



# Joshua R. Austin

## Petroleum Geologist

report for

### RAMA Operating CO., Inc



COMPANY: RAMA Operating Company, Inc.

LEASE: Kummer #5-4

FIELD: Chase-Silica

LOCATION: Se-Nw-Nw-Ne (500' FNL & 2080' FEL)

SEC: 4 TWSP: 20s RGE: 11w

COUNTY: Barton STATE: Kansas

KB: 1783' GL: 1774'

API # 15-159-26058-00-00

CONTRACTOR: Sterling Drilling (rig #4)

Spud: 11/28/2014 Comp: 12/03/2014

RTD: 3355' LTD: N/A

Mud Up: 2600' Type Mud: Chemical was displaced

Samples Saved From: 2600'-RTD

Drilling Time Kept From: 2600' - RTD

Samples Examined From: 2600' - RTD

Geological Supervision From: 2880' to RTD

Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @ 335'

Production Casing: none

Electronic Surveys: none

#### NOTES

Due to the low structural position and lack of shows in the samples, it was recommended by all parties involved in the Kummer 5-4 that it be plugged and abandoned at the rotary total depth 3355'.

## RAMA Operating Co., Inc.

### well comparison sheet

DRILLING WELL

COMPARISON WELL

COMPARISON WELL

Kummer 5-4					Kummer 4-4				Schmidt 1 C-SE-NE-NE					
1783 KB					1785 KB				Structural Relationship		1780 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log		
Heebner	2922	-1139	N/A	N/A	2917	-1132	-7	N/A	2922	-1142	3	N/A		
Douglas	2953	-1170	N/A	N/A	2948	-1163	-7	N/A				N/A		
Brown Lime	3043	-1260	N/A	N/A	3040	-1255	-5	N/A				N/A		
Lansing	3063	-1280	N/A	N/A	3062	-1277	-3	N/A	3067	-1287	7	N/A		
Arbuckle	3345	-1562	N/A	N/A	3316	-1531	-31	N/A	3322	-1542	-20	N/A		
Total Depth	3355	-1572	N/A	N/A	3420	-1635		N/A	3325	-1545		N/A		

### ROCK TYPES

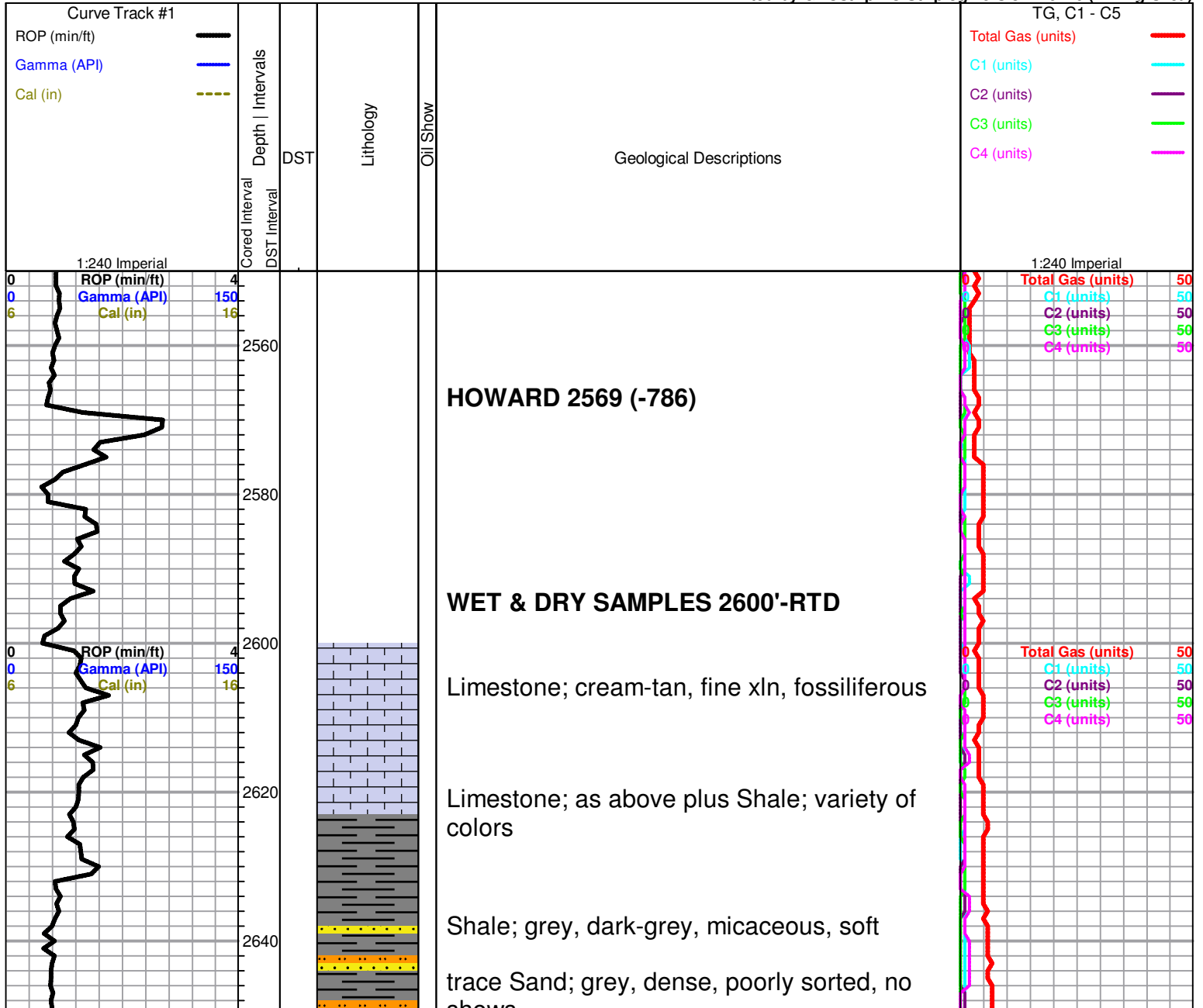
	Chtcong		Lmst fw7>		shale, gry		shale, red		Sltst
	Dolsec		shale, grn		Carbon Sh		Ss		

### OTHER SYMBOLS

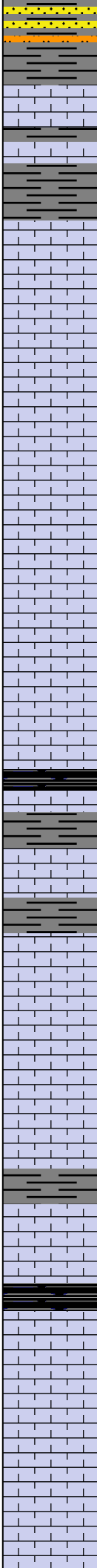
#### DST

- DST Int
- DST alt
- Core
- tail pipe

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



2660  
2680  
2700  
2720  
2740  
2760  
2780  
2800  
2820  
2840  
2860



**TOPEKA 2660 (-877)**

Limestone; buff, fine-medium xln, chalky, slightly granular, no shows

Shale; grey-greyish green

Limestone; lt. grey-cream, fine xln, dense, slightly fossiliferous, chalky, no shows

Limestone; as above, dense, slightly cherty

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

Limestone; as above cream-lt. grey, fossiliferous in part, chalky

**KING HILL**

black carboniferous shale

grey shale

Limestone; cream, fine xln, chalky, plus grey shale

Limestone; cream-white, fine xln, chalky, dense, plus Chert; grey-lt. grey, boney

grey-green shale

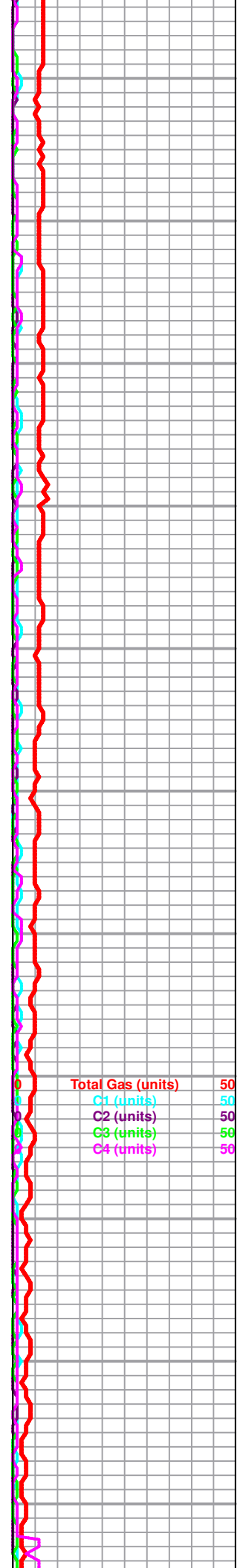
**QUEEN HILL**

black carboniferous shale

Limestone; cream-lt. grey, fine-medium xln, granular in part, fossiliferous, few chalky pieces, scattered porosity, no shows

Limestone as above, no shows

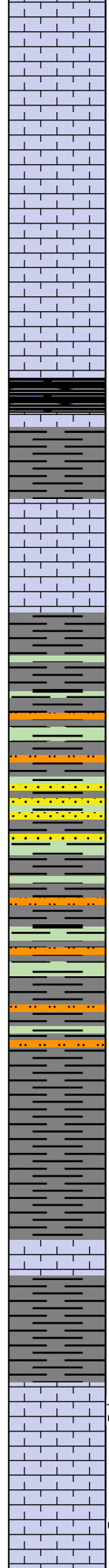
0 ROP (in/ft) 4  
0 Gamma (API) 150  
6 C<sub>log</sub> (in) 16



Total Gas (units) 50  
C1 (units) 50  
C2 (units) 50  
C3 (units) 50  
C4 (units) 50

2880  
2900  
2920  
2940  
2960  
2980  
3000  
3020  
3040  
3060  
3080

0 ROP (min/ft) 4  
0 Gamma (API) 150  
6 Cal (in) 16



Limestone; buff-cream, fine xln, chalky, dense, slightly fossiliferous, poor porosity, no shows

Limestone; grey-cream, fine xln, fossiliferous in part, dense, cherty, no visible porosity, no shows

**HEEBNER 2922 (-1139)**  
Black Carboniferous Shale

Shale; grey-green-maroon

**TORONTO 2939 (-1156)**  
Limestone; cream-white, fine xln, chalky, dense, no shows

**DOUGLAS 2953 (-1170)**  
Shale; greyish green, silty

Shale; grey-greish green-brick red, few micaceous pieces, trace Siltstone; grey, dense  
Trace Sand; clear-grey, sub angular, sub rounded, fine grained, scattered loose unc. qtz, no shows, plus FeS2

Shale; grey-green-maroon, micaceous in part, soft, silty

Shale; grey-dark grey-greish green, soft, silty in part, few micaceous pieces

Shale; as above

**BROWN LIME 3043 (-1260)**  
Limestone; tan-buff, fine xln, dense, cherty

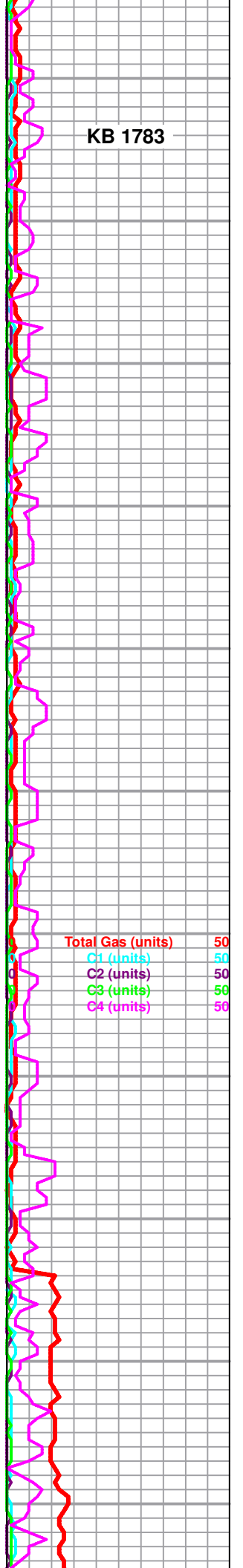
grey-gryeish green shale

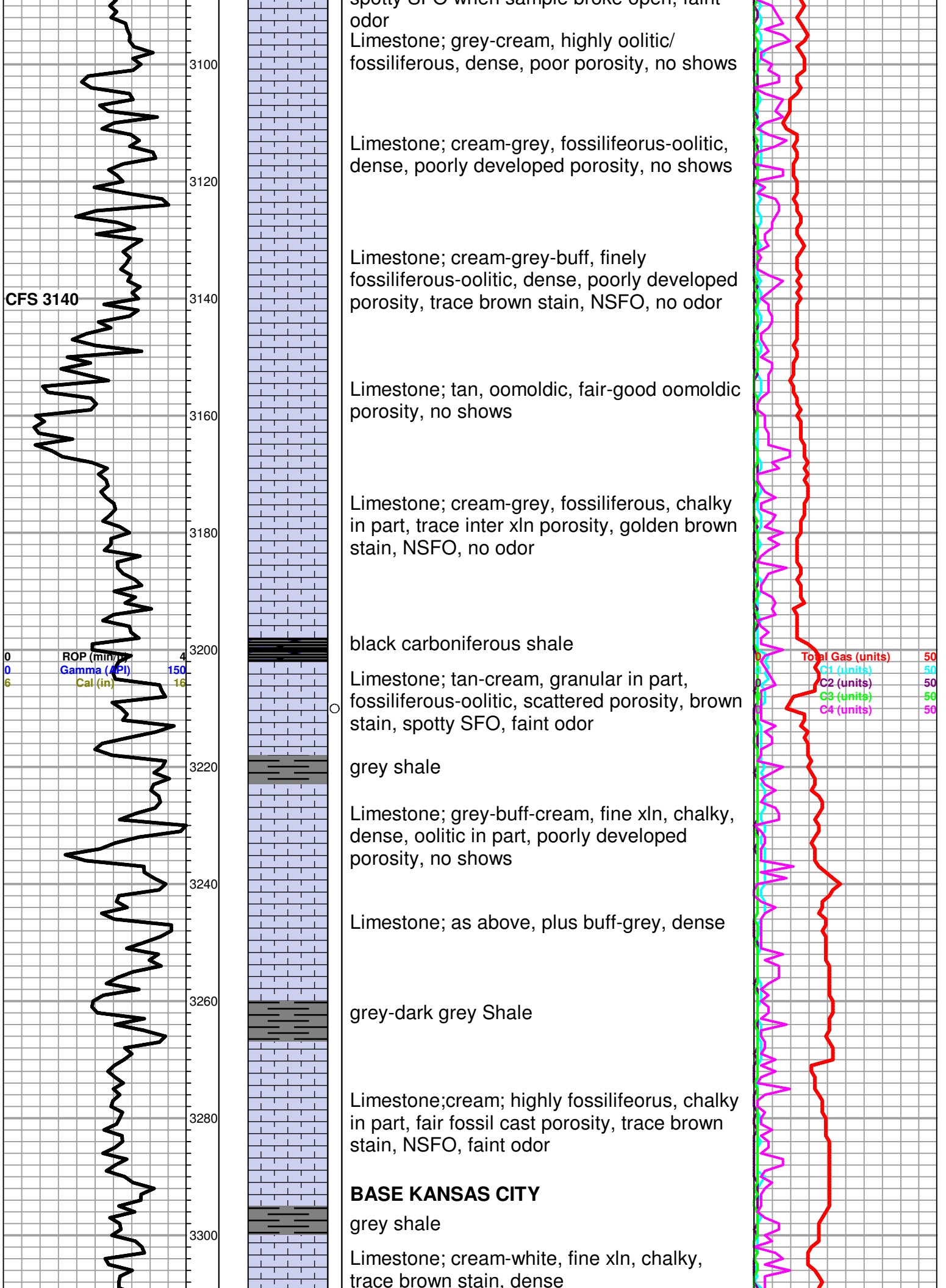
**LANSING 3063 (-1280)**  
Limestone; cream-white, chalky, fossiliferous, few inter xln porosity, grey-brown stain, trace spotty free oil, gas bubbles when broke, faint odor

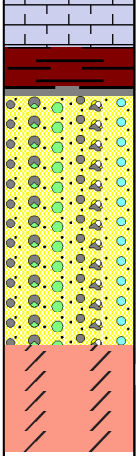
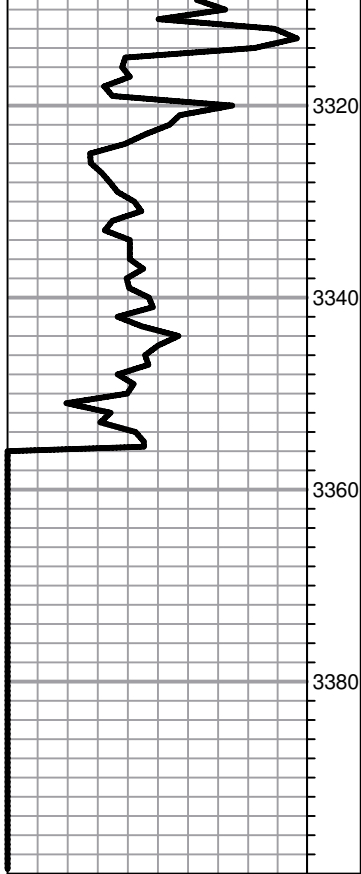
Limestone; grey-cream, fine xln, sparry calcite inclusions, poorly developed porosity, spotty SEO when sample broke open, faint

KB 1783

Total Gas (units) 50  
C1 (units) 50  
C2 (units) 50  
C3 (units) 50  
C4 (units) 50







**CONGLOMERATE 3315**

Shale; brick red, soft/gummy

Shale; brick red-grey, soft/gummy, plus Chert; orange-cream-pink, fresh

**ARBUCKLE 3345 (-1562)**

Dolomite; cream, fine xn, sucrosic, few scattered porosity, trace black-dark brown stain, NSFO, no odor

Dolomite; cream-buff, fine xln, dense, poor visible porosity, no shows, cherty in part

**ROTARY TOTAL DEPTH 3355 (-1572)**

