

Robert L. Milford

PETROLEUM GEOLOGIST
Wichita, Kansas

GEOLOGISTS REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR: **Murfin Drilling Company, Inc.**
LEASE: **Engle #1-8**
LOC. SPOT: **110 N & 160 W of C W2 NW**
ELEVATIONS: KB **2,917'**, CL **2,912'**

LOC. FOOTAGE: **1,210' FNL 500' FWL**

SEC: **8** TWP: **5S** RNG: **30W**

COUNTY: **Decatur** STATE: **Kansas**

API: **15-039-21210-00-00**

CONTRACTOR: **Murfin Drilling Co., Inc.** REG. NO.: **7**
DRILLING STARTED: **12-13-2014** COMPLETED: **12-21-2014**
MUD DISPLACED: **3,074** MUD TYPE: **Chemical**
DRILLING TIME KEPT FROM: **3,668** TO: **RTD**
SAMPLES SAVED FROM: **3,668** TO: **RTD**
SAMPLES EXAMINED FROM: **3,668** TO: **RTD**
GEOLOGICAL SUPERVISION FROM: **3,668** TO: **RTD**

MEASUREMENTS: SURFACE: **8.5/8" @ 220'**, w/ 200 sacks cement; PRODUCTION: **5.7/2" @ 2669'** w/ 295 sacks cement

CONDUCTOR: **CASING RECORD**

FORMATION NAME: **TOP** LOG DATE/TIME: **TOP** SAMPLE DATE/TIME: **TOP**

Stone Corral 2,627' +270
Topeka 3,747' -830
Heebner 3,918' -1001
Lansing 3,964' -1047
Stark 4,129' -1212
B/KC 4,178' -1261
Pawnee 4,292' -1375
Cherokee 4,375' -1458
Total Depth 4,480' -1563

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DATE	7:00 AM DEPTH	REMARKS
12-13-14	0'	Spud @ 3:45 pm. Plug down @ 8:30 pm. Drilled out plug @ 4:30 am on 12/14 w/ PDC bit
12-14-14	360'	Cut 360' in last 24 hrs. Last circ @ 1700' (2.25 hrs). Pulled plugged bit @ 1933' (3 hrs).
12-15-14	2,250'	Cut 1,890' in last 24 hrs; 17 hrs drlg. Bit trip @ 3668' (ran button bit)
12-16-14	3,668'	Cut 1,418' in last 24 hrs; 14.75 hrs drlg. DST #1 @ 3997'
12-17-14	3,997'	Cut 329' in last 24 hrs; 13.25 hrs drlg. DST #2 @ 4052'
12-18-14	4,052'	Cut 55' in last 24 hrs; 3.25 hrs drlg. DST #3 @ 4130' (Misrun). DST #4 @ 4130'
12-19-14	4,130'	Cut 78' in last 24 hrs; 2.5 hrs drlg. DST #5 @ 4185'
12-20-14	4,185'	Cut 55' in last 24 hrs; 2 hrs drlg. DST #6 @ 4405'
12-21-14	4,405'	Cut 220' in last 24 hrs; 7.75 hrs drlg. RTD 4480' @ 9:02 pm
12-22-14	4,480'	Cut 75' in last 24 hrs; 1.25 hrs drlg (drilled w/ PDC bit). Ran casing for a SWDWD

Remarks

Well is to be completed for Salt Water Disposal.

From 3,668' to TD, the electric log measurements correlate from even to 1' higher to the drilling measurements.

Formation tops and lithology on this report have been corrected to the electric log.

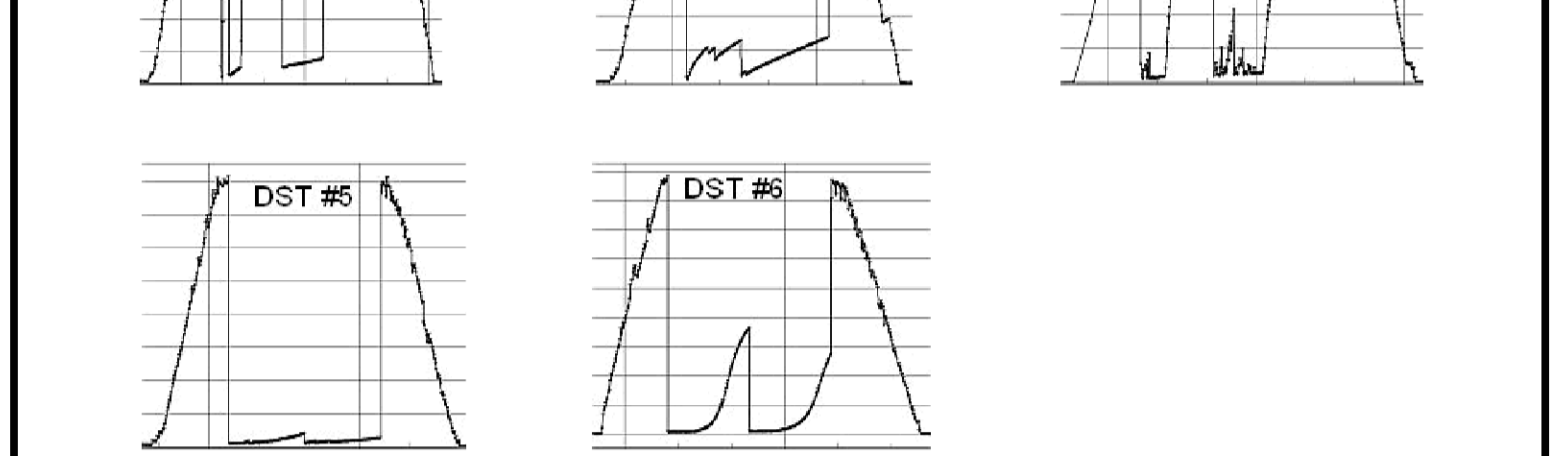
The drilling samples were deposited at the Kansas Geological Survey office in Wichita.

Respectfully submitted,

Robert L. Milford

Drill Stem Test Charts

Drill Stem Test by Trilobite Testing, Inc.



LITH	DRILL TIME (MIN/FT)	DEPTH (FEET)	SAMPLE DESCRIPTIONS	REMARKS
		2600		Stone Corral 2647' (+270) EL
		2650		B/Stone Corral 2682' (+235) EL
		2700		NOTE: a 2' math error was made on the board between 1489' to 2439' and it was not discovered until the bit trip 3668'. The error had drilling depths 2' lower than they should have been. No correction was made on the drilling time. In addition, a joint of pipe was put in the drill string but left off the board somewhere between 1933' and 3668'. After logs, it appears the error is reflected in the Anhydrite tops. No correction was made for depths above 3668'.

		3600	LS: crm-gry, fxl, fos in prt, some shly, sub chky-prtly dns, pr por, NS Sh: gry, grn, red-brn LS: wh-gry, fxl, fos in prt, some shly, sub chky-prtly dns w/ some chky-vry chky, pr por, NS Sh: red-brn (soft & gummy in prt) w/ gry & grn	Call depth 3340' @ 7:42 pm on 12-15-14 Mud displaced from 3074' to 3117' Depth errors found on trip to replace PDC bit with button bit. Samples and drill time were supposed to start at 3640'. Bit trip was made at 3640' per geograph. Pipe strap was 26.52' long to board (3666.52'). Found 2' math error in board above 2439' which resulted in a corrected strap being 28.52' long to board (3668.52'). Bit trip was made with 5.65' on geograph above kelly down but after trip, the measured amount remaining on kelly was only 4'. Depths have been corrected to pipe strap from 3668' and below. Depths above 3668' have not been corrected. A trip to clean the bit was made at 1933' and the joints of pipe in the hole agreed with board. A joint of pipe was put in the drill string but left off the board somewhere between 1933' and 3668'
		3650	LS: crm-gry, fxl, fos in prt, some shly, sub chky-prtly dns w/ some chky, pr por, NS Sh: red-brn (some soft & gummy) w/ some gry & grn Sh: red-brn (mstly soft & gummy) w/ small amt gry & grn LS: wh-tan, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky & some dns, pr por, NS LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS Sdy LS: crm-lt gry, fxl, fr-vry fn grain sd, sub chky, pr por, NS Sd: crm-lt gry, fr-vry fn grain, calc in prt, semi fri-brittle, pr vis por, NS, intermixed w/ Sh: red-brn (some sdy, some soft & gummy) & small amt gry & grn Sh: mstly red-brn (soft & gummy in prt) w/ small amt gry & grn	Bit trip at 3668' (see Remarks above). Replaced PDC bit with button bit. Pipe Strap @ 3668': Strap long 26.52' Straight Hole Survey @ 3668': 0.5° Dev. Morgan Mud check @ 3668': 80 Vis, 8.7 Wt, 6.0 WL, 700 ppm Chl, 6# LCM (8:00 am during conditioning after bit trip) Samples start 3668' @ 8:10 am on 12-16-14
		3700	LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS Sh: lt gry (soft & gummy), red-brn, gry & grn LS: wh-gry, fxl, fos in prt, some shly, sub chky-prtly dns w/ some chky, pr por, NS Sh: red-brn (some soft & gummy) w/ some gry & grn Sh: red-brn (mstly soft & gummy) w/ small amt gry & grn	
		3750	LS: wh-tan, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky & some dns, pr por, NS LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS Sdy LS: crm-lt gry, fxl, fr-vry fn grain sd, sub chky, pr por, NS Sd: crm-lt gry, fr-vry fn grain, calc in prt, semi fri-brittle, pr vis por, NS, intermixed w/ Sh: red-brn (some sdy, some soft & gummy) & small amt gry & grn Sh: mstly red-brn (soft & gummy in prt) w/ small amt gry & grn	Topeka 3747' (-830) EL
		3800	LS: wh-lt gry, fxl, fos in prt, some shly (red-brn, mottled), chky-prtly dns w/ some vry chky, pr por, NS LS: wh-lt gry, fxl, fos in prt, chky-prtly dns w/ some vry chky, pr por, NS LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr por, NS LS: A.A. w/ some chky, pr por, NS Sh: Blk Carb LS: tan-brn, fxl, fos, mstly prtly dns, pr por, NS Sh: red-brn, gry, grn	DST #1 3915' 3997' Tor-L/K 'A' IF: blow built to 6.25" ISI: no blow back FF: BOB in 45" FSI: no blow back Recovery: 339' TOTAL FLUID 93' WM (40% W, 60% M) 63' MW (50% W, 50% M) 183' MW (70% W, 30% M) Chl ppm 50,000 DST: 700 Mud IFP: 40-113#/30" FSIP: 1264#/60" FFP: 119-194#/60" FSIP: 1247#/90" Note: some plugging during IFP
		3850	LS: crm-tan, fxl, fos in prt, sub chky-prtly dns, pr por, NS Sh: red-brn (some sdy), some gry & grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS LS: crm, fxl, fos, w/ sub chky-prtly dns, pr w/ fr fos-vug por, NS LS: wh-crm, fxl, fos in prt, sub chky-prtly dns, pr por, NS LS: wh-crm, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS LS: tan-brn, fxl, prtly dns, pr por, NS Sh: Blk Carb LS: tan-brn, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn	DST #2 4016' 4052' L/K 'D prime' - 'G' zns IF: surface blow FF: no blow Rec. 2' Mud (100% M) IFP: 45-225#/30" ISIP: 115#/60" FFP: 119-199#/30" FSIP: 339#/60" Note: severe plugging during IFP & FFP
		3900	LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS LS: crm, fxl, fos, w/ sub chky-prtly dns, pr w/ fr fos-vug por, NS LS: wh-crm, fxl, fos in prt, sub chky-prtly dns, pr por, NS LS: wh-crm, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS LS: tan-brn, fxl, prtly dns, pr por, NS Sh: Blk Carb LS: tan-brn, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn	DST #1 3915' 3997' Tor-L/K 'A' IF: blow built to 6.25" ISI: no blow back FF: BOB in 45" FSI: no blow back Recovery: 339' TOTAL FLUID 93' WM (40% W, 60% M) 63' MW (50% W, 50% M) 183' MW (70% W, 30% M) Chl ppm 50,000 DST: 700 Mud IFP: 40-113#/30" FSIP: 1264#/60" FFP: 119-194#/60" FSIP: 1247#/90" Note: some plugging during IFP
		3950	LS: wh-crm, fxl, fos, prtly dns, pr por, NS LS: wh-lt gry, fxl, fos, chty (crm-org), sub chky-prtly dns w/ some chky & some dns, pr-fr w/ some gd fos-vug por, scat med-drk brn w/ some blk spdt-patchy stn, S-FSFO (some thk-hvy, some bleeding), no odor LS: crm-tan, fxl, fos in prt, sub chky-prtly dns, pr w/ tr fr fos-vug por, vry scat med-drk brn & blk spdt-patchy stn, SSFO, no odor Sh: red-brn, gry, grn LS: crm-brn, fxl, fos in prt, sub chky-prtly dns, pr w/ some fr fos-vug por, vry scat drk brn-blk spdt-patchy stn, SSFO (mstly small-pin point beads, some thk-hvy oil), no odor Sh: red-brn, gry, grn LS: wh-tan, fxl, fos in prt, some shly (red-brn, mottled), sub chky-prtly dns, pr w/ tr fr fos-vug por, tr brn-blk spdt-patchy stn, SSFO, no odor LS: wh-crm, fxl, fos, chty (crm-tan), sub chky-prt dns w/ some chky, pr w/ tr fr fos-vug por, scat lt-med brn patchy-sub sat stn, S-FSFO, no odor Sh: red-brn, gry, grn Sh: red-brn (some silty-sdy), w/ some gry & grn	Toronto 3950' (-1033) EL
		4000	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	Ran 21 stand short trip @ 3997', prior to DST #1 Pipe Strap @ 3997': Strap long 0.65' Straight Hole Survey @ 3997': 0.5° Dev. Morgan Mud check @ 3997': 55 Vis, 9.2 Wt, 6.4 WL, 2,400 ppm Chl, 6# LCM (7:30 am while TTH for DST #1) Note: 2' math error on board
		4050	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	DST #2 4016' 4052' L/K 'D prime' - 'G' zns IF: surface blow FF: no blow Rec. 2' Mud (100% M) IFP: 45-225#/30" ISIP: 115#/60" FFP: 119-199#/30" FSIP: 339#/60" Note: severe plugging during IFP & FFP
		4100	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn (some rich brn luster), SSFO, no odor LS: tan-brn, fxl, sli fos, prtly dns, pr por, NS Sh: red-brn, gry, grn Sh: A.A. LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr w/ tr fr fos-vug por, vry scat med-drk brn patchy-sub sat stn, SSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	DST #1 3915' 3997' Tor-L/K 'A' IF: blow built to 6.25" ISI: no blow back FF: BOB in 45" FSI: no blow back Recovery: 339' TOTAL FLUID 93' WM (40% W, 60% M) 63' MW (50% W, 50% M) 183' MW (70% W, 30% M) Chl ppm 50,000 DST: 700 Mud IFP: 40-113#/30" FSIP: 1264#/60" FFP: 119-194#/60" FSIP: 1247#/90" Note: some plugging during IFP
		4150	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn (some rich brn luster), SSFO, no odor LS: tan-brn, fxl, sli fos, prtly dns, pr por, NS Sh: red-brn, gry, grn Sh: A.A. LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr w/ tr fr fos-vug por, vry scat med-drk brn patchy-sub sat stn, SSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	DST #2 4016' 4052' L/K 'D prime' - 'G' zns IF: surface blow FF: no blow Rec. 2' Mud (100% M) IFP: 45-225#/30" ISIP: 115#/60" FFP: 119-199#/30" FSIP: 339#/60" Note: severe plugging during IFP & FFP
		4200	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn (some rich brn luster), SSFO, no odor LS: tan-brn, fxl, sli fos, prtly dns, pr por, NS Sh: red-brn, gry, grn Sh: A.A. LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr w/ tr fr fos-vug por, vry scat med-drk brn patchy-sub sat stn, SSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	DST #1 3915' 3997' Tor-L/K 'A' IF: blow built to 6.25" ISI: no blow back FF: BOB in 45" FSI: no blow back Recovery: 339' TOTAL FLUID 93' WM (40% W, 60% M) 63' MW (50% W, 50% M) 183' MW (70% W, 30% M) Chl ppm 50,000 DST: 700 Mud IFP: 40-113#/30" FSIP: 1264#/60" FFP: 119-194#/60" FSIP: 1247#/90" Note: some plugging during IFP
		4250	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn (some rich brn luster), SSFO, no odor LS: tan-brn, fxl, sli fos, prtly dns, pr por, NS Sh: red-brn, gry, grn Sh: A.A. LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr w/ tr fr fos-vug por, vry scat med-drk brn patchy-sub sat stn, SSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	DST #2 4016' 4052' L/K 'D prime' - 'G' zns IF: surface blow FF: no blow Rec. 2' Mud (100% M) IFP: 45-225#/30" ISIP: 115#/60" FFP: 119-199#/30" FSIP: 339#/60" Note: severe plugging during IFP & FFP
		4300	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn (some rich brn luster), SSFO, no odor LS: tan-brn, fxl, sli fos, prtly dns, pr por, NS Sh: red-brn, gry, grn Sh: A.A. LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr w/ tr fr fos-vug por, vry scat med-drk brn patchy-sub sat stn, SSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	DST #1 3915' 3997' Tor-L/K 'A' IF: blow built to 6.25" ISI: no blow back FF: BOB in 45" FSI: no blow back Recovery: 339' TOTAL FLUID 93' WM (40% W, 60% M) 63' MW (50% W, 50% M) 183' MW (70% W, 30% M) Chl ppm 50,000 DST: 700 Mud IFP: 40-113#/30" FSIP: 1264#/60" FFP: 119-194#/60" FSIP: 1247#/90" Note: some plugging during IFP
		4350	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn (some rich brn luster), SSFO, no odor LS: tan-brn, fxl, sli fos, prtly dns, pr por, NS Sh: red-brn, gry, grn Sh: A.A. LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr w/ tr fr fos-vug por, vry scat med-drk brn patchy-sub sat stn, SSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	DST #2 4016' 4052' L/K 'D prime' - 'G' zns IF: surface blow FF: no blow Rec. 2' Mud (100% M) IFP: 45-225#/30" ISIP: 115#/60" FFP: 119-199#/30" FSIP: 339#/60" Note: severe plugging during IFP & FFP
		4400	LS: wh-lt gry, fxl, fos, prtly dns, pr por, NS Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn (some rich brn luster), SSFO, no odor LS: tan-brn, fxl, sli fos, prtly dns, pr por, NS Sh: red-brn, gry, grn Sh: A.A. LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtial-vug por, scat lt-med brn patchy-sub sat stn & drk brn-blk spdt-patchy stn, S-FSFO, no odor Sh: red-brn w/ some gry & grn Sh: red-brn (some silty-sdy), w/ some gry & grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr w/ tr fr fos-vug por, vry scat med-drk brn patchy-sub sat stn, SSFO (some bleeding), no odor Sh: red-brn, gry, grn LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. LS: crm-tan, fxl, sli sub chky-prtly dns, pr por, NS Sh: red-brn w/ some gry & grn Sh: red-brn, gry, grn Sh: A.A. LS: crm-tan, fxl, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS Sh: red-brn & gry-grn Calc Sh: lt gry-lt purple Calc Sh: A.A. w/ some red-brn Sh: red-brn, gry, grn Sh: red-brn & gry, some grn	DST