



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
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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

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 Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
---	--	--

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	DALE STRAMEL 1-1
Doc ID	1068822

All Electric Logs Run

DEN
IND
MICRO
SONIC
SPECTRAL

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

November 23, 2011

THOMAS G. FERTAL  
Samuel Gary Jr. & Associates, Inc.  
1515 WYNKOOP, STE 700  
DENVER, CO 80202

Re: ACO1  
API 15-165-21932-00-00  
DALE STRAMEL 1-1  
NW/4 Sec.01-16S-17W  
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,  
THOMAS G. FERTAL



**Notice:** Fill out COMPLETELY and return to Conservation Division at the address below within 60 days from plugging date.

KANSAS CORPORATION COMMISSION 1062427  
OIL & GAS CONSERVATION DIVISION

Form CP-4  
March 2009

Type or Print on this Form  
Form must be Signed  
All blanks must be Filled

WELL PLUGGING RECORD  
K.A.R. 82-3-117

OPERATOR: License #: \_\_\_\_\_  
Name: \_\_\_\_\_  
Address 1: \_\_\_\_\_  
Address 2: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_  
Type of Well: (Check one)  Oil Well  Gas Well  OG  D&A  Cathodic  
 Water Supply Well  Other: \_\_\_\_\_  SWD Permit #: \_\_\_\_\_  
 ENHR Permit #: \_\_\_\_\_  Gas Storage Permit #: \_\_\_\_\_  
Is ACO-1 filed?  Yes  No If not, is well log attached?  Yes  No  
Producing Formation(s): List All (If needed attach another sheet)  
\_\_\_\_\_ Depth to Top: \_\_\_\_\_ Bottom: \_\_\_\_\_ T.D. \_\_\_\_\_  
\_\_\_\_\_ Depth to Top: \_\_\_\_\_ Bottom: \_\_\_\_\_ T.D. \_\_\_\_\_  
\_\_\_\_\_ Depth to Top: \_\_\_\_\_ Bottom: \_\_\_\_\_ T.D. \_\_\_\_\_

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 #: \_\_\_\_\_  
Date Well Completed: \_\_\_\_\_  
The plugging proposal was approved on: \_\_\_\_\_ (Date)  
by: \_\_\_\_\_ (KCC District Agent's Name)  
Plugging Commenced: \_\_\_\_\_  
Plugging Completed: \_\_\_\_\_

Show depth and thickness of all water, oil and gas formations.

Oil, Gas or Water Records		Casing Record (Surface, Conductor & Production)			
Formation	Content	Casing	Size	Setting Depth	Pulled Out

Describe in detail the manner in which the well is plugged, indicating where the mud fluid was placed and the method or methods used in introducing it into the hole. If cement or other plugs were used, state the character of same depth placed from (bottom), to (top) for each plug set.

Plugging Contractor License #: \_\_\_\_\_ Name: \_\_\_\_\_  
Address 1: \_\_\_\_\_ Address 2: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_  
Name of Party Responsible for Plugging Fees: \_\_\_\_\_  
State of \_\_\_\_\_ County, \_\_\_\_\_, ss.  
\_\_\_\_\_  
(Print Name)  Employee of Operator or  Operator on above-described well,

being first duly sworn on oath, says: That I have knowledge of the facts statements, and matters herein contained, and the log of the above-described well is as filed, and the same are true and correct, so help me God.

Submitted Electronically

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202



**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: 8/2/2011  
 Invoice # 5314

P.O.#:  
 Due Date: 9/1/2011  
 Division: Russell

# Invoice

**Contact:**  
 Samuel Gary Jr & Associates Inc  
**Address/Job Location:**  
 Samuel Gary Jr & Associates Inc  
 1815 11th Street  
 Great Bend, KS 67530

DRLG    COMP    W/O    LOE    GG

Account	8200-138
Well/Prospect	DALE STRAMEL
Deck	
AFE	
Approval	<i>[Signature]</i>
Description	

**Reference:**  
 DALE STRAMEL

**Description of Work:**  
 CONDUCTOR SURFACE

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 950.65	No				
Common-Class A	90	\$ 1,143.12	Yes				
Pump Truck Mileage-Job to Nearest Camp	25	\$ 259.75	No				
Bulk Truck Matl-Material Service Charge	95	\$ 197.81	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	25	\$ 152.00	No				
Calcium Chloride	3	\$ 117.62	Yes				
Premium Gel (Bentonite)	2	\$ 33.90	Yes				

**Invoice Terms:**  
 Net 30

SubTotal:	\$	2,854.85
Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$	(428.23)
<hr/>		
SubTotal for Taxable Items:	\$	1,100.45
SubTotal for Non-Taxable Items:	\$	1,326.18
<hr/>		
Total:	\$	2,426.62
Tax:	\$	69.33
<hr/>		
Amount Due:	\$	2,495.95
Applied Payments:		
Balance Due:	\$	2,495.95

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

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

No. 5314

Date	7-30-11	Sec.	1	Twp.	16	Range	17	County	Rush	State	KS	On Location		Finish	9:45 PM
Lease	Dale Stramel			Well No.	1			Location Pleiter 5 to Curve 1/2E 1/2S Binto							
Contractor	Vgl #16							Owner							
Type Job	Conductor							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	17 1/2			T.D.	103			Charge To							
Csg.	13 3/8			Depth	100			Sam Coard Jr & Associates							
Tbg. Size				Depth				Street							
Tool				Depth				City State							
Cement Left in Csg.	15'			Shoe Joint				The above was done to satisfaction and supervision of owner agent or contractor.							
Meas Line				Displace	13BC			Cement Amount Ordered 90 com. 3/4" 2 1/2" 1							

**EQUIPMENT**

Pumptrk	5	No.	Cement Helper	Crags	Common	<del>300</del>
Bulktrk		No.	Driver		Poz. Mix	
Bulktrk	14	No.	Driver	Heale	Gel.	2

**JOB SERVICES & REMARKS**

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal 92#
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
13 3/8 on bottom. Est. Circulation.	Sand
Mix 90SK + Displace	Handling <del>95</del> 95
Cement Circulation	Mileage

**FLOAT EQUIPMENT**

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
	8 5/8 Surveys
Pumptrk Charge	25 miles
Mileage	Conductor Surface

Signature	Randy [Signature]	Tax	
		Discount	
		Total Charge	



**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: 8/3/2011  
 Invoice # 5363

P.O.#:  
 Due Date: 9/2/2011  
 Division: Russell

# Invoice

**Contact:**  
 Samuel Gary Jr & Associates Inc  
**Address/Job Location:**  
 Samuel Gary Jr & Associates Inc  
 1815 11th Street  
 Great Bend, KS 67530

**Reference:**  
 DALE STRAMPL 1

**Description of Work:**  
 LONG SURFACE JOB

DRLG  COMP  W/O  LOE  GG

Account	8200-138
Well/Prospect	DALE STRAMPL 1-
Deck	
AFE	
Approval	<i>[Signature]</i>
Description	

**Services / Items Included:**

	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 937.80	No				
Common-Class A	400	\$ 5,011.89	Yes	Baffle Plate Aluminum, 8 5/8"	1	\$92.43	Yes
8 5/8" Basket	3	\$ 973.62	Yes				
Bulk Truck Matl-Material Service Charge	423	\$ 868.86	No				
Calcium Chloride	14	\$ 541.49	Yes				
Pump Truck Mileage-Job to Nearest Camp	25	\$ 256.24	No				
Flo Seal	100	\$ 205.41	Yes				
8 5/8" Centralizer	3	\$ 197.19	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	25	\$ 149.95	No				
Premium Gel (Bentonite)	8	\$ 133.76	Yes				
8 5/8" Top Rubber Plug	1	\$ 108.86	Yes				

**Invoice Terms:**

Net 30

SubTotal: \$ 9,477.51

Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (1,421.63)

SubTotal for Taxable Items: \$ 6,174.96

SubTotal for Non-Taxable Items: \$ 1,880.93

Total: \$ 8,055.88

Tax: \$ 389.02

Amount Due: \$ 8,444.90

Applied Payments:

Balance Due: \$ 8,444.90

6.30% Rush County Sales Tax

**Thank You For Your Business!**

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

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

No. 5263

Date	8/1/11	Sec.	1	Twp.	16	Range	17	County	Rush	State	KS	On Location		Finish	8:00am
Lease	Date Stamp		Well No.	1		Location Pfeifer, 1S, 1/2 E, 1/2 S, E into									

Contractor	UAL #6		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	Surface		Charge To	Sam Gary Jr. + Associates											
Hole Size	12 1/4"		T.D.	1045'											
Csg.	8 3/8" 23#		Depth	1045'											
Tbg. Size			Depth												
Tool			Depth												
Cement Left in Csg.	40'		Shoe Joint	40'		The above was done to satisfaction and supervision of owner agent or contractor.									
Meas Line			Displace	61 Sbls.		Cement Amount Ordered 400s x Com 3 1/2 CL 2 1/2 gel									

EQUIPMENT						
Pumptrk	5	No.	Cementer	Paul	Common	400
			Helper			
Bulktrk	12	No.	Driver	Neale	Poz. Mix	
			Driver			
Bulktrk	00	No.	Driver	Jason	Gel.	8
			Driver			

JOB SERVICES & REMARKS	
Remarks:	Calcium 14
Rat Hole	Hulls
Mouse Hole	Salt
Centralizers	Flowseal 100#
Baskets	Kol-Seal
D/V or Port Collar	Mud CLR 48
Est. Circ.	CFL-117 or CD110 CAF 38
Mix 400s x	Sand
Displace	Handling 423
Land Plug	Mileage
Cement Circulated	

FLOAT EQUIPMENT	
Guide Shoe	45/8
Centralizer	3
Baskets	3
AFU Inserts	
Float Shoe	
Latch Down	
	Raffle Plate + Rubber Plug
	Head + manifold
Pumptrk Charge	
Mileage	25

Thank You!!

X Signature	Tax
	Discount
	Total Charge



**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: 8/13/2011  
 Invoice # 5324

P.O.#:  
 Due Date: 9/12/2011  
 Division: Russell

# Invoice

**Contact:**

Samuel Gary Jr & Associates Inc  
 Address/Job Location:  
 Samuel Gary Jr & Associates Inc  
 1815 11th Street  
 Great Bend, KS 67530

DRLG  COMP  W/O  LOE  GG

Account	8200-145
Well/Prospect	DALE STRAMEL HI
Deck	
AFE	
Approval	<i>KS</i>
Description	

**Reference:**

DALE STRAMEL 1

**Description of Work:**

PLUG JOB

**Services / Items Included:**

	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 977.42	No				
Common-Class A	126	\$ 1,645.45	Yes				
Bulk Truck Matl-Material Service Charge	217	\$ 464.56	No				
POZ Mix-Standard	84	\$ 413.61	Yes				
Pump Truck Mileage-Job to Nearest Camp	25	\$ 267.07	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	25	\$ 156.28	No				
Premium Gel (Bentonite)	7	\$ 121.99	Yes				

**Invoice Terms:**

Net 30

	SubTotal:	\$	4,046.39
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$	(606.96)
<hr/>			
	SubTotal for Taxable Items:	\$	1,853.89
	SubTotal for Non-Taxable Items:	\$	1,585.54
<hr/>			
	Total:	\$	3,439.43
	Tax:	\$	116.80
<hr/>			
	Amount Due:	\$	3,556.23
	Applied Payments:		
	Balance Due:	\$	3,556.23

6.30% Rush County Sales Tax

**Thank You For Your Business!**

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

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

No. 5324

Date	8-10-11	Sec.	1	Twp.	16	Range	17	County	Rush	State	Ks	On Location		Finish	7:45 AM
------	---------	------	---	------	----	-------	----	--------	------	-------	----	-------------	--	--------	---------

Lease	Dale Stramel	Well No.	1	Location	Reiter 15 1/2 E 1/2 S Einto
-------	--------------	----------	---	----------	-----------------------------

Contractor	Val #6	Owner	To Quality Oilwell Cementing, Inc.
------------	--------	-------	------------------------------------

Type Job	Rotary Plug	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	7 7/8	T.D.	3610	Charge To	Sam Coakley Jr & Assoc
-----------	-------	------	------	-----------	------------------------

Csg.		Depth		Street	
------	--	-------	--	--------	--

Tbg. Size		Depth		City		State	
-----------	--	-------	--	------	--	-------	--

Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.		
------	--	-------	--	--	--	--

Cement Left in Csg.		Shoe Joint		Cement Amount Ordered	210 6 3/4 4 1/2 1 1/4 #70
---------------------	--	------------	--	-----------------------	---------------------------

Meas Line		Displace			
-----------	--	----------	--	--	--

**EQUIPMENT**

Pumptrk	5	No.	Cementor	Coakley	Common	126
---------	---	-----	----------	---------	--------	-----

Bulktrk		No.	Driver	Coakley	Poz. Mix	84
---------	--	-----	--------	---------	----------	----

Bulktrk	10	No.	Driver	Matt	Gel.	7
---------	----	-----	--------	------	------	---

**JOB SERVICES & REMARKS**

Remarks:	Calcium
----------	---------

Rat Hole	30 SK	Hulls	
----------	-------	-------	--

Mouse Hole	20 SK	Salt	
------------	-------	------	--

Centralizers		Flowseal	50 #
--------------	--	----------	------

Baskets		Kol-Seal	
---------	--	----------	--

D/V or Port Collar		Mud CLR 48	
--------------------	--	------------	--

		CFL-117 or CD110 CAF 38	
--	--	-------------------------	--

1st	3511	50 SK	Sand
-----	------	-------	------

2nd	1070	50 SK	Handling	217
-----	------	-------	----------	-----

3rd	370	40 SK	Mileage	
-----	-----	-------	---------	--

4th	60'	20 SK		
-----	-----	-------	--	--

**FLOAT EQUIPMENT**

Guide Shoe	
------------	--

Centralizer	
-------------	--

Baskets	<del>300</del>
---------	----------------

AFU Inserts	
-------------	--

Float Shoe	
------------	--

Latch Down	
------------	--

Pumptrk Charge	plug
----------------	------

Mileage	25
---------	----

Tax	
-----	--

Discount	
----------	--

Total Charge	
--------------	--

X Signature *Randy O'Neal*



## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. & Assoc., Inc.**

1515 Wynkoop Ste.#700  
Denver, CO 80202

ATTN: Neil Sharp

**1-16S.-17W.-Rush**

**Dale Stramel #1-1**

Start Date: 2011.08.04 @ 06:10:10

End Date: 2011.08.04 @ 14:01:40

Job Ticket #: 45226                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.11.23 @ 11:17:14

Samuel Gary Jr. & Assoc., Inc.  
Dale Stramel #1-1  
1-16S.-17W.-Rush  
DST # 1  
Topeka  
2011.08.04



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

ATTN: Neil Sharp

Job Ticket: 45226

**DST#: 1**

Test Start: 2011.08.04 @ 06:10:10

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:15:10

Time Test Ended: 14:01:40

Test Type: Conventional Straddle (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 2906.00 ft (KB) To 2956.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 2956.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Poor

KB to GR/CF: 10.00 ft

**Serial #: 8354 Inside**

Press @ RunDepth: 36.32 psig @ 2909.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.04

End Date: 2011.08.04

Last Calib.: 2011.08.04

Start Time: 06:20:10

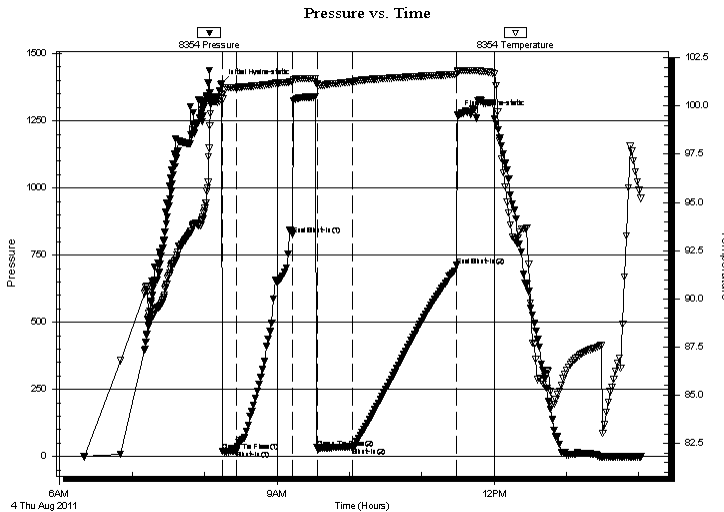
End Time: 14:01:40

Time On Btm: 2011.08.04 @ 08:14:10

Time Off Btm: 2011.08.04 @ 11:29:40

**TEST COMMENT:** IF-Strong building blow . BOB in 3 minutes 30 seconds.  
ISI-Return in 35 seconds. Built to 2 inches.  
FF-Strong building blow . BOB in 40 seconds.  
FSI-No Return. Times=10-60-30-105

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1388.64	100.42	Initial Hydro-static
1	19.13	100.35	Open To Flow (1)
12	21.73	100.95	Shut-In(1)
59	826.65	101.25	End Shut-In(1)
80	29.73	101.12	Open To Flow (2)
109	36.32	101.26	Shut-In(2)
195	711.03	101.64	End Shut-In(2)
196	1273.60	101.79	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
55.00	80%Mud/20%Oil	0.77
0.00	660' G.I.P.	0.00

## Gas Rates

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











**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45226

**DST#: 1**

ATTN: Neil Sharp

Test Start: 2011.08.04 @ 06:10:10

## Tool Information

Drill Pipe:	Length: 2882.00 ft	Diameter: 3.80 inches	Volume: 40.43 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	10000.00 lb
			<u>Total Volume: 40.43 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	2906.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	2954.00 ft				
Interval between Packers:	48.00 ft				
Tool Length:	128.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	8653	Fluid	2876.00	
Change Over Sub	1.00			2877.00	
Shut In Tool	5.00			2882.00	
Sampler	2.00			2884.00	
Hydraulic tool	5.00			2889.00	
Jars	5.00			2894.00	
Safety Joint	3.00			2897.00	
Packer	5.00			2902.00	30.00 Bottom Of Top Packer
Packer	4.00			2906.00	
Stubb	1.00			2907.00	
Perforations	2.00			2909.00	
Recorder	0.00	8354	Inside	2909.00	
Recorder	0.00	8520	Outside	2909.00	
Change Over Sub	1.00			2910.00	
Drill Pipe	31.00			2941.00	
Change Over Sub	1.00			2942.00	
Perforations	11.00			2953.00	
Blank Off Sub	1.00			2954.00	48.00 Tool Interval
Packer	4.00			2958.00	
Stubb	1.00			2959.00	
Recorder	1.00	8736	Below	2960.00	
Perforations	8.00			2968.00	
Change Over Sub	1.00			2969.00	
Drill Pipe	31.00			3000.00	
Change Over Sub	1.00			3001.00	
Bullnose	3.00			3004.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 128.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45226

**DST#: 1**

ATTN: Neil Sharp

Test Start: 2011.08.04 @ 06:10:10

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 cm<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
55.00	80%Mud/20%Oil	0.772
0.00	660' G.I.P.	0.000

Total Length: 55.00 ft      Total Volume: 0.772 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler=800ML Mud. 400ML Oil. 4.25 cubic feet gas. 350#Pressure.

Serial #: 8354

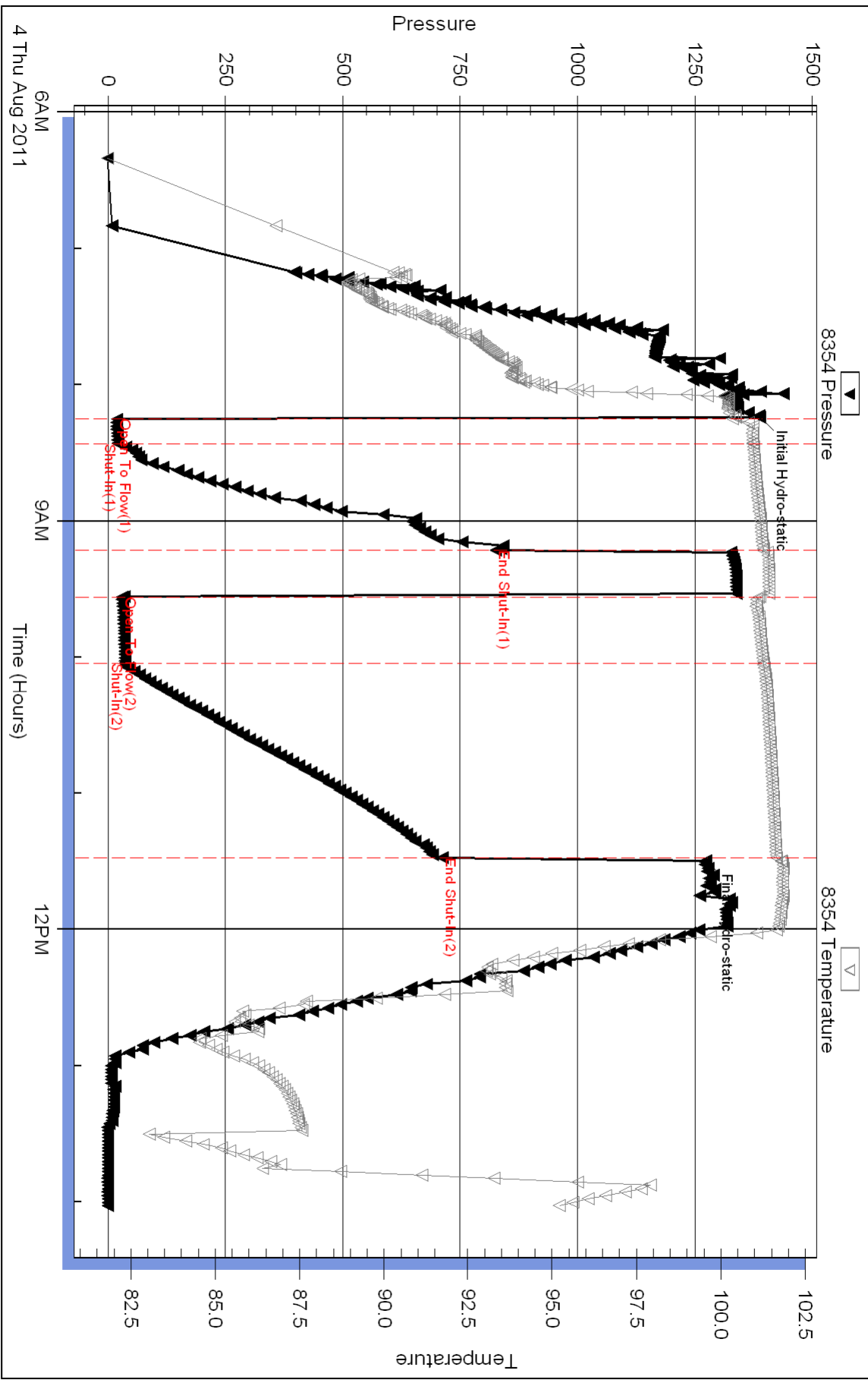
Inside

Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 1

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 45226

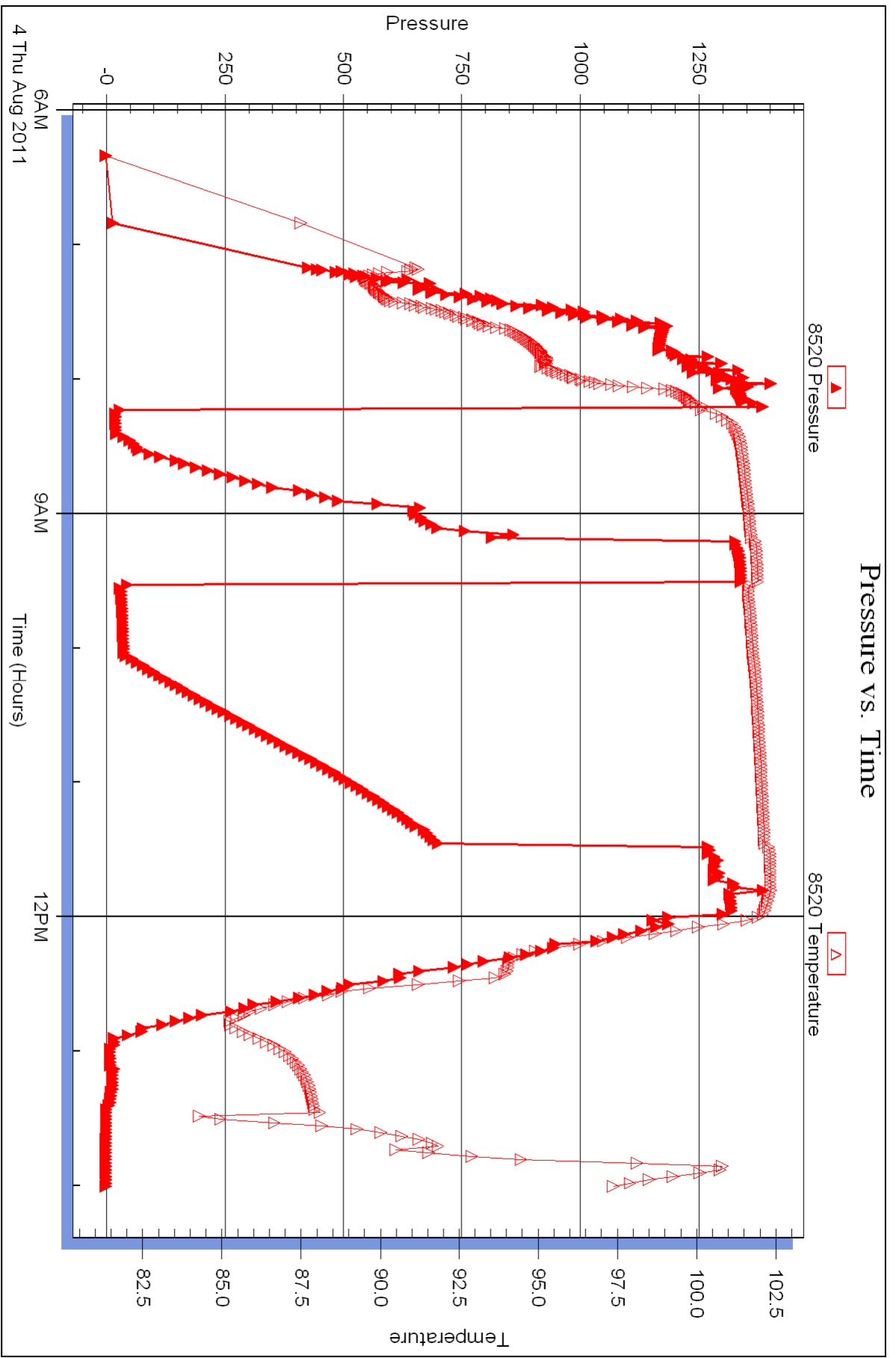
Printed: 2011.11.23 @ 11:17:16

Serial #: 8520

Outside Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 1



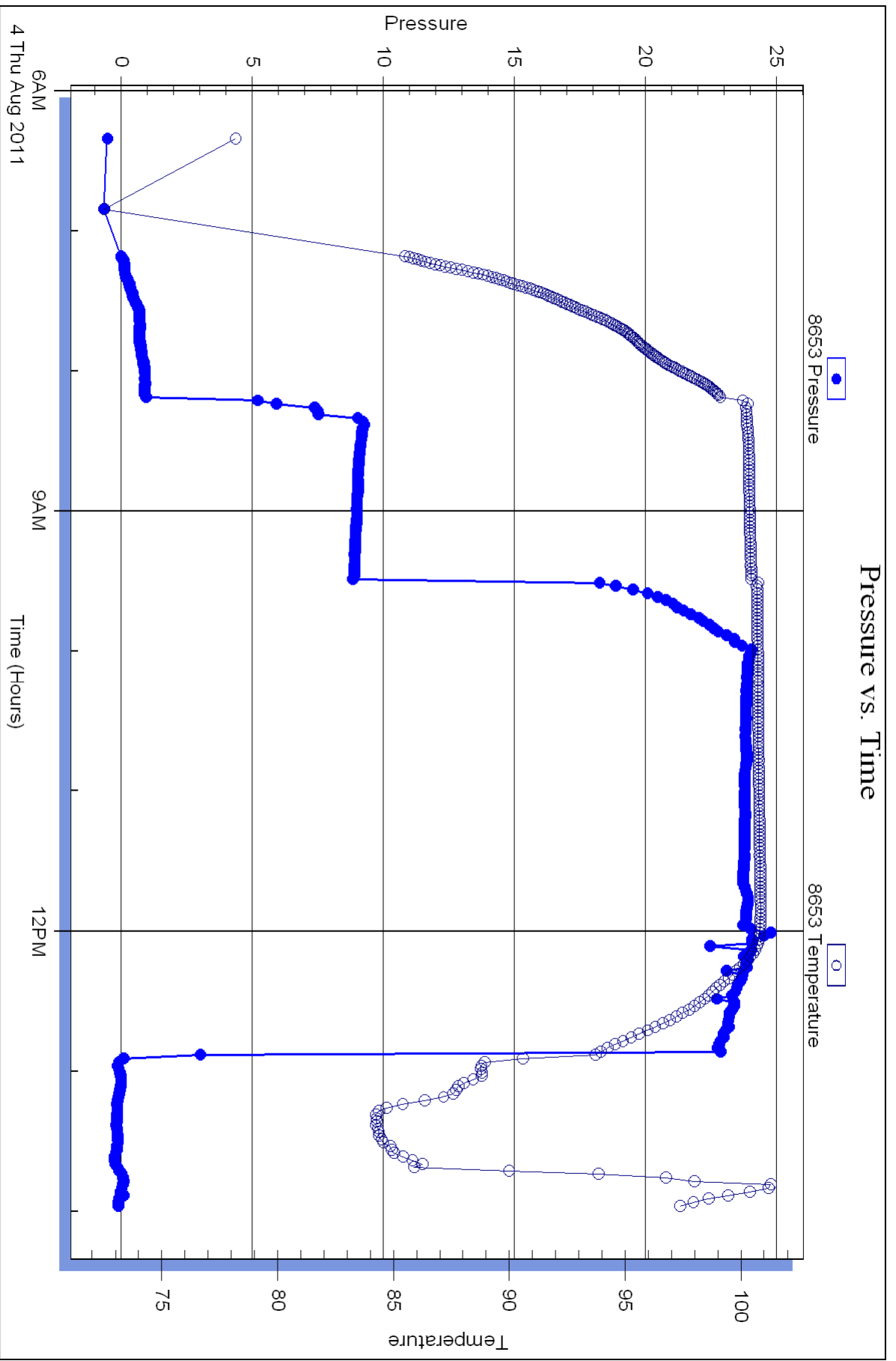
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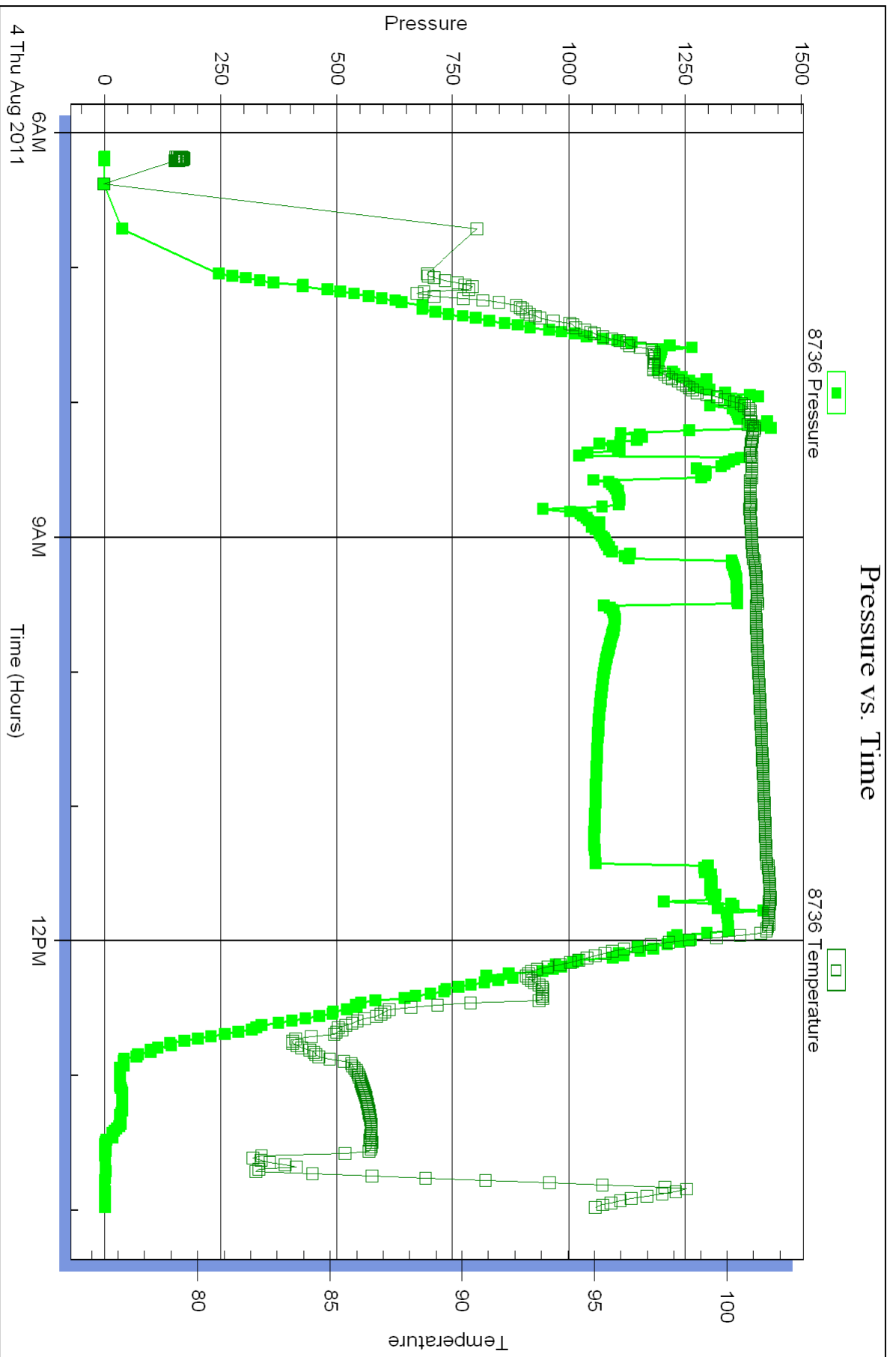
Fluid

Samuel Gary Jr. & Assoc., Inc.

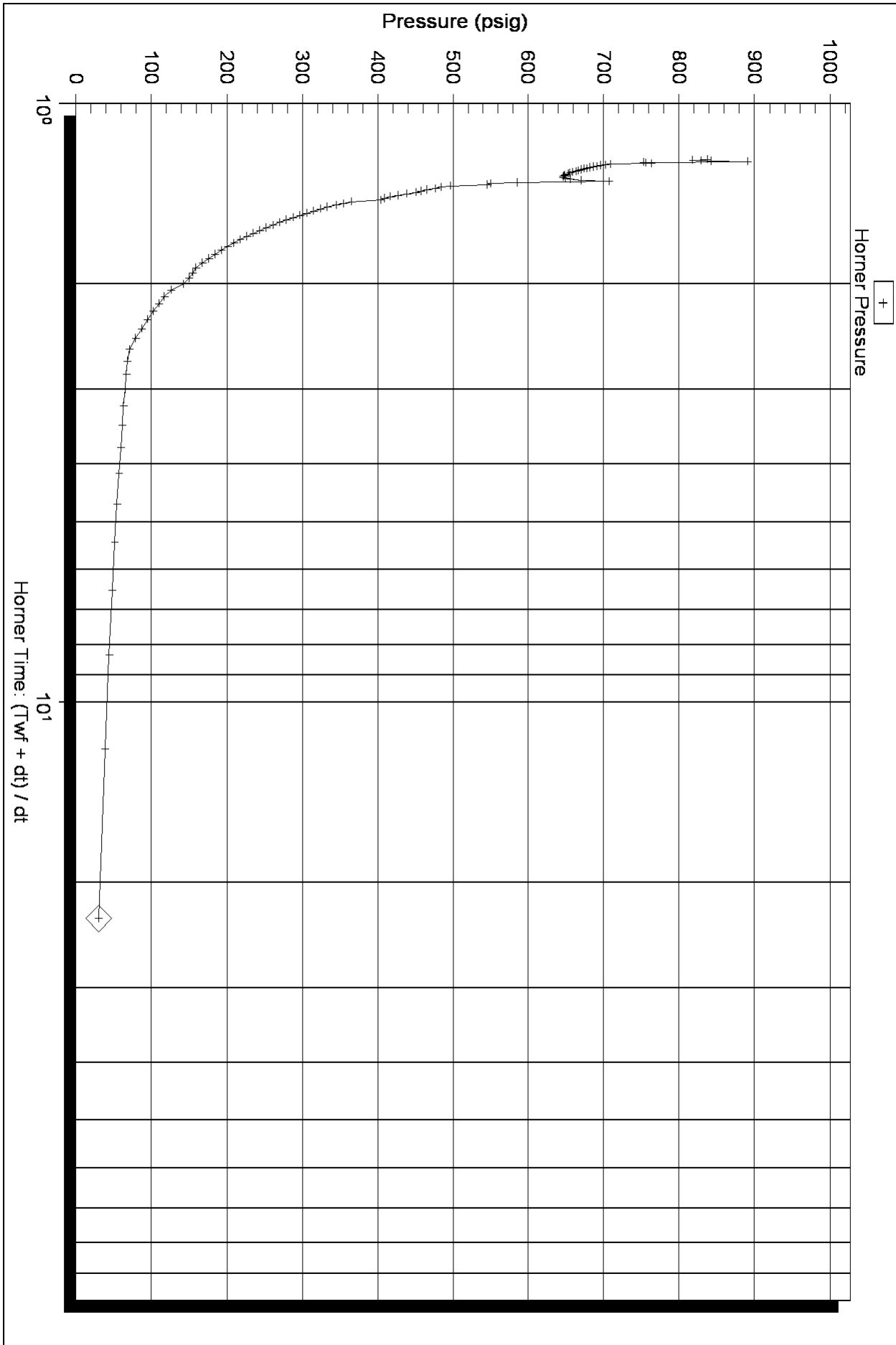
1-16S-17W-Rush

DST Test Number: 1





# Horner Plot



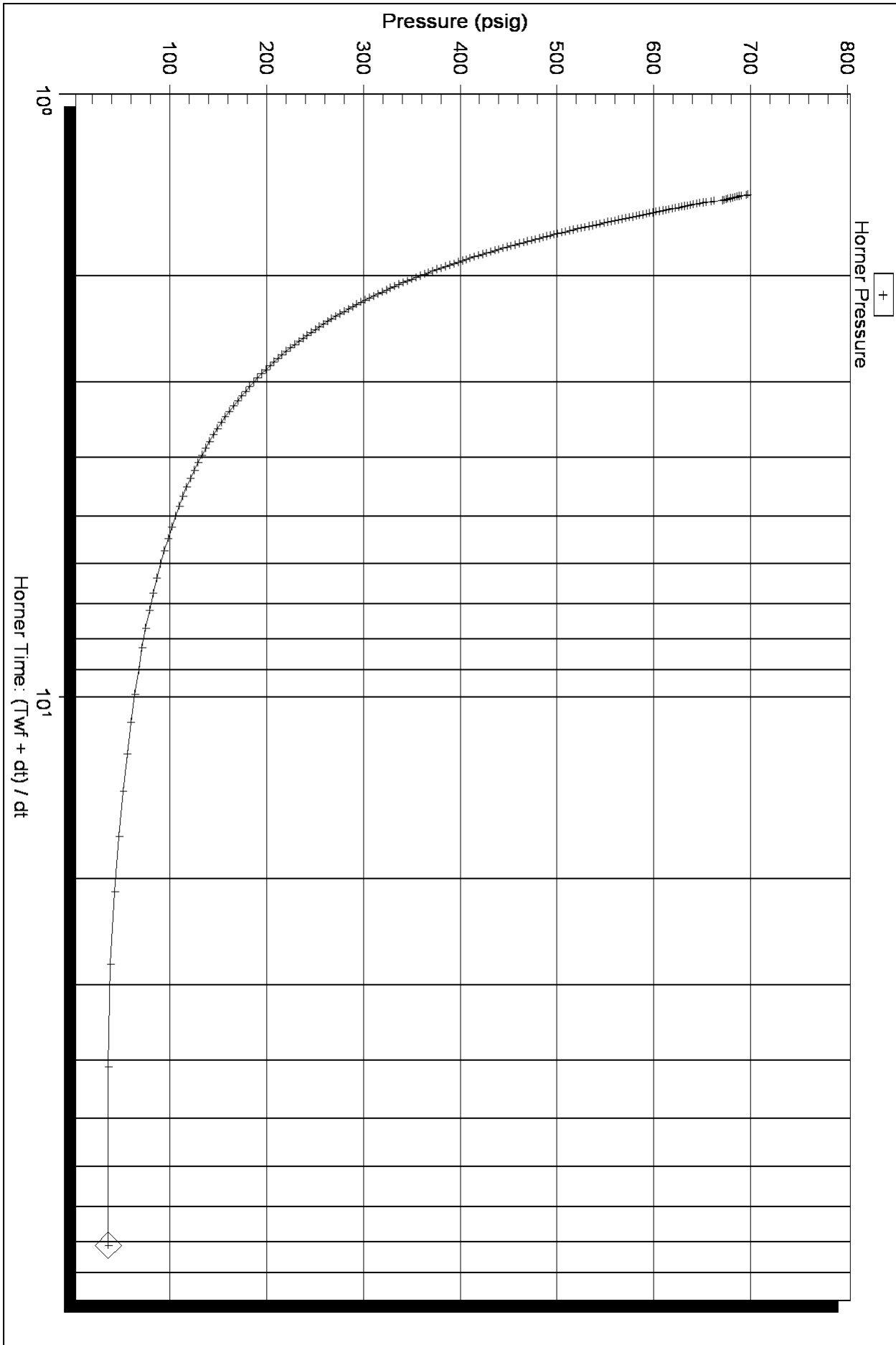
Serial Number: 8354 (Inside)

P\* :

Slope (m) : kpa/log cycle

Flow Cycle: 1

# Horner Plot



Serial Number: 8354 (Inside)

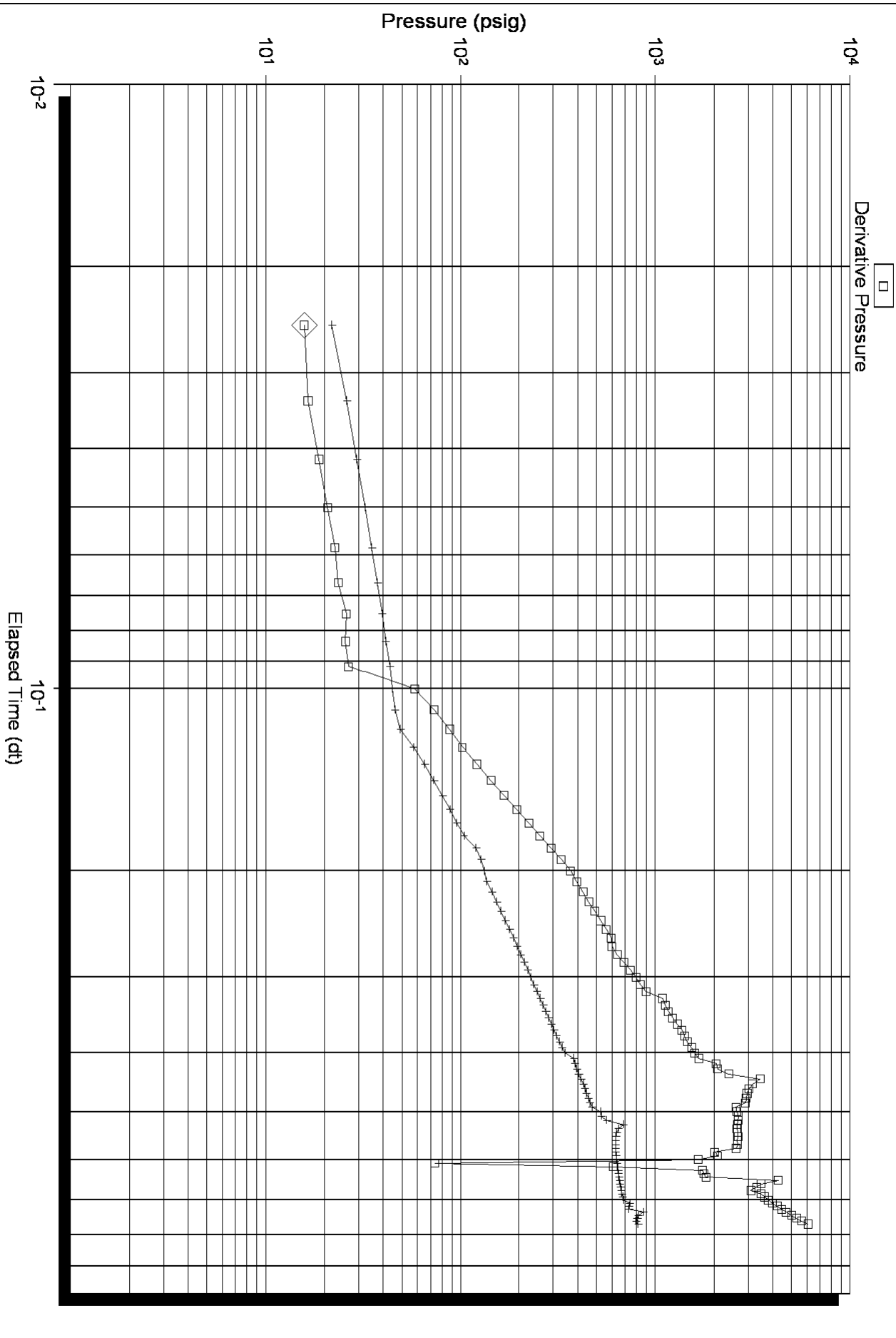
P\* :

Slope (m) : kpa/log cycle

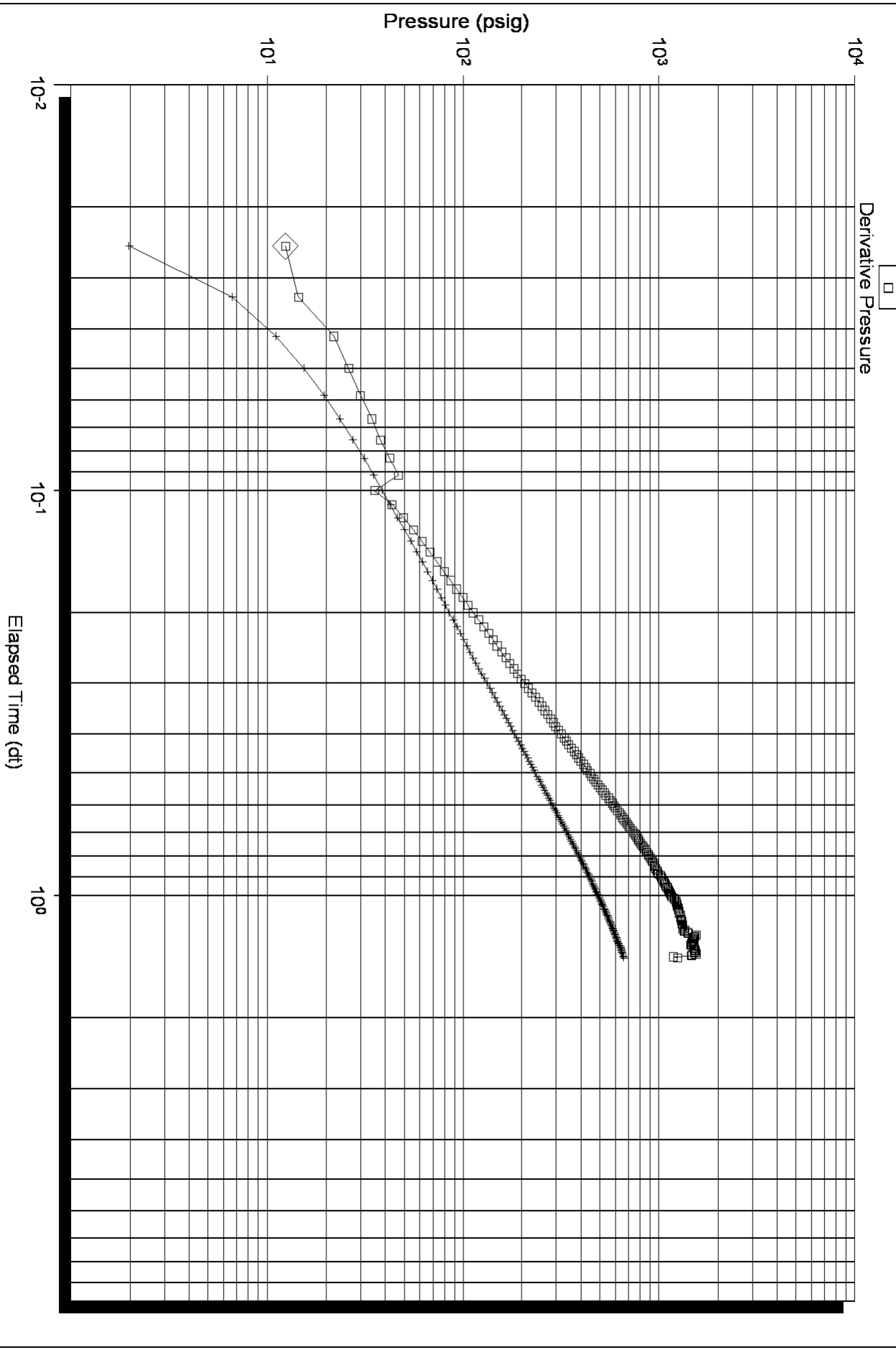
Flow Cycle: 2



# Log-Log and Pseudo-Derivative



# Log-Log and Pseudo-Derivative



Serial Number: 8354 (Inside)

Flow Cycle: 2



## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. & Assoc., Inc.**

1515 Wynkoop Ste.#700  
Denver, CO 80202

ATTN: Neil Sharp

**1-16S.-17W.-Rush**

**Dale Stramel #1-1**

Start Date: 2011.08.05 @ 10:47:30

End Date: 2011.08.05 @ 15:16:00

Job Ticket #: 45227                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.11.23 @ 11:18:11



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

ATTN: Neil Sharp

Job Ticket: 45227

**DST#: 2**

Test Start: 2011.08.05 @ 10:47:30

## GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:36:30

Time Test Ended: 15:16:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3184.00 ft (KB) To 3239.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3239.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 49.60 psig @ 3191.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.05

End Date:

2011.08.05

Last Calib.:

2011.08.05

Start Time:

10:57:30

End Time:

15:16:00

Time On Btm:

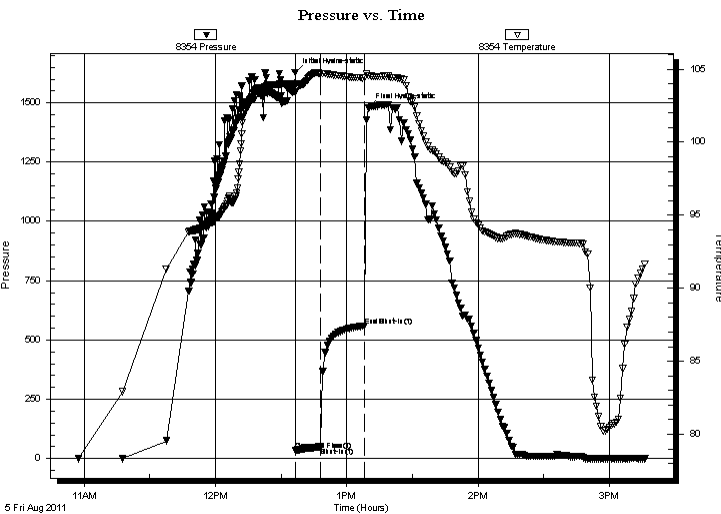
2011.08.05 @ 12:36:20

Time Off Btm:

2011.08.05 @ 13:10:00

**TEST COMMENT:** IF-Fair building blow . Built to 5 inches.  
ISI-No Return. Times 10-15- Pulled

Tagged 30' high. Slid 8-10' w hen tool opened. Was still 12-14' high after opening. Didn't reach bottom.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1628.14	104.03	Initial Hydro-static
1	36.19	103.41	Open To Flow (1)
12	49.60	104.68	Shut-In(1)
32	559.39	104.39	End Shut-In(1)
34	1477.95	104.57	Final Hydro-static

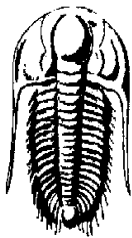
## Recovery

Length (ft)	Description	Volume (bbl)
50.00	100%Mud	0.70

## Gas Rates

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





TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Assoc., Inc.

Dale Stramel #1-1

1515 Wynkoop Ste.#700  
Denver, CO 80202

1-16S.-17W.-Rush

ATTN: Neil Sharp

Job Ticket: 45227

DST#: 2

Test Start: 2011.08.05 @ 10:47:30

## GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:36:30

Time Test Ended: 15:16:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: **3184.00 ft (KB) To 3239.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3239.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8653** Fluid

Press @RunDepth: psig @ 3154.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.05

End Date:

2011.08.05

Last Calib.:

2011.08.05

Start Time: 10:57:50

End Time:

15:13:50

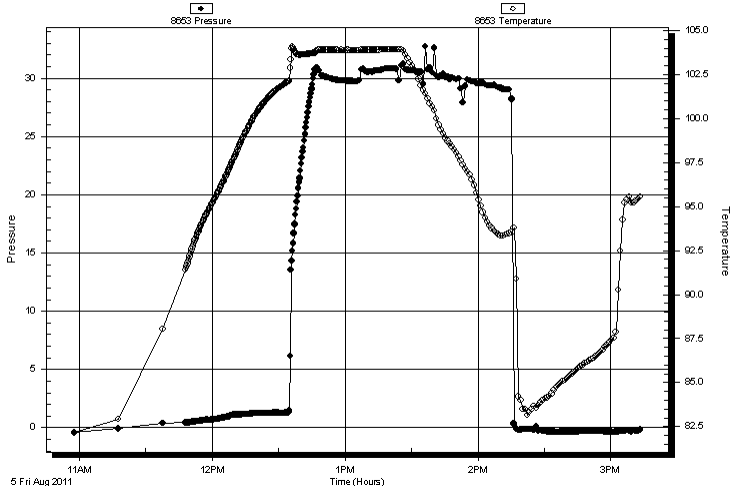
Time On Btm:

Time Off Btm:

TEST COMMENT: IF-Fair building blow . Built to 5 inches.  
ISI-No Return. Times 10-15- Pulled

Tagged 30' high. Slid 8-10' w hen tool opened. Was still 12-14' high after opening. Didn't reach bottom.

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	100%Mud	0.70

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45227

**DST#: 2**

ATTN: Neil Sharp

Test Start: 2011.08.05 @ 10:47:30

## Tool Information

Drill Pipe:	Length: 3161.00 ft	Diameter: 3.80 inches	Volume: 44.34 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	15000.00 lb
			<u>Total Volume: 44.34 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3184.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 ft				
Tool Length:	85.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	8653	Fluid	3154.00	
Change Over Sub	1.00			3155.00	
Shut In Tool	5.00			3160.00	
Sampler	2.00			3162.00	
Hydraulic tool	5.00			3167.00	
Jars	5.00			3172.00	
Safety Joint	3.00			3175.00	
Packer	5.00			3180.00	30.00 Bottom Of Top Packer
Packer	4.00			3184.00	
Stubb	1.00			3185.00	
Perforations	5.00			3190.00	
Change Over Sub	1.00			3191.00	
Recorder	0.00	8354	Inside	3191.00	
Recorder	0.00	8520	Outside	3191.00	
Drill Pipe	31.00			3222.00	
Change Over Sub	1.00			3223.00	
Perforations	13.00			3236.00	
Bullnose	3.00			3239.00	55.00 Bottom Packers & Anchor

**Total Tool Length: 85.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45227

**DST#: 2**

ATTN: Neil Sharp

Test Start: 2011.08.05 @ 10:47:30

## 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:	28000 ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 cm <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.20 ohm.m	Gas Cushion Pressure: psig		
Salinity: 3300.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	100%Mud	0.701

Total Length: 50.00 ft      Total Volume: 0.701 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: Sampler- 2000 ML total fluid. 225# of pressure. 800ML Mud. 1200 ML Water  
.197 resistivity. 28000 Chlorides ppm.



Serial #: 8354

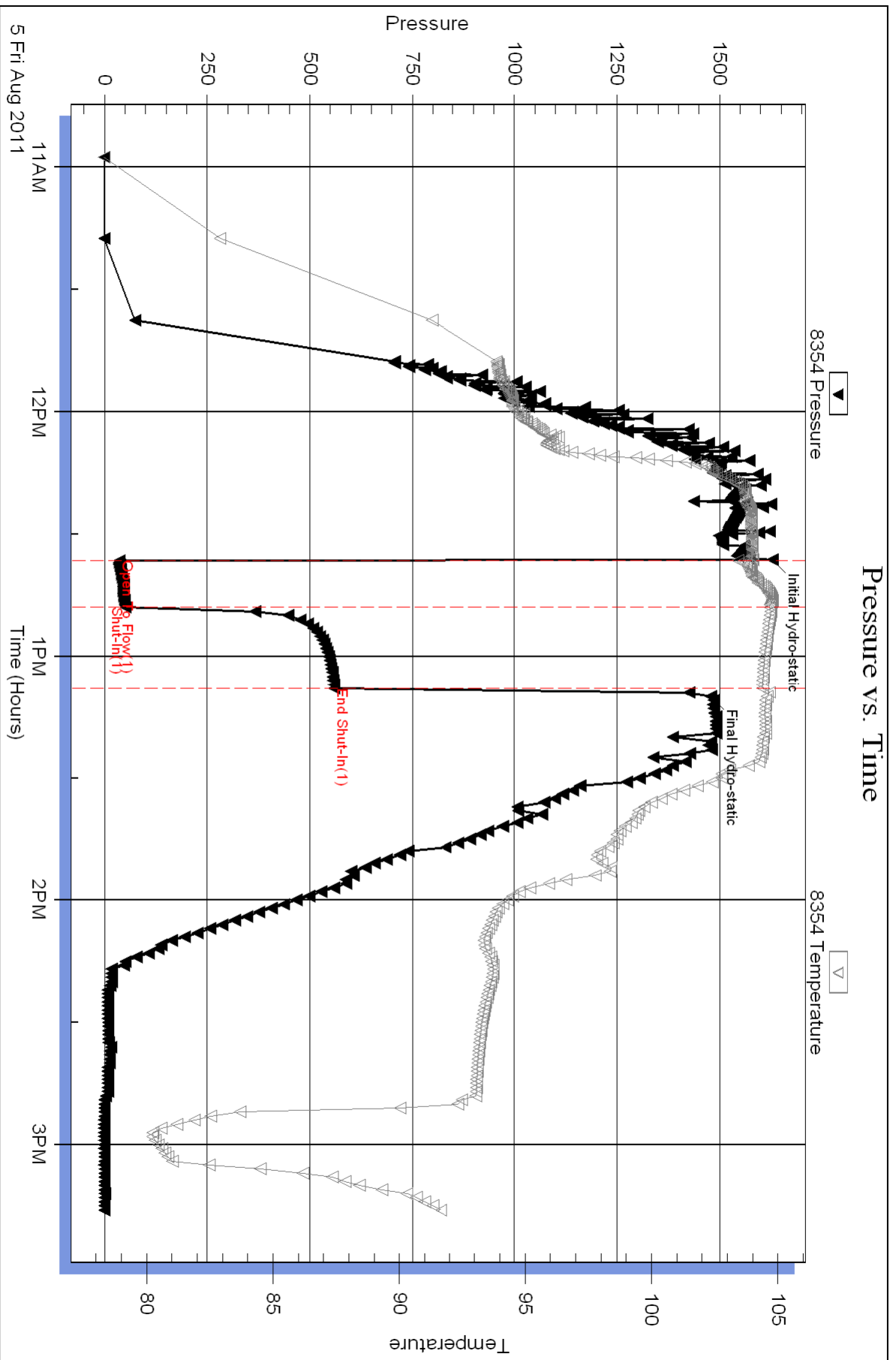
Inside

Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 2

### Pressure vs. Time

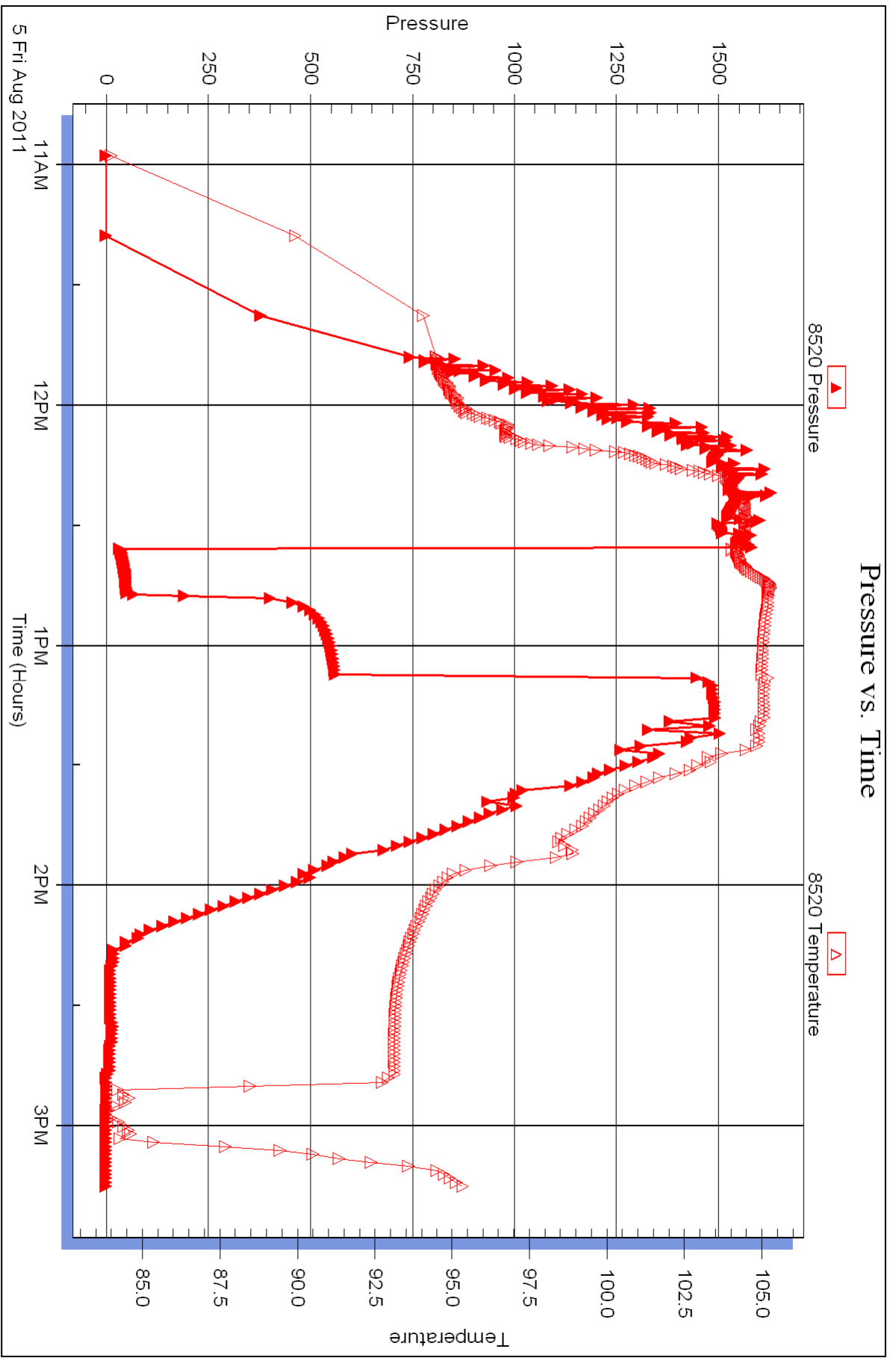


Serial #: 8520

Outside Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 2



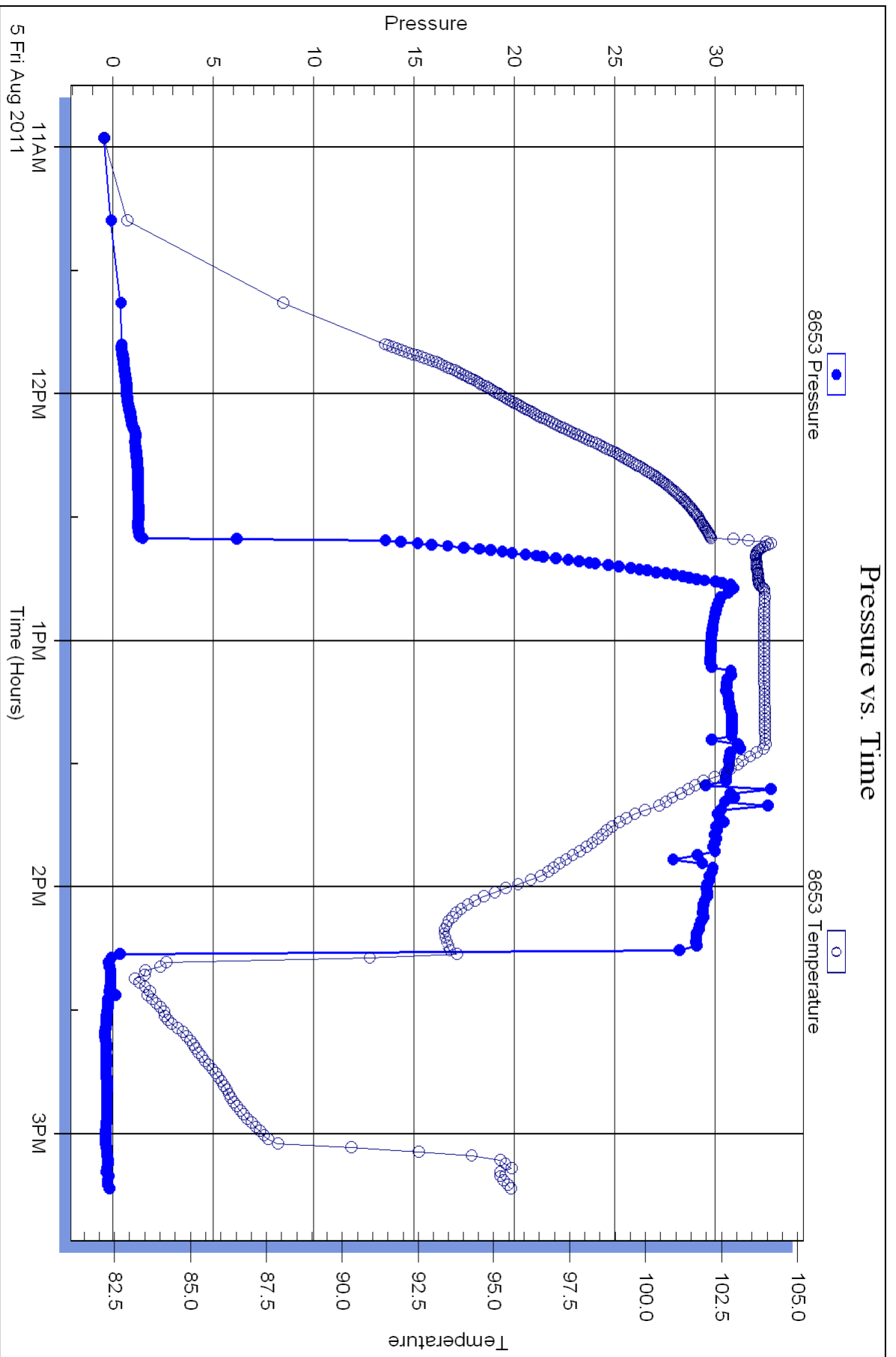
Serial #: 8653

Fluid

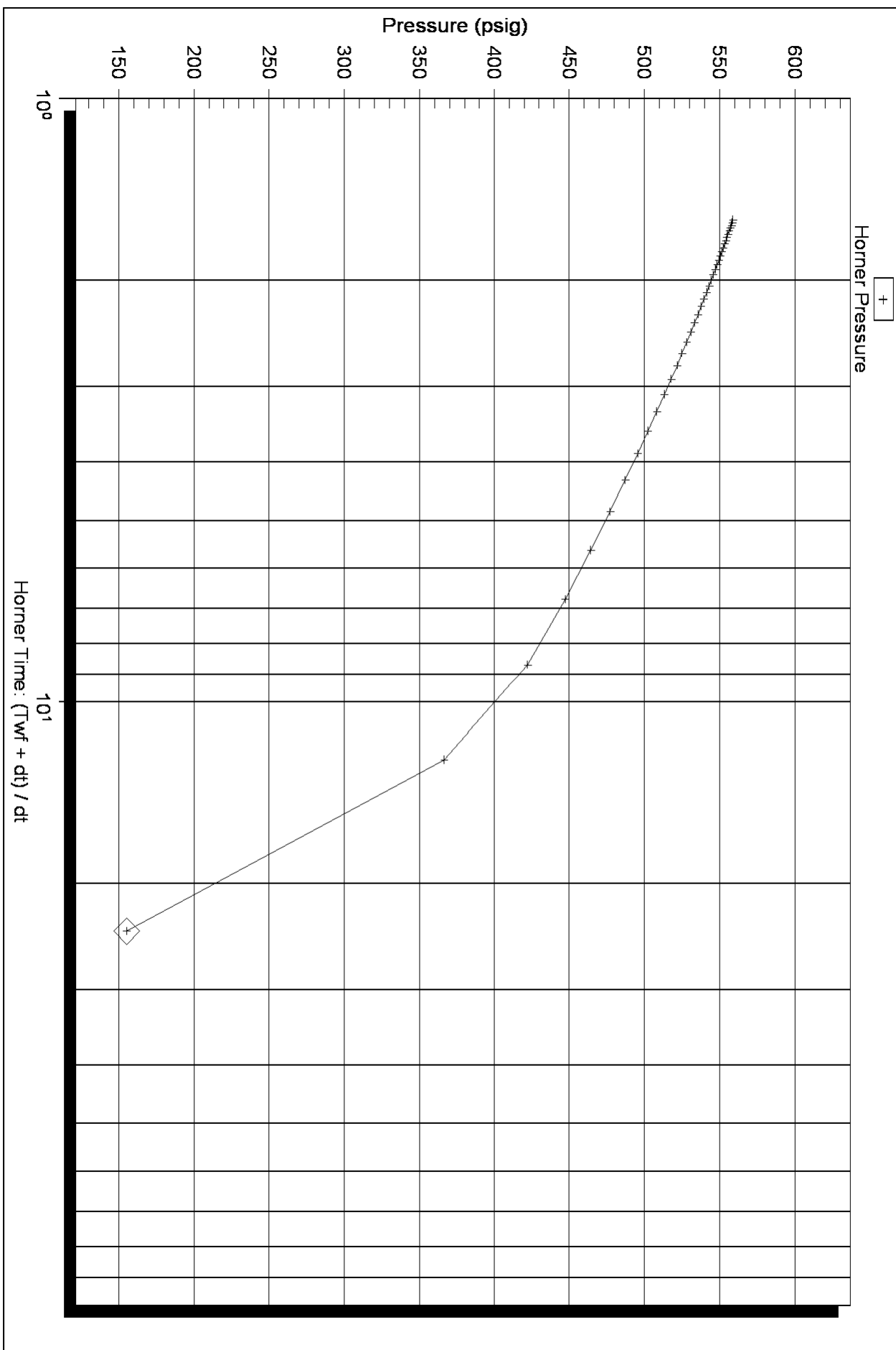
Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 2



# Horner Plot



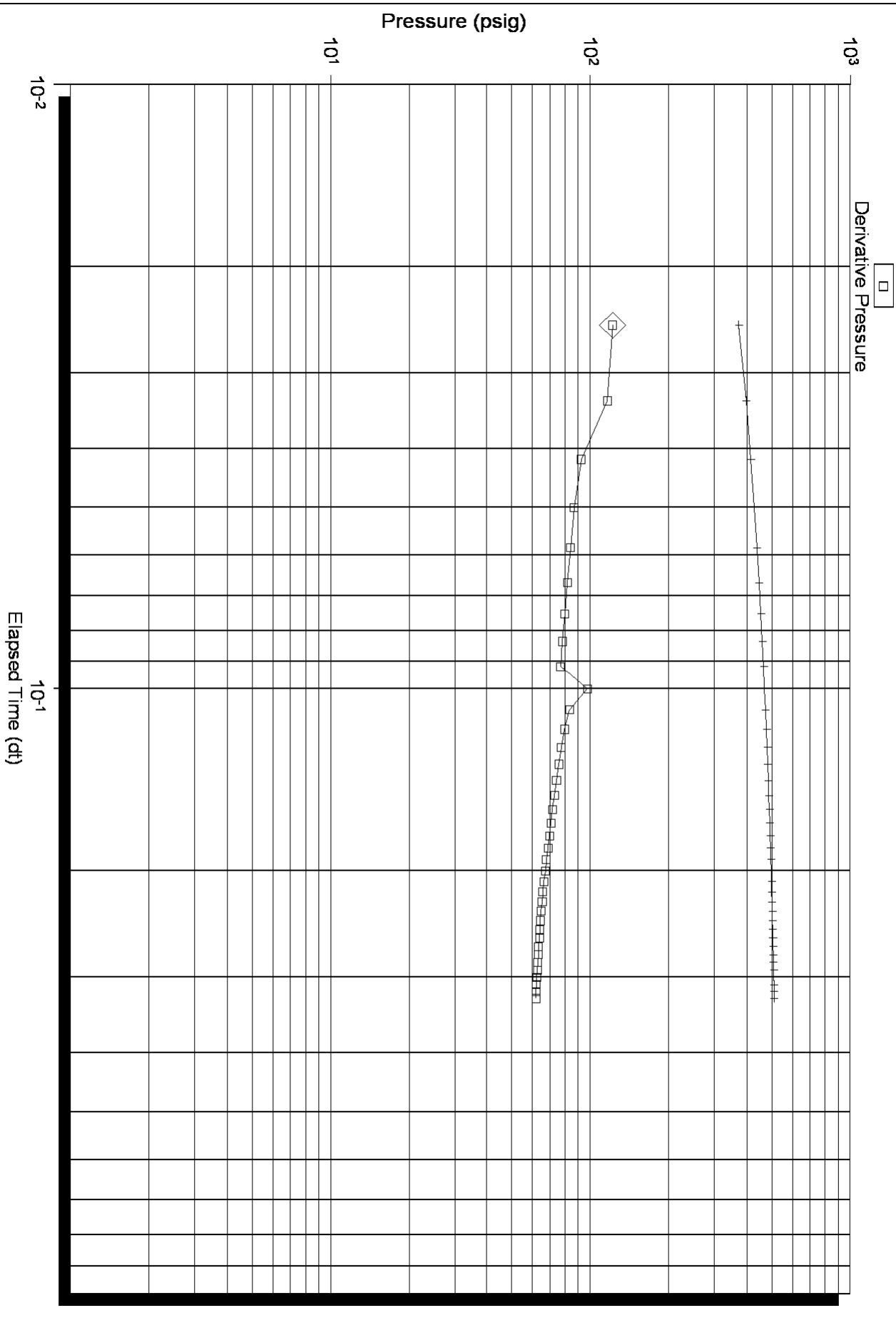
Serial Number: 8354 (Inside)

P\* :

Slope (m) : kpa/log cycle

Flow Cycle: 1

# Log-Log and Pseudo-Derivative





## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. & Assoc., Inc.**

1515 Wynkoop Ste.#700  
Denver, CO 80202

ATTN: Neil Sharp

**1-16S.-17W.-Rush**

**Dale Stramel #1-1**

Start Date: 2011.08.05 @ 20:06:10

End Date: 2011.08.06 @ 03:20:10

Job Ticket #: 45228                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.11.23 @ 11:19:09

Samuel Gary Jr. & Assoc., Inc.  
Dale Stramel #1-1  
1-16S.-17W.-Rush  
DST # 3  
LKC "A-C"  
2011.08.05



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

ATTN: Neil Sharp

Job Ticket: 45228

**DST#: 3**

Test Start: 2011.08.05 @ 20:06:10

## GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:38:20

Time Test Ended: 03:20:10

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3184.00 ft (KB) To 3239.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3239.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Poor

KB to GR/CF: 10.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 72.60 psig @ 3191.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.05 End Date: 2011.08.06

Last Calib.: 2011.08.06

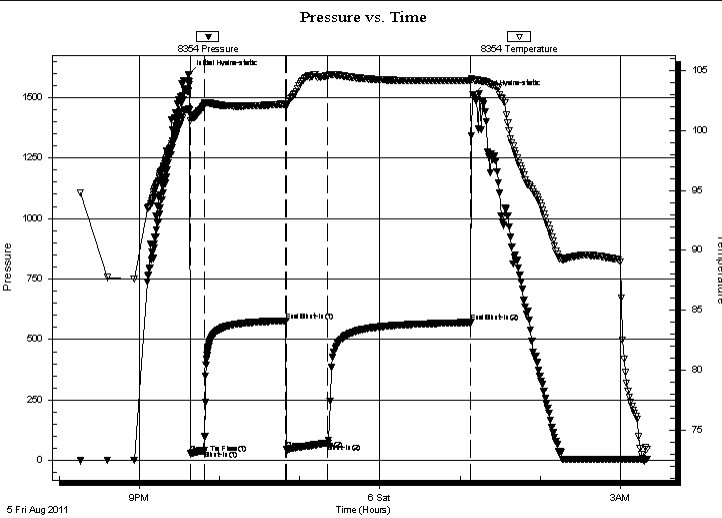
Start Time: 20:16:10 End Time: 03:20:10

Time On Btm: 2011.08.05 @ 21:37:10

Time Off Btm: 2011.08.06 @ 01:09:40

**TEST COMMENT:** IF-Weak building blow . Built to 5 inches.  
 IS- No Return.  
 FF-Weak building blow . Built to 6 inches.  
 FS- No Return. Times= 10-60-30-105

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1594.95	101.74	Initial Hydro-static
2	31.30	100.83	Open To Flow (1)
12	41.16	102.15	Shut-In(1)
73	576.42	102.21	End Shut-In(1)
73	45.44	102.09	Open To Flow (2)
104	72.60	104.56	Shut-In(2)
211	570.50	104.15	End Shut-In(2)
213	1511.62	104.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	85%Water/15%Mud	0.84
55.00	70%Water/30%Mud	0.77

## Gas Rates

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









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45228

**DST#: 3**

ATTN: Neil Sharp

Test Start: 2011.08.05 @ 20:06:10

## Tool Information

Drill Pipe:	Length: 3164.00 ft	Diameter: 3.80 inches	Volume: 44.38 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 44.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3184.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	85.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	8653	Fluid	3154.00	
Change Over Sub	1.00			3155.00	
Shut In Tool	5.00			3160.00	
Sampler	2.00			3162.00	
Hydraulic tool	5.00			3167.00	
Jars	5.00			3172.00	
Safety Joint	3.00			3175.00	
Packer	5.00			3180.00	30.00 Bottom Of Top Packer
Packer	4.00			3184.00	
Stubb	1.00			3185.00	
Perforations	5.00			3190.00	
Change Over Sub	1.00			3191.00	
Recorder	0.00	8354	Inside	3191.00	
Recorder	0.00	8520	Outside	3191.00	
Drill Pipe	31.00			3222.00	
Change Over Sub	1.00			3223.00	
Perforations	13.00			3236.00	
Bullnose	3.00			3239.00	55.00 Bottom Packers & Anchor

**Total Tool Length: 85.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45228

**DST#: 3**

ATTN: Neil Sharp

Test Start: 2011.08.05 @ 20:06:10

### 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:

35000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 cm<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.19 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3300.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	85%Water/15%Mud	0.842
55.00	70%Water/30%Mud	0.772

Total Length: 115.00 ft      Total Volume: 1.614 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler- 2000ML total. 1800 ML w ater. 200 ML Mud. 250# pressure.  
Res-.171 @ 73= 36000 chlorides.

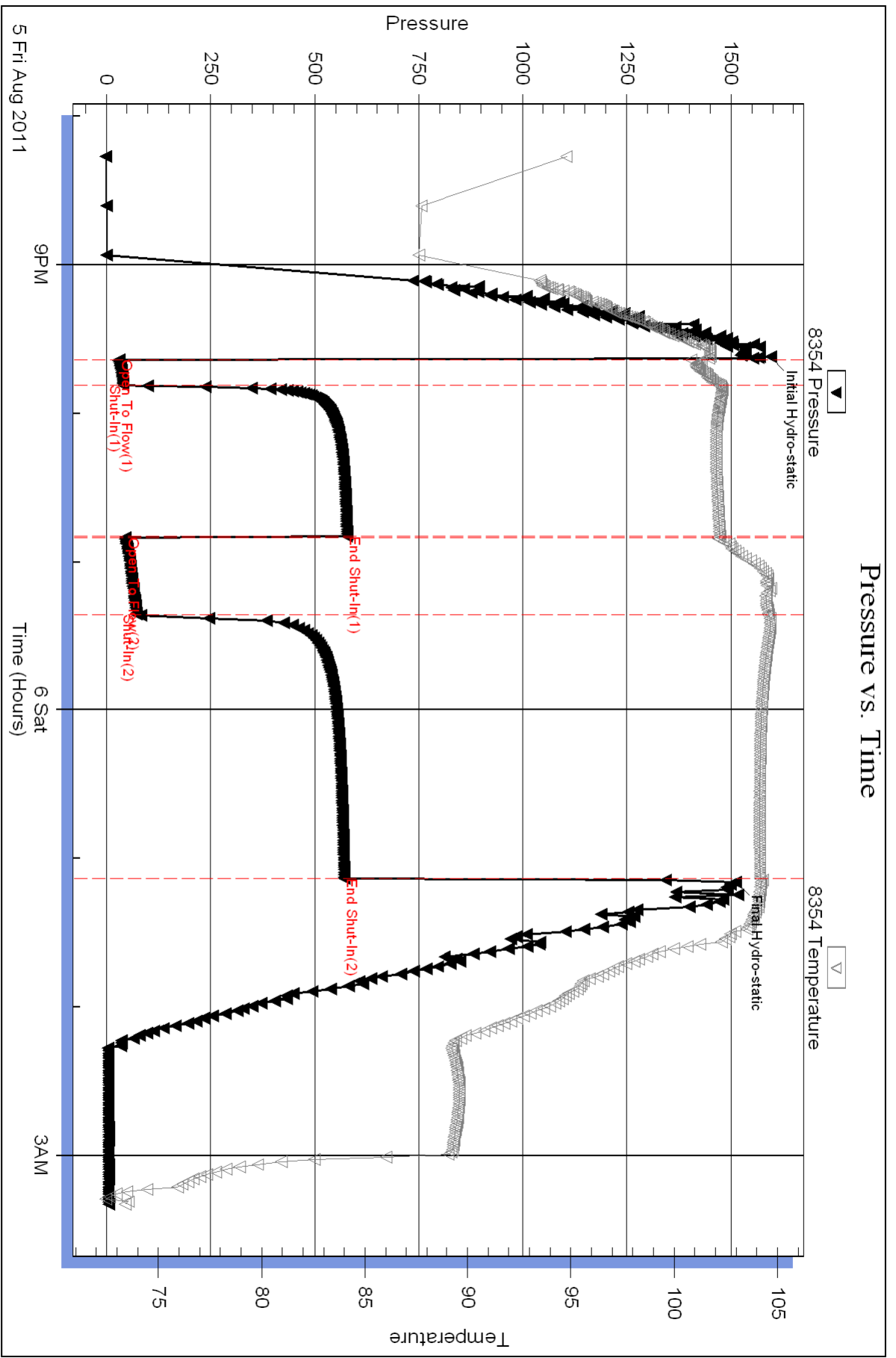
Serial #: 8354

Inside

Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 3

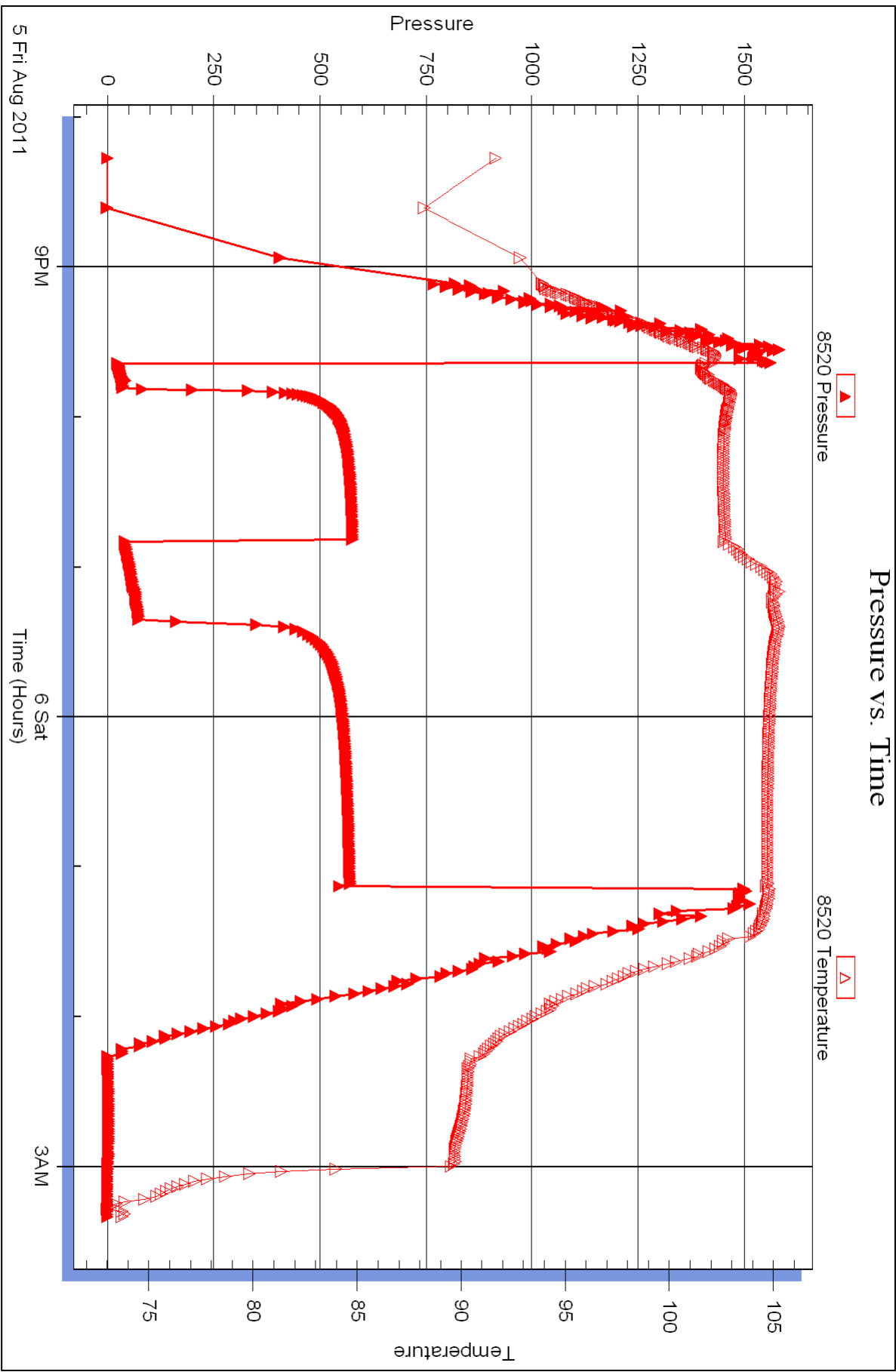


Serial #: 8520

Outside Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 3



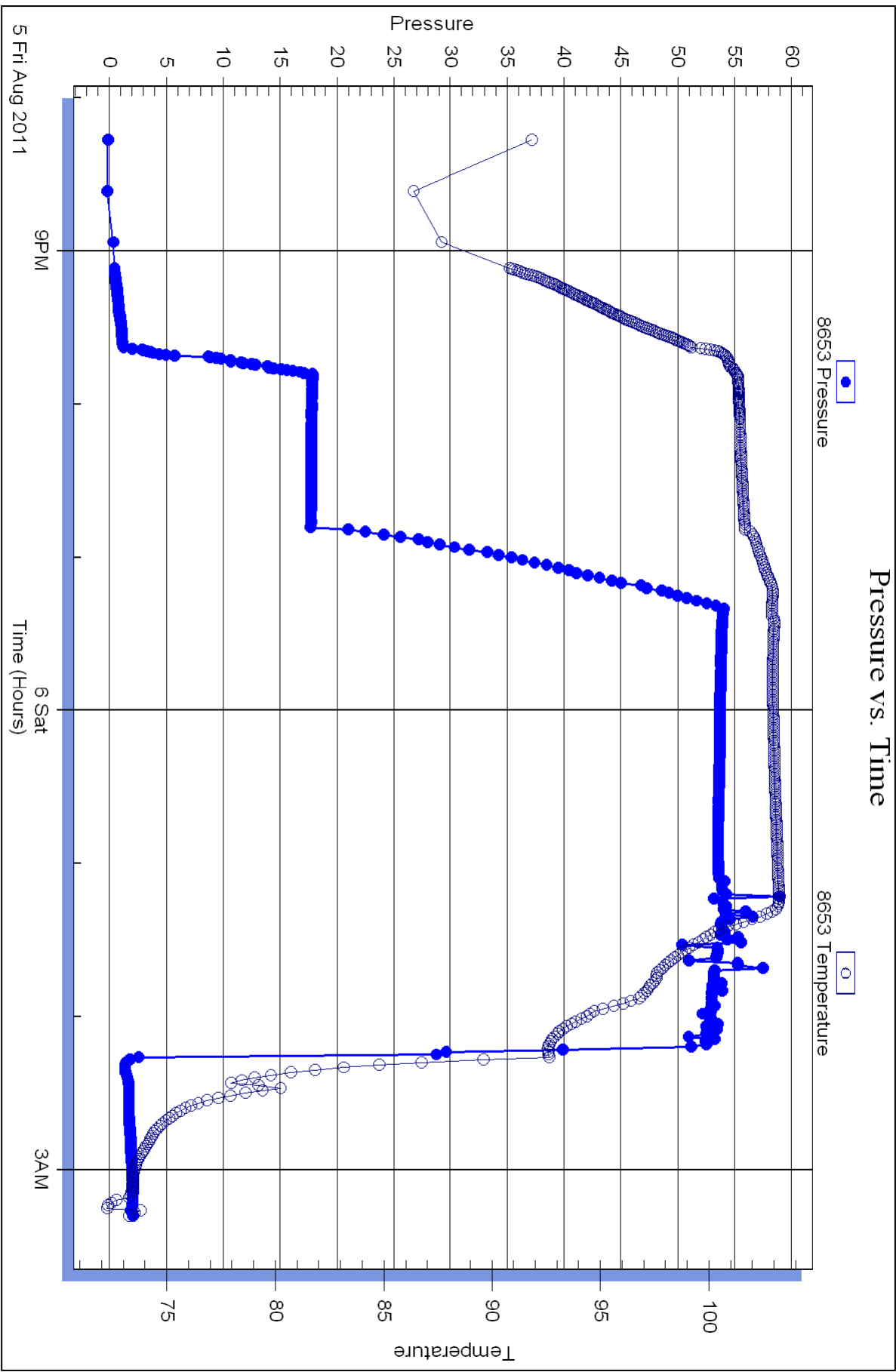
Serial #: 8653

Fluid

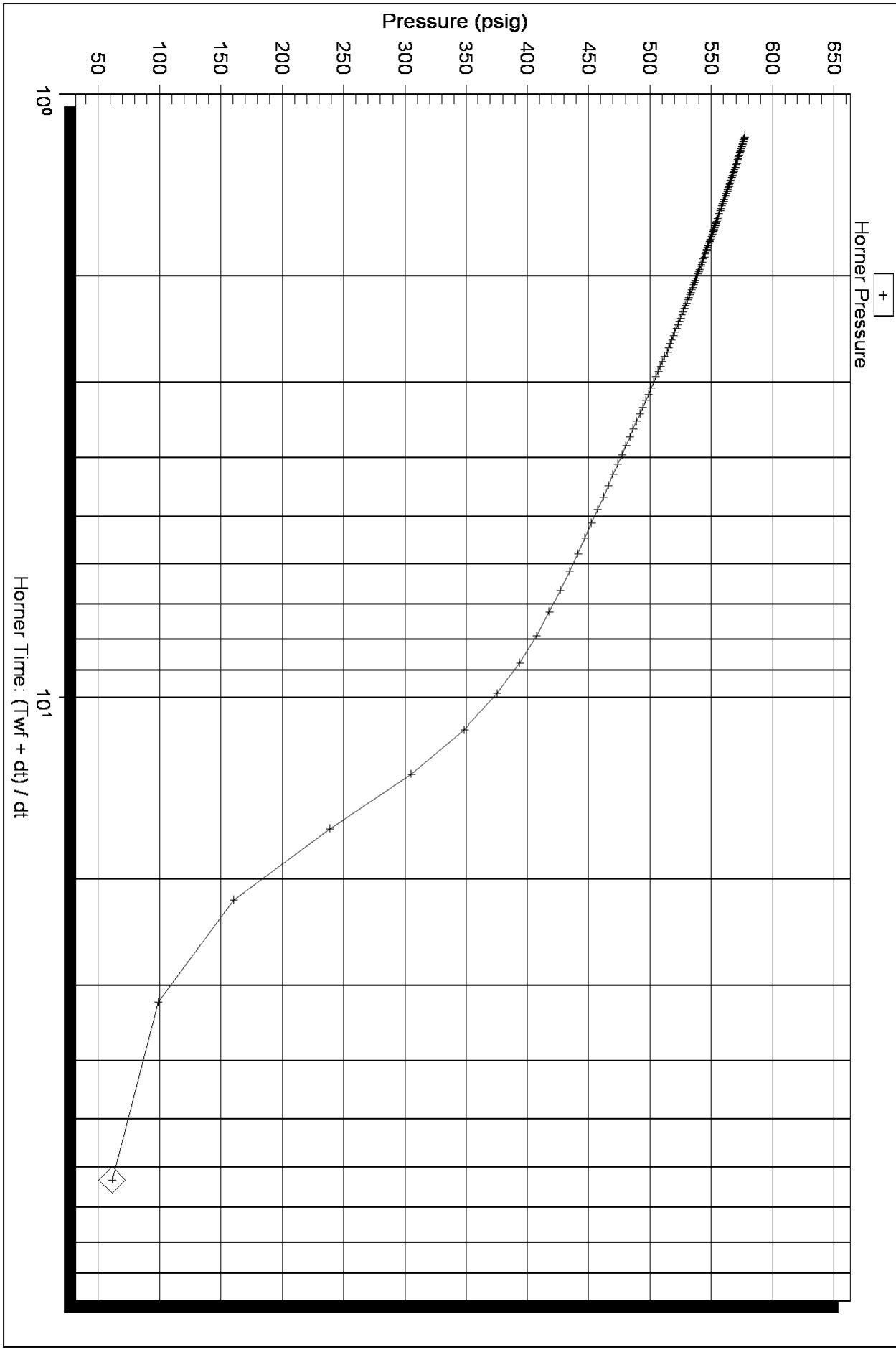
Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 3



# Horner Plot



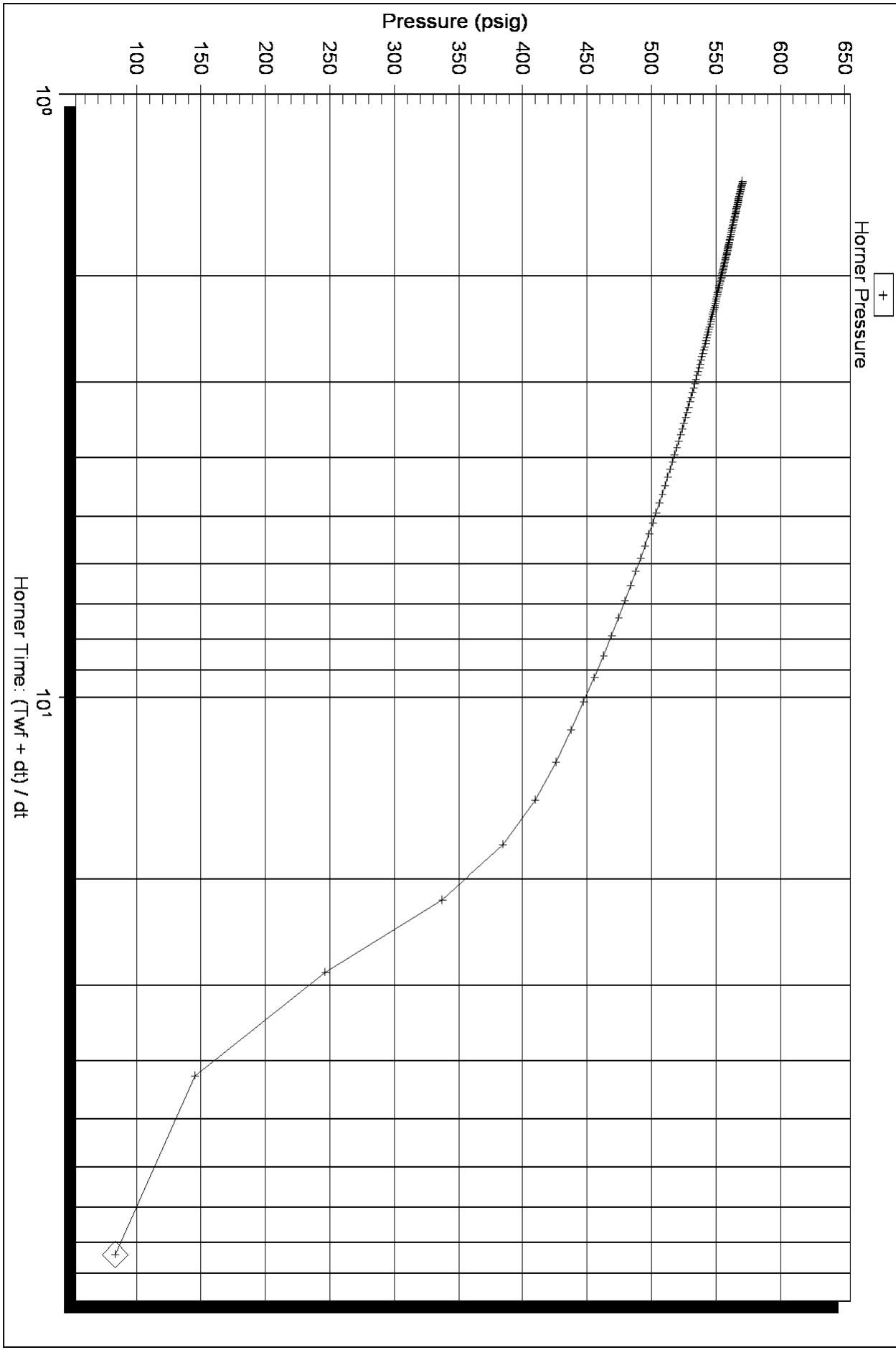
Serial Number: 8354 (Inside)

P\* :

Slope (m) : kpa/log cycle

Flow Cycle: 1

### Horner Plot



Serial Number: 8354 (Inside)

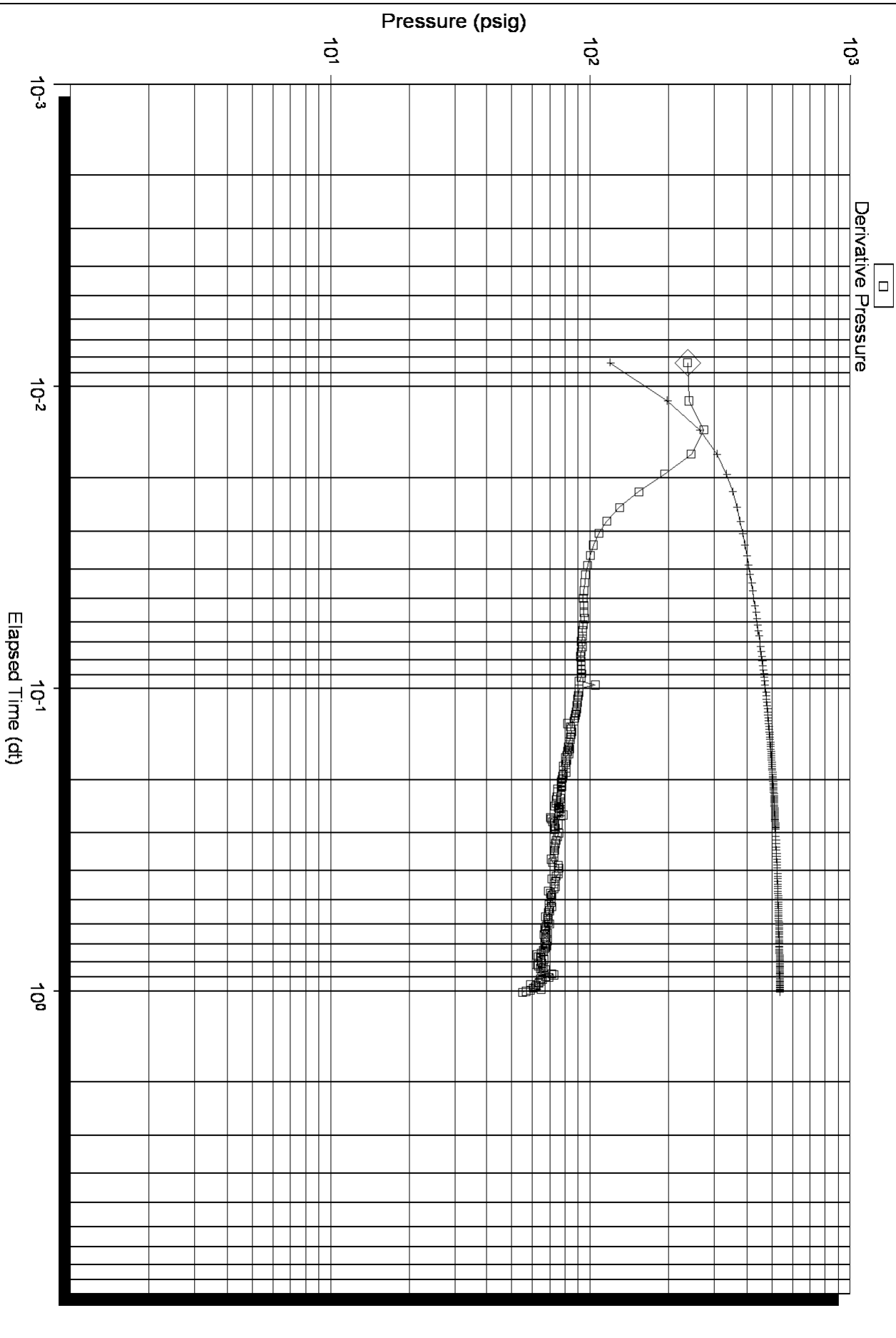
P\* :

Slope (m) : kpa/log cycle

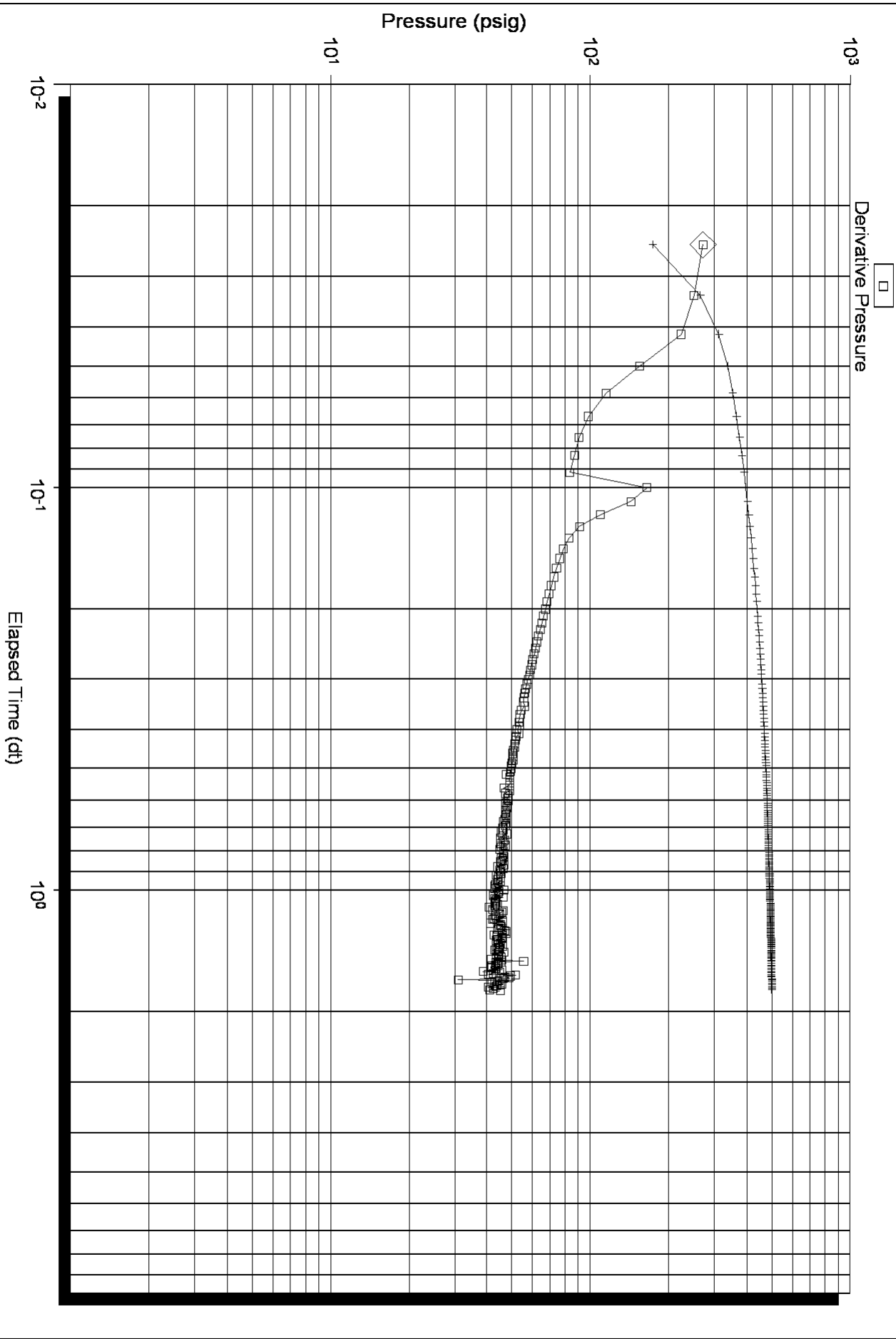
Flow Cycle: 2



# Log-Log and Pseudo-Derivative



# Log-Log and Pseudo-Derivative





## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. & Assoc., Inc.**

1515 Wynkoop Ste.#700  
Denver, CO 80202

ATTN: Neil Sharp

**1-16S.-17W.-Rush**

**Dale Stramel #1-1**

Start Date: 2011.08.07 @ 18:51:10

End Date: 2011.08.08 @ 03:33:10

Job Ticket #: 45229                      DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.11.23 @ 11:20:39



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

ATTN: Neil Sharp

Job Ticket: 45229

**DST#: 4**

Test Start: 2011.08.07 @ 18:51:10

## GENERAL INFORMATION:

Formation: **LKC "F & Upper G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:04:10

Time Test Ended: 03:33:10

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3267.00 ft (KB) To 3296.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3296.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 209.53 psig @ 3270.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.07

End Date:

2011.08.08

Last Calib.:

2011.08.08

Start Time: 19:01:10

End Time:

03:33:10

Time On Btm:

2011.08.07 @ 21:03:40

Time Off Btm:

2011.08.08 @ 01:18:10

**TEST COMMENT:** IF-Strong building blow . BOB in 7 minutes 30 seconds.

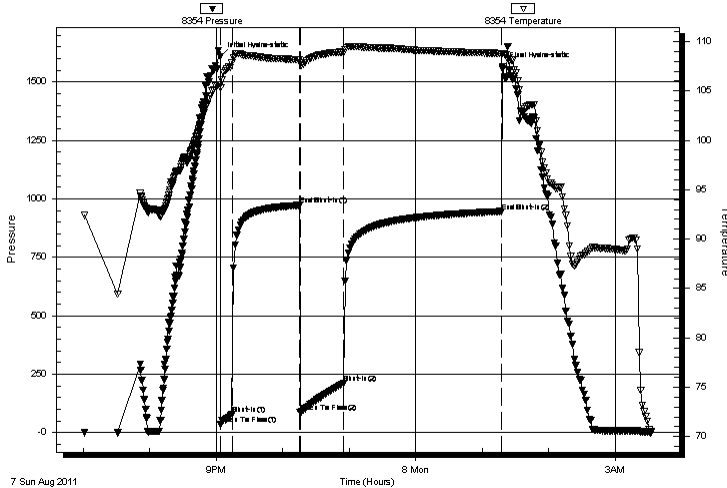
ISI-No Return.

FF-Fair building blow . BOB in 12 minutes.

FSI-No Return.

Times=10-60-40-140

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1608.16	105.67	Initial Hydro-static
1	34.08	105.33	Open To Flow (1)
11	78.68	107.84	Shut-In(1)
72	972.61	108.15	End Shut-In(1)
72	86.71	107.83	Open To Flow (2)
111	209.53	108.83	Shut-In(2)
254	943.24	108.79	End Shut-In(2)
255	1565.02	108.82	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	90%Water/10%Mud	4.21
85.00	70%Water/30%Mud	1.19

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45229

**DST#: 4**

ATTN: Neil Sharp

Test Start: 2011.08.07 @ 18:51:10

## Tool Information

Drill Pipe:	Length: 3263.00 ft	Diameter: 3.80 inches	Volume: 45.77 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	10000.00 lb
			<u>Total Volume: 45.77 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3267.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	29.00 ft				
Tool Length:	59.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	8653	Fluid	3237.00	
Change Over Sub	1.00			3238.00	
Shut In Tool	5.00			3243.00	
Sampler	2.00			3245.00	
Hydraulic tool	5.00			3250.00	
Jars	5.00			3255.00	
Safety Joint	3.00			3258.00	
Packer	5.00			3263.00	30.00 Bottom Of Top Packer
Packer	4.00			3267.00	
Stubb	1.00			3268.00	
Perforations	2.00			3270.00	
Recorder	0.00	8354	Inside	3270.00	
Recorder	0.00	8520	Outside	3270.00	
Perforations	23.00			3293.00	
Bullnose	3.00			3296.00	29.00 Bottom Packers & Anchor

**Total Tool Length: 59.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45229

**DST#: 4**

ATTN: Neil Sharp

Test Start: 2011.08.07 @ 18:51:10

## 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:

32000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.80 cm<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.21 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5100.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
300.00	90%Water/10%Mud	4.208
85.00	70%Water/30%Mud	1.192

Total Length: 385.00 ft      Total Volume: 5.400 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler= 2000ML-Water. 540#Pressure.

Res-.219 @ 73 = 32000 Chlorides.



Serial #: 8354

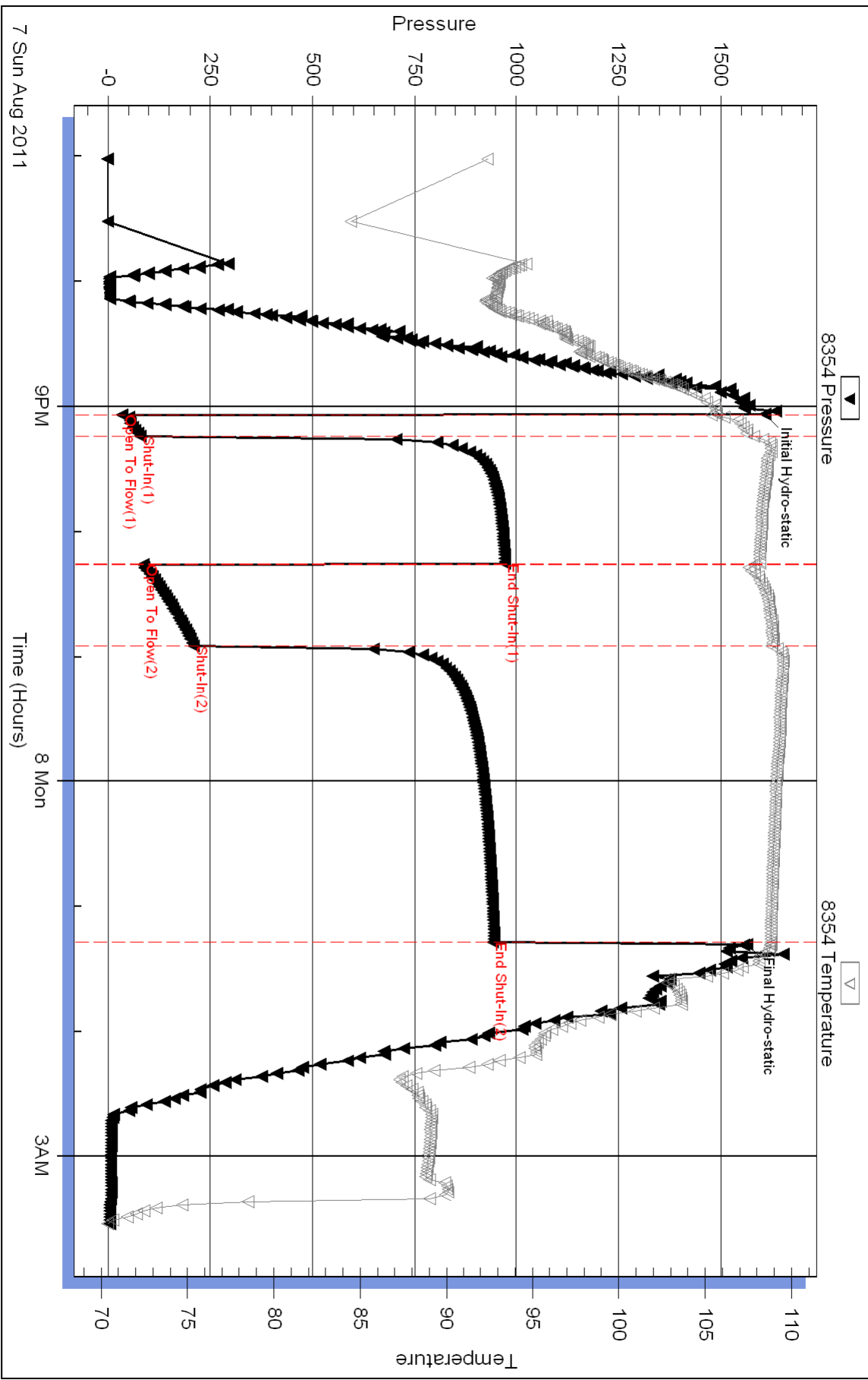
Inside

Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 4

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 45229

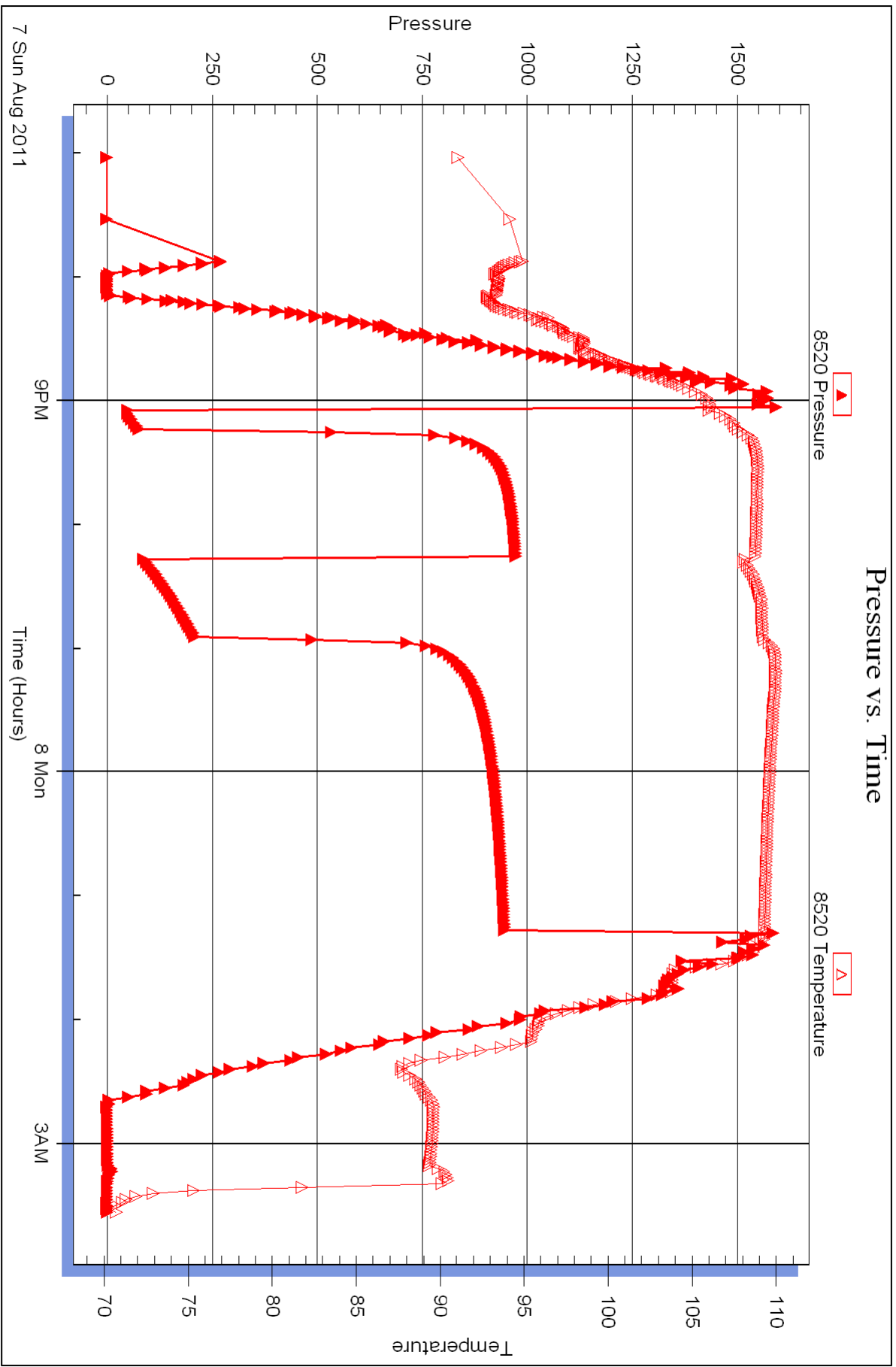
Printed: 2011.11.23 @ 11:20:41

Serial #: 8520

Outside Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 4



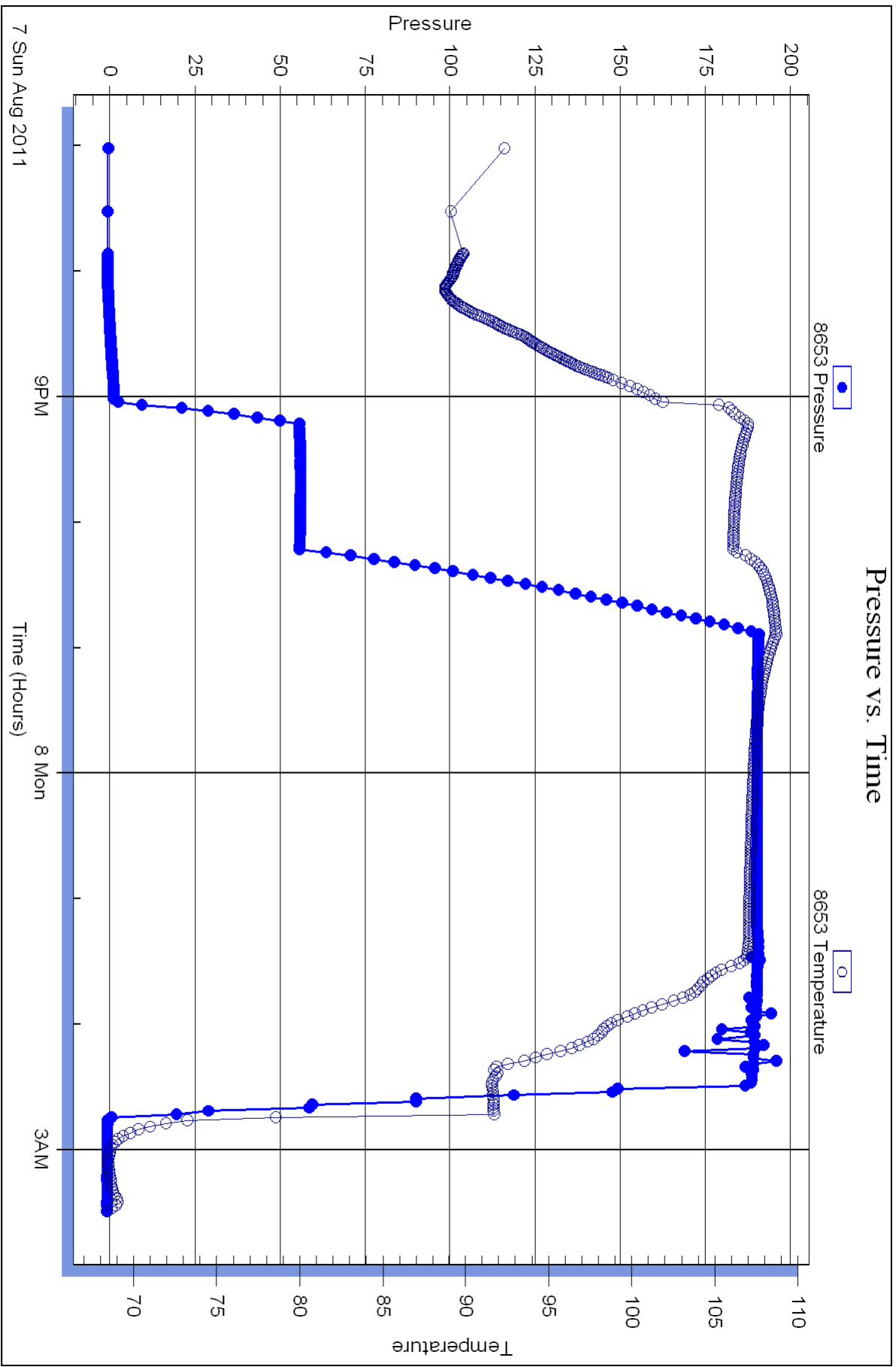
Serial #: 8653

Fluid

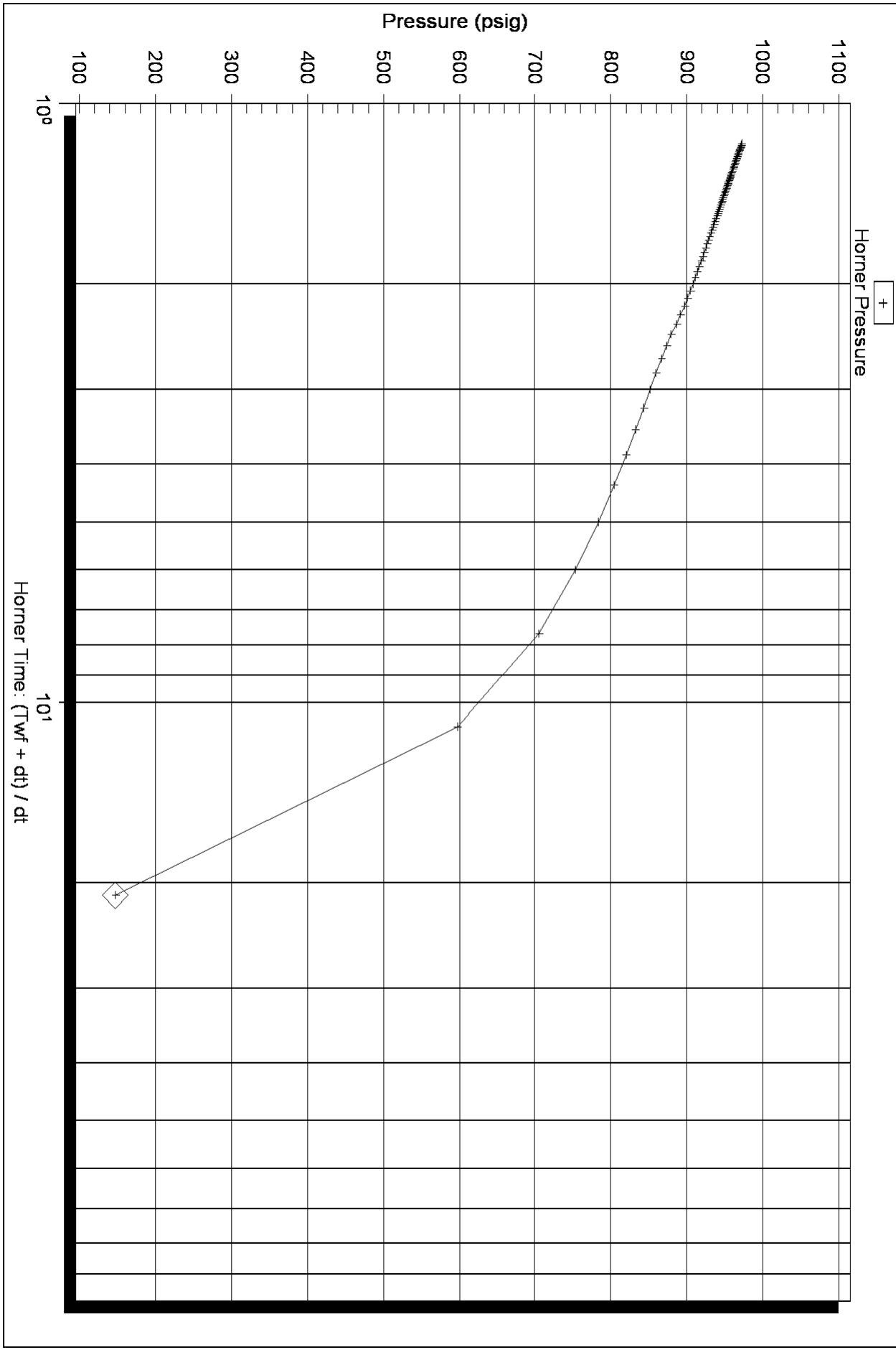
Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 4



# Horner Plot



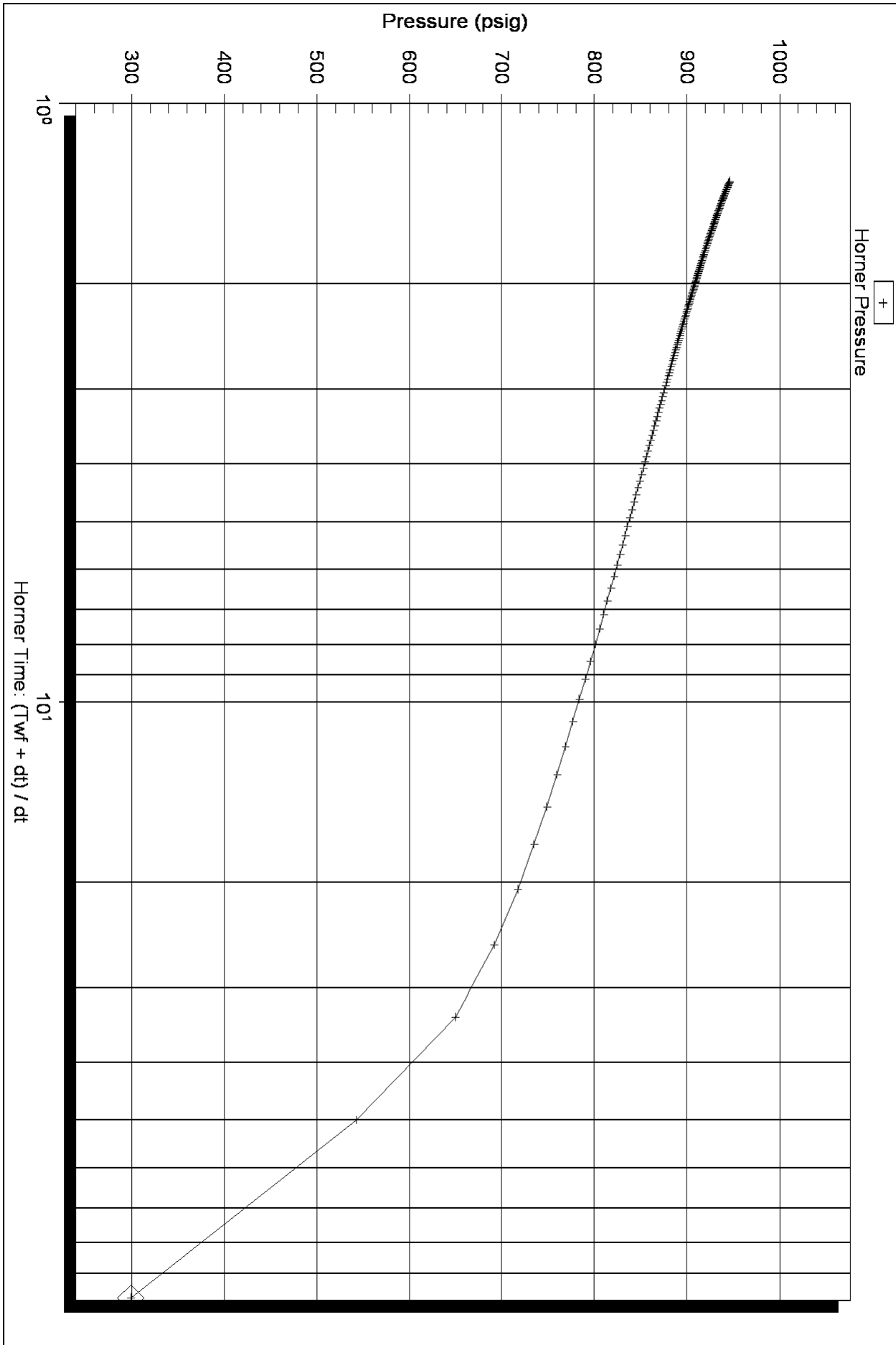
Serial Number: 8354 (Inside)

P\* :

Slope (m) : kpa/log cycle

Flow Cycle: 1

# Horner Plot



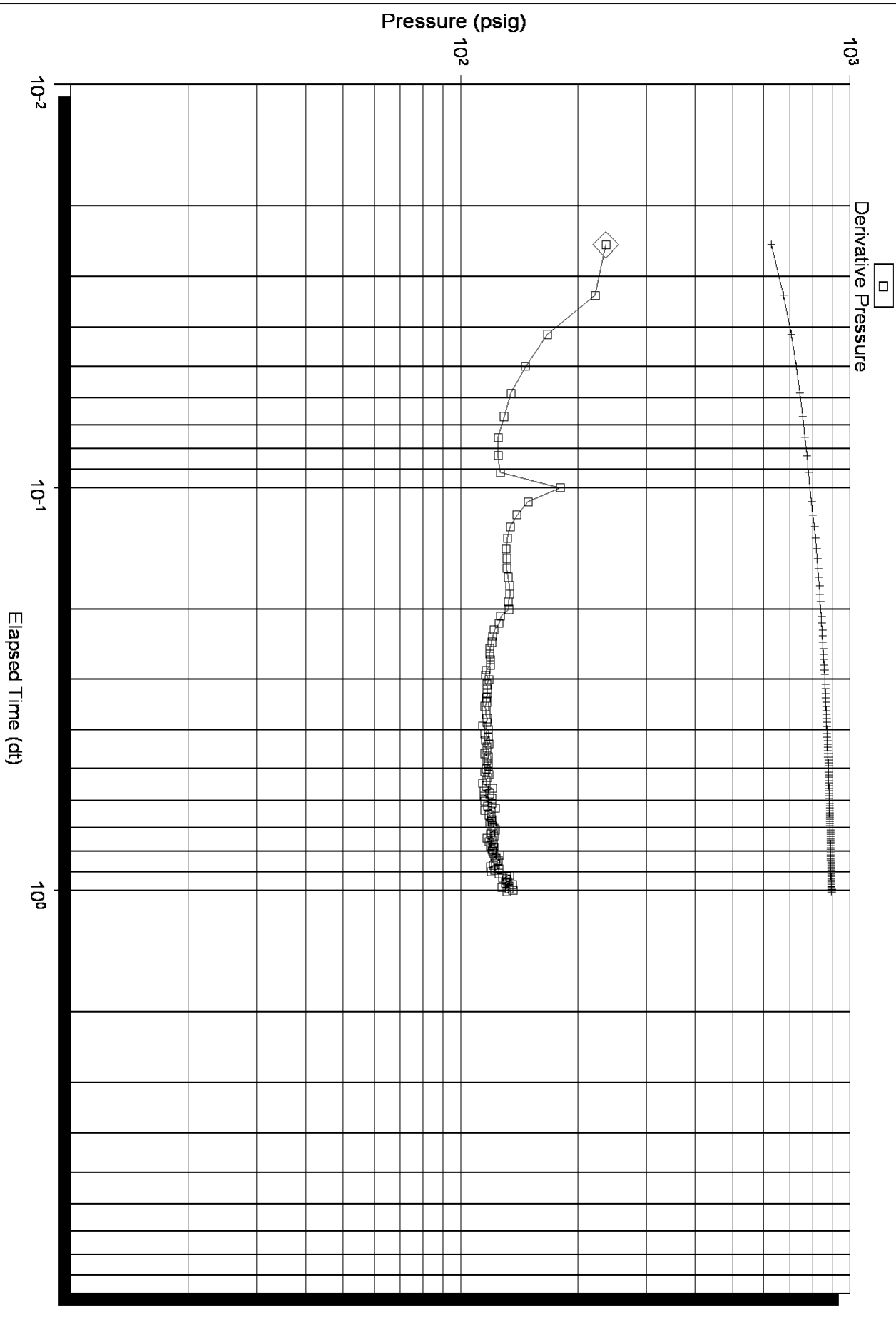
Serial Number: 8354 (Inside)

P\* :

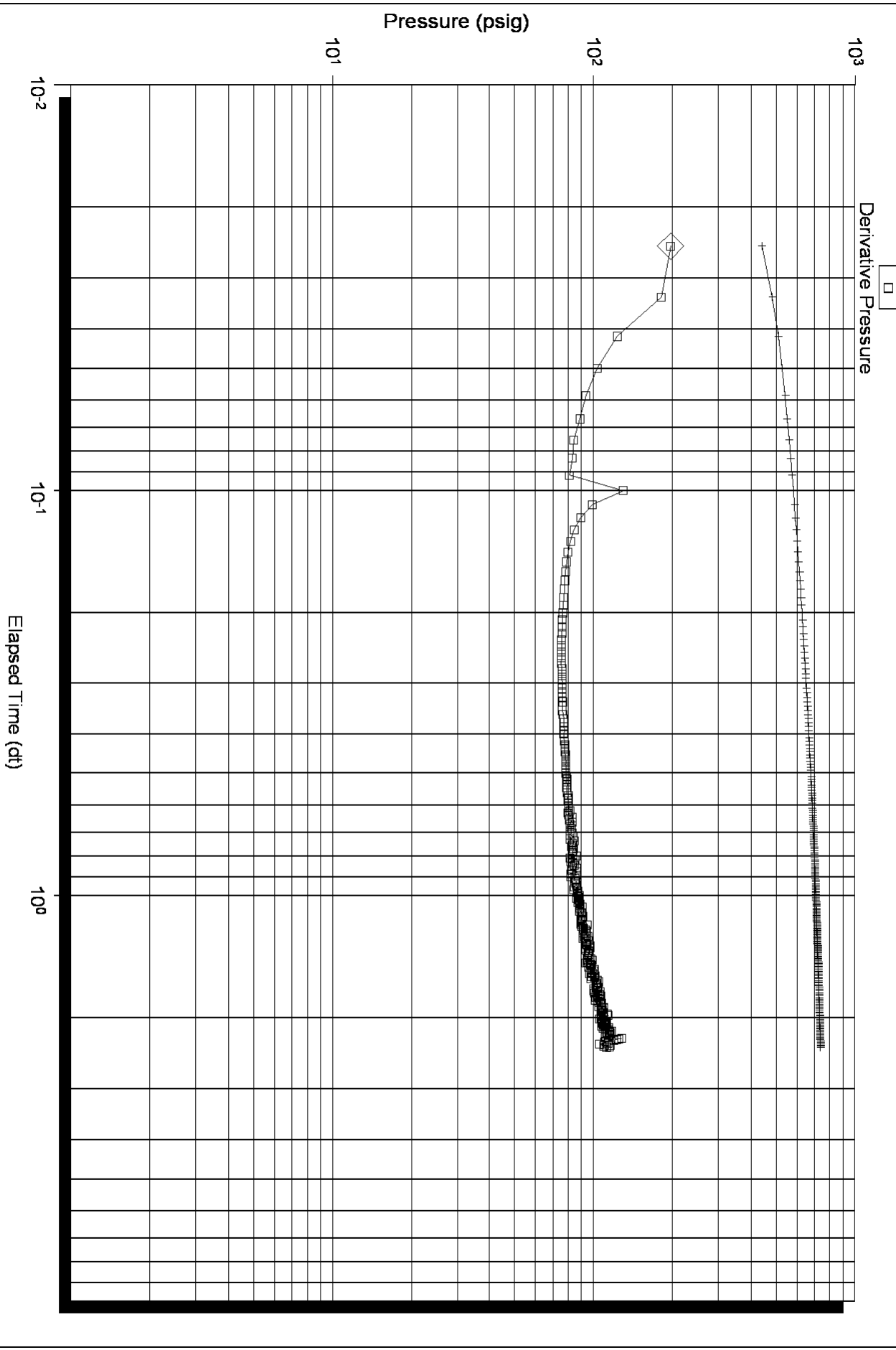
Slope (m) : kpa/log cycle

Flow Cycle: 2

# Log-Log and Pseudo-Derivative



# Log-Log and Pseudo-Derivative



Serial Number: 8354 (Inside)

Flow Cycle: 2



## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. & Assoc., Inc.**

1515 Wynkoop Ste.#700  
Denver, CO 80202

ATTN: Neil Sharp

**1-16S.-17W.-Rush**

**Dale Stramel #1-1**

Start Date: 2011.08.08 @ 19:27:20

End Date: 2011.08.09 @ 02:23:50

Job Ticket #: 45230                      DST #: 5

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

ATTN: Neil Sharp

Job Ticket: 45230

**DST#: 5**

Test Start: 2011.08.08 @ 19:27:20

## GENERAL INFORMATION:

Formation: **LKC "H,I,& J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:51:10

Time Test Ended: 02:23:50

Test Type: Conventional Bottom Hole

Tester: Dustin Rash

Unit No: 38

**Interval: 3330.00 ft (KB) To 3397.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3397.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 95.23 psig @ 3336.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.08 End Date: 2011.08.09

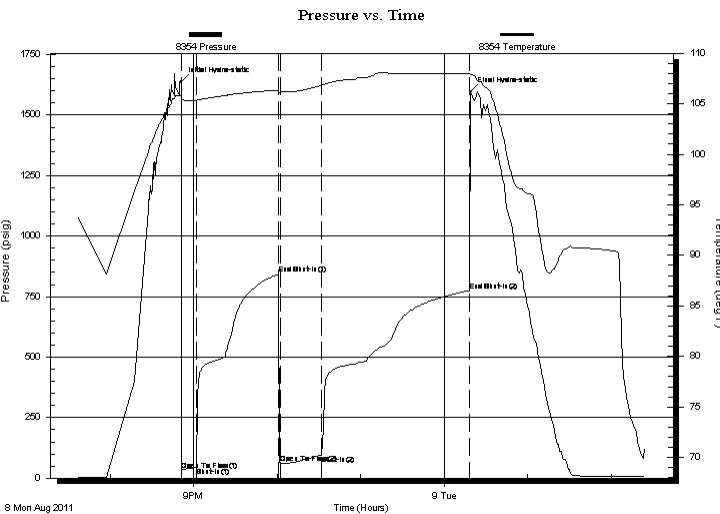
Last Calib.: 2011.08.09

Start Time: 19:37:20 End Time: 02:23:50

Time On Btm: 2011.08.08 @ 20:50:50

Time Off Btm: 2011.08.09 @ 00:18:50

**TEST COMMENT:** IF-Weak blow . Built to 1/4 inch. Died @ 8 minutes 40 seconds.  
IS-No Return.  
FF-Weak blow . Built to 1/4 inch. Died to surface blow .  
FS-No Return. Times= 10-60-30-105



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1637.20	105.82	Initial Hydro-static
1	33.68	105.32	Open To Flow (1)
11	45.02	105.30	Shut-In(1)
70	842.33	106.35	End Shut-In(1)
72	61.65	106.20	Open To Flow (2)
101	95.23	106.81	Shut-In(2)
207	774.79	107.98	End Shut-In(2)
208	1595.01	107.94	Final Hydro-static

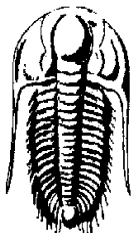
## Recovery

Length (ft)	Description	Volume (bbl)
100.00	90%Water/10%Mud	1.40
60.00	50%Water/50%Mud	0.84

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

ATTN: Neil Sharp

Job Ticket: 45230

**DST#: 5**

Test Start: 2011.08.08 @ 19:27:20

## GENERAL INFORMATION:

Formation: **LKC "H,I,& J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:51:10

Time Test Ended: 02:23:50

Test Type: Conventional Bottom Hole

Tester: Dustin Rash

Unit No: 38

**Interval: 3330.00 ft (KB) To 3397.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3397.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8653 Fluid**

Press @RunDepth: psig @ 3300.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.08

End Date:

2011.08.09

Last Calib.:

2011.08.09

Start Time: 19:37:40

End Time:

02:21:40

Time On Btm:

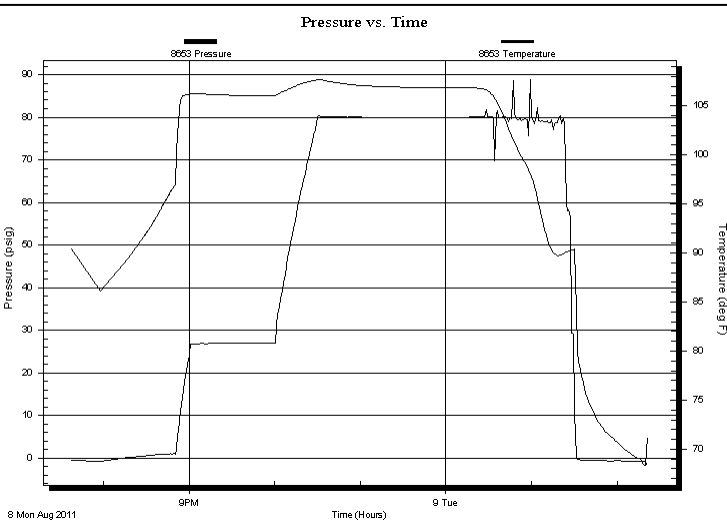
Time Off Btm:

**TEST COMMENT:** IF-Weak blow . Built to 1/4 inch. Died @ 8 minutes 40 seconds.

ISI-No Return.

FF-Weak blow . Built to 1/4 inch. Died to surface blow .

FSI-No Return. Times= 10-60-30-105



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
100.00	90%Water/10%Mud	1.40
60.00	50%Water/50%Mud	0.84

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45230

**DST#: 5**

ATTN: Neil Sharp

Test Start: 2011.08.08 @ 19:27:20

## Tool Information

Drill Pipe:	Length: 3324.00 ft	Diameter: 3.80 inches	Volume: 46.63 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	5000.00 lb
			<u>Total Volume: 46.63 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3330.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	67.00 ft				
Tool Length:	97.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	8653	Fluid	3300.00	
Change Over Sub	1.00			3301.00	
Shut In Tool	5.00			3306.00	
Sampler	2.00			3308.00	
Hydraulic tool	5.00			3313.00	
Jars	5.00			3318.00	
Safety Joint	3.00			3321.00	
Packer	5.00			3326.00	30.00 Bottom Of Top Packer
Packer	4.00			3330.00	
Stubb	1.00			3331.00	
Perforations	5.00			3336.00	
Recorder	0.00	8354	Inside	3336.00	
Recorder	0.00	8520	Outside	3336.00	
Change Over Sub	1.00			3337.00	
Drill Pipe	31.00			3368.00	
Change Over Sub	1.00			3369.00	
Perforations	25.00			3394.00	
Bullnose	3.00			3397.00	67.00 Bottom Packers & Anchor

**Total Tool Length: 97.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45230

**DST#: 5**

ATTN: Neil Sharp

Test Start: 2011.08.08 @ 19:27:20

## 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:

44000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.17 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
100.00	90%Water/10%Mud	1.403
60.00	50%Water/50%Mud	0.842

Total Length: 160.00 ft      Total Volume: 2.245 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler= 2000ML-Water. 300# Pressure.

Resistivity=.161 @ 71 = 46000



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Samuel Gary Jr. & Assoc., Inc.

**Dale Stramel #1-1**

1515 Wynkoop Ste.#700  
Denver, CO 80202

**1-16S.-17W.-Rush**

Job Ticket: 45230

**DST#: 5**

ATTN: Neil Sharp

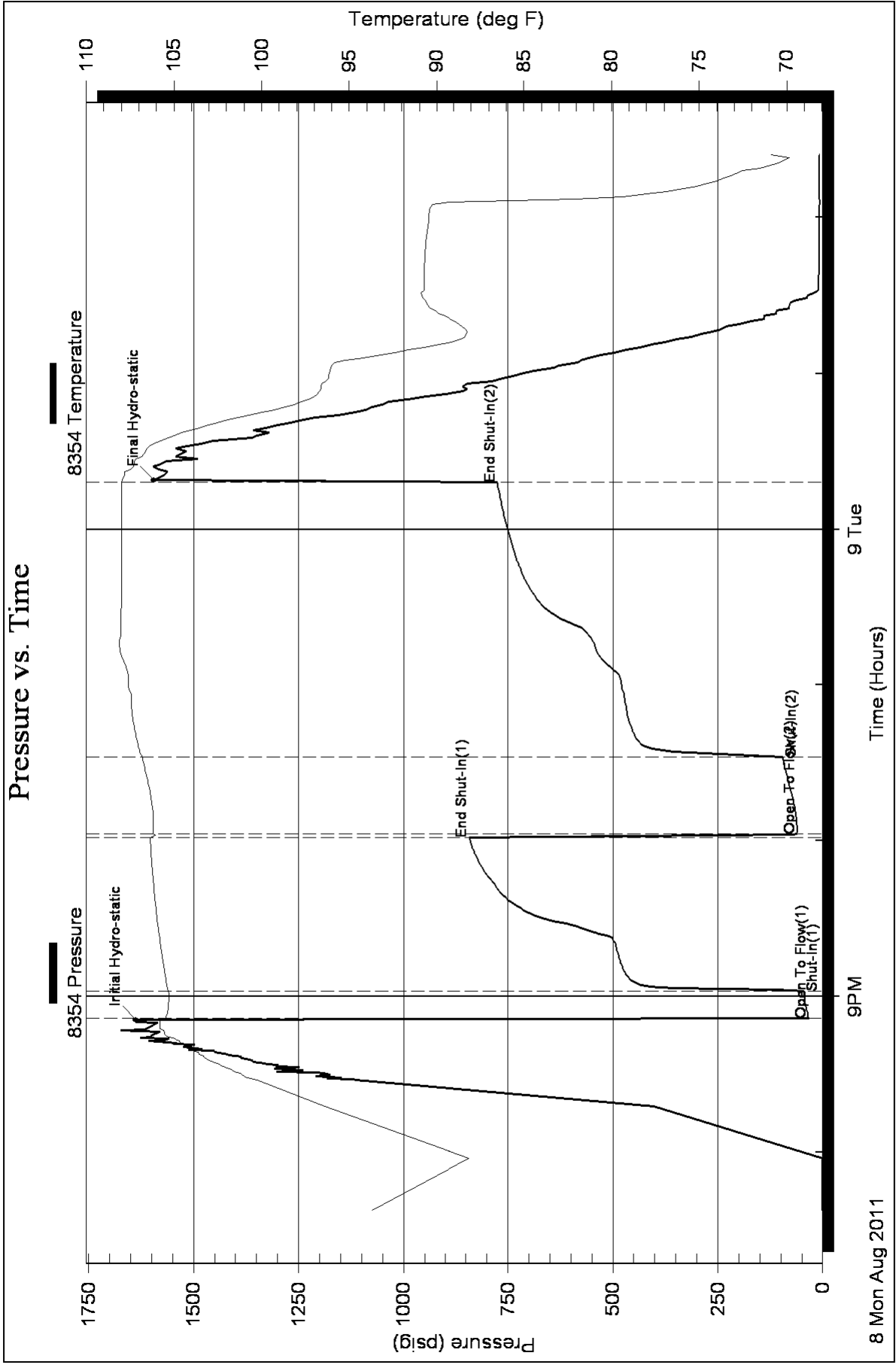
Test Start: 2011.08.08 @ 19:27:20

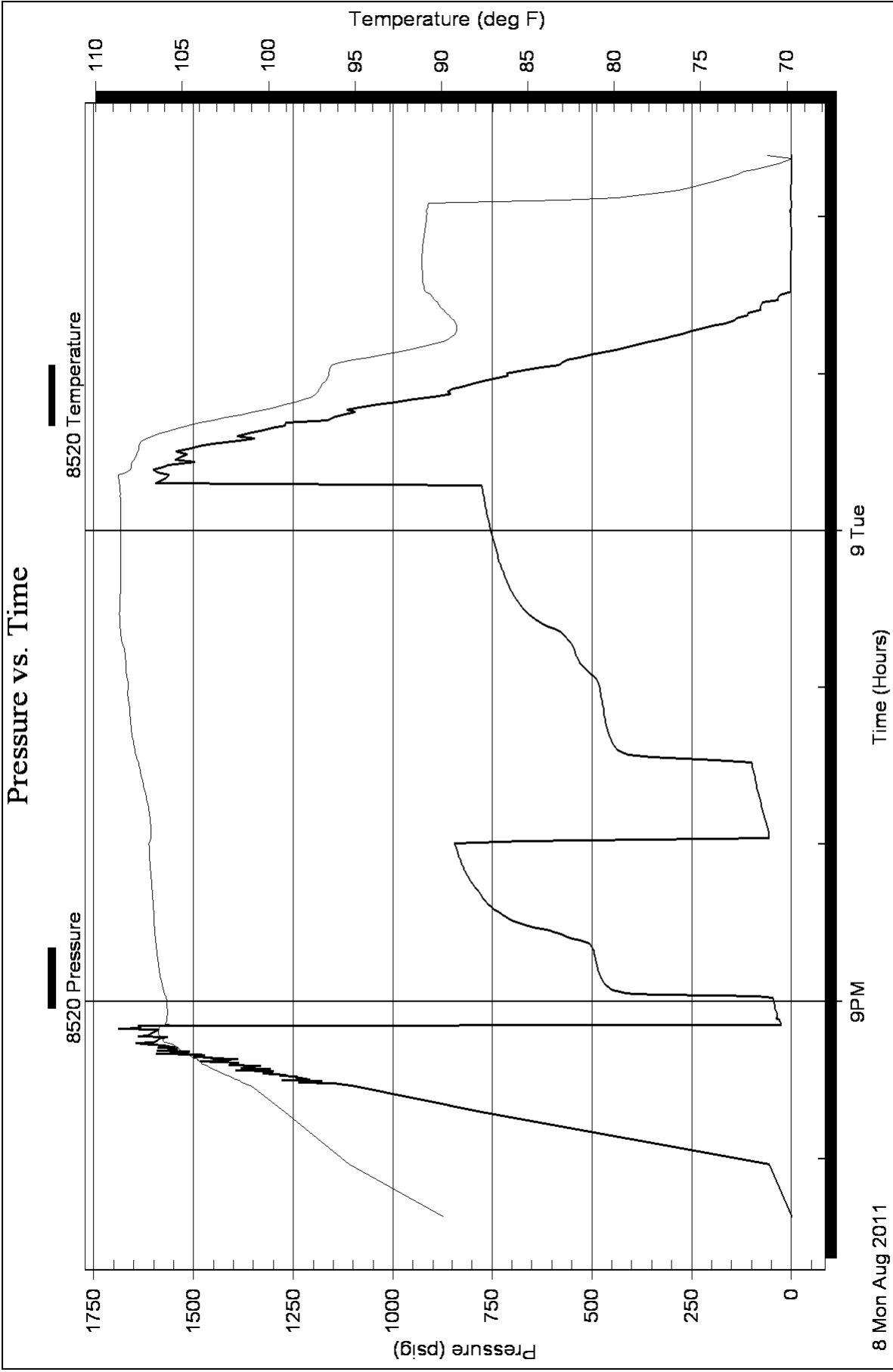
### Gas Rates Information

Temperature: 59 deg C  
Relative Density: 0.65  
Z Factor: 0.8

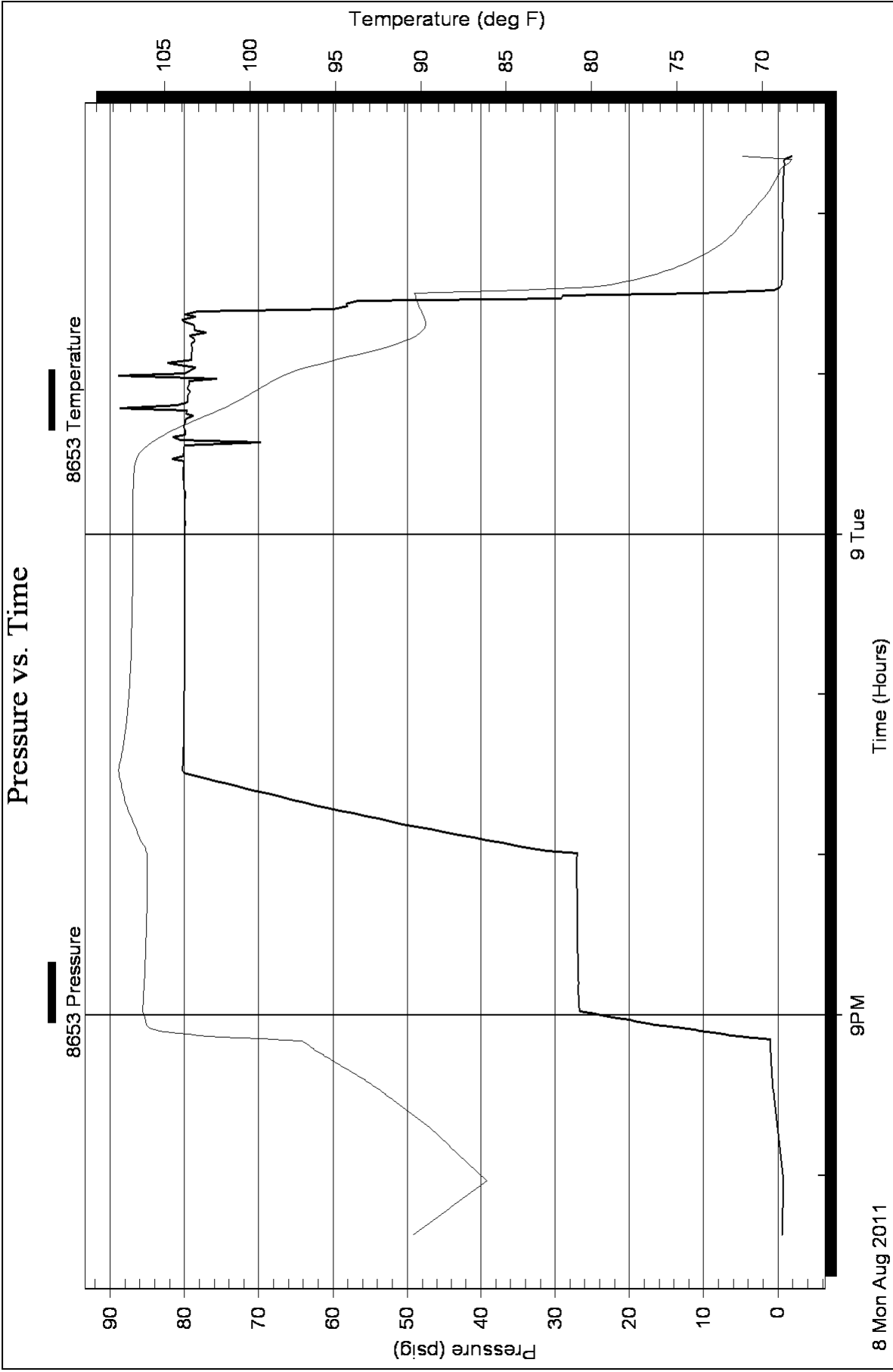
Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m <sup>3</sup> /d)
		0.00	0.00	0.00



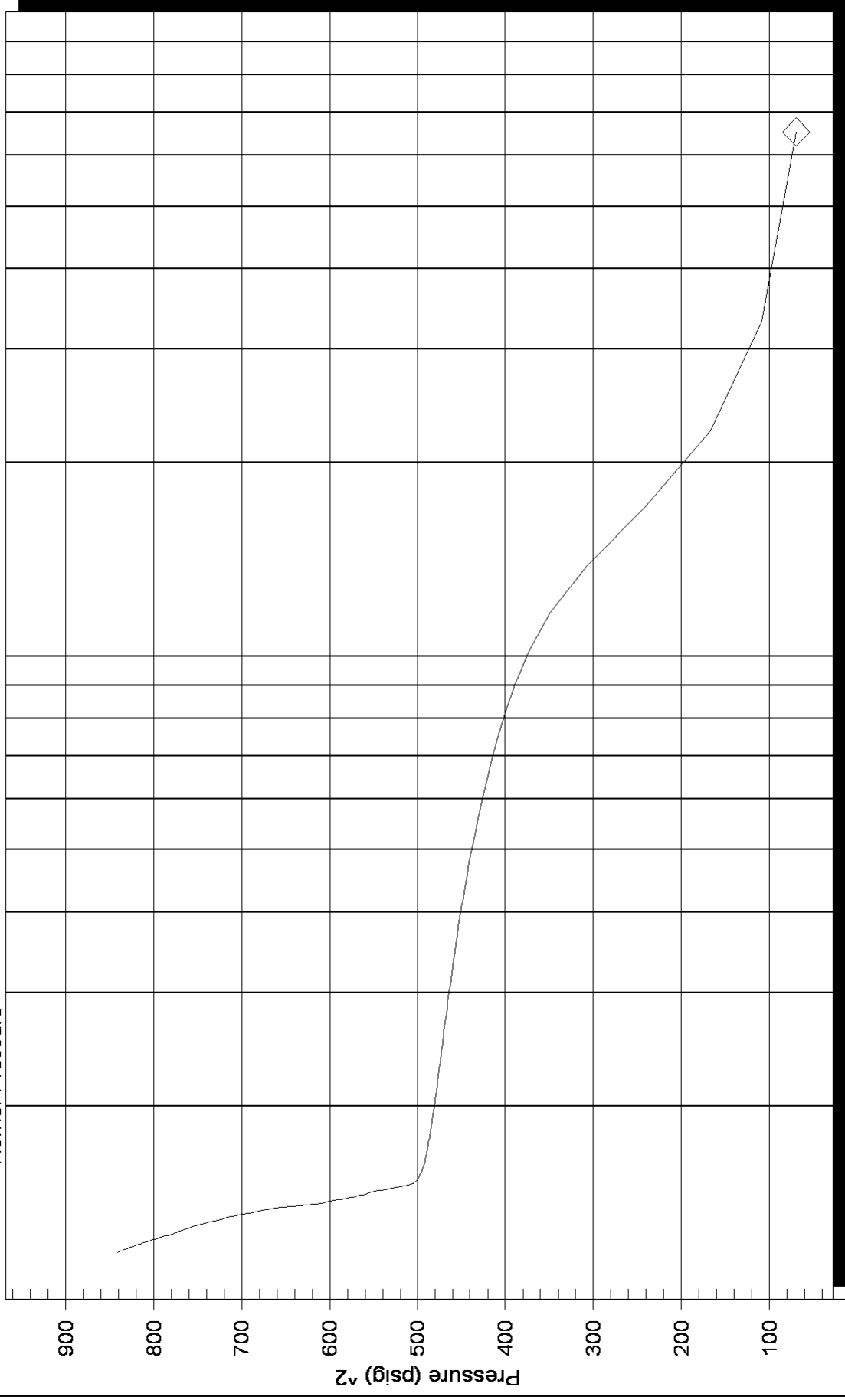






### Homer Plot

Horner Pressure



10<sup>0</sup>

10<sup>1</sup>

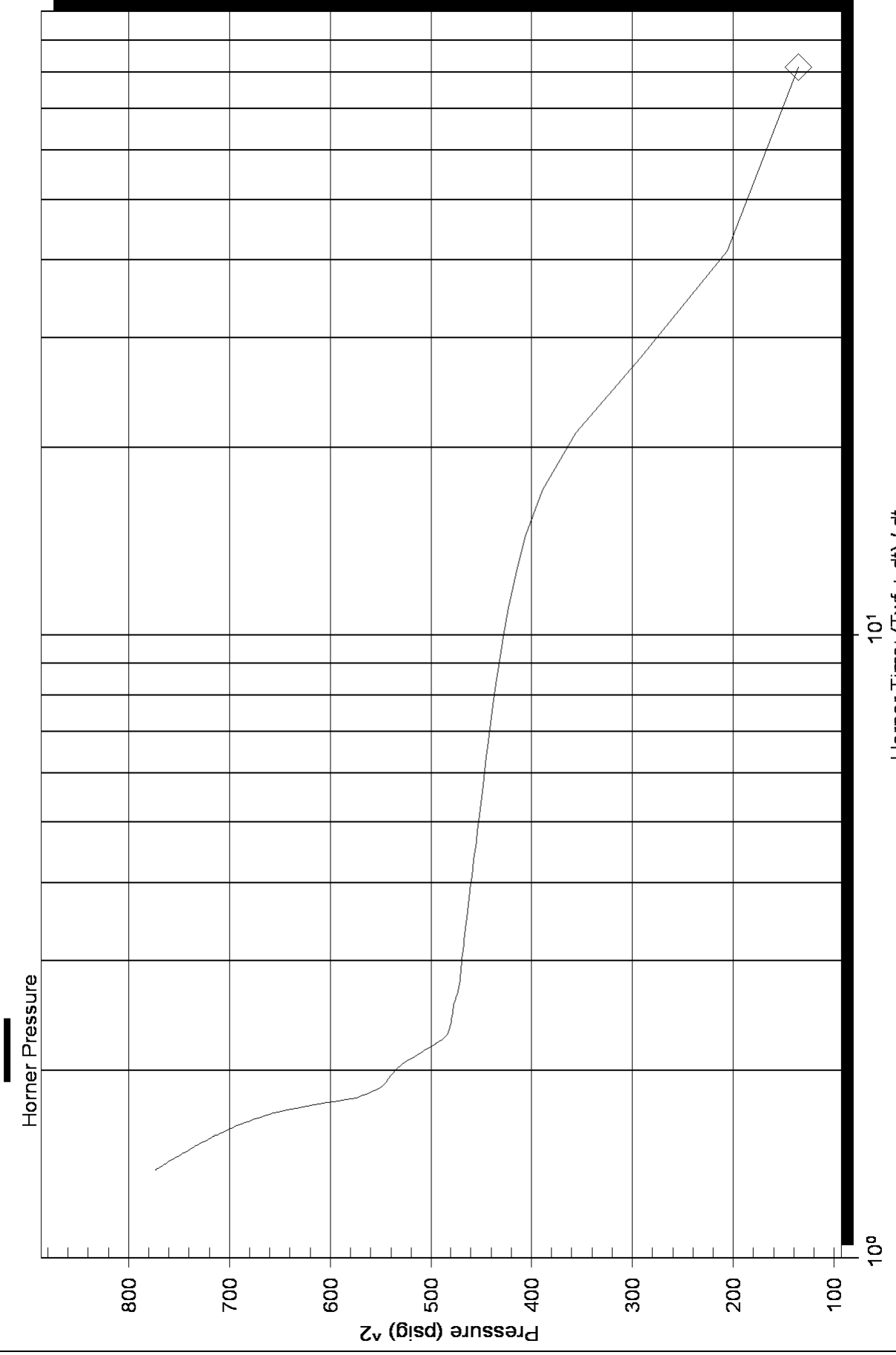
Horner Time: (T<sub>wf</sub> + dt) / dt

Serial Number: 8354 (Inside)

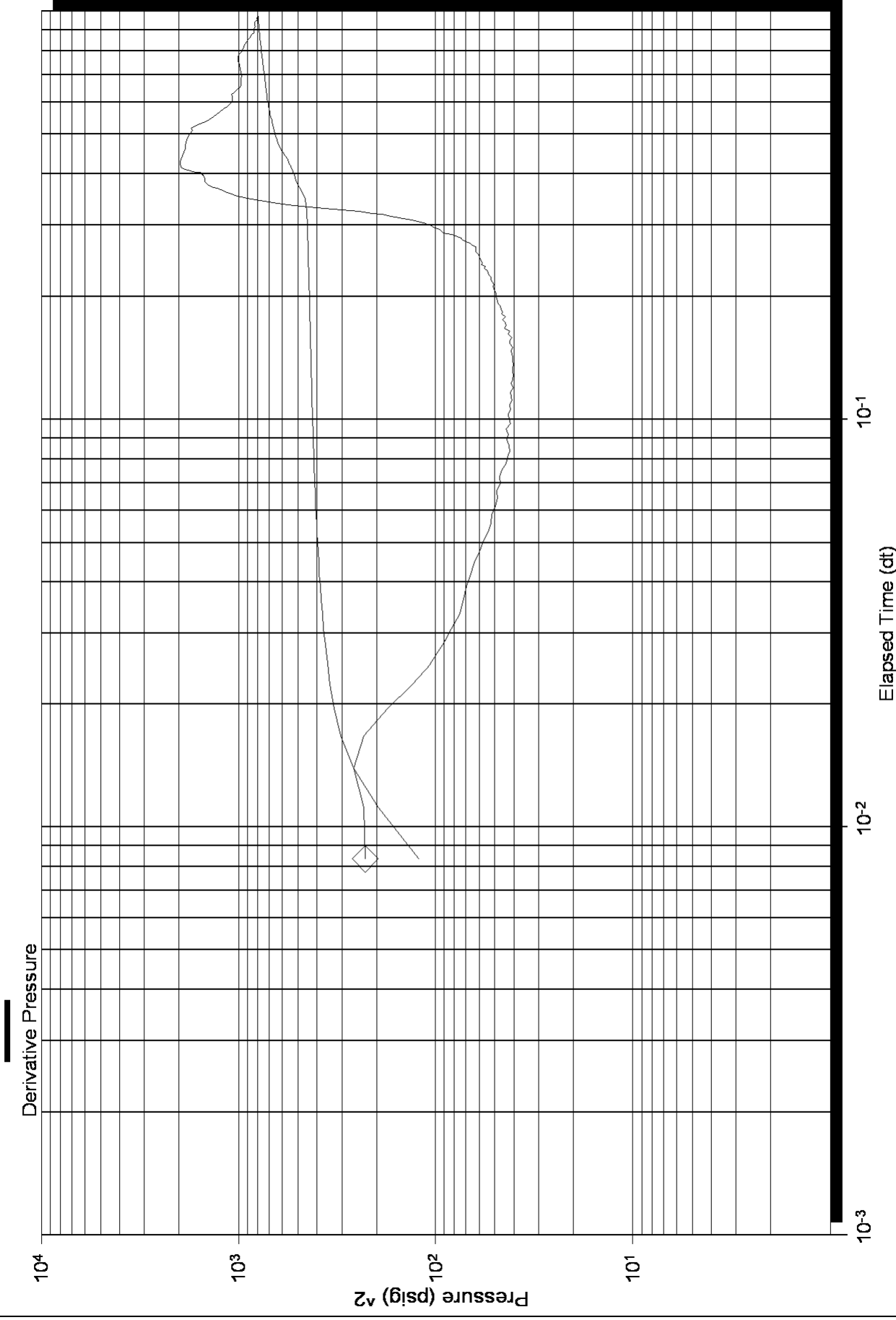
P\* : Slope (m) : kpa/log cycle

Flow Cycle: 1

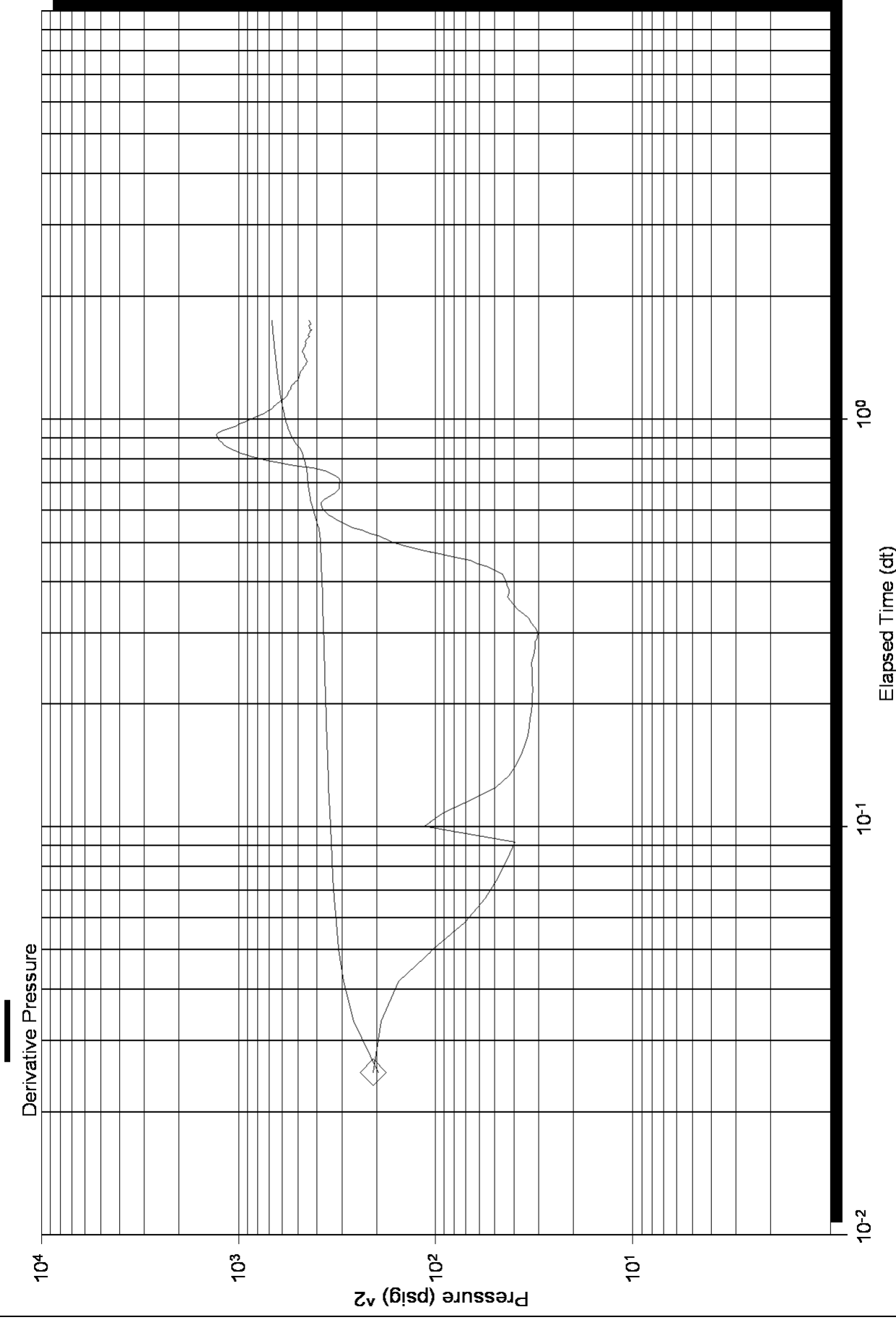
### Homer Plot



# Log-Log and Pseudo-Derivative



# Log-Log and Pseudo-Derivative





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

**Well Name:** Dale stramel 1-1  
**Location:** Sec. 1-T16S-R17W Rush County, Kansas  
**License Number:** 15-165-21932-0000  
**Spud Date:** 7/30/2011  
**Surface Coordinates:** 22225 FNL / 400 FWL  
**Region:** Wildcat  
**Drilling Completed:** 8/09/2011

**Bottom Hole  
Coordinates:**  
**Ground Elevation (ft):** 1892'      **K.B. Elevation (ft):** 1902'  
**Logged Interval (ft):** 1700'      **To:** 3610'      **Total Depth (ft):** 3610'  
**Formation:** Lansing, Kansas City  
**Type of Drilling Fluid:**

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

**OPERATOR**

**Company:** Sam Gary Jr. & Assoc  
**Address:** 1515 Wynkoop, # 700  
Denver, Co. 80202  
**Geo:** Clayton Camozzi

**GEOLOGIST**

**Name:** JASON MARSHALL  
**Company:** EARTH TECH OGL, Inc.  
**Address:** PO Box 683  
102 W. Main  
Hooker, Okla. 73945

### DSTs

**DST #1 2906'-2956'**

10,60,30,102, IFP-STROMG BUILDING BLOW- BOB IN 3 MIN 30 SEC, ISI-RETURN IN 35 SEC, BUILT TO 2", FF-STROMG BUILDING BLOW- BOB IN 40 SEC, FSI- NO RETURN, IH-1389, FH-1274, FIF-19, FFF-22, SIF-30, SFF-36, ISI-827, FSI-711, TOTAL REC- 55', 20% OIL, 80% MUD

**DST #2 MISS RUN**

**DST #3 3184'-3239'**

10,60,30,105, IFP-WEAK BUILDING BLOW- BOB 5 SEC, ISI-NO RETURN, FF-WEAK BUILDING BLOW- BUILT TO 6", FSI- NO RETURN, IH-1595, FH-1512, FIF-31, FFF-41, SIF-45, SFF-73, ISI-576, FSI-571, TOTAL REC- 115', 70% WATER, 30% MUD

**DST #4 3267'-3296'**

10,60,40,140, IFP-STRONG BUILDING BLOW- BOB IN 7 MIN 30 SEC, ISI-NO RETURN, FF-FAIR BUILDING BOB IN 12 MIN, FSI- NO RETURN, IH-1608, FH-1565, FIF-34, FFF-79, SIF-87, SFF-210, ISI-973, FSI-943, TOTAL REC- 385', 70% WATER, 30% MUD

**DST #5 3330'-3397'**

10,60,30,105, IFP-WEAK BUILDING BLOW- BUILT TO 1/4", DIED @ 8 MIN 40 SEC, ISI-NO RETURN, FF-WEAK BUILDING BLOW- BUILT TO 1/4", DIED TO SURFACE, FSI- NO RETURN, IH-1637, FH-1595, FIF-34, FFF-45, SIF-62, SFF-95, ISI-842, FSI-775, TOTAL REC- 160', 50% WATER, 50% MUD

### ROCK TYPES

	Anhy
	Bent
	Brec
	Cht
	Clyst
	Coal
	Congl
	Dol

	Gyp
	Igne
	Lmst
	Meta
	Mrlst
	Salt
	Shale
	Shcol

	Shgy
	Siltst
	Ss
	Till
	Carb sh
	Dol
	Dtd
	Gry sh

	Sandyilms
	Shale
	Siltstn
	Shlyslts
	Sitysh
	Lms

### ACCESSORIES

MINERAL	
	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtlt
	Dol
	Feldspar
	Ferrpel
	Ferr
	Glau
	Gyp
	Hvymin
	Kaol
	Mari
	Minxl
	Nodule
	Dol

	Salt
	Sandy
	Silt
	Sil
	Sulphur
	Tuff
	Chlorite
	Dol
	Sand
	Sity

FOSSIL	
	Algae
	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral
	Crin
	Echin
	Fish

	Fossil
	Gastro
	Oolite
	Ostra
	Pelec
	Pellet
	Pisolite
	Plant
	Strom
	Fuss
	Oomold

STRINGER	
	Anhy
	Arg
	Bent
	Coal
	Dol
	Gyp
	Ls
	Mrst
	Siltstrg
	Siltstrg

	Clystn
	Dol
	Grysh
	Gryslt
	Lms
	Sandyilms
	Sh
	Siltstn

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

OTHER SYMBOLS

POROSITY TYPE

- E Earthy
- B Fenest
- F Fracture
- X Inter
- A Moldic
- O Organic
- P Pinpoint
- V Vuggy

SORTING

- W Well
- M Moderate
- P Poor

ROUNDING

- R Rounded
- r Subrmd
- a Subang

- A Angular

OIL SHOWS

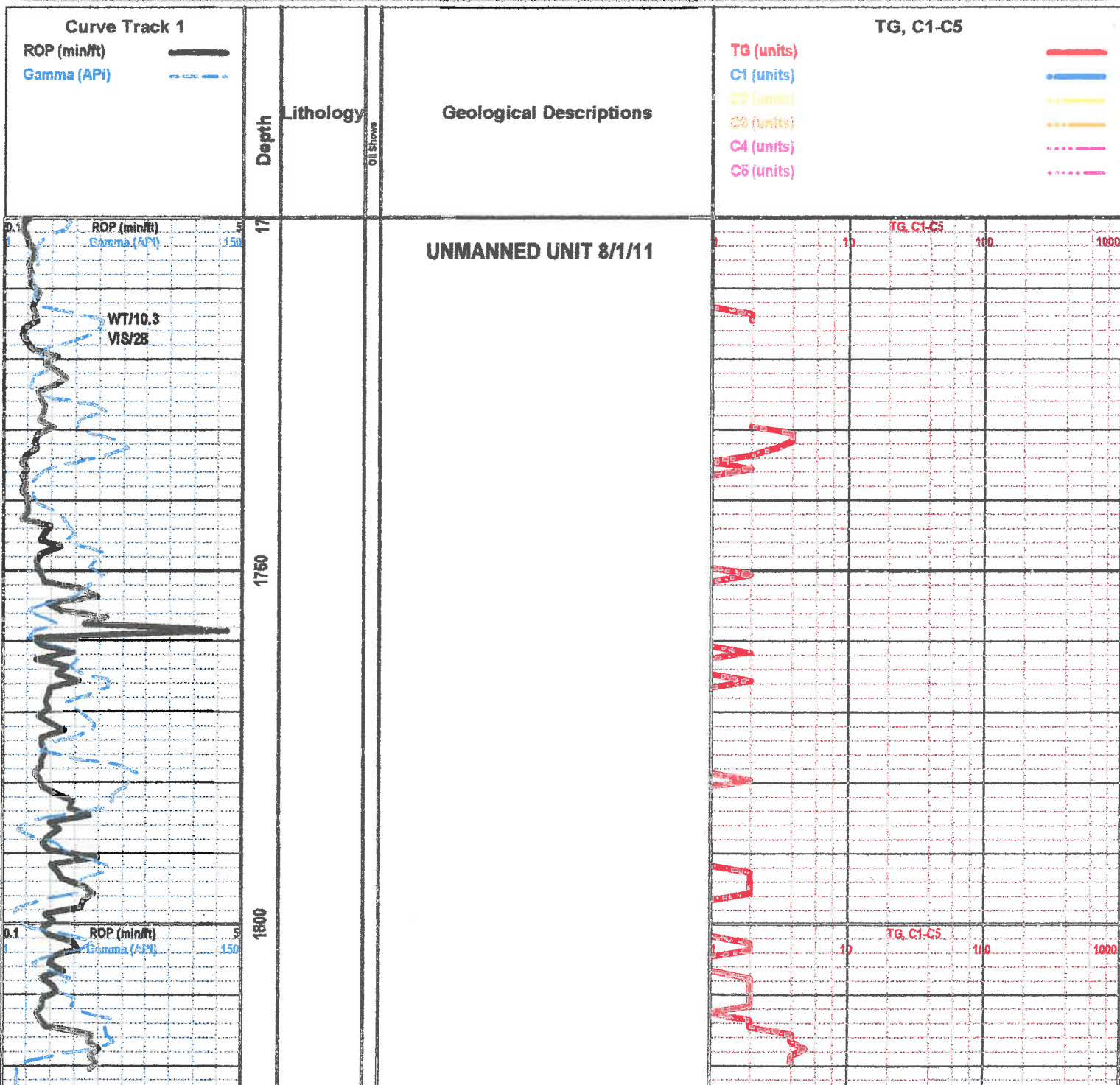
- Even
- Spotted
- Ques
- Dead
- Gas show

INTERVALS

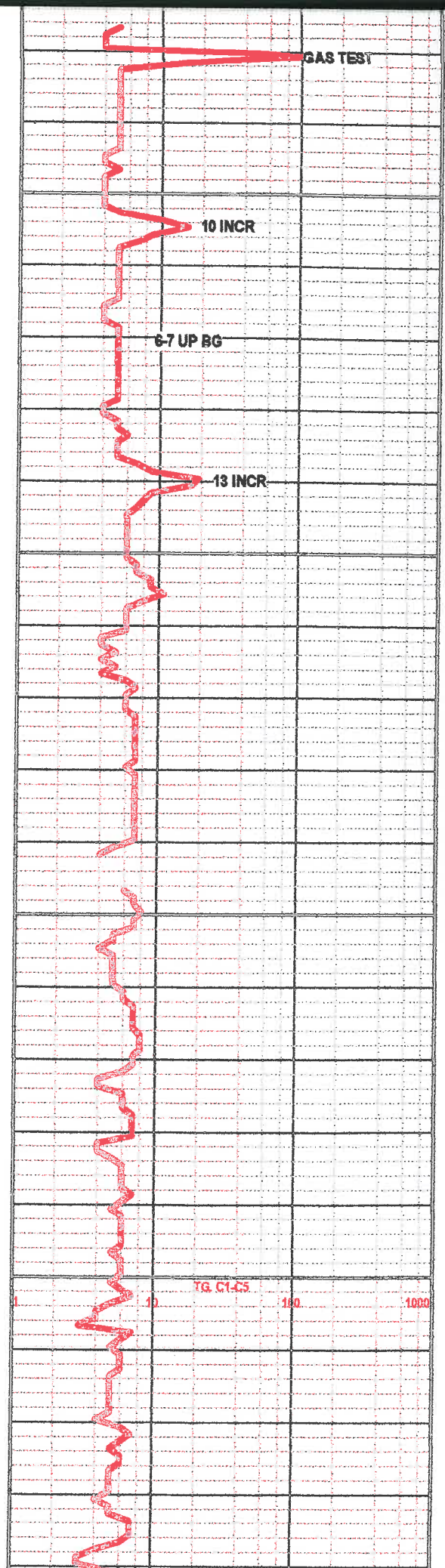
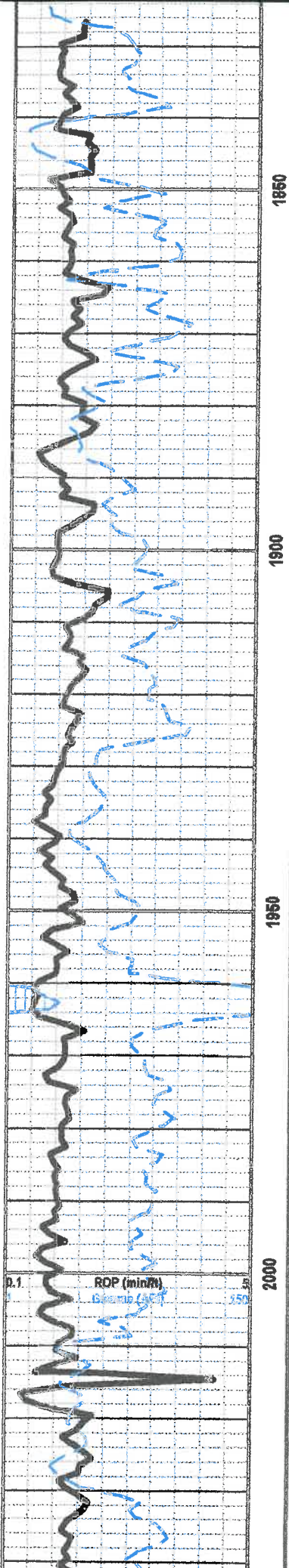
- Core
- Dst
- Dst

EVENTS

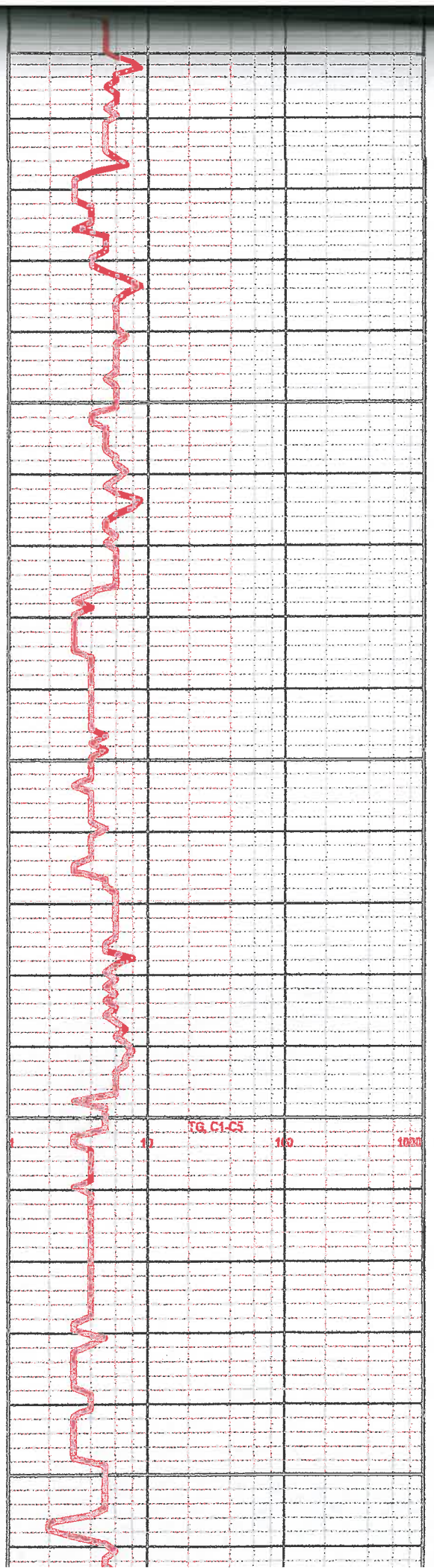
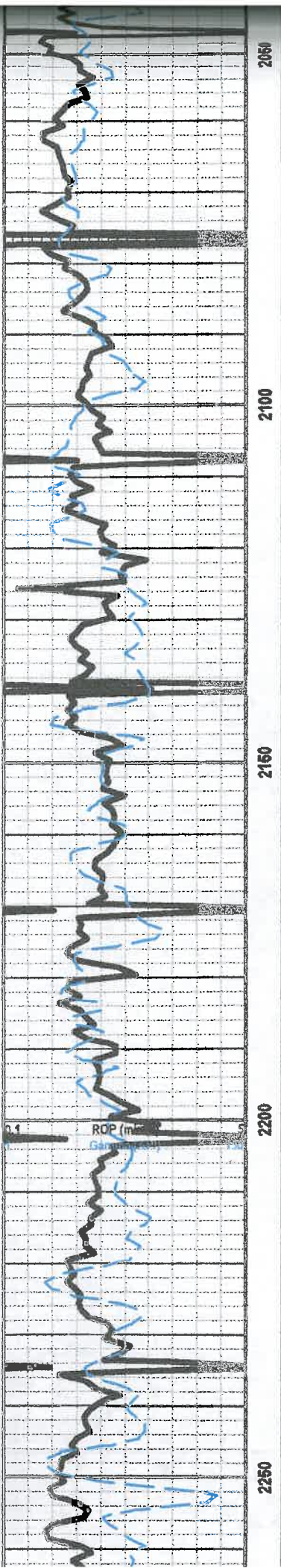
- Rft
- Sidewall



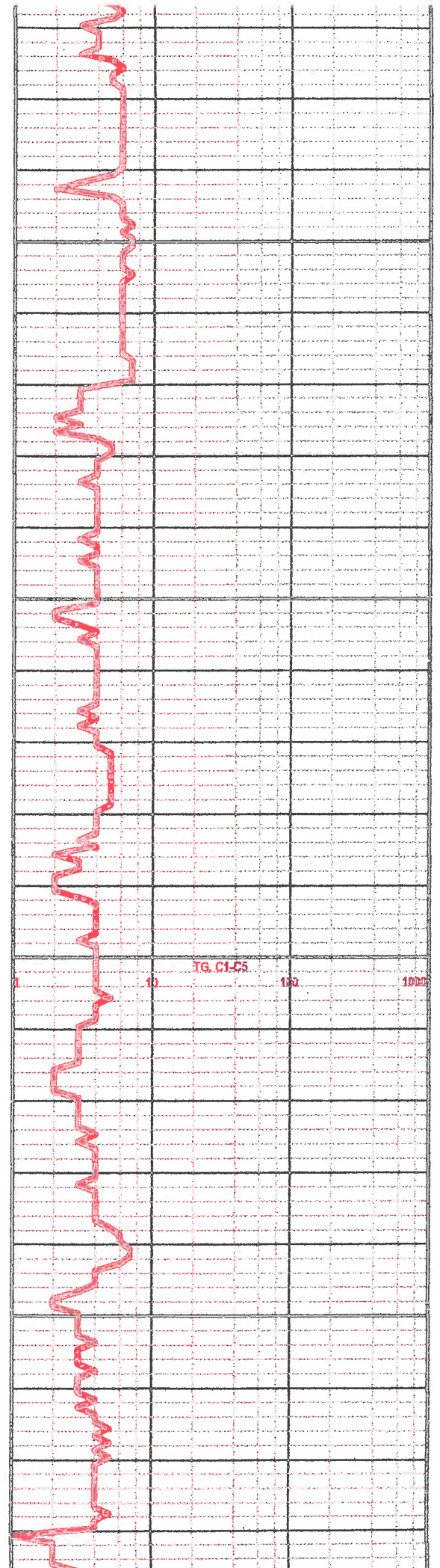
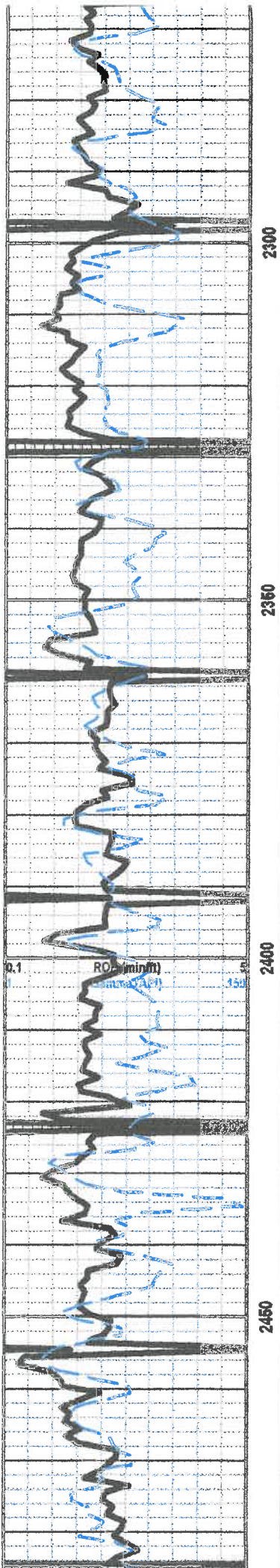




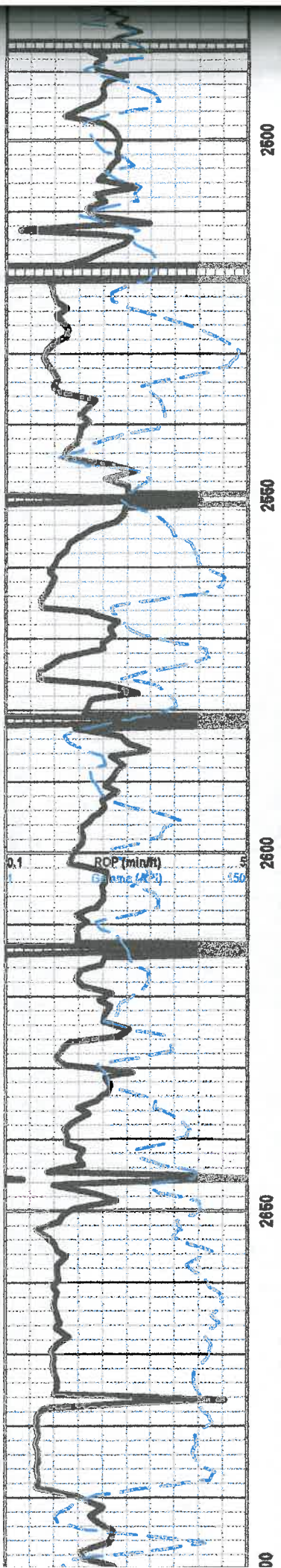




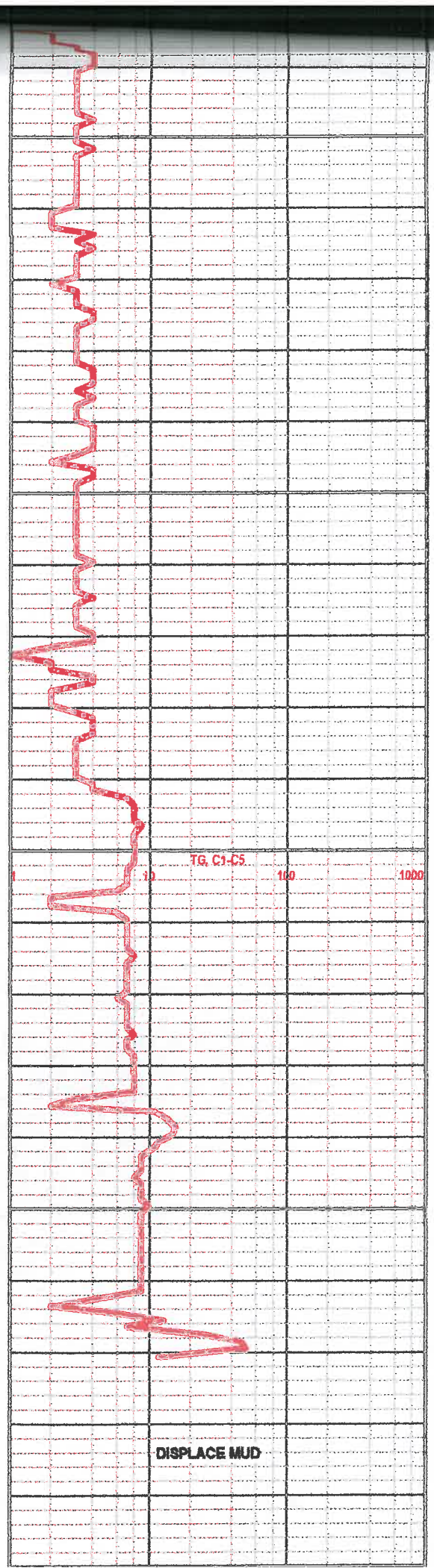




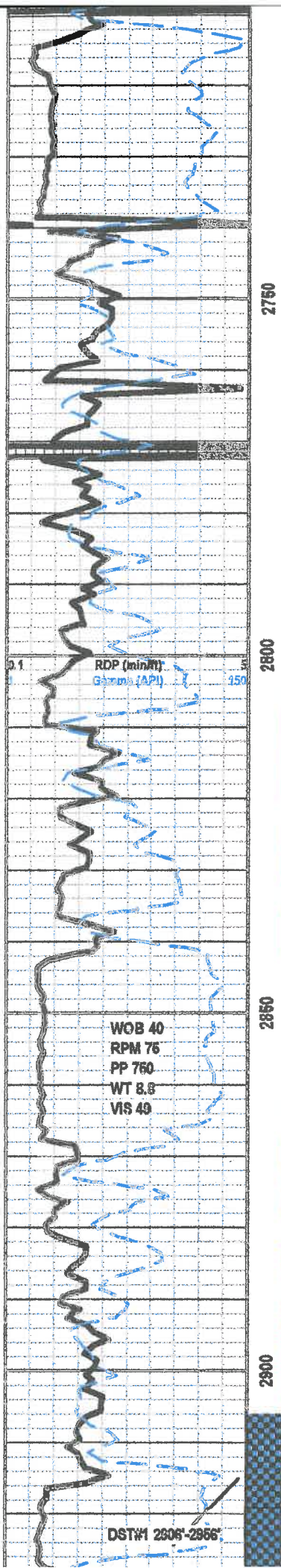




BASE ROOT SHALE 2688' - 786'







2750

2800

2850

2900

**START 24 HR MANNED UNIT ON  
8/03/2011 @ 5:00 PM**

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

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

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

**HOWARD 2868' - 966'**

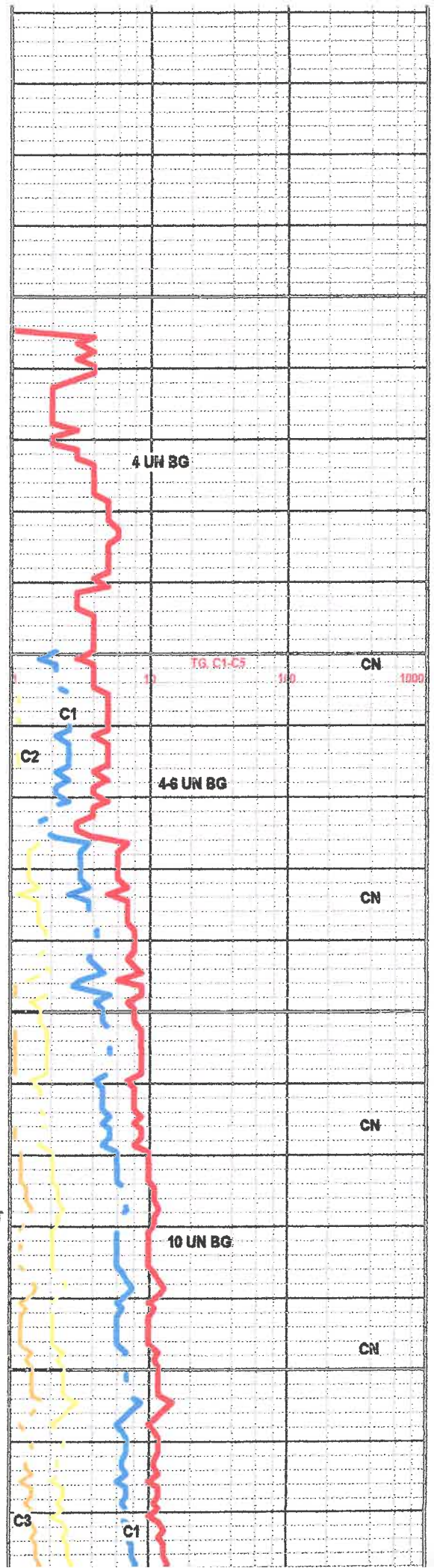
LS- CRM GRY LT TN TO TN, HD DNS TO BRITT,  
FN TO MD XLN TO REXLN MTRX THRU, IMBD  
CALC XLS SCAT THRU, IMBD FOSS FRAGS IP,  
SLI TR SFT WHT CHLK, DLL YEL MIN FLO SCAT  
IN 30%, NO VIS POR, NO VIS SHOW

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

**SEVERY 2916' - 1014'**

SH- GRY TO DK GRY, FRM, SMTH BLKY

TOPEKA 2922' - 1026'





### TOPEKA 2928' - 1026'

LS- CRM OFF WHT LT TN TO TN, STAIN IN 30%, HD DNS TO BRITT, FN XLN TO REXLN MTRX SCAT THRU, IMBD CALC XLS THRU, IMBD FOSS FRAGS SCAT IP, TR SFT WHT CHLK SCAT THRU, SLI TR PYR SCAT IP, TR DLL GLD YEL FLO IN 40%, FR TO TR GD INTR-XLN POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, LT TN STAIN ON DISH

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

SH- GRAY TO DK GRAY, FRM TO TR SFT, SMTH BLKY

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

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

SH- GRAY TO DK GRAY, FRM, SMTH BLKY

SH- SOFT BLACK CARB SHALE

### LeCOMPTON 3036' - 1134'

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

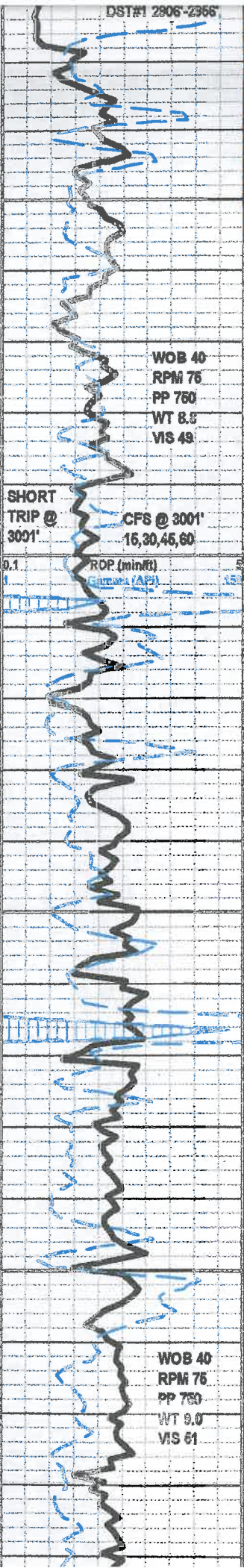
SH- GRAY TO DK GRAY, FRM, BLKY, SLI TR DISS PYR

SH- SOFT BLACK CARB SHALE

LS- CRM OFF WHT LT TN, HD DNS TO BRITT, MD XLN TO REXLN MTRX, TR SUCRO TXT SCAT IP, IMBD CALC XLS THRU, SLI TR FRM WHT CHLK IP, SLI TR IMBD DISS PYR SCAT IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH- GRAY TO DK GRAY, FRM, SMTH BLKY TO TR SPLINTY

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

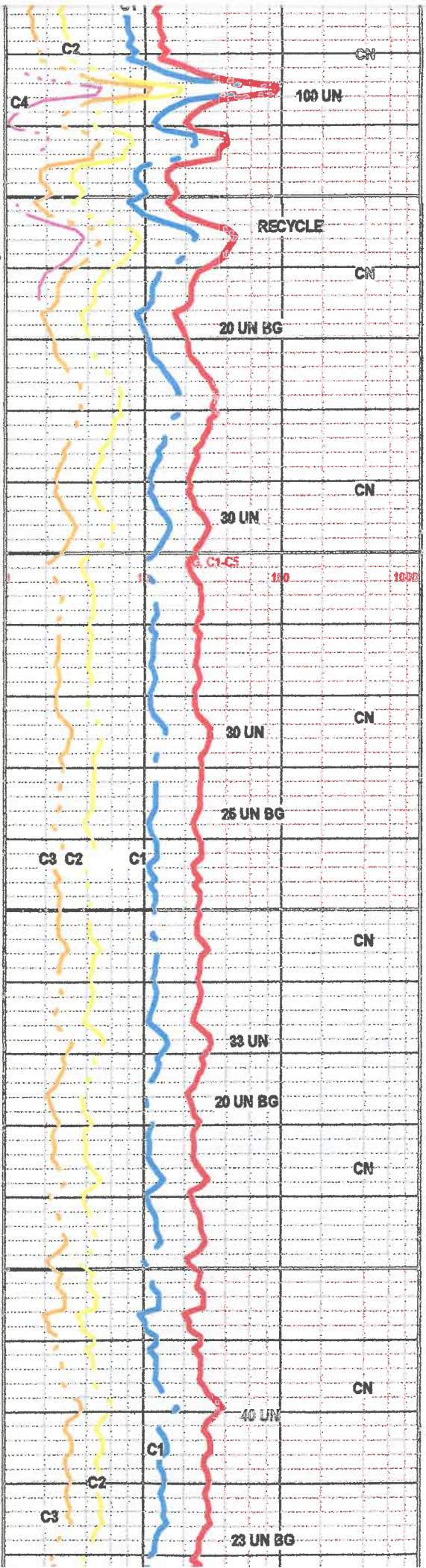


WOB 40  
RPM 76  
PP 760  
WT 8.5  
VIS 49

SHORT TRIP @ 3091'  
CFS @ 3001'  
15, 30, 45, 60

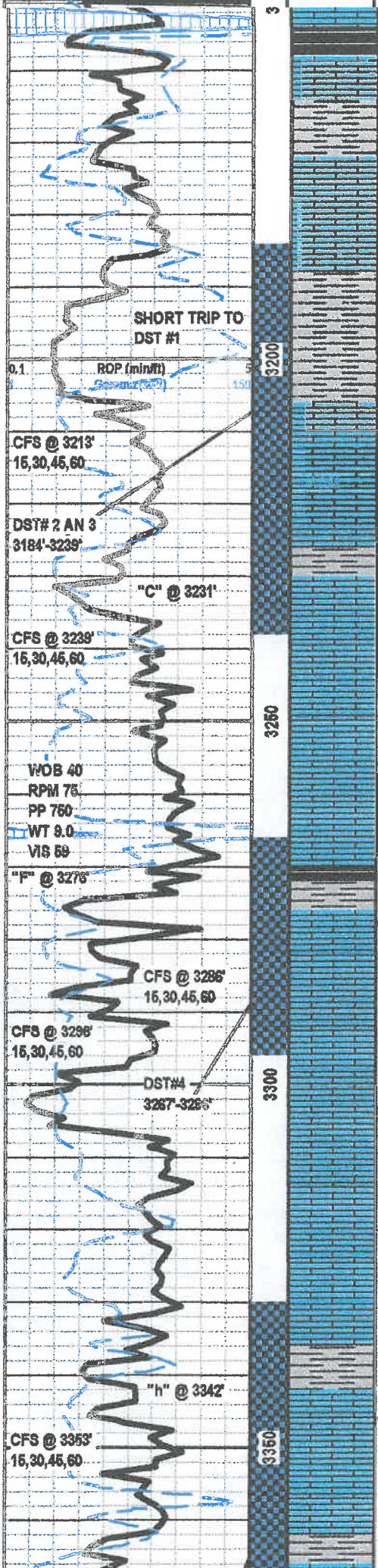
ROP (min/ft)  
1.5

WOB 40  
RPM 76  
PP 760  
WT 9.0  
VIS 61



C2  
C4  
100 UN  
RECYCLE  
CN  
20 UN BG  
CN  
30 UN  
CN  
C1-C5  
100  
1000  
SH- GRAY TO DK GRAY, FRM, SMTH BLKY  
SH- SOFT BLACK CARB SHALE  
30 UN  
CN  
25 UN BG  
C3 C2 C1  
CN  
33 UN  
20 UN BG  
CN  
40 UN  
CN  
C1  
C2  
C3  
23 UN BG





**HEEBNER 3154' - 1252'**

LS- CRM OFF WHT LT TN TO TN, STAIN IN 10%, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, IMBD DISS PYR SCAT THRU, DLL TO SLI TR BRIT YEL FLO IN 20%, TR PR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

LS- CRM OFF WHT LT TN TO TN, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, FRM WHT CHLK SCAT IP, IMBD DISS PYR SCAT THRU, DLL TO YEL FLO IN 10%, TR VPR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

**DOUGLAS 3186' - 1284'**

SH- GRY TO DK GRY, FRM TO SFT, BLKY, DISS PYR SCAT THRU

**LANSING 3205' - 1303'**

LS- CRM LT TN TO TN, STAIN IN 50%, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX THRU, TR SUCRO TXT IP, IMBD CALC XLS SCAT THRU, IMBD GRN SH IP, GLD YEL FLO IN 35%, FR TO GD VUG TO FR INTR-XLN POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, PR OIL ODOR, TN STAIN ON DISH

LS- CRM OFF WHT LT TN TO TN, STAIN IN 20%, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT IP, SFT GRYISH WHT CHLK SCAT THRU, GLD YEL FLO IN 15%, FR INTR-XLN POR, NO TO VPR FLUSH CUT IN 20% TO FR SLOW MLKY BLUE STREAM CUT IN 20%, GD OIL ODOR, LT TN STAIN ON DISH

LS- CRM OFF WHT WHT LT TN TO TN, STAIN IN 10%, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT IP, SFT WHT CHLK SCAT IP, GLD YEL FLO IN 20%, NO VIS POR, NO VIS CUT, NO VIS SHOW

SH- GRY TO BLK, FRM TO SFT, SMTH BLKY TO SPLINTY IP, CALC

LS- CRM OFF WHT LT TN TO TN, STAIN IN 45%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, IMBD OOL THRU, TR SFT WHT CHLK THRU, DLL GLD FLO IN 30%, FR INTR-XLN TO FR OOLDIC POR, GD FLUSH CUT TO GD STRONG MLKY BLUE STREAM CUT IN 20%, GD OIL ODOR, TN STAIN ON DISH

LS- CRM OFF WHT LT TN TO TN, STAIN IN 55%, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX, SUCRO TXT IP, IMBD CALC XLS SCAT IP, TR IMBD OOL SCAT IP, TR SFT WHT CHLK, DLL GLD FLO IN 60%, FR MICRO PP POR FR TO GD WUG POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT IN 45%, GD OIL ODOR, LT TN STAIN ON DISH

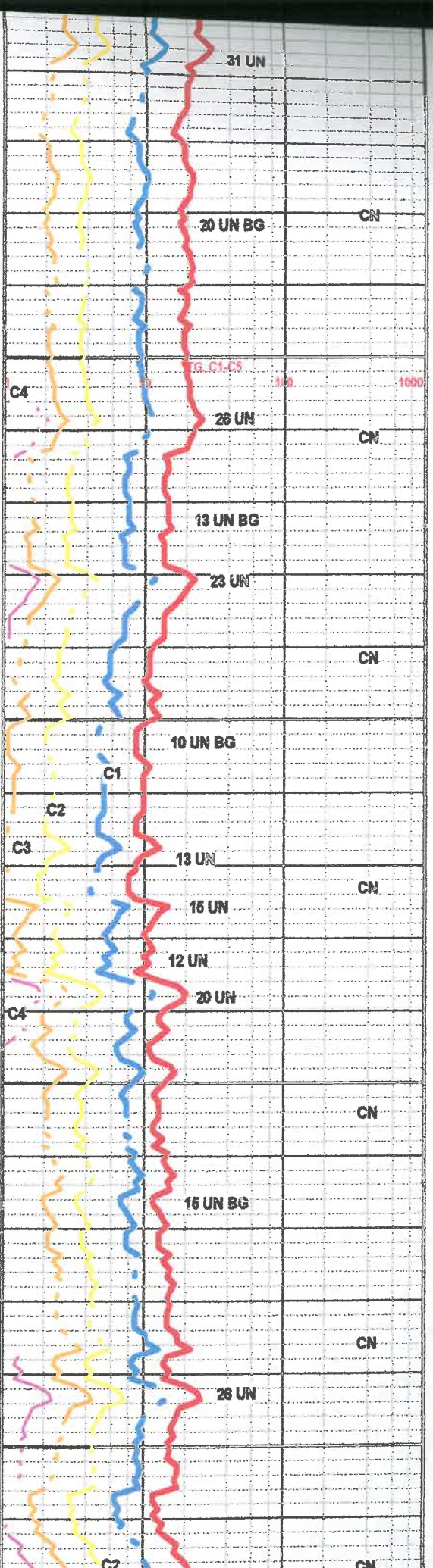
LS- CRM OFF WHT LT TN, STAIN IN 15%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT IP, IMBD FOSS FRAGS IP, DLL GLD FLO IN 15%, TR FR INTR-XLN TO TR FR WUG POR, FR TO GD FLUSH CUT TO GD MLKY BLUE STREAM CUT IN 30%, PR OIL ODOR, VLT STAIN ON DISH

LS- CRM OFF WHT LT TN, STAIN IN 5%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT IP, TR SCAT FRM TO SFT CHLK THRU, IMBD FOSS FRAGS IP, DLL GLD FLO IP, NO VIS POR, NO VIS SHOW

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

LS- CRM LT TN TO TN, STAIN IN 35%, HD DNS TO VBRITT, FN TO MD XLN TO REXLN MTRX THRU, SUCRO TXT THRU, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, SLI TR IMBD GRN CLY, FRM WHT CHLK SCAT THRU, DLL GLD TO BRIT YEL FLO IN 30%, FR TO GD INTR-XLN POR, GD INST FLUSH CUT THRU, GD STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, TN STAIN ON DISH

LS- CRM LT TN TO TN, STAIN IN 55%, HD DNS TO BRITT,



31 UN

20 UN BG

CN

26 UN

CN

13 UN BG

23 UN

CN

10 UN BG

13 UN

CN

15 UN

12 UN

20 UN

CN

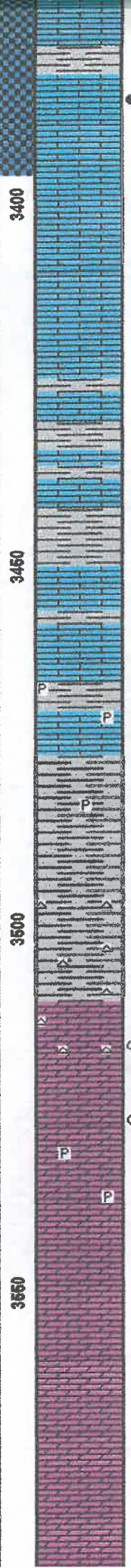
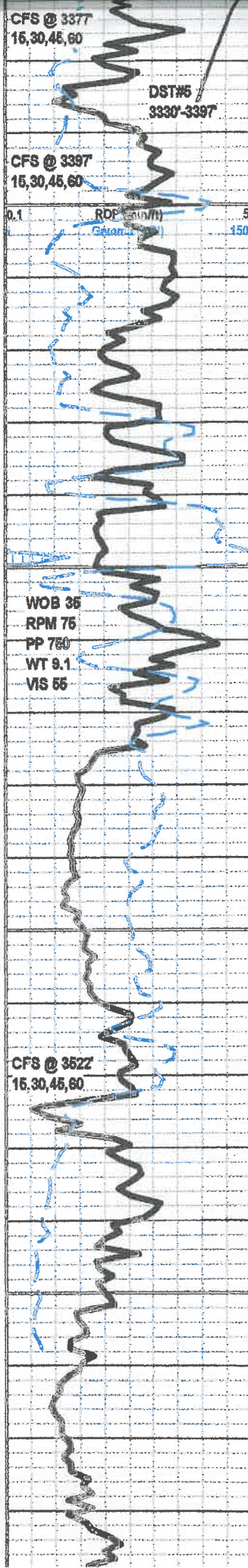
16 UN BG

26 UN

CN

CN





BRIT YEL FLO IN 40%, GD INTR-XLN TO GD WIG POR TO POSS FRAC POR, GD INST CUT THRU, GD STRONG MLKY BLUE STREAM CUT IN 45%, GD OIL ODOR, TN TO DK TN STAIN ON DISH

LS- CRM OFF WHT LT TN TO TN, STAIN IN 45%, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, IMBD OOL SCAT IP, IMBD CALC XLS IP, SLI TR FRM WHT CHLK SCAT IP, DLL GLD TO BRIT YEL FLO IN 60%, GD OOLCASTIC TO TR FR INTR-XLN POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, GD TO EXCL OIL ODOR, TN STAIN ON DISH

LS- CRM OFF WHT LT TN, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX IP, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, DLL GLD TO BRIT FLO IN 10%, FR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

SH- GRY TO DK GRY, FRM TO TR SFT, BLKY, LIMMY

**BKC 3442' - 1540'**

SH- GRY TO DK GRY, FRM TO SFT, BLKY, SLI GUMMY

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

LS- CRM LT TN TO TN, HD DNS TO VBRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS THRU, IMBD FOSS FRAGS THRU, TR IMBD DISS PYR SCAT IP, IMBD SFT WHT CHLK IP, TR IMBD GRYISH BRN SH, GLD FLO IN 25%, FR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

SH- GRY TO DK GRY RDISH BRN, GUMMIE, BLKY, TR DISS PYR, SLI LIMY

SH- GRY TO DK GRY RDISH BRN, GUMMIE, BLKY, SLI LIMY, YELISH WHT CHRT SCAT THRU

**ARBUCKLE 3511' - 1609'**

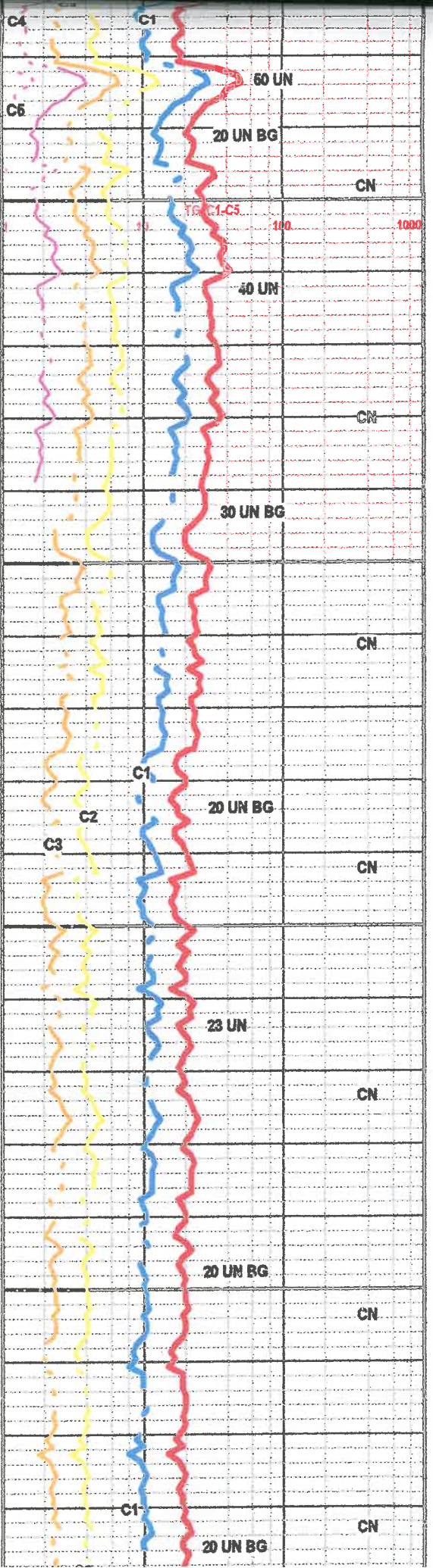
DOL- WHT TO OFF WHT LT TN, HD DNS TO BRITT, MD XLN, REXLN MTRX THRU, SUCRO TXT IP, IMBD SM SRND DOL GRNS, TR YELISH WHT CHRT SCAT IP, TR FRM TO SFT WHT CHLK SCAT THRU, DLL YEL FLO THRU, FR INTR-XLN TO MICRO PP POR, PR FLUSH CUT THRU TO FR WEAK SLOW MLKY BLUE STREAM CUT IN 10%, VPR ODOR TO NO ODOR

DOL- CRM OFF WHT LT GRY TN, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, SUCRO TXT THRU, IMBD SM TO MD SRND TO RND DOL GRNS, TR SFT WHT CHLK SCAT THRU, TR IMBD PYR IP, DLL YEL FLO THRU, FR TO GD INTR-XLN POR, PR FLUSH CUT IN 20% TO NO STREAM CUT

DOL- CRM OFF WHT TN, HD DNS TO BRITT, MD XLN TO REXLN MTRX THRU, SUCRO TXT THRU, IMBD SM TO MD SRND TO RND DOL GRNS, TR SFT WHT CHLK SCAT IP, DLL YEL FLO THRU, FR TO GD INTR-XLN POR, NO VIS CUT, NO VIS SHOW

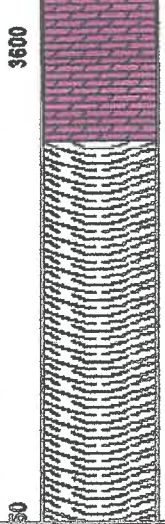
DOL- CRM OFF WHT TO WHT, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX THRU, SUCRO TXT THRU, IMBD SM TO MD SRND DOL GRNS, DLL YEL FLO THRU, FR TO GD INTR-XLN POR, NO VIS CUT, NO VIS SHOW

DOL- CRM OFF WHT TO WHT, HD DNS TO BRITT, FN TO





0.1	RD (min/ft)	50
	Gamma (API)	150
CFS @ 3610'		
15,30,45,60		
CTCH TOTAL 1.6		
HRS		
TOH FOR LOGS		



**TD 3610' @ 5:00 PM 08/09/2011**  
**LOGS BY WEATHERFORD**

**THANK YOU FOR CHOOSING EARTHTECH**

0.1	RD (min/ft)	50
	Gamma (API)	150
CFS @ 3610'		
15,30,45,60		
CTCH TOTAL 1.6		
HRS		
TOH FOR LOGS		
LOG COMPLETED BY		
JASON MARSHALL		

**SAMPLES WILL BE  
 DELIVERED TO KGS**

LOG COMPLETED BY  
 JASON MARSHALL