



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1183818  
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
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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: \_\_\_\_\_

1183818

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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  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: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
-------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Palmer Oil, Inc.
Well Name	Laura 21-4
Doc ID	1183818

Tops

Name	Top	Datum
Marmaton	4923'	-1769
Cherokee	5130'	-1976
Atoka	5560'	-2406
Morrow	5678'	-2524
St.Gen	6179'	-3025
St.Louis	6320'	-3166
St.Louis B	6392'	-3238
St.Louis C	6427'	-3273







**BASIC**<sup>SM</sup>  
ENERGY SERVICES  
PRESSURE PUMPING & WIRELINE

1700 S. Country Estates Rd.  
Liberal, Kansas 67905  
Phone 620-624-2277

FIELD SERVICE TICKET  
1717 04485 A

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB: 1/1/14	DISTRICT: 1717	NEW WELL <input checked="" type="checkbox"/>	OLD WELL <input type="checkbox"/>	PROD <input type="checkbox"/>	INJ <input type="checkbox"/>	WDW <input type="checkbox"/>	CUSTOMER ORDER NO.:			
CUSTOMER: Palmer Oil/American Warrant		LEASE: Laura		21-4		WELL NO.:				
ADDRESS:		COUNTY: Stevens		STATE: KS						
CITY:		STATE:		SERVICE CREW: Tommy, Daniel						
AUTHORIZED BY: Tyce		JOB TYPE: Z4Z								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
74939	5.5									5:20
37223, 37426	5.5									7:00
19827, 19883	5.5									12:16
										12:10
										12:30
						MILES FROM STATION TO WELL	50			

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: *Emilio Rojas*  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT	
CL105	AA-2	SK	200			
CL103	60/40 P07	SK	50			
CL113	Gypsum	Lb	940			
CL111	SALT	Lb	1109			
CL103	C-15	Lb	113			
CL105	C-411	Lb	47			
CL201	Grip Sulfide	Lb	1000			
CF1251	Auto Cill float slice	EA	1			
CF607	Latchdown P/B	EA	1			
CF4452	Centralizer	EA	12			
CF4552	Basket	EA	1			
CF3000	Threadlock	EA	1			
CL151	Mudflash	gal	500			
FL11	Heavy Equip M. Leage	M.	100			
CF240	Blending & Mixing C/Drge	SK	250			
FL13	Bulk Delivery	Tm	578			
CF207	Depth Charge 6000 to 7000'	Chir	1			
CF504	Plug Container	Sub	1			
FL100	Pickup M. Leage	M.	50			
5003	Service Supervisor	FA				
					SUB TOTAL	10,854.68
CHEMICAL / ACID DATA:						
SERVICE & EQUIPMENT				%TAX ON \$		
MATERIALS				%TAX ON \$		
TOTAL						

SERVICE REPRESENTATIVE: <i>Chack Hinz</i>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: <i>Emilio Rojas</i> (WELL OWNER OPERATOR CONTRACTOR OR AGENT)
FIELD SERVICE ORDER NO.	





**NOTES**

Company:Palmer Oil, Inc.

Lease: Laura #21-4

Field:Gentzler North

Location:SE-SW-NE-NW (1021' FnL & 1652' FwL)

Sec:21 Twsp:32S Rge:37W

County:Stevens State:Kansas

KB:3154' GL:3141'

API #: 15-189-22827-00-00

Contractor:Duke Drilling Inc. (Rig #9)

Spud:12/16/2013 Comp:12/31/2013

RTD:6500' LTD:6486'

Mud Up: 6500' Type Mud: Chemical

Samples Saved From: 4700' to RTD

Drilling Time Kept From:4100' to RTD

Samples Examined From: 4700' to RTD

Geological Supervision from:4700' to RTD

Geologist on Well: Wyatt Urban

Surface Casing: 8 5/8@ 1755'

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

## Palmer Oil Laura 21-4

Formation	DRILLING WELL				COMPARISON WELL				COMPARISON WELL				
	Palmer Oil - Laura 21-4				Palmer Oil- Laura 21-3				Palmer Oil - Laura 21-2				
	SE-NW-NE-SE 21-32-37W				SE-NW-NE-SE 21-32-37W				E2-E2-SW-SE 21-32-37W				
	3154 KB				3153 KB			Structural Relationship	3148 KB			Structural Relationship	
	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log	
Base Heebner										4146	-998		
Lansing										4273	-1125		
Marmaton	4928	-1774	4923	-1769	4932	-1779	5	10		4924	-1776	2	7
Cherokee	5129	-1975	5130	-1976	5144	-1991	16	15		5140	-1992	17	16
Atoka	5552	-2398	5560	-2406	5571	-2418	20	12		5547	-2399	1	-7
Morrow	5680	-2526	5678	-2524	5681	-2528	2	4		5662	-2514	-12	-10
Ste. GEN	6179	-3025	6179	-3025	6180	-3027	2	2		6180	-3032	7	7
St. Louis	6310	-3156	6320	-3166	6330	-3177	21	11		6344	-3196	40	30
St. Louis "B"	6410	-3256	6392	-3238	6404	-3251	-5	13		6389	-3241	-15	3
St. Louis "C"	6415	-3261	6427	-3273	6430	-3277	16	4		6420	-3272	11	-1
RTD	6500	-3346	6500	-3346	6500	-3347	1	1		6550	-3402	56	56
LTD	6486	-3332	6486	-3332	6509	-3356	24	24		6538	-3390	58	58







PRELUDE TESTING, INC

Palmer Oil  
PO Box 399  
Garden City, KS 67846  
ATTN: Wyatt Urban

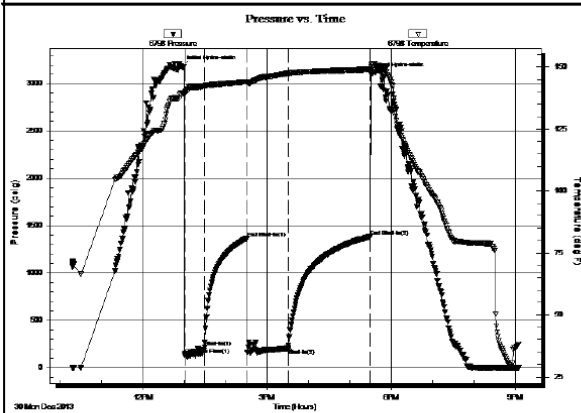
21-32S-37W Stevens  
Laura 21-4  
Job Ticket: 51912 DST#: 1  
Test Start: 2013.12.30 @ 10:17:39

GENERAL INFORMATION:

Formation: **St. Louis**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 13:00:24  
Time Test Ended: 21:05:09  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Leal Cason  
Unit No: 74  
Interval: **6341.00 ft (KB) To 6400.00 ft (KB) (TVD)**  
Reference Elevations: 3154.00 ft (KB)  
Total Depth: 6400.00 ft (KB) (TVD) 3141.00 ft (CF)  
Hole Diameter: 7.88 inches-Hole Condition: Good KB to GR/CF: 13.00 ft

**Serial #: 6798 Inside**  
Press@RunDepth: 207.38 psig @ 6342.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.12.30 End Date: 2013.12.30 Last Calib.: 2013.12.30  
Start Time: 10:17:40 End Time: 21:05:09 Time On Btm: 2013.12.30 @ 12:55:54  
Time Off Btm: 2013.12.30 @ 17:30:24

TEST COMMENT: IF: Strong Blow, BOB in 3 1/2 minutes  
IS: No Blow Back  
FF: Strong Blow, BOB in 1 minute, GTS in 10 minutes, TSTM  
FFSt: No Blow Back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3177.66	139.51	Initial Hydro-static
5	133.59	138.73	Open To Flow (1)
34	219.16	142.39	Shut-in(1)
95	1369.03	143.99	End Shut-in(1)
96	161.65	143.55	Open To Flow (2)
155	207.38	147.39	Shut-in(2)
274	1389.66	149.09	End Shut-in(2)
275	3100.87	150.10	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
0.00	5860 GP	0.00
184.00	GMWCO 24%G 10%M 20%W 46%O	0.90
298.00	GOCM 22%G 10%O 68%M	4.18

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

ROCK TYPES

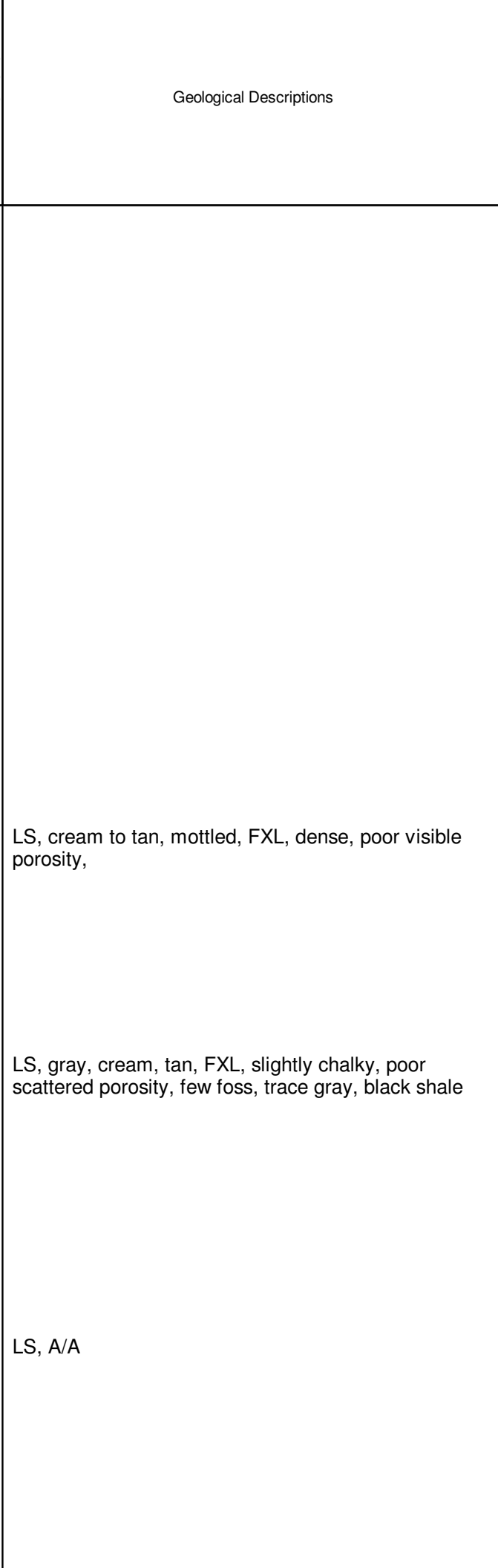
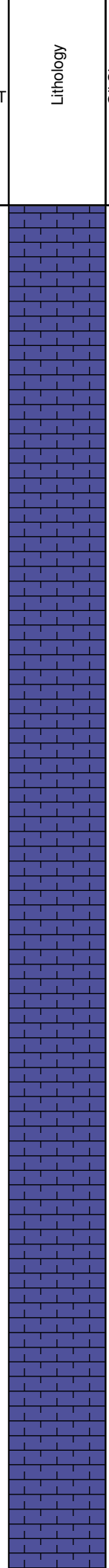
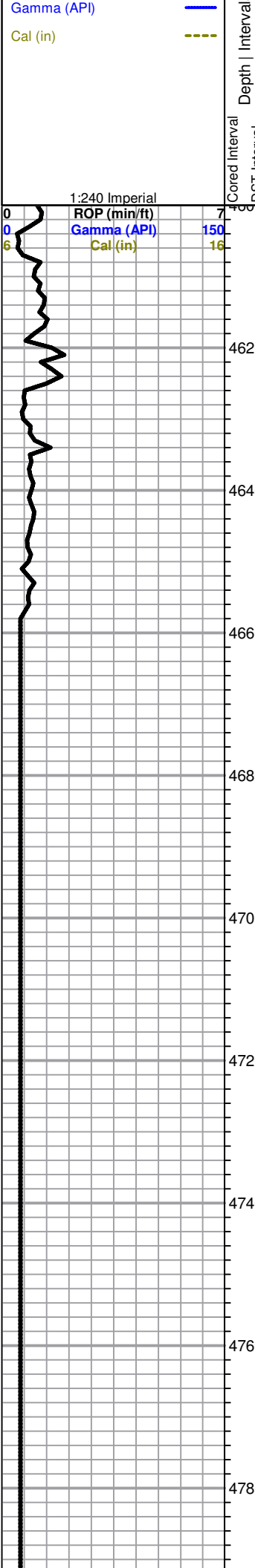
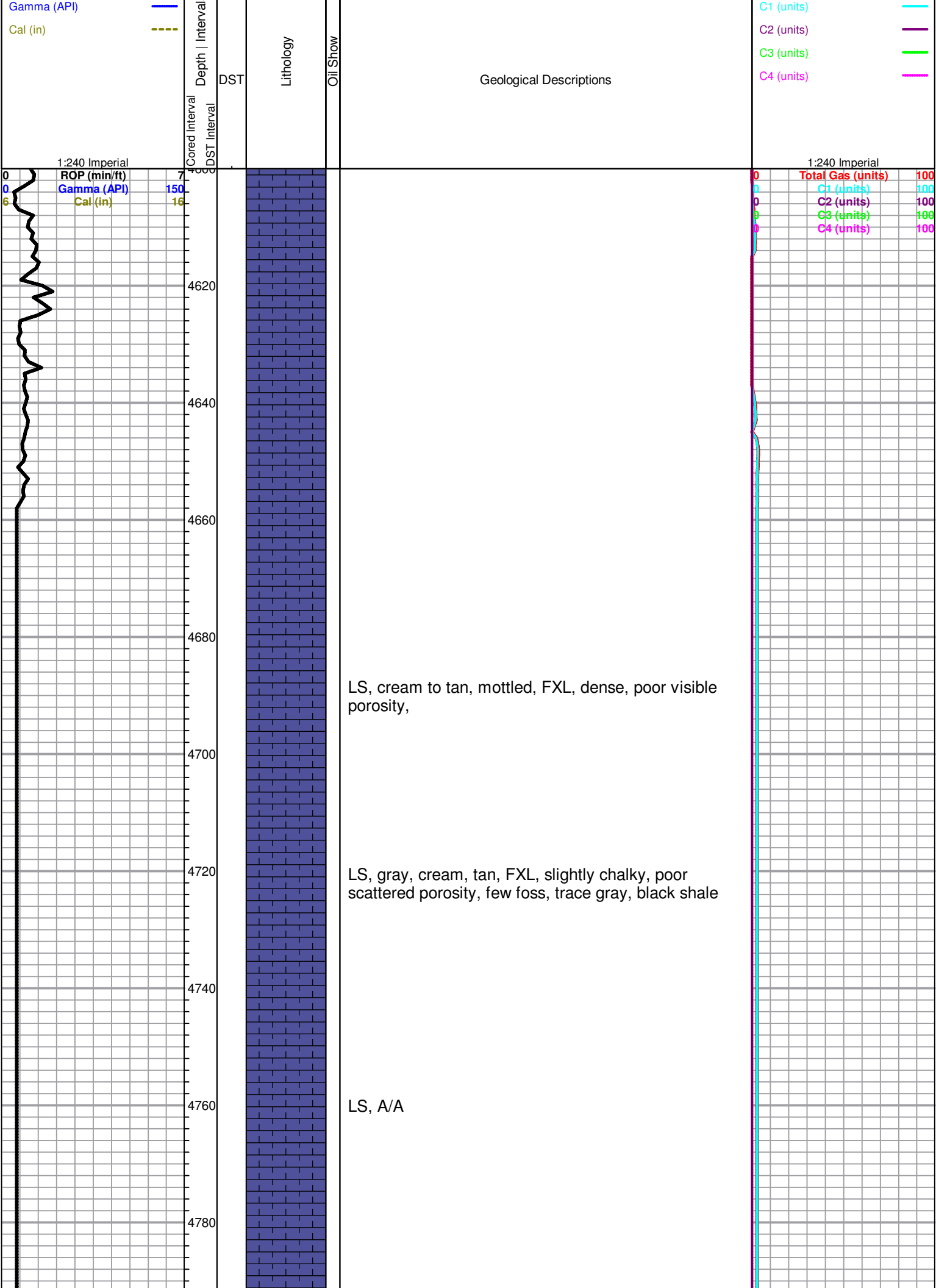
Legend for rock types: sdy lmst (blue), Lmst fw<7 (purple), Lmst fw>7 (light blue), shale, grn (green), shale, gry (grey), Carbon Sh (black), shale, red (red).

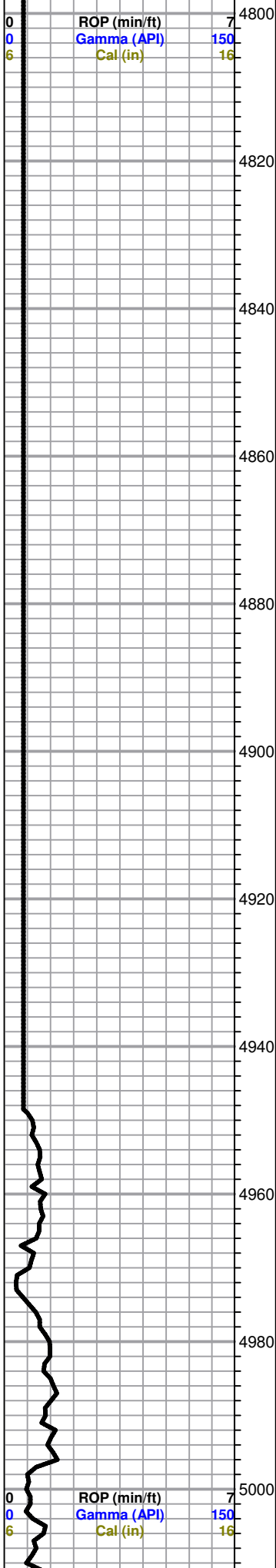
ACCESSORIES

FOSSIL  
φ Oolite

OTHER SYMBOLS

Oil Show symbols: ● Good Show, ● Fair Show, ● Poor Show, ○ Spotted or Trace, ○ Questionable Stn, D Dead Oil Stn, ■ Fluorescence, \* Gas.  
DST symbols: ■ DST Int, ■ DST alt, ■ Core, || tail pipe.





Sh, Gry soft, LS, cream to tan, FXL, dense, slightly chalky, poor vis porosity, no shows

LS, cream to tan, chalky, few foss, trc. black shale

LS, tan, chalky, FXL, Slightly cherty, dense, few foss, poor scattered porosity

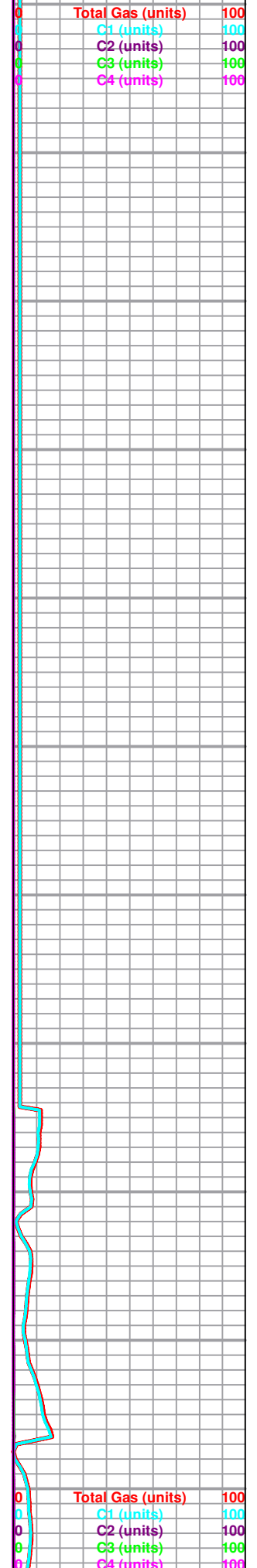
LS, tan, F-MXL, slightly cherty in parts, dense, poor vis. porosity, no shows

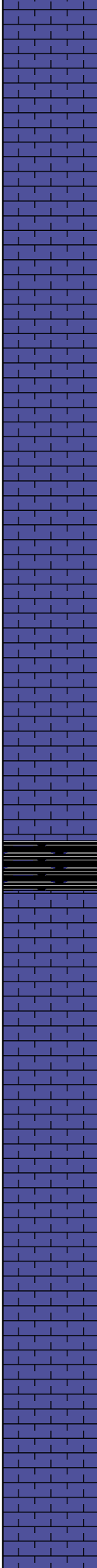
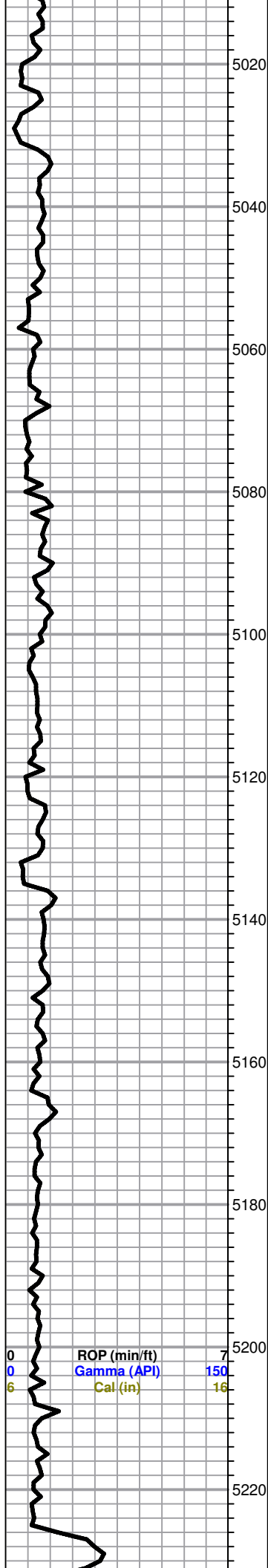
**Marmaton 4923 (-1769)**

LS, tan, FXL, oom, fair vuggy porosity no shows

LS, cream to tan, FXL, dense, cherty, trace black to gray shale, silty

Black carb shale,





Black carb shale, trace LS, cream to brown, mottled, poor visible porosity, no shows

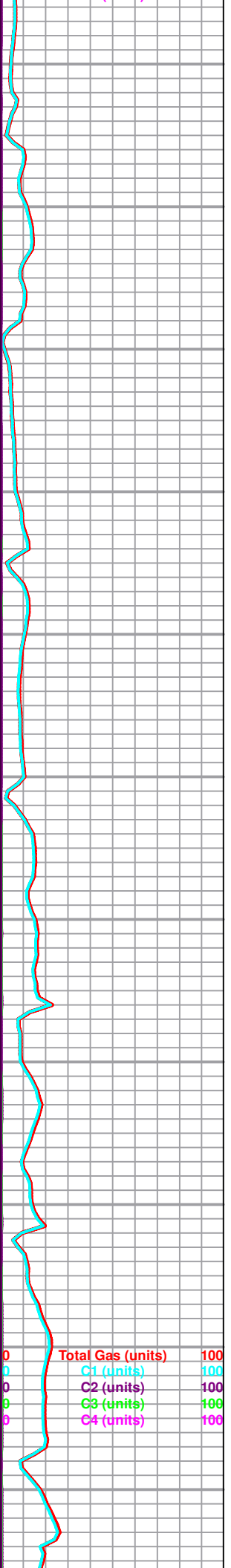
LS, tan, FXL, poorly developed ool, poor scattered porosity, no shows

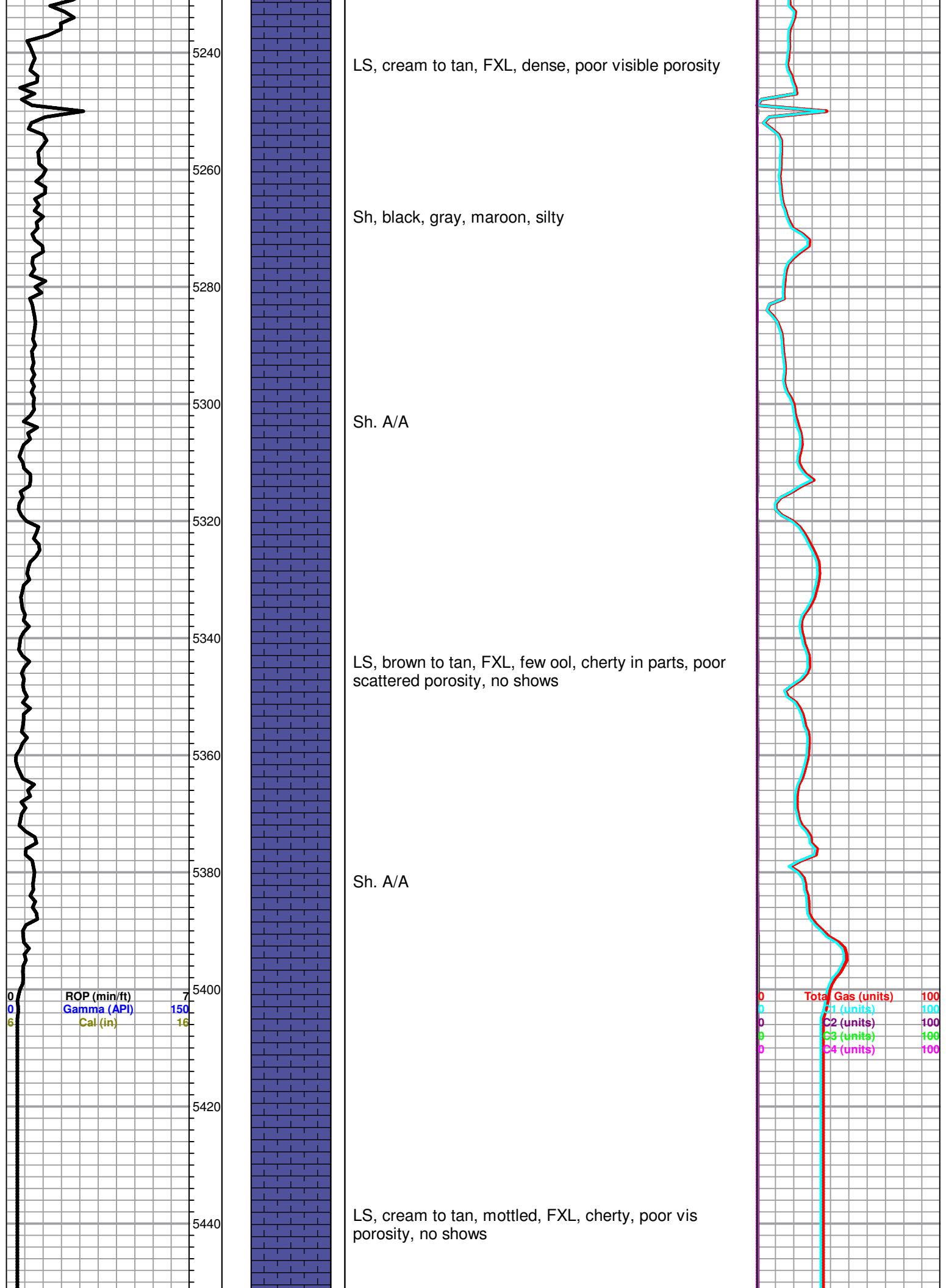
**Cherokee 5130 (-1976)**

LS, brown FXL, dense, poor vis. porosity, no shows

LS, tan to buff, F-MXL, v. chalky, poor visible porosity, no shows

Black Carb shale





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

LS, cream to tan, FXL, dense, poor visible porosity

Sh, black, gray, maroon, silty

Sh. A/A

LS, brown to tan, FXL, few ool, cherty in parts, poor scattered porosity, no shows

Sh. A/A

LS, cream to tan, mottled, FXL, cherty, poor vis porosity, no shows

5240  
5260  
5280  
5300  
5320  
5340  
5360  
5380  
5400  
5420  
5440

Geo clock  
malfunction

5460

5480

5500

5520

5540

5560

5580

5600

5620

5640

5660

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

### Atoka 5510 (-2356)

LS, tan, chalky, poor scattered porosity, few foss, no shows

Black, gray shale, silty, few greenish

LS, tan to brown, FXL, chalky, poor vis. porosity, no shows

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

Black carb shale,

### Morrow 5678 (-2524)

Black carb shale

Sh. Black, maroon, greenish, silty

Black carb shale

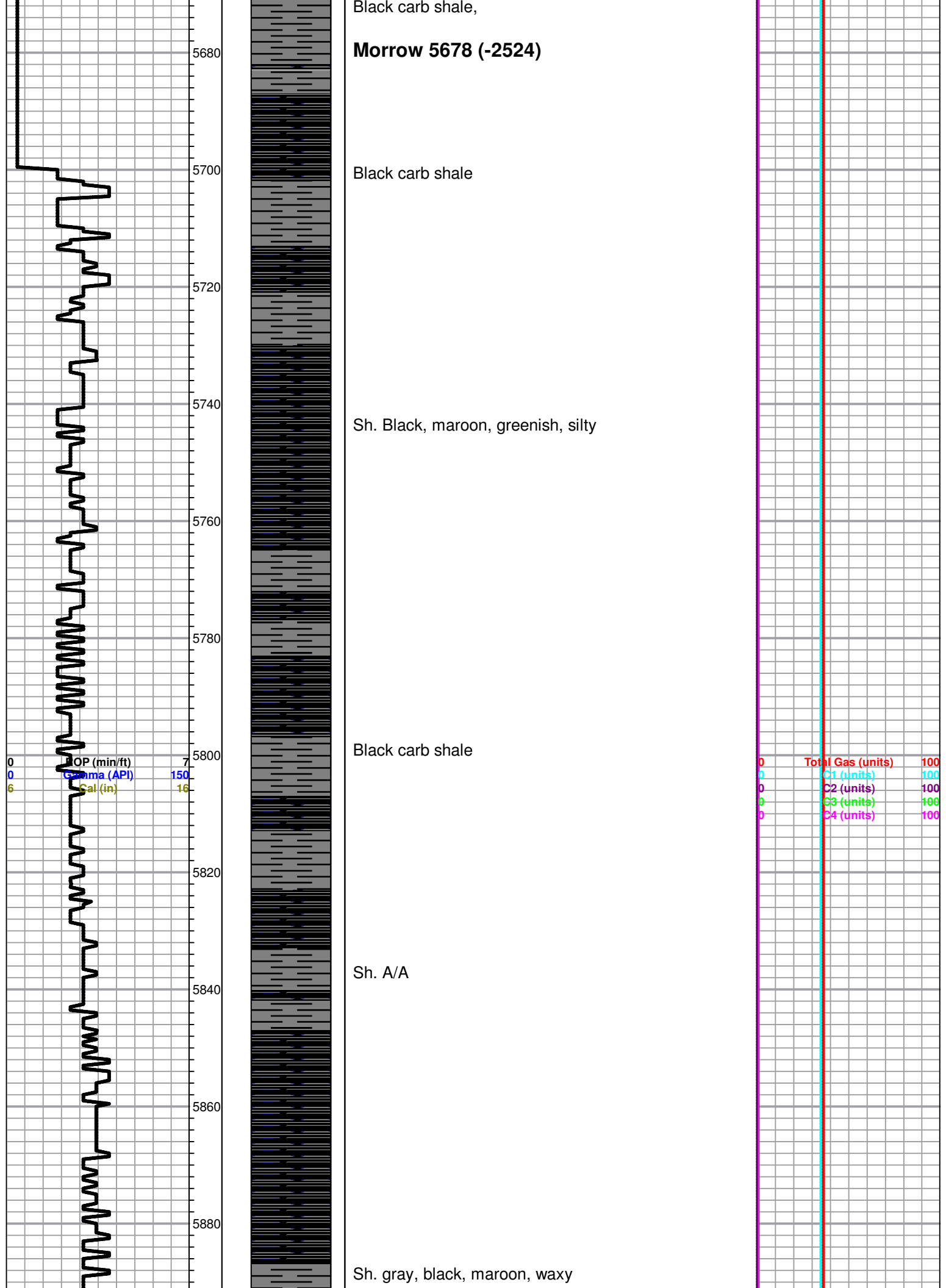
Sh. A/A

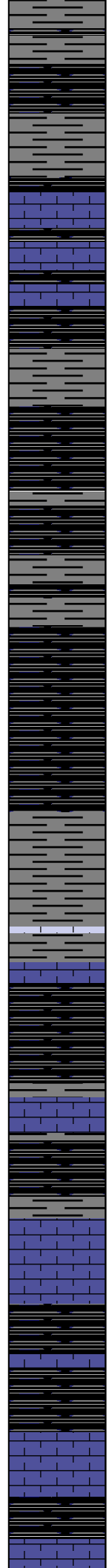
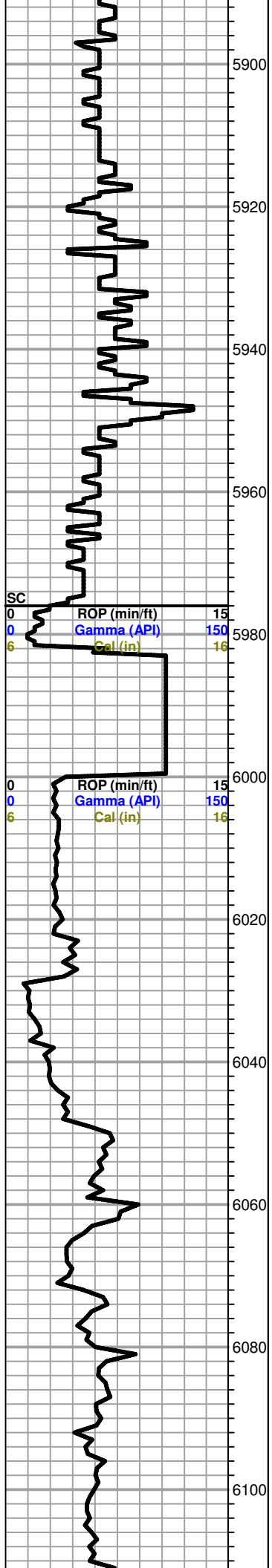
Sh. gray, black, maroon, waxy

5680  
5700  
5720  
5740  
5760  
5780  
5800  
5820  
5840  
5860  
5880

0 OP (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





Sh. gray, black, maroon, Trc, LS, gray to tan, FXL, cherty in parts, poor visible porosity no shows

Sh. Black, gray,

Sh. black, maroon, trace LS, gray to tan, FXL, dense, cherty no shows

Sh. black, gray, silty,

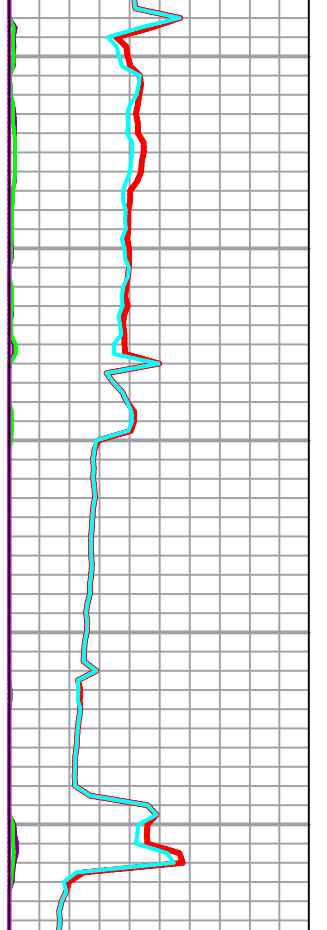
Black carb shale, gray sh, trace clr sand sub angular, dense, poor INXLN porosity, no shows

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

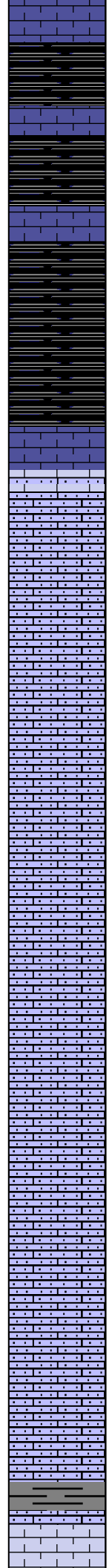
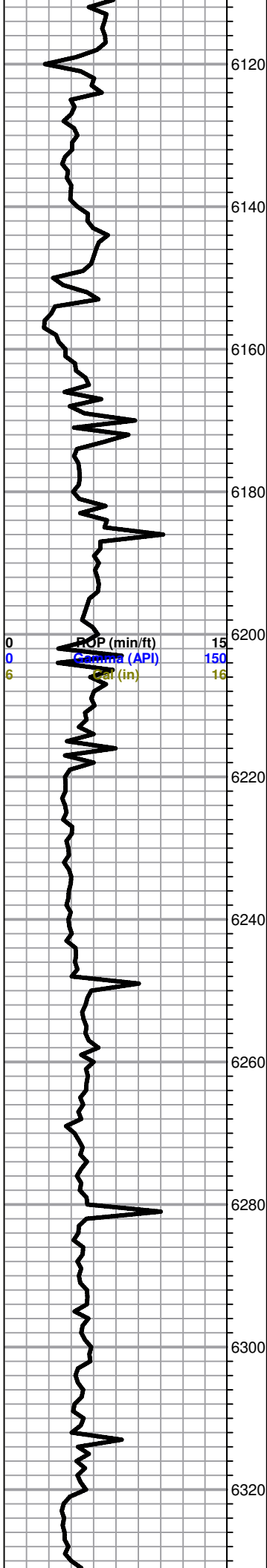
Black carb shale, trace red and greenish waxy shale

12/28/2013 11:30 AM  
Bit Trip @ 5985'

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







Black carb shale, trace LS, tan chalky poor scattered porosity, no shows

LS, tan, rose, micro ool, friable, good INXLN porosity, no shows

**St. Gen 6179 (-3025)**

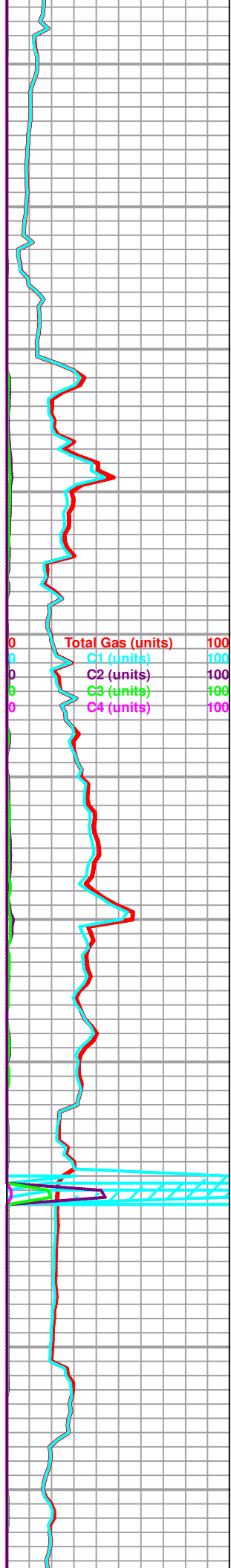
LS, tan to rose, micro ool, friable

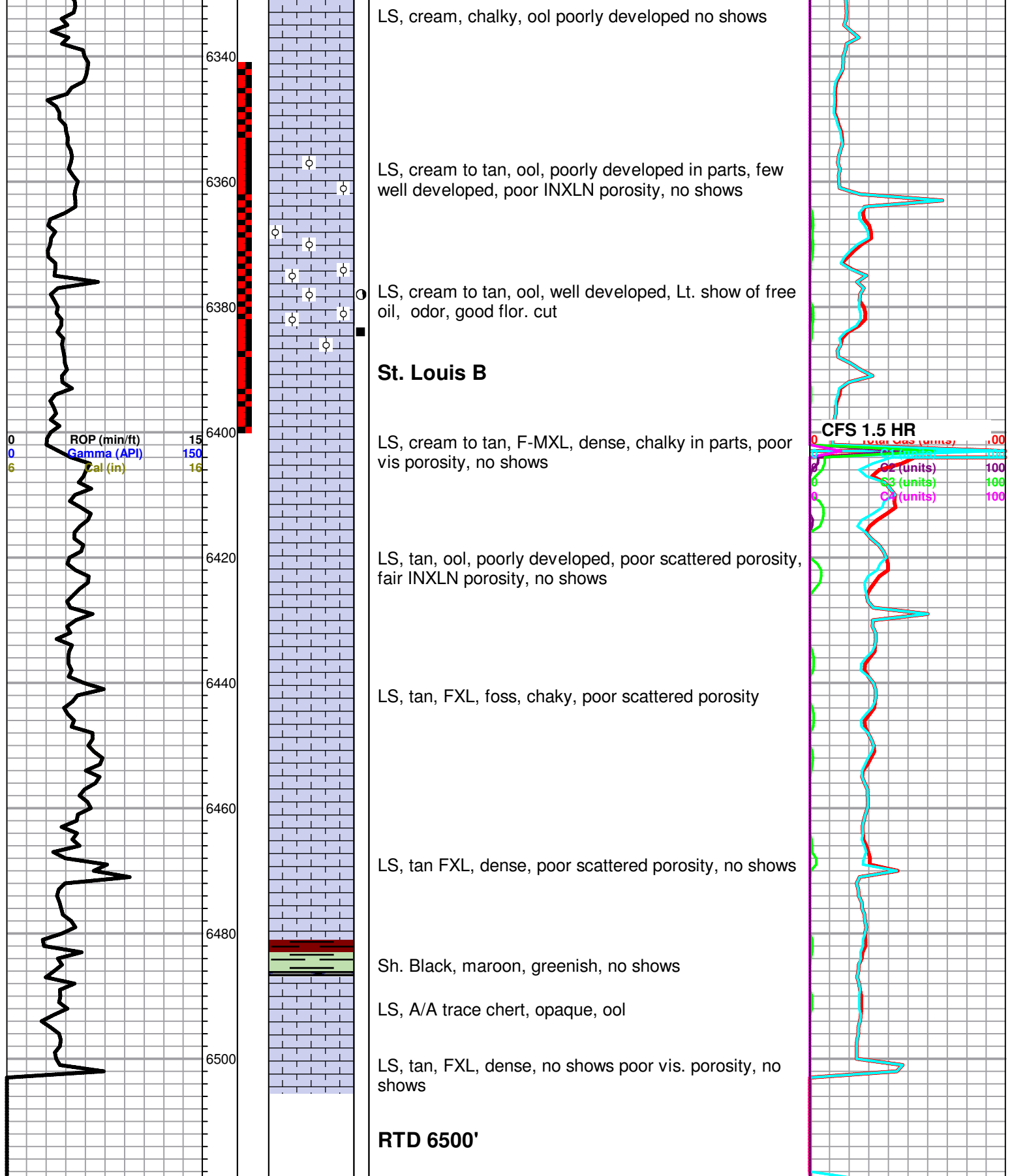
LS, A/A, trace green shale

LS, cream to tan, micro ool, friable, no shows

LS, tan, rose, brown, micro ool, friable, no shows  
Trace shale, gray, greenish,

**St. Louis 6320 (-3166)**







## DRILL STEM TEST REPORT

Prepared For: **Palmer Oil**  
PO Box 399  
Garden City, KS 67846

ATTN: Wyatt Urban

**Laura #21-4**

**21-32s-37w Stevens,KS**

Start Date: 2013.12.30 @ 10:17:39

End Date: 2013.12.30 @ 21:05:09

Job Ticket #: 51912                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.02 @ 10:47:48



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Palmer Oil  
 PO Box 399  
 Garden City, KS 67846  
 ATTN: Wyatt Urban

**21-32s-37w Stevens,KS**

**Laura #21-4**

Job Ticket: 51912 **DST#: 1**

Test Start: 2013.12.30 @ 10:17:39

## GENERAL INFORMATION:

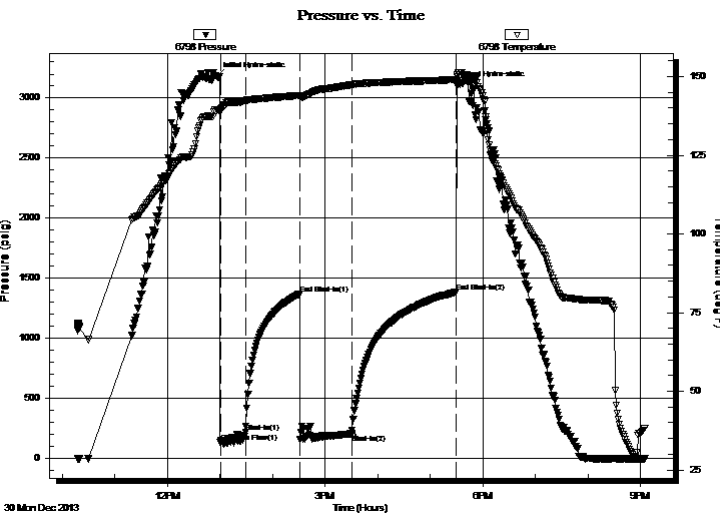
Formation: **St. Louis**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:00:24  
 Time Test Ended: 21:05:09  
 Interval: **6341.00 ft (KB) To 6400.00 ft (KB) (TVD)**  
 Total Depth: 6400.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 3154.00 ft (KB)  
 3141.00 ft (CF)  
 KB to GR/CF: 13.00 ft

## Serial #: 6798

Inside

Press@RunDepth: 207.38 psig @ 6342.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.12.30 End Date: 2013.12.30 Last Calib.: 2013.12.30  
 Start Time: 10:17:40 End Time: 21:05:09 Time On Btm: 2013.12.30 @ 12:55:54  
 Time Off Btm: 2013.12.30 @ 17:30:24

TEST COMMENT: IF: Strong Blow , BOB in 3 1/2 minutes  
 IS: No Blow Back  
 FF: Strong Blow , BOB in 1 minute, GTS in 10 minutes, TSTM  
 FFS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3177.66	139.51	Initial Hydro-static
5	133.59	138.73	Open To Flow (1)
34	219.16	142.39	Shut-In(1)
95	1369.03	143.99	End Shut-In(1)
96	161.65	143.55	Open To Flow (2)
155	207.38	147.39	Shut-In(2)
274	1389.66	149.09	End Shut-In(2)
275	3100.87	150.10	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
184.00	GMWCO 24%G 10%M 20%W 46%O	0.90
298.00	GOCM 22%G 10%O 68%M	4.18

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Palmer Oil  
PO Box 399  
Garden City, KS 67846  
ATTN: Wyatt Urban

**21-32s-37w Stevens,KS**  
**Laura #21-4**  
Job Ticket: 51912      **DST#: 1**  
Test Start: 2013.12.30 @ 10:17:39

**Tool Information**

Drill Pipe:	Length: 6158.00 ft	Diameter: 3.80 inches	Volume: 86.38 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 125000.0 lb
		Total Volume: 87.28 bbl		Tool Chased 19.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 86000.00 lb
Depth to Top Packer:	6341.00 ft			Final 88000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	85.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			6320.00	
Hydraulic tool	5.00			6325.00	
Jars	5.00			6330.00	
Safety Joint	2.00			6332.00	
Packer	5.00			6337.00	26.00      Bottom Of Top Packer
Packer	4.00			6341.00	
Stubb	1.00			6342.00	
Recorder	0.00	6798	Inside	6342.00	
Recorder	0.00	8367	Outside	6342.00	
Perforations	6.00			6348.00	
Change Over Sub	1.00			6349.00	
Drill Pipe	32.00			6381.00	
Change Over Sub	1.00			6382.00	
Perforations	15.00			6397.00	
Bullnose	3.00			6400.00	59.00      Bottom Packers & Anchor

**Total Tool Length: 85.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Palmer Oil  
PO Box 399  
Garden City, KS 67846  
ATTN: Wyatt Urban

**21-32s-37w Stevens,KS**  
**Laura #21-4**  
Job Ticket: 51912      **DST#: 1**  
Test Start: 2013.12.30 @ 10:17:39

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	62000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3800.00 ppm			
Filter Cake: 0.02 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
184.00	GMWCO 24%G 10%M 20%W 46%O	0.905
298.00	GOCM 22%G 10%O 68%M	4.180

Total Length: 482.00 ft      Total Volume: 5.085 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: RW w as .24 @ 36 degrees

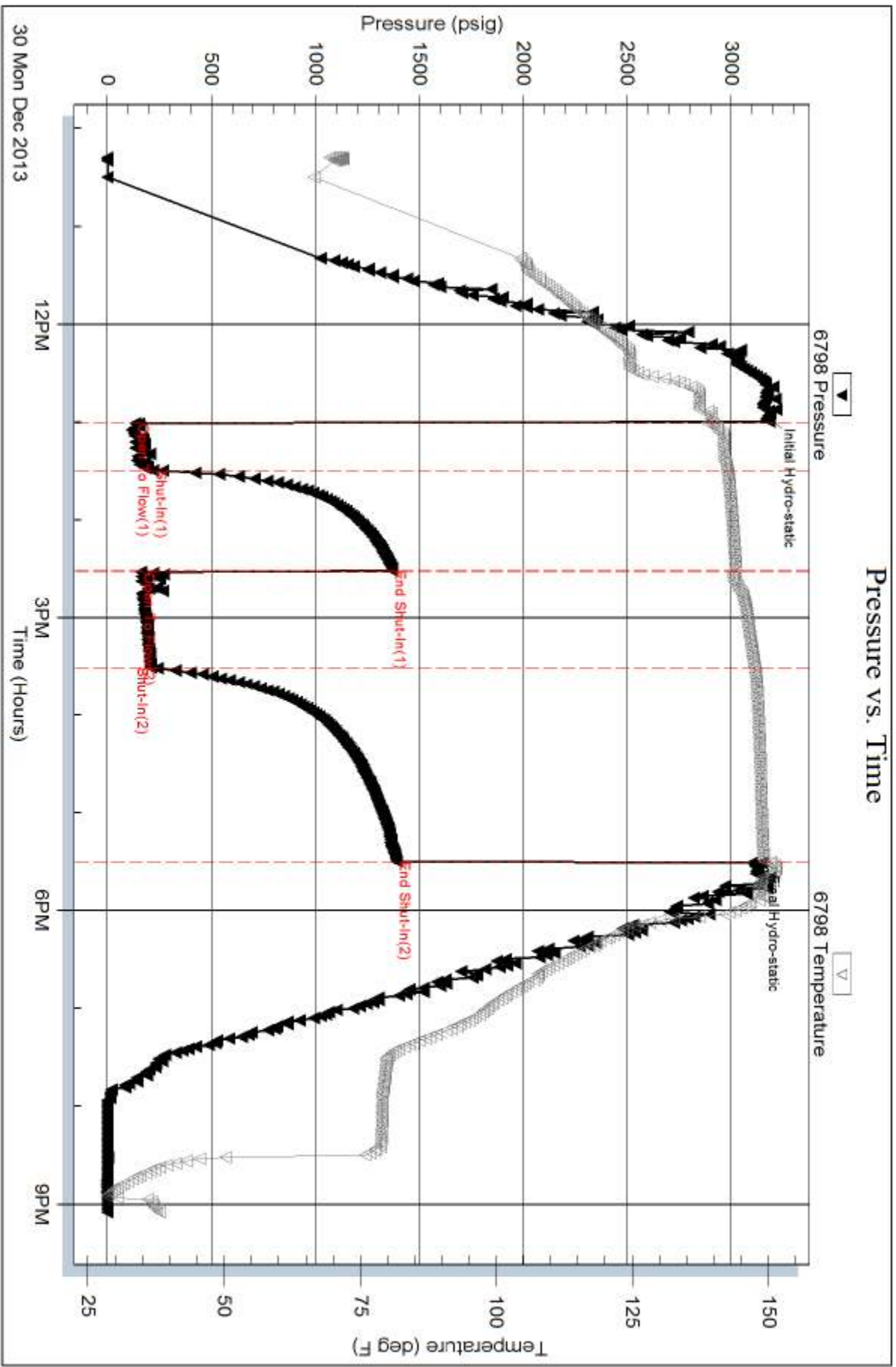
Serial #: 6798

Inside

Palmer Oil

Laura #21-4

DST Test Number: 1



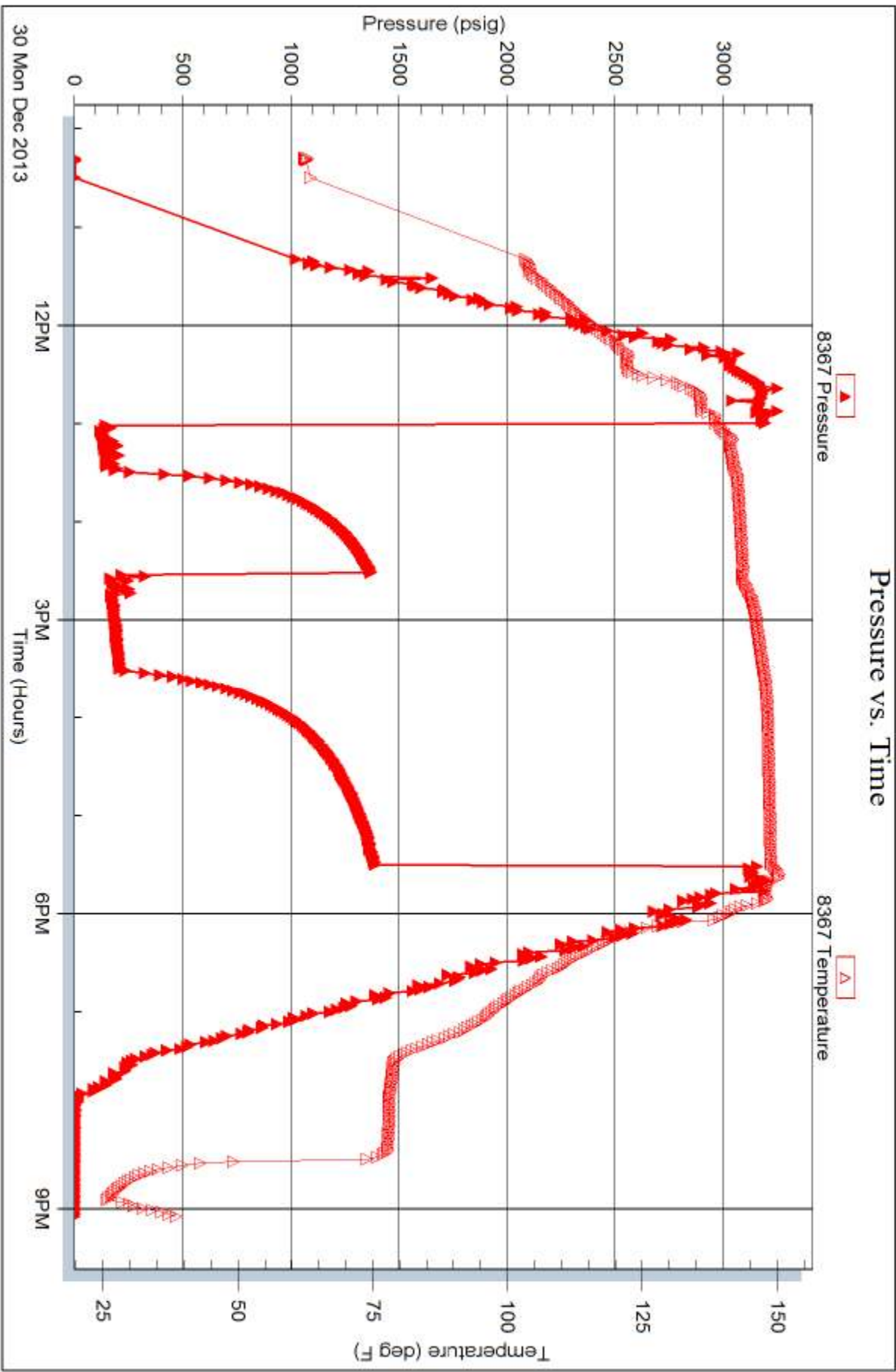


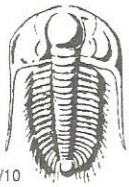
Serial #: 8367

Outside Palmer Oil

Laura #21-4

DST Test Number: 1





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51912

Well Name & No. Laura 21-4 Test No. 1 Date 12/30/13  
 Company Palmer Oil Elevation 3154 KB 3141 GL  
 Address PO Box 399 Garden City, KS 67846  
 Co. Rep / Geo. Wyatt Urban Rig Duke 9  
 Location: Sec. 21 Twp. 32S Rge. 37W Co. Stevens State KS

Interval Tested 6341 - 6400 Zone Tested ST. LOUIS  
 Anchor Length 59 Drill Pipe Run 6158 Mud Wt. 9.5  
 Top Packer Depth 6346 Drill Collars Run 184 Vis 52  
 Bottom Packer Depth 6341 Wt. Pipe Run 0 WL 2.8  
 Total Depth 6400 Chlorides 3800 ppm System LCM 2#

Blow Description IF: Strong Blow, BOB in 3 1/2 minutes  
ISI: NO Blow Back

FF: Strong Blow, BOB in 1 minute, GTS in 10 minutes, TSTM

FSL: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>5860</u>	<u>GIP</u>				
<u>298</u>	<u>GOCM</u>	<u>22</u>	<u>10</u>		<u>68</u>
<u>184</u>	<u>GMWCO</u>	<u>24</u>	<u>46</u>	<u>20</u>	<u>10</u>

Rec Total 472 BHT 150 Gravity NIC API RW .24 @ 36° F Chlorides 62000 ppm

(A) Initial Hydrostatic 3178  Test 1450 T-On Location 09:15  
 (B) First Initial Flow 134  Jars 250 T-Started 10:17  
 (C) First Final Flow 219  Safety Joint 75 T-Open 13:00  
 (D) Initial Shut-In 1369  Circ Sub \_\_\_\_\_ T-Pulled 17:29  
 (E) Second Initial Flow 162  Hourly Standby \_\_\_\_\_ T-Out 21:05  
 (F) Second Final Flow 207  Mileage 165 210rt 325.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1390  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 3101  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer 320  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 2420.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 120  
 Sub Total 2100.50

Approved By \_\_\_\_\_ Our Representative [Signature]

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