



Joshua R. Austin
Petroleum Geologist
report for
Thomas Garner, Inc.



COMPANY: Thomas Garner, Inc.

LEASE: Garner #7

FIELD: Leiss Northwest

LOCATION: SE-SW-NE-NE (1442' FNL & 930' FEL)

SEC: 15 **TWSP:** 25s **RGE:** 13w

COUNTY: Stafford **STATE:** Kansas

KB: 1938' **GL:** 1927'

API # 15-185- 23993-0000

CONTRACTOR: Sterling Drilling Company (Rig #4)

Spud: 08/23/2017 **Comp:** 08/31/2017

RTD: 4380' **LTD:** 4378'

Mud Up: 2900' **Type Mud:** Chemical was displaced

Samples Saved From: 3400' to RTD

Drilling Time Kept From: 3400' to RTD

Samples Examined From: 3400' to RTD

Geological Supervision From: 3400' to RTD

Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @308'

Production Casing: 5 1/2" @4375'

Electronic Surveys: Pioneer Energy Services

NOTES

On the basis of the high structural position, positive drill stem test and after reviewing the logs it was recommended by all parties involved in the Garner #7 to run 5 1/2" production casing to further test the following zones; Viola 4100-4110, Lansing 3789-3796. Before plugging the well the following zones should be tested; Arbuckle 4282-4283, Simpson Sand 4217-4223.

Respectfully Submitted by;

Joshua Austin

Thomas Garner, Inc

well comparison sheet

Formation	DRILLING WELL				COMPARISON WELL				COMPARISON WELL				COMPARISON WELL			
	Garner #7				Garner #5-15				Garner #4				Shank #1			
	1938 KB				1933 KB				1930 KB				1931 KB			
	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	779	1159	768	1170	773	773	6	8	785	1145	14	6	785	1145	14	14
Heebner	3478	-1540	3476	-1538	3479	-1546	6	8	3483	-1553	13	15	3483	-1553	13	15
Toronto	3500	-1562	3494	-1556												
Douglas	3522	-1584	3518	-1580												
Brown Lime	3628	-1690	3626	-1688	3633	-1700	10	12	3624	-1694	4	6	3633	-1703	13	15
Lansing	3650	-1712	3648	-1710	3661	-1728	16	18	3650	-1720	8	10	3665	-1735	23	25
BKC	3935	-1997	3936	-1998	3945	-2012	15	14	3937	-2007	10	9				
Mississippi	4022	-2084	4020	-2082	4028	-2095	11	13	4015	-2085	1	3	4027	-2097	13	15
Viola	4085	-2147	4081	-2143	4114	-2181	34	38	4105	-2175	28	32	4114	-2184	37	41
Simpson Shale	4197	-2259	4206	-2268	4219	-2286	27	18	4200	-2270	11	2	4216	-2286	27	18
Simpson Sand	4214	-2276	4212	-2274	4226	-2293	17	19	4206	-2276	0	2	4220	-2290	14	16
Arbuckle	4276	-2338	4276	-2338	4286	-2353	15	15	4271	-2341	3	3	4283	-2353	15	15
Total Depth	4380	-2442	4378	-2440	4229	-2296			4311	-2381			4316	-2386		



TRIOBITE TESTING, INC.

DRILL STEM TEST REPORT

Thomas Garner inc

305 E 7th
ST John, KS 67576

ATTN: Josh Austin

15-25S-13W Stafford

Garner 7

Job Ticket: 63620

DST#: 1

Test Start: 2017.08.28 @ 15:21:56

GENERAL INFORMATION:

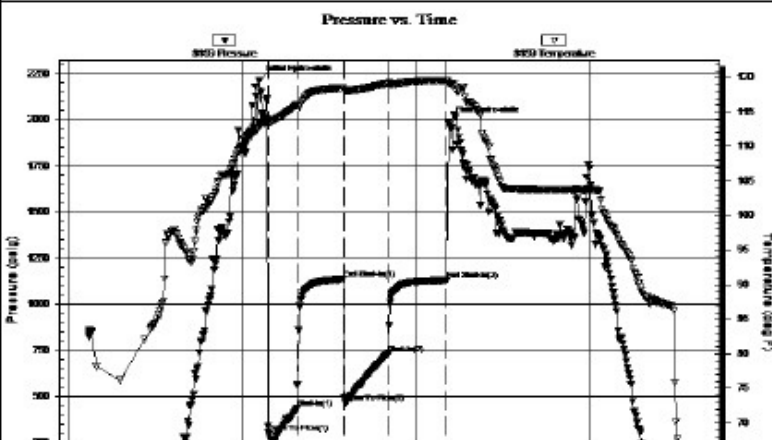
Formation: Viola
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:27:41
 Time Test Ended: 01:43:41
 Interval: 4085.00 ft (KB) To 4133.00 ft (KB) (TVD)
 Total Depth: 4133.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 1938.00 ft (KB)
 1927.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8159

Inside

Press@RunDepth: 733.01 psig @ 4086.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.28 End Date: 2017.08.29 Last Calib.: 2017.08.29
 Start Time: 15:21:57 End Time: 01:43:41 Time On Btn: 2017.08.28 @ 18:18:41
 Time Off Btn: 2017.08.28 @ 21:34:11

TEST COMMENT: IF: Strong Blow, BOB in 30 seconds, GTS in 10 minutes, Gauged, & Caught Sample
 IS: 1 inch Blow Back
 FF: Strong Blow, GTS immediate, BOB in 1 minute, Gauged Gas
 FS: Would Not Bleed Off



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2213.64	112.93	Initial Hydro-static
9	303.39	113.52	Open To Flow (1)
39	434.76	116.03	Shut-In(1)
87	1137.43	118.48	End Shut-In(1)
88	468.73	118.10	Open To Flow (2)
133	733.01	119.12	Shut-In(2)
194	1131.15	119.58	End Shut-In(2)
196	1989.90	119.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	VSOCM 2%O 98%M	0.05

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Thomas Garner inc

305 E 7th
St John, KS 67576

ATTN: Josh Austin

15-25S-13W Stafford, KS

Garner #7

Job Ticket: 63622

DST#: 3

Test Start: 2017.08.30 @ 06:59:18

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: **No Whipstock** ft (KB)
 Time Tool Opened: 09:00:03
 Time Test Ended: 14:12:18

Test Type: **Conventional Bottom Hole (Reset)**
 Tester: **Leal Cason**
 Unit No: **74**

Interval: **4278.00 ft (KB) To 4284.00 ft (KB) (TVD)**
 Total Depth: **4284.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Good**

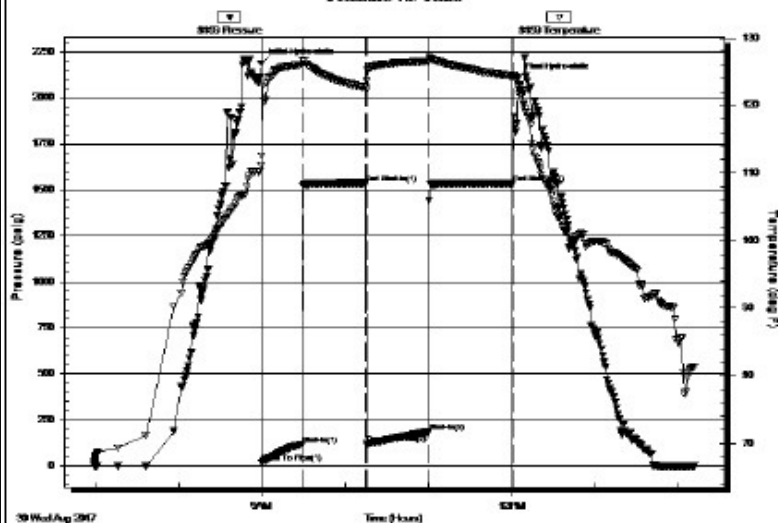
Reference Elevations: **1938.00 ft (KB)**
1927.00 ft (CF)
 KB to GR/CF: **11.00 ft**

Serial #: 8159 **Inside**
 Press@RunDepth: **185.54 psig @ 4279.00 ft (KB)**
 Start Date: **2017.08.30** End Date: **2017.08.30**
 Start Time: **06:59:19** End Time: **14:12:18**

Capacity: **8000.00 psig**
 Last Calib.: **2017.08.30**
 Time On Btn: **2017.08.30 @ 08:59:33**
 Time Off Btn: **2017.08.30 @ 12:04:33**

TEST COMMENT: IF: Fair Blow, Built to 9 1/2 inches
 IS: No Blow Back
 FF: Fair Blow, Built to 10 inches
 FS: No Blow Back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2183.07	111.07	Initial Hydro-static
1	18.32	112.51	Open To Flow (1)
30	117.06	126.07	Shut-In(1)
75	1535.94	122.70	End Shut-In(1)
76	120.84	122.33	Open To Flow (2)
121	185.54	126.48	Shut-In(2)
182	1535.26	124.36	End Shut-In(2)
185	2105.14	122.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)

Gas Rates

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

0.00	40 GIP	0.00
330.00	Water	2.67
30.00	OMCW 2%O 10%M 88%W	0.42
70.00	Oil	0.98

* Recovery from multiple tests

ROCK TYPES

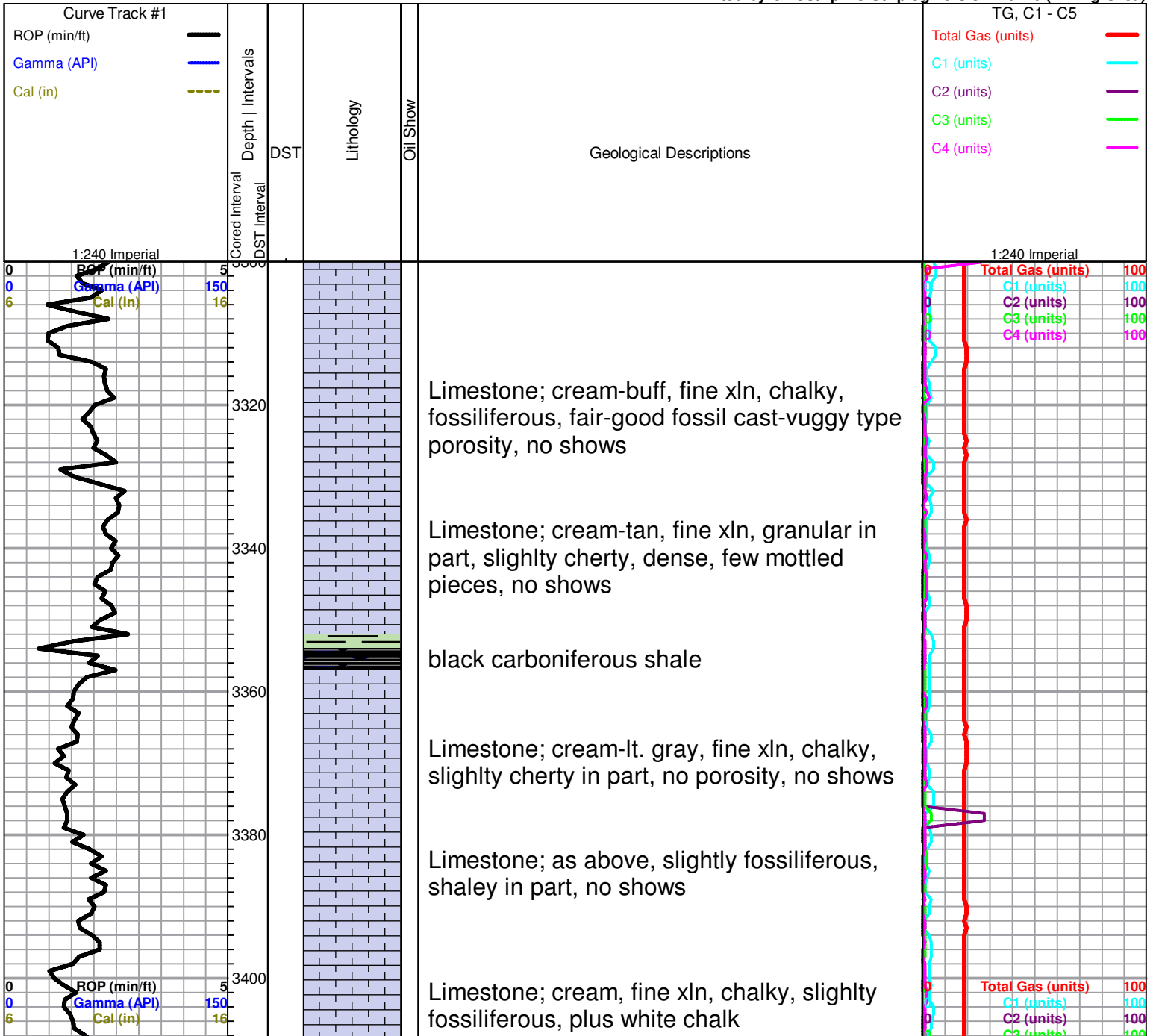
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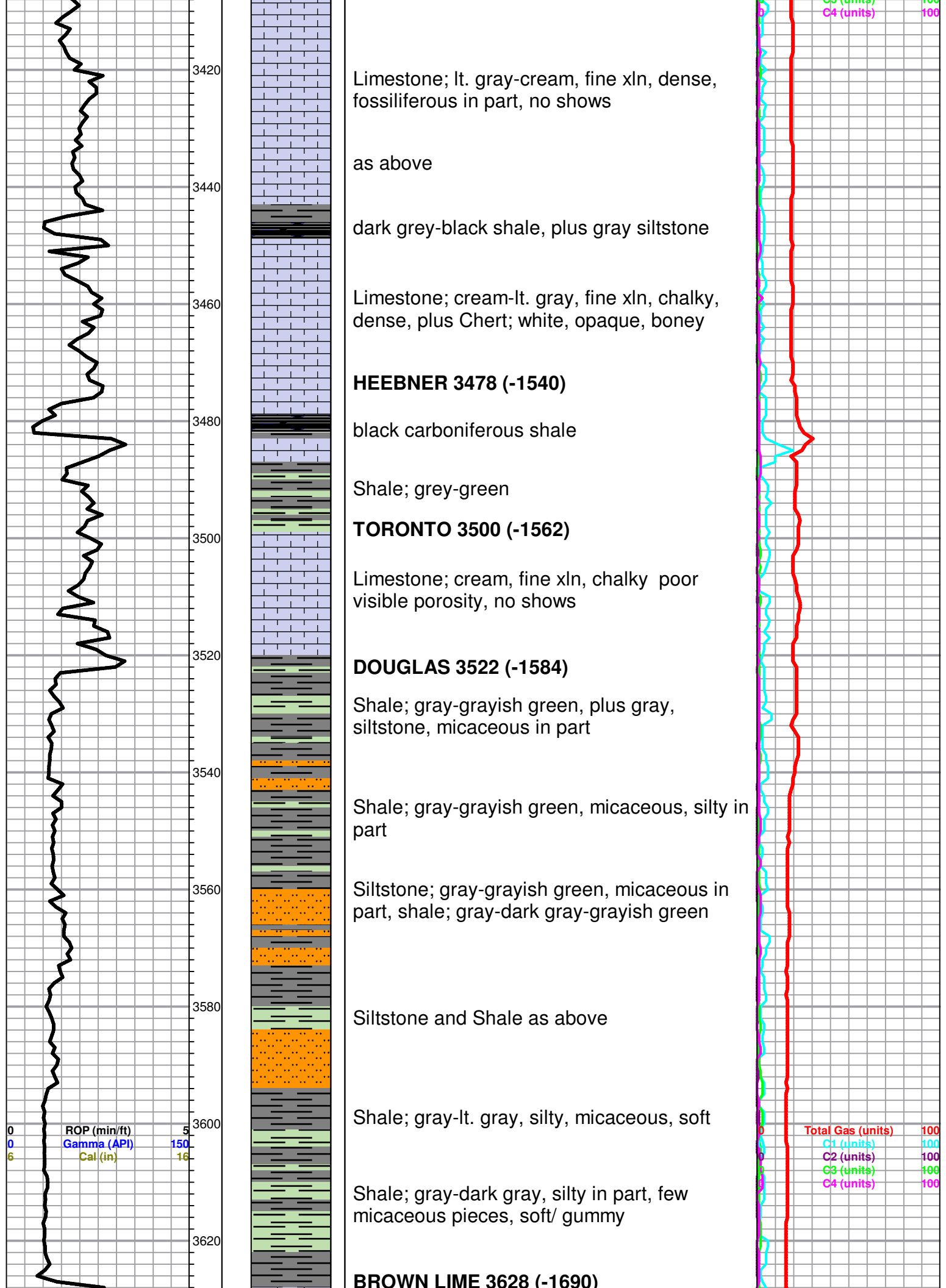
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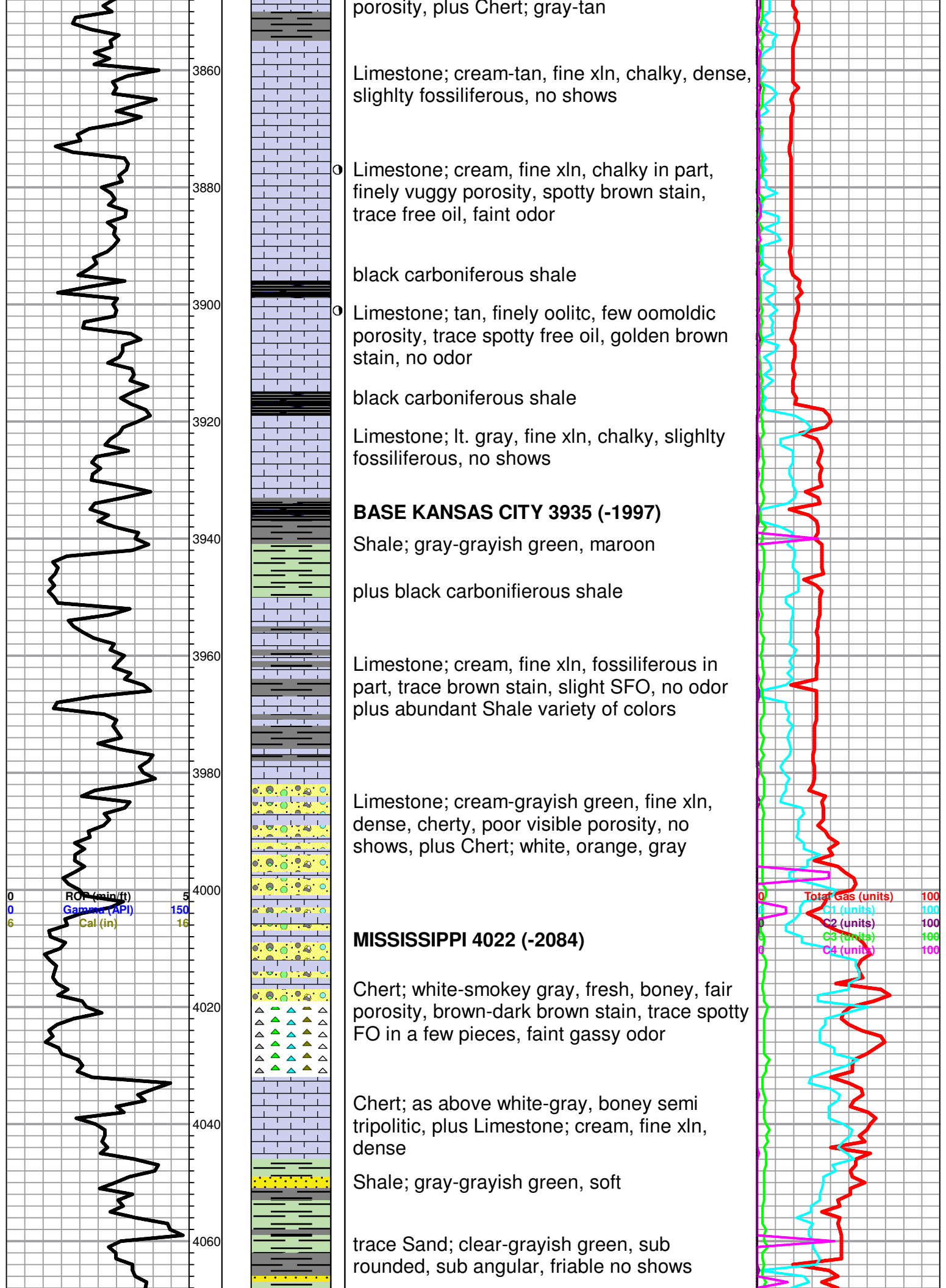
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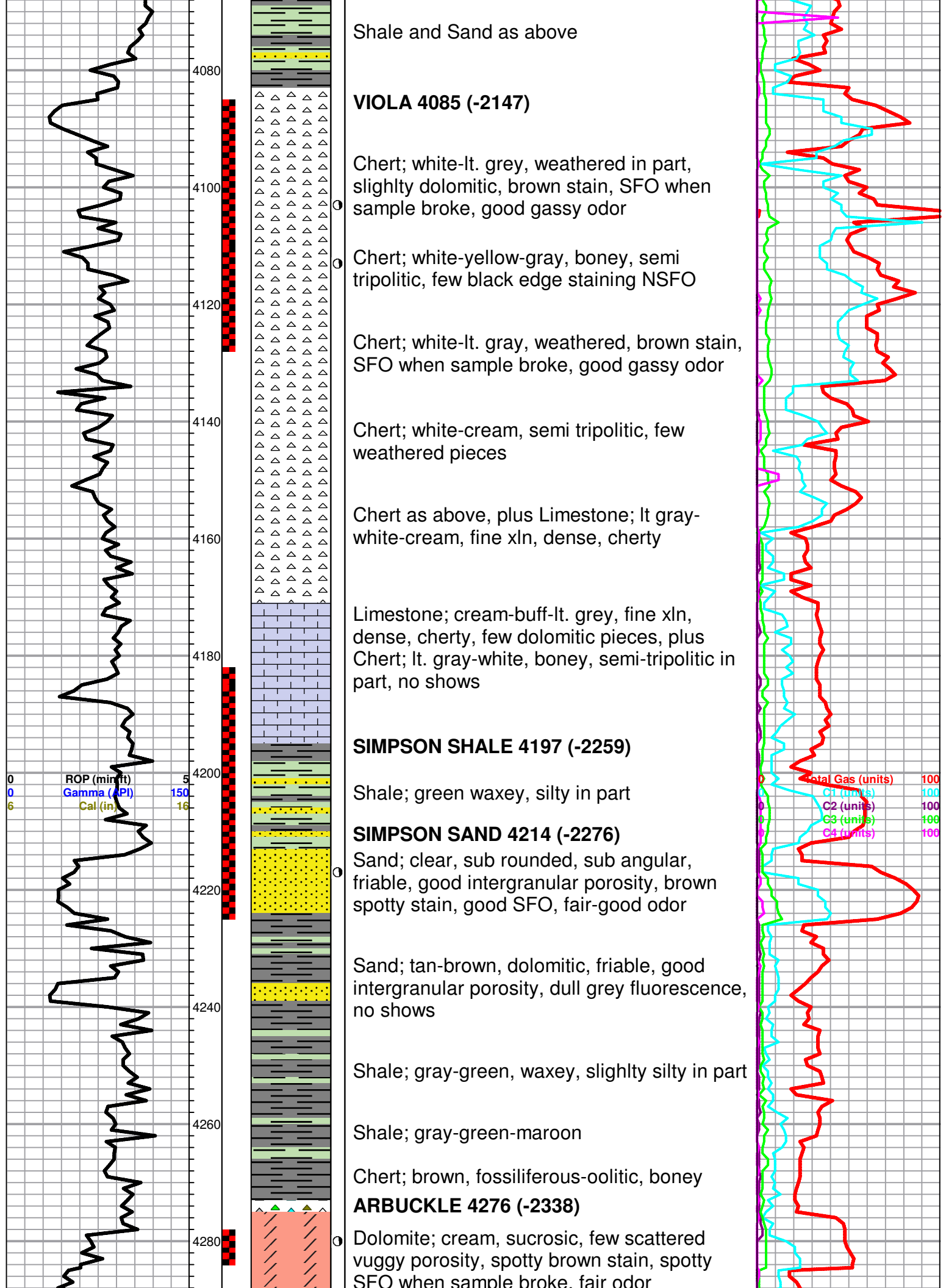
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- DST alt
- Core
- tail pipe

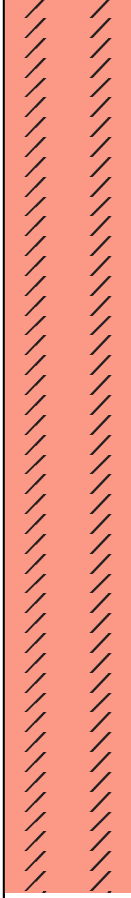
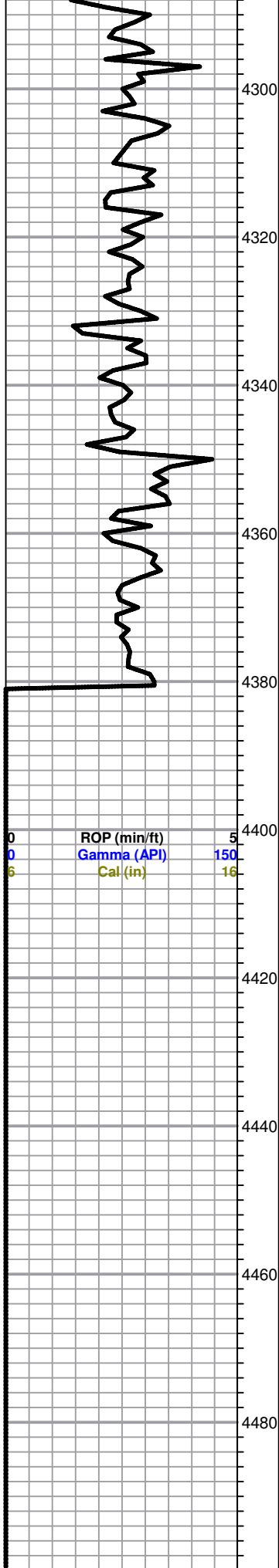
Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)











Dolomite; cream-pink, sucrosic, few scattered porosity, no shows

Dolomite; gray-cream, fine xln, few sucrosic, inter xln porosity in part, no shows

Dolomite; as above plus Chert; white-translucent

Dolomite; tan-buff, fine-medium xln, dense, poorly developed porosity, cherty in part, no shows, Chert; white-translucent

Dolomite; cream-gray-buff, fine-medium xln, scattered porosity, no shows

Dolomite; tan-cream, medium xln, fair-good inter xln porosity, Chert; white, boney

ROTARY TOTAL DEPTH 4380 (-2442)

DST #1 4085-4133 (30-45-45-60) VIOLA Blow; BOB in 30 minutes, GTS in 10 min, 1" blow back
 Final; BOB in 1 minute, FSI; would not bleed off
 Recovery; 480' GIP
 60' GOCM (20%G 30%O 50%M)
 3531' gassy oil (40%G 60%O)
 Pressures; IFP 303-435, FFP 468-733,

DST #2 4182-4225 (30-45-30-45) Simpson Sand Blow; weak, built to 1". no blow back
 Final; Weake surface blow. no blow back
 Recovery; 10' VSOCM (2%O 98%M)
 Pressures; IFP 19-37, FFP 30-63, ISIP 1105, FSIP 1048, HSH 2130-2046

DST #3 4278-4284 (30-45-45-60) Arbuckle Blow; fair, built to 9.5". no blow back
 Final; fair, built to 10". no blow back
 Recovery; 40' GIP
 70' Oil
 30' OMCW (2%O 10%M 88%W)
 330' water
 Pressures; IFP 18-117, FFP 121-185, ISIP 1536, FSIP 1535, HSH 2183-2105

