

LEVEL BOOK

#101596

MOBILE Drill

Log # 17

11-03 / 8-04

18481 / 18536



BEN MEADOWS COMPANY

www.benmeadows.com • 1-800-241-6401

When

the
Outdoors

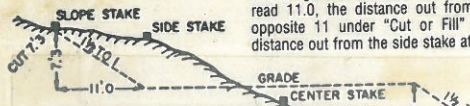
is Your

Office™

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.



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

Cut or Fill																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</
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Table of Contents

Page 1 W-18481

Page 17 W-18482

Page 33 W-18467

Page 52 W-18472

Page 65 W-18536

WGS 84

LAT $30^{\circ}18.876'$

LONG $84^{\circ}21.717'$

EPE 14.5'

WPS 2900 MEASUREMENTS

W18481

11-12-03 KC, EH, BC

SULLIVAN Sink #2

Permit # T200400397

NAD83

LAT $30^{\circ}18.878'$

20 min

LONG $84^{\circ}21.711'$

avg

EPE "0"

SEC 1866 T 2S R 1W

ELEV $\sim 30'$ TOPO

W# 18481

0-2.5' - push spl - compacted to 2'
gray br sand grading to y.l. or.
2.5-5.0' push spl - y.l. or sand

5.0-6.5' Mbl drl spl - y.l. or sand -
 $\sim 4''$ slough at top
6.5-8.5' white, lb. y.l. sand

11.13.03 KC, BC, EH $\sim 8:00$ am

Green trailer hooked to SSO, need
pigtail. EH picking up at Minco.

18472
18481
Sullivan Sink 30 pad

arrived @ drill site 11:20 am.

move splr nose
back in

2

- 8.5 - 11' lt y.l. or sand
11 - 13.5' SAME
13.5 - 16' lt y.l. grad to wst sd
16 - 18.5'
18.5 - 21 EXT splr nose 2"
wht sand then or bn clayey sd
last 6" - first soil moisture
- 21 - 23.5' bn sl clay sd, damp
23.5 - 26' bn sd or above, wt
at ~ 25 1/4"
26 - 28.5' bn sl clay sd - ~ 4"
RECOVERED
28.5 - 31' black organic rich
clay. sd / sd clay ~ 1' - 1.25'
thick then back into bn sd
31 - 33.5' bn sd
33.5 - 36' lt bn sd
36 - 38.5' ~ 40% recovering
sand or above
38.5 - 41 sand? - NO RECOVERY
41 - 43.5' 6" sand then blue gy
+ orange mottled clay - the
light, sticky plastic. scattered
ls. fragments
43.5 - 46' orange + bn clay ~ 1'
then white chalky clay / ls w

4) 4" x 10' CS9
1 6⁵/₈ HSA
Quick gel
ICE
Gatorade

15 ftg. - ~1' not recovered
in 5th section
pull 3¹/₄" HSA's
~~start~~ to drill in 6⁵/₈
~43'

End day 700 pm

11-14-03 KC 7:45 start
EH, CK
lower, load 4" CS9, 6⁵/₈
HSA, quick gel
to site - WATER RUN

Pull 2¹/₂' HSA, drill in a 5
6⁵/₈ HSA to ~45'

Run HW casing - SET 48'
(TOP 2' b/c)
RUN NW CS9 49.5'

Run in NQWL setup
(52.5' pipe + corebbl)

46-49' NOSM (stg CS9)
15 - top crumbly - could push
CS9 - 6th floor

49-51.5' ls, wht, chalky, muddy.

Rig hours 1489

550 mileage 44687

end day 700pm

11-17-03 KC, BC, CK 8AM start
load up, KC email to TK. to
site - run mud then descend on
swc 9.25' bcs - pushed

51.5 - 54' slow drilling - clayey
ls ~ 50 to ice

54-56.5' ls + clay then sand
+ clay at btm.

56.5' - 59' lt br ls, w iron
staining.

59-61.5' same - more iron

61.5-62.5 sd + clay

62.5-65' NORM. sd + clay

65-67.5' ~ 6" sd + clay sd -

67.5 - put ext. shoe on - spur
won't go - sand locked - pull
N.Q. recover ~ 1' sand
mix mud

get inner bbl out
on other inner bbl)

5
Drill & wash down NC to btm
67.5-70' 1 1/2" bN sl chy sd then
white sand.

70 - SAND locked again ~~when~~
after inner bbl in - plugged
- pull NC - will need
to run casing

inner bbl still stuck

Rig hours 1495

RETURN WISE - FREE inner bbl fr
outer -

End day 700 pm

11-18-03 KC, BC 8 AM st.
load trk, water, ck email
touch base w Craig + Lee
lower - harvest traps

to site - descend, mix mud
re plumb desander etc.

Filled up water tank on
trailer back at warehouse.
ended day @ 6:30 pm

11. 19.03 ~BC, DP, LB start @ 8am
~mixed mud in large
tab.

~previous day 70' of 3" casing
run. Looking for rock to
set casing on to avoid
sand-locking core barrel.

- 80' sand with traces of
ls.

- 82' hit ls w/clay traces.
drilled casing down to 84'
and resumed coring.

(cuttings taken from
70' - ~80')

70' ~80' clean sand (coarse)

- bottom of casing ~~83.5'~~ 85'

- Ø recovery @ ~~85.5'~~ 83.5'

- ~~87.5'~~ recovered sand
85.

- 85.5 - 87.5 brown sand w/clay

- 90' - Ø recovery, switching
to extended shoe.

NQ is drilling like sand,
and casing has advanced
by almost a foot.

81 - 90' Fine, white sand

~90' fine white sand is
coming up.

NQ tripped out, 3" casing has
dropped ~~17'~~ below surface.

~running casing until real
rock is found.

* Casing @ 95'

Need water, LB, DP to Sull sink
for a water run.

BC cleans up drill site.

- drilled casing to 105' ~ organics
clay, sand, LS.

Hit cavity at ~~104'~~ ~98.6'
~102'

total of 110' casing.

plugged off hole for night.

mikage : 110750

rig hours : 1502

Returned @ 6:05 pm

11.20.03 BC, LB, DP, 3 KC

Start @ 8am

DP changed tire on dully and to get new battery.

- tag bottom for debris pile.

- 110' of 3" csg, bottom of hole at 108.4' ~ clean bottom

~~108.4'~~ Top of rock @ ~108.4' - 1 1/2'

107'

~~107.2~~ 107.2' → 108.4' Black organic ^{no} sample.

108.4' → 110.5' clay, light gray with 2" inclusion of black organics @ the top of 108.4'.

110.5' → 113' gray clay

113' → 115.5' cavity fill w/ LS @ bottom (115-115.5')

115.5' → 118' black organics with LS rubble.

118' → 120.5' → 119' rubbly LS @ 118.5', get into hard LS @ 119', gray in color.

120.5 - 122' bn + gy ls, muddy, some hard, rexl? corabl plugged ~ 50% recovery

122 - 123' Hard, LS

123.5 - 124' cavity
123.

Hollow
 → 1/4" f. QC
 3/8" hyp hwa x 20'
 scale 1 1/4" QC
 " 2" QC
 " 1.5" QC
 " 1" QC
 3/8" shackle
 ~) 1 1/4 x 1" bush 300psi

123-124 Hard LS
 124-124.5 Cavity
 124.5-125.5 LS w/organics
 ~.25' recovery

125.5-128' rubble thru brown muddy
 ls., blue green clay shift thru
 ls. last foot.

128-130.5' muddy ls w blue
 green clay, some organic
 in lower part

130.5-133 lt gy muddy granular
 ls. poor to med ind. last 6"
 well ind.

133-~~135~~ 135.5' 3" hard or lost
 int. then muddy soft ls + organics

135.5-138' top muddy ls w organics
 then grey granular ls ~1.5' rec

138-140.5' soft muddy granular
 ls, organic rich clay at top
 ~1' recovery

140.5-143 grey muddy ls, org.
 rich at top

143-145.5' same gn clay layer
 ~4" only ~60% recovery

145.5-148' soft muddy ls. poor
 recovery

18472
 18482
 Sullivan, Link 30 pad

to ROAD tomorrow

2" CSG 120' +

2" SCW 40' +

5' x 4' REAMER

150' NWJ rods

Coarse filter sand

10
148-150.5' NOSM - soft gravel
15.

150.5-153 NOSM, POSS cavity
153-155.5 TD NOSM - prob
cavity

start pulling 3" CSG
end day 6:45 PM

11-21-03 KC, BC, load up / pickup
to site - clamp prep mix
mud, pull 3" CSG. start
to drill in 4" CSG.
~~Have~~ drilled 4" to 85'
- end day 600 PM

11-24 KC, BC, 8 AM start
drill in 4" CSG to 150'
Lee joins us at noon
pull NWJ rods
end day at

77
50
127

1
9' 2"
10 1
10 1
10
9 7
10
9 3
10 2
78.5

118.5
138'

KC

11

11.25.03

BC, LB 8am start

→ loaded cement, hole plug
and 2" well casing.

Static water measured @ 27' b.s.
well screen needs to be @ 77'-127'
top of cavity runs 60' below
water table.

4" casing pulled out to 131.5'
bottom of hole measures out to 137.5'
~ thinning mud to wash
6" of bentonite chips down.
- then set well casing once that
is completed.

bent chips from 137-135 b.s.

* KC joins after lunch *

Hole bottom @ 135'

ET arrived @ site 4pm.

* 135.2 from ground level for
well casing *

running sand until we are 5' above
the screen.

wash in 85 bags ²⁰⁻³⁰ to

+ 1m sand to 109' b.s.

rig hours

clean up / lock up

1523

end day

7:00 pm BC, ET

lee ~ 6:30

KC 7:30

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Sullivan, Link 30 pad

11-26-03 KC, BC, LB BAM
start - ~~let~~ LGS to lower

saved in well to 116'
can't wash out past ~ 117 - pull
well Assy. screen separated
at joint 25' up (btm at 135.2)

drill down 4" CSG over sen
to 112' atp. fish screen - NO GO
drill 4" to 132 - still NO GO

pick up lock down
when where
Pis hour 1524

12-1-03 KC, BC BAM start
at 8:30 start - load equip
NWT, REAMER etc, KC
admin wk
KC, BC to site 11:30
EK to lower, site in for
screen

SWL 21'7" bLS

drill in addl. 10' HW CSG
142' total

18472
18482
Sullivan, Link 30 pad

* important $\frac{1}{4}$ "
hardware cloth screen
on circulation return
and run descender

otherwise pvc shavings
plug bit / annulus

* BC owes $\frac{1}{2}$ hr token
on time sheet

13
CAN spear csq but pulls out
w/o lift's

drill in $3\frac{1}{8}$ " reamer - drill
out broken screen to depth
of 132'±

pu 4" csq w reamer on btm
to ensure remaining fill will
drop out - good to go

Pull NWJ + reamer
clean up / lock up

pig hours 1532

End day 700 pm

12-2-03 KC, BL, EA 8AM start

SWL 22' 5" b/s

wash drilling mud from casing
column + btm of hole
wash in bentonite chips
133-129'

Well Assy : 8" well pt.
50' scw
80' csq

SET SCREEN at 75-125'

14

WASH in 12 bags filter sand
SET up 1 1/4" eductor for
air lift

Air lift ~ 1 hr

end day 6:30 pm

Rig hours 1530

12-3-03 FC, BC load up ^{8am} rig
dually, EH work at site

STATIC WL : inside 4" CSG 13'9"
SWC in well 27' bws

SAND to 65.8' bws
airlift + surge well
visit fr. Pat Boyett, Carolyn +
Carol A.

get GPS coord site 3C
call TK w. coordinates

2 bags of grout used.
ended day @ 7:00 pm

12-4-03 OFFICE WORK

2 bags Quikgrt.

4 bags quick grt
6

BC 9-10³⁰ 15
12-5-03 EH, RJ START 9am
STATIC WL INSIDE WELL 26'5"
PULLED 40' OF 4" GROUT @ 27' up inside
@ 5/8" ANGERS
PULLED 15' OF 6 5/8" ANGER WAS
STUCK/VERY HARD TO MOVE IN CLAY
@ 40-45' GROUT @ 29'
~~Ran 30' terminate pump 1 bag grout @ 30'~~
PULLED ALL BUT 10' OF 4"
GROUT @ 31'
PICK UP DEPT. 6³⁰ PM
RIG HRS. 1546
7¹⁵ END TIME

12.8.03 KC, BC, EH 8am start
Grout up to 27' bls
Static water level @ 26.8'
4 bags GROUT - up to 9 1/2'
pump 7 bags neat cement / 5% bentonite
to surface and for pad
can SET protective CSG,
lock etc
END day 7:00 pm

$$2^9$$
$$\begin{array}{r} 20.9 \\ 26.4 \\ \hline 26.5 \end{array}$$

16

stickup height 29.1" above pad.
STATIC WATER LEVEL 28.9' bTOL
well depth
screened interval

CME .75

W 18481 N

12-10-03 KC, EH, BC
- KC mōkō TK for 1st 2 wells
piled stuff

load tools/matl/mud tub
ERIC to AM pump pu 6" pul

Sullivan Sink # 3

W #

Co: LEON

SEC 7dd T 25 R 1W

LAT: 30° 19.108'

LONG: 84° 21.773'

Elev: ~ 60' TOPO

SET UP CME on Site 3

0-2.5' push spe - gy + lt br sd

2.5-5.0' push spe - lt br/blk sd

5.0-7.5' MOLD DR spe - gy + lt yl. sd

7.5-8.75' same

8.75-11.25' lt yl. gtz sd

11.25-13.75' white, yl. + or sand

13.75-16.25' white sd then orange

16.25-18.75' orange + white sand

18.75-21.25' same

21.25-23.75' same

- * ~~photos with #2 spec~~
- * ~~core box liners~~
- * ~~core covers~~
- * ~~AAA keys - 2 sets Craig~~
- * ~~2 sets Eric's topper and gate.~~

Steam Clean back
of mobil & both tubs.

23.25 - 24.25' - bn, orange & white
N interbedded gty sand.
26.25 - 28.75' white sd 1st 1.5' thin
rd or clay sd

28.75 - 31.25 or clayey sand / sdy clay
31.25 - 33.75' bn or sdy clay - light
33.75 - 35.6 - refusal ~~on clay~~ bn
clayey sand / sdy clay, white clayey ls (?)
35.6 - 37.2 lt gy dry clay
37.2 - 39.25' lt gy mottled clay
39.25 - 41.75' lt gy clay
grades to br. crumbly clay sd
41.75 - 44.25' dk w + blk ch
underlain by thin beds org.
& dk bn & white sand

end coring for day
returned to whse @ 7:00pm

12.11.03 BC 8:30 am, EH 10:15 am
EH paperwork, BC errands.
load up core boxes and
arrive @ Site 1:30 pm.

44.25' - 46.25' sand lt. gy dry hard dense
Refusal

46.25' - 47.75 Hard, light gray clay.
Hard to drill (auger) through.

18472
RADLEY FARM

18467
Hogues pond

$$\begin{array}{r} 49.4 \\ + 2. \\ \hline 51.4 \end{array}$$

remember for 12.12.03

* load bee trap from
eric's truck.

- put controller back in
chraig and dee's truck.

$$\begin{array}{r} 52.25 \\ - 45.70 \\ \hline 6.55 \end{array}$$

$$\begin{array}{r} 52.25 \\ - 3.3 \\ \hline 48.95 \end{array}$$

47.75 - 49.4 : 4" of softer
clay the rest of the interval
creamy tan to gray well indurated
clay. 51.4 @

49.4 → 52.4 Clay, light gray
and crumbles easily.
end day at 5 pm.

12.12.03 BC, LB start @ 8 am

- pull augers to set 6" casing

52.25 total auger hole
(to bottom). 48.9'

Casing set @ ~~48.9'~~ 48.9'. Unable
to push casing any further.

- Steam cleaned 3 5/8 auger.

EH to site @ 12:30 pm.

- running NQ and Core.

Bottom of hole after casing was
run is now 45.7'.

~~The first 6.5' of core will
be taken.~~

* May no pump sand locked.
worked to free the casing
from the sand.

* need water on the 15th

20

mogno is cleared. Hole is covered for the evening.
* one tub of easy mud made.
clean up site and head home for evening.

note: Large galvanized tub has been steam cleaned.

EH driving mobile back to whse.
return to whse @ 4:30 pm.
~ BC to do timesheet

12.15.03 KC, BC 8^{am} UNLOAD 6 3/8 AUGERS OFFICE WORK
EH 8³⁰ OFFICE WORK / FILL WATER TANK
ALL LEAVE FOR SITE ~10am

KC - breaker swivel - replace
brake parts, remstall, run
50' each of 4 + 3" cas
then NQ

lots of visitors for T.T.

End day 6:30 pm

18472
DUDLEY FARM

18467
Hogues pond

21
12-16-03 KC, EH, BC 8AM start
KC - 5/8" wk thru to site

wk on swivel / Kelly hose to keep
hose off end of feed frame

start coring NQ - drill starting
~ 49.5' - drill to ~ 52 - cavity
~ 6" - bit circ - clay ls

drop core bit - free fall - dry hole
- pull inner bit - shoe crushed
pull NQ - bit OK

run in addl 3" csq to ~ 52.5'

stop get circ back

* core depths off by a foot from
51.4 → 60'.

adjustment made between
59 + 60'. (59.5 becomes 59, and
61.5 becomes 60.) Justification:

only 9" of sample recovered in
the interval of 59.5' and 61.5

49.4' → 51.4: light gray fissile clay
51.4 → 52': Hard ls and clay in
the last 6".

52 → 54.5': Rubby ls w/mud (micrite

18472

DIETARY FARM

18467
Hayes pond

adjustments on depth
made here.

Need for 12.17.03

Soda Ash
off load inner barrels



★

54.5 → 59': LS ~~to~~ that is rubbly
with lots of mud.



★

59. → 60': Hard LS, moldic and
fossileiferous.

60' → 65': brownish tan, well indurated
LS w/ Fossil molds.

65 - 67.5': Hard dolomite? from

65 - 66.5', LS from 66.5 - 67.5'

66.5' - 70': LS w/ some dolostone
? interbedded.

Cleaned up site and ended
day @

End day 6:45 pm

12.17.03 KC, EK BAM start
EMAIL / fuel / dir w Craig
re rig problems
to site ~ 1030 - fuel rig,

70. ~~74.75'~~ 74.75' HAND REEL (VAN)

LS full recovery

74.75 - 77.5' SAME

77.5 - ~ 79.7'

softer toward

bottom - 6" soft / empty zone

1-1/2' above btm - plugged off
inner bit?

draw
pays

Lower Mig welder
Raggs
miter saw
vise grips
3/4" wire brushes

Need:
Soda Ash

23
not plugged - v hard - carbide
bit will not cut: polished -
egged removing it. KC to get
diamond bit. EH, BC.
mix mud, diamony carbide.
and day 7:30 pm

12-18-KC, BC 8 am start. - amb
carbide, adj mixer bit run drill
string back on hole
EH @ 12:30

~ 79.5 - 82' 4" silicified coral
82 - 84.5' Hard LS, possibly
dolomitized in areas, highly
fossiliferous.

84.5' - 89.5' fossiliferous, hard LS
that grades into a poorly indurated
LS @ ~ 86.5'.

89.5' - 92.5' Muddy LS w/
alternating layers of hard LS.
white to creamy tan.

92.5' - 94.5' muddy to well
indurated, white, creamy tan LS.
return to whse @ 3:30

* Blue Fill up water tanks
from: 6 - 8 pm

18472
Dudley Farm

18467
Hayes pond

6'0
44
16

24

12.22 KC, BC 8am Start

Loaded Soda ash and inner barrels. KC check email.

Head to drill site.

STATIC WL 41.3' bto NQ
- 2.8'
38.5 bLS

pull NQ w diamond bit -
run back in w/crackerjack

coring.

94.5 - 99.5' CREAM, soft L,
calcite bit full recovery

99.5 - 104.5. Same

104.5 - 109.5' SAME as above -

lost 15-18" cavity - immed
lost circ. SWL drops to
58' bLS

109.5 - top 1.25' still cavity
drilled ~ 6" - feels lk plugged/
grinding - ~~too much~~
feed frame shuddering when
fed up or dn - lbe everything
pull NQ - bit plugged off

18472
TODAY FARM

18467
Hoped pond

Need gas for CME
and trash pump.
water & gatorade
soda ash

clean out & back into hole ²⁵

continue 109.5 - 114.5' run -

ls, cavity lost 4-6"

114.5 - 119.5' cavity - no sm

119.5 - 124.5' $\pm$ - tag btm at

$\sim$ 124/124.5'

NOTE: Do not
core further - pull
NQ, Adv 3" CSG

12 23.03 BC, JH 8 am start
EH @ 8:30.

BC, JH load 3" rd, fill water
tank. Leave for site. arrive
at site 10 am.

Pull NQ out of hole.

Static water level: 59'

Running 3" down to 81'

pack up and end day @ 4⁰⁰ pm
CME HOURS: 1812

BC 8am start, 12.29.03

EH 8:10, JH 8:25 am.

BC fill up water tank, BC & JH
to buy fluids.

EH check email & return phone calls,
and get gas. PUT 20gals in CME

BC & JH arrive @ site @ 10am. ^{EH @ 10:50am}

GPS bore hole measurements:

N° 30° 19.108'

W° 84° 21.773'

Average: 11.6

Entered as waypoint 12

Static water level @ 57'

~ Drilled 3" casing to 123'

Hooked up airlift system
and flushed the cavity. The
return was a blue/green clay
well hydrated and contained ls
cuttings.

After hole was airlifted, continue
to drill 3" to ~129'

Clean up. CME HOURS: 18/7

end day @ 6:30 pm

18472
DUDLEY FARM

18467
Hogues pond

* Need for 12.31.03

- Need @ least a 200' tape. (measuring)
- fill water tank
- FC 331

21

JH 8am, BC 8:05, EH 8:30 12.30.03
Start.

Fill water tank, leave for site.
SWL @ 58'

Set 3" down to ~128', ran NQ in
and resumed coring.

~124.5-~131 greenish, sandy clay
that contains small bits of L.S.

* Lost circulation @ ~132'.

Bit is plugged. Tripped out NQ.

Soft sed. settled in bit and
wouldn't allow the inner barrel to
latch. tripped NQ back in

3" casing advanced to: 131'129'

CME HOURS: 1823

end day @ 6:30 pm

12/31/03 8am EH, CK, JH FILLED WATERTANK

' EH WENT TO LOWES & TAPE MEASURE 300'

OPEN HOLE TO ~130'

STATIC WATER LEVEL @ "4/

~132-137 LOST CIRC. NO RECOVERY

137-140 SAND/CLAY/PBBLES, THEN HARD

LS SOME MARGED

140-143.5 LS - DISGARDDED LS 6" BORE
ZONE POOR RECOVERY CONT

18472
RUDY FARM

18467
Hogpen pond

140-143.5 CONT. DEGRADED LS
~143.5-147 CAVITY (NO RECOVER)
147-152 Rubble / CAVITY / LS
152-157 CLAY - LS RUBBLE - POOR RECOVER

TD

CLEANED UP SITE / DEPART FOR WH.

RIG HRS 1827

Got FUEL FOR DUMP & F150

END 5pm

1/5/04 EH, LB 2pm

EH - GOT FUEL FOR NEW RIG

LB WANT TO SITE STATIC WL ~57

OPEN HOLE ~140 Pulled NRQ TO ~197

AIR LIFT 20 min / cleaned up

Pack-up LEAVE SITE

5:20 END TIME

1-6-04 8am LB, EH 815, DC 835m

Pulled NRQ

STATIC WL @ 57.7'

Pulled 3" to 99'

developed well @ 112' ~ clear return.

after pulling 3", KKK and

* get gas for
✓ CME in the a.m.

Need 1.8.03

1/2" trimmer

developing, NQ was run
back in hole. Hole was clear
until 129.9'. unable to advance
~~any~~ NQ any further.

~ ran airline down hole
and tried to clear hole.

pack up and return to
whse.

Ended day @ 5:30 pm

1.7.03

BC, EH 8am start

hole is clear to ~~129.9'~~ 132'

Tripped out NQ and 3", and
ran bore hole video.

100' of 3", 137' of NQ

- can't get camera past 122',
might be due to lack of weight
on camera and wireline, or we
are caught in 10' cavity.

CME HOURS: 1834

returned to whse and ended
day @ 5:30 pm

18472

TRUCK FARM

18467
Hopper pad

1-8-04 LB, EH

VHS tape @ 50min.
Rig Hrs 1835³⁰

RAW VIDEO to ~130-128' ^{W/ 1/2" tremmie}

DRILLED 4" to ~79'-BKK @ WH 4pm

RETURN TO TLH PICK UP 550

1-9-04 BC, EH 8²⁵ AM OFFICE WORK
& LOAD UP

TO SITE @ 12 noon CB 2:00pm - 5pm

Tripped out 80' of 4", reamed
with S 7/8 to 79'.

Covered (capped well) packed
up and headed to whse

CME HOURS: 1839

€ Return to whse @ 5:45pm

1-14-04 KC BC 8 AM START

load 3" csg, cut etc : to site

run borehole video - 6" hole

lined up w remainder of borehole

ASSY 80' 3" csg w fm packer
and centralizer (every 20')

btm of fm packer 6" from
end of csg

wash in bentonite chips

1.5' to 78' b2s

tremmie 2 bags prodlard + 5%
bentonite

31
clean up / load up materials
csg, drill rod etc.

1-15-04 KC, BC, CB to site
add CEMENT at 60'

MIXED + FRESHMIXED 9 bags portland
+ 5% bentonite - not filling
tape at top of hole at 53' BWS
pour 1 bag of gravel to bridge
to ~ 50', 2.0 bags sand to
39.5'

pour 1 bag of 6 bags portland
+ 5% bentonite to surface
used ~~4~~ 4 1/2 40 lbs bags
to complete pad for well.
BC returned to whse @ 7pm
KC left at 5pm.
day ended.

1-16-04 KC, BC to site w
Mbl. chl. air lift well
all day - down to ~ 125'
pulling cuttings + cavity
fill - remove 19m out
- compressor can only be
run at fast idle - approx
~ 15 gpm

END DAY
6:30 PM

6" x 8" PVC
ELEVATORS

32

Sull sink #2 need final well
depth

2-19-04 KC, EH, BC
w/tn Sull sink #3

SWL 56.25' b TOC

TOC 2.0' ABOVE LG

∴ SWL 56.25' bLS

well depth 129'

with drill pipe washed down
to 129' bLS; Air lift
thru drill rod - evacuates
water to ~100' bLS at
which point airlift
ceases to work -

IE v slow recharge to
cavity

Rig intake 11194/1565

18472
TERRY FARM

18467
Hogpen pond

Park gate: wed 5139
Thurs 1578

gate off Old Belknap Rd: 5761 3-16
3467 3-17

Waypoint
13

29° 54' 320 19.2" Aug
82° 34' 200 16.0" 1025 Count

W# 18467

33

HOGPEN POND

3-16-04

PERMIT # 85195

LAT 29° 54' 19.0"

elev 45'

LONG 82° 34' 12.1"

TD 192.5'

T 75 RITE SIDE

ALACHUA

Dave: Brie @ whse @ 7:45am

- KC fix lifeline

- depart whse 8:30am

- arrive O'Leary St Pk ~ noon

- meet JP, find site ~ 2pm

0-2.5' Pushed spl spoon
to 2' gray sand, then 6" br.
clayey sand

2.5'-4.7' Pushed spl. spoon
br/gy sand (clayey) to clay
br/gy slightly clayey sand.

4.7'-6.8' gray slightly clayey sand
6.8'-9.3' gray slightly clayey sand
9.3'-11.8' sandy clay

11.8'-14.3' gray/bk sandy clay to ~13'
then grayish-white pack/hackstone
w/ grains & pebbles
TOP OF OCTA

18472
DUDLEY FARM
18467
Hogpen Pond

3-16-04

34

- H₂O level @ 12'
- switch over circulation system for NQ wireline
- cleanup site and go to camp ~6pm

★ FOR CLINT TO BRING:

✓ Garden hose
✓ Logbook

NO - NHT x NHT sub

NO - auger bolts

8pm-9pm - Wal-Mart run for H₂O / Gaderade.

11h 15m

19' 3" casing



3-17-04

35

- Brie & Dave leave camp @ 8am
- arrive site @ 8:20am

- H₂O level @ 12'
- Hole open to 14', soft @ bottom

→ go in w/ core barrel : 10' NQ
for 17.5'

→ mix mud, lube Mayno
grease slides & cylinder

→ blow mud up and augers.
try Quickret LV to stop
flow + get seal - no success.

Pull augers, prepare to run
3" casing. Set 6" PVC +
EZ Seal @ surface

Hole to 12' 6", run 15' 3" casing
+ 3' stick to set casing 3' into LS.

18472
DUDLEY FARM

18' 3" casing

3-17-04

36

- cased to 16' w/ 2' stickup.
- jammed empty quickgel bag b/w.
- 3" casing; 6" PVC, EZ Seal on top.

→ set up deaerator, mix mud, start coring.

- 14.3' - 16.0' NS b/c advanced 3" casing
16.0' - 17.5' NO recovery - felt rock bottom
6" or so of run.
17.5' - 20' soft white wackestone w/ fossils;
pebbles, then harder LS
40% rec.
20' - 22.5' NO REC. soft white calcilutite
22.5' - 25' first foot soft, NO rec.
23.5' - 25' yel. white packstone
1B w/ soft wackestone
25' - 27.5' 100% rec. white wackestone
27.5' - 30' 20% rec soft wackestone

- fluid coming up around 6" PVC
- stop coring, trip out NA

33' x 5" casing

CLINT ARRIVE ~ 3pm

BRIE DEPART ~ 4:30pm

tomorrow, use

EZ mud

3-17-04

37

- Pull top 3' stick 3" casing
- run casing to 31' w/ 2' stickup
- * 3' stick on top again *
- Hole open to 32'
- Advance 6" PVC / self-tapping screws + couplings, push with hand to top of LS.
- cutoff PVC, set up 6" PVC circulation system.
- trip in NQ, core.

30'-32.5' NS washed ahead of 3" casing.
32.5'-35' NS too soft

- clean up site
- leave site 6:45pm
- to camp ~ 7pm

3-18-04

36

Clint & Dave start day @ 7:30 leave camp
stick support truck in mud, arrive
drill site @ 8am.

Water level ~ 7.25' BLS
Hole open to 34.9'

- desand mud + mix EZ mud.
- clean hole to bottom, mud
returning around 3" casing.
push casing ~ 1' or so until
refusal. begin coring.

35'-37.5' 100% recovery

drilled ~100 psi H₂O / 300 psi feed
slow + steady.

white/yel wackestone med/crs gr.

37.5'-40' as above, 100% rec.

40'-42.5' as above, 100% rec.

42.5'-45' as above, until last ~4"

H₂O psi dropped to 0 & head
fell freely.

45'-47.5' Smelly gray/blue wackestone
little bit of hard chatter
nummulites etc.

" B.S.B. "

M

3-18-04

39

47.5'-50' as above, lots of forams.

Smelly reducing?

50'-52.5' lt blue/gray wackestone → gray/or.
forams intermittent harder zones
some hard chert

52.5'-55' gray or. wackestone → blue/gr.
forams

55'-57.5' gr/or. wackestone
leps + numms

57.5'-60' ~80% recovery. or. lep. packstone to
blue/gray packstone - wackestone
2" bed gray dry friable clay ~50'
thin gray/or. wackestone

60'-62.5' clayey wackestone lt blue/gray

62.5'-65' 80% rec. harder indurated

65'-67.5' gray ls. forams numms + leps
lt. or. gray pack/wackestone
leps

67.5'-70' as above dime + size leps

70'-75' 5' run

75'-80' 5' run

80'-85' 5' run

18472
DUDLEY FARM

tomorrow:
run all of 3" casing (75')
plan to leave trailer @ secure
location.

* locate place to leave
truck & trailer

3-19-04 2 helpers
1 grad student Kelly
1 prospective Erin

3" casing in hole

71.5' + 1.5' stickup
2 footer stays out.

3-18-04

40

@ 6:12pm stop coring; pack up
arrive @ camp 7pm

3-19-04

Clint & Dave break camp; checkout
@ 8am arrive site @ 8:34am

fto level @ 13.9'
hole open to 84.2'

prime pump; mix mud

85' - 86.2' H. - yel gray workstone/parkstone
Cored this to set N/A below working
- run casing, pull 3' off top...
40' more into hole
X → Clint did most of the casing
advance, he told me to
say so...

73' x 3" casing w/ 1.5' stickup

71.5'

3-17-04 Go off State line @ 6:30pm
 3-21-04 Go on State line @ 2:40pm
 pick up dually f/ OLENO;
 return to TLH.
 arrive WTS @ 4:50pm

Clint ran →
 →
 →

3-19-04

41

- Verify seal by pushing 3" csg into furn.; fluid comes up through 3" NQ around it.

- pump mud through NQ to clean hole.

begin coring ~11am

862'-875' lt. gray or. pack/wackestone
 ferams -

875'-90' gray pack/wackestone, ferams

90'-95' 100% rec. as above, with
 zones of indurated ls, lps.

95'-100' 100% rec. as above, lps + nms

100'-105' ran 5' w/o inner barrel!!

pull. got 3' ~~back~~ back, tried
 to go in w/ inner barrel + got
 more, failed.

105'-110' pulled NQ up, inner barrel felt like it
 locked, drilled to 107.5', no sample.
 to 110' NS, pulled NQ - got sample out
 of core barrel.

clean up & leave site 5:47pm

drop truck & trailer @ work station 6:30pm

42

3-23-04 KC, BC 8:30 start
complete load out, to GLEND
drop off into trailer, load H₂O
in gen k_l. - to site
run in 117' NQ -

core 110-115 - v soft ls.

barely consolidated

115-120 = soft - poor to mod ind

120-125 med gy wht ls. var

hardness

125-130 SAME

Mix mud - condition broke

End day 5:46 pm

3-24-04 KC BC 8:30 start

130-135' limestone soft - easy
penetration

135-140 - somewhat harder, & rubble
some pebbles chips

140-143' ls as above - corals
blocked off

~143-145' rubble ls - chatter

145-150 - SAME

150-155 ls as above upper 1/2

then brn bioturbated looking peck
stone

LAST
Circulation →

NOTE: Do not
cross wooden bridge
w trailer - corner
is breaking

155-160 soft granular ls

v por ind - upper part

better ind + rubbly

160-161.5 ~ as above

~161.5 - 162.25 cavity - lost circ

little above cavity, as above

little below ^(162.5) v. hard greenish

brown sucrosic dolomite w

minor moldic porosity

162.5 - trip out NQ - chge

care bbl to diamond bit -

162.5 - 165 v hard, dk bn sucrosic
dolomite, minor moldic +
fracture porosity, no recog.
fossils.

Lots of chatter in drill
head whenever bit is turning
on the bottom.

out of water

make short water run (125g)
then back to site - fill tubs
then to high spring ck for
fuel cover for trailer

End day 700pm

3-25-04 KC, 3C, 8AM started 44
bore 3" csq thru to site
S.W.L.

Drill NQ down 1' to make
working room for 3" csq run &
break out of dolomite

165-170' hd br dolomite top
1"n, then white br ls.
Fossils, minor nodules
present, br ~ 2' then 3"
dolomite then br ls.

170-172.5 ls as above ~ 1"
then back into hd. dk br dol.
- soft stuff below ~ 6" not
removed

172.5-175' top dolomite, brn
granular ls. lost ~ 1.0

175-179' lt br porous middle
& burrowed ls. last 6" hard
dolomite.

Run Add'l. New csq to
123 - full cont press on
the mud quikgel / 527 mud
Quikgel W to maint circ

Top Appl of
dolomite
178.5' ±

- 4 1/2" wire wheels
- SODA ASH
- ACETONE
- rd wire brushes
- ~~3" x 2" x 1 1/4"~~
- QC Adapter

NWJ PIN X NWV BOX

easy seal
filter sand
NQ

rig home 1909

45

End day 700 pm

3-26-04 KC, BC - 8AM start
run 3" csg to top of
dolomite

pu NQ - free

pu 3" csg 10' w/ chain
hoist + chain vise

RETN TLH 5:45 pm

3-29-04 AM at Jc - brushfires
lower, load matl. site
KC, BC head to site 12:30

ARR site, load water, mix mud
advance csg to 171' - siphon
in ELY seal + pump thru 3"
and NQ.

End day, get fuel,
load water

END 7pm

18472
TUDOR FARM

3-30-04 KC, BC. 745 start 46
mix mud.

179-180.2' - top depth of some
- grt 1.5' hard dolomite - then
softer below

180.2-182.5' - soft ls at top - sticky
lost most of spec., hard bn dolomite
in lower part

182.5-85' - mostly hard - slow drilling
took entire batch of mud

185-187.5' hard, light brown
well sorted dolomite

187.5'-192.5' hard dolomite dk bn
w organic remains

TD

4-2-04 - KC, CK BAN start
to demo pu rig + trailer
re occupy site, pull NQ +
NW casing
Suez 11.6' BLS

Rig hours 1622
End day 7:30 pm

9302

- Pump top of hole (-12' or so) to evacuate mud
- kill pump & syphon H₂O back in to surge
- run in drimny pipe, pump + surge till "clean" then go ahead & grout to 161' @ lost circulation zone.

1 bag grout

NA hole 70'

4" hole 31'

9302 - Bellamy Rd.

a
w

4-6-04

47

Dave @ whse 8am

Erik @ whse 9am

→ leave whse @ 9:30am

→ arrive site @ 1pm after securing campsite & filling trailer.

hole open to 191.8'

static H₂O level = 11.5' BLS

run in 40' trimline + ~10' red hose
30 gal/min, w/ minimal draw-down. water is cloudy

→ attempt to remove hose & trimmy to run more trimmy, snag came back on bottom of 4" break came back getting it out, repl. it. re-do safety shackle.

→ run in 90' trimmy to develop @ screen zone.

→ run trimmy to bottom + develop.

RIG HAS. 1624

- test grouters - OK!

clean up + depart site ~6:30pm
fetch gas, to camp @ 7:30pm

18472
DUDLEY FARM

4-7-04

46

Eric H & Dave P start @ 7:40 am
fetch well supplies from park shop, then
to site.

→ static H₂O level @ 11.5' BLS

→ pump more to develop a little more -
just over 30 gal/min. H₂O level ~ 13'
~ 1.5' drawdown

haul grout hose in hole, pumped off remainder
hole to 186'

• pump second bag in hole, hole to
165' ~ 164'

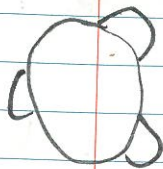
• drop in ~ 3/4 bag, hole plug
firm bottom @ 157' break for lunch
let plug set up. (will pump 1.5 bags
grout)

• measure hole after lunch, hole plug up
to ~ 155'

• third bag grout up to ~ ~~127~~ 127'

* used $3\frac{1}{2}$ bags QuickGrout

2" caps for monitor wells



4-7-04

49

pump $\frac{1}{2}$ bag grout to ~~707~~ 100' 7"
Run 105' & SET ~125 gal/s

↳ after scraping & jetting to clean hole,
had ~107' hole
→ place holeplug & log bottom @ 102.6'
clean up site & head to camp.

1627 hrs RIG

PJ stopped by for a couple hrs. to help -
we worked on scraping &
developing.

end day 8:15pm

4-8-04

EH & DP

leave site @ 7:55am

static H₂O level is ~11' BLS
hole open to 101.8'

thunder + storm warnings, call Sally
Morrison regarding Dudley Farms site.
Leave message

18472
DUDLEY FARMS

airlifting @ just above →
screen interval.

4-8-04 (cont'd)

50

- have no skinny joint line or centralizers, will meet Jake $\frac{1}{2}$ way to get them delivered.
- meantime, trip in trimmy line; develop hole. while pumping, H₂O level ~ 14.3' when pump quits, H₂O level pops back up to 11.3'
- upon delivery of centralizers; trimp pipe, set well; place sand filter pack.
3 $\frac{1}{4}$ bags sand put top of sand @ 79'
- begin airlifting w/ airlift above screen zone. water to clear up, then surge to develop fines through screen. develop until few/no fines + clear yellowish color Fe oxidizing top of sand @ 78.5'
H₂O level rebounds to 11.5'
- pack up; depart site @ ~ 7:30pm.
Righis 1628 to camp @ 8pm

18472
RUDY FARM

8 gal H₂O

5 lbs. bentonite

mix bentonite 1st, add cement,
mix & pump.

YIELD ~ 30 gpm
final well depth 100'
stickup height 2.5'

4-9-04

51

DP & EH break camp; head out 8am
load grant etc. f/ shop area
to drill site @ 8:45am

static H₂O level @ 11.1'
sand filter pack to 78.9'
Air Lift, added $\frac{1}{2}$ bag sand "73.7-74.1"

↓
remainder f/ yesterday.
now a total of 4 bags

pump 1 bag grant, up to -32'
develop a little more, then pull air line
grant @ 32'-33'

grant up to about 4' w/ another bag.
pump off excess. hole plug on top;
form pad after abandoning 10'
6" casing (oops)

mix & pump 2 bags Portland
set protective casing pack; depart
O'LEND

Drop Rig; trailer @ Dudley Farms @
6:45, head home.
arrive TLT 9:30pm

18472
DUDLEY FARMS

4-19-04 KC, CK, 8:30 ⁵² start
to DUDLEY FARMS
get located on site n 100pm

Dudley Farms Core
Alachua Co

S 32 T 9 S R 18 E CCAC

LAT 29° 39.55'

CON 82° 32.401'

Elev 112'

TD 195'

W# 18472

- 0-2.5' push spc - soft - sand
+ clay sd w/ organic
2.5-4.25' push spc bn-dr mottled
clayey sand
4.25-6.75' push spc
6.75-9.0' mbl drl clayey -
gray + bn mottled clay
9.0-11.5' same - orange below 10.25'
11.5-14' same
14-16.5' clay / clay sd - gray blk w/ls drg
16.5-19' same
19-21.5' gray + bn clay w/ sdy clay
at base w/ high glw contact
21.5-24' - soft - sticky or above
gray bn clay thru bottom half

18472
DUDLEY FARM

4" PVC

4" x 3" reducer - slip

core box matl -

tops/btms/large liner
ok on padlocked trap

wheelbarrow

christensen core ret.
CPS

Digital Camera

orange + br mottled clay

stop run ne flow 3 1/4" -

auger not plumb. - pull

auger - will sit 3" CSG

tubs filled, water tanks full

Pig house 1635

end day 7:15

4-20 KC, CK 745 start

SET 26' 3" CSG

mix mud

24 - 29.3' - clay as above - thin

linestone lost 8" ~ 3.5' recovered

29.3 - 34.3' small cavity / soft spots

at ~ 31 - lost circ trap flange

it back then lost again 1 ft ft btm

ls, some clay filling portions

~ 3.5' recovered

34.2 - 39.3' ls, soft ocal - porous

some ~~too~~ iron stained sections

39.3 - 44.3' ls as above - soft

44.3 - 49.3' white ls, soft, partly -

v poor ind.

49.3 - 54.3' soft partly ls

54.3-59.3' multicolored clayey
layer at top then yellow/or
ls - soft porous - lost core
lost 6"

59.3-64.3' mostly soft crumbly
ls. few nodular zones
~~lots of~~ lots of chatter - prob csq
+ lots of open hole -
run 3" csq to 64.5'

- 64.3-69.3' soft porous consolidated
ls - still no core

system in w 1/3 bag egg seal
allow to hydrate while go
for water

cleanup/lockup for day
Rig home 1641

End day 6:45 pm

4-21-04 KC, CK 8AM start
mix quick gel / egg mud / quick fill /
mud - still no circulation

69.3-74.3' wht ls, v soft crumbly
some multi hued clays scattered
out

74.3-79.3' cream ls. v soft, crumbly

79.3-84.3 SAME

84.3-89.3 SAME but some is
coarser & sl. better indurated

89.3-94.3' SAME

94.3-99.3' cream colored ls. var
muddy & granular - poor to mod
ind.

99.3-104.3 SAME

104.3-109.3' SAME

109.3-114.3 - SAME w some iron
staining

114.3-119.3' SAME - some harder
zones

119.3-124.3' SAME

124.3-129.3' - SAME - some harder
zones

129.3-130.3' SAME

drill string chatter getting
worse - will adv. casing
NQ capped in hole

110' 3" csg
130' NQ

56

*15,80 + 85' casing -
lots of runout - examine
where they are pulled

run 3" csg 110.5' less sticking

Rig hours 1646

4-22-04

DP meet R Copeland @ whse 7:15am
load out dually i head to Dudley

- transfer H₂O f/ white trailer to green
park white trailer @ work station
- drill 3" csg in another 1' berpose
NQ
- water level @ 61.4' BLS after
disturbance

130.3' - 135.3' 100% recovery, got circulation
back. H. orange grainstone

135.3' - 138.8' H. creamy orange wackestone/packstone
138.8' - 140.3' cavity.
140.3' - 145.3' cavity.

Write down Rights.
1650

4.22.04

57

145.3' - 150.3' CAVITY

150.3' - 155.3' CAVITY

run tape in ~~to~~ 154.7' bottom of Cavity.

- Pull NO, run in 3" casing to ~154' to tag bottom of cavity
- drill 3" csg ~3' into rock, at end of 3' run feel head chatter - stop H₂O; rotation, push gently - head falls freely. to ~158' @ bottom of stroke
- run tape in - bottom @ 159.5'

pack up and secure site 7:15pm
DP & RC leave park @ 7:30pm
DP arrive camp 8pm

4.23.04

- DP pack up camp; depart 7:15am
- meet RC @ Dudley @ 8am
- Fetch fuel for RIG; H₂O
- SWL @ 64.55" BLS
- bottom of hole 159.7'
- drill 3" csg another 3' into rock 163.5'

3" csg to 165'

168' - 173'

176' - 182.5'

AVPK? →

fig hrs 1654

4.23.04

56

trip in NQ to begin coring (167.5' NQ
total in hole)

- sampler in clean to bottom 165'

no sample recovered, have circulation
165' - 170' unconsol. Creamy orange wackestone
material, may be cuttings from
advancing casing. last ~2' of
run. head fell freely - cavity,
lost circulation.

170' - 173' soft, possibly cavity filled w/
cuttings? (caught 100% travel)

173' - 175' lt. or. to lt. or/gray pack/wackestone
drilled tight, 100% recovery.

175' - 180' NS. top 1' drilled like above,
then head fell 4'

180' - 185' head fell freely 2.5', then firm
rock - 3" csg following NQ.
Good, hard rexd dolostone, few
black organic looking vugs.

185' - 190' gray hard dolostone to lt. br.
dolosilt

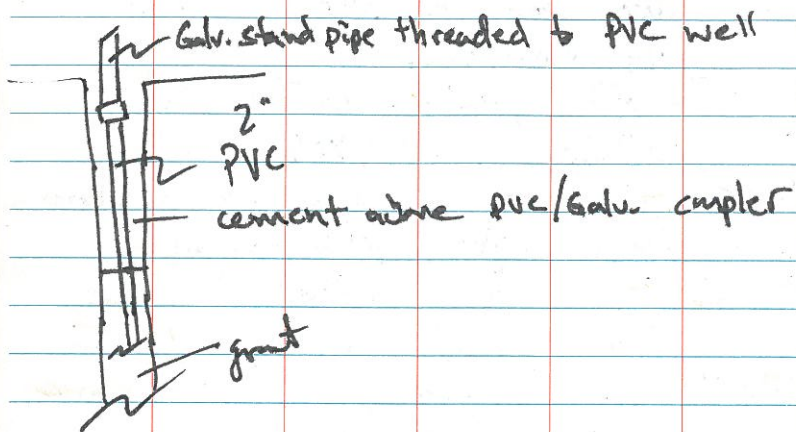
190' - 195' 80% recovery lt. br dolosilt
to br. dolostone

pack up site 4:35pm / V. 5:15pm.

DP arrive THT, drop core @ FGS. return DEP4894
to WMS 8:15pm

Well details: set packer @ ~138' / 136'
disposable weight on bottom of tape
measure

wash chips and bp of packer
set screen ~130' to ~110'



LOAD: Sand

screen/casing/tail pipe

PVC glue on NPT

grout

portland

hole plug

fill up 2 5 gal diesel containers for rig.

6" casing

1/4" nut & fine nuts

4-27-04

59

Brie Courne: DTP start @ 7:15am
arrive site 10:45am

- Static H₂O level @ 64.6'
- pull NQ
- push 8" PVC into hole
- pull 3" casing
- hole squeezed in, run 4" casing to 37'

fig hrs 1660

leave site 6:40pm arr whs 9pm

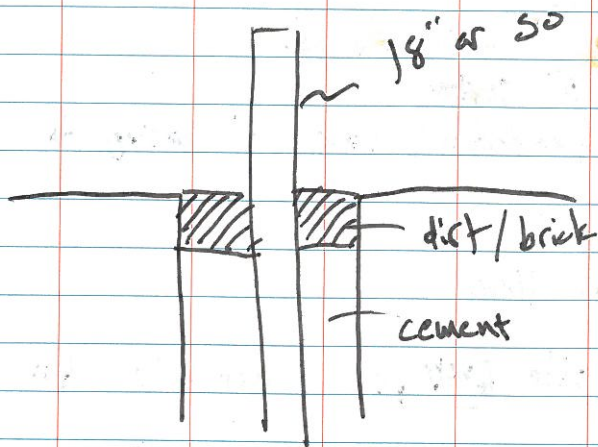
4-28-04

EA: DTP 7:15 @ whs.

to Dudley by 10:30am

- pull up 5' on 4" csg flush plenty of H₂O - hole is banded, set 4" back on bottom.

- scratcher got stuck, pipe came loose. retrieved scratcher.
- run in packer, didn't work; weight is stuck in hole.



no need for PVC/galv. junction,
just leave PVC standing up
to prevent well contamination.
pump will sit over 2" well,
1 1/4" galv. tube + sucker rods
go in side.

* box of 8 2" x 10' well casing
came 1 short.

4-28-04

60

- pushed weight, it went "splash"
weight : or punctured packer @
77' ~138'
- push weight: punctured packer to ~138'
go ahead : run in hole plug 2 partial
bags (~ 1 whole bag) to 133'
- begin readying well for assay, check
depth again: 130'

centralizers @ 20' 50' 70' none inside
4" casing.

set well @ 128.5' to leave 18" pickup
begin filter pack ~ 3/4 bag - 124'
run another ~ 3/4 bag - 118.5'
run another bag - 110'
run another 3/4 bag - 102.7'

rig hrs 1661

pack up ? depart site 8:15pm

fr. gate 1337

- PVC glue
- $\frac{1}{2}$ " pvc fittings

$\frac{.087 \text{ ft}^3}{\text{ft}}$ for 4" hole

$$\frac{1 \text{ ft}}{.087} \times .5 \text{ cat} = \frac{.5}{.087}$$

6' per bag

DTP EH 4-29-04

61

- pack up camp ; depart 8am arr. site 8:30am
- sand filter pack @ 102.7'
- static H₂O level @ 64.8' BLS
- air lift + surge well for a couple hrs.
- tighten up site ; prepare for grant
- grant III (3) bags, plugged, pumped of part of last bag. to ~64'
- * - 2 more bags STILL @ 64'

run in gravel bridge @ 35'
4" casing to 33" $\therefore$ ledge on 3" hole
centralizer is @ 38.5'

- pack up site + depart 8pm

rig hrs 1664
8:30 pm END DAY

4-30-04

DTP, EH pack camp + depart 7am
arrive site @ 8am

- static H₂O level @ 64.7' BLS
- bridge @ 34.3'
- set up to pump H₂O ; jet gravel plug - no success -
- try to filter sand thru gravel - 1 scoop - 33.8'

Bob Phillips 352-472-2004
1208 NW 202 ST.
NEWBERRY, FL 32669

Lighting & Rain

fri
rig hrs
Hele b

7-30-04

62

attempt to air lift sed. out of hole -
33.5'

→ GO AHEAD ; Run HOLE PLUG + Grant
word from WMD -

pull 1 stick of 4" - 28' in hole

run in hole plug ~ 28' seal

approx $\frac{1}{2}$ bag got us to 30'

pull up 1' to 27' in hole, run
more hole plug → 28.5

↳ grant 1 bag up to ~ 16' b/s

~~1 $\frac{3}{4}$ bags grant~~ 1 $\frac{3}{4}$ bags hole plug
to 6.3' BLS

• $\frac{1}{4}$ bag river rock

• $\frac{1}{2}$ bag sand to 5.3' BLS

• mix up 1.5 bags cement Perfect!
mfx in sand by hand, clean
up ; secure well - move
equip. to work yard

depart Dudley @ 9:00pm ^{Rainy} arr whs. 12:20
am

$$\begin{array}{r}
 3 \\
 66.5 \\
 1.5 \\
 \hline
 68
 \end{array}$$

5-3-04

63

KC & DTP met whs @ 8am
depart 8:40am

static
water level in well @ 66.5' BL casing
(18" sticking)

installed red jacket hand
pump ~ 23'

well construction details
disposable packer set at ~~138~~ 138'
bentonite chips 1 bag to 133'
btm well set at 128.5'
filter sand to 102.7
pump 3 bags quick grit to 64'
2 bags quick grit - still 64'
Attempt bridge cavity w gravel/
sand - bridges at 34.3' b/s
hole plug to 28.5'
Quick grit 1 bag to 16'
2 bags bentonite chips to 6.3
1.5 bags perlite to surface

TBS RIBEI. 6
mainly SW 1/4

64
SRWMD site betw High Sprigs
and Alachua - contact
WARNER Zwonka re site visit/
selection

- prefer on high (Elev) as
POSS
- WATER source?

6.2.04 K&I, DP meet @ whse

new 300' tape

6-2-04 KC BDP - meet
Warren Zwick - pick site

W 18536 / 311 TD

Spring Hill core

owner: SRWMO

LAT 29° 49' 41.308" DGPS

LONG 82° 32' 40.608" WGS84

ELEV ~ 130' TOPO

S 6 d b b b T 085 R 18E

0-2.5' push spe - gg bn sd ist
foot thin yl. bn + or clay sd
v light

2.5-4.5' push spe - plugged off. med.

0.5' hard mottled clay sd

4.5- chg over to mbl drl spe.

4.5-7' gray + or clay w bn
sc clay sd at top

7-9' soft bn or + gray mottled

clay ~ 1.5' moved for top 1/2 of

run - back in to get btm -

new 2 1/4' sd clay - squeezing
in (?)

NW 188 ST

66

9-11.5' or. br. clayey sand, mottled
tight + squeezing in.

11.5-14' tight or. br. clayey sand

14-16' gray; or. br. banded + mottled
clayey sand, very tight - refusal.
clean hole; pull smpl.

16-16.7' go in to capture last spl. of run
; clean hole, got ~ 1.5'

16.7-19.2' gray + or. br. clayey sand to
17' gray slightly clayey sand

• SWITCH OVER TO NA

• Thunder chased us off

End day 5:45 pm

6-3-04 7 AM start

• finish setting up for NA.

19.2-19.5' (intervals are off above; bottom
of hole is 19.5')
gray; or. br. clayey sand

• pull augers; run casing in. 20' 3" csg
9" stickup

* note: white ± 2 mm pieces scattered throughout orange clayey sand intervals may be weathered LS or P

300' tape
 NQWL slip jaws
 Find $\frac{3}{4}$ " brk bar + auger socket
 DIESEL CONTAINER
 Find long chain
 Find $1\frac{1}{16}$ " combo wrench
 Demetrol
 Core Lube

41.7-42.25
 LS
 42.25-44
 cavity

19.5' - 19.7' 4" rec. from gray clayey sand
 19.7' - 24.7' excellent rec. v.lt. or. clayey sand, banded gray; v.lt. or. towards end of run.

some organic flecks

24.7' - 29.7' H. gray to white, banded w/ lt. or. clayey sand, black organic flecks

29.7' - 34.7' H. or. clayey sand to gray clayey sand w/ blebs of br.; white thymat interval.

34.7' - 39.7' losing circulation; lost 8" or so head fell fast, w/ H₂O pressure, and returns nearly quit.

gray, lt. or., br. laminations slightly clayey sand w/ gravel sized weathered Phos or LS. lost 8" NS

→→→
 - pull NA, run 3" csg to 45.5' w/ 2' stickup

- trip in NA w/ diamond bit

{ 39.7' - 44.5' cavity until ~ 41.7', then top of LS, rubbly mixed w/ gray clayey sand @ beginning of interval, then to ~ 42.25. cavity for ~ $1\frac{3}{4}$ ' then hard rec'd LS to 44.5' refusal @ end of run, need diamond bit.

rigs 1679

68

- thunder activity @ 4pm, tighten up site; sit in truck. @ 5:15, look up rig, secure site, to motel by 5:37pm
- thunderstorms clear up, back to site by 6:30

44.5' - 49.5' poor recovery hard dolomite, then nice white LS, probably washed soft sp. in middle.

49.5' - 51' sheet run, refusal. ~6" nice white LS.

pack up for day.

Rig hours 1679 ^{END day 8:00 pm}
11470 mi.

6-4-04 KC, DP - 7AM start
pull NQW down and bit,
run Addl. 3" csg to ~52'
(50' + 2' stick)

• Δ bit to Devil's Nightmare; trip in NQ

51' - 54.7' poor recovery coal packstone
fossiliferous white to lt. orange

54.7' - 57.2' as above, molluscs gastropods
 57.2' - 59.7' as above

thunder, sit in truck til ~ 1pm
 59.7' - 62.7' soft, white wackestone, unconol.
 drill down 3', then clean up; leave
 site by 2:30pm

arr. w/ths 5:40pm ran out of fuel
 @ Commonwealth: Cap Circ.

6.14.04 CK:DP @ whs 7am,
 load up + pick up equip. @ O'leary
 on site @ 11am.

hole open to 62.4'
 H2O level @ 61.5' BLS

62.7' - 64.7' cream wackestone excellent
 rec.

64.7' - 69.7' good dark, lt. cream wackestone
 pebbles from hash.

69.7' - 74.7' cream to lt. orange wackestone
 from + pebbles hash
 lops / humus

245-2359

X 6.14 rig hrs 1684

3" casing to ~99.5'
~1' sticky
→

70

74.7' - 79.7' ~ 50% recovery

lt. or. fossiliferous wackestone / packs.
79.7' - 84.7' white to cream fossiliferous
wacke / packstone

4pm thunderstorm warnings; lack of H₂O -
run to fetch H₂O
check into motel ~ 5:45pm

6-15-04 CK: DP start day @ 7am

84.7' - 87.2' soft white / cream pack / wackestone
leps / numms etc.

87.2' - 89.7' as above

89.7' - 94.7' ~ 65% rec. intervals of indurated
packstone, wackestone white / cream
fossil / foram hash.

94.7' - 99.7' 100% rec. pack / wackestone white -
cream foram hash leps; peckins
appear orange.

99.7' - 101.7' 100% rec. short run to get
NA down out of the way to
run 3" csg. AS ABOVE.

* Have 45' more 3", run all of it.
and 2' + 3' sticks.

• measure hole to 101.7', Go get H₂O!

Maintenance issues.

- H₂O psi gauge sticking -
- wireline hoist for spooling more than normal?
- LOAD Narrow trays for case boxes

* 6-15 rig hrs 1690

21

101.7' - 104.5' 3' run leftover f/ before running 3" cog, loss extra jack up.

white/cream wack/packstone
104.5' - 109.5' AS ABOVE far from hash
legs: Nums

109.5' - 114.5' AS ABOVE

114.5' - 119.5' AS ABOVE

119.5' - 124.5' AS ABOVE

124.5' - 128.5' AS ABOVE - ran out of water
lost 1' of a 5' run, thunderstorm
approaching. AGAIN!

4:30pm, go for H₂O; try to fix pump
secure site. offload H₂O into
tubs, fill trailer up again, to
motel endday @ 6:45pm

6-16-04 CK: DP start 7am
trip out 75' NA, run in 10' sticks
• switch out H₂O psi gauge
• clean bit, begin drilling.

128.5' - 129.5' no sample, hole open to
129'

• will go in w/ splr, do 2.5' run.

- 129.5' - 134.5' 100% rec. white / lt. cream
 brown packstone numms / lps / pectins
- 134.5' - 140' head fell freely for ~ 8"
 $\frac{2}{3}$ way through run.
 white / lt. cream fossiliferous packstone
 * (probably washed ~ 6" @ bottom of
 hole to reach 140' that number
 came from running in a pipe.
- 140' - 145' 90% rec. white / lt. cream
 packstone numms / lps / pectins
- 145' - 149.7' AS ABOVE except last ~ 8"
 of run indurated lt. or. packstone
 lps / numms / pectins
- 149.7' - 154.7' indurated packstone back into
 unconsol. cream / lt. or. packstone
 w/ ~~at~~ above fossils: gastropods
 • Febl H₂O
- 154.7' - 159.7' cream - lt. or. packstone, intervals
 are indurated. finer grained
 lps + numms etc.
- 159.7' - 164.7' cavity space pathway through run,
 ~ 65% rec. indurated packstone
 with some rec'd intervals.
- 164.7' - 169.7' ~ 90% rec. hard rec'd intervals
 + softer unconsol packstone
 lps + pectins: 1 scallop fossil
 mold

4 6-16 rig hrs 1696

161.7 - 174.7 ~ 50% rec. plugged device
during run, last 6" of sample
represents 1.5' core.
packstone / grainstone indurated
material. small lps + nms, some
other interesting fossils -

174.7' - 179.7' cream / lt. or. indurated packstone
to grainstone, some relict zones
pachys / frams / bryozoa etc.

179.7' - 184.7' AS ABOVE

• run to fetch H₂O. Spur

184.7' - 189.7' indurated lt. or. pack / grainstone
to poorly consol. cream / lt. or.
packstone lps, fossil molds etc.

189.7' - 194.7' barely consol. cream / lt. or.
packstone

194.7' - 199.7' ~ 90% rec. indurated packstone
lps / nms etc, washed up of
run trying to get bit into furn.

199.7' - 204.7' 90-100% rec. indurated packstone
lt. or. br.

204.7' - 209.7' AS ABOVE w/ dolomite layer?
then back into packstone.

209.7' - 213.7' relict packstone

• pack up. fetch H₂O, end day @ 8:30pm

X

6-17

rig hrs 1700
miles 11508

sample run also includes
bryozoa & echinoids

6-17-04 CRDP @ 5:50am

24

H₂O level @ 96.9' BLS

213.7' - 217.7' lt. cream packstone

100% rec. 4" for 4' run.

217.7' - 222.7' 1st ~2' lt cream packstone,
then cleaned up grainstone, inclur.
pectin mudds, numms, NO LEPS?
millioids

222.7' - 227.7' lt. cream grainstone to #
H. gray br. "dirty" LS, possibly
dolomitized intervals w/in.
millioids, numms, amphistegina,
gypsina globula, some very small
leps.

- millioid grainstone.

227.7' - 232.7' olive/gray ~~br.~~ grainstone
millioid hash, opercs/numms etc.

232.7' - 234.7' AS ABOVE, packstone

234.7' - 239.7' H. gr. br. packstone, a bit
muddier/finer grained, bed into olive
br. grainstone

239.7' - 244.7' A. olive br. grainstone/packstone

244.7' - 249.7' #1 lt. olive br. grainstone

249.7' - 254.7' ~80% recovery, probably #1
sample 2.5' from bottom of run.
bad chatter, unstable hole?

- trip out 40' NQ, secure site; depart.
- arr. whs ~ 6:45pm

6-22-04 Kenji Butler; DTP depart TCH
@ 7am, arr. site ~ 11am

- Holopn to 259.5'
- H₂O level @ ~ 96.75' BLS
- trip in 40' NQ
- mix mud / clean hole, no problems
- @ 12:28, lightning warning, sit in truck

254.7' - 259.7' ~ 80% rec. olive gray
indurated grainstone to lt. gray br.
uncensol. grainstone milliolids etc.

259.7' - 264.7' 100% rec. lt. gray br. to
olive gray + black. peckins (salbp?)
milliolids + from grainstone.

264.7' - 269.7' 100% rec. lt. cream br. to
olive gray to lt. cream br.
grainstone.

269.7' - 274.7' ~ 60% rec. lt. cream
grainstone to rubbly restd zone,
then back into cream grainstone

274.7' - 279.7' ~ 80% rec. lt. cream
grainstone to heavily restd LS,
large gastropod mold @ end of run

rights 1703

blue/gray clay fill



- 279.7' - 282.7' v. hard rexd LS
drilled very slowly! washed lower sup
- Knock off for day, secure site; fetch
H₂O
- to motel (endday) @ 8:20pm

6-23-04 KB; DTP startday @ 7am

finished 279.7' - 282.7' run above, washed
softer spl. @ end of run? softer material
is a white finer gr. packstone, with blue-gray
clay as cavity fill.

282.7' - 287.7' ~ 20% rec. same potential
cavity space, but not sure how deep.
white to cream grainstone w/ traces of
gray blue clay.

287.7' - 292.7' cav. only 3.3' to core, got
~ 2' rexd grainstone, traces of
blue gray clay.

292.7' - 297.7' very poor rec. ~ 20% lots of
small cavities. grainstone (cream)
; blue/gray clay

297.7' - 302.7' ~ 20% rec. hard rexd millid
grainstone. lots of small cavity
space @ beginning of run, last
~ 3' drilled well. same clay blebs

- Plan is to trip out drill rod, run casing down onto way, abandon site & transfer vehicles to O'Leary St. Pk.
 - tighten up & depart site @ 6:45pm
 - arr. TLH 9:30pm
-

8-18-04

CB LB

MEET @ W. HOUSE LOAD PIPES, CSB, TRENAIS, QUIK GEL, ETC. GO OVER SITE GOALS W/ ICE. LOOK @ CORE. LEAVE TLH 100PM. ARRIVE @ SITE ~ 500 PM. CME WILL NOT FIT IN SITE. NEED ONE TREE REMOVED. CALL WARREN ZWANKA. WARREN NEEDS TO MAKE CALLS CONCERNING TREE WILL MEET US @ SITE @ 10AM 10/19. LOCK UP ENT WAY 7:30PM

MID-AMERICA - 800 342 0234
BY 854.1526

DOWNIE
8AM

78

8-19-04

CB, LB

7AM

GO TO SITE. DROP OFF CARDS
TRANSFER @ SITE GO TO OLENO SP.
TO GET WATER TRAINER? NO PIPE,
OVERSHOT. HOOK UP TRAINER LIGHTS.
HAVE RT BRAKE LT. ONLY. BACK TO
MEET WARREN ZWICK @ SITE.
WE ARRIVE 9:15 WARREN @ 10:50
GET PERMISSION TO CUT WEE?
DO SO. PULL RIG INTO SITE OVER
2" CB. WARREN LEAVES PERMIT,
LOCKS & WELL PROTECTORS W/ US
PRIOR TO LEAVING. GO TO
RIVER TO GET H₂O. RTN TO
SITE & GET SET UP. TRY MOYNO.
HYD MOTOR NOT TURNING PUMP
PULL PUMP MOTOR.

7PM

8-20-04

CB LB

10AM

TO MIDAMERICA IN Ocala w/ MOTOR.
GO TO Ocala TRUCK MOTOR: BACK TO
Ocala TO GET SPACER. OLD FITTING DON'T
FIT. Ocala FITTING IN Ocala
END DAY 2AM

9-21-04 OS LD

6 AM 5 PM

BORROW MOUNT HARBOR: WRECK FROM
ALABAMA Co. FO. LMS HYS WHILE OFF
MOUNT HARBOR MOTOR ON MOUNT. TEST.
BEEN SPINNING IN 3" C.S.G. RUN
IN TO 190° BLS. BEGIN RUNNING IN
NB.

9-22-04

OS, LD

6 AM

RAN, RAN FROM TRY TO LIFT
AT RAN. 2 STORMS. TWO TWO. TAKE
H2O RAN TO OLEON. BACK TO
SEE TO GET CARR. 5 HEAR HOUSE

Cord to

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° 20' to the R. at Station 542 + 72.

Ext. in Tab. I opposite 23° 20' = 120.87

$120.87 \div 12 = 10.07$. Say a 10° Curve.

Tan. in Tab. I opp. 23° 20' = 1183.1

$1183.1 \div 10 = 118.31$.

Correction for A. 23° 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° 20' = $23.33^\circ \div 10 = 2.3333$ = L. C.

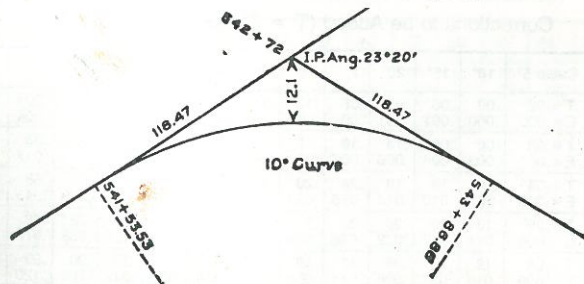
2° 19½' = def. for sta.	542	I. P. = sta.	542 + 72
4° 49½' = " " "	+50	Tan. =	1 18.47
7° 19½' = " " "	543	B. C. = sta.	541 + 53.53
9° 49½' = " " "	+50	L. C. =	2 33.33
11° 40' = " " "	543 +	E. C. = Sta.	543 + 86.86
	86.86		

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

2° 19½' = def. for sta. 542.

Def. for 50 ft. = 2° 30' for a 10° Curve.

Def. for 36.86 ft. = 1° 50½' for a 10° Curve.



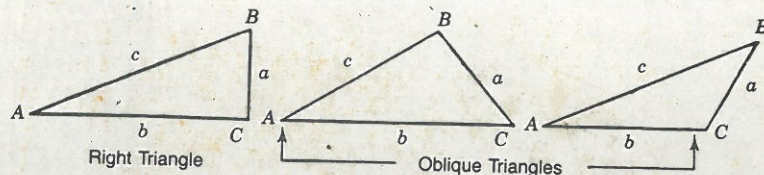
$$\begin{array}{r} 147.5 \\ 6.8 \\ \hline 140.7 \end{array}$$

$$\begin{array}{r} 142.0 \\ 6.8 \\ \hline 135.2 \\ 33.0 \\ 21.5 \\ \hline 115 \end{array}$$

$$\begin{array}{r} 215 \\ 130 \\ \hline 345 \end{array}$$

$$\begin{array}{r} 9.16 \\ 3.10 \\ \hline 6.4 \end{array}$$

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

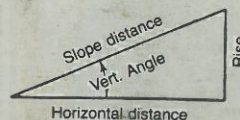
For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\csc = \frac{c}{a}$

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

Solution of Oblique Triangles

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

REDUCTION TO HORIZONTAL



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

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

