



Musgrove

PETROLEUM CORPORATION
Clafin, Kansas

NOTES

Company: Palmer Oil, Inc.

Lease: Willis 23-6

Field: Willis

Location: (2100' FNL & 1400' FWL)

Sec: 23 Twsp: 32S Rge: 37W

County: Stevens State: Kansas

KB: 3119' GL: 3105'

API #: 15-189-22828-00-00

Contractor: Duke Drilling Inc. (Rig #9)

Spud: 1/02/2014 Comp: 1/11/2014

RTD: 6500' LTD: 6500'

Mud Up: 4600' Type Mud: Chemical

Samples Saved From: 4700' to RTD

Drilling Time Kept From: 4100' to RTD

Samples Examined From: 4700' to RTD

Geological Supervision from: 4700' to RTD

Geologist on Well: Wyatt Urban

Surface Casing: 8 5/8"@1755'

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

Palmer Oil, Inc. Willis 23-6

Formation	DRILLING WELL Palmer Oil, Willis 23-6 NE-SE-SW-NE 23-32-37 3119 KB				COMPARISON WELL Palmer Oil, Willis 23-5 NE-NW-SE-NE 23-32-37 3120 KB				COMPARISON WELL EOG RESOURCES Willis 23-2 S2-NE-NE-SE 23-32S-37W 3119 KB			
	Sample	Sub-Sea	Log	Sub-Sea	LOG	Sub-Sea	Structural Relationship		Log	Sub-Sea	Structural Relationship	
							Sample	Log			Sample	Log
B. Heebner									4160	-1041	1041	
Lansing									4275	-1156	1156	
Marmaton	4971	-1852	4969	-1850	4966	-1846	-6	-4	4967	-1848	-4	-2
Cherokee	5162	-2043	5162	-2043	5168	-2048	5	5	5167	-2048	5	5
Morrow	5645	-2526	5632	-2513	5639	-2519	-7	6	5634	-2515	-11	2
St. Gen	6180	-3061	6178	-3059	6179	-3059	-2	0				
St. Louis	6298	-3179	6298	-3179	6298	-3178	-1	-1	6293	-3174	-5	-5
St. Louis B	6354	-3235	6361	-3235	6361	-3241	6	6				
RTD	6500	-3381	6500		6500	-3380	-1		6500	-3381		
LTD	6500	-3381	6500		6475	-3355	-26					



TRILOBITE TESTING, INC.

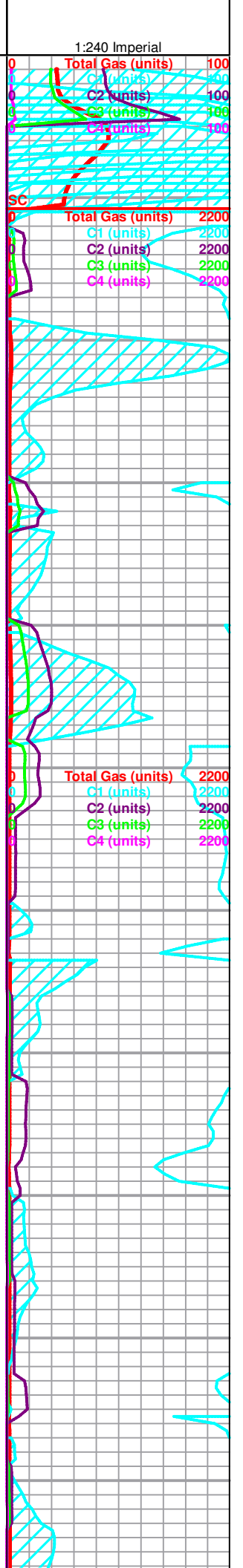
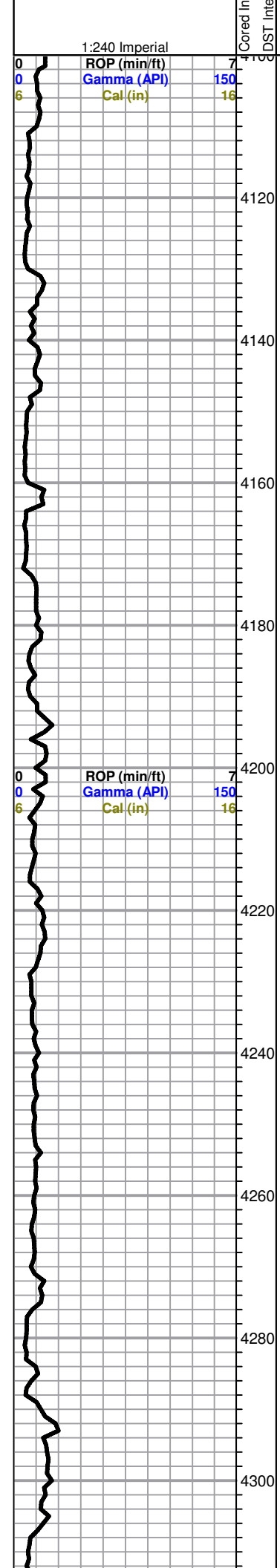
DRILL STEM TEST REPORT

Palmer Oil, Inc.

3118 N Cummings Rd

23-32s-37w Stevens co.

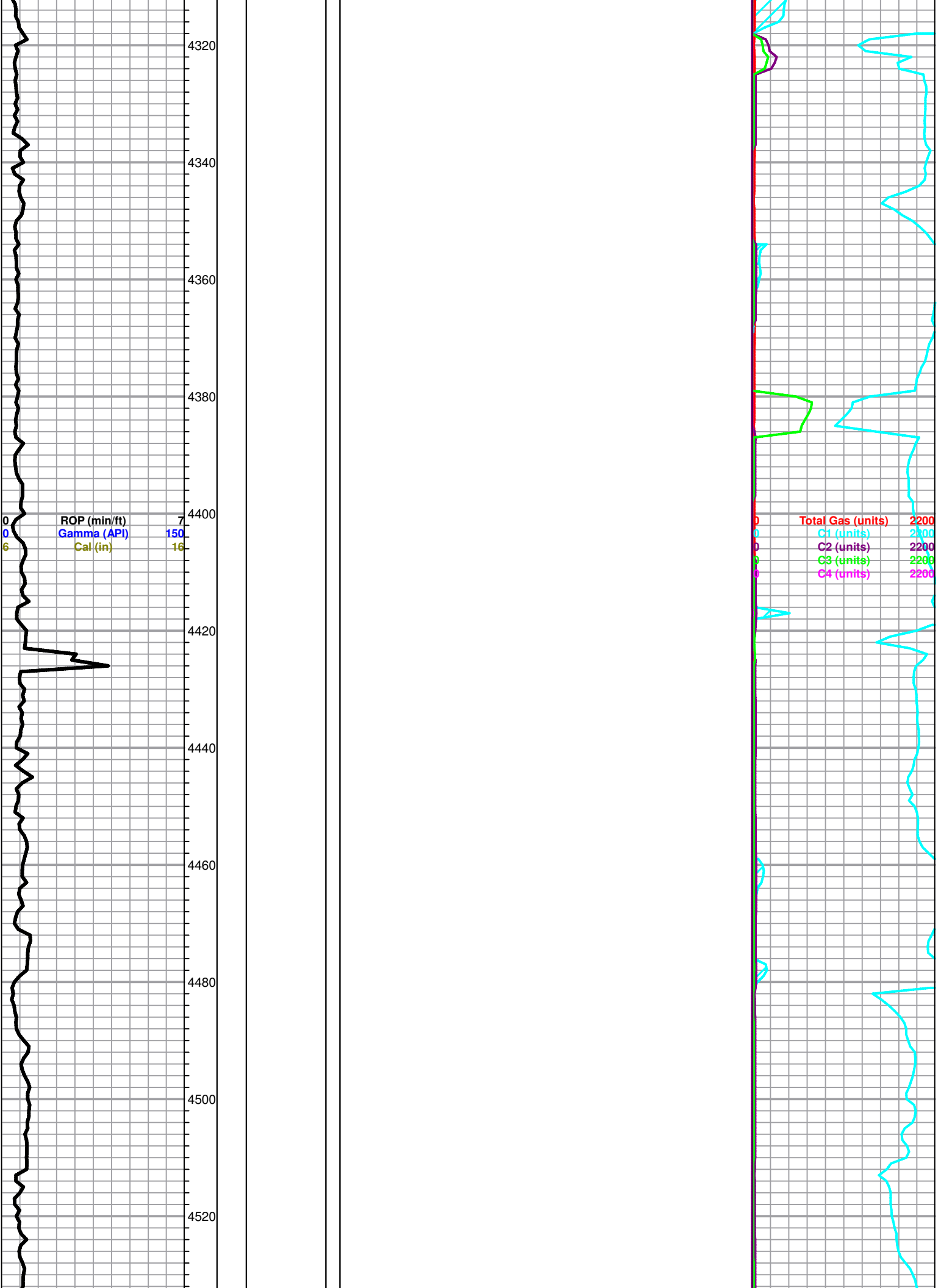
Willis #23-6

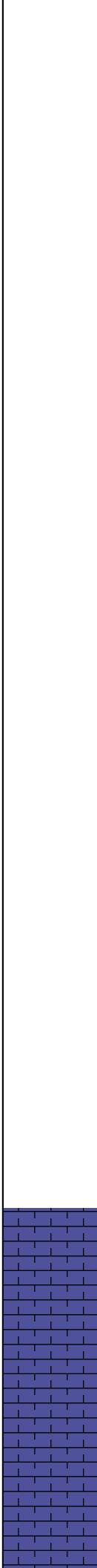
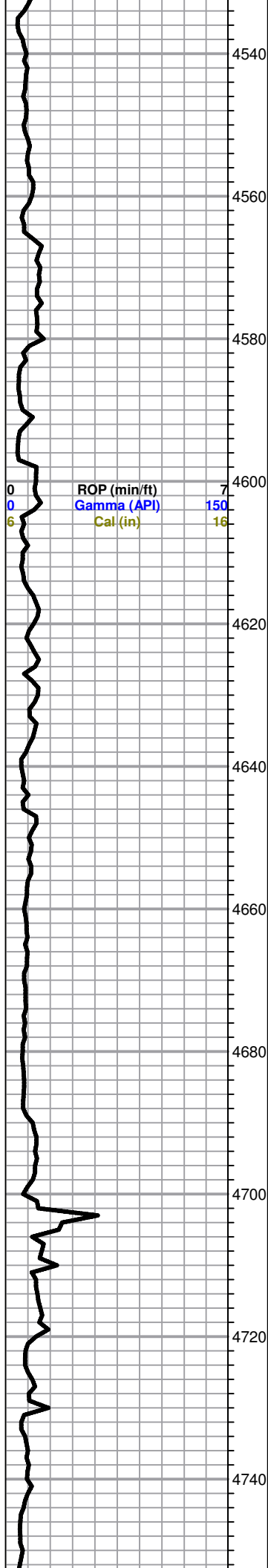


4320
4340
4360
4380
4400
4420
4440
4460
4480
4500
4520

ROP (min/ft) 7
Gamma (API) 150
Cal (in) 16

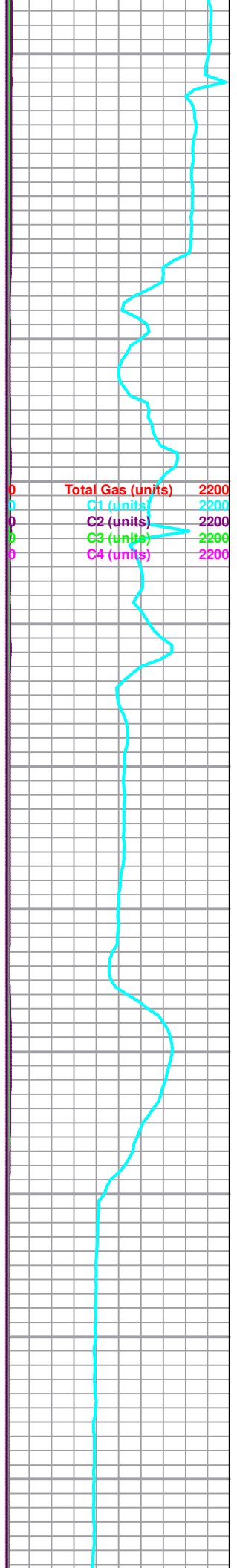
Total Gas (units) 2200
C1 (units) 2000
C2 (units) 200
C3 (units) 200
C4 (units) 200

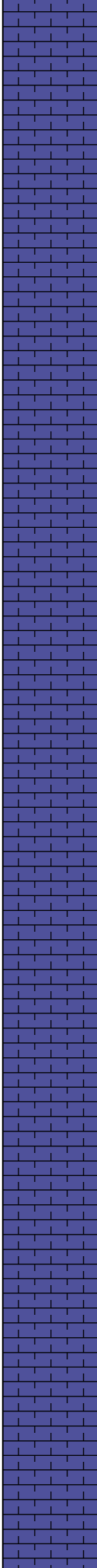
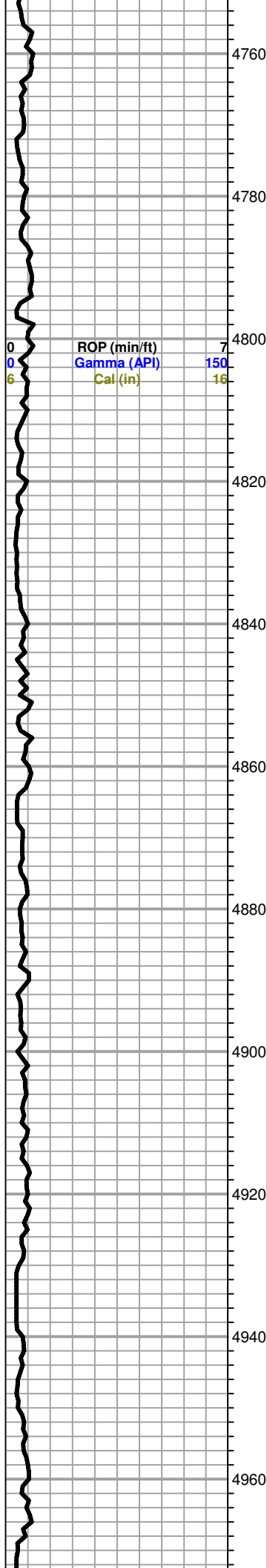




LS, cream to tan, FXL, chalky in parts,

LS, tan to brown, mott. dense, cherty in parts, poor visible porosity, no shows





black carb shale

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

LS, gray, mott. dense, poor visible porosity,

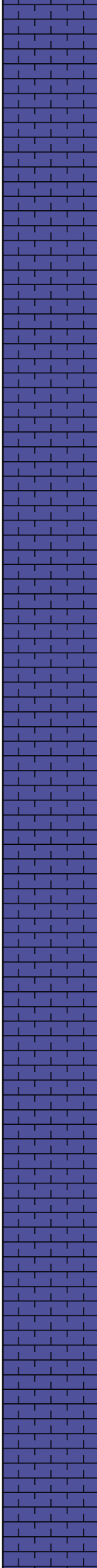
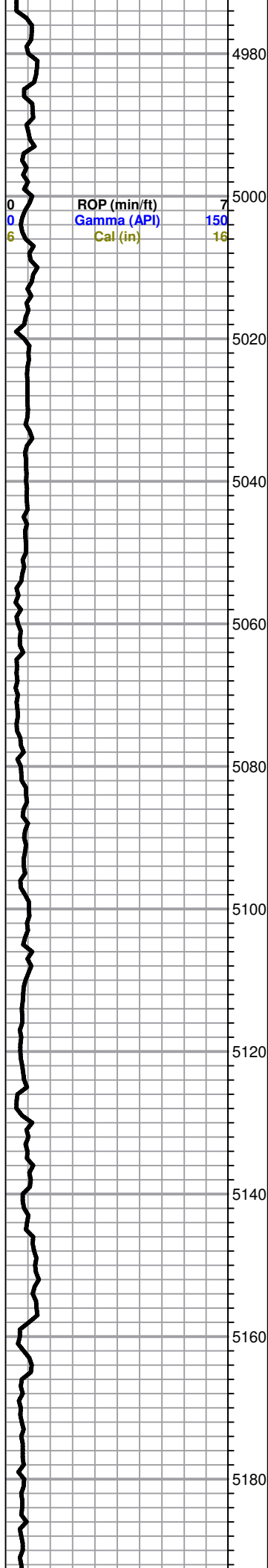
SH. black, gray, greenish,

LS, tan brown, chalky, foss, poor scattered porosity, no shows

Slug black shale,

LS, cream to tan, ool, fair-vuggy oom porosity, chalky



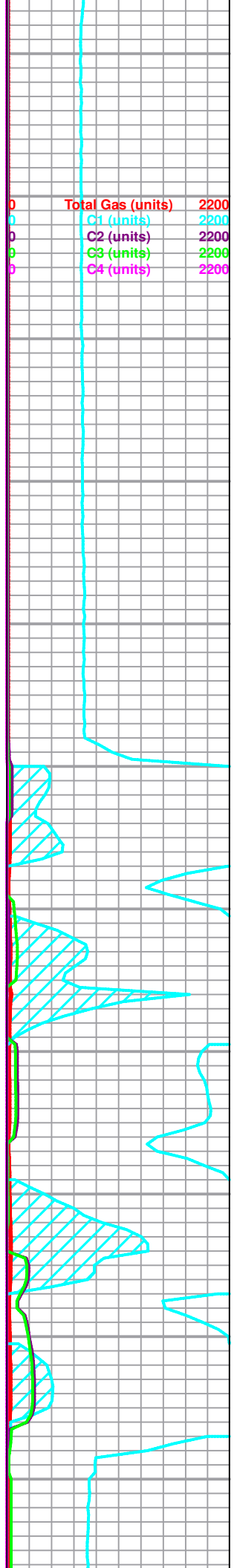


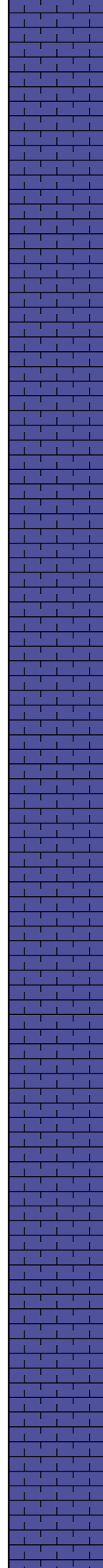
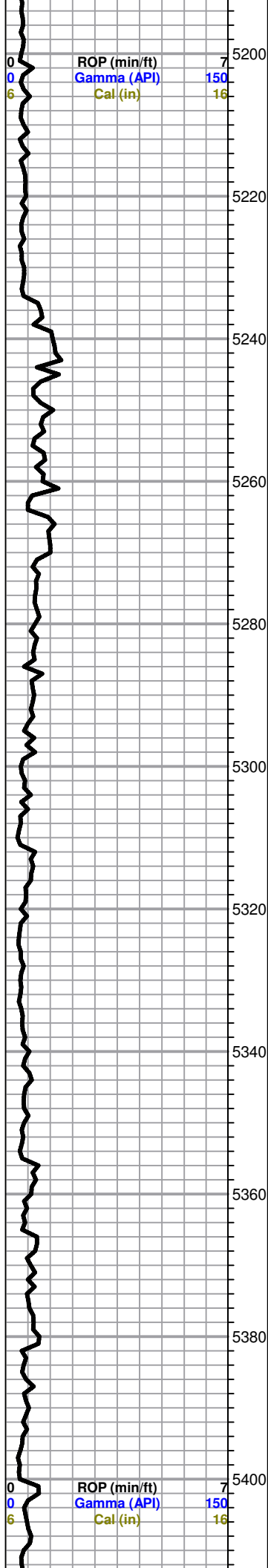
LS, gray, chert, poor visible porosity, no show

LS, cream to white, foss, chalky poor scattered porosity, no show

LS, brown, FXL, cherty, no shows

LS, cream to white, trace red back gray shales



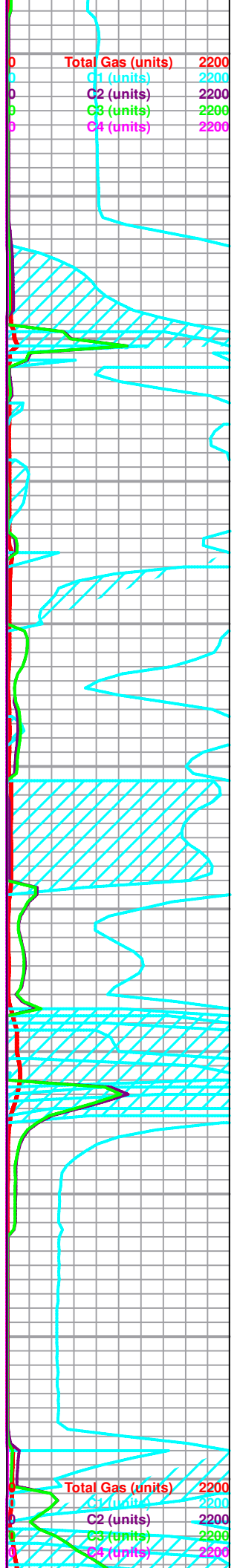


LS, gray, brown, FXL dense, chalky in parts, poor visible porosity, no shows

SH, gray to black

Sh. black, gray, trace LS, tan/brown, FX, dense, no shows

LS, cream/ chalky, no shows



Total Gas (units) 2200
 C1 (units) 2200
 C2 (units) 2200
 C3 (units) 2200
 C4 (units) 2200

Total Gas (units) 2200
 C1 (units) 2200
 C2 (units) 2200
 C3 (units) 2200
 C4 (units) 2200

5420
5440
5460
5480
5500
5520
5540
5560
5580
5600
5620

LS, chalky brown, cream few foss, poor visible porosity, no shows

Black carb shale

LS, brown to tan, ool, poorly developed, dense, poor scattered porosity, no shows

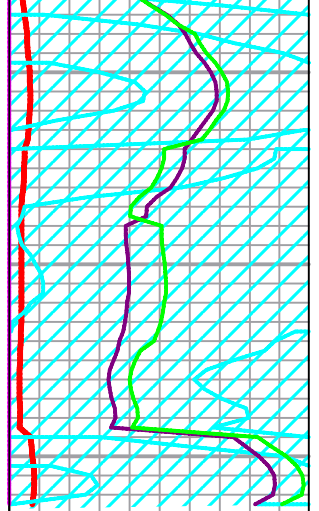
Black carb shale

LS, tan, brown, FXL, chalky in parts, poor visible porosity, no shows

LS, cream to gray, dense, chalky in parts,

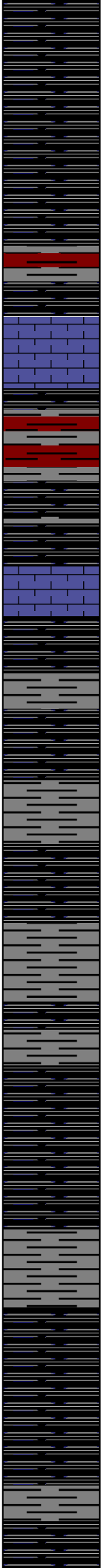
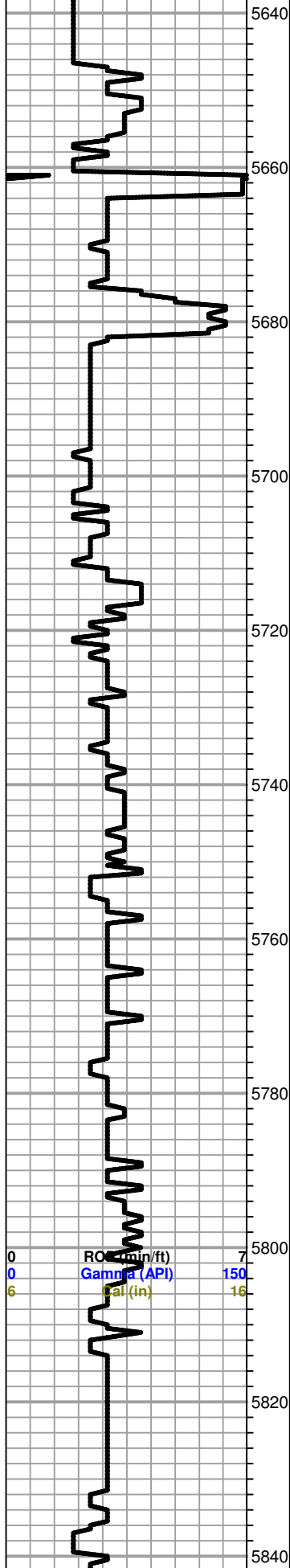
Bloodhound
d
Malfunction

ROP (m L/hr) 7
Gamma (API) 150
Cal (in) 16



0	Total Gas (units)	2200
0	C1 (units)	2200
0	C2 (units)	2200
0	C3 (units)	2200
0	C4 (units)	2200

Morrow 5631 (-2513)



Sh. black carb, silty in parts, soft

Sh. black carb, maroon, gray,

Sh. Black carb , maroon, gray, silty,

LS, gray, FXL, chalky, few foss, cherty in parts, poor scattered porosity

black carb shale trace gray, silty

Sh. black carb

Sh. black carb

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

5860
5880
5900
5920
5940
5960
5980
6000
6020
6040
6060

Sh, black gray silty,

Sh. black, red, green, brownish, silty in parts

Sh. A/A trace LS, cream to gray, poorly developed, poor scattered porosity, no shows

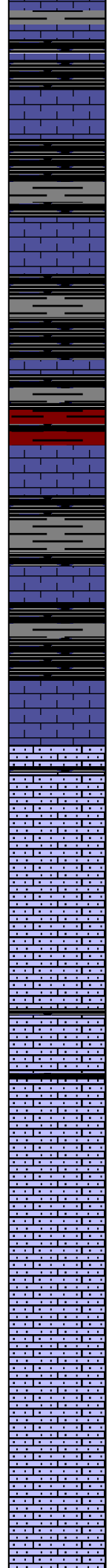
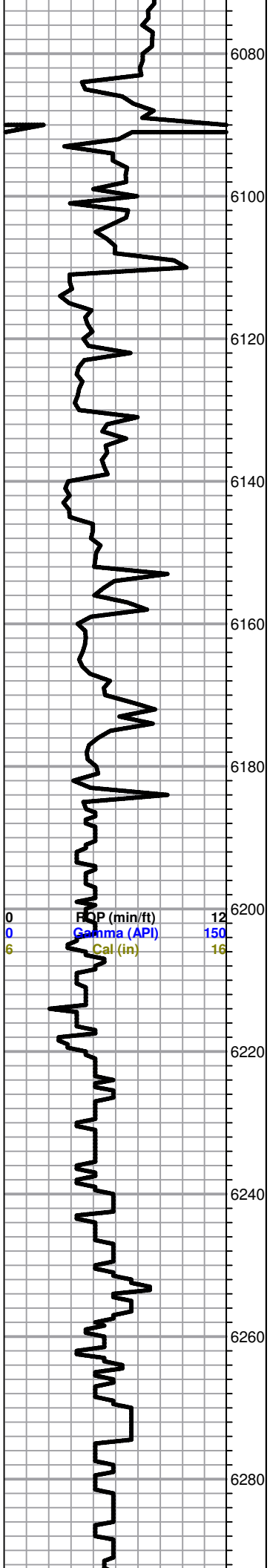
Sh. A/A trc. LS, cream brown, chalky, poor scattered porosity, N/S

LS, cream to tan, FXL, cherty, poor visible porosity, no shows

LS, brown, tan, FXL, dense, poor visible porosity,

0 ROP (min/ft) 7
0 Gamma (API) 150
6 Cal (in) 16
SC
0 ROP (min/ft) 12
0 Gamma (API) 150
6 Cal (in) 16

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



LS, gray to cream, FXL, cherty in parts, poor scattered porosity, no shows

LS, tan to brown, FX, dense, poor visible porosity, no shows, trace back gray shales

LS, A/A, trace red, greenish, silty, shale

LS, tan to brown, FXL, dense, few chalky, poor visible porosity, no shows

Ste. Gen 6174 (-3056)

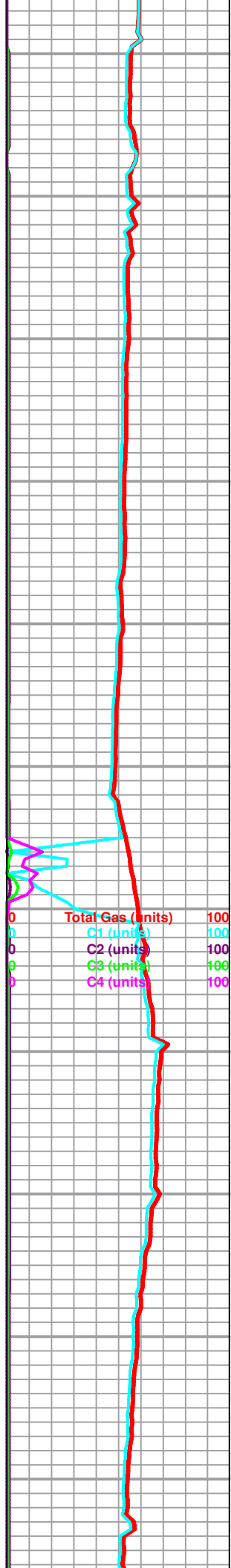
LS, tan, red, maroon, micro ool, friable, no shows

LS, tan to brown, micro ool, friable, no shows

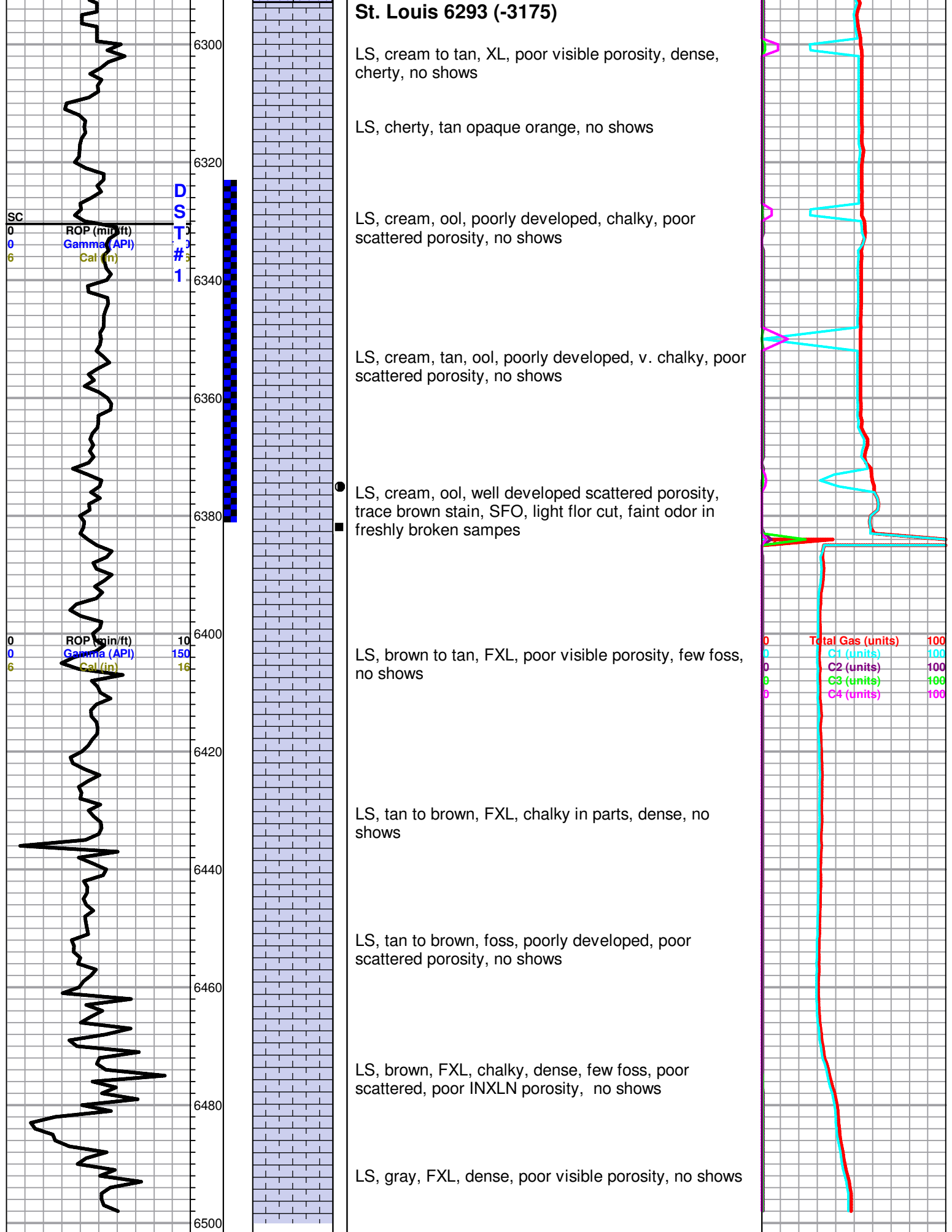
Slug of black shale

LS, tan to cream, micro ool, friable, no shows

LS, gray, FXL, dense, poor vis. porosity, dense, cherty no show



St. Louis 6293 (-3175)



RTD 6500'

6520

6540

6560

6580