



Joshua R. Austin

Petroleum Geologist

report for

RAMA Operating CO., Inc



COMPANY: RAMA Operating Company, Inc.

LEASE: Greenback #1-27

FIELD: Iuka-Carmi

LOCATION: 330' FSL & 2310' FWL Se-Se-Se

SEC: 27 TWSP: 26s RGE: 13w

COUNTY: Pratt STATE: Kansas

KB: 1957 GL: 1944

API # 15-151-22427-00-00

CONTRACTOR: Sterling Drilling (rig #5)

Spud: 11-18-2013 Comp: 11-27-2013

RTD: 3742 LTD: 3742

Mud Up: 3092' Type Mud: Chemical was displaced

Samples Saved From: 3200'to RTD
 Drilling Time Kept From: 3200'to RTD
 Samples Examined From: 3200'to RTD
 Geological Supervision From: 3200'to RTD
 Geologist on Well: Josh Austin

Surface Casing: 13 3/8" @ 275'
 Production Casing: None

Electronic Surveys: By Pioneer Energy Services

NOTES

On the basis of the low structural position, drill stem test and after evaluating the electric logs, it was recommended by all parties involved in the Greenback 1-27 be plug and abandon at the rotary total depth 4430'

RAMA Operating Co., Inc.

well comparison sheet

DRILLING WELL

COMPARISON WELL

COMPARISON WELL

1957 KB					1963 KB				1953 KB			
					Structural Relationship				Structural Relationship			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Heebner	3622	-1665	3619	-1662	3586	-1623	-42	-39	3594	-1631	-34	-31
Toronto	3641	-1684	3643	-1686	3606	-1643	-41	-43	3611	-1648	-36	-38
Douglas	3655	-1698	3654	-1697	3625	-1662	-36	-35	3627	-1664	-34	-33
Brown Lime	3783	-1826	3779	-1822	3750	-1787	-39	-35	3754	-1791	-35	-31
Lansing	3800	-1843	3796	-1839	3776	-1813	-30	-26	3782	-1819	-24	-20
Base KC	4127	-2170	4128	-2171	4093	-2130	-40	-41	4099	-2136	-34	-35
Mississippi	4217	-2260	4224	-2267	4170	-2207	-53	-60	4184	-2221	-39	-46
Viola	4312	-2355	4309	-2352	4260	-2297	-58	-55	4262	-2299	-56	-53
Simpson Sand	4350	-2393	4351	-2394	4321	-2358	-35	-36	4323	-2360	-33	-34
Total Depth	4430	-2473	4428	-2471	4425	-2462			4484	-2521		



**TRIOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

RAMA Oper. Co. Inc.

27-26s.-13w. Pratt Co. KS

101 S. Main St.
Stafford, KS 67578-1429

Greenback 1-27

ATTN: Josh Austin

Job Ticket: 51852

DST#: 1

Test Start: 2013.11.24 @ 21:46:42

GENERAL INFORMATION:

Formation: **Lans. H-K**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 00:43:42

Time Test Ended: 05:31:12

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Reynolds

Unit No: 48

Interval: 3960.00 ft (KB) To 4035.00 ft (KB) (TVD)

Total Depth: 4035.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1957.00 ft (KB)

1944.00 ft (CF)

KB to GR/CF: 13.00 ft

Serial #: 8792

Outside

Press@RunDepth: 108.71 psig @ 3961.00 ft (KB)

Start Date: 2013.11.24

End Date: 2013.11.25

Start Time: 21:46:47

End Time: 05:31:11

Capacity: 8000.00 psig

Last Calib.: 2013.11.25

Time On Btm: 2013.11.25 @ 00:41:12

Time Off Btm: 2013.11.25 @ 03:19:57

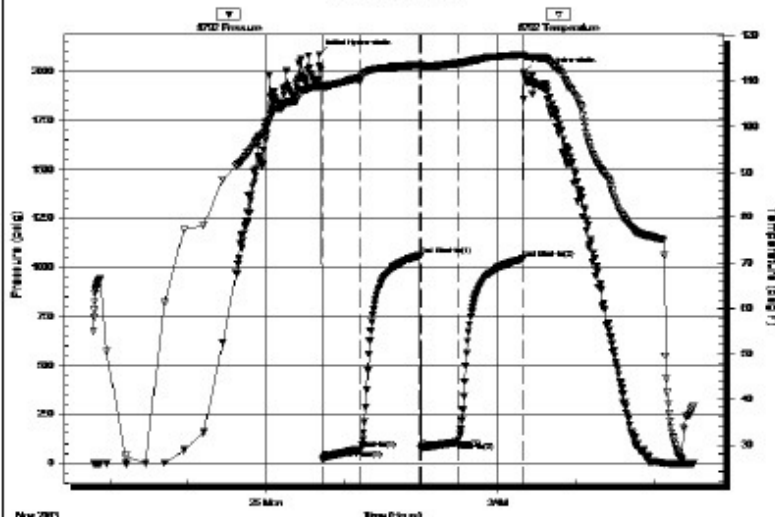
TEST COMMENT: IF: Good blow . 1/2" - 9"

IS: No blow

FF: Fair blow . 1/2" - 6"

FS: No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2085.66	108.96	Initial Hydro-static
3	23.50	108.72	Open To Flow (1)
33	73.37	110.89	Shut-In(1)
79	1061.04	113.58	End Shut-In(1)
79	78.33	113.34	Open To Flow (2)
108	108.71	113.91	Shut-In(2)
158	1044.18	115.82	End Shut-In(2)
159	1994.24	115.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	VSLI OCMW trc%oil, 49%mud, 50%w tr	0.74
90.00	SLI OGCM 1%oil, 5%gas, 94%mud	0.44

Gas Rates

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

DRILL STEM TEST REPORT

RAMA Oper. Co. Inc.
101 S. Main St.
Stafford, KS 67578-1429
ATTN: Josh Austin

27-26s.-13w. Pratt Co. KS
Greenback 1-27
Job Ticket: 51853 DST#: 2
Test Start: 2013.11.26 @ 04:01:08



TRILOBITE
TESTING, INC.

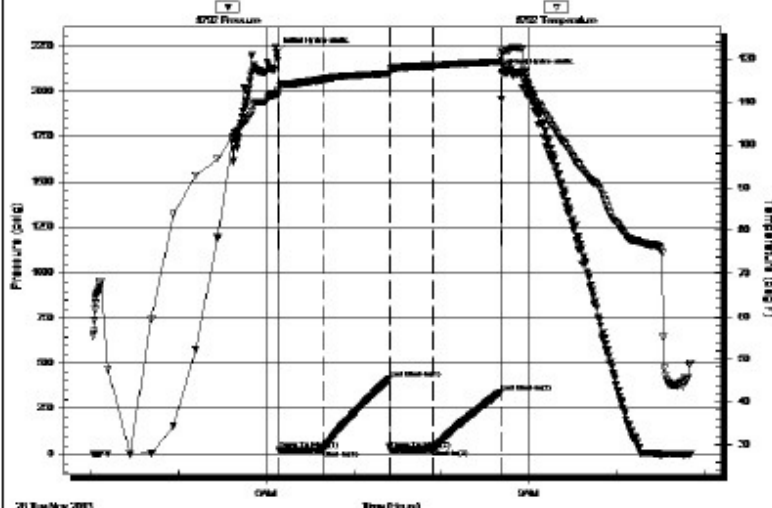
GENERAL INFORMATION:

Formation: Viola
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 06:08:23
Time Test Ended: 10:51:08
Interval: 4255.00 ft (KB) To 4280.00 ft (KB) (TVD)
Total Depth: 4280.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Reynolds
Unit No: 48
Reference Elevations: 1957.00 ft (KB)
1944.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8792 Outside
Press@RunDepth: 30.75 psig @ 4256.00 ft (KB)
Start Date: 2013.11.26 End Date: 2013.11.26
Start Time: 04:01:13 End Time: 10:51:07
Capacity: 8000.00 psig
Last Calib.: 2013.11.26
Time On Btm: 2013.11.26 @ 06:06:38
Time Off Btm: 2013.11.26 @ 08:41:23

TEST COMMENT: IF: Strong blow . BOB @ 7min.
IS: No blow
FF: Strong blow . BOB immed. No GTS.
FS: No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2210.08	111.94	Initial Hydro-static
2	23.64	111.86	Open To Flow (1)
32	23.66	115.26	Shut-In(1)
78	414.88	116.58	End Shut-In(1)
79	23.16	117.42	Open To Flow (2)
108	30.75	118.42	Shut-In(2)
154	340.73	119.33	End Shut-In(2)
155	2094.40	121.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)

Gas Rates

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

30.00	GOCM 5%gas, 5%oil, 90%mud	0.15
0.00	980' GIP	0.00

* Recovery from multiple tests



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TESTING, INC.**

DRILL STEM TEST REPORT

RAMA Oper. Co. Inc.
101 S. Main St.
Stafford, KS 67578-1429
ATTN: Josh Austin

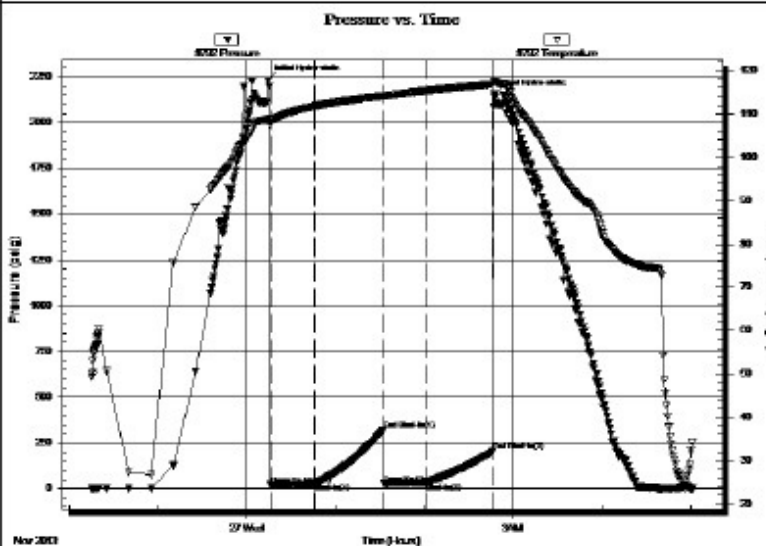
27-26s.-13w. Pratt Co. KS
Greenback 1-27
Job Ticket: 51854 DST#: 3
Test Start: 2013.11.26 @ 22:15:15

GENERAL INFORMATION:

Formation: Viola
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 00:16:15
Time Test Ended: 05:01:00
Interval: 4288.00 ft (KB) To 4348.00 ft (KB) (TVD)
Total Depth: 4348.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Reynolds
Unit No: 48
Reference Elevations: 1957.00 ft (KB)
1944.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8792 Outside
Press@RunDepth: 31.90 psig @ 4289.00 ft (KB)
Start Date: 2013.11.26 End Date: 2013.11.27
Start Time: 22:15:20 End Time: 05:00:59
Capacity: 8000.00 psig
Last Calib.: 2013.11.27
Time On Btn: 2013.11.27 @ 00:14:30
Time Off Btn: 2013.11.27 @ 02:47:15

TEST COMMENT: IF: Good blow . 1/2" - 8"
IS: No blow
FF: Good blow . 2" - 7"
FS: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2234.14	108.83	Initial Hydro-static
2	18.90	108.40	Open To Flow (1)
32	27.66	111.77	Shut-In(1)
78	319.12	114.13	End Shut-In(1)
78	26.75	114.09	Open To Flow (2)
107	31.90	115.35	Shut-In(2)
152	202.64	116.87	End Shut-In(2)
153	2154.76	117.87	Final Hydro-static

Recovery

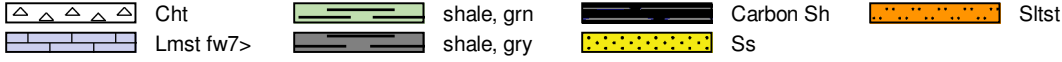
Length (ft)	Description	Volume (bbl)
20.00	VSLI OCM trc%oil, 99%mud	0.10
0.00	280' GIP	0.00

Gas Rates

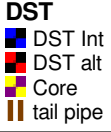
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests

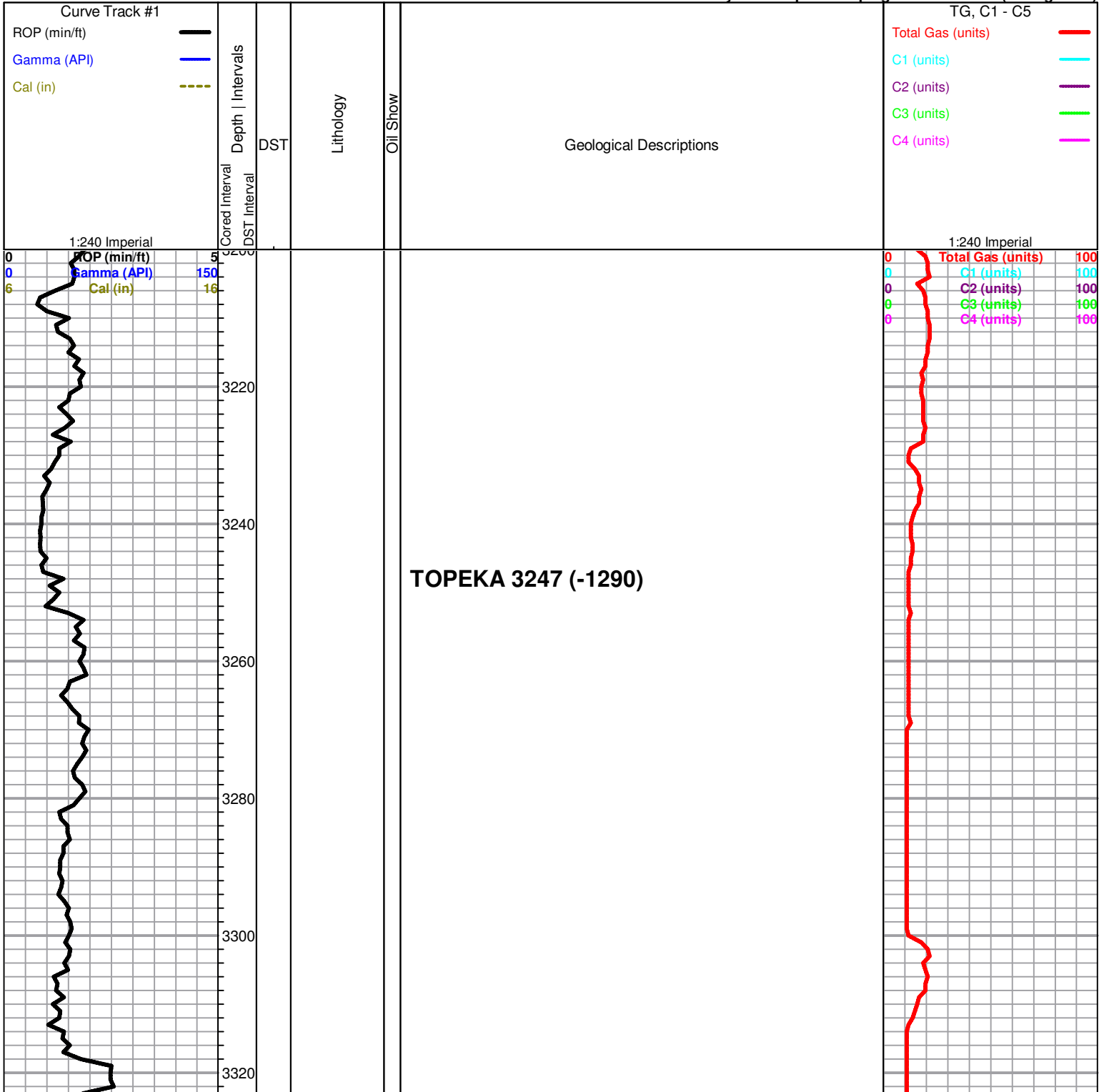
ROCK TYPES



OTHER SYMBOLS



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



3340
3360
3380
3400
3420
3440
3460
3480
3500
3520
3540

KING HILL

black carboniferous shale

Limestone; cream, fine xln, fossiliferous, granular in part, poorly developed porosity, no shows

Limestone; cream-lt. grey, fine xln, chalky, dense, sparry calcite inclusions, no shows

Limestone as above poor porosity, no shows

Limestone; buff, cream, fossiliferous, few loose fossil fragments, chalky in part, dense, poorly deviated porosity, no shows

plus green-maroon soft shale

Limestone; cream-buff-grey, fine xln, chalky, dense, no shows

Limestone; cream-white, fossiliferous, chalky in part, sparry calcite crystals, few scattered inter xln-fine xln porosity, no shows

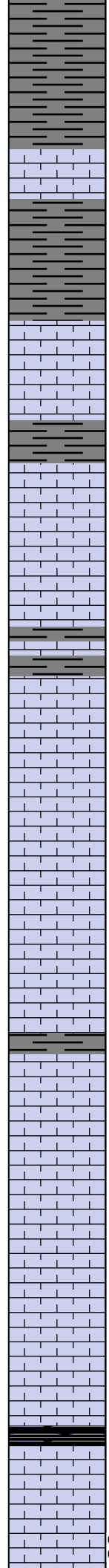
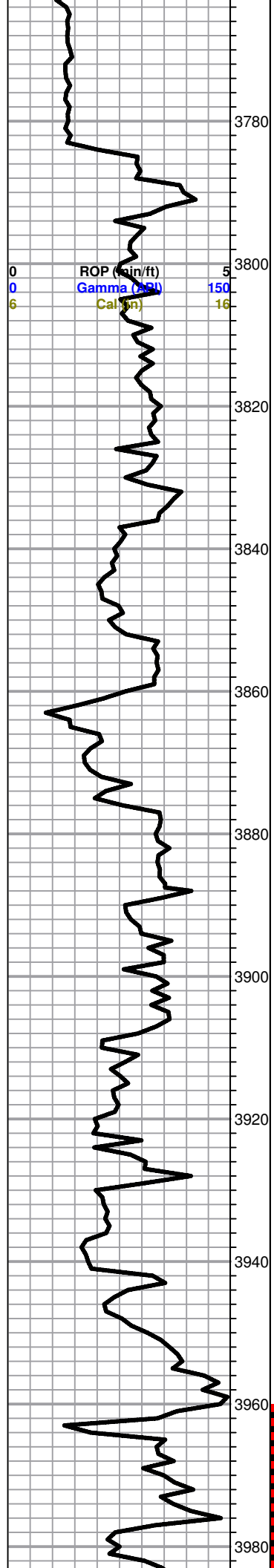
Limestone as above; few granular pieces

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

0
0
6

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

0
0
0
0
0



soft/gummy, silty in part

BROWN LIME 3783 (-1826)

Limestone; tan-buff, fine xln, fossiliferous in part, dense, cherty

LANSING 3800 (-1843)

Limstone; grey-cream, fine xln, chalky, mottled in part, poor porosity, no shows

dark grey-black shale

Limstone; cream-lt. grey, fine xln, few sparry calcite crystals, chalky, dense, no shows

as above

Limestone; buff-grey, fine xln, dense, few sparry calcite, few scattered sub oomoldic type porosity, no shows

Limestone; cream-brown, fine xln, chalky, fossiliferous in part, poorly developed porosity, no shows

Limestone; as above

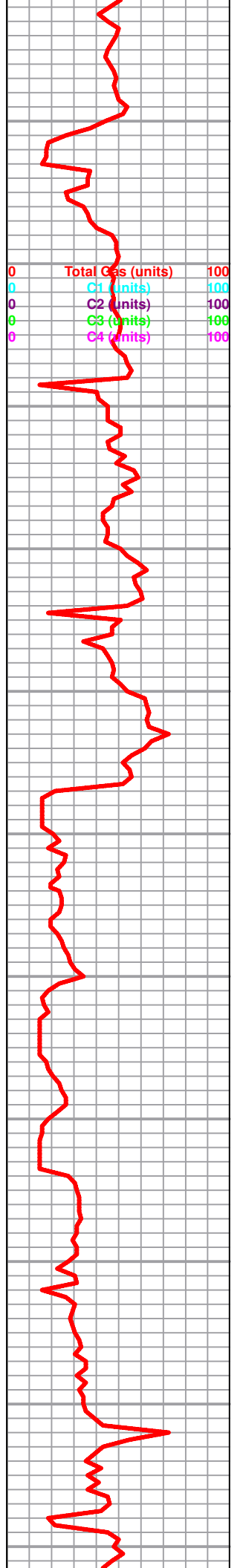
Limestone; buff-brown, fine xl, dense, slightly fossiliferous, poor porosity, cherty, no shows

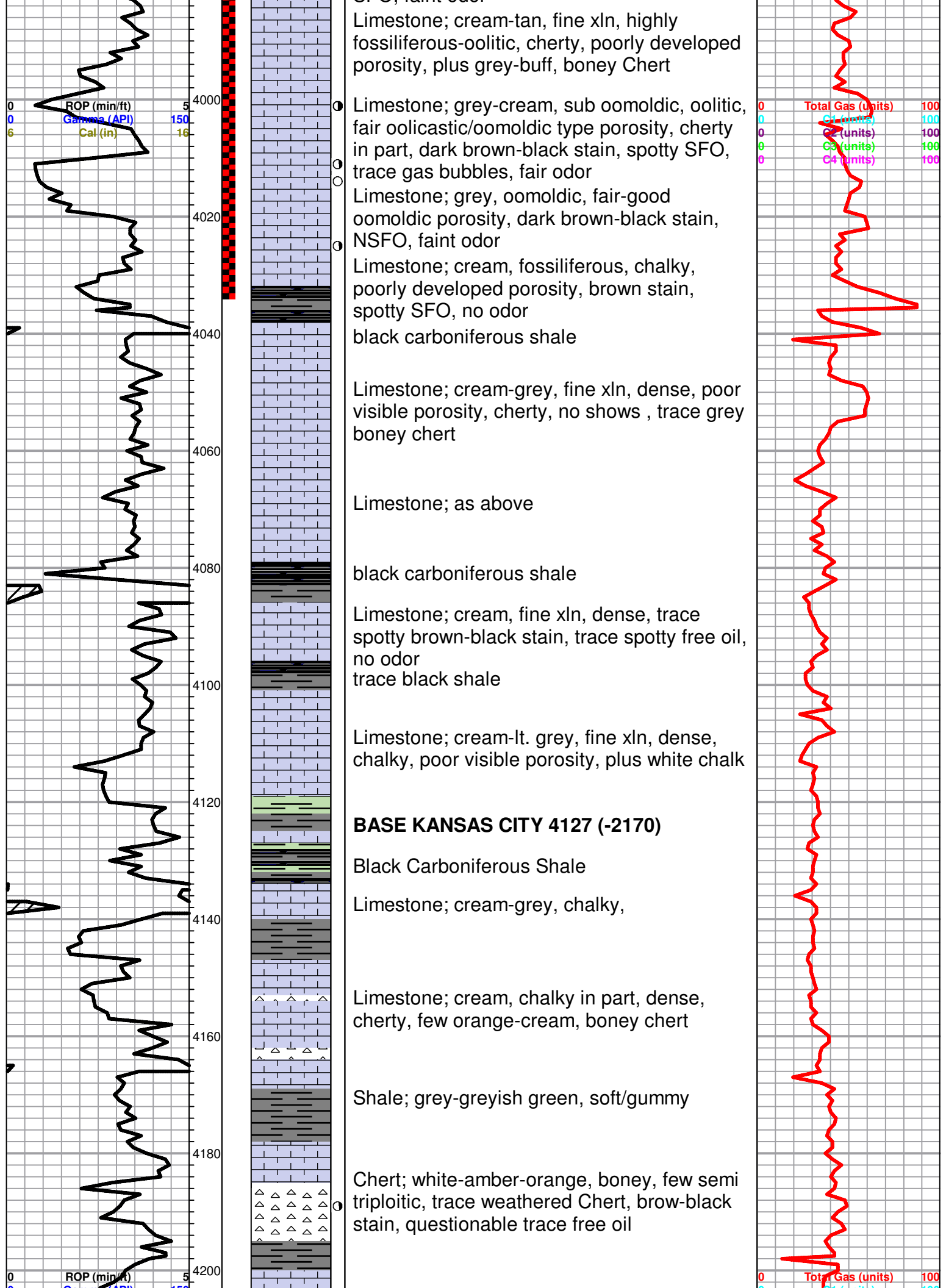
Limestone; cream-white-lt. grey, fine xln, chalky, fossiliferous in part, few inter xln porosity, no shows

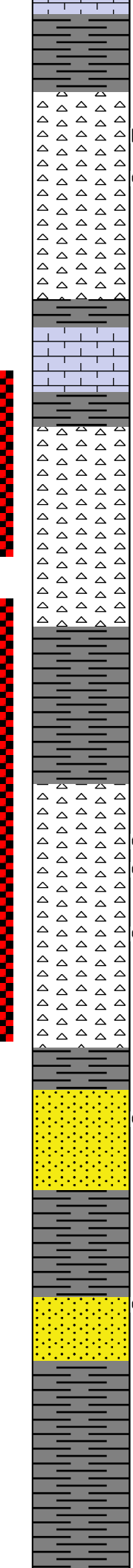
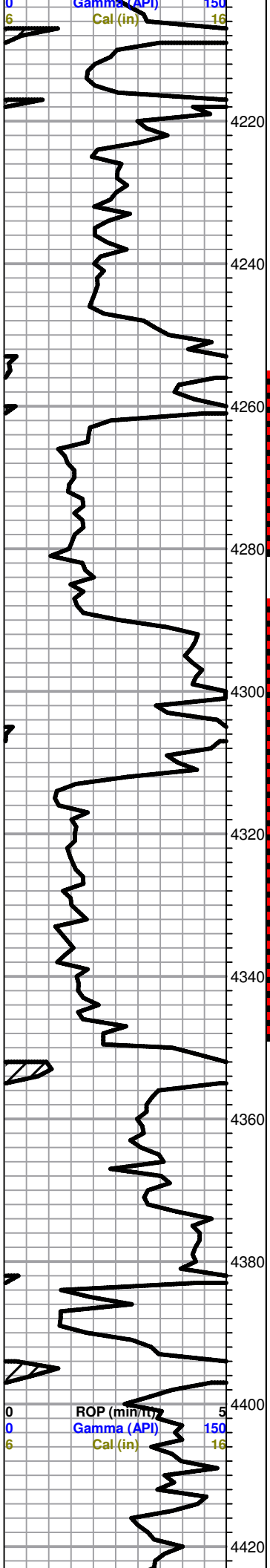
Limestone; brown-buff-tan, fine xln, dense, few recrystallized pieces, cherty, no visible porosity

black carboniferous shale

Limestone; cream-grey, sub oomoldic, fair oomoldic proosity, brown-black stain, spotty SFO. faint odor







MISSISSIPPI 4217 (-2260)

Chert; white, semi tripolitic, few boney, trace black stain,, NSFO, very faint odor

Chert as above, plus boney amber-white Chert, no shows

Limestone; cream, fine xln, dense, cherty, plus amber-

Chert; cream-amber-buff, tripolitic, fractured in part, brown stain, boney, trace spotty free oil, gassy odor

Chert as above

Shale; grey-green

VIOLA 4312 (-2355)

Chert; white-cream, boney, few semi tripolitic, brown-black stain, weathered in part, NSFO

Dolomite; tan, fine-medium xln, poor visible porosity, spotty SFO when sample broke, questionable odor

SIMPSON SHALE 4350 (-2393)

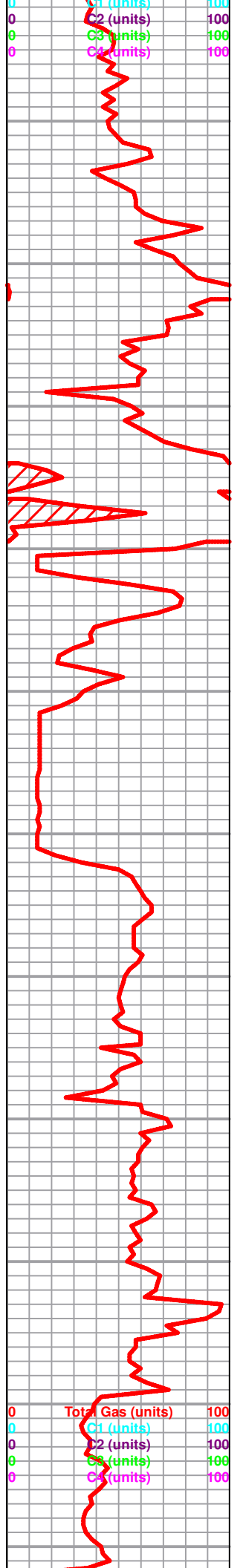
Shale; grey-green, waxey

Sand; clear-white, calcareous, trace black stain, NSFO, faint-fair odor

Shale as above
Plus Sand; clear, sub rounded, sub angular, friable, black-dark brown stain, questionable trace spotty free oil, faint-fair odor

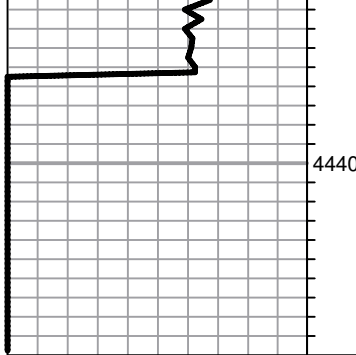
grey-dark grey shale

Shale as above, few scatterd siltstone, no shows

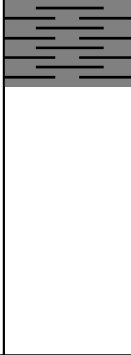


ROP (min/ft) 5
Gamma (API) 150
Cal (in) 16

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



4440



ROTARY TOTAL DEPTH 4430 (-2473)

