

John Goldsmith Wellsite Service

Cell and Home Phone:
316-640-0236

427 Roosevelt St.
Cheney, KS 67025

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

Well Name: #1-16 Muench

Location: 1240' FSL & 1430' FEL, NE NE SW SE, 16-17S-33W

License Number: API: 15-171-21074

Region: Scott County

Spud Date: 07/11/2014

Drilling Completed: 07/23/2014

Surface Coordinates: LAT 38.5726172
LONG -100.9676129

Bottom Hole Vertical hole

Coordinates: 3/4 Degree Deviation

Ground Elevation (ft): 3037'

K.B. Elevation (ft): 3046'

Logged Interval (ft): 3700'

To: RTD

Total Depth (ft): 4815'

Formation: Mississippian at RTD

Type of Drilling Fluid: Chemical

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

OPERATOR

Company: New Gulf Operating, LLC

Address: 10441 S. Regal Blvd. Ste. #210
Tulsa, OK 74137
(918) 728-3020

GEOLOGIST

Name: John Goldsmith

Company: John Goldsmith Wellsite Service

Address: 427 Roosevelt St.
Cheney, KS 67025
(316) 640-0236

COMMENTS

Contractor: VAL Energy Rig #4

Pusher: Angel (620) 640-9123

Surface Casing: 6 joints of 8 5/8" set at 262'

Production Casing: 5.5" Production Casing was installed.

Mud by: MudCo Service Mud

DST's by: Diamond Testing

Logs by: Pioneer Wireline Services (DIL, CN-CD, ML)

RTD=4815'

LTD=4810'

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Heebner Shale	3942'	-896	3936'	-890
Lansing	3984'	-938	3978'	-932
Muncie Creek Shale	4164'	-1118	4157'	-1111
Stark Shale	4261'	-1215	4258'	-1212
Hushpuckney Shale	4303'	-1257	4305'	-1259
Base of KC	4340'	-1294	4344'	-1298
Marmaton	4388'	-1342	4385'	-1339
Altamont	4404'	-1358	4402'	-1356
Pawnee	4488'	-1442	4485'	-1439
Little Osage Shale	4514'	-1468	4504'	-1458
Excello Shale	4528'	-1482	4520'	-1474
Cherokee Shale	4558'	-1512	4551'	-1505
Johnson Zone	4601'	-1555	4595'	-1549
Morrow	4680'	-1634	4673'	-1627
Mississippian	4710'	-1664	4703'	-1657
RTD	4815'	-1769		
LTD			4810'	-1764

DSTs

DST #1 4190'-4236' "KC I Zone" 7-18-2014 30-30-30-30

1st Blw: Wk Surf Blw, dead 12" (No BB)

2nd Blw: No Blw (No BB)

IFP: 10-18# ISIP: 1115# FFP: 17-22# FSIP: 1095#

Hyd: 1969-1969#

8' OSM (2% Oil)

DST #2 4255'-4301' "KC K Zone" 7-19-2014 30-45-30-30

1st Blw: 1/4" Blw, blt to 11 3/4" (No BB)

2nd Blw: No Blw, blt to 11 1/4" (No BB)

IFP: 42-110# ISIP: 1127# FFP: 112-169# FSIP: 1098#

Hyd: 2056-2056#

292' Total Fluid, 189' MCW (74% Wtr), 103' HWCM (30% Wtr)

DST #3 4296'-4343' "KC L Zone" 7-19-2014 30-45-45-60

1st Blw: 1/2" Blw, blt to BOB in 9 3/4" (6" BB)

2nd Blw: 1/2" Blw, blt to BOB in 12" (2" BB)

IFP: 18-128# ISIP: 1110# FFP: 137-247# FSIP: 1096#

Hyd: 2038-2037#

602' Total Fluid, 220' WCGCMO (12% Gas, 50% Oil, 7% Wtr), 382' CO, 315' GIP

DST #4 4394'-4556' "Marmaton" 7-21-2014 30-45-60-60

1st Blw: 1 1/4" Blw, blt to BOB in 17.5" (1" BB)

2nd Blw: 3/4" Blw, blt to BOB in 15.5" (7.5" BB)

IFP: 32-72# ISIP: 1233# FFP: 75-137# FSIP: 1116#

Hyd: 2187-2145#

320' Total Fluid, 275' SGCHMCO (57% Oil, 9% Gas), 45' CO, 625' GIP

DST #5 4578'-4714' "Atoka" 7-22-2014 30-30-30-30

1st Blw: 1/4" Blw, blt to 2" (No BB)

2nd Blw: Wk Surf Blw, blt to 4" (No BB)

IFP: 17-32# ISIP: 987# FFP: 36-43# FSIP: 575#

Hyd: 2225-2224#

84' SOCM (12% Oil)

ROCK TYPES



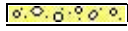
Anhy



Cht



Coal



Congl



Dol



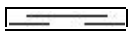
Gyp



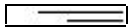
Lmst



Salt



Shale



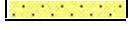
Shcol



Shgy



Sltst



Ss



Carb sh



Dol



Dtd



Gry sh



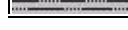
Sandylms



Shale



Sltstn



Shlyslts



Sltys



Sdy dolo



Silty dolo



Shy dolo



Shaly ls

ACCESSORIES

FOSSIL

Algae
Amph
Belm
Bioclst
Brach
Bryozoa
Cephal
Coral
Crin
Echin
Fish
Foram
Fossil
Gastro
Oolite
Ostra
Pelec
Pellet
Pisolate

Plant
Strom
Fuss
Oomold

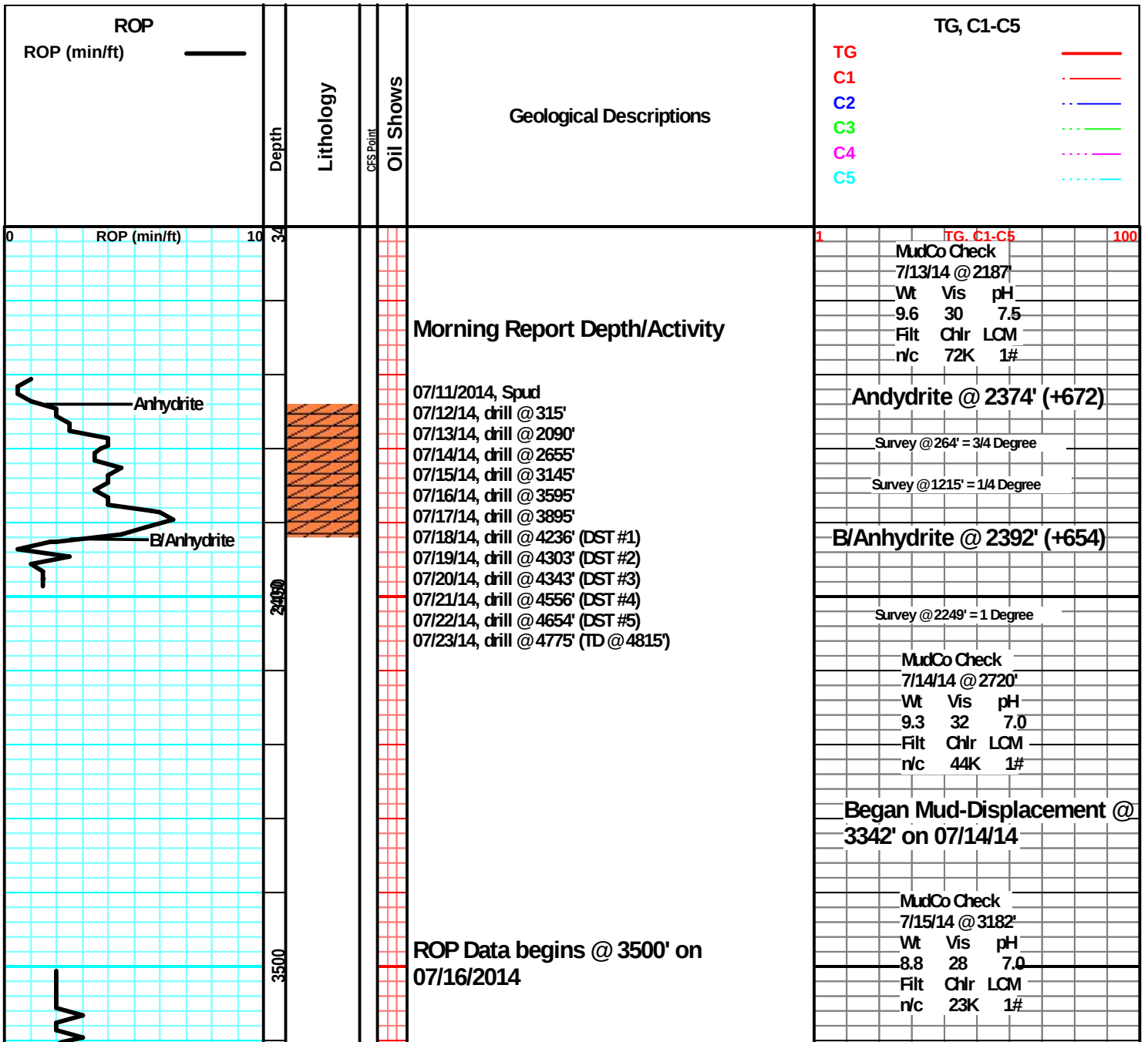
MINERAL

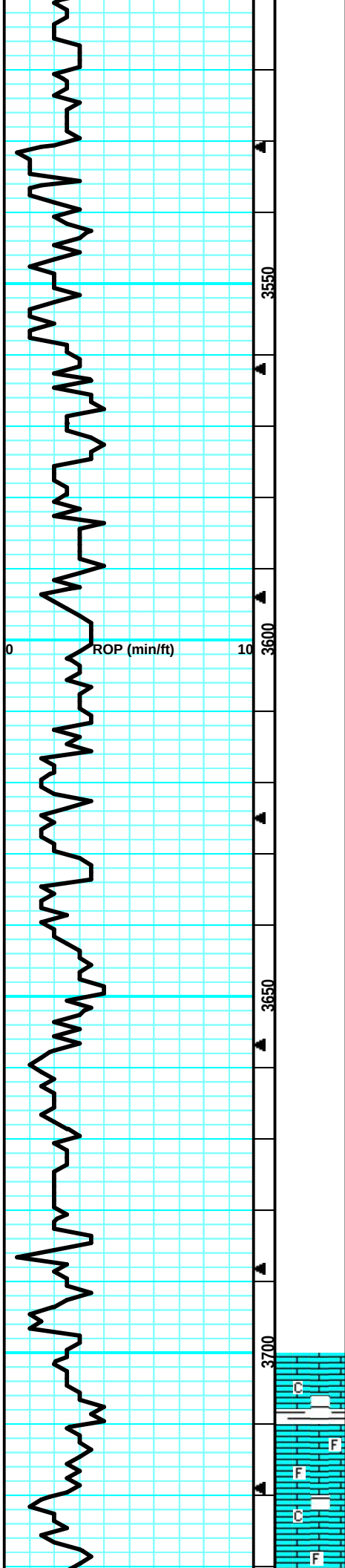
Anhy
Arggrn
Arg
Bent
Bit
Brecfrag
Calc
Carb
Chtdk
Chtlt
Dol
Feldspar
Ferrpel
Ferr

Glau
Gyp
Hvymin
Kaol
Marl
Minxl
Nodule
Phos
Pyr
Salt
Sandy
Silt
Sil
Sulphur
Tuff
Chlorite
Dol
Sand
Slty

STRINGER

Anhy
Arg
Bent
Coal
Dol
Gyp
Ls
Mrst
Slststrg
Ssstrg
Carbsh
Clystn
Dol
Grysh
Gryslt
Lms
Sandyms
Sh
Slstn





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

LS: lt gry/lt tan, mott in prt, fn xln, fw foss frags, many dense, v fw brittle, tr-nvp, fw SH: gry, silty, med crush, no cup odr, ns.

LS: lt gry/lt tan, mott in prt, fn xln, sm foss, many brittle, sm dense, sub-chlky in prt, tr-nvp, v fw SH: gry, silty, no cup odr, ns.

LS: lt gry/lt tan, mott, fn xln, sm foss in prt, sm dense, many brittle, sub-chlky in prt, v fw SH: drk gry/gry, silty, fissile, med crush, no cup odr, ns.

LS: lt gry/lt tan, slight mott in prt, fn xln, many brittle, sm dense, chlky in prt, tr-nvp, fw SH: gry/bm, silty, no cup odr, ns.

1 TG, C1-C5 100

MudCo Check

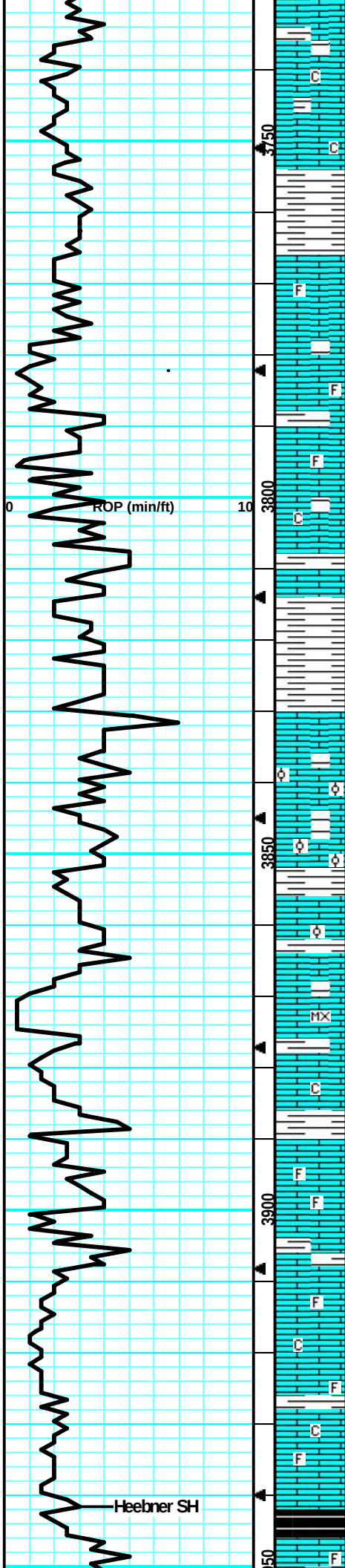
7/16/14 @ 3629'

Wt Vis pH

8.7 49 11.5

Filt Chlr LCM

6.4 3K 1#



LS: It tan/lt gry, slight mott in prt, fn xln, mostly brittle, fw dense, sm friable, chiky, tr-nvp, fw SH: drk gry/bm, silty, fissile, no cup odr, ns.

LS: It tan/lt gry, slight mott in prt, fn xln, many dense, sm brittle, sub-chiky, tr-nvp, v fw SH: gry, silty, no cup odr, ns.

LS: It tan/lt gry, slight mott, fn xln, mostly dense, fw brittle, sub-chiky in prt, fw flakey like, tr-nvp, no cup odr, ns.

LS: It tan/lt gry, fn xln, many dense, sm brittle, sub-chiky in prt, tr-nvp, v fw SH: gry/bm, silty, no cup odr, ns.

LS: It gry/lt tan, slight mott in prt, fn xln, sm foss in prt, sub-chiky, sm flakey/mealy, tr-nvp, fw SH: gry/bm, silty, no cup odr, ns.

LS: It gry/lt tan, slight mott in prt, fn xln, v fw foss frags, sub-chiky in sm, tr-nvp, fw SH: gry/bm, silty, no cup odr, ns.

LS: It gry/lt tan, slight mott, fn xln, fw foss frags, sub-chiky, fw flakey like, tr-nvp, fw SH: gry, silty, fw soft, no cup odr, ns.

LS: It gry/lt tan, fn xln, v fw foss frags, sub-chiky, sm brittle, tr-nvp, fw SH: gry/bm, silty, no cup odr, ns.

LS: It tan/lt gry, slight mott in prt, fn xln, sm dense, many brittle, sub-chiky in prt, fw flakey like, tr-nvp, svrl SH: gry/bm, silty, no cup odr, ns.

LS: It gry/lt tan, sm mott in prt, fn xln, fw dhes, sm brittle, chiky in prt, fw flakey/mealy, tr-nvp, fw SH: gry, silty, soft, no cup odr, ns.

LS: tan/lt gry, slight mott, fn xln, mostly dense, sm hard, fw sub-chiky in prt, tr-nvp, abund SH: gry/bm, silty, sm soft, fw muddy like, no cup odr, ns.

LS: tan/lt tan, fn xln, many dense, sm brittle, sub-chiky in prt, tr-nvp, svrl SH: gry/bm, silty, soft, no cup odr, ns.

LS: tan/lt tan, fn xln, sm ool, mostly brittle, svrl dense/hard, fw pcs w/ pr intool por, spstd blk specs, dul yel fluor, strn cut, vssfo on brk, no cup odr.

LS: tan/lt tan, fn xln, mostly dense, fw brittle, sub-chiky, tr-nvp, fw pcs pur chlk, sm SH: gry/gm, silty, soft, no cup odr, ns.

LS: tan/lt tan, micro-fn xln, mostly dense, many brittle, sub-chiky in prt, tr-nvp, fw pcs pur chlk, fw SH: gry/blu, silty, soft, no cup odr, ns.

LS: It tan/lt gry, fn xln, many dense, sm brittle, sub-chiky in prt, v fw Chert: tan, foss, sharp, svrl SH: gry, silty, no cup odr, ns.

LS: It tan/lt gry, fn xln, fw foss frags, mostly dense, many brittle, chiky, sm friable, tr-nvp, fw SH: gry/blu, silty, fissile, no cup odr, ns.

LS: tan/lt tan, fn xln, fw foss frags, many dense, svrl brittle, chiky, tr-nvp, svrl SH: drk gry/blk, silty, fw carb, no cup odr, ns.

LS: tan/lt tan, slight mott, fn xln, fw foss frags, mostly brittle, sm dense, tr-nvp, fw Chert: tan/lt bm, foss, sharp, svrl SH: drk gry/blk, silty, fw carb, no cup odr, ns.

LS: tan/lt gry, slight mott in prt, fn xln, fw foss frags, many brittle, sm dense, sub-chiky in prt, tr-nvp, fw SH: drk gry/bm, silty, no cup odr, ns.

LS: It tan/lt gry, slight mott in prt, fn xln, v fw foss frags, mostly dense, brittle, sub-chiky in prt, tr-nvp, fw SH: gry, silty, fissile, no cup odr, ns.

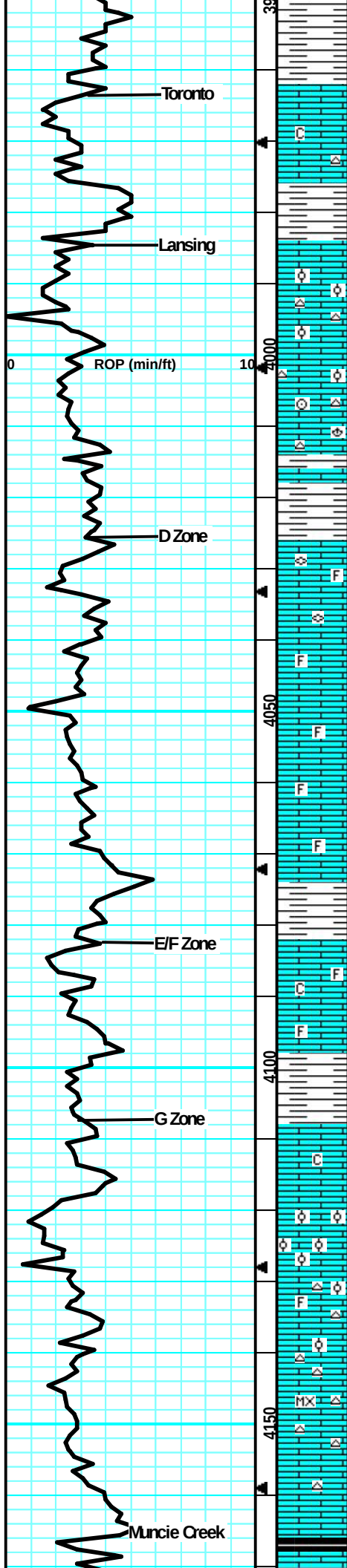
LS: tan/lt tan, fn xln, fw ool, mostly dense, brittle, fw pcs w/ pr-fr intool por, drk tarry stns, wk fluor, slw cut, hvy tar like sho of oil, no cup odr, svrl SH: drk gry/blu/blk, silty, fw carb.

Short trip @ 3787'
(Trip to Collars)

1 TG, C1-C5 100

MudCo Check
7/17/14 @ 3904'
Wt Vis pH
8.8 47 7.2
Filt Chlr LCM
7.2 4K 1#

Heebner @ 3942' (-896)



LS: tan/lt tan, fn xln, mostly dense, fw foss frags, sm brittle, sub-chlky in prt, tr-nvp, svrl SHt gry/blm/blu, silty, soft, no cup odr, ns.

LS: tan/lt tan, fn xln, mostly dense, fw brittle, sm grainy like, tr-nvp, sm SHt gry/blk, silty, soft, fw carb, no cup odr, ns.

LS: tan/lt tan, fn xln, mostly dense, many brittle, sub-chlky in prt, tr-nvp, svrl Chert: wht/opaque, sharp, v fw SHt gry/gm, silty, soft, fw waxy, no cup odr, ns.

LS: tan/lt tan, fn xln, mostly dense, sm brittle, sub-chlky in prt, tr-nvp, svrl Chert: wht/opaque, sharp, fw SHt gry/blk, silty, soft, fw carb, no cup odr, ns.

LS: tan/lt tan, fn xln, mostly dense, many brittle, fw pcs slight ool, tight pr intool por, drk tarry stns in por, vssfo on brk, no cup odr, svrl SHt gry/blm, silty.

LS: tan/lt tan, slight mott in prt, fn xln, mostly dense, sm brittle, tr-nvp, fw Chert: wht/opaque, sharp, svrl SHt gry/blm, silty, soft, no cup odr, ns.

LS: tan/lt tan, sm mott, fn xln, foss w/ crin/brach, dense, sm brittle, tr-pr inbxdn por in sm, 1-2 pcs w/ scat drk stns, wk-? fluor, no cut, nsfo. svrl SHt gry/blm, silty, no cup odr.

LS: tan/lt tan, fn xln, sm foss w/ fuss/frags, mostly dense, sm brittle, fw sub-chlky in prt, tr-nvp, abund SHt gry/blm, silty, soft, no cup odr, ns.

LS: lt tan/lt gry, fn xln, sm foss frags, many dense, sm brittle, sub-chlky in prt, tr-nvp, svrl SHt gry/blm, silty, soft, no cup odr, ns.

LS: lt gry/lt tan, fn xln, sm foss, mostly dense, fw brittle, sm lght brn patchy stns, scat dul yel fluor, vssfo on brk 1-2 pcs, pos cut resid, faint cup odr.

LS: lt gry/lt tan, fn xln, v fw foss frags, many dense, sm brittle, fw pcs w/ pr-fr inbxdn por, scat patchy stns, wk dul yel fluor, strn cut, only 2-3 pcs w/ ssfo on brk, faint cup odr.

LS: tan/lt gry, fn xln, fw foss frags, mostly dense, fw hard, sm brittle, tr-nvp, svrl SHt brn/gry, silty, soft, no cup odr, ns.

LS: tan/lt tan, slight mott, fn xln, foss in prt, many dense, sm brittle, sub-chlky in prt, tr-nvp, sm SHt brn/gry, silty, soft, no cup odr, ns.

LS: gry/tan, slight mott, fn xln, sm foss in prt, many dense, fw hard, fw flakey, tr-nvp, 2 pcs pr inbxdn por, scat drk stns, ssfo on brk, pos from above. fw SHt gry/blm, silty, no cup odr.

LS: gry/tan, fw xln, fw foss frags, mostly dense, fw brittle, sub-chlky, tr-nvp, v fw SHt gry, silty, no cup odr, ns.

LS: tan/lt gry, fn xln, mostly dense, sm hard, fw brittle, sub-chlky in sm, tr-nvp, fw SHt gry/blm, silty, soft, no cup odr, ns.

LS: tan/lt tan, fn xln, mostly dense, sm hard, fw brittle, sub-chlky in prt, tr-nvp, fw SHt gry/blu, silty, soft, friable, no cup odr, ns.

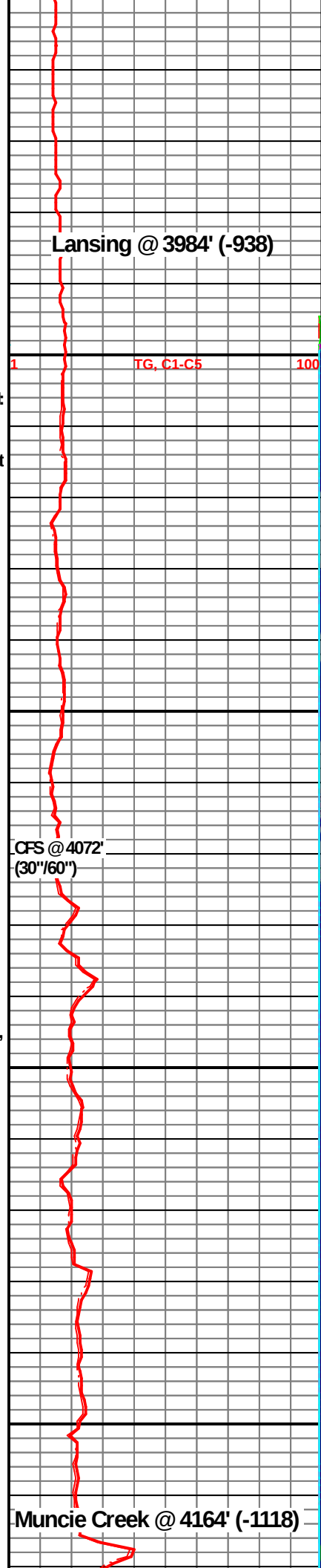
LS: tan/lt tan, fn xln, mostly dense, sm brittle, sm scat 2nd rxln in prt, tr-nvp, fw SHt gry/blu, silty, sm v soft, no cup odr, ns.

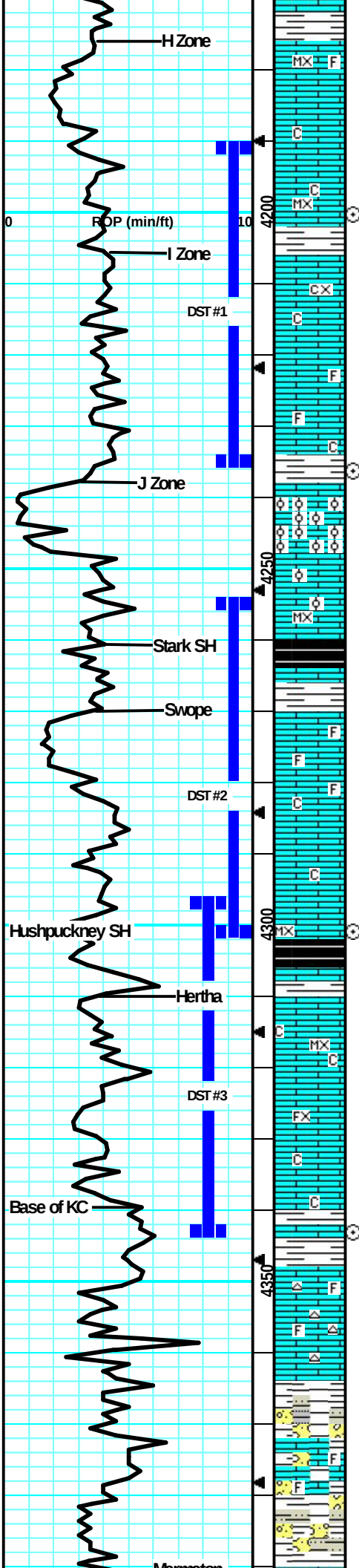
LS: tan/lt tan, slight mott, fn xln, sm ool/foss, mostly dense, fw brittle, tr-nvp, fw Chert: wht/opaque, sharp, no cup odr, ns.

LS: lt tan, micro-fn xln, mostly dense, many brittle, chlky in prt, tr-nvp, fw Chert: wht/opaque, sharp, no cup odr, ns.

LS: tan/lt tan, fn xln, mostly dense, sm brittle, sm scat 2nd rxln, tr-nvp, fw Chert: wht/opaque, sharp, no cup odr, ns.

LS: tan/lt tan, fn xln, sm foss in prt, mostly dense, sm hard, fw brittle, fw sub-chlky, tr-nvp, svrl SHt gry/blm/blk, silty, sm carb, no cup odr, ns.





LS: tan xln, micro-fn xln, sm foss, mostly dense, sm hard, tr-nvp, svrl SH gry/bm, silty, fw soft, no cup odr, ns.

LS: tan/gry, fn xln, sm foss frags, mostly dense, sm brittle, fw sub-chlky, tr-nvp, fw pcs w/ lght brn sppty stns, wk-? fluor, no sfo, abund SH gry/gm/bm, silty, soft, no cup odr.

LS: tan/lt gry, slight mott, fn xln, mostly dense, sm hard, fw brittle, fw sub-chlky, tr-nvp, abund SH gry/gm/bm, silty, soft, no cup odr, ns.

LS: tan/lt tan, micro-fn xln, mostly dense, fw hard, sm brittle, sm sub-chlky, tr-nvp, svrl SH gry, silty, soft, no cup odr, ns.

LS: tan/lt gry, fn-crs xln, fw dense, sm brittle, sm scat 2nd rxln, flakey, sm pr-fr intln por, 2-3 pcs w/ lght brn surf stns, wk dul yeal fluor, vssfo fo on brk, pos cut resid, faint cup odr.

LS: lt tan/tan, fn xln, sm foss frags, mostly dense, sm brittle, sm chlky, scat 2nd rxln, 3-4 pcs w/ fr inbxdn por, spptd drk stns like salt/pepper, fr sfo on brk gd cut resid, fr-gd cup odr.

LS: lt tan/lt gry, fn xln, mostly dense, many flakey/mealy, sub-chlky in prt, tr-nvp, abund dSH gry, silty, no cup odr, ns.

LS: lt gry/lt tan, fn xln, sm profus ool, mostly brittle, many pcs gd oolcast por, abund SH gry/bm/blk, silty, soft, fw carb, no cup odr, ns.

LS: lt gry, fn xln, sm profus ool, mostly brittle, sub-chlky in prt, many gd oolcast por, fw pcs pur chl, no cup odr, ns.

LS: lt gry/lt tan, micro-fn xln, mostly dense, many brittle, chlky in prt, tr-nvp, sm SH blk/gry, silty, soft, many carb, no cup odr, ns.

LS: gry/tan, fn xln, fw foss frags, mostly brittle, sm sub-chlky in prt, fw pcs w/ spptd brn stns on edges, vssfo on brk, chlky and v min fo, no cup odr, fw Chert: lt brn, foss, sharp.

LS: gry/tan, fn xln, mostly brittle, sub-chlky in prt, svrl pcs w/ fr inbxdn/sght vuggy por, svrl pcs w/ scat stns, ssfo on chp surf, fr-gd sfo on brk, dul yel fluor, strm cut, fr cup odr.

LS: lt gry/lt tan, fn xln, mostly dense, sm brittle, sub-chlky in prt, sm flakey/mealy, tr-nvp, fw SH gry/blk, silty, sm carb, no cup odr, ns.

LS: lt tan/lt gry, micro-fn xln, mostly dense, many brittle, uniform, sub-chlky mtrix in prt, tr-nvp, fw SH gry/bm, silty, soft, no cup odr, ns.

LS: lt tan/lt gry, fn xln, sm dense, many brittle, sub-chlky in prt, many flakey/mealy, tr-nvp, abund SH blk, silty, carb, soft, no cup odr, ns.

LS: gry/tan, slight mott in prt, fn xln, many dense, sm brittle, sm flakey, sm pr ppt inbxdn por w/ rare scat vugs, 5-6 heavy stnd rx, dul yel fluor w/ pos cut resid, vssfo on brk, fr cup odr.

LS: gry/tan, fn xln, mostly dense, uniform, sub-chlky in prt, fw flakey like, tr-nvp, fw pcs pur chl, no cup odr, ns.

LS: gry/tan, fn xln, mostly dense, sm brittle, tr-nvp, abund SH gry/bm, silty, no cup odr, ns.

LS: gry/tan, mott in prt, fn xln, fw foss frags, mostly brittle, tr-nvp, fw Chert: gry/lt brn, foss, sharp, svrl SH gry/fw brn, silty, no cup odr, ns.

LS: tan/gry, slight mott in prt, fn xln, sm foss frags, mostly brittle, fw dense, chlky, tr-nvp, sm Chert: gry/lt brn, foss, sharp, fw SH gry, silty, soft, no cup odr, ns.

LS: gry/tan, mott, fn xln, foss, fw ool, mostly brittle, sub-chlky, tr-nvp, fw pcs pur chl, fw SH gry, silty, no cup odr, ns.

LS: gry/tan, mott, fn xln, sm foss, many brittle, fw dense, sub-chlky in prt, fw flakey, tr-nvp, fw Chert: gry/lt brn, foss, sharp, fw SH gry/bm, silty, soft, fw StStn: lt gry/blk, v soft, gritty, no cup odr, ns.

LS: gry/tan, slight mott, fn xln, mostly dense, sm hard, fw flakey like, tr-nvp, svrl SH gry/gm, silty, med crush, fw waxy, no cup odr, ns.

MudCo Check

7/18/14 @ 4236'

Wt	Vis	pH
9.1	49	11.0
Filt	Chlr	LCM
7.6	4K	1#

CFS @ 4200'

(30"/60")

TG, C1-C5

100

DST #1 4190'-4236' "KC I Zone" 7-18-2014
30-30-30-30
1st Blw: Wk Surf Blw, dead 12" (No BB)
2nd Blw: No Blw (No BB)
IFP: 10-18# ISIP: 1115#
FFP: 17-22# FSIP: 1095#
Hyd: 1969-1969#
8' OSM (2% Oil)

CFS @ 4236'

(30"/60")

Survey @ 4236' = 3/4 Degree

Stark @ 4261' (-1215)

DST #2 4255'-4301' "KC K Zone" 7-19-2014
30-45-30-30
1st Blw: 1/4" Blw, bit to 11 3/4" (No BB)
2nd Blw: No Blw, bit to 11 1/4" (No BB)
IFP: 42-110# ISIP: 1127#
FFP: 112-169# FSIP: 1098#
Hyd: 2056-2056#
292' Total Fluid, 189' MCW (74% Wtr), 103' HWCW (30% Wtr)

Hushpuckney @ 4303' (-1257)

CFS @ 4301'

(30"/60")

DST #3 4296'-4343' "KC L Zone" 7-19-2014 30-45-45-60
1st Blw: 1/2" Blw, bit to BOB in 9 3/4" (6" BB)
2nd Blw: 1/2" Blw, bit to BOB in 12" (2" BB)
IFP: 18-128# ISIP: 1110# FFP: 137-247#
FSIP: 1096#
Hyd: 2038-2037#
602' Total Fluid, 220' WOCMO (12% Gas, 50% Oil, 7% Wtr), 382' CO, 315' GIP

B/KC @ 4340' (-1294)

CFS @ 4343'

(30"/60")

MudCo Check

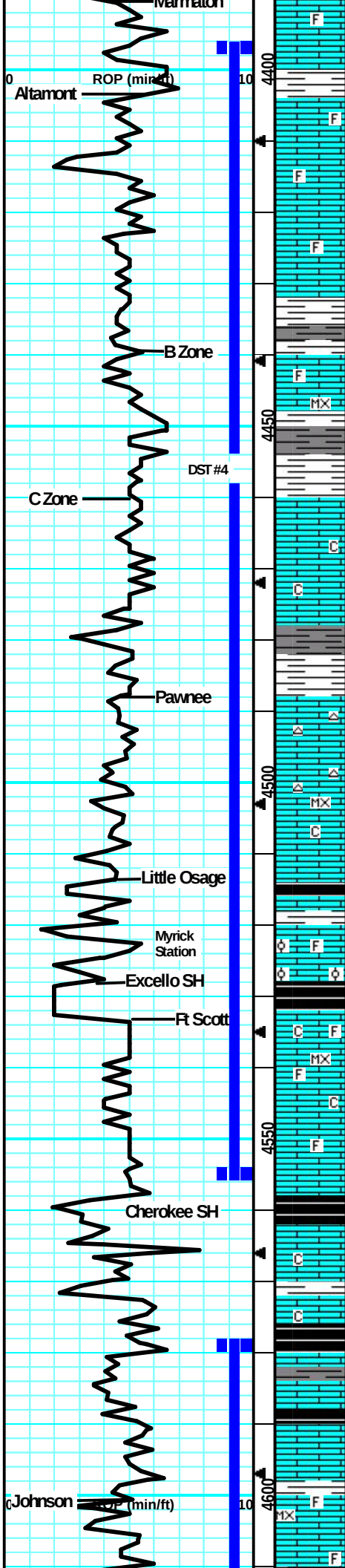
7/19/14 @ 4303'

Wt	Vis	pH
9.1	46	11.0
Filt	Chlr	LCM
8.8	4.2K	1#

DST #4 4394'-4556'

"Mamaton" 7-21-2014

30-45-60-60
1st Blw: 1 1/4" Blw, bit to BOB in 17.5" (1" BB)
2nd Blw: 3/4" Blw, bit to BOB in 15.5" (7.5" BB)
IFP: 32-72# ISIP: 1233# FFP: 75-137# FSIP: 1116#
Hyd: 2187-2145#
320' Total Fluid, 275' SGCHMCO (57% Oil, 9% Gas), 45' CO, 625' GIP



LS: tan/lt gry, slight mott in prt, fn xln, fw foss frags, sub-chlky, fw brittle, tr-nvp, svrl SH gry/blm/grm, silty, med crush, no cup odr, ns.

LS: tan/lt gry, fn xln, fw foss frags, mostly dense, sub-chlky in prt, tr-nvp, svrl SH gry/drky gry/blm, silty, med crush, no cup odr, ns.

LS: lt tan/lt gry, mott in prt, fn xln, foss, many dense, fw brittle, chlky in prt, tr-nvp, fw SH gry/blm, silty, med crush, no cup odr, ns.

LS: gry/lt tan, slight mott, fn xln, foss, many brittle, sub-chlky, tr-nvp, fw SH gry/blm, silty, fw fissile, soft, no cup odr, ns.

LS: tan/gry, fn xln, mostly dense, sm hard, fw flakey like, tr-nvp, abund SH gry/blm, silty, med crush, no cup odr, ns.

LS: gry/lt tan, slight mott, fn xln, fw foss frags, mostly brittle, fw dense, tr-nvp, abund SH gry/blm, silty, fw fissile, med crush, no odr, ns.

LS: tan/lt tan, micro-fn xln, mostly dense, sm hard, sub-chlky in prt, tr-nvp, fw pcs w patchy lght bm strns, wk fluor, no cut resid, no sfo, abund SH: gry/blm, silty, fw carb, no cup odr.

LS: tan/gry, mott, fn xln, mostly dense, fw brittle, sub-chlky in prt, tr-nvp, fw pcs w pos drk bm strns, ? flour, abund SH: gry/blm, silty, soft, sm waxy, no cup odr, nsfo.

LS: tan/gry, fn xln, mostly dense, fw brittle, tr-nvp, 2-3 pcs w lght bm patchy strns, wk fluor, slw pos cut resid, faint-? cup odr, abund SH gry/blm, silty, med crush.

SH: gry/blu/blm/blk, silty, med crush, fw carb, fw LS: gry/tan, fn xln, sm dense, sm flakey/mealy, tr-nvp, no cup odr, ns.

LS: gry/tan, mott in prt, fn xln, mostly dense, many hard, tr-nvp, fw pcs w scat lght bm surf strns, wk spitted fluor, pos cut resid on brk, v small sphrs of oil on brk clinging to rx chip, no odr, abund SH: gry/blm, silty, sm soft, fw Chert: gry/lt bm, foss, sharp.

LS: fw pcs w lght strns like above, mostly gry/tan, slight mott, dense, sm hard, tr-nvp, abund SH: gry/drky gry, silty, sm firm, no cup odr, ns.

LS: lt bm/gry, mott, micro-fn xln, mostly dense, many hard, fw flakey like, tr-nvp, pos fract, 2 pcs w heavy drk edge strns, no fo, wk-? fluor, pos drk dead oil, svrl SH: bm/gry, silty, med crush, no cup odr.

LS: tan/lt tan, mott, fn xln, fw foss/ool, grainy like, brittle, sub-chlky, tr-nvp, sm SH gry/blu, silty, soft, no cup odr, ns.

LS: tan/lt tan, mott, fn xln, fw foss, sm brittle, grainy/sandy like, tr-nvp, svrl SH gry/blm/blk, silty, soft, fw carb, no cup odr, ns.

LS: tan/lt tan, mott in prt, micro-fn xln, foss in prt, sm dense/hard, fw pcs w spitted lght bm strns, tr-nvp, wk fluor, no cut, nsfo, svrl SH: gry/blm/blk, silty, soft, fw carb, no cup odr, ns.

LS: gry/tan, mott, fn xln, mostly dense, sm hard, sm sandy/grainy, fw brittle, tr-nvp, abund SH: gry/gm/blm/blk, silty, soft, fw carb, no cup odr, ns.

LS: gry/tan, mott, fn xln, foss, brittle, sm friable, lght bm strns, wk fluor, v sm sphrs of oil on brk, no cup odr, abund SH: gry/blm, silty, soft.

SH: blk/drky gry, silty, soft, fw carb, fw waxy like, no cup odr, ns.

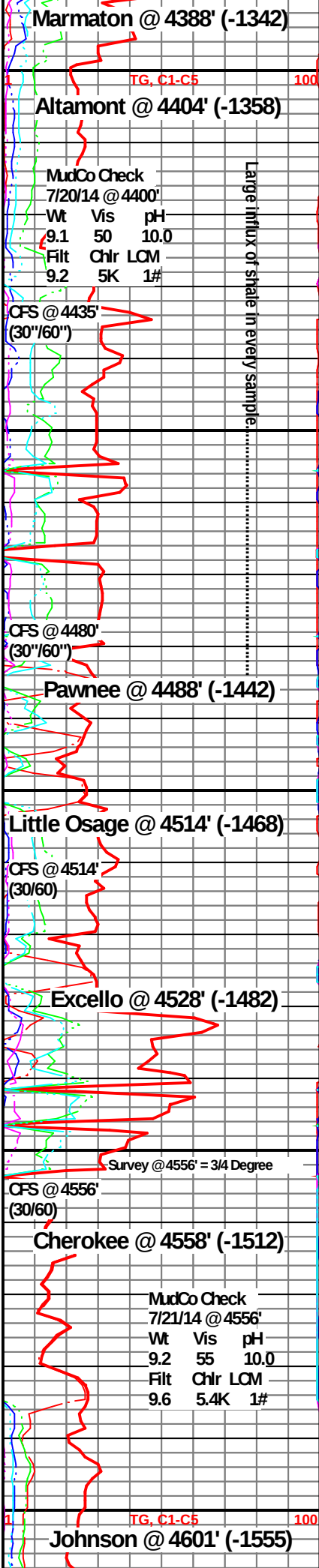
LS: gry/tan, slight mott, fn xln, mostly dense, sm hard, sm flakey like, tr-nvp, abund SH: gry/gm/blk, silty, soft, sm carb, no cup odr, ns.

LS: gry/lt tan, fn xln, many dense, sm hard, fw sub-chlky/brittle, tr-pr ppt in xln por on fw edges, patch lght bm strns, wk fluor, pos cut resid, nsfo, no cup odr, abund SH: gry/gm/blk, silty, soft, many carb.

LS: gry/tan, slight mott in prt, micro-fn xln, mostly dense, fw firm, mostly brittle, sm sub-chlky in prt, tr-nvp, fw std pcs like above, nsfo, abund SH: gry/blk, silty, fw carb, no cup odr.

LS: gry/lt tan, slight mott, micro-fn xln, fw foss frags, mostly dense, sub-chlky in prt, sm brittle, fw flakey like, tr-nvp, abund SH: gry/blu/blm, silty, soft, no cup odr, ns.

LS: lt gry/lt tan, slight mott, fn xln, fw foss frags, mostly dense, many hard, unable to crush w tweez, pr ppt in xln por in sm, many flakey, abund SH: gry/blm, silty, soft, no cup odr, ns.



MudCo Check
7/20/14 @ 4400'

Wt	Vis	pH
9.1	50	10.0
Filt	Chlr	LOM
9.2	5K	1#

Survey @ 4556' = 3/4 Degree

MudCo Check
7/21/14 @ 4556'

Wt	Vis	pH
9.2	55	10.0
Filt	Chlr	LOM
9.6	5.4K	1#

