



## Geologist's Report

Company: Hembree

Lease: Petersilie #4

Field: Petersilie Northeast

Surface Location: SE-NW-NW-NE (1890' FSL & 1852' FEL)

Sec: 12 Twp: 20S Rge: 24W

County: Ness State: Kansas

GL: 2322' KB: 2329'

Contractor: Pickrell Rig #10

Spud: 5/28/14 Comp: 6/03/14

RTD: 4455' LTD: 4455'

Mud Up: +/- 3400' Mud Type: Chemical Displaced

Drilling Time Kept From: 3600' to RTD

Samples Saved From: 3600' to RTD

Samples Examined: 3600' to RTD

Geological Supervision: 3950' to RTD

Geologist on Well: Kurt Talbott and Jim Musgrove

Surface Casing: 8 5/8"@ 220'

Production Casing: 5 1/2" @

Wireline Logs: By Pioneer: CNL/CDL, DIL, MEL

## Well Comparison

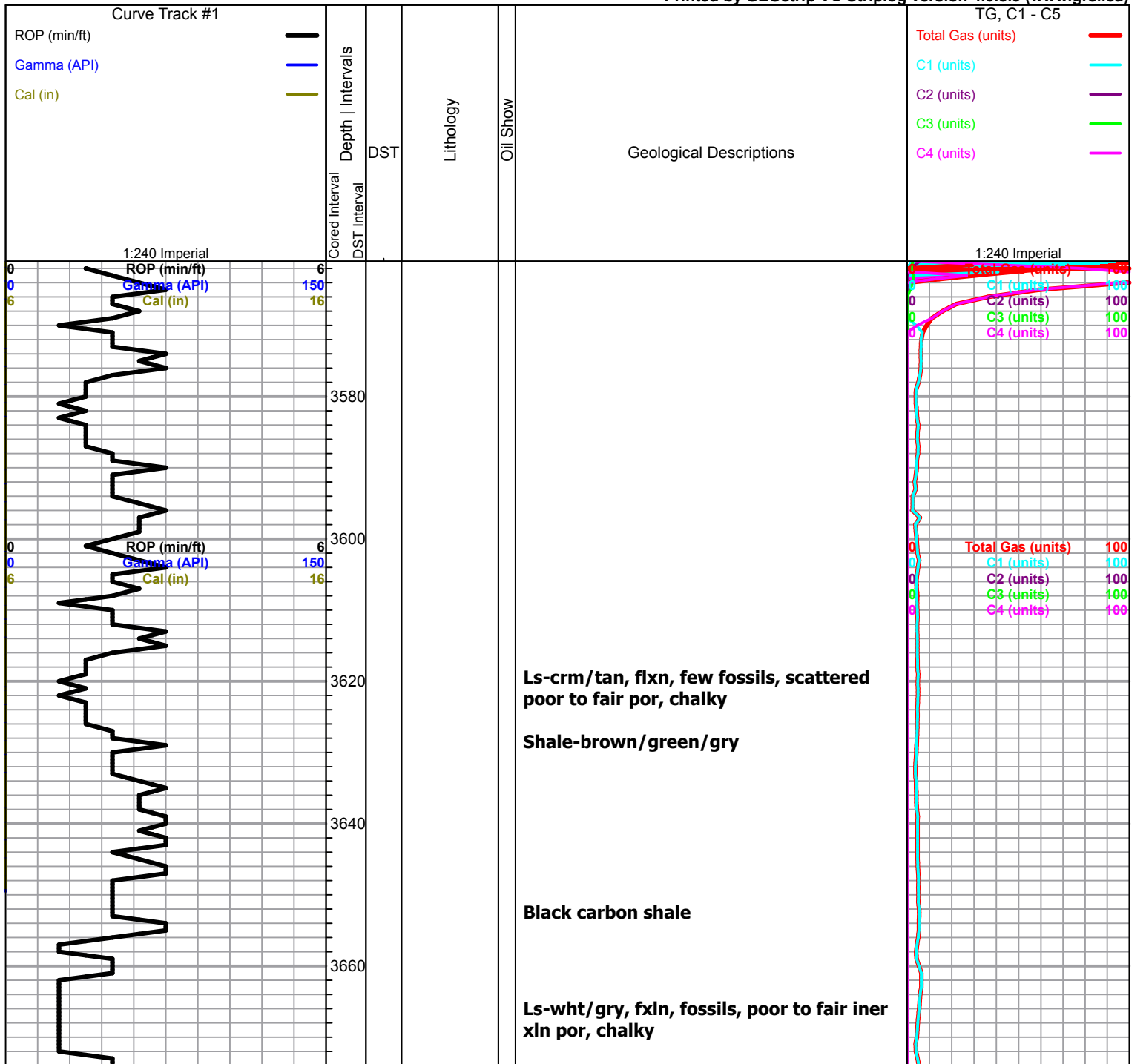
FORMATION	PETERSILIE #5 2329 KB			PETERSILIE #6 2330 KB		PETERSILIE #3 2330 KB	
	MD	Log	Log SS	Log	SS	MD	SS
ANHYDRITE							
BASE ANHY		1614	715				
HEEBNER	3755	3756	-1427	3750	-1422	3752	-1422
TORONTO	3778	3775	-1446	3778	-1447	3769	-1439
LANSING	3806	3804	-1465	3799	-1473	3799	-1469
BASE KC	4123	4120	-1791	4121	-1798	4118	-1788
MARMATON	4162	4162	-1833	4157	-1832	4155	-1825

ALTAMONT	4186	4187	-1858	4185	-1861	4186	-1856
PAWNEE	4238	4237	-1908	4234	-1910	4230	-1900
FORT SCOTT	4310	4311	-1982	4309	-1982	4306	-1976
CHEROKEE	4337	4335	-2006	4333	-2008	4327	-1997
MISSISSIPPIAN	4412	4411	-2082	4422	NA	4414	-2084
TOTAL DEPTH	4455	4455	-2126	4484	-2120	4422	-2092

ROCK TYPES					
	Cht vari		Lmst fw<7		shale, gry
	Dolprim		shale, gm		Carbon Sh
					Shcol

OTHER SYMBOLS		
<b>EVENTS</b>	<b>INTERVALS</b>	<b>DST</b>
⌋ Casing Shoe	■ Core	■ DST Int
▽ RTF	⋅ DST	■ DST alt
▶ Sidewall		
▲ Left Casing Shoe		
▼ Right Casing Shoe		

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3680  
3700  
3720  
3740  
3760  
3780  
3800  
3820  
3840  
3860  
3880

A/A

Ls-tan/crm, fxln, slightly sucrosic,  
scattered ppt to iner xln por, chalky  
Chert-gry/tan

Ls-crm/tan, fine to med xln, few fossils,  
poor to fair iner xln por, chert- A/A

**Heebner 3755.0 (-1426.0) -1425.0**

Black carbon shale

**Toronto 3778.0 (-1452.0) -1448.0**

Ls-wht/ lt gry, fxln, ool in part, poor vis  
por, slightly chalky

**Lansing 3806.0 (-1477.0) -1475.0**

Ls-wht/crm, fxln, highly ool, poor vis por,  
boney wht chert,

Ls-wht/crm fxln, few fossils/ool, poor  
scattered ppt por, chalky

Ls-wht/crm/lt gry, fxln, ool/fossils, poor  
vis por, chert-boney wht. chalky  
trace blk carbon shale

Ls-wht/crm, flxn, dense, poor scattered  
por, chalky, chert-boney wht/crm

ROP (min/ft)  
Gamma (API)  
Cal (in)

6  
150  
16

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

3900  
3920  
3940  
3960  
3980  
4000  
4020  
4040  
4060  
4080  
4100

Ls-wht/lt gry, fxln, dense, slightly ool, poor vis por

Ls-wht/crm, fxln, ool, scattered iner ool, to sub oom por, cahky, chert-boney wht

Ls- A/A

Ls-wht/crm, fxln, ool, poor scattered por, chalky, chert-boney wht,

Lswht/lt gry, fxln, ool, poor scattered por, cahky, chert- A/A,

Ls-crm/tan, fxln, highly oom poor vis por,

Ls-crm/tan, fxln, highly ool, poo riner ool to sub oom por, chalky

Ls-crm/wht, fxln, ool, poor vis por, chalky, cherty

Ls-crm/tan, fxln, ool, few fossils, scattered oom por

Ls-crm/tan, fxln, highly ool, poor vis por, cherty in part

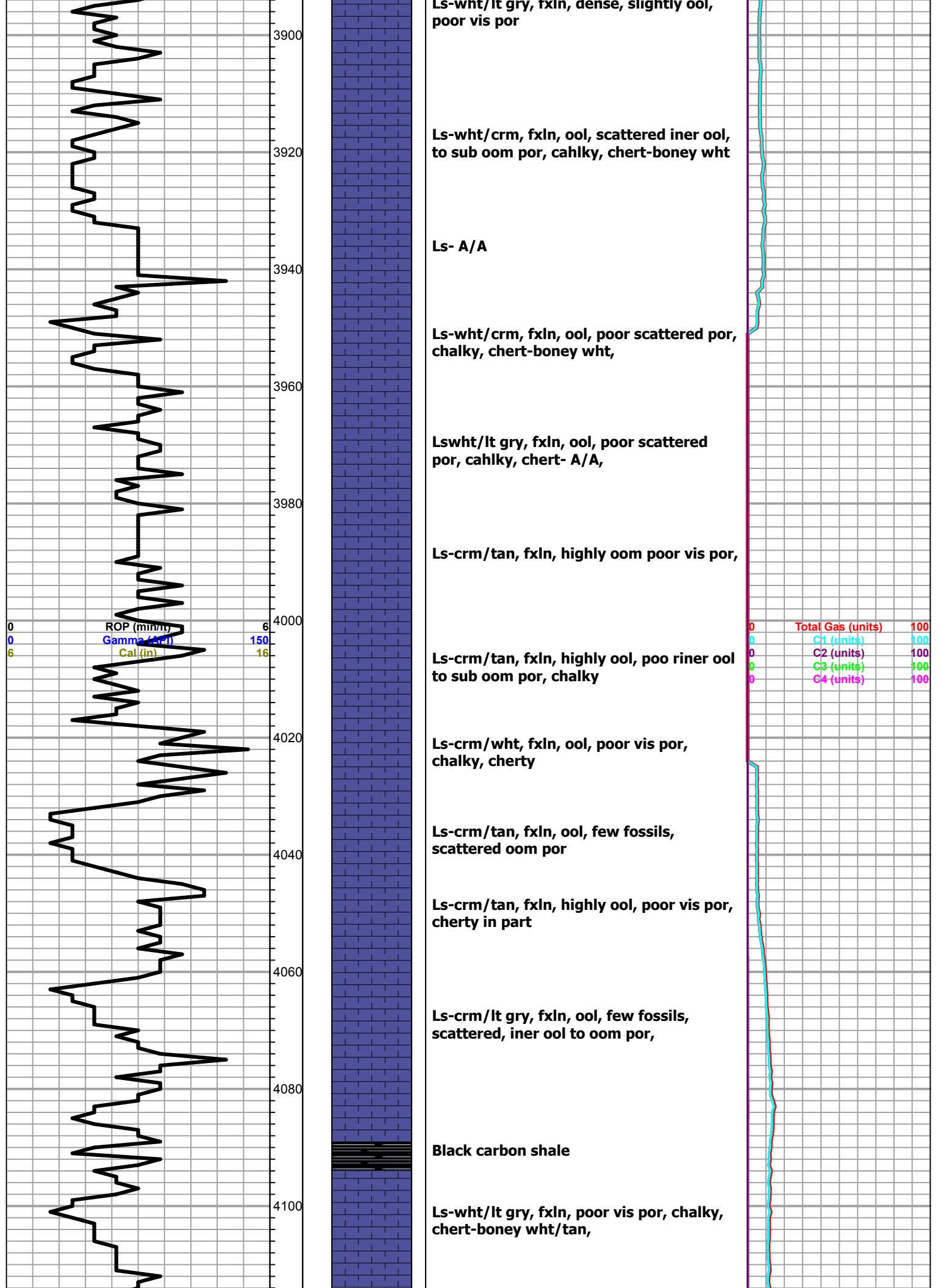
Ls-crm/lt gry, fxln, ool, few fossils, scattered, iner ool to oom por,

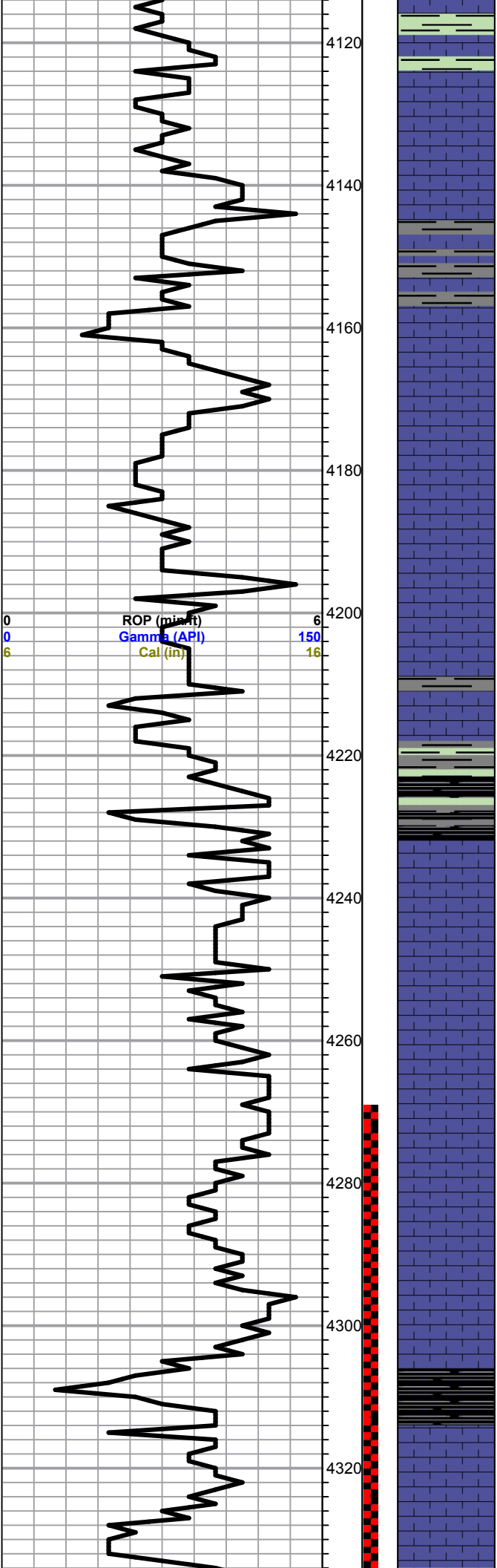
Black carbon shale

Ls-wht/lt gry, fxln, poor vis por, chalky, chert-boney wht/tan,

ROP (min/ft) 6  
Gamma (API) 150  
Cal (in) 16

Total Gas (units) 100  
C1 (units) 100  
C2 (units) 100  
C3 (units) 100  
C4 (units) 100





Shale-gry/brown

Ls-wht/gry, fxlN, poor vis por, trace wht chert-fossils

Shale-gry/maroon/brwn

Ls-wht/crm, fxlN, few fossils, scattered poor iner xln por, chalky,

Ls-A/A

Ls-wht/lt gry, fxlN, few fossils/ool, cherty in part, dense

Shale-gry/grn abundant

Ls- wht/lt gry, A/A shale-dark gry

Ls-wht/lt gry, fxlN, ool, cherty-gry/tan

Ls-gry/tan, fxlN, dense, poor vsi por, cherty in part

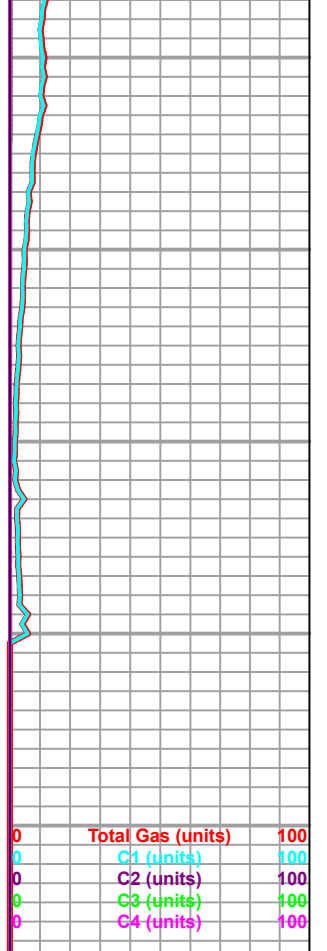
Ls-gry/tan, fxlN, ool/ few fossils, poor vis por

A/A Cherty in part, dense,

Black carbon shale

**Fort Scott 4310.0 (-1981.0) - 1983.0**  
 Ls-wht/crm, fxlN, ool, fair to good iner xln to finely vug por, lt brown to golden brown stains, SFO, fair odor

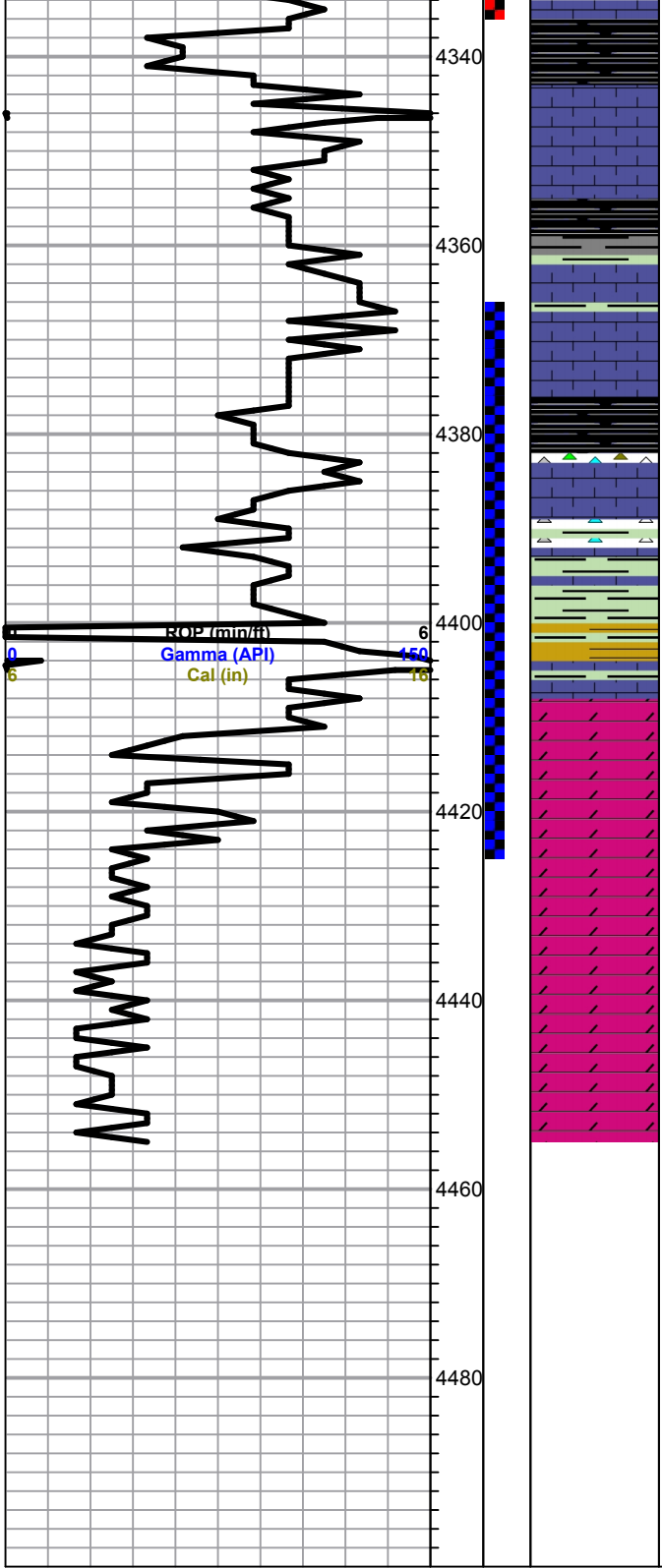
**Cherokee 4337.0 (-2008.0) -2007.0**



DST #1 4270-4335  
 30-45-45-60  
 IF: BOB 1 min  
 FF: BOB 3 min

Recovery:  
 600' Gas In Pipe  
 145' GCWM  
 (10g 5w 85m)  
 180' SOGCWM  
 (35g 10o 10w 45m)

Pressures:  
 ISIP 357 psi  
 FSIP 425 psi  
 IFP 82-128 psi  
 FFP 134-163  
 HSH 2097-2063 psi



Black carbon shale

Ls-tan, fxln, ool, slightly cherty, dense

Trace gry/green and black carbon shale

Ls-wht/crm, fxln, chalky, poor vis por,

Black carbon shale, and Trace FeS2

Ls-tan, fxln, few slightly dolomitic, dense,

Chert- amber/tan/boney and opaque

Shale-red/green

**Mississippian 4412.0 (-2083.0) - 2083.0**

Dol-crm/tan, fln, sucrosic, fossils, scattered vuggy por, brown stains/saturation, SFO, faint odor

A/A good vuggy to fossil cast por, SFO, good odor

Dol-A/A fair to good por, brow stains/saturation, good SFO, good odor

Dol-gry/wht, fxln, sucrsic, fine vugular por, with few good vuggy por, light brown stains, SFO, faint odor

**Total Depth 4455.0 (-2126.0) - 2126.0**

