



**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

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

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

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

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

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

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

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

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

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

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

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

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

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

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

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

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

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

Total Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

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

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

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



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

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

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

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

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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

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

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

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

Estimated Production Per 24 Hours	Oil Bbbs.	Gas Mcf	Water Bbbs.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	Leon Brack et al 1-23
Doc ID	1063314

All Electric Logs Run

DEN
IND
MICRO
SONIC
SPECTRAL

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	Leon Brack et al 1-23
Doc ID	1063314

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3261'-65'	500 gal of 28% MCA with 3% MAS	3261'-65'
4	3299'-3306'	500 gal of 28% MCA with 3% MAS	3299'-3306'
4	3340'-42'	500 gal of 28% MCA with 3% MAS	3340'-42'
4	3402'-05'	500 gal of 28% MCA with 3% MAS	3402'-05'
4	3420'-28'	500 gal of 28% MCA with 3% MAS	3420'-28'
4	3442'-50'	500 gal of 28% MCA with 3% MAS	3442'-50'
4	3542'-46'	500 gal of 28% MCA with 3% MAS	3542'-46'

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



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

September 13, 2011

NEIL SHARP  
Samuel Gary Jr. & Associates, Inc.  
1515 WYNKOOP, STE 700  
DENVER, CO 80202

Re: ACO1  
API 15-165-21923-00-00  
Leon Brack et al 1-23  
SE/4 Sec.23-16S-16W  
Rush County, Kansas

Dear Production Department:

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

Should you have any questions or need additional information regarding subject well, please contact our office at 303-831-4673.

Respectfully,  
NEIL SHARP



**QUALITY OILWELL CEMENTING, INC.**  
 PO Box 32 - 740 West Wichita Ave, Russell KS 67665  
 Phone: 785-324-1041 fax: 785-483-1087  
 Email: cementing@ruraltel.net

Date: 5/21/2011  
 Invoice # 4915

P.O.#:  
 Due Date: 6/20/2011  
 Division: *Russell*

# Invoice

**Contact:**  
 Samuel Gary Jr & Associates Inc  
**Address/Job Location:**  
 Samuel Gary Jr & Associates Inc  
 3111 W. 10th Street  
 Great Bend, KS 67503

DRLG    COMP    W/O    LOE    GG

Account	8200-138
Well/Prospect	LEON BROCK 1-23
Deck	
AFE	
Approval	<i>[Signature]</i>
Description	

**Reference:**  
 LEON BROCK 1-23

**Description of Work:**  
 LONG SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 963.85	No				
Common-Class A	370	\$ 4,764.78	Yes				
8 5/8" Basket	3	\$ 1,000.67	Yes				
Bulk Truck Mat-Material Service Charge	390	\$ 823.33	No				
Calcium Chloride	13	\$ 516.78	Yes				
Pump Truck Mileage-Job to Nearest Camp	28	\$ 294.96	No				
8 5/8" Centralizer	3	\$ 202.67	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	28	\$ 172.60	No				
Premium Gel (Bentonite)	7	\$ 120.29	Yes				
8 5/8" Top Rubber Plug	1	\$ 111.89	Yes				
Baffle Plate Aluminum, 8 5/8"	1	\$ 95.00	Yes				

**Invoice Terms:**

Net 30

	<b>SubTotal:</b>	\$ 9,066.82
	<b>Discount Available ONLY if Invoice is Paid &amp; Received within listed terms of invoice:</b>	\$ (1,360.02)
<hr/>		
	SubTotal for Taxable Items:	\$ 5,790.26
	SubTotal for Non-Taxable Items:	\$ 1,097.27
<hr/>		
	<b>Total:</b>	\$ 7,706.80
	<b>Tax:</b>	\$ 364.79
<hr/>		
	<b>Amount Due:</b>	\$ 8,071.58
	<b>Applied Payments:</b>	
	<b>Balance Due:</b>	\$ 8,071.58

6.30% Rush County Sales Tax

**Thank You For Your Business!**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
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RECEIVED

JUN 07 2011

SAMUEL GARY JR.  
 & ASSOCIATES, INC.

# QUALITY OILWELL CEMENTING, INC.

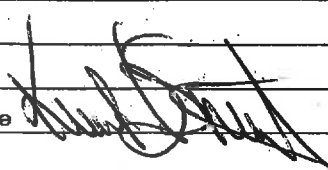
Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

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

No. 4915

Date	5-18-11	Sec.	23	Twp.	16	Range	16	County	Rush	State	Ks	On Location		Finish	3:00p			
Lease	Lean Brock		Well No #1-23			Location Galatia, Ks - S $\frac{1}{4}$ W, N/S												
Contractor	Ual Energy #6						Owner											
Type Job	Surface						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.											
Hole Size	12 $\frac{1}{4}$ "		T.D.			1069'			Charge To Sam Gary Jr & Associates									
Csg.	8 $\frac{3}{8}$ "		Depth			1066'			Street									
Tbg. Size			Depth			City						State						
Tool			Depth			City						State						
Cement Left in Csg.	40.55'		Shoe Joint			40.55'			The above was done to satisfaction and supervision of owner agent or contractor.									
Meas Line			Displace			65 BLS			Cement Amount Ordered 390 yd Common 3% CC									
<b>EQUIPMENT</b>												2% Gel 1/4# Flo-seal						
Pumptrk	1	No.	Cementor	Cisco		Common						370						
			Helper			Poz. Mix												
Bulktrk	13	No.	Driver	Matt		Gel.						7						
			Driver			Calcium						13						
Bulktrk	p.u.	No.	Driver	Rick		Hulls												
			Driver			Salt												
<b>JOB SERVICES &amp; REMARKS</b>												Flowseal 92#						
Remarks:	Cement did Circulate.												Kol-Seal					
Rat Hole													Mud CLR 48					
Mouse Hole													CFL-117 or CD110 CAF 38					
Centralizers	1, 15, 28												Sand					
Baskets	2, 16, 24												Handling				390	
D/V or Port Collar													Mileage					
<b>FLOAT EQUIPMENT</b>																		
												Guide Shoe						
												Centralizer				3		
												Baskets				3		
												AFU Inserts						
												Float Shoe						
												Latch Down						
												1- Baffle plate.						
												1- Rubber Plug						
												Pumptrk Charge				Long Surface		
												Mileage				28		
												Tax						
												Discount						
												Total Charge						

X Signature 



**QUALITY OILWELL CEMENTING, INC.**

PO Box 32 - 740 West Wichita Ave, Russell KS 67665  
 Phone: 785-324-1041 fax: 785-483-1087  
 Email: cementing@ruraltel.net

Date: 6/1/2011  
 Invoice # 4654

P.O.#:  
 Due Date: 7/1/2011  
 Division: Russell

# Invoice

**Contact:**  
 Samuel Gary Jr & Associates Inc  
**Address/Job Location:**  
 Samuel Gary Jr & Associates Inc  
 3111 W. 10th Street  
 Great Bend, KS 67503

**Reference:**  
 LEON BRACK 1-23

**Description of Work:**  
 PROD LONG STRING

DRLG  COMP  W/O  LOE  GG

Account	8300-238
Well/Prospect	LEON BRACK 1-23
Deck	
AFE	
Approval	GA
Description	

**Services / Items Included:**

	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 925.29	No	Pump Truck Mileage-Job to Nearest Camp	30	\$303.39	No
Common-Class A	225	\$ 2,781.60	Yes	Salt (Fine)	19	\$268.78	Yes
Gilsonite	1057	\$ 1,606.64	Yes	Latch Down Plug & Baffle, 5 1/2"	1	\$226.99	Yes
CFL 117	176	\$ 1,098.62	Yes	Bulk Truck Mileage-Job to Nearest Bulk Plant	30	\$177.54	No
5 1/2" Basket	3	\$ 699.20	Yes	Flo Seal	56	\$113.49	Yes
CD-110	117	\$ 474.24	Yes	KCL	2	\$60.52	Yes
5 1/2" Turbolizer	8	\$ 470.19	Yes				
Bulk Truck Matl-Material Service Charge	225	\$ 456.00	No				
Mud Clear	500	\$ 374.93	Yes				
Defoamer A or CAF-38	50	\$ 354.67	Yes				
Auto Fill Float Shoe, 5 1/2"	1	\$ 310.08	Yes				

**Invoice Terms:**

Net 30

	<b>SubTotal:</b>	\$ 10,702.16
	<b>Discount Available</b> <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$ (1,605.32)
<hr/>		
	SubTotal for Taxable Items:	\$ 7,513.94
	SubTotal for Non-Taxable Items:	\$ 1,582.89
<hr/>		
	<b>Total:</b>	\$ 9,096.83
	<b>Tax:</b>	\$ 473.38
	<b>Amount Due:</b>	\$ 9,570.21
	<b>Applied Payments:</b>	
	<b>Balance Due:</b>	\$ 9,570.21

6.30% Rush County Sales Tax

**Thank You For Your Business!**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
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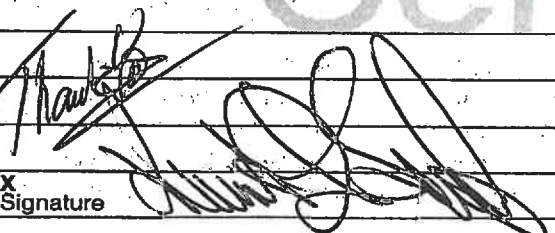
# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

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

No. 4654

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-28-11	23	16	16	Rush	Kansas		8:45 AM
Lease <u>Lean Brock</u>	Well No. <u>1-23</u>		Location <u>Galatia Still Minto</u>				
Contractor <u>V/AH Energy Rig 6</u>				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.			
Type Job <u>Longstring</u>	T.D. <u>3650</u>		Charge To <u>Samuel Gray, Jr. &amp; Associates</u>				
Hole Size <u>7 7/8</u>	Depth <u>3644</u>		Street				
Csg. <u>53 1550lb</u>	Depth		City				
Tbg. Size	Depth		State				
Tool	Depth		The above was done to satisfaction and supervision of owner agent or contractor.				
Cement Left in Csg. <u>23'</u>	Shoe Joint <u>23'</u>		Cement Amount Ordered <u>225 @ Pac 10% Salt</u>				
Meas Line	Displace <u>86 1/2 Bbl</u>		SE Gilsomite <u>1 lb Fl Seal 3 1/2 CD-110 88 CFL-117</u>				
<b>EQUIPMENT</b>				Common <u>250 CAF-38 500 Gal Mud Clear-48</u>			
Pumptrk <u>5</u> No. Cementer <u>Steve</u>				Poz. Mix <u>20 Bbl KCL</u>			
Bulktrk <u>3</u> No. Driver <u>Brandon</u>				Gel.			
Bulktrk No. Driver <u>Corey</u>				Calcium <u>CD-110 117#</u>			
<b>JOB SERVICES &amp; REMARKS</b>				Hulls			
Remarks:				Salt <u>19</u>			
Rat Hole <u>30sx</u>				Flowseal <u>56#</u>			
Mouse Hole <u>20sx</u>				Kol-Seal <u>1057#</u>			
Centralizers <u>1 3 5 7 9 11 13 15</u>				Mud CLR 48 <u>500 gal</u>			
Baskets <u>3 9 13</u>				CFL-117 or CD110 <u>CAF 38 50#</u>			
D/V or Port Collar				Sand <u>CFL 117 176#</u>			
<u>30sx Rat Hole 20sx Mouse Hole</u>				Handling			
<u>Pump 500 Gal Mud Clear-48</u>				Mileage			
<u>Mix 175 sx down SE casing</u>				<b>FLOAT EQUIPMENT</b>			
<u>Release plug 20 Bbl KCL w/ displacement</u>				Guide Shoe			
<u>Land plug @ 1100 psi</u>				Centralizer <u>8 Turbas</u>			
<u>Float Head</u>				Baskets <u>3</u>			
				AFU Inserts			
				Float Shoe <u>1</u>			
				Latch Down <u>1</u>			
				<u>Rotating Head</u>			
				Pumptrk Charge <u>prod long string</u>			
				Mileage <u>30</u>			
Signature 				Tax			
				Discount			
				Total Charge			



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042628

**DST#: 1**

Test Start: 2011.05.24 @ 12:33:05

## GENERAL INFORMATION:

Formation: **LKC"A-C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:35:50

Time Test Ended: 21:35:30

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

**Interval: 3235.00 ft (KB) To 3294.00 ft (KB) (TVD)**

Reference Elevations: 1975.00 ft (KB)

Total Depth: 3294.00 ft (KB) (TVD)

1965.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8352 Outside**

Press @ Run Depth: 382.82 psig @ 3239.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.24

End Date:

2011.05.24

Last Calib.:

2011.05.24

Start Time: 00:33:05

End Time:

09:35:30

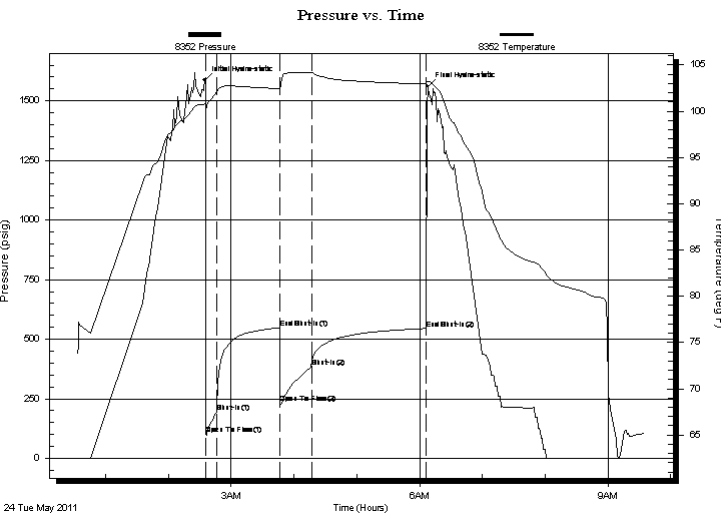
Time On Btm:

2011.05.24 @ 02:34:30

Time Off Btm:

2011.05.24 @ 06:07:50

**TEST COMMENT:** IF:(10min) BOB, 2 min.  
IS:(60min) Return Surface Blow  
FF:(30min) BOB, 2 min.  
FS:(110min) Return Blow , BOB, 23 min.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1585.79	100.79	Initial Hydro-static
2	102.90	100.16	Open To Flow (1)
12	194.96	102.06	Shut-In(1)
72	547.32	102.44	End Shut-In(1)
72	231.89	102.37	Open To Flow (2)
102	382.82	104.15	Shut-In(2)
212	545.00	102.94	End Shut-In(2)
214	1560.13	103.19	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
535.00	GW g=5% w =95%	7.50
120.00	GOCMW g=40% o=20% m=10% w =30%	1.68
120.00	GOCMW g=30% o=20% m=20% w =30%	1.68
0.00	GIP=1265ft	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr. and Assoc. inc  
1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**Leon Brack et al 1-23**

**23-16s-16w Rush**

Job Ticket: 042628 **DST#: 1**

Test Start: 2011.05.24 @ 12:33:05

## GENERAL INFORMATION:

Formation: **LKC"A-C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:35:50

Time Test Ended: 21:35:30

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

**Interval: 3235.00 ft (KB) To 3294.00 ft (KB) (TVD)**

Reference Elevations: 1975.00 ft (KB)

Total Depth: 3294.00 ft (KB) (TVD)

1965.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8650**

**Fluid**

Press @ Run Depth: psig @ 3202.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.24

End Date:

2011.05.24

Last Calib.:

2011.05.24

Start Time: 00:33:05

End Time:

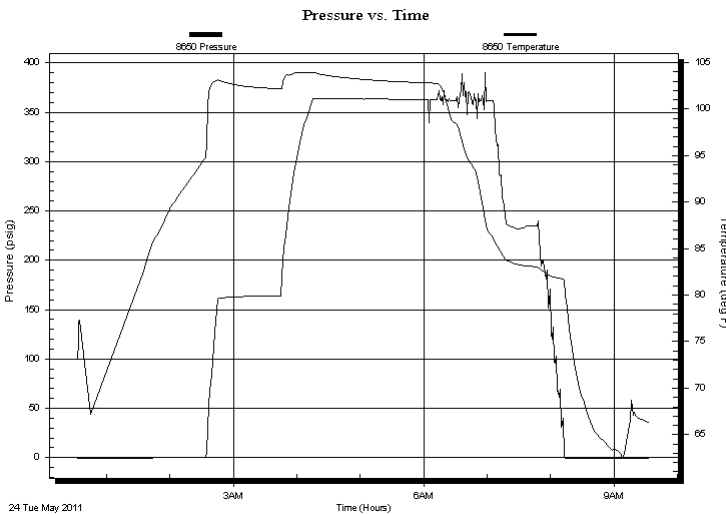
09:33:20

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF:(10min) BOB, 2 min.  
IS:(60min) Return Surface Blow  
FF:(30min) BOB, 2 min.  
FS:(110min) Return Blow, BOB, 23 min.

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
535.00	GW g=5% w =95%	7.50
120.00	GOCMW g=40% o=20% m=10% w =30%	1.68
120.00	GOCMW g=30% o=20% m=20% w =30%	1.68
0.00	GIP=1265ft	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042628

**DST#: 1**

Test Start: 2011.05.24 @ 12:33:05

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 56.00 sec/qt  
Water Loss: 10.80 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 5700.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: 200000 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
535.00	GW g=5% w=95%	7.505
120.00	GOCMW g=40% o=20% m=10% w=30%	1.683
120.00	GOCMW g=30% o=20% m=20% w=30%	1.683
0.00	GIP=1265ft	0.000

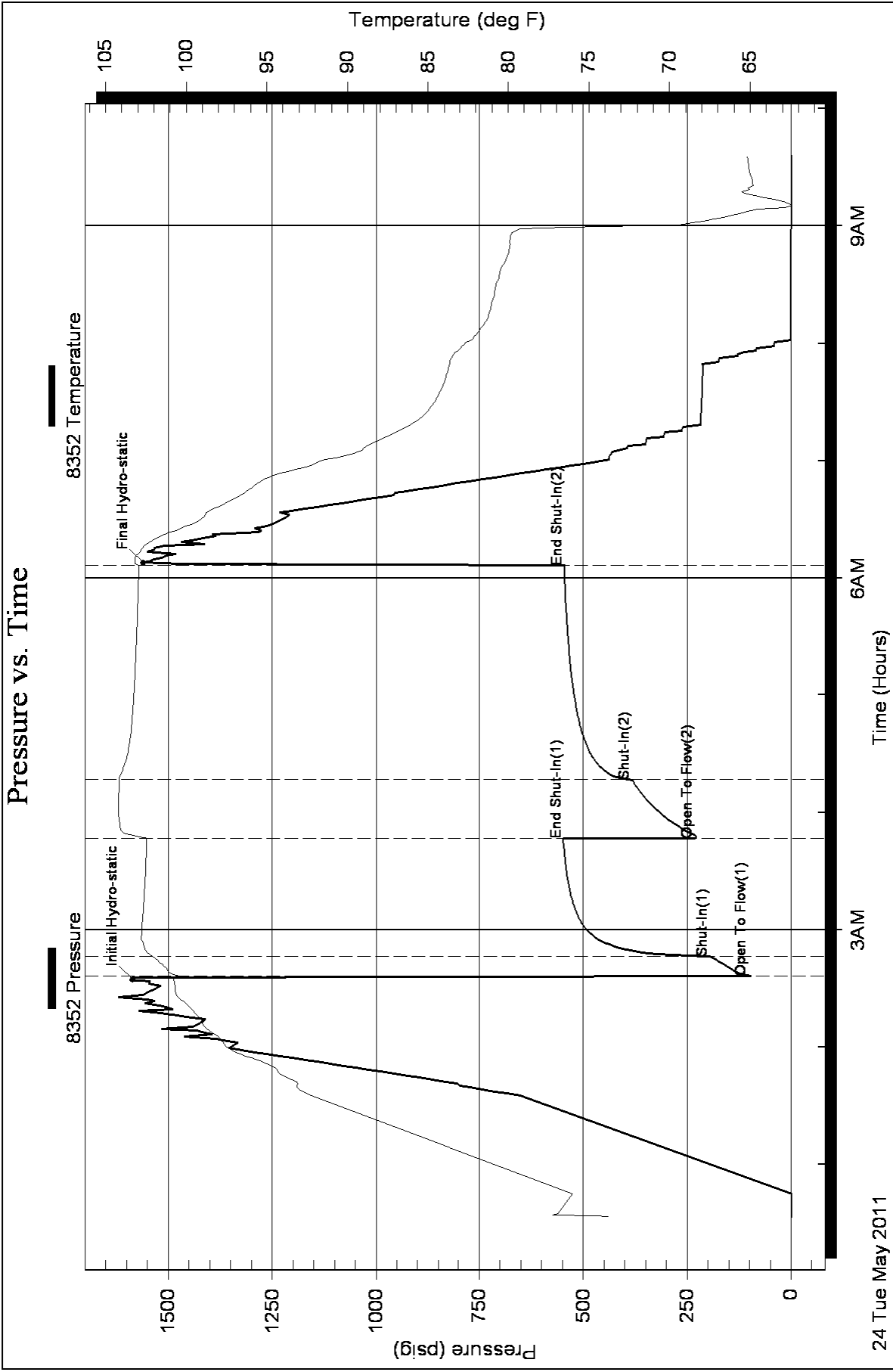
Total Length: 775.00 ft      Total Volume: 10.871 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: Resistivity= .05@65=200000

Samp. Data= g=1/8cf o=400ml m=600ml w=1000ml press=65lbs



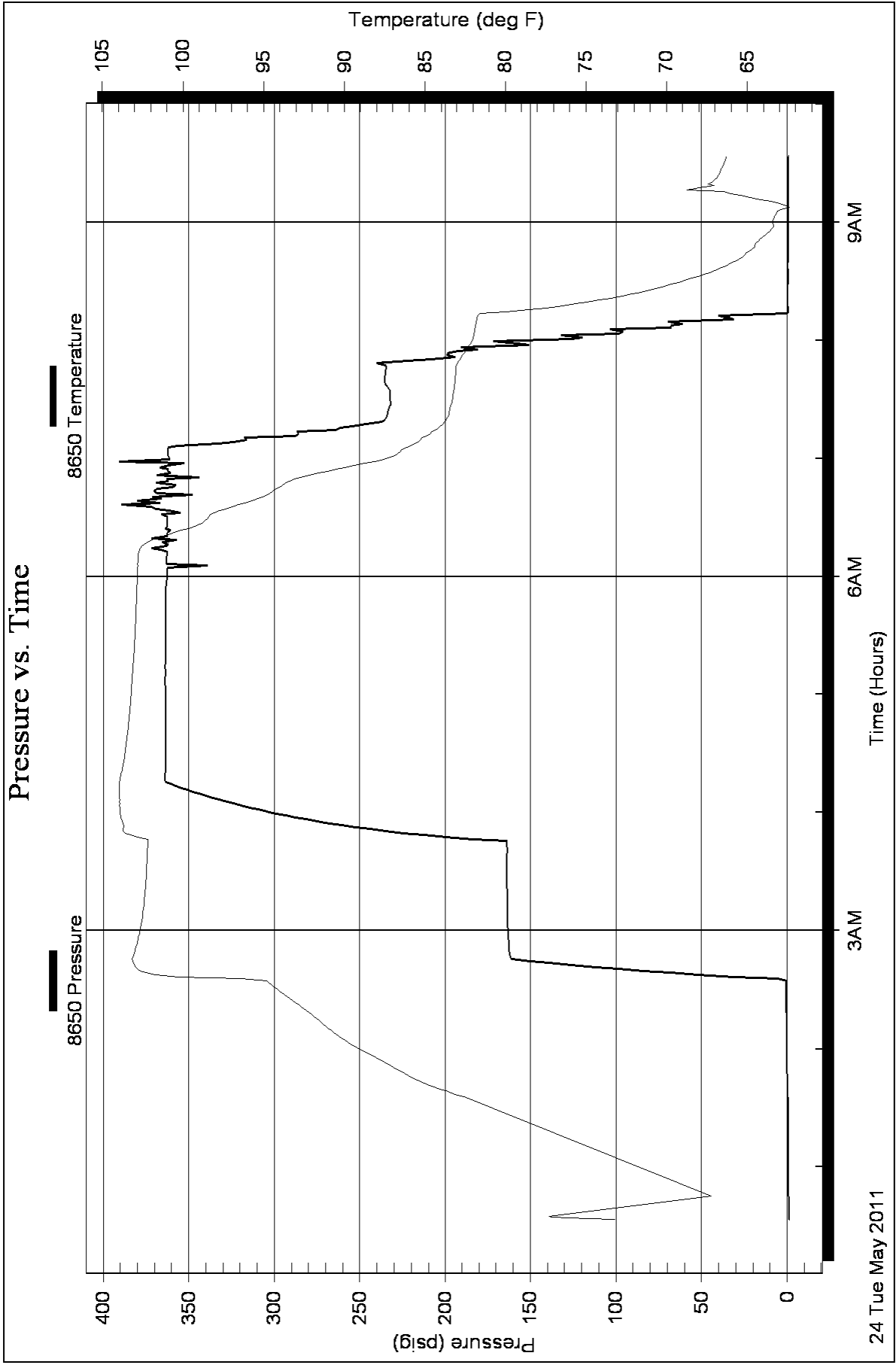
Serial #: 8650

Fluid

Samuel Gary Jr. and Assoc. inc

23-16s-16w Rush

DST Test Number: 1





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042629

**DST#: 2**

Test Start: 2011.05.25 @ 01:09:05

## GENERAL INFORMATION:

Formation: **LKC"D,E,F,G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:01:30

Time Test Ended: 09:08:39

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

**Interval: 3296.00 ft (KB) To 3351.00 ft (KB) (TVD)**

Reference Elevations: 1975.00 ft (KB)

Total Depth: 3351.00 ft (KB) (TVD)

1965.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8352 Outside**

Press @ Run Depth: 143.39 psig @ 3300.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.25 End Date: 2011.05.25

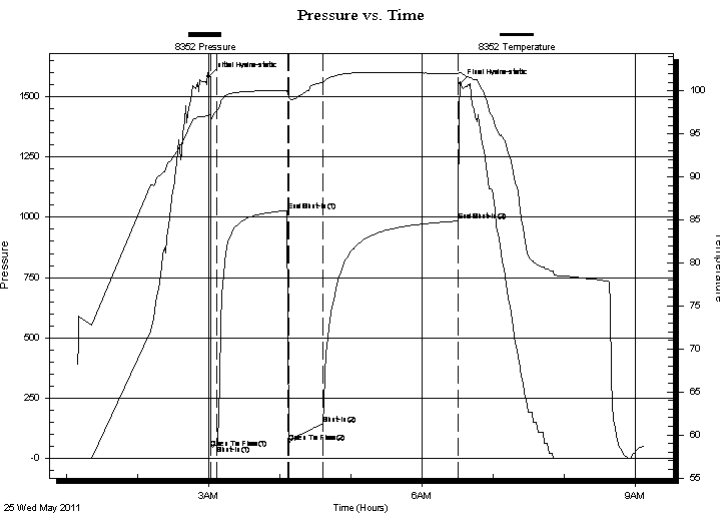
Last Calib.: 2011.05.25

Start Time: 01:09:05 End Time: 09:08:40

Time On Btm: 2011.05.25 @ 02:59:40

Time Off Btm: 2011.05.25 @ 06:32:20

**TEST COMMENT:** IF:(5min) BOB, 2 min.  
IS:(60min) No Return  
FF:(30min) BOB, immediately  
FS:(110min) Return Surface Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1584.08	97.13	Initial Hydro-static
2	42.79	96.47	Open To Flow (1)
8	55.81	97.71	Shut-In(1)
67	1027.70	100.08	End Shut-In(1)
68	68.43	99.32	Open To Flow (2)
97	143.39	100.98	Shut-In(2)
212	984.52	102.03	End Shut-In(2)
213	1554.63	102.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
185.00	GMWO g=20% m=10% w=10% o=60%	2.60
120.00	GMWO g=25% w=10% m=25% o=40%	1.68
0.00	3250' GIP	0.00

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042629      **DST#: 2**

Test Start: 2011.05.25 @ 01:09:05

## GENERAL INFORMATION:

Formation: **LKC"D,E,F,G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:01:30

Time Test Ended: 09:08:39

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

**Interval: 3296.00 ft (KB) To 3351.00 ft (KB) (TVD)**

Reference Elevations: 1975.00 ft (KB)

Total Depth: 3351.00 ft (KB) (TVD)

1965.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

## Serial #: 8650 Fluid

Press @ Run Depth: psig @ 3263.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.25

End Date: 2011.05.25

Last Calib.: 2011.05.25

Start Time: 01:09:05

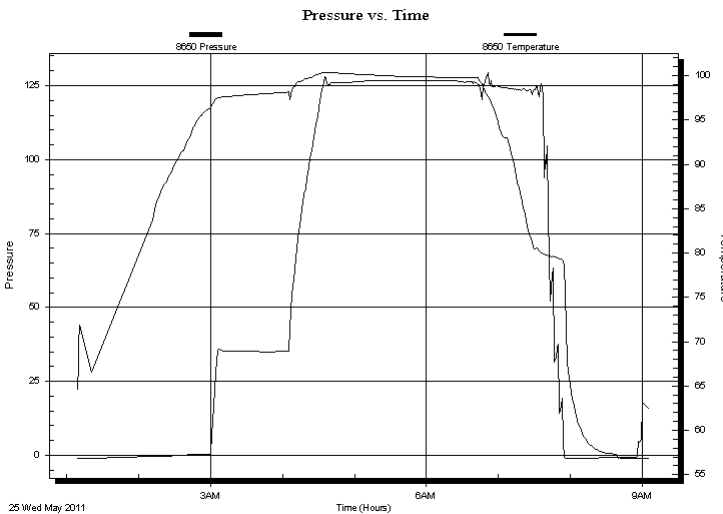
End Time: 09:06:40

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(5min) BOB, 2 min.  
IS:(60min) No Return  
FF:(30min) BOB, immediately  
FS:(110min) Return Surface Blow

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
185.00	GMWO g=20% m=10% w =10% o=60%	2.60
120.00	GMWO g=25% w =10% m=25% o=40%	1.68
0.00	3250' GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042629

**DST#: 2**

Test Start: 2011.05.25 @ 01:09:05

## 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: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5800.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
185.00	GMWO g=20% m=10% w =10% o=60%	2.595
120.00	GMWO g=25% w =10% m=25% o=40%	1.683
0.00	3250' GIP	0.000

Total Length: 305.00 ft      Total Volume: 4.278 bbl

Num Fluid Samples: 0

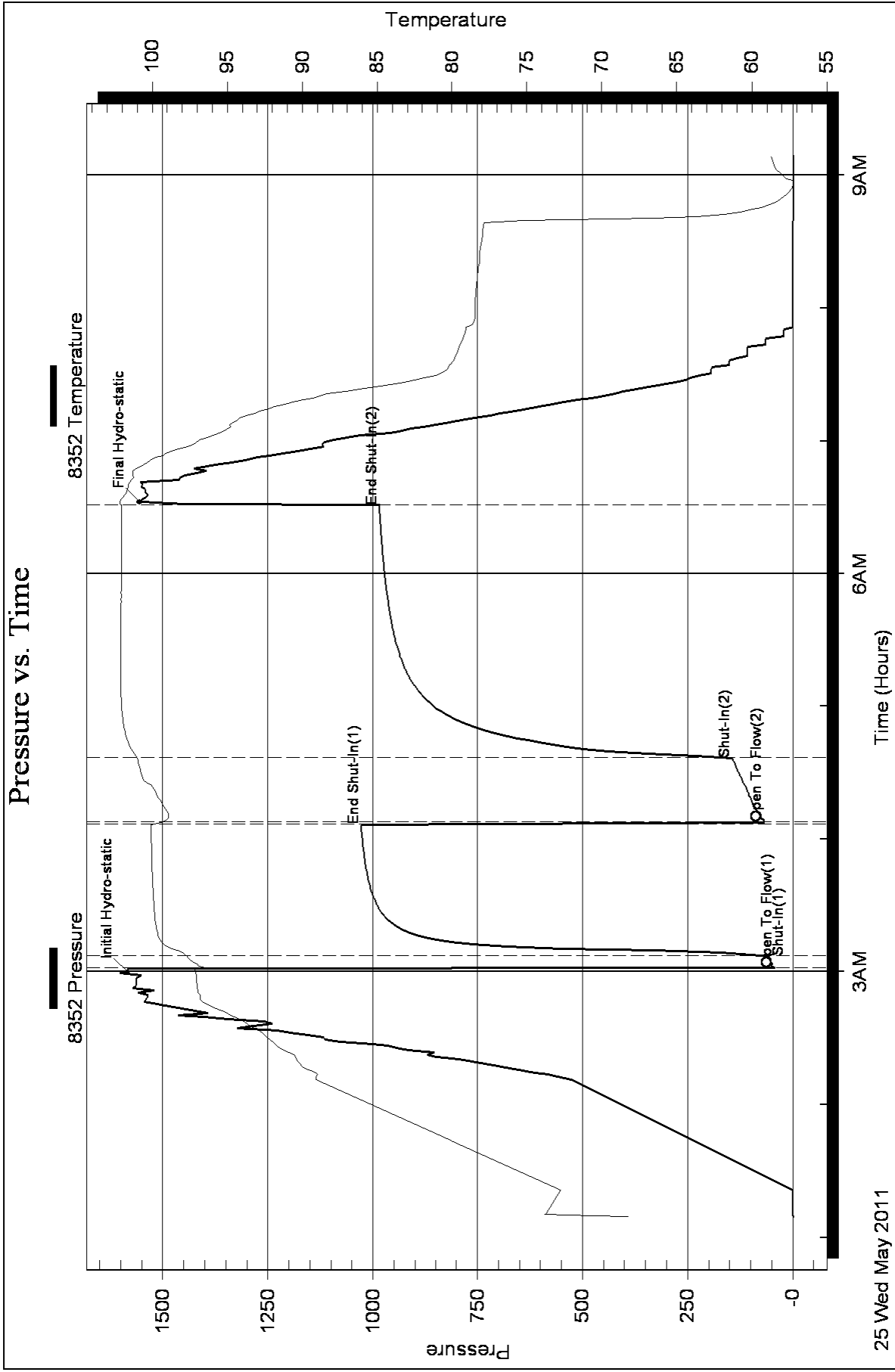
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data= g=1/8cf o=1000ml m=800ml w =200ml pressure=158lbs



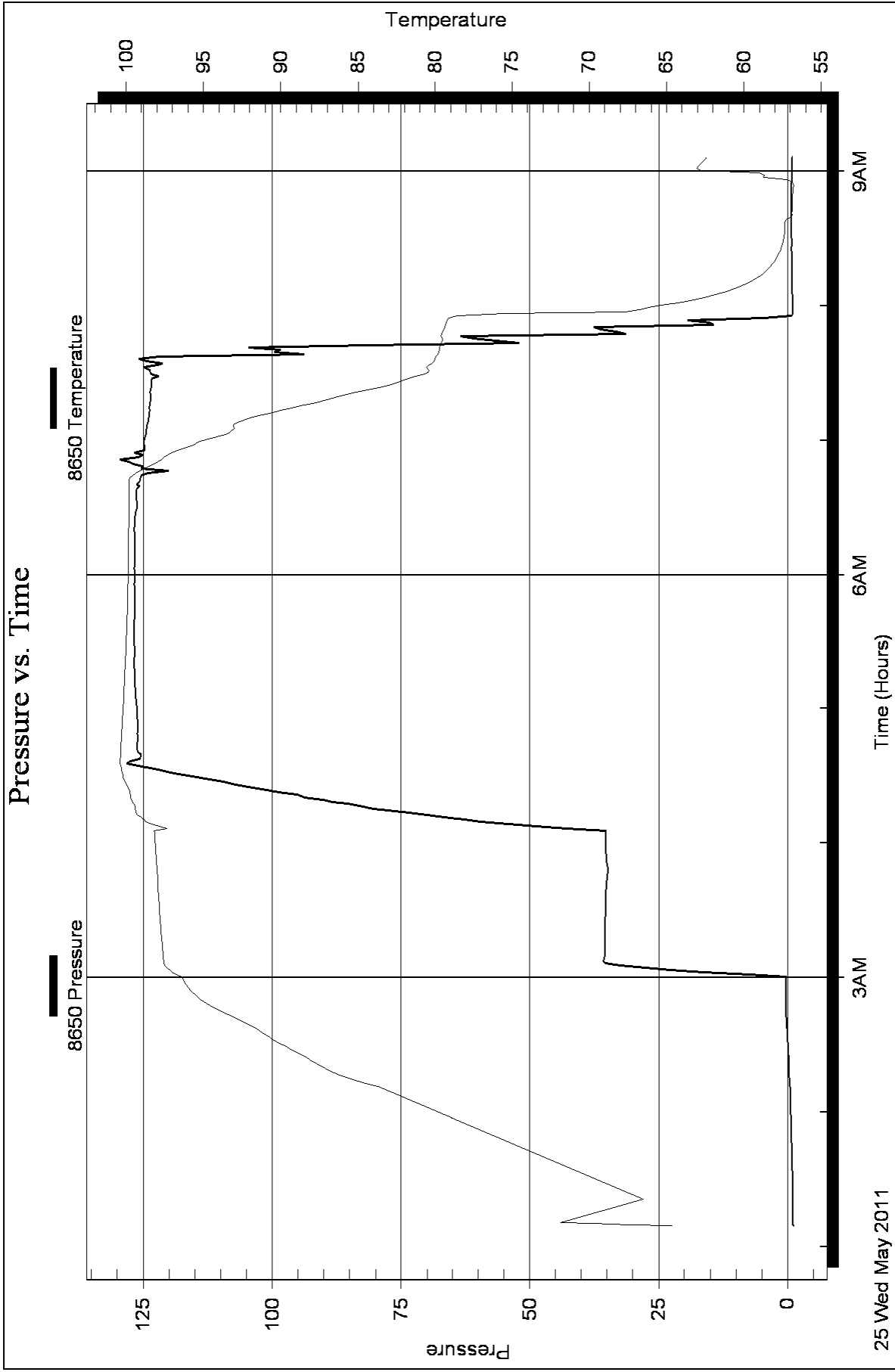
Serial #: 8650

Fluid

Samuel Gary Jr. and Assoc. inc

23-16s-16w Rush

DST Test Number: 2





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042630

**DST#: 3**

Test Start: 2011.05.25 @ 20:53:05

## GENERAL INFORMATION:

Formation: **LKC"H"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:16:10

Time Test Ended: 04:12:29

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

**Interval: 3395.00 ft (KB) To 3413.00 ft (KB) (TVD)**

Reference Elevations: 1975.00 ft (KB)

Total Depth: 3413.00 ft (KB) (TVD)

1965.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8352 Outside**

Press @ RunDepth: 64.16 psig @ 3396.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.25

End Date:

2011.05.26

Last Calib.:

2011.05.26

Start Time: 20:53:05

End Time:

04:12:29

Time On Btm:

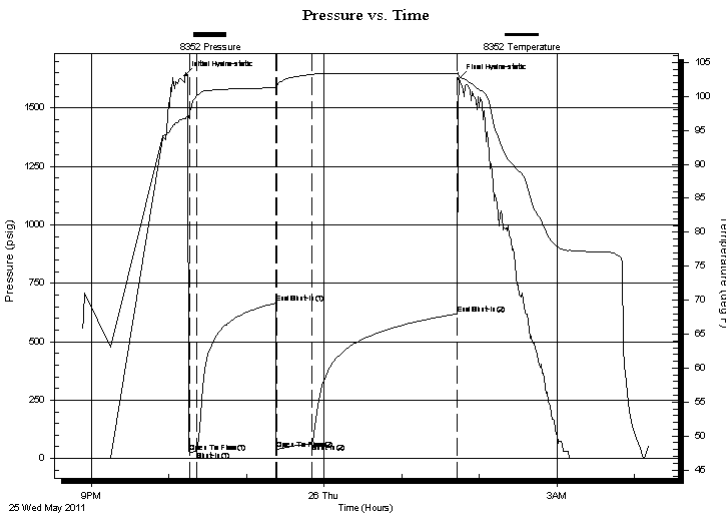
2011.05.25 @ 22:12:20

Time Off Btm:

2011.05.26 @ 01:44:20

**TEST COMMENT:** IF:(5min) BOB, 2min.  
IS:(60min) No Return  
FF:(30min) BOB, 2 min  
FS:(110min) No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1638.56	96.71	Initial Hydro-static
4	25.81	97.70	Open To Flow (1)
9	30.91	100.05	Shut-In(1)
70	664.37	101.27	End Shut-In(1)
71	39.36	101.33	Open To Flow (2)
99	64.16	103.24	Shut-In(2)
211	619.39	103.36	End Shut-In(2)
212	1624.28	102.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	GOMCW g=5% o=10% m=5% w =80%	1.68
55.00	GOCWM g=5% o=15% w =30% m=50%	0.77
0.00	GIP= 900ft	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042630

**DST#: 3**

Test Start: 2011.05.25 @ 20:53:05

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 59.00 sec/qt  
Water Loss: 8.00 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 7200.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: 105000 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GOMCW g=5% o=10% m=5% w=80%	1.683
55.00	GOCWM g=5% o=15% w=30% m=50%	0.772
0.00	GIP= 900ft	0.000

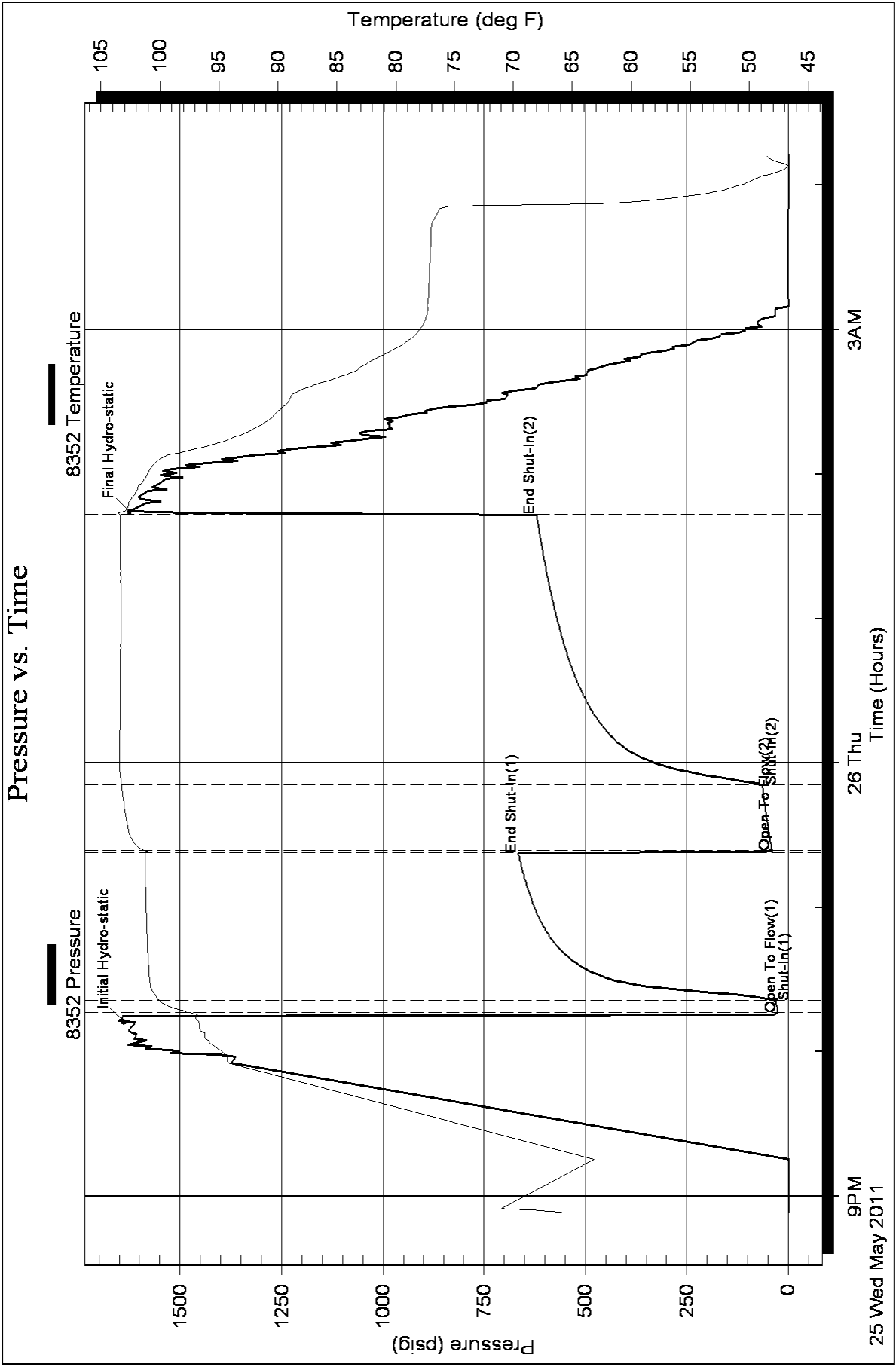
Total Length: 175.00 ft      Total Volume: 2.455 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: Sampler Data= g=N/A o=200ml m=100ml w=300ml press=20bs  
Resistivity= .10@ 49=105000

### Pressure vs. Time





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042631

**DST#: 4**

Test Start: 2011.05.26 @ 15:24:05

## GENERAL INFORMATION:

Formation: **LKC"I,J,K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:40:20

Time Test Ended: 23:14:39

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

**Interval: 3417.00 ft (KB) To 3463.00 ft (KB) (TVD)**

Reference Elevations: 1975.00 ft (KB)

Total Depth: 3463.00 ft (KB) (TVD)

1965.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8352 Outside**

Press @ Run Depth: 43.27 psig @ 3423.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.26

End Date: 2011.05.26

Last Calib.: 2011.05.26

Start Time: 15:24:05

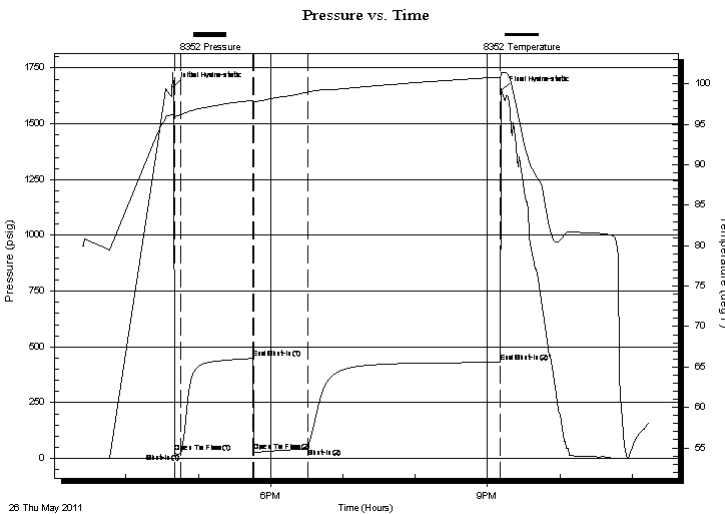
End Time: 23:14:40

Time On Btm: 2011.05.26 @ 16:39:40

Time Off Btm: 2011.05.26 @ 21:11:39

**TEST COMMENT:** IF:(5min) BOB, 4 min.  
IS:(60min) No Return  
FF:(45min) BOB, 4 min  
FS:(160min) No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1666.27	96.28	Initial Hydro-static
1	26.34	95.70	Open To Flow (1)
6	21.63	96.20	Shut-In(1)
66	447.75	97.97	End Shut-In(1)
67	31.67	97.81	Open To Flow (2)
112	43.27	98.99	Shut-In(2)
271	430.56	100.86	End Shut-In(2)
272	1649.92	101.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMWO g=35% w=10% m=20% o=35%	0.84
10.00	GMCO g=10% m=20% o=70%	0.14
0.00	GIP=760ft	0.00

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr. and Assoc. inc

**Leon Brack et al 1-23**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**23-16s-16w Rush**

Job Ticket: 042631

**DST#: 4**

Test Start: 2011.05.26 @ 15:24:05

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 59.00 sec/qt  
Water Loss: 8.80 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 58000.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 42 deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	GMWO g=35% w =10% m=20% o=35%	0.842
10.00	GMCO g=10% m=20% o=70%	0.140
0.00	GIP=760ft	0.000

Total Length: 70.00 ft      Total Volume: 0.982 bbl

Num Fluid Samples: 0

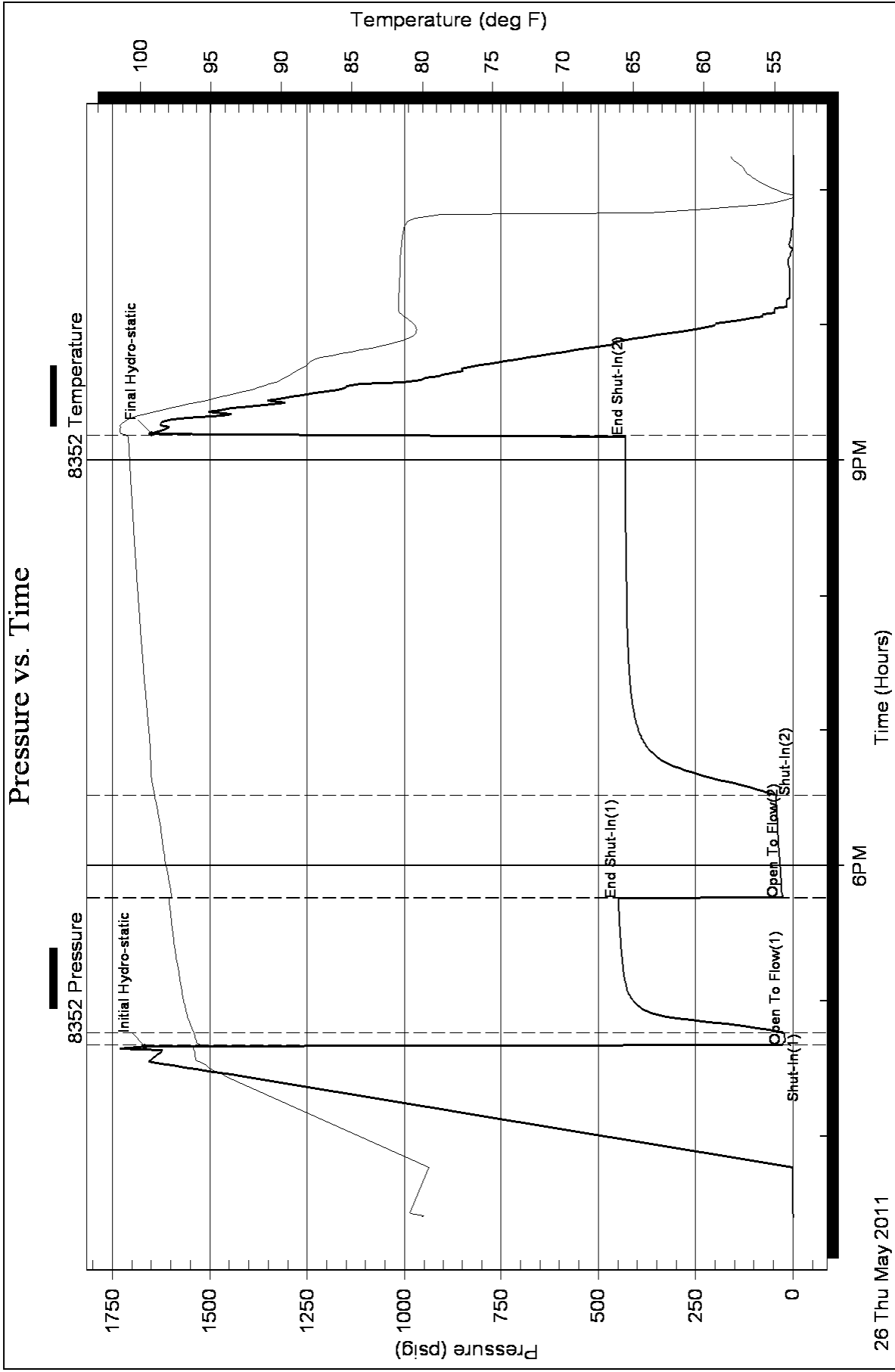
Num Gas Bombs: 0

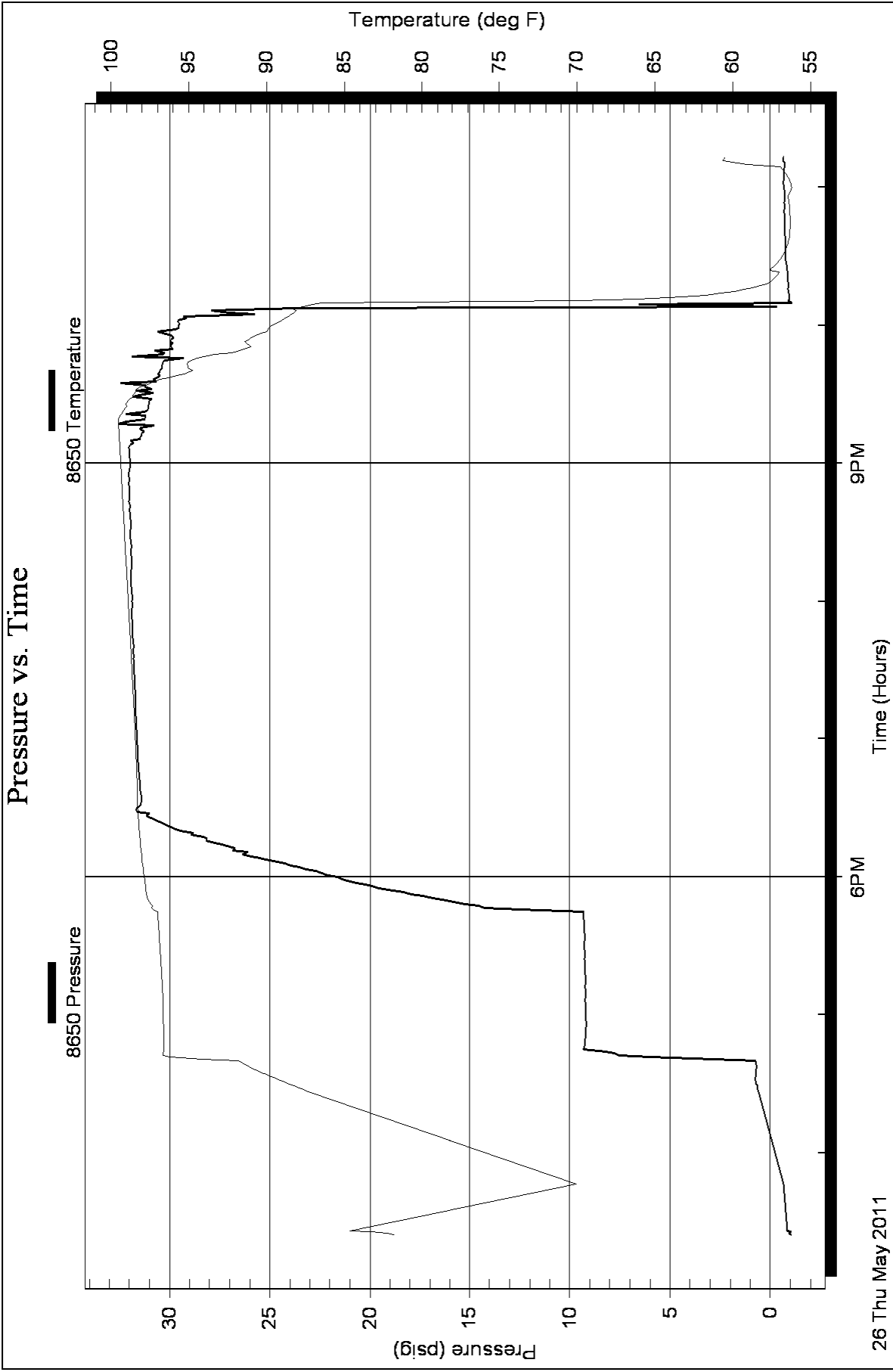
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data= Oil=1200ml Pressure=185lbs



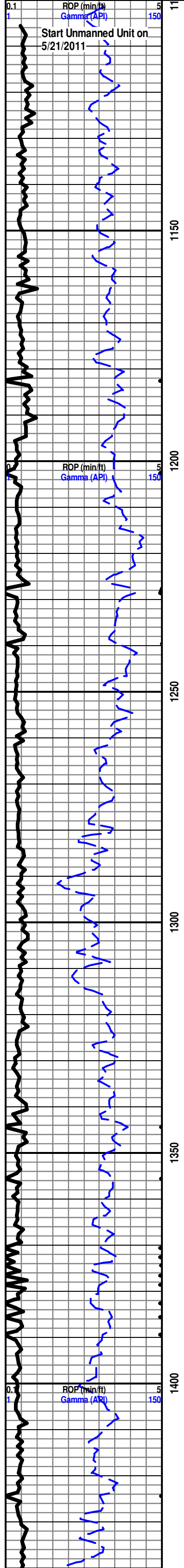


26 Thu May 2011

9PM

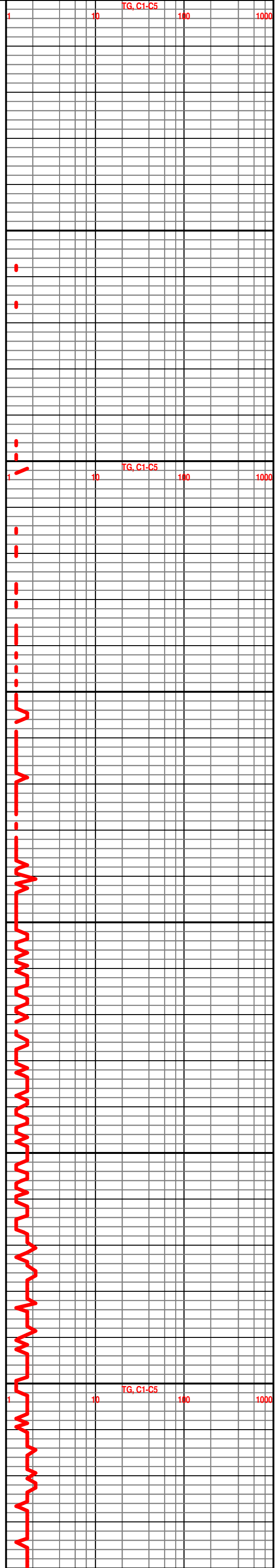
6PM

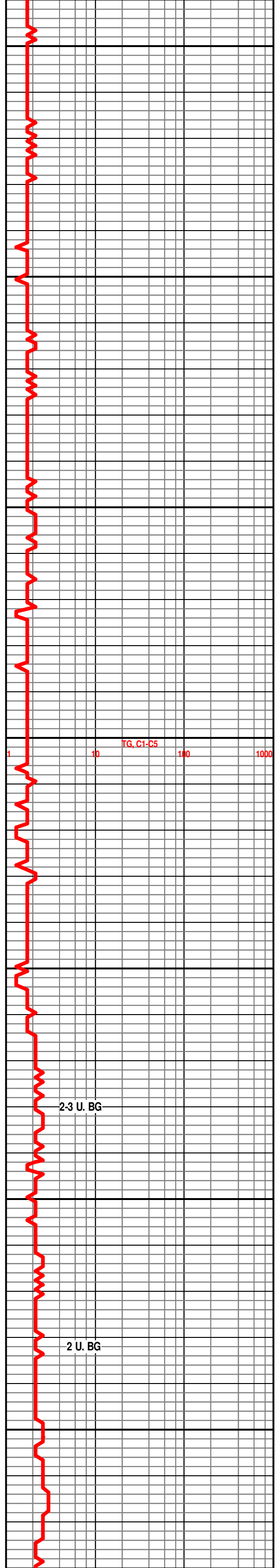
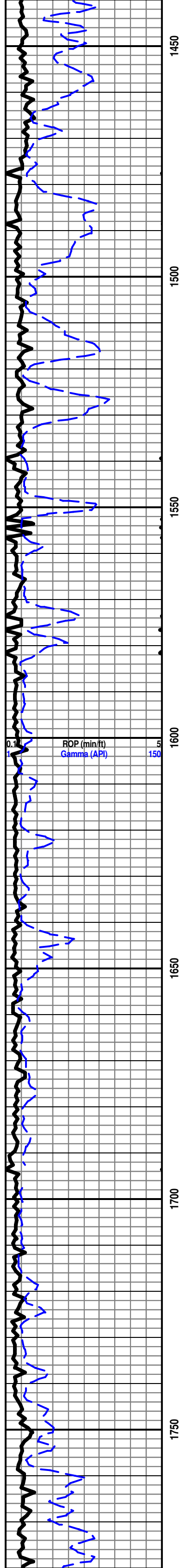
Time (Hours)

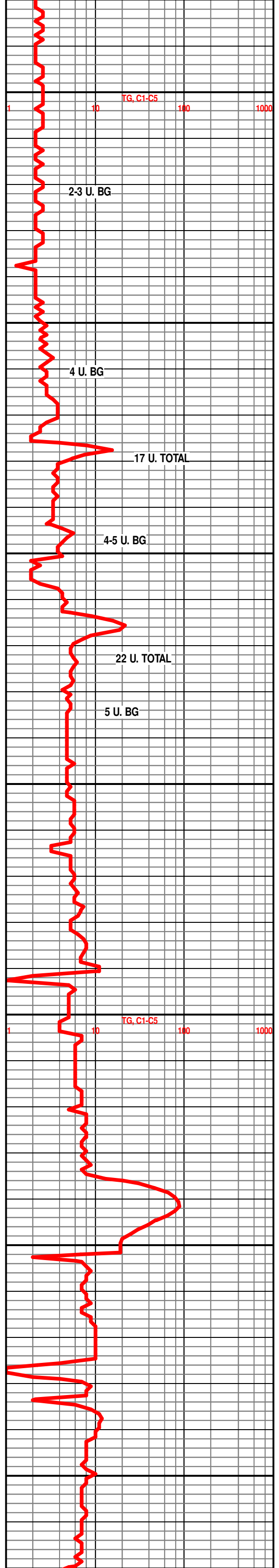
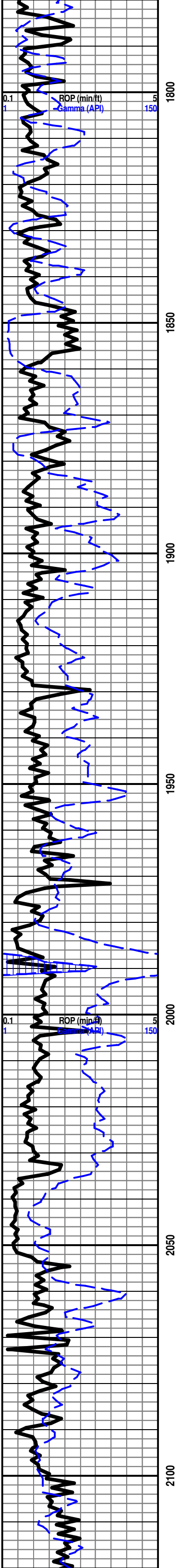


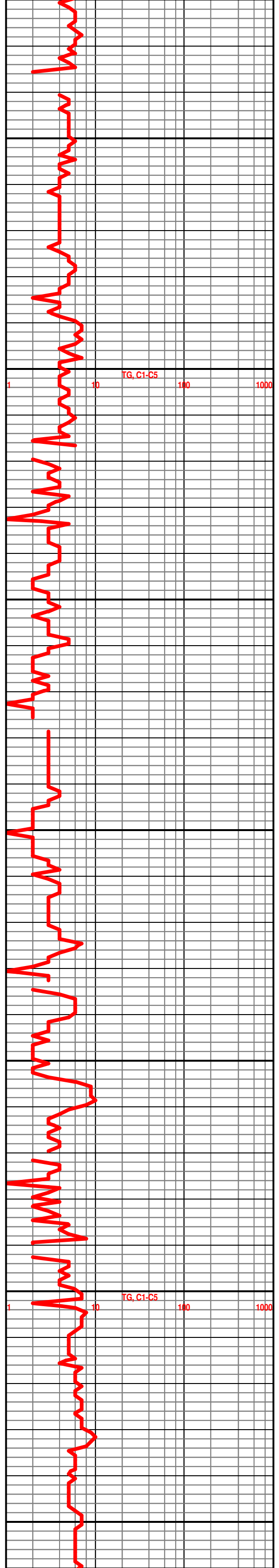
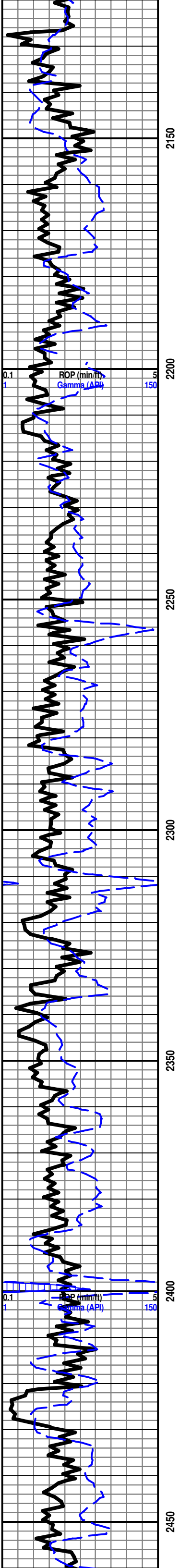
VAL RIG 6

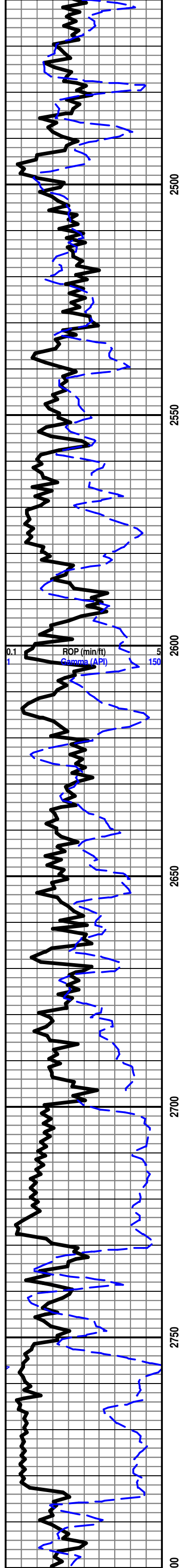
Randy Martin 620-282-1496



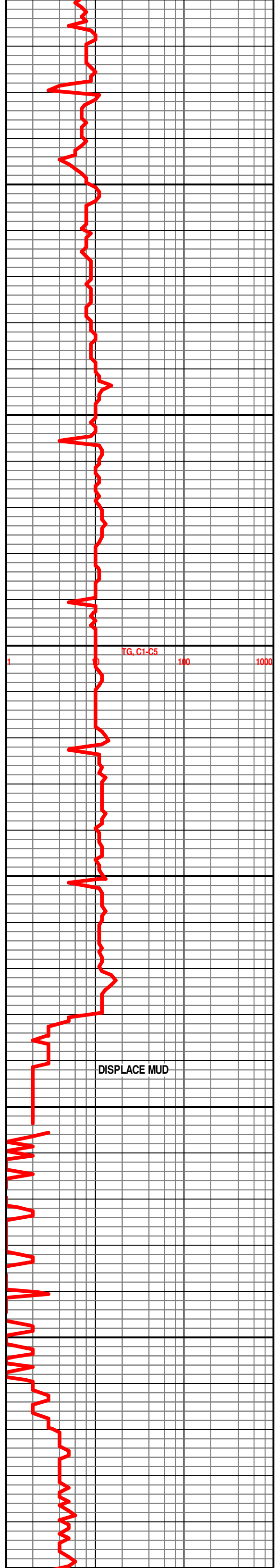




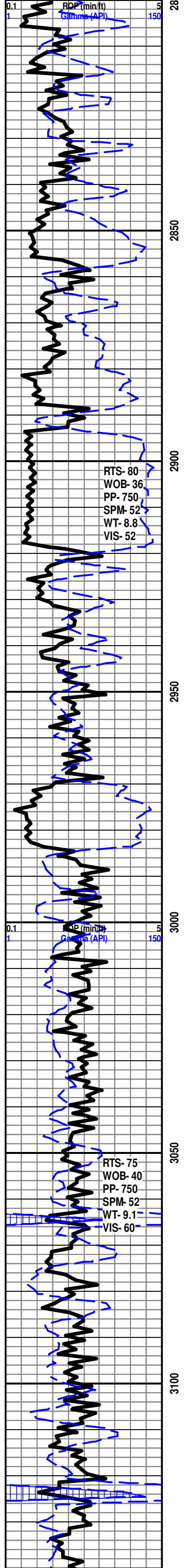




BASE ROOT SHALE 2727' -752'







**START MANNED UNIT 05/22/2011  
@ 9:00 PM**

LS- LT GRY, CRM, LT TN, HD DNS BRITT, FN XLN, REXLN MTRX, SUCRO TXT SCAT IP, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, IMBD GRY SHALE SCAT THRU, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

LS- LT GRY, CRM, TN, HD DNS BRITT, FN TO MDXLN, REXLN MTRX, SUCRO TXT SCAT IP, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, SLI TR IMBD GRY SHALE SCAT IP, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

SH- GRY TO DK GRY, FRM TO TR SFT, SMTH SPLINTY TO BLKY IP

**HOWARD 2918' -943'**

LS- CRM LT TN TO TN, HD DNS BRITT, FN XLN, REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, SLI TR IMBD GRY SHALE SCAT IP, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

LS- CRM OFF WHT LT TN TO TN, HD DNS BRITT, FN XLN, REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, SLT TR SFT WHT CHLK SCAT IP, V/SLI TR IMBD GRY SHALE IP, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

**SEVERY 2970' -995'**

SH- GRY TO DK GRY, FRM, SMTH BLKY

**TOPEKA 2984' -1009'**

LS- CRM OFF WHT LT TN TO TN, HD DNS BRITT, FN XLN, REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS, SLT TR SFT WHT CHLK SCAT IP, DLL YEL FLO, TR V/PR PP POR, NO VIS CUT, NO VIS SHOW

LS- CRM GRY, LT TN TO TN, HD DNS TO BRITT, MD XLN TO REXLN MTRX, IMBD FOSS FRAGS SCAT IP, IMBD CALC XLS SCAT THRU, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

LS- CRM TO OFF WHT, LT TN TO TN, HD DNS TO BRITT, MD XLN TO REXLN MTRX, IMBD FOSS FRAGS SCAT IP, IMBD CALC XLS SCAT THRU, SLI TR SFT WHT CHLK SCAT IP, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

SH- SFT BLACK CARB SHALE

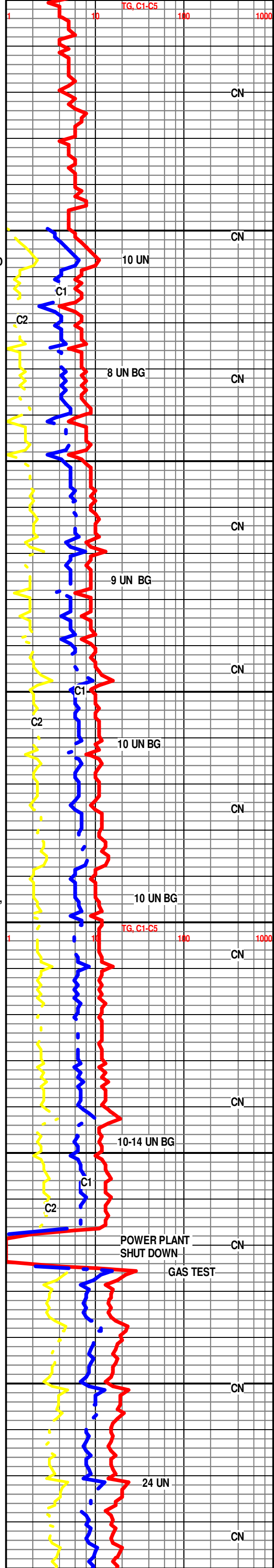
**LE COMPTON 3084' -1109'**

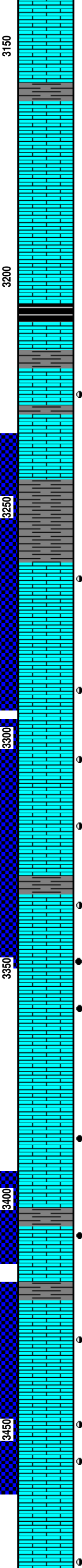
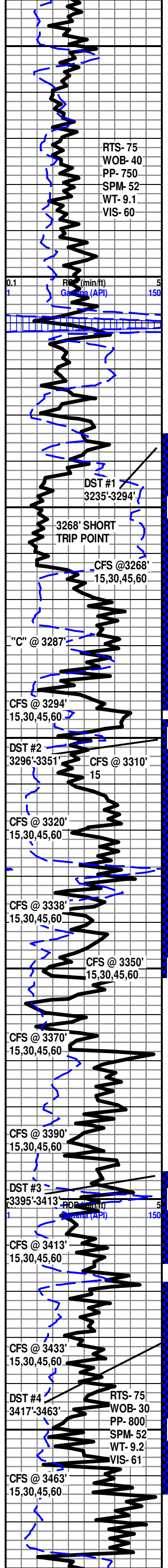
SH- GRY TO DK GRY, FRM TO TR SFT, SMTH SPLINTY TO TR BLKY

LS- CRM TO OFF WHT, LT TN TO TN, HD DNS TO BRITT, MD XLN TO REXLN MTRX, IMBD FOSS FRAGS SCAT IP, IMBD CALC XLS SCAT THRU, SLI TR SFT WHT CHLK SCAT IP, SLI TR DISS PYR SCAT IP, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

SH- SFT BLACK CARB SHALE

LS- CRM TO OFF WHT, LT TN TO TN, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX, IMBD FOSS FRAGS SCAT IP, IMBD CALC XLS





IMBD FOSS FRAGS IP, IMBD CALC XLS SCAT IP, SLI TR SFT WHT CHLK SCAT IP, SLI TR DISS PYR SCAT IP, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

SH- GRAY TO DK GRAY, FRM, SMTH BLKY

LS- CRM TO OFF WHT, LT TN TO TN, HD DNS TO BRITT, MD XLN TO REXLN MTRX, IMBD CALC XLS SCAT THRU, SLI TR SFT WHT CHLK SCAT IP, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

SH- SFT BLACK CARB SHALE

**HEEBNER 3210' -1235'**

LS- CRM TO OFF WHT, LT TN, HD DNS TO BRITT, MD XLN TO REXLN MTRX, IMBD CALC XLS SCAT THRU, SLI TR SFT WHT CHLK SCAT THRU, DLL YEL FLO, NO VIS POR, NO VIS CUT, NO VIS SHOW

3224' LS- CRM TO OFF WHT, LT TN TO TN, STAIN IN 30%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, SLI TR IMBD DISS PYR SCAT THRU, IMBD FOSS FRAGS IP, TR SFT WHT CHLK SCAT IP, TR IMBD SHALE SCAT IP, DLL GLD YEL FLO IN 50%, PR TO FR PP POR, NO FLUSH CUT, TO FR TO GD STRONG MLKY BLUE STREAM CUT IN 20%, PR OIL ODOR

**DOUGLAS 3243' -1268'**

SH- GRAY TO DK GRAY, FRM, BLKY, SLI TR IMBD PYR

**LANSING 3263' -1288'**

3266' LS- CRM TO OFF WHT, LT TN TO TN, STAIN IN 25%, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, SLI SUCRO TXT IP, IMBD CALC XLS SCAT THRU, TR SFT WHT CHLK SCAT IP, TR IMBD SHALE SCAT IP, DLL GLD YEL FLO IN 50%, PR PP TO PR INTR-XLN POR, NO FLUSH CUT TO FR STRONG MLKY BLUE STREAM CUT IN 30%, GD OIL ODOR

3288' LS- CRM TO OFF WHT TO WHT, LT TN TO TN, STAIN IN 15%, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, SLI SUCRO TXT SCAT THRU, IMBD CALC XLS THRU, SLI TR IMBD OOL SCAT IP, TR FRM WHT CHLK SCAT IP, DLL GLD YEL FLO IN 30% TR BRIT YEL FLO IN 15%, FR INTR-XLN TO POSS FRAC POR, FR FLUSH CUT THRU TO FR STRONG MLKY BLUE STREAM CUT IN 40%, PR TO FR OIL ODOR, LT BRN STAIN ON DISH

3306' LS- CRM TO OFF WHT TO WHT, TN, STAIN IN 20%, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS THRU, TR FRM WHT CHLK SCAT IP, DLL GLD YEL FLO IN 20% TR BRIT YEL FLO IN 5%, FR INTR-XLN POR, NO FLUSH CUT TO FR STRONG MLKY BLUE CUT IN 20%, GD OIL ODOR

3320' LS- CRM TO OFF WHT TO WHT, TN, STAIN IN 20%, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS THRU, TR FRM WHT CHLK SCAT IP, DLL GLD YEL FLO IN 15% PR PP POR, NO FLUSH CUT, V/PR STREM CUT IN 5%, PR OIL ODOR

3337' LS- CRM TO OFF WHT TO WHT, TN, STAIN IN 40%, HD DNS TO BRITT, V/FN TO FN XLN TO REXLN MTRX THRU, IMBD CALC XLS THRU, TR FRM WHT CHLK SCAT IP, DLL GLD TO BRIT YEL FLO IN 20% FR INTR-XLN POR IP, GD FLUSH CUT THRU TO FR STRONG MLKY BLUE STREAM CUT IN 15%, FR OIL ODOR

3346'-3352' LS CRM OFF WHT, TN TO DK TN, STAIN IN 50%, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, TR SUCRO TXT SCAT THRU, IMBD FOSS FRAGS IP, IMBD CALC XLS IP, SLI TR FRM WHT CHLK IP, TR IMBD OOL SCAT IP, LIVE OIL IN 25%, GLD TO BRIT YEL FLO THRU, FR INTR-XLN TO TR FR VUG POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, LT BRN STAIN ON DISH

3356'-3364' LS CRM OFF WHT, TN TO DK TN, STAIN IN 40%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD FOSS FRAGS IP, IMBD CALC XLS IP, TR SFT WHT CHLK SCAT THRU, TR IMBD OOL IP, LIVE OIL IN 40%, GLD TO BRIT YEL FLO THRU, FR INTR-XLN TO TR FR OOLCAST POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, LT BRN STAIN ON DISH

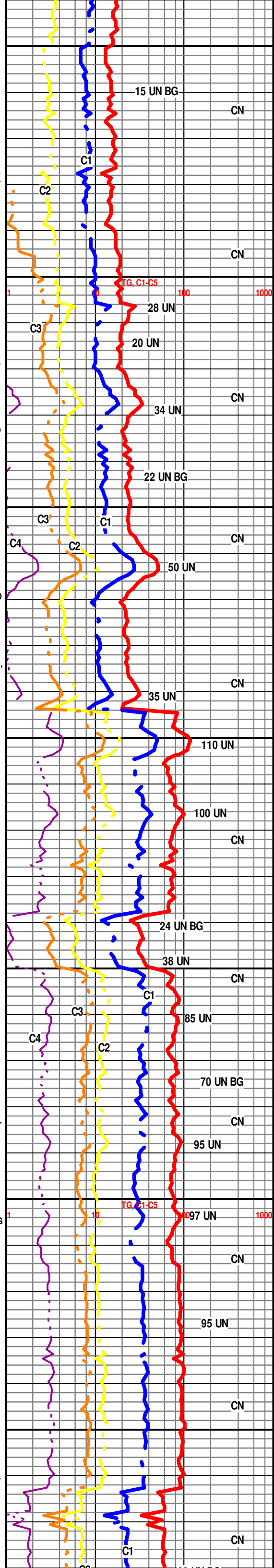
3385'-3389' LS CRM OFF WHT, TN TO DK TN, STAIN IN 35%, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX THRU, IMBD CALC XLS IP, TR SFT WHT CHLK SCAT IP, LIVE OIL IN 15%, GLD TO BRIT YEL FLO THRU, FR INTR-XLN POR, FR INST FLUSH CUT THRU TO FR STRONG MLKY BLUE STREAM CUT IN 35%, GD OIL ODOR, LT BRN STAIN ON DISH

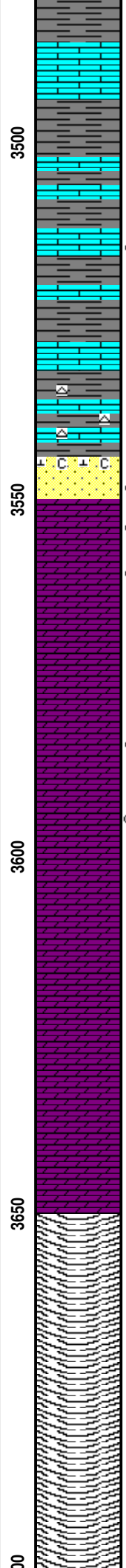
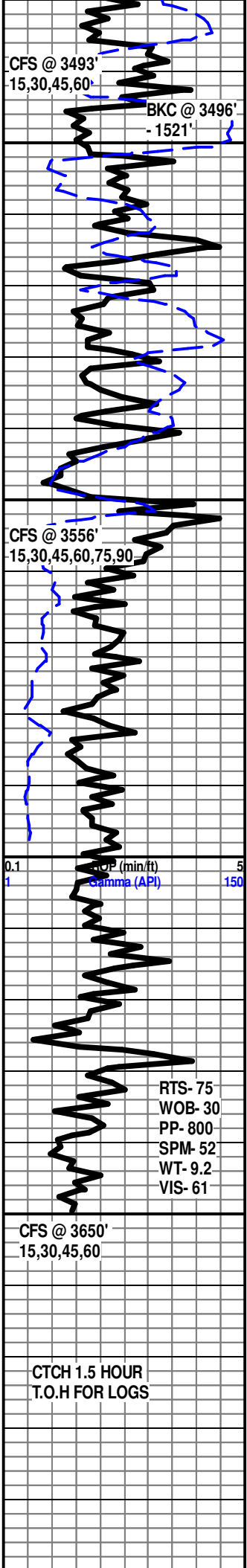
3408'-3413' LS CRM OFF WHT, TN TO DK TN, STAIN IN 55%, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS IP, TR IMBD FOSS FRAGS IP, SLI TR IMBD DISS PYR SCAT IP, LIVE OIL IN 15%, GLD TO BRIT YEL FLO THRU, GD PP TO TR FR INTR-XLN POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, DK BRN STAIN ON DISH

3428'-3433' LS CRM OFF WHT WHT, TR DK TN, STAIN IN 25%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD CALC XLS IP, TR IMBD FOSS FRAGS IP, SFT WHT CHLK SCAT THRU, LIVE OIL IN 10%, DEAD OIL ON 30%, GLD TO BRIT YEL FLO THRU, FR INTR-XLN POR, GD FLUSH CUT THRU TO FR MLKY BLUE STREAM CUT IN 20%, GD OIL ODOR, LT BRN STAIN ON DISH

3446'-3460' LS CRM OFF WHT WHT, TR LT TN, STAIN IN 20%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD CALC XLS IP, TR IMBD FOSS FRAGS IP, GLD TO BRIT YEL FLO THRU, TR FR INTR-XLN TO PR VUG POR, PR FLUSH CUT TO V/PR STREAM CUT IN 20%, GD OIL ODOR

3477' LS CRM OFF WHT WHT, TR LT TN, DEAD OIL STAIN IN 10%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD CALC XLS IP, IMBD FOSS FRAGS IP, TR SFT WHT CHLK, GLD TO BRIT YEL FLO IN 50%, TR PR INTR-XLN POR, INST FLUSH CUT TO FR STRONG MLKY BLUE STREAM CUT IN 20%, GD OIL ODOR





INTR-XLN POR, INST FLUSH CUT TO PR STREAM CUT IN 30%, FR OIL ODOR

SH- GRAY TO DK GRAY, SFT GUMMY IP, BLKY

LS CRM OFF WHT WHT, TR LT TN, STAIN IN 20%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD CALC XLS IP, VSLI TR DISS PYR, IMBD FOSS FRAGS IP, TR SFT WHT CHLK, GLD TO BRIT YEL FLO IN 30%, PR INTR-XLN POR, NO VIS CUT NO VIS SHOW

SH- GRAY TO DK GRAY, SFT GUMMY, BLKY, VSLI TR IMBD PYR IP, SLI LIMY

3516' LS- CRM LT TN TN, HD DNS BRITT, FN XLN TO REXLN MTRX, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS THRU, GUMMY RD SHALE THRU, DLL GLD FLO IN 30%, TR VUG TO PR INTR-XLN POR, GD FLUSH CUT IN 50% TO PR STREAM CUT IN 10%, NO ODOR

SH- RD, DK GRAY, SFT GUMMY, BLKY, LIMY, CHRT SCAT THRU

3546' SS- FRSTY CLR, TN, DK STAIN IN 25%, HD TT TO TR FRI, FRSTY GRNS TO TN GRNS, FN GRN, S'ANG TO TR RND, PR SRT, CALC CMNT, TR IMBD SHALE, VSLI TR CHLK, DLL YEL GLD FLO IN 30%, PR INTR-XLN POR TO TR FR PP, GD FLUSH CUT TO GD SLOW MLKY BLUE STREAM CUT IN 30%, NO OIL ODOR, LT BRN STAIN ON DISH

**ARBUCKLE @ 3550' - 1575'**

3554' DOL- LT TN TO TN, HD DNS TO BRITT, FN XLN, REXLN MTRX THRU, IMBD ABDT SM ANG DOL GRNS, VSLI TR CHLK, TR DISS PYR IN 15%, TR CHRT SCAT IP, DLL GLD FLO THRU TO SCAT BRIT GLD FLO IN 40%, PR TO FR INTR-XLN POR, FR INST FLUSH CUT THRU, TO FR STRONG MLKY BLUE CUT IN 10%, PR OIL ODOR, TR LT BRN STAIN ON DISH

3578' DOL- OFF WHT WHT LT TN, HD DNS TO BRITT, FN TO MD XLN, REXLN MTRX THRU, IMBD ABDT SM ANG DOL GRNS, VSLI TR CHLK, TR CHRT SCAT IP, DLL GLD FLO THRU, FR INTR-XLN POR, GD INST FLUSH CUT THRU, TO FR STRONG MLKY BLUE CUT IN 20%, PR OIL ODOR, TR LT BRN STAIN ON DISH

3595' DOL- OFF WHT WHT, HD DNS TO BRITT, FN TO MD XLN, REXLN MTRX THRU, SUCRO TXT THRU, IMBD ABDT SM ANG DOL GRNS, DLL GLD FLO THRU, FR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

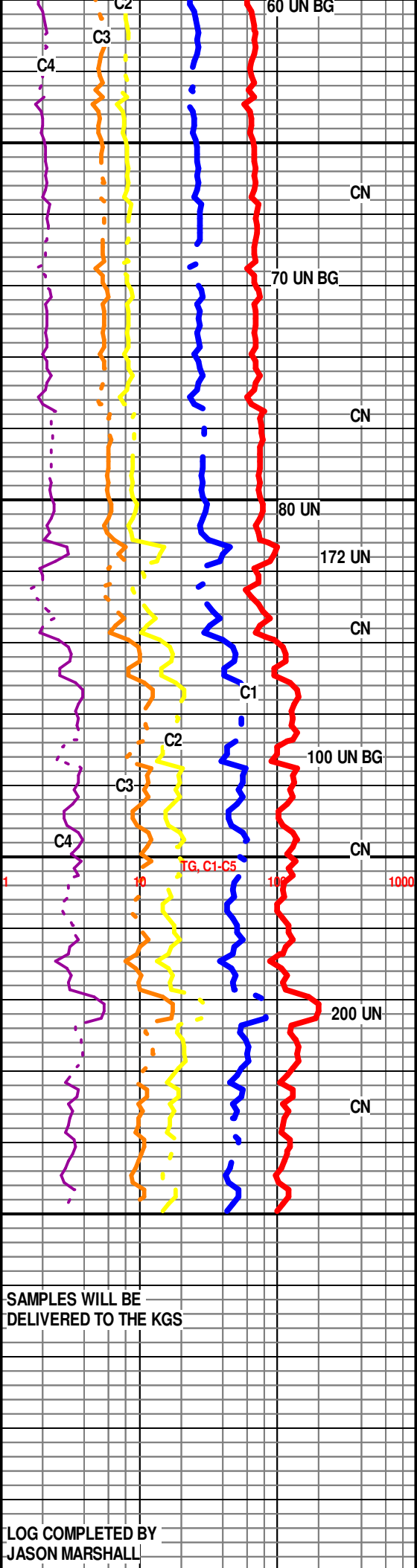
3624' DOL- OFF WHT WHT TN, HD DNS TO BRITT, FN TO MD XLN, REXLN MTRX THRU, SUCRO TXT THRU, IMBD ABDT SM ANG DOL GRNS, SLI TR IMBD PYR SCAT IP, DLL GLD FLO THRU, FR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

**RTD 3650' @ 3:30 PM 5/27/2011**

**LOGS BY WEATHERFORD**

**LIBERAL KANSAS**

THANK YOU FOR CHOOSING EARTHTECH



SAMPLES WILL BE DELIVERED TO THE KGS

LOG COMPLETED BY JASON MARSHALL