

Form	ACO1 - Well Completion
Operator	Rama Operating Co., Inc.
Well Name	GRANT 11-4
Doc ID	1709081

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.250	8.625	23	314	60/40 Poz	325	2% gel 3% CC
Production	7.875	5.5	14	3405	AA2	125	



CEMENT TREATMENT REPORT

Customer:	RAMA OPERATING	Well:	GRANT 11-4	Ticket:	WP4119
City, State:	ELLINWOOD KS	County:	BARTON KS	Date:	4/3/2023
Field Rep:	RANDY GINEST	S-T-R:	4-20S-11W	Service:	LONGSTRING

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	7 7/8 in	Blend:	HH-LONG	Blend:	H-PLUG A
Hole Depth:	3410 ft	Weight:	15.0 ppg	Weight:	13.8 ppg
Casing Size:	5 1/2 in	Water / Sx:	6.0 gal / sx	Water / Sx:	6.9 gal / sx
Casing Depth:	3395 ft	Yield:	1.42 ft ³ / sx	Yield:	1.43 ft ³ / sx
Tubing / Liner:	in	Annular Bbls / Ft.:	bbs / ft.	Annular Bbls / Ft.:	bbs / ft.
Depth:	ft	Depth:	ft	Depth:	ft
Tool / Packer:		Annular Volume:	0.0 bbls	Annular Volume:	0 bbls
Tool Depth:	ft	Excess:		Excess:	
Displacement:	80.6 bbls	Total Slurry:	31.6 bbls	Total Slurry:	13.0 bbls
		Total Sacks:	125 sx	Total Sacks:	50 sx

TIME	RATE	PSI	STAGE	TOTAL	REMARKS
			BBLs	BBLs	
8:15 PM			-	-	ON LOCATION
9:13 PM			-	-	RUN USED 14# AND 15.5# CASING, GUIDE SHOE ON BOTTOM, INSERT IN 1ST COLLAR TURBOS ON 3,6,10,14,18
11:03 AM			-	-	CASING ON BOTTOM
11:09 AM			-	-	HOOK TO CASING, BREAK CIRCULATION WITH RIG
11:55 AM	3.4	110.0	12.0	12.0	PUMP 12 BBL SUPERFLUSH II
11:59 AM	4.0	120.0	12.0	24.0	PUMP 12 BBL 2% KCL WATER
12:01 PM	4.5	170.0	3.0	27.0	PUMP 3 BBL WATER
12:03 PM	4.0	170.0	31.6	58.6	MIX 125 SKS HH-LONG
12:13 PM	4.0	25.0	4.0	62.6	WASH PUMP AND LINES
12:16 PM	6.5	190.0		62.6	START DISPLACEMENT
12:27 PM	7.0	300.0	61.0	123.6	LIFT PRESSURE
12:29 PM	4.0	320.0	70.0	193.6	SLOW RATE
12:32 PM		1,000.0	80.6	274.2	PLUG DOWN, RELEASED AND HELD
12:35 PM	2.0	25.0	7.0	281.2	MIX 30 SKS H-PLUG FOR RAT HOLE
12:45 PM	2.0	25.0	5.0	286.2	MIX 20 SKS H-PUG FOR MOUSE HOLE
					CIRCULATION THRU JOB
			-	-	
			-	-	
			-	-	
			-	-	300' OF 14# CASING RUN FIRST
			-	-	
			-	-	
			-	-	
			-	-	JOB COMPLETE, THANK YOU!
			-	-	MIKE MATTAL
			-	-	AUSTIN & JOSE

CREW		UNIT	SUMMARY		
Cementer:	MATTAL	912	Average Rate	Average Pressure	Total Fluid
Pump Operator:	CLIFTON	179/521	4.1 bpm	223 psi	286 bbls
Bulk #1:	TREVINO	182/534			
Bulk #2:					



Joshua R. Austin

Petroleum Geologist

report for
RAMA Operating CO., Inc



COMPANY: RAMA Operating Company, Inc.

LEASE: GRANT # 11-4

FIELD: Chase-Silica

LOCATION: NE-NE-NW-SW (2520 FSL & 1250 FWL)

SEC: 4 **TWSP:** 20s **RGE:** 11w

COUNTY: Barton **STATE:** Kansas

KB: 1782' **GL:** 1771'

API # 15-009-26387-00-00

CONTRACTOR: Sterling Drillingrig #4

Spud: 03/27/2023 **Comp:** 04/02/2023

RTD: 3410 **LTD:** 3410

Mud Up: 2600' **Type Mud:** Chemical was displaced

Samples Saved From: 2800-RTD

Drilling Time Kept From: 2700' - RTD

Samples Examined From: 2800' - RTD

Geological Supervision From: 2840' to RTD

Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @ 314'

Production Casing: 5 1/2" @ 3405'

Electronic Surveys: Pioneer Energy Services (CNL/CDL, DIL, MEL)

NOTES

On the basis of the positive drill stem test, shows in the samples and after reviewing the electric logs, it was recommended to to 5 1/2" production casing to further test the zones. See typed geo report for recommendations.

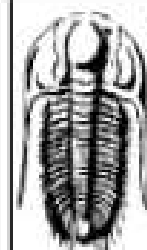
Respectfully submitted by:

Josh Austin

RAMA Operating Co., Inc.

well comparison sheet

DRILLING WELL Grant 11-4					COMPARISON WELL Grant A3				COMPARISON WELL Grant 9-4			
1782 KB					1776 KB		Structural Relationship		1783 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	520	1262	520	1262	508	1268	-6	-6	520	1263	-1	-1
Topeka	2645	-863			2640	-864	1		2643	-860	-3	
Heebner	2910	-1128	2910	-1128	2904	-1128	0	0	2908	-1125	-3	-3
Toronto	2924	-1142	2924	-1142	2920	-1144	2	2	2922	-1139	-3	-3
Douglas	2938	-1156	2938	-1156	2934	-1158	2	2	2941	-1158	2	2
Brown Lime	3031	-1249	3031	-1249	3026	-1250	1	1	3030	-1247	-2	-2
Lansing	3052	-1270	3052	-1270	3048	-1272	2	2	3050	-1267	-3	-3
Arbuckle	3308	-1526	3310	-1528	3299	-1523	-3	-5	3305	-1522	-4	-6
Total Depth	3410	-1628	3410	-1628	3309	-1533			3309	-1526		



**TRIOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Rama Operating Co. Inc.

4-20s-11w/Barton

101 S Main St.
Stafford KS. 67578

Grant 11-4

Job Ticket: 65026

DST#: 1

ATTN: Josh Austin

Test Start: 2023.03.31 @ 11:27:00

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:08:45

Time Test Ended: 17:59:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Richie Samora

Unit No: 66

Interval: 2848.00 ft (KB) To 2875.00 ft (KB) (TVD)

Total Depth: 2875.00 ft (KB) (TVD)

Reference Elevations: 1782.00 ft (KB)

1771.00 ft (CF)

Hole Diameter: 7.79 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8355

Press@RunDepth: 94.87 psig @ ft (KB)

Capacity: 8000.00 psig

Start Date: 2023.03.31

End Date: 2023.03.31

Last Calib.: 1999.12.30

Start Time: 11:27:05

End Time: 17:58:59

Time On Btm: 2023.03.31 @ 13:07:00

Time Off Btm: 2023.03.31 @ 16:02:30

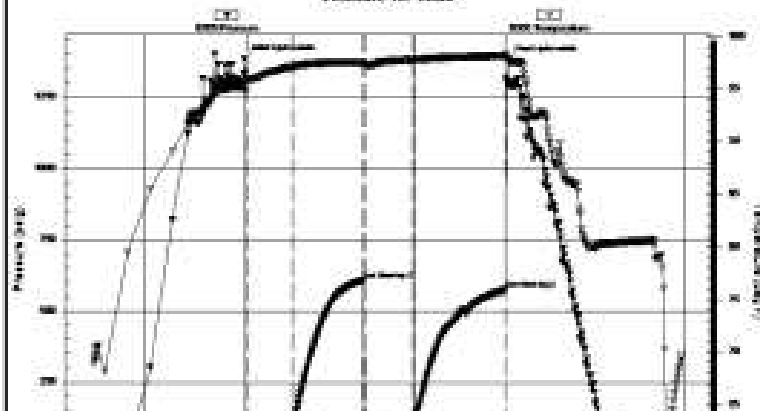
TEST COMMENT: 30-IF: Strong blow BOB in 30 seconds Built to 6.47psi

45-IF: Weak blow built to 2.5"

30-IF: Strong blow BOB in 40 seconds built to 56"

60-FST: Weak blow built to 3"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1382.07	95.21	Initial Hydro-static
2	38.00	95.62	Open To Flow (1)
32	76.73	97.09	Shut-In (1)
80	606.61	97.53	End Shut-In (1)
81	66.08	97.25	Open To Flow (2)
112	94.87	97.76	Shut-In (2)
174	573.61	98.09	End Shut-In (2)
176	1379.84	97.87	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
57.50	GOCMW 15%G 20%O 30%W 35%M	0.28
57.50	GOCMW 10%G 60%O 10%W 20%M	0.28
57.50	GOCMW 5%G 50%O 5%W 40%M	0.28
57.50	GOCM 5%G 90%O 5%M	0.39

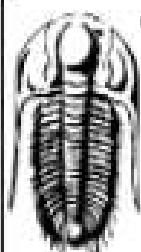
Gas Rates

Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Trilobite Testing, Inc

Ref. No: 65026

Printed: 2023.03.31 @ 22:24:05



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Rama Operating Co., Inc.

4-20s-11w/Barton

101 S Main St.
Stafford KS. 67578

Grant 11-4

Job Ticket: 65027

DST#: 2

ATTN: Josh Austin

Test Start: 2023.04.01 @ 20:29:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:18:15

Time Test Ended: 02:13:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Richie Samora

Unit No: 66

Interval: 3294.00 ft (KB) To 3310.00 ft (KB) (TVD)

Total Depth: 3310.00 ft (KB) (TVD)

Hole Diameter: 7.79 inches Hole Condition: Good

Reference Elevations: 1782.00 ft (KB)

1771.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8355

Press@RunDepth: 21.45 psig @ ft (KB)

Start Date: 2023.04.01 End Date: 2023.04.02

Start Time: 20:29:05 End Time: 02:13:14

Capacity: 8000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2023.04.01 @ 22:17:15

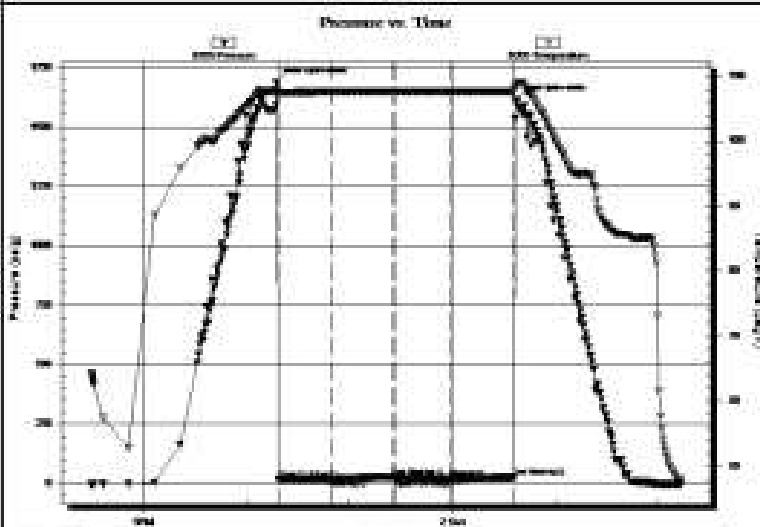
Time Off Btm: 2023.04.02 @ 00:36:45

TEST COMMENT: 30-IF: Weak surface blow did not build Flushed TOOL at 20:37

30-ISI: No blow back

30-FF: No blow

30-FST: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1688.03	107.71	Initial Hydro-static
1	18.22	107.01	Open To Flow (1)
32	20.69	107.57	Shut-in(1)
66	29.31	107.60	End Shut-in(1)
69	19.86	107.60	Open To Flow (2)
101	21.45	107.64	Shut-in(2)
139	26.20	107.67	End Shut-in(2)
140	1613.43	108.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
8.00	OSMCW 1%O 4%W 95%M	0.04

* Recovery from multiple tests

Gas Rates


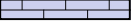





	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Trilobite Testing, Inc

Ref. No: 65027





Printed: 2023.04.02 @ 07:55:39

ROCK TYPES

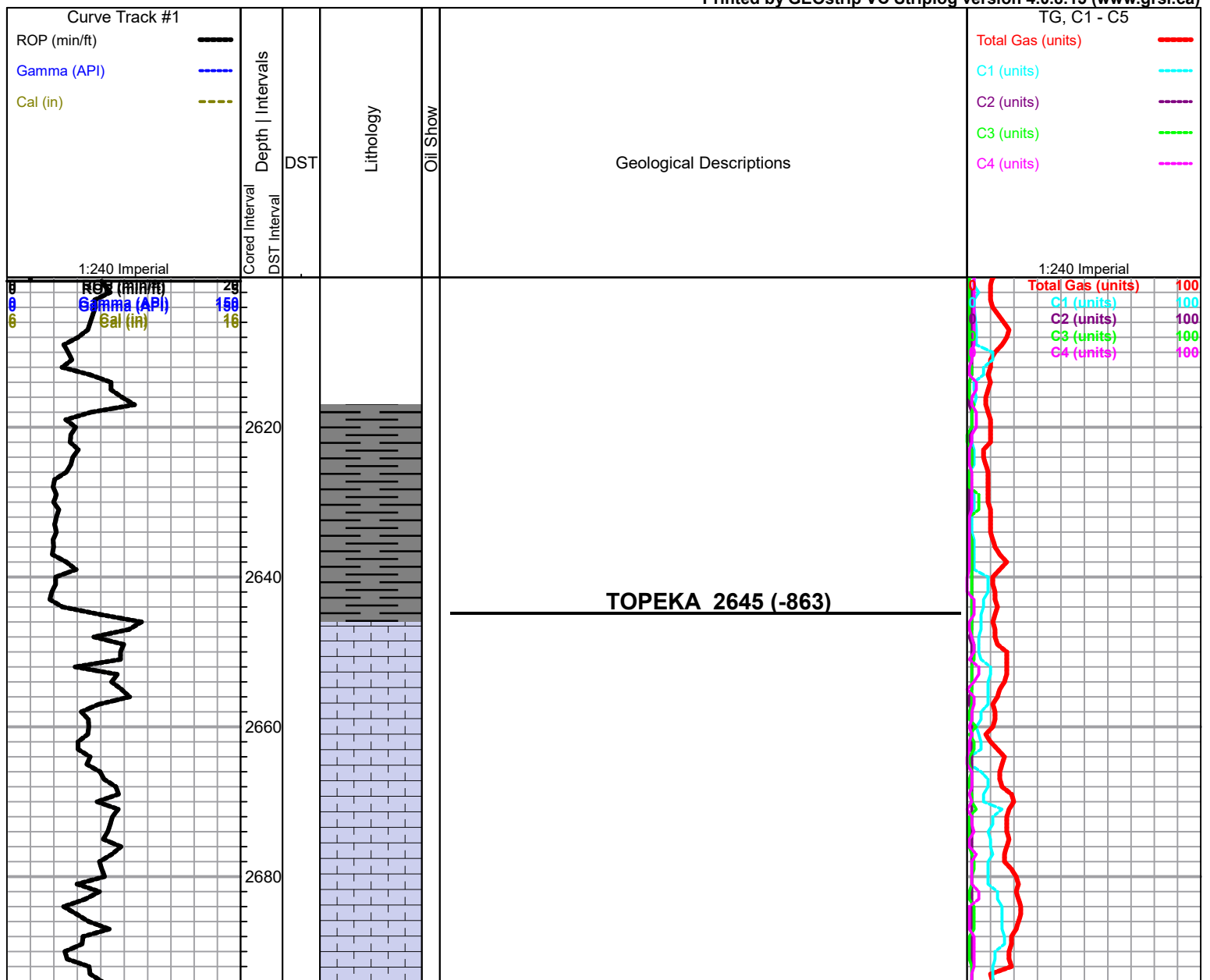
	Congl		Lmst fw7>		shale, gry		Ss
	Dolsec		shale, gm		Carbon Sh		

OTHER SYMBOLS

DST

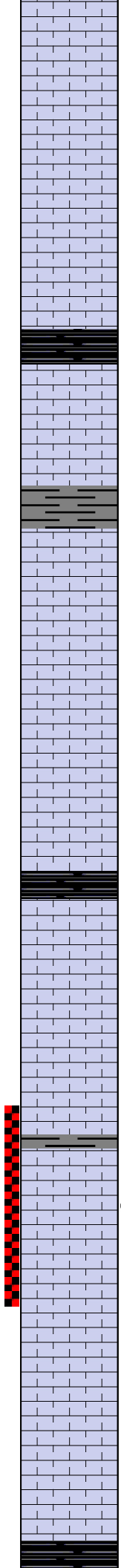
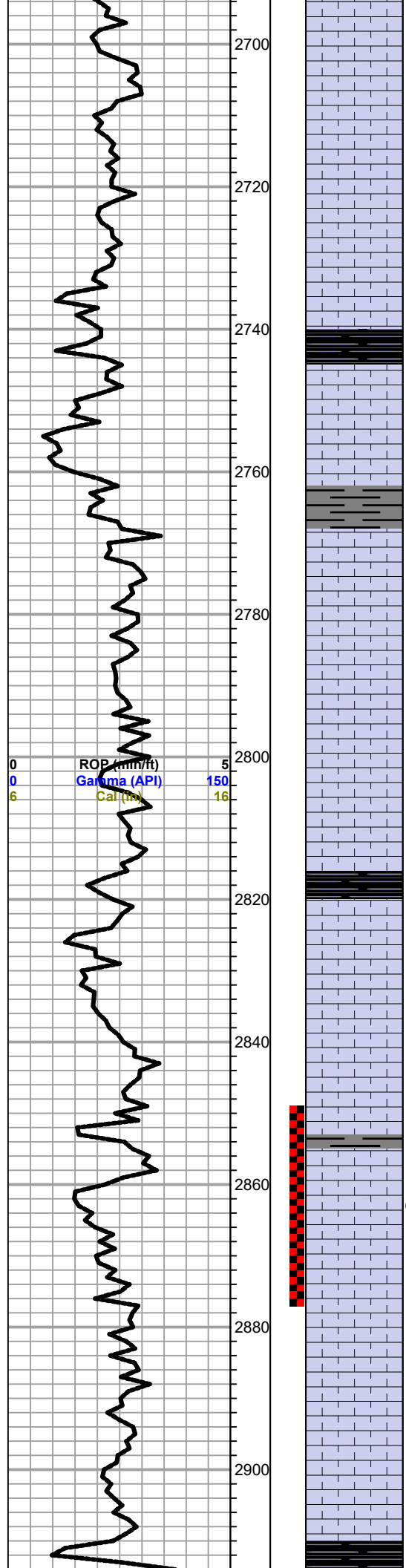
	DST Int
	DST alt
	Core
	tail pipe

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)



2700
2720
2740
2760
2780
2800
2820
2840
2860
2880
2900

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



Wet and Dry samples 2800' to RTD

Limestone; cream-buff, fine xln, dense, sparry calcite inclusions, few scattered porosity, no shows

Limestone; as above plus Chert; white-opaque

QUEEN HILL 2817 (-1035)

Black carboniferous shale

Limestone; cream, fine xln, chalky, few scattered inter xln porosity, no shows plus white chalk

Limestone; cream fine xln, dense, chalky in part, poor porosity, cherty in part, no shows

Limestone; cream-tan, fossiliferous, oolitic in part, good vuggy-oolicastic porosity, spotty brown stain, SFO, faint odor

Limestone; tan-cream, fine xln, chalky, dense, poor visible porosity, cherty in part, no shows

Limestone; as above

HEEBNER 2910 (-1128)

Black Carboniferous Shale

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

K.B.
1782'

