Woolsey Operating Company, LLC

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

Well Name: Janssen #1
Location: Section 27 - Township 27 South - Range 20 West
License Number: 15-097-21837-00-00 **Region:** Kiowa County, Kansas
Spud Date: February 14, 2018 **Drilling Completed:** February 23, 2018
Surface Coordinates: 1720' FSL & 970' FEL
NE SW NE SE
Bottom Hole Coordinates:

Ground Elevation (ft): 2282' **K.B. Elevation (ft):** 2294'
Logged Interval (ft): 3500' **To:** 5000' **Total Depth (ft):** 5000'
Formation: Topeka >>> Mississippian
Type of Drilling Fluid: Chemical Mud

Printed by MUD.LOG 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 6:15 on 2/14/2018, Set 8 joints 8 5/8" X 24#/ft new casing at 358' KB (tally 345) with 260 sx 60/40 poz, 2% gel, 3% cc (by Basic). Plug down 5 am on 2/15/2018. Cement did circulate.
Production Casing: None ran.

Deviation Surveys: 3/4 at 362', 3/4 at 941', 1 at 1506', 1/2 at 2007', 3/4 at 2509', 1/2 at 3011', 3/4 at 3513', 1 at 4015', 1 at 4517', 1 1/2 at 4882',
Pipe Strap @ 4882', Board: 4893.63', Strap: 4895.18', strap 1.55' long.

Fossil Drilling Rig 3 Bit Record:
1) 12 1/4" Reed RT RR in at 0' out at 362', 5.25 hours
2) 7 7/8" Varel U616S PDC in at 362' out 5000'

Gas Detector: Pason Systems
Mud System: Mud-Co. Brad Bortz, Jason Whiting
DSTs: Trilobite Testing, Spencer J. Staab, Geologist/Tester
E-logs: ELI, Dual Induction Laterolog w/SP, CNL-FDC w/PE, GR & Caliper, Sonic w/GR, Jason Cappellucci, Engineer

DSTs

DST #1 Mississippian, 4796'-4882', 30"-60"-60"-60", Weak 1" blow on IFP, Weak 1/2" blow on FFP. Rec: 20' Drilling Mud, IHP 2460, IFP 59-65, ISIP 89, FFP 63-69, FSIP 80, FHP 2452, BHT 130 deg.

CREWS

Rick Barringer, Pusher
Pabl Luna, Days
Kevin Shifft, Evening
Chris Staats, Morning

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
- B Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Ferrpel
- Ferr
- Glau
- Gyp
- Marl
- Nodule
- Phos
- P Pyr
- Salt
- Sandy
- Silt
- Chlorite
- Dol
- Sand
- Slty

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- F Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomoldic

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

TEXTURE

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

Curve Track 1
ROP (min/ft)
Gamma (API)

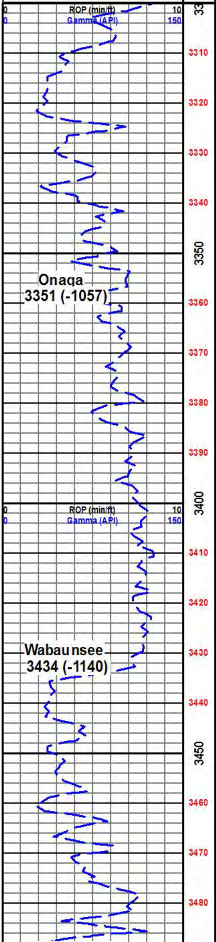
Depth

Lithology

Oil Shows

Geological Descriptions

TG, C1-C5
TG (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)



Woolsey Operating Co. LLC
Janssen #1
Sec. 27 - Twp 27S - Rge 20 W
720' FSL & 970' FEL
NE SW NW SE
Kiowa County, Kansas
GL 2282' KB 2294'
API # 15-097-21837-00-000

One minute drill time was recorded from 3500' to rotary total depth. Samples were eagerly roughneck gathered from 4000' to rotary total depth, All samples were delivered to the Survey at the completion of the test.

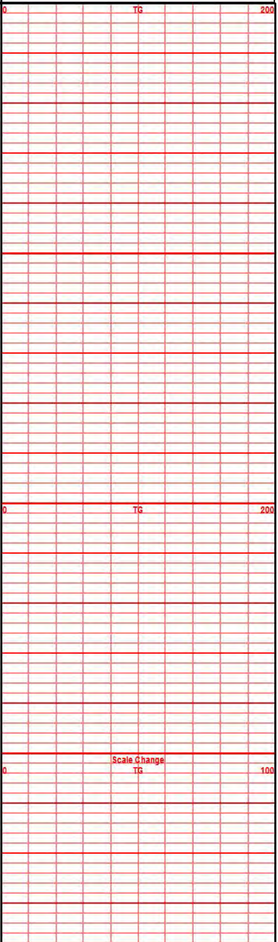
The following wells were used for structural reference: Walters?Richardson's Nelson 1D, C NW SE, 27-27S-20W, Mull's McFadden 1-26, C SW SW, 26-27S-20W

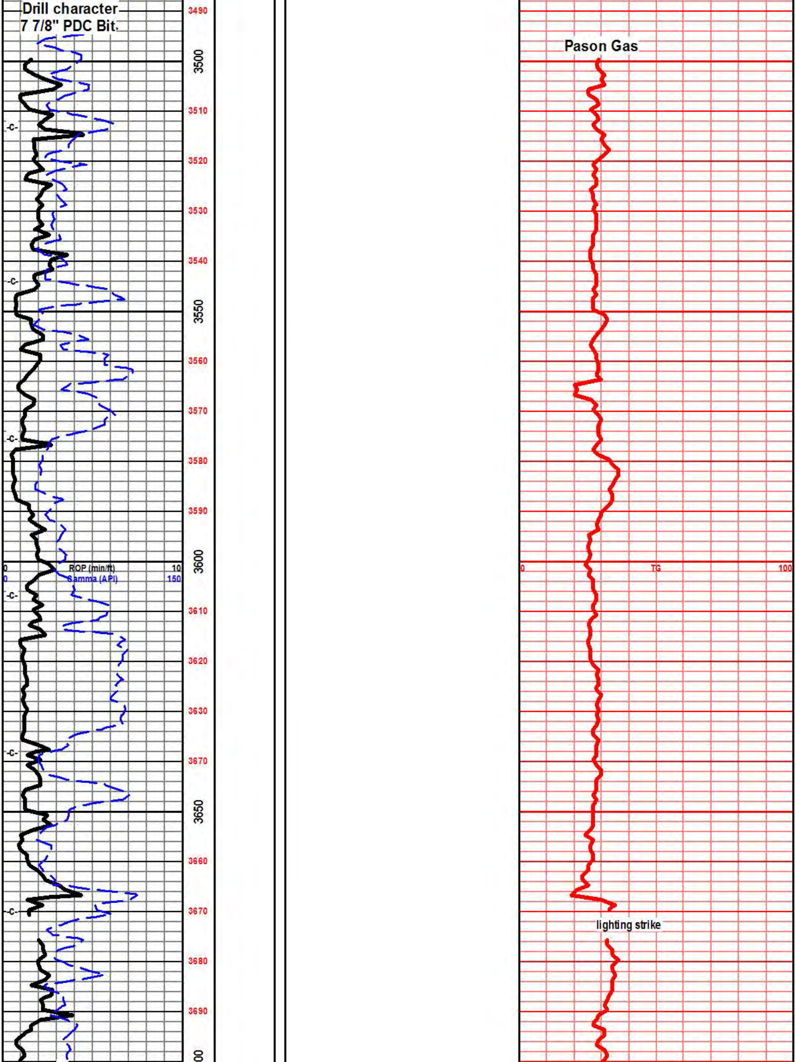
7 am Drilling Progress:

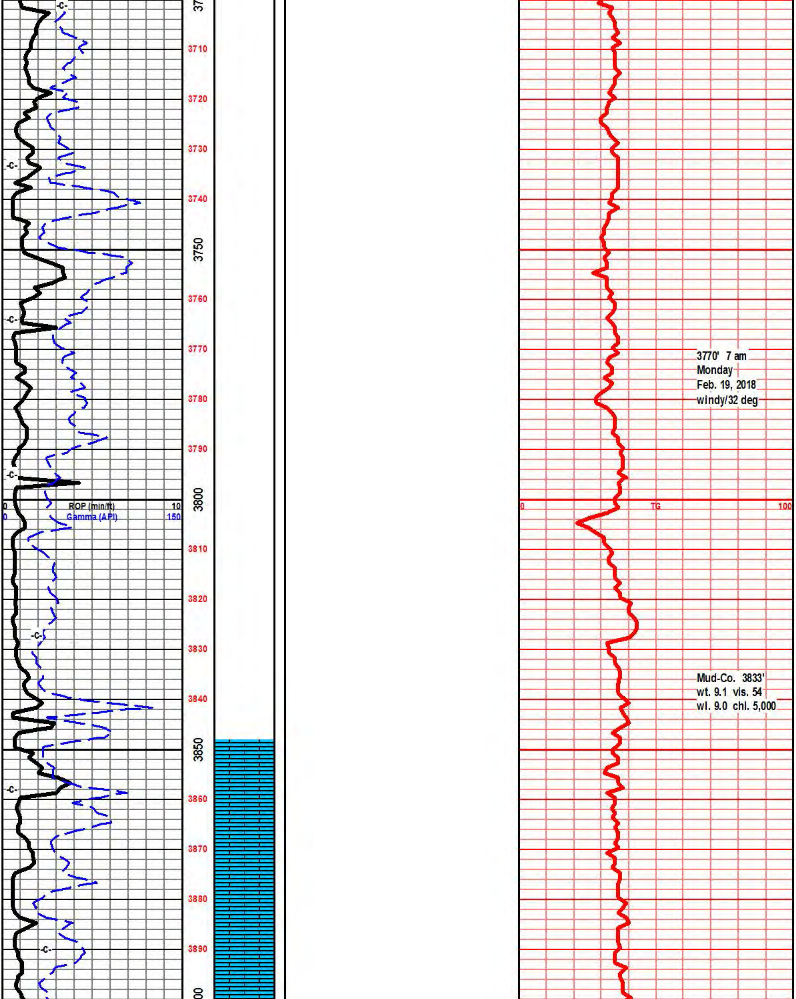
February 14, 2018	MIRT & Spud
February 15, 2018	WOC
February 16, 2018	Drilling at 1242'
February 17, 2018	Drilling at 2007'
February 18, 2018	Drilling at 2990'
February 19, 2018	Drilling at 3775'
February 20, 2018	Drilling at 4412'
February 21, 2018	Drilling at 4742'
February 22, 2018	DST #1 at 4882'
February 23, 2018	E-logs out 3 am

E-Log Tops:

Chase	2500 (-206)
Onaga	3352 (-1058)
Wabaunsee	3435 (-1141)
Heebner	4087 (-1793)
Toronto	4101 (-1810)
Douglas Grp	4122 (-1828)
Lansing (Stanton)	4249 (-1955)
Lansing (Plattburg)	4276 (-1982)
Kansas City Iola	4424 (-2130)
Stark Shl	4516 (-2222)
Swope Lst	4520 (-2226)
Hushpuckney Shl	4565 (-2271)
Hertha Lst	4578 (-2284)
B/Kansas City	4643 (-2349)
Pawnee	4739 (-2445)
Cherokee Grp	4791 (-2497)
Mississippian	4858 (-2564)
Miss Detrital Chert	4858 (-2564)
Miss Warsaw W3	4870 (-2576)
Miss Warsaw W1	4909 (-2615)
Mississippi Osage	4932 (-2638)
LTD	5000' (-2706)

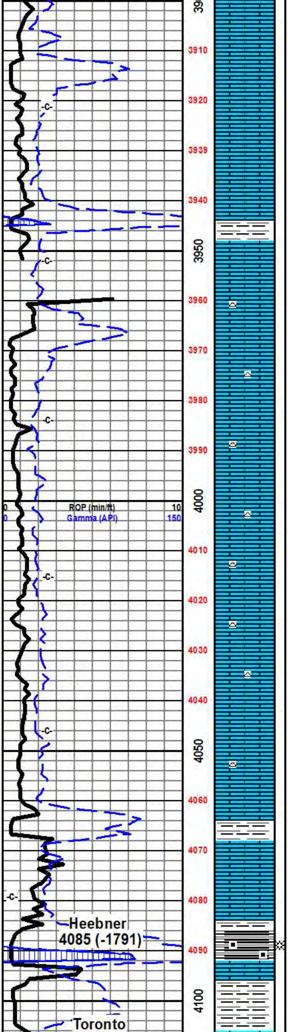






3770' 7 am
Monday
Feb. 19, 2018
windy/32 deg

Mud-Co. 3833'
wt. 9.1 vis. 54
wl. 9.0 chl. 5,000



lst wht lt gry tan f xln mealy, gran soft sub chlky, inter xln por, foss mold por, calc xln fill,

lst wht tan lt gry f xln gran soft sub chlky tr foss frags, calc inclu, arg mealy in prt, inter xln por, calc xln fill, chrt tan shrp frsh

lst wht off wht tan f xln gran soft sub chlky pp inter xln por, vug por, foss frags, leeched foss por, calc xln fill, chrt tan shrp frsh opaq

lst crm tan lt gry, buff f med xln gran soft sub chlky foss frags, foss mold por, inter xln por, calc xln fill, chrt gry tan shrp frsh opaq

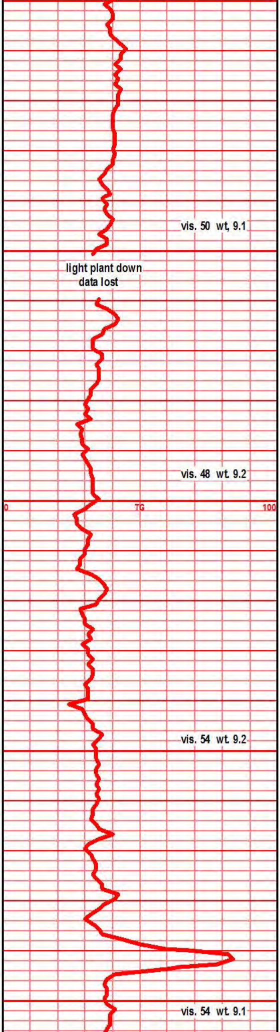
lst crm lt gry off wht f sli med xln gran soft sub chlky, foss frags calc xln fill, crumbly, inter xln por, foss mold por, chrt aa

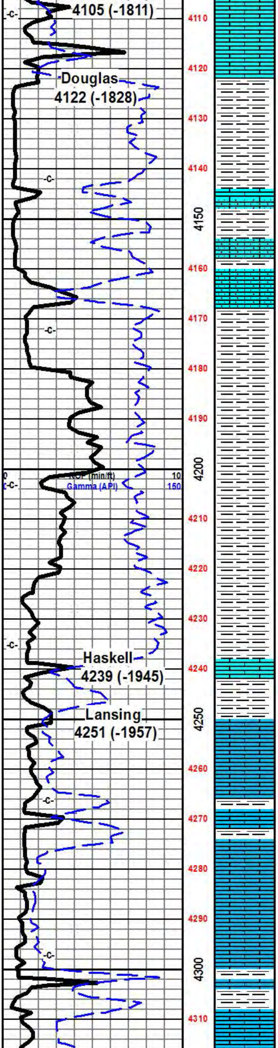
lst crm buff tan lt gry f sli med xln gran soft sub chlky foss frags, foss mold, inter xln por, crsly foss frags in prt wsh wht

shl gry drk gry, lst tan buff off wht f sli med xln gran soft sub chlky crumbly, foss frags, calc xln fill foss mold inter xln por

shl gry blk, blk carb, blky ang pcs, wxy grsy text, abun gas bubs

shl gry, soft silty, tr gran





lst wht off wth f xln gran sub chlky, tr micro xln dns hrd tr foss frags, tr calc xln fill

lst wth off wht, f xln dns hrd sub chlky, tr micro foss frags, inter xln por, calc xln fill, chrt wht shrp frsh opaq

shl gry dry gry tr silty gritty gran

shl gry drk gry tr gry/green, silty gritty

lst off wht lt gry, f xln dns hrd blky ang arg, silty tr sndy, tr snd grn inclu, tr chlky micro foss frags

shl gry drk gry/green silty gritty tr sndy tr mic, blk carb flecks

lst wth lt gry, f xln gran gitty tr sndy, arg sitly, shl lt gry lt gry green silty gritty tr sndy, mic blk carb flecks, v gn grnd sub ang snd grn inclu.

shl gry, lt gry/green, silty gritty mic in prt, blk carb flecks

shl gry lt gry green silty gritty sndy in prt

shl gry, lt gry green silty gritty gran tr sndy, carb pcs/flecks

shl gry gry lt green silty gritty sndy bedded banded, spls gry mush

shl gry lt gry lt green silty gritty, sndy, carb flecks, soft, spls gry mush

shl gry lt gry/green silty gritty, sndy, bedded/tr banded, snd grn inclu

lst crm tan brn f vf xln dns hrd blky, foss inclu, calc xln inclu, arg, tr massive

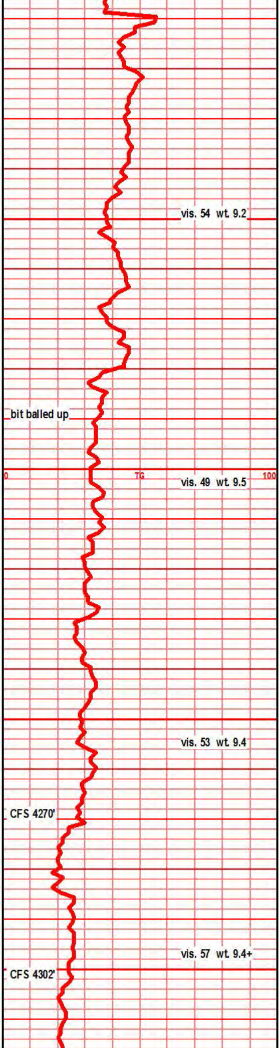
lst crm wht lt tan f xln blky ang gran dns, chlky to vry chlky in prt, spls wsh wht, tr foss frags, tr pp inter xln por, calc xln fill,

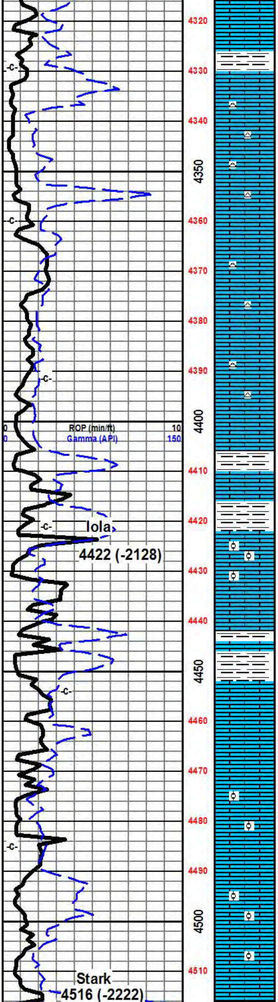
lst crm off wht wht f xln blky ang sub chlky, foss frags, micro foss, calc xln fill, foss mold inter xln por, mstly soft chlky, tr chrt wht shrp frsh

lst tan buff crm f xln dns hrd blky ang pcs, sub chlky to chlky, foss frags, foss mold, inter xln por, mstly soft chlky

lst cr wht tan lt tan/gry f vf xln dns blky dns hrd, sub chlky to chlky, foss frags, foss mold por, inter xln por, calc xln fill, mstly soft chlky

shl gry drk gry silty calc, lst crm tan buff f xln gran sub chlky foss micro foss, inter xln, foss mold por,





lst crm wht buff f vfxln, blky ang gran sub chlky, foss frags, foss mold por, tr xln fill, inter xln por mstly chlky soft

lst crm tan buff f vf xln dns sub chlky, micro foss frags, tr calc xln fill, tr foss mold por, mstly soft chlky, tr chrt wht shp frsh

lst crm off wht buff f sli med xln blky ang pcs, soft sub chlky foss frags, foss mold por, calc xln fill, inter xln por

lst crm tan, drk tan gry mott f xln dns hrd chlky soft, sub chlky, foss frags, foss mold por, inter xln por, mealy in prt, chrt wht lt gry shrp frsh opaq

lst tan crm buff, tr lt gry f xln dns hrd blky ang sub chlky, foss frags, calc xln fill, mstly soft chlky, chrt wht shrp frsh opaq

lst crm tan off wht f vf xln dn sblky ang sub chlky, tr foss frags, tr foss mold por, chrt wht shpr frsh opaq

lst crm wht lt tan f xln blky ang pcs, sub chlky to chlky tr foss frags, tr foss mold por, chrt wht shrp frsh opaq

shl gry drk gry, lst crm tan buff f xln gran soft, foss frags, calc xln fill, inter xln por, mstly soft chlky

lst crm tan brn in prt, f sli med xln, blky ang calc, calc xln fill, foss frags & ool, crsly ool/oomoldic, oomold/vug por, chlky in most, NS

lst crm tan lt brn f xln dns hrd blky ang foss frags, tr foss ool, calc xln fill, foss mold por, chrt wht tan shrp frsh

lst aa, shl gry drk gry calc,

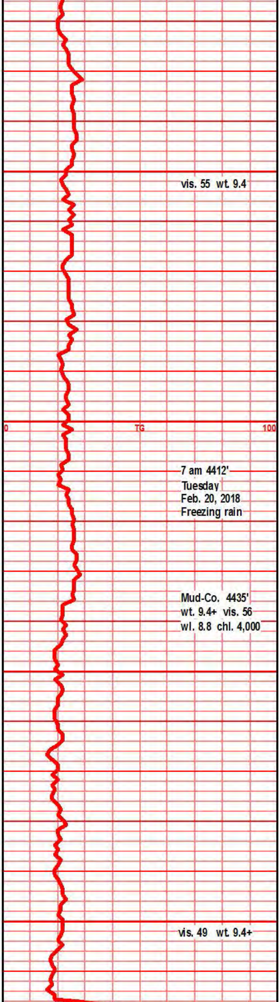
lst crm tan buff f vf xln dns hrd blky pcs, sub chlky gran foss frags, inter xln por, tr foss mold por, chrt wht tan shrp frsh

lst wht tan buff f xln gran soft very chlky foss frags, calc xln fill in prt, foss frags, foss mold por chrt wht shrp frsh

lst crm buff wht f sli med xln blky ang sub chlky to chlky foss frags, foss mold text, crsly oomoldic, oomold por

lst wht off wth tan f xln gran soft chlky, foss frags, tr calc xln fill, foss mold por, foss ool, tr oomold por, tr inter xln por, chrt wht shrp frsh opaq

lst wht off wht crm f xln blky ang dns sub chlku foss frags, foss mold, inter xln por, calc xln fill, chrt wht tan shrp frsh

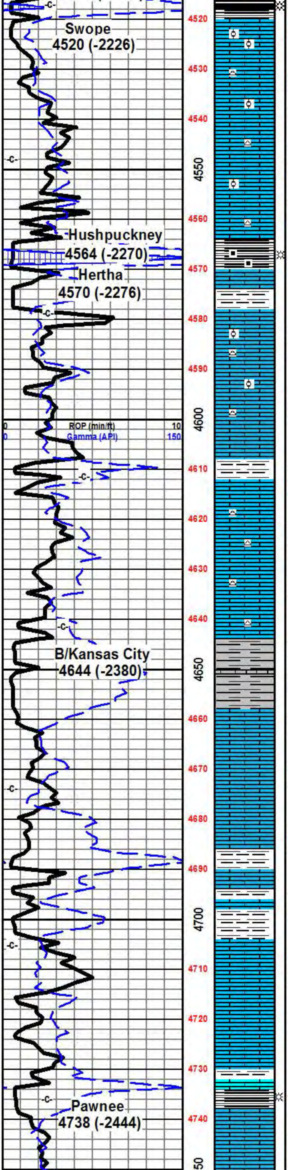


vis. 55 wt. 9.4

7 am 4412'
Tuesday
Feb. 20, 2018
Freezing rain

Mud-Co. 4435'
wt. 9.4+ vis. 56
wl. 8.8 chl. 4,000

vis. 49 wt. 9.4+



sh gry blk, blk carb in prt xwy grsy text, lst tan lt brn tr buff f sli med xln gran sli chlky foss frags, foss ool, tr crs oomoldic, calc xln fill

lst crm tan buff f vf xln blky ang dns hrd, sub chlky to chlky, foss frags, calc xln fill, foss mold, oomold por, inter xln por, very chlky, chrt wht tan shrp frsh opaq

lst tan wht crm f vf xln dns hrd blky sub chlky to chlky, foss frags, tr foss ool, calc xln fill, chrt wht tan shrp frsh

lst crm wht tan f xln blkiy ang dns hrd foss frags, foss ool, calc xln fill, inter xcln por, chrt wht tan shrp opaq

shl gry drk gry blk, carb, wxy grsy text abun gas bubs, lst crm tan buff f xln chlky foss frags, gra soft, chrt wht shrp frsh op;aq

lst tan lt tan buff f sli med xln gran sub chlky foss frags, tr foss ool, tr oomold por inter xln por, soft chlky, chrt tan wht shrp frsh opaq

lst tan crm off wht f xln sli med xln blky ang sub chlky foss frags, foss mold por, inter xln por, mstly chlky soft, chrt wht shrp frsh opaq

shl gry med gry bedded, lst tan crm wht f sli mded xln gran soft sub chlky inter xln por tr foss mold por tr ool,

shl gry brn red, lst tan crm off wht f xln gran blky dns ang foss frags, tr foss ool, calc xln fill chrt wht tan shrp frsh

lst crm tan wht f xln blky ang gran in prt, calc xln fill, micro foss, inter xln por, mstly hrd dns chlky, chrt wht tan shrp frsh

shl gry drk gry blk, tr green/blk/brn, silty gritty, calc, lst tan crm off wht f xln blky ang dns hrd, sub chlky, micro foss frags chrt wht tan shrp frsh opaq

shls gry green silty calc, lst ttan buff f vf xln blky ang dns pcs, calc xin inclu, micro foss frags,

lst tan buff f vf xln blky ang micro foss frags, calc xln inlcu, tr sub chlky, chrt wht shrp frsh

lst tan buff crm f vf xln dns hrd blky ang, micro foss frags, inter xln por, tr calc xln fill, tr chrt lt gry wht shrp frsh

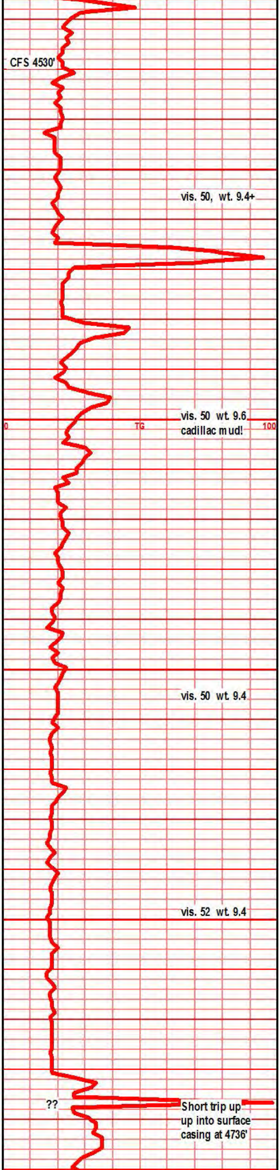
shl gry gry/green brn, lst tan crm buff f vf xln dns hrd blky micro fosss frags, calc xln fill, inter xln por, dns arg in prt

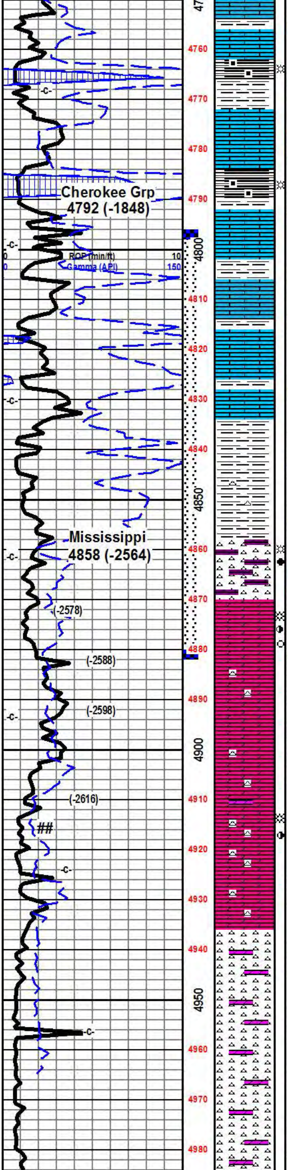
lst tan buff crm f xln blky ang dns pcs, tr sub chlky, micro foss frags, micro ool, inter xln por, calc xln fill

lst crm tan buff off wht f vf xln blky dns hrd, micro fosss frag, tr sub chkly, calc xln fill,

shl gry drk gry blk, tr carb text,

lst tan crm lt gry tan f vf xln dn shrd blky ang micro xln, micro foss frags, micro ool, tr sub chlky





lst tan drk tan crm f vf xln blky ang sub chlky foss micro foss frags, tr calc xln fill,

shl gry dkr gyr blk, carb in most, blky ang gassy pcs, wxy grsy text, lst tan crm buff f vf xln blky ang dns hrd tr foss frags,

lst off wht crm f vf xln gran sub chlky mrealy, micro foss, pyritic, calc xln fill, mstly chlky dns hrd, chrt wht shrp frsh,

shl gry blk, blk carb, blky ang gassy pcs, wxy grsy text, lst brn drk tan/gry f xln massive blky ang dns hrd arg, calc inclu, tr crs foss inclu

shl gry gry brn. lst tan crm lt brn f xln blky ang dns sub chlky, calc inclu, tr crs foss inclu, tr pyritic, arg

shl gry brn, lst gry tan brn f vf xln dns hrd silty gritty arg, crs foss frags, tr sub chlky

lst crm tan gry/brn f vf xln dns hrd blky ang arg tr silty, tr crs foss frags, calc xstl inclu, calc xln fill, shls gry green brn blk. poor pdc spls

shl vari color, green brn red, yellw, maroon silty gritty, ratty, bedded, banded, sndy gritty in prt snd grn inclu, 1-2 pcs wht clr shrp frsh opaq chrt

chrt gry opaq shrp blky mslty frsh, w/tan brn weath text edges, brn stain, gas bub SFO on brk, sli odor in spls

chrty dolo tan lt brn f sli med xln blky ang, chrty, pp inter xln por, lt brn stain, abun gas bubs, lt tan SFO, fair odor, dolo lt tan bry chrt f med xln blky, inter xln por, tan lt brn stain, gas bubs, SFO gd odor, tr drzy qrtz w/stain SFO

dolo tan, blue/gry f vf xln blky ang dns, tr chlky gran text, tr sucr text, tr soft, tr glau, crumbly, tr inter xln por, tr pp inter xln por, v faint odor, several pcs w/tan brn edge stain, tr gas & SFO on break

CFS 4892', dolo aa, less to no show

dolo crm lt gry blkue gry f vf xln gran soft sli sucr, tr glau, dns tr inter xln por

dolo wht off wht lt gry f vf xln gran soft, crumbly, inter xln por, sub chlky in prt, spls wsh wht, chrt lt gry clr, shrp frsh opaq

dolo tan drk tan tr lt brn f sli med xln blky ang, tr chrty, tr glau, inter xln por, chrt lt gry wht shrp frsh opaq odor, stain SFO, gas bubs on break

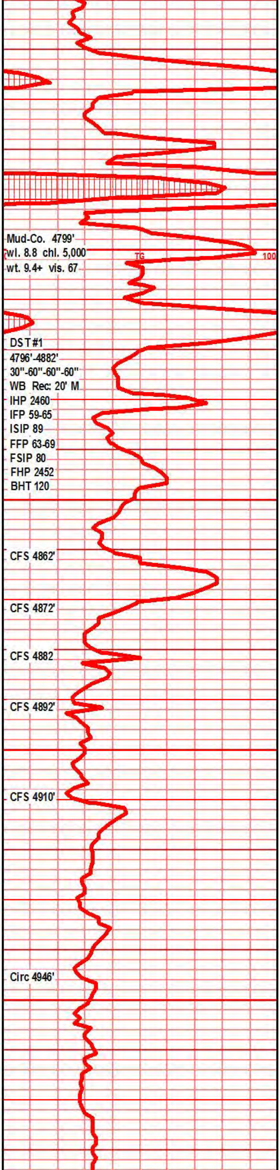
dolo wht off wht tr crm f xln gran soft crumbly in prt, sli sucr text, glau, tr chrty, inter xln por, chrt wht off wth gry shrps frsh opaq

chrt wht off wht gran weath soft chlky edge text, chrt wth lt gry shrp frh opaq, dolo crm tan f xln gran sli sucr text, chrty, inter xln por, tr glau

chrt wht off wht lt gry shrp frsh opaq, some w/gran weath text edge, soft crumbly, dolo wht f xln gran sub chlky tr glau, spls wsh wht

chrt wth ot gry shrp frsh opaq, chrt wth off wth w/gran weath dolol edge, inter xln por, crumbly

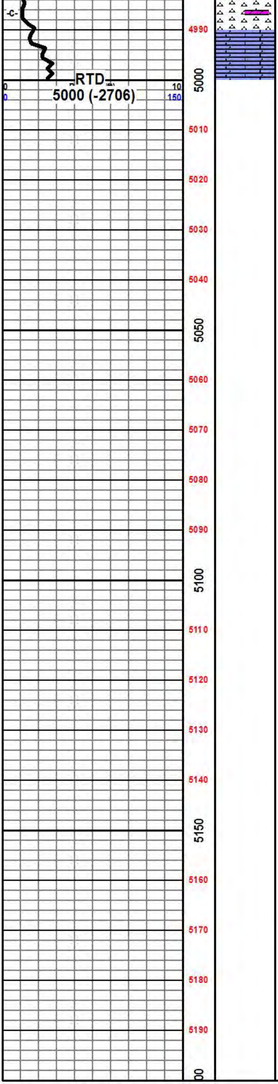
chrt wht off wht shrp frsh opaq w/gran weath edge text, chrty dolo wht off wht f xli med xln gran sli sucr text, tr chlky



Mud-Co. 4799'
wl. 8.8 chl. 5,000
wt. 9.4+ vis. 67

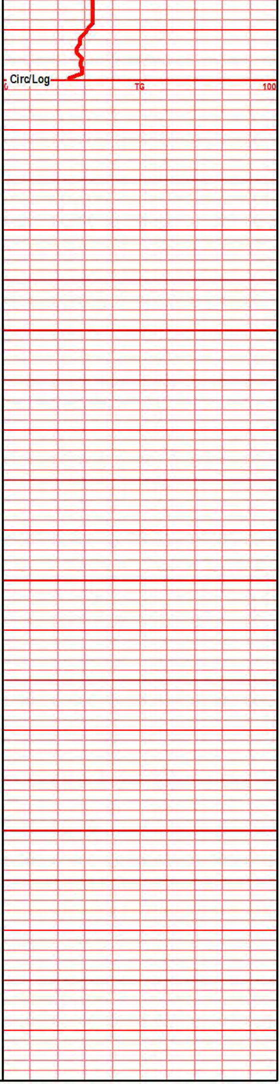
DST #1
4796'-4882'
30"-60"-60"-60"
WB Rec: 20' M
IHP 2460
IFP 59-65
ISIP 89
FFP 63-69
FSIP 80
FHP 2452
BHT 120

CFS 4862'
CFS 4872'
CFS 4882
CFS 4892'
CFS 4910'
Circ 4946'



chrt wht lt gry shrp frsh opaq, some with gran weath text edge, chlky gran crumbly, crm off wht dolo edge, f med xln sli sucr, dns tr sub chlky

---

Woolsey Operating Co. LLC
Janssen #1
Sec. 27 Twp 27 South Rge 20 West
NE SW NE SE
1720' FSL & 970' FEL
Kiowa County, Kansas
GL 2282' KB 2294'
API # 15-097-21837-00-00