

Andrew White

Petroleum Geologist

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

Well Name: Miller Trust #1-18
Location: 18-16S-19S
License Number: API: 15-165-22077
Spud Date: 06-14-14
Surface Coordinates: 335' FSL, 990' FEL

Region: Rush Co, KS
Drilling Completed: 06-21-14

Bottom Hole
Coordinates:
Ground Elevation (ft): 2113
Logged Interval (ft):
Formation: Arbuckle
Type of Drilling Fluid: Chemical

To: K.B. Elevation (ft): 2118
Total Depth (ft): 3970 RTD; 3964 LTD

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

OPERATOR

Company: Murfin Drilling Company, Inc.
Address: 250 N. Water, Suite 300
Wichita, KS 67202

GEOLOGIST

Name: Andrew White
Company: White Exploration Inc.
Address: 1635 N. Waterfront Pkwy, Suite 100
Wichita, KS 67206

Remarks

Due to negative Drill Stem Tests the well was P&A.

General Info

Drilling Contractor: Murfin Drilling Rig 16

Logs: Pioneer
Compensated Density/Neutron, Dual Induction, Micro, Sonic

Drilling Mud: KDT

Surveys: 220'-.25, 3540'-1, 3970'-1.5

No pipe straps during drilling because of extremely windy conditions

Daily Status

6/14/14: MIRT

6/15/14: Drill 460', set 8 5/8" Csg at 217', 150 sx comm 3% cc, 2% gel

6/16/14: Drilling ahead at 2200'

6/17/14: Drilling ahead at 3155'

6/18/14: Running DST#1 at 3540'

6/19/14: Drilling ahead at 3835'

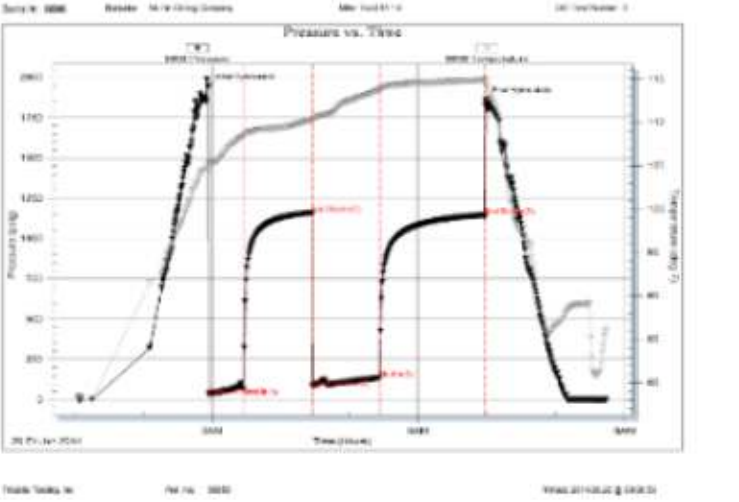
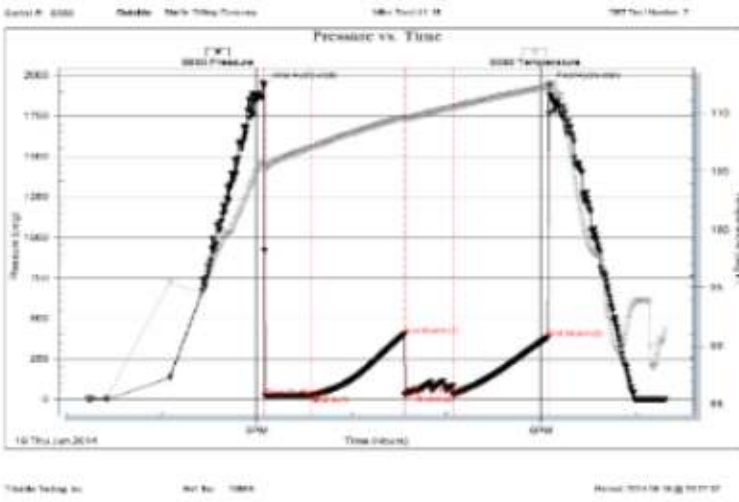
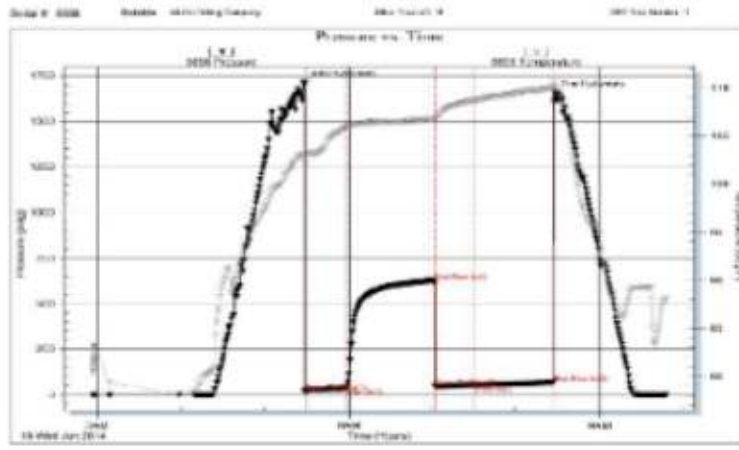
6/20/14: Running DST #3 at 3884'

6/21/14: RTD 3970, LTD 3964, plugged with 60/40Poz, 4% gel, 50 sxs @ 3864', 50 sxs @ 1430', 40 sxs @600', 50 sxs @ 240', 20 sxs @ MH

Murfin Miller Trust #1-18 18-16S-19W 335' FSL. 990' FEL KB: 2118			
	Sample	Log	Datum
Anhydrite	1355	1352	766
Base Anhy	1394	1391	727
Topeka	3158	3146	-1028
Heebner	3434	3426	-1308
Toronto	3449	3444	-1326
Lansing	3474	3470	-1352
Stark	3681	3671	-1553
BKC	3728	3732	-1614
Arbuckle	3864	3866	-1748

Mai Oil #3 Oelkers 19-16S-19W 380' FNL, 330' FEL KB: 2033	
Relationship	
+1	
+1	
+10	
+2	
+2	
+2	
+8	
-5	
-11	

Mai Oil Oelkers #1 19-16S-19W NW-NE-NE KB: 2115	
-1	
-1	
+5	
+1	
+1	
+2	
+4	
-5	
+16	



ROCK TYPES

LITHOLOGY

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Black shale
- Congl

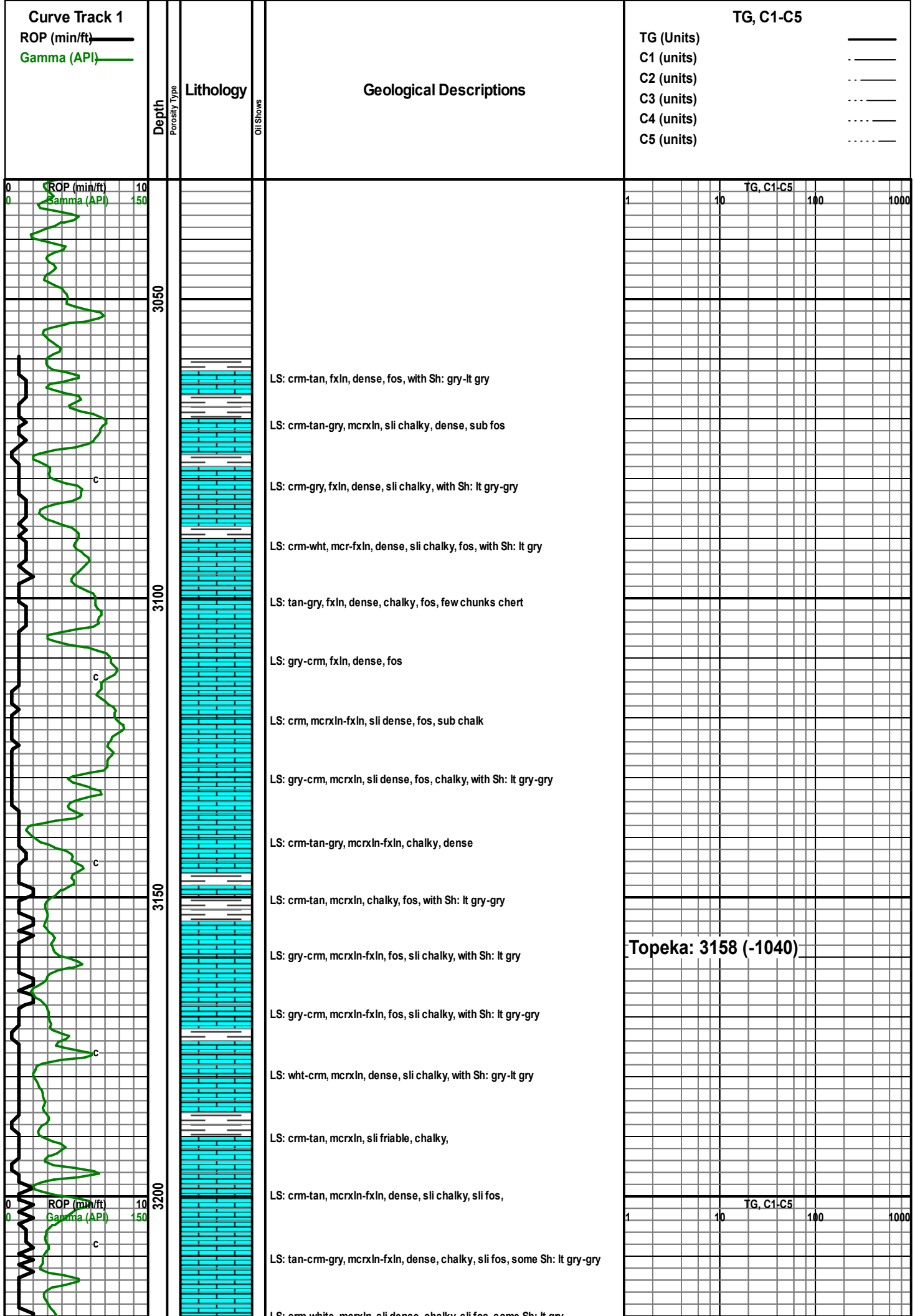
- Dol
- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale

- Shcol
- Shgy
- Slst
- Ss
- Till

- STRINGER**
- Anhy

- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Slst

- Ssstrg
- OIL SHOW**
- Even
 - Spotted
 - Ques
 - Dead



Topeka: 3158 (-1040)

LS: crm-white, mcrxln, sli dense, chalky, sli fos, some Sh: lt gry

LS: crm, some gry, mcrxln, friable, chalky, sli fos

LS: crm, mcrxln, friable, chalky

LS: crm-gry, mcrxln, sli friable, sli chalky, some Sh: lt gry some gm

LS: crm-tan, mcrxln, dense, chalky, sli fos, some Sh: lt gry-gry

LS: crm-gry, mcrxln, friable, chalky

LS: crm-tan, mcrxln, dense, sli chalky, sli fos,

LS: crm-tan, some gry, mcrxln, dense, chalky

LS: crm-tan, mcrxln-fxln, sli dense, chalky, sli fos

LS: crm-gry, mcrxln, friable, chalky

LS: crm, mcrxln, dense, sli chalky, few pieces of Sh: gry-drk gry, some blk

LS: crm-gry, mcrxln, dense, sli chalky, sli fos

LS: crm, mcrxln, dense, sli chalky, sli fos, some Sh: drk gry-blck

LS: A.A.

LS: crm-gry, mcrxln-fxln, dense, chalky, sli fos

LS: crm-tan, mcrxln, friable, chalky

LS: crm-gry, mcrxln, sli dense, chalky

LS: crm-tan-gry, mcrxln, sli dense, chalky, sli fos

LS: crm-gry, mcrxln, dense, sli chalky, sli fos

LS: A.A.

LS: crm-gry, mcrxln, dense, sli chalky, fos,

LS: crm-tan, mcrxln-fxln, dense, chalky, sli fos

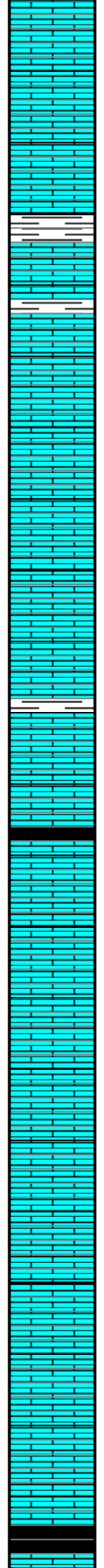
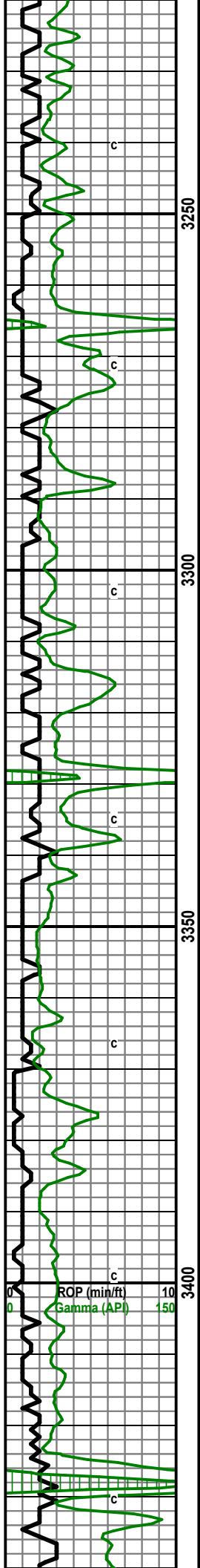
Sh: blk, carb

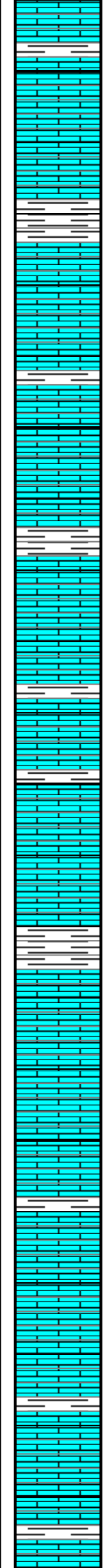
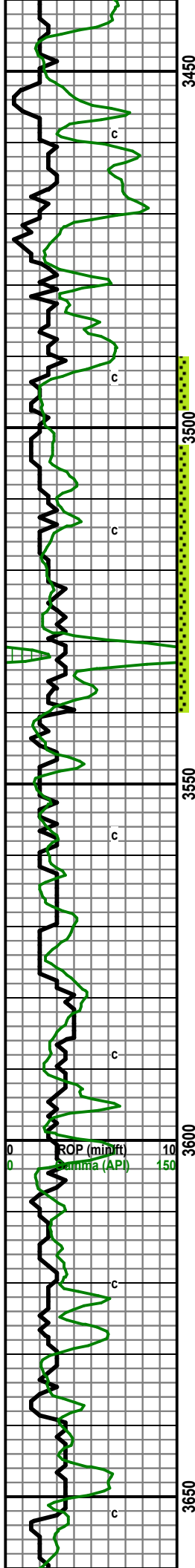
KDT md ck
wt: 8.5 Vis: 64
pH: 11.5 Fil: 7.2
LCM: 1

TG, C1-C5

1 10 100 1000

Heebner: 3434 (-1316)





LS: crm-tan, mcrxln-fxln, dense, chalky, sli fos

LS: crm-tan, mcrxln-fxln, dense, sli friable, sli chalk, sli fos, some Sh: gry-lt gry

LS: crm-tan, mcrxln-fxln, dense, chalky, sli fos

LS: crm-tan, some gry, mcrxln, dense, chalky, sli fos

Sh: gry-drk gry, some blk

LS: crm-tan, fxln, dense, chalky, sli fos

LS: tan-gry, fxln, dense, sli chalky, sli fos, some Sh: gry-lt gry

LS; crm-tan-gry, fxln, dense, chalky, sli fos, NSFO some Sh: gry-lt gry

LS; crm-tan, fxln, dense, sli chalky, sli ool, fr vis por, vrrsfo

LS: crm-tan, fxln, few friable, sli ool, fr-gd vis por, vrrsfo, vrr gas, sli dull yellow fluor, no odor

Sh: gry-lt gry

LS: crm, some gry, mcrxln, some fxln, friable sub dense, chalky, fos, NSFO

LS: crm, some gry, mcrxln-fxln, friable, sli dense, sli fos, sli chalky, NSFO

Sh: gry-drk gry, some blk

LS; crm-gry, mcrxln, dense, sli friable, fos

Sh: gry-lt gry

LS; crm, mcrxln, dense, sli chalky, sli fos

LS: crm, mcrxln, dense, some friable, sli chalky, sli fos

LS: crm, mcrxln, sli friable, sli fos

Sh: gry-lt gry

LS: crm-tan, mcrxln, dense, chalky, sli ool

LS: A.A.

LS: crm-tan, mcrxln, dense, sli chalky, sli ool

LS: A.A. with some Sh: lt gry-gry

LS: crm, mcrxln, dense, sli chalky

LS: crm, mcrxln, dense, sli chalky, sample contained a good amount of green and gray shale

LS: crm, mcrxln, dense, sli chalky, some ool

Sh: gry-lt gry

LS: crm-gry, mcrxln, dense, ool, sli chalky

LS: crm some gry, mcrxln, dense, chalky

Sh: lt gry-gry

CFS

Lansing: 3474 (-1356)

CFS

DST #1 3490-3540
30-60-30-60

IF: weak surface built to 3"
FF: weak surface built to .5"
Rec: 90' MCW with skim of oil on top (90% W 10% m)
IFP: 20-38 ISIP: 627
FFP: 47-54 FSIP: 68
appears tool did not shut-in on 2nd shut in

CFS

CFS

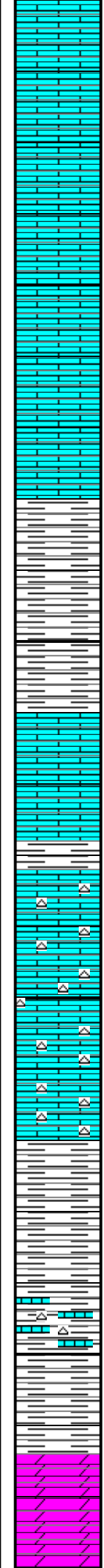
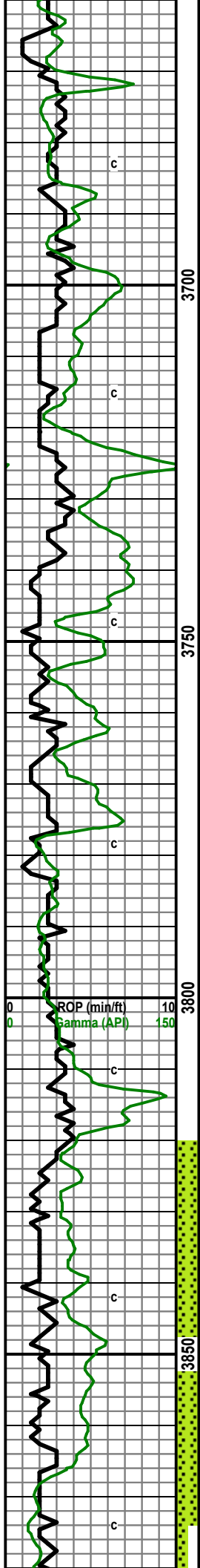
KDT md ck
Wt: 9 Vis: 61
pH: 11 Fil: 8.8
LCM: 1

CFS

TG, C1-C5

CFS

CFS



LS: crm, mcrxln, dense, sli ool, sli chalky

LS: A.A. with Sh: drk gry-gry

LS: crm-tan, mcrxln, dense, some chert

LS: crm-tan, mcrxln, dense, sli ool, some Sh: lt gry-gm

LS: tan, mcrxln-fxln, dense, ool, sli chalky

LS: tan-crm, mcrxln, dense, ool

LS: A.A. with Sh: drk gry-gry, some red and green

LS and Sh: A.A.

Sh: gry-drk gry, with some LS: tan, mcrxln, dense, ool

Sh: A.A. and some red, with some LS: A.A.

LS: tan-crm, mcrxln, dense, sli chalky, samples still contain good amount of Sh: gry-drk gry-gm

Sh: gry-drk gry-gm

LS: crm-tan, mcrxln, dense, sli chalky, with Chert

Cherty LS: crm-tan, mcrxln, dense

Cherty LS: crm-gry, mcrxln, dense

Cherty LS: A.A. with some Sh: drk gry-gry

Sh: gry-drk gry-gm

Sh: A.A.

Sh: gry-drk gry, some LS: crm, mcrxln, sli chalky, cherty

Sh and LS: A.A.

Sh: gry, lots of red

Dolo: tan-gry some crm, fxln, sli friable, pr-fr por, sli sfo, few pieces with dead flakes, sli dull fluor, no odor

Dolo: crm-tan, fxln, sli friable, pr-fr por, vrr sfo, vary sli dull fluor, no odor

Stark: 3681 (-1563)

BKC: 3728 (-1610)

Pawnee: 3767 (-1649)

TG, C1-C5

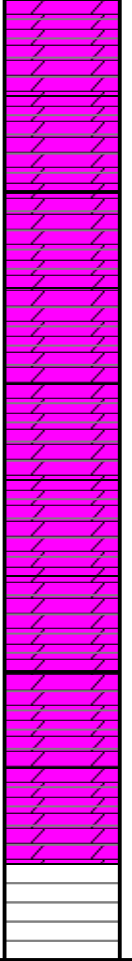
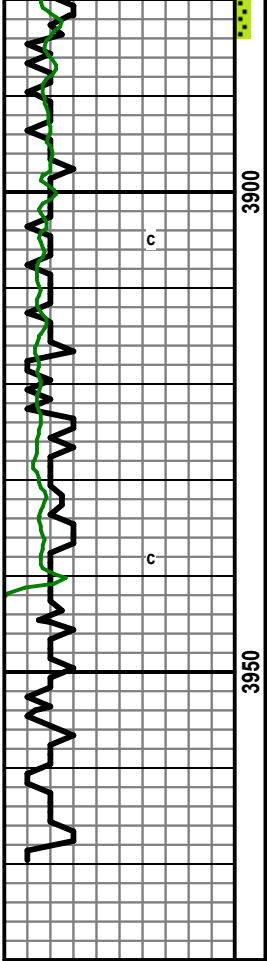
1 10 100 1000

CFS

KDT md ck
Wt: 9.1 Vis: 50
pH: 10.5 Fil: 9.6
LCM: 1

Arbuckle: 3864 (-1746)

CFS



Dolo: crm-tan, fxln, sli friable, pr-fr por, vln sfo, vety sli dull fluor, no odor

Dolo: crm, fxln, sli friable, sample contains a lot of red and gry shale

Dolo: crm-gry, mcrxln-fxln, dense

Dolo: crm-gry, mcrxln-fxln, sli friable, pr-fr por, sli sfo, dull fluor, no odor,

Dolo: A.A.

Dolo: crm-gry, mcrxln-fxln, dense, sli friable, pr-fr por, sli sfo, dull yellow, fluor, no odor

Dolo: crm-tan-gry, mcrxln-fxln, dense

Dolo: A.A.

Dolo: crm-tan, fxln, some mcrxln, dense, nsfo

RTD: 3970
LTD: 3964

CFS	KDT md ck Wt: 9.4 Vis: 51 pH: 10.5 Fil: 10.4 LCM: 1.5
<p>DST #2 3820-3874 30-60-30-60 IF: surface blow built to .5" FF: no blow Rec: 5' M IFP: 23-27 ISIP: 403 FFP: 28-28 FSIP: 384</p> <p>DST#3 3820-3884 30-60-60-90 IF: strong blow built to 8" FF: B.O.B in 35 min. Rec: 60'M, 180' MCW (35% M, 65% W) IFP: 31-70 ISIP: 1162 FFP: 81-133 FSIP: 1147 BHT: 115</p>	