



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1183792  
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: \_\_\_\_\_

1183792

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> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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**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 04477 A

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

DATE OF JOB	12/2/13	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 Warrior			LEASE	Willis		23-5		WELL NO.							
ADDRESS				COUNTY	Stevens		STATE									KS
CITY				STATE												
AUTHORIZED BY	Tyce			SERVICE CREW	Tommy, Daniel											
				JOB TYPE:	842 LS.											
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	12/1	DATE	AM	PM	TIME	3:00				
194939	9					ARRIVED AT JOB	12/1		AM	PM	5:00					
3722337426	9					START OPERATION	12/2		AM	PM	10:17					
3046319566	9					FINISH OPERATION			AM	PM	1:09					
						RELEASED			AM	PM	2:00					
						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		3640 00
CL103	60/40 POZ	SK	50		600 00
CC113	Gypsum	Lb	940		705 00
CC111	Salt	Lb	1107		553 50
CC103	C-15	Lb	113		1412 50
CC105	C-41P	Lb	47		188 00
CC201	Gilsonite	Lb	1000		670 00
CF1251	Auto fill float shoe	EA	1		360 00
CF607	Latch Down Plug	EA	1		400 00
CF4452	Centralizers	EA	12		900 00
CF4552	Cement Basket	EA	1		955 00
CF3000	Through lock	EA	1		34 00
CC151	mud flush	gal	500		430 00
E101	Heavy Equip Mileage	Mi	100		700 00
CE240	Blending & Mixing Charge	SK	250		350 00
E113	Bulk Delivery	Tm	578		924 00
CE207	Depth Change 6000' to 7000'	4hrs	1		3240 00
CF504	Plug Container	Box	1		250 00
E100	Pickup Mileage	Mi	50		212 50

SUB TOTAL 10,854.68

CHEMICAL / ACID DATA:


SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$

TOTAL

SERVICE REPRESENTATIVE

*Chad Hinz*

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY

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

FIELD SERVICE ORDER NO.





### Cement Report

Customer: <u>Palmer Oil / American Warrior</u>	Lease No.	Date: <u>12/2/13</u>
Lease: <u>Willis</u>	Well # <u>23-5</u>	Service Receipt
Casing: <u>5 1/2</u>	Depth	County
Job Type: <u>L.S.</u>	Formation	Legal Description

Pipe Data		Perforating Data		Cement Data
Casing size: <u>5 1/2</u>	Tubing Size	Shots/Ft		Lead <u>200 SK</u>
Depth: <u>6495.69</u>	Depth	From	To	<del>AA-2</del> @ <u>14.8 #</u>
Volume: <u>154</u>	Volume	From	To	<del>1.51</del> <u>6.64</u>
Max Press: <u>2000</u>	Max Press	From	To	Tail in <u>50 SK</u>
Well Connection: <u>P.C.</u>	Annulus Vol.	From	To	<u>60/40 POZ</u>
Plug Depth	Packer Depth	From	To	for <u>R+M</u>

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<u>17:00</u>					<u>on loc, spot &amp; R.V., Safety into</u>
<u>0:17</u>	<u>2500</u>				<u>Test Lines</u>
<u>0:19</u>	<u>250</u>		<u>12</u>	<u>4</u>	<u>mvcl &amp; wash</u>
<u>0:25</u>					<u>Plug R+M</u>
<u>0:32</u>	<u>350</u>		<u>0</u>	<u>5</u>	<u>start mixing @ 14.8 #</u>
<u>0:42</u>	<u>0</u>		<u>53.6</u>		<u>Finished mixing, washup, Prep</u>
<u>0:47</u>	<u>230</u>		<u>0</u>	<u>7.5</u>	<u>start disp</u>
<u>0:07</u>	<u>750</u>		<u>144</u>	<u>3</u>	<u>Slow Rate</u>
<u>0:09</u>	<u>910-1750</u>		<u>154</u>	<u>.</u>	<u>Plug down</u>
					<u>Job Complete</u>

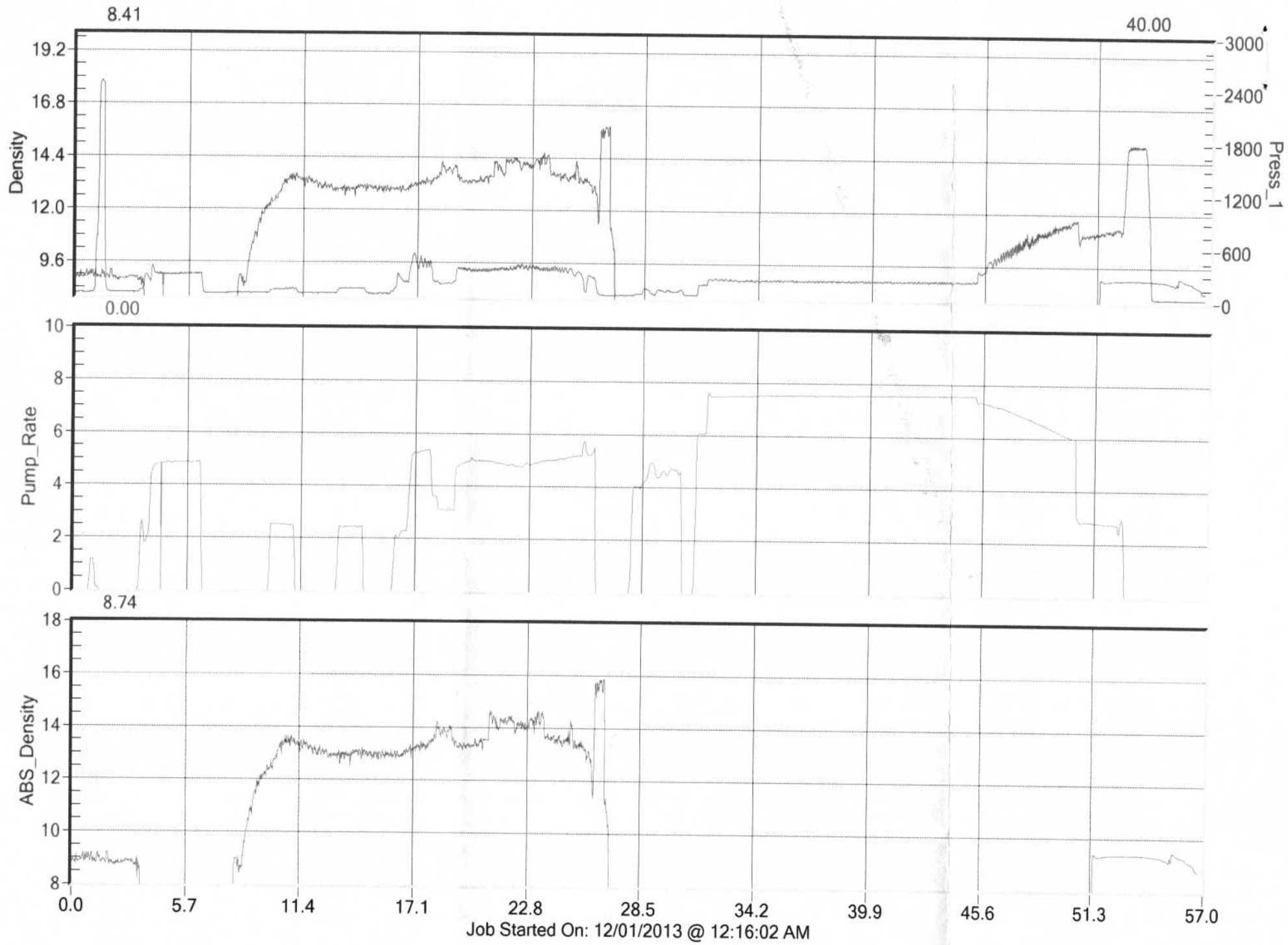
Service Units	<u>75939</u>	<u>372337726</u>	<u>3046319566</u>	
Driver Names	<u>Chad</u>	<u>T. Marcelus</u>	<u>D. Beck</u>	

Kevin Whites Customer Representative     
 Jerry Bennett Station Manager     
 Chad H. Cementer



# PALMER OIL AMERICAN WARRIOR

WILLIS 23-5



# ALLIED OIL & GAS SERVICES, LLC 052352

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Liberal ks

DATE <u>11-21-13</u>	SEC <u>23</u>	TWP. <u>32S</u>	RANGE <u>37W</u>	CALLED OUT	ON LOCATION	JOB START <u>11:00</u>	JOB FINISH <u>12:00 MN.</u>
LEASE <u>Willis</u>	WELL # <u>23-5</u>	LOCATION <u>Hugoton ks, N40 CRU,</u>			COUNTY <u>Stevens</u>	STATE <u>ks</u>	
OLD OR NEW (Circle one)							

CONTRACTOR Duke #9

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 1760 ft

CASING SIZE 8 7/8 24 F DEPTH 1758 ft

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX 1200 PSI MINIMUM

MEAS. LINE SHOE JOINT 42.61 ft

CEMENT LEFT IN CSG. 42.61

PERFS.

DISPLACEMENT 109.27 BBIS

OWNER Palmer Oil

CEMENT

AMOUNT ORDERED 625 sk 65/35 6% Gel,  
3% CC 1/4 Flosole,  
200 sk "A" 3% CC 1/4 1blsk Flosole

COMMON "A" 200 sk	@ 17.90	3,580.00
POZMIX	@	
GEL	@	
CHLORIDE 27 sk	@ 64.00	1,728.00
ASC	@	
ALC2A 1"A" 625 sk	@ 16.50	10,312.50
Flosole 206 lb	@ 2.97	611.82
	@	
	@	
	@	
	@	
	@	
HANDLING 932.03	@ 2.48	2,311.43
MILEAGE 1576.80 Ton M.	2.60	4,099.68
		TOTAL <u>22,643.43</u>

EQUIPMENT

PUMP TRUCK CEMENTER Ruben Chavez

# 530-584 HELPER Cesar Pavia

BULK TRUCK

# 470-467 DRIVER Gregory Randall

BULK TRUCK

# DRIVER

REMARKS:

SERVICE

DEPTH OF JOB		<u>1760 ft</u>
PUMP TRUCK CHARGE		<u>2,213.75</u>
EXTRA FOOTAGE	@	
MILEAGE heavy 40M.	@ 7.70	308.00
MANIFOLD 1 head 1	@ 275.00	275.00
Light Vehicle 40M.	@ 4.10	176.00
	@	
		TOTAL <u>2,972.75</u>

CHARGE TO: Palmer Oil

STREET

CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

Guide Shoe	1	@ 250.70	250.70
Afu float Valve	1	@ 239.00	239.00
Centralizer	3	@ 37.50	112.50
Cement Basket	1	@ 226.50	226.50
Top rubber plug	1	@ 76.25	76.25
			TOTAL <u>904.95</u>

To: Allied Oil & Gas Services, LLC.

You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)

TOTAL CHARGES 25,616.18 x .8 + 904.95

DISCOUNT IF PAID IN 30 DAYS

20,492.94 + 904.95

**NET = 21,397.89**

PRINTED NAME Emigdio Rojas

SIGNATURE Emigdio Rojas





## DRILL STEM TEST REPORT

Prepared For: **Palmer Oil**

3118 N Cummings Rd  
Garden City, KS 67846

ATTN: Wyatt Urdan

**Willis #23-5**

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

Start Date: 2013.11.29 @ 18:36:02

End Date: 2013.11.30 @ 08:05:02

Job Ticket #: 54666                      DST #: 1

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

Printed: 2013.12.03 @ 15:20:28



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Palmer Oil  
 3118 N Cummings Rd  
 Garden City, KS 67846  
 ATTN: Wyatt Urdan

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

**Willis #23-5**

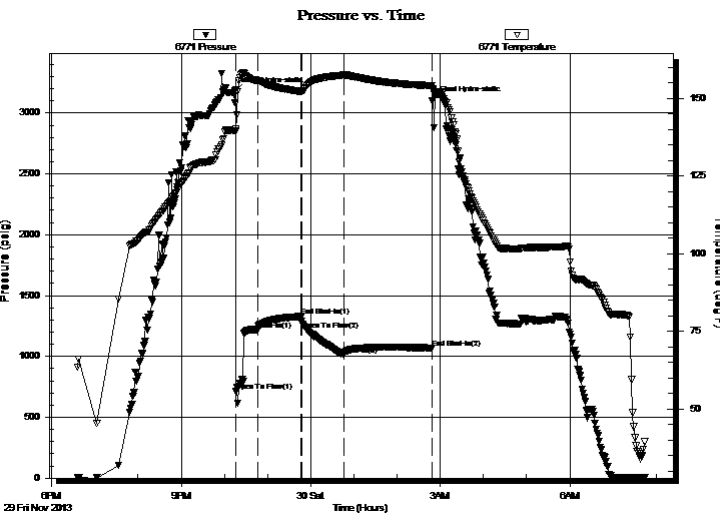
Job Ticket: 54666 **DST#: 1**  
 Test Start: 2013.11.29 @ 18:36:02

## GENERAL INFORMATION:

Formation: **St Louis**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:16:02  
 Time Test Ended: 08:05:02  
 Interval: **6295.00 ft (KB) To 6375.00 ft (KB) (TVD)**  
 Total Depth: 6375.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3120.00 ft (KB)  
 3109.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 6771 Inside**  
 Press@RunDepth: 1010.90 psig @ 6296.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.11.29 End Date: 2013.11.30 Last Calib.: 2013.11.30  
 Start Time: 18:36:02 End Time: 07:44:02 Time On Btm: 2013.11.29 @ 22:14:17  
 Time Off Btm: 2013.11.30 @ 02:49:17

**TEST COMMENT:** Slide tool 40' to bottom B.O.B. @ open  
 8" return blow  
 B.O.B in 4 1/2 min. G.T.S. in 10 min to weak to gauge  
 Bled off throughout shutin



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3179.02	139.68	Initial Hydro-static
2	711.90	139.45	Open To Flow (1)
32	1215.72	155.67	Shut-In(1)
93	1328.64	152.18	End Shut-In(1)
93	1292.46	152.17	Open To Flow (2)
152	1010.90	157.51	Shut-In(2)
275	1069.89	154.10	End Shut-In(2)
275	3100.11	153.18	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	under circ sub g m c o 20g 35m 45o	0.62
2394.00	c g o 25g 75o (reversed out)	33.02
126.00	c g o 20g 80o (dumped)	1.77
0.00	gas to surface 10min on 2nd flow	0.00
0.00	to weak to gauge	0.00

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Palmer Oil  
 3118 N Cummings Rd  
 Garden City, KS 67846  
 ATTN: Wyatt Urdan

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

**Willis #23-5**

Job Ticket: 54666 **DST#: 1**

Test Start: 2013.11.29 @ 18:36:02

### GENERAL INFORMATION:

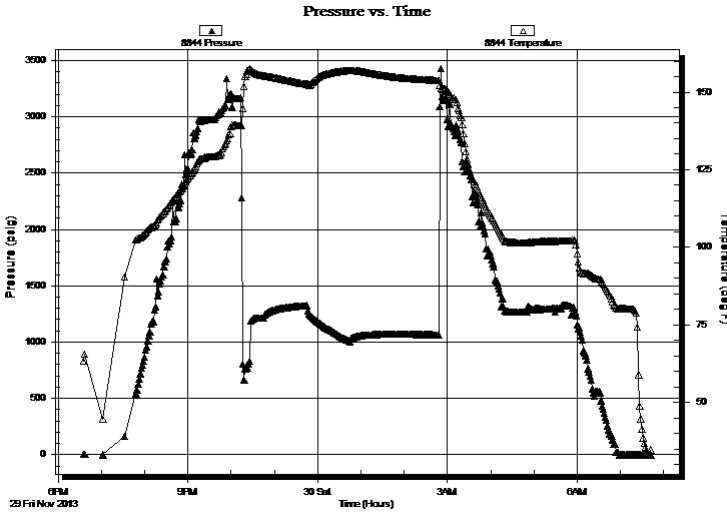
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 Total Depth: 6375.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3120.00 ft (KB)  
 3109.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8844 Outside**

Press@RunDepth: psig @ 6296.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.11.29 End Date: 2013.11.30 Last Calib.: 2013.11.30  
 Start Time: 18:35:18 End Time: 07:43:03 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** Slide tool 40' to bottom B.O.B. @ open  
 8" return blow  
 B.O.B in 4 1/2 min. G.T.S. in 10 min to weak to gauge  
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### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Palmer Oil  
3118 N Cummings Rd  
Garden City, KS 67846  
ATTN: Wyatt Urdan

**23-32s-37w Stevens,KS**  
**Willis #23-5**  
Job Ticket: 54666 **DST#: 1**  
Test Start: 2013.11.29 @ 18:36:02

## Tool Information

Drill Pipe:	Length: 6093.00 ft	Diameter: 3.80 inches	Volume: 85.47 bbl	Tool Weight: 2000.00 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: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 130000.0 lb
			<u>Total Volume: 86.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	6295.00 ft			Final 87000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	108.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			6268.00	
Shut In Tool	5.00			6273.00	
Hydraulic tool	5.00			6278.00	
Jars	5.00			6283.00	
Safety Joint	3.00			6286.00	
Packer	5.00			6291.00	28.00 Bottom Of Top Packer
Packer	4.00			6295.00	
Stubb	1.00			6296.00	
Recorder	0.00	6771	Inside	6296.00	
Recorder	0.00	8844	Outside	6296.00	
Perforations	9.00			6305.00	
Change Over Sub	1.00			6306.00	
Drill Pipe	63.00			6369.00	
Change Over Sub	1.00			6370.00	
Bullnose	5.00			6375.00	80.00 Bottom Packers & Anchor

**Total Tool Length: 108.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Palmer Oil  
3118 N Cummings Rd  
Garden City, KS 67846  
ATTN: Wyatt Urdan

**23-32s-37w Stevens,KS**  
**Willis #23-5**  
Job Ticket: 54666 **DST#: 1**  
Test Start: 2013.11.29 @ 18:36:02

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 44 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 2100.00 ppm		
Filter Cake: 1.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	under circ sub g m c o 20g 35m 45o	0.620
2394.00	c g o 25g 75o (reversed out )	33.017
126.00	c g o 20g 80o (dumped )	1.767
0.00	gas to surface 10min on 2nd flow	0.000
0.00	to weak to gauge	0.000

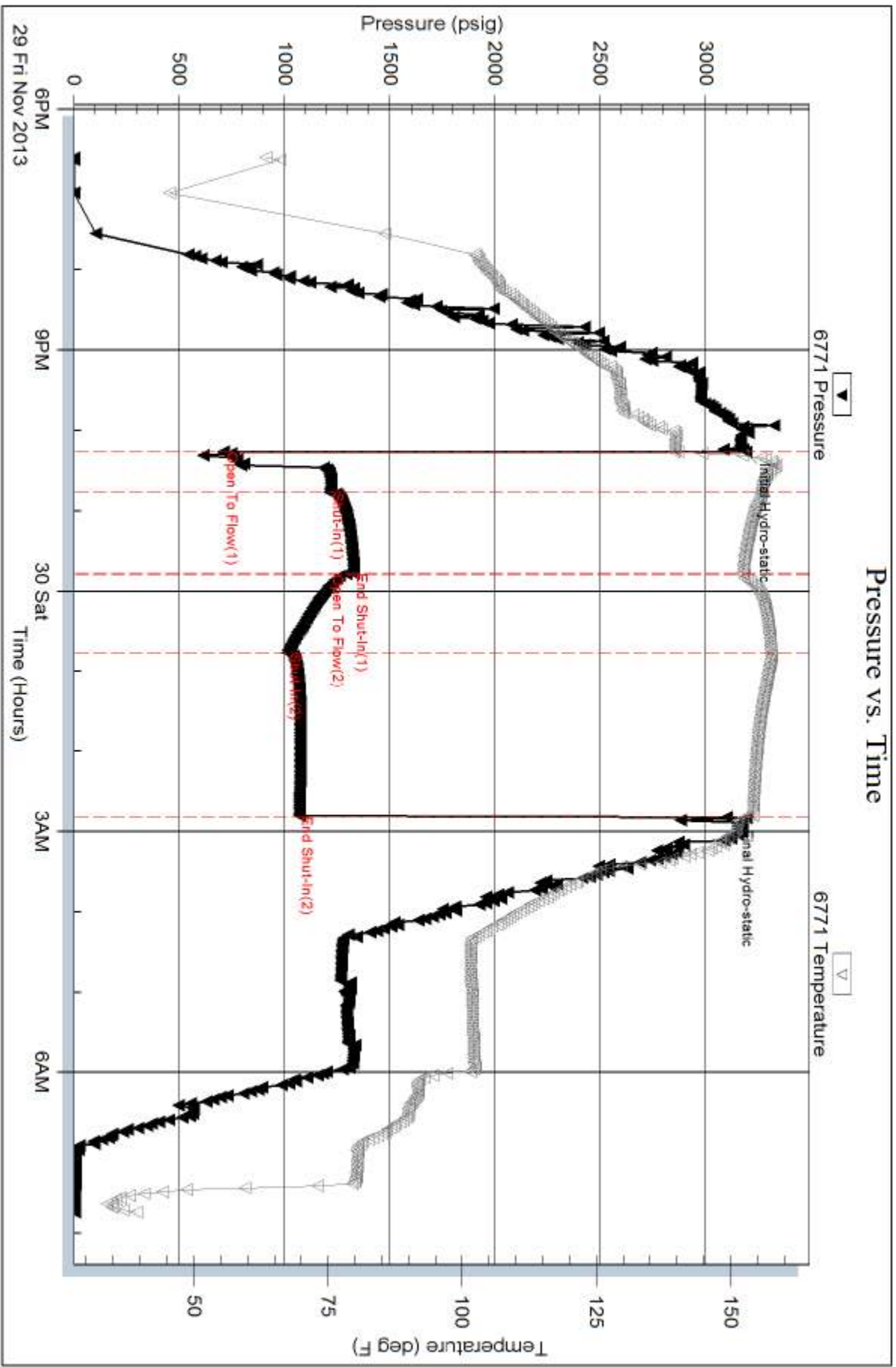
Total Length: 2646.00 ft      Total Volume: 35.404 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

Serial #: 6771

Inside Palmer Oil

Wells #23-5

DST Test Number: 1

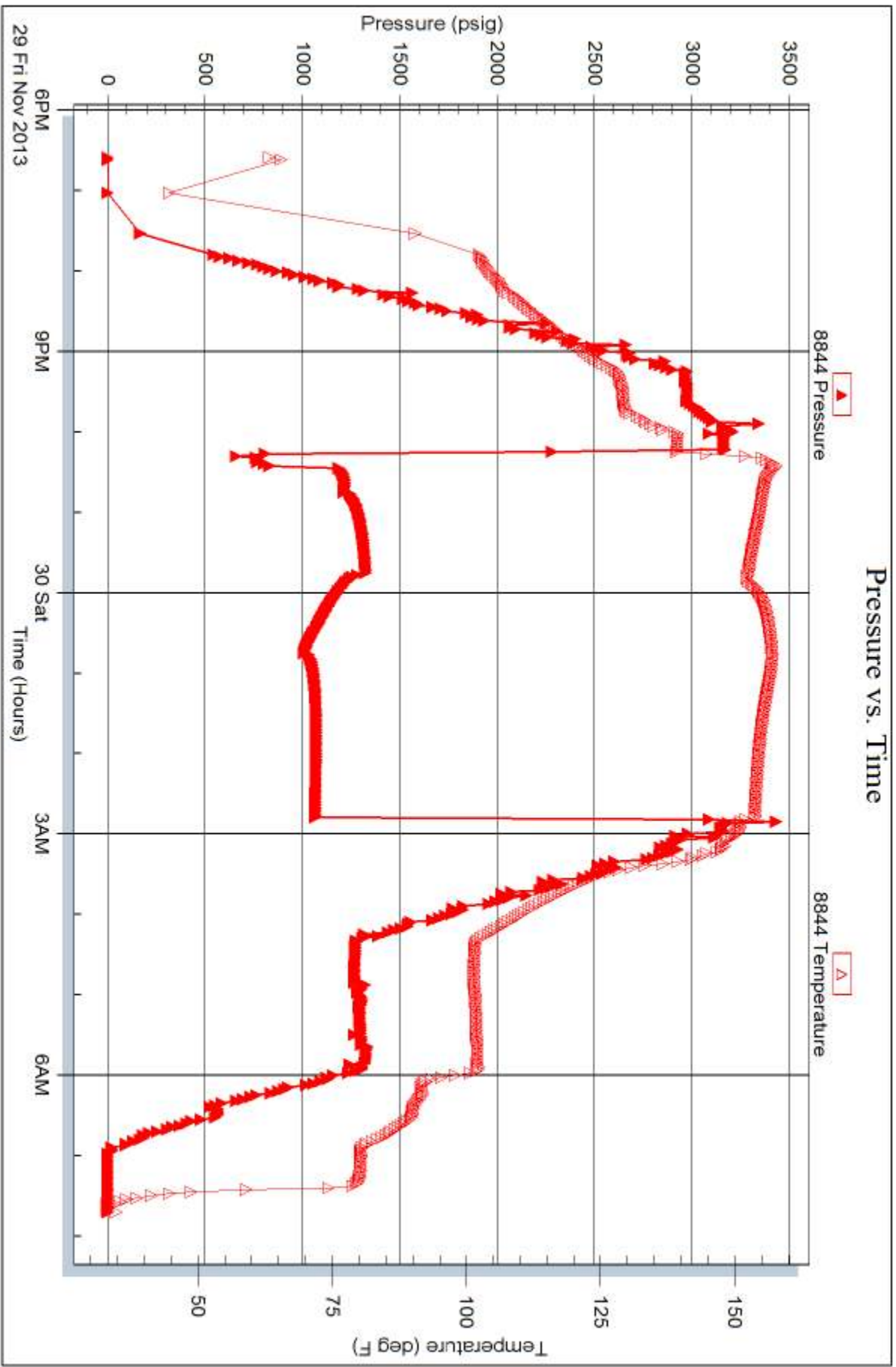


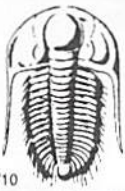
Serial #: 8844

Outside Palmer Oil

Wells #23-5

DST Test Number: 1





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 54666

Well Name & No. Willis # 23-5 Test No. #1 Date 11/30/13  
 Company Palmer Oil Inc. Elevation 3120 KB 3109 GL  
 Address 3118 N. Cummings Rd Garden City, KS 67846  
 Co. Rep / Geo. Wyatt Urban Rig Perke #9  
 Location: Sec. 23 Twp. 32 Rge. 37 Co. Stevens State KS

Interval Tested 6295 6375 Zone Tested St. Louis  
 Anchor Length 80 Drill Pipe Run 6093' Mud Wt. 9.3  
 Top Packer Depth 6290 Drill Collars Run 188' Vis 40  
 Bottom Packer Depth 6295 Wt. Pipe Run --- WL 7.2  
 Total Depth 6375 Chlorides 2100 ppm System LCM #2

Blow Description Slide tool 40' to bottom B.O.B. @ open  
8 in Return blow dried in 58 min.  
B.O.B. in 4 1/2 min. G.T.S. 10 min to weak to gauge  
Bled off throughout shut-in

Rec	Feet of	%gas	%oil	%water	%mud
<u>1250</u>	<u>CGO (Dumped)</u>	<u>20</u>	<u>80</u>		
<u>2394</u>	<u>CGO (Reversed out)</u>	<u>25</u>	<u>75</u>		
<u>1260'</u>	<u>SMCO (under line sub)</u>	<u>20</u>	<u>45</u>		<u>35</u>
	<u>Gas to surface 10 min on 2<sup>nd</sup> run</u>				
	<u>Flow to weak to gauge</u>				

Rec Total 26410 BHT 158° Gravity 44 API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 3179  Test 1450 T-On Location 17:10  
 (B) First Initial Flow 711  Jars 250 T-Started 18:35  
 (C) First Final Flow 1215  Safety Joint 75 T-Open 22:15  
 (D) Initial Shut-In 1328  Circ Sub 50<sup>cc</sup> T-Pulled 02:45  
 (E) Second Initial Flow 1292  Hourly Standby --- T-Out 08:05  
 (F) Second Final Flow 1010  Mileage 204 RT 316.20  
 (G) Final Shut-In 1069  Sampler ---  
 (H) Final Hydrostatic 3100  Straddle ---  Ruined Shale Packer ---  
 Shale Packer ---  Ruined Packer 320  
 Extra Packer ---  Extra Copies ---  
 Extra Recorder --- Sub Total 0  
 Day Standby --- Total 2461.20  
 Accessibility --- MP/DST Disc't ---

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 120

Sub Total 2141.20

Approved By Wyatt Urban Our Representative [Signature]  
 TriLOBITE TESTING INC. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# Musgrove

**PETROLEUM CORPORATION**  
Claflin, Kansas

### NOTES

Company: Palmer Oil, Inc.

Lease: Willis 23-5

Field: Willis

Location: NE-NW-SE-NE (1600' FNL& 700' FEL)

Sec: 23 Twsp: 32S Rge: 37W

County: Stevens State: Kansas

KB: 3120' GL: 3107'

API #: 15-189-22825-00-00

Contractor: Duke Drilling Inc. (Rig #9)

Spud: 11/20/2013 Comp: 12/01/2013

RTD: 6500' LTD: 6475'

Mud Up: 4600' 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@ 1700'

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

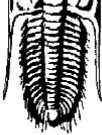
## PALMER OIL, INC. WELL COMPARISON SHEET

DRILLING WELL					COMPARISON WELL				COMPARISON WELL					
Palmer Oil, Willis 23-5 NE-NW-SE-NE					EOG RESOURCES-WILLIS 23-2 C-N2-SW-NE 23-32-37				EOG RESOURCES Willis 23-2 S2-NE-NE-SE 23-32S-37W					
23-32-37 3120 KB					3116 KB				Structural Relationship		3119 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log		
Topeka										3119	-3119			
Heebner														
B. Heebner	4159	-1039			4162	-1046	7		4160	-1041	2			
Lansing	4288	-1168			4283	-1167	-1		4275	-1156	-12			
Marmaton	4948	-1828	4966	-1846	4962	-1846	18	0	4967	-1848	20	2		
Cherokee	5150	-2030	5168	-2048					5167	-2048	18	0		
Morrow	5645	-2525	5639	-2519	5630	-2514	-11	-5	5634	-2515	-10	-4		
St. Gen	5970	-2850	5977	-2857										
St. Louis	6288	-3168	6298	-3178	6300	-3184	16	6	6293	-3174	6	-4		
St. Louis B	6355	-3235	6361	-3235										
RTD	6500	-3380			6500				6500					
LTD	6475	-3355												



### DRILL STEM TEST REPORT

Palmer Oil, Willis 23-5, NE-NW-SE-NE, 23-32-37, 3120 KB



TESTING, INC

Palmer Oil  
3118 N Cummings Rd  
Garden City, Ks 67846  
ATTN: Wyatt Urdan

23-32-37 Stevens, Ks

Willis # 23-5  
Job Ticket: 54666 DST#: 1  
Test Start: 2013.11.29 @ 18:36:02

GENERAL INFORMATION:

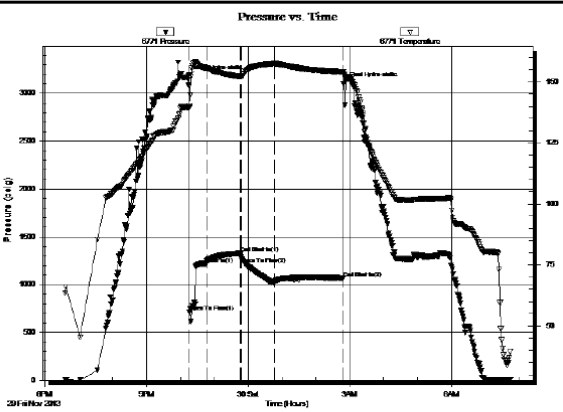
Formation: **St Louis**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 22:16:02  
Time Test Ended: 08:05:02  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Shane McBride  
Unit No: 55  
Interval: **6295.00 ft (KB) To 6375.00 ft (KB) (TVD)**  
Total Depth: 6375.00 ft (KB) (TVD)  
Reference Elevations: 3120.00 ft (KB)  
3109.00 ft (CF)  
Hole Diameter: 7.88 inches-Hole Condition: Poor  
KB to GR/CF: 11.00 ft

Serial #: 6771

Inside

Press@RunDepth: 1010.90 psig @ 6296.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.11.29 End Date: 2013.11.30 Last Calib.: 2013.11.30  
Start Time: 18:36:02 End Time: 07:44:02 Time On Btm: 2013.11.29 @ 22:14:17  
Time Off Btm: 2013.11.30 @ 02:49:17

TEST COMMENT: Slide tool 40' to bottom B.O.B. @ open  
8" return blow  
B.O.B in 4 1/2 min.G.T.S. in 10 min to weak to gauge  
Bled off throughout shutin



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3179.02	139.68	Initial Hydro-static
2	711.90	139.45	Open To Flow (1)
32	1215.72	155.67	Shut-h(1)
93	1328.64	152.18	End Shut-h(1)
93	1292.46	152.17	Open To Flow (2)
152	1010.90	157.51	Shut-h(2)
275	1069.89	154.10	End Shut-h(2)
275	3100.11	153.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	under circ sub g m c o 20g 35m 45o	0.62
2394.00	c g o 25g 75o (reversed out )	33.02
126.00	c g o 20g 80o (dumped )	1.77
0.00	gas to surface 10min on 2nd flow	0.00
0.00	to weak to gauge	0.00

Gas Rates

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

ROCK TYPES

■ Lmst fw<7   ■ shale, gry   ■ shale, red  
■ Lmst fw7>   ■ Carbon Sh

ACCESSORIES

FOSSIL

φ Oolite

OTHER SYMBOLS

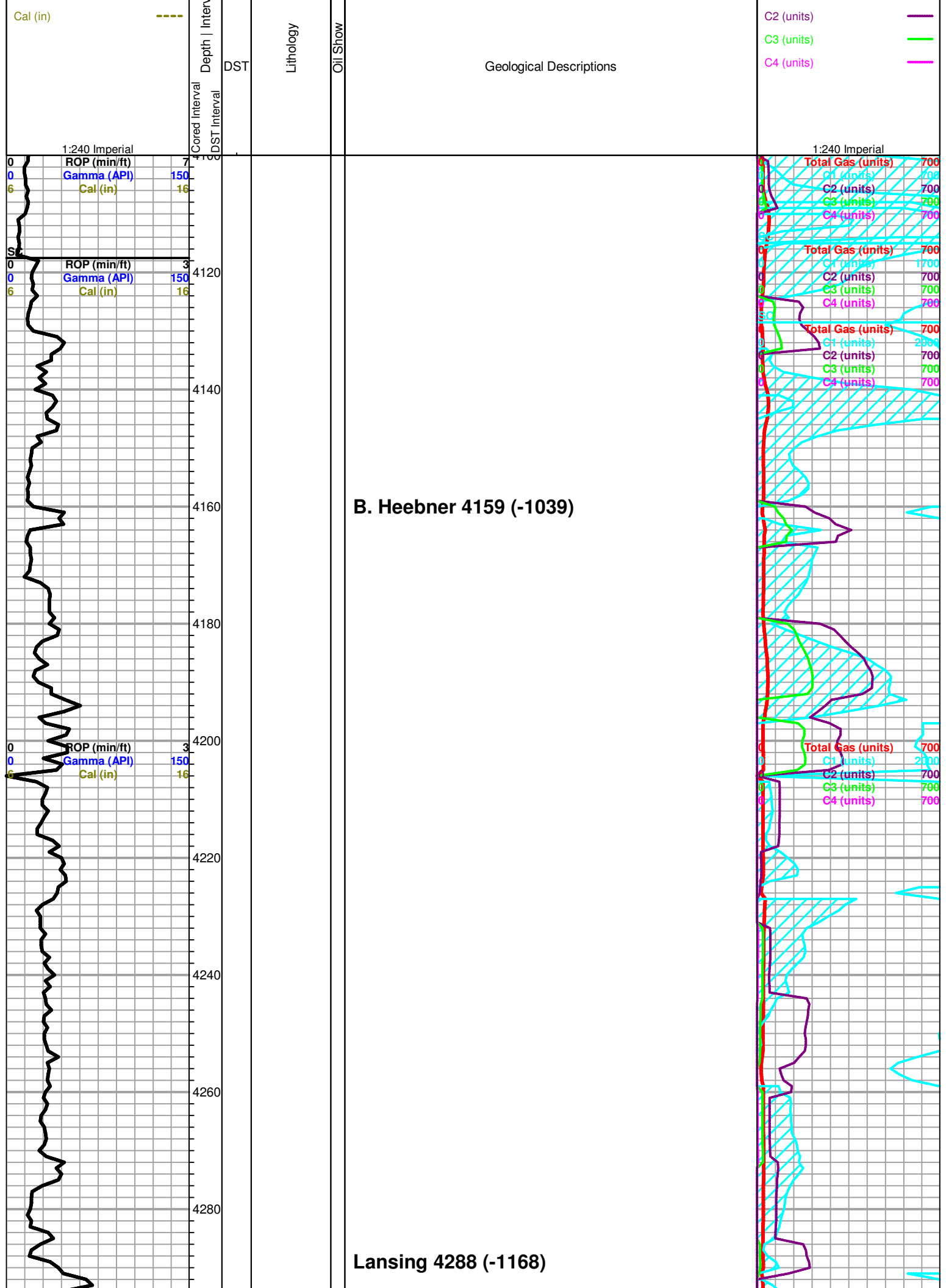
Oil Show

● Good Show  
● Fair Show  
● Poor Show  
● Spotted or Trace  
○ Questionable Stn  
D Dead Oil Stn  
■ Fluorescence  
\* Gas

DST

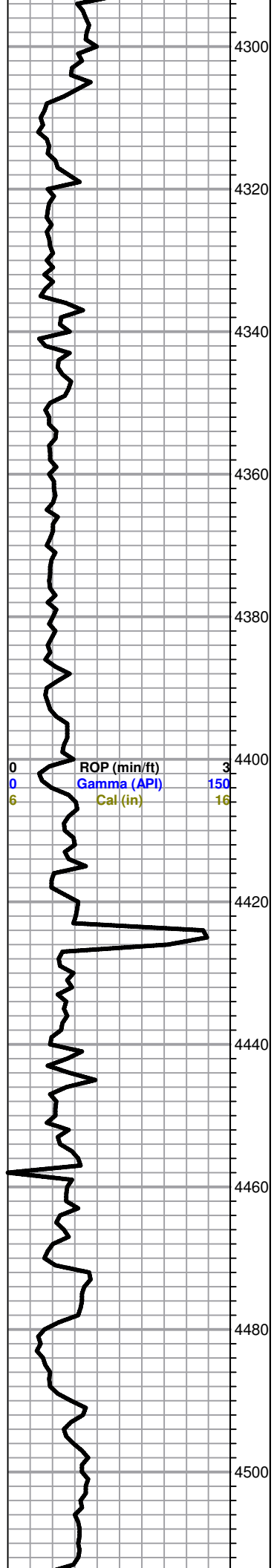
■ DST Int  
■ DST alt  
■ Core  
|| tail pipe

Curve Track #1	ROP (min/ft)	Gamma (API)	ra/s	TG, C1 - C5	Total Gas (units)	C1 (units)
----------------	--------------	-------------	------	-------------	-------------------	------------

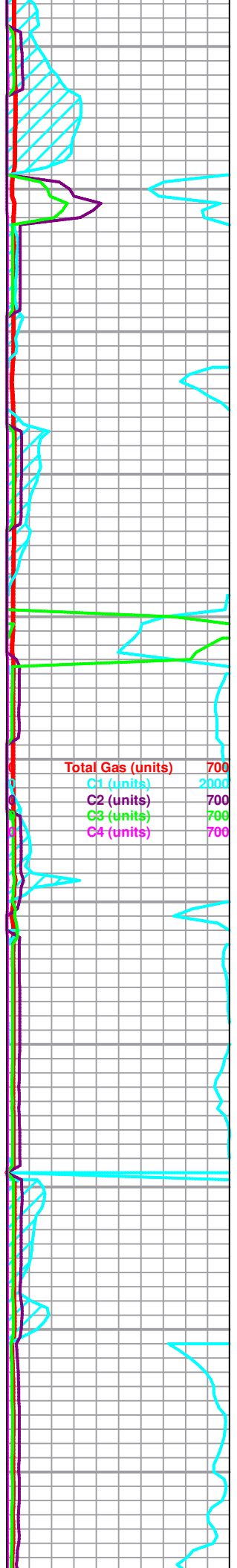


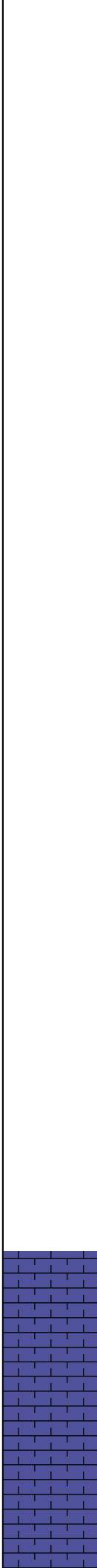
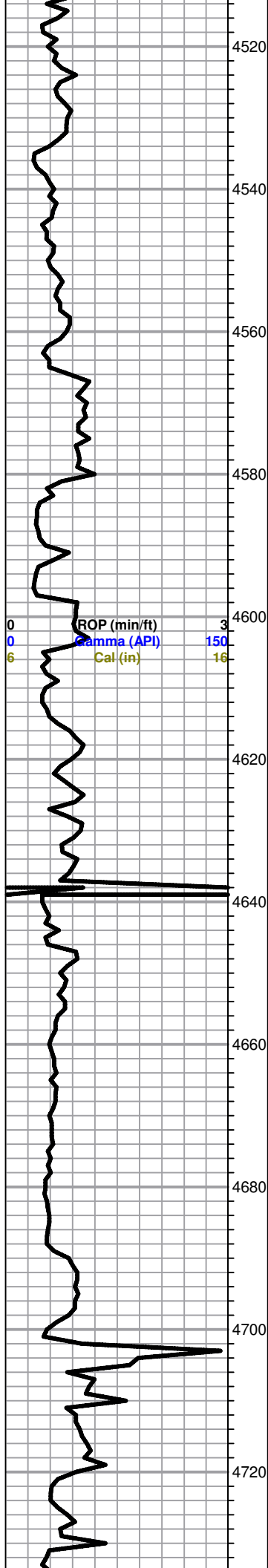
4300  
4320  
4340  
4360  
4380  
4400  
4420  
4440  
4460  
4480  
4500

ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16



Total Gas (units) 700  
C1 (units) 2000  
C2 (units) 700  
C3 (units) 700  
C4 (units) 700

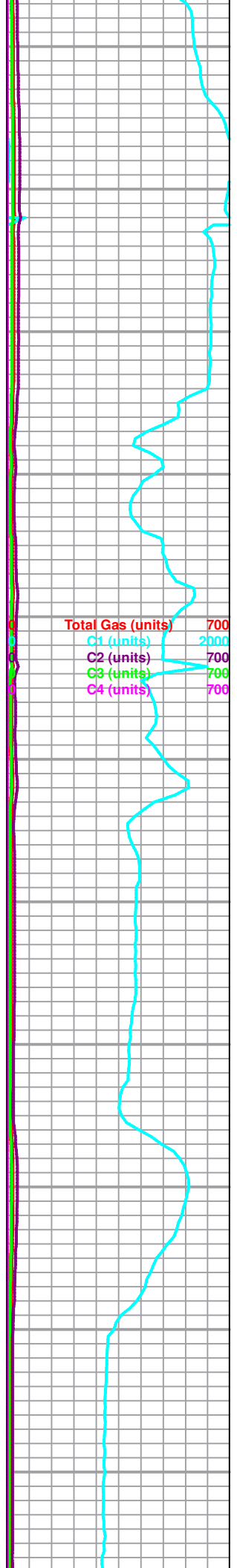




LS, cream to white, chalky, foss, poor visible porosity

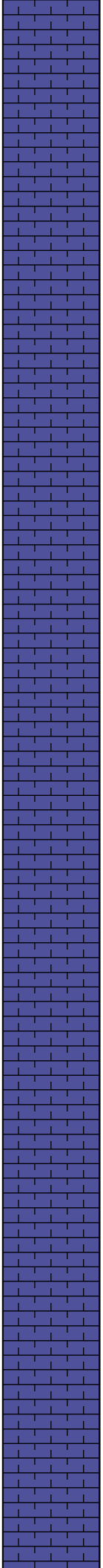
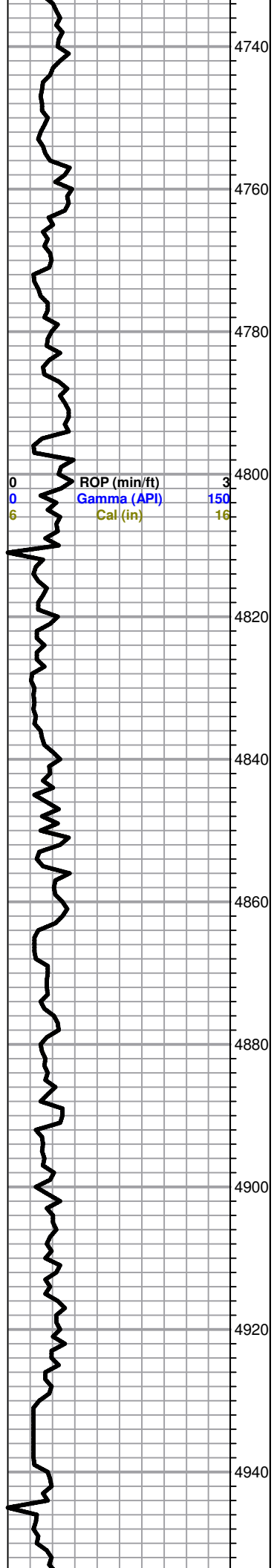
LS, cream to gray, mottled, chalky, foss, poorly developed ool in parts

LS, tan to gray, mottled, FXL, dense, foss, slightly chalky in parts



4740  
4760  
4780  
4800  
4820  
4840  
4860  
4880  
4900  
4920  
4940

ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16



LS, gray, mottled, FXL, chalky, poor visible porosity, slightly chalky

LS, tan to gray, mottled, FXL, cherty, poor visible porosity

LS, cream to tan, mottled, FXL, slightly dol. trace gray shale

Black carb shale

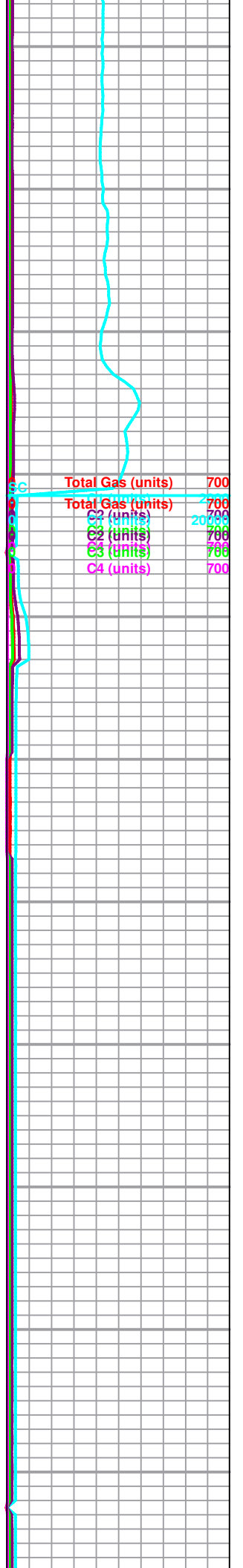
LS, tan to mottled, FXL, slightly cherty, poor visible porosity

LS, tan to brown, FXL, poor INXLN porosity, dense, no shows

LS, tan, ool, FXL, poorly developed, dense,

LS, cream to gray, mottled, FXL, chalky, dense, poor visible porosity

LS, cream to gray, dense, slightly cherty, poor visible porosity, ool in part



4960  
4980  
5000  
5020  
5040  
5060  
5080  
5100  
5120  
5140  
5160

**Marmaton 4966 (-1846)**

LS, tan to brown, FXL, dense, poor visible porosity, cherty

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

LS, A/A  
trace black, gray, maroon shales

LS, tan FXL, poor visible porosity, slightly chalky, few foss, no shows

LS, brown, gray, FXL, poor visible porosity, slightly cherty in parts, dense

Black Carb Shale

LS, cream to tan, chalky, few foss, poor scattered porosity

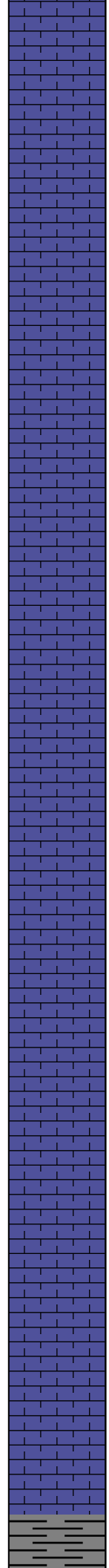
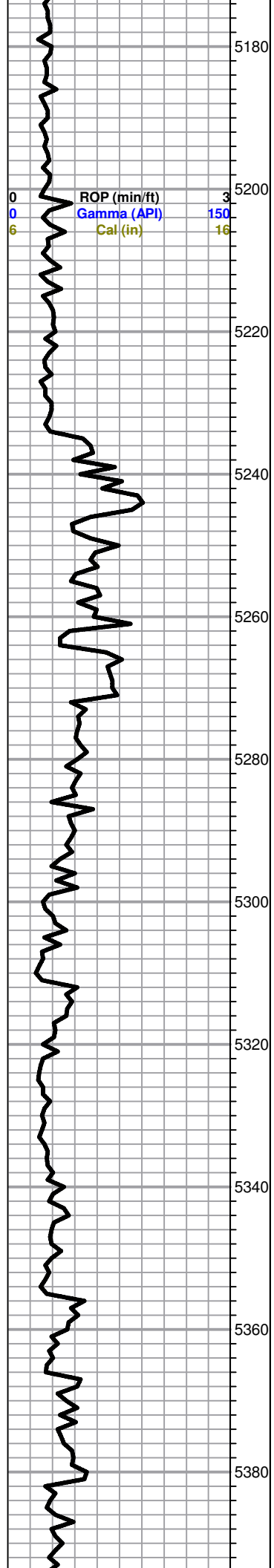
LS, A/A , Trace brown and gray shales

**Cherkoe 5168 (-2048)**

ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16

Total Gas (units) 700  
C1 (units) 20000  
C2 (units) 700  
C3 (units) 700  
Total Gas (units) 7000  
C1 (units) 20000  
C2 (units) 7000  
C3 (units) 7000  
C4 (units) 7000

**Gas readings off chart due to oil put down hole**



Black Carb Shale

LS, tan and brown, FXL, Trace sh. gray to black, brick red, soft

LS., gray, FXL, slightly cherty, dense, poor visible porosity, trace gray to black sh.

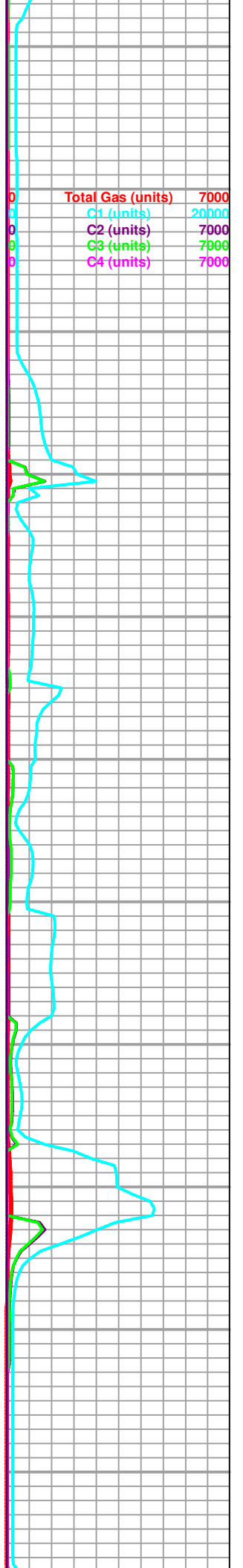
LS, gray, tan, FXL, sandy in parts, trace brown to black shale, silty

LS, gray to black, FXL, dense, poor visible porosity, slightly chalky

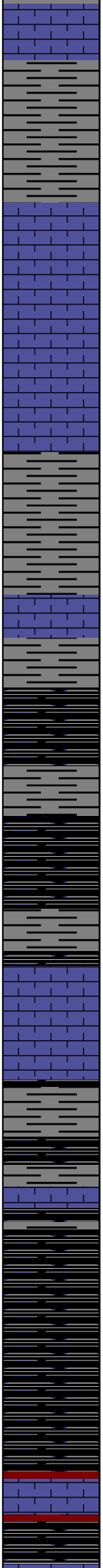
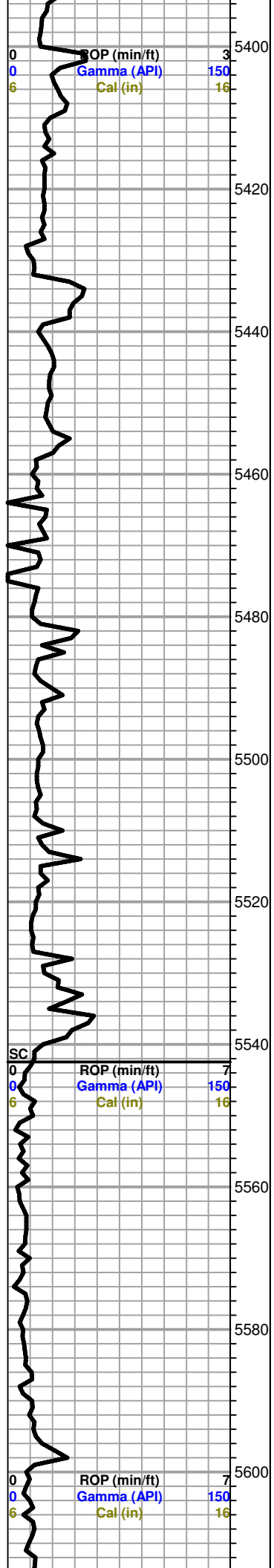
LS, cream to tan, FXL, poor visible porosity, Sh, green, black, gray

LS, tan to brown, FXL, dense, Sh, gray, silty soft

Sh, black, gray







Sh. black, gray

Sh, black, gray

Trc. LS, tan, FXL, cherty, poor vis porosity

Sh. black , gray

Sh. black carb

Sh. black carb and gray

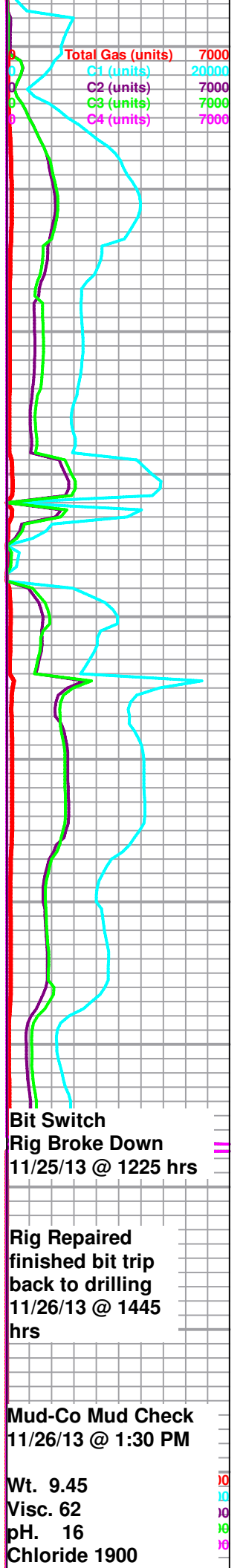
**Atoka 5528 (-2412)**

Sh. black carb

Sh. black - brick red, trace LS, Tan to brown, chalky

Sh. black carb

Trc. LS. cream to gray, chalky, few foss,  
Sh,black carb



5620  
5640  
5660  
5680  
5700  
5720  
5740  
5760  
5780  
5800  
5820

LS, cream to gray, A/A,  
Sh. black carb

**Morrow 5639 (-2519)**

LS, A/A

Sh. Black Carb

LS, gray, FXL, chalky, few foss, slightly cherty, poor scattered porosity

Sh. Black carb, gray, brick red, greenish

Sh, black to gray

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

Sh. black to gray, soft in parts

Black carb shale soft

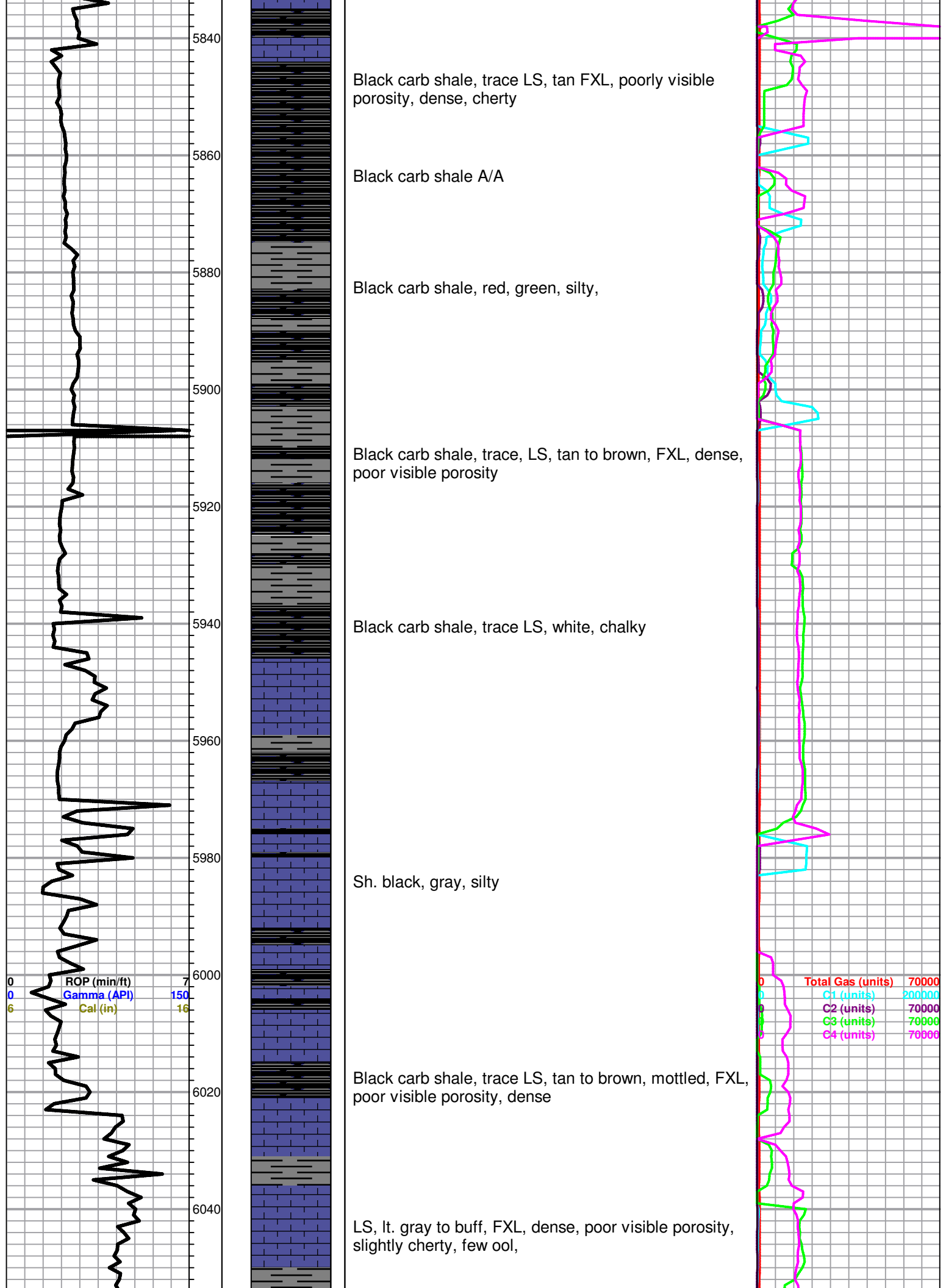
Sh. A/A, trc LS, tan poorly developed, chalky

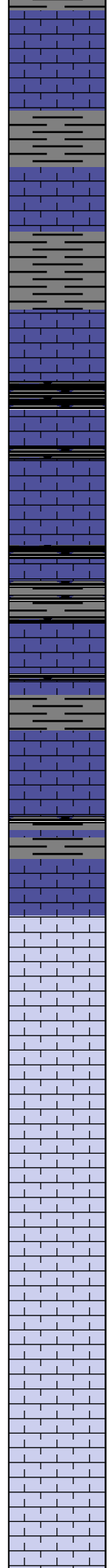
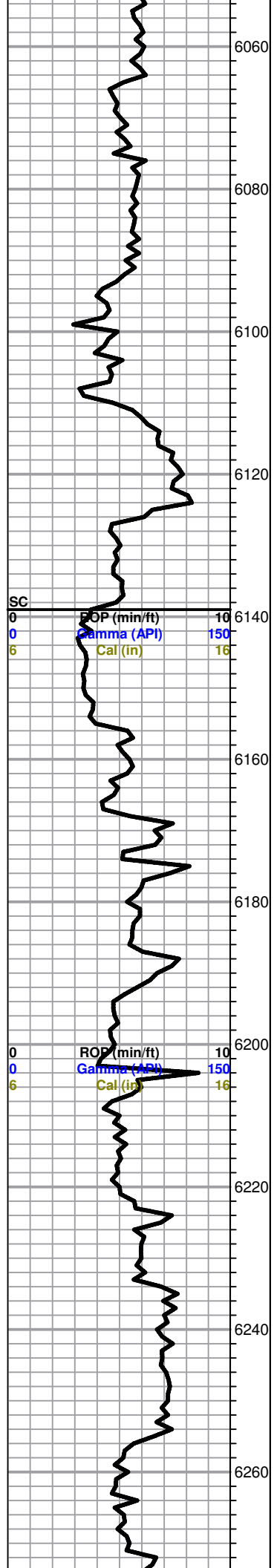
**Mud-Co Mud Check  
11/20/13 @ 9:10 AM**

**Wt. 9.2  
Visc. 50  
pH @ 9.0  
Chloride 1400 ppm  
LCM 1#**

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

Total Gas (units) 70000  
C1 (units) 20000  
C2 (units) 70000  
C3 (units) 70000  
C4 (units) 70000





LS, tan to buff, chalky, gray, FXL dnse, ool, foss, cherty, poor visible porosity, dense

Sh. gray, silty,

LS, tan FXL, foss, dense, slightly cherty, poor visible porosity

LS, tan, gray, FXL. dense, poor visible porosity, few ool, poorly developed, chalky

LS, brown FXL, cherty, dense, poor visible porosity, no shows, trace black carb shale

LS, tan to gray, FXL, dense, poor scattered porosity, Trc shale, red, black, gray,

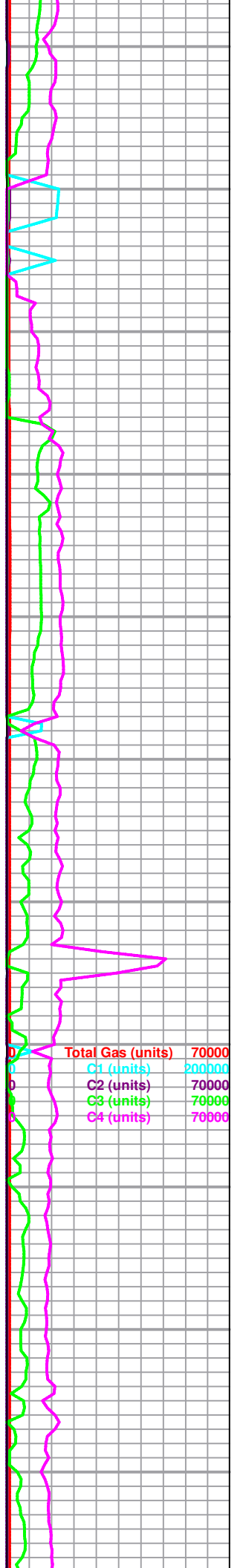
**Ste. Gen 6179 (-3059)**

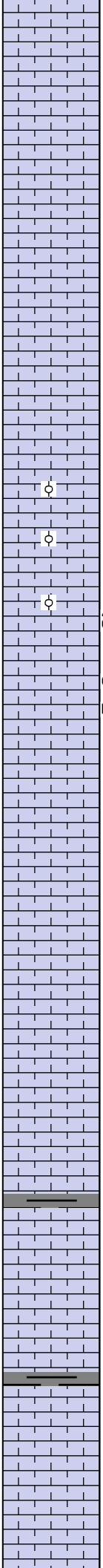
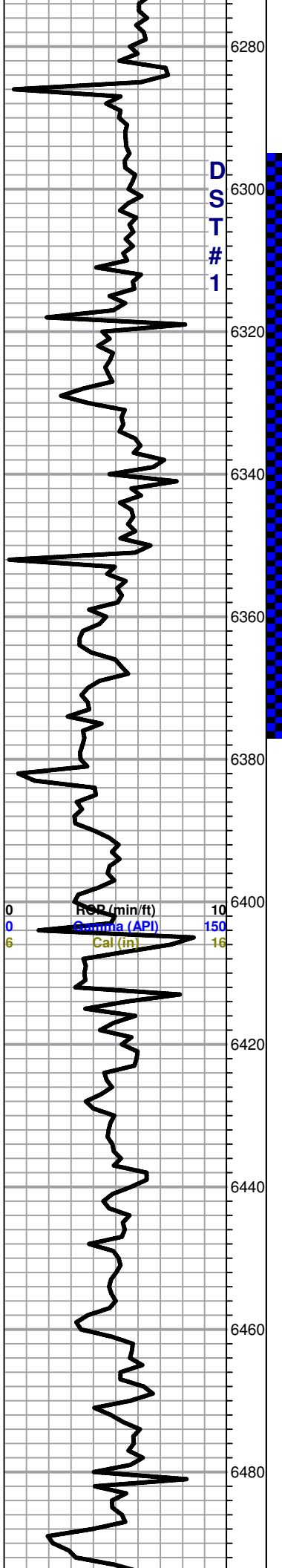
LS,tan FXL, dense, trace sand, tan to rose, F.grained well sorted, no flor. cut, no shows

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

LS, A/A

LS, tan to rose, micro ool, friable, fair INXLN porosity, no shows





LS, tan, micro ool, triable, no shows

LS, A/A trace chert, orange, red, opaque,

**St. Louis 6298 (-3178)**

LS, tan, FXL, chalky, poorly developed, trace chert, orange, opaque

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

LS, tan to cream, chalky, poorly developed ool, no shows

**St. Louis B 6361 (-3235)**

LS, tan, ool, fair scattered porosity, fair INXLN porosity, V. Lt. SFO, faint odor in freshly broken samples, fair flor. cut

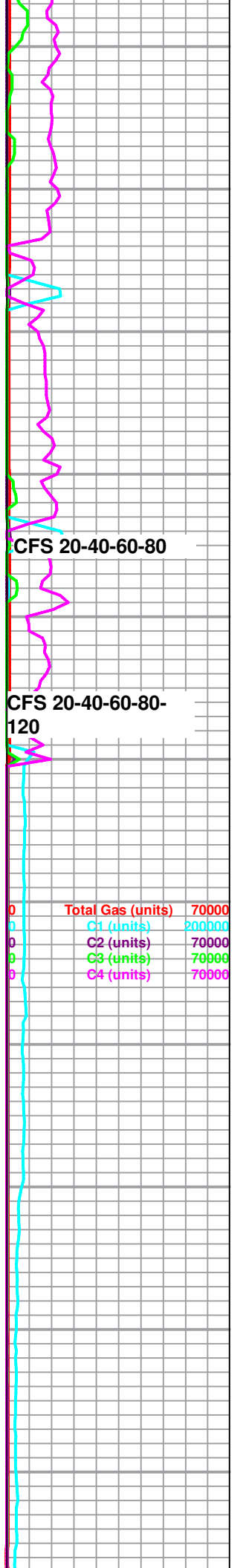
LS, tan to gray, FXL, few ool, poorly developed, poor scattered porosity, Lt. flor. cut, cherty

LS, tan to gray , FXL, ool, foss, poorly visible porosity, trace black, maroon, shales.

LS, tan, chalky, few foss, poor scattered porosity, cherty in parts

Sh, black to gray, silty,

Ls, tan to cream, FXL, chalky, poorly developed ool, poor scattered porosity, no shows



CFS 20-40-60-80

CFS 20-40-60-80-120

