

# GRAND MESA OPERATING COMPANY

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

1700 N. WATERFRONT PARKWAY  
BLDG. 600  
WICHITA, KANSAS 67206-5514

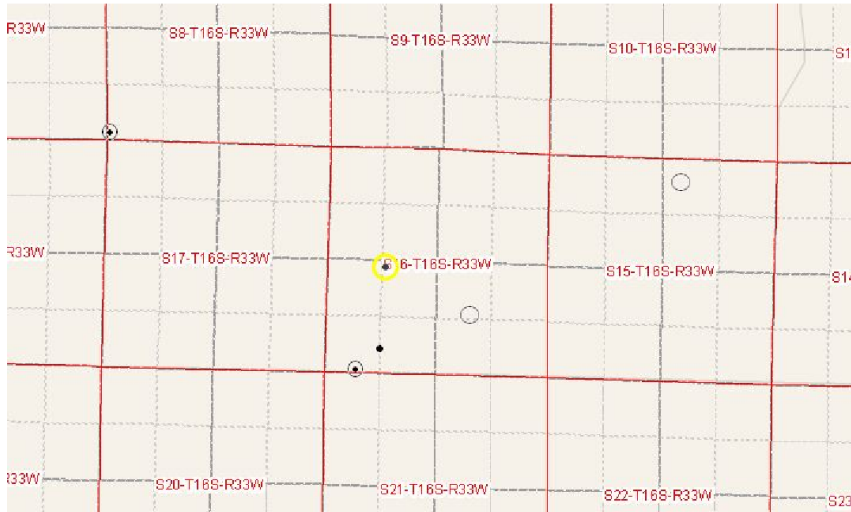
Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: #2-16 DBY  
 Location: 2466' FSL, 1390' FWL, 16-16s-33w, Scott County, Kansas  
 License Number: API: 15-171-20832      Region: Scott County  
 Spud Date: 09/08/2011      Drilling Completed: 09/21/2011  
 Surface Coordinates: Lat: 38.6628909  
 Long: -100.9759211  
 Bottom Hole Vertical hole  
 Coordinates:  
 Ground Elevation (ft): 3037'      K.B. Elevation (ft): 3048'  
 Logged Interval (ft): 3500' To: RTD      Total Depth (ft): 4850'  
 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: John Goldsmith  
 Company: John Goldsmith Wellsite Service  
 Address: 322 Greenwood Ct.  
 Cheney, KS 67025  
 316-640-0236



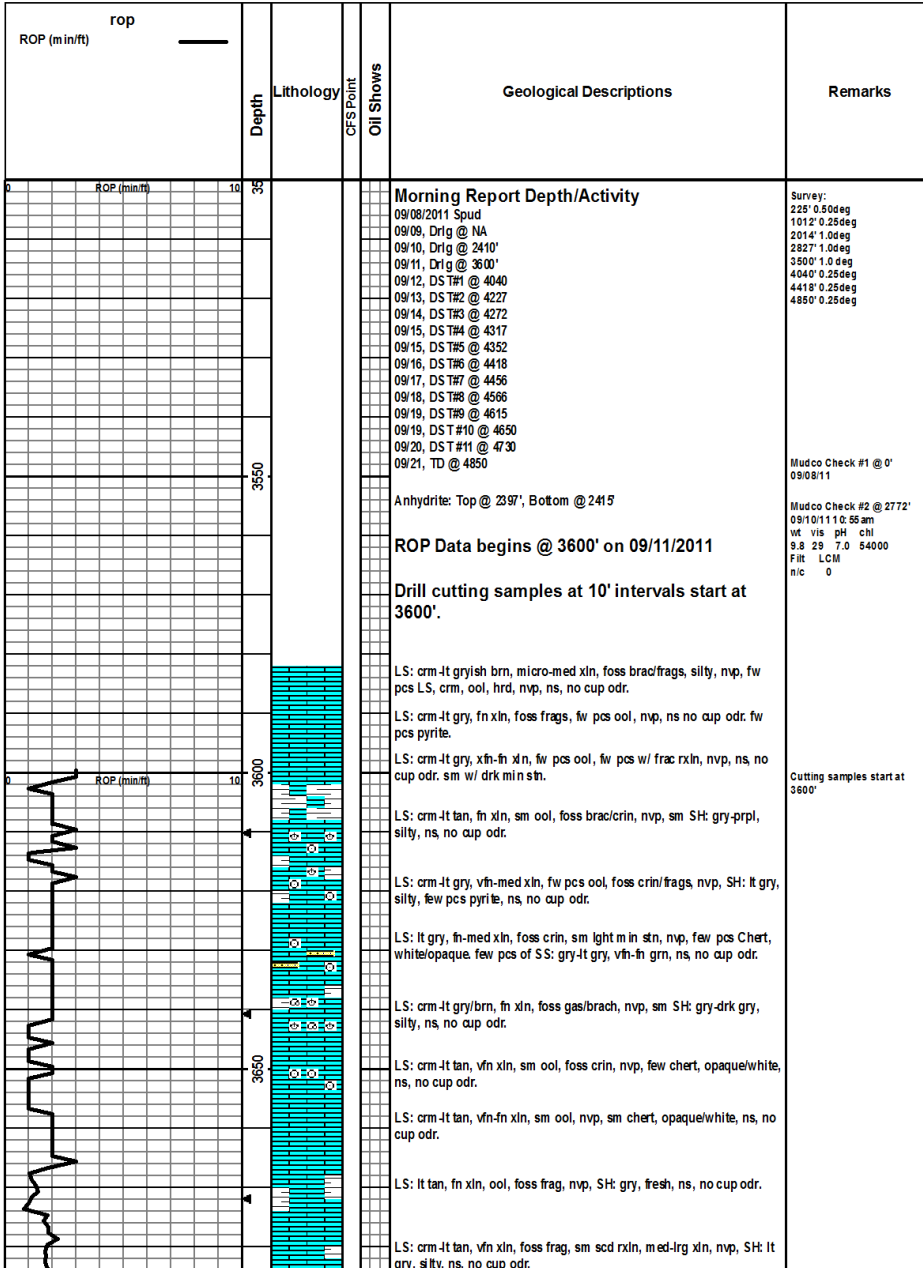
## COMMENTS

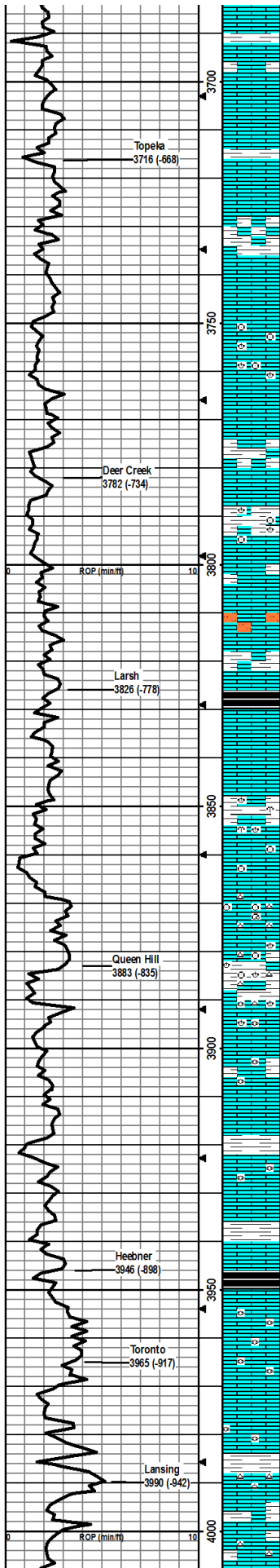
Contractor: Murfin Drilling Company Rig #22  
 Pusher: Kelly Wilson  
 Surface Casing: 8 5/8" set at 219' w/165sx  
 Production Casing: Production casing (5 1/2") was installed to RTD.  
 Mud by: MudCo  
 DST's by: Tribolite Testing  
 Logs by: Weatherford (DIL, CN-CD, ML, Imager)  
 RTD=4850'  
 LTD=4847'

## FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Stone Corral			2397'	651
Queen Hill	3881'	-833	3880'	-832
Heebner Shale	3946'	-898	3943'	-895

Toronto	3965'	-917	3962'	-914
Lansing	3990'	-942	3987'	-939
Muncie Creek Shale	4162'	-1113	4159'	-1111
Stark Shale	4250'	-1202	4248'	-1200
Hushpuckney Shale	4294'	-1246	4291'	-1243
Marmaton	4364'	-1317	4362'	-1314
Upper Fort Scott	4465'	-1417	4462'	-1414
Little Osage Shale	4499'	-1451	4496'	-1448
Excello Shale	4515'	-1467	4512'	-1464
Johnson Zone	4591'	-1543	4589'	-1541
Morrow	4656'	-1608	4653'	-1605
Mississippian	4738'	-1690	4736'	-1688
RTD	4850'	-1802		
LTD			4847'	-1799





SH: lt gry-brn, silty, soft, ns, no cup odr

LS: lt gry, vfn-fn xln, fw foss frag, nvp, sm SH lt gry-grn, silty, ns, no cup odr.

LS: lt gry, fn xln, dense/hard, nvp, ns, no cup odr.

SH: lt gry-grn, silty, soft, ns, no cup odr

LS: lt gry-sm cream, vfn xln, dense/hard, nvp, sm drk mineral stn, ns no cup odr.

LS: Crm-lt gry, vfn-fn xln, dense/hard, nvp, sm Intermixed SH lt gry, silty, ns, no cup odr.

LS: Crm-lt gry, vfn xln, dense/hard, nvp, ns, no cup odr.

LS: Lt gry-tan, fn xln, sm ool, foss crin, none-tr of inxln por, ns, no cup odr.

LS: Lt gry-tan, fn-med xln, sm ool, vry foss brach/crin, nvp, sm SH: lt brown-red, hard, ns, no cup odr.

LS: lt gry-tan, fn xln, fw pcs med-crs, various foss frags, nvp, ns, no cup odr

LS: lt gry, fn xln, dense/hard/equal, nvp, ns, no cup odr.

LS: lt tan-gry, fn xln, foss crin/brach, brittle-can crush, nvp, sm SH: gry, ns, no cup odr.

LS: gry, vfn-fn xln, dense/hard, nvp, few pcs of chalk, white-cr, vry soft, ns, no cup odr. sm SH gry, soft.

LS: gry-lt tan, fn xln, dense, fw ool pcs, nvp, sm Siltstone: brn, firm yet crushes, ns no cup odr.

LS: lt gry, fn xln, fw foss frags, nvp, ns, no cup odr. sm SH: lt gray, silty.

SH: drk gry, carb

LS: lt gry, fn xln, few foss frags, nvp, sm SH: red-brn, sm lt gry, silty, still somewhat hard.

LS: tan-lt gry, fn-med xln, foss brach/bryz, nvp, fw SH: red-brn, firm yet brittle. ns, no cup odr.

LS: crm-lt tan, fn-med xln, foss crini/var frags, hard, brittle, nvp, ns, no cup odr.

LS: crm-lt tan, fn-med xln, foss crin/gast, silted, hard, nvp, sm soft chalk, wht, sm Chert, gry, foss fus, ns, no cup odr.

LS: lt gry-tan, fn-med xln, foss brach/crin/var frags, hard, nvp, sm Chert, gry-opaque, foss, few SH: lt brn-red/lt gry, silty, ns, no cup odr.

LS: lt gry-tan, fn-med xln, foss brach/fus/frags, hard, nvp, fw Chert, gry, foss, ns no cup odr.

LS: crm-med brn, fn-med xln, foss fus/frags, mostly hard w/ some silty friable, some med-dk gry SH, nvp, no odor, ns.

LS: crm-med gryish brn, micro-fn xln, min foss frags, dense hard, nvp, no odor, ns.

SH: med greenish gry and gry, fissile

LS: lt gryish brn, fn-med xln, min foss fus/frags, silty, hard, nvp, no odor, ns.

LS: crm, micro-med xln, foss frags, hard, nvp, no odor, ns.

SH: med-dk gry/greenish gry/rd-brn, silty, fissile.

LS: crm-lt brn, fn xln, min foss frags, nvp, no odor, ns

SH: med-dk gry/blk, brittle, fissile.

LS: crm, fn-med xln, silty, foss fus/frags, ppt-fn intfoss por, no odor, ns.

Same as above.

LS: lt gryish brn, vry silty, friable, ppt-fn por, dk brn dead oil thk globs, w/ one pctray in stop and 30", and two pcs in 60" sm pl, no fluor, vry ssfo, vs cup odr in the 30" and slight odr in the 60" sm pl.

LS: lt gry-tan, fn-med xln, foss fus/frags, ppt-tr por. few pcs SH gry, silty, ns, no cup odr.

LS: crm-lt tan, fn xln, foss frags, hard, brittle, none-tr intfoss por. sm Chert, wh-opaque, ns, no cup odr.

LS: crm-lt tan, vfn xln, fw foss frags, hard brittle, nvp, few pcs Chert, wh-opaque, ns no cup odr. sm SH: gry-drk gry.

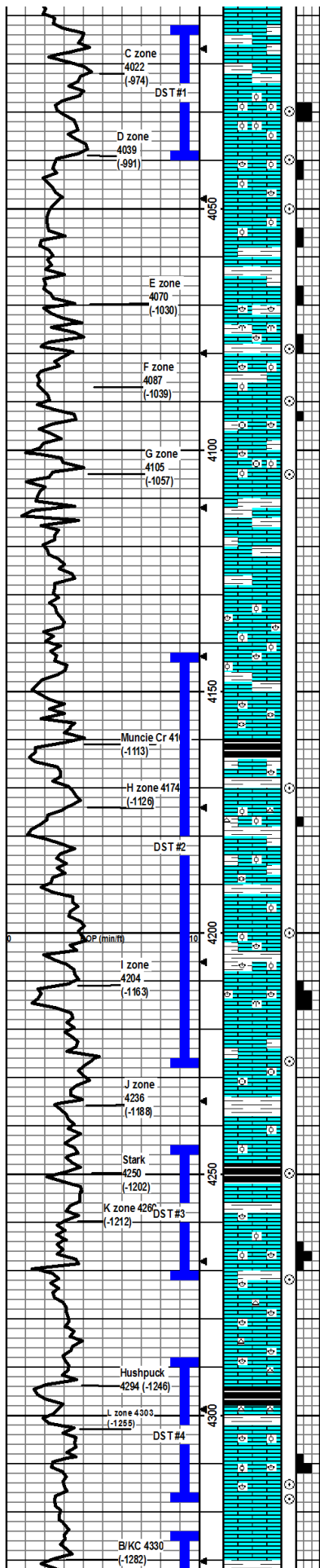
LS: crm-lt tan, fn xln, nvp, fw Chert wh-opaque, ns, no cup odr. fw SH: gry.

Mudco Check #3 @ 3707'  
 09/11/11 10:45am  
 wt vis pH chl  
 9.15 62 9.0 6300  
 Filt LCM  
 11.6 2

CF 5 @ 3980'  
 30" x 60"

DST1) 4012-4040

30/45/60/60  
 1st) Weak blow built to 3.5" in 30 min  
 2nd) Surface bubbles built to 5" in 60 min  
 IFP 42-73#  
 ISIP 1.01#



LS: crm-lt tan, vfn-fn xln, few mineral stns, does not cut, nvp, sm SH: gry, silty, ns, no cup odr.

Same as above. Driller stopped early to circulate at 4030 and 30" sample caught.

LS: lt tan, fn xln, v ool, gd int ool/foss por, hard yet brittle, gd sfo, 1-2 pcs in 4040" sample, sevrl pcs/tray in 30" and 60" sample, bright org fluor, cut strm pale blu, easy-med crush, gd cup odr.

LS: lt tan, med-crs xln, fw ool, foss brach/var, fn vug/nxn por, hard, brittle, sso 3-4 pcs/tray in 30" sample, dull yel fluor, slw cut pale blu, med crush, slight cup odr. 3-4 pcs/tray in 60" sample, dull yel-no fluor, no cut, med crush, no cup odr.

LS: lt tan-gry, fn xln, foss frags, fw ool, hard, tr of vug por, fw Chert: gry, SH: gry, silty, no cup odr, 1-2 pcs/tray of LS: dul yel fluor, cut slw strm pale blu, vsfo, had to crush to get it out.

SH: gry -grysh grn, silty, hard, fissile.

LS: tan-lt gry, med-crs xln, foss brach/bryz/frag, fn med intxn/ntfoss por, slight cup odr, fluor dul yel, cut stream pale blu, vsfo. SH: gry-grn, silty, fissile.

LS: crm-lt tan, xfn-fn xln, fw ool, foss frags, dense, vfn intxn-ntfoss por, vs cup odr, min dul yel fluor, slw cut pale blu, surf/intxn stn, nsfo. SH: gry-lt grn, fissile, med crush.

LS: crm-lt tan, fn xln, foss frags, dense, fn intxn/fw small vug por, vs cup odr, ss of do in frac, vsfo, dul yel fluor, slw cut pale blu.

LS: lt tan, fn-med xln, abun foss frags, fw ool, none-tr frac por, hard, no cup odr, ns.

LS: lt tan-gry, fn-med xln, fw foss frags, nvp, no cup odr, ns. SH: gry-lt grn, fissile.

LS: crm-lt tan, fn xln, foss frags, dense, brittle, nvp, no cup odr, ns. SH: gry, silty, fissile.

LS: lt tan, fn/med-crs xln, foss brach/frags, ool, dense, hard, nvp, no cup odr, ns.

LS: mostly as above, SH: gry/red-brn, firm to crush, silty, fissile.

SH: red-brn, gry, only fw pcs drk carb, fissile.

LS: crm-lt tan, fn-med xln, foss brach/fuss, sm ool, dense, brittle, ppt-tr intxn/intool por, no cup odr, ns. SH: gray, silty, fissile.

LS: gry-lt brn, fn xln, foss frags, v ool, dense hard, none-tr in foss por, dul yel fluor, little no cut pale blu, vsfo. Chert lt brn-gry. SH: red-brn/gry, fissile.

LS: gry-tan, fn xln, foss fust/frags, few ool, hard, none-tr intxn por, dul yel fluor, no cut, nsfo, do-mineral stns. SH: red-brn/gry-grn, silty, soft.

LS: tan-gry, fn-med xln, foss brach/frags, ool, hard, nvp, ns, no cup odr, SH: gry/red-brn, silty.

LS: crm-lt tan, fn-med xln, abun foss frags, gd intfoss/intxn por, brittle, gd sfo, vs cup odr, easy crush, dul yel fluor, stream cut pale blu. 30" min sample more show pcs, better odr, 60" sample less show pcs, SH: red-brn, med crush, fissile.

LS: tan-lt gray, micro-fn xln, foss arin/frags, tr-nvp, dense, hard, ns, no cup odr.

LS: lt gry, micro-fn xln, foss frags, few ool, tr-nvp, dense, ns, no cup odr.

SH: drk gry/blk, carb, fissile.

LS: crm-lt gry, fn xln, dense, brittle tr-nvp, ns, no cup odr. SH: red-brn/gry, silty.

LS: crm-lt tan, fn xln, tr fn-med intxn, foss brach/frags, few ool, slight cup odr, sfo, vry dul-no fluor, cut slw pale blu. few pcs in the stop smpl, more in 30", fw pcs in 60". 60" had SH: red-brn/gry, silty.

LS: wht/crm, fn xln, dense, hard, foss-brach/various, nvp, few pcs CHERT-gry, opaque, nvp, no cup odr, no fluor, nsfo.

SH: blk, carb.

LS: crm-lt tan, micro-fn xln, dense, foss/various, tr-nvp intxn, few pcs Chert-wh-gry, opaque, foss/various, nvp, no cup odr, no fluor, ns. SH: gry/red-brn, silty, fissile.

LS: tan-lt gry, fn xln, foss brach/various, fw ool, dense, tr-fr intxn por, dul yel/gold fluor, gd cup odr, stream cut pale blu. Sm pcs in the 1st circ 30" & 60", Similer in 2nd circ 30", 2nd circ 60" only few pcs.

LS: lt gry, fn xln, fw foss/various, dense hard, tr-nvp, no cup odr, ns, SH: gry, silty, fissile.

HP 2016-1907#  
 Recvd: 250' TF = 70' OVM,  
 180' MW

CFS @ 4030'  
 30"

CFS @ 4040'  
 30"/60"

Mudco Check #4 @ 4040'  
 09/12/11 11:30am  
 wt vis pH chl  
 9.15 49 9.5 4700  
 Fil LCM  
 10.0 3

CFS @ 4050'  
 30"/60"

CFS @ 4079'  
 30"/60"

CFS @ 4090'  
 30"/60"

CFS @ 4105'  
 30"/60"

CFS @ 4170'  
 30"/60"

**DST2) 4142-4227**  
 30456060  
 1st) Weak blow built to 10" in 30"  
 2nd) Surface bubbles built to bottom of bucket in 45"  
 I/P 45-144#  
 ISIP 1149# FFP  
 155-219# F S/P  
 1133#  
 HP 2102-1904#  
 Recvd: 60' of CO, 180' of SOI/M, 240' of MCW

CFS @ 4200'  
 30"/60"

Mudco Check #5 @ 4208'  
 09/13/11 9:30am  
 wt vis pH chl  
 9.36 56 10.4 8000  
 Fil LCM  
 10.4 3

CFS @ 4227'  
 30"/60"

Mudco Check #6 @ 4254'  
 09/14/11 06:45am  
 wt vis pH chl  
 9.3 53 10.5 8600  
 Fil LCM  
 8.0 4

CFS @ 4250'  
 30"/60"

**DST3) 4245-4272**  
 30454560  
 1st) Weak blow built to bottom of bucket in 24min  
 2nd) Surface bubbles built to bottom of bucket in 28min  
 I/P 24-158#  
 ISIP 1216# FFP  
 162-263# F S/P  
 1215#  
 HP 2151-21967#  
 Recvd: 540' MCW

CFS @ 4272'  
 30"/60"

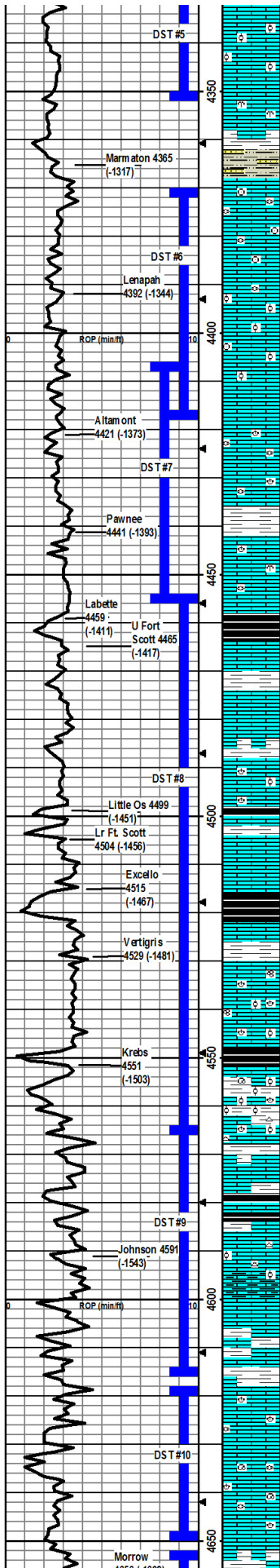
CFS @ 4314' 30"/60"

CFS @ 4317' 30"/60"

Mudco Check #7 @ 4317'  
 09/15/11 06:45am  
 wt vis pH chl  
 9.4 78 10.0 9600  
 Fil LCM  
 10.4 4

CFS @ 4318'  
 30"/60"

**DST4) 4288-4317**  
 30456060  
 1st) Fair blow built to bottom of bucket in 17"



LS: crm-It tan, fn-xln, fw foss, fw ool pcs, tr ppt-fn intbln/few intool por, slight cup odr, sso in ool pcs, vss/strn in ppt-fn intbln pcs, dul yel/gold flur, ool pcs stream cut pale blu, intxn pcs, slow cut pale blu, few pcs/tray of both in 30" sample. Very fw pcs in the 60" sample

LS: crm-It tan, fn xln, fw foss bryz/frags, tr-nvp, no cup odr, ns. SH gry/grm, silty, soft

SH: red-brn/sm gry, silty, soft. SS: gry, fn grm, arg, tr-intbln, ns, no cup odr.

LS: It tan, fn-med xln, foss crin/variou/frags, dense, hard, tr-nvp, no cup odr, ns.

LS: crm-It tan, fn xln, foss fuss/crin/frags, dense, brittle, tr-nvp, no cup odr, ns.

LS: crm-It tan, fn-med xln, foss various, sm ool, intfoss/ool por, sm intbln por, dul yel/gold flur, stream cut pale blu, sfo, slight cup odr. 4.6 pcs in the 4415' sample.

LS: crm-It tan, fn xln, foss various, sm ool, intfoss por, sm intbln por, dul yel flur, ool pcs stream cut pale blu/intxn pcs slow cut pale blu, sfo, slight cup odr, gas bub on brk, drk strn on frac facies. svrl pcs in 30" sample.

LS: It tan, fn xln, foss various, fw ool, tr intbln por, sm intfoss por, dense, brittle, sso 2-3 pcs/tray, dul yel flur, slow cut pale blu. slight cup odr. botbm, SH: gry, firm, fissile.

LS: tan, med-crs xln, foss fuss/variou, intfoss/gd intbln por, dul yel/gold flur, stream cut pale blu, fr cup odr, few gas bub on brk, fo does not brk well out of por, frsfo svrl pcs/tray.

SH: gry, fw red-brn, firm, fissile.

LS: It tan, med-crs xln, foss variou/frags, gd intbln por, dul yel/gold flur, stream cut pale blu, fr cup odr, fo does not brk well out of por, frsfo, svrl pcs in 30" sample, 4.5 pcs in 60" sample. Chert: wh-opaque, ool.

SH: blk/drck gry, carb, firm, fissile.

LS: crm-It tan, med xln, foss variou, tr intbln por, dense, brittle, sm chalky, no cup odr, ns. SH: gry, silty, fissile.

LS: It tan, med xln, foss fuss/variou/frags, fr intbln por, dense, sm chalky, slight cup odr, dul yel flur, no cut, hard to brk out of por, sso. Chert: wh-opaque, ool, sm strn in drys.

SH: gry-grm, silty, firm, fissile.

LS: crm-It tan, micro-fn xln, foss brach/frags, sm ool, tr-nvp, dense, sm secdry xln, no cup odr. ns. Chert: wh-opaque

SH: blk-drk gry, carb, firm, fissile.

LS: It tan, med xln, tr-fr intbln por, dense slight cup odr, dul yel flur, stream cut pale blu, hrd to brk out of por, sso.

SH: blk-drk gray, carb, firm fissile.

LS: It tan, micro-fn xln, foss brach/fuss/frags, sm ool, tr intbln/foss por, dense, no cup odr, ns. SH: gry/red-brn, silty, firm to brk, fissile.

LS: crm-It tan, micro-fn xln, vry foss variou/brach/foram, dense, hard, tr-ppt intbln por & face stns, sm intfoss por, vry slight cup odr, dul yel flur, stream cut pale blu, sso.

SH: blk-drk gry, fissile, firm to brk

LS: crm-It tan, fn-med xln, foss brach/gas/variou, vry ool, fr intbln/intool, slight cup odr, dul yel flur, stream cut pale blu, sso.

SH: gry-grm, sm red-brn, silty, fissile. few Chert: wh-opaque foss, ool.

LS: gry-It tan, fn-med xln, sm ool, tr intbln por, no cup odr, no fluor, ns.

SH: gry-grm, sm blk carb, silty, fissile.

SH: gry-grm, sm blk carb, soft, silty. LS: crm-It tan, fn xln, dense, hard, tr-nvp, no cup odr, ns. Chert: wh-opaque w/ sm drk min stns.

LS: It tan, med-crs xln, few pcs chalky, gd intbln por/sm ppt por on facies, slight cup odr, dul yel/gold flur, stream cut pale blu, sfo, SH: gry/ sm red-brn, silty, soft, few pcs Chert: gry/brn.

LS: It tan, fn-crs xln, secdry xln=crs, gd intbln por, slight cup odr, dul yel/gold flur, stream cut pale blu, sfo. sevrl pcs in the 30" smpl, crs pcs in 30" smpl, sm in 60" smple, all fn-med intbln por.

SH: gry-grm, silty, soft

LS: It tan, fn xln, fw foss brach/frags, tr intbln por, dense, hrd, no cup odr, ns

LS: It tan-gry, fn xln, fw foss, tr intbln por, sm gd vgr por, vsight cup odr, scat dul yel flur, stream cut pale blu, sso.

LS: It tan, fn xln, foss fuss/gas/variou, fr intbln por, vsight cup odr, dul yel flur, stream cut pale blu, 3-4 pcs in the 30" smple

LS: gry, micro-fn xln, fw foss brach/frags, dense, brittle, tr-nvp, no cup odr, ns.

SH: gry/red-brn, silty, gry pcs soft, red-brn firm to brk.

2nd) Fair blow built to bottom of bucket in 21"  
IFP 67-206#  
ISIP 1237#  
FFP 202-222# F SIP  
1224#  
HP 2240-1947#  
Recvd: 45' GIP, 15' GGO,  
240' GOWCM, 420' SGOMCW

CFS @ 4352'  
30"/60"

**DST5) 4324-4352**

30456090  
1st) BOB in 1"  
2nd) BOB in 1.25"  
IFP 468-872#  
ISIP 1208# FFP  
917-1092# F SIP  
1215#  
HP 2209-1999#  
Recvd: 1810' GO, 440' MGO,  
320' VMGO, 250' WGOCM

Mudco Check #8 @ 4398'  
09/16/11 08:15 am  
wt vis pH chl  
8.9 57 10.5 9000  
Filt LCM  
8.0 4

**DST6) 4370-4418**

30456090  
1st) BOB in 10"  
2nd) BOB in 9"  
IFP 52-123#  
ISIP 1030# FFP  
132-165# F SIP  
1058#  
HP 2226-1962#  
Recvd: 500' GIP, 308' of  
GOCM, 62' of MGO

CFS @ 4456'  
30"/60"

**DST7) 4406-4456**

30456090  
1st) BOB in 13"  
2nd) BOB in 12"  
IFP 47-74#  
ISIP 830# FFP  
77-106# F SIP 677#  
HP 2215-1956#  
Recvd: 560' GIP, 124' VMGO,  
64' GO, 62' OGCM

Mudco Check #9 @ 4456'  
09/17/11 07:45 am  
wt vis pH chl  
9.0 60 10.0 9400  
Filt LCM  
8.8 3

**DST8) 4456-4566**

300303030  
1st) WK surface blow  
2nd) WK surface blow died in  
6.5"  
IFP 41-34#  
ISIP 313# FFP  
40-35# F SIP 253#  
HP 2211-2090#  
Recvd: 20' Mud w oil spots

CFS @ 4532'  
30"

Mudco Check #10 @ 4566'  
09/18/11 07:45 am  
wt vis pH chl  
9.3 60 9.5 9200  
Filt LCM  
9.6 3

CFS @ 4568'  
30"/60"

**DST9) 4566-4615**

30456090  
1st) BOB in 6"  
2nd) Surface bubbles built to  
4"  
IFP 46-124#  
ISIP 1195# FFP  
115-180# F SIP  
1184#  
HP 2261-2130#  
Recvd: 1178' GIP, 114, GO,  
124' MGO, 240' GOCM

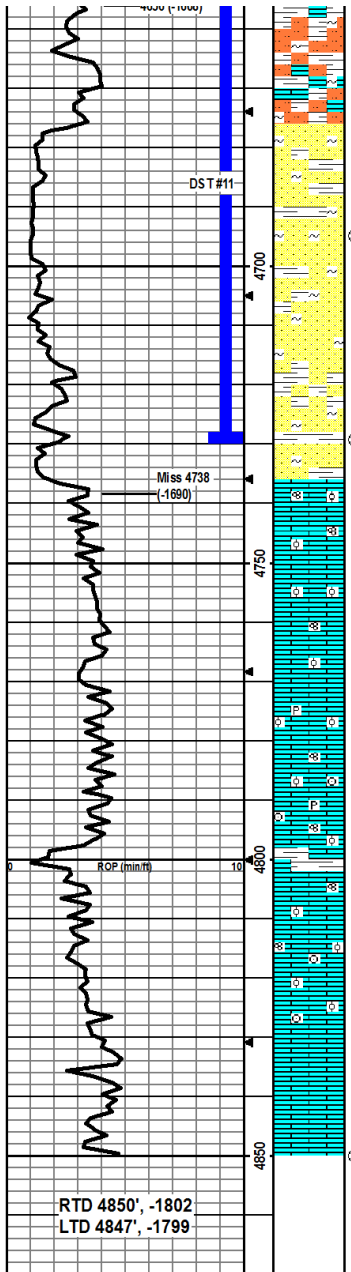
CFS @ 4615' 30"/60"

**DST10)  
4618-4650**

30456090  
1st) BOB in 10"  
2nd) BOB in 8"  
IFP 48-103#  
ISIP 1196# FFP  
126-178# F SIP  
1184#  
HP 2261-2130#  
Recvd: 490' MGO

CFS @ 4650'  
30"/60"

Mudco Check #11 @ 4650'  
09/19/11 08:30 am  
wt vis pH chl  
8.9 68 9.0 10200



SS: gry, fn grn, well sorted, sub-rnd, consol, silica cem, glauc, tr intgrn por, rare loose grns in tray, ns.

SS: lt brn, vfn grn, well sorted, rnded, vry friable, tr-nvp, arg, mny loose grns n tray, no cup odr, few tiny sps med brn fo in dimple dish on crush, rare drk dead oil stn in drys, wk pale blu cut, SH: gry/red-brn, silty, vry soft, sticky. abun LS: lt tan, micro-fn xin, abun glauc, hard, brittle, tr-nvp por.

SS: wh, vfn grn, well srt, semi-fri, glauc, tr intgrn por, ns, no odr, sm SS: gry, vfn grn, arg, soft, tr-nvp, ns, SH: oliv/gry, silty, soft.

SS: wh/gry, vfn grn, well srt, v glauc, hard-sam i-fri, tr-nvp, silica cem, no cup odr, fw tiny sps med brn fo in dimple dish on crush, wk pale blu cut, fw more loose grns than prev.

SS: as above, no cup odr, fw tiny drops of fo on brk. SH: much as above.

SS: as above, no cup odr, fw tiny drops, of fo on brk, SH: oliv/gry/red-brn, silty, sm soft, sm fissile.

LS: crm-lt tan, micro-fn xin, few pcs w/ crs secy xin, foss foram, gritty-sandy, vfn grns, dense, brittle tr-nvp, no cup odr, nsfo.

LS: crm-lt tan, fn xin, sm ool, gritty-sandy, fn grns, dense, tr-nvp, no cup odr, ns.

LS: crm-wht, fn xin, dense, sm uniform, sm v sandy, sm foss/ool, few pcs w/m in stn frac faces, does not cut, sm chert-gry, opaque-transl, foss, tr-nvp, no cup odr, ns.

LS: crm-wht, fn xin, dense, hard, mstly uniform, sm sandy, foss frags, sm ool, sm chert-gry, opaque transl, foss, tr-nvp, no cup odr, ns.

LS: crm-wht, fn xin, dense, brittle, sm uniform, sm sandy, foss crin/foram/frags, sm ool, tr-nvp, no cup odr, ns.

LS: crm-wht, fn xin, dense, sm sandy, foss various, ool, tr-nvp, no cup odr, ns. SH: gry-grn, silty, fissile.

LS: crm-lt tan, micro-fn xin, dense, silty, foss var/frags, sm ool, sm uniform, tr-nvp, no cup odr, ns.

LS: crm-lt tan, micro-fn ln, dense, sandy, foss crin/foram/frags, sm ool, tr-nvp, no cup odr, ns.

LS: crm-lt tan, fn xin, dense, sm sandy, foss various, sm ool, tr-nvp, no cup odr, ns.

LS: crm-lt tan, fn xin, dense, sm sandy, foss various, sm ool, tr-nvp, no cup odr, ns.

FIN LCM  
11.2 3

**DST11)**  
**4652-4730**

30455090  
1st) BOB in 9"  
2nd) BOB in 18.5"  
IFP 82-287#  
ISIP 1120# FFP  
284-449# F SIP 117#  
HP 2420-2135#  
Recvd: 927 MCWw spts of oil.

CFS @ 4694'  
30"60"

Mudco Check #12 @ 4730'  
09/20/11 08:45 am  
wt vis pH chl  
8.9 57 10.5 9400  
FIN LCM  
10.4 4

CFS @ 4730' 30"60"

RTD 4850', -1802  
LTD 4847', -1799