



NOTES

Company:Palmer Oil, Inc.

Lease: Laura #21-4

Field:Gentzler North

Location:SE-SW-NE-NW (1021' FnL & 1652' FwL)

Sec:21 Twsp:32S Rge:37W

County:Stevens State:Kansas

KB:3154' GL:3141'

API #: 15-189-22827-00-00

Contractor:Duke Drilling Inc. (Rig #9)

Spud:12/16/2013 Comp:12/31/2013

RTD:6500' LTD:6486'

Mud Up: 6500' 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

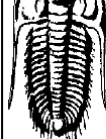
Surface Casing: 8 5/8@ 1755'

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

Palmer Oil Laura 21-4

Formation	DRILLING WELL				COMPARISON WELL				COMPARISON WELL				
	Palmer Oil - Laura 21-4				Palmer Oil- Laura 21-3				Palmer Oil - Laura 21-2				
	SE-NW-NE-SE 21-32-37W				SE-NW-NE-SE 21-32-37W				E2-E2-SW-SE 21-32-37W				
	3154 KB				3153 KB			Structural Relationship	3148 KB			Structural Relationship	
	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log	
Base Heebner										4146	-998		
Lansing										4273	-1125		
Marmaton	4928	-1774	4923	-1769	4932	-1779	5	10		4924	-1776	2	7
Cherokee	5129	-1975	5130	-1976	5144	-1991	16	15		5140	-1992	17	16
Atoka	5552	-2398	5560	-2406	5571	-2418	20	12		5547	-2399	1	-7
Morrow	5680	-2526	5678	-2524	5681	-2528	2	4		5662	-2514	-12	-10
Ste. GEN	6179	-3025	6179	-3025	6180	-3027	2	2		6180	-3032	7	7
St. Louis	6310	-3156	6320	-3166	6330	-3177	21	11		6344	-3196	40	30
St. Louis "B"	6410	-3256	6392	-3238	6404	-3251	-5	13		6389	-3241	-15	3
St. Louis "C"	6415	-3261	6427	-3273	6430	-3277	16	4		6420	-3272	11	-1
RTD	6500	-3346	6500	-3346	6500	-3347	1	1		6550	-3402	56	56
LTD	6486	-3332	6486	-3332	6509	-3356	24	24		6538	-3390	58	58





PRELUDE TESTING, INC

Palmer Oil
PO Box 399
Garden City, KS 67846
ATTN: Wyatt Urban

21-32S-37W Stevens

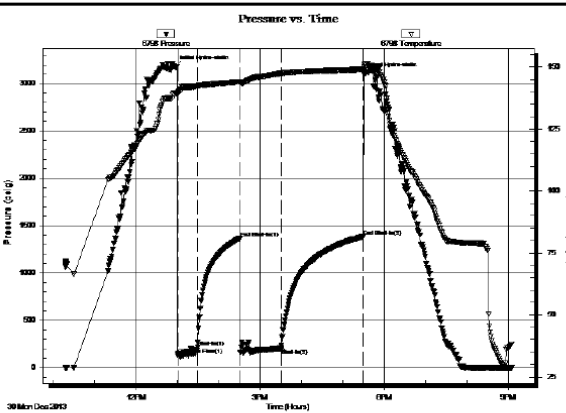
Laura 21-4
Job Ticket: 51912 DST#: 1
Test Start: 2013.12.30 @ 10:17:39

GENERAL INFORMATION:

Formation: **St. Louis**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:00:24
Time Test Ended: 21:05:09
Test Type: Conventional Bottom Hole (Initial)
Tester: Leal Cason
Unit No: 74
Interval: **6341.00 ft (KB) To 6400.00 ft (KB) (TVD)**
Reference Elevations: 3154.00 ft (KB)
Total Depth: 6400.00 ft (KB) (TVD) 3141.00 ft (CF)
Hole Diameter: 7.88 inches-Hole Condition: Good KB to GR/CF: 13.00 ft

Serial #: 6798 Inside
Press@RunDepth: 207.38 psig @ 6342.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.12.30 End Date: 2013.12.30 Last Calib.: 2013.12.30
Start Time: 10:17:40 End Time: 21:05:09 Time On Btm: 2013.12.30 @ 12:55:54
Time Off Btm: 2013.12.30 @ 17:30:24

TEST COMMENT: IF: Strong Blow , BOB in 3 1/2 minutes
IS: No Blow Back
FF: Strong Blow , BOB in 1 minute, GTS in 10 minutes, TSTM
FFSt: No Blow Back



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3177.66	139.51	Initial Hydro-static
5	133.59	138.73	Open To Flow (1)
34	219.16	142.39	Shut-in(1)
95	1369.03	143.99	End Shut-in(1)
96	161.65	143.55	Open To Flow (2)
155	207.38	147.39	Shut-in(2)
274	1389.66	149.09	End Shut-in(2)
275	3100.87	150.10	Final Hydro-static

Length (ft)	Description	Volume (bbl)
0.00	5860 GP	0.00
184.00	GMWCO 24%G 10%M 20%W 46%O	0.90
298.00	GOCM 22%G 10%O 68%M	4.18

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

ROCK TYPES

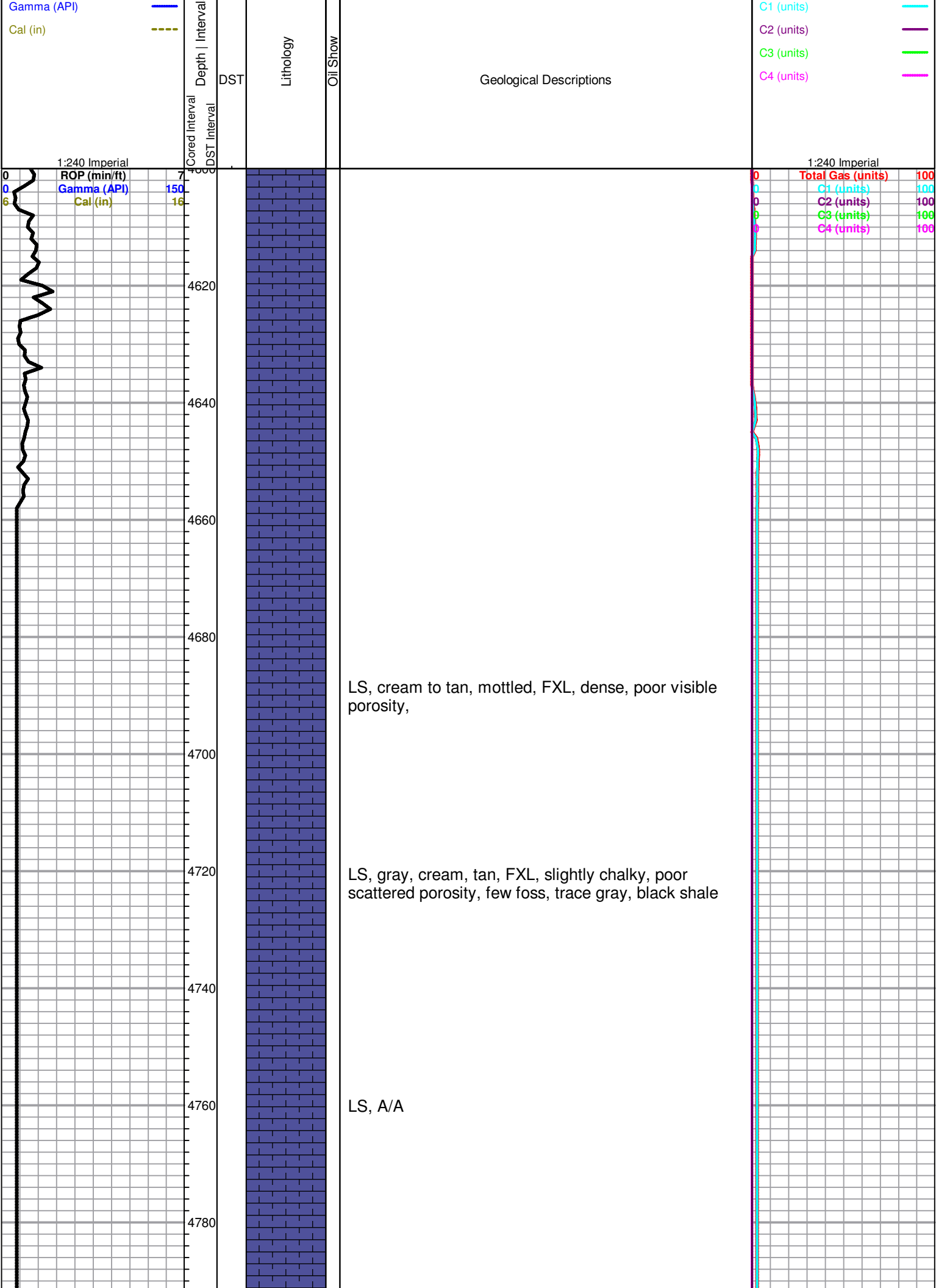
- sdymst (blue brick pattern)
- Lmst fw<7 (blue brick pattern)
- Lmst fw>7 (light blue brick pattern)
- shale, gry (grey brick pattern)
- Carbon Sh (black brick pattern)
- shale, red (red brick pattern)

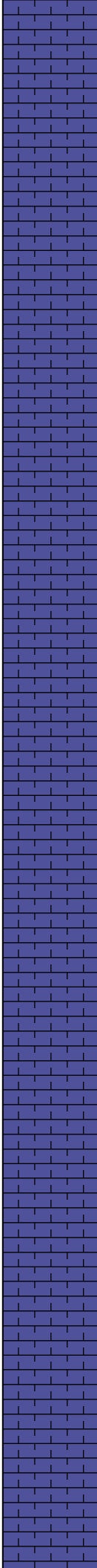
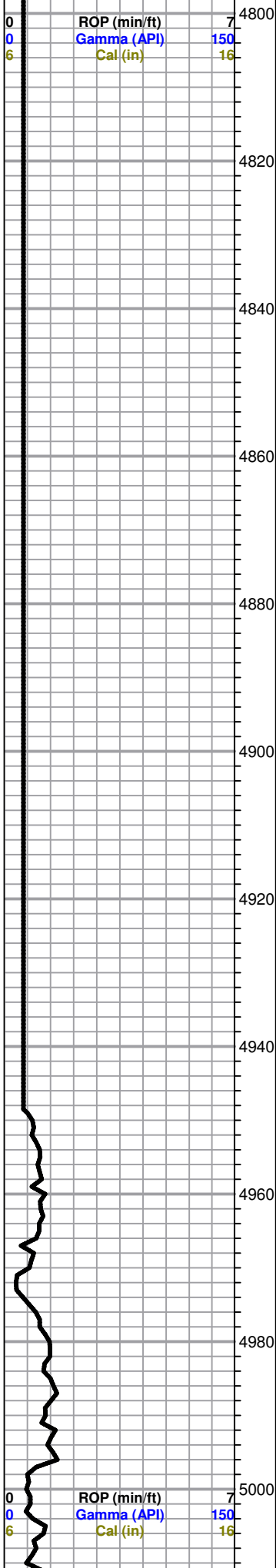
ACCESSORIES

FOSSIL
φ Oolite

OTHER SYMBOLS

- Oil Show**
 - Good Show
 - Fair Show
 - Poor Show
 - Spotted or Trace
 - Questionable Stn
 - D Dead Oil Stn
 - Fluorescence
 - * Gas
- DST**
 - DST Int
 - DST alt
 - Core
 - || tail pipe





Sh, Gry soft, LS, cream to tan, FXL, dense, slightly chalky, poor vis porosity, no shows

LS, cream to tan, chalky, few foss, trc. black shale

LS, tan, chalky, FXL, Slightly cherty, dense, few foss, poor scattered porosity

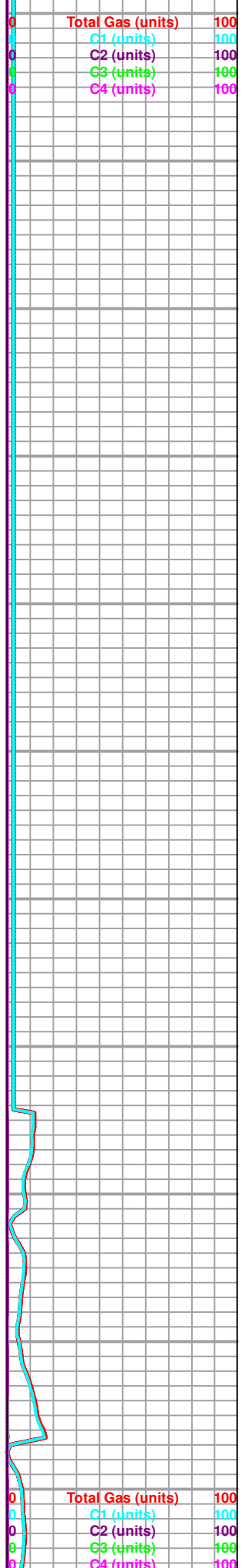
LS, tan, F-MXL, slightly cherty in parts, dense, poor vis. porosity, no shows

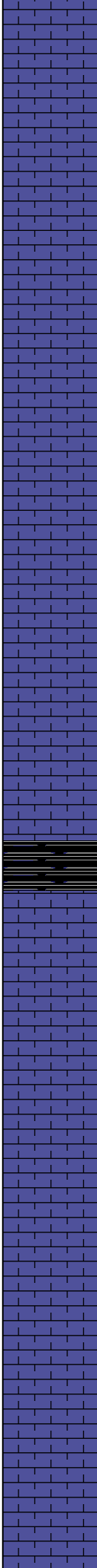
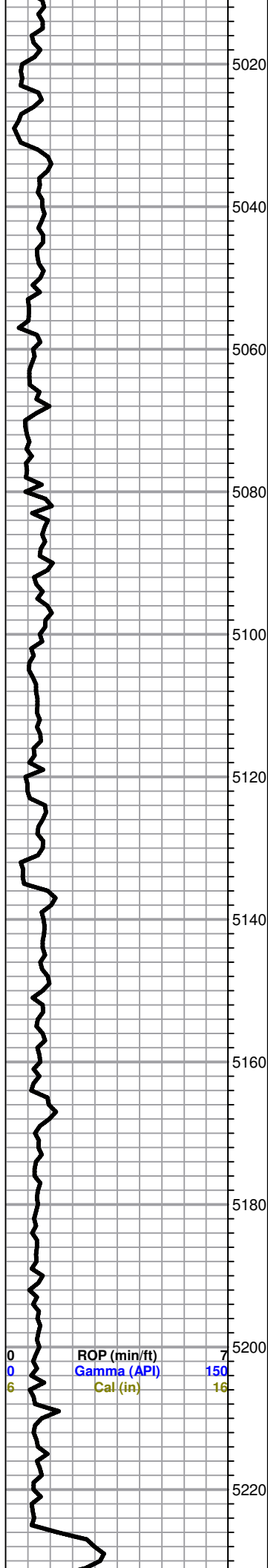
Marmaton 4923 (-1769)

LS, tan, FXL, oom, fair vuggy porosity no shows

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

Black carb shale,





Black carb shale, trace LS, cream to brown, mottled, poor visible porosity, no shows

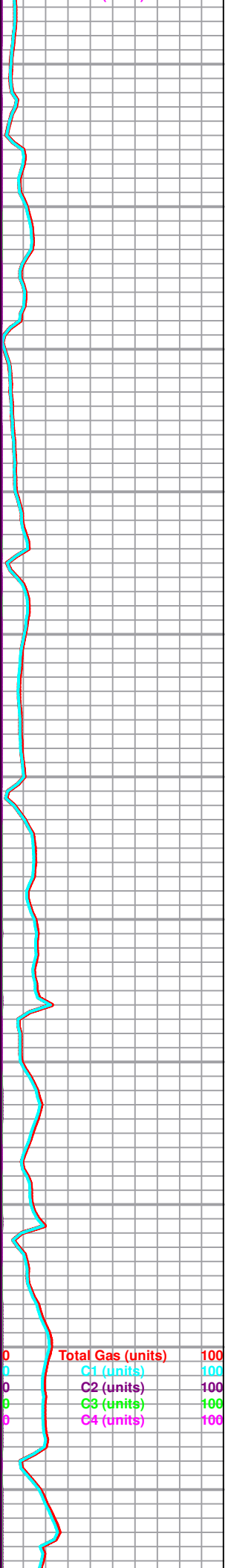
LS, tan, FXL, poorly developed ool, poor scattered porosity, no shows

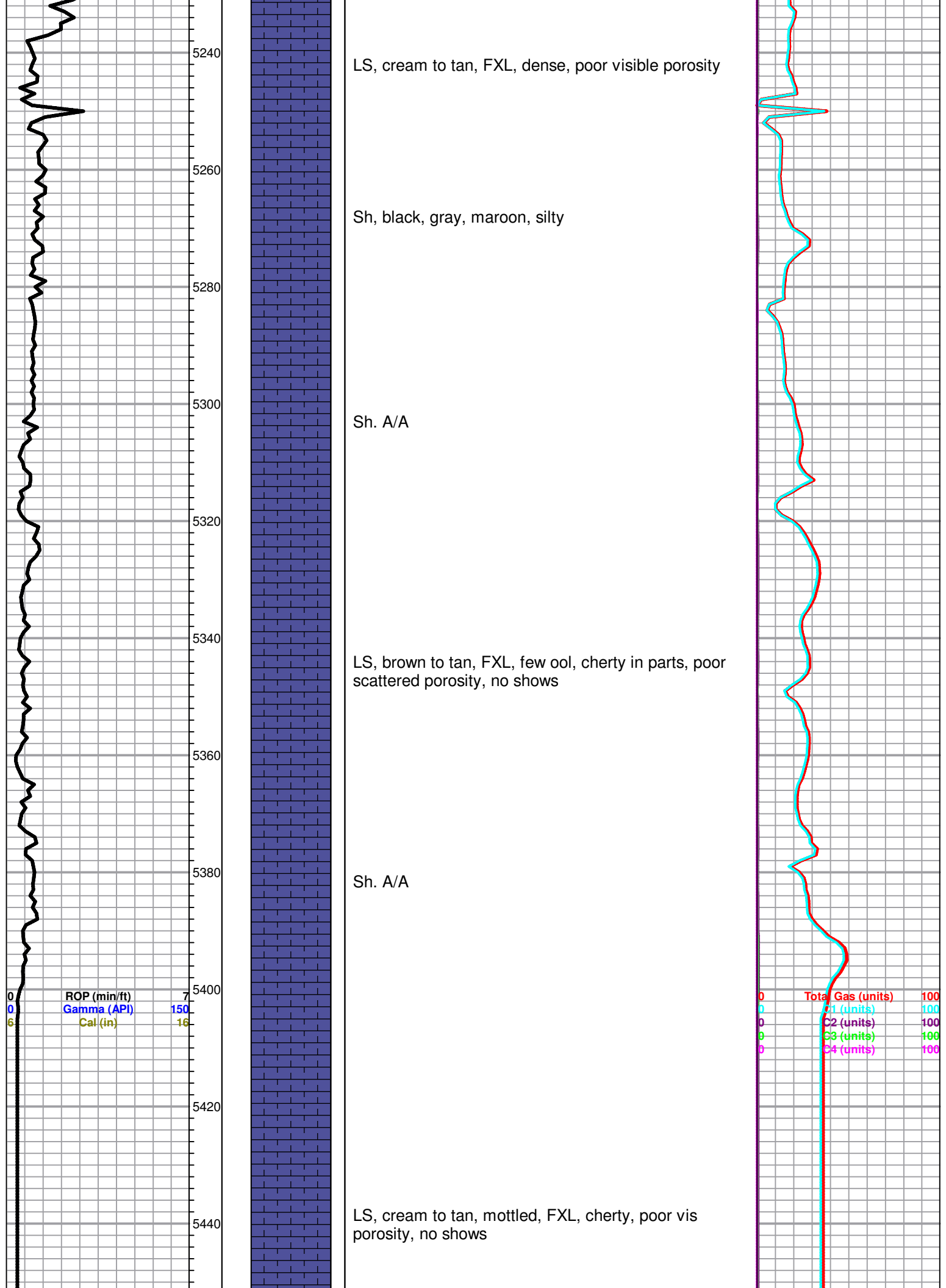
Cherokee 5130 (-1976)

LS, brown FXL, dense, poor vis. porosity, no shows

LS, tan to buff, F-MXL, v. chalky, poor visible porosity, no shows

Black Carb shale





Geo clock
malfunction

5460

5480

5500

5520

5540

5560

5580

5600

5620

5640

5660

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

Atoka 5510 (-2356)

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

Black, gray shale, silty ,few greenish

LS, tan to brown, FXL, chalky, poor vis. porosity, no shows

ROP (min/ft) 7
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,

Morrow 5678 (-2524)

Black carb shale

Sh. Black, maroon, greenish, silty

Black carb shale

Sh. A/A

Sh. gray, black, maroon, waxy

5680
5700
5720
5740
5760
5780
5800
5820
5840
5860
5880

0
0
6

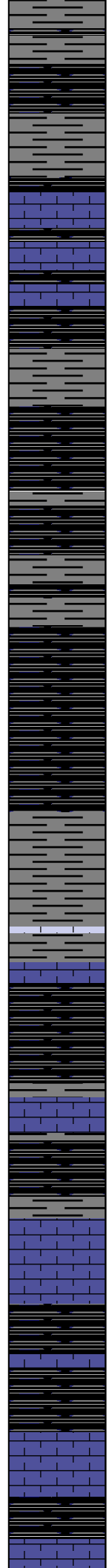
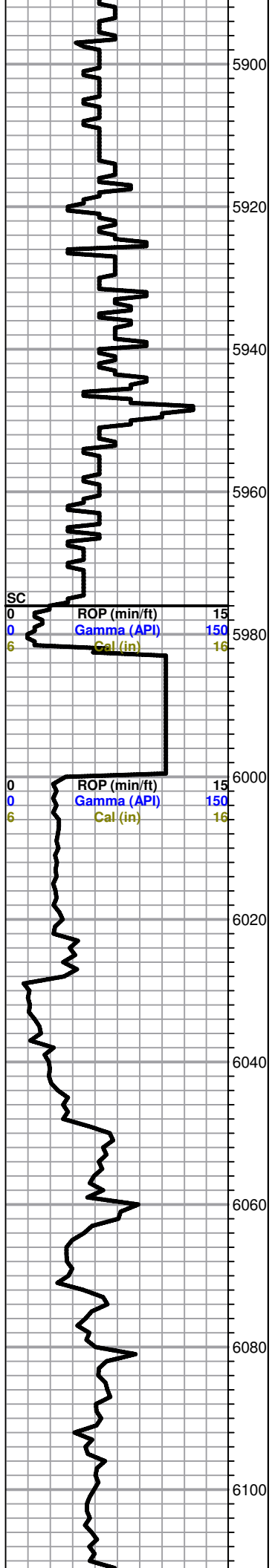
OP (min/ft)
Gamma (API)
Cal (in)

7
150
16

0
0
0
0
0

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

100
100
100
100
100



Sh. gray, black, maroon, Trc, LS, gray to tan, FXL, cherty in parts, poor visible porosity no shows

Sh. Black, gray,

Sh. black, maroon, trace LS, gray to tan, FXL, dense, cherty no shows

Sh. black, gray, silty,

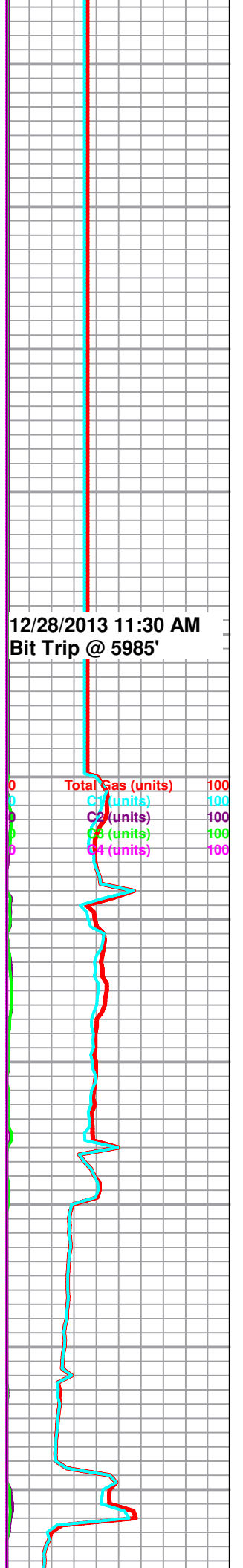
Black carb shale, gray sh, trace clr sand sub angular, dense, poor INXLN porosity, no shows

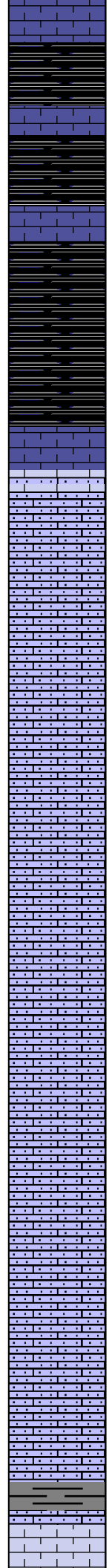
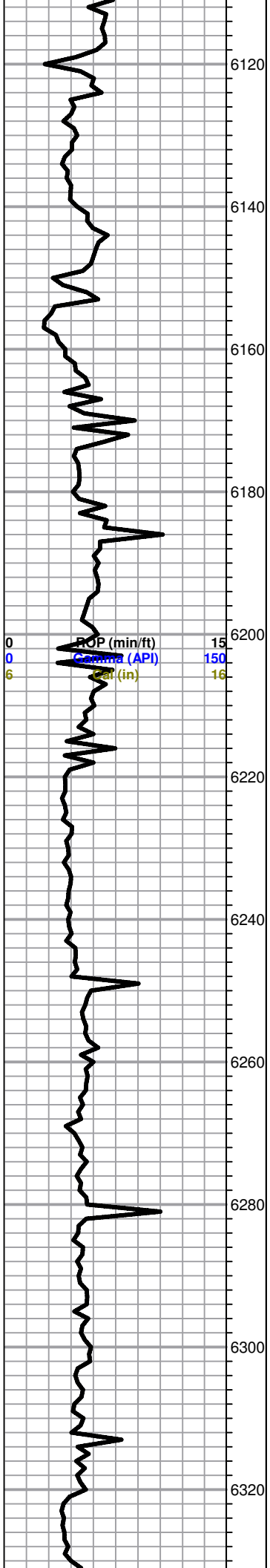
Sh. A/A trace brown LS, chalky, poor visible porosity, no shows

Black carb shale, trace red and greenish waxy shale

12/28/2013 11:30 AM
Bit Trip @ 5985'

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





Black carb shale, trace LS, tan chalky poor scattered porosity, no shows

LS, tan, rose, micro ool, friable, good INXLN porosity, no shows

St. Gen 6179 (-3025)

LS, tan to rose, micro ool, friable

LS, A/A, trace green shale

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

LS, tan, rose, brown, micro ool, friable, no shows
Trace shale, gray, greenish,

St. Louis 6320 (-3166)

