

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1255610  
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: \_\_\_\_\_

1255610

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
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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
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

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

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

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

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

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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# ALLIED OIL & GAS SERVICES, LLC 064660

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:  
Oaklawn KS  
2-28-15

DATE 2-27-15	SEC. 2	TWP. 4	RANGE 36	CALLED OUT	ON LOCATION 9:00pm	JOB START 2:10am	JOB FINISH 2:30am
LEASE Fisher Cattle Co	WELL# 1-2	LOCATION McDonald 3425 (L.S)			COUNTY Rawlins	STATE KS	
OLD OR NEW (Circle one) <u>NEW</u>			2E, 4E, 5into				

CONTRACTOR Marvin S OWNER same

TYPE OF JOB Surface

HOLE SIZE 12 1/4	T.D. <del>261</del> 261	CEMENT
CASING SIZE 8 7/8	DEPTH <del>261</del> 261.87	AMOUNT ORDERED 200 sbs com 3200
TUBING SIZE	DEPTH 261.87	29 gal
DRILL PIPE	DEPTH	
TOOL	DEPTH	
PRES. MAX	MINIMUM	COMMON 200 sbs @ 17.90 3580.00
MEAS. LINE	SHOE JOINT	POZMIX @
CEMENT LEFT IN CSG. 15'		GEL 376# @ .50 188.00
PERFS.		CHLORIDE 564# @ 1.10 620.40
DISPLACEMENT <del>13.8</del> 13.8 661		ASC @

EQUIPMENT			
PUMP TRUCK # 422	CEMENTER <u>Larone Erdwente</u>	Material Total	@ 4388.40
BULK TRUCK # 323/306	HELPER <u>Wayne McLaughly</u>	(1974.78/45)	@
BULK TRUCK #	DRIVER <u>Wayne Messalle</u>		@
	DRIVER		@
		HANDLING 216.27 sbs @ 2.48 536.35	
		MILEAGE 9.87 hr x 40 x 2.95 1185.20	

REMARKS:  
mix 200 sbs cement  
Displace with water  
Cement did cement job  
2 661 to pit

CHARGE TO: Samuel Gary  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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

PRINTED NAME \_\_\_\_\_  
SIGNATURE Jesse A

TOTAL	
SERVICE	
DEPTH OF JOB 261.87	
PUMP TRUCK CHARGE 1512.25	
EXTRA FOOTAGE @	
MILEAGE <u>MILO</u> 40 @ 7.70 308.00	
MANIFOLD <u>5 wage</u> @ 298.00 <del>298.00</del> NC	
<u>MILO</u> 40 @ 4.40 176.00	
(1628.23/45)	TOTAL 3618.20

PLUG & FLOAT EQUIPMENT	
<u>Weatherford</u>	
<u>Centralover 8 7/8</u> @ 73.80	
Bid. (3325/45)	TOTAL 75.00

SALES TAX (If Any) \_\_\_\_\_  
TOTAL CHARGES 8,081.70  
DISCOUNT 3,636.76 (45%)  
PAID IN 30 DAYS  
4,444.93 Net

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Home Office P.O. Box 32 Russell, KS 67665

No. 928

Phone 785-483-2025

Cell 785-324-1041

Date	3-8-15	Sec.	2	Twp.	4	Range	36	County	Rawlins	State	KS	On Location		Finish	11:30 PM
Location								Mc Donald 35 4E into							

Lease	Fisher Cattle	Well No.	1-2	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	Murfin &			Charge To	Sam Gary Jr. & Associates
Type Job	Production String			Street	
Hole Size	7 7/8	T.D.	4930'	City	State
Csg.	5 1/2	Depth	4927	The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size		Depth		Cement Amount Ordered	450 80/20 QMDC 1/2 Flo
Tool		Depth		Common	205 Q-Prop-C
Cement Left in Csg.	43.48'	Shoe Joint	43.48'	Poz. Mix	450 80/20 1/2 flo
Meas Line		Displace	116 1/4 bbl	Gel.	

**EQUIPMENT**

Pumptrk	5	No.	Cementer	Brett	David
Bulktrk	9	No.	Helper		
Bulktrk	19	No.	Driver	Cody	
			Driver	Ryan	

**JOB SERVICES & REMARKS**

Remarks:

Rat Hole - 30 sx

Mouse Hole - 15 sx

Centralizers - 1, 3, 5, 7, 9, 11, 13, 15, 45, 64, 94

Baskets - 9, 46, 65, 95

D/V or Port Collar

Ran 4927' of 5 1/2" + Est circulation

Mix 500 Gal Mud Flush

Plug Rat + Mouse hole

Mixed 405 sx QMDC followed by 205 sx Q-Prop-C

Displaced 116 1/4 bbl

Lift Pressure @ 1600 lbs

Landed Plug @ 2500 lbs

Cement Circulated !!

Plug held

Common 205 Q-Prop-C 1/4 Flo

Poz. Mix 450 80/20 1/2 flo

Gel.

Calcium

Units KCL 2 gal

Salt 18

Flowseal 276#

Kol-Seal 1025#

Mud CLR 48 - 500 Gal Mud Flush

CFL-117 or CD110 CAF 38 - 20 Bbl KCL

Sand

Handling 695

Mileage 5 1/2

**FLOAT EQUIPMENT**

Guide Shoe

Centralizer - 11

Baskets - 4

AFU Inserts -

Float Shoe -

Latch Down -

Pumptrk Charge Prod String

Mileage 69

X Signature

*[Handwritten Signature]*

Tax	
Discount	
Total Charge	



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Sam Gary Jr. & Assc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 61100

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2015.03.05 @ 15:21:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:08:30

Time Test Ended: 22:30:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

**Interval: 4521.00 ft (KB) To 4568.00 ft (KB) (TVD)**

Total Depth: 4568.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3222.00 ft (KB)

3217.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8368**

**Inside**

Press @ Run Depth: 16.03 psig @ 4522.00 ft (KB)

Start Date: 2015.03.05

End Date:

2015.03.05

Start Time: 15:21:05

End Time:

22:30:29

Capacity: 8000.00 psig

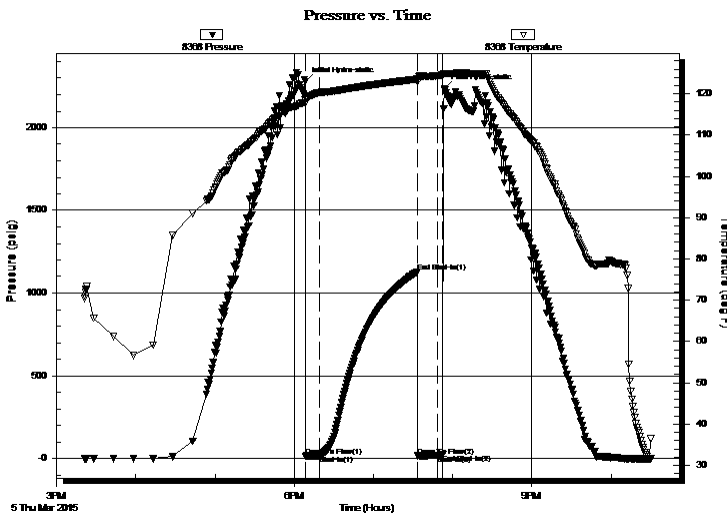
Last Calib.: 2015.03.05

Time On Btm: 2015.03.05 @ 18:08:15

Time Off Btm: 2015.03.05 @ 19:53:45

**TEST COMMENT:** 10 - IF - Surface blow built up to 1/2"  
75 - ISI - No Return  
15 - FF - No Surface blow  
FSI - Pulled tool 12 mins. into the final shut-in

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2280.61	118.52	Initial Hydro-static
1	14.11	117.56	Open To Flow (1)
11	16.61	120.27	Shut-In(1)
85	1127.76	123.56	End Shut-In(1)
86	15.45	122.98	Open To Flow (2)
100	16.03	124.40	Shut-In(2)
105	24.29	124.51	End Shut-In(2)
106	2238.52	124.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud - 100M	0.02

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Sam Gary Jr. & Assoc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

ATTN: Chris Mitchell

Job Ticket: 61100

**DST#: 1**

Test Start: 2015.03.05 @ 15:21:00

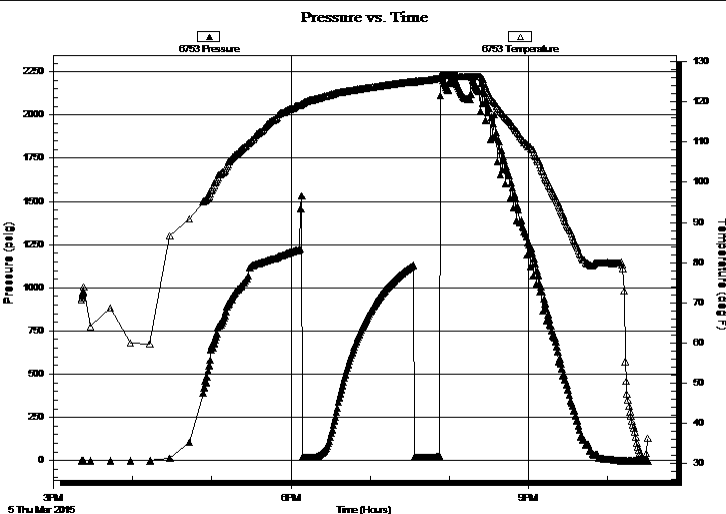
### GENERAL INFORMATION:

<b>Formation:</b>	<b>Pawnee</b>		<b>Test Type:</b>	Conventional Bottom Hole (Initial)
<b>Deviated:</b>	No Whipstock:	ft (KB)	<b>Tester:</b>	Royal Fisher
<b>Time Tool Opened:</b>	18:08:30		<b>Unit No:</b>	#54
<b>Time Test Ended:</b>	22:30:30			
<b>Interval:</b>	<b>4521.00 ft (KB) To 4568.00 ft (KB) (TVD)</b>		<b>Reference Elevations:</b>	3222.00 ft (KB)
<b>Total Depth:</b>	4568.00 ft (KB) (TVD)			3217.00 ft (CF)
<b>Hole Diameter:</b>	7.88 inches	<b>Hole Condition:</b> Good	<b>KB to GR/CF:</b>	5.00 ft

### Serial #: 6753

<b>Press @ RunDepth:</b>	psig @	ft (KB)	<b>Capacity:</b>	8000.00 psig
<b>Start Date:</b>	2015.03.05	<b>End Date:</b>	2015.03.05	<b>Last Calib.:</b> 2015.03.05
<b>Start Time:</b>	15:21:05	<b>End Time:</b>	22:30:44	<b>Time On Btm:</b>
				<b>Time Off Btm:</b>

**TEST COMMENT:** 10 - IF - Surface blow built up to 1/2"  
75 - ISI - No Return  
15 - FF - No Surface blow  
FSI - Pulled tool 12 mins. into the final shut-in



### PRESSURE SUMMARY

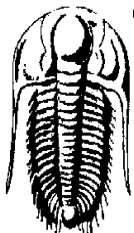
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud - 100M	0.02

### Gas Rates

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



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Sam Gary Jr. & Assoc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 61100

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2015.03.05 @ 15:21:00

### GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:08:30

Time Test Ended: 22:30:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: **4521.00 ft (KB) To 4568.00 ft (KB) (TVD)**

Reference Elevations: 3222.00 ft (KB)

Total Depth: 4568.00 ft (KB) (TVD)

3217.00 ft (CF)

Hole Diameter: 7.88 inches

Hole Condition: Good

KB to GR/CF: 5.00 ft

### Serial #: 6755

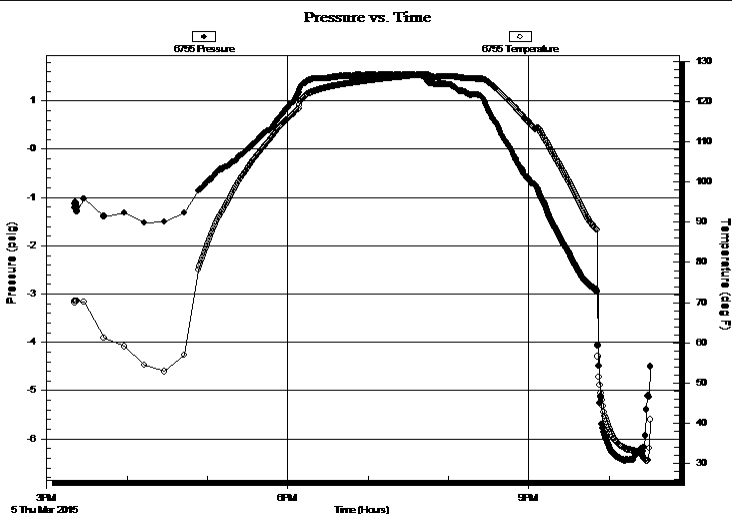
Press @ RunDepth: psig @ ft (KB)	Capacity: 8000.00 psig
Start Date: 2015.03.05	End Date: 2015.03.05
Start Time: 15:21:05	End Time: 22:30:44
	Last Calib.: 2015.03.05
	Time On Btm:
	Time Off Btm:

**TEST COMMENT:** 10 - IF - Surface blow built up to 1/2"

75 - ISI - No Return

15 - FF - No Surface blow

FSI - Pulled tool 12 mins. into the final shut-in



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud - 100M	0.02

### Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Sam Gary Jr. & Assc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 61100

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2015.03.05 @ 15:21:00

## 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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
4.00	Mud - 100M	0.020

Total Length: 4.00 ft      Total Volume: 0.020 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

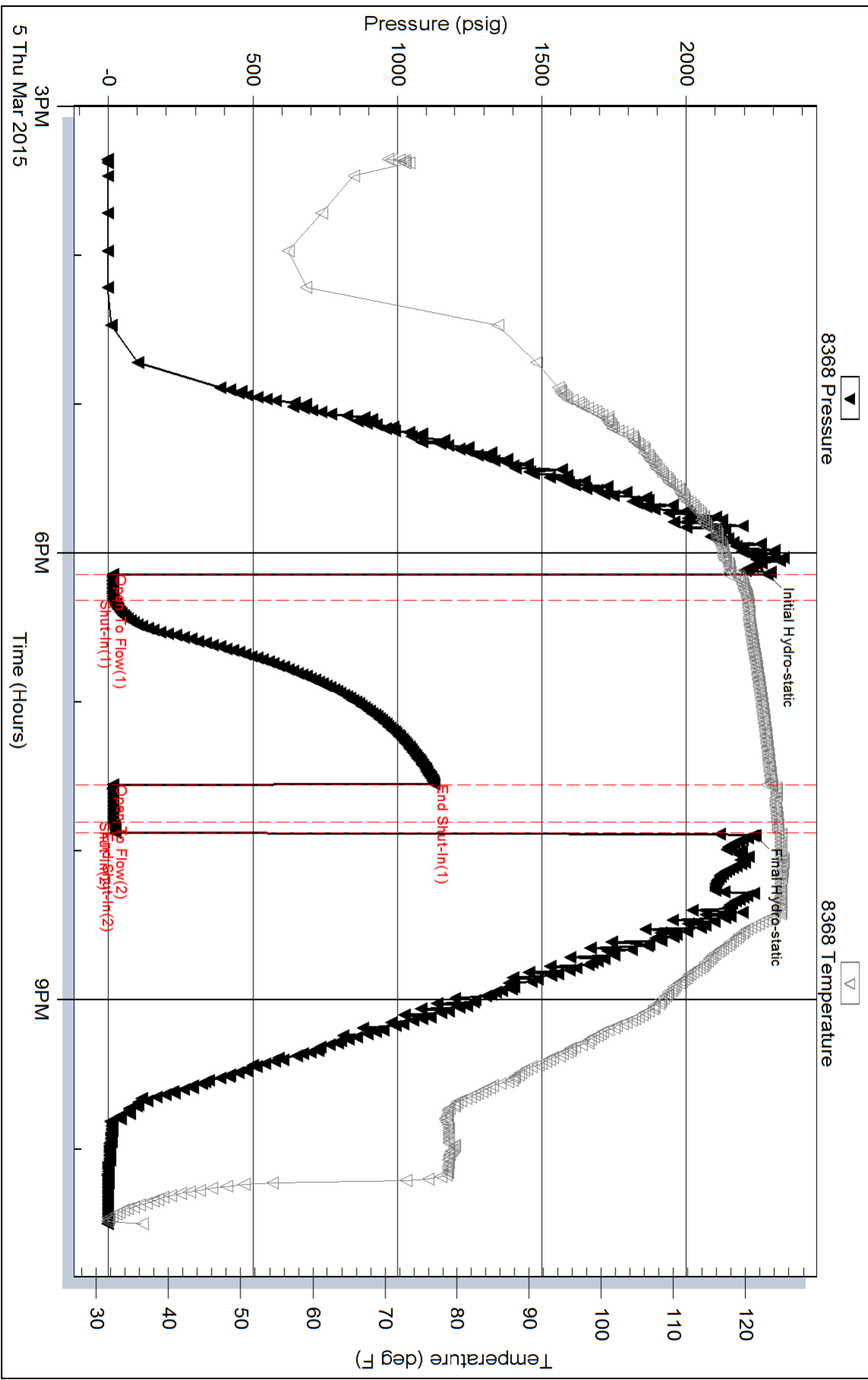
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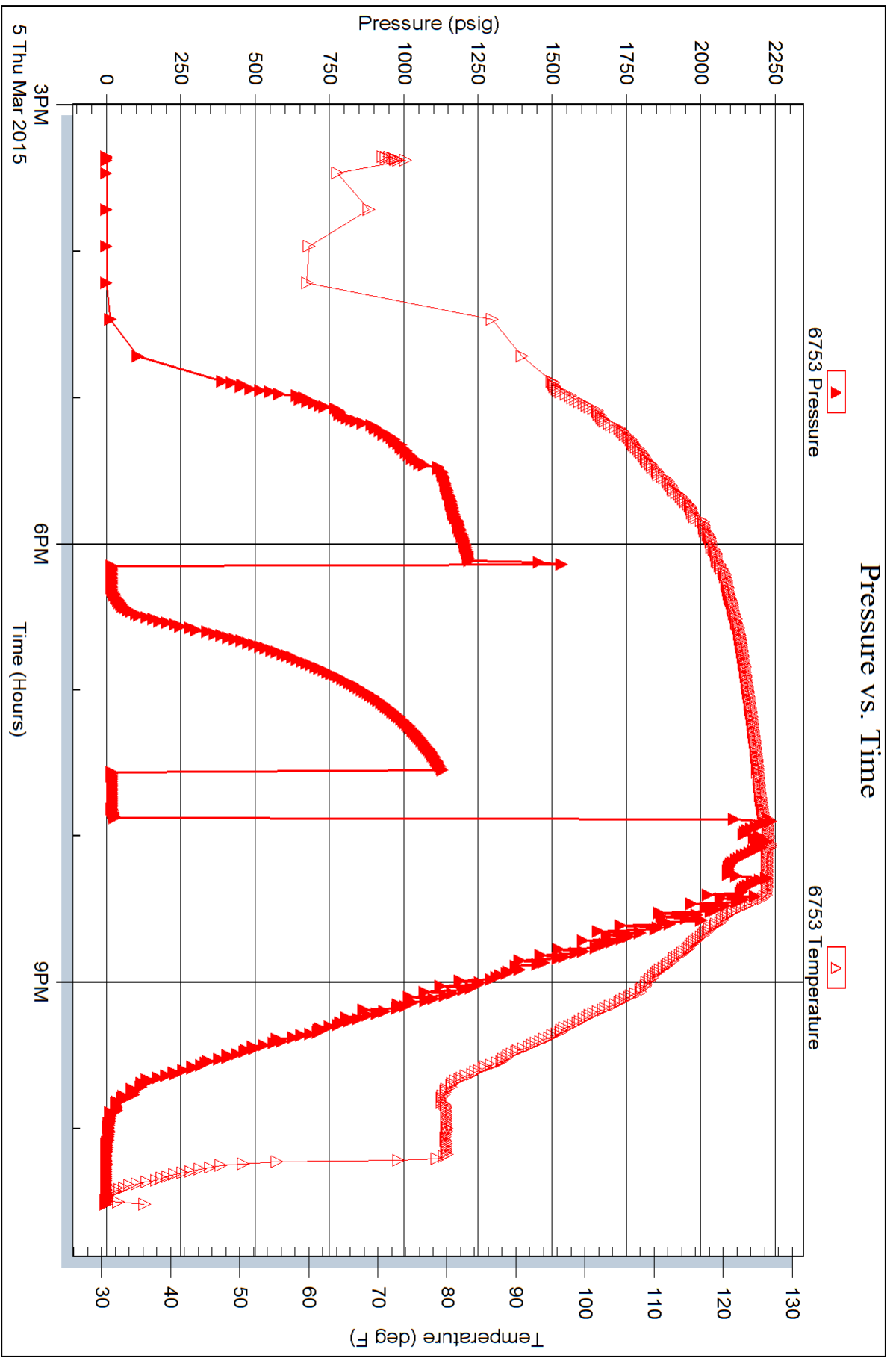
Laboratory Name:

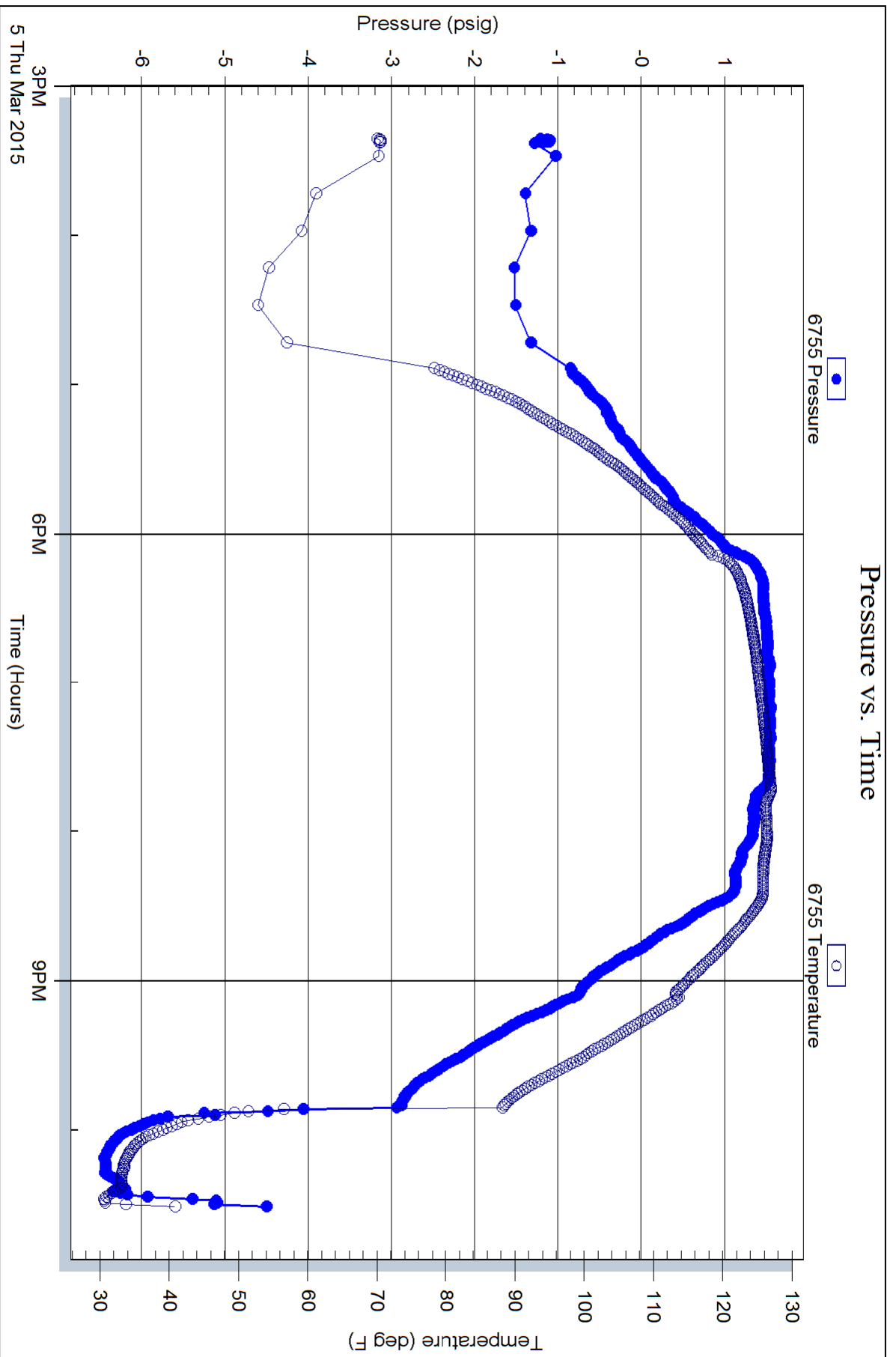
Laboratory Location:

Recovery Comments:

# Pressure vs. Time









**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Sam Gary Jr. & Assoc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 62351

**DST#: 2**

ATTN: Chris Mitchell

Test Start: 2015.03.06 @ 09:37:00

## GENERAL INFORMATION:

Formation: **Ft. Scott & Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:01:30

Time Test Ended: 17:07:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

**Interval: 4566.00 ft (KB) To 4628.00 ft (KB) (TVD)**

Total Depth: 4628.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3222.00 ft (KB)

3217.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 6753 Outside**

Press @ RunDepth: 18.58 psig @ 4567.00 ft (KB)

Start Date: 2015.03.06

End Date: 2015.03.06

Start Time: 09:37:05

End Time: 17:07:44

Capacity: 8000.00 psig

Last Calib.: 2015.03.06

Time On Btm: 2015.03.06 @ 13:01:00

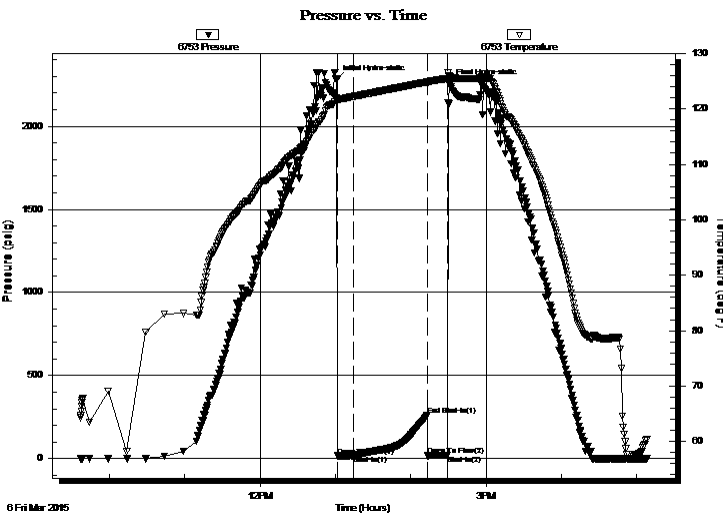
Time Off Btm: 2015.03.06 @ 14:30:45

**TEST COMMENT:** 10 - IF - Surface blow built up to 1/2"

60 - ISI - No Return

15 - FF - No Surface blow

FSI - Pulled tool



## PRESSURE SUMMARY

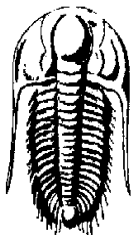
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2279.55	121.92	Initial Hydro-static
1	17.06	121.37	Open To Flow (1)
14	18.58	122.23	Shut-In(1)
72	261.60	124.85	End Shut-In(1)
73	17.51	124.72	Open To Flow (2)
88	18.30	125.48	Shut-In(2)
90	2256.90	125.86	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud - 100M	0.02

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Sam Gary Jr. & Assoc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 62351

**DST#: 2**

ATTN: Chris Mitchell

Test Start: 2015.03.06 @ 09:37:00

### GENERAL INFORMATION:

Formation: **Ft. Scott & Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:01:30

Time Test Ended: 17:07:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

**Interval: 4566.00 ft (KB) To 4628.00 ft (KB) (TVD)**

Total Depth: 4628.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3222.00 ft (KB)

3217.00 ft (CF)

KB to GR/CF: 5.00 ft

### Serial #: 8368

Press@RunDepth: psig @ ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.03.06 End Date: 2015.03.06

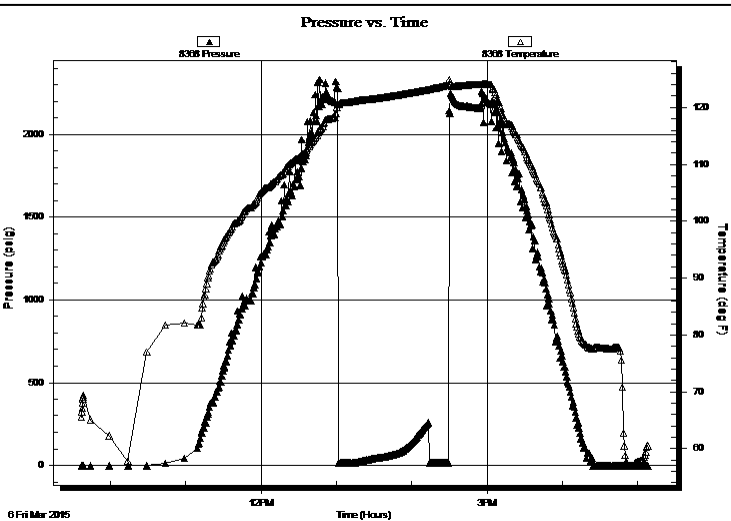
Last Calib.: 2015.03.06

Start Time: 09:37:05 End Time: 17:07:44

Time On Btm:

Time Off Btm:

TEST COMMENT: 10 - IF - Surface blow built up to 1/2"  
60 - ISI - No Return  
15 - FF - No Surface blow  
FSI - Pulled tool



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud - 100M	0.02

### Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Sam Gary Jr. & Assc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 62351

**DST#: 2**

ATTN: Chris Mitchell

Test Start: 2015.03.06 @ 09:37:00

## GENERAL INFORMATION:

Formation: **Ft. Scott & Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:01:30

Time Test Ended: 17:07:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

**Interval: 4566.00 ft (KB) To 4628.00 ft (KB) (TVD)**

Reference Elevations: 3222.00 ft (KB)

Total Depth: 4628.00 ft (KB) (TVD)

3217.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

## Serial #: 6755

Press @RunDepth: psig @ ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.03.06

End Date:

2015.03.06

Last Calib.:

2015.03.06

Start Time: 09:37:05

End Time:

17:07:44

Time On Btm:

Time Off Btm:

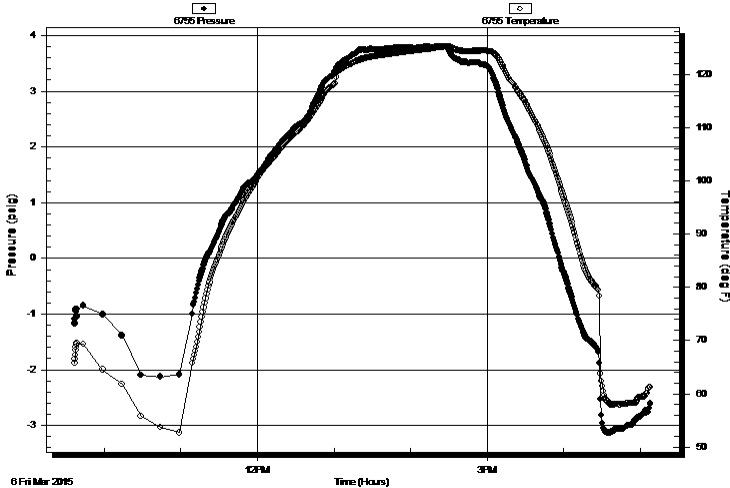
TEST COMMENT: 10 - IF - Surface blow built up to 1/2"

60 - ISI - No Return

15 - FF - No Surface blow

FSI - Pulled tool

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud - 100M	0.02

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Sam Gary Jr. & Assc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 62351

**DST#: 2**

ATTN: Chris Mitchell

Test Start: 2015.03.06 @ 09:37:00

## 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:

bbbl

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
4.00	Mud - 100M	0.020

Total Length: 4.00 ft      Total Volume: 0.020 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

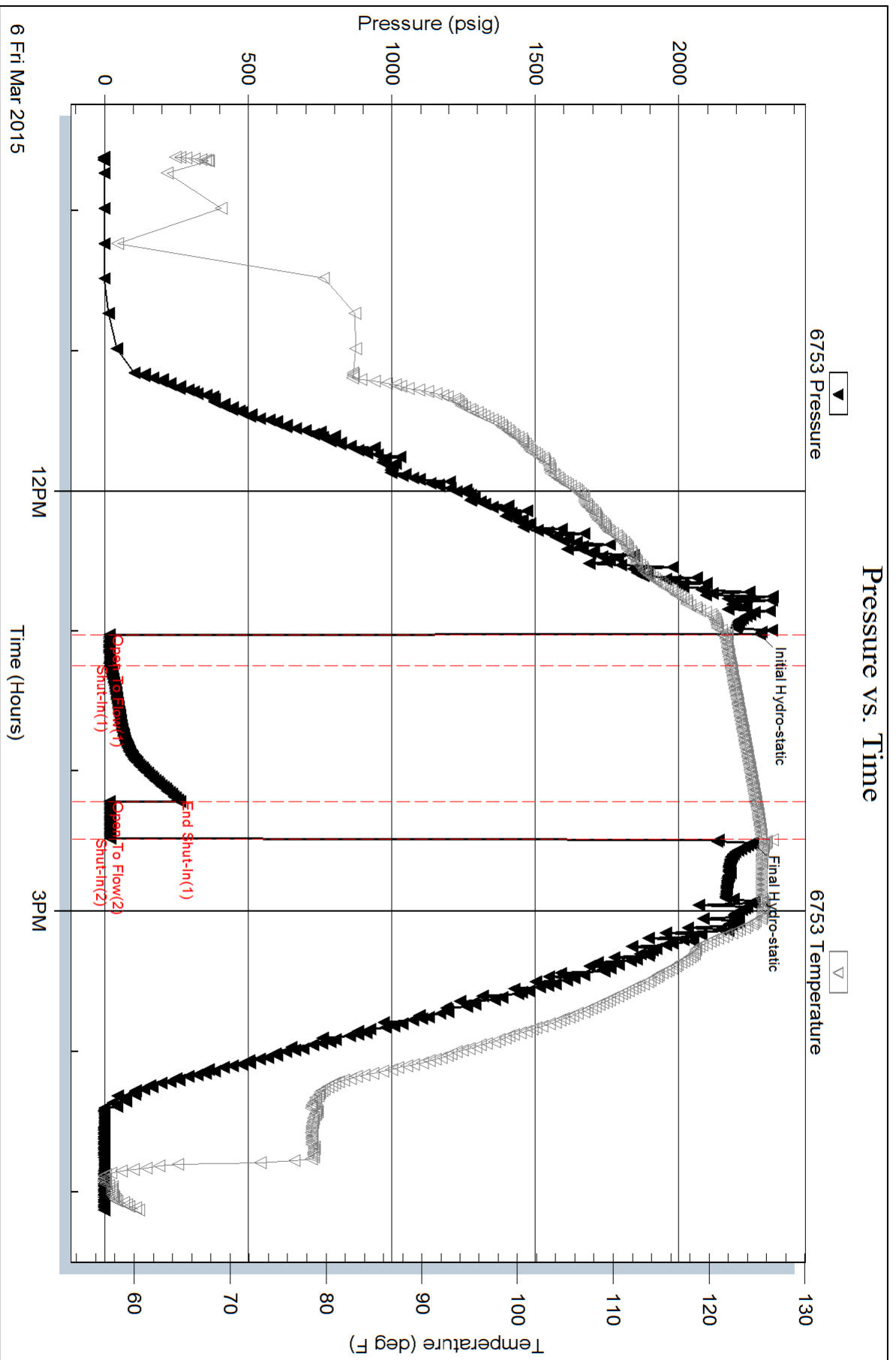
Laboratory Name:

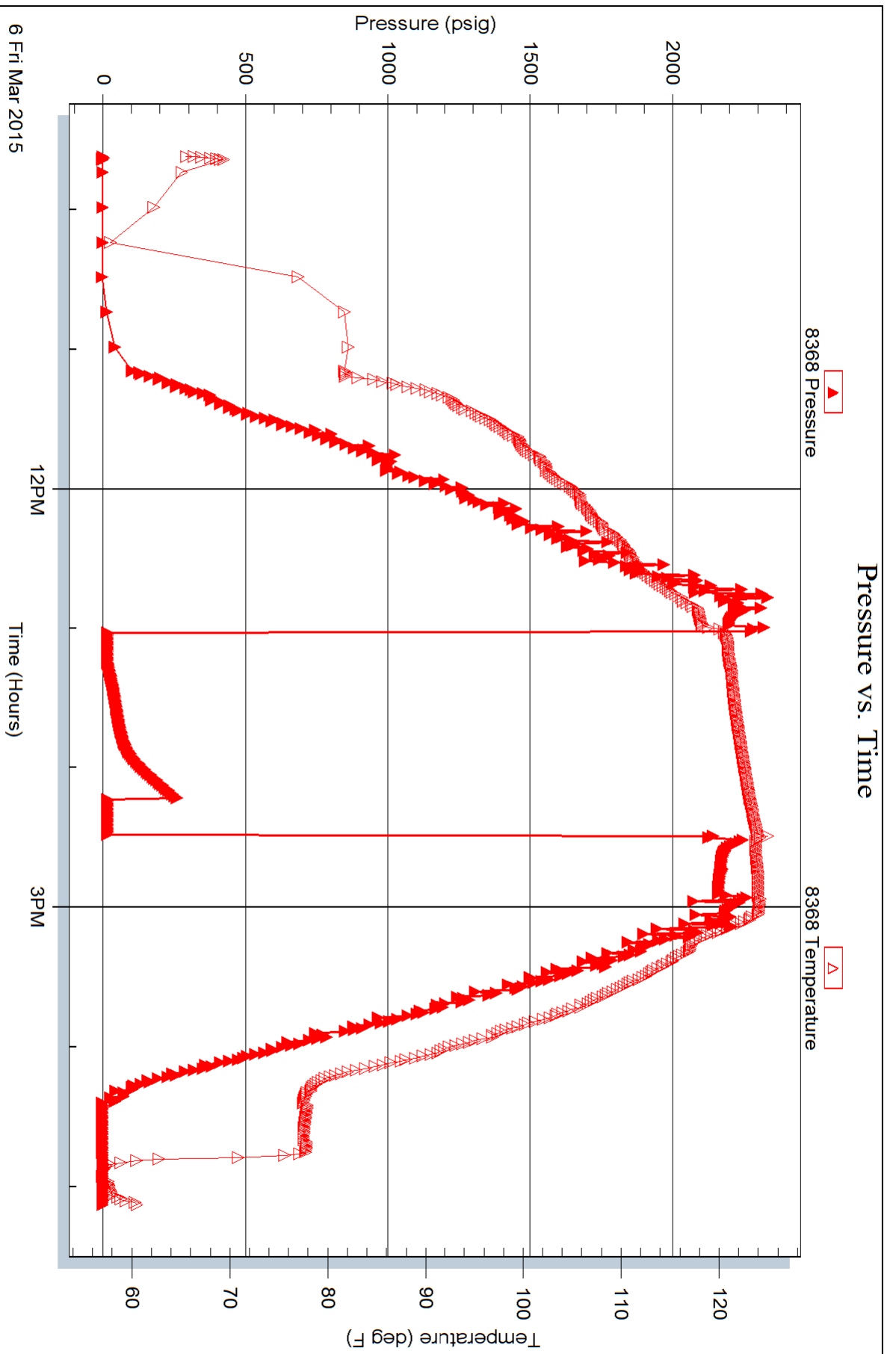
Laboratory Location:

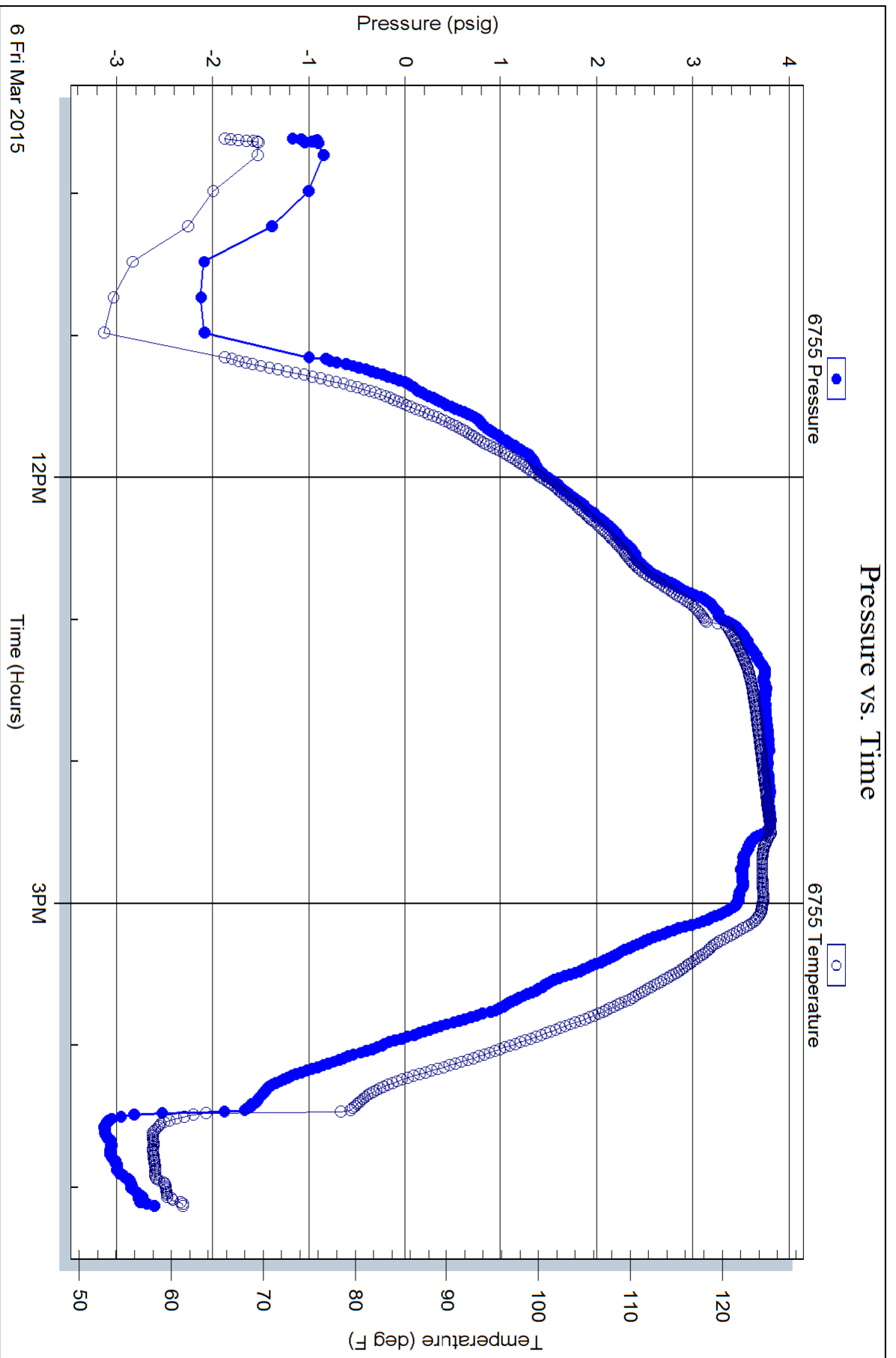
Recovery Comments:



# Pressure vs. Time









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

Well Name: FISHER CATTLE CO 1-2  
Well Id:  
Location: SEC. 2 4S 36W  
License Number: 15-153-21108-0000  
Spud Date: FEB. 27, 2015  
Surface Coordinates: 1340 FNL/ 1450 FWL

Region: WILDCAT  
Drilling Completed: MARCH 7, 2015

Bottom Hole  
Coordinates:  
Ground Elevation (ft): 3217'                      K.B. Elevation (ft): 3222'  
Logged Interval (ft): 3900'                      To: 4930'                      Total Depth (ft): 4930'  
Formation: Lansing, Kansas City  
Type of Drilling Fluid: Natural Chemical

Printed by WellSight Log Manager from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

#### OPERATOR

Company: Samuel Gary Jr. & Assoc.  
Address: 1515 Wynkoop, Ste. # 700  
Denver, Colo. 80202  
Geo: Chris Mitchell

#### GEOLOGIST

Name: Schuyler Hedrick  
Company: Earth Tech OGL, Inc.  
Address: PO Box 683  
Hooker, Okla. 73945  
Off. 888-543-8378 Cell: 580-754-0231



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Sam Gary Jr. & Assoc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 61100

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2015.03.05 @ 15:21:00

### GENERAL INFORMATION:

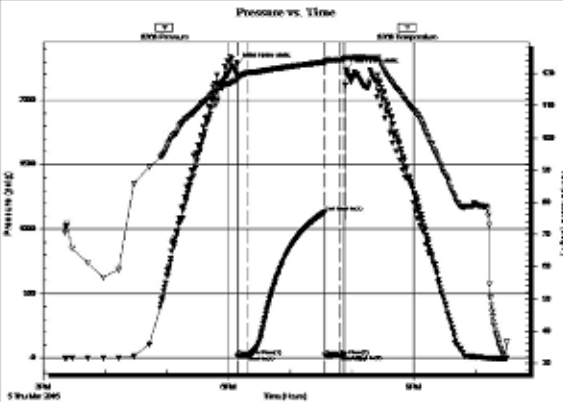
Formation: **Pawnee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:08:30  
 Time Test Ended: 22:30:30  
 Interval: **4521.00 ft (KB) To 4568.00 ft (KB) (TVD)**  
 Total Depth: **4568.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Royal Fisher  
 Unit No: #54  
 Reference Elevations: 3222.00 ft (KB)  
 3217.00 ft (CF)  
 KB to GR/CF: 5.00 ft

### Serial #: 8368

Inside

Press@RunDepth: 16.03 psig @ 4522.00 ft (KB)  
 Start Date: 2015.03.05 End Date: 2015.03.05  
 Start Time: 15:21:05 End Time: 22:30:29  
 Capacity: 8000.00 psig  
 Last Callb.: 2015.03.05  
 Time On Btm: 2015.03.05 @ 18:08:15  
 Time Off Btm: 2015.03.05 @ 19:53:45

TEST COMMENT: 10 - IF - Surface blow built up to 1/2"  
 75 - ISI - No Return  
 15 - FF - No Surface blow  
 FSI - Pulled tool 12 mins. into the final shut-in



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2280.61	118.52	Initial Hydro-static
1	14.11	117.56	Open To Flow (1)
11	16.61	120.27	Shut-in(1)
85	1127.76	123.56	End Shut-in(1)
86	15.45	122.98	Open To Flow (2)
100	16.03	124.40	Shut-in(2)
105	24.29	124.51	End Shut-in(2)
106	2238.52	124.90	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud - 100M	0.02

### Gas Rates

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



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Sam Gary Jr. & Assoc., Inc.

**2 - 4S - 36W - Rawlins**

1515 Wynkoop, Ste 700  
Denver Co, 80202

**FisherCC. #1-2**

Job Ticket: 62351

**DST#: 2**

ATTN: Chris Mitchell

Test Start: 2015.03.06 @ 09:37:00

### GENERAL INFORMATION:

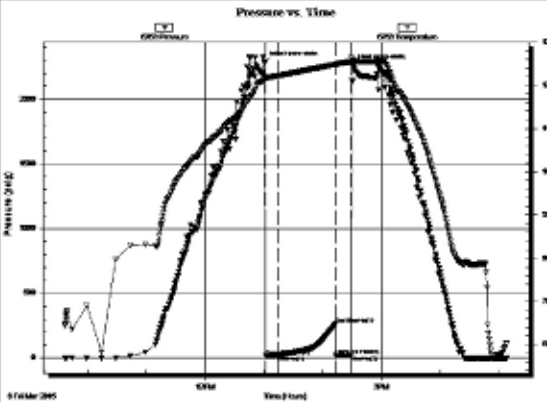
Formation: **Ft. Scott & Cherokee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:01:30  
 Time Test Ended: 17:07:45  
 Interval: **4566.00 ft (KB) To 4628.00 ft (KB) (TVD)**  
 Total Depth: **4628.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Royal Fisher  
 Unit No: #54  
 Reference Elevations: 3222.00 ft (KB)  
 3217.00 ft (CF)  
 KB to GR/CF: 5.00 ft

### Serial #: 6753

Outside

Press@RunDepth: 18.58 psig @ 4567.00 ft (KB)  
 Start Date: 2015.03.06 End Date: 2015.03.06  
 Start Time: 09:37:05 End Time: 17:07:44  
 Capacity: 8000.00 psig  
 Last Callb.: 2015.03.06  
 Time On Btm: 2015.03.06 @ 13:01:00  
 Time Off Btm: 2015.03.06 @ 14:30:45

TEST COMMENT: 10 - IF - Surface blow built up to 1/2"  
 60 - ISI - No Return  
 15 - FF - No Surface blow  
 FSI - Pulled tool



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2279.55	121.92	Initial Hydro-static
1	17.06	121.37	Open To Flow (1)
14	18.58	122.23	Shut-in(1)
72	261.60	124.85	End Shut-in(1)
73	17.51	124.72	Open To Flow (2)
88	18.30	125.48	Shut-in(2)
90	2256.90	125.86	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud - 100M	0.02

### Gas Rates

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

Trilobite Testing, Inc

Ref. No: 62351

Printed: 2015.03.07 @ 01:49:08

## ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol

- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol

- Shgy
- Slstt
- Ss
- Till
- Carb sh
- Dol
- Dtd
- Gry sh

- Sandylms
- Shale
- Slststn
- Shlyslts
- Sltysh
- Lms

### ACCESSORIES

#### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

#### MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr

- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sltly

- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

#### STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn

#### TEXTURE

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

### OTHER SYMBOLS

#### INTERVALS

- Core
- Dst
- Dst

#### EVENTS

- Rft
- Sidewall

#### POROSITY TYPE

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

#### SORTING

- Well
- Moderate
- Poor

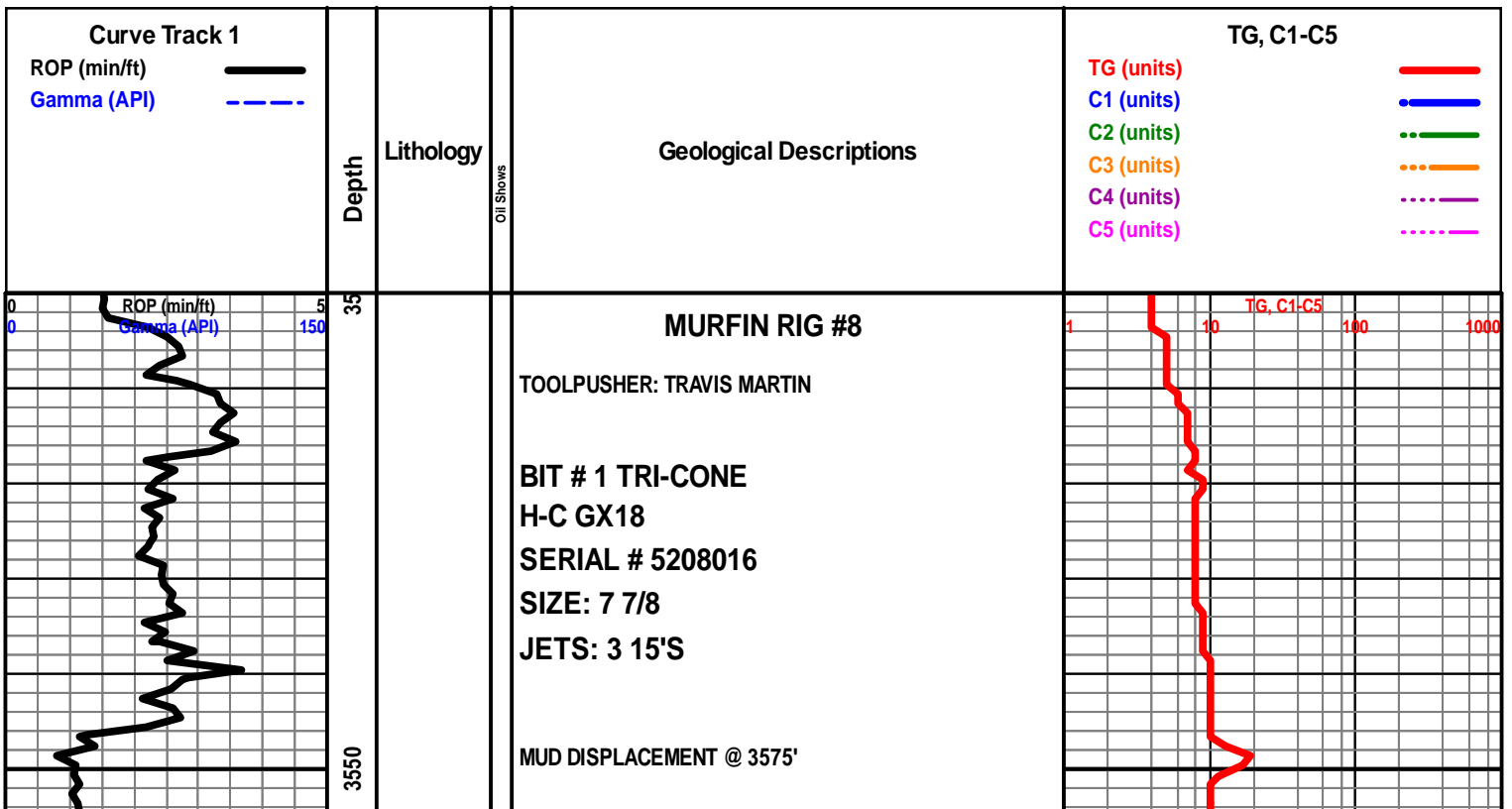
#### ROUNDING

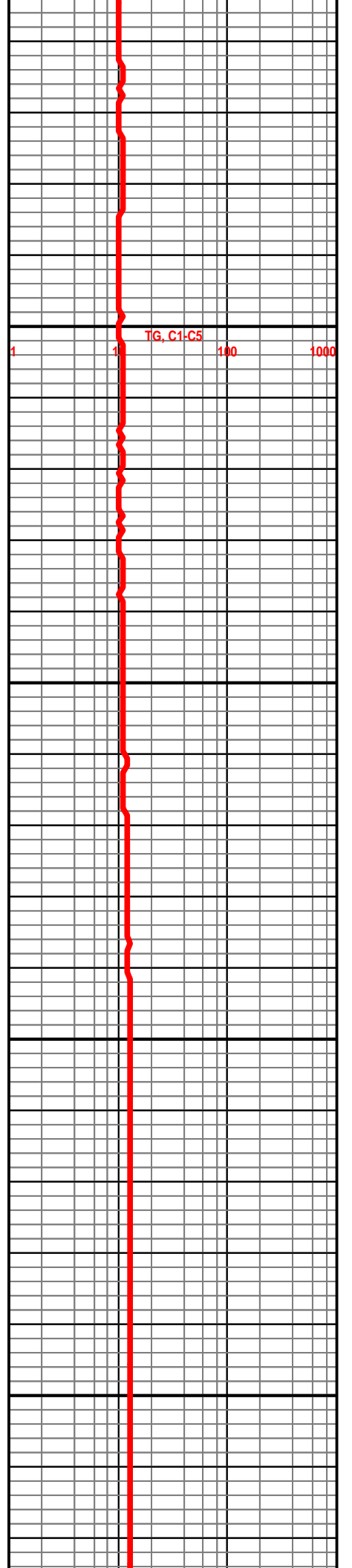
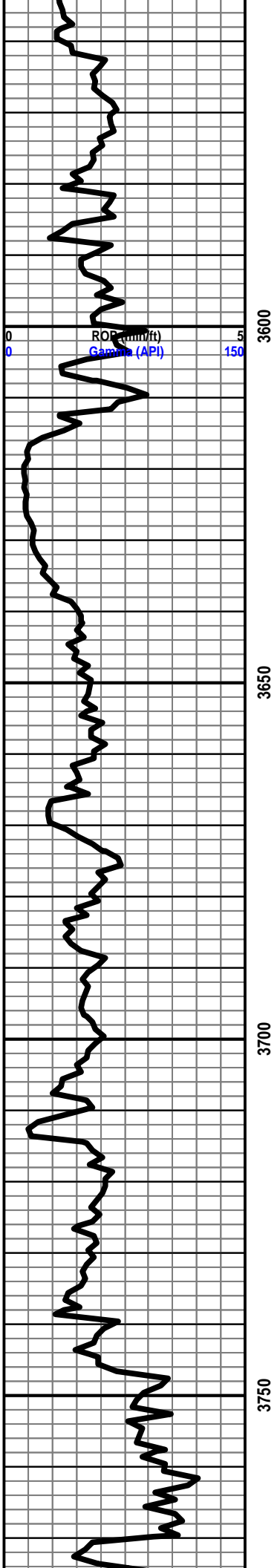
- Rounded
- Subrnd
- Subang

- Angular

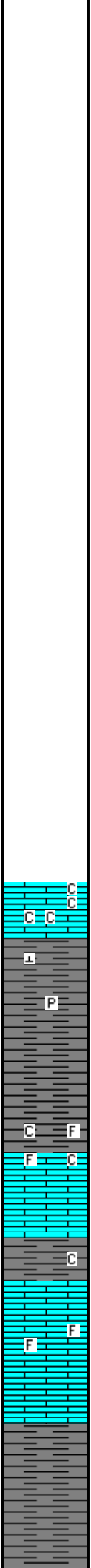
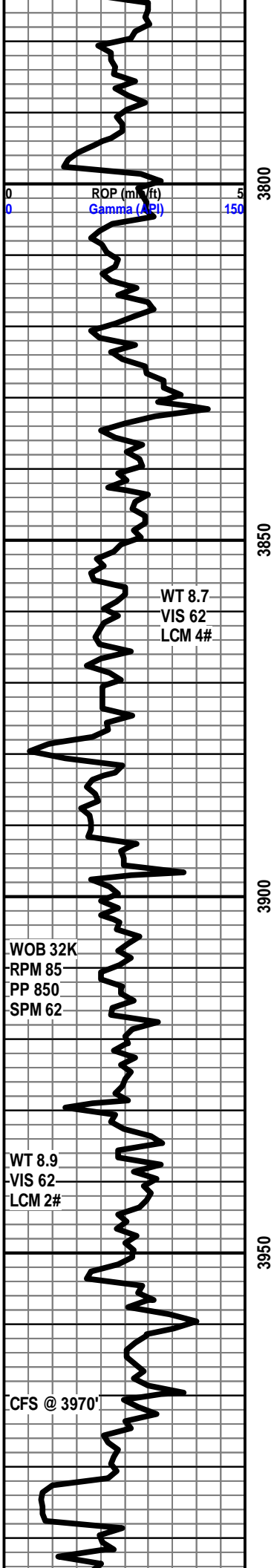
#### OIL SHOWS

- Even
- Spotted
- Ques
- Dead
- Gas show









**START 24 HR. MANNED UNIT 3/3/15**

LS- CRM TO OFF WHT, HD DNS TO BRIT, F-XLN, V S-CHLKY, ABDT SFT TO GMMY WHT CHLK THRU TRAY, DLL YEL MIN FLO THRU, NO VIS CUT OR SHOW

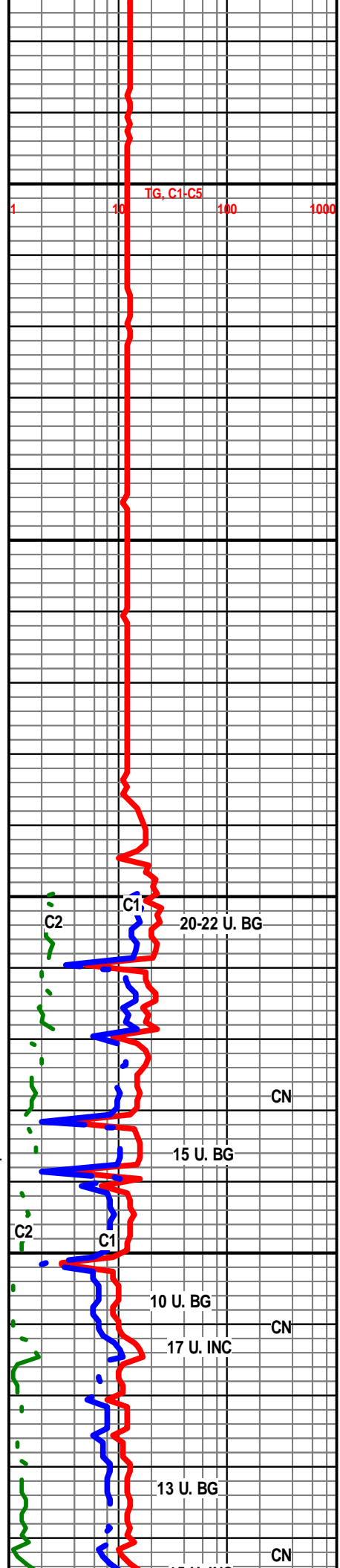
SH- LT GY TO RD GRN MOTT, SFT TO FRM IP, SLTY TXT IP, CALC, SLI TR IMBD DISS PYR

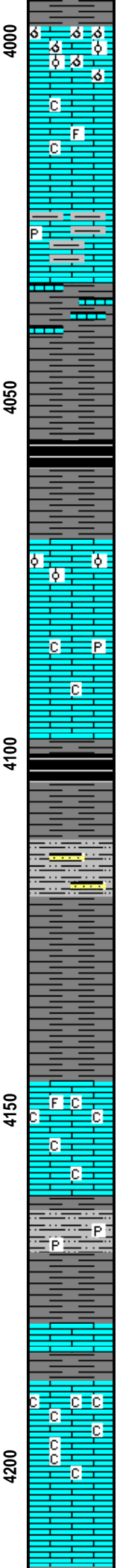
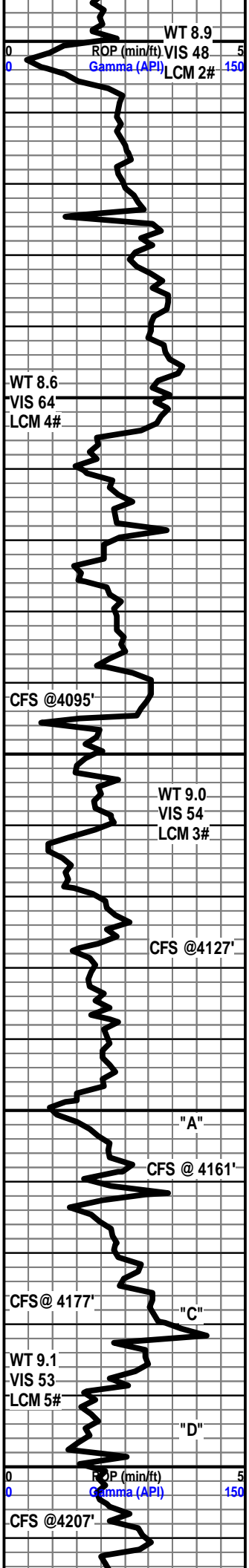
3937'-3939' LS- CRM TO LT TN (W/BLK TAR OIL STN SCAT IN 10%-20%), HD DNS TO BRIT, F-XLN, RE-XLN IP, S-CHLKY, TR IMBD SM FOSS FRGS, HVY TR IMBD WHT CHLK, DLL YEL FLO IN 20%, TR BRT YEL GLD FLO IP, TR PR INTER-XLN POR IP, PR FLSH CUT, FR SLW STRM IN 30%, NO LCH ON DSH, NO OIL ODOR

**TOPEKA 3955' (-724')**

LS- CRM TO OFF WHT LT TN IP, HD DNS TO BRIT IP, MD-XLN, RE-XLN, S-CHLKY IP, HVY TR IMBD CALC-XLS, TR SCAT IMBD FOSS FRGS, DLL YEL FLO IN 40%, YEL MIN FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW,

SH- RD TO DK RD GY IP, SFT TO GMMY, V SLTY TXT, IMBD V/W/F-GRNS THRU, TR SFT WHT CHLK





LS- CRM TO OFF WHT, HD DNS TO V BRIT, MD-XLN, RE-XLN MTRX, V OOLMOLD, IMBD CALC-XLS, TR SCAT IMBD SM OOL, V DLL YEL FLO SCAT IN 40%, FR OOLMOLD POR IN 6%, PR OOLMOLD POR IN 2%, GD INTER-XLN POR IN 3%, NO VIS CUT OR SHOW

LS- LT GY TO GY CRM, HD DNS, VF/F-XLN, S-CHLKY, HVY TR IMBD GY SH, TR IMBD DISS PYR, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH- GY TO MD GY, V FRM TO FRM SFT IP, BLCKY, V CALC

SH- BLK SFT CARB

LS- CRM TO LT TN TN, HD DNS TO BRIT IP, MD/F-XLN, RE-XLN, S-CHLKY IP, IMBD SM OOL, TR IMBD F-GRNS QRTZ, DLL YEL FLO IN 50%, V PR INTER-OOL POR IP, NO VIS CUT OR SHOW

LS- LT TN TO TN, HD DNS, VF-XLN, F-XLN IP, TR IMBD SFT WHT CHLK IP, TR PYR CLSTRS, V DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

**HEEBNER 4099' (-877')**

SLTY SS- LT GY TO GY, HD TT TO V FRI, IMBD VF-GRNS, S-RND GRNS, WLL SRT, HVY TR IMBD GY SH, SLI TR IMBD DISS PYR, NO VIS FLO, TR PR TO FR INTER-GRN POR IN 1%, NO VIS CUT OR SHOW

SH- RD TO DK RD GRN, SFT TO FRM IP, GRNY TXT

**LANSING 4147' (-925')**

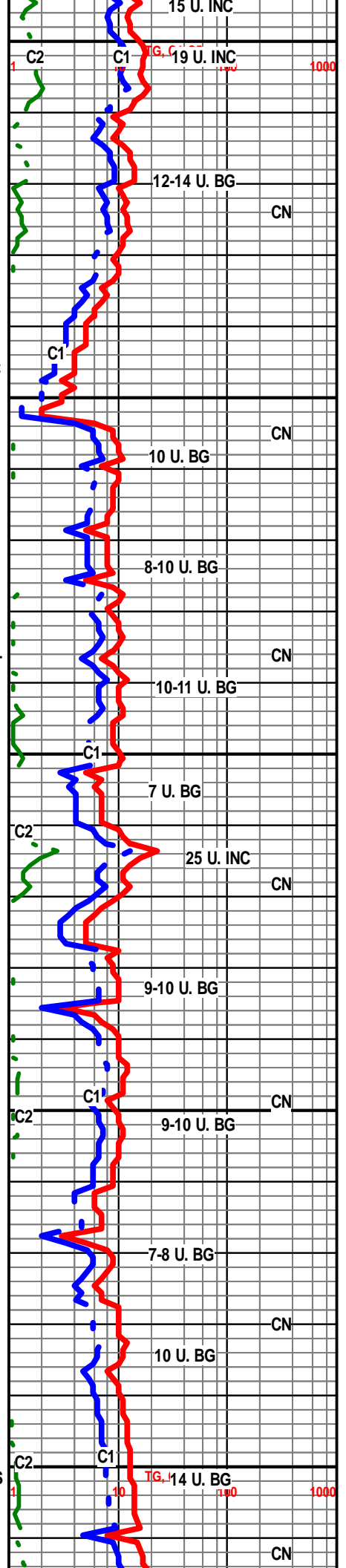
4149'-4151' LS- OFF WHT TO CRM (W/ BLK OIL STN SCAT IN 30%), HD DNS TO SFT IP, F-XLN, RE-XLN IP, HVY TR IMBD SFT WHT CHLK, TR IMBD CALC-XLS, DLL YEL FLO IN 50%-60%, V PR TO PR INTER-XLN POR IN 1%, INST FLSH CUT, EXCEL SLW STRM IN 50%, DK BRN LCH ON DSH, NO OIL ODOR

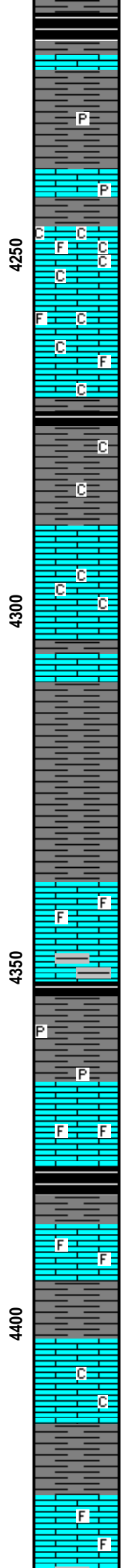
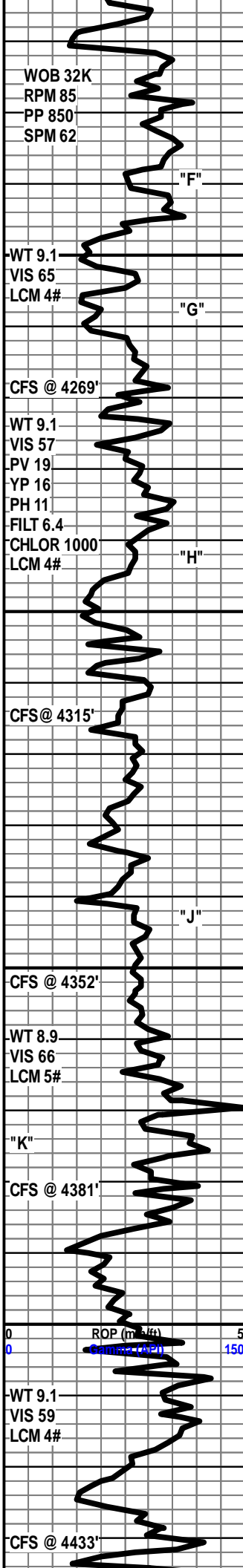
SLTY SS- LT GY TO FRSTY, HD TT TO FRI IP, V/VF-GRNS QRTZ, RND GRNS, WLL SRT, SIL CMNT GRDNG TO CALC CMNT IP, IMBD GY SH, TR IMBD DISS PYR IP, NO VIS FLO, V PR INTER-GRN POR IP, NO VIS CUT OR SHOW

4181'-4184' LS- CRM TO LT TN (W/ DK BRN TO BLCK OIL STN IN 40%), HD DNS, MD/F-XLN, RE-XLN, S-SUCRO, IMBD FOSS FRGS THRU, TR SCAT IMBD DISS PYR, DLL YEL FLO IN 30%, YEL GLD FLO IN 10%, PR MICRO VUG POR IN 2%, TR PR INTER-FOSS POR IP, FR FLSH CUT, FR TO PR SLW STRM IN 40%, LT TN LCH ON DSH, NO OIL ODOR

**LANSING "D" 4188' (-966')**

LS- CRM TO LT TN, HD DNS, VF/F-XLN, ABTD SFT TO GMMY WHT CHLK THRU TRAY, TR IMBD CALC-XLS, DLL YEL TO YEL FLO THRU, TR PR INTER-XLN POR IP, NO VIS CUT OR SHOW





**SH- BLK SFT CARB**

LS- CRM TO LT GY, HD DNS, VF/F-XLN, IMBD GY SH IP, TR PYR, V DLL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW

**LANSING "G" 4246' (-1024')**

LS- CRM TO LT TN, HD DNS TO BR TT, MD-XLN, RE-XLN, S-CHLKY, AB DT SFT TO GMMY WHT CHLK THRU TRAY, HVY TR IMBD FOSS FRGS THRU, DLL YEL FLO THRU, PR TO TR FR VUG POR IN 1%, NO VIS CUT OR SHOW

LS- CRM TO LT TN, V HD DNS, VF/F-XLN, RE-XLN IP, HVY TR SFT WHT CHLK THRU TRAY, TR IMBD CALC-XLS IP, TR IMBD FOSS FRGS, DLL YEL TO YEL MIN FLO IN 40%, TR PR INTER-XLN POR IP, NO VIS CUT OR SHOW

SH- GY GRN RD MOTT, FRM TO SFT, BLCKY, CALC, TR GMMY WHT CHLK

LS- CRM TO LT TN TN, HD DNS, VF-XLN, S-CHLKY, IMBD CALC-XLS, TR SFT WHT CHLK, DLL YEL MIN FLO IN 70%, PR TO TR FR VUG POR IN 2%, NO VIS CUT OR SHOW

LS- LT TN TO TN, HD DNS TO TR BR TT IP, F-XLN, RE-XLN IP, TR IMBD GY SH IP, V DLL YEL FLO IN 50%, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO GY GRN MOTT, SFT TO FRM GMMY IP, SLTY TXT, CALC-IP

**LANSING "J" 4338' (-1116')**

LS- OFF WHT TO CRM LT GY IP, HD DNS TO TR BR TT IP, F/MD-XLN, RE-XLN IP, IMBD FOSS FRGS, SLI TR IMBD GY SH, TR V DLL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO DK RD, GMMY TO SFT, SLTY TXT, TR PYR CLSTRS

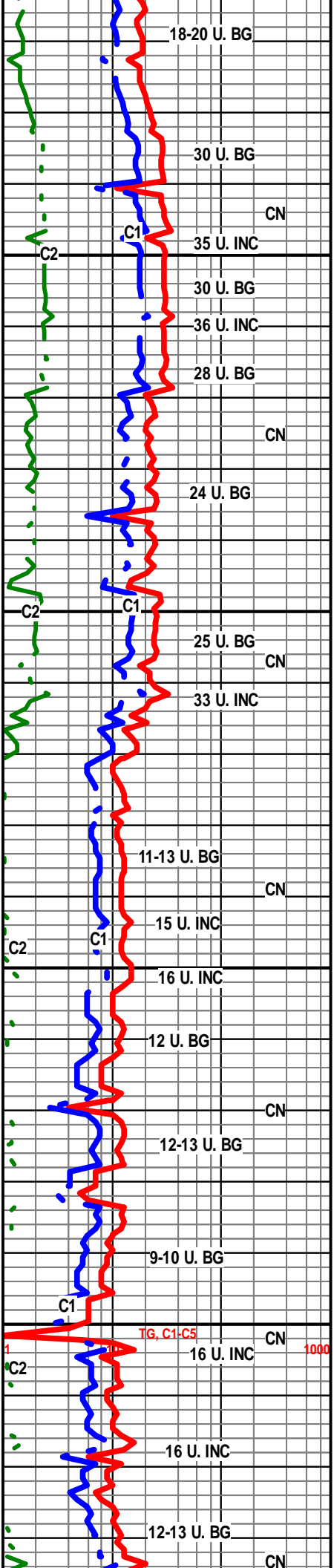
LS- OFF WHT TO CRM, HD DNS, VF/F-XLN, RE-XLN IP, IMBD FOSS FRGS, TR FREE CALC-XLS IN TRAY, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

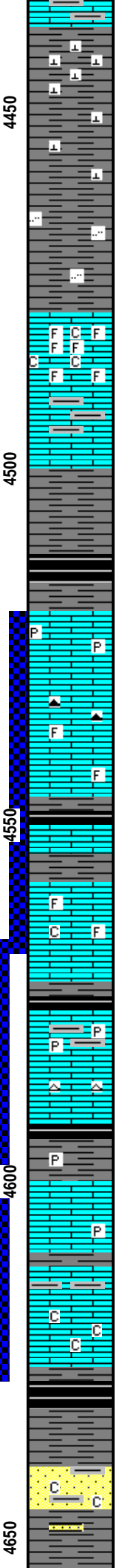
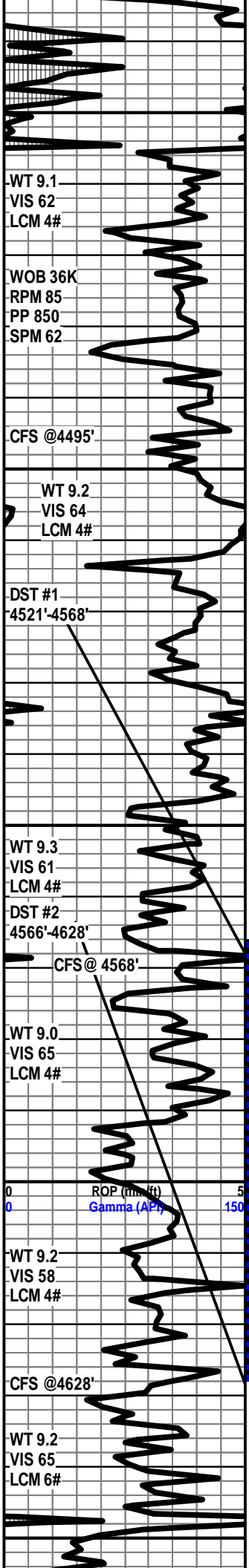
LS- CRM TO LT TN, HD DNS TO BR TT, F/MD-XLN, V S-CHLKY, TR IMBD FOSS FRGS, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

**BKC 4390' (-1168')**

4403'-4405' LS- OFF WHT TO WHT LT GY (W/ BLK OIL STN IN 30%-60%), HD DNS TO SLI TR BR TT IP, F/MD-XLN, RE-XLN, S-CHLKY IP, HVY TR IMBD VF-GRNS, YEL GLD FLO IN 20%, NO FLO IN 80%, PR INTER-XLN POR IN 1%, WK FL SH CUT, PR TO FR SLW STRM IN 30%, NO VIS LCH ON DSH, NO OIL ODOR

LS- CRM TO LT TN, HD DNS, VF/F-XLN, IMBD FOSS FRGS, IMBD VF-GRNS THRU, DLL YEL MIN FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW





POR, NO VIS CUT OR SHOW

SH- PRP GY TO DK GY, V FRM, BLCKY, V CALC

SH- MD GY TO PRP GRN MOTT, FRM TO SFT, BLCKY, SLTY TXT, CALC-IP

SH- RD TO DK RD, SFT TO FRM, V SLTY TXT, IMBD VV/F-GRNS

LS- CRM TO LT TN, HD DNS TO BRTT IP, MD-XLN, V RE-XLN, ABDT IMBD FOSS FRGS THRU, HVY TR FREE CALC-XLS, TR SFT WHT CHLK, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

SH- GY TO DK GY, FRM TO SFT IP, BLCKY, SLTY TXT, TR PYR CLSTRS

**LABETTE SHALE 4510' (-1288')**

LS- OFF WHT TO CRM, HD DNS TO TR BRTT IP, F/MD-XLN, S-CHLKY, SCAT IMBD S-ANG TO ANG F-GRNS QRTZ, TR IMBD DISS PYR, DLL YEL TO YEL MIN FLO IN 50%, NO VIS POR, NO VIS CUT OR SHOW

LS- LT TN TO TN, HD DNS, VF-XLN, RE-XLN IP, IMBD FOSS FRGS IP, TR ORNG & PNK CHRT IN TRAY, V DLL YEL MIN FLO IP, NO VIS CUT OR SHOW

LS- TN TO LT TN CRM IP, HD DNS TO SLI TR BRTT IP, VF/F-XLN, RE-XLN IP, IMBD S-ANG F-GRNS QRTZ, TR IMBD LG FOSS FRGS IP, SLI TR SFT WHT CHLK IN TRAY, V DLL YEL FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

**FORT SCOTT 4576' (-1354')**

LS- OFF WHT TO LT GY, HD DNS, F-XLN, RE-XLN IP, S-CHLKY, IMBD PYR, SCAT IMBD GY SH IP, TR CLR CHRT IN TRAY, V DLL YEL MIN FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO LT TN, V HD DNS, VF/F-XLN, CRYPTO-XLN IP, SCAT IMBD CLR QRTZ GRNS, TR IMBD DISS PYR, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

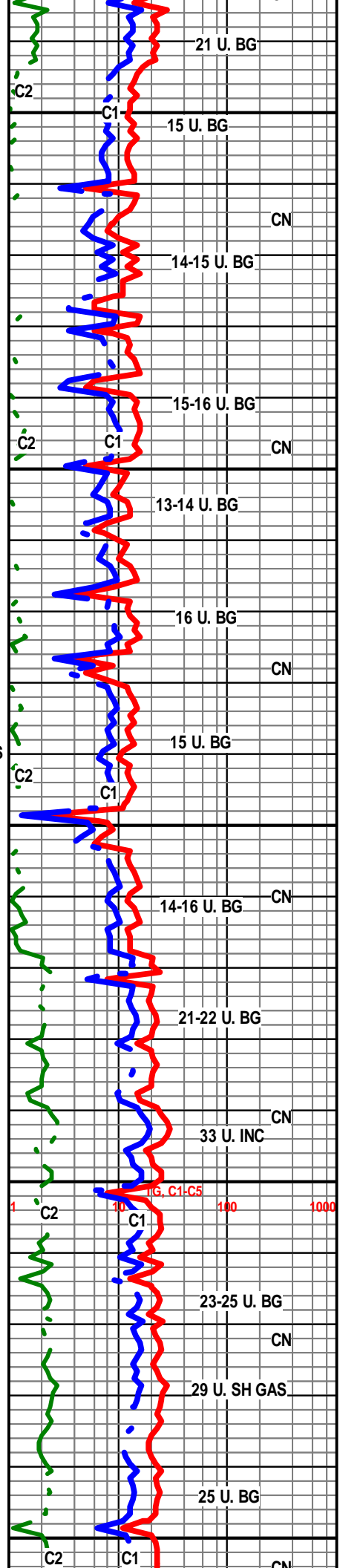
LS- LT TN TO TN CRM IP, HD DNS, VF-XLN, TR IMBD GRN SH, HVY TR SFT TO GMMY WHT CHLK THRU TRAY, DLL YEL TO YEL MIN FLO IN 40%, NO VIS POR, NO VIS CUT OR SHOW

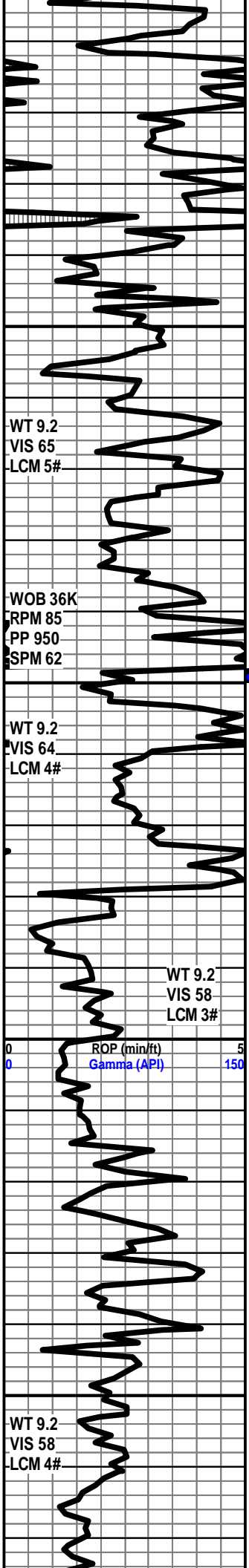
**CHEROKEE SHALE 4628' (-1406')**

SH- BLK SFT CARB, W/ GY TO MD GY GRN, FRM TO SFT IP, HVY TR IMBD RND F-GRNS QRTZ

SS- CRM TO FRSTY, HD TT TO TR FRI IP, F/MD-GRNS QRTZ, S-ANG TO RND GRNS, FR SRT, CALC-CMNT, IMBD SFT WHT CHLK, TR IMBD GY SH, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- GY TO LT GY GRN RD MOTT, SFT SFTY TO FRM





SH- GY TO LT GY GRN RD MOTT, SFT SPLNTY TO FRM BLCKY IP, SLTY TXT IP, TR INTERBD SS

SH- RD TO DK RD GRN, V FRM TO SFT, BLCKY, SLTY TXT, HVY TR IMBD LS, SLI TR PRED UNCONSOLIDATED QRTZ GRNS

LS- WHT TO OFF WHT CLR, HD DNS, VF/F-XLN, S-CHLKY, IMBD S-ANG CLR QRTZ GRNS, HVY TR SFT WHT CHLK, IMBD RD SH IP, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SS- RD TO CLR FRSTY, HD TT, PRED UNCONSOLIDATED QRTZ GRNS, MD/VF-GRNS QRTZ, S-ANG TO S-RND GRNS, PR SRT, SIL CMNT, HVY TR IMBD RD SH, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO DK RD GRN YEL MOTT, SFT TO FRM IP, SLTY, HVY TR PRED UNCONSOLIDATED QRTZ GRNS, HVY TR YEL CLY

LS- WHT TO CRM IP, V HD DNS, VF/F-XLN, CRYPTO-XLN IP, TR INTER-BD RD SH, TR IMBD YEL CLY, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO DK RD GRN PRP MOTT, FRM TO SFT, V SLTY TXT, IMBD V/V/F-GRNS THRU

SH- RD TO DK RD GRN MOTT, FRM TO SFT IP, ABTD PRED UNCONSOLIDATED QRTZ GRNS

SH- RD GRN GY, FRM TO SFT, ABTD PRED UNCONSOLIDATED QRTZ GRNS

**MISSISSIPPIAN 4780' (-1558')**

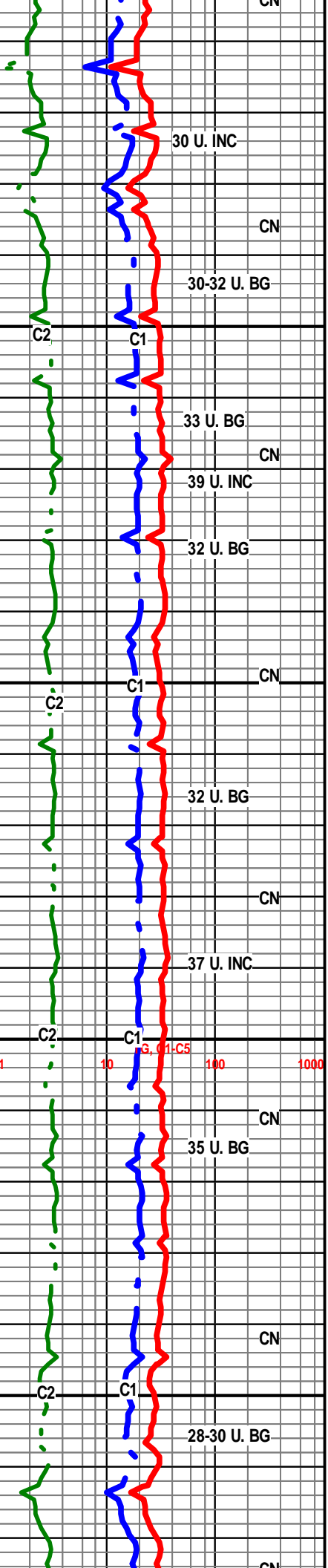
LS- OFF WHT TO LT TN TN, HD DNS TO BRTT IP, TT SUCRO MTRX, WTHRD, HVY TR SFT WHT CHLK IN TRAY, SCAT IMBD CHLOR IP, SLI TR CLR CHRT, DLL YEL TO YEL FLO THRU, FR INTER-XLN POR IN 3%, PR INTER-XLN POR IN 2%, PR MICRO-VUG POR IN 1%, NO VIS CUT OR SHOW

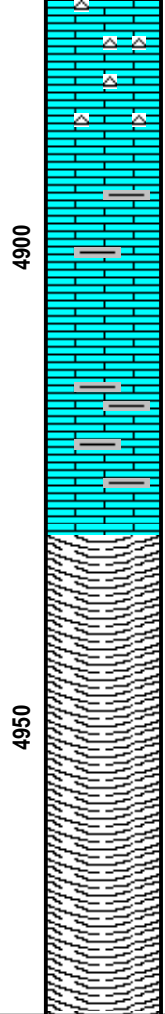
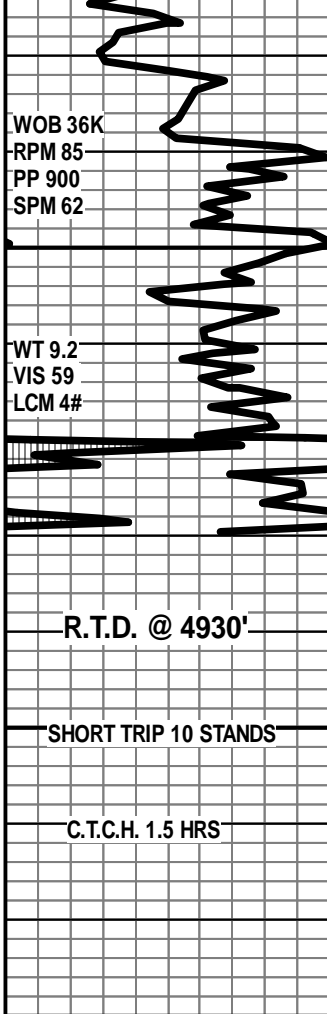
LS- OFF WHT TO TN, HD DNS TO BRTT IP, F-XLN, V TT SUCRO MTRX, IMBD SFT WHT CHLK IP, ABTD CLR TO WHT CHRT THRU TRAY, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

LS- WHT TO OFF WHT LT TN IP, HD DNS TO BRTT, F/MD-XLN, TT SUCRO MTRX, WTHRD IP, HVY TR IMBD GRN CLY, INTERBD RD & GRN SH, DLL YEL MIN FLO IN 50%, NO VIS POR, NO VIS CUT OR SHOW

LS- WHT TO OFF WHT, HD DNS TO TR BRTT IP, F/MD-XLN, V TT SUCRO MTRX, WTHRD, HVY TR IMBD SFT WHT CHLK, TR WHT CHRT, V DLL TO DLL YEL MIN FLO IN 60%, NO VIS POR, NO VIS CUT OR SHOW

LS- WHT TO OFF WHT, HD DNS, VE XLN, TT SUCRO





LS- WHT TO OFF WHT, HD DNS, VF-XLN, TT SUCRO  
MTRX, S-CHLKY IP, ABDT CLR TRANS CHRT THRU TRAY,  
TR IMBD CHLOR IP, DLL YEL MIN FLO IN 30%, NO VIS  
POR, NO VIS CUT OR SHOW

LS- TN TO LT TN, V HD DNS, VF-XLN, CRYPTO-XLN IP, TR  
INTERBD RD SH, NO VIS FLO, NO VIS POR, NO VIS CUT  
OR SHOW

LS- TN TO DK TN, V HD DNS, VF/CRYPTO-XLN, RE-XLN IP,  
HVY TR NTERBD RD & GRN SH THRU, V DLL YEL MIN FLO  
IP, NO VIS POR, NO VIS CUT OR SHOW

R.T.D. @ 12:45 P.M. 3/7/15

DROP SURVEY

T.O.F.L. @ 3:00 P.M. 3/7/15

WEATHERFORD/ LIBERAL, KS

