



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1198801  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
-----------------------------------	-----------------	---

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1198801

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing    Pumping    Gas Lift    Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
--	---	---



# CEMENTING LOG

Date 2/25/2014 District Liberal # 21 Ticket No. 52523  
 Company Palmer Oil Rig Duke # 9  
 Lease Willis Well No 23-9  
 County Stevens State KS  
 Location \_\_\_\_\_  
 Field \_\_\_\_\_

Casing Data  Conductor  PTA  Squeeze  Misc.  
 Surface  Intermediate  Production  Liner  
 Size 8 5/8 Type \_\_\_\_\_ Weight 24# Collar \_\_\_\_\_

Casing Depths Top 0 Bottom 1746

Drill Pipe: BBLs/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Open Hole: BBLs/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Capacity Factors: BBLs/LIN. FT 0.0637 LIN. FT/BBL 15.7  
 Casing: BBLs/LIN. FT 0.0637 LIN. FT/BBL 15.7  
 Open Holes: BBLs/LIN. FT 0.1458 LIN. FT/BBL 6.85  
 Drill Pipe: BBLs/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Annulus: BBLs/LIN. FT 0.0735 LIN. FT/BBL 13.6  
 BBLs/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Perforations From \_\_\_\_\_ ft to \_\_\_\_\_ ft Amt \_\_\_\_\_

## CEMENT DATA

Spacer Type \_\_\_\_\_ H2O  
 Amt. \_\_\_\_\_ Skys Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG

LEAD: Time \_\_\_\_\_ hrs. Type 65/35 6% gel 3% CC  
.5# flo seal Excess \_\_\_\_\_

Amt. 625 Skys Yield 1.97 ft<sup>3</sup>/sk Density 12.4 PPG  
 TAIL: Time \_\_\_\_\_ hrs. Type Class A 3%CC .25# flo Seal  
 Excess \_\_\_\_\_

Amt. 200 Skys Yield 1.18 ft<sup>3</sup>/sk Density 15.6 PPG  
 WATER Lead 10.9 Gal/sk Tail 5.3 Gal/sk Total \_\_\_\_\_ BBLs

Pump Trucks Used: 549-550  
 Bulk Equipment 472-554  
774-744

Float Equipment: Manufacturer Weather Ford  
 Shoe: Type Guide Shoe Depth 1742  
 Float: Type AFU Insert Float Depth 1700  
 Centralizers: Quantity 3 Plugs Top \_\_\_\_\_ Bottom \_\_\_\_\_  
 Stage Collars \_\_\_\_\_  
 Special Equipment Cement Basket  
 Disp: Fluid Type H2O Amt 108.3 bbls Weight 8.33 PPG  
 Mud Type \_\_\_\_\_ Weight \_\_\_\_\_

COMPANY REPRESENTATIVE \_\_\_\_\_ CEMENTER Lenny Baeza

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	PUMPED PER TIME PERIOD	RATE BBLs/MIN	
2:00pm						On location at 2:00pm
4:25pm						Rigging up to well head
4:45pm						Safety meeting with rig crew
4:48pm	2000					Pressure testing pumping lines to 2000 psi
4:51pm	200		10		5	10 bbls of H2O head of cement
4:55pm	220		229		5	Mixing lead cement @ 12.4#
5:24pm	180		271		4	Mixing Tail cement @ 15.6#
5:33pm	0		0		0	End of cement shutting down to release plug
5:35pm	120		271		5	Plug left the head and started displacement of 108.3 bbls
5:43pm	140		321		6	50 bbls gone
5:51pm	600		371		5	100 bbls gone 5bpm @ 600 psi
5:55pm	1200		279		3	108 bbls gone and landed the plug bumped to 1200 psi and holding
						released the psi and float holding
						30 BBLs of cement to surface
						rigging down iron
						leaving location @ 6:00pm
						THANK YOU !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!1

FINAL DISP. PRESS. 600 PSI BUMP PLUG TO 1200 PSI BLEEDBACK 0.5 BBLs THANK YOU

Date 3/7/2014 District Liberal # 21 Ticket No. 52426  
 Company Palmer Oil Rig Duke #9  
 Lease Willis Well No 23-9  
 County Stevens State KS  
 Location \_\_\_\_\_  
 Field \_\_\_\_\_  
 Casing Data  Conductor  PTA  Squeeze  Misc.  
 Surface  Intermediate  Production  Liner  
 Size 8.625" Type \_\_\_\_\_ Weight 24# Collar \_\_\_\_\_

CEMENT DATA

Spacer Type \_\_\_\_\_  
 Amt. \_\_\_\_\_ Sks Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG  
 LEAD: Time \_\_\_\_\_ hrs. Type 60/40/4% gel  
 Excess \_\_\_\_\_  
 Amt. 170 Sks Yield 1.42 ft<sup>3</sup>/sk Density 13.8 PPG  
 TAIL: Time \_\_\_\_\_ hrs. Type \_\_\_\_\_  
 Excess \_\_\_\_\_  
 Amt. \_\_\_\_\_ Sks Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG  
 WATER Lead 6.9 Gal/sk Tail \_\_\_\_\_ Gal/sk Total 28 BBSL

Casing Depths Top \_\_\_\_\_ Bottom \_\_\_\_\_

Pump Trucks Used: 549-550  
 Bulk Equipment 705-B642

Drill Pipe: BBSL/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Open Hole: BBSL/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Capacity Factors: BBSL/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Casing BBSL/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Open Holes BBSL/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Drill Pipe BBSL/LIN. FT 0.01422 LIN. FT/BBL \_\_\_\_\_  
 Annulus BBSL/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 BBSL/LIN. FT \_\_\_\_\_ LIN. FT/BBL \_\_\_\_\_  
 Perforations From \_\_\_\_\_ ft to \_\_\_\_\_ ft Amt \_\_\_\_\_

Float Equipment: Manufacturer \_\_\_\_\_  
 Shoe: Type \_\_\_\_\_ Depth \_\_\_\_\_  
 Float: Type \_\_\_\_\_ Depth \_\_\_\_\_  
 Centralizers: Quantity \_\_\_\_\_ Plugs Top \_\_\_\_\_ Bottom \_\_\_\_\_  
 Stage Collars \_\_\_\_\_  
 Special Equipment \_\_\_\_\_  
 Disp: Fluid Type H2O & Mud Amt \_\_\_\_\_ bbls Weight \_\_\_\_\_ PPG  
 Mud Type \_\_\_\_\_ Weight 9.5

COMPANY REPRESENTATIVE \_\_\_\_\_

CEMENTER Edgar A. Rodriguez

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	AM/PM	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	PUMPED PER TIME PERIOD	
12:30 am						Arrive on location
1:00						Spot equipment and rig up
1:40						Safety meeting
1:50						Start job
1:55		120		10		4 Pump 10 bbls of fresh water
2:01		110		13		4 Pump 50 sks of cmt (13 bbls @13.8)
2:07		90		19.5		4 Pump 19.5 bbls of mud displacement
2:13						Come of hole with drillpipe
3:00		80		13		3 Pump 50 sks of cmt (13 bbls @13.8)
3:05		80		5		3 Pump 5 bbls of displacement
3:07						Come of hole with drillpipe
3:30		70		5		3 Pump 20 sks of cmt (5 bbls @13.8)
3:33						Come of hole with joint
4:00		70		7.5		3 Pump 30 sks of cmt in rat hole
4:05						Come of hole with joint
4:09		70		5		3 Pump 20 sks of cmt in mouse hole
4:15						End job
4:30						Rig down
5:20 am						Crew leave location



# Musgrove

**PETROLEUM CORPORATION**  
Clayton, Kansas

## NOTES

Company: Palmer Oil, Inc.

Lease: Willis #23-9

Field: Willis

Location: NE-NW-SW-SE (1200' FSL & 2300' FEL)

Sec: 23 Twsp: 32S Rge: 37W

County: Stevens State: Kansas

KB: 3123' GL: 3110'

API #: 15-189-22834-00-00

Contractor: Duke Drilling Inc. (Rig #9)

Spud: 2/24/2014 Comp: 3/06/2014

RTD: 6452' LTD: 6449'

Mud Up: 4500' Type Mud: Chemical

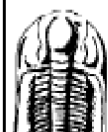
Samples Saved From: 4600' to RTD  
 Drilling Time Kept From: 4100' to RTD  
 Samples Examined From: 4600' to RTD  
 Geological Supervision from: 4600' to RTD  
 Geologist on Well: Wyatt Urban

Surface Casing: 8 5/8@1746'

Electronic Surveys: Logged by Pioneer Energy Services, DIL/BHCS, CNL/CDL, MEL

## Palmer Oil Well Comparison Willis 23-9

Formation	DRILLING WELL				COMPARISON WELL				COMPARISON WELL			
	Palmer Oil- Willis 23-9				Palmer Oil-Willis 23-8				Palmer Oil, Inc- Willis 23-7			
	Sample	Sub-Sea	Log	Sub-sea	Sample	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
	NE NW SW SE 23-32S-37W 3123 KB				NE SW SW SE 23-32S-37W 3123 KB				SE NW NW SE 23-32S-37W 3117 KB			
					Structural Relationship				Structural Relationship			
B. Heebner	4149	-1026			4150	-1027	1		4133	-1016	-10	
Lansing	4259	-1136			4255	-1132	-4		4251	-1134	-2	
Marmaton	4934	-1811	4941	-1818	4932	-1809	-2	-9	4916	-1799	-12	-19
Cherokee	5122	-1999	5115	-1992	5129	-2006	7	14	5117	-2000	1	8
Atoka	5512	-2389	5530	-2407	5525	-2402	13	-5	5523	-2406	17	-1
Morrow	5627	-2504	5628	-2505	5629	-2506	2	1	5622	-2505	1	0
St. Gen.	6168	-3045	6173	-3050	6174	-3051	6	1	6172	-3055	10	5
St. Louis	6292	-3169	6301	-3178	6285	-3162	-7	-16	6297	-3180	11	2
St. Louis B	6368	-3245	6362	-3239	6372	-3249	4	10	6347	-3230	-15	-9
RTD	6452	-3329	6450	-3327	6500	-3377	48	50	6500	-3383	54	56
LTD	6449	-3326	6450	-3327	6499	-3376	50	49	6506	-3389	63	62



**TRILOBITE TESTING, INC.**

### DRILL STEM TEST REPORT

Palmer Oil, Inc.

23 32s 37w Stevens, KS

3118 Cummings Rd.  
Garden City KS 67846

Willis 23-9



ATTN: Wyatt Urban

Job Ticket: 56383

DST#: 1

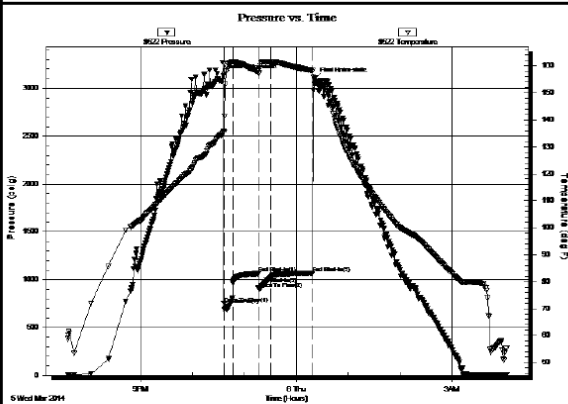
Test Start: 2014.03.05 @ 19:36:00

**GENERAL INFORMATION:**

Formation: **St. Louis**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 22:36:15  
 Tester: Bradley Walter  
 Time Test Ended: 04:02:45  
 Unit No: 69  
 Interval: **6340.00 ft (KB) To 6392.00 ft (KB) (TVD)**  
 Reference Elevations: 3123.00 ft (KB)  
 Total Depth: 6392.00 ft (KB) (TVD)  
 3110.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 KB to GR/CF: 13.00 ft

**Serial #: 8522 Outside**  
 Press@RunDepth: 1022.78 psig @ 6341.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.03.05 End Date: 2014.03.06 Last Calib.: 2014.03.06  
 Start Time: 19:36:05 End Time: 04:02:44 Time On Btm: 2014.03.05 @ 22:36:00  
 Time Off Btm: 2014.03.06 @ 00:21:15

**TEST COMMENT:** IF: BOB @ 30 sec.  
 IS: No return.  
 FF: BOB @ 70 sec.  
 FS: No return.



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3130.55	135.71	Initial Hydro-static
1	752.45	135.42	Open To Flow (1)
11	805.26	161.48	Shut-h(1)
40	1063.94	157.98	End Shut-h(1)
41	908.40	157.15	Open To Flow (2)
55	1022.78	161.34	Shut-h(2)
103	1068.28	158.21	End Shut-h(2)
106	3102.16	154.41	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
2040.00	smcw 2m 98w (trace oil scum)	25.98

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mscf/c)

**ROCK TYPES**

Legend for Rock Types:

- sdylmst (blue horizontal lines)
- Lmst fw<7 (blue horizontal lines)
- Lmst fw>7 (blue horizontal lines)
- shale, gry (grey horizontal lines)
- shale, red (red horizontal lines)
- Carbon Sh (black horizontal lines)
- Shcol (yellow horizontal lines)

**ACCESSORIES**

**FOSSIL**  
 φ Oolite

**TEXTURE**  
 FX Finexln

**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)

Curve Track #1	Depth Intervals	Geology	Show	TG, C1 - C5
ROP (min/ft)	—			Total Gas (units)
Gamma (API)	—			C1 (units)
Cal (in)	---			C2 (units)
				C3 (units)

De  
Cored Interval  
DST Interval

DST  
Lith

Oil

Geological Descriptions

C4 (units)

1:240 Imperial

1:240 Imperial

0 ROP (min/ft) 7  
0 Gamma (API) 150  
6 Cal (in) 16

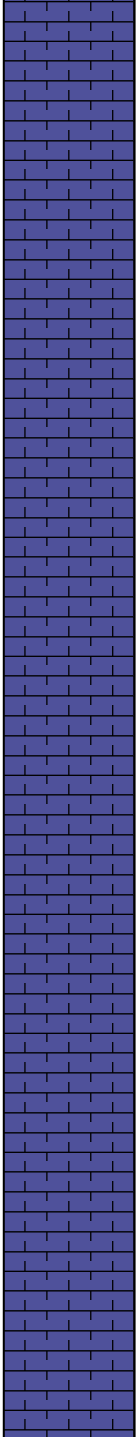
0 Total Gas (units) 100  
0 C1 (units) 100  
0 C2 (units) 100  
0 C3 (units) 100  
0 C4 (units) 100

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

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

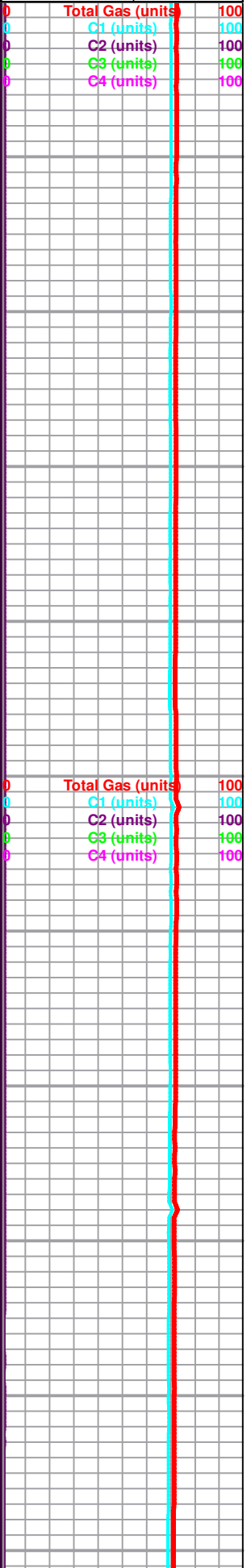
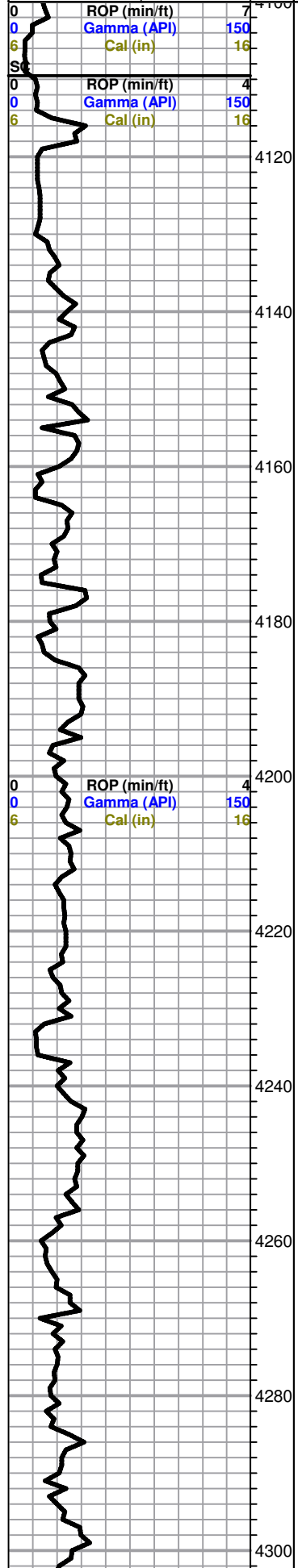
0 Total Gas (units) 100  
0 C1 (units) 100  
0 C2 (units) 100  
0 C3 (units) 100  
0 C4 (units) 100

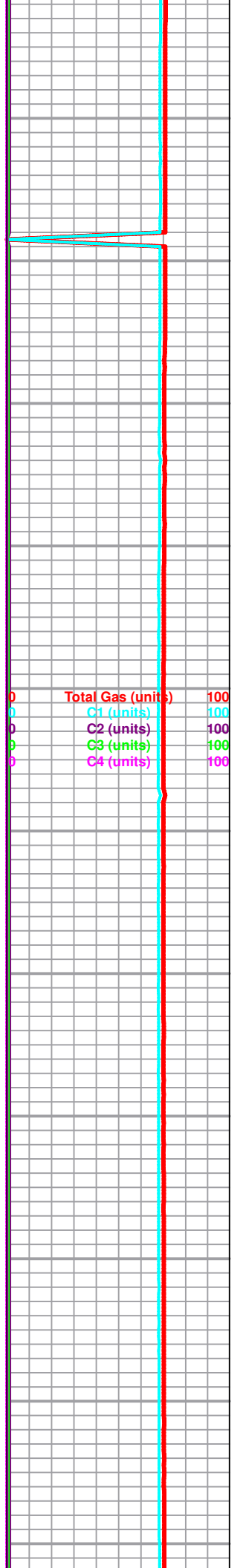
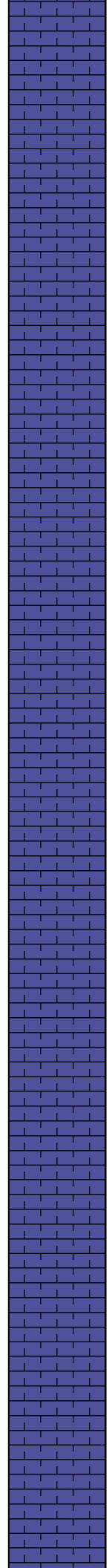
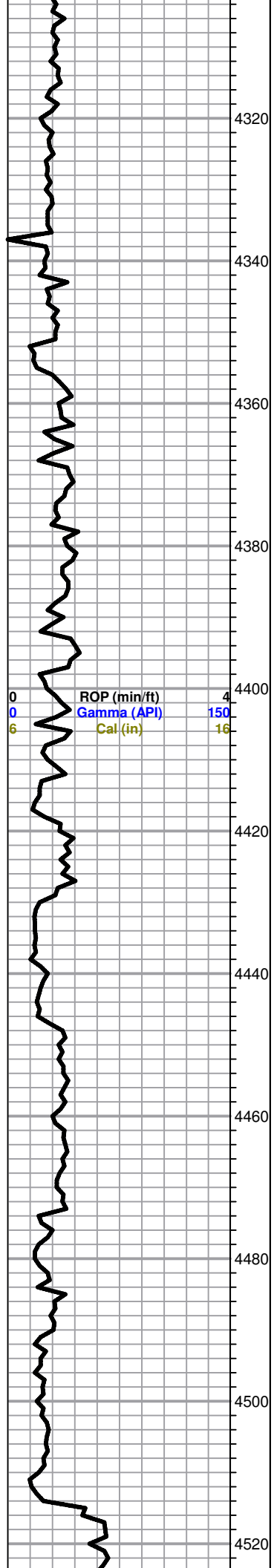
4100  
4120  
4140  
4160  
4180  
4200  
4220  
4240  
4260  
4280  
4300



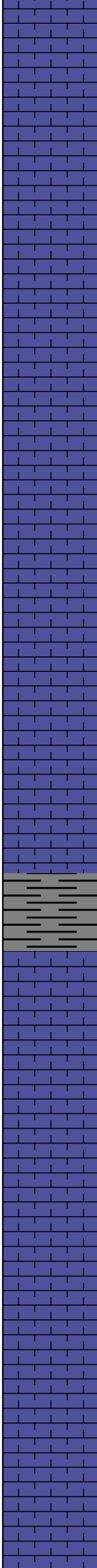
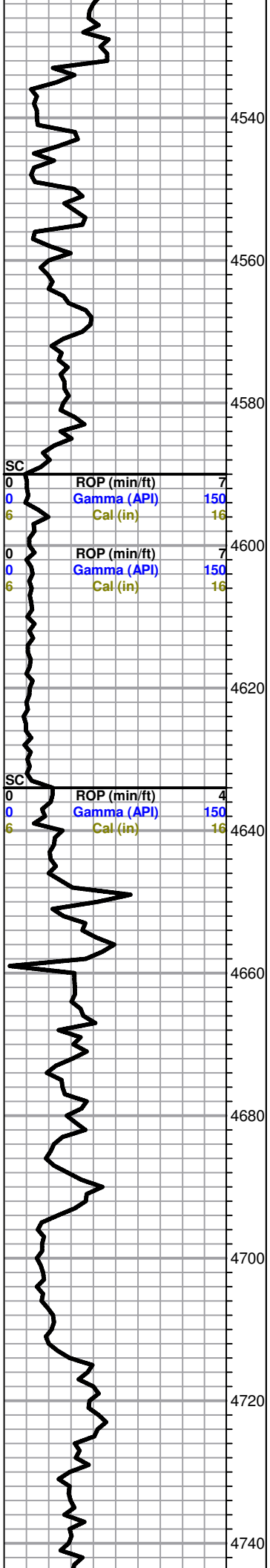
**B. Heebner 4149 (-1026)**

**Lansing 4259 (-1136)**







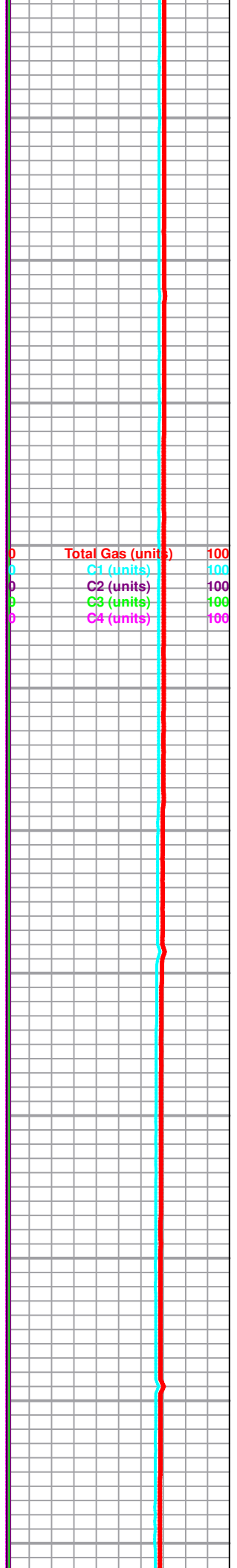


LS, tan to cream mottled, FXL dense, chalky in parts, Sh. gray, black, silty

Sh. gray, black carb

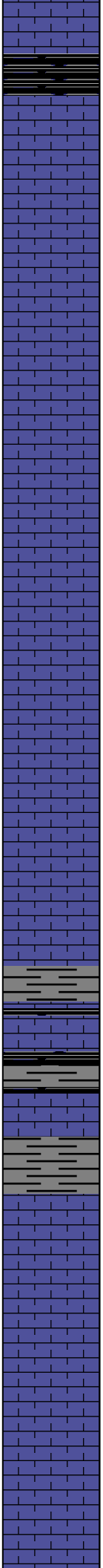
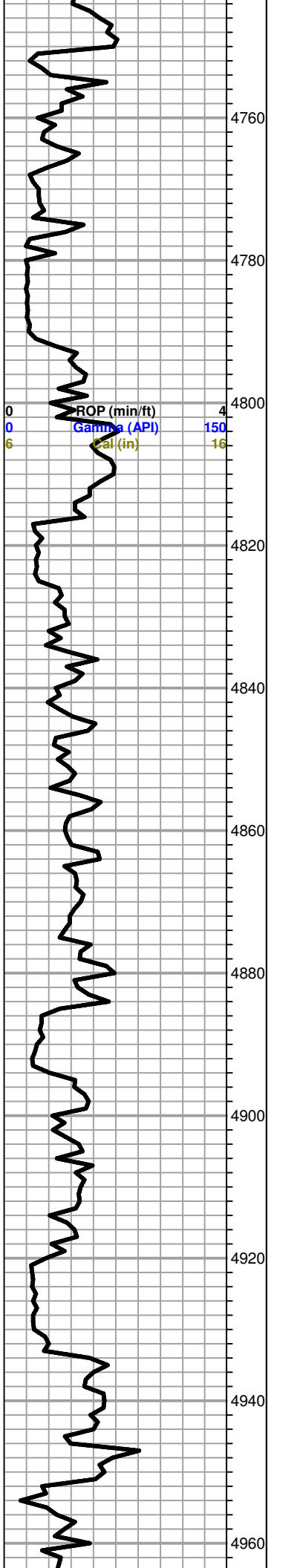
LS, cream to white, FXL, chalky, poor visible porosity, few foss

LS, gray, FXL, dense, no visible porosity, few foss, no shows



4760  
4780  
4800  
4820  
4840  
4860  
4880  
4900  
4920  
4940  
4960

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



Black carb Sh.

LS, cream to tan, FXL, sandy in parts, poor-fair visible porosity, no shows

LS, tan to gray, FXL, dense, poor scattered porosity, no shows

Sh. gray, maroon, greenish,  
LS, tan, mottled, dense, poor visible porosity, few foss

LS, tan to brown FXL, dense, cherty, no visible porosity

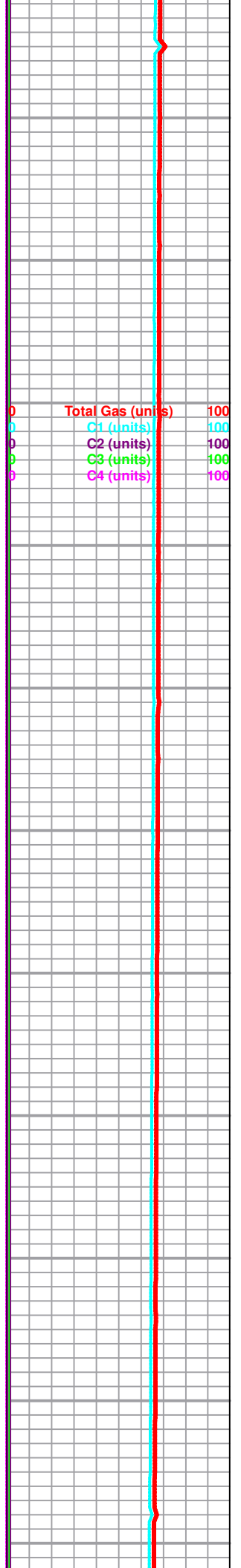
Sh. gray to black silty

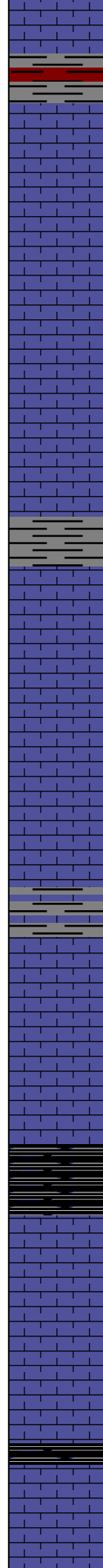
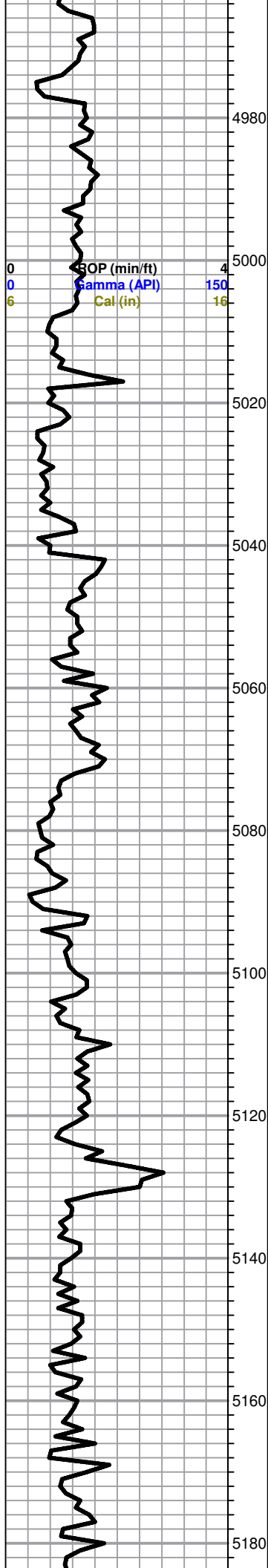
LS, brown, FXL, cherty, no visible porosity,  
Trc. gray sh. slty, soft

**Marmaton 4934 (-1811)**

LS, tan, FXL, dense, cherty, poor visible porosity, no shows,

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





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

LS, gray to tan, FXL, mottled, cherty in parts, poor scattered porosity, no shows

LS, gray to tan, A/A, trace LS, cream to white, chalky in parts no shows, trace gray shale, soft, silty

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

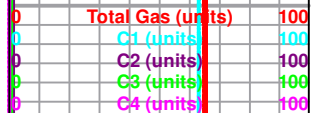
LS, tan, ool, chalky, fair vuggy porosity, no shows, trace gray silty sh.

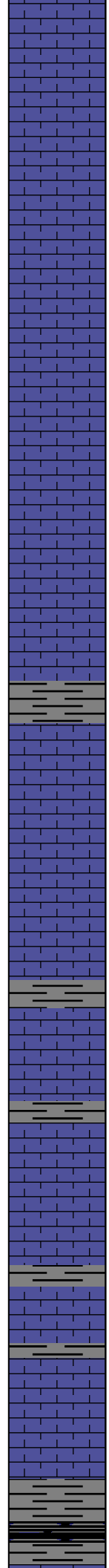
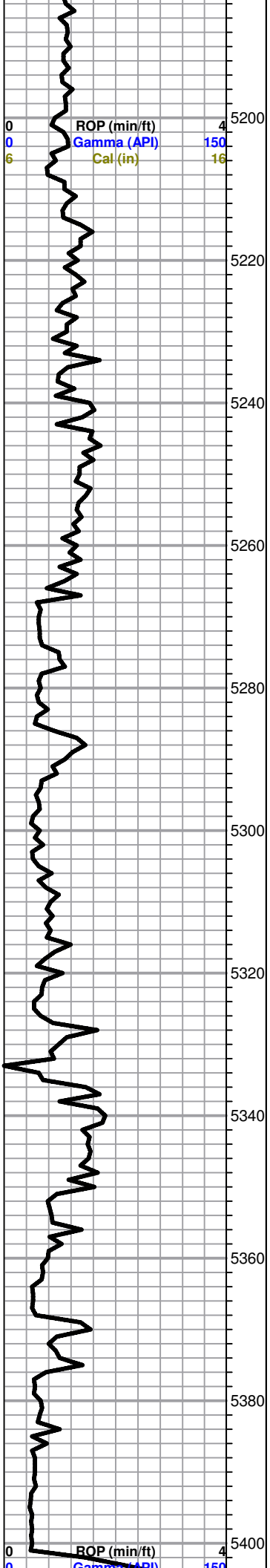
**Cherokee 5122 (-1999)**

Black carb shale

LS, tan, brown, FXL, poor visible porosity, foss, no shows

LS, brown, FXL, poor scattered porosity, no shows,





LS, gray, dense, poor scattered porosity, trace Black carb sh. no shows.

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

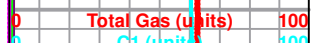
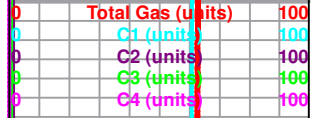
LS, gray, FXL, cherty no visible porosity,

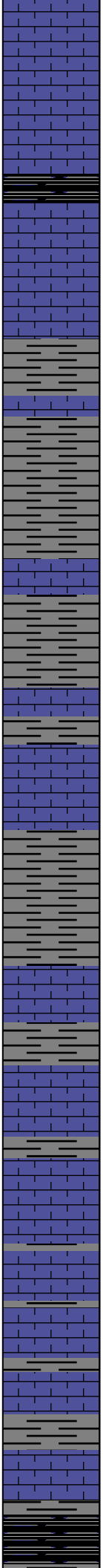
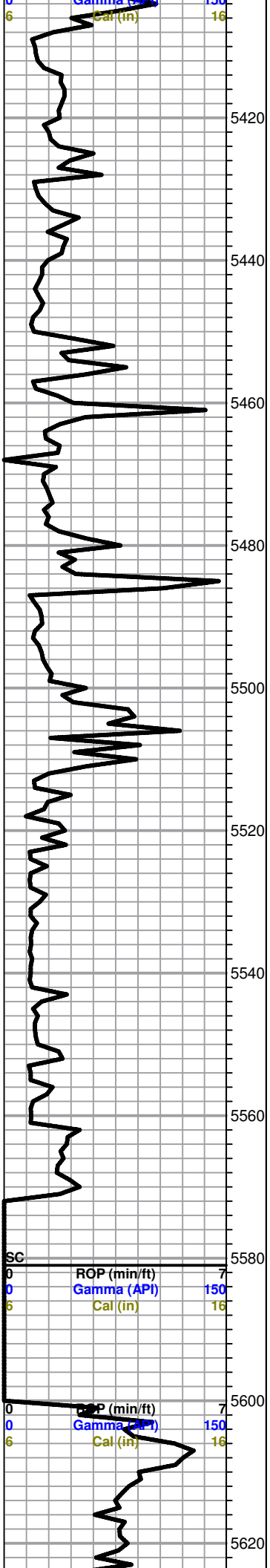
Sh. gray to black silty,  
 LS, gray, mottled, FXL, dense, cherty no shows

LS, tan to gray, mottled, FXL, dense, cherty in parts, no shows

LS, gray, FXL, dense, cherty poor scattered porosity, no shows

Sh. black gray,





LS, cream to tan, FXL, cherty, few foss, poor scattered porosity, no shows

Black carb sh.

Sh. gray, black maroon

Sh. gray, silty

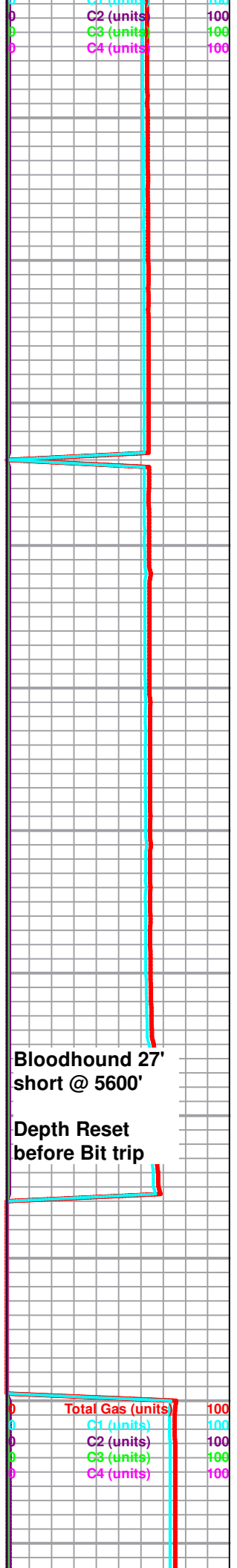
**Atoka 5512 (-2389)**

LS, tan to cream FXL, dense poor visible porosity, chalky in parts, few foss,

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

LS, tan to white, chalky in parts, dense, poor visible porosity, no shows

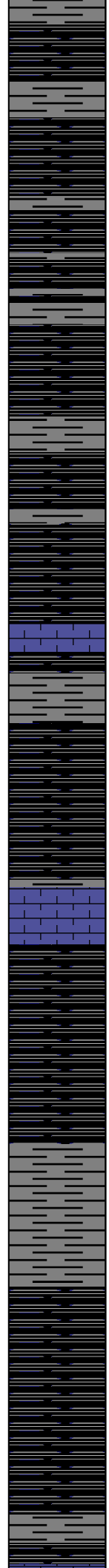
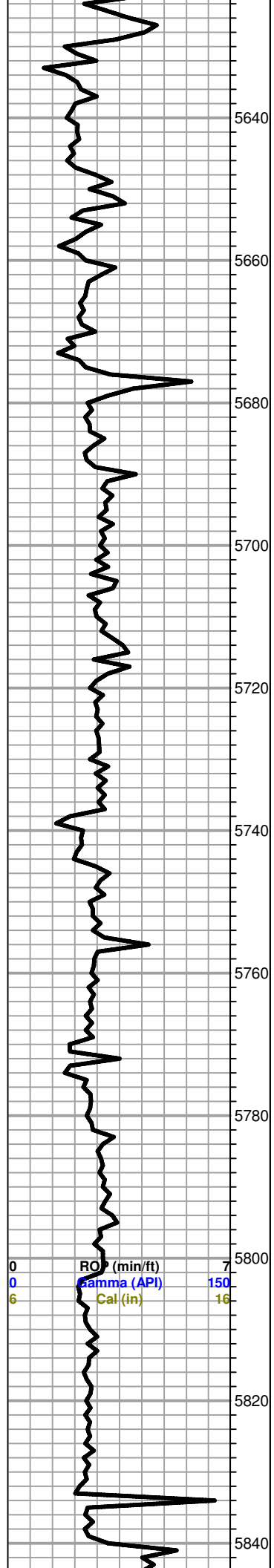
Sh. gray, black carb



**Bloodhound 27' short @ 5600'**

**Depth Reset before Bit trip**

**Morrow 5627 (-2504)**



Sh. black maroon gray, soft in parts

Sh. A/A, trace cream LS, chalky, poor visible porosity, no shows

Sh. black carb, maroon, gray silty

Sh. black to gray, A/A, trace, maroon, greenish,

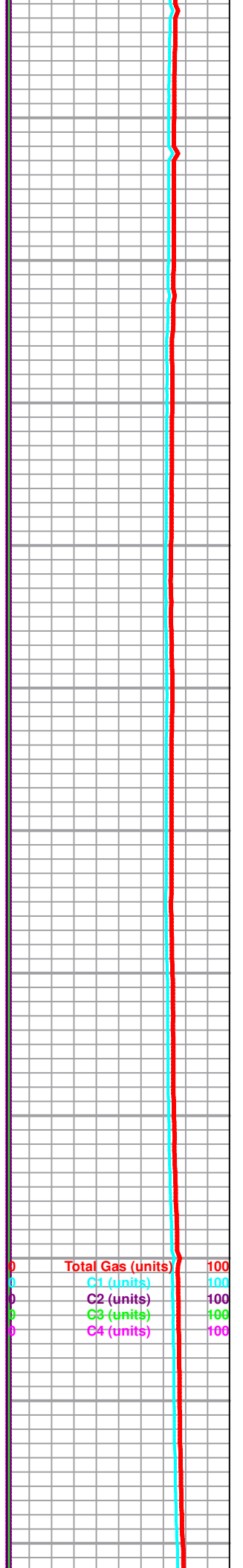
Sh. black soft, gray

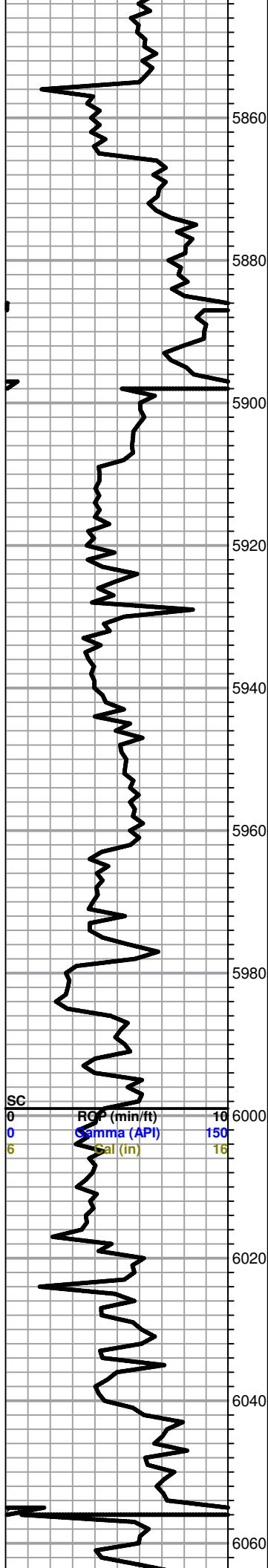
Sh. black carb, trc. LS, brown FXL dense no shows

Sh. Black carb, soft trace LS, cream to tan, FXL, chalky, few foss, scattered porosity no shows

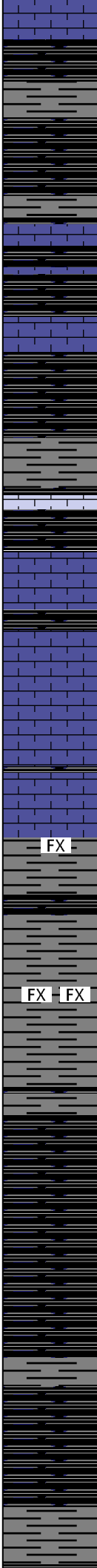
Sh. gray, soft, silty, black

Sh. black carb





SC	ROP (min/ft)	10
0	Gamma (API)	150
6	Cal (in)	16



LS, cream to tan, FXL, cherty, poor visible porosity, no shows

Sh. black carb, maroon, gray

Sh. black carb

Sh. gray silty soft,

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

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

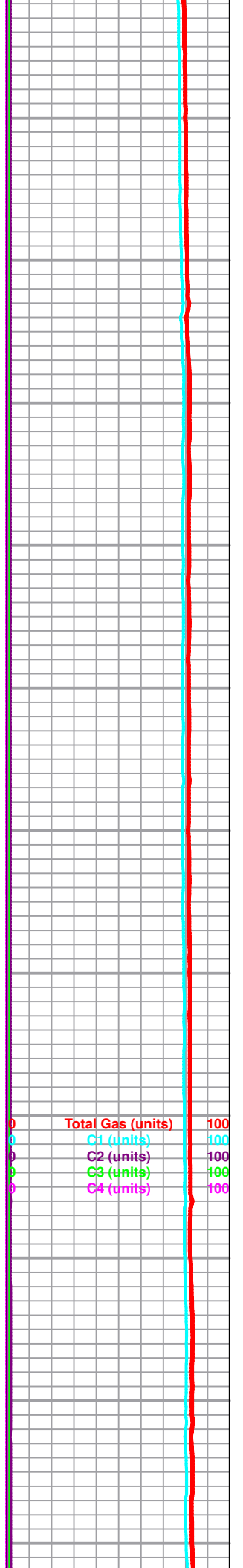
FX

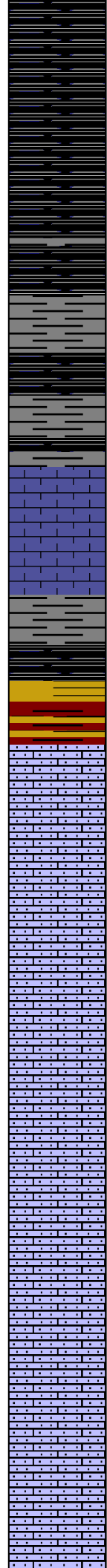
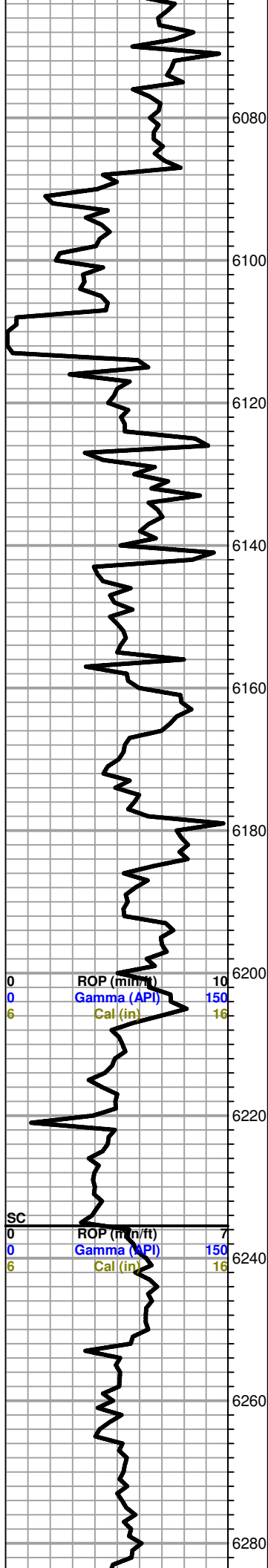
FX FX

Sh. black carb, trc. green, maroon, sh.

Sh. black carb

Sh. black carb, gray, maroon, silty





Sh. black carb

6080

Sh. gray, black carb,

6100

LS, cream, mottled, FXL, dense, poor visible porosity, cherty in parts, no shows

6120

Sh. gray, black, soft in parts, trace LS, gray, cherty FXL dense, no shows

6140

Trc. red, orange, silty,

6160

**Ste Gen. 6168 (-3045)**

LS, tan rose, micro ool, sandy fair visible porosity, friable, no shows

6180

LS, tan, rose, micro ool, sndy, dense, poor visible porosity, no shows

6200

LS, cream tan rose, A/A, trc. greenish chert

6220

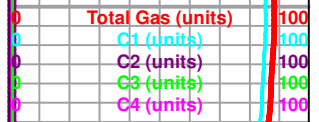
LS, cream to white, dense, micro ool, poor scattered porosity, no shows

6240

LS, tan, cream, micro ool, friable, fair scattered

6260

6280





porosity, no shows

### St. Louis 6292 (-3175)

LS, tan to cream, FXL, dense, cherty, no visible porosity, no shows, trace white chert

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

LS, tan, FXL, dense, cherty, few ool, poorly developed, poor visible porosity, no shows,

LS, cream, chalky, FXL, poor scattered porosity, ool, poorly developed, no shows

LS, tan, well developed ool, fair scattered porosity, chalky, Lt. flor. cut, odor???

LS, white, cream, ool, well developed, good scattered porosity, Lt. brown stain, Trc. SFO, faint odor in freshly broken samples. Lt.- Fair Flor. cut

LS, tan, ool, chalky, poor visible porosity, no shows, no flor. cut

LS, tan, FXL, poor visible porosity, few ool, poor scattered porosity, poor inxln porosity, no shows

LS tan to cream, FXL, dense, few ool, poorly developed, poor visible porosity, no shows

6300  
6320  
6340  
6360  
6380  
6400  
6420  
6440  
6460  
6480

FX

FX

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

ROP (min/ft) 7  
Gamma (API) 150  
Cal (in) 16

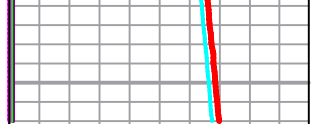
0  
0  
6

CFS 20-40-60

CFS 20-40-60

Continue drilling with PDC bit

C2 (units) 100  
C3 (units) 100  
C4 (units) 100



RTD 6452'



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Palmer Oil, Inc.  
3118 Cummings Rd.  
Garden City KS 67846  
ATTN: Wyatt Urban

**23 32s 37w Stevens, KS**

**Willis 23-9**

Job Ticket: 56383 **DST#: 1**

Test Start: 2014.03.05 @ 19:36:00

## GENERAL INFORMATION:

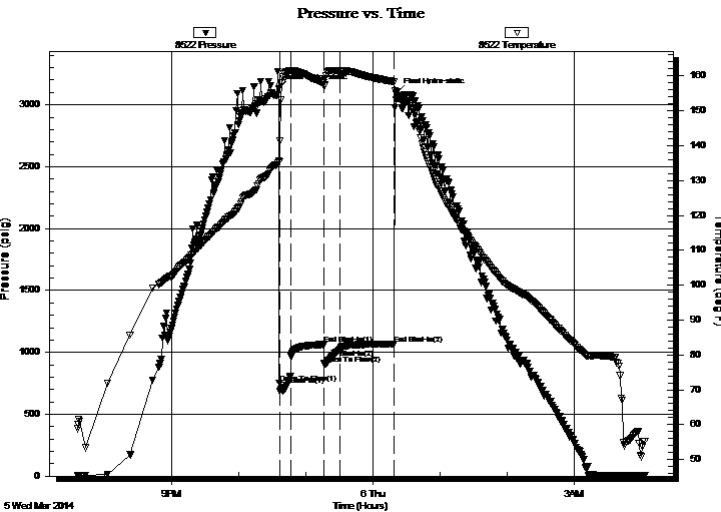
Formation: **St. Louis**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:36:15  
 Time Test Ended: 04:02:45  
 Interval: **6340.00 ft (KB) To 6392.00 ft (KB) (TVD)**  
 Total Depth: 6392.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Bradley Walter  
 Unit No: 69  
 Reference Elevations: 3123.00 ft (KB)  
 3110.00 ft (CF)  
 KB to GR/CF: 13.00 ft

## Serial #: 8522

**Outside**

Press@RunDepth: 1022.78 psig @ 6341.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.03.05 End Date: 2014.03.06 Last Calib.: 2014.03.06  
 Start Time: 19:36:05 End Time: 04:02:44 Time On Btm: 2014.03.05 @ 22:36:00  
 Time Off Btm: 2014.03.06 @ 00:21:15

TEST COMMENT: IF: BOB @ 30 sec.  
 IS: No return.  
 FF: BOB @ 70 sec.  
 FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3130.55	135.71	Initial Hydro-static
1	752.45	135.42	Open To Flow (1)
11	805.26	161.48	Shut-In(1)
40	1063.94	157.98	End Shut-In(1)
41	908.40	157.15	Open To Flow (2)
55	1022.78	161.34	Shut-In(2)
103	1068.28	158.21	End Shut-In(2)
106	3102.16	154.41	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2040.00	smcw 2m 98w (trace oil scum)	25.98

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Palmer Oil, Inc.  
3118 Cummings Rd.  
Garden City KS 67846  
ATTN: Wyatt Urban

**23 32s 37w Stevens, KS**  
**Willis 23-9**  
Job Ticket: 56383      **DST#: 1**  
Test Start: 2014.03.05 @ 19:36:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 100000 ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 2300.00 ppm		
Filter Cake: 1.00 inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2040.00	smcw 2m 98w (trace oil scum)	25.979

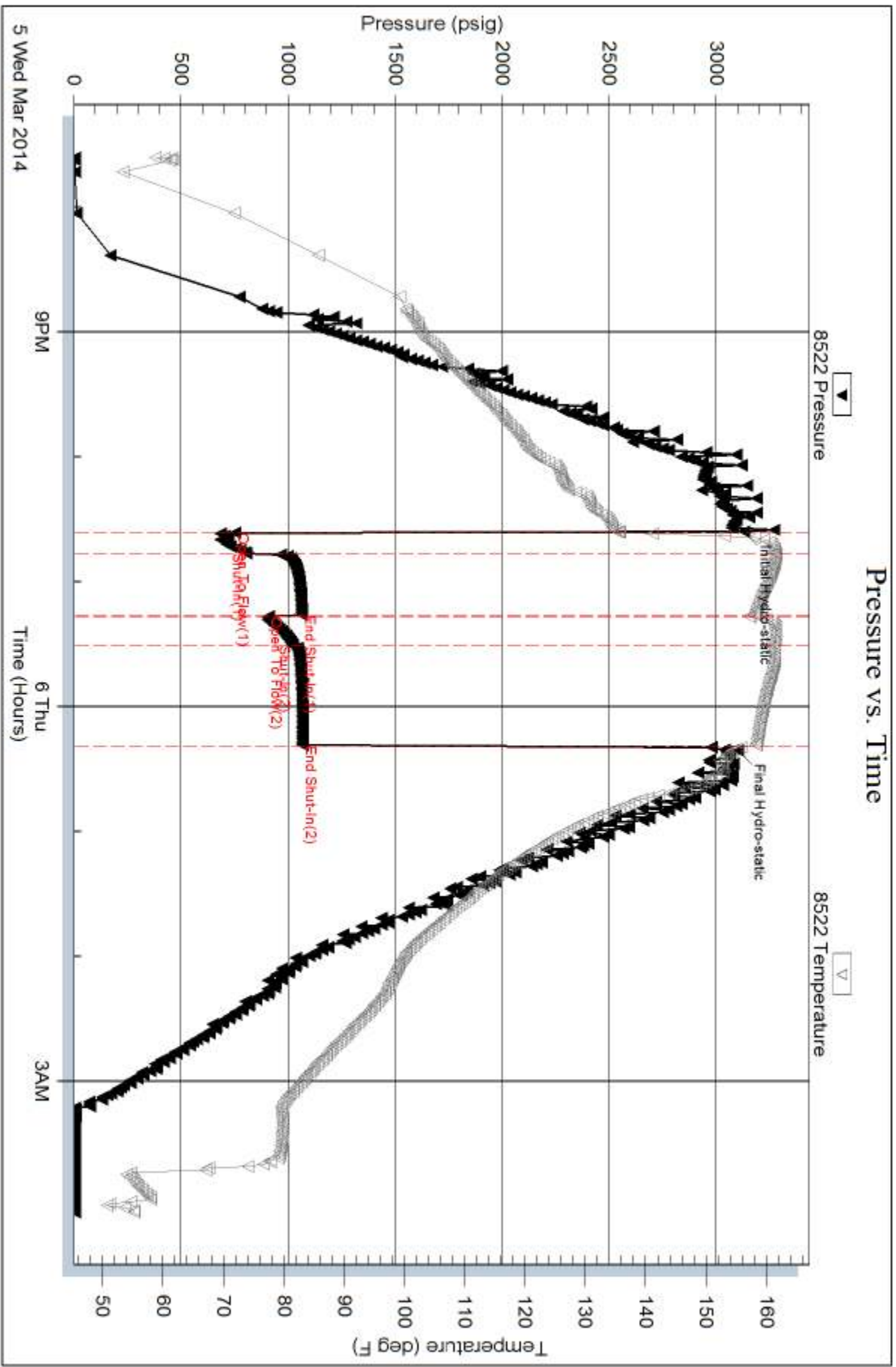
Total Length: 2040.00 ft      Total Volume: 25.979 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: rw is .128 @ 42F= 100,000ppm

Serial #: 8522

Outside Palmer Oil, Inc.

Wells 23-9

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 56383

Printed: 2014.03.06 @ 08:23:28