



KANSAS CORPORATION COMMISSION 1050015  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

June 2009

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
- Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

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

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

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

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

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

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

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

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

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

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

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

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

Total 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**

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



1050015

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

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

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

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 Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  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
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

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
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <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> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Woolsey Operating Company, LLC
Well Name	CANTRELL 1
Doc ID	1050015

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
CONDUCTOR	30	20	52	42	GROUT	4	4 yds GROUT (not sx)
SURFACE	14.75	10.75	28	235	CLASS A	230	2% gel, 3% cc
PRODUCTION	7.875	5.5	15.5	5059	POZ	50	4% gel, 1/4# Celoflake
PRODUCTION	7.875	5.5	15.5	5059	CLASS H	150	10% salt, 10% Gypseal, 6# Kolseal, 1/4# Celoflake, .8% fluid loss

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



phone: 316-337-6200  
fax: 316-337-6211  
<http://kcc.ks.gov/>

Thomas E. Wright, Chairman  
Ward Loyd, Commissioner

Corporation Commission

Sam Brownback, Governor

February 04, 2011

DEAN PATTISSON  
Woolsey Operating Company, LLC  
125 N MARKET STE 1000  
WICHITA, KS 67202-1729

Re: ACO1  
API 15-077-21690-00-00  
CANTRELL 1  
SW/4 Sec.23-34S-09W  
Harper County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
DEAN PATTISSON

# ALLIED CEMENTING CO., LLC. 042230

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:

Medicine Lodge, KS

DATE 10-9-2010	SEC. 23	TWP. 34S	RANGE 9W	10-8 CALLED OUT 8:30 pm	10-8 ON LOCATION 8:30 pm	10-9 JOB START 7:00 am	10-9 JOB FINISH 7:30 am
LEASE <u>Centrell</u>	WELL # 1	LOCATION <u>Hgzela on Ks East to Corwin</u>			COUNTY <u>Harper</u>	STATE <u>Ks</u>	
OLD OR <u>(NEW)</u> (Circle one)		SIGN, <u>6500 ft, 1 1/4 ESS, N. Link</u>					

CONTRACTOR Duke #10

TYPE OF JOB Surface

HOLE SIZE 14 3/4 T.D. 235

CASING SIZE 10 3/4 DEPTH 233

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. 20'

PERFS. \_\_\_\_\_

DISPLACEMENT 20 3/4 bbls of Fresh water

EQUIPMENT \_\_\_\_\_

OWNER Woulsay operating

CEMENT

AMOUNT ORDERED 230s Class A + 3% loc

2 2/10 601

COMMON <u>A 230 sx</u>	@ <u>15.45</u>	<u>3553.50</u>
POZMIX _____	@ _____	_____
GEL <u>5 sx</u>	@ <u>20.80</u>	<u>104.00</u>
CHLORIDE <u>8 sx</u>	@ <u>58.20</u>	<u>465.60</u>
ASC _____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____

**WELL FILE**

Regulatory Correspondence \_\_\_\_\_

Orig. Comp. Workovers \_\_\_\_\_

Tests / Meters Operations \_\_\_\_\_

PUMP TRUCK CEMENTER Darin F

# 352 HELPER Dale F. Mart T.

BULK TRUCK

# 364 DRIVER Jason T

BULK TRUCK

# \_\_\_\_\_ DRIVER \_\_\_\_\_

NOV 03 2010

HANDLING <u>243</u>	@ <u>2.40</u>	<u>583.20</u>
MILEAGE <u>243.10/25</u>	@ _____	<u>607.50</u>
TOTAL		<u>533.80</u>

**REMARKS:**

Pipe on bottom & break circulation

Pump 3 bbls fresh water shoe, mix

230s of cement, Displace 20 3/4 bbls

& Shut in, cement did circulate

**SERVICE**

DEPTH OF JOB <u>233'</u>	_____
PUMP TRUCK CHARGE <u>1018.00</u>	_____
EXTRA FOOTAGE _____	@ _____
MILEAGE <u>25</u>	@ <u>7.00</u> <u>175</u>
MANIFOLD _____	@ _____
<u>Swedge &amp; Valve</u>	@ _____
_____	@ _____
TOTAL <u>1193.00</u>	

CHARGE TO: Woulsay Operating

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**PLUG & FLOAT EQUIPMENT**

<u>None</u>	@ _____
_____	@ _____
_____	@ _____
_____	@ _____
_____	@ _____
TOTAL _____	

To Allied Cementing Co., 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 <del>_____</del>	_____
DISCOUNT _____	_____
IF PAID IN 30 DAYS	

PRINTED NAME K Herb Durant

SIGNATURE K Herb Durant

Thank You!!!

# ALLIED CEMENTING CO., LLC. 041412

Federal Tax I.D.# 20-5975804

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

SERVICE POINT: Medicine Lodge KS

DATE <u>10-24-10</u>	SEC. <u>23</u>	TWP. <u>34s</u>	RANGE <u>9w</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Antrell</u>	WELL # <u>1</u>	LOCATION <u>Corwin Rd, 6 South</u>		COUNTY <u>Harper</u>	STATE <u>Kansas</u>		
OLD OR NEW (Circle one) <u>NEW</u>		<u>1 1/2 East N/S</u>					

CONTRACTOR Duke #10 OWNER Woolsey Operating  
TYPE OF JOB Production

HOLE SIZE \_\_\_\_\_ T.D. 5059'  
CASING SIZE 5 1/2 x 15.5" DEPTH 5059'  
TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
PRES. MAX 1750' MINIMUM \_\_\_\_\_  
MEAS. LINE \_\_\_\_\_ SHOE JOINT 44.20

CEMENT AMOUNT ORDERED 13 Bags Claproc  
90 x 60:40:4.6cc  
150 x Class H + 10% Gyp 10% salt + 6# flo seal  
- 8% FI-160 + 4# flo seal

COMMON	<u>54</u> sx	@	<u>15.45</u>	<u>834.30</u>
POZMIX	<u>36</u> SK	@	<u>8.00</u>	<u>288.00</u>
GEL	<u>4</u> SX	@	<u>20.80</u>	<u>83.20</u>
CHLORIDE		@		
ASC		@		
H =	<u>150</u> sx	@	<u>16.75</u>	<u>2512.50</u>
Gypseal	<u>14</u> sx	@	<u>29.20</u>	<u>408.80</u>
Salt	<u>16</u> sx	@	<u>12.00</u>	<u>192.00</u>
Kolseal	<u>900</u> #	@	<u>-89</u>	<u>801.00</u>
FI-160	<u>112</u> #	@	<u>13.30</u>	<u>1489.60</u>
Flo seal	<u>37.5</u> #	@	<u>2.50</u>	<u>93.75</u>
KCC	<u>12</u> Gal	@	<u>31.25</u>	<u>374.40</u>

CEMENT LEFT IN CSG. \_\_\_\_\_  
PERFS. \_\_\_\_\_  
DISPLACEMENT 120 Bbls 2% KCL  
EQUIPMENT \_\_\_\_\_

PUMP TRUCK CEMENTER Carl Baldwin  
# 352 HELPER Cesar  
BULK TRUCK DRIVER Tom Becker  
# 356-252  
BULK TRUCK DRIVER \_\_\_\_\_

WELL FILE  
Regulatory Correspondence  
Drig / Comp Workovers  
Tests / Meters Operations

HANDLING 297 @ 2.40 712.80  
MILEAGE 297/25/10 742.50  
TOTAL 8532.85

REMARKS:

Run 5059' 5 1/2 casing, Circulate on bottom w/ Rig. Plug Dat + more hole w/ 40 sx 160:40:4, Mix + pump 50 sx 60:40:5 scavenger slurry + 150 sx class H + additives wash out pump + lines + repair plug Displace with 120 Bbls 2% KCL water. Bony plug + float held

SERVICE

DEPTH OF JOB 5059'  
PUMP TRUCK CHARGE 2185.00  
EXTRA FOOTAGE @ \_\_\_\_\_  
MILEAGE 25 @ 7.00 175.00  
MANIFOLD @ \_\_\_\_\_  
Head Rental @ \_\_\_\_\_ N/C

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

TOTAL 2360.00

PLUG & FLOAT EQUIPMENT

1-Atv Float shoe	@	<u>214.20</u>
1-Latch Down Plug	@	<u>163.80</u>
15-Dec scratchers	@	<u>23.94</u> <u>359.10</u>
10-Turbolizers	@	<u>40.60</u> <u>406.00</u>
	@	

TOTAL 1143.10

To Allied Cementing Co., 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 10,385.95  
DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS 10,385.95

PRINTED NAME MIKE THARP  
SIGNATURE M. Woolsey



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Woolsey Operating Com.

**Cantrell #1**

125MarketSTE1000  
Wichita Ks 67202

**Harper co**

Job Ticket: 039212

**DST#: 1**

ATTN: Bill Klaver

Test Start: 2010.10.17 @ 13:10:52

## GENERAL INFORMATION:

Formation: **mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:21:21

Time Test Ended: 23:10:21

Test Type: Conventional Bottom Hole

Tester: Justin Mayes

Unit No: 45

**Interval: 4580.00 ft (KB) To 4610.00 ft (KB) (TVD)**

Reference Elevations: 1291.00 ft (KB)

Total Depth: 4610.00 ft (KB) (TVD)

1280.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8367 Outside**

Press @RunDepth: 48.83 psig @ 4581.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.10.17 End Date: 2010.10.17

Last Calib.: 2010.10.18

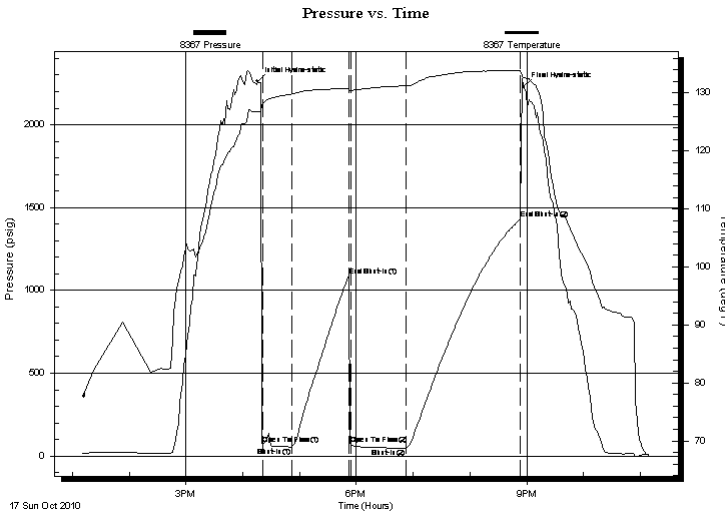
Start Time: 13:10:52 End Time: 23:10:21

Time On Btm: 2010.10.17 @ 16:15:51

Time Off Btm: 2010.10.17 @ 20:56:51

**TEST COMMENT:** IF:W/B-SLI Build BOB 5min.  
IS:Fair Blow Back  
FF:Strong Blow BOB Immediately  
FS:No Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2261.34	126.78	Initial Hydro-static
6	71.77	128.16	Open To Flow (1)
36	55.46	129.87	Shut-In(1)
96	1085.41	130.72	End Shut-In(1)
98	70.57	130.43	Open To Flow (2)
157	48.83	131.25	Shut-In(2)
278	1432.47	133.90	End Shut-In(2)
281	2229.16	132.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	GOCM 2%g 2%o 96%m	0.63
0.00	1129ft GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Woolsey Operating Com.

**Cantrell #1**

125MarketSTE1000  
Wichita Ks 67202

**Harper co**

Job Ticket: 039212

**DST#: 1**

ATTN: Bill Klaver

Test Start: 2010.10.17 @ 13:10:52

### 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:

5000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.20 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
45.00	GOCM 2%g 2%o 96%m	0.631
0.00	1129ft GIP	0.000

Total Length: 45.00 ft      Total Volume: 0.631 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

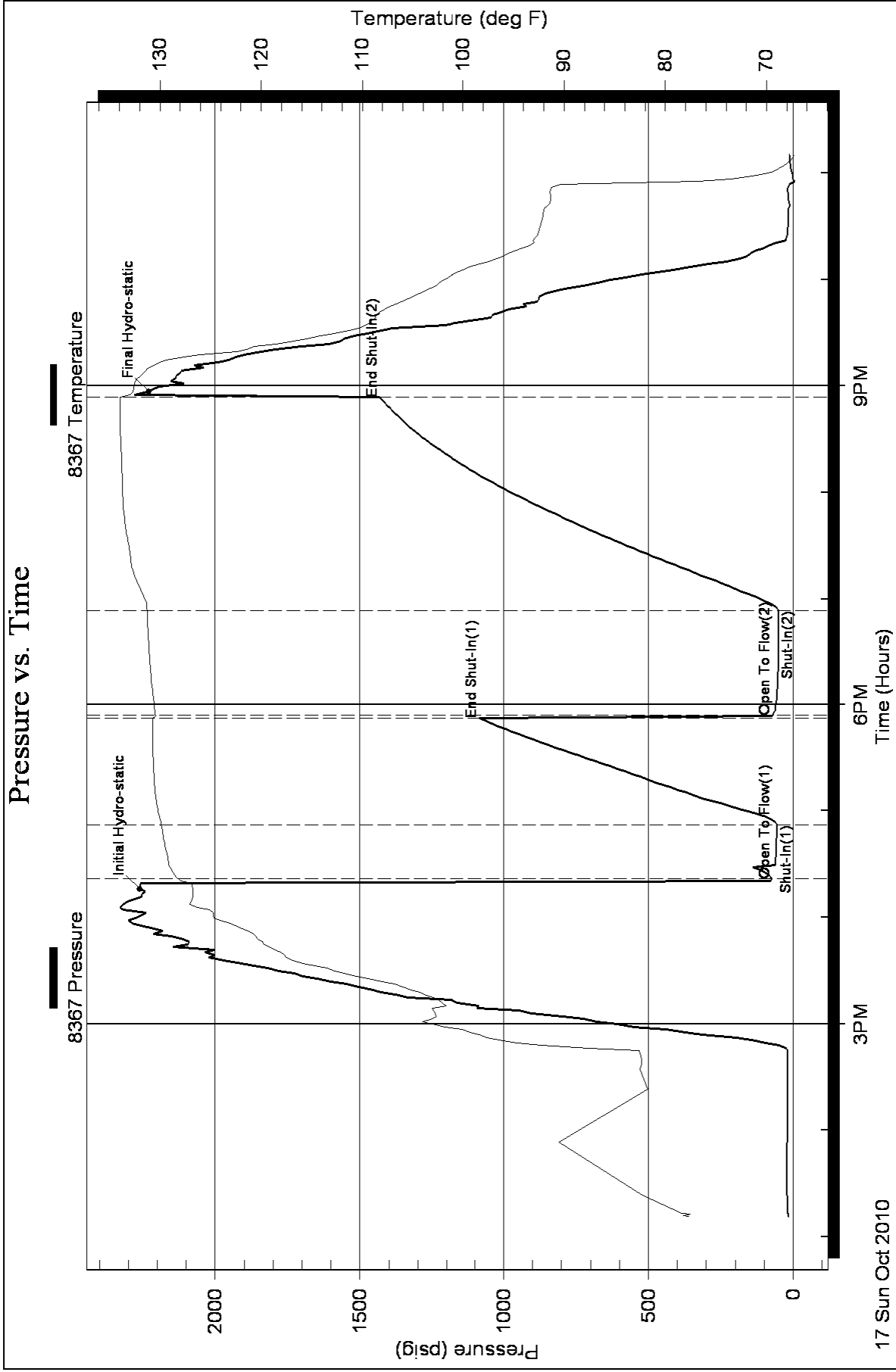
Laboratory Name:

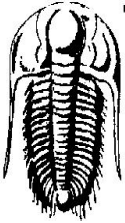
Laboratory Location:

Recovery Comments:



### Pressure vs. Time





**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Woolsey Operating Com.  
125MarketSTE1000WichitaKs.67202  
ATTN: Bill Klaver

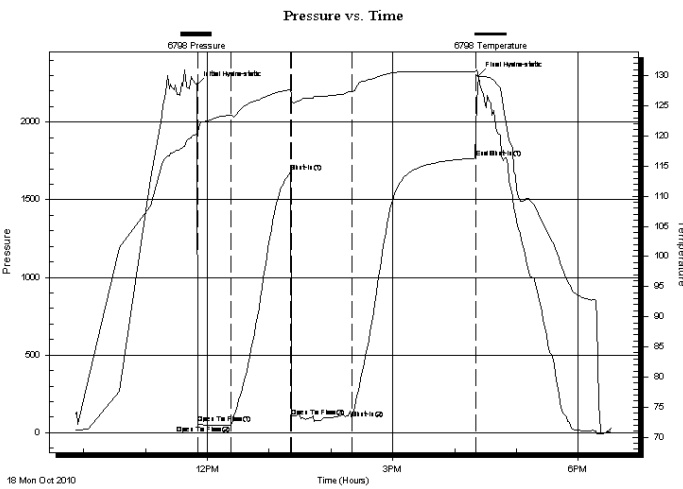
**Cantrell #1**  
**Harper co**  
Job Ticket: 039213 **DST#: 2**  
Test Start: 2010.10.18 @ 09:05:00

### GENERAL INFORMATION:

Formation: **miss**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 00:00:00  
Time Test Ended: 00:00:00  
Interval: **4612.00 ft (KB) To 4644.00 ft (KB) (TVD)**  
Total Depth: 44644.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole  
Tester: Justin Mayes  
Unit No: 45  
Reference Elevations: 1291.00 ft (KB)  
1280.00 ft (CF)  
KB to GR/CF: 11.00 ft

**Serial #: 6798 Inside**  
Press@RunDepth: 1768.05 psig @ 4613.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2010.10.18 End Date: 2010.10.18 Last Calib.: 1899.12.30  
Start Time: 09:52:29 End Time: 18:31:59 Time On Btm: 2010.10.18 @ 11:49:59  
Time Off Btm: 2010.10.18 @ 16:22:59

TEST COMMENT: IF: BOB in 15 MIN  
ISI: no blow back  
FF BOB immedialey  
FSI no blow back



### PRESSURE SUMMARY

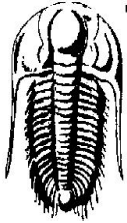
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2240.80	120.24	Initial Hydro-static
1	58.34	120.77	Open To Flow (1)
33	48.39	123.37	Open To Flow (2)
91	1677.20	127.63	Shut-In(1)
92	105.24	125.60	Open To Flow (3)
150	90.67	127.32	Shut-In(2)
271	1768.05	130.68	End Shut-In(1)
273	2298.27	129.86	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
0.00	1000 FT. GIP.	0.00
95.00	gocm 2%G 2 o 96%mud	1.33

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Woolsey Operating Com.

**Cantrell #1**

125MarketSTE1000WichitaKs.67202

**Harper co**

Job Ticket: 039213

**DST#: 2**

ATTN: Bill Klaver

Test Start: 2010.10.18 @ 09:05:00

### 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: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.97 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.20 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	1000 FT. GIP.	0.000
95.00	gocm 2%G 2 o 96%mud	1.333

Total Length: 95.00 ft      Total Volume: 1.333 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

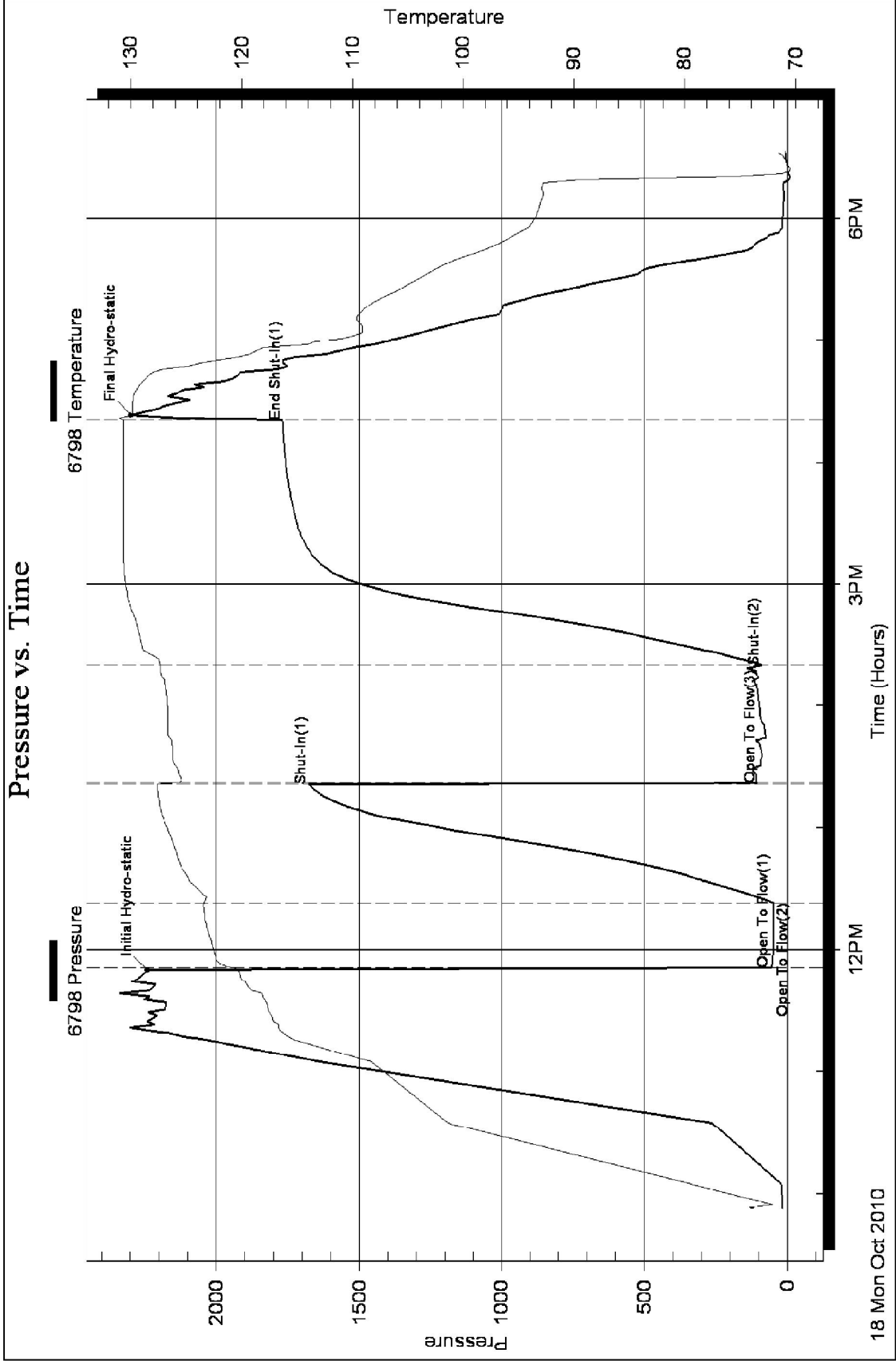
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Woolsey Operating Co

**CANTRELL #1**

125 N. Market  
Suite 1000  
Wichita, Ks 67202-1729  
ATTN: Bill Klaver

**23-34s-9w-HARPER-KS**

Job Ticket: 39465 **DST#: 3**

Test Start: 2010.10.19 @ 02:00:00

## GENERAL INFORMATION:

Formation: **MISSISSIPPIAN**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:41:40

Time Test Ended: 10:02:09

Test Type: Conventional Bottom Hole

Tester: Jake Fahrenbruch

Unit No: 43

**Interval: 4646.00 ft (KB) To 4670.00 ft (KB) (TVD)**

Reference Elevations: 1290.00 ft (KB)

Total Depth: 4670.00 ft (KB) (TVD)

1279.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8648**

**Inside**

Press @ Run Depth: 30.98 psig @ 4647.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.10.19

End Date:

2010.10.19

Last Calib.: 2010.10.19

Start Time: 02:00:05

End Time:

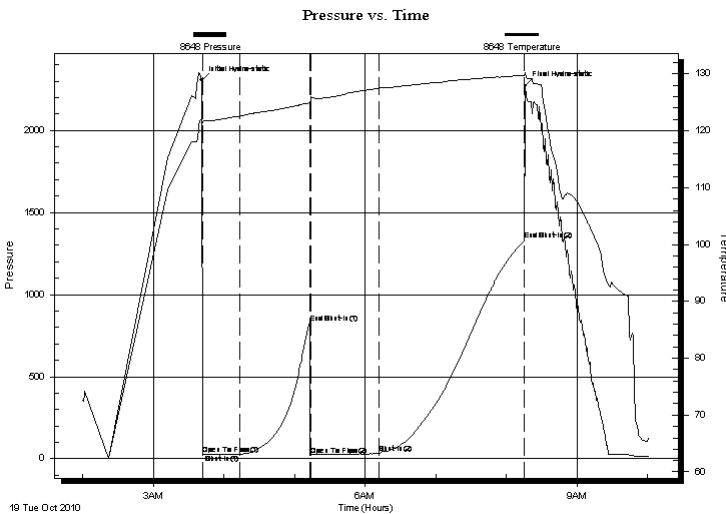
10:02:09

Time On Btm: 2010.10.19 @ 03:41:00

Time Off Btm: 2010.10.19 @ 08:16:00

**TEST COMMENT:** IF: Weak blow, sporadically built to 6" in bucket.  
IS: Bled off, no blow back.  
FF: Fair blow, steadily built to BOB in 28 minutes.  
FS: Bled off, no blow back.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2304.38	121.73	Initial Hydro-static
1	25.60	121.38	Open To Flow (1)
33	25.87	122.60	Shut-In(1)
92	826.73	124.92	End Shut-In(1)
93	22.56	125.75	Open To Flow (2)
151	30.98	127.49	Shut-In(2)
275	1330.69	129.81	End Shut-In(2)
275	2272.56	130.27	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	SOCM 7%o 93%m	0.70
0.00	460' Gas In Pipe	0.00
0.00	Clean oil in tools	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Woolsey Operating Co

**CANTRELL #1**

125 N. Market  
Suite 1000  
Wichita, Ks 67202-1729  
ATTN: Bill Klaver

**23-34s-9w-HARPER-KS**

Job Ticket: 39465      **DST#: 3**

Test Start: 2010.10.19 @ 02:00:00

## 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: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.74 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.20 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	SOCM 7%o 93%m	0.701
0.00	460' Gas In Pipe	0.000
0.00	Clean oil in tools	0.000

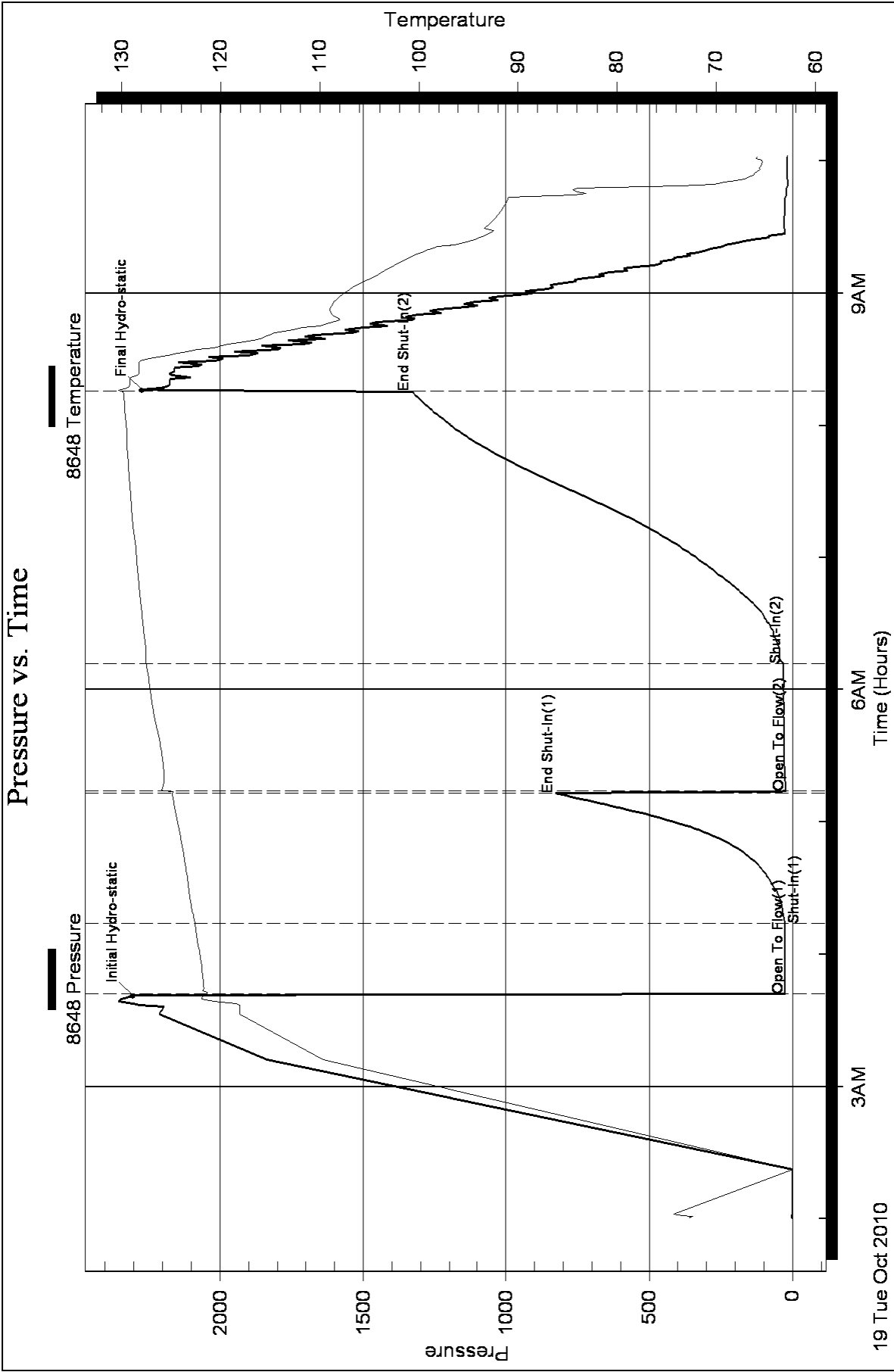
Total Length: 50.00 ft      Total Volume: 0.701 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Woolsey Operating Co

**CANTRELL #1**

125 N. Market  
Suite 1000  
Wichita, Ks 67202-1729  
ATTN: Bill Klaver

**23-34s-9w-HARPER-KS**

Job Ticket: 39214 **DST#: 4**

Test Start: 2010.10.21 @ 22:06:00

## GENERAL INFORMATION:

Formation: **SIMPSON**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:02:30

Time Test Ended: 06:21:00

Test Type: Conventional Bottom Hole

Tester: Jake Fahrenbruch

Unit No: 45

**Interval: 5036.00 ft (KB) To 5060.00 ft (KB) (TVD)**

Reference Elevations: 1290.00 ft (KB)

Total Depth: 5060.00 ft (KB) (TVD)

1279.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6798 Inside**

Press @ Run Depth: 36.23 psig @ 5037.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.10.21

End Date:

2010.10.22

Last Calib.:

2010.10.22

Start Time: 22:06:01

End Time:

06:21:00

Time On Btm:

2010.10.22 @ 00:00:30

Time Off Btm:

2010.10.22 @ 04:32:30

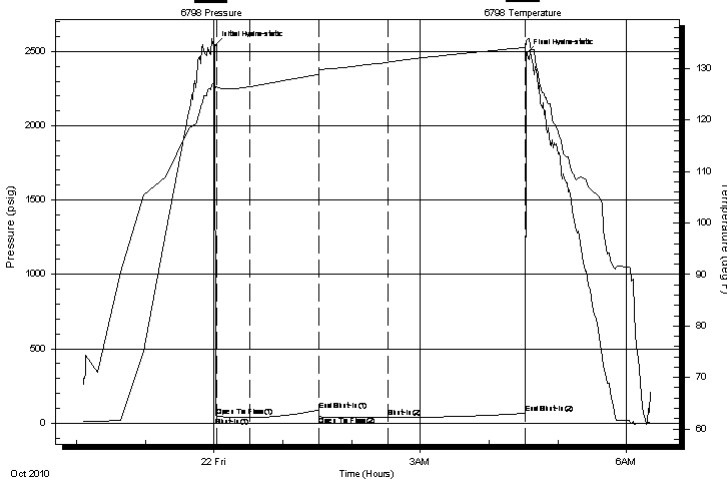
**TEST COMMENT:** IF: Weak blow, built to .25" in 5 minutes, dead blow after 13 minutes.

IS: No blow.

FF: No blow.

FS: No blow.

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2537.69	127.03	Initial Hydro-static
2	45.89	126.43	Open To Flow (1)
31	37.31	126.51	Shut-In(1)
91	88.63	128.90	End Shut-In(1)
91	46.33	129.46	Open To Flow (2)
151	36.23	131.26	Shut-In(2)
271	65.58	134.14	End Shut-In(2)
272	2481.92	135.41	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
7.00	Drilling Mud 100% mud	0.10

## Gas Rates

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





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TESTING, INC**

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**FLUID SUMMARY**

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**CANTRELL #1**

125 N. Market  
Suite 1000  
Wichita, Ks 67202-1729  
ATTN: Bill Klaver

**23-34s-9w-HARPER-KS**

Job Ticket: 39214      **DST#: 4**

Test Start: 2010.10.21 @ 22:06:00

## 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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 12.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 10000.00 ppm			
Filter Cake: 0.20 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
7.00	Drilling Mud 100% mud	0.098

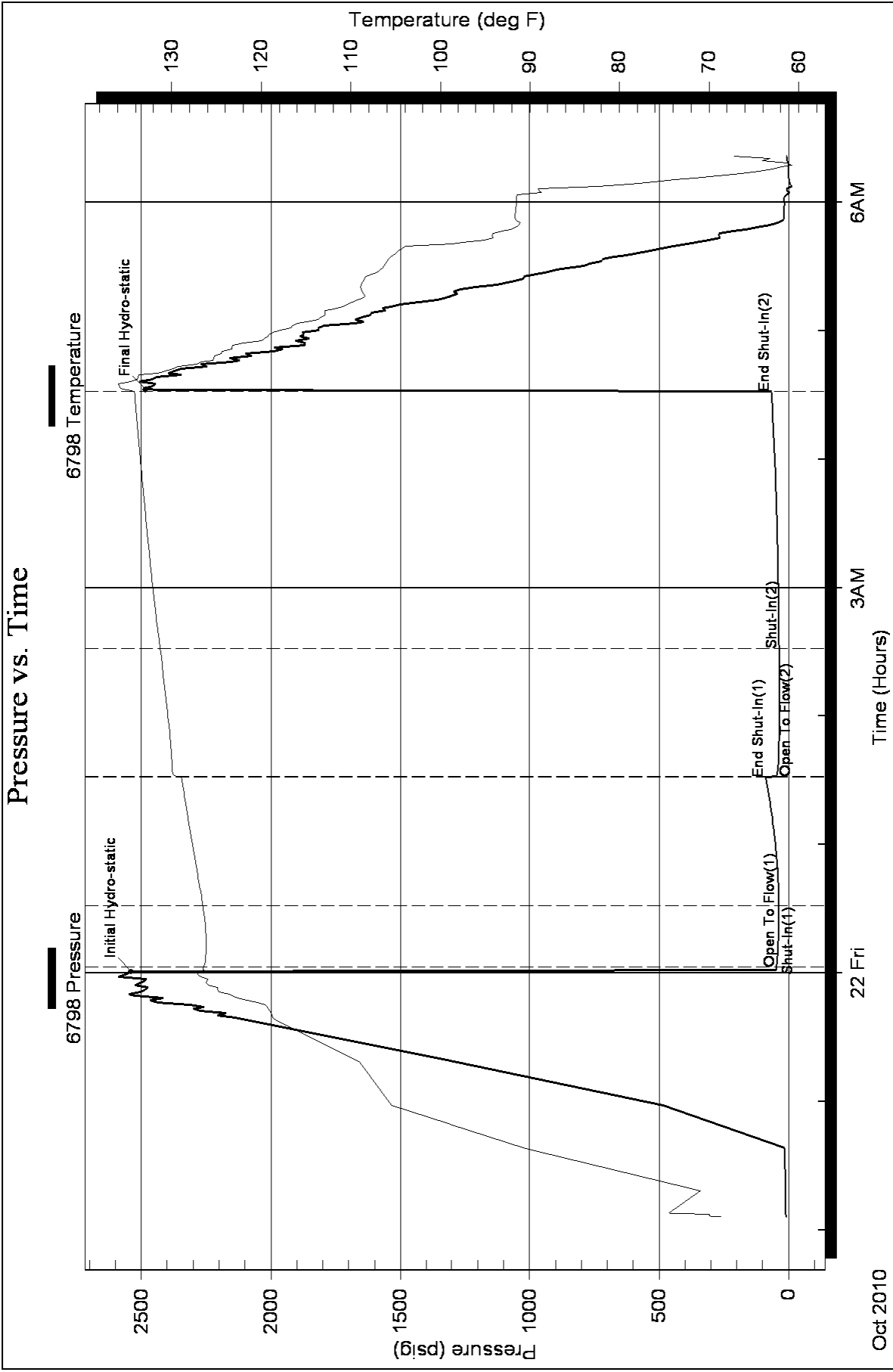
Total Length: 7.00 ft      Total Volume: 0.098 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time





## Woolsey Operating Company, LLC

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

Measured Depth Log

Well Name: Cantrell #1  
Location: Approx NW SE SE SW  
License Number: 15-077-21690  
Spud Date: October 9, 2010  
Surface Coordinates: 350' FSL & 2080' FEL    Sec 23 Twp34S-Rge 9W  
Field: Hibbard  
Bottom Hole Coordinates: Verticle Hole  
Region: Harper Co, KS  
Drilling Completed:  
Ground Elevation (ft): 1279'    K.B. Elevation (ft): 1290'  
Logged Interval (ft):                      To:                      Total Depth (ft): 5310'  
Formation: Total Depth in Arbuckle  
Type of Drilling Fluid: Chemical Displaced at 3180'  
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: Bill Klaver  
Company: Woolsey Operating Co. LLC  
Address: 125 N. Market, Wichita Kansas, 67202

### COMMENTS

Surface Casing: Set 20" conductor to 42' w/4 yards grout. Ran 6 joints of new 10 3/4" X 28# casing to 235' KB w/230 sx, 2% gel, 3% cc. Cement did circulate.  
Production Casing: 5 1/2"

Deviation Surveys: 1/4 at 235', 1/4 at 1217', 1/4 at 1713', 1/2 at 2710', 1/2 at 3243', 1/2 at 3743', 1/2 at 4276', 1/2 at 4610', 1/2 at 5310'

Pipe Strap @ 4610', Board: 4619.95, Strap: 4622.40'. 2,45' long

Duke Drilling Rig 10 Bit Record:

#1 14 3/4" HTC RR in at GL, out at 235'

#2 7 7/8" Varrel HE-29 in at 235' out at

Gas Detector: Woolsey Operating Co.

Mud System: Mud Co. Brad Bortz, Aaron Rush, Engineers

DSTs: Trilobite Testing Inc. Jake Rahrenbruch, Justin Mayes, Testers

OH Logs: Dual Induction Laterolog-Micro Log w/SP, CNL-FDC w/PE GR & Caliper. Full Wave Sonic w/GR

### DSTs

DST #1 Mississippi, 4580'-4610'. 30"-60"-60"-120", FB, BOB in 15" into IFP, SB BOB 5" into FFP. Rec: 1129' GIP, 45' SO&GCM (2% Oil, 2% Gas, 96% Mud). IHP 2261, IFP 71-55, ISIP 1085, FFP 70-48, FSIP 1432, FHP 2229. BHT 134.

DST #2 Mississippi, 4612'-4644'. 30"-60"-60"-120", FB BOB in 15" into IFP, SB immediately into FFP. Rec: 1000' GIP, 95' SO&GCM (2% Oil, 2% Gas, 96% Mud). IHP 2240, IFP 58-48, ISIP 1677, FFP 105-90, FSIP 1768, FHP 2298. BHT 130.





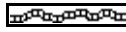



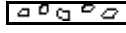





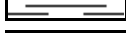

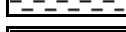


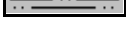



DST #3 Mississippi, 4646'-4670'. 30"-60"-60"-120", Fair 6' blow on IFP, BOB in 28 minutes of FFP. Rec: 460' GIP, 50' SOCM (7% Oil, 93% Mud), Clean oil in tool. IHP 2304, IFP 25-25, ISIP 826, FFP 22-30, FSIP 1330, FHP 2272. BHT 130.

DST #4 Simpson, 5036'-5060'. 30"-60"-60"-120", Weak blow died. Rec: 7' Mud. IHP 2537, IFP 45-37, ISIP 88, FFP 46-36, FSIP 65, FHP 2481. BHT 134.

### CREWS

Joe Livingston, Tool Pusher (Semi-Retired)  
 Lyle Cason, Relief  
 Scott Edwards, Days  
 Colby Crawford, Evening  
 Alex Ordonez, Mornings

### ROCK TYPES

	Anhy		Congl		Lmst		Black sh
	Bent		Sdy dolo		Mrlst		Gry sh
	Brec		Shy dolo		Salt		Shale
	Cht		Dol		Shale		Shyslts
	Clyst		Gyp		Slstst		Sltysh
	Coal		Sdy lmst		Ss		

### ACCESSORIES

#### MINERAL

- Anhy
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Ferrpel
- Ferr
- Glau
- Gyp
- Marl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt

- Chlorite
- Dol
- Sand
- Slty

#### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra

- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomoldic

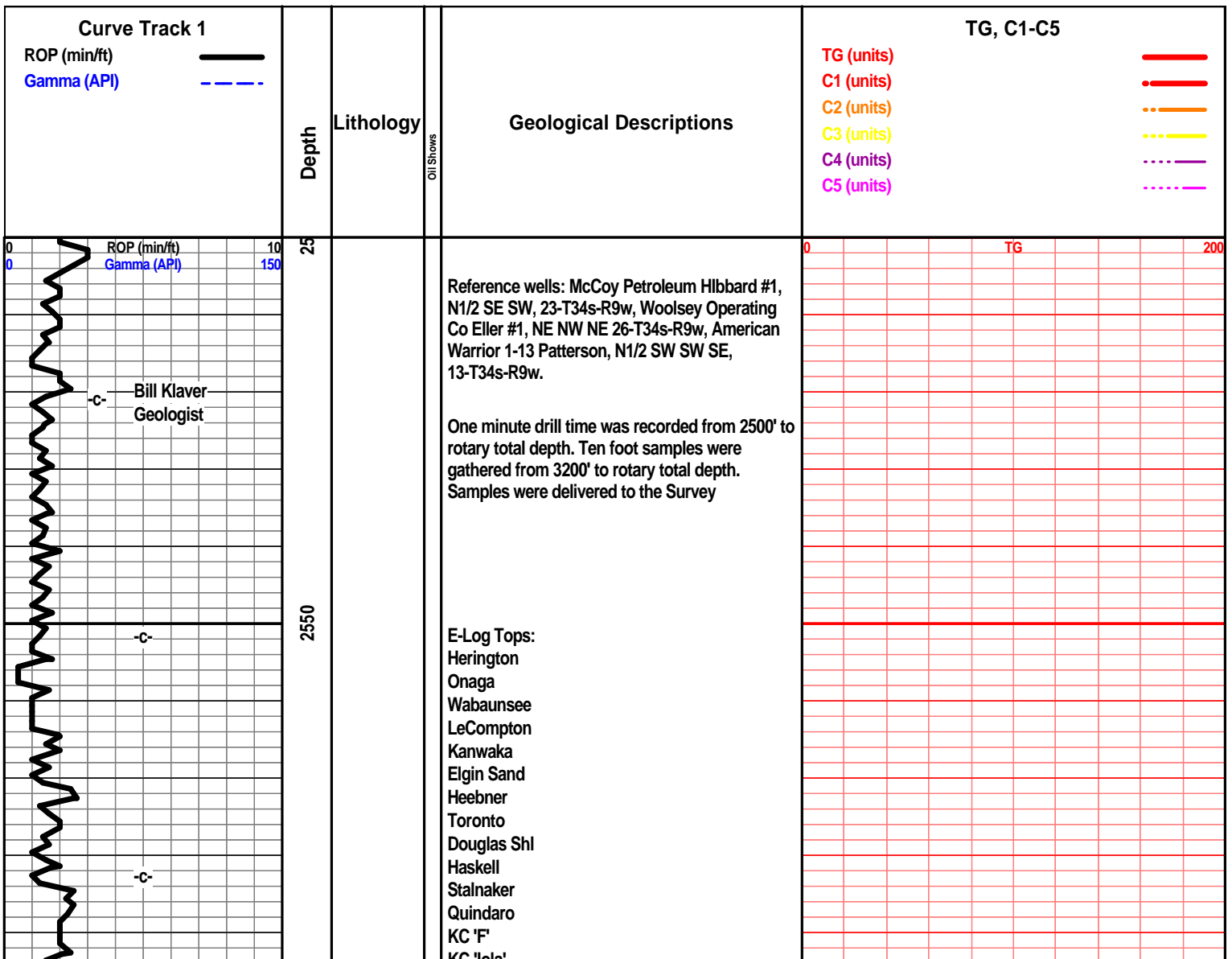
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Slstn

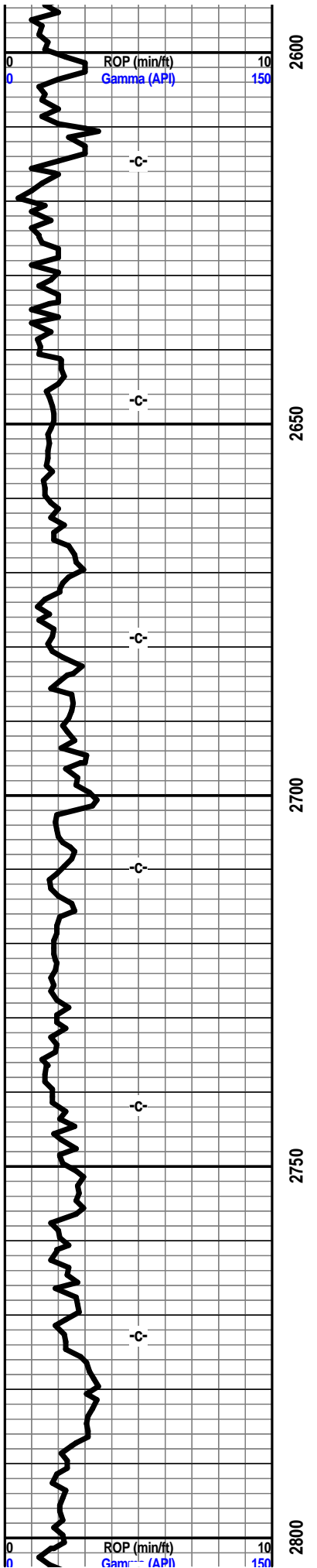
#### STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Slststrg
- Ssststrg
- Carbsh
- Clystn
- Dol

#### TEXTURE

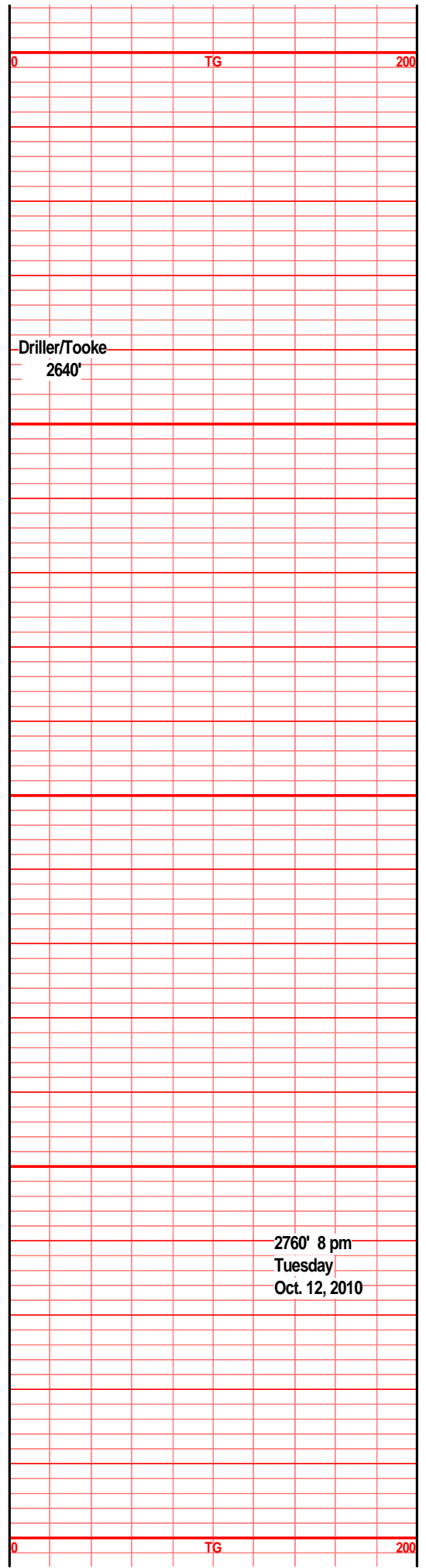
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest





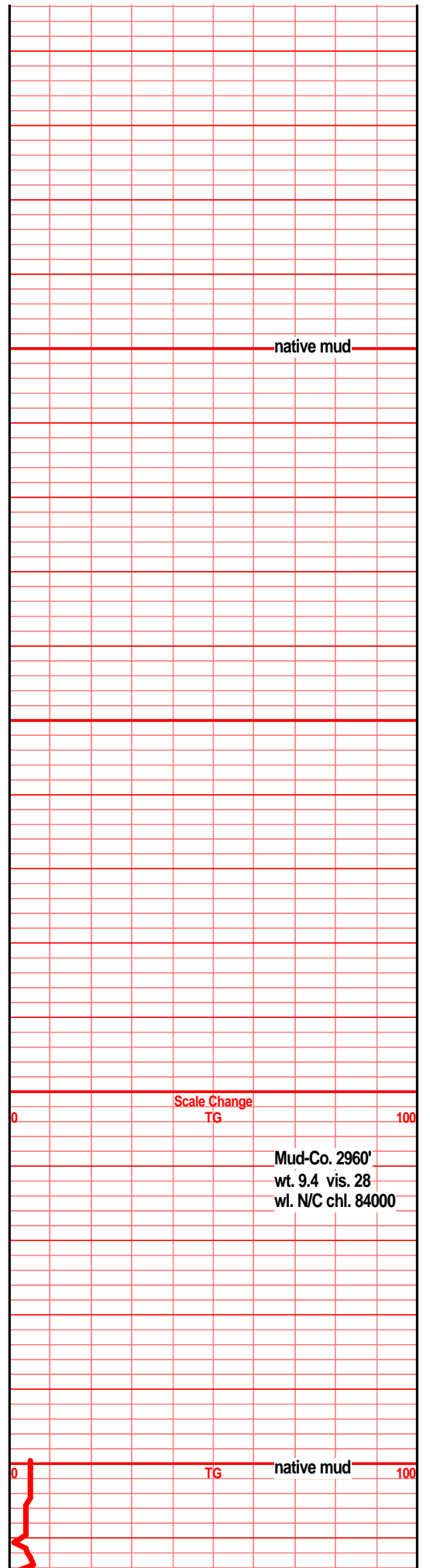
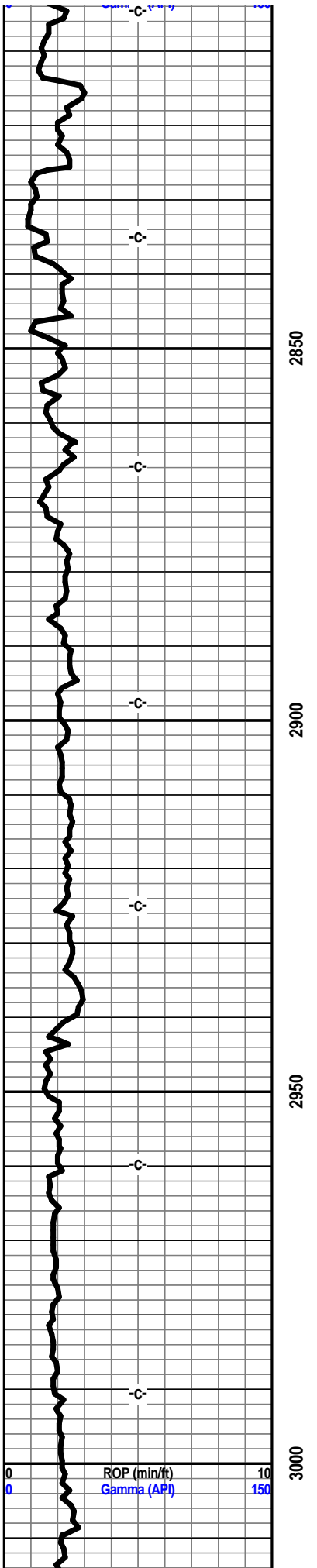
KC 'Dennis'  
 Stark  
 KC 'Swope'  
 Hushpuckney  
 KC 'Hertha'  
 B/Kansas City  
 Pawnee  
 Cherokee Grp  
 Mississippi  
 Compton  
 Kinderhook  
 Woodford  
 Misener  
 Viola  
 Simpson Grp  
 Wilcox  
 McLish Shl  
 McLish Sd  
 Arbuckle  
 LTD

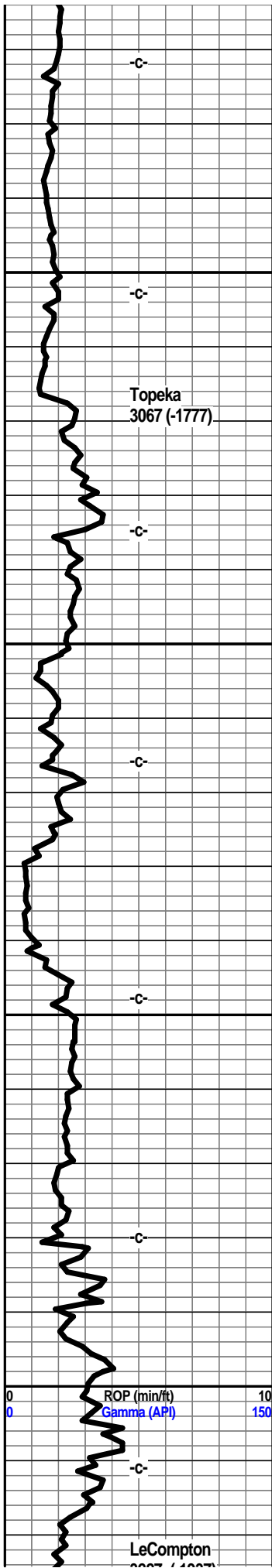
Daily 7 am Activity  
 October 8, 2010 MIRT  
 October 9, 2010 Spud  
 October 10, 2010 Drilling at 692'  
 October 11, 2010 Drilling at 1749'  
 October 12, 2010 Drilling at 2407'  
 October 13, 2010 Drilling at 3060'  
 October 14, 2010 Drilling at 3626'  
 October 15, 2010 Drilling at 4064'  
 October 16, 2010 Drilling at 4419'  
 October 17, 2010 DST #1 at 4610'  
 October 18, 2010 DST #2 at 4644'  
 October 19, 2010 DST #3 at 4670'  
 October 20, 2010 Drilling at 4830'  
 October 21, 2010 Drilling at 4948'  
 October 22, 2010 CFS at 5220'



Driller/Tooke  
 2640'

2760' 8 pm  
 Tuesday  
 Oct. 12, 2010





3050

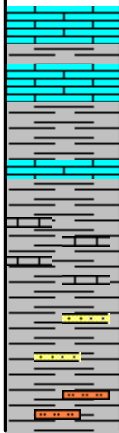
3100

3150

3200

Oil/Gas Show Legend

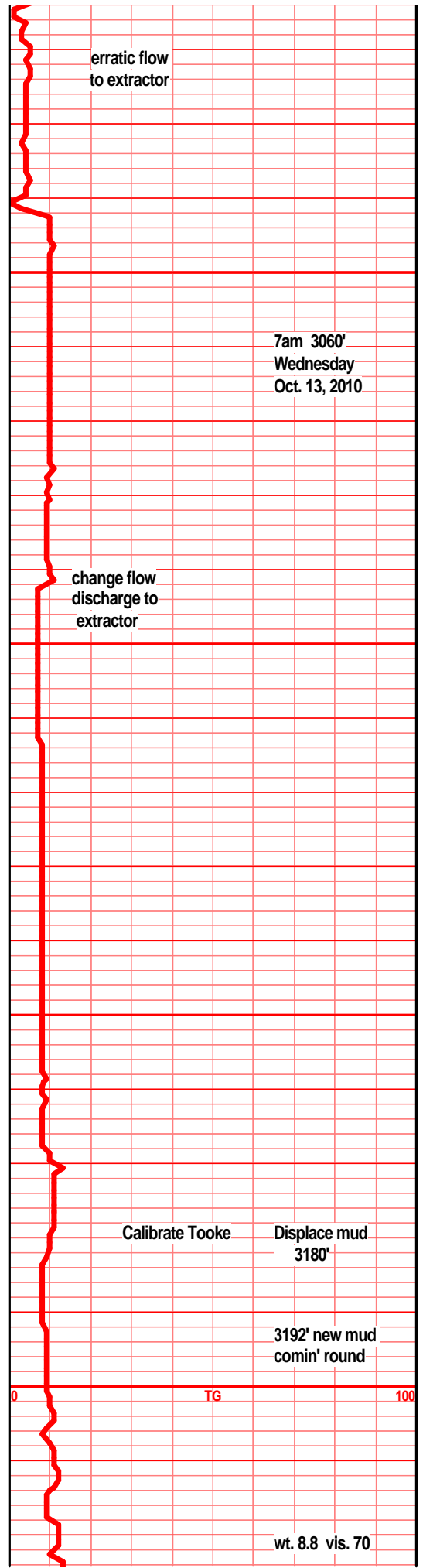
- ⊗ Gas
- Even Stain/Saturation
- ◐ Spotted Stain/Saturation
- Questionable Show
- ◻ Gilsonitic/Dead Show



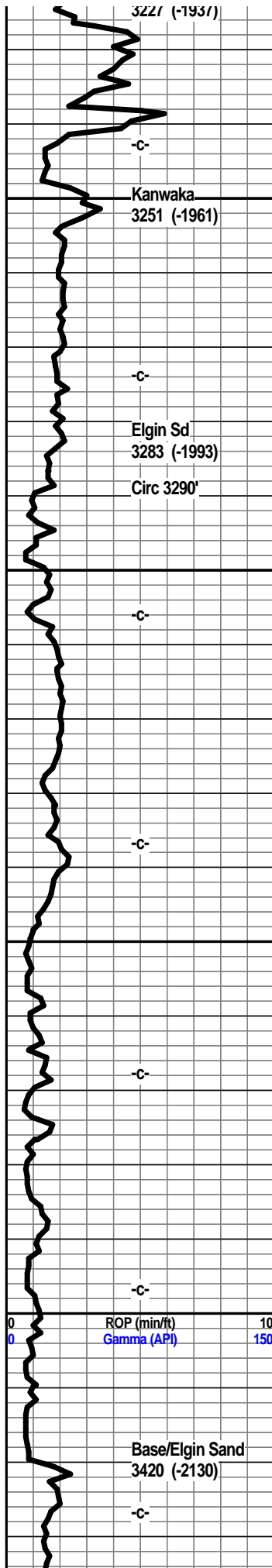
shl gry gry green silty sndy, 1st tan brn vf xln  
gran ang arg silty sndy gritty

shl drk gry, gry silty gritty, tr sndy, wht/gry vf  
grnd silty arg gran

shl gry tr gry/green silty sndy gritty







shl gry dkr gry gritty sndy, lst gry gry brn vf xln dns hrd blk ang arg

shl aa, lst drk tan gry/brn vf xln dns hrd blk ang arg tr calc fill, clay fill

shl gry drk gry, blk ang pcs, semi carb, girtty, gas bubs, lst tan brn vf xln dns hrd blk

70' shl gry med gry silty gritty, soft

shl gry lt med gry silty sndy gritty, soft

shl gry med drk gry silty sndy gritty, lst tan brn vf xln dns hrd arg silty gritty sndy

shl gry med gry silty sndy blk carb pcs, sst lt gry f grnd, ang sub ang grns, prly srted sub fria to tite, fair cem, calc cem, tr mic, much blk carb fill w/tr gas bubs, silty, clay fill

sst lt gry tan clstrs f vf grnd ang sub ang grns prly cem, calc cem, sub fria to tite, prly srted, clay fill, min fill, glau, mic

shl gry silty gritty carb fill, sst aa, f vf grnd sub ang/ang prly srted, f/cem calc cem, sub fria to tite, min fill, mic tr glau silty, much blk carb fill

shl gry silty mic sndy gritty carb fill, sst lt gry tan clstrs, f vf grnd sub ang ang grns prly srted, w/cem calc cem, mic tr glau, min fill, much blk carb fill/gas bubs

sst lt gry tr tan f vf grnd clstrs, f vf grnd sub ang to ang grns prly srted sub fria to tite, much blk carb fill, gas bubs

sst lt gry tan clstrs f vf grnd ang sub ang grns, prly srted, prly cem, calc cem, sub fria to tite, clay fill, min fill, tr glau, mic, much blk carb mat. blk ply clstrs

sst aa, shls, gry silty sndy v/mic, gritty,

shl gry med gry silty sndy gritty mic, sst gry lt gry clstrs f vf grnd sub ang prly srted sub fria, calc cem mic, sub fria min fill, mic tr glau, blk carb fill

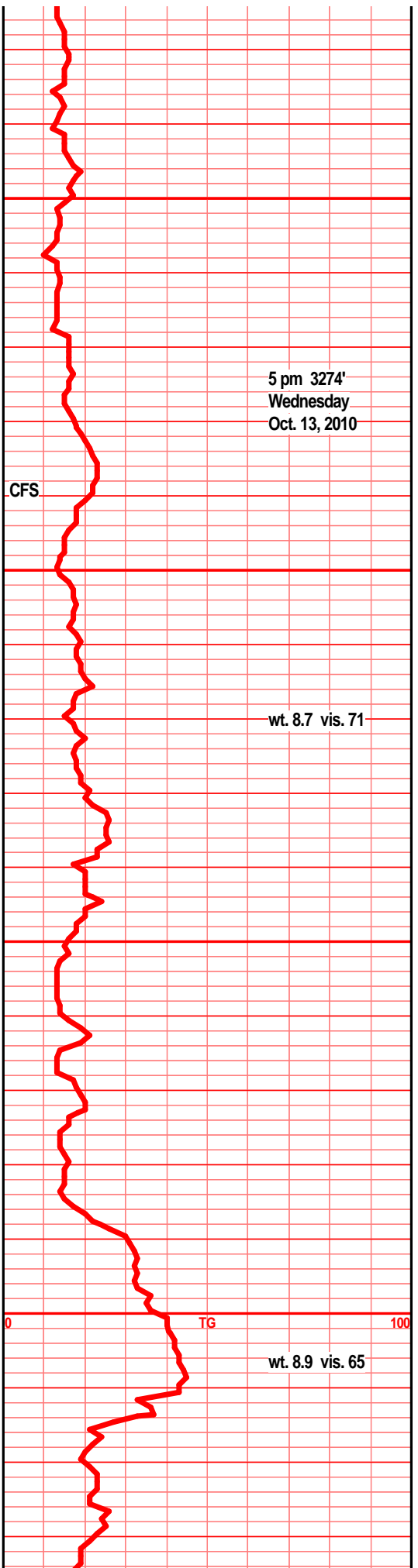
sst gry lr gry f vf grns clstrs, sub ang tr ang, prly srted, w/cem sub fria to tite calc cem, tr glau, mic, min/clay fill, shls gry gritty sndy mic blk carb fill

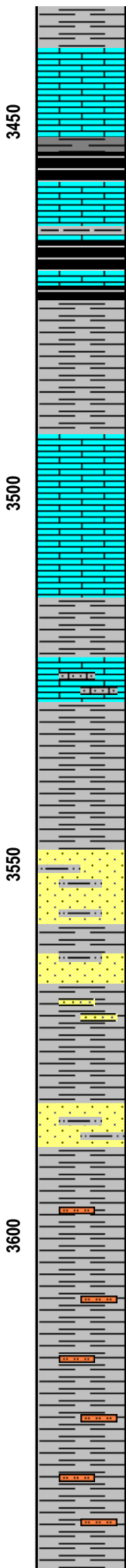
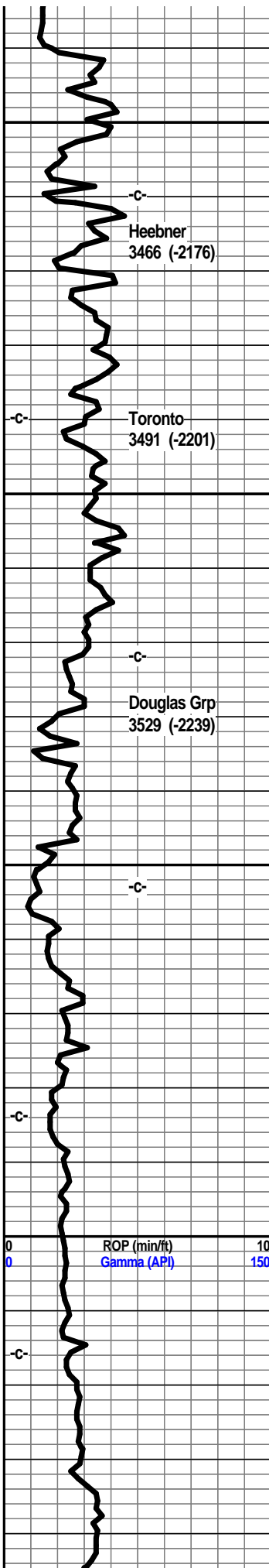
sst gry tan clstrs f vf grnd sub ang prly srted, prly cem to tite, sub fria, clay fill, blk carb shl fill, min fill, v/mic tr gas bubs

sst lt gry tan clstrs f vf grnd sub ang grns prly srted, dns blk ang clstrs, prly srted, prly cem, sub fria, min fill, tr glau, v mic, blk carb shl fill tr gas bubs

shl gry med gry soft silty mic

shl gry med drk gry silty soft tr mic





shl gry med drk gry soft silty muddy

lst tan brn f sli med xln blkly ang foss frag, calc fill, tr sub chlky

lst tan brn f sli med xln blkly ang tr sub chlky foss frags, calc xln fill, shl gry blk, carb, blkly ang pcs, gas bubs

lst tan brn f sli med xln gran blkly ang dns sub chlky, much calc xln fill, foss, shl blk carb, wxy grsy, abun gas bubs, blkly ang pcs

shl gry med gry calc

shl gry med dkr gry silty calc

lst crm tan tr lt crm/gry f sli med xln blkly flky sub chlky tr foss frags, calc fill

lst wht crm tan/gry f sli med xln blkly flky sub chlky foss frags, calc xln fill,

lst tan off wht lt gry tint, f xln blkly flky sub chlky calc fill, calc xln fill, tr pp inter xln por, spls wsh wht

shl gry med gry, tr silty sndy gritty

shl gry gry/green silty soft gritty

shl gry gry/green silty soft, tr sst off wht lt gry clstrs, f grd sub ang grns prly srted, sub fria to tite, clay fill arg, mic silty

shl gry lt gry silty sndy, sst tan lt gry clstrs f grd sub ang f/prly srted sub fria to tite, clay fill, min fill silty arg

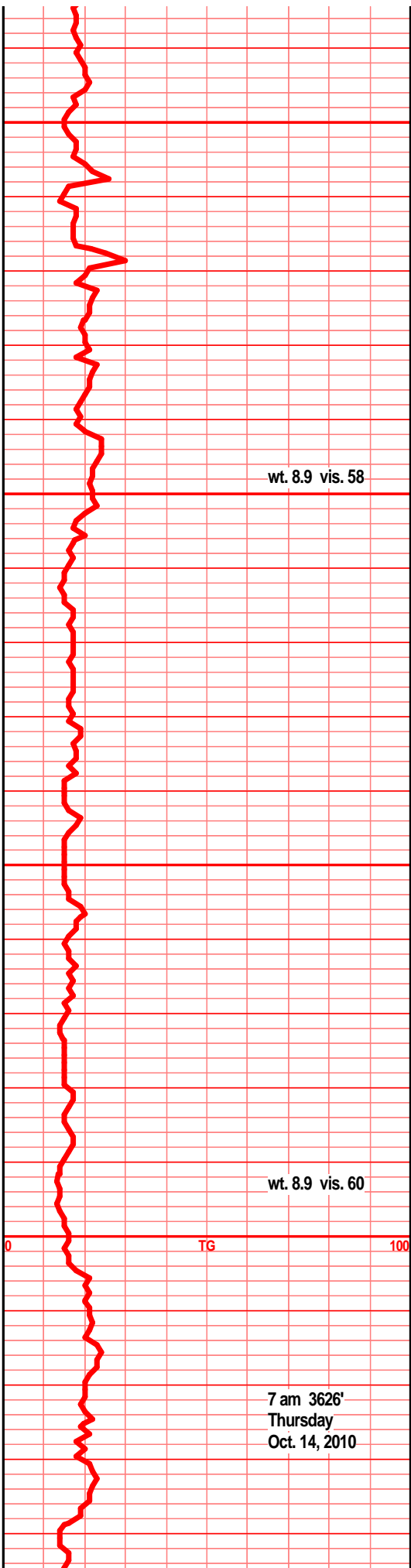
shl gry gry/green silty soft blkly ang pcs, sst wht off wht clstrs, f grd, sub ang grns, f/prl srted sub fria to tite blkly ang clstrs, calc cem, sub fria mic tr min fill

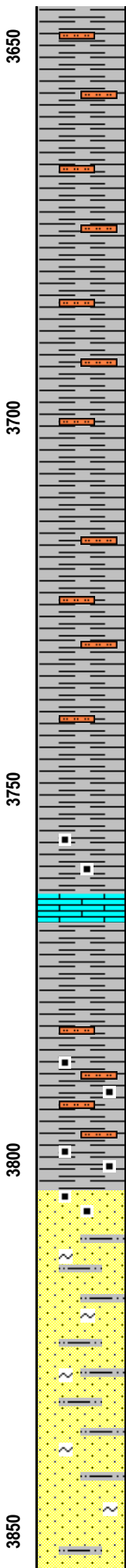
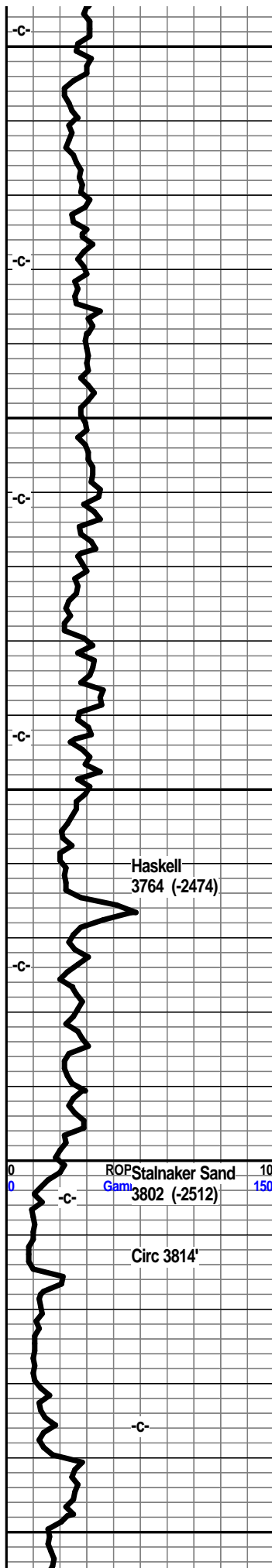
shl gry med drk gry soft blkly ang pcs,

shl gry drk gry silty soft tr mic, spls wsh drk gry tr blk carb flks

shl gry med drk gry soft muddy tr mic, spls wsh drk gry

shl gry drk med drk gry muddy





sli gry mea gry tr gry drk green silty mic soft gritty

shl gry med gry silty soft mic gritty

shl gry med gry silty soft gritty mic

shl gry med gry tr gry drk grn silty soft gritty mic in prt

shl gry med gry, tr gry/drk green gry soft silty mic muddy

shl gry drk med drk gry silty soft, shl drk gry blk tr carb, gas bubs

shl gry med drk gry silty gritty, sh gry blk semi carb tex, gas bubs

lst drk tan brn f xli med xln blk ang dns hrd, tr foss frags, calc fill, tr chrt inclu

shl drk gry/med gry, blk tr carb text, gas bubs aa

shl dkr gry blk, gry blk banded, carb fill, silty tr sndy gritty

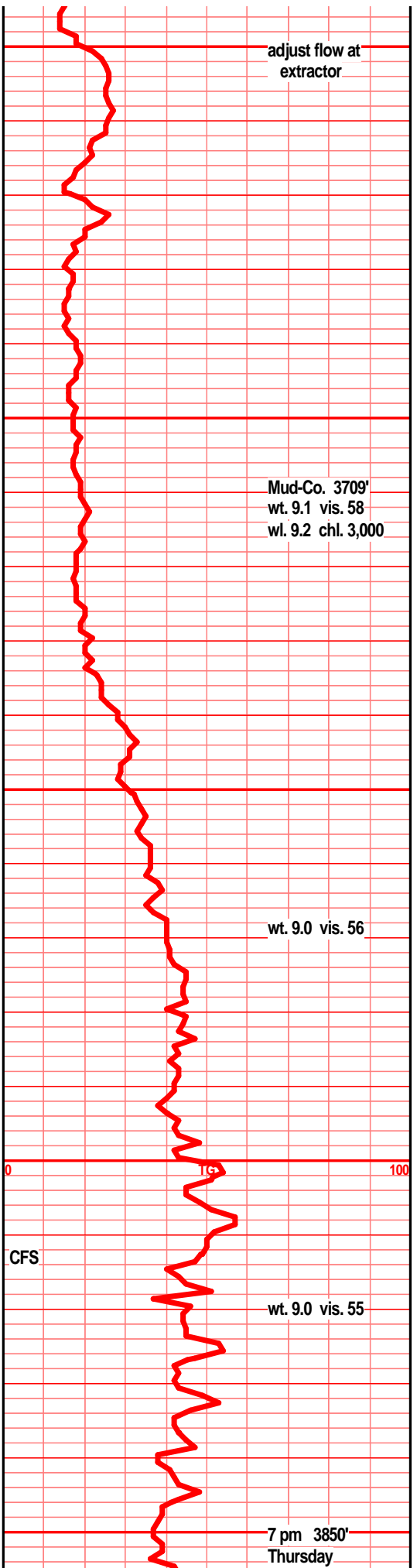
shl gry dkr gry tr blk silty soft gry green silty, mic, snd grn fill, glau min fill, blk carb lenses

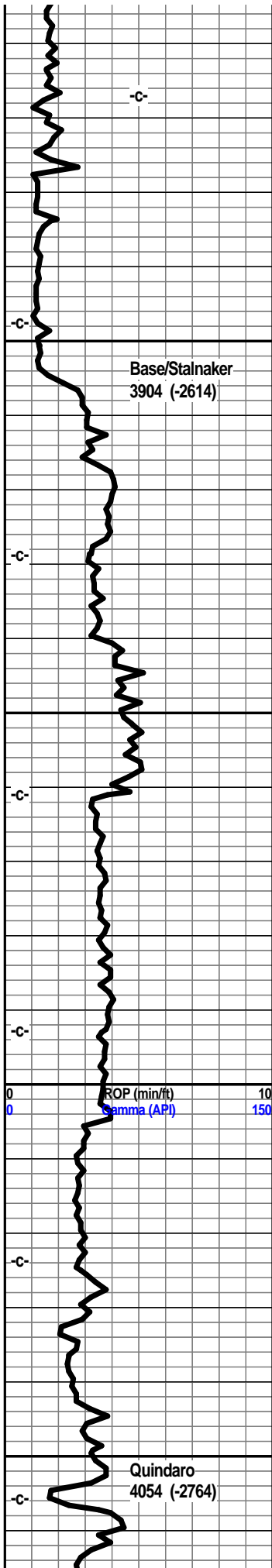
sst off wht tan f vf grnd sub ang/ang grns, prly srted, sub fria to tite, f/prly cem, calc cem, min fill tr glau, blk carb shl lenses. tr gas bubs with carb shls no sho in sd, no UV

sst tan off wht clstrs f vf grnd sub ang/ ang grns, prly srted sub fria to fria, pr/w cem calc cem, min fill glau, clay fill arg

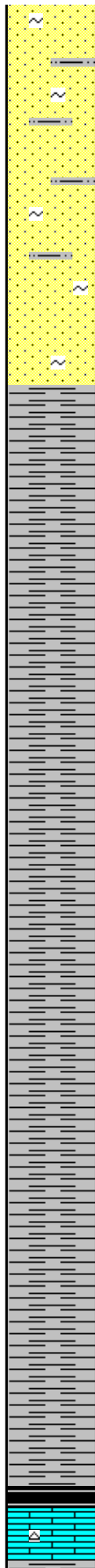
sst off wht tan crm f vf grnd sub ang/ang grns, prly srted, f/w cem sub fria, tite, calc cem, min fill tr glau, arg clay fill

sst tan crm clstrs f grnd sub ang ang grns prly srted, prly cem, sub fria, blkly filky clstrs, min fill, mic, glau,





3900  
3950  
4000  
4050



sst crm tan tr lt gry clstrs f vf grnd sub ang prly srted sub fria w/cem calc cem min fill glau tr arg clay fill

sst crm tan f vf grnd sub ang grns, prly srted, w/cem, calc cem min fill arg tr silty

sst crm tan clstrs f vf grnd sub ang to ang grns, w/prly srted, sub frai to tite, blkly flky clstrs, min fill, gran glau

sst crm tan clstrs f vf grnd sub ang prly srted sub fria, prly cem calc cem min fill, tr glau, clay fill

shl gry drk gry blue gry blkly ang pcs

shl gry med gry blkly ang pcs tr silty

shl gry med drk gry silty

shl gry med gry tr drk gry silty

shl gry med gry silty

aa

shl gry med gry silty soft (in tray)

aa, silty soft tr gritty

shl gry med gry silty gritty tr foss

shl gry med lt gry silty soft spls wsh gry

shl gry med gry silty gritty

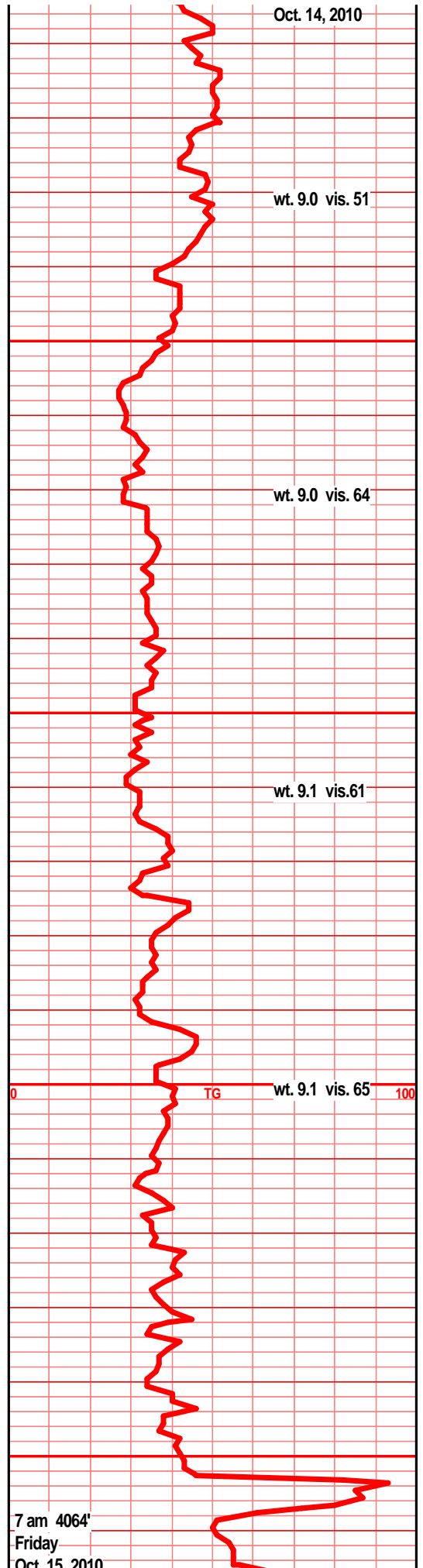
shl gry med gry

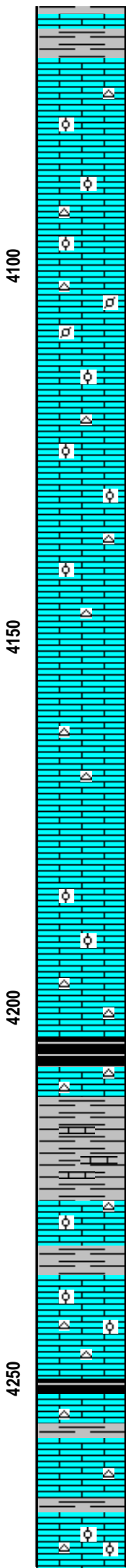
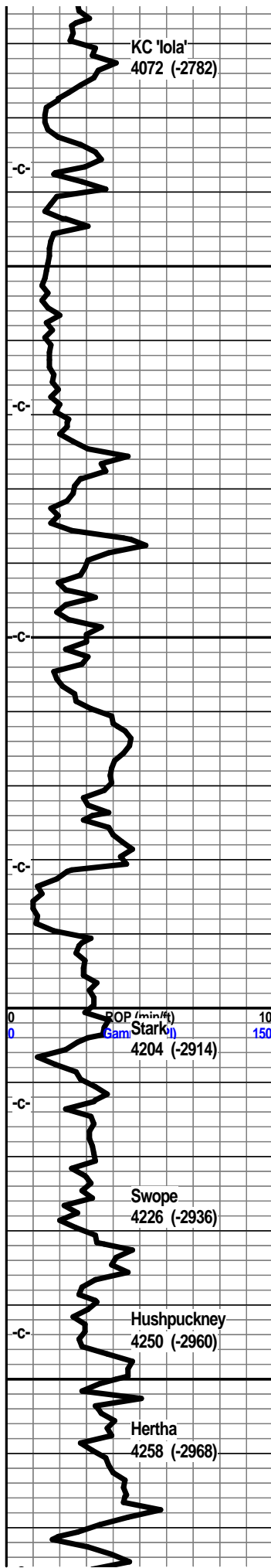
shl gry med gry silty foss frags, tr gran gritty

shl gry dkr med drk gry silty muddy

shl gry drk gry blkly plty pcs, shl drk gry/blk carb in prt, gas bubs

lst crm tan lt brn f sli med xln blkly ang pcs, tr sub chlkv foss frags, calc fill





sub entry, loss frags, calc fill

lst crm tan tr lt brn f xln soft gran v/chlky, foss frags, tr foss ool, shl gry/brn calc, foss inclu

lst crm wth tan f xln blk ang gran sub chlky tr foss frags, foss ool, calc xln fill

lst crm wht tan f sli med xln flky sub chlky foss frags foss ool, tr chrt wht shrp opaq

lst crm off wht tan f sli med xln flky sub chlky gran calc fill in prt, foss frags, foss ool, pelletal in prt, chrt wht lt gry shrp frsh opaq

lst crm tan off wht f sli med xln gran flky sub chlky foss frags, pelletal, tr calc xln fill, chrt wht shrp frsh opaq

aa

lst wht crm tan f xln blk ang dns hrd sub chlky foss frags foss ool, pelletal, chrt wht shrp frsh opaq

lst tan crm wht f sli med xln flky sub chlky calc fill, foss frags, pelletal/ool chrt wht gry shrp frsh opaq

lst tan crm wht f xln blk flky sub chlky foss frags, foss ool, chrt wht tan shrp frsh opaq tr calc xln fill

lst crm buff tan f xln blk gran sub chlky /soft foss frags calc fill, chrt tan lt brn shrp frsh

lst tan buff f xln blk sub chlky dns foss frags, foss ool, chrt, chrt tan shrp frsh

lst crm tan off wht f xln gran sub chlky soft calc fill foss frags, foss ool/pelletal

lst tan crm f vf xln dns hrd blk tr chlky tr foss frags chrt tan lt gry shrp frsh

shl gry drk gry blk carb, gas bubs, lst crm tan lt brn f vf xln dns hrd blk foss frags, foss ool, pelletal, chrt tan brn shrp frsh foss calc xln fill

lst aa, shl gry brn calc, foss inclu

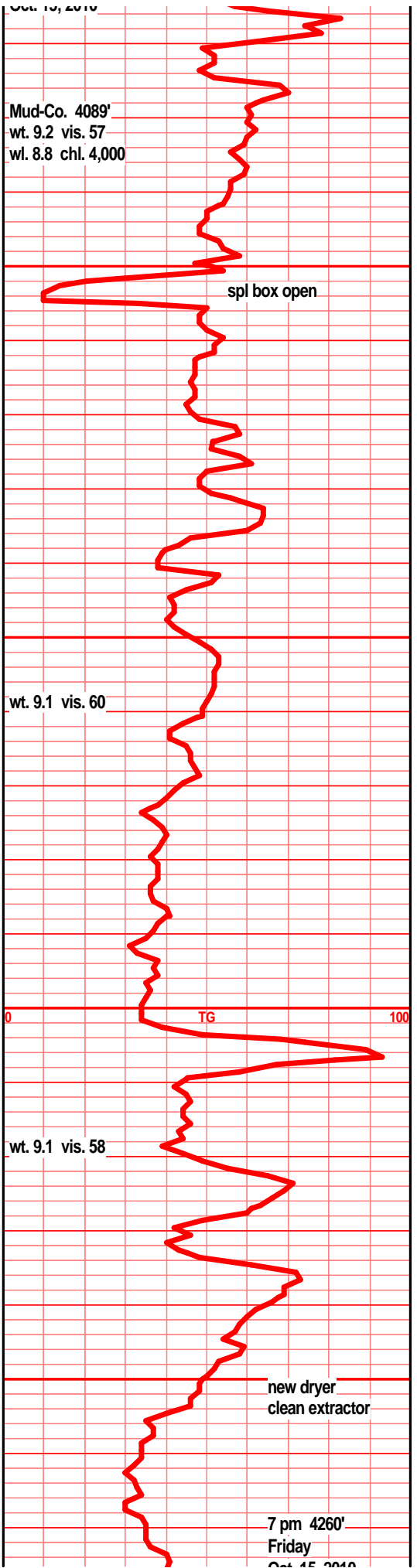
shl gry brn blue gry, lst tan brn f med xln blk ang crs xln fill, foss frags, arg tr inter xln por, chrt tan brn shrp frsh tr dead blk stain, nodor, nsfo

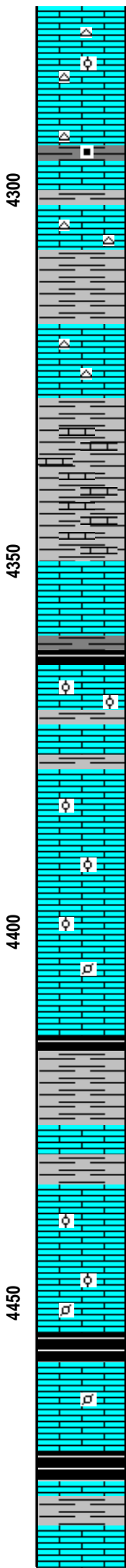
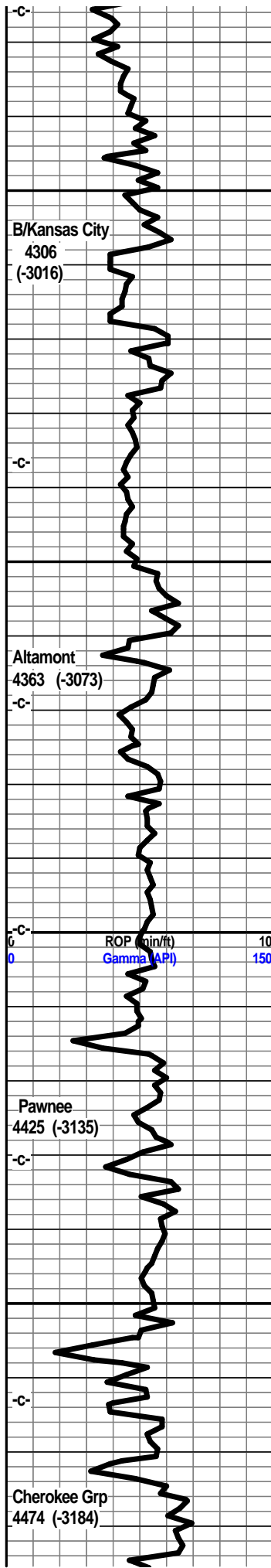
lst crm tan lt brn f xln flky sub chlky to chlky, blk ang pcs, foss frags, tr ool, tr inter xln por, mstly soft, sli odor, SSFO, tr gas bubs

tr blk carb shl, lst tan crm lt brn f vf xln dns hrd blk sub chlky foss frags, gran calc fill

lst crm tan lt brn f vf xln sub chlky to chlky gran soft tr calc xln fill tr foss frags, chrt wht tan opaq

lst crm tan buff f vf xln blk ang dns hrd sub chlky foss frags, chrt crm wht frsh foss opaq pp





foss mold por NS

lst tan buff drk tan f vf xln dns hrd blk gran sub  
chlky to chlky calc xln fill foss frags tr ool,  
pelletal, chrt tan wht shrp frsh opaqq foss

lst aa, chrt tan brn shrp frsh opaqq foss

shl gry blk t blk carb, brn silty calc, lst tan lt brnf  
mic xln dns hrd arg silty

lst tan gry brn vf xln dns hrd blk ang calc xln  
fill, arg tr foss frags, chrt tan brn shrp frsh opaqq

lst drk gry tan brn f mic xln dns hrd blk arg,  
massive, micro foss tr chrt tan brn shrp

sh grt brn, lst tan brn f mic xln dns hrd blk  
massive, arg

shl gry drk gry brn blk ang pcs, calc inclu, foss  
frag inclu, lst drkg gry brn f mic xln dns hrd arg

lst tan lt tan f vf xln dns hrd blk micro foss  
frags, calc fill, msly dns hrd

shl gry blk tr blk carb, lst tan buff f vf xln blk  
ang hrd pcs, tr sub chlky foss frags ool/pelletal,  
crsly ool in prt, calc fill

lst crm buff tan f vf xln hrd blk tr sub chlky foss  
frags, ool/pelletal, shl gry drk gry hrd calc

lst tan crm buff vf xln dn shrd blk tr chlky foss  
frags foss ool calc fill

lst crm buff tan vf xln hrd blk sub chlky foss  
frags calc xln fill

lst crm buff tan f vf xln dns hrd blk tr sub chlky  
tr foss frags, ool tr pelletal, calc fill around foss  
frags

lst crm buff f vf xln dns hrd blk ang pcs, sub  
chlky mstly dns hrd

shl gry drk gry blk carb in prt, tr gry brn silty  
foss frag inclu.

shl gry drk gry blk, lst tan buff crm f vf xln dns  
hrd sub chlky foss frags, mico ool, tr foss  
pelletal

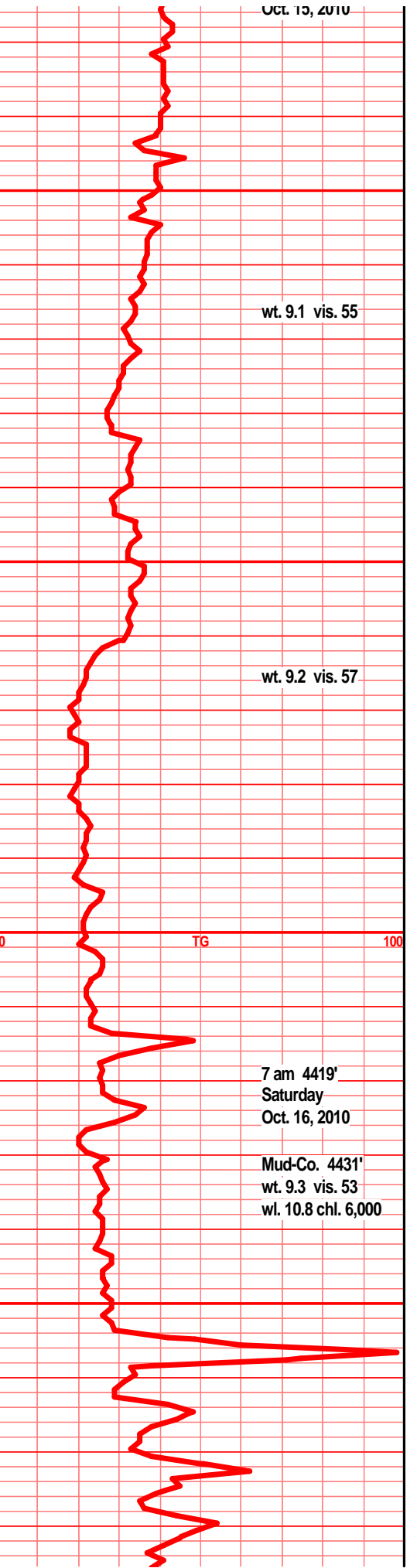
lst buff tan dull tan f vf xln dns hrd blk tr sub  
chlky micro foss frags, tr calc fill

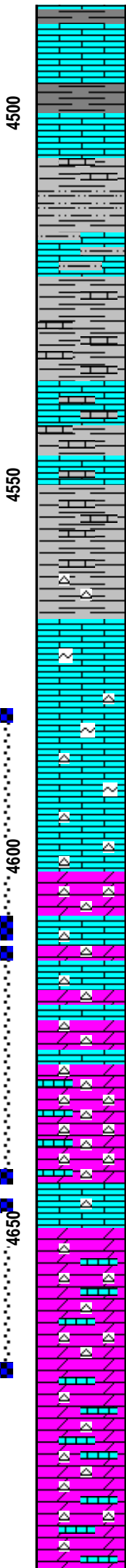
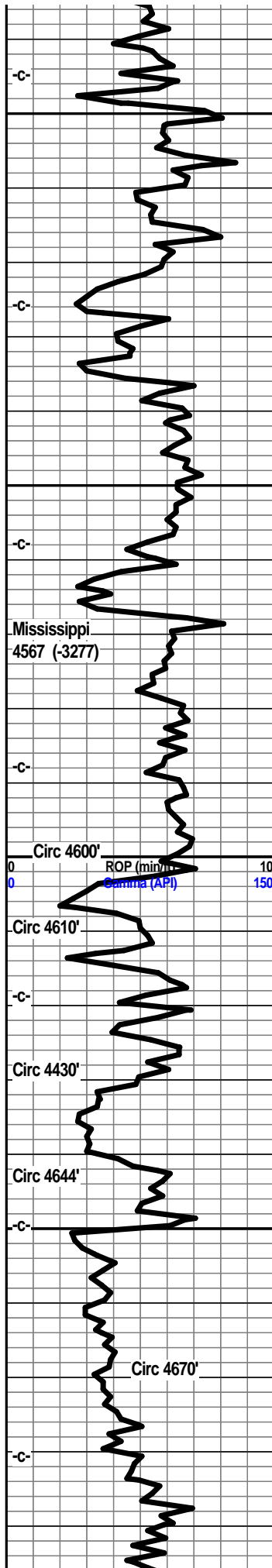
lst tan buff f vf xln blk ang dns hrd, tr sub chlky  
micro foss, calc xln fill,

shl blk carb bedded, pyritic inclu, lst tan buff dull  
tan f micro xln dn shrd blk tr chlky calc fill  
micro foss

shl gry drk gry blk carb, lst tan gry tan buff f  
micro xln dns hrd blk ang arg, silty, gran in prt,  
tr micro foss calc fill

shl gry drk gry calc hrd blk pcs, lst tan brn f mic  
vln dns hrd blk ang hrd arg





Trip sample, shls, trash, little value other than a cleaned sample box!

shl gry blk, gry green silty banded, lt blue gritty sndy, lst tan brn f mic sln dns hrd arg,

siltstn pale blue gry blue vf grnd gritty tr sndy blkly ang pcs, shl gry blue green silty gritty calc in prt

shl gry brn grn, silty gritty soft, lt gry brn f mic sln dns hrd arg, shl blk

shl gry brn, med gry green blk silty gritty pyritic, calc in prt

shl gry brn green, siltstn gry brn gritty gran, lst tan brn f mic xln dns hrd arg, foss frags ool, chrt tan crm foss,

shl gry brn blk, silty gritty, lst tan drk brn f mic xln dns hrd blkly ang arg

shl gry blk carb/prt, gry green blue gry yllw maroon to vari color, silty pyritic gritty, chrt tan brn frsh

4570' spl-shl gry green vari color, yllw, maroon,wht/clear f grnd sst clstrs, chrt wht tan brn shrp frsh

lst wht f med xln flky tr sub chlky ang glau inter xln por, sli chrt in prt, chrt wht shrp opa

lst wht lt crm f sli med xln blkly flky, sli sub chlky in prt, tr foss frags, glau, inter xln por, tr lt transl stain/VSSFO, nodor, tr chrt wht shrp opa, tr lt stain along frac por, dull UV, incr chrt w/depth

dolo tan lt brn f med xln gran, flky, sucr text in prt, chrt in prt, f/gd inter xln por, fair lt transl SFO, fair/gd odor, gas bubs, chrt wht lt gry shrp frsh opa, w/dolo edge, SFO aa, stain along frac

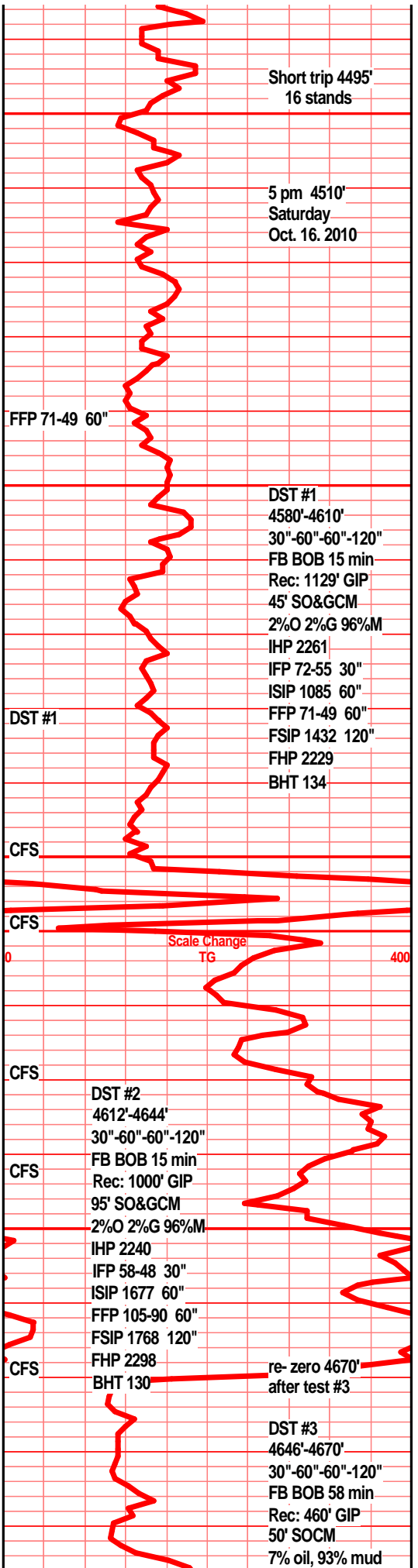
lst/dolo lst crm tan lt brn f med xln flky sli chlky tr foss, calc fill, inter xln, pp por, stain SFO, tr gas bubs, sli odor, chrt wht shrp frsh with lst/dolo edge with show AA, druzi qtz w/stain SFO, much glau

dolo tr dolo/lst f sli med xln blkly flky pcs, tr chlky, gd inter xln/pp por, inter xln, pp por, fair odor, fair SFO/Stain, gas bubs, dull/bright UV, chrt wht v lt gry shrp frsh opa w/crm tan dolo edge, fair/gd stain, SFO, gas bubs, druzi qtz w/gd moldic por show AA

dolo/lst tan crm f xln sli med xln /prt flky tr sub chlky gd pp/inter xln por, odor, lt transl SFO, lt brn SFO, stain, gas bubs, chrt in prt, chrt wht shrp opa w/ dolo edge, f sli med xln gd inter xln por, stain transl SFO, lt brn SFO, tr druzi qtz, glau stain bec drkr w/depth

dolo/lst tan crm f xln blkly ang flky tr sub chlky glau, mslty tite dns, tr pp inter xln por, chrt in most, chrt wht shrp frsh w/ dolo/lst edge, filmy SFO, nodor, lt brn stain, incr blk flky stain

dolo aa, dolo tan gry f xln gran tr sucr text, flky, mstly dns, tr inter xln por, chrt tan gry med gry shrp frsh opa foss, tr frac, blk stain, nodor



Short trip 4495' 16 stands

5 pm 4510' Saturday Oct. 16, 2010

FFP 71-49 60"

DST #1  
4580'-4610'  
30"-60"-60"-120"  
FB BOB 15 min  
Rec: 1129' GIP  
45' SO&GCM  
2%O 2%G 96%M  
IHP 2261  
IFP 72-55 30"  
ISIP 1085 60"  
FFP 71-49 60"  
FSIP 1432 120"  
FHP 2229  
BHT 134

DST #1

CFS

CFS

Scale Change TG

CFS

CFS

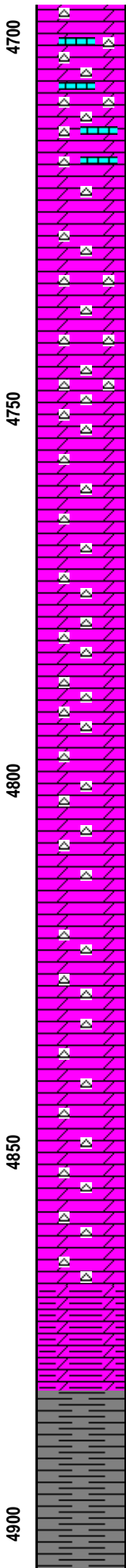
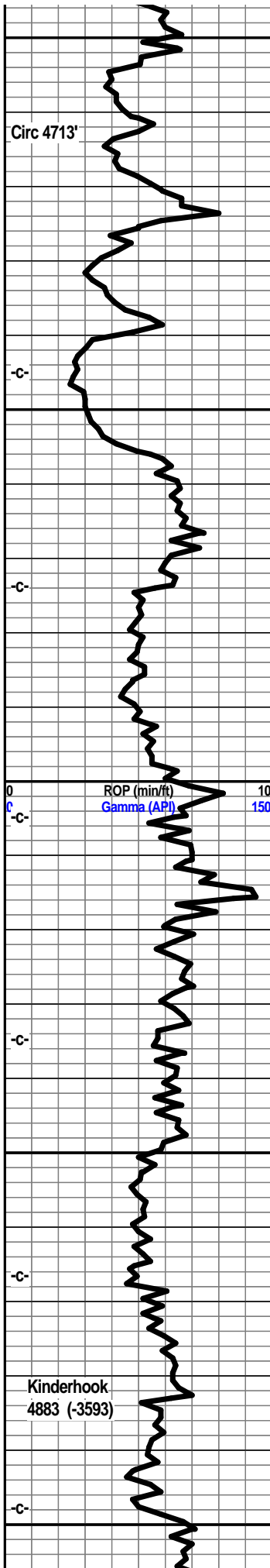
CFS

CFS

DST #2  
4612'-4644'  
30"-60"-60"-120"  
FB BOB 15 min  
Rec: 1000' GIP  
95' SO&GCM  
2%O 2%G 96%M  
IHP 2240  
IFP 58-48 30"  
ISIP 1677 60"  
FFP 105-90 60"  
FSIP 1768 120"  
FHP 2298  
BHT 130

re-zero 4670' after test #3

DST #3  
4646'-4670'  
30"-60"-60"-120"  
FB BOB 58 min  
Rec: 460' GIP  
50' SOCM  
7% oil, 93% mud



dolo tan, tan gry mott, lt gry f xln flky blk ang pcs, inter xln por, sub chlky/soft silty in prt, tr brn stain gas bubs, chrt tan gry mott, shrp frsh foss, frac por, gas bubs, nodor

dolo silty dolo lt gry gry, tr tan gry mott f vf xln blk ang sub gran soft tr sub chlky, chrt gry lt gry gry mott foss frags, opa q shrp frsh frac por

dolo silty dolo, tan gry mott to gry chrty blk ang arg, tr soft gran sub chlky, chrt gry shrp frsh foss, dolo edge, tr brn stain nodor NSFO/Gas

chrty silty dolo, gry, gry lt gry mott vf xln gran blk pcs, silic silty text, chrt gry opa q shrp foss frags, tr drk brn stain nodor NSFO

dolo, gry tan mott, gry silty vf xln gran blk ang hrd chrty, chrt tan gry shrp frsh blk opa q foss, silty dolo edge

tan gry/med gry silty dolo chrt, blk ang hrd chrty pcs, opa q foss frags, silty dolo gry vf xln gran hrd blk tr sub gran

silty chrty dolo aa, tan gry med gry, vf xln gran sub gran silty arg silic text, chrt gry shrp frsh opa q foss silty dolo edge

dolo, silty chrty gry med gry vf xln sub gran silty silic text, hrd ang blk chrty, chrt gry med gry mott, foss frsh opa q

silty chrty dolo med gry gry/tan mott, vf xln gran silic text, tr sndy gritty text, chrt tan/med gry mott, shrp frsh opa q foss frags

silty chrty dolo tan gry med gry mott f xln gran silic text chrt tan gry shrp frsh opa q foss inclu

dolo, silty dolo, gry med gry tr gry tan mott vf xln silty gran sli silic text, gran soft in prt, chrty, chrt gry med gry shrp frsh foss

dolo silty gritty gran tr f xln blk ang arg, gry silty dolo shls, chrt drk gry shrp frsh

dolo gry gry tan mott silty gritty gran tr silic text blk dns arg, chrt tan gry shrp frsh foss, silty dolo edge

shl gry silty dolo, silty dolo gry med gry gritty gran arg tr vf xln chrty, chrty dull gry shrp frsh opa q

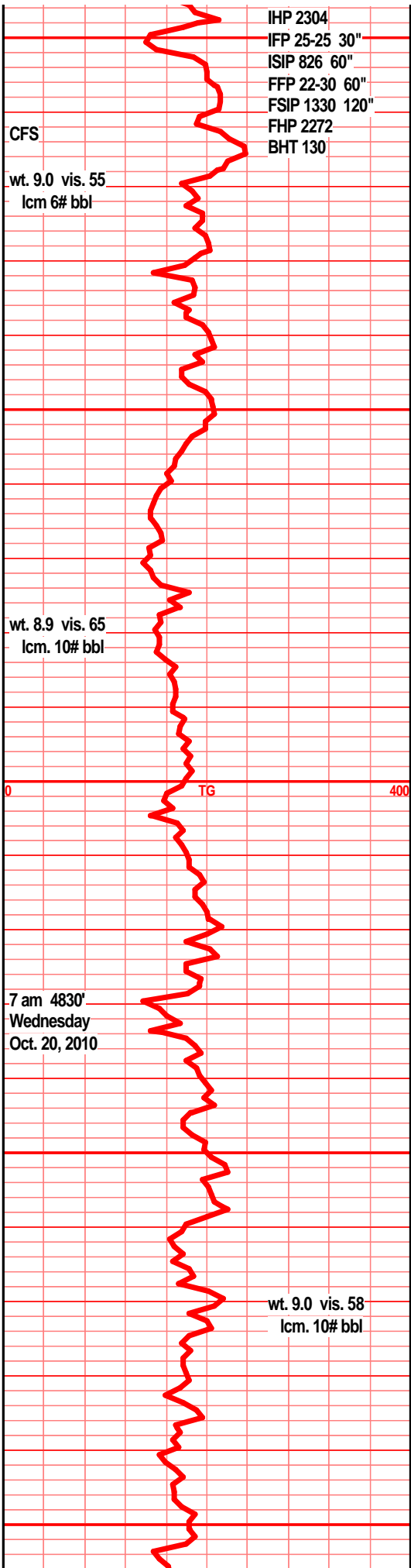
silty shly gritty gran tr silic text dolo, chrt gry dull gry shrp frsh opa q

gry med gry silty dolo, tr silic text, gritty gran, soft arg, chrt aa gry shrp frsh foss

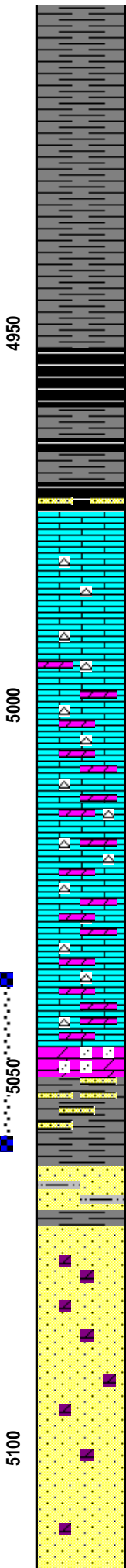
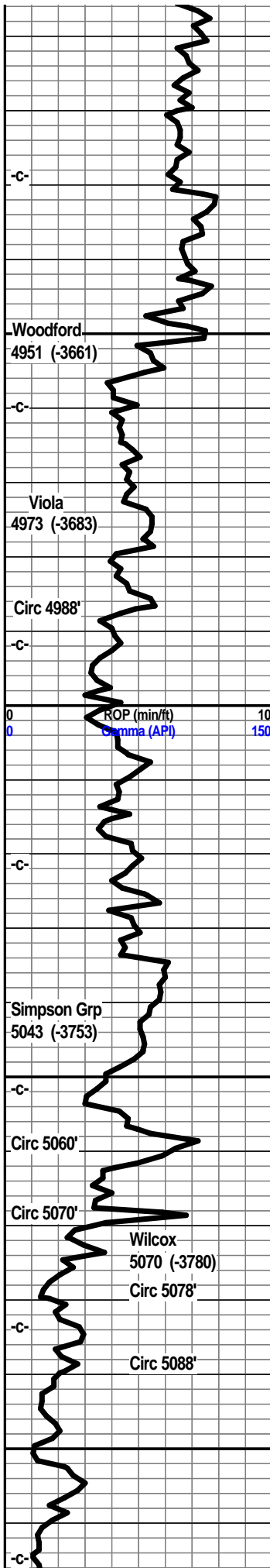
shl gry gnish gry, drk gry silty gritty

shl gry, try gry/gry green silty gritty

shl gry meg gry green, silty gritty, pyritic in beds, tr blk, tr carb, tr gas bubs,







shl gry gry green brn silty gritty, tr brn blk tr carb text

shl gry, gry green brn silty gritty pyritic brn blk clay clasts

shl gry med gry, gry/grnish, ritty silty

shl gry drk gry brn blk ang pcs

shl gry drk gry gry brn, tr blk carb

shll blk, drk red/blk blk ang pcs, abun gas bubs, tr foss mat.

shl drk gry brn/red, dolo in prt, shl drk gry blk carb wxy grsy abun gas bubs

tr sst clr/blk clstrs f sli med grnd, ang grns prly srted, w/cem tite, hvy pyrite fill, dry/flky/dead SFO when brkn, nodor

lst wht, off wht w/gry tint, f med xln blkly flky ang, tr sub chlky, gd inter xln por, pyritic/prt, tr wht opa q chrt

lst off wht, gry tint, f med xln blkly flky ang pcs, tr sub chlky, f/inter xln por, tr foss frags, chrt wht bec gry shrp frsh foss opa q

lst bec dolo in prt tan off wht brn f xln blkly gran ang hrd tr foss, tr pp por, blk stain tr gas bubs, nodor, chrt tan dull gry shrp frsh foss

lst aa, dolo tan brn f vf lxn gran tr sucr text, tr silic, blkly ang dns pcs, much chrt dull tan/gry shrp frsh opa q

dolo tan lt brn brn f vf xln gran blkly tr calc, xln fill, sub chlky, chrt dull gry brn shrp frsh foss

dolo tr lst, tan drk tan brn f vf xln gran sub chlky gritty tr sndy, chrt dull tan gry shrp frsh blkly opa q

dolo brn f med xln v sndy, blkly ang dns hrd, tr inter gran por, sndy dolo, med grnd sub ang prly srted, sub fria, gas bubs, filmy SFO ndor

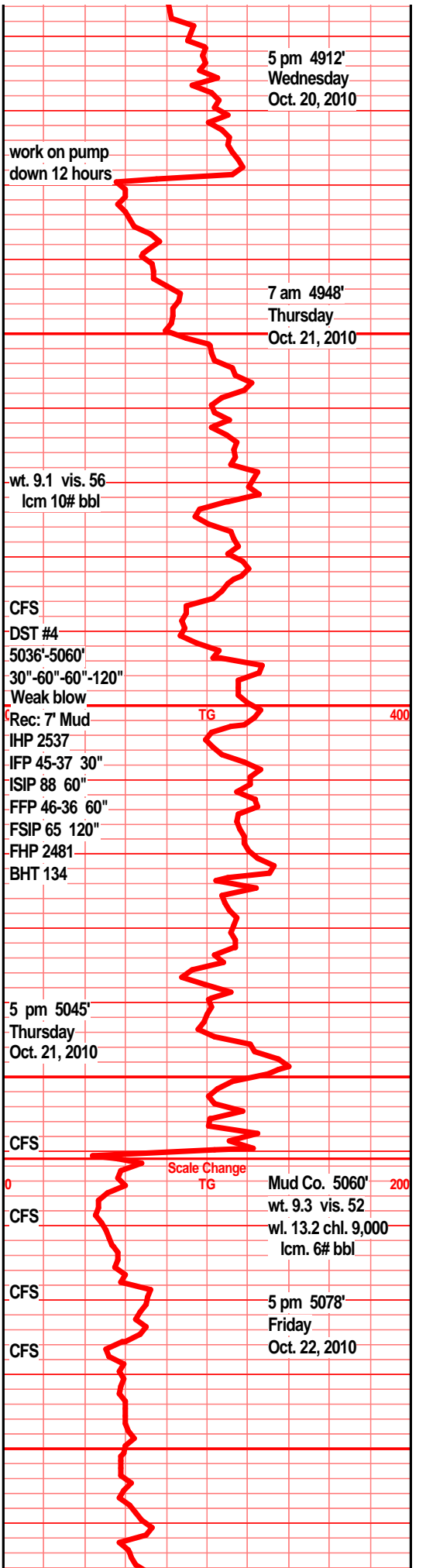
sst gry green f grnd sub rded w/srted sub fria hvy grn shl fill, pyritic, shl gry green blkly ang pcs hrd

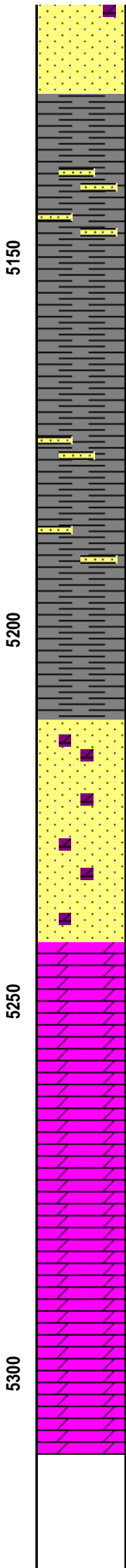
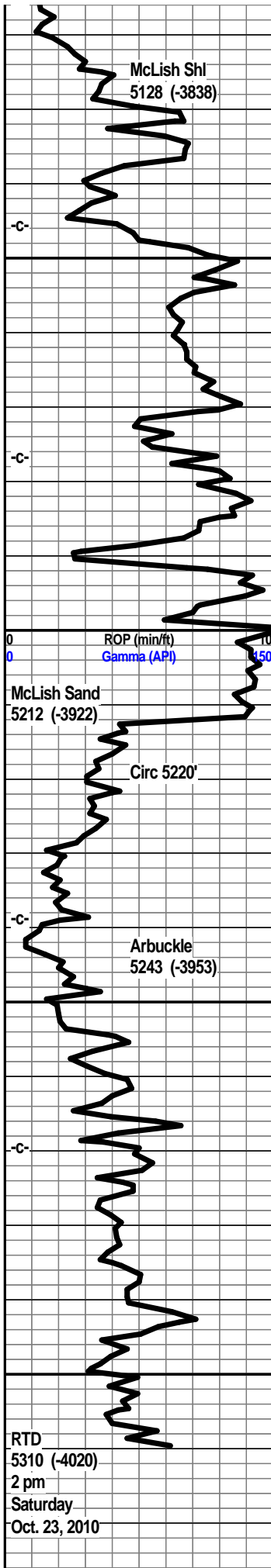
sst lt gry, gry grn clstrs, f grnd sub rded, w/srted f/w cem silic cem sub fria, to tite hrd, tr glau, tr min fill NS, teal grn sndy shl

sst clr/lt tan clstrs f grnd sub rded, w/strd prly cem fria, gd intr grn por, tr tan brn dolo cont, tr gas bubs, tr blk stain, sst clr lt gry clstrs, f grnd w/srted prly cem fria gran soft, gd intr grn por, tr dolo edge, tr pyritic. tr glau NS

sst clr off wht tan clstrs f grnd sub rded, w/srted, prly cem, silic cem, sub fria to fria gran soft, tr dolo text, tan v sli sucr, min fill, tr pyritic, tr glau, NS

sst clr off wht tr tan clstrs f grnd, sub rded to rded grns, w/srted, prly cem, silic cem, sub fria to fria, gran soft, gd inter grn por, tr min fill, tr glau NS





sst wht f vf grnd sub rded/rded grns, prly srtd, f/w cem silic cem, sub fria to tite, blk ang clstrs, tr pyrite inclu, min inclu,

shl gry med drk gry/green, teal green tr silty, slick wxy grsy, tr snd grn inclu pyritic bands

shl green, teal green, silty wxy grsy, silty, sndy, snd grn inclu, glau

shl drk gry/green teal green silty sndy wxy grsy glau

shl green, drk gry/green silty glau

shl gry drk gry/green silty tr sndy pyritic, glau snd grn inclu

shl drk gry green silty, gritty snd grn inclu, v/glau

shl gry gry teal green silty gritty glau

shl gr drk gry green silty wxy grsy snd grn inclu, silty glau

sst lt tan tan clstrs f grnd, sub rded, rded grns, prly srtd, prly cem, silic cem, dolo sli suc text in prt, sub fria to tite, blk ang hrd clstrs, min glau fill, clay fill

sst tan lt brn clstrs, f grnd sub rded tr rded grns, prly srtd, sub fria to tite, f/well cem, silic cem, clay fill, min fill tr pyritic, glau, flood loose snd grns in tray

dolo crm tan, tr tan gry mott, f xln blk ang gran pcs, tr sli suc text, tr silic text, sndy in prt, tr sub chlky soft, mstly hrd ang pcs, pr spls

dolo crm tan tr lt brn f xln blk ang pcs, tr suc/sndy text, tr silic, gran soft, poor spls, all trash, cavings 2-3 pcs of dolo

dolo tan lt brn brn, f sli med xln gran blk ang pcs, tr suc/sndy text, tr silic text, gran soft sub gran in prt, poor spls, all cavings, 3-4 pcs of dolo

dolo crm tan, drk tan brn f sli med xln gran blk, tr suc text, silic in prt, gd inter xln por, mstly dns hrd, tr sndy text in prt.

dolo tan grn f sli med xln gran blk ang pcs, f/gd inter xln por, sli suc in prt, tr silic text, tr snd grn inclu. tr pyritic, glau

aa

