

**Ritchie Exploration, Inc.  
Lewis Trust 10CD No.1  
1245' FSL and 2290' FEL  
75'S & 20'E of W2 W2 SE  
Sec 10 T17S R37W  
Wichita County, Kansas**

Geological Report  
by

Macklin M. Armstrong, P.G.  
License Number 743

Scale 1:240 Imperial

Well Name:	Lewis Trust 10CD No. 1	
Surface Location:	Sec 10 T17 R37W	
Bottom Location:	1245' FSL and 2290' FEL	
API:	15-109-20271	
License Number:	4767	
Spud Date:	7/1/2014	Time: 8:00 AM
Region:	Wichita County, Kansas	
Drilling Completed:	7/8/2014	Time: 11:58 PM
Surface Coordinates:		
Bottom Hole Coordinates:		
Ground Elevation:	3328.00ft	
K.B. Elevation:	3333.00ft	
Logged Interval:	3500.00ft	To: 5034.00ft
Total Depth:	5030.00ft	
Formation:	Mississippi	
Drilling Fluid Type:	Chemical/Fresh Water Gel	

**OPERATOR**

Company: Ritchie Exploration, Inc.  
Address: 8100 East 22nd Street North, No. 700  
Wichita, Kansas 67226

Contact Geologist: Pete Fiorini  
Contact Phone Nbr: 316-691-9500  
Well Name: Lewis Trust 10CD No. 1  
Location: Sec 10 T17 R37W  
Pool: Oil  
API: 15-109-20271  
Field: Wildcat

**CONTRACTOR**

Contractor: WW Drilling, LLC  
 Rig #: 2  
 Rig Type: mud rotary  
 Spud Date: 7/1/2014  
 TD Date: 7/8/2014  
 Rig Release: 7/9/2014

Time: 8:00 AM  
 Time: 11:58 PM  
 Time: 7:45 PM

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: 101.394345478  
 N/S Co-ord:  
 E/W Co-ord:

Latitude: 38.586568842

**ELEVATIONS**

K.B. Elevation: 3333.00ft  
 K.B. to Ground: 5.00ft

Ground Elevation: 3328.00ft

**NOTES**

Date	Depth at 7 am	Activity
7-01-14	MIRU	Spud at 8:00 am
7-02-14	900	Drilling
7-03-14	2740	Drilling
7-04-14	3535	Drilling
7-05-14	4090	TOH for DST No. 1
7-06-14	4276	CFS
7-07-14	4524	TOH after DST No. 2
7-08-14	4782	CFS
7-09-14	5030	Logging
7-10-14	5030	P & A

Surface Casing: 8 5/8" 23# at 261'  
 Production Casing: None set

Deviation: 262' - 1°  
 4090' - 2°  
 4524' - 1°  
 5030' - 1 3/4°

Bit Record:	Make	Size	Type	Depth In	Depth Out	Hours
	SM	12 1/4"	RR	Surface	262	3 1/2
	SM	7 7/8"	F27	262	5030	118 1/2

**Drill Stem Tests:**

DST No. 1 4008 to 4090 Toronto, Lansing C, D Zones  
 30-45-45-60

Recovery: 150' MCW (50%M, 50%W)  
 300' SMCW (15%M, 85%W)  
 1860' W (Chl - 30,000 ppm)

IHP 2117 FHP 1945  
 IFP 194-747 FFP 773-1054  
 ISIP 1120 FSIP 1123  
 Temp 120°

DST No. 2 4476 to 4524 Altamont  
 30-45-45-60

Recovery: 135' SWCM (20%W, 80%M)  
 120' MCW (40%M, 60%W)  
 120' SMCW (15%M, 85%W - Chl 25,000 ppm)

IHP 2346 FHP 2230  
 IFP 16-151 FFP 156-196

ITP 40-151  
ISIP 1313  
Temp 123°

ITP 150-190  
FSIP 1294

Formation	Sample	E-Log	Datum	Well 1	Well 2	Well 3
Anhydrite	2488	2484	+849	+10	+31	+2
Base/Anhydrite	2506	2502	+831	+17	+33	+3
Stotler	3593	3592	-259	+4	+35	+6
Heebner	3969	3970	-637	+8	+40	+13
Toronto	3982	3983	-650	+11	+43	+13
Lansing	4013	4015	-682	+8	+40	+14
Muncie Creek	4203	4204	-871	+5	+35	+10
Stark	4298	4299	-966	+11	+36	+10
Hushpuckney	4343	4245	-1012	+20	+41	+25
Base/Kansas City	4418	4420	-1087	+15	+32	+24
Marmaton	4446	4447	-1114	+11	+44	+18
Altamont	4458	4460	-1127	+13	+39	+23
Pawnee	4547	4549	-1216	+8	+33	+24
Myrick Station	4580	4581	-1248	+12	+36	+19
Fort Scott	4492	4494	-1261	+15	+38	+21
Cherokee Shale	4621	4622	-1289	+10	+36	+21
Johnson Zone	4759	4760	-1427	+13	+32	+21
Morrow Shale	4785	4785	-1452	+17	+35	+34
Mississippi	4910	4911	-1578	-10	-3	+4
Total Depth	5030	5034	-1701			

Well 1: Panhandle Eastern Nelson No. 1 C NW NW Sec 16 T17S R37W








Well 2: Rooney, Siegfried & Thomas Lindsberg No. 1 SW SW SW Sec 12 T17S R37W

Well 3: Falcon Exploration, Inc. Kalbach No. 1 150'SE of C SE SE Sec 16 T17S R37W

Due to the results of the Drill Stem Tests and the electric log calculations, it was decided to plug this test well.

Respectfully submitted,  
Macklin M. Armstrong

### ROCK TYPES

 Lmst fw7>	 shale, gry	 shale, red	 Ss
 shale, grn	 Carbon Sh	 Shcol	

### ACCESSORIES

#### MINERAL

▲ Chert, dark  
∩ Glauconite  
• Sandy  
△ Chert White

#### FOSSIL

∩ Coral  
⊙ Crinoids  
F Fossils < 20%  
⊕ Oolite  
⊕ Oomoldic  
⊕ Fossilinid

#### STRINGER










••• Siltstone

#### TEXTURE




C Chalky

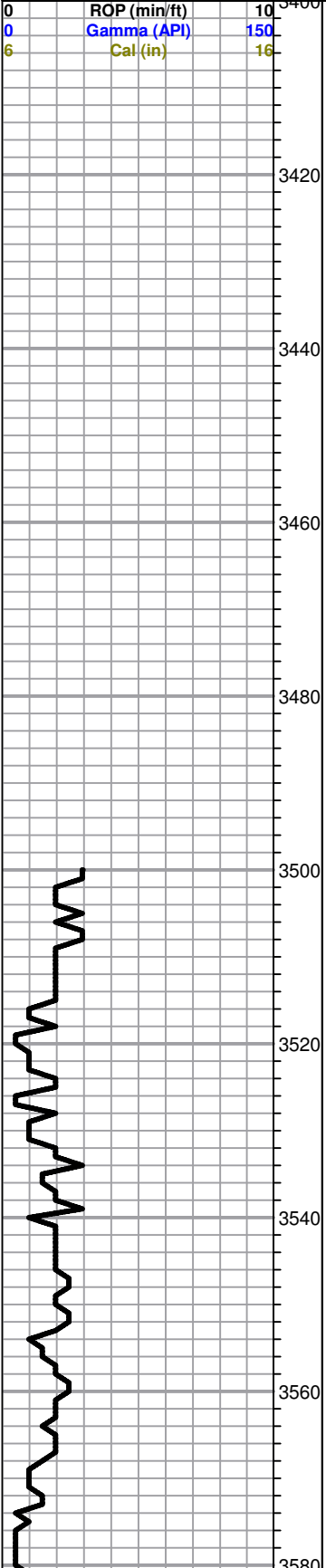
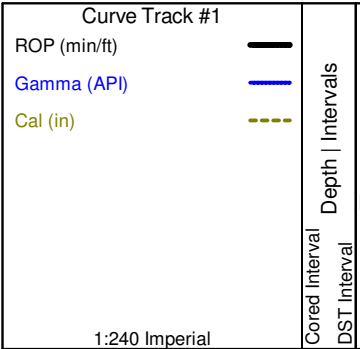
### OTHER SYMBOLS

#### MISC

 Daily Report  
 Digital Photo  
 Document  
 Folder  
 Link  
 Vertical Log File  
 Horizontal Log File  
 Core Log File  
 Drill Cuttings Rpt

#### DST

 DST Int  
 DST alt  
 Core



Lithology

Oil Show

Geological Descriptions

Geological Descriptions

**Ritchie Exploration, Inc.**  
**Lewis Trust 10CD No. 1**  
**1245' FSL and 2290' FEL**  
**75'S & 20'E of W2 W2 SE**  
**Sec 10 T17S R37W**  
**Wichita County, Kansas**  
**GL 3328 KB 3333**

Comment

Mud Program:  
 Mud Co/Service Mud  
 Chemical Gel/Premix

Sample Cuttings:  
 KGS Well Sample Library

Testing: Trilobite Testing

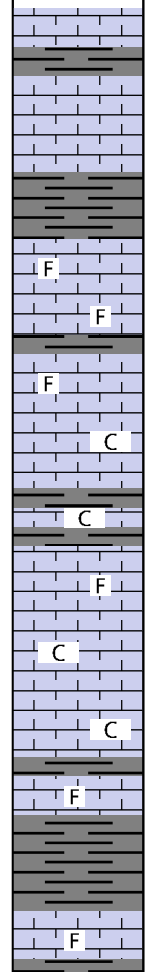
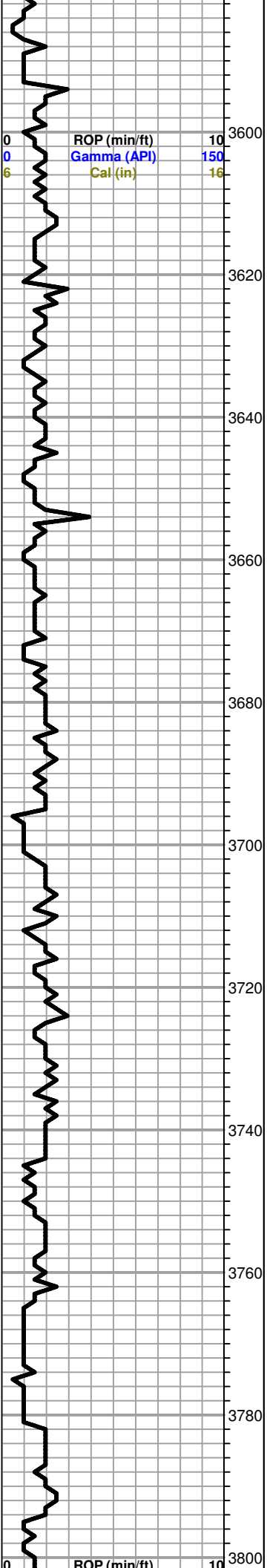
Electric Logs:  
 Nabors Production &  
 Completion Services  
 Company  
 DIL  
 CDL/CNL

Deviation:  
 262' - 1°  
 4090' - 2°  
 4524' - 1°  
 5030' - 1 3/4°

**Mud Data at 3558'**  
 8:30 am 7-04-14  
 Wt 8.7 Vis 60 WL 7.2  
 pH 11 Chl 3800 Sol 2.6%  
 YP 22 LCM 3#

----- Stotler 3593 -260 -----

All formation tops on this geological log have been correlated back to the electric log



Ls-tan/lt gry fxln dns no por  
 Sh-gry/dk gry

Ls-tan/lt gry fxln mhd/dns no por

Sh-gry/dk gry

Ls-tan/lt gry f/mxln mhd sl fos no por

Ls-tan/lt gry f/mxln mhd/dns fos no por  
 Sh-gry/dk gry

Ls-tan/lt gry f/mxln dns sl fos no por

Ls-tan/crm fxln md sl clkly no por sm Ls-wt fxln soft clkly

Sh-gry/dk gry  
 Ls-tan/crm fxln mhd/dns sl clkly no por  
 Sh-gry/dk gry

Ls- tan f/mxln mhd/dns sl fos no por

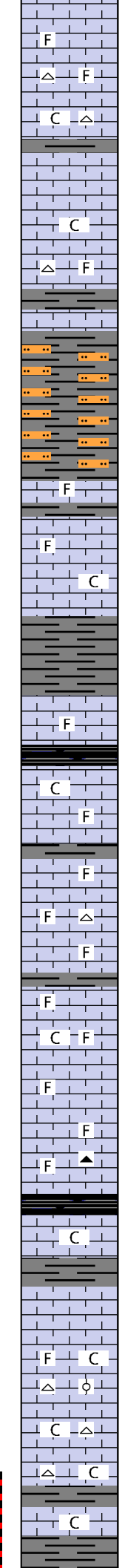
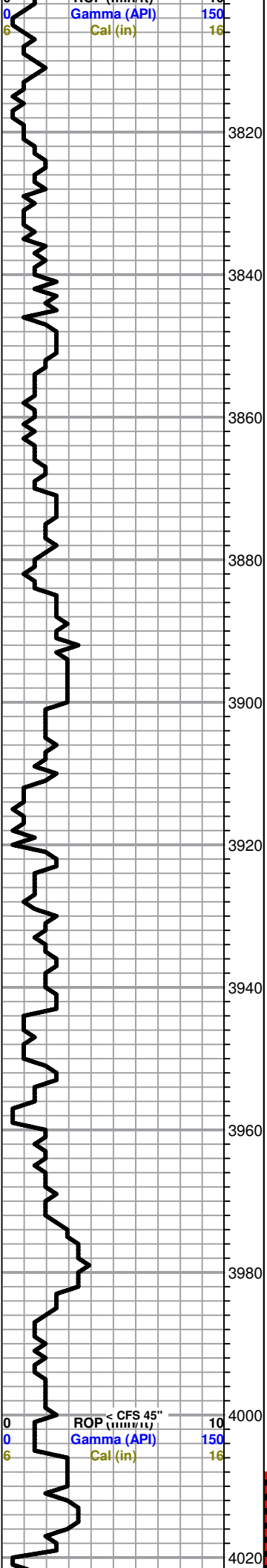
Ls-crm/lt tan fxln soft/mhd clkly no por

Ls-AA

Sh-gry/dk gry  
 Ls-tan/brn f/mxln mhd/dns sl fos no por

Sh-gry/dk gry

Ls-tan/gry/brn f/mxln dns sl fos no por  
 Sh-gry/dk gry



Ls-tan/gry/lt brn f/mxln mhd sl fos no por

Ls-tan/gry/brn f/mxln mhd/dns sl fos no por sm Cht-wt fsh opa

Ls-crm/lt tan f/mxln mhd sl clky no por sm Cht-AA

Sh-gry/dk gry

Ls-tan f/mxln mhd/dns no por

Ls-crm/lt tan fxln mhd sl clky no por sm Ls-wt fxln soft clky

Ls-tan f/mxln mhd/dns sl fos no por sm Cht-wt fsh opa

Sh-gry/dk gry

Ls-tan/lt gry fxln dns no por

Sh-gry/dk gry sm Siltstone-gry/dk gry

Sh-AA sm Siltstone-gry

Sh-AA sm Siltstone-gry

Ls-tan/lt brn f/mxln dns sl fos no por

Sh-gry/dk gry

Ls-tan/lt gry f/mxln dns sl fos no por

Ls-crm/lt tan fxln mhd sl clky no por sm Ls-wt fxln soft clky

Ls-crm/tan fxln mhd/dns sl clky no por

Sh-gry/dk gry

Ls-tan/gry f/mxln mhd/dns sl fos no por

Sh-blk carb

Ls-lt tan fxln mhd sl clky no por sm Ls-wt fxln soft clky

Ls-tan/lt gry f/mxln mhd sl fos no por

Sh-gry/dk gry

Ls-lt gry//tan f/mxln mhd/dns sl fos no por

Ls-tan f/mxln mhd dns sl fos no por sm Cht-wt/lt gry fsh opa

Ls-AA sm Cht-wt fsh opa

Sh-gry/dk gry

Ls-tan fxln dns sl fos no por

Ls-tan f/mxln mhd sl clky sl fos pr inter xln por nsfo

Ls-tan /lt gry f/mxln dns sl fos no por

Ls-tan/lt gry f/mxln soft/mhd sl fos fr inter xln por nsfo

Ls-gry mxln mhd/dns sl fos no por sm Cht-wt/lt gry/tan fsh opa

----- **Heebner 3969 -636** -----

Sh-blk carb

Ls-tan/brn f/mxln dns sl clky no por

Sh-gry/dk gry

----- **Toronto 3982 -649** -----

Ls-tan f/mxln mhd/dns no por

Ls-tan f/mxln mhd fr inter xln por nsfo

Ls-AA with sm Ls-lt gry fxln mhd fos with blk ool no por and Ls-wt fxln mhd clky no por and Cht-wt/gry wt fsh and weat opa

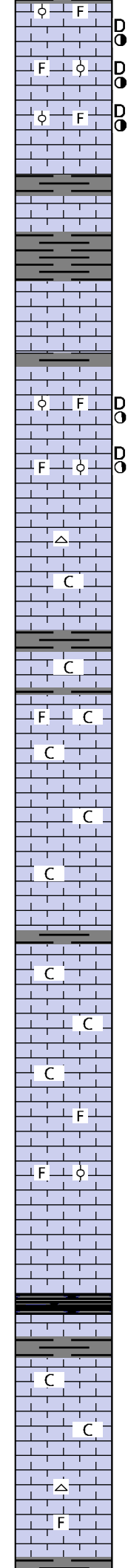
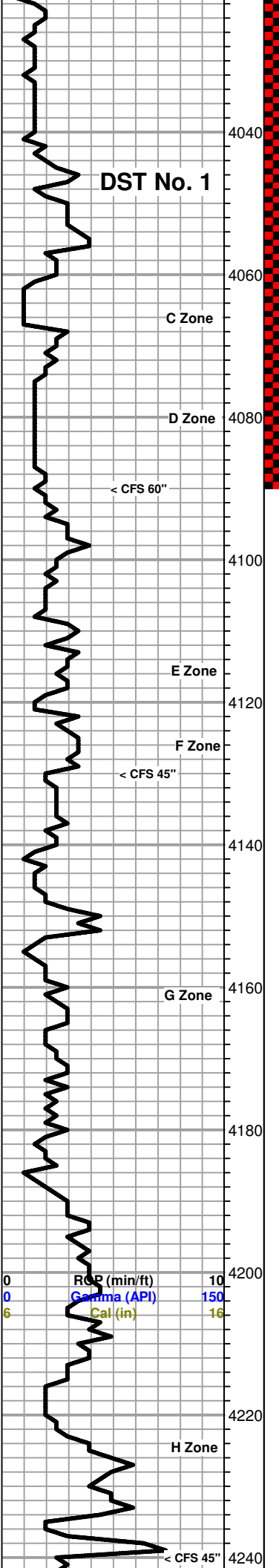
Ls-crm/tan fxln mhd sl clky no por sm Cht-wt fsh opa

Ls-crm/tan fxln dns sl clky no por sm Cht-AA

----- **Lansing 4013 -680** -----

Ls-crm/tan fxln dns sl clky no por

Sh-gry/dk gry



Ls-crm fxlIn mhd no por sm Ls-crm/tan fxlIn mhd fos ool fr inter ool por blk heavy oil stn gd cut ssfo on brk no odor

Ls-AA

Ls-crm/tan fxlIn mhd no por sm Ls-crm/tan fxlIn mhd fos ool fr inter ool por blk to dk brn heavy oil stn gd cut ssfo on brk no odor

Ls-tan fxlIn mhd/dns no por

Sh-gry/dk gry

Ls-tan/brn fxlIn dns no por

Sh-gry/dk gry

Ls-crm/tan fxlIn mhd fr inter xln por

Ls-tan fxlIn dns no por

Sh-gry/dk gry

Ls-tan fxlIn mhd/dns no por

Ls-crm/tan fxlIn mhd no por sm Ls-crm/tan fxlIn mhd fos ool fr inter ool por blk to dk brn heavy oil stn vssfo on brk no odor

Ls-AA sm Ls-lt gry f/mxlIn mhd fr inter xln por nsfo

Ls-tan fxlIn mhd no por

Ls-crm/tan fxlIn dns no por sm Cht-wt fsh opaQ

Ls-tan/lt gry fxlIn mhd sl clky no por sm Ls-wt fxlIn soft clky

Ls-AA

Sh-gry/dk gry

Ls-crm/tan/lt gry fxlIn dns sl clky no por

Sh-gry/dk gry

Ls-lt gry/tan fxlIn mhd sl clky no por sm Ls-gry fxlIn mhd fos no por

Ls-tan/lt gry f/mxlIn dns sl clky no por

Ls-tan/lt gry fxlIn mhd sl clky no por

Ls-AA

Ls-tan/lt gry fxlIn mhd clky no por

Ls-tan/lt gry fxlIn dns no por

Sh-gry/dk gry

Ls-tan/crm/lt gry fxlIn mhd sl clky no por

Ls-crm/lt tan f/mxlIn mhd/dns sl clky no por

Ls-AA

Ls-crm/tan fxlIn dns sl fos no por

Ls-AA sm Ls-tan fxlIn mhd fos ool no por

Ls-crm/tan fxlIn dns no por

Ls-AA

----- **Muncie Creek 4203 -870** -----

Sh-blk carb

Ls-tan/lt gry fxlIn dns no por

Sh-gry/dk gry

Ls-crm/tan fxlIn mhd/dns sl clky no por

Ls-crm/lt tan fxlIn mhd clky no por

Ls-tan/crm/lt gry fxlIn dns no por

Ls-crm/tan/lt gry fxlIn mhd/dns no por sm Cht-gry wt fsh opaQ

Ls-crm/tan fxlIn mhd sl fos fr inter xln por nsfo

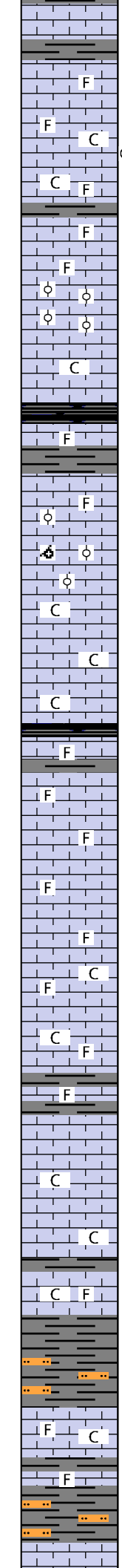
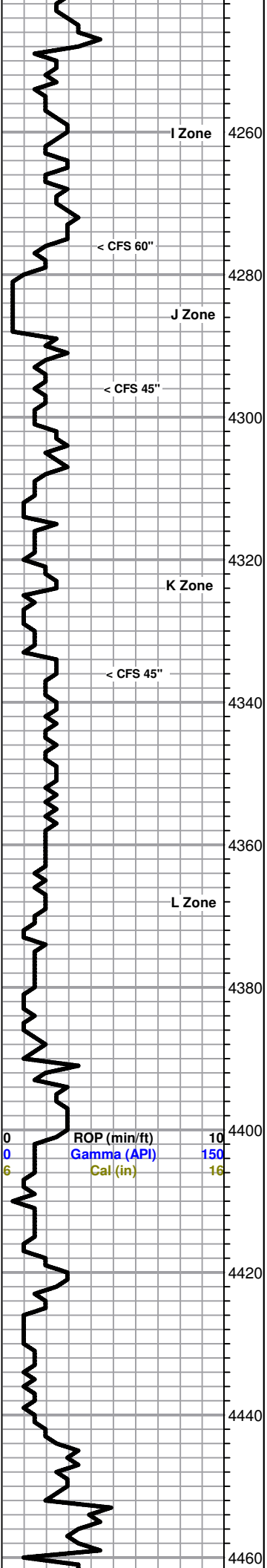
Sh-arv/dk arv

**DST No. 1**  
 4008 to 4090  
 30-45-45-60  
 1st Open: BOB in 2"  
 2nd Open: BOB in 3.5"  
 Recovery:  
 150' MCW (50%M, 50%W)  
 300' SMCW (15%M, 85%W)  
 1860' W (Chl - 30,000 ppm)  
 IHP 2117 FHP 1945  
 IFP 194-747 FFP 773-1054  
 ISIP 1120 FSIP 1123  
 Temp 120°

Pulled 25 stand short trip at 4090', then cir for test - 90°

Pipe strap at 4090', long 1.71'

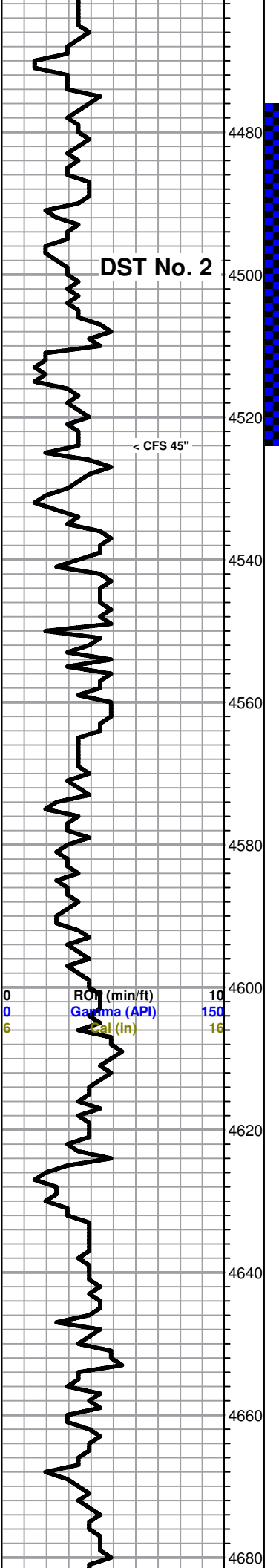
**Mud Data at 4090'**  
 6:35 am 7-05-14  
 Wt 9 Vis 60 WL 8.8  
 pH 9 Chl 4400 Sol 4.7%  
 YP 22 LCM 2#



Sh-gry/dk gry  
 Ls-tan/lt gry fxln dns no por  
 Sh-gry/dk gry  
 Ls-tan/lt gry f/mxln mhd sl fos no por  
 Ls-AA  
 Ls-gry/brn f/mxln mhd sl fos sub clkly no por few pcs trc stn  
 Ls-lt gry/tan fln dns sl fos sl clkly no por  
 Sh-gry dk gry  
 Ls-tan/lt gry fxln dns sl fos no por  
 Ls-tan/gry f/mxln mhd sl fos no por  
 Ls-tan/lt gry fxln mhd fos sl ool gd ooc por nsfo  
 Ls-lt gry/tan fxln mhd sl fos sl clkly no por  
 Ls-AA  
 ----- **Stark 4298 -965** -----  
 Ls- tan/lt gry f/mxln dns sl fos no por  
 Sh-gry/dk gry  
 Ls-lt gry/tan fxln mhd fos sl ool fr ooc por nsfo  
 Ls-crm/tan fxln mhd fos sl ool and oom fr ooc por nsfo  
 Ls-crm/tan fxln dns sl fos sl ool no por  
 Ls-crm/lt tan f/mxln mhd clkly pr inter xln por nsfo  
 Ls-crm/lt tan f/mxln mhd/dns sl clkly no por  
 Ls-AA  
 ----- **Hushpuckney 4343 -1010** -----  
 Ls-crm/tan mhd/dns sl fos no por  
 Sh-gry/dk gry  
 Ls-crm/lt tan fxln mhd/dns sl fos no por  
 Ls-lt gry fxln mhd/dns sl fos no por  
 Ls-lt gry/gry fmxln mhd sl fos no por  
 Ls-AA  
 Ls-lt grytan/gry f/mxln mhd sl fos sub clkly no por  
 Ls-AA  
 Sh-gry/dk gry  
 Ls-lt gry/crm fxln dns sl fos no por  
 Sh-gry/dk gry  
 Ls-lt gry/gry fxln dns no por  
 Ls-lt gry/crm fxln mhd sl clkly no por  
 Ls-AA  
 ----- **Base/Kansas City 4418 -1085** -----  
 Ls-lt gry/crm fxln dns sl clkly sl fos no por  
 Sh-gry/dk gry  
 Sh-AA sm Siltstone-lt gry/gry  
 Ls-lt gry/gry f/mxln mhd sl clkly sl fos no por  
 ----- **Marmaton 4446 -1113** -----  
 Ls-lt gry/gry f/mxln mhd sl fos no por  
 Sh-gry/dk gry sm Siltstone-lt gry/gry  
 ----- **Altamont 4458 -1125** -----  
 Ls-lt gry/tan fxln dns no por

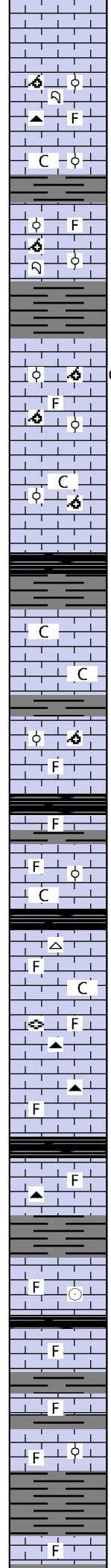
**Mud Data at 4296'**  
 8:45 am 7-06-14  
 Wt 9.1 Vis 56 WL 9.6  
 pH 9 Chl 7000 Sol 5.2%  
 YP 21 LCM 2#





**DST No. 2**

0 ROM (min/ft) 10  
 0 Gamma (API) 150  
 6 Cal (in) 16

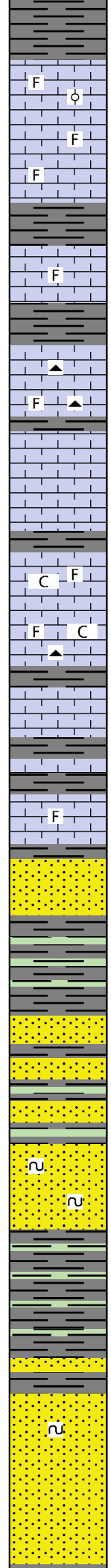
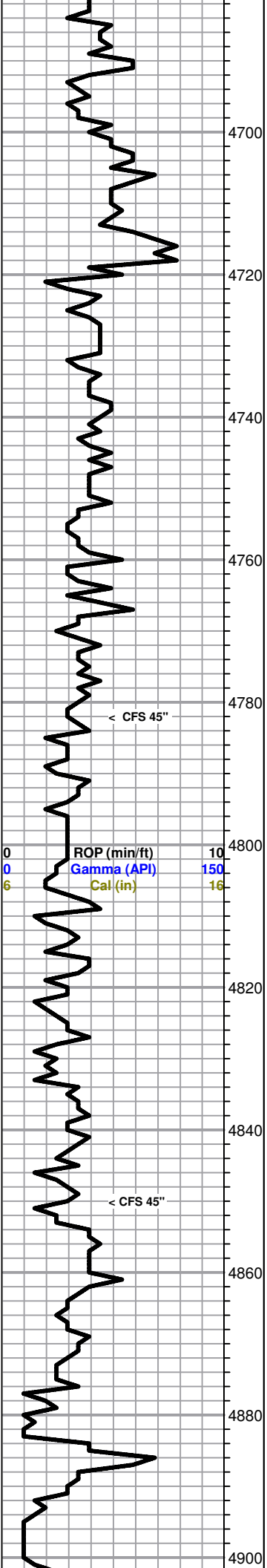


Ls-AA  
 Ls-lt gry/tan f/mxln mhd sl fos no por  
 Ls-tan/lt gry fxln mhd/dns fos ool and oom no por sm Ls-dk gry fxln mhd/dns with tan crin no por and few pcs of Coral-tan  
 Ls-lt gry/tan/gry f/mxln dns sl fos no por sm Cht-lt gry fsh fos sl ool opa  
 Ls-lt gry/tan/crm fxln mhd/dns sl clky no por sm Ls-tan/brn fxln mhd fos ool no por and Cht-tan fsh fos sl ool opa  
 Sh-gry/dk gry  
 Ls-tan/brn fxln mhd fos sl ool no por  
 Ls-tan/lt gry fxln mhd fos ool and oom no por sm Cht-wt fsh fos sl ool opa and few pcs of Coral-tan  
 Sh-gry/dk gry  
 Ls-tan/lt gry/gry f/mxln mhd/dns fos oom no por sm Ls-crm fxln mhd fos ool fr inter ool por gd streaming cut dk brn heavy oil stn ssfo on brk no odor  
 Ls-tan/gry/brn fxln dns fos ool and oom no por  
 Ls-tan/lt gry fxln dns no por  
 Ls-lt gry fxln mhd sub clky fos oom and ool no por  
 Ls-lt gry/tan fxln dns no por  
 Sh-blk carb  
 Sh-gry/dk gry  
 ----- Pawnee 4547 -1214 -----  
 Ls-lt gry fxln mhd/dns sub clky no por  
 Ls-lt gry fxln mhd/sns sub clky no por  
 Sh-gry/dk gry  
 Ls-lt gry fxln mhd/dns fos ool and oom no por  
 Ls-tan/gry mxln to frag fos no por  
 Sh-blk carb  
 Ls-gry/tan f/mxln mhd/dns sl fos no por  
 ----- Myrick Station 4580 -1247 -----  
 Ls-lt gry f/mxln mhd fos with blk ool no por  
 Ls-lt gry/crm f/mxln mhd fos sub clky no por  
 ----- Fort Scott 4592 -1259 -----  
 Ls-lt gry/tan mxln to frag mhd/dns fos no por sm Cht-lt gry fsh opa fos ool  
 Ls-lt gry/tan fxln dns sl clky sl fos no por  
 Ls-gry/brn cxln dns fos no por sm Ls-lt gry f/mxln dns sl fos no por sm free fus and Cht-brn/lt gry fsh opa fos ool  
 Ls-lt gry/gry f/mxln dns sl fos sl oom no por sm Cht-lt gry/brn fsh opa fos with lt brn to gry ool  
 ----- Cherokee Shale 4621 -1288 -----  
 Sh-blk carb  
 Ls-gry/brn cxln to frag mhd fos sl ool sm Cht-lt gry fsh fos ool opa  
 Sh-gry/dk gry  
 Ls-lt gry/gry fxln dns sl fos no por sm free crin  
 Sh-blk carb  
 Ls-lt gry/gry fxln dns sl fos no por  
 Sh-gry/dk gry  
 Ls-lt gry/gry f/mxln mhd/dns sl fos no por  
 Sh-gry/dk gry  
 Ls-lt gry/gry f/mxln mhd fos no por sm Ls-lt gry fxln mhd fos ool  
 Sh-gry/dk gry  
 Ls-lt gry/gry fxln dns sl fos no por

**DST No. 2**  
 4476 to 4524  
 30-45-45-60  
 1st Open: BOB in 15"  
 2nd Open: 6.5" blow  
 Recovery:  
 135' SWCM (20%W, 80%M)  
 120' MCW (40%M, 60%W)  
 120' SMCW (15%M, 85%W  
 Chl - 25,000 ppm)  
 IHP 2346 FHP 2230  
 IFP 46-151 FFP 156-196  
 ISIP 1313 FSIP 1294  
 Temp 123°

Pulled 17 stand short trip at 4524', then cir for test - 90"

**Mud Data at 4524'**  
 9:10 am 7-07-14  
 Wt 9.4 Vis 49 WL 9.6  
 pH 9 Chl 7500 Sol 7.3%  
 YP 17 LCM 2#



Sh-gry/dk gry

Ls-lt gry/gry/brn fxln dns no por sm Ls-lt gry fxln mhd fos ool

Ls-lt gry/try fxln mhd/dns sl fos no por

Ls-lt gry/tan/brn fxln dns sl fos no por

Sh-gry/dk gry

Ls-lt gry/brn/tan fxln mhd/dns sl fos no por

Ls-lt gry/brn fxln mhd sl fos no por

Sh-gry/dk gry

Ls-lt gry/gry/brn fxln dns no por sm Cht-gry/brn fsh opa

Ls-lt gry/gry f/mxln dns fos no por sm Cht-AA

Sh-gry/dk gry

Ls-lt gry/gry fxln dns no por

Ls-AA

----- **Johnson Zone 4759 -1426** -----

Ls-lt gry/gry fxln mhd no por sm Ls-tan fxln mhd sub clky sl fos

Ls-lt gry/gry f/mxln mhd/dns no por

Ls-gry/brn f/mxln dns no por sm Ls-lt gry/tan f/mxln mhd sub clky  
 sl fos no por sm Cht-lt gry fsh fos opa and Cht-gry fsh opa

Sh-gry/dk gry

Ls-gry/brn/dk gry f/mxln dns no por

----- **Morrow Shale 4785 -1452** -----

Ls-gry/brn/dk gry f/mxln mhd/dns no por

Sh-gry/dk gry

Ls-gry f/mxln dns no por sm Ls-lt gry fxln mhd fos no por

Sh-gry/dk gry

Ss-grn fgrn sub ang tite cement nsfo

Ss-lt gry/clr cgrn sub ang tite cement silica cement nsfo

Sh-gry/dk gry/grn

Sh-AA

Ss-gry/grn fgrn sub ang tite cement nsfo

Sh-gry/grn/dk gry

Ss-lt gry/crm cgrn sub ang tite cement silica cement nsfo

Sh-gry/dk gry/grn

Ss-lt gry/clr cgrn sub and tite cement nsfo

Sh-gry/dk gry/grn

Ss-gry/grn f/mgrn sub ang tite cement sl gils and glau nsfo

Sh-AA

Sh-gry/dk gry/grn

Sh-AA

Sh-AA

Ss-gry/grn fgrn sub and calcs matrix tite cement

Sh-gry/grn/dk gry

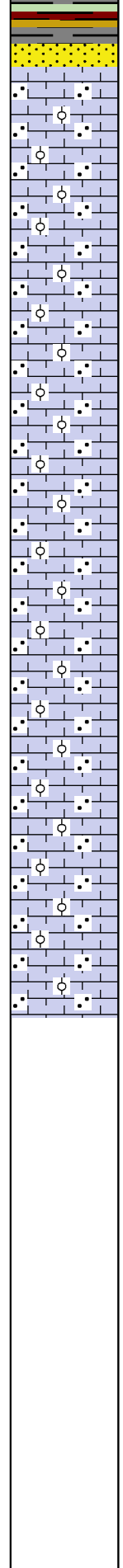
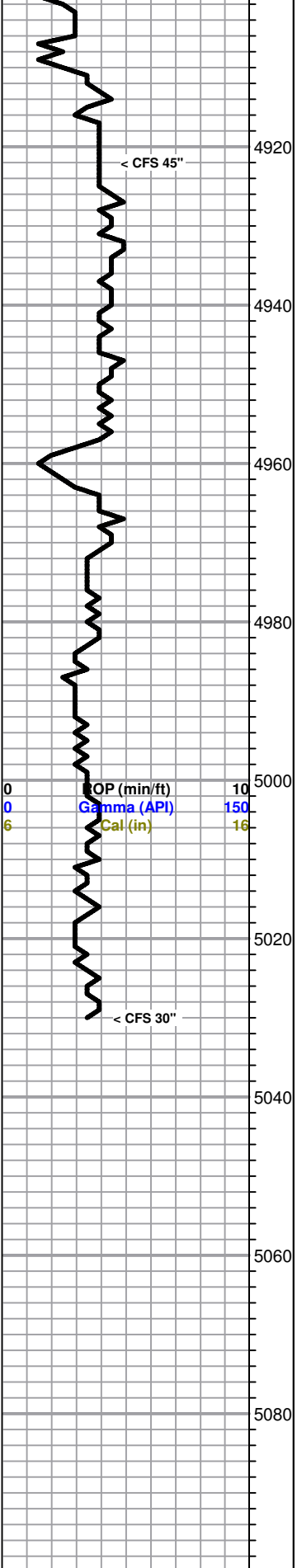
Ss-gry/dk gry mgrn sub ang calc matrix tite cement to sl fri glau nsfo

Ss-wt/tan/lt gry fgrn sub ang to sub rnd sl fri nsfo

Ss-grn/wt fgrn sub ang tite cement nsfo

Ss-tan/wt fgrn sub ang to sub rnd sl fir to tite cement nsfo

**Mud Data at 4800'**  
 9:00 am 7-08-14  
 Wt 9.3 Vis 52 WL 9.6  
 pH 9.5 Chl 10,500 Sol 6.6%  
 YP 22 LCM 2#



Sh-gry/dk gry/grn/mar/yel

Ss-tan/wt f/mqrn sub and to sub rnd sl fri nsfo

----- **Mississippi 4910 -1577** -----

Ls-crm/lt gry mxln to gran mhd/dns sl ool no por

Ls-crm gran mhd/dns sl ool no por

Ls-AA

Ls-wt/crm gran mhd/dns sl ool no por

Ls-AA

Ls-tan/lt gry gran mhd/dns sl ool no por

Ls-tan/lt gry/wt fgran to gran mhd sl clkly sl ool no por

Ls-tan/lt gry fgran mhd/dns sl ool no por

Ls-AA

Ls-tan/lt gry fxln to gran mhd/dns sl ool no por

Ls-AA

Ls-tan/lt gry fxln to fgran mhd/dns sl ool no por


Ls-AA


Ls-AA

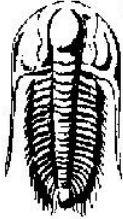
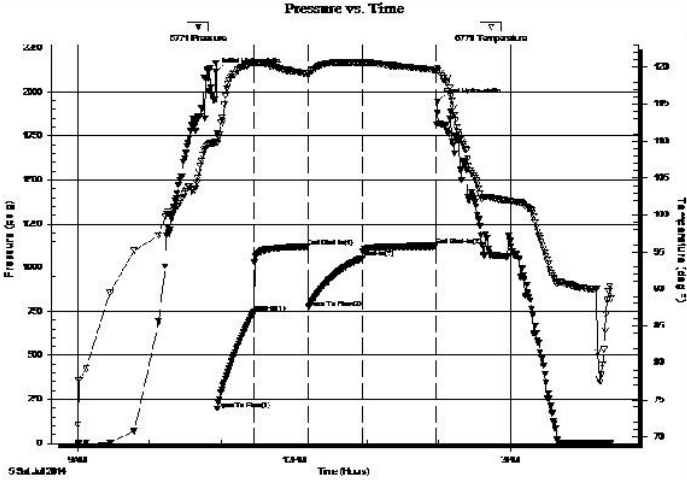
----- **RTD 5030 -1697** -----


Finished drilling at 11:58 pm on 7-08-14. Pulled 15 stand short trip, then circulated for log - 90 minutes.

Finished logging at 7:45 am on 7-09-14

 Ritchie Lewis Trust \_1 dst 1-1.jpg

 Ritchie Lewis Trust \_1 dst 2\_1-1.jpg

 <p style="font-size: 24pt; font-weight: bold; margin: 0;">TRILOBITE TESTING, INC.</p>	<h2 style="margin: 0;">DRILL STEM TEST REPORT</h2>																																					
Ritchie Exploration Inc 8100 E 22nd St N #700 Wichita, Ks 67278-3188 ATTN: Mac Armstrong	<b>10-17s-37w Wichita, Ks</b>  <b>Lewis Trust 10 CD #1</b> Job Ticket: 57301 <b>DST#:1</b>  Test Start: 2014.07.05 @ 09:00:26																																					
<b>GENERAL INFORMATION:</b>  Formation: <b>Toronto, C-D</b> Deviated: No    Whipstock: 0.00 ft (KB) Time Tool Opened: 10:56:11 Time Test Ended: 16:23:11  <b>Interval: 4008.00 ft (KB) To 4090.00 ft (KB) (TVD)</b> Total Depth: 4090.00 ft (KB) (TVD) Hole Diameter: 7.88 inches    Hole Condition: Fair																																						
Test Type: Conventional Bottom Hole (Initial) Tester: Shane McBride Unit No: 55  Reference Elevations: 3333.00 ft (KB) 3328.00 ft (CF) KB to GR/CF: 5.00 ft																																						
<b>Serial #: 6771    Inside</b> Press@RunDepth: 1054.42 psig @ 4009.00 ft (KB) Start Date: 2014.07.05    End Date: 2014.07.05 Start Time: 09:00:26    End Time: 16:23:11  Capacity: 8000.00 psig Last Calib.: 2014.07.05 Time On Btm: 2014.07.05 @ 10:55:11 Time Off Btm: 2014.07.05 @ 13:58:41																																						
<b>TEST COMMENT:</b> B.O.B. in 2 min. No return B.O.B. in 3 1/2 min. No return																																						
	<h3 style="text-align: center; margin: 0;">PRESSURE SUMMARY</h3> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2117.27</td><td>109.84</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>194.40</td><td>109.66</td><td>Open To Flow (1)</td></tr> <tr><td>32</td><td>746.64</td><td>120.57</td><td>Shut-In(1)</td></tr> <tr><td>76</td><td>1119.84</td><td>119.13</td><td>End Shut-In(1)</td></tr> <tr><td>77</td><td>773.22</td><td>118.88</td><td>Open To Flow (2)</td></tr> <tr><td>122</td><td>1054.42</td><td>120.57</td><td>Shut-In(2)</td></tr> <tr><td>183</td><td>1122.84</td><td>119.70</td><td>End Shut-In(2)</td></tr> <tr><td>184</td><td>1944.84</td><td>119.92</td><td>Final Hydro-static</td></tr> </tbody> </table>	Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	2117.27	109.84	Initial Hydro-static	1	194.40	109.66	Open To Flow (1)	32	746.64	120.57	Shut-In(1)	76	1119.84	119.13	End Shut-In(1)	77	773.22	118.88	Open To Flow (2)	122	1054.42	120.57	Shut-In(2)	183	1122.84	119.70	End Shut-In(2)	184	1944.84	119.92	Final Hydro-static	
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	<b>DRILL STEM TEST REPORT</b>	
	Ritchie Exploration Inc 8100 E 22nd St N #700 Wichita ,Ks 67278-3188  ATTN: Mac Armstrong	10-17s-37w Wichita, Ks  <b>Lewis Trust 10 CD #1</b> Job Ticket: 57302 <b>DST#: 2</b>  Test Start: 2014.07.07 @ 01:00:22

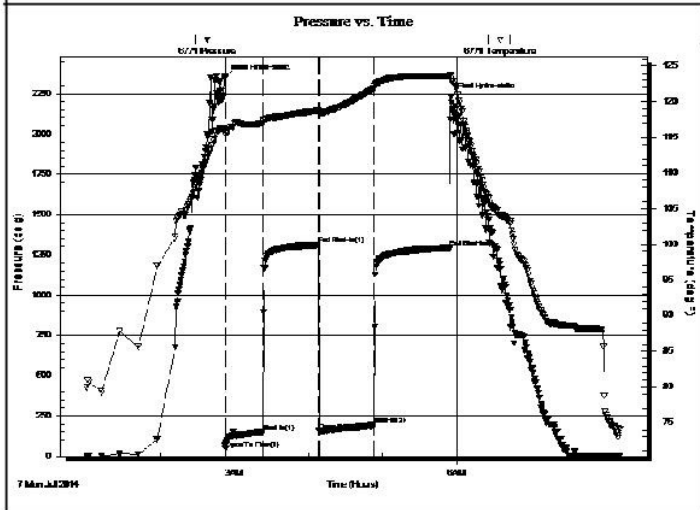
**GENERAL INFORMATION:**

Formation: <b>Altamont</b>	Test Type: Conventional Bottom Hole (Reset)
Deviated: No    Whipstock: 0.00 ft (KB)	Tester: Shane McBride
Time Tool Opened: 02:52:52	Unit No: 55
Time Test Ended: 08:12:07	
<b>Interval: 4476.00 ft (KB) To 4524.00 ft (KB) (TVD)</b>	Reference Elevations: 3333.00 ft (KB)
Total Depth: 4524.00 ft (KB) (TVD)	3328.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair
	KB to GR/CF: 5.00 ft

**Serial #: 6771    Inside**

Press@RunDepth: 195.84 psig @ 4477.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.07.07    End Date: 2014.07.07	Last Calib.: 2014.07.07
Start Time: 01:00:22    End Time: 08:12:07	Time On Btm: 2014.07.07 @ 02:52:07
	Time Off Btm: 2014.07.07 @ 05:55:07

**TEST COMMENT:** B.O.B. in 15 min.  
 No return  
 6 1/2" in blow  
 No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2346.01	116.40	Initial Hydro-static
1	45.81	115.72	Open To Flow (1)
31	151.39	117.00	Shut-In(1)
76	1312.57	118.79	End Shut-In(1)
77	155.93	118.47	Open To Flow (2)
121	195.84	121.84	Shut-In(2)
182	1294.26	123.55	End Shut-In(2)
183	2229.80	123.38	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
120.00	s m c w 15m 85w	0.59
120.00	m c w 40m 60w	1.65
135.00	s w c m 20w 80m	1.89

\* Recovery from multiple tests

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)