



Mudgrouve

PETROLEUM CORPORATION
Claflin, Kansas

NOTES

Company: Palmer Oil

Lease: Loretta 36-1

Field: N/A

Location: N2-NW-SW (2310' FSL &660' FWL)

Sec: 36 Twsp: 31S Rge: 39W

County: Stevens State: Kansas

KB: 3181' GL: 3168'

API #: 15-189-22819-00-00

Contractor: Duke Drilling Co., Inc. (Rig # 9)

Spud: 10-14-2013 Comp: 10-22-2013

RTD: 6250' LTD: 6249'

Mud Up: 4450' Type Mud: Chemical

Samples Saved From: 4550' to RTD

Drilling Time Kept From: 3700' to RTD

Samples Examined From: 4550' to RTD

Geological Supervision From: 4500' to RTD

Geologist on Well: Wyatt Urban

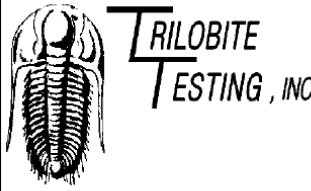
Surface Casing: 8 5/8" @ 1700'

Electronic Surveys: Logged By Pioneer Energy Services, DIL, DCPL, Micro, Sonic

Palmer Oil, Inc. well comparison sheet

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Palmer Oil, Loretta 36-1					Palmer Oil, Cynthia 35-7				Anadarko Petroleum, #3 Smith			
N2-NW-SW					S2-NW-SW-NW				NW-SE-NW			
36-31S-39W					3-16S-20W				36-31S-39W			
3181 KB					3192 KB		Structural Relationship		3140 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log

Top Anhydrite	1428	1753										
Base Anhydrite	1457	1724										
Heebner	3857	-676										
B. Heebner									3838	-698		
Lansing	4006	-825			4010	-818	-7					
Marmaton	4572	-1391	4570	-1389	4582	-1390	-1	1	4586	-1446	55	57
Cherokee Shale	4849	-1668	4842	-1661	4859	-1667	-1	6				
Atoka	5254	-2073	5254	-2073								
Morrow	5419	-2238	5416	-2235	5422	-2230	-8	-5	5316	-2176	-62	-59
Chester	5839	-2658	5835	-2654	5829	-2637	-21	-17				
St. Gen	5982	-2801	5985	-2804	5940	-2748	-53	-56	5860	-2720	-81	-84
St. Louis	6039	-2858	6042	-2861	6088	-2896	38	35	5956	-2816	-42	-45
St. Louis B.	6136	-2955	6137	-2956								



DRILL STEM TEST REPORT

Palmer Oil, Inc
3118 N Cummings Rd,
PO Box 399
Garden City KS, 67846
ATTN: Wyatt

36-31s-39w Stevens Co, KS
Loretta 36-1
Job Ticket: 52985 **DST#:** 1
Test Start: 2013.10.20 @ 23:20:00

GENERAL INFORMATION:

Formation: **St. Louis**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:44:15
Time Test Ended: 08:27:45

Test Type: Conventional Bottom Hole (Initial)
Tester: Jace McKinney
Unit No: 46

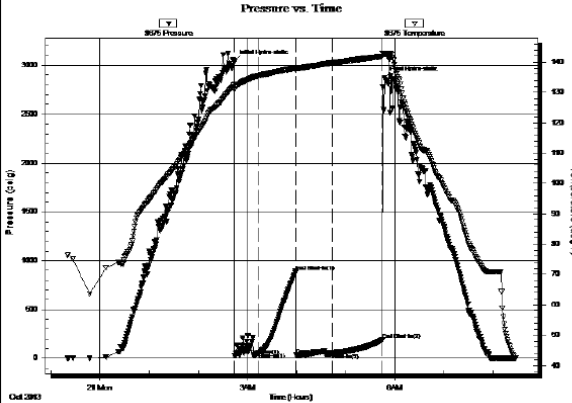
Interval: **6018.00 ft (KB) To 6097.00 ft (KB) (TVD)**
Total Depth: 6097.00 ft (KB) (TVD)
Hole Diameter: inches Hole Condition: Poor Reference Elevations: ft (KB)
KB to GR/CF: ft

Serial #: 8675 Inside

Press@RunDepth: 52.34 psig @ 6019.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.10.20 End Date: 2013.10.21 Last Calib.: 2013.10.21
Start Time: 23:20:15 End Time: 08:27:45 Time On Btm: 2013.10.21 @ 02:44:00
Time Off Btm: 2013.10.21 @ 05:47:15

TEST COMMENT: Weak surface, died in 2 min
No return blow
No blow
No return blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3038.35	132.54	Initial Hydro-static
1	27.78	131.14	Open To Flow (1)
30	58.82	135.49	Shut-In(1)
75	890.72	137.98	End Shut-In(1)
76	36.92	137.43	Open To Flow (2)
120	52.34	139.73	Shut-In(2)
181	189.47	141.86	End Shut-In(2)
184	2868.68	142.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud	0.02

Gas Rates

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

ROCK TYPES

Coal	Lmst fw>7	shale, gry	shale, red
Lmst fw<7	shale, grn	Carbon Sh	Ss

ACCESSORIES

FOSSIL	TEXTURE
Oolite	Chalky
Oomoldic	Finexin

OTHER SYMBOLS

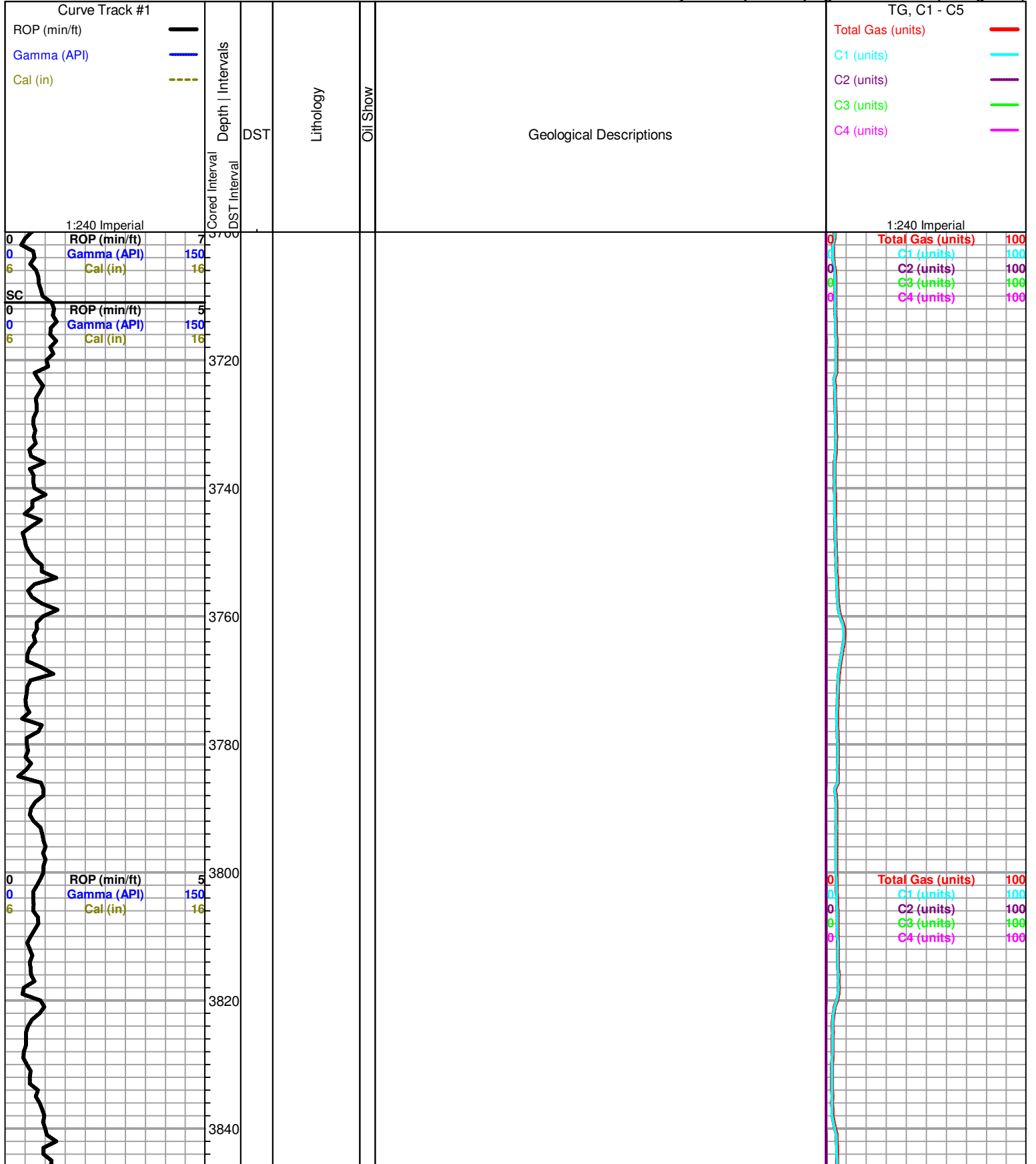
Oil Show

- 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

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)



3860
3880
3900
3920
3940
3960
3980
4000
4020
4040
4060

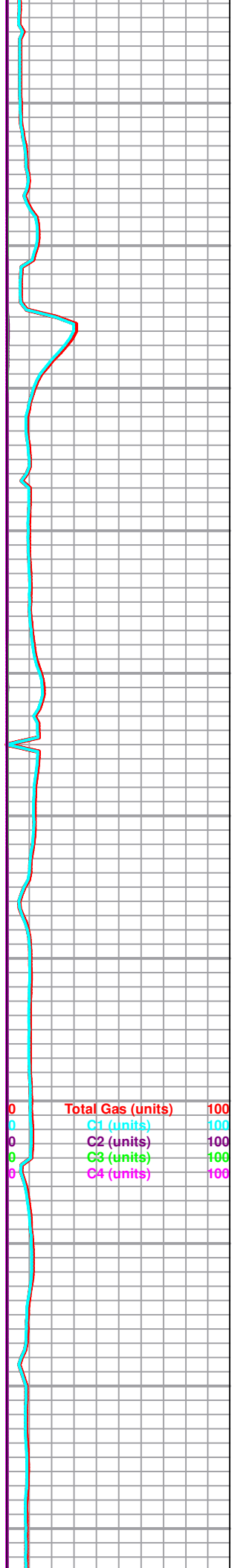
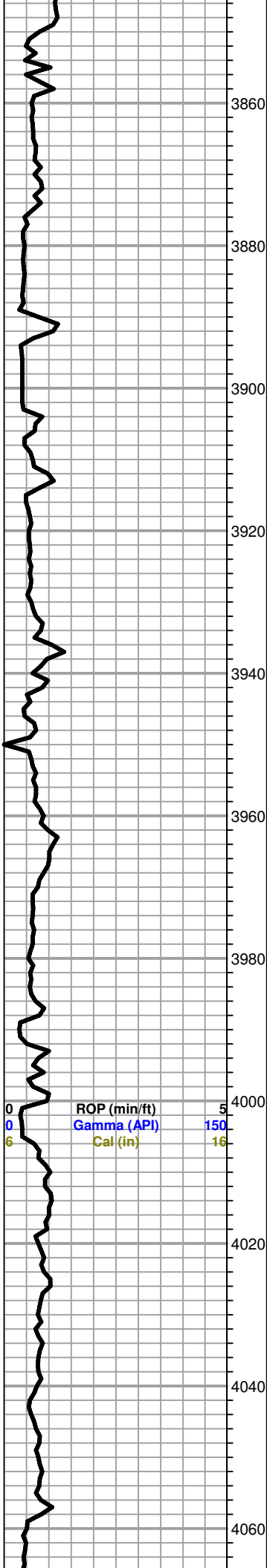
Heebner 3857 (-676)

Heebner 3872 (-691)

Lansing 4006 (-825)

0 ROP (min/ft) 5
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



4080
4100
4120
4140
4160
4180
4200
4220
4240
4260
4280

ROP (min/ft) 5
Gamma (API) 150
Cal (in) 16

6

6

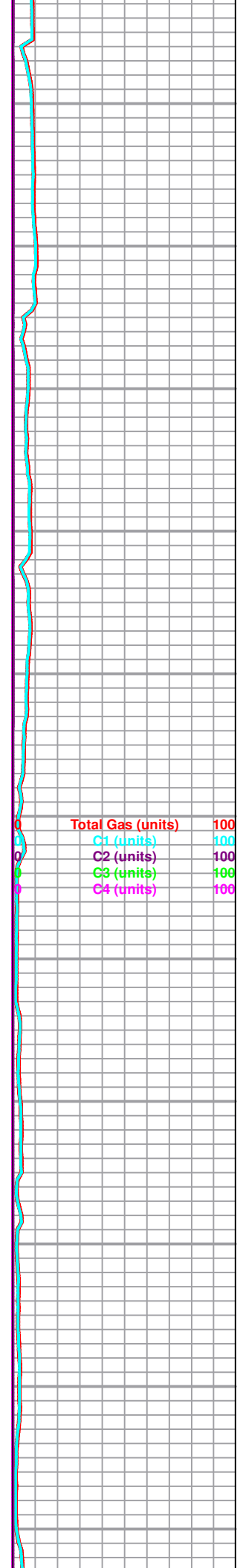
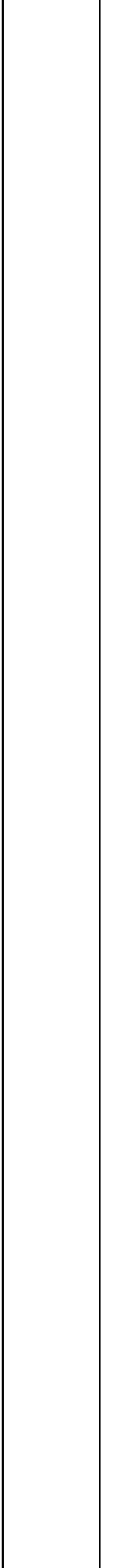
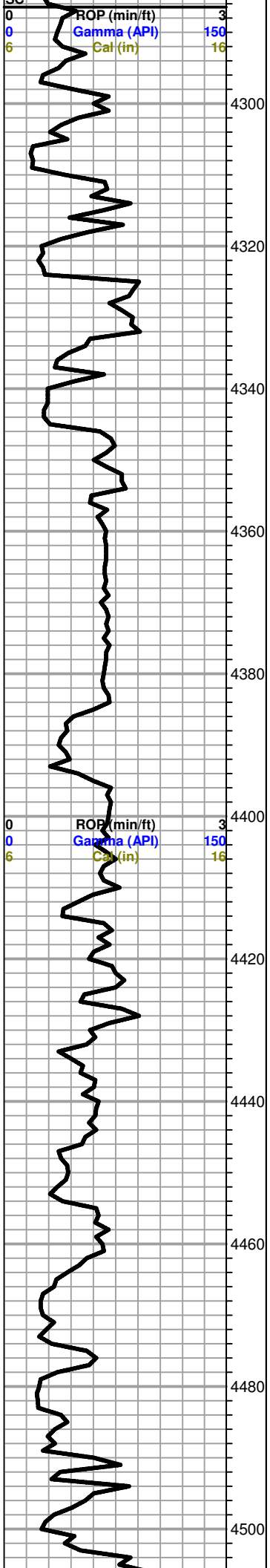
Total Gas (units) 100
C1 (units) 100
C2 (units) 100
C3 (units) 100
C4 (units) 100

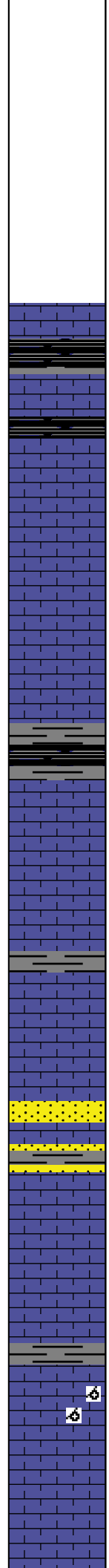
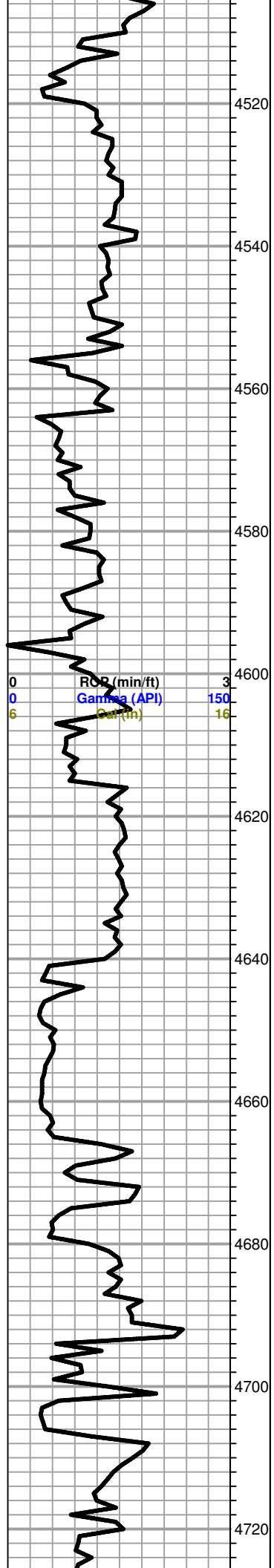
0

0

0

0





LS, gray to tan, FXL, few foss, dense, chery in parts

Marmaton 4572(-1391)

LS, gray to tan, sandy, FXL, few foss, cherty in parts, poor visible porosity

LS, tan FXL, few foss, poor visible porosity, slightly cherty, dense

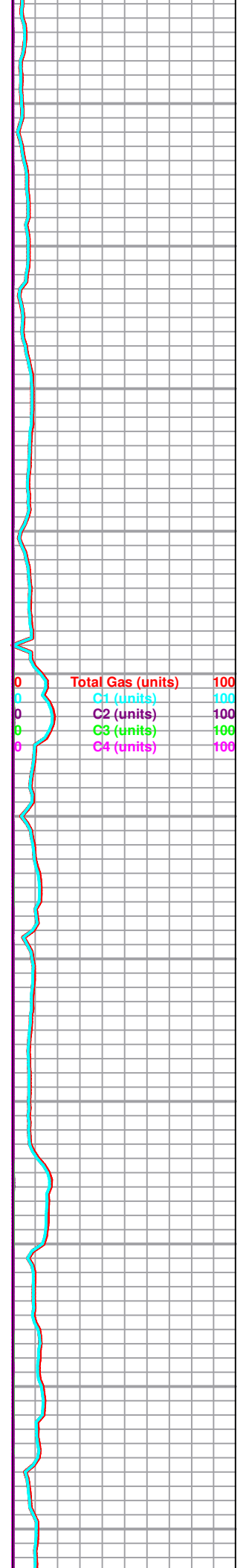
LS, tan to brown, FXL, cherty, dense, slightly chalky

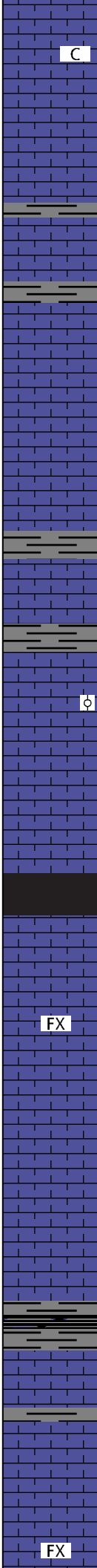
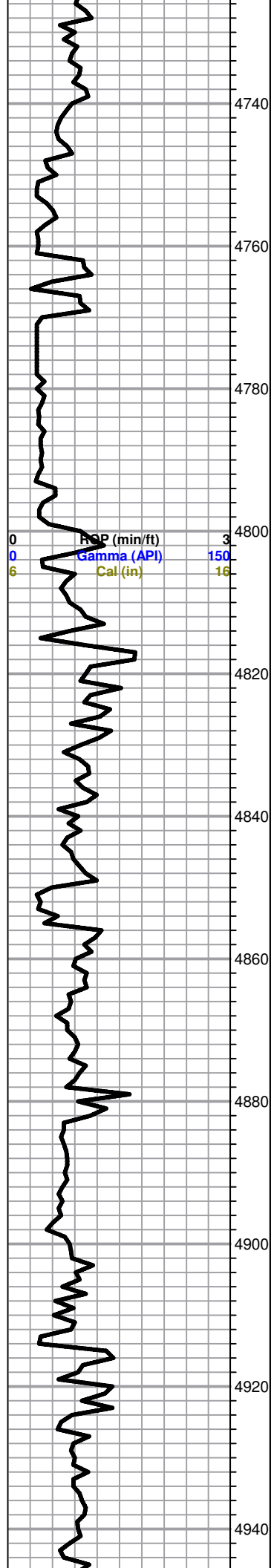
LS, A/A

LS, A/A, trc sand, gray to green, f. grain, well sorted, friable

LS, cream to tan, FXL, ool, chalky, no shows

LS, cream to tan, oom, good vuggy porosity, chalky, N/S





C
 LS, tan to brown, FXL, v. chalky, few foss, poor visible porosity, N/S

LS, tan, FXL, chalky, few foss, dense

LS, tan to brown, FXL, few foss, dense, trc sh. black silty

LS, gray to tan, FXL, dense, poor scattered porosity, cherty in parts

o
 LS, tan to buff, ool, poor oom porosity, slightly chalky, trc white chert

LS, gray, FXL, dense, poor visible porosity, chalky,

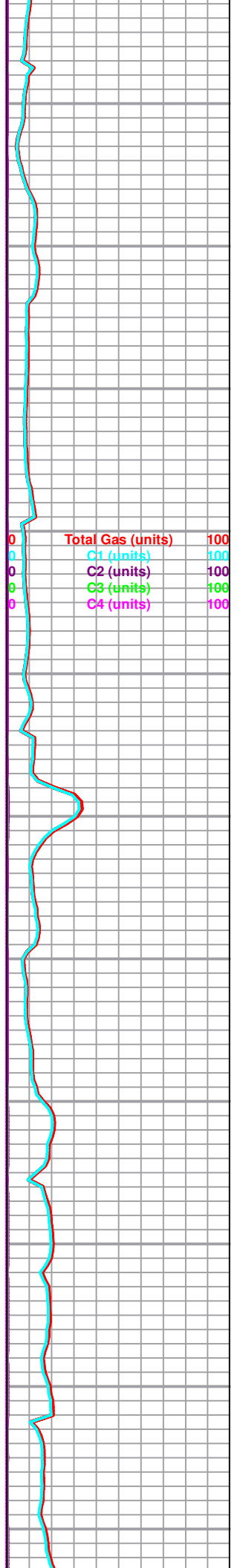
Cherokee Shale 4849 (-1668)
 Black carb shale

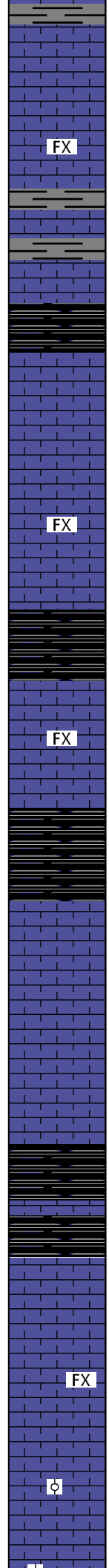
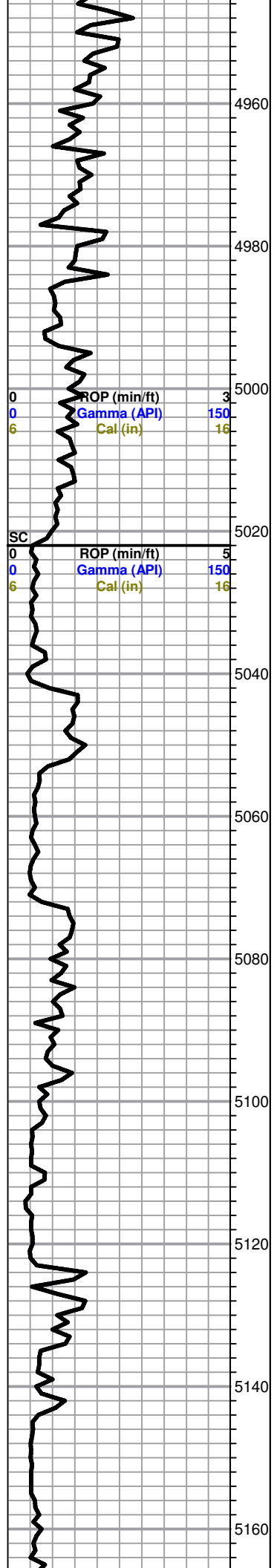
FX
 LS, tan FXL, chalky few foss, poor scattered porosity, trc black carb shale

LS, gray, sandy, dense, poor visible porosity, no shows

LS, A/A

FX
 LS, A/A, trch LS, tan FXL, dense, few foss, chalky in parts





in parts

LS, tan to brown, FXL, cherty, dense, poor scattered porosity, no shows

Sh, black to gray, trc, LS, tan to buff, cherty, dense

LS, gray to tan, FXL, slightly chalky, few foss, poor visible porosity, no shows

Sh, black to gray, silty, soft

LS, gray to buff, FXL, slightly chalky, few foss, dense, poor scattered porosity

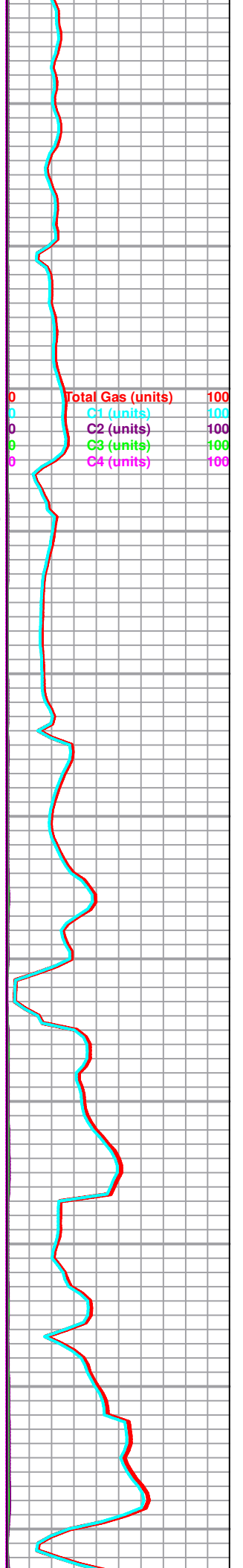
Sh, black carb soft

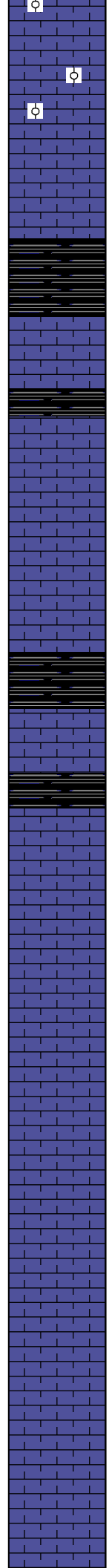
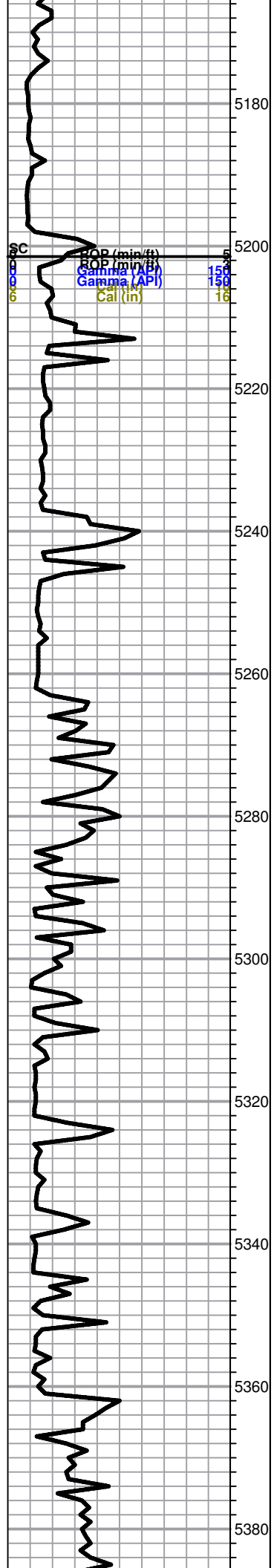
LS, cream to white, F-MXL, SL. chalky, few foss, friable, no shows

Black carb shale

LS, cream to tan FXL, slightly cherty, chalky, foss in parts, poor visible porosity, no shows

LS, gray to tan, FXL, few ool, slightly cherty, poor scattered porosity, no shows





LS, cream to tan, ool, poor scattered porosity, chalky, no shows

Black carb Sh

Sh, black, trace LS, cream to tan, FXL, chalky, few foss, poor visible porosity, no shows

LS, tan few ool, poor scattered porosity, no shows
Atoka 5247 (-2066)

Black shale, silty, soft

Black Shale A/A

LS, tan to brown, FXL, cherty, poor visible porosity, trace green shale

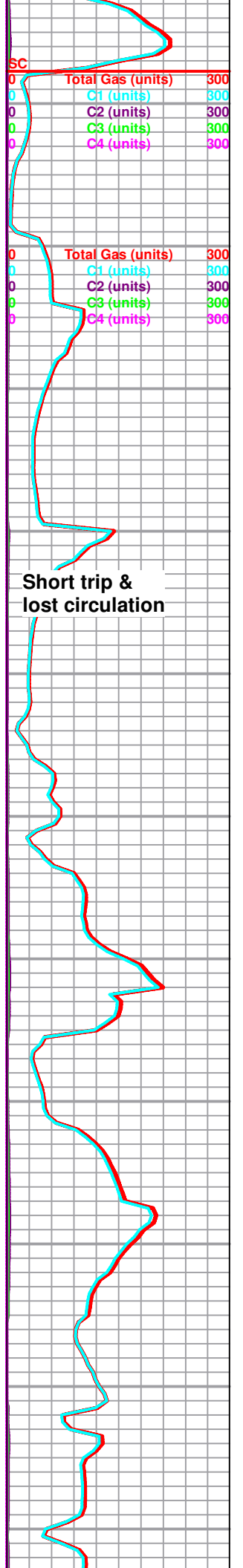
Black shale

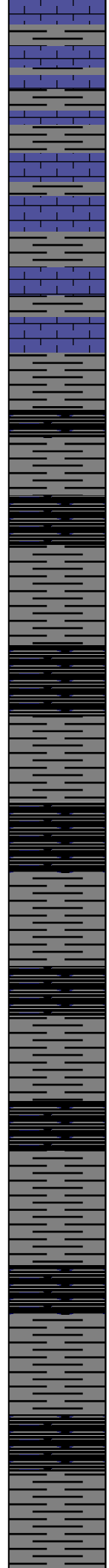
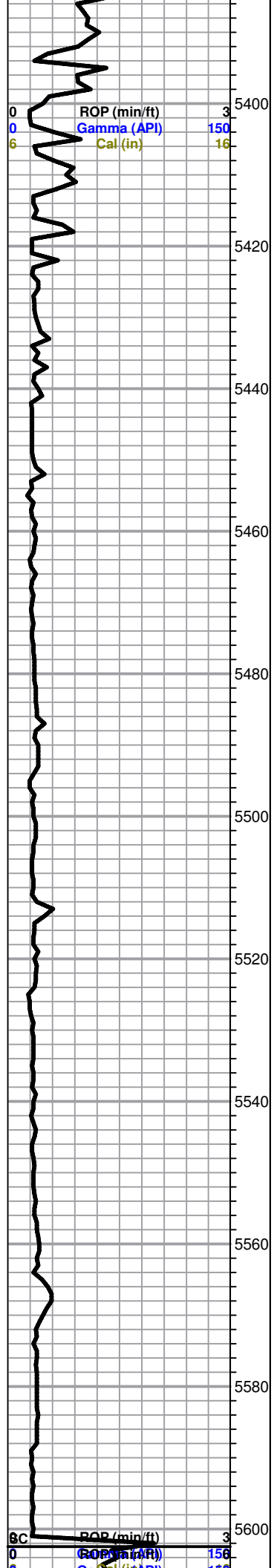
LS, tan to buff, FXL, dense, few foss, poor visible porosity, no shows

Black shale, trace LS. A/A

LS, gray to dark gray, FXL, dense, poor visible porosity, dense, slightly cherty,

LS, brown to FXL, dense, few foss, poor visible porosity, trace black shale





Sh, black trc, LS, gray, FXL, cherty, poor scattered porosity

Sh, A/A, trc, white chert, soft, LS, gray, FXL, cherty, slightly chalky

Morrow 5427 (-2246)

Sh. black to gray, trc, LS, gry FXL, dense, poor visible porosity

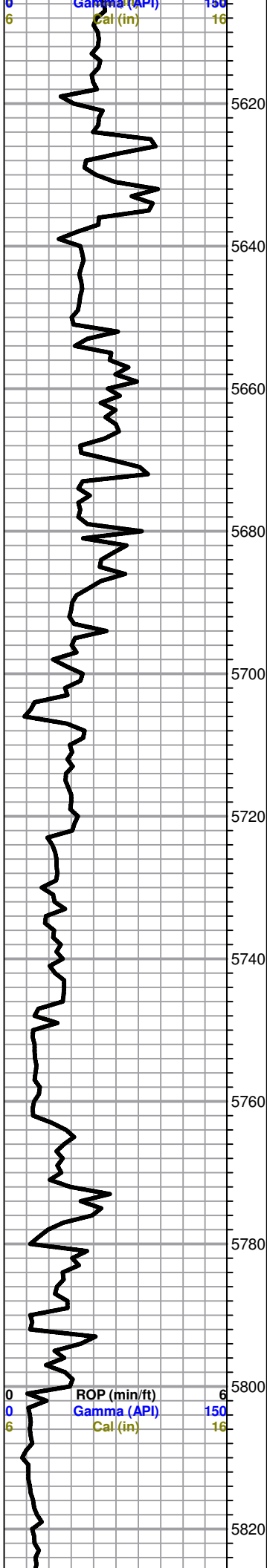
Sh, black LS, cream to gray dense few foss, poor visible porosity, no shows

Sh, black and gray

Sh, black to gray, soft



Lost Circulation trip bit out and switch



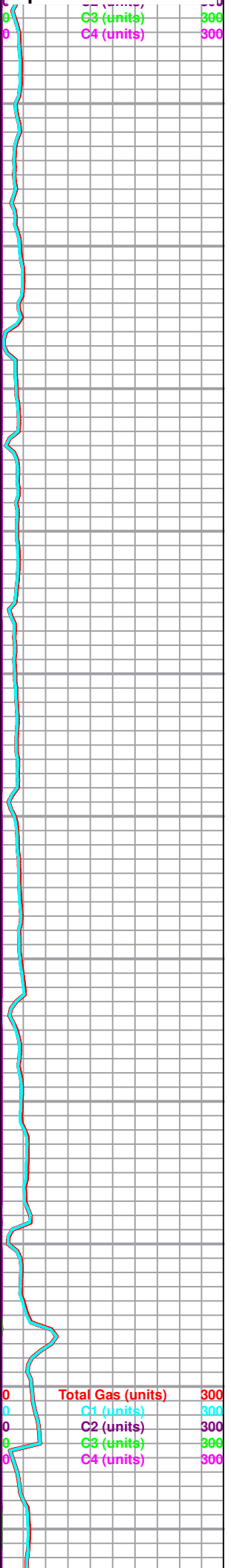
Sh A/A

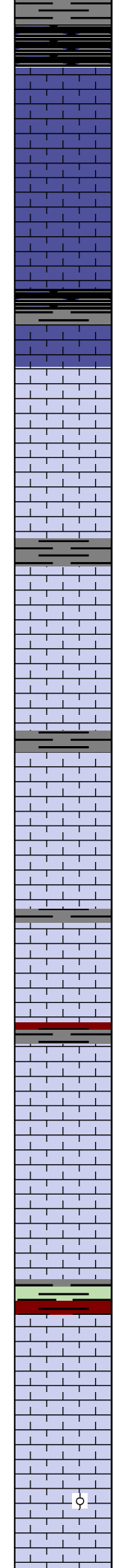
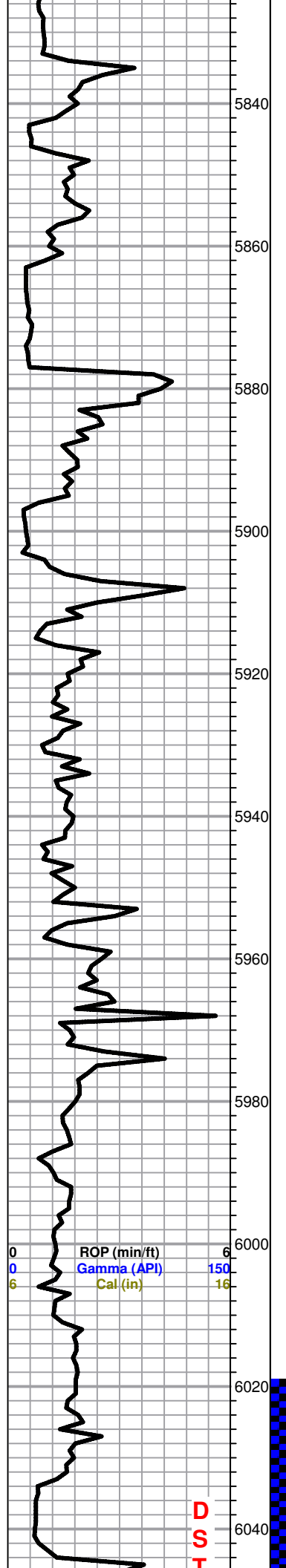
Black shale, trc, LS, white to cream chalky, poor visible porosity, no shows(poor sample quality)

Sh, A/A

Shale, black to gray, soft

Sh, black, trc, LS, brown to tan FXL, dense, chalky, no shows





Chester 5833 (-2652)

LS, tan to buff, FXL, dense, poor visible porosity, few foss, no shows

Sh, black to gray, silty, trc, LS, tan to brown, FXL, dense, chalky, poor scattered porosity

LS, tan brown, mar, f.grained micro ool, /sucrosic

St. Gen 5918 (-2737)

LS, tan to maroon, f. grained, micro ool, sucrosic

LS, tan, maroon, micro ool, sucrosic, no shows

LS, A/A, trace black, maroon, and green shales

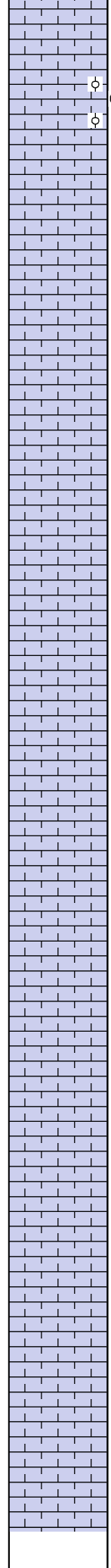
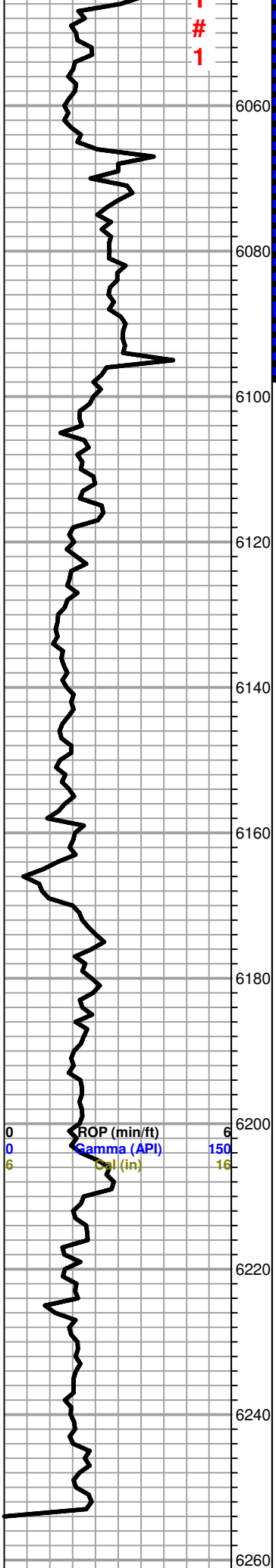
St. Louis 6039 (-2858)

LS, white to cream, ool, poorly developed, chalky, no flor. cut, no odor, no stain, trc white chert soft

Mud-Co
Mud Check
 10/20/2013
 5878' @ 6:10 AM
 Wt. 8.9
 Visc. 53
 LCM, 24lbs
 pH 9.0

0	Total Gas (units)	300
0	C1 (units)	300
0	C2 (units)	300
0	C3 (units)	300
0	C4 (units)	300
CFS 20-40-60		
0	Wiper trip	100
0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

D S H



LS, white- cream fair-poorly developed ool, chalky, trc black stain in 60 min. sample, v. light flor. cut, no odor

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

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

Slug black shale, LS, cream to buff, poorly developed ool, chalky, poor scattered porosity, no shows

LS, white to cream FXL, dense, poor vis porosity, slightly chalky in parts, no shows

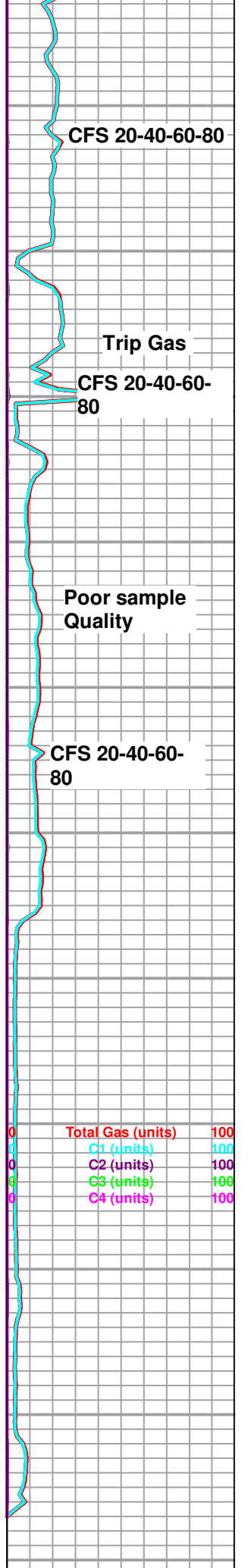
LS, white to cream, FXL, poor visible porosity, slightly chalky, dense, no shows

Ls, white to cream, FXL, chalky, poor visible porosity, no shows

LS, cream tan FXL, dense, poorly developed chalky, poor visible porosity, no shows

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

RTD 6253 (-3072)



Grid pattern					Grid pattern
--------------	--	--	--	--	--------------