GRAND MESA OPERATING COMPANY

(316) 265-3000
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1700 N. WATERFRONT PARKWAY
BLDG. 600
WICHITA, KANSAS 67206-5514

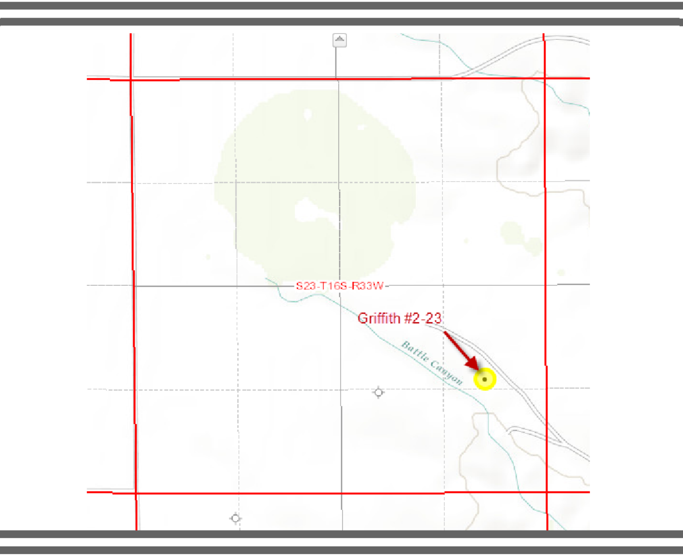
Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name:	Griffith #2-23
Location:	1429' FSL, 775' FEL, 23-16S-33W, Scott County, Kansas
License Number:	API: 15-171-20988
Region:	Scott County
Spud Date:	10/04/2013
Drilling Completed:	10/17/2013
Surface Coordinates:	Lat: 38.6454293 Long: -100.9283027
Bottom Hole Coordinates:	Vertical hole
Ground Elevation (ft):	2969'
K.B. Elevation (ft):	2978'
Logged Interval (ft):	3700' To: RTD
Total Depth (ft):	4810'
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: Kent R. Matson
Company: Matson Geological Services, LLC
Address: 33300 W. 15th Street S.
Garden Plain, Kansas 67050
316-644-1975



COMMENTS

Contractor: Duke Drilling Rig #4.
Pusher: Rich Wheeler.
Surface Casing: 8 5/8" set at 210' (KB) w/170sx cement.
Production Casing: Based on field observations of drill cuttings, DST results and electric log review, production casing (5.5") was installed to further evaluate potential oil production.
Mud by: MudCo.
DST's by: Diamond Testing - Tim Venters.
Logs by: Weatherford (DIL w/SP, CN-CD, ML).
RTD= 4810'.
LTD= 4814'.

FORMATION TOPS

FORMATION	SAMPLE TOPS Depth	SAMPLE TOPS Datum	LOG TOPS Depth	LOG TOPS Datum
Queen Hill	3824'	-846	3829'	-851
Heebner Shale	3888'	-910	3890'	-912
Toronto	3908'	-930	3909'	-931
Lansing	3927'	-949	3931'	-953
Muncie Creek Shale	4103'	-1125	4106'	-1128
Stark Shale	4198'	-1220	4200'	-1222
Hushpuckney Shale	4244'	-1266	4248'	-1270
Marmaton	4317'	-1339	4320'	-1342
Upper Fort Scott	4416'	-1438	4417'	-1439
Little Osage Shale	4439'	-1461	4442'	-1464
Excello Shale	4455'	-1477	4458'	-1480
Johnson Zone	4526'	-1548	4528'	-1550
Morrow	4582'	-1604	4586'	-1608
Mississippian	4613'	-1635	4617'	-1639
RTD	4810'	-1832		
LTD			4814'	-1836

rop ROP (min/ft)	Depth	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks

Geological Descriptions

Morning Report Depth/Activity
10/04/2013, Spud
10/05, drill @ 378'.
10/06, drill @ 1461'.
10/07, drill @ 2808', stuck @ 2088'.
10/08, unstuck @ 08:15 am.
10/09, drill @ 3398'.
10/10, Short trip for DST1 @ 3940'.
10/11, DST#2 @ 3988'.
10/12, DST#3 @ 4029'.
10/13, DST#4 @ 4195'.
10/14, drill @ 4285'.
10/15, DST#6 @ 4410'.
10/16, DST#7 @ 4550'.
10/17, Bit Trip @ 4680', TD @ 4810'.
10/18, DST#8 (K-zone Straddle Test).

Anhydrite: Top @ 2327', Botton @ 2345'

ROP Data begins @ 3500' on 10/09/2013

Drill cutting samples at 10' intervals start at 3700'.

LS: crm/lt brn/lt gry, micro-fn xtal, some foss frags, vry silty, some chalky, min frac por, ns.

LS: crm-lt brn, micro-med xtal, foss frags, vry silty, some stly chalky, min in-xtal/frac por, ns.

LS: crm-lt brn/lt-med gry, micro-med xtal, some foss frags, vry silty, min in-xtal por, ns.

LS: crm-lt gryish brn, micro-fn xtal, some foss frags, vry silty, min in-xtal por, ns.

LS: crm-lt-med brn/lt-med gry, micro-fn xtal, min foss frags, vry silty, min in-xtal por, ns.

LS: lt brn/gry, micro-med xtal, foss frags/ool, vry silty, min ppt-fn in-xtal por, ns.

LS: crm/lt brn, micro-fn xtal, foss frags/fusln/ool, vry silty, wht/lt brn chert, ppt-fn in-xtal por, ns.

LS: crm/lt brn, micro-fn xtal, foss frags, vry silty, min ppt in-xtal/frac por, ns.

LS: crm/lt brn/gry, micro-med xtal, foss frags/fusln/some ool, some vry silty, ppt-fn in-xtal por w/ppt-med in-ool por, ns; some dk brn/dk gry/blk, silty, carb, firm SH, ns.

LS: crm-lt-med brn/gry, micro-med xtal w/min 2ndry crs xtal, foss frags/fusln, some vry silty, min pyritic, min frac por, ns

LS: crm/lt brn/lt gry, micro-med xtal, foss frags/fusln, vry silty, min ppt-fn in-xtal por, ns.

LS: crm/lt-med brn, micro-med xtal, foss frag/fusln/crin, some vry silty, min ppt-fn in-xtal por, ns.

LS: crm/lt brn, micro-med xtal, foss frags/fusln, some vry silty, wht/lt brn chert, no vis por, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags/fusln, some vry silty, no vis por, ns.

LS: crm/lt brn/gryish brn, micro-med xtal, foss frags/fusln/fn ool, some vry silty, min ppt-fn in-xtal por, ns; some Blk carb SH.

LS: crm/lt brn/lt gry, micro-fn xtal, min foss frags, some silty, min ppt-med in-xtal por, ns.

LS: crm/lt brn/lt gry, micro-fn xtal, min foss frags, vry silty, min lt gry chert, min ppt in-xtal por, ns.

LS: crm/lt brn/lt gryish brn, micro-med xtal, some foss frags/fusln, some silty, min lt gry chert, min ppt in-xtal por, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags/fusln, some vry silty, min lt gry chert, min ppt in-xtal por, ns.

LS: lt brn/lt gryish brn, micro-med xtal, min foss frags/fusln, some vry silty, some wht chert, min ppt-fn in-xtal por, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags/fusln, some vry silty, min ppt-fn in-xtal por, ns.

SH: dk gry-blk, carb, silty, firm, fissile.

LS: crm/lt brn, micro-fn xtal, min foss frags, some vry silty, some ppt-fn in-xtal por, ns.

LS: crm/lt-med brn, micro-fn xtal, foss frags/fusln, vry silty, min ppt in-xtal por, ns.

LS: wht/crm, micro-med xtal, foss frags/fusln, abund wht chert, 16 pcs w/ppt-med in-xtal por w/sfo, yel flor/cut, odor but from spotted oil when stuck, gsfo.

LS: crm/lt brn/lt gry, micro-fn xtal, foss frags/fusln/ool, wht chert, 8 pcs w/ppt-med in-xtal/oo-castic por w/sfo, yel flor/cut, spotted oil odor, gsfo.

LS: crm/lt brn, micro-med xtal, foss frags/ool, some chalky, ppt-crs in-xtal/ool-castic por, yel flor/cut, 68 pcs in 30" min and 47 pcs in 60" smpl w/sfo, vgsfo.

LS: crm/lt gry, micro-fn xtal, min foss frags, min frac por, ns.

LS: crm/lt brn/lt gry, micro-fn xtal, min foss frags/fusln, min frac por, some chalky, 1 pcs w/ppt-fn in-xtal por w/sfo (poss from above), vssfo.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags/fusln/crin/abund ool, some wht soft chalky pcs, some pyritic, wht chert, 5 pcs in 30 min and 4 pcs in 60 min smpls w/ppt-fn in-xtal/in-ool/castic por w/sfo, yel flor/cut, gsfo.

LS: crm, micro-fn xtal, min foss frags, some vry silty, some wht soft chalky pcs, wht chert, min pyritic, some ppt-med in-xtal por, 1 pcs w/ppt-med in-xtal por w/sfo, vssfo.

LS: crm/lt brn, micro-fn xtal, min foss frags, some vry silty, some chalky, some wht chert, some ppt-med in-xtal por, 1 pce in 30 min smpl w/ppt-fn in-xtal por w/sfo, vssfo.

LS: wht/crm/lt brn, micro-fn xtal, foss frags/min ool, min pyritic, some vry chalky, min ppt-fn in-xtal por, 1 pce w/sfo, no flor but yel cut, vssfo.

LS: crm/lt gry, micro-med xtal, some foss frags/min dense ool, some vry silty/sndy, some chalky, stly pyritic, ppt-med in-xtal por, ns.

SH: med gry/greenish gry/brn, silty, stly carb, soft-firm.

LS: crm/lt brn, micro-fn xtal, min foss frags, some silty, some chalky chrushes easily, 38 pcs w/ppt-med in-xtal por, yel flor/cut, vgsfo.

LS: crm/lt brn, micro-med xtal, foss frags/abund ool, some vry chalky chushes easily, ppt-fn in-xtal por, 4 pcs w/sfo in 30 min and 2 pcs in 60 min smpl, yel flor/cut, sfo.

LS: crm/lt brn, micro-fn xtal, min foss frags, some stly sndy, some stly chalky, wht/lt gry chert, min frac por, no odor, ns.

LS: crm/lt brn, micro-fn w/some 2ndry med xtal, min foss frags, some silty, wht/lt gry/lt brn chert, some ppt-med in-xtal por, no odor, ns.

LS: crm/lt brn, micro-med xtal, abund ool, ppt-fn in-xtal por, and med-crs oo-castic por, no odor, ns.

LS: crm/lt brn, micro-fn xtal, min foss frags, some silty, wht/lt gry chert, min frac por, no odor, ns.

LS: crm/lt gry, micro-fn xtal, some foss frags/some dense ool pcs, min frac por, no odor, ns.

LS: crm, micro-fn w/some med xtal, foss frags, some silty/sndy, wht chert, some chalky, min ppt-fn in-xtal/frac por, no odor, ns.

LS: crm/lt gry, micro-fn xtal, min foss frags, min wht chert, min frac por, no odor, ns.

SH: blk, silty, stly carb, firm, fissile.

LS: crm/lt-med brn, micro-med xtal w/2ndry xtal, some pyritic, min wht chert, foss frags/brac, min frac por, ns.

LS: crm/lt gry/brn, micro-fn w/some med xtal, foss frags w/some fn dense ool, min wht chert, some ppt-fn in-xtal/oo castic por, no odor, ns.

LS: crm, micro-fn xtal, min foss frags, some vry silty/sndy, wht chert, ppt in-xtal por, no odor, ns.

LS: crm/lt gry, micro-fn xtal, min foss frags w/some ool, some sndy, some wht chert, min ppt-fn in-xtal por, no odor, ns.

LS: med-dk brn, micro-fn xtal, min foss frags, min frac por, no odor, ns.

SH: med-dk gry, vry silty, carb, firm, fissile.

LS: lt-med brn/gry, micro-med xtal, min foss frags, min pyritic, min frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags/fusln, 37 pcs w/ppt-med in-xtal por w/sfo, gd cup odor, dul yel flor/cut, gsfo.

LS: crm/lt-med brn/gry, micro-med xtal, foss frags/fusln, some vry sndy, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-med xtal w/2ndry xtal, foss frags w/some dense ool, some vry silty/sndy, stly pyritic, ool wht chert, frac por w/min ppt-fn in-xtal por, no odor, ns.

SH: blk, stly carb, silty, firm, brittle, fissile.

LS: lt-med brn/lt gry, micro-med w/2ndry xtal, min foss frags/fusln/algae, stly silty, some wht/lt brn chert, min frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags/abund ool, 77 pcs in 30 min and 60 pcs in 60 min smpls w/fn-crs/vug in-xtal/oo-castic por, oil floating in cup, dul yel flor, stg cup odor, vgsfo.

LS: crm/lt brn, micro-med xtal, foss frags, some chalky, wht chert, min frac por, no odor, ns, (4 pcs of sfo assume from above).

LS: crm-lt brn/lt gry, micro-fn xtal, min foss frags, wht chert, some silty, min ppt in-xtal por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-med xtal, foss frags, some silty, some chalky, min ppt in-xtal por, no odor, ns.

SH: blk, stly carb, silty, firm, brittle, fissile.

LS: crm/lt-med brn/lt gry, micro-med xtal, foss frags, some vry silty/sndy, some chalky, min wht chert, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-med xtal, foss frags, some silty/sndy, wht chert, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags/fusln/brac, some silty/sndy, wht/lt gry chert, some ppt in-xtal/frac por, no odor, ns.

SH: lt-dk gry/red brn, stly carb, silty, soft-firm.

LS: crm/lt-med brn/lt gry, micro-med xtal, frags, some vry silty/sndy, wht chert, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags/fusln/crin, some silty, min pyritic, wht/lt brn chert, min frac por, no odor, ns.

SH/SS mix: SS is lt gry/lt brn, pred qtz, vw sorted, f-vf, friable, carb matrix; SH is lt-med gry/red brn/greenish gry, vry silty, carb, soft-firm; no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags/crin, vry silty, some chalky pcs, min lt gry chert, min ppt in-xtal por, no odor, ns.

SH: lt-med gry/gryish brn/lt gryish green, vry silty/sndy, carb, soft-firm, fissile.

LS: crm/lt brn, micro-med xtal, some foss frags, vry silty, frac por, no odor, ns.

LS: crm/lt brn/dk gry, micro-med xtal, foss frags/crin, some silty, min frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags/fusln/min ool, mostly dense w/2 pcs w/ppt-med in-xtal/in-ool por w/sfo, dul yel flor/cut, slt crush odor, ssfo.

LS: lt-med brn/lt gry, micro-med xtal, foss frags/dense ool, some silty/sndy, min frac por, no odor, ns.

SH: gry/red brn, vry silty, stly carb, soft-firm, fissile.

LS: crm/lt brn, micro-med xtal, foss frags/fusln/min dense ool, some silty/sndy, some chalky, min dk gry chert, 4 pcs w/ppt-med por w/sfo, slt crush odor, dul yel flor/cut, sfo.

LS: crm/lt gry, micro-med xtal, foss frags/ool, 4 pcs in 30 min and 2 pcs in 60 min smpls w/ppt-med in-xtal por, yel flor/cut, slt crush odor, sfo.

SH: med-dk gry/greenish gry/red brn, stly carb, silty, firm, fissile.

LS: crm/lt brn, micro-med xtal, foss frags/crin/ool, brn chert, min frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags/crin/ool, some silty/sndy, min ppt-fn in-xtal/frac por, no odor, ns.

LS: crm/lt brn/gryish brn, micro-med xtal, foss frags/ool, some silty/sndy, some chalky, some brn chert, min ppt-fn in-xtal/frac por, no odor, 2 pcs in 60 min smpl w/fn-crs in-xtal por w/sfo, ssfo.

SH: dk gry/blk, carb, silty, firm-hard, fissile.

LS: crm, micro xtal, no vis foss, min wht chert, some stly silty, stly pyritic, some frac por, no odor, ns.

LS: crm/lt-dk brn, micro-med xtal, foss frags, some vry silty, some chalky, wht/lt brn chert, min pyritic, min frac por, no odor, ns.

LS: crm/lt-dk brn, micro-med xtal, frags/fusln/crin, some silty, wht/lt brn/dk brn chert, 4 pcs w/ppt-med in-xtal por w/sfo, dul yel flor/cut, no crush odor, sfo.

SH: blk, stly carb, brittle, hard, fissile.

LS: crm/lt-dk brn, micro-med xtal, foss frags, some silty, some chalky, brn/dk brn chert, stly pyritic, frac por, no odor, ns.

LS: crm/lt-dk brn, micro-med xtal, foss frags/fusln, some vry silty, wht/dk gry chert w/fusln, 15 pcs in 30 min and 13 pcs in 60 min w/ppt-fn por w/fo, dul yel flor/cut, no crush odor, gsfo.

SH: blk, stly carb, silty, firm-hard, blky tex, fissile.

LS: crm/lt-dk brn/gry-dk gry, micro-med xtal, foss frags/ool, some vry silty, stly pyritic, wht/lt brn/lt-dk gry chert, 3 pcs w/ppt-fn in-xtal por w/sfo, no odor, yel flor/cut, ssfo.

LS: crm/lt-dk brn/gry, micro-med xtal, foss frags/crin/ool, some vry silty, wht/lt-med gry/dk brn chert, stly pyritic, some chalky, 2 pcs w/ppt-fn in-xtal por w/sfo, no odor, yel flor/cut, ssfo.

LS: crm/lt-dk brn/lt-dk gry, micro-med xtal, foss frags/crin/fusln/ool, vry silty/sndy, wht/lt-dk brn chert, stly pyritic, frac por, no odor, ns.

SH: dk gry/blk w/dk brn tint, stly carb, silty, firm-hard, brittle, fissile.

LS: crm/lt-dk brn/gry, micro-med xtal, foss frags/brac/crin/bryz, some silty, frac por, no odor, ns.

LS: crm/lt-dk brn/gry-dk gry, micro-med xtal, foss frags/fusln/min ool, some vry silty, some brn chert, 2 pcs w/ppt-med in-xtal por w/sfo, dul yel flor/cut, no odor, ssfo.

SH: gry-dk gry/greenish gry/lt-dk brn, silty, stly carb, firm, fissile.

LS: crm/lt-dk brn, micro-med xtal, foss frags/crin, vry silty, 1 pcs w/ppt-fn in-xtal por w/sfo, yel flor/cut, no odor, ssfo.

SH: lt-dk gry/greenish gry, vry silty/sndy, firm.

LS: crm/lt-dk brn/gry, micro-med xtal, foss frags/crin/min ool, vry silty, min dk brn chert, 1 pcs w/ppt-fn in-xtal por w/sfo, yel flor/cut, no odor, ssfo.

LS: crm/lt brn, micro-med xtal, foss frags, 24 pcs w/ppt-fn in-xtal por w/sfo, dul yel flor/cut, no odor, gsfo.

LS: crm/lt-med brn, micro-fn xtal, some foss frags/fusln, some silty/sndy, some wht/brn chert, 27 pcs in 30 min and 16 pcs in 60 min smpls w/ppt-fn w/min med in-xtal por w/sfo, no odor, yel flor/cut, gsfo.

LS: crm/lt-med brn/lt gry, micro-med w/2ndry xtal, foss frags/some ool, some vry silty/sndy, some chalky, 2 pcs w/ppt-fn in-xtal por w/sfo, dul yel flor/cut, no odor, ssfo.

LS: crm/brn, micro-med xtal, foss frags, wht chert w/lattice struc, 6 pcs w/ppt-fn in-xtal por w/sfo, yel flor/ cut, slt crush odor, sfo.

LS: crm/lt brn/lt gry, micro-med xtal, min foss frags some w/lattice struc (coral), 22 pcs in 30 min and 10 pcs in 60 min smpl w/ppt-crs in-xtal por s/sfo, gd cup odor, yel flor/cut, gsfo.

SS/SH mix: SH is gry/greenish gry/brn, soft-firm, some vry silty; SS is wht/lt gry, pred qtz, glau, ws, wr, vf, hard, friable, no odor, ns.

SS/SH mix: SH is lt-med gry/greenish gry, red/maroon brn, mustard yel, vry silty, stly carb, pyritic, firm; SS same as above, no odor, ns.

SS/SH mix: SH is lt-dk gry/greenish gry, orange brn, mustard yel, vry silty, stly carb, pyritic, firm; SS is wht/lt gry/greenish gry, pred qtz, some chalky, ws, wr, some vr to med grained, no odor, ns.

LS: crm/lt-med brn, micro-fn xtal, foss frags/gas, min sndy, 3 pcs in 30 min and 2 in 60 min cir smpls w/ppt-fn in-xtal por w/sfo, dul yel flor/cut, no odor, ssfo.

LS: crm/lt-med brn, micro-med xtal, foss frags/brac/min ool pcs, dense no vis por, no odor, ns. (Sample tray is flood of med-dk gry SH).

LS: crm/lt-med brn/lt gry, micro-med xtal, foss frags w/min dense ool pcs, some stly silty, min wht/lt gry opaque chert some w/lattice struc, no vis por, no odor, ns. (cont flood of SH).

LS: crm/lt-med brn/gryish brn, micro-med xtal w/some 2ndry xtal, some pcs w/abund foss frags, no vis por, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, min foss frags, silty/sndy, min frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags/dense ool, some sndy, min frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags, some chalky, some wht chert, some silty/sandy, no vis por, ns.

LS: crm/lt brn/lt gryish brn, foss frags/min ool, some silty/sndy, min frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags/fusln/ool, some silty/sandy, stly pyritic, min frac por, no odor, ns.

LS: lt brn/lt gryish brn, micro-med xtal, foss frags/fusln, min frac por, no odor, ns.

LS: lt brn/lt gry, micro-med xtal, foss frags/min ool, some silty/sandy, min ppt-fn in-xtal/frac por, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags/some ool, some silty/sndy, some ppt-fn in-xtal por, no odor, ns.

LS: crm, micro-med xtal, foss frags/crin/ool, vry silty/sndy, chalky, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, min foss frags/brac/ool, some sndy, some chalky, min frac por, no odor, ns.

LS: crm/lt-med brn, micro-fn w/med-crs 2ndry, min foss frags w/crs dense ool, some frac por, no odor, ns.

LS: crm/lt brn-brn, micro-med xtal, some foss frags, some sandy, min wht chert, no vis por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal w/some crs, foss frags, stly pyritic, some frac por, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags/min ool, some sndy, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags, some silty/sndy, min frac por; DOLO: lt gry, micro xtal, silty, no vis por, no odor, ns.

TD

Remarks

Mudco Check #1 @ 0'
03/27/12; predrilling recommendations.

Mudco Check #2 @ 1545'
10/06/13 09:00am

wt	vis	pH	chl
8.8	28	8.0	200

Filt	LCM
n/c	tr

Mudco Check #3 @ 2808'
10/07/13 7:45am

wt	vis	pH	chl
9.1	31	7.0	47000

Filt	LCM
n/c	2

NOTE: Drill bit stuck at 2808' from 05:45am on 10/07/13 to 08:15am on 10/08/13. Spotted 40 bbls of oil as a lubricant aid.

Mudco Check #4 @ 2808'
10/08/13 7:30am

wt	vis	pH	chl
9.1	31	n/c	41000

Filt	LCM
n/c	2

Mudco Check #5 @ 3445'
10/09/13 8:45am

wt	vis	pH	chl
8.7	67	11.0	3000

Filt	LCM
6.4	3

NOTE: All wet samples have petroleum odor due to adding oil into the mud when bit was stuck.

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Mudco Check #6 @ 3940'
10/10/13 9:30am

wt	vis	pH	chl
9.0	53	10.5	3400

Filt	LCM
6.4	2

DST1) 3902-3940 Toronto & Lansing
30/45/60/90
1st) Gd 2" blow built to BOB in 28 min, no BB.
2nd) Vry weak surface blow built to BOB in 45 min, no BB.
IFP 20-71#
ISIP 1050#
FFP 74-156#
FSIP 1056#
HP 1846-1843#
Recvd: 325' Total Fluid; 80' HMCWw/TrOil, 125' MCW, 120' SMCW.

CFS @ 3940'
30"/60"

DST2) 3950-3988 C & D Zones
30/45/60/90
1st) Weak surface blow built to 4", no BB.
2nd) Vry weak surface blow built to 6.5", no BB.
IFP 6-28#
ISIP 1043#
FFP 29-71#
FSIP 1039#
HP 1872-1870#
Recvd: 150' Total Fluid; 25' SWCM, 125' HMCW.

CFS @ 3972'
30"/60"

CFS @ 3988'
30"/60"

Mudco Check #7 @ 3988'
10/11/13 10:00am

wt	vis	pH	chl
9.1	54	10.5	4000

Filt	LCM
7.2	2

DST3) 4006-4029 E-zone
30/30/30/na
1st) Weak SB thru-out, no BB.
2nd) No blow thru-out, no BB.
IFP 4-6#
ISIP 980#
FFP 6-6#
FSIP (na), pulled tool.
HP 1873-1873#
Recvd: 5' mud.

CFS @ 4029'
30"/60"

Mudco Check #8 @ 4046'
10/12/13 9:30am

wt	vis	pH	chl
9.0	55	10.5	5600

Filt	LCM
7.6	2

CFS @ 4049'
30"/60"

DST4) 4144-4174 I-zone (Straddle Test w/TD @ 4195)
30/45/15/na
1st) Weak SB died in 26.5 min, no BB.
2nd) No blow in 15 min so pulled tool.
IFP 4-7#
ISIP 704#
FFP 7-5#
FSIP (na), pulled tool.
HP 1949-1949#
Recvd: 2' mud.

DST8) 4194-4209 K-zone (Straddle Test w/TD @ 4810)
32/45/60/90
1st) Weak 1/4" blow built to 6", no BB.
2nd) Vry weak surface blow built to 1", no BB.
IFP 10-38#
ISIP 1153#
FFP 39-49#
FSIP 1151#
HP 1971-1970#
Recvd: 71' Total Fluid; 1' Clean oil, 70' SO&WCM (12% Oil).

CFS @ 4160'
30"/60"

Mudco Check #9 @ 4195'
10/13/13 5:00am

wt	vis	pH	chl
9.0	53	11.0	3000

Filt	LCM
8.0	2

CFS @ 4195'
30"/60"

CFS @ 4220'
30"/60"

DST5) 4194-4220 K-zone
30/45/45/60
1st) 2" blow built to BOB in 1.5 min, no BB.
2nd) 1.5" blow built to BOB in 3 min, no BB.
IFP 95-619#
ISIP 1118#
FFP 640-970#
FSIP 1125#
HP 1985-1983#
Recvd: 2125' Total Fluid; 140' MCWw/trOil, 1985' VSMCW w/trOil.

CFS @ 4260'
30"/60"

CFS @ 4280'
30"/60"

Mudco Check #10 @ 4280'
10/14/13 6:15am

wt	vis	pH	chl
9.2	55	10.0	4400

Filt	LCM
8.8	2

CFS @ 4300'
30"/60"

DST6) 4332-4410 Lenapah, Altamont & Pawnee
30/45/60/90
1st) 1/4" blow built to 11.5", no BB.
2nd) 1" blow built to BOB in 23.5 min, no BB.
IFP 8-33#
ISIP 975#
FFP 30-51#
FSIP 998#
HP 2057-2055#
Recvd: 380' GIP; 120' Total Fluid; 40' CO, 80' VHMCO (51% Oil).

CFS @ 4380'
30"/60"

Mudco Check #11 @ 4410'
10/15/13 6:30am

wt	vis	pH	chl
9.2	57	10.0	5000

Filt	LCM
9.6	2

CFS @ 4410'
30"/60"

CFS @ 4455'
30"/60"

DST7) 4416-4550 Upper Ft Scott thru Johnson
30/45/20/na
1st) Weak 1/4" blow built to 1/2", no BB.
2nd) No blow in 20 min so pulled tool.
IFP 7-13#
ISIP 206#
FFP 9-9#
FSIP (na), pulled tool.
HP 2117-2117#
Recvd: 10' mud w/tr oil.

Mudco Check #12 @ 4550'
10/16/13 5:45am

wt	vis	pH	chl
9.2	56	10.0	3500

Filt	LCM
8.0	2

CFS @ 4650'
30"/60"

CFS @ 4578'
30"/60"

CFS @ 4592'
30"/60"

CFS @ 4626'
30"/60"

Mudco Check #13 @ 4680'
10/17/13 5:30am

wt	vis	pH	chl
9.2	67	10.0	3000

Filt	LCM
7.2	2

CFS @ 4680'
30"/60"

CFS @ 4810' 30"/60"; Cir 1.5 hrs to clean hole.