

GRAND MESA

OPERATING COMPANY

(316) 265-3000
FAX: (316) 265-3455

1700 N. WATERFRONT PARKWAY
BLDG. 600
WICHITA, KANSAS 67208-5514

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

Well Name: E & E #2-34
Location: 2078'FSL, 1667' FWL, 34-13S-32W, Logan County, Kansas
License Number: API: 15-109-21177 Region: Wildcat
Spud Date: 5-15-2013 Drilling Completed: 5-25-2013
Surface Coordinates: Lat: 38.8786452
Long: -100.865586
Bottom Hole Vertical hole
Coordinates:
Ground Elevation (ft): 2906 K.B. Elevation (ft): 2917
Logged Interval (ft): surf To: RTD Total Depth (ft): 4640
Formation: Mississippian at RTD
Type of Drilling Fluid: Chemical

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

GEOLOGIST

Name: Bob Schreiber 3600-4340, Steve Carl 4340-TD
Company:
Address:

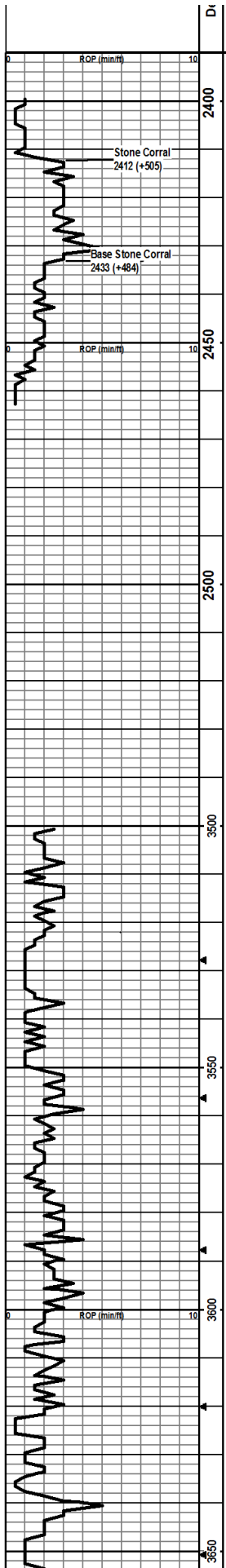
COMMENTS

Contractor: H-2 Rig #
Pusher: Randy Smith
Surface Casing: 8 5/8" set at 227' w/165sx
Production Casing: none
Mud by: MudCo
DST's by: Diamond Testing
Logs by: Weatherford (DIL, CN-CD, ML,SONIC)
RTD=4640'
LTD=4640'

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Stone Corral	2412'	+505	2410	+507
B/Stone Corral	2433'	+484	2430'	+487
Heebner Shale	3906'	-989	3902'	-985
Lansing	3941'	-1024	3941'	-1024
Muncie Creek Shale	4104'	-1187	4104'	-1187
Stark Shale	4186'	-1269	4186'	-1269
BKC	4252'	-1335	4251'	-1334
Marmaton	4285'	-1368	4283'	-1366
Little Osage Shale	4415'	-1498	4414'	-1497
Johnson Zone	4511'	-1594	4508'	-1591
Mississippian	4575'	-1658	4575'	-1658
RTD	4640'	-1723		
LTD	4640'	-1723		

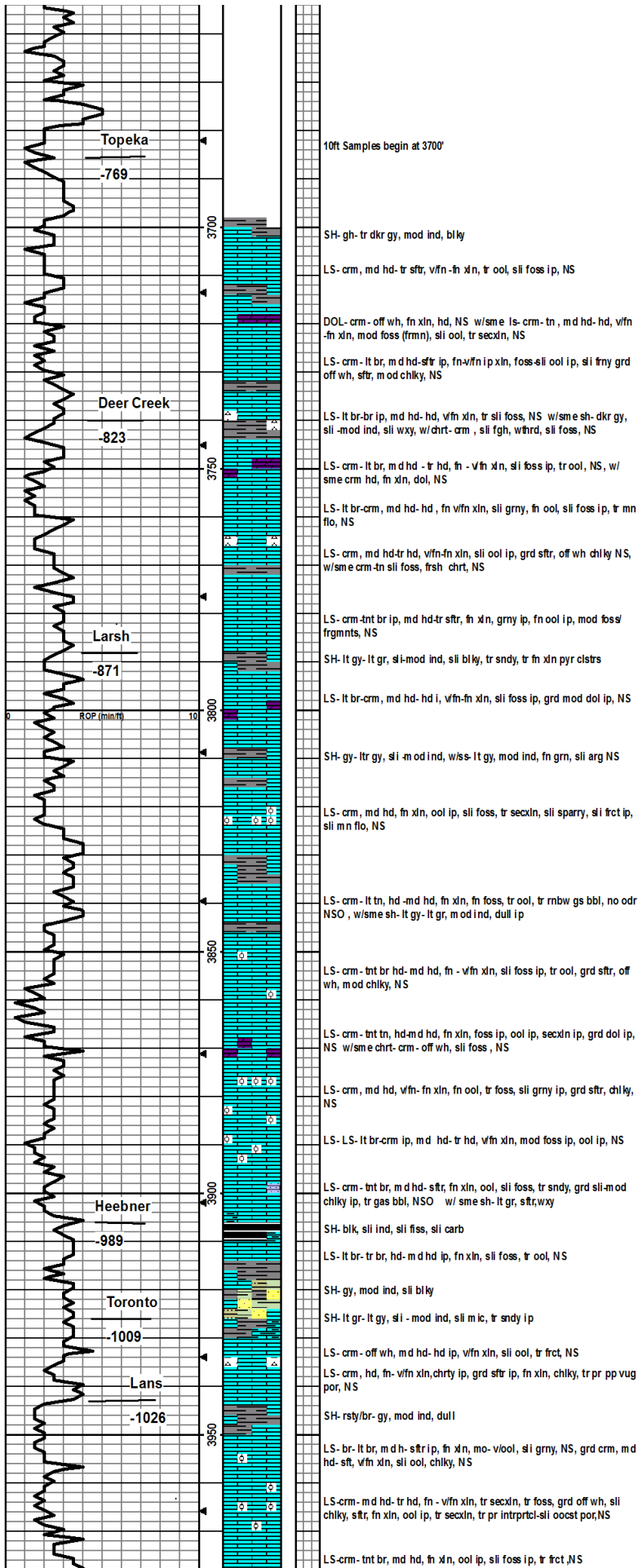
Curve Track 1 ROP (m in/ft)					
	Depth	Lithology	S Point	I Shows	Geological Descriptions
					Remarks



Di	6	0
2400		
2450		
2500		
3500		
3550		
3600		
3650		

Morning Report Depth/Activity

5/15/13: MIRU H2 rig #2, Spud 9:30 PM, ran 8 5/8" set @ 227' cmnt w/
 165 sxs, P.D. 4:45AM, Surv 1/2 deg @ 230'
 5/16/13: Depth @ 230' waiting on cement
 5/17/13: Drig @ 1423'
 5/18/13: Drig @ 2550', Surv 3/4 deg @ 2208'
 5/19/13: Drig @ 3310', Displace 3402-3420'
 5/20/13: Drig @ 3871', Surv 3/4 deg @ 3528'
 5/21/13: Drig @ 4168'
 5/22/13: DST#1, Hertha, @ 4272'
 5/23/13: DST#2, Ft Scott, 4436'
 5/24/13: DST#3, Johnson, 4525'
 5/25/13: Logging/plugging, @ TD = 4640'



10ft Samples begin at 3700'

SH-gh- tr dkr gy, mod ind, bly

LS- crm, md hd- tr sfr, vfn- fn xln, tr ool, sli foss ip, NS

DOL- crm- off wh, fn xln, hd, NS w/sme ls- crm- tn, md hd- hd, vfn- fn xln, mod foss (frm), sli ool, tr secxn, NS

LS- crm- lt br, md hd- sfr ip, fn- vfn ip xln, foss- sli ool ip, sli frny grd off wh, sfr, mod chiky, NS

LS- lt br- br ip, md hd- hd, vfn xln, tr sli foss, NS w/sme sh- dkr gy, sli- mod ind, sli wxy, w/drt- crm, sli fgh, w/thrd, sli foss, NS

LS- crm- lt br, md hd- tr hd, fn- vfn xln, sli foss ip, tr ool, NS, w/sme crm hd, fn xln, dol, NS

LS- lt br- crm, md hd- hd, fn vfn xln, sli grny, fn ool, sli foss ip, tr mn flo, NS

LS- crm, md hd- tr hd, vfn- fn xln, sli ool ip, grd sfr, off wh chiky NS, w/sme crm- tn sli foss, frsh chrt, NS

LS- crm- 4nt br ip, md hd- tr sfr, fn xln, grny ip, fn ool ip, mod foss/ frgmnts, NS

SH- lt gy- lt gr, sli- mod ind, sli bly, tr sndy, tr fn xln pyr cistrs

LS- lt br- crm, md hd- hd i, vfn- fn xln, sli foss ip, grd mod dol ip, NS

SH- gy- ltr gy, sli- mod ind, w/s- lt gy, mod ind, fn grn, sli arg NS

LS- crm, md hd, fn xln, ool ip, sli foss, tr secxn, sli sparry, sli frct ip, sli mn flo, NS

LS- crm- lt tn, hd- md hd, fn xln, fn foss, tr ool, tr rnbw gs bbl, no odr NSO, w/sme sh- lt gy- lt gr, mod ind, dull ip

LS- crm- tnt br hd- md hd, fn- vfn xln, sli foss ip, tr ool, grd sfr, off wh, mod chiky, NS

LS- crm- tnt tn, hd- md hd, fn xln, foss ip, ool ip, secxn ip, grd dol ip, NS w/sme chrt- crm- off wh, sli foss, NS

LS- crm, md hd, vfn- fn xln, fn ool, tr foss, sli grny ip, grd sfr, chiky, NS

LS- LS- lt br- crm ip, md hd- tr hd, vfn xln, mod foss ip, ool ip, NS

LS- crm- tnt br, md hd- sfr, fn xln, ool, sli foss, tr sndy, grd sli- mod chiky ip, tr gas bbl, NSO w/sme sh- lt gr, sfr, wxy

SH- blk, sli ind, sli fess, sli carb

LS- lt br- tr br, hd- md hd ip, fn xln, sli foss, tr ool, NS

SH- gy, mod ind, sli bly

SH- lt gr- lt gy, sli- mod ind, sli mic, tr sndy ip

LS- crm- off wh, md hd- hd ip, vfn xln, sli ool, tr frct, NS

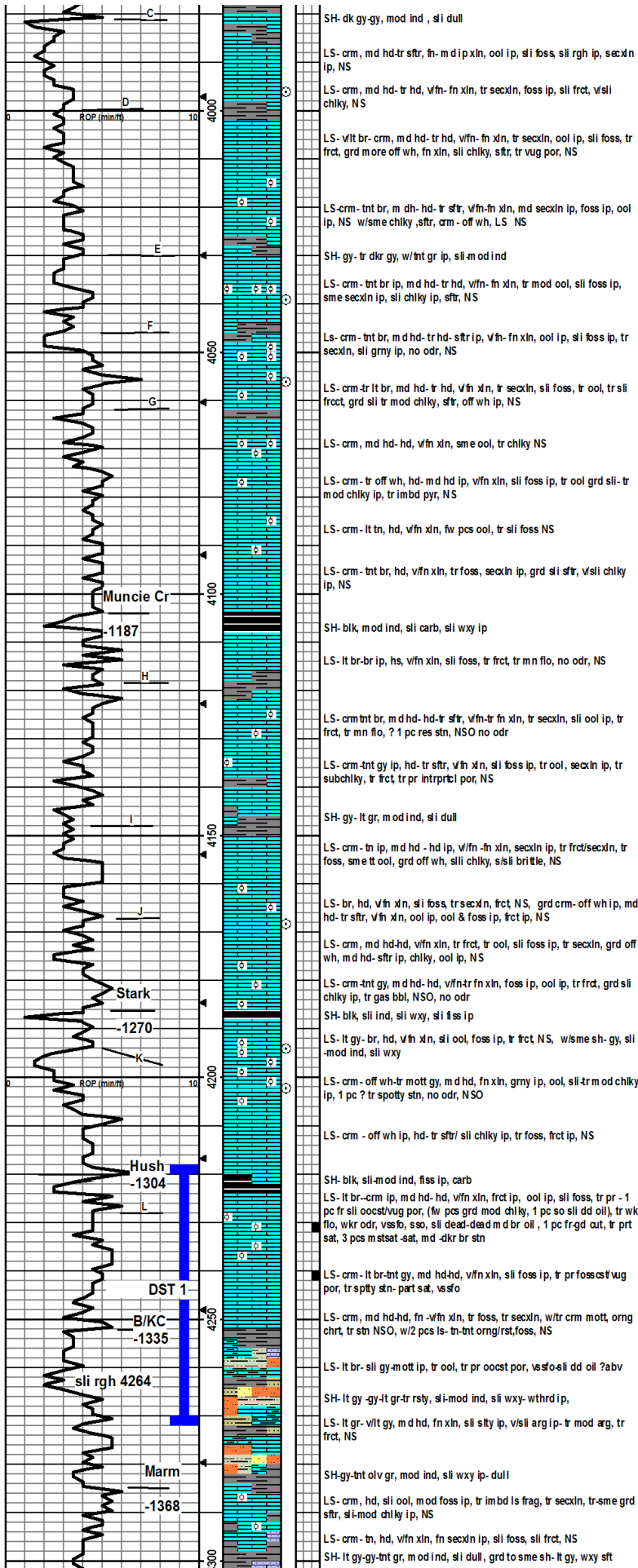
LS- crm, hd, fn- vfn xln, chrtty ip, grd sfr ip, fn xln, chiky, tr pr pp vug por, NS

SH- rsty/br- gy, mod ind, dull

LS- br- lt br, md hd- sfr ip, fn xln, mo- vool, sli grny, NS, grd crm, md hd- sfr, vfn xln, sli ool, chiky, NS

LS- crm- md hd- tr hd, fn- vfn xln, tr secxn, tr foss, grd off wh, sli chiky, sfr, fn xln, ool ip, tr secxn, tr pr intrptcl- sli oocst por, NS

LS- crm- tnt br, md hd, fn xln, ool ip, sli foss ip, tr frct, NS



SH- dk gy-gy, mod ind, sli dull

LS- crm, md hd-tr sfr, fn- m d ip xln, ool ip, sli foss, sli rgh ip, secxn ip, NS

LS- crm, md hd- tr hd, vfn- fn xln, tr secxn, foss ip, sli frct, v/sli chiky, NS

LS- vlt br- crm, m d hd- tr hd, vfn- fn xln, tr secxn, ool ip, sli foss, tr frct, grd more off wh, fn xln, sli chiky, sfr, tr vug por, NS

LS- crm- tnt br, m dh- hd- tr sfr, vfn- fn xln, md secxn ip, foss ip, ool ip, NS w/sme chiky, sfr, crm- off wh, LS NS

SH- gy- tr dkr gy, w/tnt gr ip, sli- mod ind

LS- crm- tnt br ip, m d hd- tr hd, vfn- fn xln, tr mod ool, sli foss ip, sme secxn ip, sli chiky ip, sfr, NS

LS- crm- tnt br, m d hd- tr hd- sfr ip, vfn- fn xln, ool ip, sli foss ip, tr secxn, sli grmy ip, no odr, NS

LS- crm- tr lt br, md hd- tr hd, vfn xln, tr secxn, sli foss, tr ool, tr sli frct, grd sli tr mod chiky, sfr, off wh ip, NS

LS- crm, md hd- hd, vfn xln, sme ool, tr chiky NS

LS- crm- tr off wh, hd- md hd ip, vfn xln, sli foss ip, tr ool, grd sli- tr mod chiky ip, tr imbd pyr, NS

LS- crm- lt tn, hd, vfn xln, fw pcs ool, tr sli foss NS

LS- crm- tnt br, hd, vfn xln, tr foss, secxn ip, grd sli sfr, v/sli chiky ip, NS

SH- blk, mod ind, sli carb, sli wxy ip

LS- lt br- br ip, hs, vfn xln, sli foss, tr frct, tr mn flo, no odr, NS

LS- crm tnt br, m d hd- hd- tr sfr, vfn- tr fn xln, tr secxn, sli ool ip, tr frct, tr mn flo, ? 1 pc res stn, NSO no odr

LS- crm- tnt gy ip, hd- tr sfr, vfn xln, sli foss ip, tr ool, secxn ip, tr subchiky, tr frct tr pr intrprt: por, NS

SH- gy- lt gr, m od ind, sli dull

LS- crm- tn ip, m d hd- hd ip, vfn- fn xln, secxn ip, tr frct/secxn, tr foss, sme t ool, grd off wh, sli chiky, sli sli brittle, NS

LS- br, hd, vfn xln, sli foss, tr secxn, frct NS, grd crm- off wh ip, md hd- tr sfr, vfn xln, ool ip, ool & foss ip, frct ip, NS

LS- crm, md hd- hd, vfn xln, tr frct, tr ool, sli foss ip, tr secxn, grd off wh, m d hd- sfr ip, chiky, ool ip, NS

LS- crm- tnt gy, m d hd- hd, vfn- tr fn xln, foss ip, ool ip, tr frct, grd sli chiky ip, tr gas bbl, NSO, no odr

SH- blk, sli ind, sli wxy, sli foss ip

LS- lt gy- br, hd, vfn xln, sli ool, foss ip, tr frct NS, w/sme sh- gy, sli- mod ind, sli wxy

LS- crm- off wh- tr mott gy, m d hd, fn xln, grmy ip, ool, sli- tr m od chiky ip, 1 pc ? tr spotty stn, no odr, NSO

LS- crm - off wh ip, hd- tr sfr/ sli chiky ip, tr foss, frct ip, NS

SH- blk, sli- mod ind, fess ip, carb

LS- lt br- crm ip, m d hd- hd, vfn xln, frct ip, ool ip, sli foss, tr pr - 1 pc fr sli oocst/vug por, (fw pcs grd mod chiky, 1 pc so sli dd oil), tr wk flo, wkr odr, vssfo, sso, sli dead- dead m d br oil, 1 pc fr- gd cut, tr prt sat, 3 pcs mtsat- sat, md- dkr br stn

LS- crm- lt br- tnt gy, md hd- hd, vfn xln, sli foss ip, tr pr fosses# wug por, tr spity stn- part sat, vsfo

LS- crm, md hd- hd, fn- vfn xln, tr foss, tr secxn, w/tr crm mott, orng chrt, tr stn NSO, w/2 pcs ls- tn- tnt orng/rst, foss, NS

LS- lt br- sli gy- mott ip, tr ool, tr pr oocst por, vsfo- sli dd oil ? abv

SH- lt gy- gt gr- tr rsby, sli- mod ind, sli wxy- wthrd ip,

LS- lt gr- vlt gy, m d hd, fn xln, sli stly ip, v/sli arg ip- tr mod arg, tr frct, NS

SH- gy- tnt olv gr, mod ind, sli wxy ip- dull

LS- crm, hd, sli ool, mod foss ip, tr imbd ls frag, tr secxn, tr- sme grd sfr, sli- mod chiky ip, NS

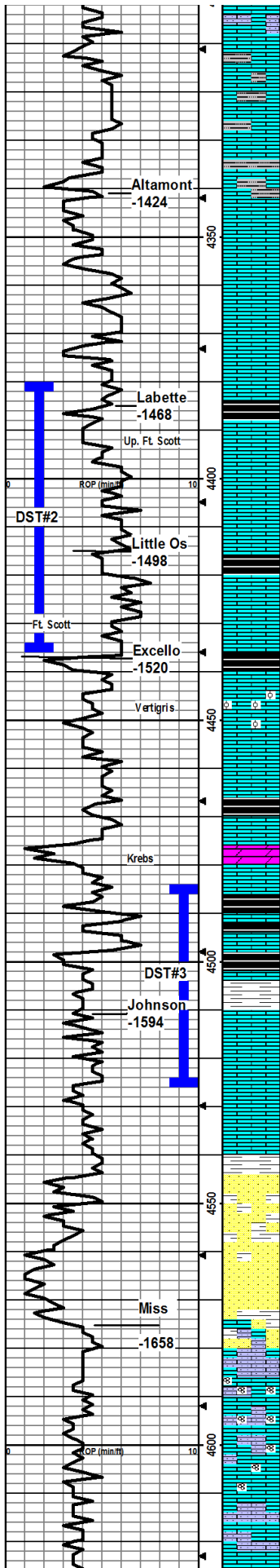
LS- crm- tn, hd, vfn xln, fn secxn ip, sli foss, sli frct, NS

SH- lt gy- gt- tnt gr, m od ind, sli dull, grd to sme sh- lt gy, wxy sft

MUD@ 4210'
 WT:9.2
 VIS:57
 WL:8.0
 PH:11.0
 CHL:5000

DST 1) L zn
 4220-4272'
 30-30-30
 1st) 1/2" blw TO
 2nd) VWWSB
 Rec: 5' m/tr oil
 IFP: 9-11#
 FFP: 11-16#
 SIP: 610-433#
 HP: 1969-1963#

MUD@ 4272'
 WT:9.2
 VIS:51
 WL:8.8
 PH:11.0
 CHL:5500



LS- crm - bnt gy-tn, md hd-hd, wfn-fn ip xln, foss ip, tr mod secln, grd vsli chky ip, wfn grn sndy, NS

LS- lt gy- crm, hd-m d hd, fn xln, grd (?abv) stly ss- lt gy-gy, srg ip, m d hd

LS-t tan, mostly fn xln, sm crs, foss, abund gry SH, abund SS-dirty gry, fn grn, no cup odr, ns.

LS-tan, fn - crs xln, sm uniform, sm foss, hard, dense w/nvp, abund gry SH as above, no cup odr, ns.

LS-tan, mostly fn xln, dense few pcs/tray crs xln, grainy, ool, foss-various, 2-3 pcs per tray w/gd int foss/vug por, pr-fr sho drk thk fo, will not break out of por, fnt odr on break, no cup odr. sm dull edge fluor.

LS- crm/wht, fn xln, mostly uniform, sm foss, chalky, sm LS-tan, ml crx xln, dense hard, 1-2 pcs per tray w/trace por pp por, vs sfo, drk, thk, will not break out, no cup odr.

LS and SH as above, no cup odr, 1 pc/tray w/vsfo as above

LS-gry/crm, mostly fn xln, mostly uniform, dense, few foss, sm chalky, abund CHER T-gry, opaque, 10-15 pcs/tray with pr-fr pp/int xln por, slt-fr sfo, fr cup odr, patchy dull yel fluor. Lots of blk carb SH in 4400 smpl. 30m in sm pl as above, incr chalk, decr sho, fr cup odr.

LS-tan-brn, crs xln, foss, dense, hard, nvp, no cup odr, ns

LS-tan-brn, mostly fn xln, uniform, sm vcrs xln, foss, abund CHERT, all dense, nvp, no cup odr, ns.

SH-blk, carb, present in 4330smpl.

LS-t brn, fn xln, v dense, hard, brittle, 1-2 pcs per tray with trc fr-gd vug por, slt sho lt fb along edges of vugs, wk yel fluor, no cup odr. 60m in as above.

SH-blk, carb, flood in 4450 sm pl, sm SH-gry/grn, silty, no cup odr, ns.

LS-mostly gry, fn xln, uniform, dense, hard, sm ool/pls, calcite filled int ool/foss por, brittle nvp, sm CHERT-gry/brn, transl, sharp, fresh, no cup odr, ns

LS-tan, fn xln, uniform, dense, hard, decr ool, rare foss-fus/brach, CHERT as above, no cup odr, ns.

SH-blk, carb, brittle. LS-mostly drk gry, med xln, foss/ool, dense nvp, no cup odr, ns.

LS-tan, micro xln, hard, brittle, diff crush, 6-8 pcs per tray w/pr int foss por, trace wug por w/sfo, DOLO-brn, vcrs xln, rare int xln por, ns, no cup odr, scat dul yel fluor.

LS-mostly lt tan, micro xln, dense, brittle, vhard, sm LS-t tan, profus foss/ool w/pr int foss por, rare gd vug por, vs to sfo 8-10 pcs per tray, most will not break out of por, fnt cup odr, scat dul yel fluor. patchy med brn stn in drys, average 30% of surface stained, SH-blk, carb.

SH-med gry, silty. LS-as above, fnt cup odr.

LS-t tan, mostly micro xln, uniform, dense, vhard, 12-15 pcs per tray w/pr-fr pp/vug por, fr sho drk fb, bleed o&g on break gd cup odr, patchy to gd sat drk brn stn in drys, 30m in-LS, as above, decr in sho, no cup odr, 60min as above, quest cup odr.

LS-med tan, vfn xln, mostly uniform, dense, hard, rare foss, nvp, no cup odr, ns.

LS-mostly lt tan, med xln, foss in part, dense, nvp, no cup odr, ns.

SS-wht/lt gry, fn grn, well strd, sub rnd, few glauc, fr int grn por, clean, calc, vig eff under 10% HCL, fairly well consolidated, not many loose grains, no fluor, no cut, no cup odr, ns.

SS- mostly as above, white to dirty gry, sm glauc, calc, semi-friable to very hard, pr int gran por, no cup odr, no fluor, ns.

LS-wht, fn xln, uniform, v sandy, vig eff under 10% HCL, nvp, no cup odr, no fluor, ns, SH-bright olive/yelow, waxy.

LS-tan, micro xln, foss, v hard, dense, brittle, decr sandy as above, sm LS-t tan, v grainy, ool/foss (forams?), no cup odr, ns.

LS- as above, no change.

LS-tan as above, influx wht CHALK, same mix of dense, micro xln LS, foss LS and sandy LS.

LS- crm/tan, mostly sandy as above, decr CHALK, decr LS-tan, no cup odr, no fluor, ns.

Steve Carl
assumes
wellsight
responsibility at
4340

DST 2) Ft.Scott
4380-4436'
30-30-30-30
Rec: 5' OSM
IFP: 13-11#
FFP: 14-11#
SIP: 458-225#
BHT: 116degF

DST 3) Johnson
4485-4525'
30-30-30-30
Rec: 1' CO
60' OWCM
(22% O, 18% W)
IFP: 6-20#
FFP: 28-38#
SIP: 1121-1021#
BHT: 120degF

