6.11 | 6.72 | 7.33 | 7.94 | 8.55  | 9.17  |
| 34    | .63    | 1.26 | 1.89 | 2.52 | 3.15 | 3.78 | 4.40 | 5.04 | 5.67 | 6.29 | 6.93 | 7.56 | 8.18 | 8.81  | 9.44  |
| 35    | .65    | 1.30 | 1.94 | 2.59 | 3.24 | 3.89 | 4.53 | 5.18 | 5.83 | 6.48 | 7.13 | 7.78 | 8.42 | 9.08  | 9.72  |
| 36    | .67    | 1.33 | 2.00 | 2.67 | 3.33 | 4.00 | 4.66 | 5.33 | 6.00 | 6.67 | 7.33 | 8.00 | 8.67 | 9.33  | 10.00 |
| 37    | .68    | 1.37 | 2.06 | 2.74 | 3.42 | 4.11 | 4.79 | 5.48 | 6.17 | 6.85 | 7.54 | 8.22 | 8.91 | 9.59  | 10.28 |
| 38    | .70    | 1.41 | 2.11 | 2.82 | 3.52 | 4.22 | 4.92 | 5.63 | 6.33 | 7.03 | 7.74 | 8.44 | 9.15 | 9.85  | 10.56 |
| 39    | .72    | 1.44 | 2.17 | 2.89 | 3.61 | 4.33 | 5.05 | 5.78 | 6.50 | 7.22 | 7.95 | 8.67 | 9.39 | 10.11 | 10.83 |
| 40    | .74    | 1.48 | 2.22 | 2.96 | 3.70 | 4.44 | 5.18 | 5.92 | 6.67 | 7.41 | 8.15 | 8.89 | 9.63 | 10.37 | 11.11 |

Table X gives the number of cubic yards in a TRIANGLE 1 foot deep for a given width and height. CAUTION: Values obtained from the above tables are for only the one TRIANGLE of the cross-section under consideration.

Corrections for tenths of feet in width and height may be made by adding the numbers on the table from 1 to 9 as tenths and taking one tenth the values found in the tables. For example, to find the number of cubic yards when Width = W = 16.2 and Height = H = 5.3, opposite 16 in "Width" column and under 5 in the "Height" column read 1.18. To correct for additional 0.2 foot of width, opposite 2 in the "Width" column and under 5 in the "Height" column read 0.18 and correct to .018. To correct for additional 0.3 foot in height, under 3 in "Height" column and opposite 16 in "Width" column read 0.89 and correct to .089. Therefore, the total cubic yards in the given TRIANGLE for a depth of 1 foot =  $1.18 + .018 + .089 = 1.587$  or approximately 1.59 cu. yds. per 100 feet.

If width exceeds 40 feet, use one half real width and multiply result by 2. If both width and height are larger than values given on table use one half of each value and multiply result by 4.

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