



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1175290  
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: \_\_\_\_\_

1175290

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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Form	ACO1 - Well Completion
Operator	Woolsey Operating Company, LLC
Well Name	MILLER C 4
Doc ID	1175290

Tops

Name	Top	Datum
CHASE	1955	-527
ONAGA	2814	-1386
HEEBNER	3867	-2439
DOUGLAS	3905	-2477
SWOPE LS	4575	-3147
PAWNEE LS	4744	-3316
MISSISSIPPIAN	4840	-3412
KINDERHOOK SH	5118	-3690
VIOLA	5225	-3797
SIMPSON	5361	-3933



# ALLIED OIL & GAS SERVICES, LLC 059565

Federal Tax I.D.# 20-5975804

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

316-267-4383

SERVICE POINT:  
Medicine Lodge, KS

DATE <u>9-5-2013</u>	SEC. <u>10</u>	TWP. <u>35S</u>	RANGE <u>12W</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>4:30 PM</u>
LEASE <u>Miller</u>	WELL# <u>4</u>	LOCATION <u>Herrmann, KS 2 east</u>	COUNTY <u>Barber</u>	STATE <u>KS</u>			
OLD OR <u>(NEW)</u> (Circle one)	<u>n/h/h/a/o</u>						

CONTRACTOR Ninnescan  
 TYPE OF JOB Surface  
 HOLE SIZE 17 1/2 T.D. 226'  
 CASING SIZE 13 3/8 DEPTH 209'  
 TUBING SIZE 8 5/8 LS DEPTH 15'  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT  
 CEMENT LEFT IN CSG. 20'  
 PERFS.  
 DISPLACEMENT 31 bbls of Fresh Water

OWNER Woolsey Operating  
 CEMENT  
 AMOUNT ORDERED 230 sq. C1985.A + 3910 CC + 240 Gal

EQUIPMENT  
 PUMP TRUCK CEMENTER Darin F. 1  
 # 558-555 HELPER Scott P. 2  
 BULK TRUCK  
 # 421-250 DRIVER James B. 3  
 BULK TRUCK  
 # DRIVER

COMMON	<u>A 230</u>	@ <u>1790</u>	<u>4117.00</u>
POZMIX		@	
GEL	<u>5 5X</u>	@ <u>23.40</u>	<u>117.00</u>
CHLORIDE	<u>8 5X</u>	@ <u>64.00</u>	<u>512.00</u>
ASC		@	
HANDLING	<u>248.78</u>	@ <u>2.48</u>	<u>616.97</u>
MILEAGE	<u>11.33 / 20 / 2.60</u>	@ <u>590.00</u>	<u>20</u>

REMARKS:  
See cement log  
Cement dia circulate

TOTAL 5953.42  
 227

SERVICE

DEPTH OF JOB	<u>214'</u>		
PUMP TRUCK CHARGE	<u>1512.00</u>		
EXTRA FOOTAGE		@	
MILEAGE	<u>20</u>	@ <u>7.70</u>	<u>154.00</u>
MANIFOLD		@	
<u>LU 20</u>		@ <u>4.40</u>	<u>88.00</u>

CHARGE TO: Woolsey Operating  
 STREET  
 CITY STATE ZIP

TOTAL 1754.25

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

<u>None</u>	@	
	@	
	@	
	@	

TOTAL  
 SALES TAX (if Any) - 0 -  
 TOTAL CHARGES 7707.44 42  
 DISCOUNT 1926.86 IF PAID IN 30 DAYS  
 NET 5780.58  
36

PRINTED NAME X. MIKE THOMP  
 SIGNATURE X. Mike Thomp  
 Thank you!!!

# ALLIED OIL & GAS SERVICES, LLC 059571

Federal Tax I.D.# 20-5975804

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

316-267-4383

SERVICE POINT:  
Medicine Lodge, KS

DATE 9-14-2013	SEC 10	TWP 35s	RANGE 12W	CALLED OUT	ON LOCATION	JOB START	JOB FINISH 8:00 PM
LEASE Miller C	WELL# 4	LOCATION Harrison, KS 2052			COUNTY Barber	STATE KS	
OLD OR (NEW) (Circle one)				noyeh insu		1.02 E	

CONTRACTOR D. Jones & Sons Drilling  
 TYPE OF JOB Production  
 HOLE SIZE 7 7/8 TD. 5450'  
 CASING SIZE 5 1/2 15.5 # DEPTH 5338'  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT 44'  
 CEMENT LEFT IN CSG. \_\_\_\_\_  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT 128 1/2 bbls of 29 ppg water  
 EQUIPMENT \_\_\_\_\_

OWNER Woolsey Operations  
 CEMENT  
 AMOUNT ORDERED 905x 60' 40' 40' 60'  
1205x Class A + 10% Silt + 10% Gyp  
6 # Kalsol + 8 # Flko + 1/2 # Placer  
 COMMON class A 54 5x @ 17.90 966.60  
 POZMIX 367 @ 4.35 1595.60  
 GEL 35x @ 23.40 819.00  
 CHLORIDE \_\_\_\_\_ @ \_\_\_\_\_  
 ASE Class H 1205x @ 21.29 2549.00  
 Gypsol 135x @ 30.60 4131.00  
 Silt 15x @ 26.35 395.25  
 Kalsol 750 # @ .98 735.00  
 FL-160 94 # @ 18.70 1757.80  
 Flaseal 31 # @ 2.97 92.07  
 Clapco 14 gal @ 34.40 481.60  
 HANDLING 259.81 @ 2.48 644.33  
 MILEAGE 11.26 x 20 x 2.60 585.52  
 TOTAL 8985.57

PUMP TRUCK CEMENTER Dawn F. 1  
 # 558 (555) HELPER Scott P. 2  
 BULK TRUCK  
 # 562 (553) DRIVER CO Rockley 3  
 BULK TRUCK  
 # \_\_\_\_\_ DRIVER \_\_\_\_\_

REMARKS:  
See Cement Log  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 CHARGE TO: Woolsey operations  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

225.20  
 SERVICE  
 DEPTH OF JOB 5338'  
 PUMP TRUCK CHARGE \_\_\_\_\_ 2765.15  
 EXTRA FOOTAGE \_\_\_\_\_ @ \_\_\_\_\_  
 MILEAGE 20 @ 7.20 154.00  
 MANIFOLD Head rental @ 275.00  
Light Vehicle 20 @ 4.40 88.00  
 TOTAL 3282.15

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  
5 1/2  
 L-DFV Flaseal @ \_\_\_\_\_ 339.30  
 L-Loren Down Pipe Assy @ \_\_\_\_\_ 398.73  
 H- Turbolizer @ 48.00 581.30  
 20- Schlegel @ 36.00 720.00  
 TOTAL 1989.33

PRINTED NAME x MIKE THARD  
 SIGNATURE x Mike Thard  
 Thank you!!!

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES 14,257.65  
 DISCOUNT 2453.66 IF PAID IN 30 DAYS  
 Net 11,803.99





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Woolsey Oper. Co. LLC.  
 125 N. Market Ste. 1000  
 Wichita, KS 67202-1729  
 ATTN:

**10-35s.-12w. Barber Co. KS**

**Miller C 4**

Job Ticket: 52455      **DST#: 1**  
 Test Start: 2013.09.11 @ 07:16:38

## GENERAL INFORMATION:

Formation: **Mississippi**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 09:56:38  
 Time Test Ended: 16:57:38  
 Interval: **4762.00 ft (KB) To 4908.00 ft (KB) (TVD)**  
 Total Depth: 4908.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ryan Reynolds  
 Unit No: 48  
 Reference Elevations: 1428.00 ft (KB)  
 1415.00 ft (CF)  
 KB to GR/CF: 13.00 ft

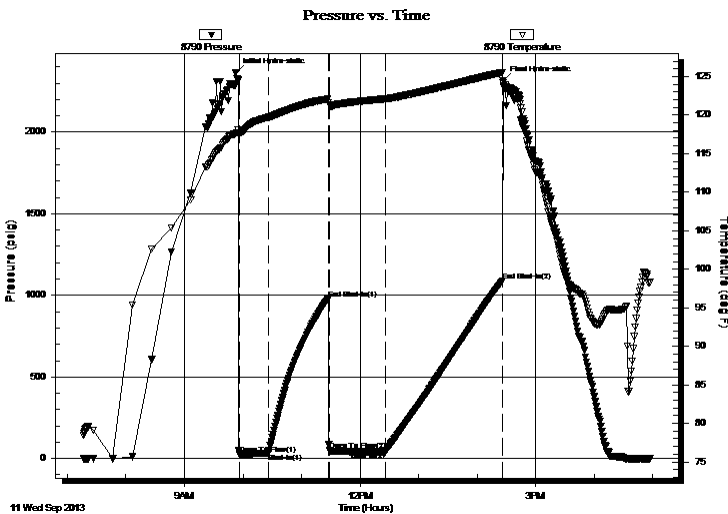
## Serial #: 8790

Inside

Press @ Run Depth: 41.89 psig @ 4763.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.09.11      End Date: 2013.09.11      Last Calib.: 2013.09.11  
 Start Time: 07:16:43      End Time: 16:57:38      Time On Btm: 2013.09.11 @ 09:52:53  
 Time Off Btm: 2013.09.11 @ 14:26:38

TEST COMMENT: IF: Strong blow . BOB @ 1min. No GTS.  
 IS: No blow  
 FF: Strong blow . BOB immed. No GTS.  
 FS: No blow .

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2366.36	117.60	Initial Hydro-static
4	27.26	117.74	Open To Flow (1)
34	33.13	119.72	Shut-In(1)
95	980.59	122.07	End Shut-In(1)
96	50.79	121.35	Open To Flow (2)
153	41.89	122.10	Shut-In(2)
273	1089.69	125.54	End Shut-In(2)
274	2316.73	124.25	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	OCM 7%oil, 93%mud	0.98
0.00	4646' GIP	0.00

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Woolsey Oper. Co. LLC.

**10-35s.-12w. Barber Co. KS**

125 N. Market Ste. 1000  
Wichita, KS 67202-1729

**Miller C 4**

Job Ticket: 52455

**DST#: 1**

ATTN:

Test Start: 2013.09.11 @ 07:16:38

## 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:

4000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
70.00	OCM 7%oil, 93%mud	0.982
0.00	4646' GIP	0.000

Total Length: 70.00 ft      Total Volume: 0.982 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

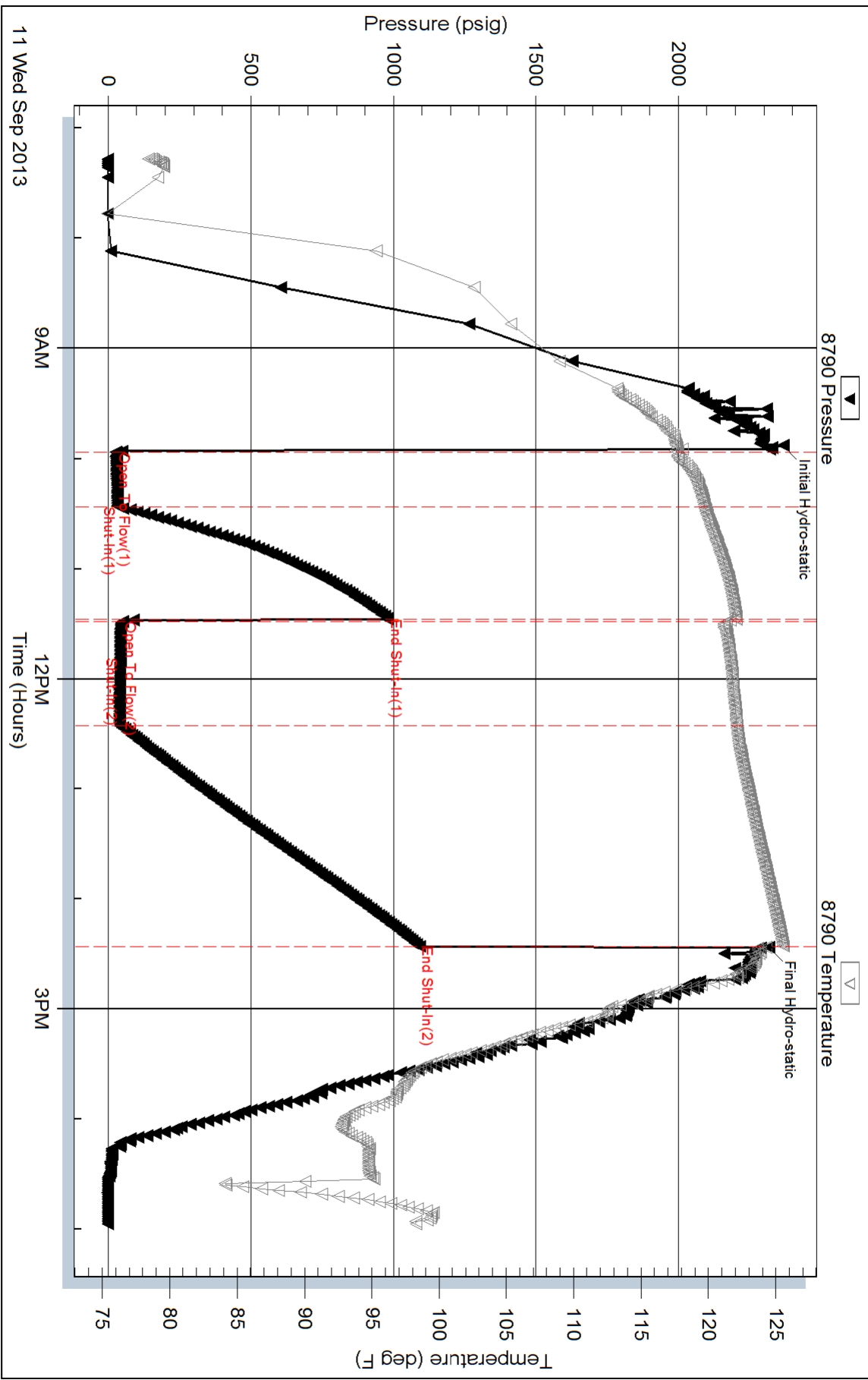
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time

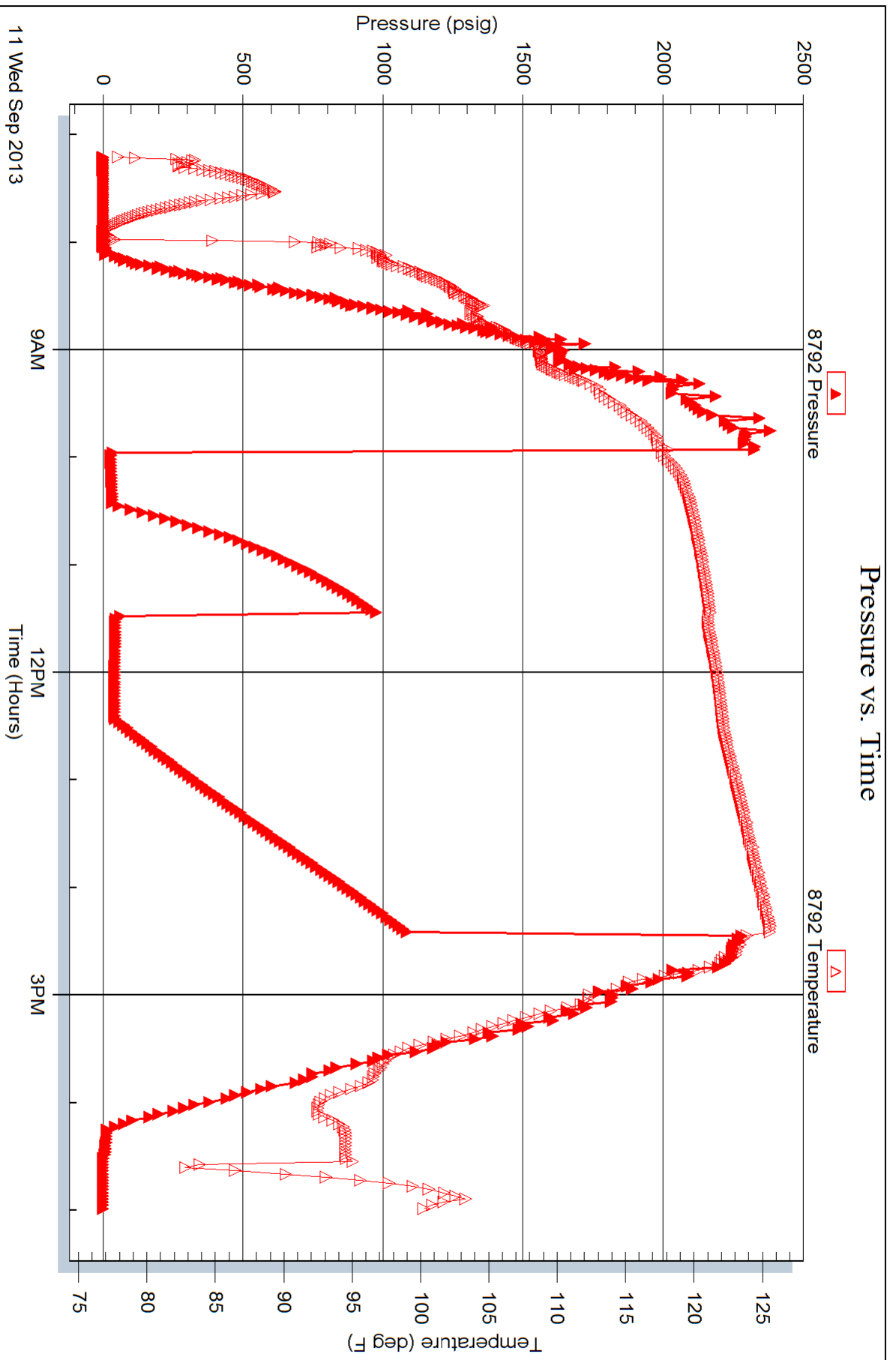


Serial #: 8792

Outside Woodsey Oper. Co. LLC.

Miller C4

DST Test Number: 1





**Woolsey Operating Company, LLC**  
Scale 1:240 (5"=100') Imperial  
Measured Depth Log

**Well Name:** Miller C-4  
**Location:** Section 10 - Township 35 South - Range 12 West  
**License Number:** 15-007-24065-00-00 **Region:** Barber County, KS  
**Spud Date:** September 4, 2013 **Drilling Completed:**  
**Surface Coordinates:** 1650' FNL & 2265' FWL.  
Approx. W 1/2 NE SE NW  
**Bottom Hole Coordinates:**  
**Ground Elevation (ft):** 1415' **K.B. Elevation (ft):** 1415'  
**Logged Interval (ft):** 4300' **To:** 5450' **Total Depth (ft):** 5450'  
**Formation:** Kansas City ----> Simpson Group  
**Type of Drilling Fluid:** Chemical Mud  
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://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: Ran 5 joints of new 13 3/8" X 48#/ft casing to 224' KB (tally 209') with 230 sx Class A, 2% gel, 3% cc. Plud down at 4:30 am on September 5, 2013. Cement did circulate.

Production Casing:

Deviation Surveys: 1/4 at 226', 1/2 at 1029', 3/4 at 2238', 1 at 3212', 3/4 at 3722', 1 1/4 at 4269', 1 at 4757', 1/2 at 4908,

Pipe Strap @ 4908', Board:4915.37', Strap: 4914.69', strap .68' long, No corrections were made to the board.

Ninnescah Drilling Rig 101 Bit Record:

- 1) 17 1/2" Smith Tool Compay RR in at 0' out at 226'. 3.5 hours.
- 2) 7 7/8" Varel HE-21 in at 226' out at 4908', 101 1/2 hours.
- 3) 7 7/8" Varel HE-29 in at 4908', out at 5450', 39 1/2 hours

Gas Detector: Woolsey Operating Company, Gas Trailer #2

Mud System: Mud-Co. Brad Bortz, Terry Ibson, Engineers.

DSTs: Trilobite Testing Co, Ryan Reynolds, Tester

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

## New Comments

Bit began to torque and lock up in the lower section of the Simpson Sand, decision was made to call TD and loggers were called.

## DSTs

DST #1 (Mississippian) 4762'-4908', 30"-60"-60"-120", Strong blow BOB 1 minute into IFP. Recovered: 4646' GIP, 70' SOCM (7% Oil, 93% Mud), IHP 2366, IFP 27-33, ISIP 980, FFP 50-41, FSIP 1089, FHP 2316. BHT 126 degrees.

## CREWS

Rick Barriger, Tool Pusher

Jason Barriger, Daylights

Juan Navarro, Evening

Ronaldo Guerrero, Morning

Oscar Orona, Relief



One foot drill time was recored from 4400' to RTD. 10' samples were gathered from 4600' to RTD. All were delivered to the Kansas Geological Survey.

7 am Progress:

- September 4, 2013 MIRT/SPUD
- September 5, 2013 WOC
- September 6, 2013 Drilling at 1417'
- September 7, 2013 Drilling at 2270'
- September 8, 2013 Drilling at 3120'
- September 9, 2013 Drilling at 3920'
- September 10, 2013 Drilling at 4624'
- September 11, 2013 DST 1 at 4908'
- September 12, 2013 Drilling at 5059'
- September 13, 2013 Drilling at 5360'
- September 14, 2013
- September 15, 2013

Elog Tops:

- Herington
- Onaga
- Wabaunsee
- LeCompton
- Kanwaka
- Elgin Sand
- Heebner
- Toronto
- Douglas Shale
- Haskell
- Stalnaker Sand
- Quindaro Shale
- Kansas City 'E'
- Iola
- Dennis
- Stark
- Swope
- Hushpuckney
- Hertha
- B/Kansas City
- Pawnee
- Cherokee Group
- Mississippi
- C3
- C2A
- C2
- C1
- Osage
- Northview Shale
- Compton
- Kinderhook
- Woodford
- Misener
- Viola
- Simpson Group
- Simpson 'F' Dolo
- Wilcox
- McLish Shale

4100

4150

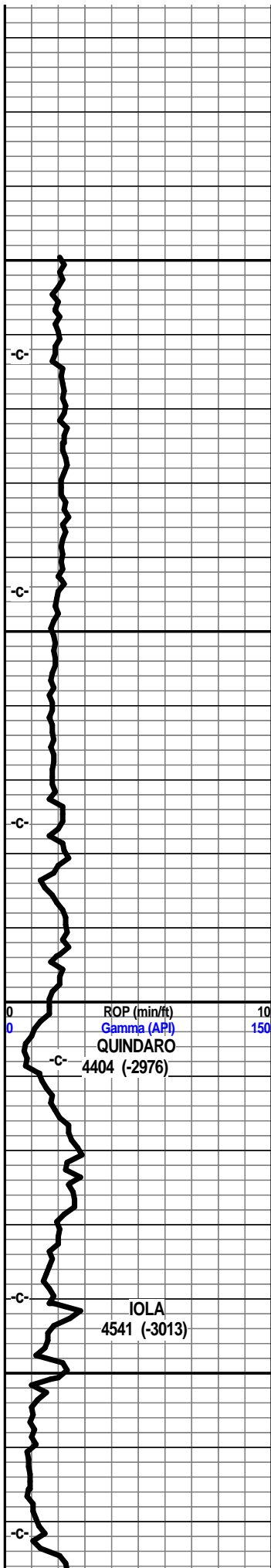
4200

4250

0	ROP (min/ft)	10
0	Gamma (API)	150

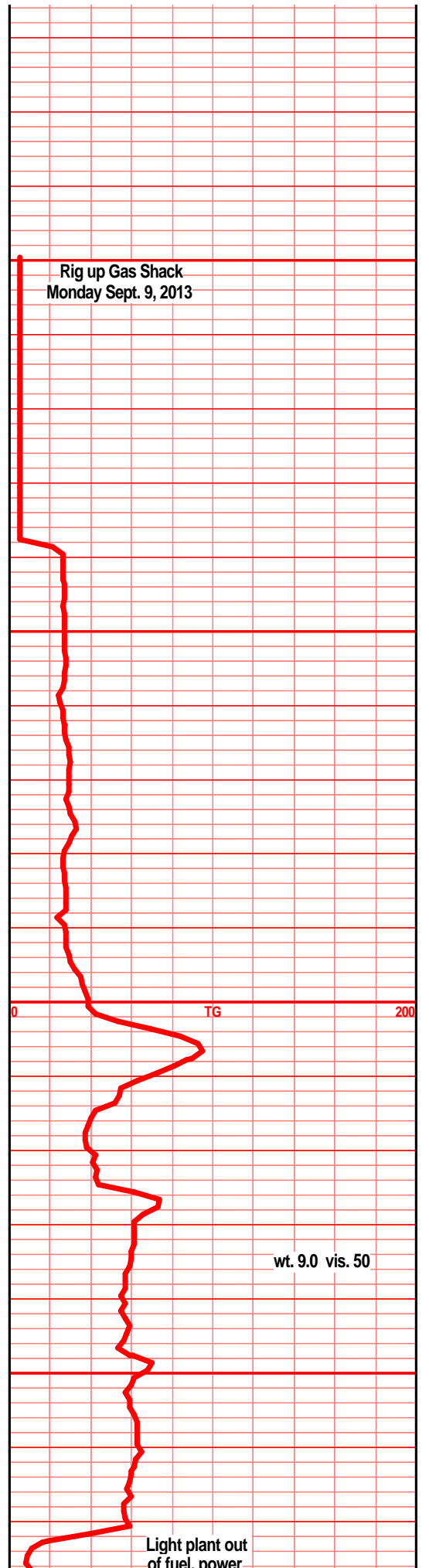
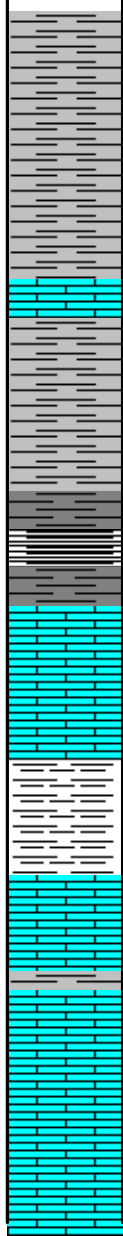
0	TG	200
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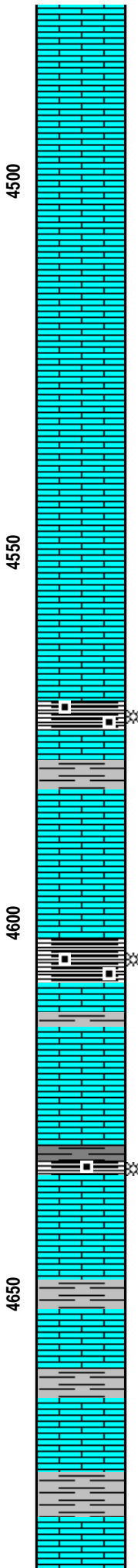
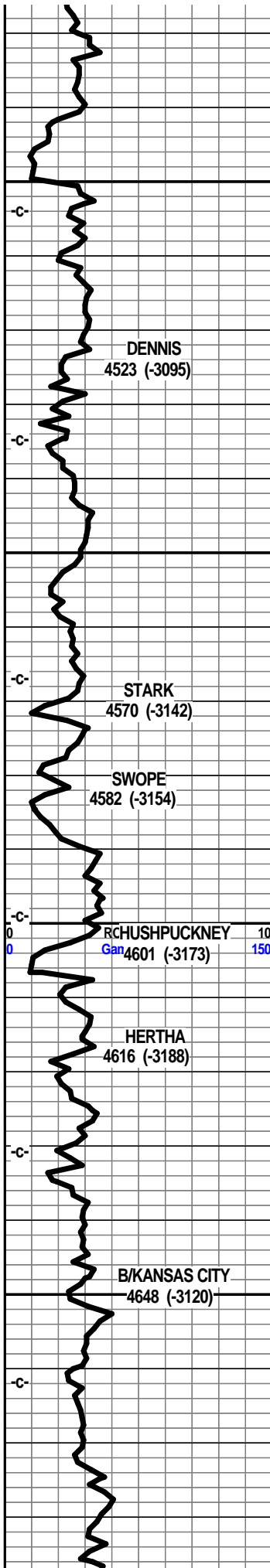




4300  
 4350  
 4400  
 4450

- Oil and Gas Show Legend
- ⊗ Gas Show
  - Even Saturation
  - ◐ Spotted Uneven Saturation
  - Questionable
  - ◻ Dead/Gilsonitic





abun blk wxy grsy carb shl, tr gassy, lst tan crm off wht f xln blk ang pcs, sub chlky foss frags, calc xln fill

lst crm lt gry tan f xln gran sub chlky foss frags, foss ool, pelletal, calc xln fill,

shl gry blk, blk wxy grsy carb pcs, gassy in prt,

lst off wht lt gry tan f xln blk ang tr gran pcs, sub chlky, foss frags, micro foss in prt, calc xln fill

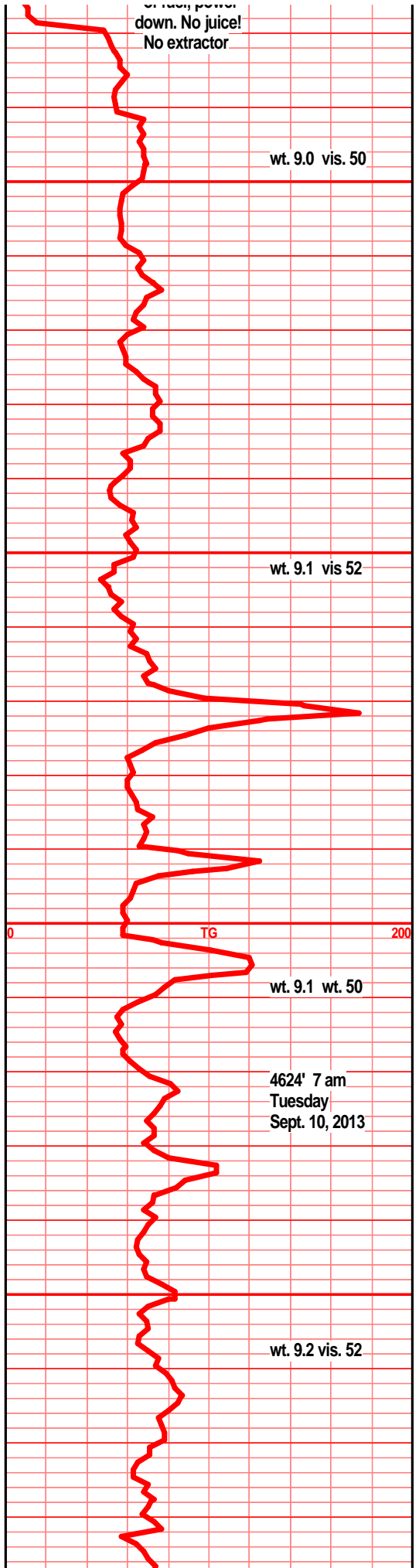
lst crm lt gry tan f xln blk ang pcs, sub chlky foss frag, micro foss frags, calc xln fill, mstly soft

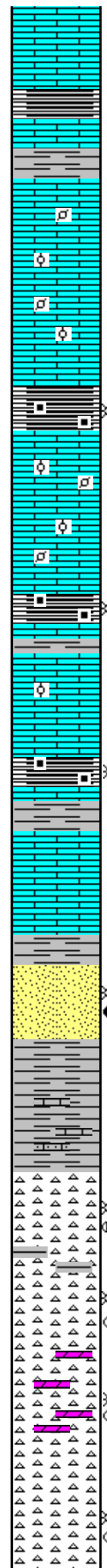
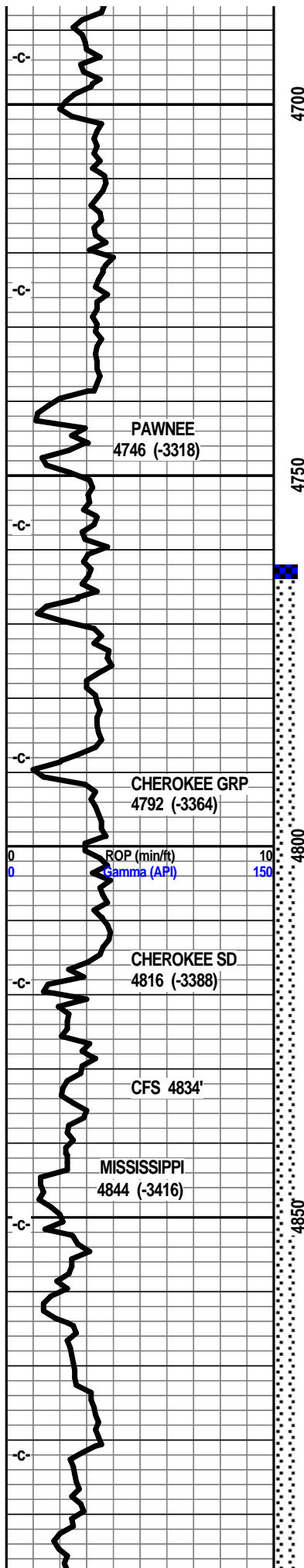
lst crm gry tan f xln dns blk ang pcs, sub chlky foss frags, tr arg, micro foss in prt, calc xln fill, shl gry drk gry blk, sli carb in prt within spl

lst gry tan brn f vf xln dns hrd arg, silts. sub chlky gran, shls gry tan gry brn calc soft

shl gry lt gry green blue, calc blk ang pcs, lst tan blue gry f vf xln dns hrd blk, silts, arg, sub chlky

shls gry/lt green, blue, silty gritty, calc in prt, lst tan off wht lt gry/blue, f vf xln dns hrd blk arg, siltv. arittv aran





shl, grey green

lst crm buff tan f vf lxn dns hrd blkly ang pcs, tr sub chlky, some micro foss frags, tr micro ool, calc xln fill, shl gry drk gry brn silty calc

lst crm buff tan f sli vf xln blkly ang mstly dns, tr sub chlkt, tr micor foss, tr calc xln fill

lst crm buff tan f vf xln blkly ang dns pcs, tr foss frags, micro foss frags, micro ool, calc xln fill, some sub chlky gran

lst tan buff crm f xln, vf xln in prt, blkly ang dns pcs, tr sub chlky, micro foss frags, calc xln fill, abun blk wxy grsy blkly blk carb shl, gassy

lst crm buff tan f xln, vf xln in prt, blkly ang pcs, tr sub chlky, foss frags, foss ool, micro ool/pelletal in prt, tr inter ool, leached por, tr inter xln por, some calc xln fill NS

lst tan buff crm f vf xln dns hrd blkly ang pcs, tr sub chlky gran, mstly dns hrd, foss frags, micro foss/ool/pelletal, tr inter xln, inter ool por,

shl gry drk gry blk, sli carb twxt tr wxy gsy text, ls tan buff lt gry vf xln dns hrd blkly, sli arg, silts, sub chlky gran tr soft, mstly dns hrd, tr micro foss frags

lst tan buff lt gry f vf xln dns hrd blkly ang, arg, sub chlky, silts, tr micro foss frags, mstly mealy dns hrd arg, abun blk wxy grsy carb text shl, tr gas bubs

lst tan lt gry f vf xln dns hrd blkly ang, sub chlky in prt, micro foss, shl gry green silty gritty

sst drk tan mstly brn clstrs, f vf grnd, sub ang to rded grns, w/srted, fair to well cem, blkly ang clstrs, non fria, calc cem, tr inter grn por, drk stain, filmy SFO & gas bubs on brk, sli odor

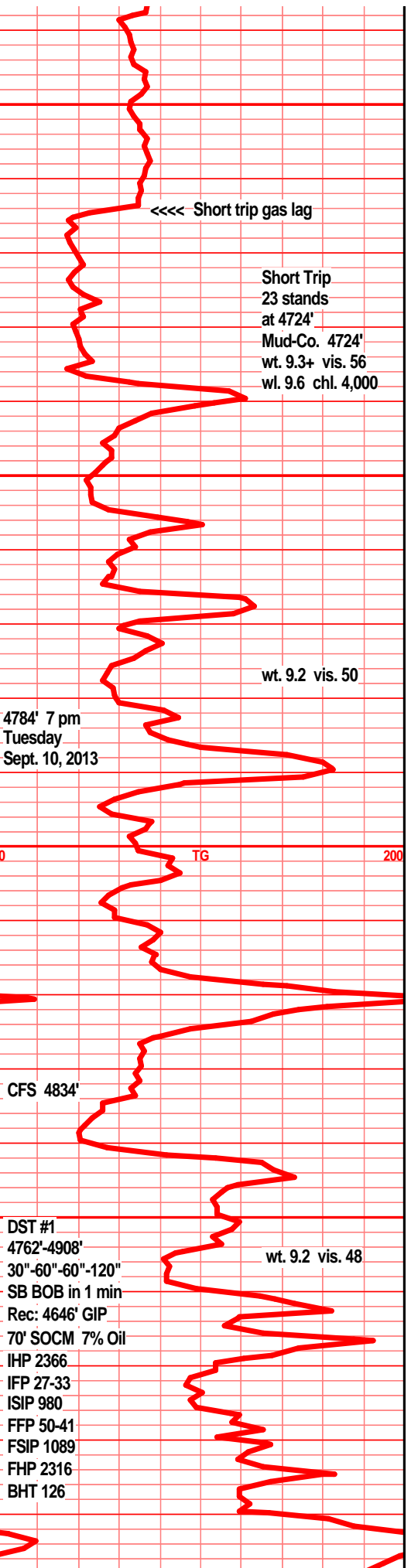
shls gry green, blue gry green silty gritty gran, calc limy in prt, tr vari color

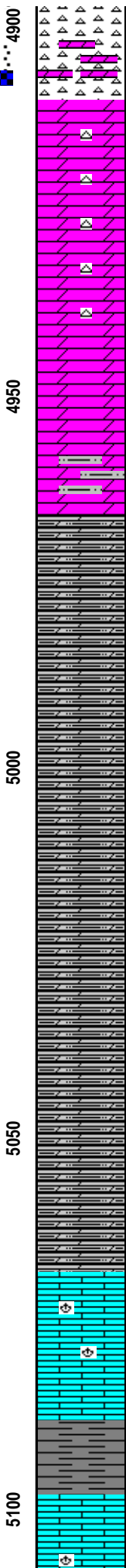
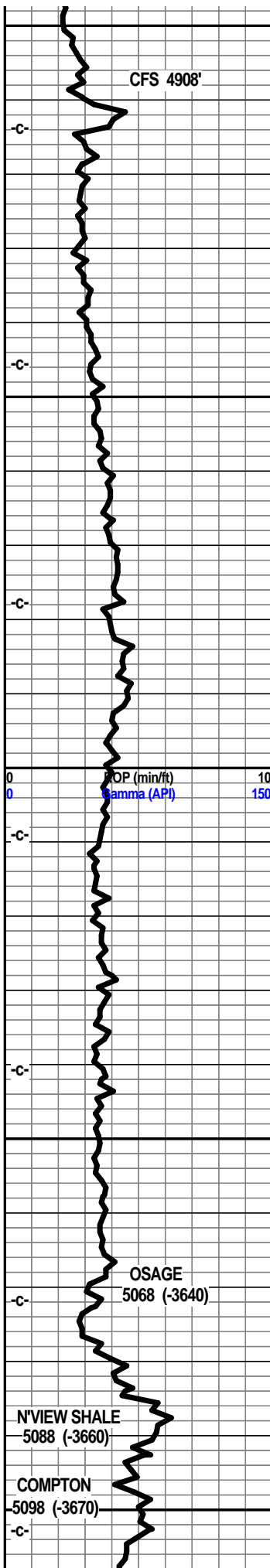
chrt off wht tan lt smokey gry, tr tan lt orange, shrp frsh blkly ang pcs, semi opaq, tr weath brn blk stained edge, filmy SFO, gas on break, sli odor, filmy scum on spl water, blue gry calc shls w/chrt inclu

chrt off wht tan tr lt smokey gry, shrp frsh blkly ang pcs, semi opaq, sli weath edges with brn drk brn stain, gas bubs filmy SFO on brk, sli odor, dolo lt gry green f vf xln dns blkly ang pcs, tr glau, tan lt brn stain,

chrt tan brn drk brn tr gry mott, shrp frsh blkly with weath trip text edges, pp moldic/vug por drk brn stain, gas bubs, dull UV, gas bubs, filmy SFO

chrt off wht tan tr lt gry shrp frsh opaq blkly shrp pcs, w sli weath edge text, pp sli moldic por, drk brn stain, gas bubs, dolo lt tan sli brn, f vf xln





dns hrd blkly, tan lt brn stain, glau, inter xln por, tite sli odor

dolo chrty dolo, lt gry gry green, f vf xln dns blkly hrd, tr gritty, some sub chlky soft, tr inter xln por, tan brn stain, chrt inclu, off wht lt gry shrp frsh tr weath edge pp sli moldic por, tan brn stain, sli odor in all, tr blkly ang druzey qrtz

dolo chrty dolo, tan gry, gry/green f vf xln gran blkly ang dns, tan off wht chrt inclu, tr inter xln por mstly tite dns, tan brn stain, tr gas bubs, sli odor

dolo tan gry f vf xln dns hrd blkly ang pcs, gritty tr sndy text, chrt off wht tan shrp frsh blkly ang shrp, tr lt stain, tr gas bub on brk, sli odor?

dolo drk tan gry, bec drkr gry, f vf xln gran gritty incr silty, tr chrt off wht tan shrp frsh blkly ang

dolo drk gry f vf xln, silty, gritty, dns gran, gry drk gry dolo silts, tr chrt dull gry tan shrp frsh opa

dolo, silty dolstn, med drk gry, f vf xln, gran dns hrd blkly ang arg, silty gritty, shls drk gry blk, silty gritty dolo

dolo silty dolostn, med drk gry f vf xln, gran gritty silty, hrd blkly ang pcs, shls med drk gry silty gritty

dolo silty dolostn, med drk gry f vf xln gran gritty silty, arg, hrd dns, shls drk gry silty platy silty

dolo, silty gritty shl dolostn, med drk vf xln, dns hrd blkly silty, shls med drk gry silty gritty

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

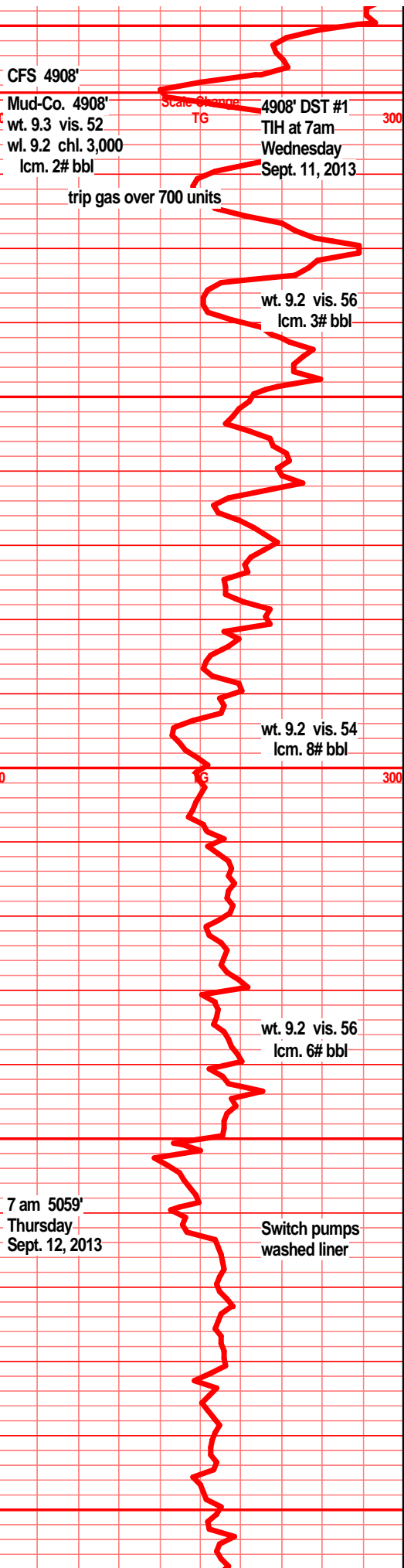
dolo silty dolostn, drk med drk gry, silty blkly ang pcs, gritty, arg, shls drk med drk gry silty gritty

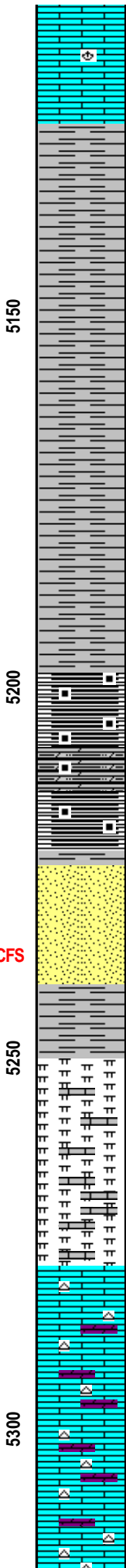
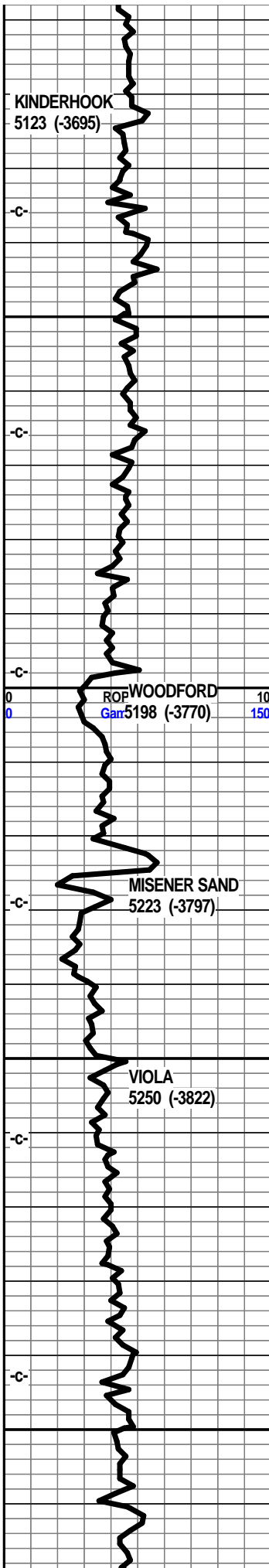
lst wht off wht f sli med xln blkly ang tr sub chlky, foss frags, crs foss frags in prt, mstly dns tite hrd.

lst off wht lt gry, f sli med xln, blkly ang sub chlky in prt, foss frags, crsly foss frags in prt, tr glau, calc xln fill

lst aa, shl gry drk gry, mstly gry/green to blue green, tr wxy grsy text, silty

lst lt gry tan, f vf xln some micro xln, blkly ang dns hrd pcs, tr sub chlky, tr micro foss frags,





lst lt gry tan, off wht f vf xln dns hrd blk ang dns pcs, some sub chlky, micro foss frags,

shl lt gry, silty, gritty in prt, platy bedded,

shl gry lt med gry, gritty silty, soft, tr bedded, tr banded

shl gry, med gry, silty, gritty in prt bedded, tr pyritic

shl gry med drk gry, blk ang pcs, silty, tr gritty, beds some pyrite bands

shl grk gry med drk gry blk ang pcs, silty gritty blk pcs, pyritic bands

shl gry med drk gry, silty, gritty, bedded, pyritic bands, some blk ang pcs,

shl drk gry mstly blk, brown, deep brownish blk, tr blk carb, silty gritty, blk ang soft pcs, pyritic, dull min copper grains, abun gas bubs, filmy sho cond nodor

shl drk gry blk, deep red/brn/blk, blk ang pcs, gritty, silty, pyritic in prt, soft gran in prt, abun gas bubs, filmy sho

sst wht clr semi frosty clstrs, f sli med grnd, sub ang to ang grns, prly to w/srtd, sub fria to fria, prly cem, tr clay clasts, tr arg, mineral fill, tr vw/cem, hrd blk clstrs, mstly tite tr pyritic fill NS

dolo, dolo shls, gry tan brn vf xln, soft chlky, mushy, soft tan gry clays, lst wht off wht f xln flky chlky

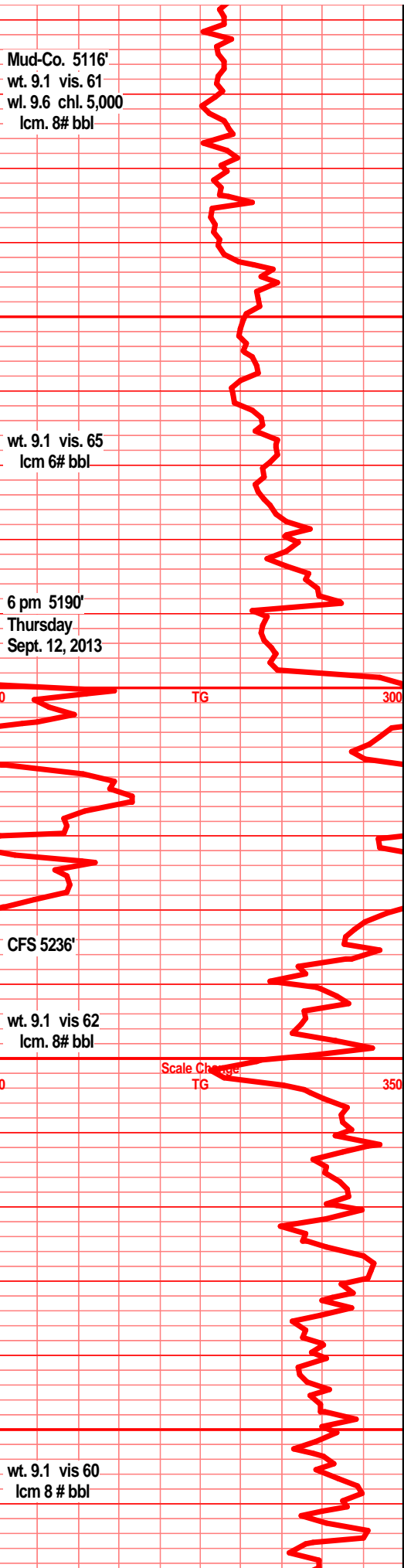
lst wht f xln soft, mushy, wht tan clays, soft crumbly, dolo gry tan f xln soft gran crumbly, mushy arg gran spls wsh wht

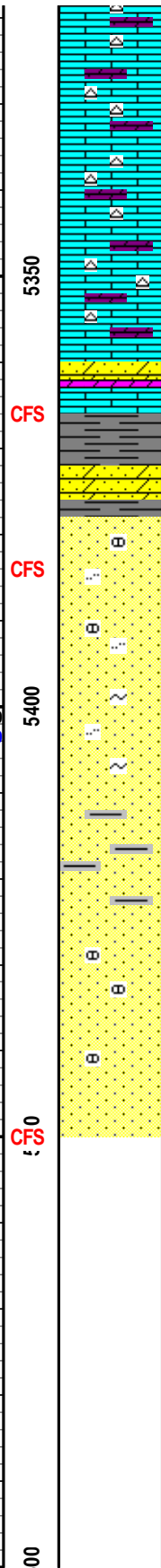
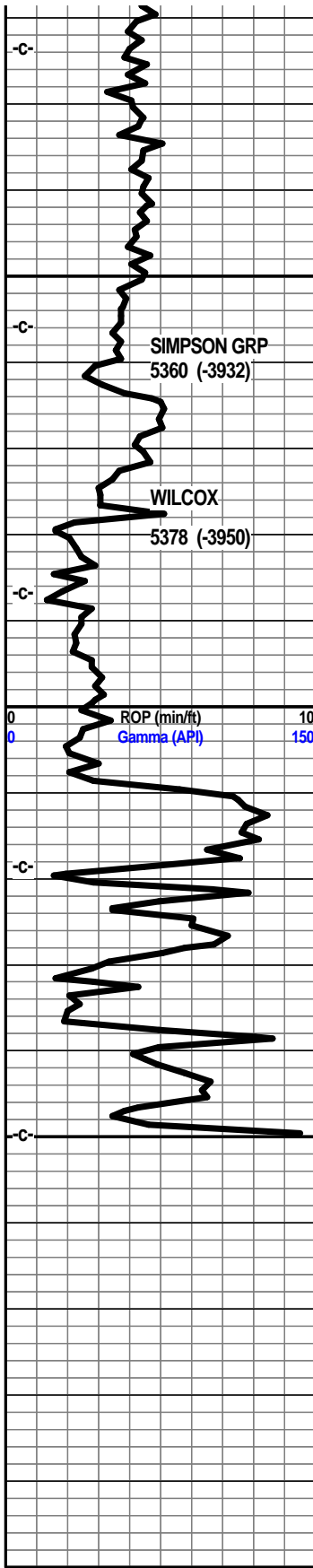
lst, dolo shly dolo in prt, f xln gran soft crumbly mushy, arg, fria, spls wash wht

lst off wht lt gry mott, f sli med xln, blk ang, crs calc xln fill/edges, pyritic, tr inter xln por, dolo drk crm tan f xln, sub chlky gran, gritty, chrt, chrt dull tan shrp blk ang pcs, tr foss pcs

lst off wht lt gry, off wht gry mott, f sli med xln blk ang dns hrd, pyritic edge fill, inter xln por, crs xln edge, dolo tan lt gry tan f vf xln blk ang gran dns hrd, chrt in prt, chrt dull tan gry shrp frsh opa, blk shrp ang pcs

lst crm wt tan f sli med xln blk ang dns, tr crs calc xln fill, dolo lt tan crm lt brn f vf xln gran sli





calc xln m, dolo lt tan crm lt brn f v xln gran sli  
sucr text, blkly dns pcs, chrty, chrt tan dull gry  
shrp frsh oopaq

lst/dolo tan drk crm dull tan, f vf xln gran blkly  
ang gran sli surc text pcs, inter xln por sub  
chlky, tr soft, chrty in prt, chrt dull tan gry shrp  
frsh opaq

lst/dolo crm tan dull tan brn f vf xln dns hrd blkly  
ang, sli sub chlky, gran sli sucr text, chrty, chrt  
dull tan gry lt brn shrp frsh opaq, blkly shrp ang  
tr foss pcs

dolo sndy dolo, drk tan brn, f sli med grnd/xln,  
gran sli surc text, sndy gritty, mstly soft mushy,  
sli chlky, drk brn stain, filmy show and odor on  
brk  
shl gry, drk gry green, drk teal green, slick, wxy  
grsy text, pyrtic, snd inclu, sst gry, green f grnd,  
w/cem, pyritic, dolo text, hrd dns blkly clstrs

sst wht clr clstrs, f grnd sub rded to rded grns,  
w/srtd, sub fria to prly cem, inter gran por, tr  
mineral fill, NS

sst wht tan lt gry tr clr clstrs, f grnd, sub ang,  
mstly sub rded grns, fairly srtd, fair to prly cem,  
sub fria, silic cem, tr mineral fill, tr clay clasts, tr  
loose snd grns in spl tray

shl gry dkr gry green teal green, sst wht tan lt  
brn & clr clstrs, f grnd, sub ang mstly sub rded  
grns, w/srtd, fair and poorly cem, silic cem, sub  
fria in most, mineral fill, clay clasts, tr pyritic fill,

sst clr lt gry, some off wht clstrs, f grnd, sub  
ang, sub rded grns, fair to w/srtd, prly cem, sub  
fria, silic cem, mineral fill, tr pyritc, , sst gry  
clstrs, f grnd, rded grns, vry well cem tite dns  
blkly ang clstrs, pyritic, mineral fill

shl green, teal green, snd grn inclu, pyritic  
bands, sst wht off wth lt gry and clr clstrs, f grnd  
sub ang, mstly rded grns, fairly srtd, sub fria to  
w/cem, tr mineral fill, tr blk clay clasts NS

