



Mudgrove

PETROLEUM CORPORATION
Clayton, Kansas

NOTES

Company: Palmer Oil, Inc.

Lease: Laura 21-3

Field: Gentzler North

Location: SE-NW-NE-SE (2200' FSL & 900' FEL)

Sec: 21 Twsp: 32S Rge: 37W

County: Stevens State: Kansas

KB: 3153' GL: 3140'

API #: 15-189-22826-00-00

Contractor: Duke Drilling Inc. (Rig #9)

Spud: 12/04/2013 Comp: 12/14/2013

RTD: 6510' LTD: 6509

Mud Up: 4500' Type Mud: Chemical

Samples Saved From: 4600' to RTD
 Drilling Time Kept From: 4800' to RTD
 Samples Examined From: 4600' to RTD
 Geological Supervision from: 4600' to RTD
 Geologist on Well: Wyatt Urban

Surface Casing: 8 5/8@ 1747'

Electronic Surveys: Logged by Pioneer Energy Services, DIL, CNL/CDL, MEL, Sonic

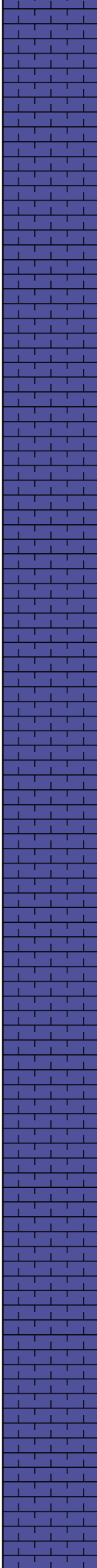
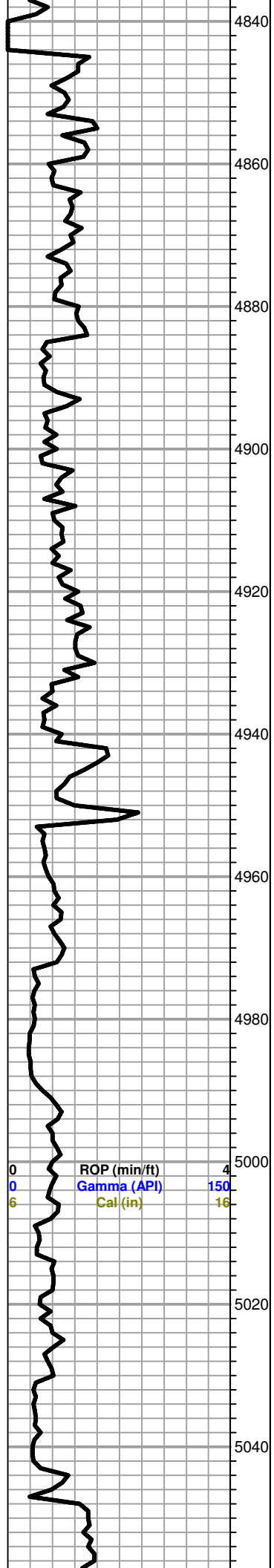
PALMER OIL WELL COMPARISON SHEET

DRILLING WELL					COMPARISON WELL				COMPARISON WELL				
Palmer Oil - Laura 21-3					EOG Resources-21-1 Laura				Palmer Oil - Laura 21-2				
SE-NW-NE-SE					SE-NW-SE-SE				E2-E2-SW-SE				
21-32-37W					21-32-37W				21-32-37W				
3153 KB					3151 KB		Structural Relationship		3148 KB		Structural Relationship		
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log	
Base Heebner					4145	-994	994	994		4146	-998		
Lansing					4263	-1112	1112	1112		4273	-1125		
Marmaton	4932	-1779	4935	-1782	4923	-1772	-7	-10		4924	-1776	-3	-6
Cherokee	5160	-2007	5144	-1991	5160	-2009	2	18		5140	-1992	-15	1
Atoka	5523	-2370	5521	-2368	5547	-2396	26	28		5547	-2399	29	31
Morrow	5668	-2515	5681	-2528	5660	-2509	-6	-19		5662	-2514	-1	-14
St. GEN	6180	-3027	6207	-3054	6168	-3017	-10	-37		6180	-3032	5	-22
St. Louis	6330	-3177	6363	-3210	6318	-3167	-10	-43		6344	-3196	19	-14
St. Louis "B"	6404	-3251	6400	-3247	6349	-3198	-53	-49		6389	-3241	-10	-6
St. Louis "C"	6430	-3277	6432	-3279						6420	-3272	-5	-7
RTD	6500	-3347	6500	-3347						6550	-3402	55	55
LTD	6509	-3356	6509	-3356						6538	-3390	34	34



DRILL STEM TEST REPORT

Palmer Oil, Inc. 21-32-37W Stevens Co.



LS, cream to gray, FXL poorly developed ool, chalky, trace black carb shale.

LS, tan, brown, mottled, poor visible porosity, few ool, poor to fair oom porosity, no shows

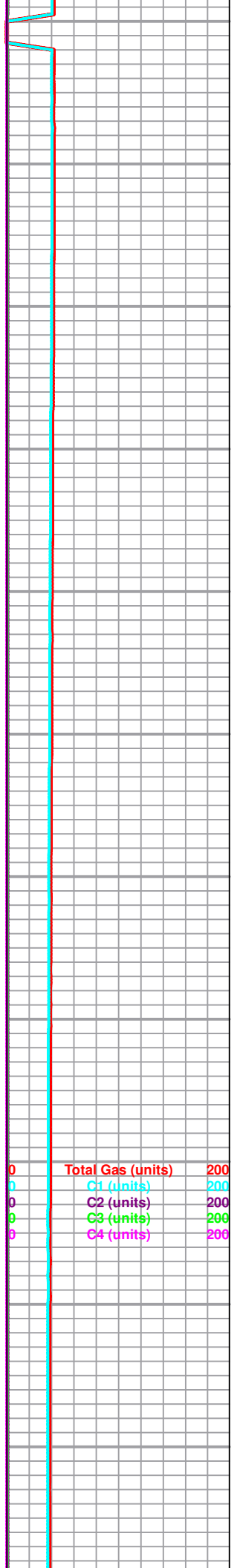
LS, A/A

Marmaton 4932(-1779)

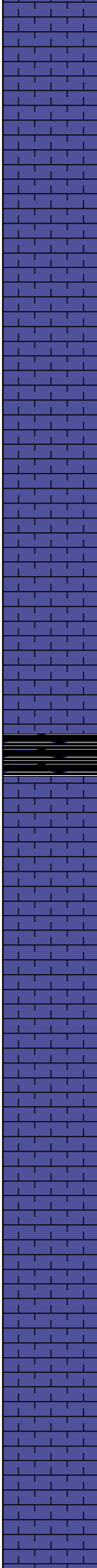
LS, gray, FXL, dense, cherty in parts, NS

LS, tan to brown, cherty FXL, dense, trace shale, black to gray, silty

LS, gray to tan, mottled, FXL, dense cherty in parts,



5060
5080
5100
5120
5140
5160
5180
5200
5220
5240
5260



LS, cream ool, chalky, poorly developed, trace white chert, no shows

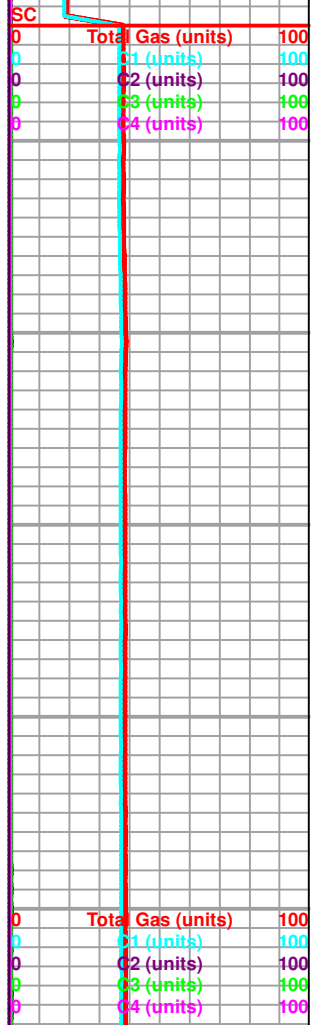
LS, gray, FXL, dense, cherty in parts, poor visible porosity

Cherokee Sh. 5160 (-2007)
Black carb shale

LS, gray to tan, mottled, FXL, dense, cherty, poor visible porosity, no shows

LS, tan to brown, chalky, poor visible porosity, no shows

ROP (min/ft) 4
Gamma (API) 150
Cal (in) 16



5280
5300
5320
5340
5360
5380
5400
5420
5440
5460
5480

LS, cream to tan, chalky, poor scattered porosity

Black carb shale

LS, gray, tan, brown, FXL, poor scattered porosity, trace black, red, gray, sh

Ls, A/A, trace Black to gray shale

LS, gray,FXL , dense, poor visible porosity, cherty in parts

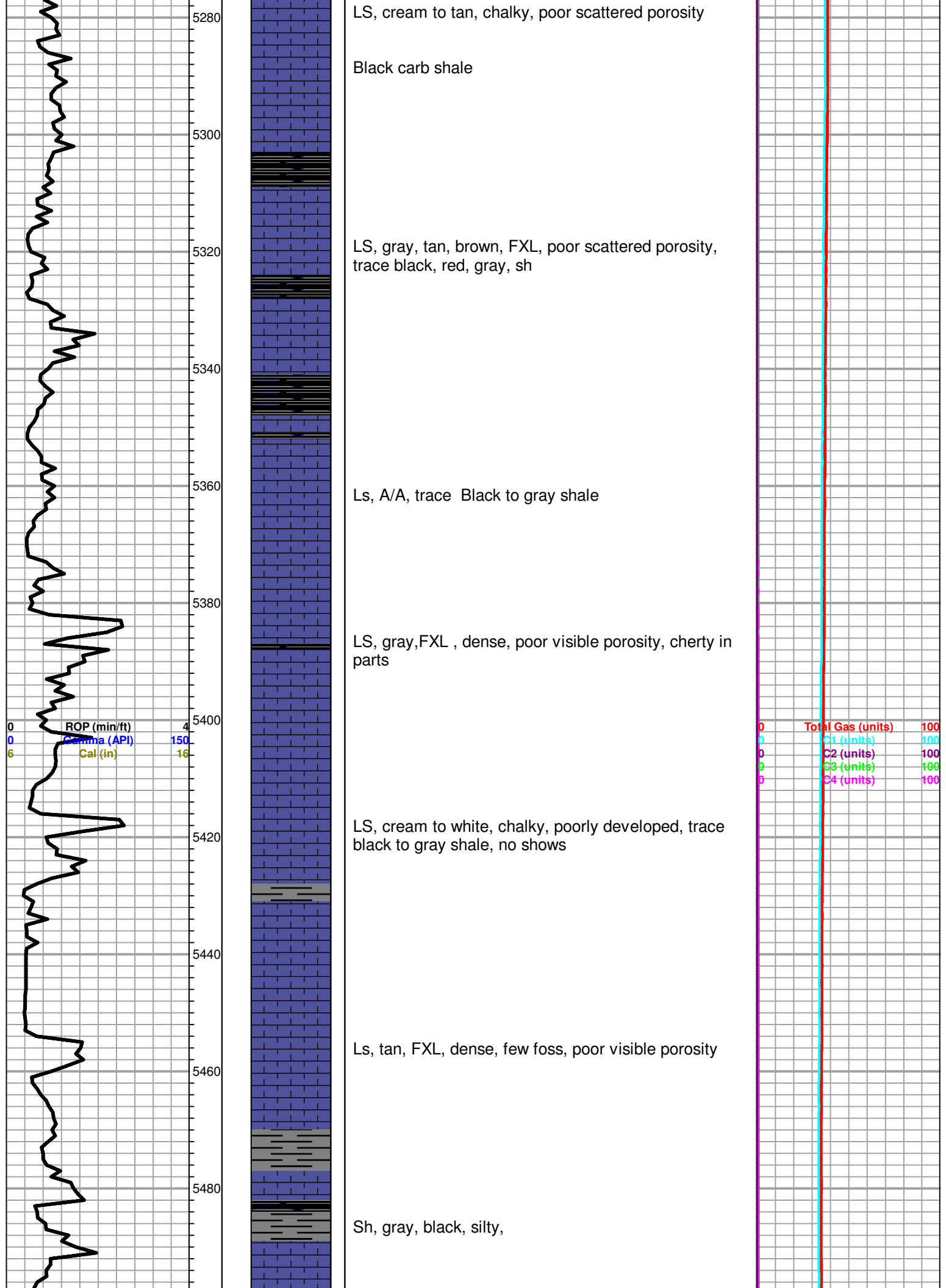
LS, cream to white, chalky, poorly developed, trace black to gray shale, no shows

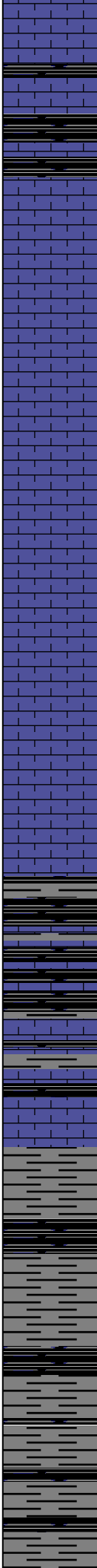
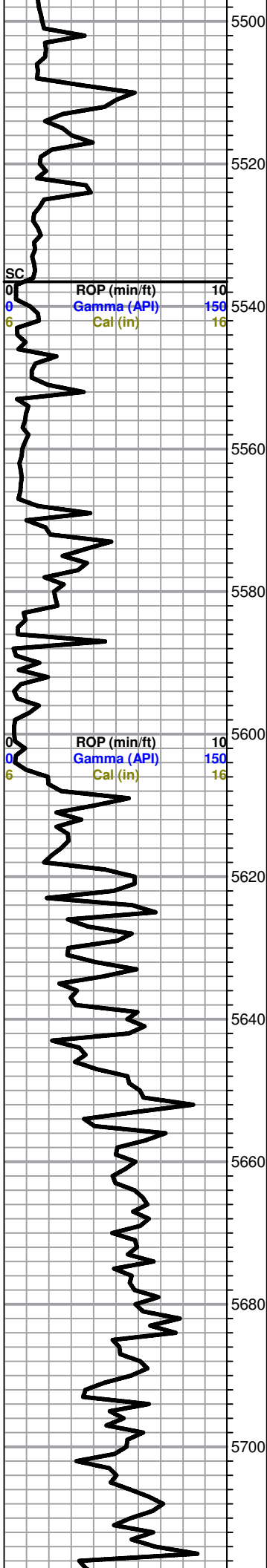
Ls, tan, FXL, dense, few foss, poor visible porosity

Sh, gray, black, silty,

ROP (min/ft) 4
Gamma (API) 150
Cal (in) 16

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





Black carb shale

Atoka 5523 (-2370)

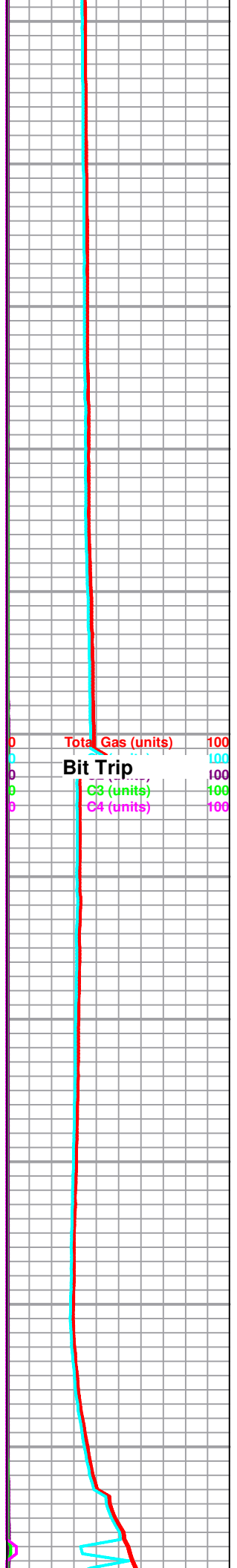
LS, cream to tan, FXL, dense, poor scattered porosity, no shows

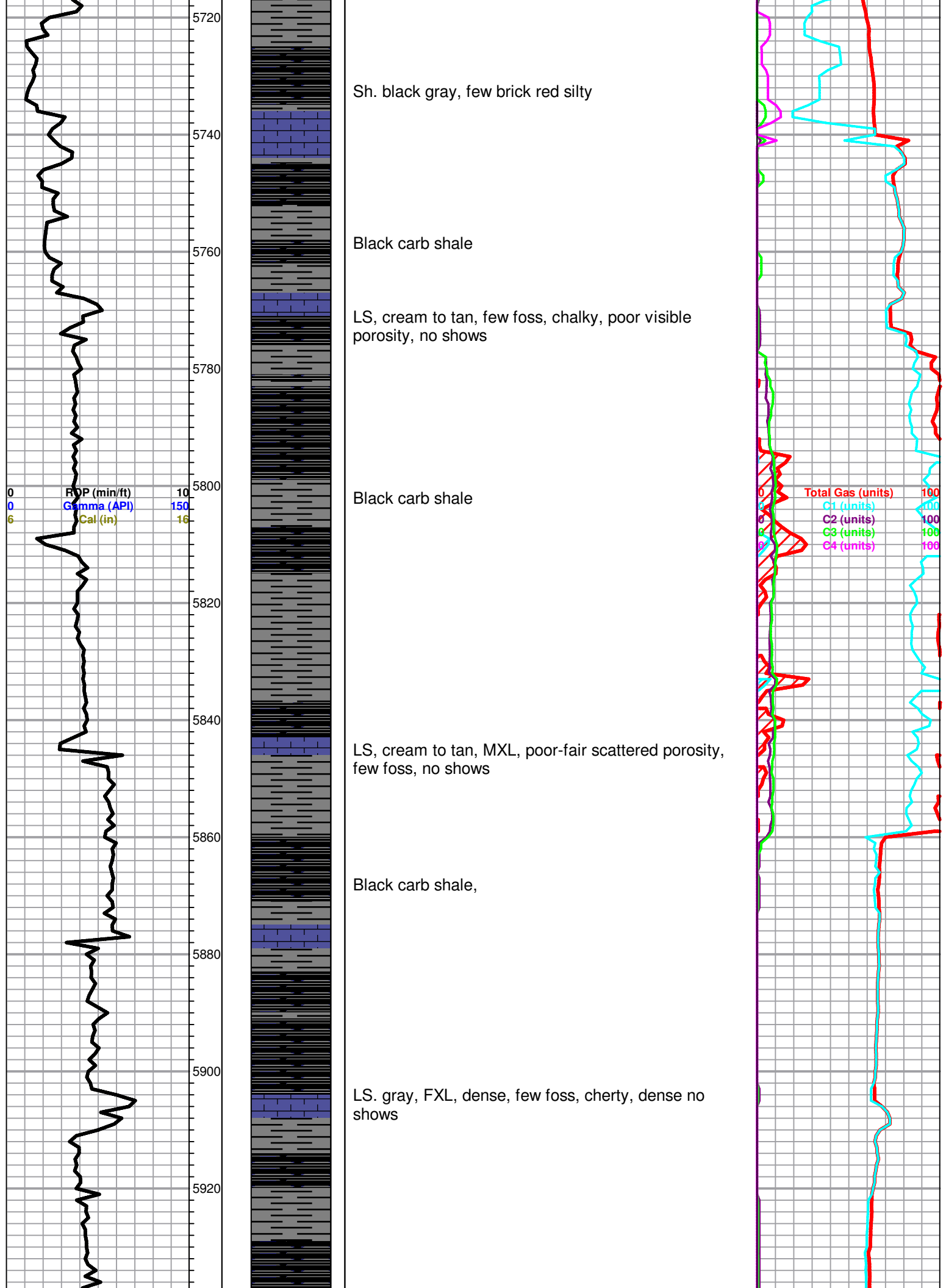
LS, brn to tan, FXL, cherty poor visible porosity, trace gray chalky LS,

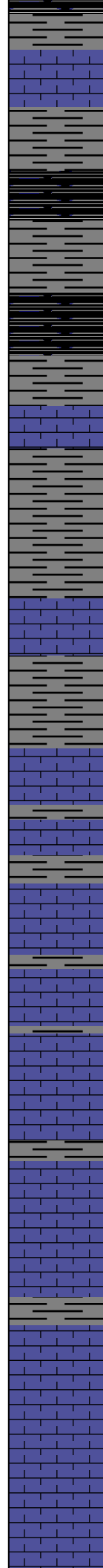
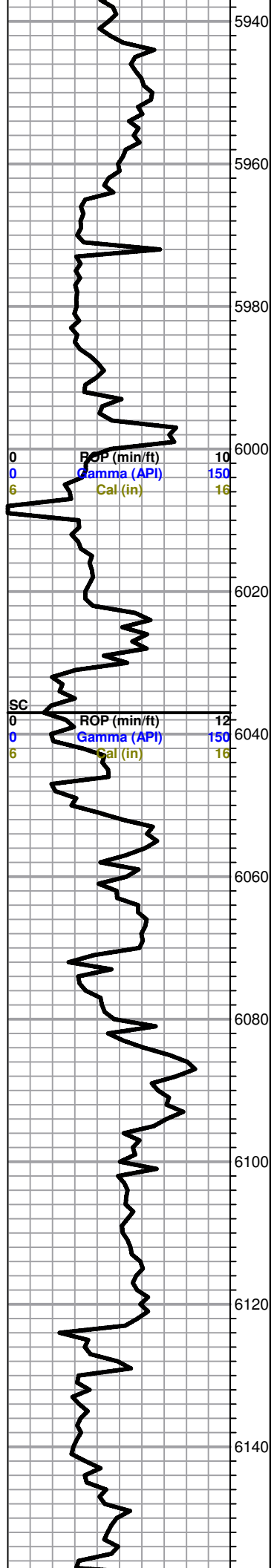
Black to gray shale

Morrow 5668 (-2515)

Sh. Black carb, gray, silty







Trc sand, clear, F-med. grained, well sorted sub rounded

Black carb shale

LS, cream to tan, mottled, poor visible porosity, chalky, poor vis porosity, no shows

Trc. Sand, clear, sub angular, poorly sorted, no shows

LS, cream to tan, mottled, foss, chalky, poor scattered porosity

LS, cream, tan, gray, FXL, foss, poor visible porosity, NSFO, dense, no shows

LS, brn tan, mottled, FXL, cherty in parts, dense, poor visible porosity

LS, brown, FXL, dense, trace, gray to black shale

LS, gray to brown, FXL, dense, poor visible porosity, cherty no shows

