

**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: #1-25 G & M  
Location: 1050'FNL, 1290' FWL, 25-12S-32W, Logan County, Kansas  
License Number: API: 15-109-21074 Region: Wildcat  
Spud Date: 2-7-12 Drilling Completed: 2-15-2012  
Surface Coordinates: Lat: 38.98656  
Long: -100.8274152  
Bottom Hole Coordinates: Vertical hole  
Ground Elevation (ft): 3004 K.B. Elevation (ft): 3009  
Logged Interval (ft): 3600' To: RTD Total Depth (ft): 4710'  
Formation: Mississippian at RTD  
Type of Drilling Fluid: Chemical

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

**GEOLOGIST**

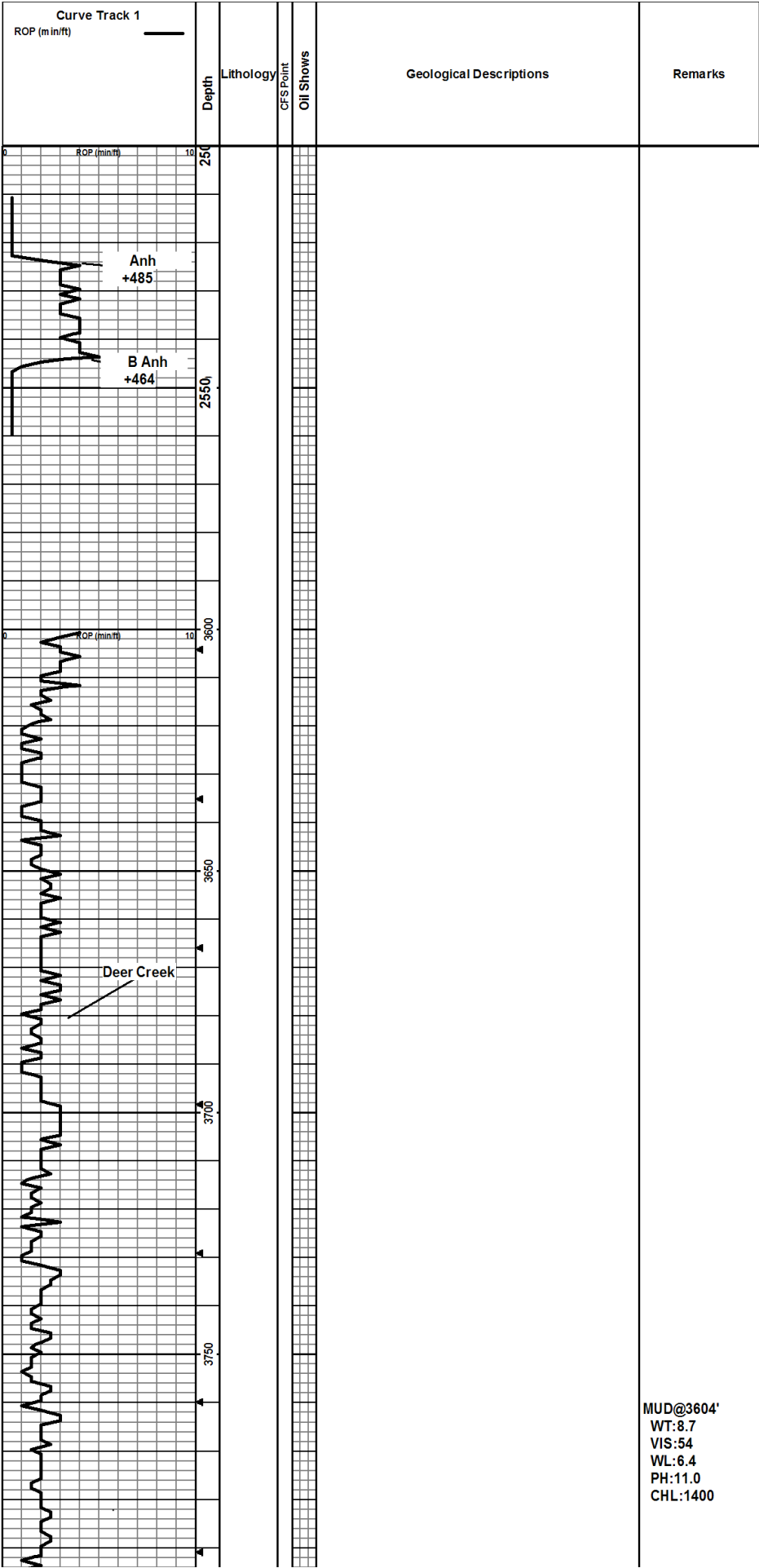
Name: Bob Schreiber  
Company: independent  
Address: 268 NE 220 Rd  
Hoisington, KS 67544  
620-653-7691

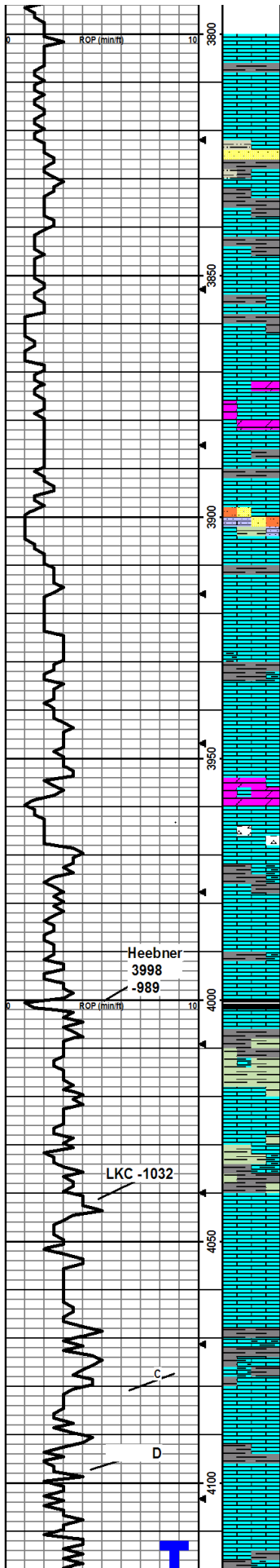
**COMMENTS**

Contractor: Murfin Drilling Company Rig #24  
Pusher: Tony Martin  
Surface Casing: 8 5/8" set at 224' w/165sx  
Production Casing: .5 1/2" set @ 4707'  
Mud by: MudCo  
DST's by: Testing Trilobite  
Logs by: Weatherford (DIL, CN-CD, ML,SONIC)  
RTD=4710'  
LTD=4709'

**FORMATION TOPS**

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Stone Corral	2524'	+485'	2522'	+487'
B/Stone Corral	2545'	+464'	2543'	+466'
Heebner Shale	4000'	-989'	3998'	-989'
Lansing	4041'	-1032'	4043'	-1034'
Muncie Creek Shale	4190'	-1181'	4188'	-1179'
Stark Shale	4271'	-1262'	4267'	-1258'
Hushpuckney Shale	4303'	-1294'	4302'	-1293'
BKC	4328'	-1319'	4328'	-1319'
Marmaton	4360'	-1351'	4364'	-1355'
Little Osage Shale	4493'	-1484'	4392'	-1483'
Excello Shale	4518'	-1509'	4516'	-1507'
Johnson Zone	4492'	-1583'	4490'	-1581'
Morrow	4513'	-1604'	4614'	-1605'
Mississippian	4627'	-1618'	4710'	-1618'
RTD	4710'	-1701'		
LTD			4709'	-1700'



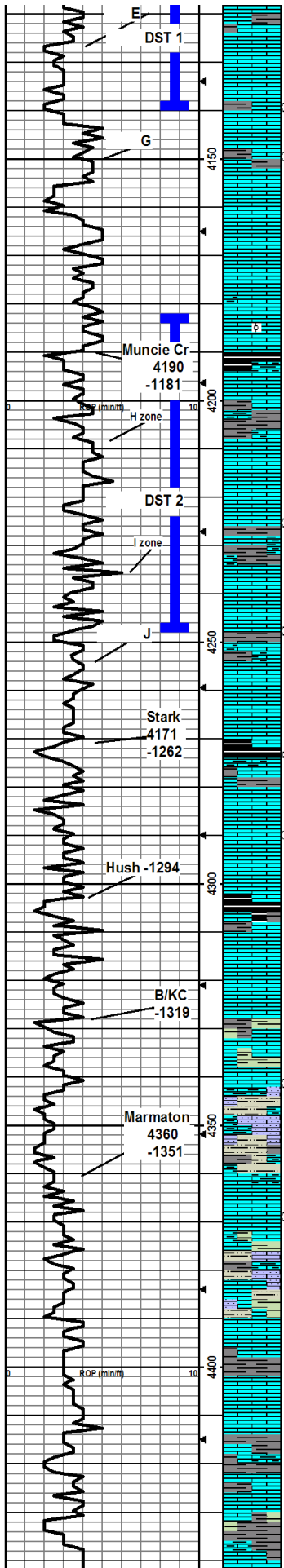


LS- crm - off wh, md hd -tr hd,fn xln,grny, foss( foram), ool ip, grd sfr  
 mod chiky, tr ool, NS  
 SH- dkr gy, mod ind, sli blkly  
 LS- crm - lt br, md hd- hd, vfn - fn xln, foss,ool ip, sli chiky ip, NS  
  
 SS- lt gy- crm, mod - sli ind,fn- vfn grn, stly ip, sli arg ip, tr sli foss/ sli  
 calc, NS  
 SH- gy- dkr gy, sli - m od ind, sli fss, sli foss w/ sme LS- tn- crm ip, m d  
 hd, vfn -fn xln, mod ool ip, tr foss ip, grd off wh, sft, v/ chiky, NS  
  
 SH- lt gy- gy, sli- mod ind, sli blkly  
 LS- crm - off wh, md hd, v/ fn- fn xln, ool ip, sli chiky, grd sfr, chiky, tr  
 gs bbl, NSO  
  
 LS- off wh, sft v/ chiky, NS  
  
 LS- lt br, m d hd, fn xln, foss ip, tr secxln, mod dol ip, NS  
  
 SH- blk- tr dk gy, sli - m od ind sli carb  
 LS- crm - tnt br- tr tnt gy, m d hd - hd ip, vfn xln, sme fn- m d secxln, sli  
 foss, tr ool, tr gas bbl, NSO  
 SS- v lt gy, mod ind, vfn grn, stly ip, sli calc, sli arg ip, NS  
 SH- lt rst/ br, sli ind, sli- mod sndy, fn- vfn grn, stly ip, NS  
 LS- crm - tr off wh, md hd- tr sfr, ool sli foss, sli chiky, tr pr vug-  
 fosscst por, tr spty/ prt stn md br, vsfo, fw pcs w/sli dd- ddoil, md br  
 -dkr br o  
  
 LS- crm - off wh ip, m d hd- hd, vfn- fn xlnip xln, tr ool, foss, sli dol, tr  
 secxln, tr pyr incl, NS  
  
 LS- crm - tnt br ip, md hd -tr hd, vfn - fn- tr m d xln, foss ip, sli ool, tr  
 blk res stn, NSO, w/ sme ls- off wh- crm, sfr- m d hd, fn xln, NS  
  
 LS- lt br- tr br, hd- m d md hd ip, tr sli frct, sli foss, tr secxln, NS  
  
 DOL- crm- lt br, m d hd- hd ip, fn xln, grd calc ip, sli foss ip,ool, dol, NS  
  
 LS- lt br - crm, hd - m d hd, v/ fn xln, foss ip, grd sfr ip, chiky, tr foss &  
 ool, NS, w/sme chrt- crm, frct sli foss NS  
  
 LS- crm - tnt br, hd- m d hd, v/ fn xln, foss ip, grd sfr ip chiky tr foss &  
 ool, NS  
 LS- crm - off wh, md hd- sfr ip, v/ fn xln, ool ip, grd mod chiky, sli arg  
 ip NS  
 SH- blk, sli- mod ind, sli fss, mod carb  
 LS- crm - lt br- tnt gy, m d hd, fn xln, sli foss, sli arg ip NS  
 SH- lt gy- rsty/ orng- tr mrr- tnt gr, sli- mod ind, mshy wet ip, w/ tr fn  
 grn sndy ls, lt gy, ls NS  
 LS- crm - off wh, m d hd, fn xln, ool ip foss ip, tr secxln, tr intrprtcl por,  
 tr prt sat, 1 pc sat, sme grd off wh, sft chiky/cly, ssfo, m d- m st dk br o,  
 sli dd- ddp, tr orng ool, tr foss, chrt, mott opq, tr stn on edg, no odr,  
 no flo  
 LS- crm, md hd- sli sfr ip, v/ fn xln, ool, grd off wh, v/ chiky sft, LS  
 NS  
 LS- crm, m d hd - tr hd, vfn xln, sli ool ip, sli chiky ip NS  
 LS- crm, m d hd- hd ip, vfn xln tr secxln, sli foss, tr ool ip, NS  
 SH- dk gy- rsty/ br, mod ind sli blkly, dull  
 SH- gy- rsty, sli- mod ip,  
 LS- crm - off wh ip, m d hd- sli sfr ip, vfn xln, ool ip, tr foss, secxln ip,  
 tr intrprtcl por, 1 pc stn/ vsfo, no odr  
 SH- lt gy -lt gr, mod - sli ind, sli wxy ip  
 LS- off wh- crm, md hd- tr hd, ool ip, sli chiky, grd sfr, mod chiky, NS  
  
 LS- crm, m d hd - hd ip, vfn xln, ool ip, foss ip (frmn), sli frct ip, NS,  
 grd off wh, sfr, chiky ip NS

**STRAP**  
 board 4165.58  
 strap 4166.87  
 strap long 1.29

**MUD@4075'**  
 WT:8.9  
 VIS:67  
 WL:5.6  
 PH:10.5  
 CHL:1500

**DST 1) E**  
 4113-4139'  
 30-45-45-60  
 1) 2" bl,  
 2) 2 1/2"  
 Rec:170' MCW  
 O top tool  
 IFP:21-65#  
 FFP:68-97#  
 SIP:1278-1260#  
 HP:2046-2025#



LS- crm - tnt br, md hd- hd-tr sfrtr, vfn xln, fn secxln ip, sli frct ip, fw pcs pr- fr vug por, sso, ft- md br o, sli dd- flky ip, tr wk flo, sli slw fr-sli gd cut, fr- mod gd odr

LS- crm - tnt br ip, md hd- hd ip- tr sfrtr, vfn xln, sli frct ip, sli foss ip, tr sli ool, 2 pcs stn- prt sat, 1 pc so, sli flmy, w/ pr vug por

SH- gy- dkr gy, sli ind, sli wxy ip, v/ sli wxy ip

LS- crm - tnt br ip, md hd- hd ip, vfn- fn xln, sli grny ip, ool, sli foss ip, sli chky ip, NS, grd LS- of wh, mod chky, sfrtr, NS

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

LS- crm - tnt gy, md hd -hd, vfn xln, tr sli frct, tr sli chky NS

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

LS- crm- lt br, vfn- fn xln, sli ool, tr pr oocst- vug por, fr odr, 3-4 pcs flmy ltr oil, ? vsso, tr wk flo LS- crm, md hd, fn xln, fn ool, grny, pr introol por, fr- gd odr, vsso lt br- tr md br lwr grv ool, tr wk flo, tr wk- fr sli slw cut

SH- dk gy- blk ip, sli- mod ind, sli carb ip

LS- crm- off wh, md hd- tr hd-tr sfrtr, vfn xln, sli- mod chky ip, foss ip, tr secxln, tr stn- prt sat, (2 pcs, chky, so lwr grv, (3 pcs no chlk, lt br stn -mst sat, introol por, wk- fr cut, sso)

LS- crm, md hd, sli chky ip, tr prt stn, ?nso, wisme ls- lt br- tnt gy, hd -dms ip, tr frct, NS

SH- gy- tnt gr, sli- mod ind, stly/ sndy ip

LS- crm, md hd- hd ip, vfn xln, tr frct, fn ool, tr frm n, 1 pc sfo, no vis por, grd sli chky, off wh, sli ool ip, 2 pc edg stn, vsso, sli lwr grv no odr

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

SH- lt gy- gy- tnt gr, sli- mod ind, sli blk, stly- sli wxy ip

LS- crm - tr lt br, md hd- hd, vfn xln, tr foss, fn secxln ip, sli ool ip, tr frct, v/ sli chky ip, tr edg stn, ? fo, tr pr vug- sli oocst- intrprct por, tr stn- prt sat, vsso, md br, sli lwr grv, vss sli dd o, no odr/ fr odr bst smpl w/ sme ls- grd off wh sli sfrtr, sli chky, 1 pc so ? abv

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

LS- lt br- br, hd, vfn xln, foss ip, NS

LS- crm - off wh, md hd, vfn xln, v/ sli chky, fn ool ip, tr introol por, tr stn- intrprct sli sat, vsso lwr grv, tr flky sli dd ool, / 1 pc sli shky sli oocst wk cut, wk- fr flo, sli ddo, grd off wh, sfrtr, chky, is NS

LS- 2-3 pcs, v/ lt gy, md hd, vfn xln, ool, oocst por, sfo, sli lwr grv, 2 pcs lt br sli grny, lt o, no flo,

LS- crm- off wh, md hd- hd ip, vfn xln, ool ip, grd sfrtr chky, 1-2 pcs, fr flo, flmy o, sli vug por

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

LS- lt br- br, md hd- hd, vfn xln, tr sli chky, tr frct, ool ip NS

LS- crm - tnt br & gy ip, md hd- hd ip, tr sfrtr, vfn xln- fn xln, tr frct, mod ool ip, sli foss, grd sli chky ip, NS

LS- crm - tnt gy, hd md hd, vfn xln, fn ool ip, frct ip, NS

SH- gy- dkr gy, mod ind, & sme sh- lt gy- lt gr- lt br- rsty- mott ip, sft wet ip, sli ind

LS- crm, md hd, vfn xln, tr ool, chky ip, grd stly/ sndy ip NS

LS- rsty- crm- tnt gy, md hd, vfn xln, tr ool, sli chky, grd sh- pale rsty, mod hd- sfrtr ip, stly/ sndy, sli calc w/ sme sh- lt gr- gy, sli ind, wxy ip

SH- lt gy- gy- tnt gr- rst, mod ind, blk- splntry ip, sli dull, grd to pale rst, sli mod calc, stly ip

LS- crm - mott lt br ip, md hd- hd ip, vfn xln, frct ip, sli chky ip, tr ool, sli foss NS

LS- crm - tnt br ip, hd, vfn xln, sli subchky, foss, sli secxln ip, ool ip, NS

LS- crm - tnt br, hd, vfn xln, tr ool, grd off wh, sfrtr chky is NS, w/ sme sh- rsty- tnt org ip, mod ind sli stly ip

LS- rsty, hd fn xln, sli frct, arg, grd calc, mod ind, blk rsty sh, w/ intrbd, ls- crm, hd, bl/ fn xln, frct ip, ool ip NS

LS- crm - tnt gy - mott/veins rsty/ mrm, md hd- hd, fn xln, sli frct sli arg ip, tr gs bbl, sme yel hd fn xln is, NS

SH- gy - tnt prpl ip, mod ind blk, w/ tr blk carb, sli fess sh

LS- crm, md hd- hd, vfn xln, sli chky ip, sli foss, sli frct ip, NS

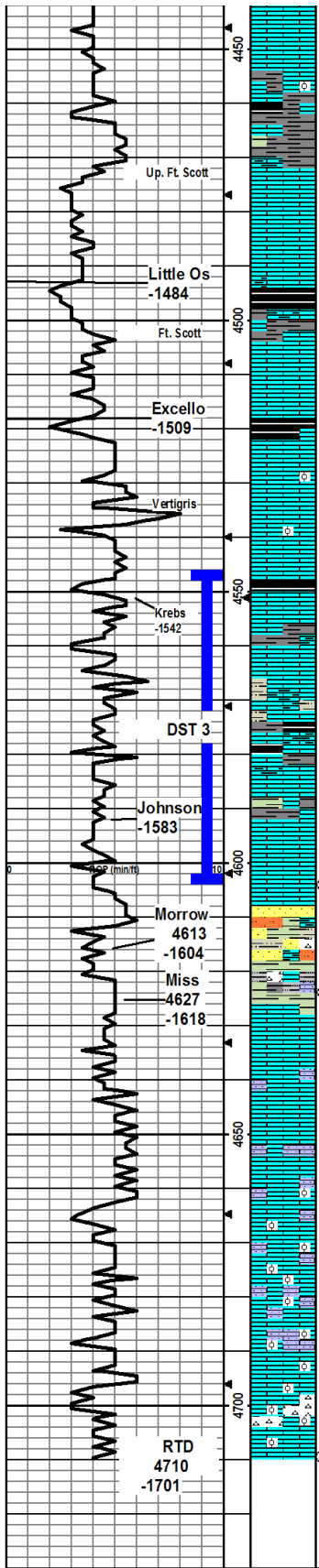
SH- gy- lt gy- tnt gr ip, mod ind, sli grny ip, sli- mod lmy ip, tr frct, tr arg gy ls, NS

CHL: 63,000  
BHT: 115 deg

MUD@4149  
WT: 9.1  
VIS: 58  
WL: 6.4  
PH: 10.5  
CHL: 2500

DST 2) H & I  
4182-4248'  
1) 2" blw, no bb  
2) 4.5" blw, srf bb  
Rec: 110' GIP  
190' OCM  
15% g, 35% o  
.50% m  
IFP 40-88#  
FFP 91-116#  
SIP 1336-1329#  
HP 2053-2026#  
BHT 111 deg

MUD@ 4270'  
WT: 9.2  
VIS: 54  
WL: 7.2  
PH: 10.0  
CHL: 2400



LS- lt br - crm, hd- md hd, v fn xln, mod ool ip, sli foss, tr pr introol por, fnt odr, tr prt stn, vsso md - dk br oil, sli dd ip, grd to crm, sli sfr, sli chky sli foss ip, NS

SH- gy- lt gy ip w/ tnt gr ip, sli - mod ind, sli fiss ip

LS- crm - tnt br, md hd- hd, v fn xln, oo ip tr frct, 3 pc mod tt, vsso, sli dd p, lwr grv dkr br oil, w/ sme chrt

LS- crm - lt br, md hd- hd, sli frct, sli chky ip, tr ool, NS

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

LS- lt br - crm ip- tr mott ip, hd, v fn xln, foss ip sli ool ip, NS

LS- crm - tnt gy & br ip, hd- md hd ip, micro xln, mod ool ip, tr imbd pyr, grd v sli - sli chky ip, crm ls, NS

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

LS- crm - tnt gy ip, hd, micro xln tr sli foss, tr sli frct NS, w/ tr lt br - gy chrt, micro foss frsh, NS

LS- lt br - crm ip, hd, vfn xln, grd to off wh sfr, sli chky ls, NS, w/ sme lt br- br, frsh, shrp, chrt, NS

LS- lt br - lt gy - gy- mott crm ip, hd, v fn xln, sli frct ip, foss ip, fnt odr, NSO w/ 1 pc lt br, ool sfo, sli shwr, no flo, fr odr bst smpl, ? in place

LS- lt - crm, hd, v fn xln, sli foss NS, grd off wh, sli- mod chky sfr, NS

LS- lt br - crm, md hd- hd, vfn xln, sli foss, sli chky ip NS

SH- dk gy- gy- tr blk, sli- mod ind, sli wxy- sli vit, sli fiss ip

LS- lt br, hd dns, vfn xln, fn foss ip, sli frct NS

SH- lt gy- gy- tnt gr, sli- mod ind, sly ip

LS- lt br - br, hd -tr md hd, microxin sli frct, tr foss tr msty pr -(1-2 pcs) fossct- vug por, fw pcs prt dk brn stn- 2 pcs dk br- br sat, no flo, fnt odr, vs- sfo sli dd, prt dd oil, tr fr- gd cut, grd crm - off wh, sfr sli chky, tr stn ls

LS- lt br, hd, vfn xln sli foss, frct ip tr secxln, 1-2 pcs sfo

SS- off wh, mod ind, fn- vfn grn, w srt, no flo, tr gs bbl, NSO, w/ sme sh- yel- lt gr- tr mrn, sli mod ind, blk ip, wxy ip ?

SH- yel- mott gr ip, sli- mod ind, fn grn sndy ip w/ sme ss- mod chn, mod ind, fn grn, ? fn semi clr drpits oil, no flo, fo odr

LS- crm - tn, hd- dns, microxin, tr sli frct ip, sm th, grd yel/ sli arg, grd sli- mod calc, well ind sh, w/ tr off wh- crm, md hd- hd, sli chky, sli ool fn grn sndy NS

LS- crm - tn- tnt yel, hd, micro- vfn xln, frct ip, w/ intrbd off wh ip, sli chky, md hd- hd, fn xln, NS

LS- lt br, hd dns, microxin, tr fn secxln, tr ool tr grd crm, mod ool ip, tr sli sndy, sli chky ip, ls, NS

LS- lt br, hd, v fn xln, mod- vool ip, tr glauc, grd crm, md hd, fn xln ool, tr fn grn snd, sli tr mod chky, no odr, no flo, tr gs bbl, NS

LS- crm - tnt br- off wh, md hd- hd, vfn- fn ip xln, sli chky ip, tr mod - sme v sli- sli fn grn sndy, mod- tr vool, NS

LS- crm - off whip, hd- md hd ip, vfn- fn xln, subchky ip sndy, sli- mod ool no flo, tr gs bbl, NSO w/ sme sh- gy- dkr gy ip tr tnt gr, mod- w/ ind, blk, dull ip

LS- v lt br, hd- tr md hd, v fn xln ool ip, sli foss, NS w/ sme chrt- off wh - crm, mott ip, sli foss, ool, shrp, frct NS

MUD @4572'  
 WT:9.2  
 VIS:53  
 WL: 4.8  
 PH: 11.0  
 CHL: 2000

DST5) Johnson  
 4547-4604  
 30-45-60-90  
 1st) BOB 4"  
 Sl ) BOB 34  
 2nd) BOB 4"  
 Sl ) 5" blw Rec:  
 820' gip  
 1770' gsmco  
 30% g, 65% o  
 120' gmco  
 25% g, 40% o  
 IFP: 96-411#  
 FFP: 418-747#  
 SIP: 113-1094#  
 HP: 2286-2236#  
 BHT: 129deg

MUD @4624'  
 WT:9.3  
 VIS:53  
 WL: 6.4  
 PH: 10.5  
 CHL: 3000