



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1210386  
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: \_\_\_\_\_

1210386

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

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

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
---	--

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Woolsey Operating Company, LLC
Well Name	MACKEY 1
Doc ID	1210386

Tops

Name	Top	Datum
CHASE	1946	-508
ONAGA	2812	-1374
HEEBNER	3850	-2412
DOUGLAS	3924	-2486
SWOPE	4555	-3117
MISSISSIPPIAN	4822	-3384
VIOLA	5303	-3865
SIMPSON	5436	-3998



# ALLIED OIL & GAS SERVICES, LLC 062315

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:  
*Medicine Lodge KS*

DATE <i>2-17-14</i>	SEC. <i>18</i>	TWP. <i>35S</i>	RANGE <i>12W</i>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <i>10:40 P</i>
LEASE <i>Marcy</i>	WELL # <i>1</i>	LOCATION <i>Hardner KS 15 34W</i>			COUNTY <i>Randall</i>	STATE <i>KS</i>	
OLD OR <u>NEW</u> (Circle one)			<i>into</i>				

CONTRACTOR *Fossil*

TYPE OF JOB *Surface*

HOLE SIZE *17 1/2* T.D. *285*

CASING SIZE *13 3/8* DEPTH *225*

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT *20'*

CEMENT LEFT IN CSG. *20'*

PERFS.

DISPLACEMENT *30 3/4 bbl*

EQUIPMENT

OWNER *Woolsey*

CEMENT

AMOUNT ORDERED *3005x Class A+*

*3% CC 2% Gel*

PUMP TRUCK CEMENTER *Snake Heard*

# *471/205* HELPER *Ron Gilley*

BULK TRUCK

# *381/252* DRIVER *David Felio*

BULK TRUCK

# DRIVER

COMMON	<i>3005x</i>	@	<i>17.90</i>	<i>5370.00</i>
POZMIX		@		
GEL	<i>65x</i>	@	<i>23.40</i>	<i>140.40</i>
CHLORIDE	<i>115x</i>	@	<i>6.00</i>	<i>704.00</i>
ASC		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
HANDLING	<i>324.00</i>	@	<i>2.48</i>	<i>804.51</i>
MILEAGE	<i>14.8 x 25 x 2.60</i>			<i>972.22</i>
TOTAL				<i>7996.73</i>

REMARKS:

## WELL FILE

Regulatory Correspondence  
 Drilling/Comp  
 Tests / Meters  
 Workovers  
 Operations

CHARGE TO: *Woolsey*

STREET \_\_\_\_\_

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

### SERVICE

DEPTH OF JOB	<i>285</i>		
PUMP TRUCK CHARGE			<i>1512.00</i>
EXTRA FOOTAGE		@	
MILEAGE	<i>26</i>	@	<i>7.70 200.00</i>
MANIFOLD		@	
<i>Light Vehicle</i>	<i>26</i>	@	<i>4.40 114.40</i>
		@	
TOTAL <i>1827.35</i>			

### PLUG & FLOAT EQUIPMENT

<i>Basket</i>	@		
	@		<i>775.00</i>
	@		
	@		
TOTAL <i>775.00</i>			

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 *X MIKE THARP*

SIGNATURE *X Mike Tharp*

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES *10593.08*

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

*net 8468.46*

*13 3/8*

# ALLIED OIL & GAS SERVICES, LLC 055046

Federal Tax I.D.# 20-5975804

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

316-267-4383

SERVICE POINT: Russell, Ks

DATE <u>3.1.11</u>	SEC. <u>18</u>	TWP. <u>35</u>	RANGE <u>12</u>	CALLED OUT	ON LOCATION	JOB START <u>12:00</u>	JOB FINISH <u>12:30</u>
LEASE <u>Mackay</u>	WELL # <u>1</u>	LOCATION <u>Hardman, Ks</u>			COUNTY <u>Barber</u>	STATE <u>Ks</u>	
OLD OR NEW (Circle one) <u>1 South 3/4 West North into</u>							

CONTRACTOR <u>Fossil Drilling Inc.</u>	OWNER
TYPE OF JOB <u>Long String</u>	CEMENT AMOUNT ORDERED <u>90SK 60/40 + 41.98</u>
HOLE SIZE <u>7 7/8</u> T.D.	<u>75SK class "H" cement.</u>
CASING SIZE <u>5 1/2</u> DEPTH <u>5018.42</u>	
TUBING SIZE DEPTH	
DRILL PIPE DEPTH	
TOOL DEPTH	
PRES. MAX MINIMUM	COMMON @
MEAS. LINE SHOE JOINT <u>45.10'</u>	POZMIX @
CEMENT LEFT IN CSG. <u>45.10'</u>	GEL <u>156 lb @ 24 = 37.44</u>
PERFS.	CHLORIDE @
DISPLACEMENT <u>118.36 #/H2O</u>	ASC @

EQUIPMENT <u>Dave Felio</u>	<u>90SK 60/40 - @ 14.93 = 1,343.70</u>
PUMP TRUCK CEMENTER <u>Gary Premeaux</u>	<u>75SK "H" cement @ 21.20 = 1,570.00</u>
# <u>417</u> HELPER <u>Danny E.</u>	<u>Gypsum - 1,150 lb @ .76 = 876.80</u>
BULK TRUCK # <u>304</u> DRIVER <u>Jessa C.</u>	<u>SAT - 618 lb @ .53 = 327.54</u>
BULK TRUCK #	<u>cell-Hack 3216 @ 3.70 = 118.40</u>
BULK TRUCK #	<u>CFL-160 9516 @ 18.90 = 1,795.50</u>
BULK TRUCK #	<u>Kol-sual 75016 @ .98 = 735.00</u>
BULK TRUCK #	<u>HANDLING 165 # @ 2.48 = 409.20</u>
BULK TRUCK #	<u>MILEAGE 267 T/m 2.60 = 694.20</u>
	<b>TOTAL \$ 7,947.78</b>

**WELL FILE**  
 REMARKS: Correspondence  
 Regulatory Workovers  
 Drig / Comp Operations  
 Tests / Meters  
See Cementing Job log!

DEPTH OF JOB <u>5018.42</u>	
PUMP TRUCK CHARGE <u>\$ 3,099.25</u>	
EXTRA FOOTAGE @	
MILEAGE <u>Heavy 60m @ 7.90 = 462.00</u>	
MANIFOLD <u>light 30m @ 4.90 = 132.00</u>	
<u>Plug container - @ - = 250.00</u>	
<b>TOTAL \$ 3,993.25</b>	

<b>PLUG &amp; FLOAT EQUIPMENT</b>	
<u>1x 5 1/2 Float Shoe @ - = 408.33</u>	
<u>1x 5 1/2 AFU kit @ - = 431.25</u>	
<u>10x 2 1/2 Jumbo corks @ 48.30 = 483.00</u>	
<u>10x 3 1/2 Jumbo corks @ 88.92 = 889.20</u>	
<b>TOTAL \$ 2,552.10</b>	

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES \$ 14,443.13  
 DISCOUNT \$ 2,378.20 IF PAID IN 30 DAYS  
net 12064.93

CHARGE TO: Wootley Operating  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP 67665

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 J FARR  
 SIGNATURE [Signature]

**MAR 24 2014**



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Woolsey Operating Co.LLC

**18-35s-12w Barber Co.**

125 N Market  
Suite 1000  
Wichita, Ks. 67202  
ATTN: Blake Miller

**Mackey #1**

Job Ticket: 51936

**DST#: 1**

Test Start: 2014.02.24 @ 00:50:31

## GENERAL INFORMATION:

Formation: **Cherokee Sd**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 04:00:46

Time Test Ended: 10:07:16

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 53

**Interval: 4740.00 ft (KB) To 4806.00 ft (KB) (TVD)**

Reference Elevations: 1438.00 ft (KB)

Total Depth: 4806.00 ft (KB) (TVD)

1426.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

**Serial #: 6773 Outside**

Press@RunDepth: 45.88 psig @ 4741.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.24

End Date:

2014.02.24

Last Calib.:

2014.02.24

Start Time: 00:50:36

End Time:

10:07:16

Time On Btm:

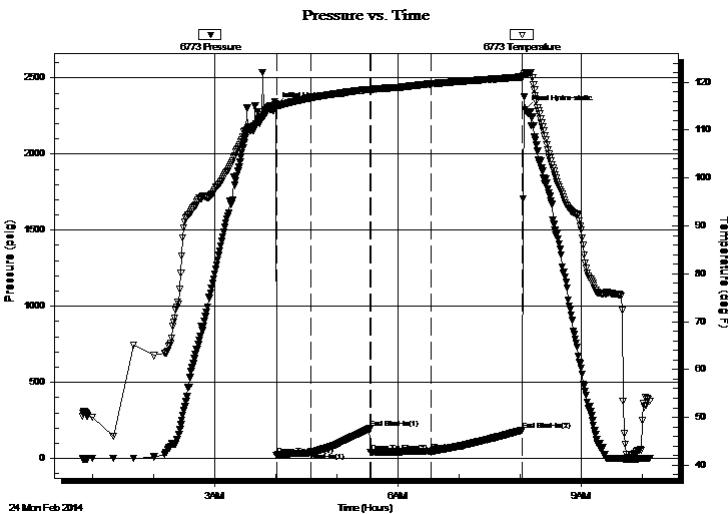
2014.02.24 @ 04:00:01

Time Off Btm:

2014.02.24 @ 08:05:01

TEST COMMENT: IF: Weak blow . Surf., - 5 1/2".  
IS: Weak blow . Surf., - 1/4 to 1/2".  
FF: Weak blow . Surf., - 4".  
FS: No blow .

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2315.31	115.51	Initial Hydro-static
1	19.41	115.08	Open To Flow (1)
35	36.79	116.71	Shut-In(1)
93	196.92	118.52	End Shut-In(1)
94	37.14	118.51	Open To Flow (2)
153	45.88	119.67	Shut-In(2)
243	187.68	121.12	End Shut-In(2)
245	2292.16	121.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM 2%o 98%m	0.10

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Woolsey Operating Co.LLC

**18-35s-12w Barber Co.**

125 N Market  
Suite 1000  
Wichita, Ks. 67202  
ATTN: Blake Miller

**Mackey #1**

Job Ticket: 51936

**DST#: 1**

Test Start: 2014.02.24 @ 00:50:31

## 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:

1800 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbf

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
20.00	SOCM 2%o 98%m	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

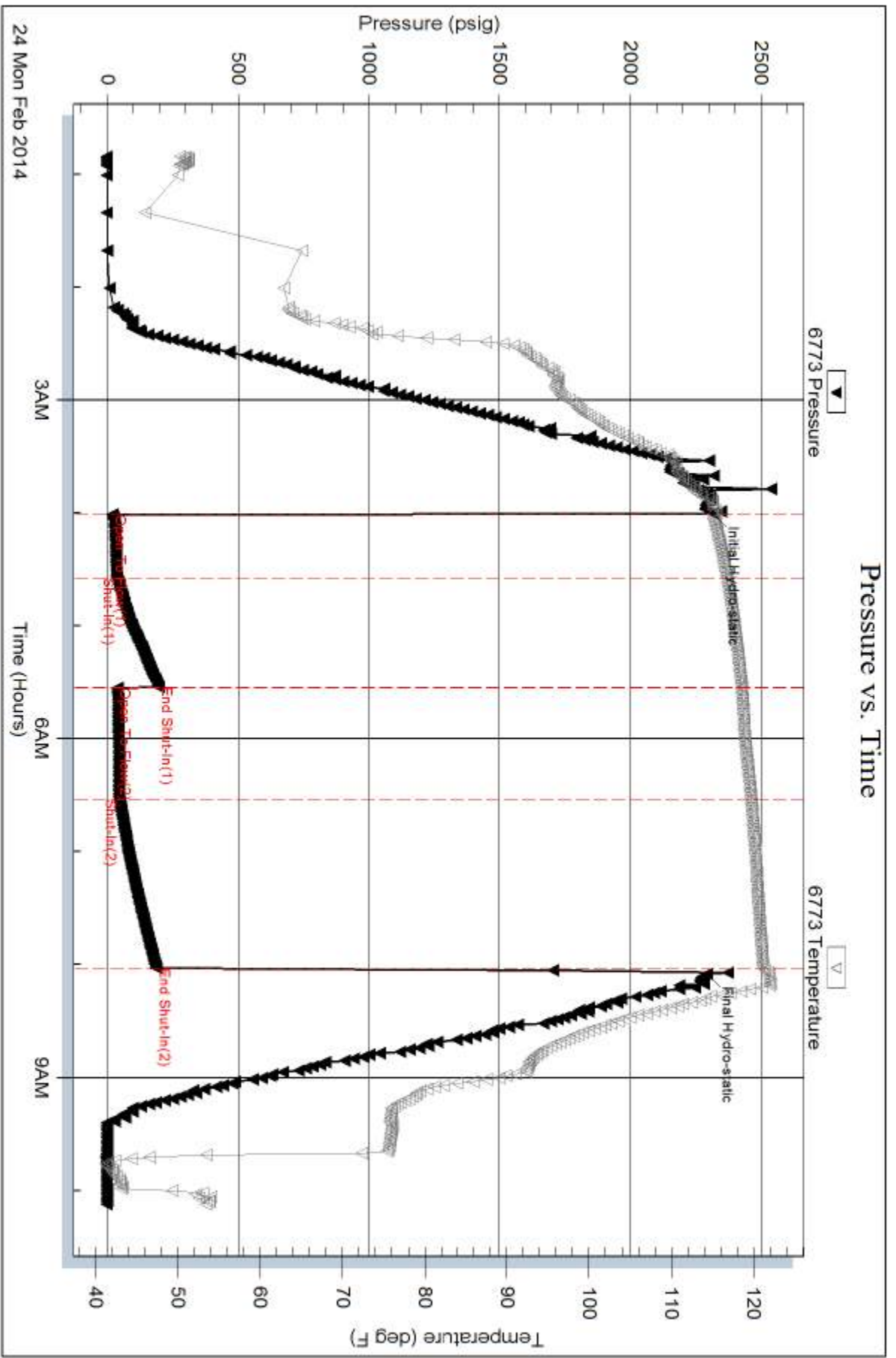


Serial #: 6773

Outside Woodsey Operating Co.LLC

Mackey #1

DST Test Number: 1





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Woolsey Operating Co.LLC

**18-35s-12w Barber,KS**

125 N Market  
Suite 1000  
Wichita, Ks. 67202  
ATTN: Blake Miller

**Mackey #1**

Job Ticket: 51937

**DST#: 2**

Test Start: 2014.02.24 @ 20:33:44

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 00:20:39

Time Test Ended: 07:24:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 53

**Interval: 4825.00 ft (KB) To 4870.00 ft (KB) (TVD)**

Reference Elevations: 1438.00 ft (KB)

Total Depth: 4870.00 ft (KB) (TVD)

1426.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

**Serial #: 6773 Outside**

Press@RunDepth: 28.63 psig @ 4826.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.24

End Date:

2014.02.25

Last Calib.: 2014.02.24

Start Time: 20:33:44

End Time:

07:24:39

Time On Btm: 2014.02.25 @ 00:13:09

Time Off Btm: 2014.02.25 @ 04:59:54

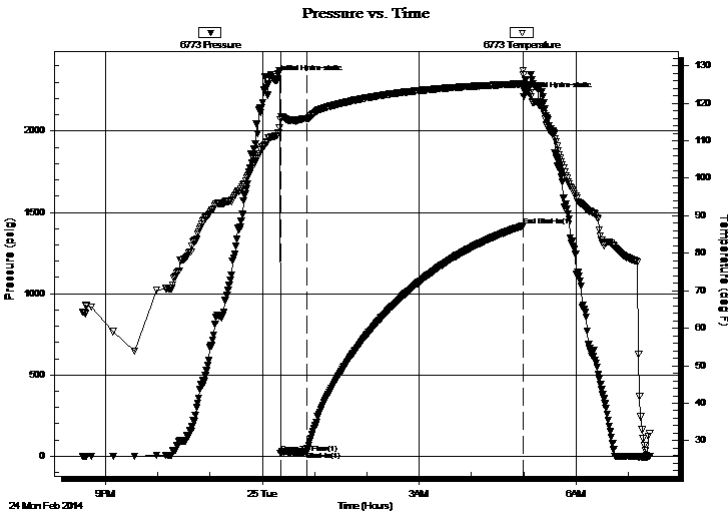
TEST COMMENT: IF: Strong blow . B. O. B. in 1 min.

IS: No blow .

FF: No blow .

FS: No blow .

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2318.11	111.20	Initial Hydro-static
8	17.89	115.63	Open To Flow (1)
38	28.63	115.98	Shut-In(1)
286	1417.80	125.20	End Shut-In(1)
287	2211.47	127.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Dring mud 100%m	0.02

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Woolsey Operating Co.LLC

**18-35s-12w Barber,KS**

125 N Market  
Suite 1000  
Wichita, Ks. 67202  
ATTN: Blake Miller

**Mackey #1**

Job Ticket: 51937

**DST#: 2**

Test Start: 2014.02.24 @ 20:33:44

## 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:

2600 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Dring mud 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

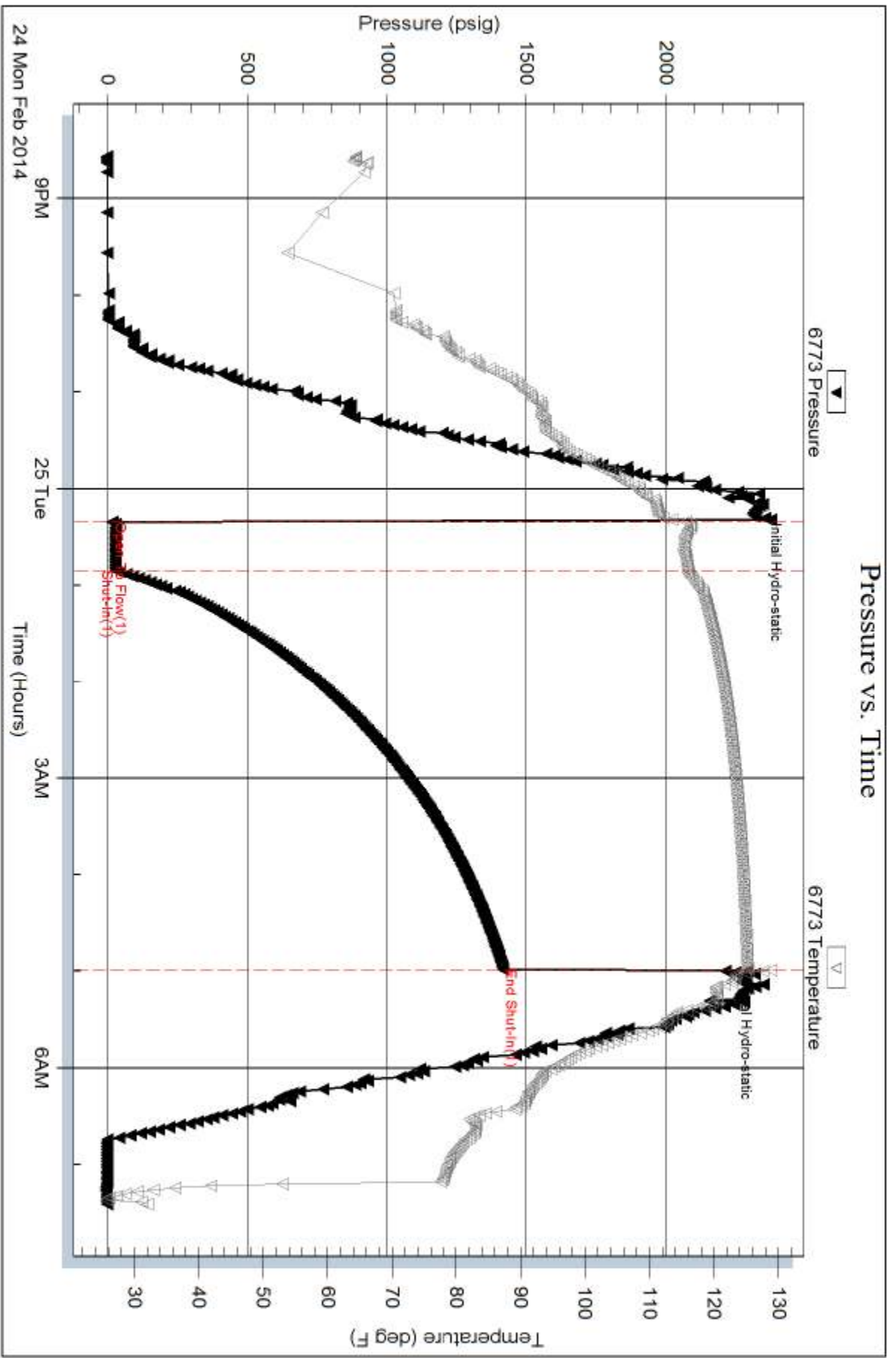
Recovery Comments: Tool plugged on 2nd open

Serial #: 6773

Outside Woodsey Operating Co.LLC

Mackey #1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 51937

Printed: 2014.02.25 @ 08:24:08



## Woolsey Operating Company, LLC

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

Measured Depth Log

Well Name: Mackey #1

Location: Irreg Section 18 - Township 35 South - Range 12 West

License Number: 15-007-24109-0000

Region: Barber County, Kansas

Spud Date: February 17, 2014

Drilling Completed:

Surface Coordinates: Irreg 18 - 35S - 12W / N/2 N/2  
330' FNL & 2635' FWL

Bottom Hole Coordinates:

Ground Elevation (ft): 1426

K.B. Elevation (ft): 1438

Logged Interval (ft): 4000 To: 5550 Total Depth (ft): 5550

Formation: Kansas City Group ---> Simpsom Group

Type of Drilling Fluid: Chemical Mud Displaced at 3361'

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: Blake Miller

Company: Woolsey Operating Co. LLC

Address: 125 N. Market, Wichita Kansas, 67202

## COMMENTS

Surface Casing: : Spud at 4:45 pm on February 17, 2014. Set 5 joints of 13 3/8" x 48#/ft new surface casing at 225' (tally 213') with 300 sacks Class A, 2% gel, 3% cc, 1/4# celoflake (by Allied). Plug down at 10:45 pm on February 17, 2014. Cement did circulate.

Production Casing:

Deviation Surveys: • 1/2° at 225', 1/4° at 1046', 1/4° at 1553', 1/4° at 2062', 1° at 2507', 3/4° at 3014', 1/2° at 3519', 3/4° at 4025', 1/2° at 4531', 1° at 4806'

Pipe Strap @ 4806'. Strap: 4817.27', Board: 4816.46'. Strap 1.19' short.

Contractor Bit Record:

- 1) 17 1/2" Hughes RT RR in at 0', out at 225', made 225' in 2.5 hours
- 2) 7 7/8" Varel HE21 in at 225', out at 4806', made 4581' in 107.5 hours
- 3) 7 7/8" Hughes GE27 in at 4806', out at 5550', made 744' in 58 hours

Gas Detector: Woolsey Operating Co., Gas Trailer #2

Mud System: Chemical Mud, Mud-Co., Brad Bortz, Engineer

DSTs: Trilobite Testing, Matt Smith, Tester

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

## DSTs

1) 4740-4806, 30-60-60-90, (1) flow fair 5" blow > weak 1/2" blow, (2) flow fair 4" blow > no blow, Rec: 20' SOCM (2% O, 98% M), IHP 2315, IFP 19-37, ISIP 197, FFP 37-46, FSIP 188, FHP 2292, BHT 122°

2.) 4825-4870, 30-60-60-120, (1) strong blow, B.O.B. 1" > no blow, (2) no blow-no blow, Rec: 5' drlg mud, IHP 2318, IFP 18-29, ISIP 1416, FHP 2246, \*MIS-RUN\*

## CREWS

Jim Wenrich, Tool Pusher

Daniel Orrantea, Days

Ron Burns, Evening

Doug Dimitt, Morning

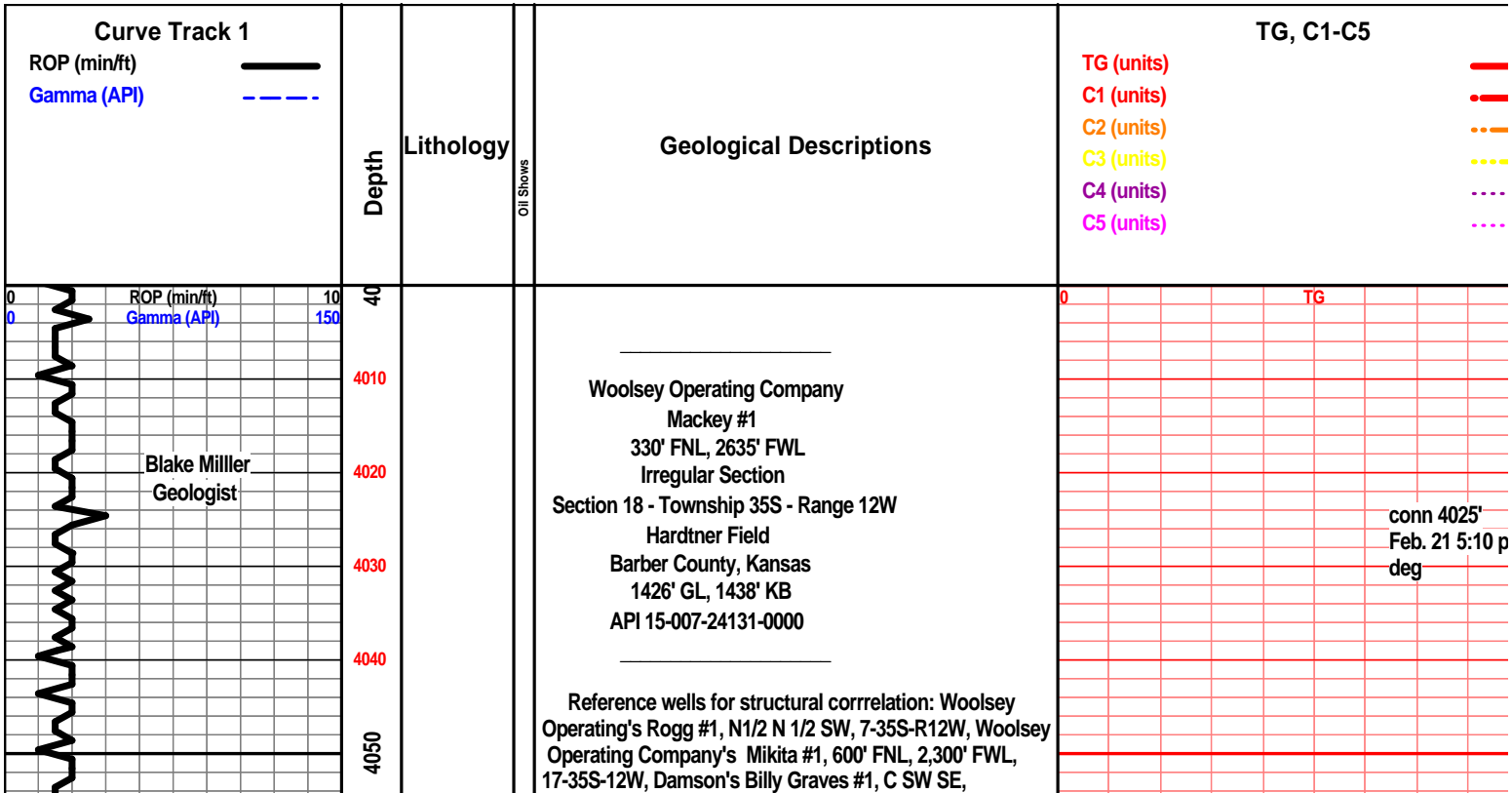
Chris Statts, Relief

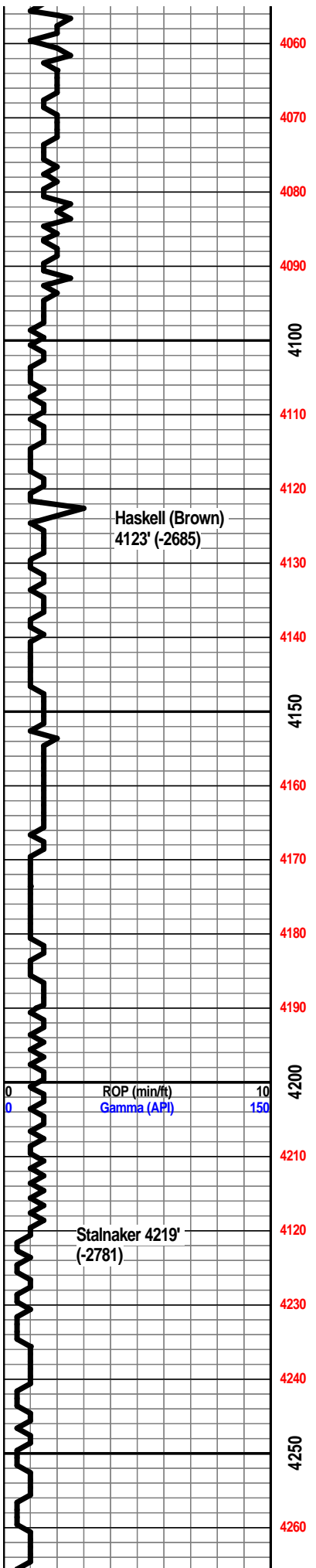
### ROCK TYPES

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

### ACCESSORIES

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





7-35S-12W.

One minute drill time was recorded from 4375' to rotary total depth. Ten foot rotary cuttings were collected from 4500' to rotary total depth and were delivered to the Survey at the completion of the test.

7 am progress:

- Feb. 17, 2014: MIRU
- Feb. 18, 2014: drilling at 225'
- Feb. 19, 2014: drilling at 1700'
- Feb. 20, 2014: drilling at 2430'
- Feb. 21, 2014: drilling at 3270'
- Feb. 22, 2014: drilling at 4645'
- Feb. 23, 2014: drilling at 4640'
- Feb. 24, 2014: on btm w/ DST #1 at 4806'
- Feb. 25, 2014: on btm w/ DST #2 at 4870'
- Feb. 26, 2014: drilling at 5090'
- Feb. 27, 2014: CFS @ 5298'
- Feb. 28, 2014: drilling at 5521'

Oil & Gas Show Legend:

- Good show/saturation
- ◐ Slight show
- Very slight show/questionable
- ⊗ Gas

DSTs:

- 1.) 4740-4806, 30-60-60-90, (1) fair 5" blow > weak 1/2" blow, (2) fair 4" blow > no blow, 20' socm (2% O, 98% M), [197-188] FP 19-37/37-46
- 2.) 4825-4870, 30-60-60-120, (1) strong blow, B.O.B. 1" > no blow, (2) no blow - no blow, 5' drlg mud, [1416] FP 18-29, \*MIS-RUN\*

Mud Checks:

- 1.) 452': Wtr 100%, chls 200, SPM 56, PP 400#
- 2.) 2633': Wt 9.4, vis 28, pH 7, WL n/c, cake hvy, chls 98,000, sand tr, solids 2, LCM 0#, SPM 58, PP 800#
- 3.) 3435': Wt 8.7, vis 53, PV 15, YP 15, gel 14/54, pH 11.5, WL 9.2, cake 1/32, chls 3500, sand tr, solids 2.7, LCM trc, SPM 58, PP 600#
- 4.) 4214': Wt 9.1, vis 53, PV 15, YP 17, gel 17/49, pH 12.5, WL 8.8, cake 1/32, chls 3000, sand tr, solids 5.4, LCM 0#, SPM 58, PP 800#
- 5.) 4727': Wt 9.1, vis 56, PV 16, YP 17, gel 18/56, pH 12.5, WL 8.8, cake 1/32, chls 1800, sand tr, solids 5.6, LCM 4#, SPM 58, PP 900#
- 6.) 4806': Wt 9.1, vis 59, PV 15, YP 15, gel 17/51, pH 11, WL 9, cake 1/32, chls 2600, sand tr, solids 5.6, LCM 4#, SPM 56, PP 850#

conn 4057'

conn 4088

conn 4120'

conn 4151'

conn 4182'

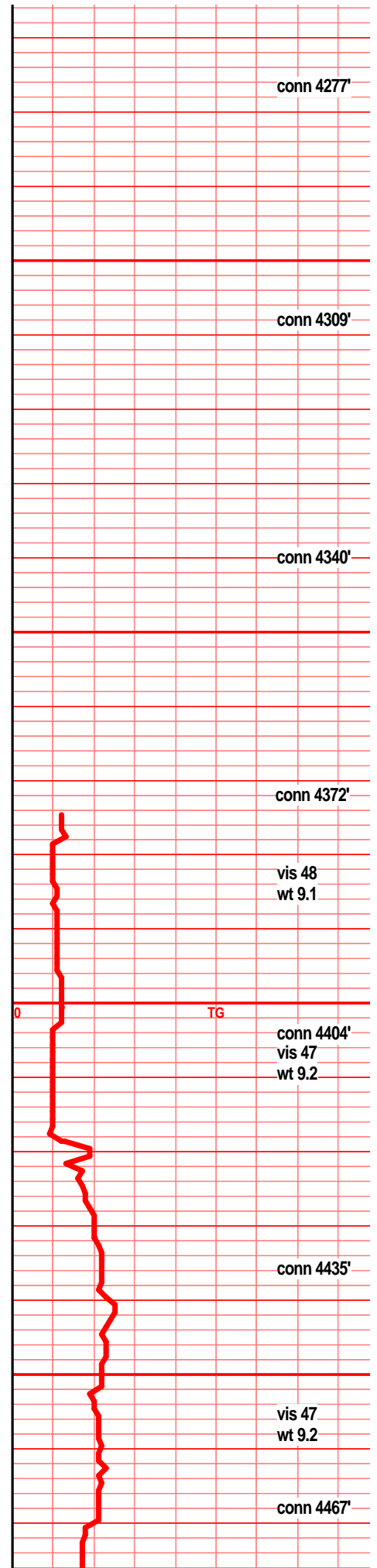
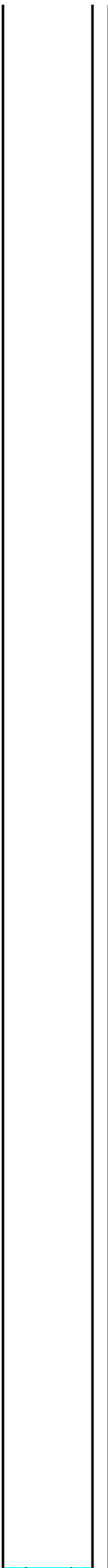
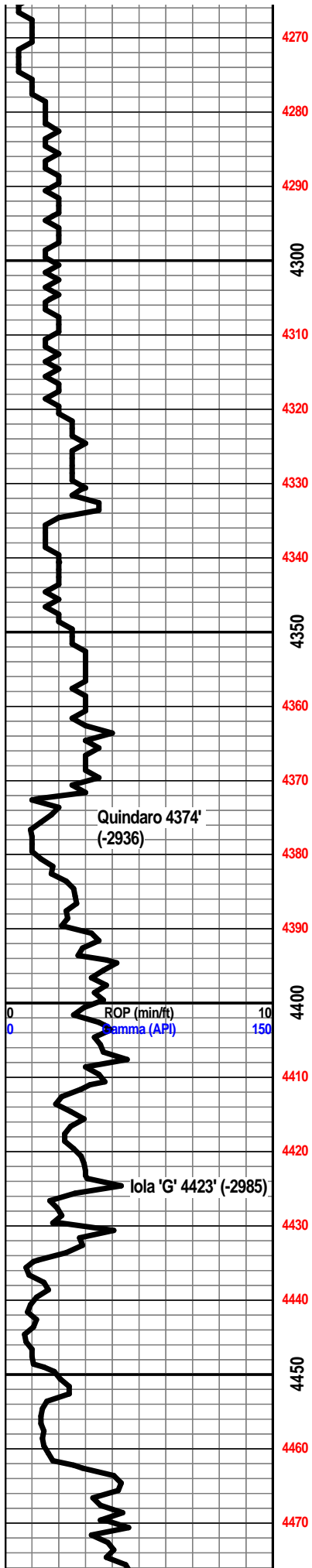
conn 4214'

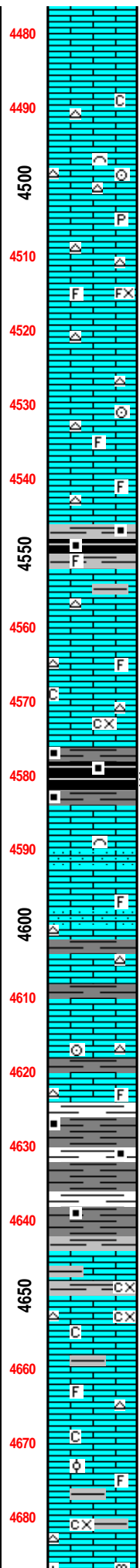
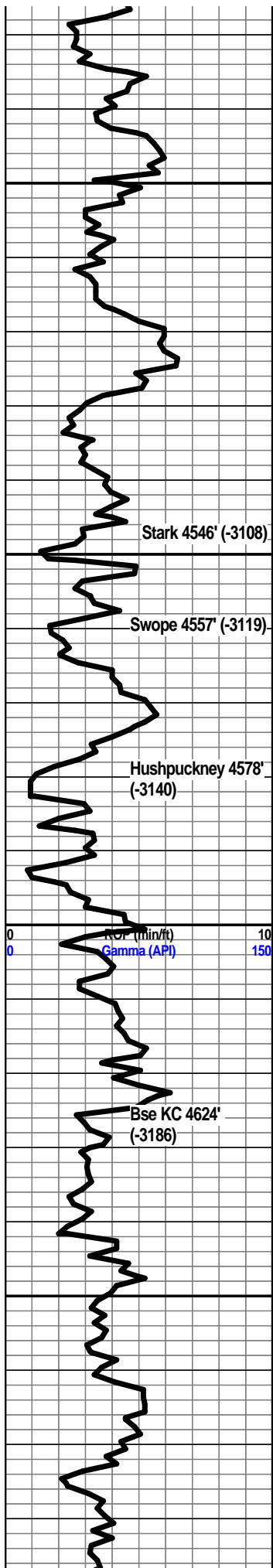
conn 4246'

0 TG

0 Scale Change TG







LS- tan off wht, some chrt xln, vfn grn, chlk-sub chlk pcs, tite, sub ang, foss frag chrt xln, small pcs

LS- tan gry off wht, xln, pyr xln, vfn-fn grn, hrd tite, soft sub chlk pcs, sub ang, foss cont, few crin, chrt foss xln, blkly pcs. CHRT- gry lt brn, hrd tite, shrp ang

LS- gray off wht, fn grn, tite, low chlk cont, sub ang, fn re-xln foss frag, chrt xln, low pyr xln. blkly pcs. CHRT- gry brn, opa, tite, shrp ang

LS- gry tan, fn grn, chrt & calc xln, hrd, low/no chlk, ang, hvy foss re-xln, foss moldic por, fusulinid mold re-xln. CHRT- wht tan lt brn, cln-drty, opa, shrp, tite

LS- tan off wht, xln, fn grn, hrd, low chlk, ang subang, low foss frags, re-xln mold, crin. CHRT- few white opa pcs

LS- tan off wht, vfn-fn grn, incr chlk cont, subang, fn foss frag, rexln moldic por, sm pcs

SH- black gry, carb, vfn grn, poor lam, rare foss frag, wxy, sft, splintery & blkly

LS- tan off wht, xln, fn grn, sub chlk, low fn foss frag, rexln. CHRT- wht tan, opa, hrd tite, ang, few

LS- wht tan, fn grn, xln, chlky, sft, hrd ang pcs, foss cont re-xln. CHRT- wht gry opa, mostly cln, hrd dns ang pcs.

SH- gry black, carb, vfn grn, sft, good lam, few black stringer in gry pcs, wxy, splintery flaky frac ptrn, gas bubs in black pcs.

LS- off wht lt brn, drty, sdy, xln, fn-med grn, chlk in pcs, mostly sdy, subang, foss re-xln, better por. CHRT- brn, hrd, opa, shrp pcs, few

LS- tan lt nrn off wht, drty pcs persist, some clean, fn-med grn, xln, hrd, sdy, sub ang, foss mold re-xln and por, ool present, blkly pcs. CHRT- brn, few hrd shrp pcs

SH- predom gry, vfn grn, flaky-splintery, fissile, soft, black lam seen.

LS- off wht brn, fn grn, chrt, xln, hrd, drty, ang, few foss, sing crin. SH- gry, vfn grn, splint-flaky-blky pc, few lam seen

SH- predom gry gry blue sl red, vfn grn, wxy, soft, splintery-blky frac, rare lam seen

SH- gry, vfn grn, soft, waxy, fissile, few black carb lam seen.

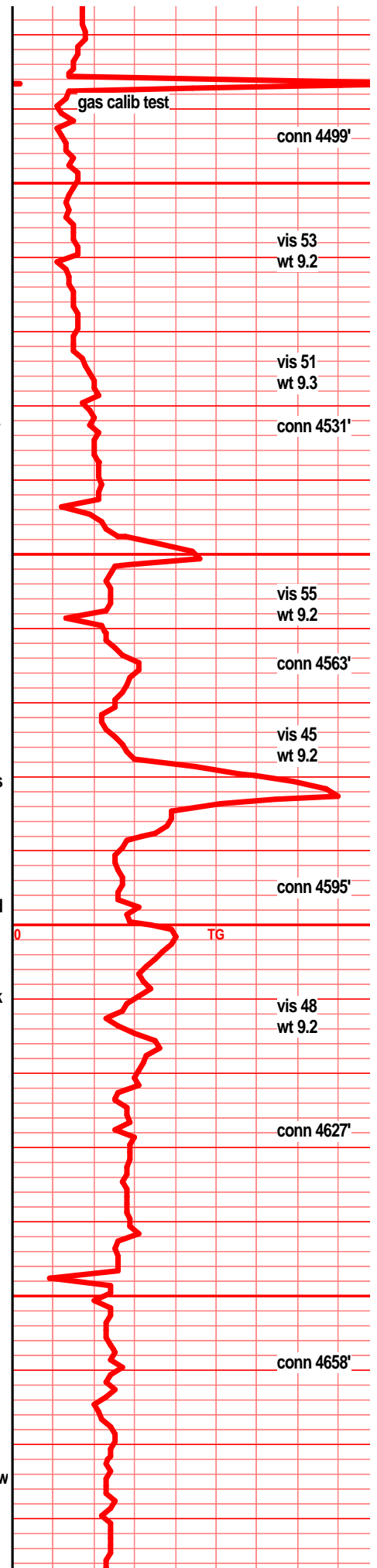
SH-LS- gry gry brn, vfn grn shly lime, xln, hrd tite, ang irreg frac, no foss

LS- off wht tan gry, fn grn, xln, few sub chlk, fn-crs rexln foss frag in wht/tan, gry pcs grty w. low foss

LS- off wht tan lt brn (drty), xln, vfn-fn grn, fewer sub chalk, hrd, some foss moldic por (drty pcs), foss rexln.

LS- gry tan, fn grn, xln, hrd, grys sl slty & grty, subang, low foss, tan higher foss & crsr, ool, mod sort

LS- predom gry, tan, grty, vfn-fn grn, sub chlk, sub ang,



gas calib test

conn 4499'

vis 53  
wt 9.2

vis 51  
wt 9.3

conn 4531'

vis 55  
wt 9.2

conn 4563'

vis 45  
wt 9.2

conn 4595'

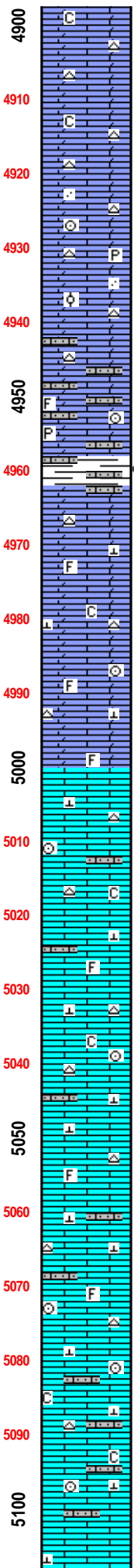
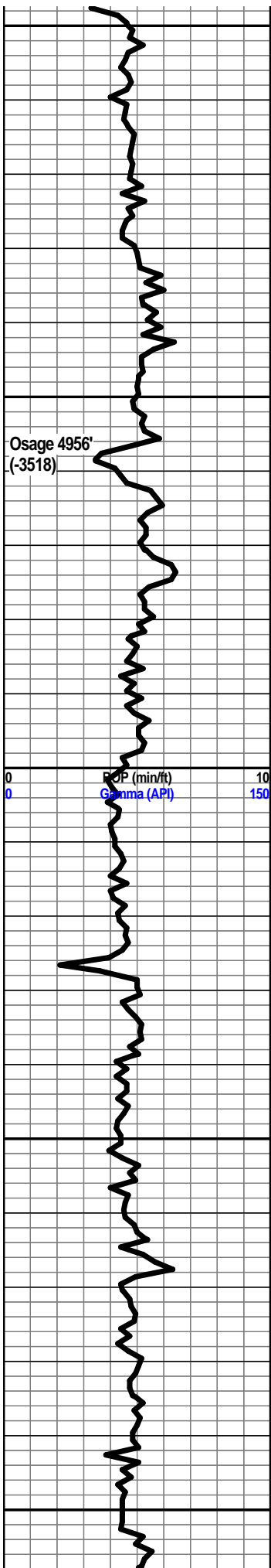
vis 48  
wt 9.2

conn 4627'

conn 4658'

TG





foss seen, fnt foss struc prsvd, calc xln.

DOL/LS- wht gry tan, calc xln, vfn- fn grn, wt ylw opaq chrty, chlky, grty, friable-non, low inerstitial por, no foss, fnt foss struc prsvd, lrg blkly sub ang pcs

DOL/LS- wht off wht tan, xln, chrty, chlky, vfn-fn grn, grty, low interstitial por, tr microfoss/fn foss struc, mod sort

DOL/LS- wht off wht gry, xln, vfn-fn grn, wht sl trans chrty, chlky, grty text, vfn sdy, pyr&calc xln, vari hrdns, low interstitial por, few rexln ool, rexln crin-fnt struct prsvd

DOL/LS- wht gry lt grn, sdy slty, vfn grn, xln, wht chrty, grny text, sft friable cln dol/ls-low micro foss & crin; well cem clastic dol-hrdr dns, low foss

DOL/LS- gry gry-grn wht, vfn grn, sdy, rare pyr, grty text, med-hrd, well cem, interstitial por, no foss. DOL/LS- mst of smpl cln wht vfn-fn grn grty chrty dol/ls, calc xln, few crin & foss frag

SH- grn gry, vfn grn, sft, wxy, glauc, V FEW PCS w/ gso

DOL/LS- wht gry tan, xln, vfn grn, calc&chrt xln, chlky, friable, grty text, xln foss, crin. few hrd sd pcs persist

DOL/LS- wht tan, calc&chrt xln, chlky, friable, low sdy pcs, sub ang, low interstitial por, fnt foss rexln in pcs, xln crin readily vis/prsvd

DOL/LS- wht tan gry, calc& chrt xln, chlky sft, grty, few sdy pcs, fnt foss, lsr crin

LS- wht tan gry, chrt prim calc xln, vfn grn, chlky, chlky friable text, grty text more xln pcs, friable, fnt foss strut, few calc crin

LS- wht tan lt gry, sm spty grn/stn, calc&chrt xln, chlky, friable, grty text, vfn-fn grn, few sdy lm pcs, vfn grn incl, incr calc crin, low foss pres/rexin

LS- wht tan gry, spty grn, sl chrty, calc xln, chlky, friable, fn grn, gry pcs vfn sdy, grty-xln text, low foss, crin calc xln

LS- wht tan gry grn, chrty, calc xln, chlky, friable, inc gry grn pcs w/ vfn sdy grn incl- sl intersitial por, low foss, few calc crin

LS- wht tan gry, sl gry grn, few red/brn clastic carb pcs, chrt&calc xln, vfn-fn grn, friable lm, clastic red/brn dol/ls hrd w/ vfn-fn grn incl, low foss, calc crin

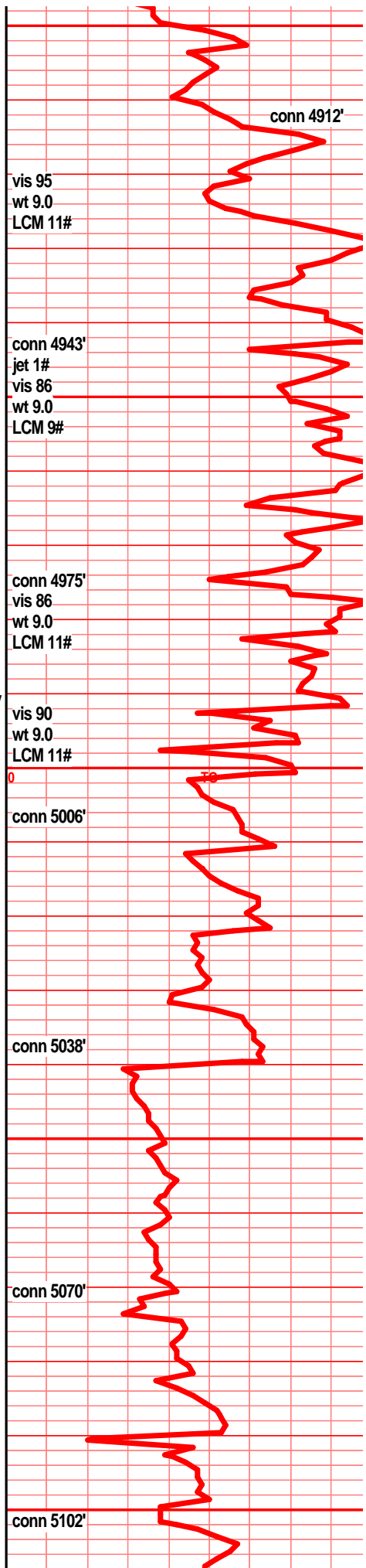
LS- wht tan gry/grn, low chrt, calc xln, sdy, grty text, friable-non, incr gry/grn clstic pcs w/ vfn-fn grn incl, lsr re/brn clastic carb, calc crin, low foss, clstic carb- low interstitial por

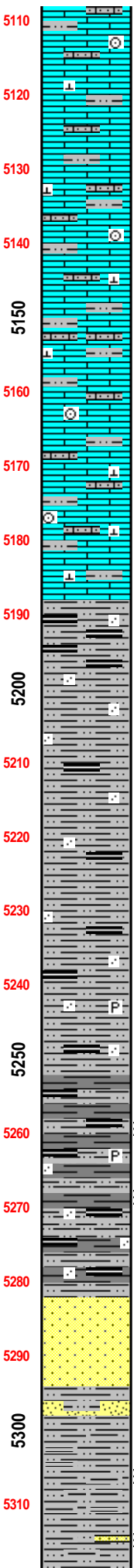
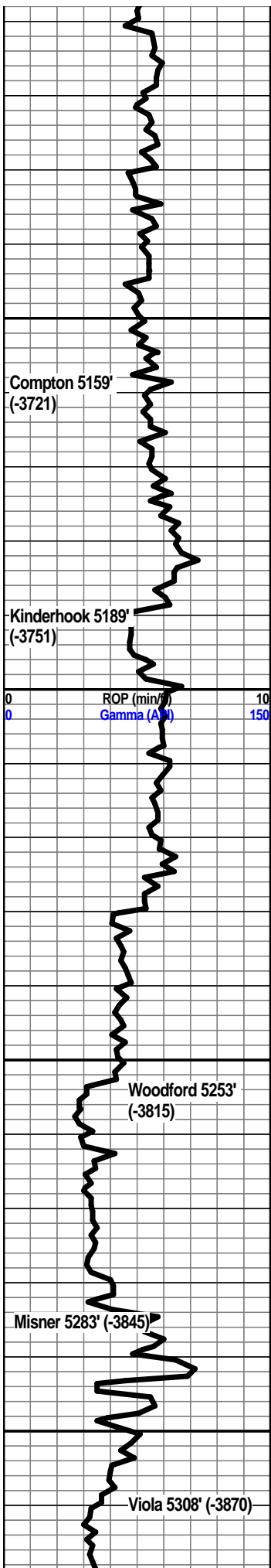
LS- wht brn gry/grn, calc xln, low foss, few calc crin, incr rd/brn gry grn fn-vfn sdy pcs

LS- wht gry grn, few rd/brn, clac xln, subchlk, subang blkly pcs, low foss and crin overall. gry grd rd/brn pcs incr- vfn-fn grn sdy incl, low interstitial por, hrd, grty sdy text. cln carb- friable

LS- gry wht tan, gry xln vfn-fn grn ls dom, sl grn color/stn, grty, friable-hrd xln, well cem whr sdy, calc xln, subchlk, calc crin

LS- gry wht tan grn, predom hrd gry xln, hrd-sft xln, clac





5110 xln, low chlck, incr hrdns, incr sdy slty grys, few gry/grn shly carb, low foss few calc crin

5120 LS- incr gry mtx, fn grn xln, grty, calc, few crin. few sdy slty gry/grn carb pcs, vis grn iclu.

5130 LS- gry off wht grn, predom gry xln fn grn grty carb, hrd, calc xln, subang, few wht calc crin. some sdy slty vfn-fn grn gry-gry/grn carb. mod-well sort.

5140 LS- gry gry/grn, vfn grn, xln, calc xln, grty text, some carb w/ sd slit, med hrdns, sub ang, low foss, fw calc crin

5150 LS- gry gry/grn, xln, vfn grn, grty text, sl sdy slty. CARB/SH- grn/blu, vfn grn, sdy slty, well cem, grty text, grns seen, no foss, some sl shly waxy friable

5160 LS- gry grn, xln, vfn-fn grn, calc, sdy, vis grn incl, friable-non, low foss/crin. shly pcs- drk grn/blu gry, friable, sdy, sl waxy text, few crin. all subang

5170 LS- gry off wht, xln, vfn grn, calc, grty text, sub ang, med hrdns, low foss, some drk gry grn/blu, sdy slty, well cem ls. gry grn/blu grty sdy shly carb, friable, sl grty & waxy text, few calc crin

5180 LS- gry gry grn, fn grn, xln, sl sdy slty, grty text, calc

5190 SH- blk drk gry red, vfn grn, slty sl sdy, grn incl seen, grny text, med/hrd-reds soft, lam seen, carb conc horiz

5200 SH- gry blk, vfn grn, slty sdy, grn incl seen, grty text, lam seen, grn & carb concs.

5210 SH- gry-blk, vfn grn, vry sdy slty, med hrdns, grn incl seen, grty text, irreg-sl fiss frac, rare lam seen

5220 SH- gry blk, vfn grn, slty sdy, sl fissile-blky frac, grty text, sft pcs wxy text, grn incl, fnt lam

5230 SH- gry blk, vfn grn, sdy slty, mstly soft friable, wxy grty text, irreg frac, lam seen- grn/carb conc

5240 SH- lt-drk gry blk, vfn grn, slty sdy, soft-med hrdns, mod cem, grty sl wxy text, lam-grn conc.

5250 SH- gry blk, vfn grn, less sdy, friable, waxy, still grn incl, soft, vfn grn pyr xln, fnt lam seen, crumbly frac

5260 SH- predom drk gry, blk, vfn grn, slty sdy, grn incl, sft-med hrdns, fnt lam

5270 SH- gry blk, vfn grn, sl slty, wxy text, carb lam, low pyr xln, friable-non, gas bub in blk pcs

5280 SH- gry blk brn, vfn grn, sdy slty, grns visbl, sft-hrd, pyr xln, crsr sdy pcs predom brn, hrd, well cem, blky irreg frac. sft pcs gry-blk, wxy, less sdy. good gas show/bubs throughout

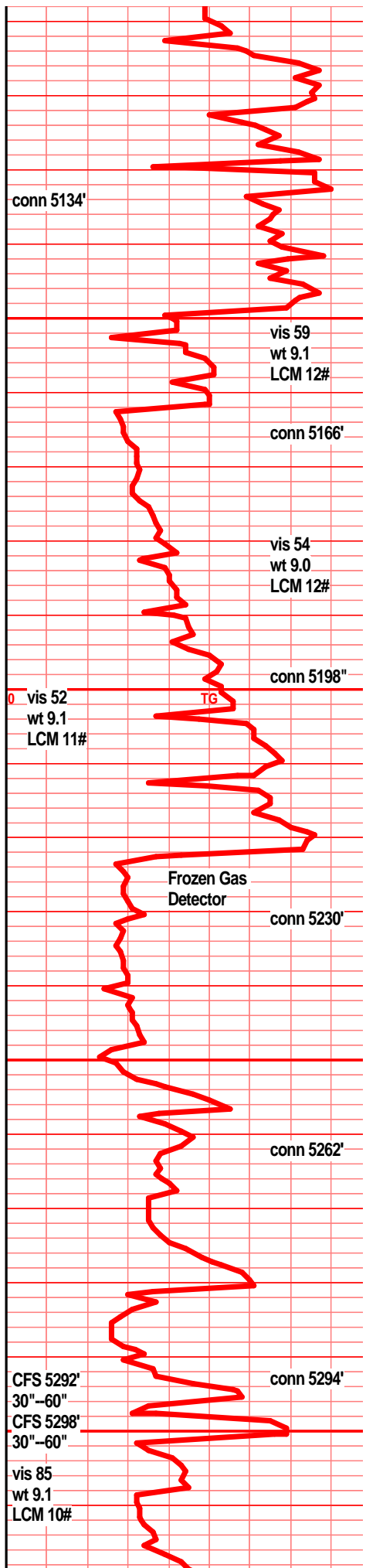
5290 SH- gry blk brn, slty sdy, vfn grn, gas bubs

5300 SS- wht, few blk grns-lithics (~5%), med grn, trans qtz dom-wht overall color, sub round, fair interstitial por, cln slit and pepr look, hrd, subrnd grn & pcs, well silica cementatn, well sort, nso, sl odor

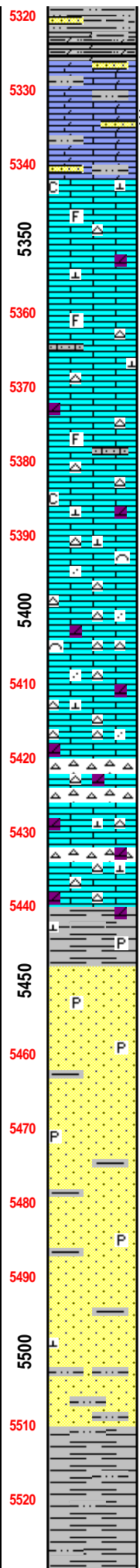
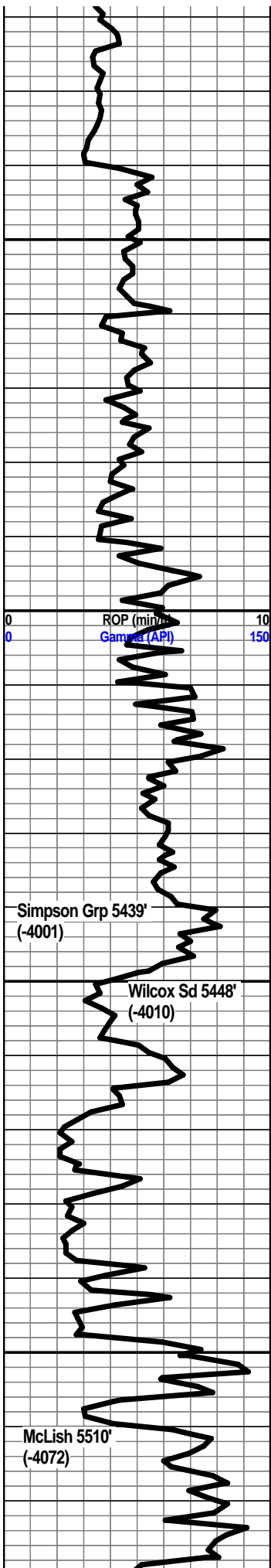
5310 SS- 60" few pcs w/ brn stn, pyr xln, vsso  
 SS- wht, low blk lith grns, trans qtz, med grn, salt and pepper look, cln no stn, hrd, subrnd grns, well silica cementatn, nso

SH- gry brn, grys sft friable, slty, vis grn incl. brn pcs hrd crsr, sdy, gas bubs

SH- lt-drk gry brn, vfn grn, sl sdy, slty, vfn grn pyr xln, sl fissile, grny text, hrd, vry fnt lam seen, gas bubs







SH- lt gry , crsr, ltr, sdy, grty text, grn incl seen, no lam, sl interstitial por? dolo/sh- red/brn grny, sdy, vis incl, no lam, gas bubs- interstitial por

DOL/LS- gry brn, shly, sdy, vfn grn, grty text. gry sl vfn xln, hrd, dolomitic. brn pcs crsr, more clastic comp, hrd, gas bubs.

DOL/LS- gry dol, hrd xln, vfn grn, grty txt, sdy, blk grn inclu, sub ang. LS- tan wht, xln, vfn grn, calc, few chrts

LS- wht tan gry, vfn xln, vfn grn, chlky, tan brn opaqt chrt, fresh xln calc/chrt faces, calc foss

LS- wht tan, blk flaky grn/lith inclu, sdy pcs, low chrt-lt brn, trans/wht calc xln, few drk gry dolo pcs, grty xln text, calc foss, subang

LS- wht tan gry, vfn grn, xln-hrd, sdy pcs, clac xln, chrt xln & whl pcs-lt brn, blk/brn inc seen, calc foss, grty text, sub chlky-sft, subang

LS- wht tan lt gry, xln, vfn grn, calc xln, sdy, sl dolomitz, grty text, calc foss, sub chlky, incr chrt mtx- lt brn gry, shrp ang, blk grn inclu

LS- gry wht off wht, xln, fn grn, sdy, calc xln, chlky, grty text, friable to hrd xln, low foss- blk linear- curved frags, micro foss frags. CHRT- incr cont, lt brn gry, vfn grn, hrd, tite, drk grn inclu, shrp ang

LS- predom off wht gry, xln ls, sl dolomitization- gry, grty, xln, vfn grn, hrd, sub ang. CHRT- incr cont, lt brn, blk grn inclu, vfn xln, few fn foss frag, shrp ang, hrd

CHRT- gry brn, vfn xln, very hrd & tite, blk grn inclu, rare foss prsvd, shrp fresh faces. LS- gry, dec calc xln, low foss frag, grty text, sl dolomitization.

LS & CHRT- wht gry, calc xln, sl foss, blk grn/foss inclu in LS. CHRT- brn vfn grn, hrd tite, shrp ang, blk grn inclu, calc on chrt xln. sl dolo xln

SH- lt grn, vfn grn, sft waxy text, fissile splintery, very-vfn grn inclu, frac. few pcs sl xln- pyr xln, grty text, irreg fac, calc xln

SS- wht w/ blk grns (~5%), fn grn, qtrz dom, tans grns, wht as sst, mod silica cement, sub rnd grns, well sort, interstitial por, med hrdns, few pcs w/grn shly surface/intergrn cem-hrd well cem.

SS- wht gry, few lt grn suficially, fn-vfn grn, blk lithics, tans qtz pyr xln, grns, sub rnd, incr intergrn shl/clay cont-hrd, well cem, shl/clay & silica cem

SS- wht gry, blk grn/lith inclu, trans qtz grns, fn grn, pyr xln, sub round, mod silica cem, well sort, good por

SS- wht gry, sl incr blk incl cont, trans qtz dom, vfn-fn grn, low pyr xln, mod silica cem, sl hrd where clay/sh in cem matrix, sunrnd-subang, sl shly grn color to few pcs

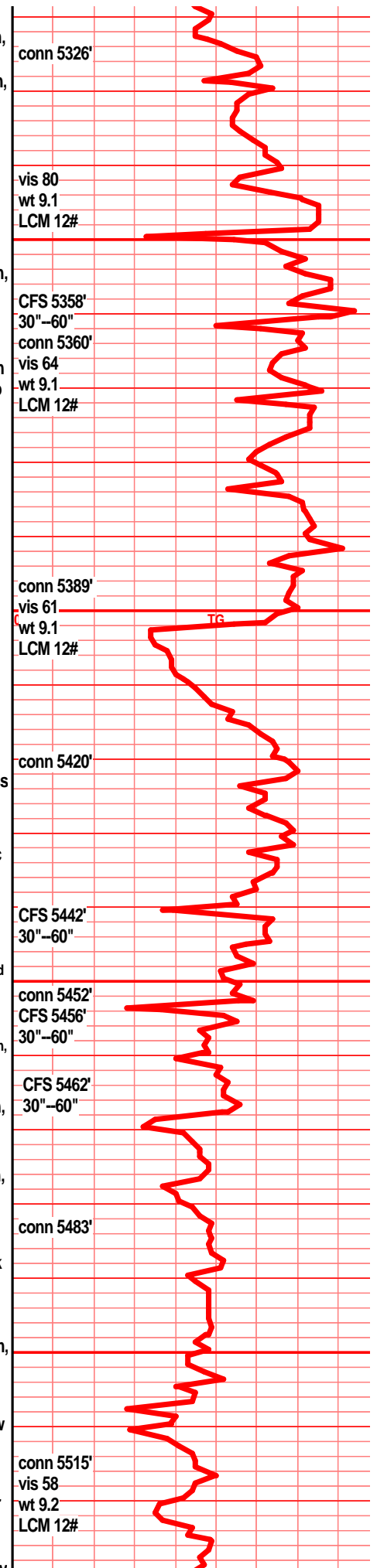
SS- wht gry, sl grn color, vfn-fn grn, trans wht qtz, incr blk grn/lithics, incr shly inter grn material, silica cement, well cement where shly cont, subang-subrnd, mod sort

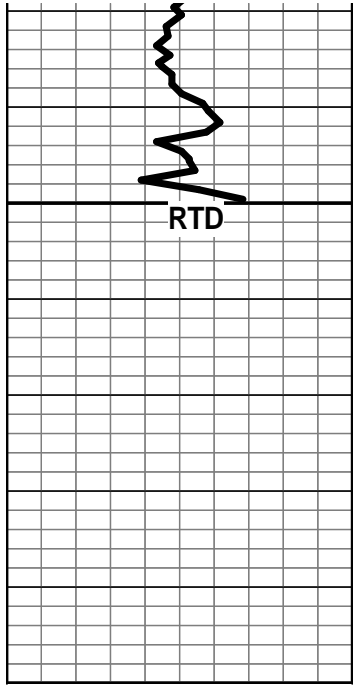
SS- wht-trans qtz rich, blk gr/liths, sl shl/clay inter grn cem, vfn-fine grn silica cem, mod sort, fair intergrb por, friable-non, fnr shlypcs titer/hrdr

SS- lowermost wht/trans grns, clnr, less blk brn (<5%), few gluac

SH- gry grn, vfn grn, soft waxy text, friable, sl slty sdy, pyr xln, fnt lam

SH- gry grn, vfn grn, fnt lam, gns sft friable, sl slty





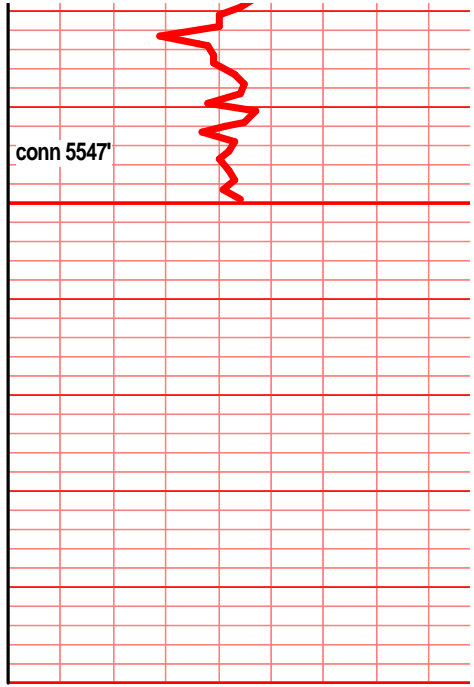
5530  
5540  
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5570  
5580  
5590  
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SH- gry grn grn/blu, vfn grn, int lam. grys sil matic, sh sky  
sdy, waxy text. grn/blu pcs hrd, tite, shrp splintery fissile  
frac.

SH- gry grn grn/blu teal, vfn grn, no slit sd, pyr xln, hrd tite,  
fissile splintery frac, fnt lam, shrp edges

RTD: 5550



conn 5547