Woolsey Operating Company, LLC

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: STUCKY #1
API: 15-079-20718-00-00
Location: Section 1 - Township 22 South - Range 3 West
License Number: 33168 **Region:** Harvey County, Kansas
Spud Date: September 4, 2019 **Drilling Completed:** September 12, 2019
Surface Coordinates: N/2 SW NE
1675' FNL & 2025' FEL
Bottom Hole Coordinates:
Ground Elevation (ft): 1453' **K.B. Elevation (ft):** 1466'
Logged Interval (ft): 2100' **To:** 3630' **Total Depth (ft):** 3630'
Formation: Topeka >>>> Maquoketa
Type of Drilling Fluid: Chemical Mud

Printed by MudLog from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Woolsey Operating Company,LLC
Address: 125 N. Market, Suite 1000
Wichita, KS 67202

GEOLOGIST

Name: Bill Klaver
Company: Woolsey Operating Co. LLC
Address: 125 N. Market, Wichita Kansas, 67202

COMMENTS

Surface Casing: Spud September 4, 2019 at 6:30 pm, ran 6 joints of 8 5/8" X 24#/ft new casing to 266' KB. Cemented with 200 sx 60/40 poz mix, 3% cc, 1/4# cello flake. Plug down 1:30 am on September 5, 2019. Cement did circulate.
Production Casing: None ran

Deviation Surveys: 1 at 275', 1.5 at 770', .75 at 1206', 1 at 1770', 1.5 at 2210', .75 at 2708', 1.25 at 3162', 1 at 3552'
Pipe Strap @ 3162', Strap 3181.11, Board: 3177.50', strap 3.61' long. No correction was made to the board.
Duke Rig 7 bit record:
1) 12 1/4" Varel RR in at 0' out at 275', 3 hrs
2) 7 7/8" OK BD 52C in at 275' out at 3630', 93 3/4 hours

Gas Detector: Pason Systems
Mud System: Mud-Co. Jason Whiting, Matt Smith, Engineers
DST: Trilobite Testing, Leal Cason, Tester
E-Logs: ELI, Dual Induction Laterolog w/SP, CNL-FDC w/PE, GR and Caliper. Jeff Luebbers, Engineer
Company Rep: Alan Dick

DSTs

DST #1 3150'-3162', Mississippi Warsaw, 30"-60"-60"-90", SB BOB in 30 seconds, GTS in 9 minutes. IFP: 10" 95.24 MCF, 20" 139.20 MCF, 30" 172.17 MCF, FFP: 10" 188.87 MCF, 20" 195.62 MCF, 30"-40" 202.37 MCF, 50"-60" 209.11 MCF. Rec: 3146' GIP, 5' GCM. IHP 1583, IFP 37-86, ICIP 936, FFP 70-74, FCIP 933, FHP 1552. BHT 107 degrees.

DST #2 3190'-3200', Mississippi, 30"-60"-60"-90". SB BOB in 30 seconds, GTS in 10 minutes, IFP: 10" 29.3 MCF, 20" 20.6 MCF, 30" 31.7 MCF, FFP: 10" 36.4 MCF, 20" 44.4 MCF, 30" 46.0 MCF, 40"-60" 44.4 MCF. Rec: 3177' GIP, 5' HGCM. IHP 1655, IFP 25-47, ICIP 888, FFP 29-55, FCIP 871, FHP 1587, BHT 106 degrees

DST #3 3454'-3552', Hunton, 30"-60"-60"-90", SB BOB in 6 minutes, Rec: 134' GIP, 447' SOWCM (2%O, 48%W, 50%M), 310' MCW (70%W, 30%M), 180' SW. API Rw .23 at 81 degrees. Chlorides 26,000 ppm, IHP 1759, IFP 72-291, ICIP 643, FFP 291-506, FCIP 506, FHP 1716, BHT 118 degrees.

CREWS

Galen Roach, Toolpusher
Charles Stout, Morning
Scott Edwards, Daylights
Steven "Skippy" Green, Evening

ROCK TYPES

Anhy
Bent
Brec
Cht
Clyst
Coal
Congl
Sdy dolo

Shy dolo
Dol
Gyp
Sdy lmst
Lmst
Mrlst
Salt
Shale

Sltst
Ss
Black sh
Gry sh
Shale
Shysltst
Sltysh
Ss 2

Shale 3
Silty dol
Dol lmst
Dol 2
Granite wash
Lmst
Calc dol
Shale 3

ACCESSORIES

MINERAL
Anhy
Arg
Bent
Bit
Brecfrag
Calc

Chlorite
Dol
Sand
Slty

FOSSIL
Algae

Pelec
Pellet
Pisolite
Plant
Strom
Fuss
Oomoldic

Grysh
Gryslt
Lms
Sandylms
Sh
Sltstn

- Carb
- Chtdk
- Chtlt
- Dol
- Ferrpel
- Ferr
- Glau
- Gyp
- Marl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt

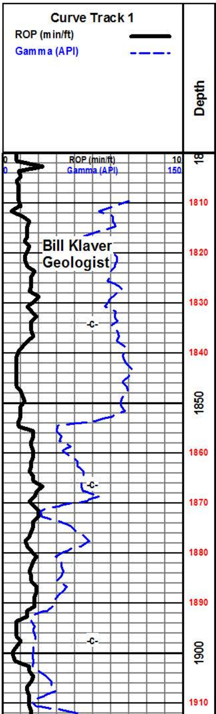
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol

TEXTURE

BS	Boundst
C	Chalky
CX	Cryxln
E	Earthy
FX	Finexln
GS	Grainst
L	Lithogr
MX	Microxln
MS	Mudst
PS	Packst
WS	Wackest



Lithology

Oil Shows

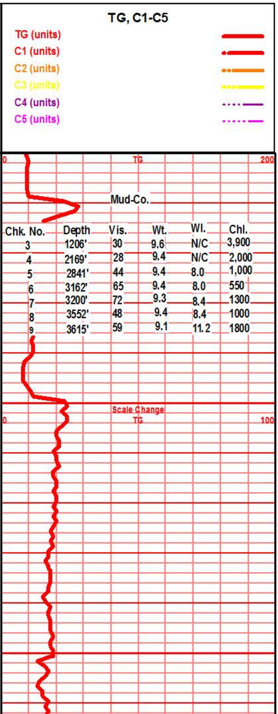
Geological Descriptions

Woolsey Operating Company LLC
Stucky #1
1675' FNL & 2025' FEL
N/2 SW NE
Sec. 1 - Twp 22 South - Rge 3 West
Harvey County, Kansas
Field: WC/Harmac
API # 15-079-20718-00-00
GL 1453' KB 1466'

One minute drill time was manually recorded from 2100' to rotary total depth. 10 foot samples were expertly roughneck gathered from 2400 feet to rotary total depth. All samples were requested by and delivered to the Survey at the completion of the test.

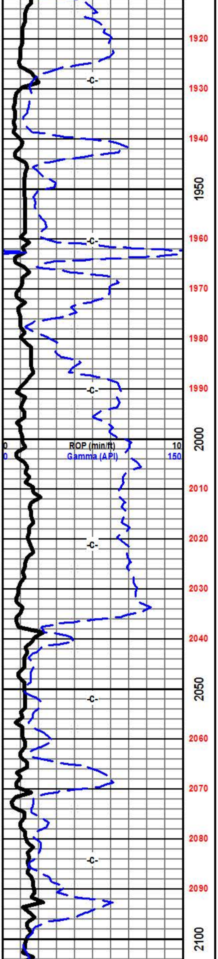
The following tests were used for structural comparison while drilling the Stucky #1, Braden Drlg. Kaufman 1, SE SE NW, 1-22S-3W. Panhandle Eastern's Waltner 1, SE SE SE, 36-21S-3W. American Energy's Kaufman 1 OWWO, SW NW, 1-22S-3W.

7 am Daily Progress:
September 4, 2019 MIRT
September 5, 2019 WOC, Drill plug 9 am
September 6, 2019 Drilling at 1165'
September 7, 2019 Drilling at 2122'
September 8, 2019 Drilling at 2807'
September 9, 2019 DST #1 at 3162'
September 10, 2019 DST #2 at 3200'



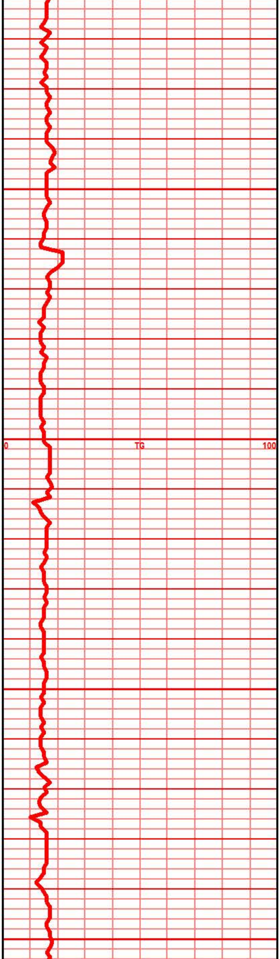
Mud-Co.

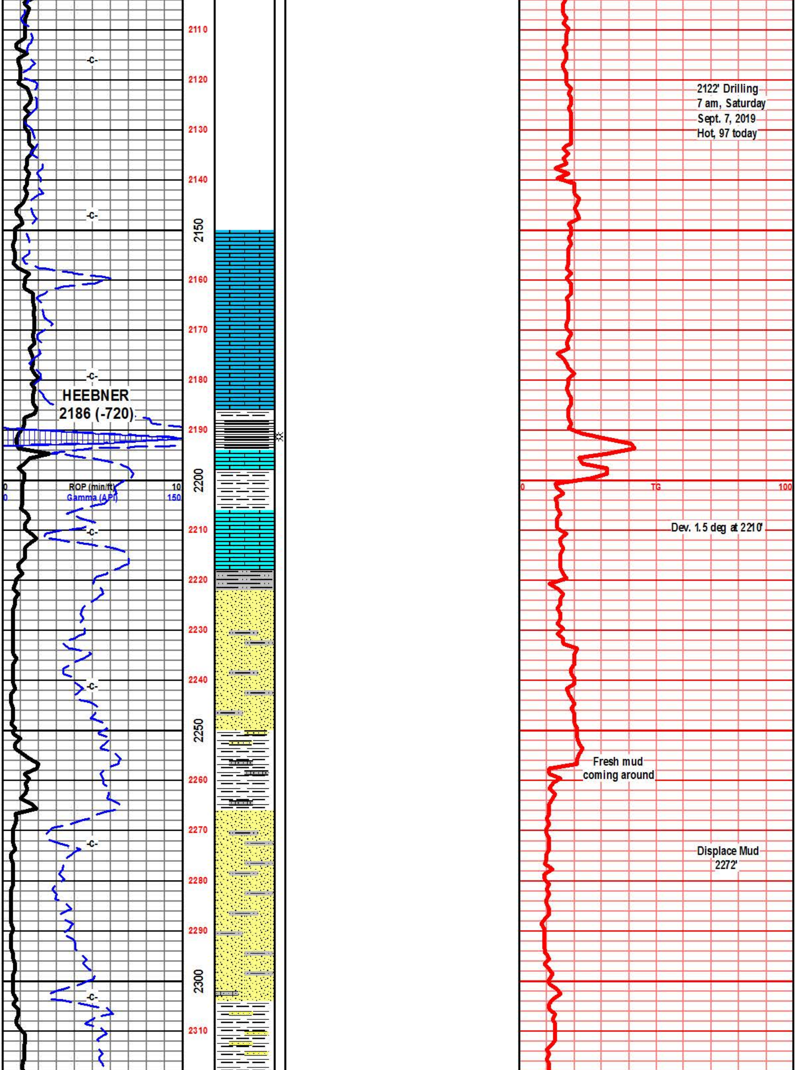
Chk. No.	Depth	Vis.	Wt.	Wl.	Chl.
3	1206'	30	9.6	N/C	3,900
4	2169'	28	9.4	N/C	2,000
5	2841'	44	9.4	8.0	1,000
6	3162'	65	9.4	8.0	550
7	3200'	72	9.3	8.4	1300
8	3552'	48	9.4	8.4	1000
9	3615'	59	9.1	11.2	1800



September 11, 2019 CFS at 3552'
September 12, 2019 Drrilling at 3592'
Lost returns at 3568' and 3586' in Hunton
Logs out 6 pm

E-Log Tops:
Mississippi Unc 3110 (-1655)
Osage 3197 (-1742)
Compton 3370 (-1915)
Kinderhook 3442 (-1987)
Misener 3514 (-2059)
Hunton 3516 (-2061)
Maquoketa 3581 (-2115)





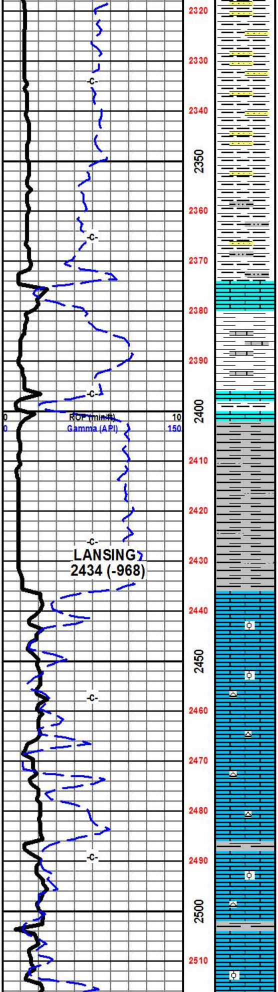
HEEBNER
2186 (-720)

2122' Drilling
7 am, Saturday
Sept. 7, 2019
Hot, 97 today

Dev. 1.5 deg at 2210'

Fresh mud
coming around

Displace Mud
2272'



shl gry gritty sndy gran, lst tan gry f xln dns hrd blky ang arg, foss frags,

shl gry drdk med gry silty gritty, lst drk tan/gry vf xln gran dns silty gritty, arg, foss frags

shl gry med drk gry silty gritty foss

shl gry drk gry, silty, gritty, wsh drk gry

shl gry drk gry, soft gran fnly silty, tr fnly silty gritty, spls want to wsh lt gry

lst buff crm tan f xln blky ang pcs, sub chlky, tr soft, gran, foss frags, tr micro foss frags, tr ool/oomod por

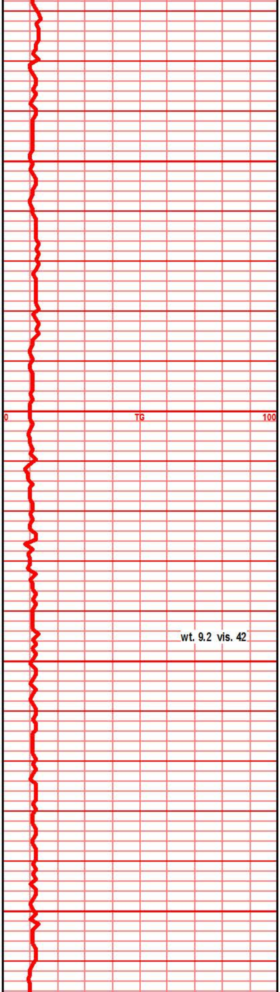
lst buff lt gry f vf xln dns hrd blky ang micro foss frags, tr sub chlky, chrt lt gry shrp frsh opaq

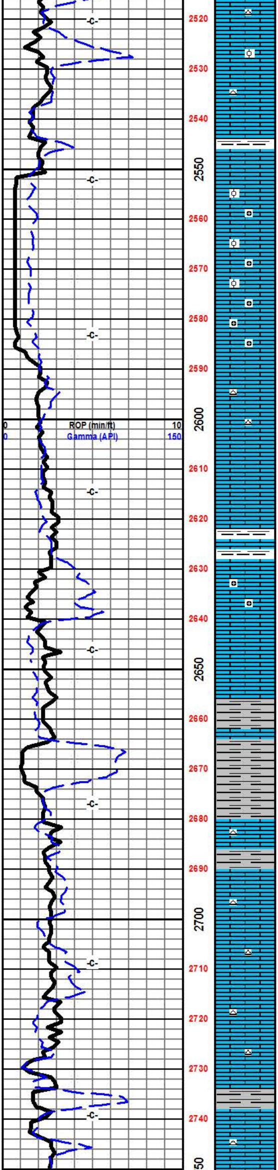
lst lt gry buff tan f vf xln blky dns hrd sub chlky, micro foss frags, tr calc xln fill, tr foss mold por, mstly hrd dns chrt aa

lst crm buff lt gry f vf xln dns hrd blky sub chlky mstly dns, foss frags micro foss frags, micro ool, chrt aa

lst buff lt gry f vf xln dns hrd blky ang tr sub chlky, micro foss frags, tr calc xln fill,

lst buff gry tan f vf xln dns hrd blky tr soft, sub chlky, miro foss, micro ool, calc xln fill, mslty dns dull chrt lt gry shrp frsh





lst aa, no change noted

lst crm buff tan tr lt gry f xln blky tr soft, sub chlky, micro foss frags, micro foss ool, inter xln por, calc xln fill, chrt tan gry shrp frsh opaq

lst buff tan lt gry f xln dns hrd blky sub chlky, micro foss frags, micro xln fill, tr micro ool,

lst aa

lst buff tan tr lt brn f med xln blky ang crsly foss ool, crsly oomoldic, interr oo por, calc xln fill in prt, soft crumbly in prt

lst tan buff brn f med xln gran blky ang gran crumbl, crlsy foss ool, crsly ool, calc xln fill

lst crm buff brn f med xln gran blky ang crumbly, calc xln fill, crsly ool, abun vis oomold por

lst crm buff lt gry f vf xln dns hrd blky, tr sub chlky, foss frags, micro foss frags, calc xln fill, chrt gry tan shrp frsh opaq

lst drkr tan gry, mstly gry f vf xln dns hrd blky ang, micro xln, micro foss frags, chrt gry drk gry shrp frsh opaq

shl gry drk gry calc, lst drk gry tan, drk gry f vf xln dns hrd blky, micro foss frags

lt tan butt lt gry f xln dn shrd blky ang dns, foss frags, tr foss ool, tr foss mold oomold por, calc xln fill micro foss frags

lst buff tan drk tan f vf xln blky dns hrd, tr sub chlky, micro foss,

lst tan sdrk tan buff/gry f vf xln blky ang hrd dns, tr chlky edge, micro foss, micro xln fill

lst aa shl gry blk, calc in prt, lst tan gry f xln dns hrd blky ang arg tr foss frags

shl gry dull gry calc, lst tan gry f vf xln dns hrd blky ang micro xln in prt, micro foss frags

lst dull gry tan f vf xln dns hrd blky pcs, micro foss micro xln fill, mstly dns hrd

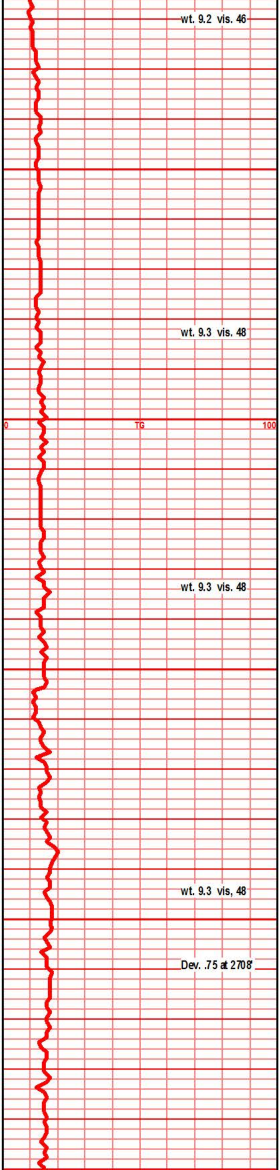
lst dull tan dull crm tan f vf xln blky dns hrd, micro foss frags, tr chlky edge, calc xln fill, chrt tan shrp frsh opaq

lst dull gry tan, gry f vf xln blky dns ang hrd micro foss,

lst gry dull gry tan f vf xln blky dns ang hrd, lst tan buff f xln sli sub chlk foss frags, calc xln fill,

slh gry, lst crm buff tan f xln blky ang gran tr chlky, calc xln fill, foss frags, chrt wht tan shrp frsn

lst tan buff crm, f xln gran tr soft, chlky, foss frags, calc xln fill,



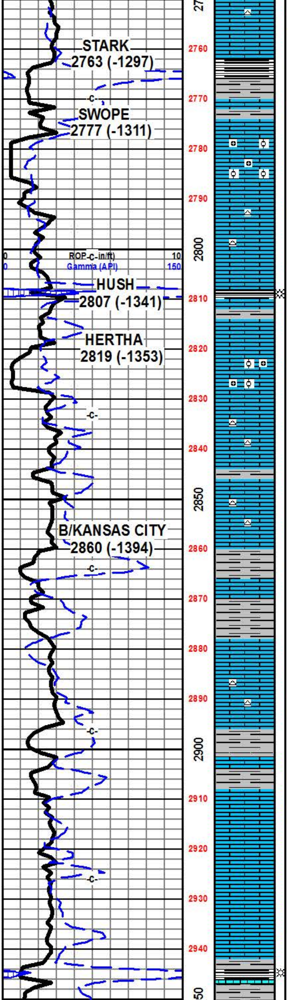
wt. 9.2 vis. 46

wt. 9.3 vis. 48

wt. 9.3 vis. 48

wt. 9.3 vis, 48

Dev. .75 at 2708'



lst tan crm f xln blky ang dns hrd foss frags, calc xln fill, sli chlky in prt

shl gry blk, drk gry, platey, banded

lst crm tan gry brn f xln dn shrd blky and dns, arg tr foss frags, tr ool

lst crm tan lt brn f sli med xln blky crumbly pcs, crsly oomodic, gd oomold por,

lst dull gry tan f vf xln dns hrd blky micro xln in prt, sub chlky in prt, micro foss frags

lst dull gry tan f vf xln blky dns hrd ang pcs, tr micro foss frags, chrt lt gry shrp

shl drk gry blk, blk carb, wxy grsy firm pcs, lst drk tan brn f xln blky dns, foss frag ool, calc xln fill

lst crm tan lt brn f sli med xln blky ang crumbly foss frags, foss ool crsly ool, calc filled ool, inter xln por

lst dtk tan gry buff f vf xln dns hard blky ang sli sub chlky, micr xln, foss frags

shl gry drk gry blk, lst drk tan gryr f vf xln dns hrd blky, micro foss frags, mstly dns hrd arg

lst tan crm brn f xln dns hrd sub chlky, calc xln fill, foss frags, micro foss, chrt tan shrp frsh

shl gry, gry blk, lst aa

shl gry ddrk gry blk, ratty calc in prt silty

lst tan drk tan gry f vf xln dns hrd blky ang mic foss frsh

lst tan gry brn f vf xln dns hrd blky, crs calc xln fill, micro foss frags, tr chrt tan brn shrp frsh

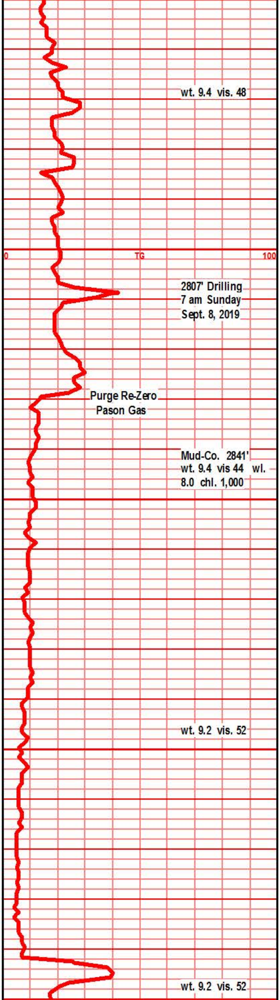
lst gry drk gry brn f vf xln dns hrd blky arg silty gritty

lst lt gry pale buff f vf xln dns hrd blky ang pcs, tr sli chlky, micro xln

lst tan drk buff f vf xln dns hrd blky ang micro xln in prt, mstly hrd dns, tr micro foss frags,

lst tan gry/buff f vf xln dns hrd blky ang dns pcs, micro xln in prt, tr micro foss frags, tr sub chlky

shl gry blk, drk gry blk, tr blk carb, wxy grsy firm blky pcs, tr gas bubs



wt. 9.4 vis. 48

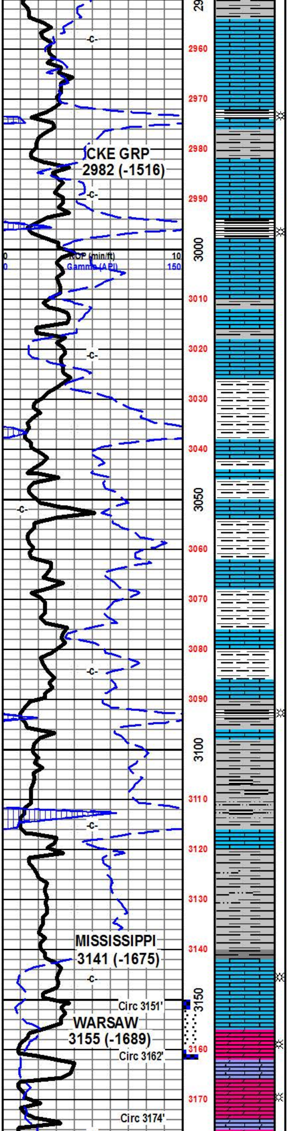
2807' Drilling
7 am Sunday
Sept. 8, 2019

Purge Re-Zero
Pason Gas

Mud-Co. 2841'
wt. 9.4 vis 44 wl.
8.0 chl. 1,000

wt. 9.2 vis. 52

wt. 9.2 vis. 52



shl gry calc, lst dull gry buff f vf xln dns hrd blky ang hrd, micro xln in prt, tr micro foss frags

lst drk buff tan tr buff/gry f vf xln dns hrd blky ang pcs, micro foss frags, tr micro xln tr vsli chlky

shl drk gry blk, blk carb, firm blky gassy pcs, lst gry tan f vf xln dns hrd blky ang micro xln in prt

lst buff gry dkr gry tan f vf xln blky ang dns, micro xln, micro foss frags, chrt gry tan shrp frsh

shl drk gry blk, sli carb in prt, lst aa

lst buff brn drk gry f vf xln dns hrd blky ang, micro xln, micro foss frags, tr fn calc xln fill

lst gry drk gry tan f vf xln hrd dns blkyang pcs, micro foss frags, vry dns tite

lst drk gry tan, drk buff gry f vf xln dns hrd blky dns arg silty gritty, shls gry gry blk

lst aa, chrt wht shrp frsh opaq, shls gry green blk maroon, silty gritty ratty, lst drk gry drk tan/gry vf xln dns hrd blky arg

shl gry green brn, tr yllw, maroon, mslty gry brn, soft muddy, gran gritty in prt. spls begin to wsh gry

lst gry buff drk tan f vf xln blky and ang hrd, micro xln, tr foss frags, silty gran arg, shls gry med gry, green yllw, soft, spls wsh gry

slh gry gry/green tr yllw, vari color, ratty silty tr bedded/banded, spls wsh gry

shl gry gry blk green, tr vari color, ratty banded, blk carb text, gas bubs, lst drk gry vf xln gran blky dns hrd ang arg silty

shl gry lt gry green silty gritty, soft, gran in prt, spls wsh gry

shl grn med/lt gry soft gran gritty, wsh gr, tr vari color, tr blk carb text, lst drk gry f xln silty gritty arg

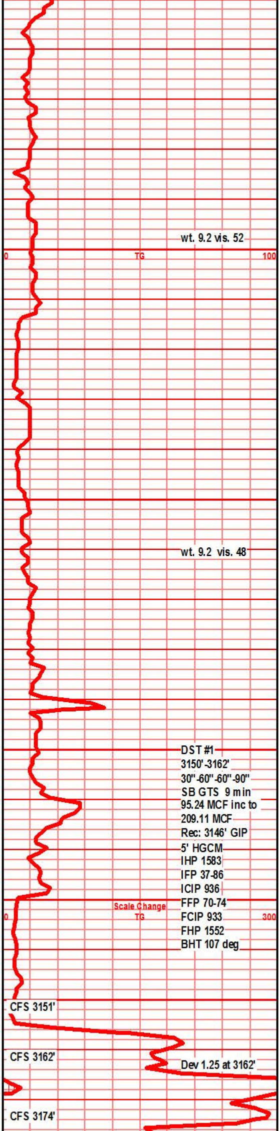
shl gry green, drk gry, blue green, blue, reds, yllw, vari color, bedded banded silty soft, gran in prt

slh gry green maroon, yllw, vari color, silty gritty, banded ratty slivers

lst wht, crm/wht, trr green tint, f med tr crs xln blky ang pcs, sli chlky/crumbly, tr crs xln fill, glau, inter xln por, gas bubs, no stain, nsfo nodor

dolo crm wht, yellow tint, f vf xln, fnly sucr, gran blky ang pcs, inter xln por, tr chlky text, glau, good sho gas bubs, nodor, nsfo, no stain

dolo crm tan f vf xln, fnly sucr, gran soft crumbly, tr foss frags, tr glau, gd vis inter xln por, abun gas bubs, bright UV, nodor, nsfo, tr residual dead stain

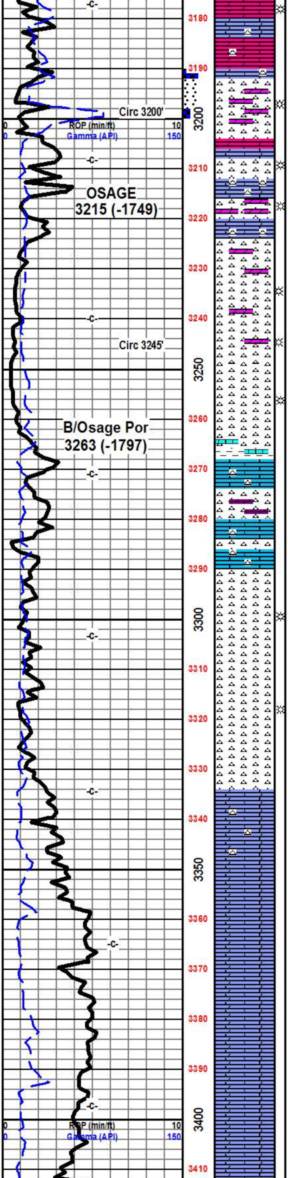


wt. 9.2 vis. 52

wt. 9.2 vis. 48

DST #1
3150'-3162'
30"-60"-60"-90"
SB GTS 9 min
95.24 MCF inc to
209.11 MCF
Rec: 3146' GIP
5' HGCM
IHP 1583
IFP 37-86
ICIP 936
FFP 70-74
FCIP 933
FHP 1552
BHT 107 deg

Dev 1.25 at 3162'



lst/dolo f med xln gran blky ang fnly sucr, soft crumbly gd vis inter xln por glau, lst f med xln blky flky foss frags, glau, gd inter xln por gas bubs

chrt wht off wht, gran weath crumbly text, pp moldic por, abun gas bubs on brk, fair/gd odor, filmy show on bub break, chrt wht off wht shrp frsh w/gran weath text edge aa, chrt gry foss shrp frsh semi opaq

chrt wht off wht lt gry shrp frsh semi opaq, tr foss, chrt wht crumbly weath text, dolo edge, lst/dolo wht f med xln gran soft crumbly foss frags, glau, tr gas bubs

lst/dolo wht lt tan f med xln blky foss chrty glau, chrt wht crm tan weath gran text, pp moldic por, gas bubs, odor, chrt wht gry shrp frsh semi opaq

dolo tan crm f sli med xln blky ang crumbly glau pcs, inter xln por, subchlky, mstly hrd dns, chrt wht shrp frsh opaq w/weath gran text edges,

chrt wht tan crm gran soft crumbly tr chlky, glau, weath gran text, pp moldic por, chrt wht shrp frsh w/gran weath text edge tr random gas bubs

chr tan wht off wht gran weaht text, crumbly soft, chlky in prt, spls wsh wht, chrt wht lt gry shrp frsh semi opaq tr w/weath gran text edges

chrt wht off wht weath gran crumbly text, gran sof in prt, pp moldic por, tr soff chlky. chrt wht tan gry shrp frsh opaq

chrt aa, lst tan lt buff tan f med xln blky ang flky pc, crs calc xln fill, chlky gran crumbly in prt, foss frags, foss ool, crly in prt,

chrt wht off wht tan shrp frsh opaq, blky ang shrds, tr foss, chrt wht off wht gran crumbly sli chlky

chrt wht tan shrp frsh shrp, blky ang pcs, chrt wht off wht gran weath text, pp moldic por

chrt wht off wht tan in prt shrp frsh blky ang pcs, tr weath gran text edge

chrt wht off wht tan shrp frsh blky ang, semi opaq, tr frsh wht chrt w/gran semi -weath text edge

chrt wht off wht lt tan shrp frsh, blky ang edges, chrt lt gry shrp frsh semi opaq, shrb blky ang shards, tr weath gran edge,

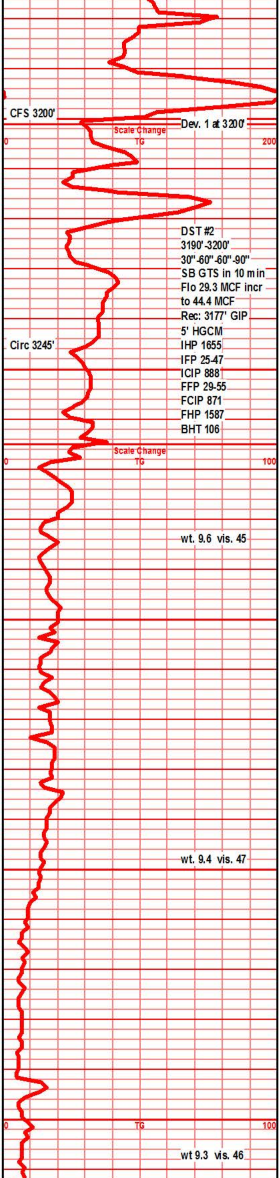
chrt wht off wht tan, lt gry shrp blky ang shrp ang shards, lst/doll tan crm f vf xln dns blky ang pce, tr foss frags, tr chrty

lst tr dolo, crm tan blky ang dns hrd foss frags, crsly in prt, foss ool, calc xln fill, tr fnly sucr dolo text, chrt gry shrrp frsh opaq

lst tr dolo crm tan drk buff f sli med xln blky ang tr sub chlky pcs, foss frags, crsly foss in prt, foss ool, calc xln fill, crsly in prt, chrt lt gry shrp frsh opaq

lst off wht tan drk buff f sli med xln dns hrd blky pcs, foss frags, micro foss frags, foss ool, calc xln fill, chrt wht lt gry shrp frsh

lst crm drk buff tan f med xln blky ang gran, tr crs calc xln fill, tr sub chlky foss frags, foss ool, chrt wht clr lt gry shrp frsh



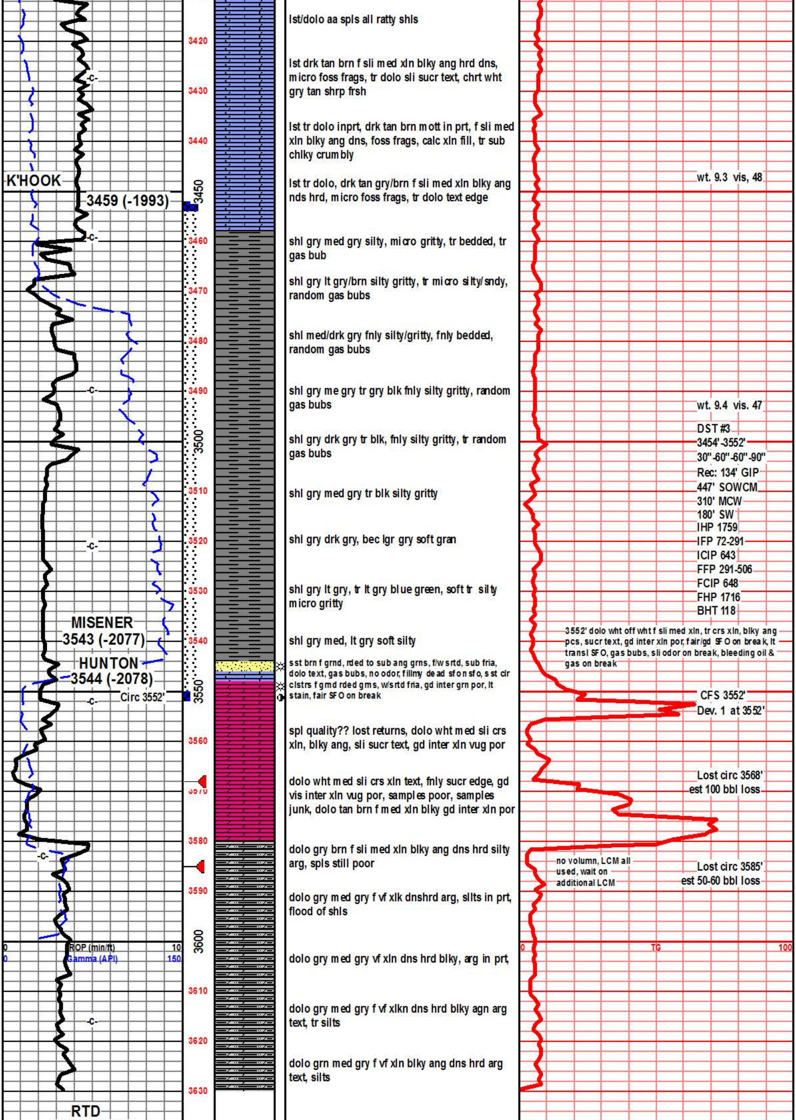
Dev. 1 at 3200'

DST #2
3190'-3200'
30"-60"-60"-90"
SB GTS in 10 min
Flo 29.3 MCF incr
to 44.4 MCF
Rec: 3177' GIP
5' HGCM
IHP 1655
IFP 25-47
ICIP 888
FFP 29-55
FCIP 871
FHP 1587
BHT 106

wt. 9.6 vis. 45

wt. 9.4 vis. 47

wt 9.3 vis. 46



lst/dolo aa spls all ratty shls

lst drk tan brn f sli med xln blky ang hrd dns, micro foss frags, tr dolo sli sucr text, chrt wht gry tan shrp frsh

lst tr dolo inprt, drk tan brn mott in prt, f sli med xln blky ang dns, foss frags, calc xln fill, tr sub chlky crumbly

lst tr dolo, drk tan gry/brn f sli med xln blky ang nds hrd, micro foss frags, tr dolo text edge

wt. 9.3 vis, 48

shl gry med gry silty, micro gritty, tr bedded, tr gas bub

shl gry lt gry/brn silty gritty, tr micro silty/sndy, random gas bubs

shl med/drk gry fnly silty/gritty, fnly bedded, random gas bubs

shl gry me gry tr gry blk fnly silty gritty, random gas bubs

wt. 9.4 vis. 47

shl gry drk gry tr blk, fnly silty gritty, tr random gas bubs

DST #3
3454'-3552'
30"-60"-60"-90"
Rec: 134' GIP
447' SOWCM
310' MCW
180' SW
IHP 1759
IFP 72-291
ICIP 643
FFP 291-506
FCIP 648
FHP 1716
BHT 118

shl gry med gry tr blk silty gritty

shl gry drk gry, bec lgr gry soft gran

shl gry lt gry, tr lt gry blue green, soft tr silty micro gritty

shl gry med, lt gry soft silty

3552' dolo wht off wht f sli med xln, tr crs xln, blky ang pcs, sucr text, gd inter xln por, fair/gd SFO on break, lt transl SFO, gas bubs, sli odor on break, bleeding oil & gas on break

sst brn f grnd, rded to sub ang grns, f/w srtd, sub fria, dolo text, gas bubs, no odor, fillmy dead sfo n sfo, sst clr clstrs f grnd rded grns, w/srtd fria, gd inter grn por, lt stain, fair SFO on break

CFS 3552'
Dev. 1 at 3552'

spl quality?? lost returns, dolo wht med sli crs xln, blky ang, sli sucr text, gd inter xln vug por

dolo wht med sli crs xln text, fnly sucr edge, gd vis inter xln vug por, samples poor, samples junk, dolo tan brn f med xln blky gd inter xln por

Lost circ 3568'
est 100 bbl loss

dolo gry brn f sli med xln blky ang dns hrd silty arg, spls still poor

no volumn, LCM all used, wait on additional LCM

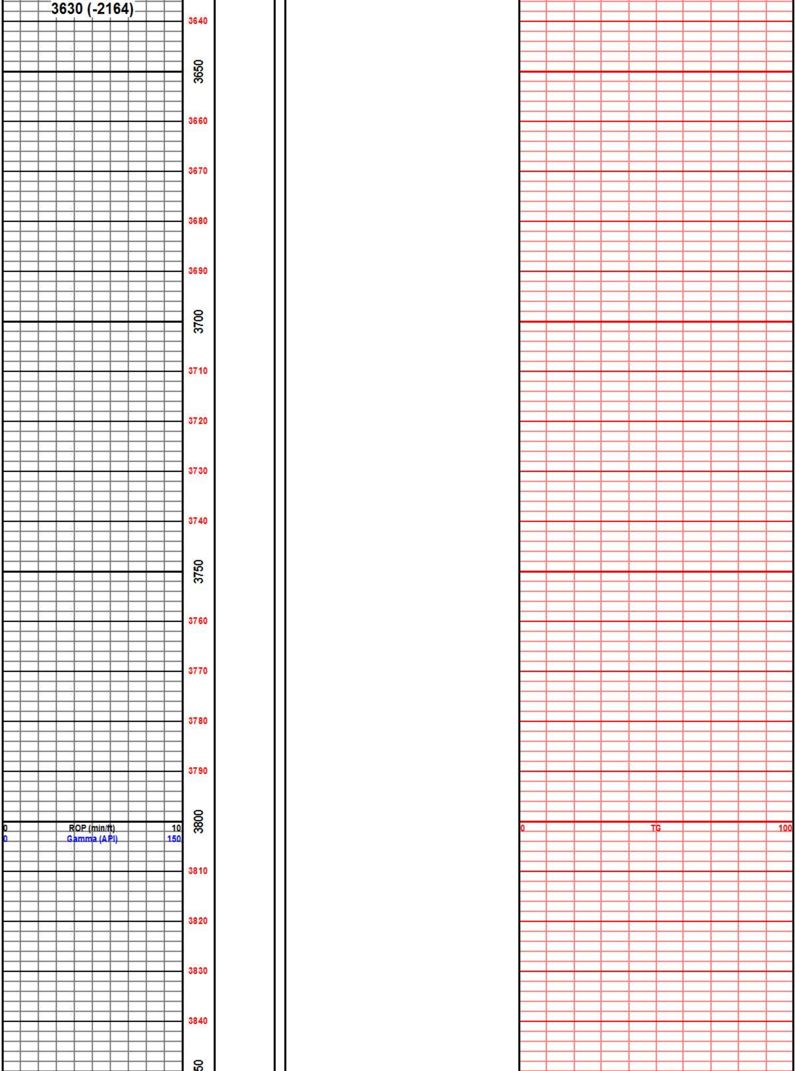
Lost circ 3585'
est 50-60 bbl loss

dolo gry med gry f vf xlk dnshrd arg, sllts in prt, flood of shls

dolo gry med gry vf xln dns hrd blky, arg in prt,

dolo gry med gry f vf xlkn dns hrd blky agn arg text, tr silts

dolo grn med gry f vf xln blky ang dns hrd arg text, silts



38
3860
3870
3880
3890
3900
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3930
3940
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3980
3990
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Woolsey Operating Company LLC
Stucky #1
1675' FNL & 2025' FEL
N/2 SW NE
Sec. 1 - Twp 22 South - Rge 3 West
Harvey County, Kansas
Field: WC/Harmac
API # 17-079-20718-00-00
GL 1453' KB 1466'