

LEVEL BOOK

#101596

Mobile Drill

Log # 16

8-02/11-03

18425 - 18480



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18435
Camp AZEUA

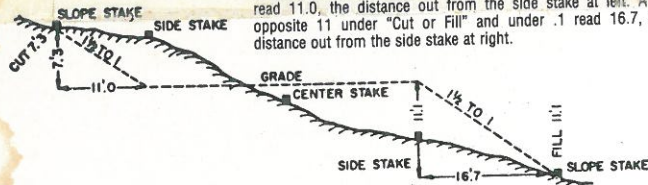
18479

162

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

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



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

69 ft³/bars bridge

6" .2 ft³/ft

3" .07 4.13

The paper in this book is made of 50% high grade rag stock with a WATER RESISTING surface sizing.

18435
Camp Azulea

18478
Camp Azulea

18478

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6'4 1/2" LONG

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His cousin's SANDY's

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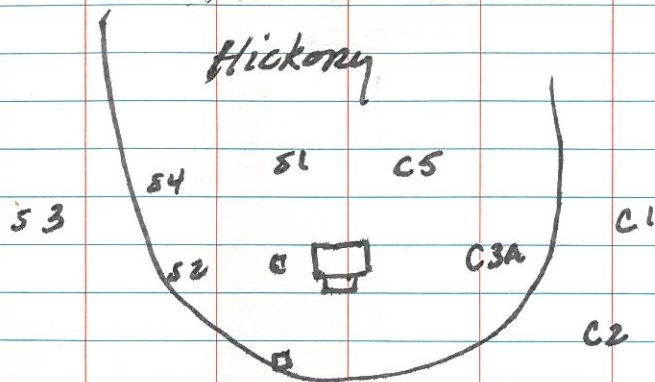
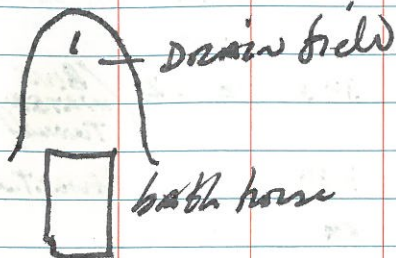
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10 Magnolia

4 6
9 3 7
8 2 5



MANATEE Springs well status

M-1

M-2

M-3

M-4

M-5

M-6 deep. completed

M-7

M-8

M-9

M-10

S-1

S-2

S-3

S-4

C-1 deep. compl.

C-2 deep compl

C-3A deep compl

C-4

C-5

C-6

dial indicator + mag. base
to set up quick change

activated carbon filter
element for compressor

Arrow
pneumatic

filter # FS84W
Element # EK 5B

also Elements

Wilkinson { FRP-96-653 (1) 6B231
N17-96-649 (1) 6B230

P 2953

Granger #5

8-8 KC, DQ7AM STAND

8-8-02 development notes

M-10 Airlifting at 39pm still
producing sand

M-9 airlifting at ~ 99pm, still
paved sand, down clearing

end day 600pm

8-9-02 7AM STAND - cont. deep.

M2, M4, M10 + M9
completed

ret'n to A 7:00 PM

11-15-02

KC + Mark Hooks meet w/
WARREN ~~Zwanka~~ Zwanka
(SRWMD) to select drill
sites for 2 4" monitor wells

sites selected

CAMP AZULEA RJ

LAT 29 28 24 NAD 27

LOW 82 58 45

SEC 2 NW of NW of NE, T12S, R13E
Elev ~~10.5~~ ~10.5'

* ANDREWS TRACT

SEE ANDREWS WMA

LAT 29 32 25

brochure for map

LOW 82 57 58

SEC 12 SW of SE of NW

T11S, R13E

Elev 15'

WARREN Zwanka

(386) 362-1001

SC 821-3220

* GATE key for ANDREWS WMA
gate is # 2081 ON
drill rig key set

18435
CAMP AZULEA

viewed deep

WMA

18479
Camp Azulea Rte.

162
see 3.11.11

1-7-03

KC, DP 7:30 start (dave on fine
at 700) load up, to twin
towers per monitor well
key. then to penny - KC, locker
Keys in 4894 - locksmith
- rig throttle acting up -
will drop back into pto mode
(1800 rpm max) - can reset
w switch on drl. stn.

one episode - no throttle response
at all. Arr site ~ 2:30 pm

W# 18435 (shallow)
CAMP AZEKEA Rd

sec 2 NW NW 1/4 NE T12S, R 13E

LAT 29° 28' 24"

Lon 82° 58' 45"

Elev ~ 10.5'

CD: LEVY

0 - 2.5' push spl ~ 2' white sd then y.l. bn
2.5 - 4.25' push - ssp lt. y.l. bn sd
4.25 - 6.75' lt y.l. bn sand
6.75 - 9.25' sand above - last
foot gray + or sl. clay sd

9.25 - ~~11.75~~ 11.75' ssp - No signif⁵
recovery (N6") - either drained
out of spec or did not feed
wt in this int.

run in fisas w wood plug
to 8.5' - knock out plug

run mbl drl. splr

8.5-11' to clear out hole

11-13.5' soft easy penetration
& rotation ~ 1 1/4" movement

lt gy dg. sd vsL clayey

end coring in bay

End day 6:30 pm

1-8-03

7:30 A. start - to Walmart
for fluids etc, to MW. for
for water

to MW1 to ck WL 5.7' bLMP

MP 9.75' A. MSL

5.70

4.05 WATER LEVEL A. MSL

26
12

SGN

7-22

~18' top of clayey sd

Recommend

7-17'

8-18'

top ls ~26' 1E

N -14'



SWL - drill site 7.8' b/w

WL MSL - MSL 4.05

Elev 11.85' MSL

1st Surficial sed are conn:
= hyp to FLORIDAN

bailed HSA's clean

13.5-16' sand, v lty. & g. poor
recovery, uncon. will ext

split note - sampler won't
go in slurred ~2' sd in
HSA - bailed out

16-18.5' drilled w/o split -

~2' sed in HSA - bailed
sampler - at ~18' chg
to clayed (more clay than
before - bailer sticks

18.5-21 ltgy F sd, sl clayey

4" or + gmy clayey sd at base
~~2-23.5'~~ poor ~50% recovery

21-23.5' v poor recovery - v F

sd. - calcareous & long rts + fel

23.5-24' lost bailing HSA's clean

24-26 ltgy clayey sand with
rubbly ls at base 4-6"

26 ~ 27 14' of clayey sd w
ls fragments. lithology may be
primarily ls w clay matrix
~ 27-28' white ls, poorly ind, chalky
reddish with mbl drl splr.
TD at 28'

allow WL to stabilize (28' Augus
in hole)

MWL water level 4.05' MSL
SWL 7.0' b/s = 11.05' MSL elev
End day 5:30 pm

1-9-03 KC, DP-EH
730 start

pull remaining tsa - hole filled
to 5' b/s

Drill 6 5/8 Augus to 18.5'
Assemble 20.25' well Assy
10' CSG, 10' SEN (010) 0.25' end cap
Washed in 10 bags 20-30 sand
to ~ 7.5' b/s
SCREEN set at ~ 7.5-17.5'
Surge + airlift ~ 4:15 pm

stratified getting clayey
at ~ 18'

8
wash in 1 add'l. bag 20:30
filter sand to 6.5'

pour hydrate + tamp 2.7 bags
bentonite chips in slager
bentonite to -2'

End day 6:00 pm

1-10-02 7:30 start - KC +
DP to site etc to pu Portland

SWL 6.25' GLS

no lift, pump surge + surge w black
pups ~ 2-2.5 gpm, still
making some sand, v clayey

mix + pump 2 bags neat cement
for upper 2' and surface sand
mix in 2 bags filter sand.

set protective casing
stick up height : 29.625"

SWL	: 9.1' TOC
well depth	: 20.33 TOC
yield	: 2.5 gpm

18436

20.5
1.25

19.25

Stop in Perry -

Work w Tony - Diversified
Drilling Serv. - Bonifay
RE
their CMETS / new ideas
etc

1-28-03 KC, DP 730
START

9

DEEP monitor at CAMP AZEKARD,
N 11' E of shallow hole

drilled in 19.25' 6 5/8 hsa
- started getting liney +
firm at ~15' - rubble
have ~10' sed in hsa
change over to NQWL

~15' - 19.6' muddy vs soft
ls. ~8" granular mod in
ls at bse

19.6 - 22.5' muddy ls - plugging

off bit
22.5 24.5 - muddy ls -
KC ran ~1.5' w/o get?

~~no recovery lost ~1'~~

no recovery lost ~1'

End day 700 pm

1-29-03 KC, DP 7:45 start
to Walmart for fluids etc
to site. CLN tub

setup desander

24.5 - ~24.75' - EXT. ~~still~~

SPUR - return

MANATEE SPRING

18436
Camp Azekard deep

MA

18436
Clear River site

162
TEE SPRING

10
24.75-29.5' coal ls. soft to
mod ind - apparently plugged
off w harder zone + mixed
soft zone ~ 25-30' recovery
29.5-32' crm mod ind granular
ls (williston)

32-34.5' same, some cross bd
at 32'

34.5-36.5' granular ls as above

36.5-39.5' ~~TD~~ granular ls.
mod ind. one 6" zone of tight
caliche

39.5' TD - hole lightened
up - pull NQWL

REAMED hole to (6") to 37'
installed well casing

6" end cap

210' .015 sec

30' CSG w 5' sticking
target sec depth 25-35'

at Arlight surge + pump
- air lifting at 10:30 pm +
w filter pack to 21.5'

End day 7:00 pm

18460
Mammoth Springs

18426
Andreas Luma

18170
Steve Aris Site

162
755 S. Main

1-30-03 8 AM start

static WL 6.5' bLS
top of filter pack 21' bLS

surge + airlift both wells
fill 11 AM.

deep well airlifts clear
water at 10 + 9 PM
water has slight greyish
cast which turns yellowish
after several minutes

washed in bentonite chips
21 - 19.5' bLS

pump 4 bags Quick Graft to
surface then washed it
out to - 4'

pour + hydrate 1.5 bags
bentonite chips to 2' bLS
mix + pump 2 bags portland cement
for 0-2' + surface pad.
mix sand into surface pad
set protective casing

Final well depth (TDC) 38.3'¹²
STATIC WL (TDC) 9.5'
Casing stickup 32"

MATLS. ON RIG
1 1/2 sand
4 B quick gel
1/2 gravel

RETN TEL 9:30 pm

2-4-03 KC, FOR 8 AM start
load quick gel, 20' NW csg
meet CRAIG re perf. appr.
then to Chiflad

continue surge & airlift bbbh
Camp Azalea wells

Flordon well complete
shallow well still making
fine sand & is v turbid

then to Andrews WMA to
set up

18460
MANATEE SPRINGS

18426
ANDREWS WMA

18479
JLEAD RIVER RITE

162
T&E S. N. R.

Dr Singh
Cathy
877 2105

~~18426~~ 18426

13

ANDREWS WMA

OWNER - SRWMD

SEC 12da T 11S R 13E

LAT 29° 32' 25"

CON 82° 57' 58"

Elev 415'

CO LEVY

0-2.5' push spl - f. ^{dk organic sd at base} wht sd.

2.5-4.5' push spl - wht to lt.
brn sd

4.5-6.75' - push spl - (still in gr)
end day 6:30 pm

2-5-03 KC, FRR FRR start 7:00A
KC start 7:30A

flat tire on trailer

pull 4.5-6.75' spl, brn sand,
water table at ~4.5'

assemble mbl drl. spur sys

6.75-9.0' - poor recovery - fine brn
sand - extend sampler nose 2"

9-11.5' very soft - push easily w/o
rotation - brn, gy sticky clay -

✓ poor recovery, then soft
white granular ls.

18460
NANETTE SPRINGS

18426
ANDREWS WMA

18479
CLEGG RIVER SITE

162
TET SPRING

4
75
8
600

11.5-14' push EASY, Easy rot
clay? 5079 ls - poor recovery
(~8')

14-16.5' crm + lt bn ls. soft, rubble
hard zone at ~15 1/4 - plugged
bit? - Auger kicked out
of hole - pull 3 1/4" hsa
run in 6 5/8 hsa - kicked off
moved rig to straighten up

16.5-19.5 white granular ls
then white muddy ls.

19.5-22' white, lt bn fossilif
ls moldic - lost circulation
22-24.5' rubble ls w ferruginous
clay at top then med ind.
sl. moldic fossilif ls.

End coring for day
End day 6:45 pm

2-6-03 KC, FRR 7:30 start
retn to site, mix mud

STATIC WL 5.0' bLS

24.5-27' crm ls, granular - poor
to med ind. ~~fast core~~
full rec

NEED

2 + 3' NQ

2 + 3' NWJ

2 + 3' NW csg

? NW csg 10'

slips - NWJ

15

27-29.5' csm ls. perforated
ind full rec.

29.5-~~34.5~~ ~ 34' wht csm ls
cutting drilling in btm
core bbl

by time to run NQ - plugged
off bbl + struck

- tight/no rot - tight/no
feed

- van Airline to lift sidemat
- eventually by air lifting +
pulling rod as it would
move - unblocked/unstruck
pulled NQ

Drill in 27.5' NW csg
have circ w mud
End wk in day

drop off trailer at NW. Spg
return to H 700pm

16
2-12-03 KC, DP 8AM start
to cover, then to Mn. Spgs. pu
trailer, fill then to Andrews
site

SWL 4.7' bLS
meet Warren - he decides
he would prefer 0-15 blk, 15-35
scn

drill in addl. 5' NW csg to
~ 33' set btm foot in bentonite
chips for seal

34-35' LS mod ind. con. lt
br y! mod ind
35-40' fossilif. mod. ls, mod
to well ind
40-45' con. ls, well ind. var. mod. ls

~~4-2~~

end coring for day ^{end day} 7:00 pm

2-13-03 KC, DP 8AM start
STATIC WL 5.5' bLS

~~2-13-65 KC, Dr. B. A. Stettin~~

17

45-50' marks, mod ind var moldic,
+ granular

50-55' as above, somewhat softer

55-60' soft to ~58' - then vs soft
and lost circulation back into
ls (ie not big cavity) but still
no circ

white + y.l. or stained ls as above
for first foot then color change
to light grey (redox?) w/o
litho chg - lost circ at ~58
some spe ~ 1 1/2' lost then hard
grey br rock dolomite
top Avon pack?

60-~62' hard slow drilling, to
~62' then sudden drop (cavity?)
- hole btm at 62'

- grey dolomite as above for upper
1/2' then y.l. or dolomite

62-65' orange + grey dolomite, v hard
still no circulation
vortex in ~ 1/2' bag egg sand on
lost circ mat.

WATER RUN

18460
MAATE SPRINGS

18461
MAATE SPRINGS

18470
STENO RIVER RIDE

162
TET SPRING

~12 NOON EH ARRIVED

18

65-70' ~ 1.5 ft. bed carbonate
then soft stuff - caught ~ 1.5'
shelly grey sand - lost 15 at
base 6-8"

70-72.5' dk grey/bw well indurated
moldic dolomite, repl.

72.5-75' as above, lost 6" darker
grey, soft

75-80' soft grey + bw dolosilt?
clay? - cohesion top is washed
back to dolomite at ~ 78.5

80-85' bw + greyish dolomite/
thin dolosilt string

85-90' dolomite to ~ 86' thin dolosilt
~ 1 ft. dolomite to below run

90-94.75' dolomite + dolosilt
as above plus v obvious streaks,
organics

- ran out of water - TD
94.75' TD

pull NPWL
backfill hole to 46.25' - washed
in 3 bags bentonite chips

End day 700pm

18460
MANATEE SPRINGS

18461
MANATEE SPRINGS

18470
GLENDA RIVER RICE

162
TEE SPRING

2-14-03 KC, EM, DP 8AM started ¹⁹

dd. bentonite plug @ 44.25'
static WATER LEVEL 5.5' b2s

reamed hole to 6" dia
to 38'

prepare air lift hole
to clean hole to 38'

- started lifting gty sand -
16 NO SEAL at h.s.s. -

sediment continues to sift in.

- out of mud, could not
wash casing in

secure site for weekend

~~need to begin quick grab~~
~~3 bags hole plug~~

~~Gravel - lignite bit~~
~~Quick bit LV~~

RETN PA 6:15 pm

2-18-03 KC, DP, EH -mt

20

WHE 7:30 AM start, load
mud, grout, filter sand -

touch base w LEE re work to
do then to Andrews - pu
frailer at MN. Jgs, load water

then to site

MIX 250 GAL quick gel ream
hole to ~ 20', drill in addl.

5' 6 5/8 hsa - SEAL OFF SAND
have circulation - continue
w ream to 38'

INSTALL well ASSY
wash down valve

20' SCW

20' CSG w 5' stickup
pump water into well w ASSY
to displace drilling mud

wash in filter sand 12-38'

wash in secondary filter pack
to 11'

airlift + surge to settle filter
pack before grouting

18460
MANATEE SPRINGS

18461
MANATEE SPRINGS

18470
ST. JOHN RIVER RICE

162
TET 3.000

21
Tremmie 2 bags snub growth
- 11 → ? purging thru h2as
til full then pulling h2as
+ topping off growth

End day 7:15 pm

2-19-03 KC, EH, DP BAN START
and dually.

SWL 4.7' bcs
found top of bentonite grout
at ~ 3.5' bcs
poured 3 bags bentonite chips
to 2' bcs + hydrate
(big washout) - provide
solid base for protective csq

surge + snubbed well, build
surface fixture

Final well depth TOC 37.85'
SWL TOC 7.27'
stickup from top of rod 2.53'
Final well depth LSD 35.3' 30 3/4"
∴ SCN INTV 14.8 - 34.8

END DAY @ 6:30 pm

Duct tape
gaskets 1 1/4" QC
1 1/4" freon
1 1/4" glue / screw couplings
2" x 20' suc hose

22

2-26-03 Kc SAMSTAD
to Andrew well site
in borehole video cam - determine
Source of Cns sand

SWL 7.2' 5 TOL
well depth 37.85' ~~400~~ SEE below

could not get water clear enough
to use well v/c camera

set 3" slip cap upside down
& run in ahead of surge block
seated it at btm

* New final well depth 37.52'
pump at 11 gpm 324p - 334 15.25 TOL
pump is on →

pumps clear water (greyish at
start then turns yellow/or.)
at 11 gpm

but will still cloud up +
pump v fine sand after
surging

- IE still needs more deep.

~~O'LENO~~
River Rise

8³⁰ - 6³⁰

(10)

3/4/03 EH, FR LGATE 5025 4201

23

8³⁰am Dept. TLH to O'LENO ST. PK.

~12NOON Meet Jennifer Mertin & Brook 352.318.2766 cell.

O'LENO STATE PARK
WELL No. 5 Permit No. 81975
SUMMIT RIVER WIND

RAIN

T 25 R 17E SEL. 15dd

0-2" NO SAMPLE (SIFTED FOR ARTIFACTS)

PUSH 2-5.5' SAND SOME CLAY TO UNCONC. ROCK. SET AUGERS TO 5.5'

5.5 SWITCH OVER TO NR

SECURED SITE, PURCHASED SUPPLIES FROM

LOWES in LAKE CITY, OBTAINED HOTEL RM.

6³⁰pm END DAY

3/5/03 EH, FR

(11)

7³⁰am Leave Hotel

ARRV. 8³⁰am ~9 LIZ & Jennifer ARRIV

Pulled AUGERS @

Drilled 3" 12 feet & Placed 4"

PVC casing TO ABOUT ~7'

5.5' - 10.5' NO Sample - Wash out.

1:45pm - 4³⁰pm LIGHTING DETECTED

~10.5' - 15.5' CORRO

6³⁰pm END DAY

18460
MANATEE SPRINGS

18461
MANATEE SPRINGS

18470
O'LENO RIVER RISE

162
TEE SPRING

3/6/03 EH, FR LOSING

24

(11)

7³⁰am START DAY

PUT IN ANOTHER 3" CASING TO ~12.5'

15.5-20.5' NO SAMPLE - LOSS CIRCULATION

ADDED 3" CASING TO 17.5'

20.5-25.5 LIME STONE POOR RECOVERY

25.5-29.5 " " " "

29.5-35.0 " " " "

35.0-~40 " " " "

40-43.5 " " ALMOST 100% RECOV.

43.5-~49 " " " "

~49-50.5 PLUGGED BIT. " " "

50.5 PLUGGED BIT

TOOK TRAILOR / GET WATER

END DAY @ 6³⁰pm

3/7/03 EH & FR ^{Semi-Fair} Heavy Rain

7³⁰-8^{am} START

TK w/ ANDY - ASST. PAUL MARR. SAID WE
COULD LEAVE RIG ON HOLE.

HEAVY RAIN / LIGHTNING

3^{pm} Packed up SITE MADE TRAILOR TO MAINT. YARD.

5⁰⁰ ^{pm} DEPT FOR TLH

7⁴⁵ ^{pm} ARRIVED IN TLH.

18460
MANATEE SPRINGS

18461
MANATEE SPRINGS

18462
SULLYWOOD GULF
M. 1765 S. MAR.

11.5

3/10/03 EH, CK, JH

25

8²⁰am Dept. TLH for O'LEND
~1230 ARRIVE IN AREA MEET BROCK
HOLE open to 50'

50.5 - 54.5 Limestone ~75-80% Recovery

54.5' - 59.5' " " ~90-100% " J

59.5' - 64.5' " " 100% Recovery

64.5' - ~69 " " 10% Recovery

~69 - 74 " " " " "

74 - 79 " " " " "

79 - 84 " " SWITCHED TO EXTENDED
SHOT

GOT Rooms @ Holiday

END DAY 7³⁰pm

11.75

3/11/03 EH, CK, JH

7²⁰am Dept. Hotel

10²⁰am Take to TLH
BRACKET BACK 3 NQ rods

8⁰⁰am Take ~~see~~ called - 1145 TO GO TO TLH.

WATER LEVEL 11'4"

Hole open to 84

84' - ~88.5' WASHOUT, CAVITY @ ~87-88'

~~88.5~~ - 89 - 94' sandy clay limestone WASHOUT

94 - 99 WASHOUT sandy clay lime WASHOUT

99 - 104 SAME AS ABOVE 10% Recovery

104 - 109 SAME AS ABOVE 5% Rec

109 - 114 LIME STONE ~85% Recovery

114 TD

7¹⁵pm END DAY

18460
MANATEE SPRINGS

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MANATEE SPRINGS

18460
Sullivan Fork #1
MANATEE SPRINGS

18462

gunkgrow

24 gal WATER / per bag

NEAT cement / bentonite

0.4 lbs by. 8.5 gal water
mix 5 lb bentonite
then cement

soda ash

1-2 lb / 100 gal

3/12/03 EH, CK, JH

26

7³⁰ AM Began day

8 AM Road flooded @ River Rise Pk.

8³⁰ AM Picked up supplies @ maint. yard

Returned to site. met Loren

Water level 12' 9"

DRILLED 3" to ~27.5

DRILLED 7 1/4 AUGERS TO 23'

6³⁰ PM End Day

3/13/04 EH, CK, JH

7³⁰ AM Dept. Hotel

~8²⁰ AM Arrive @ Park Hawkwater

9¹⁵ AM Dept. River Rise

10³⁰ AM Dept. Lake City

12³⁰ PM Arrive @ TLH

3/20/03 KC, EH, CG & Jennifer

8⁰⁰ AM Dept. TLH

~10³⁰ AM Arrived @ site

Trip out NQ, 3" Open hole 100'
2" well Set well 80'-100' screen

2" 80'-0' casing Filter Pack 100'

Surf & AIR LIFT

4 bags of sand depth 22.5'
 SURFACE / AIR LIFT. TRIPED 3 ANGERS ON
 7¹⁵ DEPT DUE TO DARKNESS
 8^{pm} END DAY

3/21/03 EH, CG, Jennifer

7^{30am} START DAY, GOT FUEL FOR TRUCK
 TRIPED OUT LAST TWO ANGERS
 GROUT @ 11', THEN USED 1 MORE BG. GROUT
 BRINGING UP TO 6.5'

USE 2 Bgs. PORTLANDS CEMENT TO BRING
 GRAIND SURFACE. SET WELL COVER W/ 2.5"
 STICK UP. CLEANED UP EQUIPMENT, LOADED
 TRAILOR. DROO RIG @ MAINT. YARD @ PARK.
 DEPT. FOR TLH @ ~6pm.
 8^{30pm} ARRIVE @ TLH.

3/26/03 KC, EH

7^{30am} START KC, EH START @ 8am
 TRAVELED TO ANDREWS WMA

ARRV. ~11am CONT' WELL DEVELOPMENT
 3'. 74' ^{below} casing $\Rightarrow$ STATIC WATER LEVEL

PRODUCING ~18.5 GPM / 11' DRAWDOWN
 6^{30pm} RETURNED TO TLH

ANDREWS

102 mdy
 80 mdy
 239 97 bdy

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 SULLIVAN SILENT
 18462
 MANATEE SPRINGS

Att. Dral

JET tube 110

4x7 shake traps

14

25

225 gal kg tank
park plastics

28

MANATEE Spgs connected

Quick gel 15

Quick growth 8

hook plug 4

comb 4 x 94 lb

1 ezy mud +

1 quick tie N

96 loaded

B-1 SITE: $29^{\circ}29'06.45188''$
 $82^{\circ}51'59.3791W$
WGS 84 datum

$29^{\circ}29'06.32 / 82^{\circ}51'59.37$

C-1 $29^{\circ}29'05.95847''$
 $82^{\circ}51'59.96345''$

B2 - Drill

A 4 $29^{\circ}29'10.54''$ $82^{\circ}58'23.75''$

4-28-03 KL, EH, RJ 8 AM start
repair trailer lights, to offc
for final paperwork then to
Oleander state park pu rig
then to chief
calls to Sally Lieb re Authn
to drill

T 11S, R 13E, Sec 36 NE 4W

~~DGPS Lat 29° 29' 1.511" N
Lon 82° 50' 25.026" W~~

DGPS LAT 29° 29' 5.472" N
Lon 82° 51' 59.636" W
Elev ~ 18'

W 18462

4-29-03 MANATEE Springs
8AM start

Blue Tunnel (B-2)
well can't pump # 82507

0 - 2.5' push spc upper 8" -
disturbed ~ 50% recovery
2.5 - 4.25' push spc same - geyed in
4.25 - 7.25' push spc - sd thin or dgs
7.25 - 8.75' mbl dsl spc - poor
recovery - sd + dgs
8.75 - 11.25' lb or sd, flow or
crumbly ls. ~ 1' recovery
11.25 - 14' ~ 1.25' rec - 4' thyl
carbonate sd + mltg mudstn
ls.
14 - 15.5' ls, wht + lt gl. br
soft, rubble

pull tsa's, run 19' 3" csg
build circulation system,
change over to NCQ
15.5 - ~ 18.5' NORM - lost while
drilling in casing
~ 18.5 - 20' limestone, crumbly, some
hard

29

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MANATEE SPRINGS

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MANATEE SPRINGS

18462
Sullivanville

18462

4-28
3308 WALMART gravel + water ⇒

01
permit # 82507 ⇒

prices - Atl. DR

30
20-22.5' porous granular ls
22.5-25' white ls, calcareous
25-30' AS 25 to ~ 28' thin iron
stained + porous
30-35' white calcareous ls
35-40' SAME

40-45' same

45-47.5' same

drill in addl. casing to ~ 29'

END DAY 7:30 pm

4-30-03 KL, EH, RI - 8AM started
to hardware store - staples
hand cleaner etc
then to pet trader load water
flwr to site. Eric ck fr
some fr 8" pvc csg

swc mudded hole 7.1' b TOC
- 33" stickup
not likely representative

IF Elev = depth to water
and Elev = 15' then top
conduit is at 89'
if Elev = 20 then 94'

31
mix mud, - have circ back
quick gel/egg mud +

47.5-50' white granular ls. pow to
mod ind.

50-55' same ~ 70% recovery

55-60' drilled a little faster
more rob, + minor amt dr from
last 4-6" dropped, lost circ

60-62.5' require rich clay + sand
then hd bn dolomite?

run addl 5' csg, vortex in
~ 1/3 bag egg seal w/no result
62.5-65' soft muddy ls/carbonate
sand

65-70' lt gy crumbly granular ls.

70-75' top 3' hard granular ls
last in softer

75-80' hard gy bn + bn granular
ls/dolo?

80-83' (+) lt gy ls/dolo, granular
minor moldic porosity.

broke thru into cavity at
83' - lowered rods to btm
of run - pull spec

$$\begin{array}{r} 77 \\ 8 \\ \hline 85.35 \end{array}$$

tape shows 82.75' depth ³²
 to bit face, depth to btm
 of cavity at 86.7' (LSD)
 SWL 8.35' OLS

85-90
 added 1 rod - pushed to btm,
 removed 1 2" chunk of LS -
 matches w btm of last core run

90-95'
 add add rod w ext shoe - pushed
 5' - removed 8.9 or 9.3 sd
 1 lg ls pbl at base

plugged off drill rod w sand
 sucked in, Air lifted sand
 out after pulling 10' rod

mix new mud ~~with top~~
 wash back down to 95'
 drill 95-100' LS, sd + clay
 rubble, local ls at base

100' TD

End day 7:30 pm

18460
 MANATEE SPRINGS
 CAUSEWAY

18461
 MANATEE SPRINGS
 CAUSEWAY

18460
 Sullivan's Silt #1

5-1-03 KC, EH, RJ 8AM START
 pu trailer, KC + Robbie pull NQ
 mine wk on rig. EH to Gville
 pu 8" pvc csq

turn in 20' 6 $\frac{5}{8}$ hsa
 pull NW csq
 start reaming (6")
 ream to 65'
End day 700 pm

5-2-03 KC, EH, RJ 8AM START
 load water, cont. reaming
 ream 6" to top of cavity, 83' $\pm$
 pull rods - v tight due
 to chatter thru dolomite
 broke AC 24 using winch
 to ~~break~~ break joints.
 take lunch brk on way to
 Gville pu Rigid 48
 return site pull remaining
 rods.

wash in 2.25 bags bentonite
 chips to SEAL 8" csq

Bring torch + tanks
hole plug
casting 4" pipe ?
down hole camera

5-6-03 7:30 start (kc)

BH, + Brie Cohen

load trailer etc, to NW Spec
lunch on way
ARR 12:30 pm

cut reamer bit down to
8"

ream hole (8") to 81'
trip run + reamer out of hole
- brk 24" wrench
needed wrench + 48 + 36" steel
wrenches
end day 7:15 pm

18460
MANATEE SPRINGS
SULLIVAN SILETT #1

18461
MANATEE SPRINGS
SULLIVAN SILETT #1

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SULLIVAN SILETT #1

5-7-03 KL, EH, B.C. - 8AM start
run video cam in hole.

Neat!! - CAN SEE cavity +
ledge at top of dolomite at 60'
CAN also see ledge where
8" + 6" reaming + cavity
just top of conduit w
rubble pile at floor of
conduit

SET one formation packer
6" fr btm of csg. set a
2nd packer 2' above btm
SET CENTRALIZERS every 20'

Install well casing w btm
at 83'
wash in 2' of bentonite chips
~ 2/3 bag to 79' b/s
(81-83 b/s packed off)

6 bags portland cement/
5 lb bentonite mix 79 - ~ 63'
CLINT AREA
6:15 PM END DAY

18460
MANATEE SPRINGS
SULLIVAN SILENT #1

18461
MANATEE SPRINGS
SULLIVAN SILENT #1

18460
SULLIVAN SILENT #1

5-8-03 EH, BC & CK

8am SEARCHED FOR SUPPLIES, OBTAINED
 8 bgs of PORTLAND @ BELL'S CEMENT
 12 bgs. of pea gravel @ WAL-MART
 & MISS. SUPPLIES

Cement to 60' 10" Pump 2 bgs
 PORTLAND TO 60'.5

2 bgs PEA GRAVEL TO 57.5'

1/2 bg HOVE PLUG UP TO 55.5'

GROUT TO 11' PULLED 8" X 20'
 CASING OUT OF GROUND

7:30 END DAY

5-9-03 EH, BC, CK

7:45 START - CHECK OUT

GROUT TO 11' b/s

Pump 1 bg. GROUT RAISED LEVEL
 TO ~ 9.75 b/s

8 bgs PORTLAND & less sand
 Set well cover - PACKED UP
 DEPT. FOR TLH

7:40 PM END DAY

18460
 MANATEE SPRINGS
 (SULLIVAN FILE #1)

18461
 MANATEE SPRINGS
 (SULLIVAN FILE #1)

18460
 Sullivan File #1

5-19-03 KC, Clint 8AM start
 Clint driving separate - JAW ERIC
 to MSSP - meet with Sally re
 SEWER TUNNEL work. Site ACCESS

load stuff at Blue water tunnel
 for move - eric & clint cut large
 on tree, which trunk out of way
 cut 8" oak on Sally L. ok
 setup rig, ERIC pump to SPRING
 at top. get trailer in - stuck.
 off load water, pull out. finally
 get trailer in place

end day 7:45 pm

8AM START

5-20-03 WARM start for
 float mabl. for float's pump
 section - will need to pump
 fr. sink (or run water fr. road)

18460
 MANATEE SPRINGS
 SEWER TUNNEL

18461
 MANATEE SPRINGS
 SEWER TUNNEL

18460
 Sullivan Site #1

W 18460

38

SEWER Tunnel CORB

Permit # 82705

LEVY CO

366 35 T 11S R 13E

DGPS

ZAT 29° 29' ~~115~~ " 9.511

CON 82° 58' ~~279~~ " 25.024

Elev ~14'

0-2.5' push spc - dk to Hqy sand

2.5-4.5' push spc br sd then weathered
3.25 yellowish ls

4.5-6' push spc - refusa at 6'
gl. ls, or clay +

drilled in 9.5' NW CS9, set up
cure spc, chgover to NA

6-8.5' NO spc - washed out
running CS9

8.5-10' - NO spl. recovered - did
recover metal roller PETE
Butts used as a site locator

~10-14.25' soft ls at top - almost
just sand than granular ls

MARK + ANNETTE

h. 352-490-8930
cl 213-2167

KARL ENVR.

386-454-3556

39

14.75' - 19.75' granular / s poured

19.75 - 24.75

24.75 - 29.75

29.75 - 34.75

34.75 - ~~39~~ 39.75

39.75 - 44.75

44.75 - 49.75

49.75 - 54.75

54.75 - 59.75

59.75 - 64.75

64.75 - 69.75' - v soft - lost

circ at btm of run

btm 2" of core iron stained

tape shows cavity to 80-80.5'

prob sewer tunnel

~~drill top to 66.75'~~

Diver depths At site A 5

66' At top of tunnel

75' at btm

drill depth 69.5 - 69.75 ft top
of cavity to and 80' ft btm
depth to WATER 7.8' bts

trip out NO. turn in 9.5'

6 3/8" HSA Pull 3" CS 10' of 8" pvc

WASH in 1 bag bentonite chips

18461
MANATEE SPRINGS
Manatee County

18460
Sullivanville #1

to seal botm of 8"

start to ream to 6" - plug off
botm of hole, need to clean out
botm

End day 7:30 pm

5-21-03 8:30 start to chisel
supply the 2" PVC for airlift
Airlift to ~38' - hard blockage -
run 30' NWT in sub - knock
out - clean to botm.

go back in w 5 7/8 reamer
to ~55' - hole plugged -
cuttings coming in on reamer
- pull drill string -
Airlift to clear cuttings

REAM ~~to~~ 5 7/8 to 10' ^{shackle}
START INSTL for shackle in
mast for traveling block

End day 7:30 pm

shackle
hook jaw } 18" rigid
hull jaw }

1 REAMER 59'
11 10' NWJ 19, 29
1 5' NWJ 24, 29, 34, 39
5'

top of conduit 69.5'
reamer 1st - 2' depth → 67.5'

89	89
30	25
59	64
- 3	25
56	61.5
+5	66.5

41

5-22-03 8 AM start

put shackle, meet wind at
site - run borehole video
set up traveling block and wire,
start reaming (8")

reamed to 66.5' (3' shy of
top of conduit)

START TRIP out 8" REAMER -
thunderstorms roll in ~ 3:00 pm
still rolling at 5:00 pm - lock
up, go to motel
end day 5:30 pm

5-23-03 KC, EH, CK 7 AM start
pull remaining reamer string

install $69\frac{3}{4}$ " 4" CSG
(pushed btm 5m packer out of
cavity - had to pull back)

wash in $\frac{3}{4}$ bag bentonite chips
66.5 - 62.7

pump 2 bags Portland / 5% bentonite
to 54'

18461
MAURICE SPENCES
Maurice Spences

18460
Sullivan Sileth #1

Chit deposit 100N.
12871 / 251.0084

FL-324

to do/load

- ✓ cone box matl.
- ✓ new pads
- ✓ travel auth
- ✓ invoice to Dave Thornby
- ✓ receipts for
- ✓ WALMART
- ✓ SKUNK
- ✓ Chefed Farm Supply
- ✓ Tractor Supply
- ✓ craig reamer
- ✓ generator
- ✓ lights
- ✓ ~~NEW~~ ~~NEW/MAKER~~
- ✓ 1) load 7 1/2" reamer
- ✓ + bad new
- ✓ 2) 10' x 4" pvc csg
- ✓ stapler
- ✓ hand hat shade

42
pump 5 bags quick grout
to 4' bts

pump 3 bags portland + 5%
bentonite to surface and
for ped. set protective
casing, clearing site,
rake out cuts at road
drop of Ris at BWT/MT
retu. Tth 10:15 pm

5-27-05

met @ warehouse @ 7:30 am
A. Willett, D. Paul, R. Jones
K. Campbell

- KC injured had @ warehouse
- to drill side @ 11:30 am - set
up, no rotation - ID problem is
LIFELINE fuse, send Robby
to buy several.

Grouting summary

3/4 bag bentonite dips	62.5-66.5
2 bags portland/5% bent	54-66.5
5 quick grout	4-54'
3 portland/5% bent.	0-4'

W 18461

MAIN TUNNEL

43

PERMIT#

COUNTY

S 366 AT US R 13E

DCPS

LAT 29°29' 5.005"

LONG 88°58' 00.364"

ELEV 419'

5-27-03

Meet @ Warehouse @ 7:30am

A Willett, D. Paul, R. Jones

K. Campbell

- KC injured hand @ warehouse
- to drill site @ 11:30am set up,
no rotation - diagnose lifeline
is stuck. ID blown fuse,
buy several in Glove compartment
- run in 45' 3" casing less 1'
stickup, switch to NG.
HOLE TO ~ 42'

MAIN TUNNEL

18461
MAIN TUNNEL
MINUTE SPRINGS

18460
Sullivan Fork #1

Cavity is ~ 73' - 84'

42' - 45' good Ocala LS white to v. lt or
packstone

45' - 50' foraminiferous moldic packstone
w/ calcite layers

50' - 55' AS ABOVE then lt. ~~gray~~ orange
fram packstone

55' - 60' pinkish gray ~~for~~ fram packstone
(*mmulites* sp.)

60' - 65' pinkish orange fram hash packstone

65' - 70' lost ~ 1.5' head free fell
cavity? conduit?

as above - shell moldic fram hash
packstone pinkish orange. last 2'
is white to orange

will drop tape into hole to measure
depth

70' - 75' ~ 2' cavity then HARD
drilling, then 1.5' - 2' head free
measure hole 81.3'

75' - 80' CAVITY

80' - 85' CAVITY to ~ 84' might
no sample.

TD

begin trip: A

• begin tripping out NA.
 finish + clean up a little
 KC etc LB & BC arrive ~ 9pm
 WP depart ~ 9:45pm

5-21-03 KC, LEE Booth + Brie
 leave TTH ~ 530 pm - eat
 dinner Fanning Spgs. etc in
 at mo D, then to site

drill in 34' 6 5/8 hsa
 top of consistent rock at
 ~ 30'

rain approx 11:15 - 11:45

mix mud - fill 6 5/8 hsa's
 start to pull - lost
 circ ~ 25' - pulled rem
 hsa's, run 33.5' 8" pvc
 (had to work in lost 8 or 10
 feet)

pull 3" CSG

hole bridged at ~ 33'

end day KC, Brie + Lee
 3:15 AM

DAVE could not re-enter
core hole - bridged, filled
w cuttings - covered new
hole to conduct

46

5-28-03 DP, AW, RJ
leave motel - 8am to Walmart
to site by 8:45am

- bridged to ~ 33' dry to wash
out hole w/ trim pipe, no luck.
- try drill at hole w/ NQ, get
sand-lacked inner-barrel in core
barrel. @ 45'
- trip out, unstick inner barrel
- go back in i air lift cuttings
out of hole. can't find hole?!?
- go ahead i core out hole.

drill to 72.5' NQ HOLE GOT TIGHT!
slug of cuttings fell into core hole?
cavity last ~ 1.5' hole.

72.5' NQ - 77.5' NQ - cavity.

- run in tape hole to 81.2'

trip NQ out, in with NWS +
6" i reamer
~~35~~ 35' NWS

ream 76' rod + reamer - 2'
stickup = 74' into cavern

18420
Sullivan Site #1

depths in video —

NO SEAL at btm of CSG →
re-sealed the CSG to stop
loss of surface sediments →

could see original conduit
- appeared to merge with
reamed hole

47

@ 7:30³⁰ pm DP/RJ/AW
hand rig off to KC/LB/BC

KC, LEE, BRIE start work 500 pm
- pull log across trail at
Sewer tunnel, pu well csg
at wk ctr.

SET up to run video down hole
- Weight and tape is at 73.5'
top of conduit at 69.5'

lots of fines - push csg
+ regain seal - re-run
video

START RUNNING 8" REAMER
NEED to REAM to 67'
Drill Bit is 7'3" REAMER
Reamed to 67.5'

SET 69.5' 4" CSG washed in
1 bag bentonite chips 67-65'

End day 3:30 AM

18480
Sullivan Sault #1

5-29-03

48

DP/AW/RJ check out of motel
@ 8am, then to site.

~~Start with portland + 5% ANKK GEL~~
2 bags

Dave ran tape - hole to 31'
cont w KC, LB - decide to
pull well - look at hole w
video cam -
orig core hole exposed +
tangent to reamed hole

Cut plastic ATP funnel top
into 1/4" - ran in on 1/4"
tremmie - pushed into hole -
tapped w bentonite chips

ran well away back into
hole washed in 1 bag
bentonite chips to 65-67'

pump 2 bags portland / 5% bentonite
mix 65-58

pump 2 bags dry seal +
4 bags quick grout

grouting
cut 2 bags 58-65'
1 bag bentonite chips 65-69'
2 cut / 5% 58-65
6 to 20% solids bentonite 11-58'
3 at 11 bags 5.5-11'
4 bentonite 0-5.5

actually chips
reach 1st
packer 69'

18460
Sullivan's Field #1

lost wire zone taking
grout - bridged w gravel

NOTE 2 holes will show in
conduit ? how far apart?
~6"

49

End day 7:30 pm

5-30-03 KC, BC + LB 7 AM ST.
to site, KC to Gorman - Grille
for grout

pump 3 bags cement/sand
- w/o lifting grt level above
11.5' b.l.s.

- pour river gravel to bridge
6 bags to ~5.5' b.l.s.
pump 1 addl. bag cement/
sandy mud to ~2' b.l.s.

pump 4 bags portland c / 5%
bentonite to sand surface
and on pad

set protective casing

5 bags portland / 5% bent.
~~etc etc~~ stop off - ck out
with pk art mgr (Bill) - return
to TCH 7:30 pm

to do
completion up to
oil chg. Dually
" " rig

shelly unload core / tanks etc

BLUE WATER TUNNEL

19' 8" PVC CSG

29' NW CSG

CORE TO 100'

60' Cavity lost circ

83' Top of conduit

87' btm of conduit

~10' fill in btm of conduit

SWL 8.35' BLS

top rock
8.45-14'

SEWER TUNNEL

top of rock at ~4.5'

9.5' NW CSG

9.5' 8" PVC CSG

top of conduit

69.75'

btm of conduit

80'

Main Tunnel

45' NW csg

34' 8" PVC csg

top of cavity 69.5'

base of cavity 81'

10-1-03 KL, LB, BC

52

8 AM start - to Apal. NAT
Forest, Sullivan Sink site
"300 hole"

~ 500' N of trail int at
middle e. edge of sec 18
on w side of powerline
~ 30' into woods

LEON Co.

S 18d6 T 25 R 1W

LAT 30° 18.733 16min

LO N 84° 21.712 Avg

Elev 30' 24'

W18480

SULLIVAN SINK #1

0-2.5' push spl - wht sd ~ 60%
recovery - soft compacted

2.5-4.5 SAME

4.5-7' SAME

Assb. Mbl drl splr

7-9' ~ 50% recovery - ext.

SPLR NOSE 2"

9-11.5' sand, wht

11.5-14' " "

14-16.5' sd wht + brn

18480
Sullivan Sink #1

for 10-2-03

pointy-ended hammer
1 1/4" pipe
(2) Core spatula
trash bags
core bby

16.5-19' softer penetration ⁵³
water table in this run
~~the~~

19-21.5 - soft penetr. bn sd

21.5-24' same

24-26.5' soft plastic sand - sand
locked temporarily - sacked 3"
sd into HSA - bailed out

26.5-29' drilled w/o sampler -
bailed sample - dk org rich
sand, some clayey at btm

29-30' bailed spe - dk bn org
rich chy sd

30-~~31.5~~ 32 bailed org rich sd

32-34 bailed - less org (?)

pulling in more sand than bailing
out.

reg recirc sup - pump HSA's
lifted some sd then blew out
btm

drill in HSA 2.5'

34-36.5' -

End day 5:45 pm

54
10-2-03 KC, CB, LB 8 AM START

loadup - auger trailer to
Sullivan Sink #1

SWC 14.7' bws

hwa's open to 37.5' - firm
drill hwa's to 38.5'
bottom feels like clay / ls (?)
mix mud - chg over to NQ

34 - ~38.5' NOSM

38.5 - 39.9' bn clayey sand
grading to cream soft ls

39.9 - 44.9'

44.9 - 48.5 ltgy clayey ls grad to
tan + br, + iron staining

48.5 - 49.9' tan ls w iron staining

49.9 - 54.9' upper part v soft,

lower part some soft some hard

lost circ - expect cavity full

49.9 - ~54.9' cavity then 2"

gy + gn clay and tan/yl
ls.

54.9 - 59.9' ~ 8 in hard tan
ls then cavity - possibly
same cavity?

small blocks

4 1/4" triepins
collar & drive bell
water level gage

55

59.9' - 62.4' ~ 1' cavity, then
hard ls then more cavity
62.4 - 64.9' cavity at top some rock
in & middle then back to cavity
v poor recovery SWC 12.6' bbs
64.9 - 69.9' v poor recovery - ~ 1'
ls, wht. then interbedded cavity
& soft rock to btm
69.9 - 74.9 - cavity / fill upper
3' then hard ls - chatter -
some soft zones lost
74.9 - 79.9 - interbedded soft
zones - nothing real hard
prob cavity fill - ~ 6-8' inc.
79.9 - 83.3' - poor recovery -
soft ls - much of it crumbled
- plugged off / ground core at btm

END CORING FOR DAY

Rig 11045 / 1402 hrs

END DAY 6:30 PM

10-3-03 KC, DP ERIN 8AM
 start, load trispins,
 wk on trailer lights - then
 to site

SWL 17.2' BLS
 pull NO + 3 1/4" HSAS
 run in 4 1/4" trispins to ~42'
 refusal

make WATER RUN

★ NEED 2 1/2' trispin or ext.

★ small blocks

★ Drilling mud

10-6-03 KC, BC - leave when
 12:15pm - run CSG (3") to
 60' end day 6:00 pm

10-7-03 KC, BC - 8AM start

SWL 16.75' BLS

drill in 3" CSG to ~82.5'

make WATER RUN -

SULLIVAN SK, set up

pump + hoses then

60' NQ 10's
100' 5'
core bbl 7.5'

Notes from conv. w Todd

Cave at this loc

100-110' below WL

IE 117-127 bLS

he would like SCN from
100-150 bLS

- keep in touch re change
in geology which will
necessitate changes

lunch, T storm 12:30 on 2:15³⁷
mix mud - run NQ

83.3-85' Hgy sdy ls on lining sd
some hard spots

85-87.5' sdy muddy ls

87.5-90' ~ 6" recessed - mounds
in cavity

90-92.5' ~ 1' blk org + ls frags
over br lms + gray ls.

End coring for day

End day 6:30 pm

10-8-03 KC, BC - staff mtg
+ takes mentorship tack - then to
site on 11:30 A.

mix mud

SWL 17.7' bLS

92.5 ~ 94 ~ 1/2' rock than
soft - return mud is dk br
(organics) - go back on w
ext. shoe

~ 94-95' blk org rich sdy clay
+ ls. frag.

Make NQ pin plug
quick gel

58
95-100' 1/2" poor recovery - 2" rock
+ ~2" org w/ls frag. - very soft
100-102.5 back in next shoe -
soft sdu + org rich clay
102.5-105 ~1' meownd - 2" blk clay
w ls then hard granular browned ls
105-107.5' hard ls, some chatter
~2' recovery br, tan + gray, fossilif
107.5-110 hard rubble ls at top
then crin + gy ls. lowmost foot
highly moldic/next! ls. - some coral
110-

pull NQ - run csg to
106' - shut down for day
Rig hours 1416
End day 6:30 pm
=

10-9-03 KC, B.C., DP - 8AM
Start - KC to water run,
D + B run NQ back in

110-115' ~25' cavity ~1/2 way
through sample run
gray / tanish-pinkish ls
cavity ~112' - ~114.5'

★ QUIK GEL
PAPER TONGS
ICE
trash pump to run desander

69

115' - 120' drilled 1' 8", ran out of fluids
stop + retrieve sp, mix more
mud. Finished run, then
last ~1' fed freely.

- Hard tan; gray LS
- SNWAVES

120' - 122.5' cavity to 121', then
excellent rec. of hard dol/LS
grainstone olive gray / tan

122.5' - 125' last 8" or so fed LS
freely - cavity. gray / tan peloidal

125' - 127.5' free-fall (cavity) fr ~1st 8"
then peloidal LS

127.5' - 130' peloidal LS then gray; black
dk. brown organic clay.
- Mix more mud

130' - ~132 cavity

~132 - 132.5' gray + blk clay w LS frag.

132.5' - 135. gy tan granular and mic
porous ls.

END coring for day

END day 630 PM

60
-10-10-03/ KC, EH, CK 8 AM START
mfg NQ plug, misc wk at
Whse - then to site ~ 1:30 p

mix mud, wash out hole

135-137.5' poor recovery

137.5-140' v poor recovery, cream
porous granular ls. some micritic
seams 1.5' cavity at base of
int.

140-142.5' ~ 1.5' cavity at top
then cream-porous granular ls.

142.5' - in case bbl would not
go in (~~that~~ all runs today
had to be pumped in) - Rods are
tighter in hole - postulate
NQ deviated at btm of a
cavity) - pull NQ - will
drill in 3" CSG

Drill 3" to ? ~ 112?

End day 7:00 pm

Need on 10.15.03

Soda Ash
1 1/4 trimming
~~long chert~~
~~1000~~
diesel Fuel
ice

61
10-13-03 KC, EH, BC - ~~San start~~
~~San start~~ Brie

SEARCH re brk cbl for hoist
load NW csq, HW csq.
65/8 hrs's
to site ARR 2:00 pm

Pull 4 1/4" true spind
Run in 38.5' HW csq
End day 6:45 pm
Rig hour 1428

10-14-03 KC, EH, BC 8:30 start
drill in HW csq to 110'
pull 10' NW csq w bentonite
plug
run in 10' NW csq
mix mud packing for day
Rig hours 1435
End day 6:30 pm

10-15-03

KC down paperwork, loading
supplies then to site -
make WATER RUN

145.25
1.5

143.75

147.5
4.25

143.25

10-15-03

Run NW csq to 142 (btm of
cored hole) csq clear to
141'

Run in NW

Drill thru debris in csq - lose
cine at btm of csq.

142.5 - drill 143.25' rubble - ls w cavity
fill

143.25 - 145.25 med hd grey
moldic ls then cavity starting
at ~143.5'

145.25 - 147.5 - cavity ~1' at top
then ls. some chatter softer ls
4" stopped run

147.5 - 150.0 - cavity/cavity
fill - pushed core bit - only
resistance last 4" - core catcher
retained small amt of black
clay back in w ext. shoe

150 - 152.5' pushed spl - recovering
small amt blk clay + ls frag.

152.5 ext shoe - 153.25' - refusal
at 153.25' - sand, clay, ls frag +
black org.

153.25 - 155 - lt gy/crumb poor ind
granular ls. - poor recovery

remember:

Paper towels

2" PVC Threaded
Well screen

* Bruce owes Ken a $\frac{1}{2}$ hr

63

End coring for day
Rig home 1439

RETN TEL 6:30

KC call Todd Kincaid & mail
photos etc - end day 7:45 p

10-16-03 KC, BC, DP 8AM start
load sand, well matl. etc
to site

pull neww, NW csq
once NW out of hole - tape won't
go to depth.

run 2" fromme as eductor
pipe - plugged - won't want
to lift or wash out -
pull eductor -

run NW csq back in to 138
end day 6:30 pm

10-17-03 KC, DP, BC 8AM start
cleaning, trim drill, lower for
river gravel then to site
make WATER RUN

wash in some river gravel to
bottom of hole

lay out well materials

137.5' ~~at~~ target depth

64

6" well point

30' .030 slot screen

110' csq (~2.5' stickup)

wash filter sand in thru
3" csq - picking up csq slowly
to provide space for filter
pack, but not lots of room
for formation fines

So far, we have used 4, ~~to~~ 50lb
bags of coarse sand. (4:01 pm)

filter packed to ~118'. got
sand locked. Attop. rest of pvc
to free well dr. csq. - no go
incl air lift - pulled, lots of fines
picked up 5' - well came
with csq - unscrewed top
20' of pvc csq to get
drive head on 3"

★ NOTE: well is probably
already broken - At very
least screen is now
5-7' too high

-65

with luck - sand lock situation
will be solved with space under
it.

- will still need to pull well
drill 3" csq back in and
reinstall well casing.

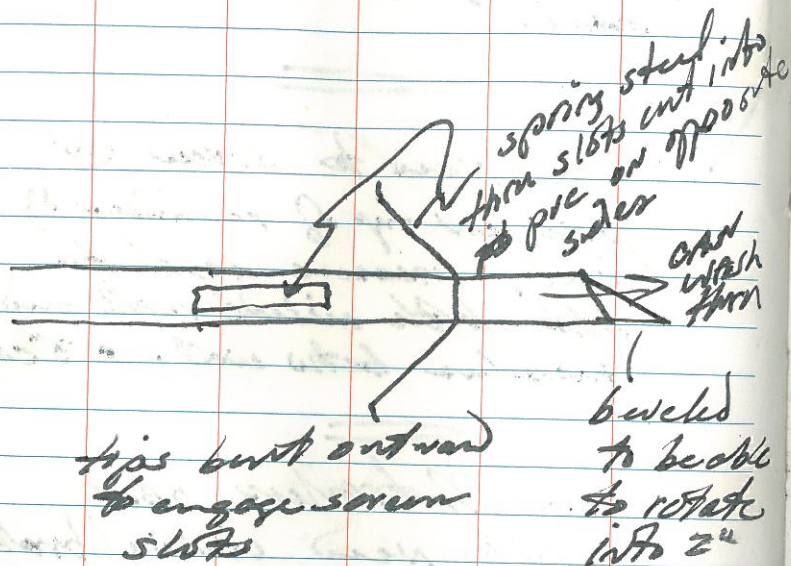
NOTE - when reinstalling well
pull cas 5' at time to have
plenty of space for filter
sand.

First need to screw 20'
pvc on top of remainder of
well, measure depth to
btm both inside well and
annulus betw well + a 3" csq

bring both trailers back
→ both need wiring/brake
wk

End day 7:30 pm

DIESEL FUEL



10-27-03 KC, BC 8 AM start⁶⁶
 to site
 pull well Assy - SCREEN broken
 in 2 at ~ 16'
 mix mud - wash 3" csq
 down to ~ 138.5
 Rig hours 1451
 Retn town to make fishing tool
 etc

retn town ~ 1:30 pm

10-29-03 KC, BC, 8 AM start
 wash inside 3" csq, ran
 fishing tool on 1 1/4" pvc
 to pull 16' broken casing
 - speared + hooked on 1st try
 pulled w/o trouble

set well Assy - 8" well pt.
 30' 1030 gen, 110' csq
 ~ 2.5' stickup

washed in filter sand thru
 3" csq to ~ 115'

pull 3" csq
 then poured add sd to ~ 97'

running total
filter sand
14

+1
15

up into 4" csq by ~13'

67

8 bags total today, + 6
previously

start airlift thru 1 1/4"

ductor - ~ 1.5 hr

add addl. filter sand 1 bag
end day 630pm

10-30-03 KC, BC BAK ST.

pu fuel for rig

SWL inside 4" csq : 17.25 bbs

inside 6 5/8 hsa : 6.7' bbs

Air lift deep well while
cleaning up site

pull 4" csq back to ~103.5

& pour addl. bag filter sand

- brings sand surface to 103.5

surge + airlift - sand surface

continuously dropping to ~

102' bbs - Add addl.

filter pack sand

airlifts (steady state) ~ 15 gpm
thru well csq

+1
16

+1
17

Need for 10.31.03

Surge plug
info on Corvel
Diesel Fuel
gatorade
ALCANE
pink ground

when surged still get significant
quantities of fines - well
will start to pop clear almost
immediately - Cloudy then

Airlift hit ~ 2:45 pm - shut
down - compressor overheating
(hydraulic fluid) temp ~ 225°F

continue surge + airlift
after cool down

Rig hours 1462
filter pack at 106.25 TOC
End day 545 pm

10-31-03 KC, EH - 8 AM start
- put out brushfires - leave for
10:00 AM - fuel for rig.

Surge + pop well - airlift
pops ~ 100 gal well water
down hole - top of filter
pack dropped 105.5' bws (6x20)
add secondary filter pack
to 104.7

bentonite
chips 104.7-100.5
bcs

bentonite chips to 103.5 - 69
fine to pull same csq.
bentonite chips to 100.5 LSD

have 100.5' 4" csq in place
w 2.5' stickup - have
bentonite bridge at 24.5'
BTCL - will bry
small dia mc to clean out

Retn fc 2:00pm

11-3-03 KL, BCL BAM st
to lower - pm pm etc
to site -

SWL in well 17.0' bcs
SWL in 4" csq SAME

Attp. wash out bentonite bridge.
- no go - pull 5' 4" csq -
well lifts ~3" - air lift
well to ensure not broken
pull ~~add~~ 4" csq (all)
btm at 95' BCS
? bentonite or fm. fill

95' bentonite
grout
mud 3

~~DIESEL~~
~~4" x 1 1/4" pipe~~
~~gate valve~~
~~lunch~~
~~paper towels~~ 3/6

Quik grout
2 1/2' 6 5/8" bitol ^{x3}/₉
CEMENT

70
mix + tremmie 3 bags quik grout
starting w tremmie at 95'

RETN WHEEL 6:15 pm

11-4-05 KC, BE 8AM start
month and paperwork + deliver
to gutter bldg. Sud to rig
thin to site.

~~Feels~~ Feels like top of grout
at ~ 62-65'

Mix AND tremmie 3 bags
Quik Grout

Need to make water run

mix + pump 3 bags Quik Grout
(9 50 TAN) grout is up into
6 5/8 HASAS

RETN WHEEL load for tomorrow
Quik grout

5' 6 5/8 HASA

White trailer

END day 3:45

9 bags

5/14

11-5-03 KC, BC 8:30 start
to site

swc (well) 17.25' bLS
sd top of grout at 24' bLS

swc in 6 1/2 hsa's 8.0 bLS

mix + pump 5 bags give grout
while pulling hsa's

bentonite grout (Quick Grout)
95-10' bLS (14 bags total)

load trucks on trailer,
cleanup site etc RETN
to Jc loadup for tomorrow,
to lower pu 20 bags
portland

KC EMAIL Todd Kincaid
re station + next site

END day 500pm

11-6-03 KC, BC 8:30 start
get EH fineshut handled in
Time direct.

to site - start grouting
upper 10' (cont)

mix + pump 8 bags portland
cont / 5 to bentonite mix to
land surface and for pad

complete pad, lock down,
pull gv trailer to whse
END day 5:30 pm

11-7-03 KC 800, BC 900 -

pull ERIC trk + gv trailer to
minco.

stop at TCH weld - have
few pw plugs made + new caps
made.

to site complete site cleanup
airlift well

START RECON for Nxb site

Site 2a. 18.829'
30° ~~18.818.0~~
84° 21.713'
30' feet

Site 2b. way point 1
30° 18.847' (51")
84° 21.712' (43")

~ 30' W of free line
can move EW and/or NS
25-50'

Site 2c. way point 4
30° 19.035'
84° 21.678'

~

can move 100' N and/or 100' E
~ end day at 3:30 pm

73
Suel. Sk #1
well depth 170.10' TOC
striking height 25' - top of pad
2.1'

$$\begin{array}{r} 140.1 \\ 2.1 \\ \hline 138.0 \end{array}$$

Things to get ...

Done $1\frac{1}{4}"$ 300 psi nipple (short)
 $1" \times 8"$ pipe
 Manatee Springs

A few more CAM-LOCKS
 various sizes

* Brake cable
 Done $3"$ Castings $\sim 45'$
 $4"$ Castings $\sim 110'$
 $6\frac{5}{8}"$ AUGER $\sim 40'$ & DRIVE BELL

10.13.03

CURVE TABLES

HOW TO USE CURVE TABLES

Table I. contains Tangents and External to a 1° curve. Tan. and Ext. to any other radius may be found nearly enough, by dividing the Tan. or Ext. opposite the given Central Angle by the given degree of curve.

To find Deg. of Curve, having the Central Angle and Tangent: Divide Tan. opposite the given Central Angle by the given Tangent.

To find Deg. of Curve, having the Central Angle and External: Divide Ext. opposite the given Central Angle by the given External.

To find Nat. Tan. and Nat. Ex. Sec. for any angle by Table I.: Tan. or Ext. of twice the given angle divided by the radius of a 1° curve will be the Nat. Tan. or Nat. Ex. Sec.

EXAMPLE

Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P. = $23^\circ 20'$ to the R. at Station 542 + 72.

Ext. in Tab. I opposite $23^\circ 20' = 120.87$
 $120.87 \div 12 = 10.07$. Say a 10° Curve.

Tan. in Tab. I opp. $23^\circ 20' = 1183.1$
 $1183.1 \div 10 = 118.31$.

Correction for A. $23^\circ 20'$ for a 10° Cur. = 0.16
 $118.31 + 0.16 = 118.47 =$ corrected Tangent.

(If corrected Ext. is required find in same way)
 Ang. $23^\circ 20' = 23.33^\circ \div 10 = 2.3333 =$ L. C.

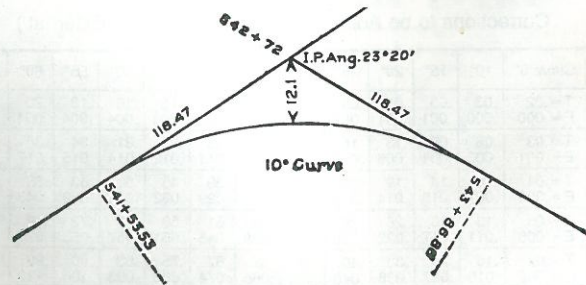
$2^\circ 19\frac{1}{2}' =$ def. for sta.	542	I. P. = sta.	542 + 72
$4^\circ 49\frac{1}{2}' =$ " " "	+ 50	Tan. =	1 .18.47
$7^\circ 19\frac{1}{2}' =$ " " "	543	B. C. = sta.	541 + 53.53
$9^\circ 49\frac{1}{2}' =$ " " "	+ 50	L. C. =	2 .33.33
$11^\circ 40' =$ " " "	543 +	E. C. = Sta.	543 + 86.86
	86.86		

$100 - 53.53 = 46.47 \times 3' (\text{def. for 1 ft. of } 10^\circ \text{ Cur.}) = 139.41' =$

$2^\circ 19\frac{1}{2}' =$ def. for sta. 542.

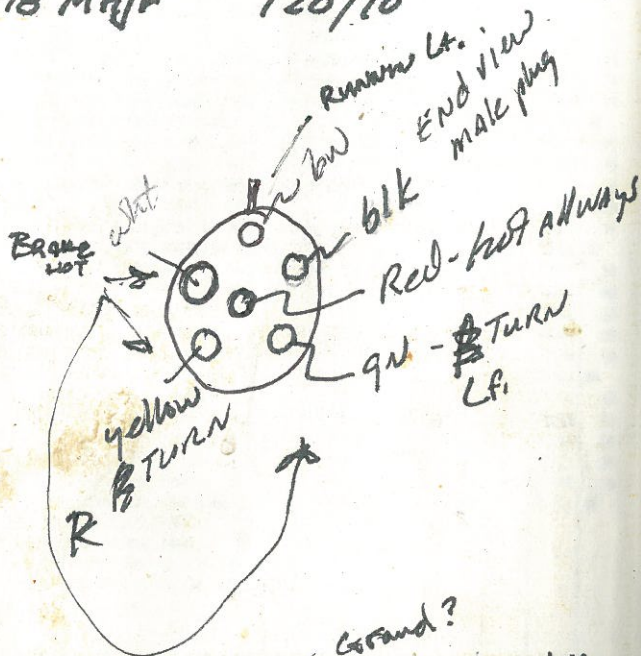
Def. for 50 ft. = $2^\circ 30'$ for a 10° Curve.

Def. for 36.86 ft. = $1^\circ 50\frac{1}{2}'$ for a 10° Curve.



Drill rod weights

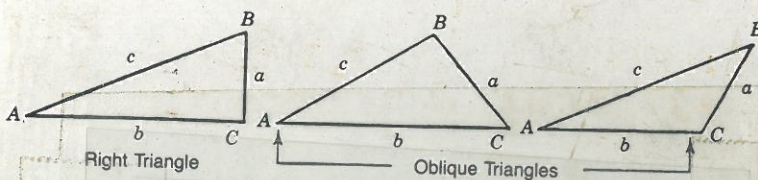
NC (NQ) 51 lb/10'
 NWT 52 / 10'
 NW CSg 87/10'
 HW CSg 114/10'
 2 3/8 Mhjr 120/10'



Truck lead.

black — Got and?
 green — rt. turn / brokes
 brown — headlights
 yellow — brakes / lt turn
 blue — Nothing
 red — Nothing

TRIGONOMETRIC FORMULAE



Florida Geological Survey
 903 West Tennessee Street
 Gunter Building
 Tallahassee, Florida 32304-7716
 Mail Station 720

For Angle A.

Given
 a, b

a, c

A, a

A, b

A, c

Given

A, B, a

A, a, b

a, b, C

a, b, c

a, b, c

A, b, c

A, B, C, a

Name

ID #

Nextel Phone

Walt Schmidt

15054

528-2843

Tom Scott

15053

528-2842

Harley Means

15048

528-2837

Ron Hoenstine

15051

528-2840

Jim Ladner

15049

528-2838

Jon Arthur

15050

528-2839

Cara Gowan

15047

528-2836

Wanda Bissonnette

15055

528-2844

Susan Trombley

15052

528-2841

Ryan Means

15063

528-2852

Tina Roberts

15065

528-2854

Ted Kiper

15064

528-2853

Wade Stringer

15066

528-2855

Ken Campbell

15060

528-2849

Craig Berninger

15056

528-2845

Lee Booth

15061

528-2850

Frank Rush

15059

528-2848

Rick Green

15062

528-2851

FGS 1

15057

528-2846

FGS 2

15058

528-2847

Ed Gambrell

15075

(850) 393-6312

Jay 2

15076

(850) 393-6309

Bob Caughey

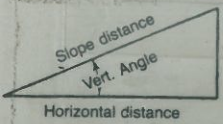
160*17033*3

(239) 229-4291

Paul Attwood

160*17033*4

(239) 229-4293



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

