



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1214668  
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: \_\_\_\_\_

1214668



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> _____ _____
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# ALLIED OIL & GAS SERVICES, LLC 062350

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Medford

DATE <u>3-29-14</u>	SEC <u>12</u>	TWP <u>35</u>	RANGE <u>13</u>	CALLED OUT <u>6:00</u>	ON LOCATION <u>7:30</u>	JOB START <u>8:45</u>	JOB FINISH <u>10:15</u>
LEASE <u>Mac</u>	WELL # <u>#1</u>	LOCATION <u>Hedberg K1</u>			COUNTY <u>Bailey</u>	STATE <u>K1</u>	
OLD OR NEW (Circle one) <u>NEW</u>				<u>1 1/2 W Snd</u>			

CONTRACTOR Fossil OWNER Woodsey Oper

TYPE OF JOB 1 3/8 SURFACE

HOLE SIZE 1 7/8 T.D. 219 CEMENT AMOUNT ORDERED 300sc A

CASING SIZE 1 3/8 48 DEPTH 219 26.62L 3/16

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 20

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT

**EQUIPMENT**

PUMP TRUCK CEMENTER T. Scott  
# 550-SS HELPER Scott P  
BULK TRUCK  
# DRIVER Oscar (TW)  
BULK TRUCK  
# DRIVER

COMMON <u>Class A</u>	<u>300sc @ 17.90</u>	<u>5370.00</u>
POZMIX	@	
GEL	<u>65x @ 23.40</u>	<u>140.40</u>
CHLORIDE	<u>115x @ 64.00</u>	<u>704.00</u>
ASC	@	
	@	
	@	
	@	
	@	
	@	
	@	
	@	
HANDLING <u>324.4 cuft</u>	@ <u>2.48</u>	<u>804.51</u>
MILEAGE <u>14.8 mi x 26 mi</u>	@ <u>2.60</u>	<u>1600.48</u>
TOTAL		<u>8019.39</u>

**REMARKS:**

Run 6 #1's 1 3/8 48' CSG  
ps. test 1020'  
Pump 5200 H2O  
Mix Pump 300sc A 26.62L 3/16  
15 1/2 VML  
Disp 300sc H2O  
Change Valve on CSG 9:30 150'  
Circ out thru 203' Circ out to Pat

**SERVICE**

DEPTH OF JOB <u>219</u>		
PUMP TRUCK CHARGE		<u>15122.5</u>
EXTRA FOOTAGE	@	
MILEAGE <u>26 mi</u>	@ <u>7.70</u>	<u>200.20</u>
MANIFOLD	@	
<u>Lv</u> <u>26 mi</u>	@ <u>4.40</u>	<u>114.40</u>
	@	
TOTAL		<u>1826.85</u>

CHARGE TO: Woodsey Oper

WELL FILE

STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
Regulatory Correspondence  
Orig / Comp Workover  
Tests / Meters Operatic

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.

**PLUG & FLOAT EQUIPMENT**

NA

	@	
	@	
	@	
	@	
	@	
TOTAL		

PRINTED NAME MIKE THARP

SIGNATURE [Signature]

SALES TAX (If Any) \_\_\_\_\_  
TOTAL CHARGES 9846.24  
DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS  
Net \$7876.99

APR 14 2014

# ALLIED OIL & GAS SERVICES, LLC

062784

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

316-267-4383

SERVICE POINT:  
Medicine Lodge, KS.

DATE <u>4-10-2014</u>	SEC. <u>12</u>	TWP. <u>35</u>	RANGE <u>13</u>	CALLED OUT <u>5:00 AM</u>	ON LOCATION <u>7:00 AM</u>	JOB START <u>12:45 PM</u>	JOB FINISH <u>1:55 PM</u>
LEASE <u>Mac #1</u>	WELL#	LOCATION <u>Hardman, KS. 2 miles</u>		COUNTY <u>Dancer</u>	STATE <u>Kansas</u>		
OLD OR <u>NEW</u> (Circle one)		<u>Weg + S/S</u>					

CONTRACTOR Fassill  
 TYPE OF JOB Production  
 HOLE SIZE 7 1/8 TD. 5565'  
 CASING SIZE 5 1/2 15.5 DEPTH 5565'  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX 1750 MINIMUM 200  
 MEAS. LINE 1750 SHOE JOINT 45.09  
 CEMENT LEFT IN CSG.  
 PERFS.  
 DISPLACEMENT 129 1/2 Bbls 2% KCL

OWNER Woolsey Operating  
 CEMENT  
 AMOUNT ORDERED 13 Gals Caproc  
90 sx 60:40:4% BCL  
125 sx H + 10% 6% 10% salt 5% salt 1.8% 1.16% 1.16%  
 COMMON # 54 sx @ 17.90 966.60  
 POZMIX 36 sx @ 9.35 336.60  
 GEL 3 sx @ 23.40 70.20  
 CHLORIDE @  
 ASC @  
 Class # 125 sx @ 21.20 2650.00  
salt 13 sx @ 26.35 342.55  
Kolseal 750 # @ .98 735.00  
Gypseal 23 @ 37.60 864.80  
Floceal 32 @ 2.97 95.04  
EL-160 94 @ 18.90 1776.60  
Caproc 14 Gals @ 34.42 481.60  
 HANDLING 265 @ 2.48 657.20  
 MILEAGE 11.31/23 @ 2.60 676.34  
 (1931.54) (2000) 260.18 TOTAL 9652.53  
 1930.50 SERVICE 9652.53

EQUIPMENT  
 PUMP TRUCK CEMENTER Bank Holding 1  
 # 894-32 HELPER Ron Gilley 1  
 BULK TRUCK  
 # 364 DRIVER Robert Johnson 3  
 BULK TRUCK  
 # DRIVER

REMARKS:  
Ran 5454' 5% casing, Deep ball for float shoe & pump circulation w/ pig. Circulate for minutes. Plug ball + measure 11.31 @ 60:40:4% 2 on casing pump 40 sx 60:40:4% BCL + 125 sx Class H + Additives, wash pump + lines + Release plug. Displace with 129 1/2 Bbls 2% KCL Pump Plug float hold.

CHARGE TO: Woolsey Operating  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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.

PRINTED NAME MIKE THARP  
 SIGNATURE Mike Tharp

DEPTH OF JOB 5454'  
 PUMP TRUCK CHARGE 2765.15  
 EXTRA FOOTAGE @  
 MILEAGE 26 @ 17.20 447.20  
 MANIFOLD @  
LJ 26 @ 4.90 127.40  
 (670.95/2000) TOTAL 3354.75

PLUG & FLOAT EQUIPMENT  
5%  
 1-AFO float shoe @ 545.00  
 1-Latch Down plug @ 60.00  
 12-Turbolizers @ 95.00 1140.00  
 24-Rain scratchers @ 89.00 2136.00

no discount TOTAL 4481.00  
 SALES TAX (if Any) 944.24  
 TOTAL CHARGES 17512.64 17488.28  
 DISCOUNT 2607.46 IF PAID IN 30 DAYS  
 (NET) 14910.82 2601.45  
 14886.83



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Woolsey Operating Co  
125 N Market STE 1000  
Wichita, KS 67202  
ATTN: Bill Klaver

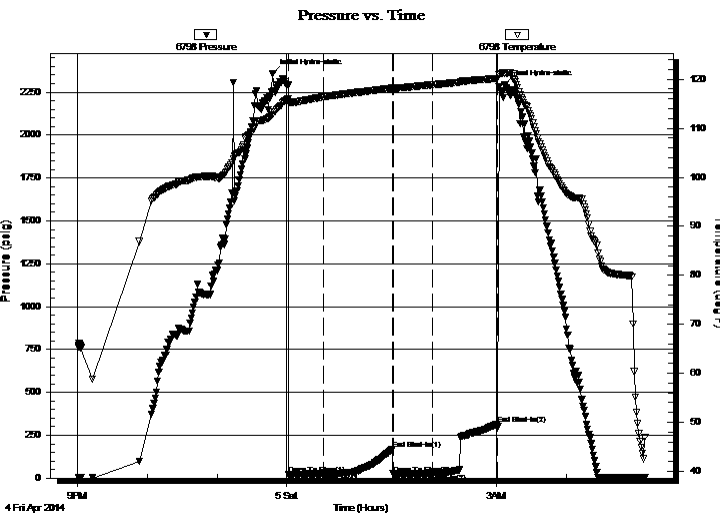
**12-35S-13W Barber**  
**MAC 1**  
Job Ticket: 58977      **DST#: 1**  
Test Start: 2014.04.04 @ 21:01:15

## GENERAL INFORMATION:

Formation: **Cherokee**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 00:01:15  
Time Test Ended: 05:07:45  
Interval: **4766.00 ft (KB) To 4838.00 ft (KB) (TVD)**  
Total Depth: 4838.00 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: 1469.00 ft (KB)  
1457.00 ft (CF)  
KB to GR/CF: 12.00 ft

**Serial #: 6798      Inside**  
Press @ Run Depth: 26.08 psig @ 4767.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.04.04      End Date: 2014.04.05      Last Calib.: 2014.04.05  
Start Time: 21:01:16      End Time: 05:07:45      Time On Btm: 2014.04.04 @ 23:48:00  
Time Off Btm: 2014.04.05 @ 03:07:00

**TEST COMMENT:** IF: Weak 1/4 inch Blow  
IS: No Blow Back  
FF: Weak Surface Blow, Dead @ 5 minutes  
FS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2360.05	112.86	Initial Hydro-static
14	21.67	115.46	Open To Flow (1)
44	23.59	116.41	Shut-In(1)
103	167.43	118.21	End Shut-In(1)
103	24.45	118.15	Open To Flow (2)
137	26.08	118.87	Shut-In(2)
193	316.11	120.19	End Shut-In(2)
199	2292.92	121.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud	0.05

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Woolsey Operating Co

**12-35S-13W Barber**

125 N Market STE 1000  
Wichita, KS 67202

**MAC 1**

Job Ticket: 58977

**DST#: 1**

ATTN: Bill Klaver

Test Start: 2014.04.04 @ 21:01:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



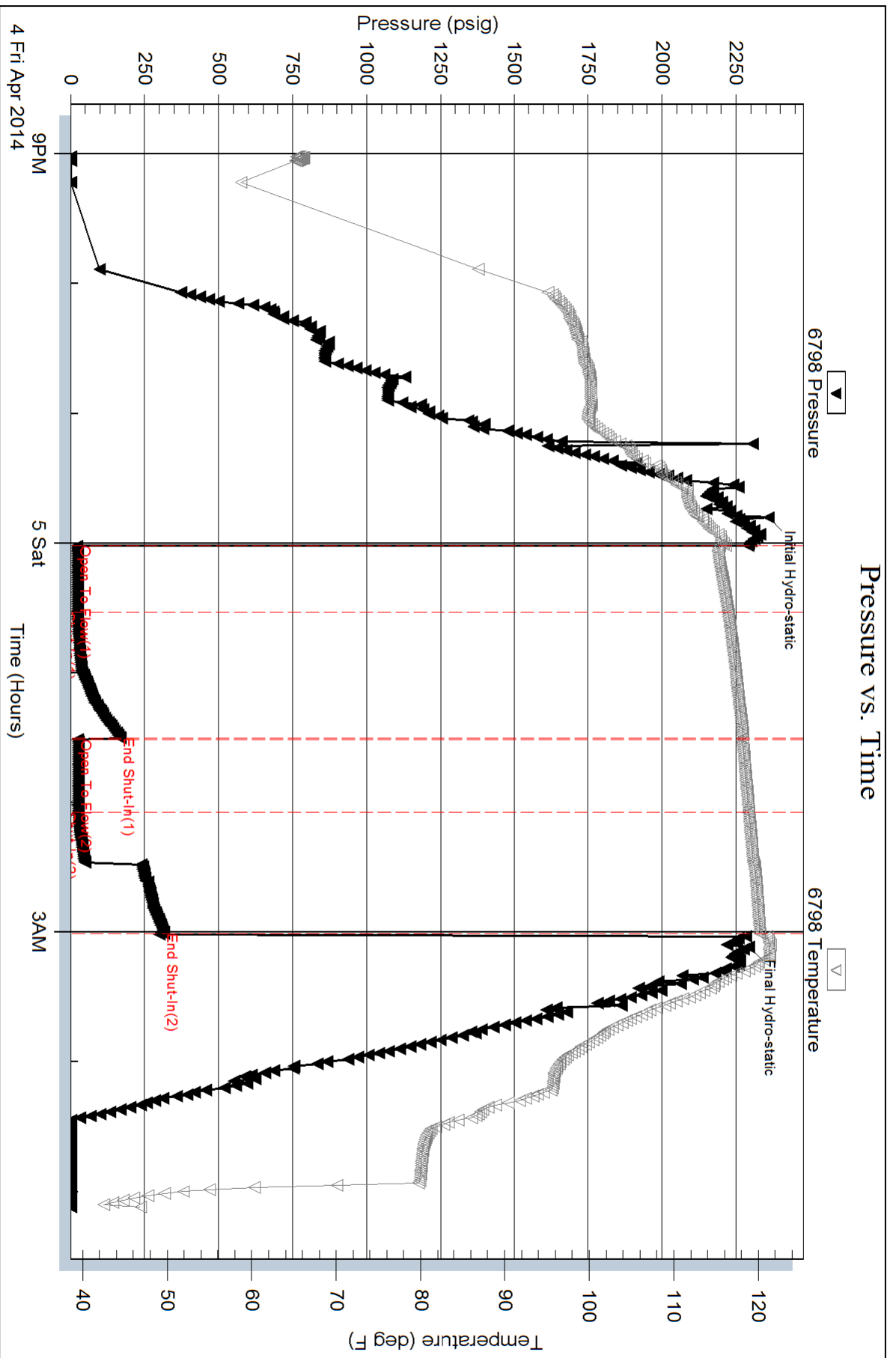
Serial #: 6798

Inside

Woodsey Operating Co

MAC 1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58977

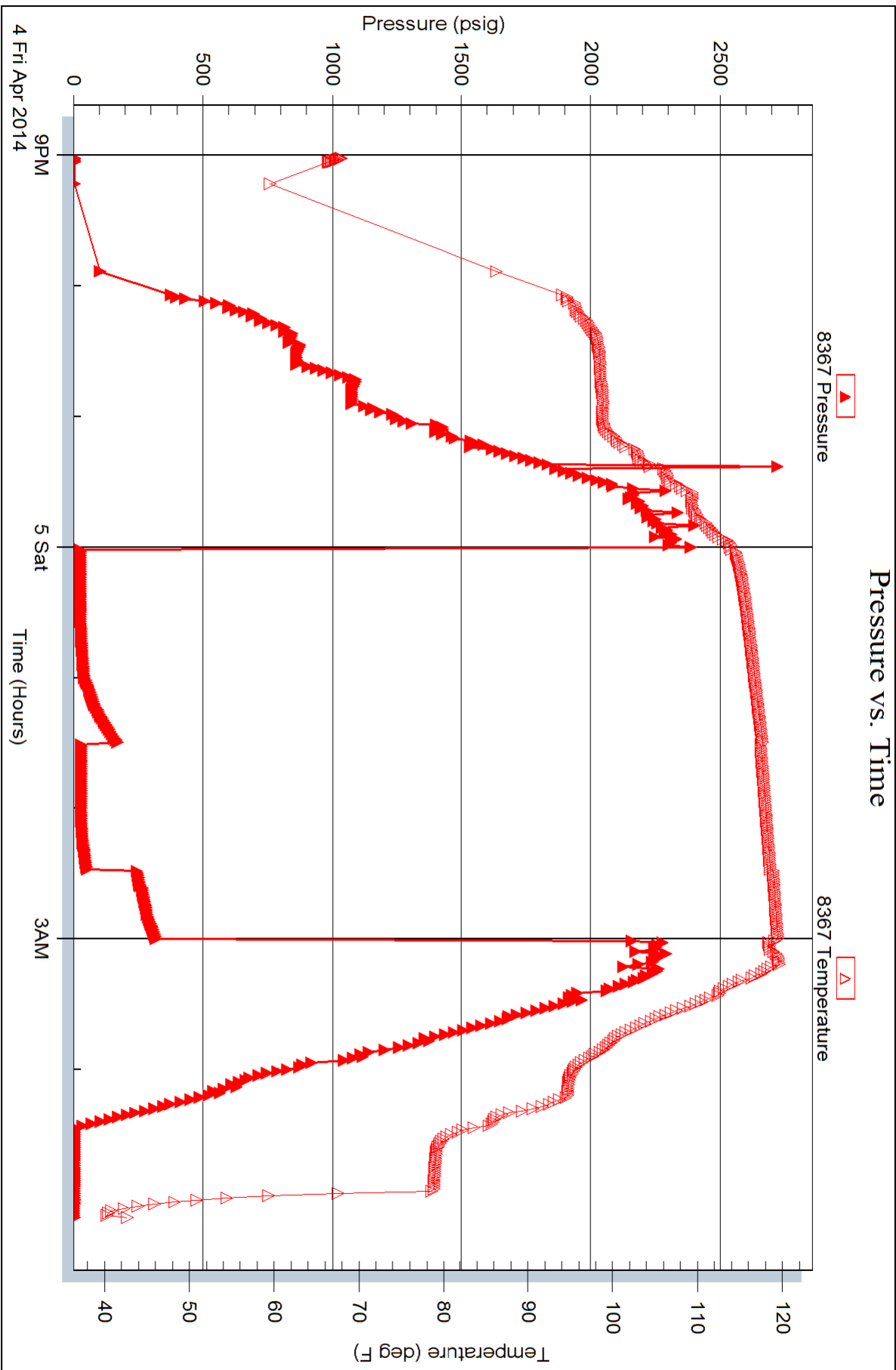
Printed: 2014.04.05 @ 08:24:30

Serial #: 8367

Outside Woodsey Operating Co

MAC 1

DST Test Number: 1





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Woolsey Operating Co

**12-35S-13W Barber**

125 N Market STE 1000  
Wichita, KS 67202

**MAC 1**

Job Ticket: 58978

**DST#: 2**

ATTN: Bill Klaver

Test Start: 2014.04.05 @ 15:16:13

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:22:58

Time Test Ended: 01:00:58

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

**Interval: 4862.00 ft (KB) To 4928.00 ft (KB) (TVD)**

Reference Elevations: 1469.00 ft (KB)

Total Depth: 4928.00 ft (KB) (TVD)

1457.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 6798**

**Inside**

Press@RunDepth: 280.28 psig @ 4863.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.05

End Date:

2014.04.06

Last Calib.:

2014.04.06

Start Time:

15:16:14

End Time:

01:00:58

Time On Btm:

2014.04.05 @ 17:20:43

Time Off Btm:

2014.04.05 @ 22:01:13

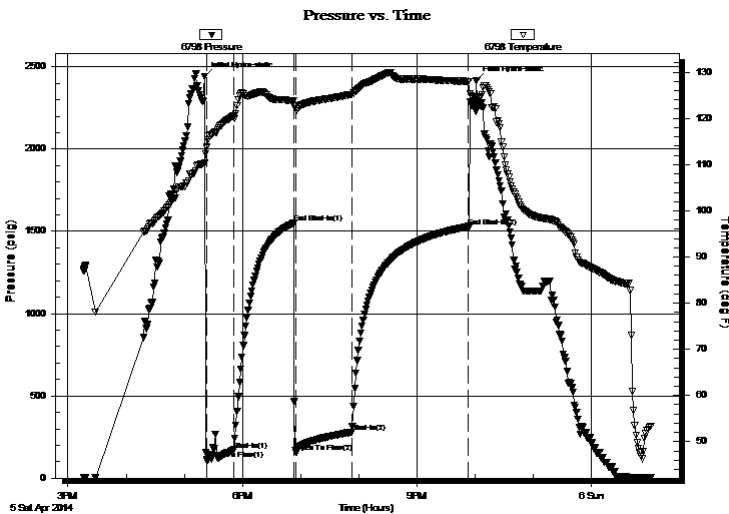
TEST COMMENT: IF: Strong Blow , BOB in 45 seconds

IS: 1 inch Blow Back

FF: Strong Blow , BOB immediate, GTS in 9 minutes, Gauged Gas, Caught Sample

FS: 3 inch Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2443.58	110.32	Initial Hydro-static
3	113.61	113.67	Open To Flow (1)
30	168.36	120.45	Shut-In(1)
92	1549.65	123.79	End Shut-In(1)
95	155.86	121.99	Open To Flow (2)
152	280.28	125.20	Shut-In(2)
273	1529.87	128.00	End Shut-In(2)
281	2417.33	123.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	4409 GIP	0.00
120.00	MOCW 10%M 10%O 80%W	0.59
243.00	GMOCW 10%G 16%M 24%O 50%W	2.89
93.00	GCM 20%G 80%M	1.30

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	7.00	33.95
Last Gas Rate	0.25	19.00	52.99
Max. Gas Rate	0.25	19.00	52.99

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Woolsey Operating Co

**12-35S-13W Barber**

125 N Market STE 1000  
Wichita, KS 67202

**MAC 1**

Job Ticket: 58978

**DST#: 2**

ATTN: Bill Klaver

Test Start: 2014.04.05 @ 15:16:13

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity: 125000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	4409 GIP	0.000
120.00	MOCW 10%M 10%O 80%W	0.590
243.00	GMOCW 10%G 16%M 24%O 50%W	2.889
93.00	GCM 20%G 80%M	1.305

Total Length: 456.00 ft      Total Volume: 4.784 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW w as .13 @ 40 degrees



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Woolsey Operating Co

**12-35S-13W Barber**

125 N Market STE 1000  
Wichita, KS 67202

**MAC 1**

Job Ticket: 58978

**DST#: 2**

ATTN: Bill Klaver

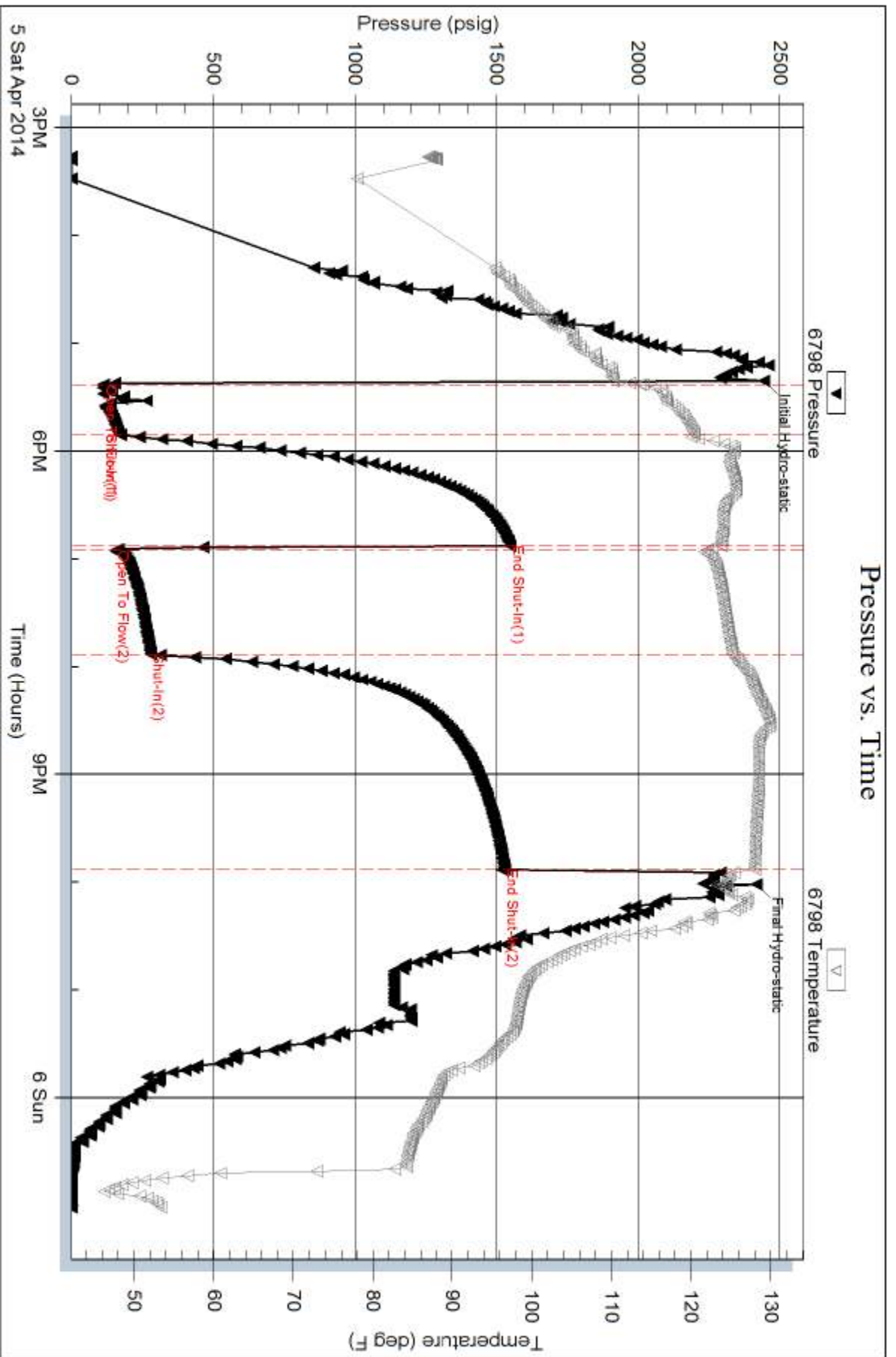
Test Start: 2014.04.05 @ 15:16:13

### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	10	0.25	7.00	33.95
2	20	0.25	11.00	40.30
2	30	0.25	13.00	43.47
2	40	0.25	15.00	46.64
2	50	0.25	17.00	49.81
2	60	0.25	19.00	52.99





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Woolsey Operating Co

**12-35S-13W Barber**

125 N Market STE 1000  
Wichita, KS 67202

**MAC 1**

Job Ticket: 51896

**DST#: 3**

ATTN: Bill Klaver

Test Start: 2014.04.07 @ 18:44:16

## GENERAL INFORMATION:

Formation: **Misener**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:54:01

Time Test Ended: 03:24:01

Test Type: Conventional Bottom Hole (Initial)

Tester: Gary Pevoteaux

Unit No: 56

**Interval: 5200.00 ft (KB) To 5315.00 ft (KB) (TVD)**

Reference Elevations: 1469.00 ft (KB)

Total Depth: 5315.00 ft (KB) (TVD)

1457.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

**Serial #: 8352 Inside**

Press@RunDepth: 203.40 psig @ 5201.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.07

End Date:

2014.04.08

Last Calib.:

2014.04.08

Start Time: 17:44:21

End Time:

02:24:01

Time On Btm:

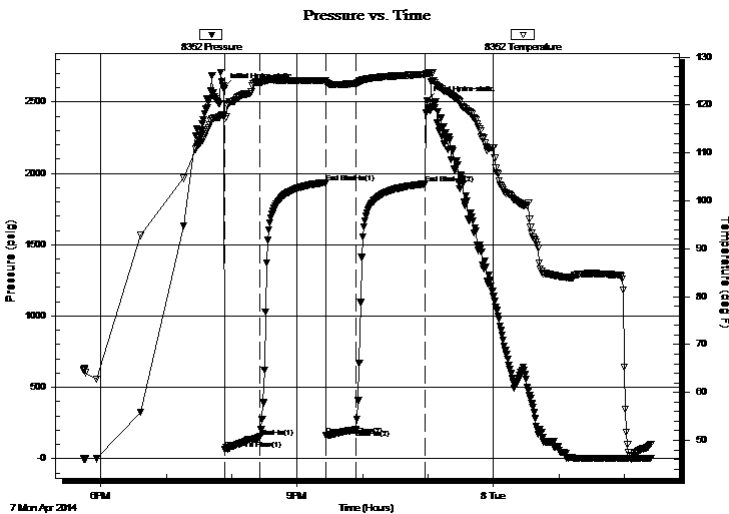
2014.04.07 @ 19:52:46

Time Off Btm:

2014.04.07 @ 22:59:01

**TEST COMMENT:** IF: Strong blow . B.O.B. in 2 1/2 mins.  
IS: No blow .  
FF: Strong blow . B.O.B. in 14 mins.  
FS: Weak blow . 1/2 - 1 1/2".

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2600.54	118.05	Initial Hydro-static
2	68.05	117.11	Open To Flow (1)
33	150.43	124.79	Shut-In(1)
94	1936.43	125.10	End Shut-In(1)
94	162.96	124.62	Open To Flow (2)
122	203.40	124.52	Shut-In(2)
185	1926.23	126.37	End Shut-In(2)
187	2508.20	126.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	GOCWM 5%g 7%o 36%w 52%m	0.89
135.00	GOCWM 22%g 6%o 22%w 50%m	1.89
0.00	280 ft.of GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Woolsey Operating Co

**12-35S-13W Barber**

125 N Market STE 1000  
Wichita, KS 67202

**MAC 1**

Job Ticket: 51896

**DST#: 3**

ATTN: Bill Klaver

Test Start: 2014.04.07 @ 18:44:16

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

49000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	GOCWM 5%g 7%o 36%w 52%m	0.885
135.00	GOCWM 22%g 6%o 22%w 50%m	1.894
0.00	280 ft.of GIP	0.000

Total Length: 315.00 ft      Total Volume: 2.779 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: Rw .23@46deg



Serial #: 8352

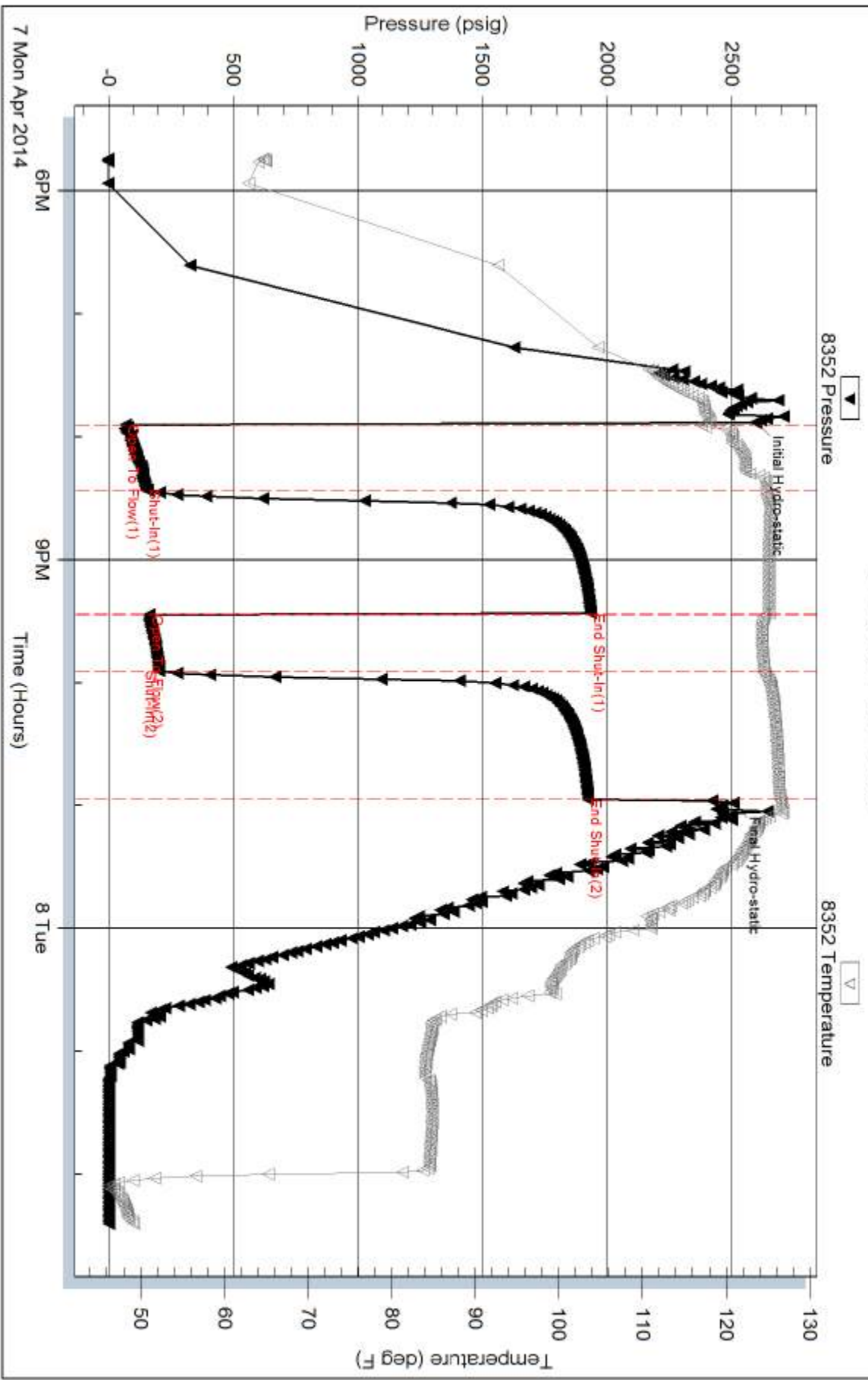
Inside

Woodsey Operating Co

MAC 1

DST Test Number: 3

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 51896

Printed: 2014.04.08 @ 08:19:19



**Woolsey Operating Company, LLC**

Scale 1:240 (5"=100') Imperial

Measured Depth Log

Well Name: MAC #1  
Location: Section 12 - Township 35 South - Range 13 West  
License Number: 15-007-24152-0000 Region: Barber County, Kansas  
Spud Date: March 29, 2014 Drilling Completed:  
Surface Coordinates: C of N/2 NE SE  
2310' FSL & 660' FEL  
Bottom Hole  
Coordinates:  
Ground Elevation (ft): 1457' K.B. Elevation (ft): 1469'  
Logged Interval (ft): 4000' To: 5565' Total Depth (ft): 5565'  
Formation: Kansas City Group ----> Simpson Group  
Type of Drilling Fluid: Chemical Mud displaced at 3420'  
Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

**OPERATOR**

Company: Woolsey Operating Company, LLC  
Address: 125 N. Market, Suite 1000  
Wichita, KS 67202

**GEOLOGIST**

Name: Mr. Bill Klaver  
Company: Woolsey Operating Co. LLC  
Address: 125 N. Market, Wichita Kansas, 67202

## COMMENTS

Surface Casing: Spud at 2:30 pm on March 29, 2014, set 5 joints of new 13 3/8" X 48#/ft surface casing at 219' KB (tally 204') with 300 sx Class A, 2% gel, 3% cc (by Allied). Plug down at 9:30 pm on March 29, 2014. Cement did circulate.

Production Casing:

Deviation Surveys: 1/4 at 219', 1 at 1017', 3/4 at 1494', 1/2 at 2001', 1/4 at 2507', 3/4 at 3046', 1/4 at 3500', 3/4 at 3996', 1/4 at 4505', 3/4 at 4838', 1/2 at 5565'

Pipe Strap @ 4838', Board: 4852.89', Strap: 4852.42', Strap .47' short to the board. No corrections were made to the board.

Fossil Drilling Rig #3 Bit Record:

- 1) 17 1/2" Reed RR in at 0', out at 219'. 219' in 2.25 hours.
- 2) 7 7/8" Varel HE-21 in at 219' out at 4838', 107 1/4 hours
- 3) 7 7/8" Varel HE-29 RR in at 4808' out at 5315', 32 3/4 hours
- 4) 7 7/8" Varel HE-29 RR in at 5315' out at 5565', 25 1/4 hours

Gas Detector: Woolsey Operating Company, Gas Trailer #2

Mud System: Mud Co. Brad Bortz, Engineer

DSTs: Trilobite Testing, Leal Cason, Gary Pevoteaux, Testers

Company Man: Mike Tharp, WOC

E-Logs: Nabors Completion and Production Services, Dual Induction Laterolog w/SP, CNL-FDC w/PE, Gamma Ray and Caliper. Ian Mabb, Engineer

## DSTs

DST #1 Cherokee Sand 4766'-4838'. 30"-60"-30"-60" Weak surface blow during IFP, weak blow died in 5 minutes during FFP, Recovered 10' Mud. IHP 2360, IFP 21-23, ISIP 167, FFP 24-26, FSIP 316, FHP 2292.

DST #2 Mississippian, 4862'-4928', 30"-60"-60"-120" SB BOB in 45 seconds, GTS 9 minutes into 2nd flow period. Rec: 4409' GIP, 120' MOCW (10% Mud, 10% Oil, 80% Water), 243' GMOCW (10% Gas, 16% Mud, 24% Oil, 50% Water), 93' GCM (20% Gas, 80% Mud). API Rw 0.13 at 40 degrees. Chlorides 125,000 ppm.


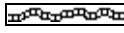
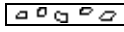

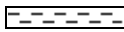








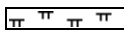

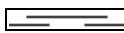








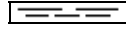







Gas Flow Rates 2nd Flow Period: 10"- 33.9 MCF, 20"- 40.2 MCF, 30"- 43.4 MCF, 40"- 46.6 MCF, 50"- 49.8 MCF, 60"- 52.9 MCF. IHP 2443, IFP 113-168, ISIP 1549, FFP 155-280, FSIP 1529, FHP 2417. BHT 124 degrees

DST #3 Misener Sand, 5200'-5315' 30"-60"-30"-60", SB BOB 4 minutes into IFP, SB BOB 12 minutes into FFP. Rec: 280' GIP, 135' GOCWM (22% Gas, 6% Oil, 22% Water, 50% Mud), 180' GOCWM (5% Gas, 7% Oil, 36% Water, 52% Mud). Chlorides 49,000 ppm, API Rw 0.23 at 46 degrees. IHP 2600, IFP 60-150, ISIP 1936, FFP 162-203, FSIP 1926, FHP 2508. BHT N/A















































































## CREWS

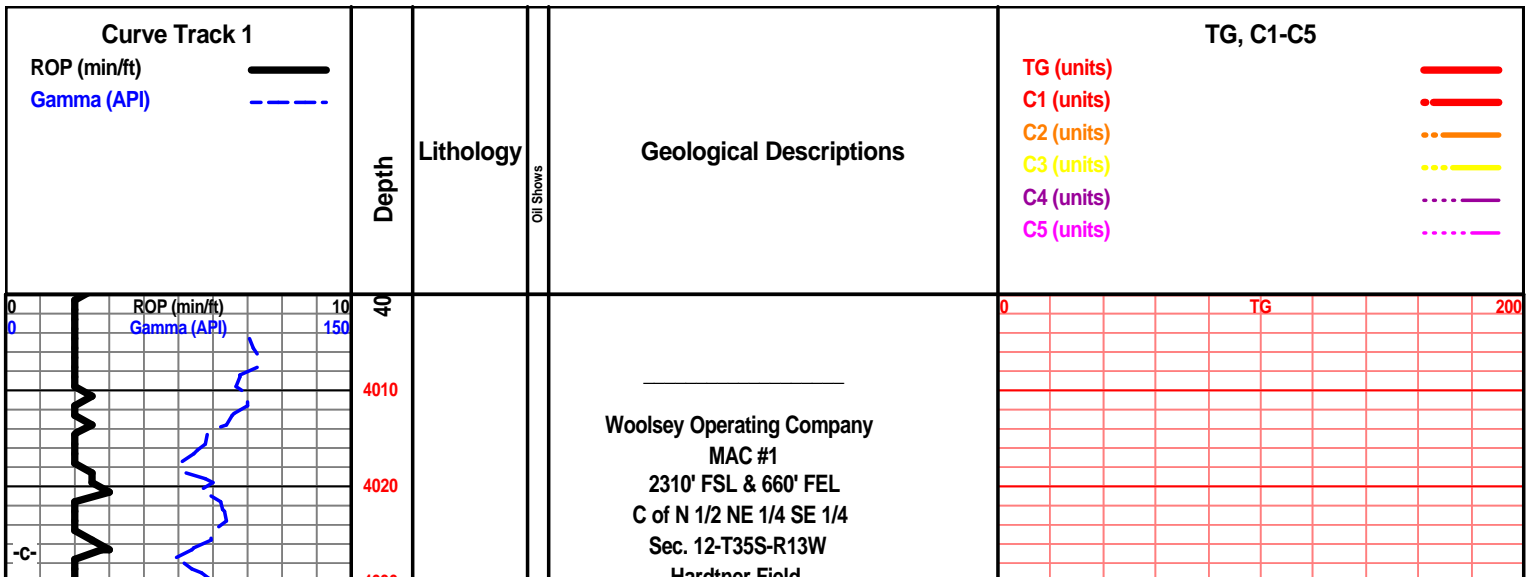
Jim Wenrich, Absent Tool Pusher  
 Daniel Orrantea, Days  
 Ron Burns, Evening  
 Chris Slatts, Morning

## ROCK TYPES

 Anhy  Bent  Brec  Cht  Clyst  Coal  Congl  Sdy dolo	 Shy dolo  Dol  Gyp  Sdy lmst  Lmst  Mrlst  Salt  Shale	 Sltst  Ss  Black sh  Gry sh  Shale  Shysltst  Sltyssh  Ss 2	 Shale 3  Silty dol  Dol lmst  Dol 2  Granite wash  Lmst  Calc dol  Shale 3
---	--	---	--

## ACCESSORIES

<b>MINERAL</b>  Anhy  Arg  Bent  Bit  Brecfrag  Calc  Carb  Chtdk  Chtlt  Dol  Ferrpel  Ferr  Glau  Gyp  Marl  Nodule  Phos  Pyr  Salt  Sandy  Silt	 Chlorite  Dol  Sand  Silty  <b>FOSSIL</b>  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Crin  Echin  Fish  Foram  Fossil  Gastro  Oolite  Ostra	 Pelec  Pellet  Pisolite  Plant  Strom  Fuss  Oomoldic  <b>STRINGER</b>  Anhy  Arg  Bent  Coal  Dol  Gyp  Ls  Mrst  Sltstrg  Ssstrg  Carbsh  Clystn  Dol	 Grysh  Gryslt  Lms  Sandylms  Sh  Sltstn  <b>TEXTURE</b>  Boundst  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest
--	--	---	---



Barber County, Kansas  
API # 15-007-24152-0000

Offset comparison wells used for structural control included WOC's Rogg #1, N/2 N/2 SW, 7-35S-R12W. Edmiston Oil's Haskard 2B, C SE NE, 12-35S-R13W. WOC's Myers #1 A, NE NE NE, 13-35S-R 13W.

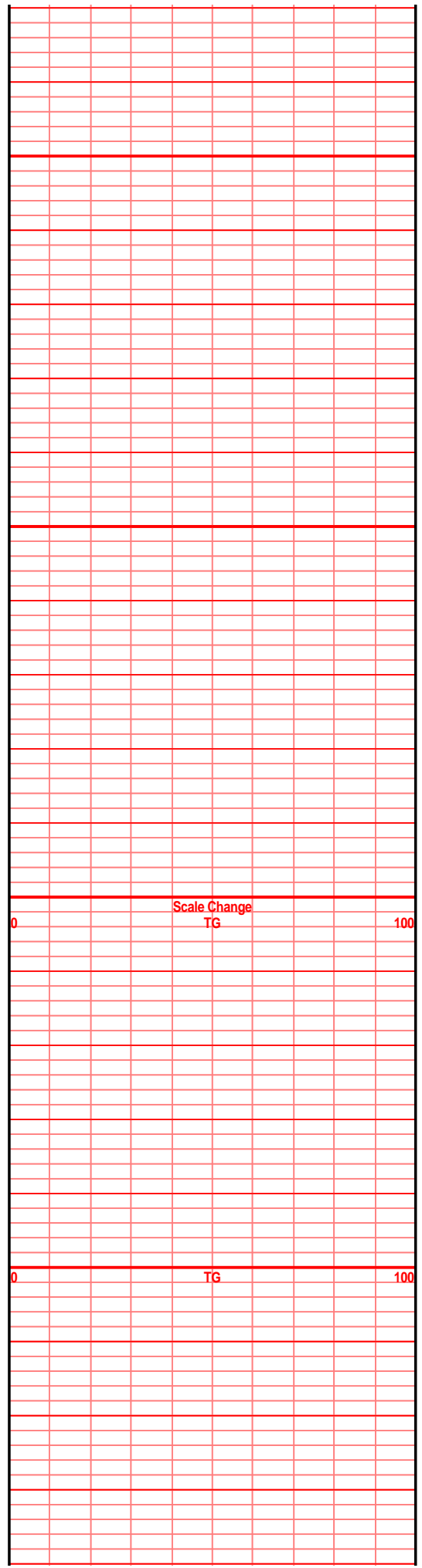
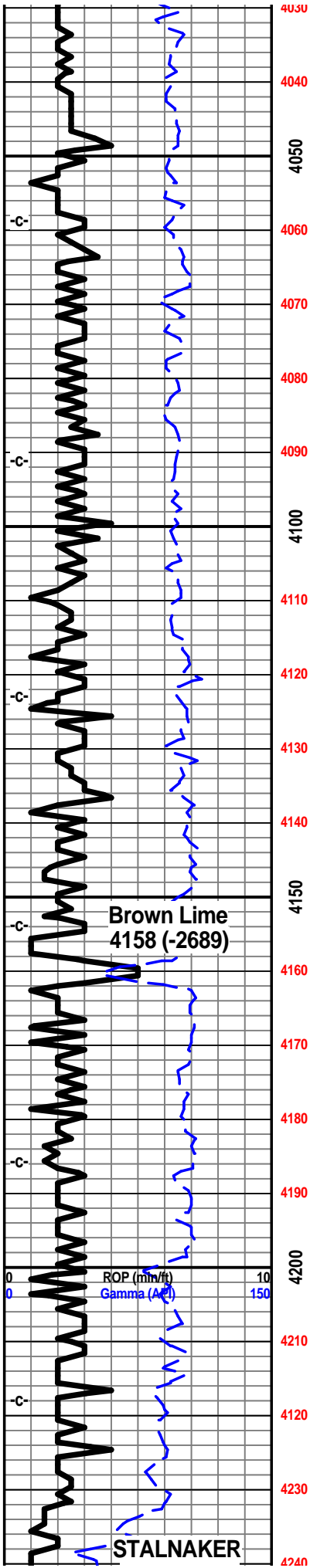
One minute drill time was recorded from 4000' to rotary total depth. Ten foot rotary cuttings were collected from 4600' to rotary total depth and delivered to the Survey at the completion of the test.

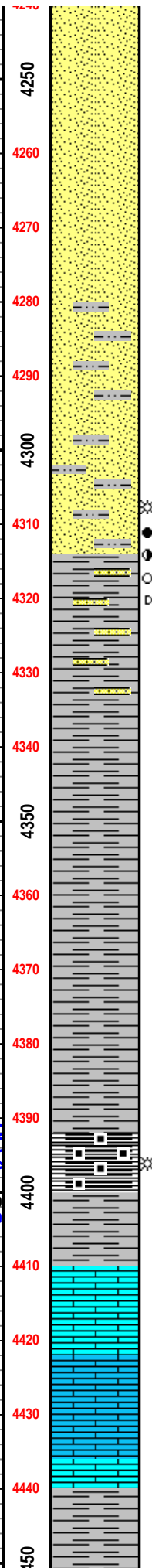
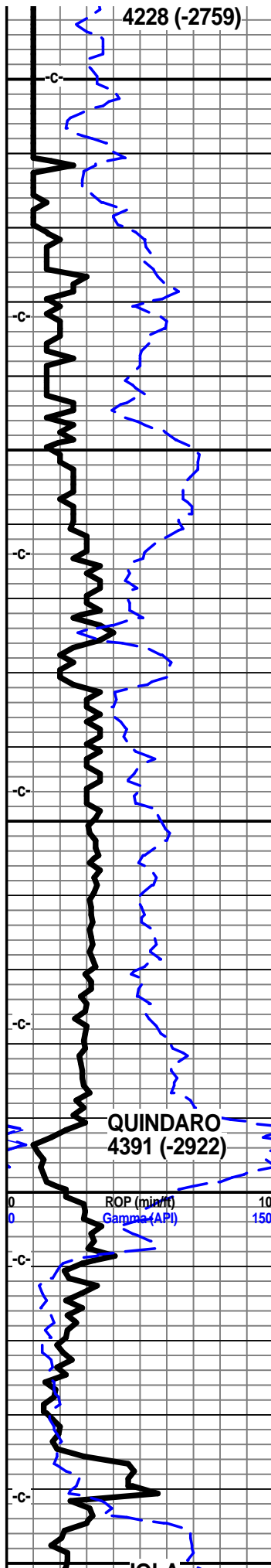
7 am Progress:

- March 28, 2014 MIRT
- March 29, 2014 Spud 2:20 pm
- March 30, 2014 Drilling at 250'
- March 31, 2014 Drilling at 1850'
- April 1, 2014 Drilling at 2700'
- April 2, 2014 Drilling at 3590'
- April 3, 2014 Drilling at 4230'
- April 4, 2014 Drilling at 4701'
- April 5, 2014 CTCH at 4808'
- April 6, 2014 Drilling at 4957'
- April 7, 2014 Drilling at 5230'
- April 8, 2014 DST #3 at 5315'
- April 9, 2014 CFS at 5505'
- April 10, 2014

E-Log Tops

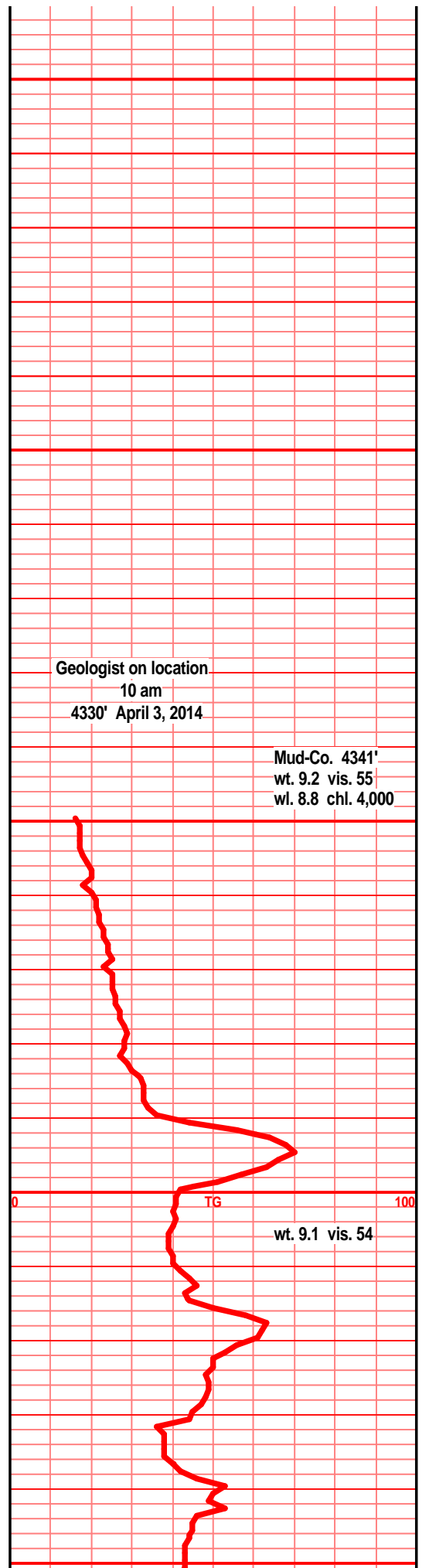
- Chase 1979 (-510)
- Onaga 2857 (-1388)
- Wabaunsee 2909 (-1440)
- LeCompton 3653 (-2184)
- Kanwaka 3677 (-2208)
- Elgin Sand 3723 (-2254)
- Heebner 3884 (-2415)
- Toronto 3896 (-2427)
- Douglas Group 3955 (-2486)
- Douglas Shale 4023 (-2554)
- Brown Lime 4154 (-2685)
- Quindaro 4385 (-2916)
- Kansas City 'F' 4404 (-2935)
- Kansas City 'G' 4452 (-2983)
- Kansas City 'I' 4538 (-3069)
- Stark 4574 (-3105)
- Kansas City 'J' 4584 (-3115)
- Hushpuckney 4604 (-3135)
- Kansas City 'K' 4617 (-3148)
- B/Kansas City 4652 (-3183)
- Pawnee 4749 (-3280)
- Cherokee Group 4798 (-3329)
- Cherokee Sand 4830 (-3361)
- Mississippi 4862 (-3393)
- C3 4862 (-3393)
- C2A 4892 (-3423)

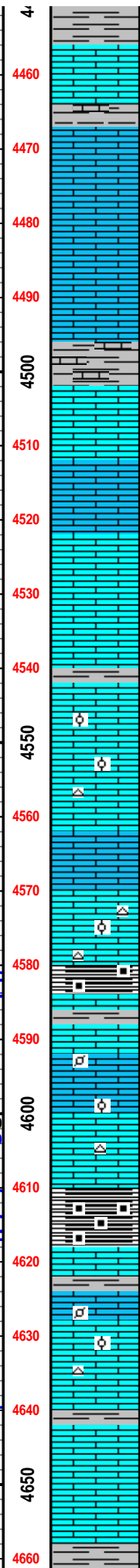
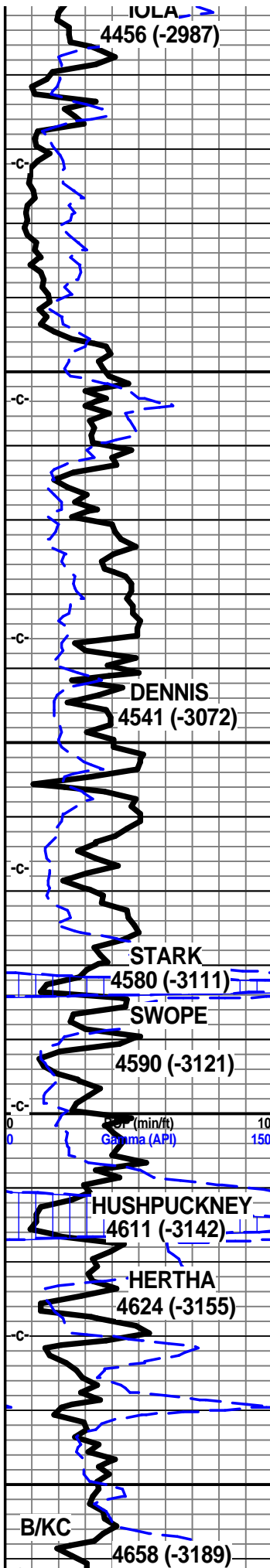




- C2 4928 (-3459)
- Osage 5062 (-3593)
- Northview Shale 5147 (-3678)
- Compton 5168 (-3699)
- Kinderhook 5197 (-3728)
- Woodford 5262 (-3793)
- Misener 5299 (-3830)
- Viola 5310 (-3841)
- Simpson Group 5455 (-3986)
- Wilcox 5514 (-4045)
- McLish Shale 5519 (-4050)

- Oil and Gas Show Legend
- Gas
  - Even Stain/Saturation
  - Spotted Stain/Saturation
  - Questionable Show
  - Gilsonitic/Dead Stain





4460  
4470  
4480  
4490  
4500  
4510  
4520  
4530  
4540  
4550  
4560  
4570  
4580  
4590  
4600  
4610  
4620  
4630  
4640  
4650  
4660

Ist crm tan off wht f sli med xln, gran sub chlky  
foss frags, calc xln fill, tr pelletal, ool

Ist crm tan off wht f xln gran soft sub chlky  
foss frags, tr ool, calc xln fill tr chrt lt gry shrp  
frsh opa

Ist crm tan off wht f xln gran soft, sub chlky,  
foss frags, calc xln fill,

Ist off wht crm tr tan f sli med xln gran soft, sub  
chlky, foss frags, gran calc xln fill tr chrt lt gry  
off wht shrp frsh opa

Ist aa, shl drk gry blk, blk carb, wxy gry blk  
ang pcs, abun gas bubs, platy soft

Ist crm tan off wht f xln, soft gran, sub chlky to  
chlky, foss frags, foss ool/pelletal, inter ool  
por, inter xln por

Ist crm tan off wht f xln, chlky soft gran foss  
frag, foss ool, calc xln fill, inter foss frag  
moldic por

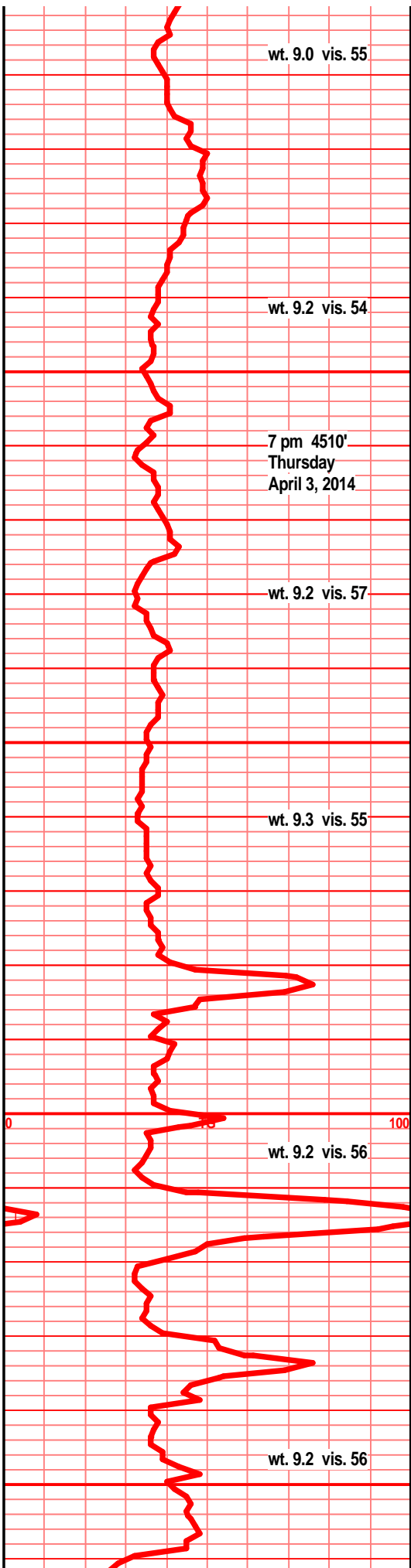
flood blk carb shl, blk ang wxy grsy pcs, abun  
gas bubs,

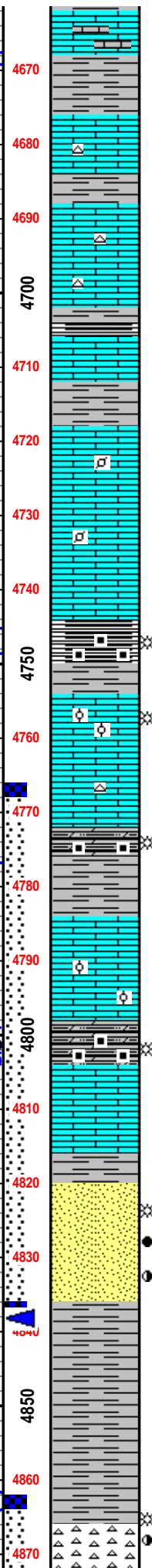
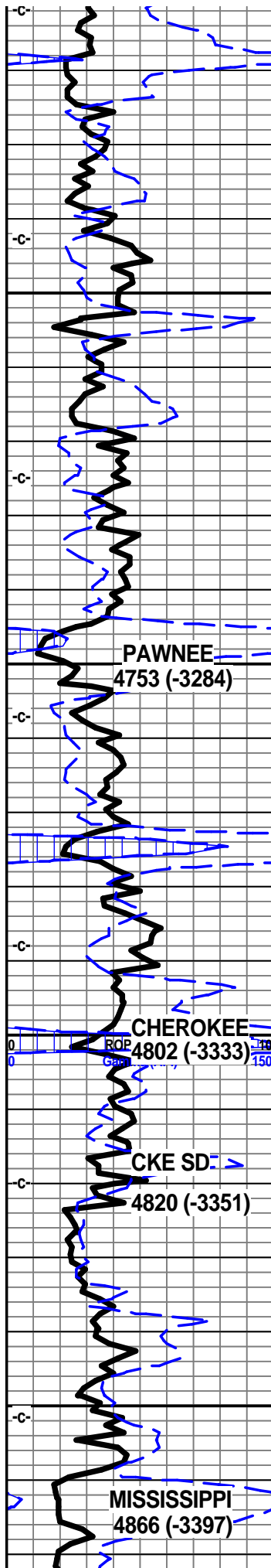
Ist crm tan lt gry f xln gran soft, sub chlky, arg  
in prt, calc xln fill, foss frags, inter xln por,

Ist crm tan lt gry f xln gran soft sub chlky, foss  
frags, foss ool micro ool, pelletal inter xln por,

Ist tan gry f xln blk ang dns, bec hrd, sub  
chlky in prt, micro foss frags, tr chrt tan gry  
shrp frsh opa

shl gry blk, gry brn, calc fill/text, silty gritty,





pyritic, soft gran in prt

shl lt gry green, silty, gritty micro sndy, calc, shl gry green lt gry brn silty gritty gran calc in prt

shl gry brn green blk, ratty silty gritty, pyritic in prt, lst tan buff f sli med xln blk ang dns hrd tr micro foss frags

lst buff crm tan f sli med xln blk ang dns hrd, tr micro foss frags, tr chrt tan off wht shrp frsh opaq

shl gry dkr gry blk brn, lst tan buff crm tr lt brn f vf xln blk ang dns hrd, tr sub chlky, tr crs calc xln fill, micor foss frags

lst crm buff tan f sli med xln, blk ang dns hrd, crs calc xln fill, foss frags, ool/pelletal, mico foss frags/calc fill

lst buff crm tan f sli med xln, blk ang dns hrd, foss frags, foss ool/pelletal, miro foss frags, crs calc xln fill

lst buff crm tan f sli med xln, blk ang crsly calc xln pcs, foss frags, micro ool/pelletal,

shl gry drk med gry, silty gritty calc, shl drk gry blk carb, blk wxy grsy pcs abun gas bubs

lst crm buff tan f xln dns hrd blk ang pcs, foss frags, pelletal, ool, mico ool in prt, sub chlky in prt, crs calc xln fill, tr inter xln por, fair gas bubs, nodor, poor sho

lst tan buff crm f xln mstly dns hrd blk ang sub chlky pcs, micro foss frags, ool/pelletal, calc xln filled, tr inter xln por, shls gry drk gry blk, blk carb, wxy grsy blk pcs, gas bubs, brn strk

lst crm buff tan bec dkr gry, f mic xln dkns hrd blk ang arg, tr foss frags, tr gritty sndy text, lst aa

shl gry blk, dkr gry blk carb wxy grsy blk ang pcs, abun gas bubs, slt tan drk tan gry, f vf xln dns hrd blk ang arg, tr micro foss frags, gritty,

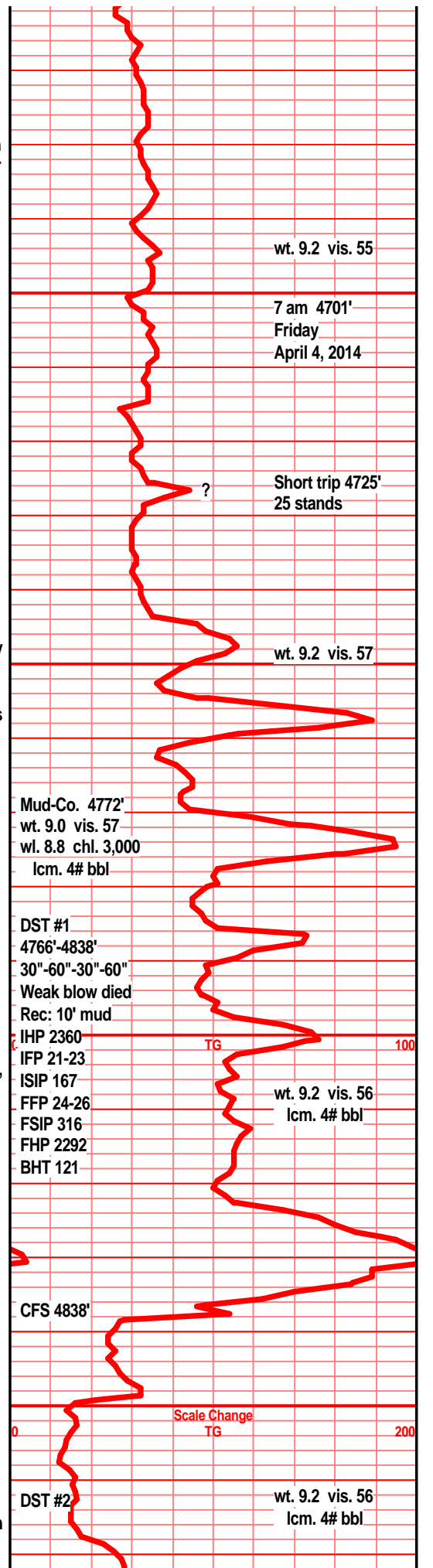
lst crm lt gry buff f vf xln dns hrd blk ang, micro foss tr sub chlky, arg

sst drk tan lt brn f vf grnd, sub ang/sub rded grns, w/srtd, poor to fair cem, calc tr silic cem, mstly fria, tr sub fria, soft crumbly text, inter grain por, gd/strong odor, bleeding oil/spitting gas, free oil floating in spl tray, gd SFO,

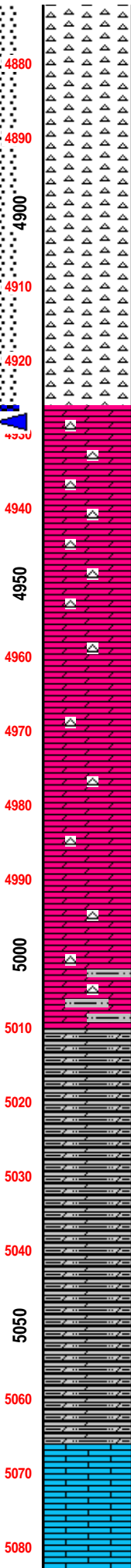
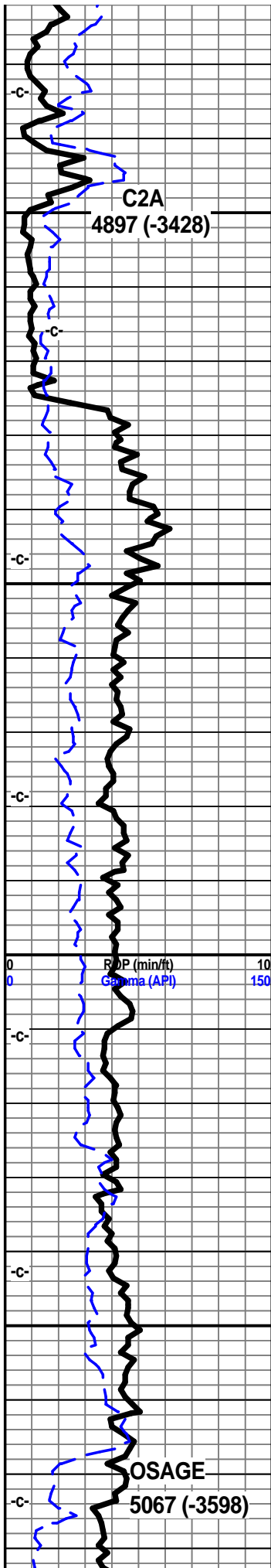
shl gry green, blkue gry green, silty gritty, gran, tr yellw reds, tr vari color, ratty in prt,

shl gry green blue green silty gritty, soft ratty, yellw red vari color

chrt wht off wh bone wht shrp frsh, opaq, blk ang pcs, with sli weath edge, drk blk stain, pp moldic por gas bubs, blk SFO, fair odor, tr gran spongy edge text







chrt wht off wht bone wht frsh shrp blkly ang  
 opa q pcs w/tan brn mott sli weath edge, pp  
 moldic por, w/ weath sponge text edge gd  
 odor, f/gd SFO, gas bubs,

chrt off wht tr bone wht, shrp frsh blkly opa q  
 pcs, tan/brn/blk stained sli weath edges, chrt  
 wht tan brn mott, weath sli trip sli sponge edge  
 text, pp moldic por, drk stain, gassy, gd odor,  
 floating oil drops

chrt wht off wht shrp frsh opa q w/tan drk brn  
 weath trip sli spongy soft weath edges/sides,  
 gd vis vug/pp/moldic por, gd odor, gd sfo, gas  
 bubs, chrt gry blk drk brn mott, weath trip  
 spongy text with lt blue frsh chrt inclu, gd  
 moldic pp vug por, even stain sat, gd odor, gd  
 sfo, gassy, dull UV

dolo crm lt tan tr lt gry/tan f vf xln blkly ang dns  
 hrd, sli sucr, tr inter xln por, w' chrt, frsh wht  
 opa q, tr blk stain vssfo

dolo crm tan f vf xln, chrty, sli sucr in prt, tr  
 sndy gritty text, tr glau, blkly ang dns hrd pcs,  
 tr inter xln por, tr stain, vssfo, odor? chrt wht  
 shrp frsh with dolo edge, tr blk stain nodor

dolo drk tan, tan gry f vf xln dns hrd blkly ang  
 pcs, silty gritty, sndy text, tr chrt off wht, wht  
 shrp frsh opa q

dolo drk tan, tan gry f vf xln dns hrd blkly ang,  
 silty gritty, sndy in prt, tr glau, chrty in prt, chrt  
 wht shrp frsh opa q

dolo drk tan off tan, bec tan gry to lt gry, f vf  
 xln dns hrd blkly ang silty gritty tr sndy text, tr  
 chrty, chrt wht shrp frsh opa q

dolo tan gry f vf xln dns hrd blkly ang silty sndy  
 text gritty tr glau,

dolo drk tan be msly gry f vf xln dns hrd blkly  
 ang tr chrty, silty gritty tr glau, sndy hrd bec  
 arg text

dolo tan gry lt gry to gry f vf xln dns hrd gritty  
 sndy tr glau, chrty in prt, chrt tan lt gry shrp  
 frsh opa q

dolo drk tan gry, gry f vf xln dns hrd blkly ang,  
 arg silty gritty tr sndy text

dolo silty dolo, tan drk tan gry, bec gry f vf xln  
 dns hrd blkly ang gritty gran, sli sndy in prt,  
 bec more gry arg silty

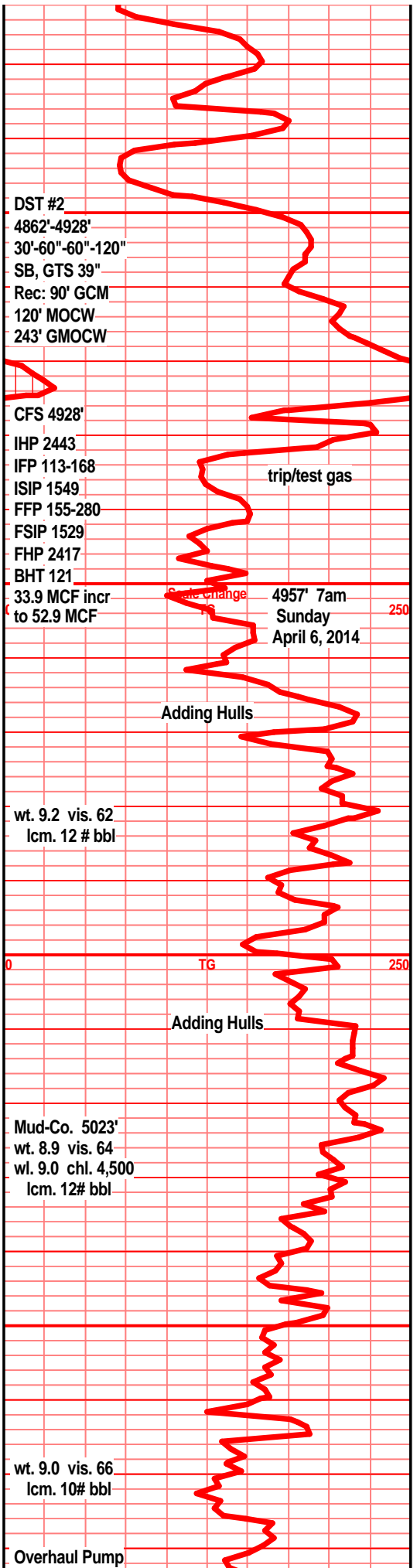
dolo, silty dolo, drk tan gry f vf xln dns hrd blkly  
 ang silty gritty, tr sndy, arg tr chrty, chrt tan  
 shrp frsh sub opa q

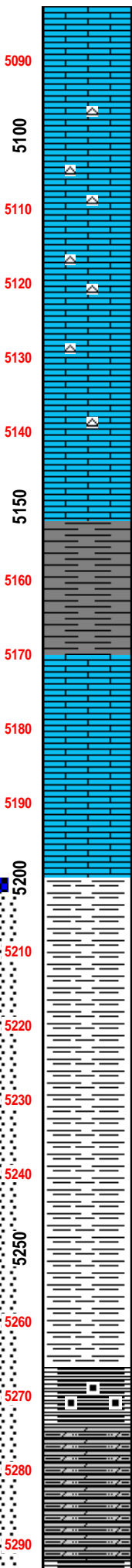
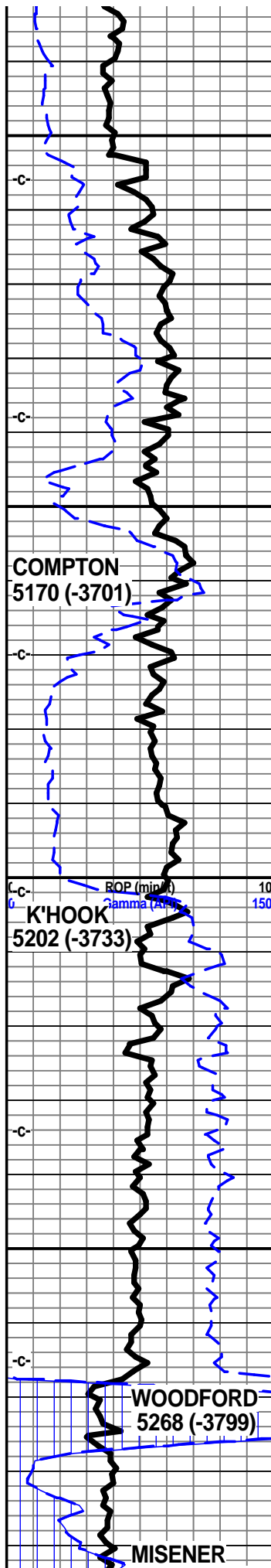
dolo silty dolo gry med gry, drker w/depth, f vf  
 xln dns hrd blkly arg, silty gritty tr sndy

dolo silty dolo gry med gry f vf xln dns hrd blkly  
 ang gritty sndy arg

dolo silty dolo, gry med gry f vf xln dns hrd  
 blkly ang gritty silty arg

dolo silty dolo, gry med tr drk gry f vf xln dns  
 hrd blkly ang pcs, silty gritty tr sndy, tr chrty,  
 chrt dull gry shrp frsh





dolo shls aa, lst wht off wht f sli med xln, blk ang tr sub chlky, micro foss frags, crs calc xln, pyritic, lst first found in 5100' spl, lagged to 5086'

lst crm wht f sli med xln blk ang sub chlky, crs foss frags, crs calc xstl inclusions

lst crm wht off wht f sli med xln, blk ang, tr sub chlky, crs foss frags, crs calc xstl inclu, chrt wht shrp frsh opa

lst crm wht off wht f xli med xln, blk ang sub chlky, crs foss frags, crs calc xstln inclu,

lst wht crm off wht gry tint, f sli med xln pyritic in prt, dns sub chlky, crs foss frags in prt, crs calc xln inclu

lst wht off wht gry tint in prt, f sli med xln, crs foss frags, crs calc xln inclu, tr sub chlky, tr chrt wht shrp frsh opa

lst wht off wht crm f sli med xln blk ang dns sub chlky, foss frags

shl gry green, silty, gritty, sndy gran text in most

shl gry, gry/green, silty, gritty gran sndy text in prt

lst dull tan crm/buff f xln, blk ang, crs foss frags in prt,

lst dull tan off wht sli buff, sli gry/green tint, f xln blk ang dns foss frags, tr crs frags in prt

lst dull tan, buff, tr w/lt gry tint, f vf xln dns hrd blk ang pcs, tr foss frags, tr crs calc xstl inclu

shl drk gry, gry/blk silty gritty, gas bubs

shl gry med gry blk, silty gritty, bedded/banded, gas bubs

shl gry med gry blk silty gritty, tr random gas bubs, pyritic

shl gry med gry blk, tr greenish tint, tr blk, semi carb text, silty gritty, gas bubs

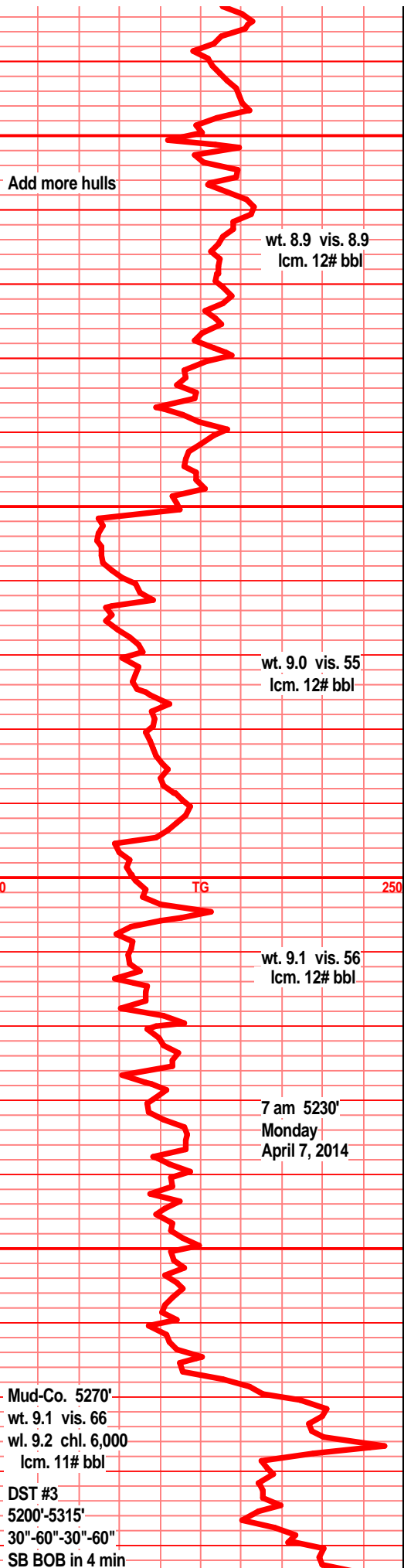
shl gry med gry blk, sli carb in prt, silty gritty pyritic in prt, silty gritty bedded/banded

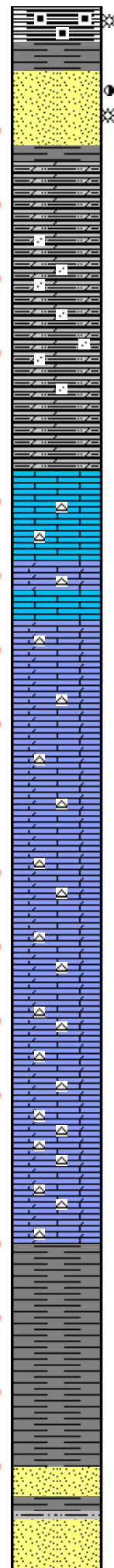
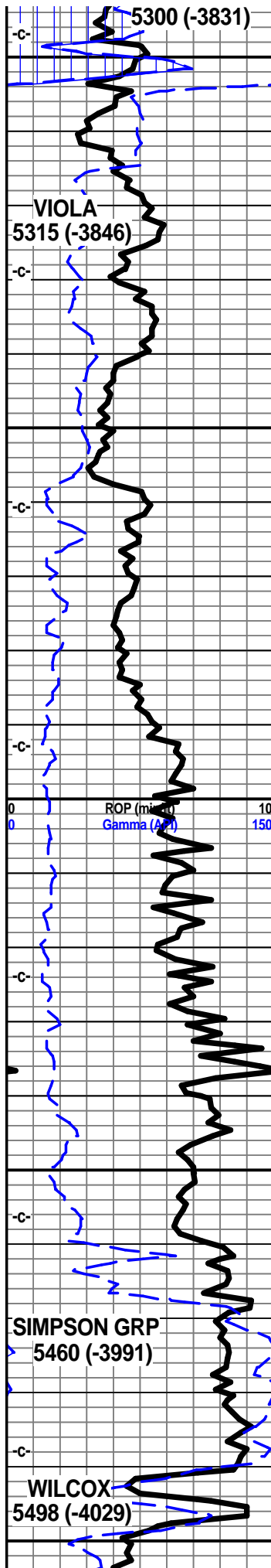
shl gry blk greenish, tr reddish brn, tr blk carb text, silty gritty gas bubs

dolo, silty dolstn, shly gritty. reddish brn/blk carb text, sndy gritty, v fn grnd sub rded snd grn inclu, cuppric, pyritic, abun gas bubs, filmy show, cond? nodor

dolostn, reddish/brn/blk, blk ang hrd pcs, silty, gritty, pyritic, cuppric, odd sub rded snd grn inclu, abun gas bubs, filmy show, brn/red streak

dolostn, drk brn/reddish/blk, silty gritty, sndy/vfn rded snd grn inclu, cuppric, pyritic





shl, mlt red and grn mnt, cuprite, pyrite, abun gas bubs, filmy show

sst wht off wht clstrs, f grnd, sub ang/ang grns, fair to prly srted, w/cem, inter grain por, tr arg, tr pyritic, brn/gry clay clast, NS, sst clear clstrs, f grnd, sub ang grns, fair to prly strd prly cem, mstly fria, inter grain por, tr clay clasts, sli odor, filmy RBSFO and gas on break, VSS transl FO droplets on break

dolo, silt dolostn, gry lt gry f grnd, silty gritty, micro sndy text, arg, hrd blkly ang dns pcs

dolo silty dolostn, gry med gry silty gritty, micro sndy in prt, tr gas bubs

dolo, silty dolostn, gry med gry, silty gritty, sndy text, blkly ang hrd pcs, tr pyritic, tr soft gran mddy, gas bubs

dolo silty sndy dolo, gry med gry, hrd blkly ang silty snd pcs, calc content, dolo tan gry f vf xln dns hrd sndy dns

lst crm off wht lt gry mott, f sli med xln blkly ang dns hrd, sub chlky, crs foss frags, crs calc xln inclu, tr inter xln inter granular por, xstln por, pyritic, chrt wht tan shrp frsh sub opa, dolo dull tan lt gry/brn f vf xln dns hrd blkly gran, gritty sndy text, chrt dull tan shrp frsh sub opa,

lst dolo in prt, tan crm drk tan brn f vf xln gran sub chlky, tr crs foss frags, tr crs calc xln inclu, tr pyritic, chrt dull tan lt gry/brn shrp frsh sub opa, dolo tan brn f xln gran sli sucr dns blkly sndy text, chrt tan dull tan shrp frsh opa

lst, dolo in prt, tan dull tan lt brn f vf xln gran blkly ang dns, tr sub chlky, tr foss frags, chrt, chrt tan dull tan brn shrp frsh sub opa, dolo tan brn f xln gran sucr text, blkly dns, chrt

lst, sli dolo in prt, drk crm tan lt brn f vf xln dns hrd blkly, tr sub chlky, tr foss frags, chrt in prt, mucho chrt tan dull tan/brn shrp frsh sub opa

lst drk crm tan lt brn f vf xln blkly ang dns hrd, tr micro foss frags, pyritic, tr sub chlky, dolo tan lt brn f vf xln blkly ang dns sucr, gritty sli sndy text, much chrt dull tan brn foss shrp frsh sub opa

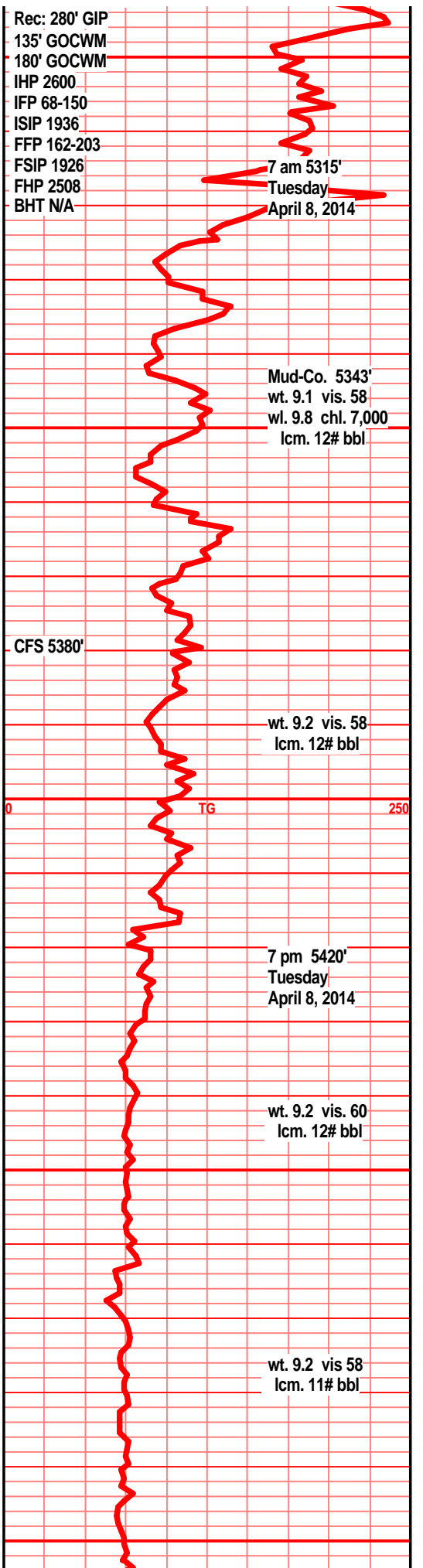
lst, dolo in prt, drk crm tan mstly ull tan brn, f vf xln dns, hrd blkly, sli sucr, sub chlky, gran sli sucr, much chrt, dull tan lt brn shrp frsh sub opa,

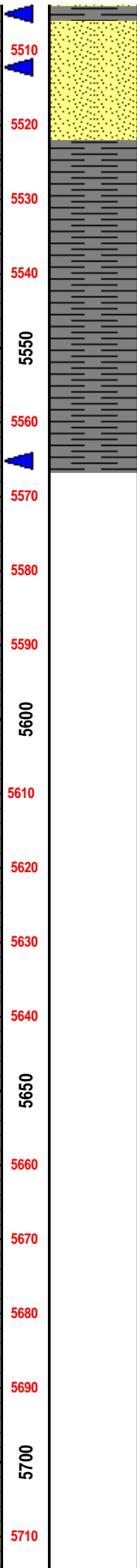
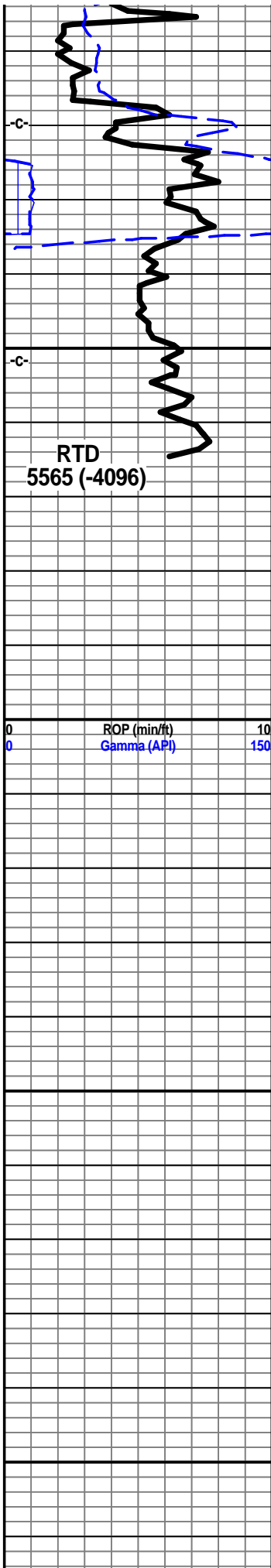
shl gry green teal green, slick wxy grsy text, pyritic bands

shl gry, green/teal green, wxy grsy, text, pyritic text, single snd grn inclu

shl drk gry, gry/green, teal green, slick, wxy grsy text, tr pyritic, tr sing snd grn inclu

sst lt gry green clstrs, vf grnd, w/srtd, sub ang grns, w/cem, silic cem, pyritic, sst wht off wht lt gry/green tint clstrs, f grnd, sub ang/sub rded grns, w/srtd, w/cem, sub fria, tr arg, tr clay fill tr pyritic tr inter gran por NS





5510  
sst wht clstrs f grnd, sub ang/sub rded grns, prly srted, prly cem, sub fria to fria, gran soft clstrs, much glau, calc fill, mstly silic cem, NS

5520  
sst wht off wht clstrs, f grnd, sub ang/sub rded grns, f/prly srted, w/cem, f/w cem, sub fria, much glau, tr tan brn dolo fill, tr clay/blk mineral fill

5530  
shl drk gry, gry/green, teal green, fnly silty, slick wxy grsy text. pyritic bands, tr vfn w/rded clr snd grn inluc

5540  
shl gry/green, teal green, vry fnly silty, wxy grsy text, pyritic bands, blkly ang pcs

5550  
shl gry green, drk gry/green, teal green, slick wxy grsy text, pyritic bands, tr vfn well rded sub rded snd grn incl, tr glau

