

Wellsite Services, LLC

John Goldsmith
(316) 640-0236

427 Roosevelt St.
Cheney, KS 67025

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

Well Name: #1 Saline Valley 7D
API: 15-109-21602
Location: 335' FSL & 1552' FEL, Sec 7-12S-36W, Se SW SE
License Number: REI #4767
Spud Date: 12/4/2019
Surface Coordinates: LAT: 39.021372
LONG: -101.355303
Bottom Hole Vertical Hole
Coordinates: 3/4 Degree Deviation
Ground Elevation (ft): 3092' K.B. Elevation (ft): 3100'
Logged Interval (ft): 3550' To: RTD Total Depth (ft): 4725'
Formation: Mississippian at RTD
Type of Drilling Fluid: Chemical

Region: Logan County

Drilling Completed: 12/15/2019

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

OPERATOR

Company: Ritchie Exploration Inc.
Address: 8100 E. 22nd St. N. #700
Wichita, KS 67226
(316) 691-9500

GEOLOGIST

Name: John Goldsmith
Company: Wellsite Services LLC
Address: 427 Roosevelt St.
Cheney, KS 67025
(316) 640-0236

RIG RECORDS

Contractor: WW Drilling Rig #112
Pusher: Calvin Pfannenstiel

Collar Tally: 479'
6 1/4" x 2.5"

Pump: DB 550
Liner & Stroke: 6 x 14

BIT RECORDS

Size:	Type:	Footage:	Condition:	Hours:	Serial #:
12 1/4"	Stc-Tooth	0-224'	RR	3	RH-7319
7 7/8"	Stc-F27i	224'-4725'	New	133.25	RL-2092

COMMENTS

Surface Casing: 5 joints of 8 5/8" set @ 224'
Production Casing: No production casing was set.
Mud by: MudCo
DST's by: Trilobite Testing
Logs by: Pioneer Energy Services (DIL, CN-CD, ML, CS)
RTD=4725' LTD=4724'

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
B/Anhydrite	2488'	+612	2484'	+616
Stotler	3455'	-355	3455'	-355
Heebner Shale	3816'	-716	3815'	-715
Toronto	3840'	-740	3843'	-743
Lansing	3860'	-760	3861'	-761
Muncie Creek Shale	4021'	-921	4016'	-916
Stark Shale	4110'	-1010	4107'	-1007
Base of the KC	4177'	-1077	4180'	-1080
Marmaton	4212'	-1112	4218'	-1118
Altamont	4233'	-1133	4240'	-1140
Pawnee	4306'	-1206	4304'	-1204
Myrick Station	4356'	-1256	4353'	-1253
Ft Scott	4370'	-1270	4368'	-1268
Cherokee Shale	4403'	-1303	4401'	-1301
Johnson Zone	4464'	-1364	4460'	-1360
Morrow	4530'	-1430	4528'	-1428
Mississippian	4600'	-1500	4598'	-1498
RTD	4725'	-1625		
LTD			4724'	-1624

DST's

DST #1 "LKC A" 3851'-3876' 12/9/19 30-45-45-60

1st Blw: Blw blt to BOB in 3min (No BB)

2nd Blw: Blw blt to BOB in 4min (No BB)

IFP: 49-396# ISIP: 1200# FFP: 405-707# FSIP: 1198#

Hyd: 1896-1836#

Rec: 1545'MW (80%Wtr).

DST #2 "Altamont" 4226'-4260' 12/11/19 30-45-45-60

1st Blw: Blw blt to BOB in 8min (No BB)

2nd Blw: Blw blt to BOB in 10min (No BB)

IFP: 42-258# ISIP: 1315# FFP: 265-456# FSIP: 1294#

Hyd: 2176-2137#

Rec: 960'MW (90%Wtr).

DST #3 "Myrick & Ft Scott" 4318'-4393'

12/12/19 30-30-30-30

1st Blw: Blw blt to 3/4" (No BB)

2nd Blw: No Blw (No BB)

IFP: 22-29# ISIP: 910# FFP: 31-33# FSIP: 851#

Hyd: 2155-2101#

Rec: 10'M.

DST #4 "Cherokee" 4398'-4460' 12/13/19 30-30-30-30

1st Blw: Blw blt to 3/4" (No BB)

2nd Blw: No Blw (No BB)

IFP: 21-22# ISIP: 417# FFP: 23-22# FSIP: 247#




Hyd: 2193-2172#

Rec: 5'M.

ROCK TYPES

 Anhy
 Cht
 Congl




 Dol
 Lmst
 Shale

 Sltst
 Ss
 Carb sh







 Sandylms
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



ACCESSORIES

EVENTS
 Circ
 Conn

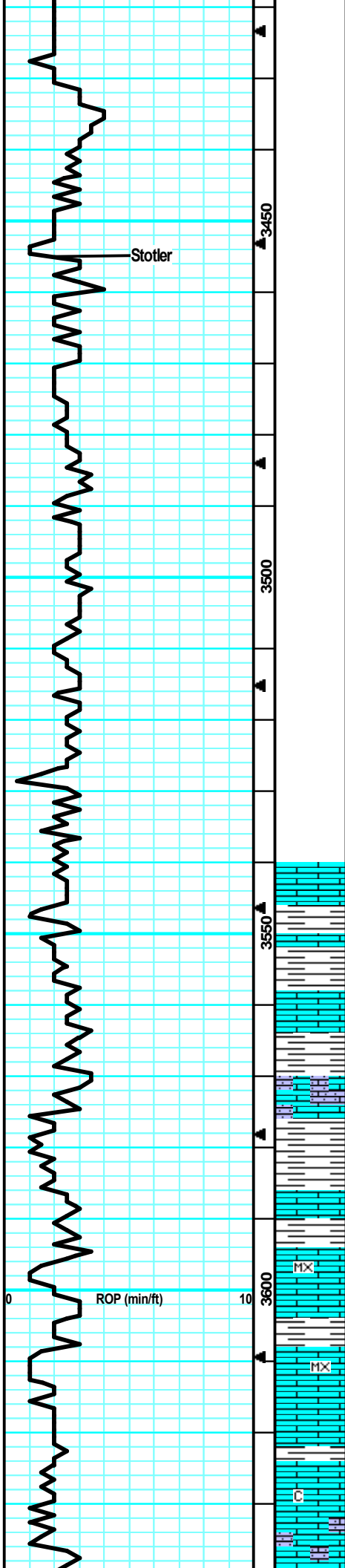
FOSSIL
 Brach
 Bryozoa
 Crin

 Foram
 Fossil
 Gastro
 Oolite
 Ostra
 Fuss
 Oolcast

MINERAL
 Calc
 Chtdk
 Chtlt
 Glau
 Pyr
 Sil

TEXTURE
 Chalky
 Crslxn
 Finexln
 Microxln

Drilling Time ROP (min/ft)	Depth	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks
0 — 10	2450				Morning Activity Report @ 7:00am	Survey @ 224' = 1/2 Degree
0 — 10	2450	Anhydrite			Dec. 4, 2019: Spud @ 4:15pm 12/5/19: Drg @ 321' 12/6/19: Drg @ 2325' 12/7/19: Drg @ 3140' 12/8/19: CFS @ 3700' 12/9/19: Running DST #1 (LKC "A") 12/10/19: CFS @ 4102' 12/11/19: Running DST #2 (Alt "A") 12/12/19: Drg @ 4393', DST #3 (Myrick-Ft Sc) 12/13/19: Running DST #4 (Cher) 12/14/19: Drg @ 4583', RTD @ 4725' 12/15/19: Running E-Log	Anhydrite @ 2462' (+638)
	2500	B/Anhydrite				B/Anhydrite @ 2488' (+612)
0 — 10	3400				Drilling Time @ 3400' on 12/7/19	MudCo Check #2 2490' on 12/6/19 Wt Vis pH 9.7 31 7.5 Filt Chlr LCM n/c 49K 1#
0 — 10	3400					MudCo Check #3 3242' on 12/7/19 Wt Vis pH 9.6 32 7.0 Filt Chlr LCM n/c 57K 1#



Stotler @ 3455' (-355)

Samples @ 3550' on 12/7/19

LS: tan/lt gry, fn xln, dense, sub-chlky, tr-nvp, fw SH: br/gry, silty, soft, no odr, ns.

Much of the same, incrs in SH, no odr, ns.

LS: lt tan, micro-fn xln, dense, dense, brittle, tr-nvp, intbd SHL: gry, drk bm, silty, no odr, ns.

LS: cm/lt tan, micro-fn xln, fw gritty/sandy, tr-pr intxln por in fw, no odr, ns.

LS: tan/lt gry, fn xln, dense, fw firm, tr-nvp, fw SH: bm, silty, soft, no odr, ns.

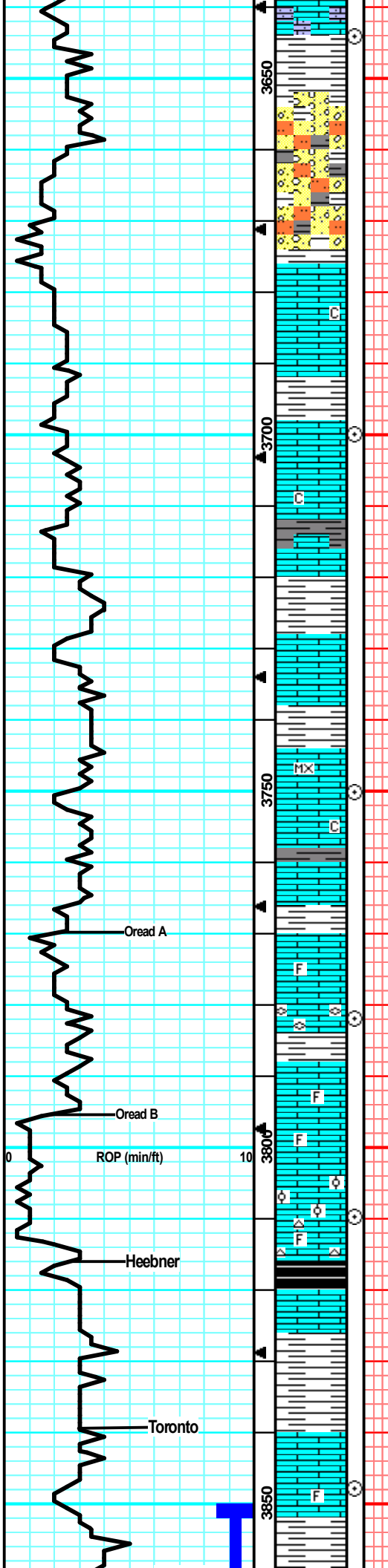
LS: lt tan/tan, micro-fn xln, dense, tr-nvp, o odr, ns.

LS: tan/lt tan, micro-fn xln, sm dense, sm brittle, sub-chlky, int prt, tr-nvp, fw SH: bm, silty, soft, no odr, ns.

LS: lt gry/lt tan, slight mott in prt, fn xln, fw brittle, tr-nvp, no odr, ns.

LS: gry/lt tan, mott in prt, fw flakey/mealy, tr-nvp, no odr, ns.

in flux of sandv/arainv chl. am/blu. vr soft. aritty. no odr. ns.



SH: drk gry, soft, fw SS: gry, fn gm, will srt, arg, v firm, sm hard, tr-pr intgm, fw drk min stns, no fluor/cut, no cup odr, ns.

SltStn: bm, gritty, v soft, sm muddy like, abund SH: silty, soft, many SS: gry, arg, hard, tr-pr intgm por, no odr, ns.

LS: gry/tan, slight mott, fn xln, dense, firm, tr-nvp, no odr, ns.

Mostly lt tan LS as above, lrg infx chlky, no odr, ns.

LS: tan/gry, mott, fn xln, sm brittle, fw flakey, abund of drk spptd min stns?, no flour/cut, pos drk dead oil, no cup odr, ns.

Much more, gry, dense, firm rx, tr-nvp, fw stn pcs ? fluor, no cut, nsfo, no odr.

LS: gry, fn xln, sm sandy/gritty, fw brittle, tr-v pr intxln por, no cup odr, ns.

LS: tan, fn xln, pr int xln por, 3 pcs w/ fr spptd stns, wk-? flour, no engy, no cup odr, nsfo.

LS: lt tan/lt gry, sing, micro-fn xln, dense, sm brittle, tr-nvp, no odr, ns.

LS: lt tan/lt gry, fn xln, fw brittle, sub-chlky in prt, tr-nvp, fw SH: drk gry, no odr, ns.

LS: lt gry/tan, slight mott, fn xln, dense, sm firm, tr-nvp, no cup odr, ns.

LS: lt tan, sing, fn xln, dense, 2 pcs w/ pos drk tar like stns, no fluor/cut, pos drk dead oil, nsfo, no cup odr.

LS: tan/lt tan, fn xln, foss in prt w/ fuss, dense, no cup odr, ns.

LS: tan/lt gry, fn xln, fw foss frags, motly dense, sm brittle, fw w/ pr intxln por, no cup odr, ns.

LS: tan, fn xln, fw foss frags, sm gritty/gmy, pr intxln por, sm brittle, tr-nvp, svrl SH: gry, silty, no odr, ns.

LS: tan/lt tan, fn xln, sm slight ool, fr intxln/intool por, no cup odr, ns.

LS: tan/gry, slight mott, fn xln, fw foss frags, tr-nvp, fw Chert: wht/opaq, foss, fw SH: blk, carb, no odr, ns.

LS: tan/gry, slight mott, fn xln, tr-nvp, svrl SH: gry, silty, no odr, ns.

LS: tan/gry, slight mott, fn xln, 3 pcs w/ drk bm tary stn, no fluor/cut, no cup odr, pos drk dead oil.

LS: gry/tan, mostly dense, fn xln, sm firm, tr-nvp, svrl SH: gry/bm, silty, no odr, ns.

LS: lt tan/lt gry, slight mott, fn xln, fw foss, sm brittle, tr-nvp, no odr, ns, fw SH: bm/gry.

CFS @ 3644' (20"/40")

CFS @ 3700' (20"/40")

CFS @ 3750' (20"/45")

CFS @ 3782' (25"/45")

CFS @ 3810' (25"/45")

CFS @ 3848' (25"/45")

MudCo Check #4
3700' on 12/8/19
Wt Vis pH
8.7 56 11.5 Filtr Chr
LCM
6.4 2.5K 2#

Heebner @ 3816' (-716)

Toronto @ 3840' (-740)

Lansing @ 3860' (-760)

Survey @ 3876' = 1 Degree

CFS @ 3876' (30"/60")

DST #1 "LKCA" 3851'-3876' 12/9/19 30-45-45-60
 1st Blw: Blw bit to BOB in 3min (No BB)
 2nd Blw: Blw bit to BOB in 4min (No BB)
 IFP: 49-396# ISIP: 1200# FFP: 405-707# FSIP: 1198#
 Hyd: 1896-1836#
 Rec: 1545' MW (80% Wtr).

MudCo Check #5
 3876' on 12/9/19
 Wt Vis pH
 9.2 55 11.0 Filt Chr
 LCM
 6.4 3.3K 2#

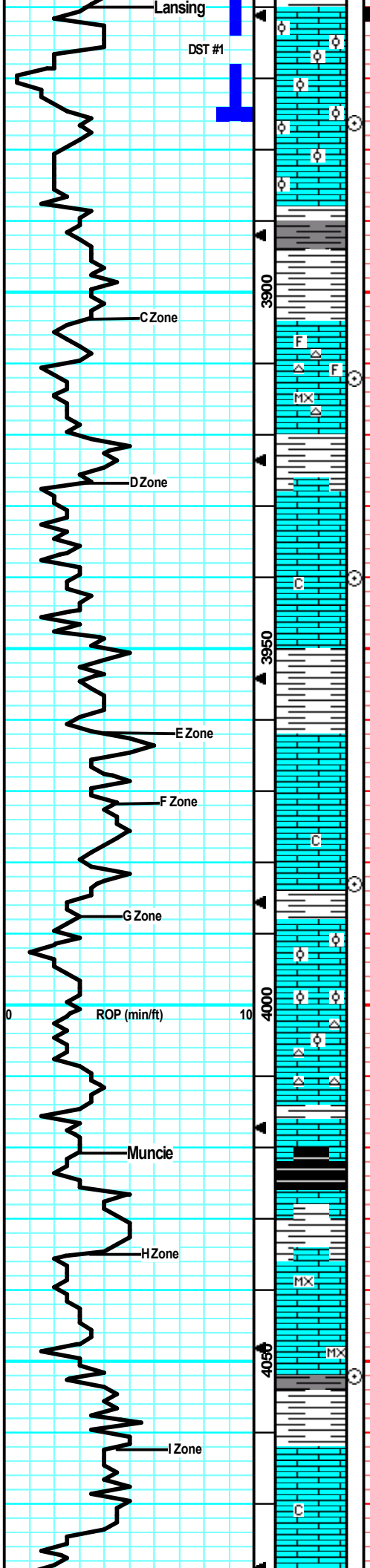
CFS @ 3912' (30"/60")

CFS @ 3940' (30"/60")

CFS @ 3983' (30"/60")

Muncie Creek @ 4021' (-921)

CFS @ 4052' (30"/60")



LS: tan/lt gry, fn xln, sm ool in prt, sm gd oolcast/vuggy por, 2 pcs w/ drk hvy stns in vuggy por, no cup odr, vssfo.

LS: lt tan, fn xln, svrl ool, gd intool por, brittle, lrg infx chlk, no cup odr.

LS: lt tan, sing, fn xln, smool, sm fr intool/vuggy por, chlky in prt, fw Chert: wht/opaq, sharp, ns, no odr.

SH: bm/gry/blu-gm, silty, soft, sm waxy, ns.

LS: tan/lt tan, sing, fn xln, fw foss, sm dense, sub-chlky, tr-nvp, fw Chert: wht/lt gry, foss, no cup odr, ns.

LS: lt tan, micro-fn xln, dense, sub-chlky, tr-nvp, fw Chert: wht/opaq, sharp, no odr, ns.

SH: drk gry/bm, silty, soft.

LS: tan/lt gry, fn xln, sm 2nd xln, fr intxn w/ sm scat vuggy por, brittle, abund pur chlk, no cup odr, ns.

LS: lt tan, fn xln, sm fr intxn por, fw scat vugs, sm brittle, no cup odr, ns.

LS: tan/lt gry, fn xln, fw flakey, tr-nvp, sm SH: gry, silty, no cup odr, nsfo.

LS: tan/lt gry, fn xln, sm flakey, fw firm, tr-nvp, svrl SH: gry/drk bm, silty, no cup odr, ns.

LS: tan, fn xln, mostly dense, fw flakey, 1 pcs w/ pos drk bm stn, no fluor/cut, nsfo, no cup odr.

LS: tan, slight mott, fn xln, many v ool, mostly dense, firm, fw w/ fr intool/vuggy por, no cup odr, ns.

Much of the same, infx of fw LS: tan/lt tan, micro-fn xln, dense, tr-nvp, svrl Chert: cm/lt gry, sharp, abund pur chlk, ns, no cup odr.

LS: gry/lt tan, slight mott, fn xln, fw foss, sub-chlky in prt, tr-nvp, fw SH: gry, silty, no odr, ns.

SH: blk, carb, fw fissile, no cup odr, ns.

LS: tan/lt tan, mott in prt, fn xln, fw pcs w/ pr intxn por, no fluor/cut, no cup odr, nsfo.

LS: lt tan, sing, micro-fn xln, sm firm, v fw w/ pr ppt intxn por, 2 pcs drk bm v sml spttd stns, nsfo, no cut/flour, no cup odr, most likely min stns.

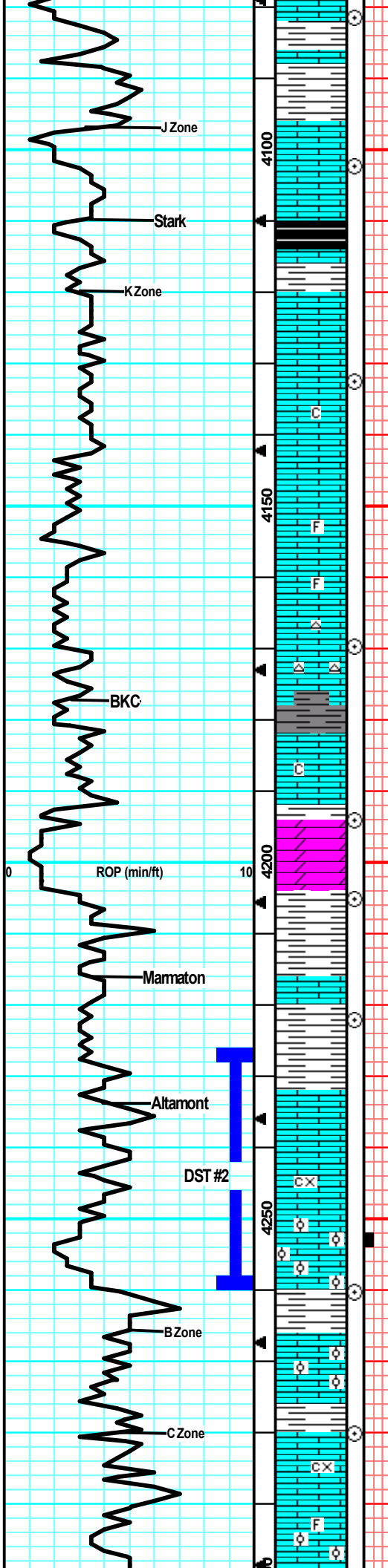
Much more, dense, micro xln, tr-nvp, rx in 60" Smpl.

SH: drk gry/gry, silty, soft, fw LS: tan/gry, slight mott, fn xln, tr-nvp, fw Chert: gry/wht, foss, no cup odr, ns.

LS: tan/gry, slight mott in prt, fn xln, sub-chlky in prt, mostly dense, sm firm, tr-nvp, no cup odr, ns.

Lrg influx pur chlk, no cup odr, ns.

CFS @ 4080' (30"/60")



SH: drk gry/gry, silty.

LS: tan/lt gry, sing, fn xln, many flakey/mealy, sub-chlky in prt, tr-ppt intxn por in sm, abund pur chl, no cup odr, ns.

LS: gry/tan, fn xln, dense, many firm, fw sub-chlky, tr-nvp, fw pcs SH: blk carb, no cup odr, ns.

LS: gry/lt bm, mott in prt, fn xln, flakey, many firm, sm hard, tr-nvp, abund SH: blk/drk gry, many carb, no cup odr, ns.

LS: tan/gry, fn xln, dense, many firm, 2-3 pcs w/ pr intxn por on frac edge, drk bm/blk, stn, no fluor/cut, no odr, nsfo.

LS: gry/tan, fn xln, flakey/mealy in prt, many firm, tr-nvp, fw SH: blk, carb, no cup odr, ns.

LS: gry/lt bm/lt tan, mott, fn xln, sm 2nd rxln, sm flakey, hard, tr-nvp, svrl SH: gry/bm, silty, no odr, ns.

LS: gry/tan, mott, fn xln, foss, dense, hard, tr-nvp, abund SH: drk gry/drk bm, silty, no odr, ns.

LS: tan/lt gry, fn xln, flakey, dense, tr-nvp, no cup odr, ns.

LS: d gry/tan, fn xln, dense, many firm, tr-nvp, fw Chert: wht/opaq, sharp, no odr, ns.

SH: gry/drk gry, silty, soft.

LS: tan/lt gry, fn xln, dense, sm firm, fw pcs w/ pr ppt intxn por, svrl pcs pur chl, no cup odr, ns.

DOL: gry/tan, fn xln, suc in prt, pr ppt intxn por, many firm, chlky in prt, no cup odr, ns.

LS: tan/lt gry, fn xln, dense, firm, tr-nvp, fw SH: gry, silty, no odr, ns.

SS: gry, fn gm, arg, firm, tr-pr intgm por in v fw, sm SltStn: gry/fw bm, v soft, gritty, sm SH: gry/drk gry.

LS: gry/lt tan, fn xln, dense, firm, sub chlky in prt, tr-pr ppt intxn por, no cup odr, ns.

SH: gry/blu/bm, silty, soft, fw fissile, fw LS: lt tan/lt gry, fn xln, sub-chlky, tr-nvp, no cup odr, ns.

LS: gry/tan, mott, fn-crs xln, dense, sm flakey/mealy, tr-nvp, no cup odr, ns.

LS: gry/lt tan, slight mott, fn xln, sm v ool, brittle, sm fr intool por, fw pcs w/ drk spttd stns, no fluor, vssfo, no cup odr.

SH: gry/drk gry/drk bm, silty, soft, fw waxy, no cup odr.

LS: lt tan, fn xln, sm ool, pr intxn/sm intool por, no cup odr, ns.

LS: cm/lt tan, mott, fn-crs xln, flakey, sub-chlky, brittle, sm pr intxn por, 2 pcs w/ spttd tar like stns, no odr, no fluor.

LS: lt tan, mott, fn xln, many foss, sm ool, brittle, tr-v pr intxn/intool por, no cup odr, ns.

CFS @ 4081' (30"/60")

CFS @ 4102' (30"/60")

Stark @ 4110' (-1010)

MudCo Check #6
4132' on 12/10/19
Wt Vis pH
9.2 56 11.0 Filt Chlr
LCM
7.2 4.7K 2#

CFS @ 4132' (30"/60")

CFS @ 4170' (30"/60")

BKC @ 4177' (-1077)

CFS @ 4194' (30"/60")

CFS @ 4205' (30"/60")

Marmaton @ 4212' (-1112)

CFS @ 4222' (30"/60")

Altamont @ 4233' (-1133)

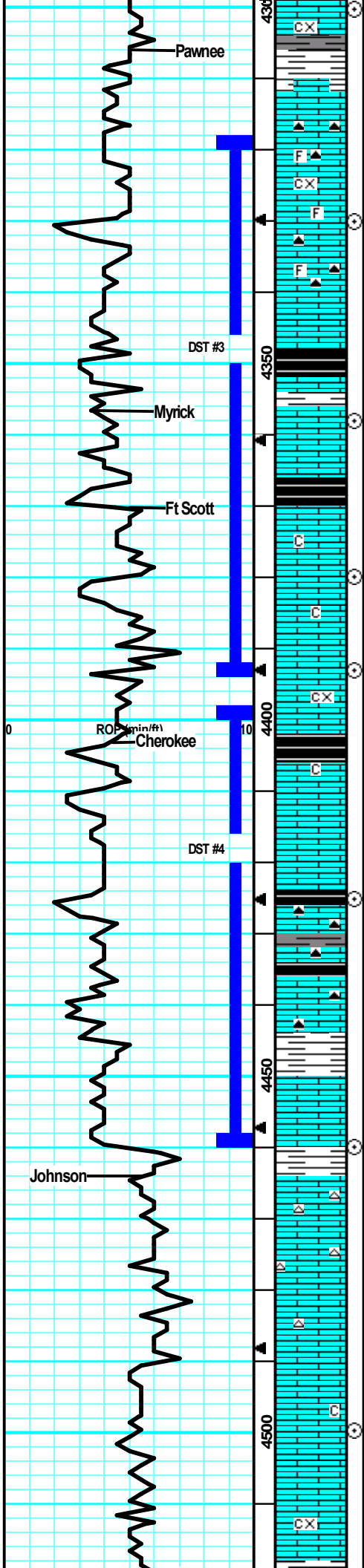
DST #2 "Altamont" 4226'-4260' 12/11/19 30-45-45-60
1st Blw: Blw blt to BOB in 8min (No BB)
2nd Blw: Blw blt to BOB in 10min (No BB)
IFP: 42-258# ISIP: 1315# FFP: 265-456# FSIP: 1294#
Hyd: 2176-2137#
Rec: 960' MW (90% Wtr).

CFS @ 4260' (30"/60")

MudCo Check #7
4260' on 12/11/19
Wt Vis pH
9.3 57 11.0 Filt Chlr
LCM
7.2 4.0K 1#

CFS @ 4280' (30"/60")

CFS @ 4300' (30"/60")



LS: lt tan, slight mott, fn-crs xln, many flakey, sub-chlky, tr-nvp, abund SH; gry/bm, silty, no cup odr, ns.

LS: gry/lt bm, sing, fn xln, dense, hard, tr-nvp, fw Chert: gry/smoke, sharp, fw SH: blk, carb, no odr, ns.

LS: gry, mott, fn-crs xln, firm, foss, flakey, tr-nvp, sm Chert: gry, foss, sharp, no cup odr, ns.

LS: gry/lt bm, slight mott, fn xln, many dense, tr-nvp, fw Chert: gry, foss, svrl pcs SH: blk, carb?

LS: tan, sing, fn xln, mostly dense, sm pr intxn/frac por, drk bm stns in por, vssfo on break in 3 pcs, faint cup odr?

SH: blk, carb, no cup odr, ns.

LS: tan/lt gry, slight mott, fn xln, fw dense, sm brittle, 2 pcs w/ pr intxn opr, lght bm spptd stns, no fluor, no cup odr vvsfo on crush, abund SH: blk carb.

LS: tan/lt tan, fn xln, many brittle, mostly dense, sm v ool, tr-nvp, no cup odr, ns.

LS: gry/lt bm, fn xln, mostly dense, many firm, tr-nvp,

LS: gry, mott, fn-crs xln, sm 2nd rxln, many hard, mostly flakey, tr-nvp, abund, no cup odr, ns.

SH: drk gry/blk, silty, sm carb.

LS: tan/lt gry, fn xln, mostly dense, sub-chlky in prt, tr-nvp, no cup odr, ns.

SH: drk gry/blk, fw carb.

LS: gry/tan, mostly sing, fn xln, firm, tr-nvp, fw sandy/grainy, tr-nvp, fw Chert: bm, trans, shrp, no cup odr, ns.

LS: lt tan/lt gry, sing, fn xln, sub-chlky, dense, tr-nvp, sm SH: gry, soft, fw Chert: gry/smk, trans, shrp, no cup odr, ns.

LS: crm/lt tan, sing, fn xln, sub-chlky/brit, sm pr-fr intxn por, patchy bm stns stns in por, gd dul yel fluor, strn cut, fr odr, fr sfo in 7 pcs.

60" Smpl: 4 more sho pcs, 2 w/ gd intxn/vuggy por, wk cup odr.

LS: tan/gry, fn xln, dense, many firm, tr-nvp, sm Chert: wht/gry, foss, 2 pcs of sho rx most likely from above, no cup odr.

LS: gry/lt bm, fn xln, hard, mostly flakey/mealy, tr-nvp, no cup odr, ns.

LS: tan/gry, fn xln, dense, hard, tr-nvp, svrl SH: gry, silty, no odr, ns.

LS: tan/lt gry, fn xln, mostly dense, sm flakey, tr-nvp, 3 pcs w/ pos drk dead oil stns, no fluor, no cut, no energy, no cup odr.

LS: gry/tan, fn-crs xln, flakey/mealy, hard, tr-nvp, abund SH: drk bm/gry/blk, gm, no cup odr, ns.

Pawnee @ 4306' (-1206)

CFS @ 4330' (30"/60")

DST #3 "Myrick & Ft Scott" 4318'-4393'
 12/12/19 30-30-30-30
 1st Blw: Blw blt to 3/4" (No BB)
 2nd Blw: No Blw (No BB)
 IFP: 22-29# ISIP: 910# FFP: 31-33# FSIP: 851#
 Hyd: 2155-2101#
 Rec: 10'M.

Myrick @ 4356' (-1256)

CFS @ 4358' (30"/60")

Ft Scott @ 4370' (-1270)

MudCo Check #8
 4393' on 12/12/19
 Wt Vis pH
 9.2 52 11.0 Filtr Chr
 LCM
 7.2 4.5K 1#

CFS @ 4393' (30"/60")

Cherokee @ 4403' @ (-1303)

CFS @ 4425' (30"/60")

DST #4 "Cherokee" 4398'-4460' 12/13/19
 30-30-30-30
 1st Blw: Blw blt to 3/4" (No BB)
 2nd Blw: No Blw (No BB)
 IFP: 21-22# ISIP: 417# FFP: 23-22# FSIP: 247#
 Hyd: 2193-2172#
 Rec: 5'M.

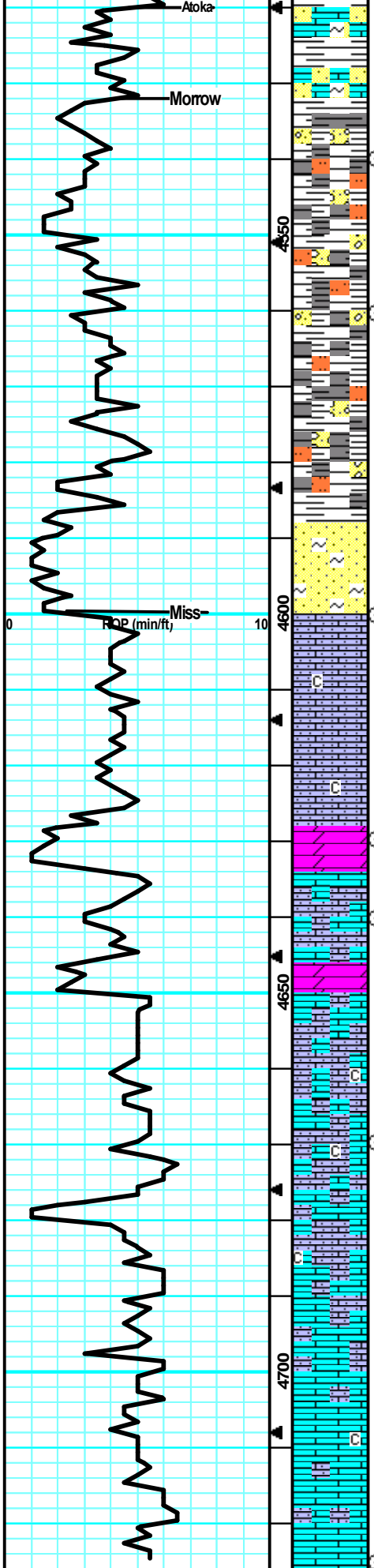
CFS @ 4460' (30"/60")

Johnson @ 4464' (-1364)

MudCo Check #9
 4460' on 12/13/19
 Wt Vis pH
 9.2 60 11.5 Filtr Chr
 LCM
 8.0 4.9K 1#

CFS @ 4500' (30"/60")

CFS @ 4500' (30"/60")



blu-gry/blu-gm, no cup odr, ns.

Influx of SS: blu-gm, fn gm, arg, glauc, sil cem, well srtd, well cem, frible but firm, tr-nvp, abund SH: gry/bm, blu-gm, no cup odr, ns.

Mostly likely Cong: abund SH: blu-gm/gry/bm, waxy in prt, fw LS: gry/lt brn, fw foss, sm hard, tr-nvp, sm Chert: wht, foss, sharp, no cup odr, ns.

SH: drk gry/bm/blk/yel, sm wthrd, mostly drk silty and soft, no odr, ns.

SH: dgry/blu-gm, silty, soft, fw SS: mostly the same, blue-gm, arg, fn gm, hard, tr-nvp, no cup odr, ns.

Much of the same, much more fresh, clean Shale, no odr, ns.

SS: cm/wht/blu-gm, fn gm, arg, chlky in prt, sil cem, brittle, friable, tr-nvp, no cup odr, ns.

60" Smp: lrg infx of Chert: tan/org/wht, tripl, sharp, no odr, ns.

LS: gry, fn xln, sm sandy/gritty, sm flakey, mostly dense, nvp, v fw pcs w/ fr intxn por on frac edge, pos drk min stns, no fluor/no cut resid, nsfo, no cup odr.

Mostly same gry, firm, dense, LS, infx of wthrd, yel'd LS, v dense, tr-nvp, no cup odr, ns.

60 Smp: much of the same dense, hard, LS, no odr, ns.

DOL: gry, fn gm, sandy, arg, hard, tr-pt intxn por, no sfo no cup odr, LS: gry, hard, pr intxn por on frac edge, slw bleed cut, nsfo, drk dead oil.

LS: tan, fn xln, dense, firm, flakey, tr-nvp, sm DOL: drk gry/bm, fn xln, hard, gritty, tr-ppt intxn por in fw, no cup odr, ns.

LS: cm/lt tan, sandy/grainy, sub-chlky, firm yet brittle, tr-nvp, no cup odr, ns.

Much of the same cm sandy LS, no odr, ns.

LS: cm/lt tan, fn xln, sandy/gritty, sub-chlky, brittle, tr-nvp, fw SS: cm/lt gm, fn gm, arg, brght gm glauc specs, tr-ppt intgm por, no cup odr, ns.

Much of the same.

LS: cm/lt tan, fn xln, sandy/gritty, sub-chlky in prt, fw flakey/mealy, tr-nvp, no cup odr, ns.

Much of the same, more LS: lt tan, fn xln, flakey/mealy, tr-nvp, no cup odr, ns.

Morrow @ 4530' (-1430)

CFS @ 4540' (30"/60")

CFS @ 4560' (30"/60")

Mississippi @ 4600' (-1500)

CFS @ 4600' (30"/60")

MudCo Check #10
4614' on 12/14/19

Wt	Vis	pH	Filt	Chr
9.1	54	11.0		
LCM				
8.8	4.5K	1#		

CFS @ 4630' (30"/60")

CFS @ 4640' (30"/60")

CFS @ 4670' (30"/60")

CFS @ 4725' (30"/60")

RTD = 4725' (-1625)
LTD = 4724' (-1624)

Survey @ 4725' = 3/4 Degree

				
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