



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1070788
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

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

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

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

API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1070788

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

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

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

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

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

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

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

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

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

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

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

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> _____	PRODUCTION INTERVAL: _____ _____
--	--	---

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	HOPKINS ET AL 1-32
Doc ID	1070788

All Electric Logs Run

DEN
DIL
MICRO
SONIC

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

December 22, 2011

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

Re: ACO1
API 15-167-23741-00-00
HOPKINS ET AL 1-32
SE/4 Sec.32-15S-15W
Russell 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



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: 9/4/2011
 Invoice # 5087

P.O.#:
 Due Date: 10/4/2011
 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 LOB GG

Account	8200-138
Well/Prospect	HOPKINS ET AL 1-32
Deck	
AFE	
Approval	XXXX
Description	

Reference:
 HOPKINS ET AL 1-32

Description of Work:
 LONG SURFACE JOB

Services / Items Included:

	Quantity	Price	Taxable
Labor		\$ 977.42	No
Common-Class A	370	\$ 4,831.89	Yes
8 5/8" Basket	3	\$ 1,014.76	Yes
Bulk Truck Matl-Material Service Charge	390	\$ 834.93	No
Calcium Chloride	13	\$ 524.06	Yes
Pump Truck Mileage-Job to Nearest Camp	21	\$ 224.34	No
8 5/8" Centralizer	3	\$ 205.52	Yes
Flo Seal	92	\$ 196.96	Yes
Bulk Truck Mileage-Job to Nearest Bulk Plant	21	\$ 131.28	No
8 5/8" Top Rubber Plug	1	\$ 113.46	Yes
Baffle Plate Aluminum, 8 5/8"	1	\$ 96.34	Yes

Item	Quantity	Price	Taxable
Gilsonite	7	\$11.24	Yes

Invoice Terms:

Net 30

SubTotal: \$ 9,162.20
 Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (1,374.33)

SubTotal for Taxable Items: \$ 5,945.09
 SubTotal for Non-Taxable Items: \$ 1,842.77
 Total: \$ 7,787.87
 Tax: \$ 493.44

8.30% Russell County Sales Tax

Amount Due: \$ 8,281.31
Applied Payments:
Balance Due: \$ 8,281.31


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. 5087

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-1-11	32	15	15	Russell	Kansas		4:45P
Lease Hopkins Et Al	Well No. 1-32		Location Goshom S to Co Line #F				
Contractor VAA Energy Rig 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 3/4		T.D. 1006		Charge To Samuel Gray Jr. & Associates			
Csg. 85 23lb		Depth 1008		Street			
Tbg. Size		Depth		City State			
Tool		Depth		City State			
Cement Left in Csg.		Shoe Joint 40'		The above was done to satisfaction and supervision of owner agent or contractor.			
Meas Line		Displace 6.1374		Cement Amount Ordered 370 Common 30 Cement			
EQUIPMENT				1 lb F-b Seal			
Pumptrk 5	No.	Cementer	Helper	Common			
Bulktrk 13	No.	Driver	Driver	Poz. Mix			
Bulktrk	No.	Driver	Driver	Gel. 7			
JOB SERVICES & REMARKS				Calcium 13			
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			
				Sand			
				Handling 390			
				Mileage			
FLOAT EQUIPMENT							
				Guide Shoe			
				Centralizer 3			
				Baskets 3			
				AFU Inserts			
				Float Shoe			
				Latch Down			
Landed Plug @ 700'				Baffle Plate			
				Rushes Plug			
				Pumptrk Charge Long Surface Job			
				Mileage 21			
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: 9/11/2011
 Invoice # 5293

P.O.#:
 Due Date: 10/11/2011
 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 LOB GG

Account	8300-238
Well/Prospect	HOPKINS ET AL 1-32
Deck	
AFE	
Approval	
Description	

Reference:
 HOPKINS ET AL 1-32

Description of Work:
 PROD LONG STRING

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 937.80	No	Salt (Fine)	19	\$272.41	Yes
Common-Class A	225	\$ 2,819.19	Yes	Latch Down Plug & Baffle, 5 1/2"	1	\$230.05	Yes
Gilsonite	1057	\$ 1,628.35	Yes	Pump Truck Mileage-Job to Nearest Camp	21	\$215.24	No
CFL 117	176	\$ 1,113.46	Yes	Bulk Truck Mileage-Job to Nearest Bulk Plant	21	\$125.95	No
5 1/2" Basket	3	\$ 708.65	Yes	Flo Seal	56	\$115.03	Yes
Bulk Truck Matl-Material Service Charge	255	\$ 523.78	No	KCL	2	\$61.33	Yes
CD-110	117	\$ 480.65	Yes				
5 1/2" Turbolizer	8	\$ 476.54	Yes				
Mud Clear	500	\$ 380.00	Yes				
Defoamer A or CAF-38	50	\$ 359.46	Yes				
Auto Fill Float Shoe, 5 1/2"	1	\$ 314.27	Yes				

SubTotal: \$ 10,762.18

Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (1,614.33)

SubTotal for Taxable Items: \$ 7,615.48

SubTotal for Non-Taxable Items: \$ 1,532.36

Total: \$ 9,147.85

Tax: \$ 632.09

8.30% Russell County Sales Tax

Amount Due: \$ 9,779.93

Applied Payments:

Balance Due: \$ 9,779.93

Invoice Terms:

Net 30

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

SEP 20 2011

SAMUEL GARY JR.
 & ASSOCIATES, INC.

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

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

No. 5293

Date	9/8/11	Sec.	32	Twp.	15	Range	15	County	Russell	State	KS	On Location		Finish	11:00AM
------	--------	------	----	------	----	-------	----	--------	---------	-------	----	-------------	--	--------	---------

Lease	Hopkins Et A1	Well No.	1-32	Location	Gorham, Ste County Line, 1/2 E, N into										
-------	---------------	----------	------	----------	--	--	--	--	--	--	--	--	--	--	--

Contractor	VAL #6	Owner	To Quality Oilwell Cementing, Inc.												
Type Job	Production String	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 3/8"	T.D.	3590'	Charge To	Samuel Gary Jr. + Associates, Inc.										
-----------	--------	------	-------	-----------	------------------------------------	--	--	--	--	--	--	--	--	--	--

Csg.	5 1/2" 15.50 #	Depth	3575'	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.	19'	Shoe Joint	19'	Cement Amount Ordered	225 sx Q-Proc 10% Salt										
---------------------	-----	------------	-----	-----------------------	------------------------	--	--	--	--	--	--	--	--	--	--

Meas Line		Displace	84.9 Bbls.	5% gilsonite, .3% CD-110, .8% CFL-117, 25% CAP-3											
-----------	--	----------	------------	--	--	--	--	--	--	--	--	--	--	--	--

EQUIPMENT

Pumptrk	9	No.	Cement		Common	225										
			Helper	Raul												
Bulktrk	3	No.	Driver		Poz. Mix											
			Driver	Matt												
Bulktrk	PV	No.	Driver		Gel.											
			Driver	Cory												

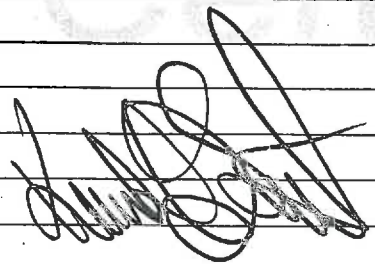
JOB SERVICES & REMARKS

Remarks:															
Rat Hole	30sx	Hulls 20 BBL													
Mouse Hole	20sx	Salt 19													
Centralizers	1, 3, 5, 7, 9, 11, 13, 15	Flowseal 56#													
Baskets	3, 9, 15	Kol-Seal 1057#													
D/V or Port Collar		Mud CLR 48 - 500gal / 200# KCL													
Est. Circ.	- 1 hour	CFL-117 or CD110 CAE 38 50#													
Pump	500gal. Mud Clear - 48	Sand CFL-117 176#													
Plug Rat	Mouse	Handling 255													
Mix	175 sx down 5 1/2"	Mileage 5 1/2"													

FLOAT EQUIPMENT

Displace	- 20 Bbls KCL, 64.9 Bbls. water	Guide Shoe													
Lead Plug	1200#	Centralizer	8 - Turbos												
Float Held	*	Baskets	3												
		AFU Inserts													
		Float Shoe	1												
		Latch Down	1												
		Rotating Head													

Thank You!!



Pumptrk Charge	prod Long String
Mileage	21

Tax	
Discount	
Total Charge	

X Signature



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

Well Name: Hopkins et al 1-32
 Location: Sec. 32-12S-15W
 License Number: 15-167-23741-0000
 Spud Date: 8/31/11
 Surface Coordinates: 145'FSL/2420'FEL
 Region: wildcat
 Drilling Completed: 9/07/11

Bottom Hole
 Coordinates:
 Ground Elevation (ft): 1926' K.B. Elevation (ft): 1936'
 Logged Interval (ft): 1700' To: 3590' Total Depth (ft): 3590'
 Formation: LANSIN, ARBUCKLE
 Type of Drilling Fluid:

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Samuel Gary Jr, & Assoc.
 Address: 1515 Wykoop, Ste. # 700
 Denver, Colo. 80202
 Geo: NEIL SHARP

GEOLOGIST

Name: JASON MARSHALL
 Company: Earth Tech, OGL, Inc
 Address: P.O. Box 683
 Hooker, Okla. 73945
 Off: 888-543-8378 Cell: 620-655-1298

DSTs

DST #1, 3214'-3260', 5,60,40,120
 IFP-WEAK TO FAIR BLOW 1"-5", ISI-NO BLOW BACK, FF-BOB 34 MIN, FSI- NO BLOW BACK, IH-1535,
 FH-1505, FIF-52, FFF-56, SIF-65, SFF-89, ISI-493, FSI-414, TOTAL REC- 140', 100% MUD

DST #2, 3258'-3291', 5,60,20,70
 IFP-DYING SUR BLOW, ISI-NO BLOW BACK, FF-NO BLOW, FSI- NO BLOW BACK, IH-1593, FH-1458, FIF-16,
 FFF-19, SIF-20, SFF-20, ISI-629, FSI-519, TOTAL REC- 2', 100% MUD

DST #3, 3357'-3390', 5,60,40,120
 IFP-BOB 1 MIN, ISI-BOB 3 MIN, FF-BOB 1 MIN, FSI- BOB 3 MIN, IH-1640, FH-1617, FIF-116, FFF-126, SIF-161,
 SFF-460, ISI-1163, FSI-1127, TOTAL REC- 1205', GRAV- 39, CHLORIDES- 35,000PPM
 210' FREE OIL= 95% OIL, 5% MUD
 875' 5BL FREE OIL/3BL HOCM
 60' GW&MCO= 20% GAS, 45% OIL, 10% WATER, 25% MUD
 60' GW&MCO= 50% GAS, 15% OIL, 20% WATER, 15% MUD

DST #4, 3394'-3428', 5,60,30,90
 IFP-WEAK BLOW THROUGHTOUT 1/4"-1", ISI-NO BLOW BACK, FF-NO BLOW, FSI- NO BLOW BACK, IH-1641,
 FH-1608, FIF-18, FFF-23, SIF-24, SFF-38, ISI-1103, FSI-1028, TOTAL REC- 40', SCUM OIL, 85% WATER, 15%
 MUD

ROCK TYPES

	Anhy		Gyp		Shgy		Sandylms
	Bent		Igne		Sltst		Shale
	Brec		Lmst		Ss		Sltstn
	Cht		Meta		Till		Shlyslts
	Clyst		Mrlst		Carb sh		Sltyslts
	Coal		Salt		Dol		Sltyslts
	Congl		Shale		Dtd		Lms
	Dol		Shcol		Gry sh		

ACCESSORIES

MINERAL

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

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

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram

- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

STRINGER

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

- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandyms
- Sh
- Sltstn

TEXTURE

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

OTHER SYMBOLS

POROSITY TYPE

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

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang

Angular

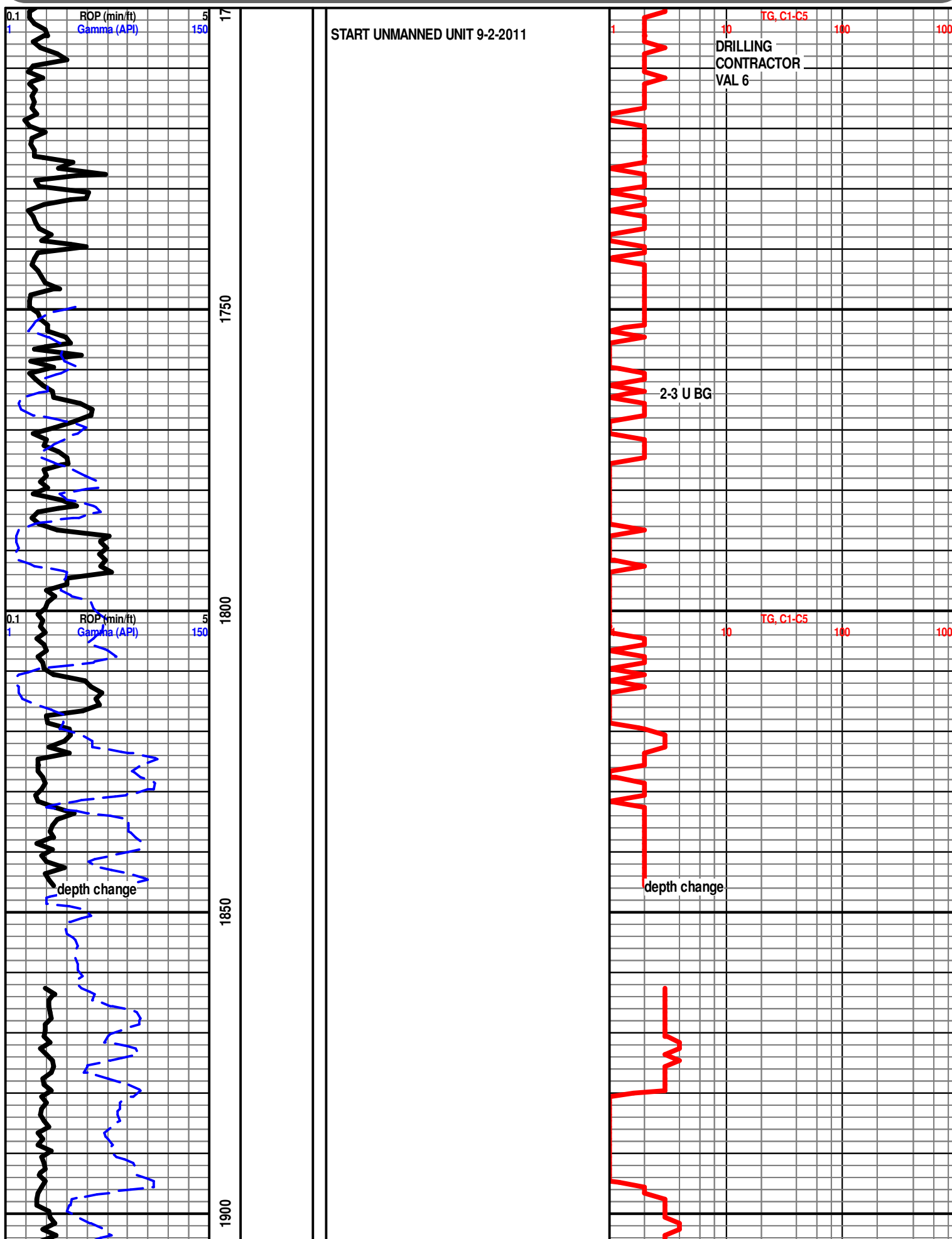
- Angular
- #### OIL SHOWS
- Even
 - Spotted
 - Ques
 - Dead
 - Gas show

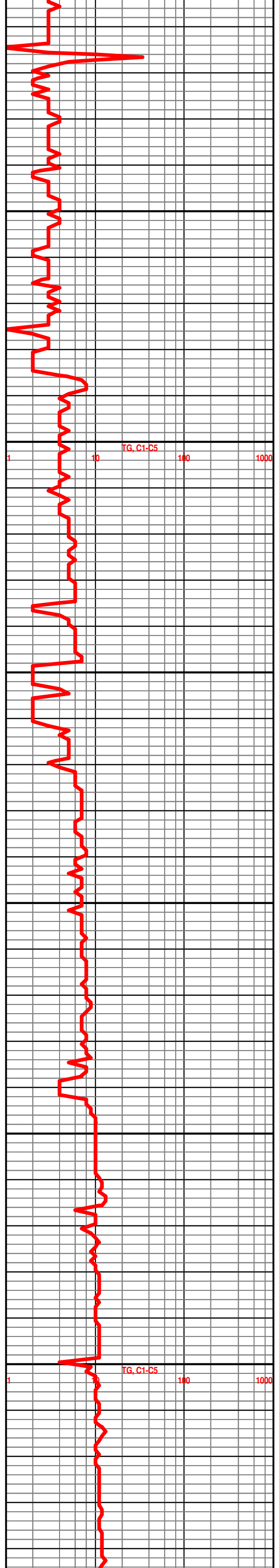
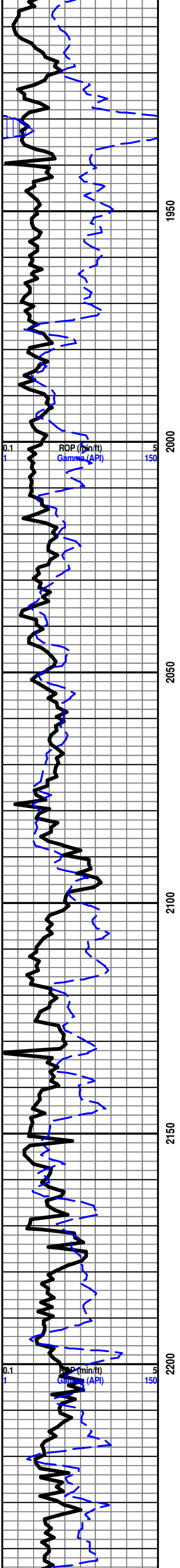
INTERVALS

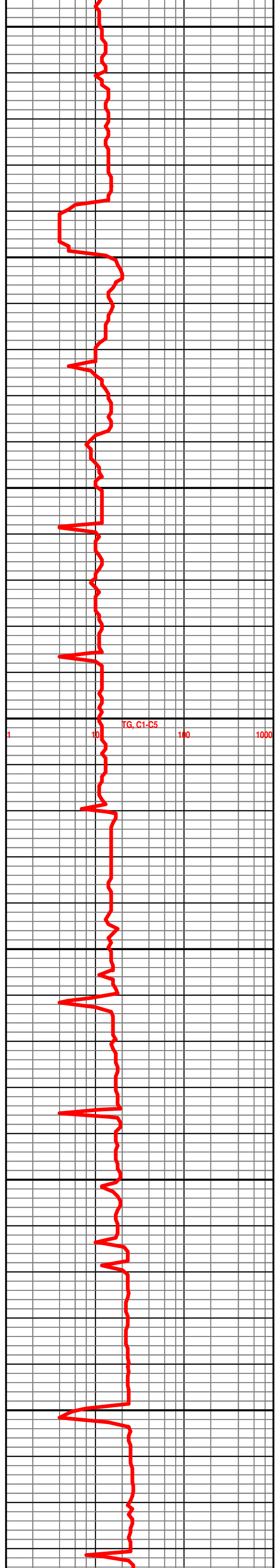
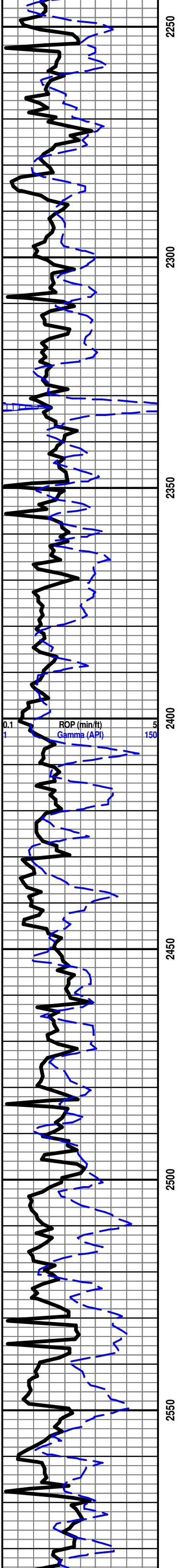
- Core
- Dst
- Dst

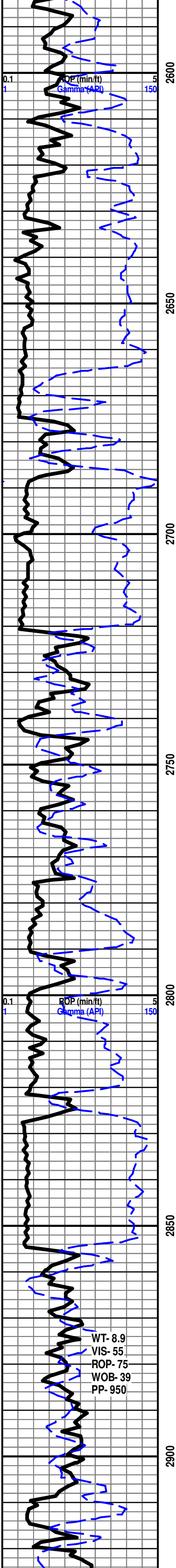
EVENTS

- Rft
- Sidewall









BASE ROOT SH 2674' - 738'

STARTED 24 HR MANNED UNIT
9/03/11

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

HOWARD 2855' - 919'

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

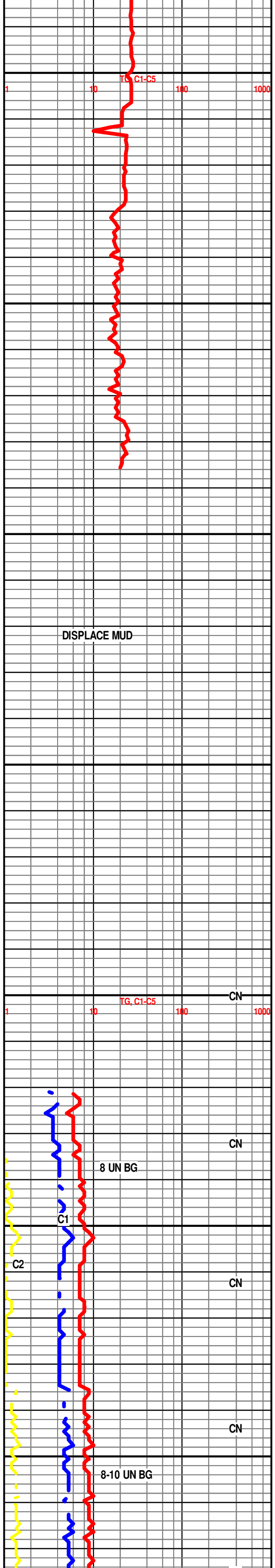
LS- CRM LT GRY LT TN TO TN, HD DNS TO
BRITT, FN XLN, REXLN MTRX SCAT THRU,
IMBD CALC XLS SCAT IP, IMBD FOSS FRAGS
SCAT THRU, DLL YEL FLO THRU, NO VIS POR,
NO VIS CUT, NO VIS SHOW

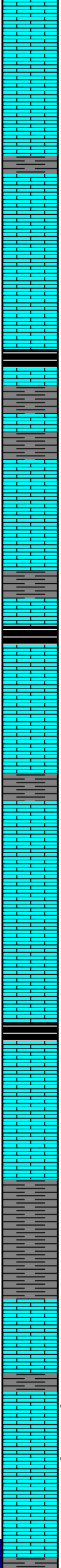
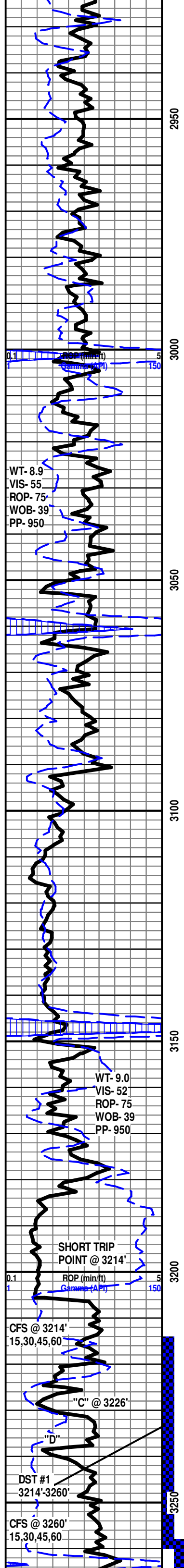
SEVERY 2909' - 973'

SH- GRY TO DK GRY, FRM, SMTH BLKY

TOPEKA 2920' - 984'

LS- CRM OFF WHT LT TN TO TN, HD DNS TO





LS- CRM OFF WHT, LT TN TO TN, HD DNS TO BRITT, FN XLN TO REXLN MTRX SCAT THRU, IMBD CALC XLS SCAT THRU, DLL YLL FLO IN 40%, NO VIS POR, NO VIS CUT, NO VIS SHOW

SH- GRY TO DK GRY, FRM, BLKY

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

SH- SOFT BLACK CARB SHALE

SH- GRY TO DK GRY, FRM TO SFT, SMTH BLKY, SLI CALC

LeCOMPTON 3023' - 1087'

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

SH- GRY TO DK GRY, FRM, SMTH BLKY, SLI CALC, SLI TR DISS PYR

SH- SOFT BLACK CARB SHALE

LS- CRM OFF WHT, LT TN TO TN, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS THRU, SLI TR IMBD FOSS FRAGS IP, TR BRIT YEL FLO IN 5%, FR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

SH- GRY TO DK GRY, FRM, SMTH BLKY

LS- CRM OFF WHT LT TN TO TN, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, IMBD SFT WHT CHLK SCAT THRU, DLL YEL FLO IN 40%, NO VIS 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, SFT WHT CHLK SCAT THRU, TR DISS PYR IP, DLL YEL FLO IN 30%, NO VIS POR, NO VIS CUT, NO VIS SHOW

HEEBNER 3146' - 1210'

SH- SOFT BLACK CARB SHALE

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, FRM TO SFT WHT CHLK SCAT THRU, IMBD DISS PYR SCAT IP, DLL YEL FLO IN 15%, FR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

DOUGLAS 3180' - 1244'

SH- GRY TO DK GRY, FRM TO TR SFT, BLKY, SLI CALC, IMBD DISS PYR

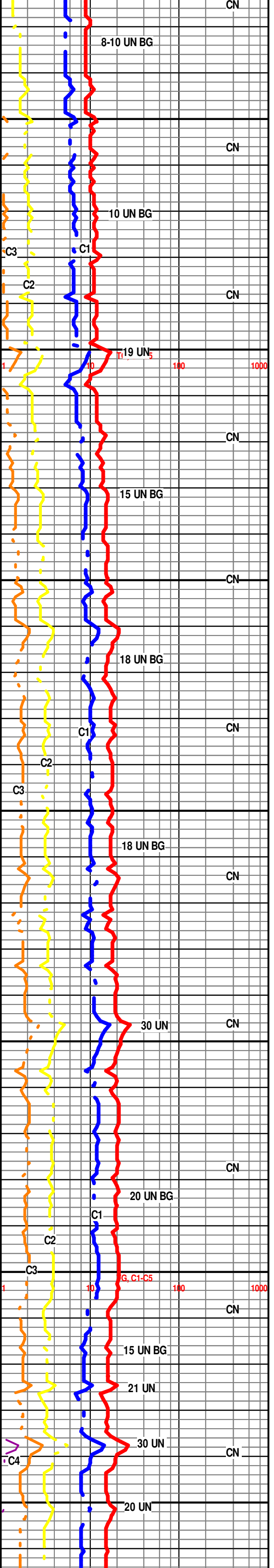
LANSING 3206' - 1270'

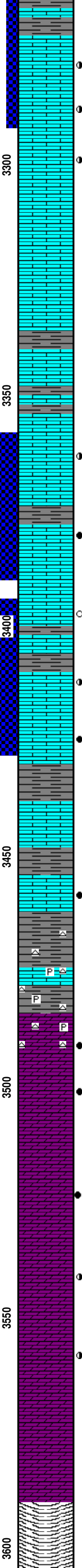
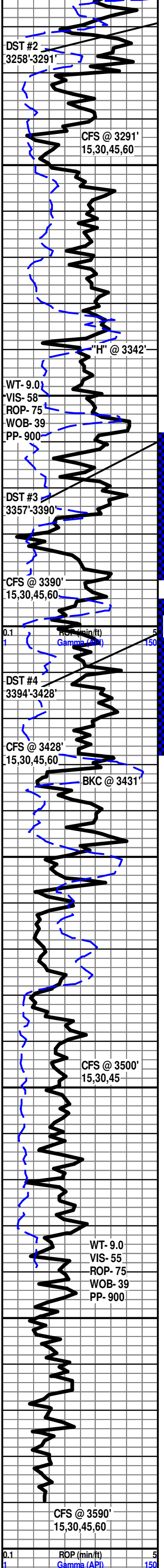
LS- CRM LT TN TO TN, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, IMBD FOSS FRAGS IP, TR SFT WHT CHLK IP, SLI TR DISS PYR IP, DLL YEL FLO IN 40%, FR INTR-XLN POR, NO VIS CUT, NO VIS SHOW

LS- CRM OFF WHT LT TN TO TN, STAIN IN 25%, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS THRU, SLI TR IMBD DISS PYR, DLL GLD YEL TO BRIT YEL FLO IN 30%, GD MICRO PP TO GD INTR-XLN POR, GD FLUSH CUT THRU TO GD MLKY BLUE STREAM CUT IN 30%, FR OIL ODOR, VLT TN STAIN ON DISH

LS- CRM LT TN TO TN, STAIN THRU, HD DNS TO V/BRITT, FN TO MD XLN TO REXLN MTRX THRU, SUCRO TXT SCAT THRU, IMBD CALC XLS THRU, SLI TR IMBD FOSS FRAGS IP, GLD FLO THRU TO BRIT YEL FLO IN 25%, GD INTR-XLN TO FR TO GD VUG POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, DK TN STAIN ON DISH

LS- CRM OFF WHT LT TN TO TN, STAIN IN 30%, HD DNS TO





VBRITT, FN XLN TO REXLN MTRX THRU, SUCRO TXT SCAT SCAT IP, IMBD CALC XLS THRU, TR IMBD OOL SCAT IP, SLI TR IMBD CHRT IP, SFT WHT CHLK SCAT THRU, GLD FLO THRU, GD INTR-XLN TO FR VUG POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT IN 30%, GD OIL ODOR, TN STAIN ON DISH

LS- CRM LT TN TO TN, STAIN IN 40%, HD DNS TO VBRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS THRU, IMBD OOL SCAT THRU, TR SFT WHT CHLK THRU, GLD FLO THRU, PR OOL POR TO FR VUG POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, TN STAIN ON DISH

LS- CRM OFF WTH TN TO TR DK TN, STAIN IN 50%, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX THRU, IMBD CALC XLS SCAT THRU, TR IMBD OOL SCAT IP, FRM TO SFT WHT CHLK THRU, GLD FLO THRU TO TR BRIT YEL IN 5%, GD INTR-XLN TO FR VUG POR, GD INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, FR OIL ODOR, DK TN STAIN ON DISH

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

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

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

LS- CRM TN TO DK TN, STAIN THRU, DNS TO VBRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS IP, IMBD OOL SCAT IP, SLI TR IMBD FOSS FRAGS IP, GLD FLO THRU TO BRIT YEL FLO IN 20%, FR OOLCST POR TO GD VUG POR, POSS FRAC POR, EXCL INST FLUSH CUT THRU TO EXCL STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, DK TN STAIN ON DISH

LS- CRM OFF WHT LT TN, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX THRU, SLI TR SUCRO TXT IP, IMBD CALC XLS SCAT IP, V/S LI TR IMBD DISS PYR IP, DLL YEL FLO THRU, TR FR INTR-XLN POR, PR FLUSH CUT TO NO STREAM CUT, NO ODOR

LS- CRM OFF WHT LT TN TO TN, STAIN IN 15%, HD DNS TO BRITT, FN TO MD XLN TO REXLN MTRX THRU, SUCRO TXT IP, IMBD CALC XLS SCAT THRU, TR IMBD FOSS FRAGS IP, DLL YEL FLO THRU, TR FR TO GD INTR-XLN POR, GD FLUSH CUT THRU TO FR STRONG MLKY BLUE STREAM CUT IN 25%, FR TO TR GD OIL ODOR, LT TN STAIN ON DISH

LS- CRM OFF WHT LT TN TO TN, STAIN IN 30%, HD DNS TO VBRITT, FN XLN TO REXLN MTRX THRU, IMBD CALC XLS THRU, IMBD FOSS FRAGS IP, V/S LI TR IMBD OOL IP, DLL GLD FLO THRU TO BRIT YEL FLO IN 10%, FR TO GD INTR-XLN POR TO TR GD VUG POR, GD FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, TN STAIN ON DISH

LS- CRM TN TO DK TN, DK STAIN THRU, HD DNS TO BRITT, FN XLN TO REXLN MTRX THRU, SUCRO TXT THRU, IMBD CALC XLS SCAT THRU, V/S LI TR SFT IMBD CHLK, DLL GLD FLO THRU TO BRIT YEL FLO IN 10%, GD INTR-XLN TO GD VUG POR, EXCL INST FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, FR OIL ODOR, TN STAIN ON DISH

SH- GRY TO DK GRY RDISH BRN, FRM TO SFT, BLKY, CHRT THRU, IMBD DISS PYT THRU, SLI CALC

ARBUCKLE @ 3485' -1549'

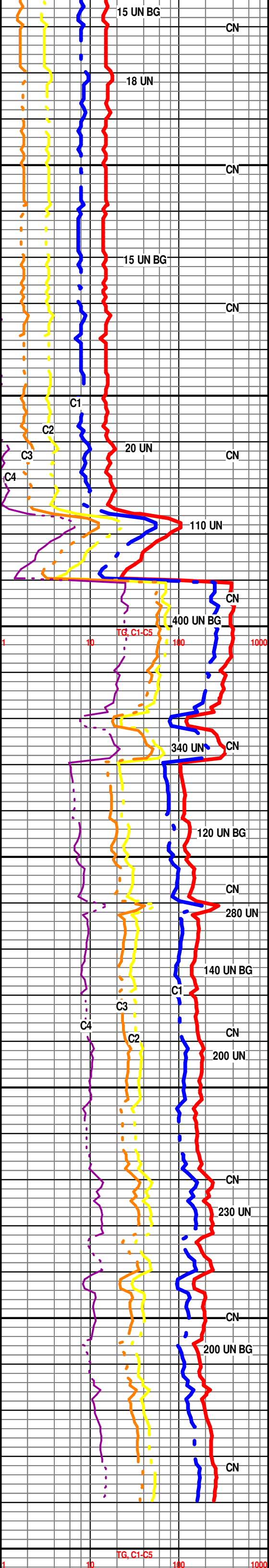
DOL- GRY TN TO DK TN, DK STAIN THRU, HD DNS TO VBRITT, FN TO MD XLN, REXLN MTRX THRU, SUCRO TXT THRU, IMBD ABDT SM ANG TO S/RND DOL GRNS, FRM TO SFT WHT CHLK THRU, TR YELISH WHT ORG CHRT SCAT THRU, V/S LI TR DISS PYR IP, DLL GLD FLO THRU, GD INTR-XLN POR TO FR VUG POR, EXCL INST FLUSH CUT THRU TO EXCL STRONG MLKY BLUE STREAM CUT THRU, GD OIL ODOR, DK STAIN ON DISH

DOL- LT GRY TO GRY TN TO DK TN, STAIN THRU, HD DNS TO VBRITT, FN TO MD XLN, REXLN MTRX THRU, SUCRO TXT THRU, IMBD ABDT SM ANG TO S/RND DOL GRNS, TR FRM WHT CHLK IP, TR YELISH WHT CHRT SCAT IP, DLL GLD FLO THRU, GD INTR-XLN POR TO GD VUG POR, EXCL INST FLUSH CUT THRU TO EXCL STRONG MLKY BLUE STREAM CUT THRU, FR OIL ODOR, DK STAIN ON DISH

DOL- LT GRY TO GRY CRM TN, STAIN IN 50%, HD DNS TO VBRITT, FN XLN, REXLN MTRX THRU, SUCRO TXT THRU, IMBD ABDT SM ANG TO S/RND DOL GRNS, DLL GLD FLO THRU, GD INTR-XLN POR, GD FLUSH CUT THRU TO GD STRONG MLKY BLUE STREAM CUT THRU, FR OIL ODOR, TN STAIN ON DISH

DOL- LT GRY TO GRY OFF WHT CRM TN, STAIN IN 30%, HD DNS TO BRITT, FN XLN, REXLN MTRX THRU, SUCRO TXT THRU, IMBD ABDT SM ANG TO S/RND DOL GRNS, TR FRM WHT CHLK IP, DLL GLD FLO THRU, FR TO GD INTR-XLN POR, GD FLUSH CUT THRU TO FR MLKY BLUE STREAM CUT 20%, PR OIL ODOR, LT TN STAIN ON DISH

DOL- LT GRY OFF WHT CRM TN, STAIN IN 10%, HD DNS TO BRITT, FN XLN, REXLN MTRX THRU, SUCRO TXT THRU, IMBD ABDT SM ANG TO S/RND DOL GRNS, TR FRM WHT CHLK IP, DLL GLD FLO THRU, FR INTR-XLN POR, FR FLUSH CUT THRU TO FR MLKY BLUE STREAM CUT 10%, PR OIL ODOR





DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. and Associates, Inc.**

1515 Wynkoop St. Ste 700
Denver, CO 80202

ATTN: Clayton Camozzi

32-15-15 Russell, Ks

Hopkins et al 1-31

Start Date: 2011.09.04 @ 21:11:55

End Date: 2011.09.05 @ 04:56:25

Job Ticket #: 44165 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.09.28 @ 14:53:53



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44165

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2011.09.04 @ 21:11:55

GENERAL INFORMATION:

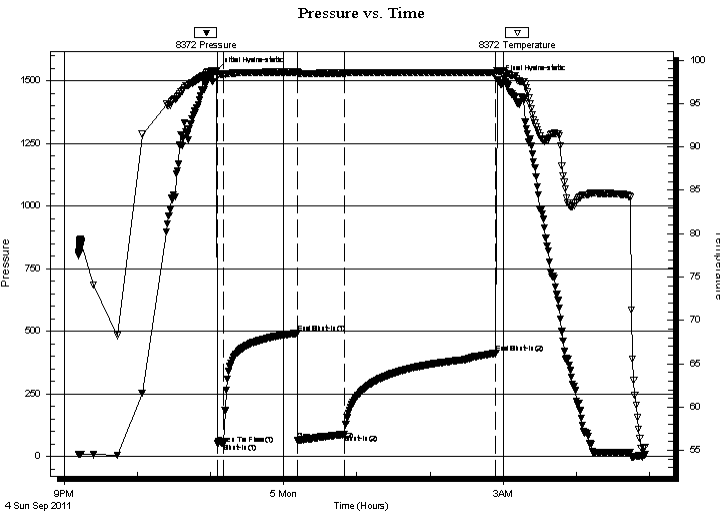
Formation: **LKC "C-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:05:55
 Time Test Ended: 04:56:25
 Interval: **3214.00 ft (KB) To 3260.00 ft (KB) (TVD)**
 Total Depth: 3260.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brian Fairbank
 Unit No: 41
 Reference Elevations: 1936.00 ft (KB)
 1926.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8372

Inside

Press @ Run Depth: 89.18 psig @ 3251.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2011.09.04 End Date: 2011.09.05 Last Calib.: 2011.09.05
 Start Time: 21:11:56 End Time: 04:56:25 Time On Btm: 2011.09.04 @ 23:04:25
 Time Off Btm: 2011.09.05 @ 02:55:55

TEST COMMENT: 5 - IFP - weak to fair blow 1" - 5"
 60 - ISI - no blow back
 40 - FFP - BOB 34 min
 120 - FSI - no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1534.96	98.81	Initial Hydro-static
2	51.74	98.43	Open To Flow (1)
7	55.46	98.34	Shut-In(1)
67	492.85	98.62	End Shut-In(1)
67	65.06	98.49	Open To Flow (2)
106	89.18	98.50	Shut-In(2)
230	413.89	98.55	End Shut-In(2)
232	1505.04	98.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
135.00	MW 90%W, 10%M	1.89

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44165 **DST#: 1**

ATTN: Clayton Camozzi

Test Start: 2011.09.04 @ 21:11:55

GENERAL INFORMATION:

Formation: **LKC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:05:55

Time Test Ended: 04:56:25

Test Type: Conventional Bottom Hole (Initial)

Tester: Brian Fairbank

Unit No: 41

Interval: 3214.00 ft (KB) To 3260.00 ft (KB) (TVD)

Reference Elevations: 1936.00 ft (KB)

Total Depth: 3260.00 ft (KB) (TVD)

1926.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8365 Fluid

Press @ Run Depth: psig @ 3179.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.09.04

End Date:

2011.09.05

Last Calib.:

2011.09.05

Start Time: 21:11:40

End Time:

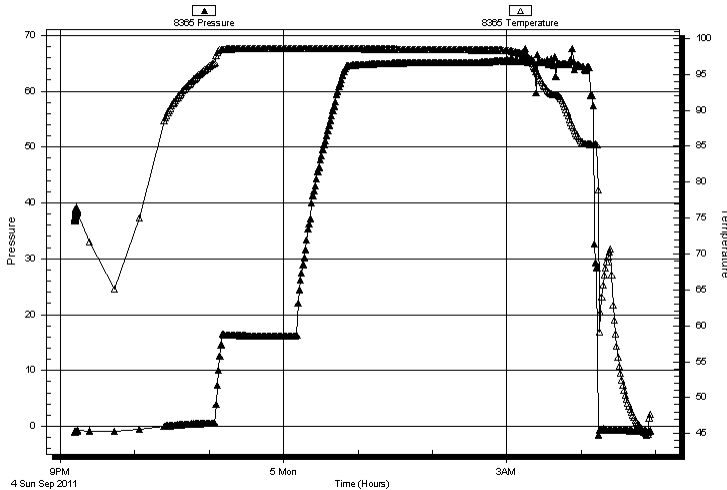
04:55:39

Time On Btm:

Time Off Btm:

TEST COMMENT: 5 - IFP - weak to fair blow 1" - 5"
60 - ISI - no blow back
40 - FFP - BOB 34 min
120 - FSI - no blow back

Pressure vs. Time



PRESSURE SUMMARY

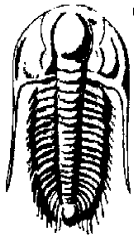
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
135.00	MW 90%W, 10%M	1.89

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

ATTN: Clayton Camozzi

Job Ticket: 44165

DST#: 1

Test Start: 2011.09.04 @ 21:11:55

GENERAL INFORMATION:

Formation: **LKC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:05:55

Time Test Ended: 04:56:25

Test Type: Conventional Bottom Hole (Initial)

Tester: Brian Fairbank

Unit No: 41

Interval: 3214.00 ft (KB) To 3260.00 ft (KB) (TVD)

Total Depth: 3260.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1936.00 ft (KB)

1926.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8734 Outside

Press @ RunDepth: psig @ 3251.00 ft (KB)

Start Date: 2011.09.04

End Date:

2011.09.05

Capacity: 8000.00 psig

Last Calib.:

2011.09.05

Start Time: 21:10:29

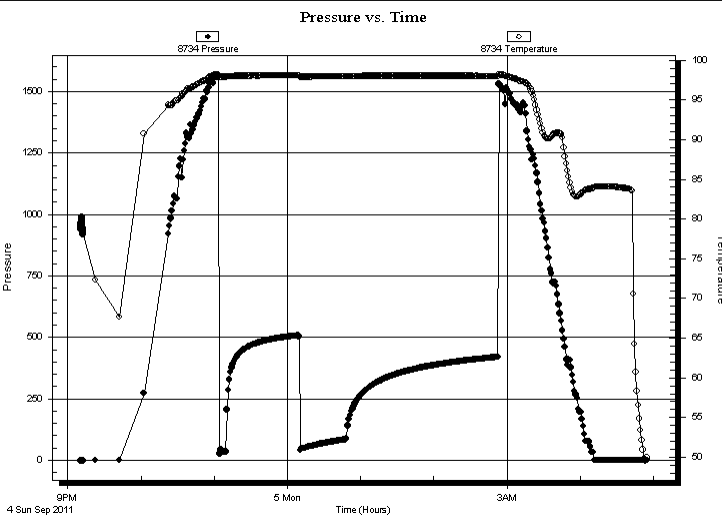
End Time:

04:54:58

Time On Btm:

Time Off Btm:

TEST COMMENT: 5 - IFP - weak to fair blow 1" - 5"
60 - ISI - no blow back
40 - FFP - BOB 34 min
120 - FSI - no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
135.00	MW 90%W, 10%M	1.89

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44165

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2011.09.04 @ 21:11:55

Tool Information

Drill Pipe:	Length: 3195.00 ft	Diameter: 3.80 inches	Volume: 44.82 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 44.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3214.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	81.00 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	8365	Fluid	3179.00	
Blank Spacing	5.00			3184.00	
Shut In Tool	5.00			3189.00	
Sampler	3.00			3192.00	
Hydraulic tool	5.00			3197.00	
Jars	5.00			3202.00	
Safety Joint	2.00			3204.00	
Packer	5.00			3209.00	35.00 Bottom Of Top Packer
Packer	5.00			3214.00	
Stubb	1.00			3215.00	
Perforations	4.00			3219.00	
Change Over Sub	1.00			3220.00	
Blank Spacing	31.00			3251.00	
Recorder	0.00	8372	Inside	3251.00	
Recorder	0.00	8734	Outside	3251.00	
Change Over Sub	1.00			3252.00	
Perforations	5.00			3257.00	
Bullnose	3.00			3260.00	46.00 Bottom Packers & Anchor

Total Tool Length: 81.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44165

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2011.09.04 @ 21:11:55

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:

50000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	MUD 100%	0.070
135.00	MW 90%W, 10%M	1.894

Total Length: 140.00 ft Total Volume: 1.964 bbl

Num Fluid Samples: 0

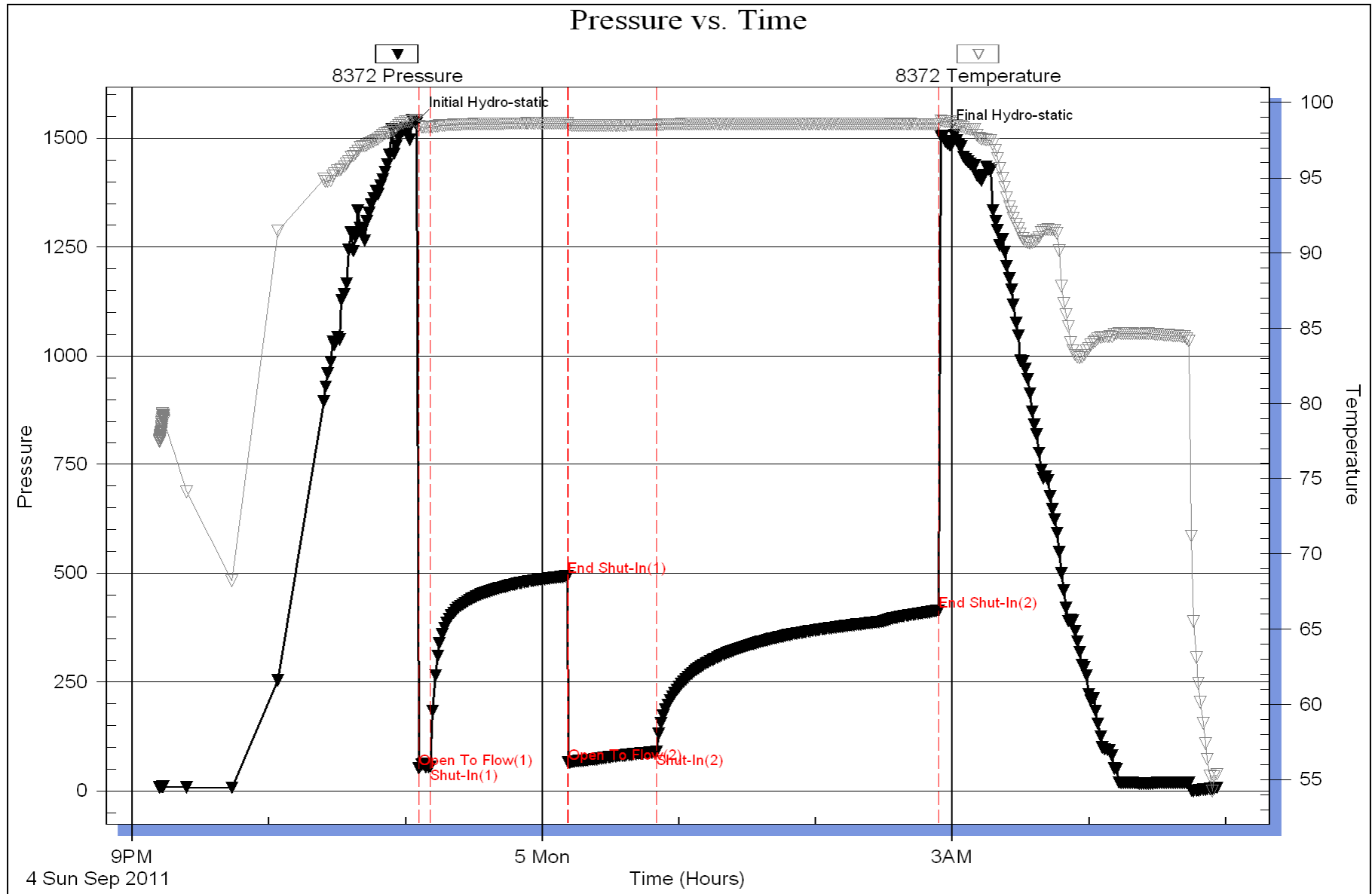
Num Gas Bombs: 0

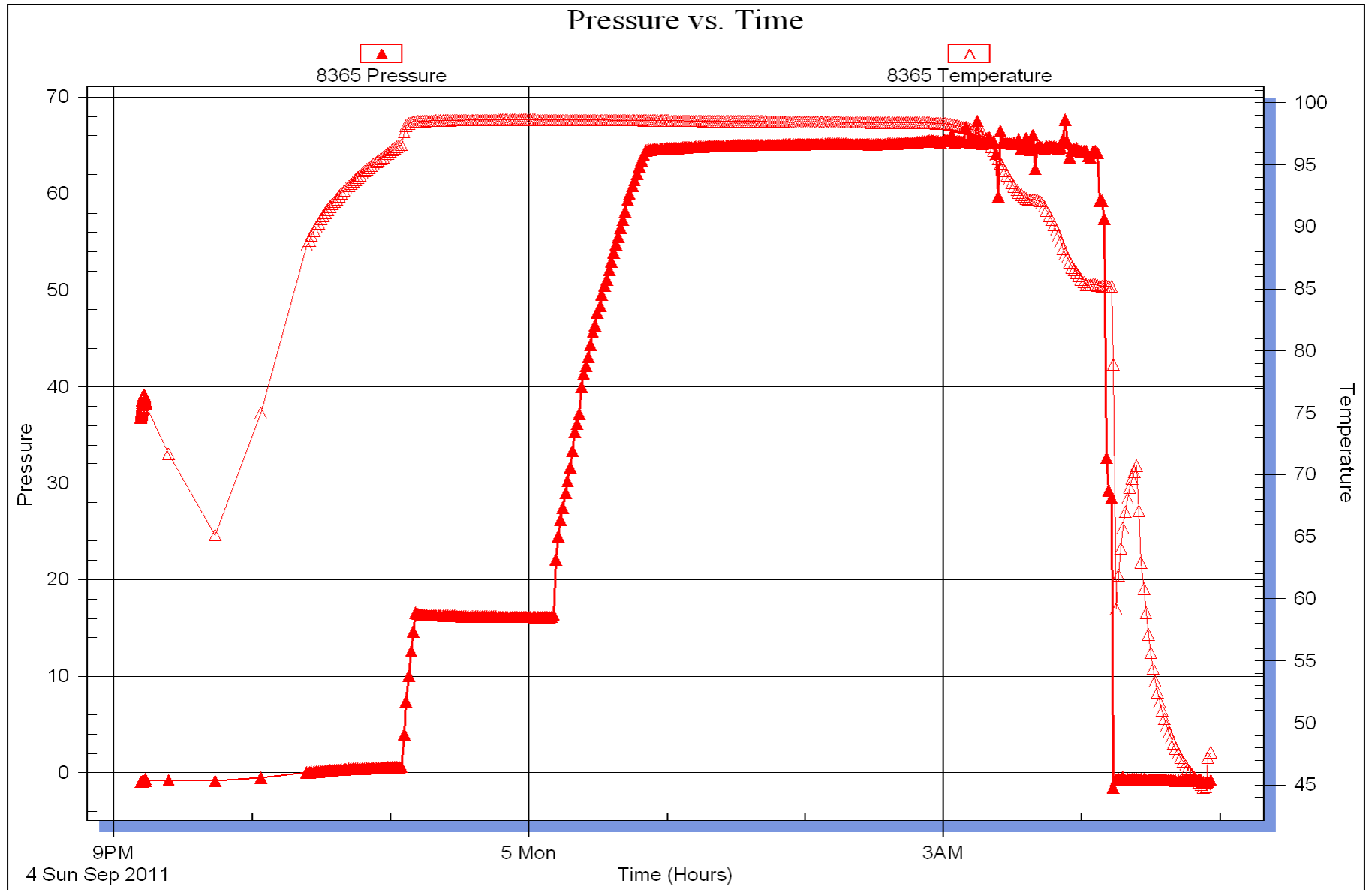
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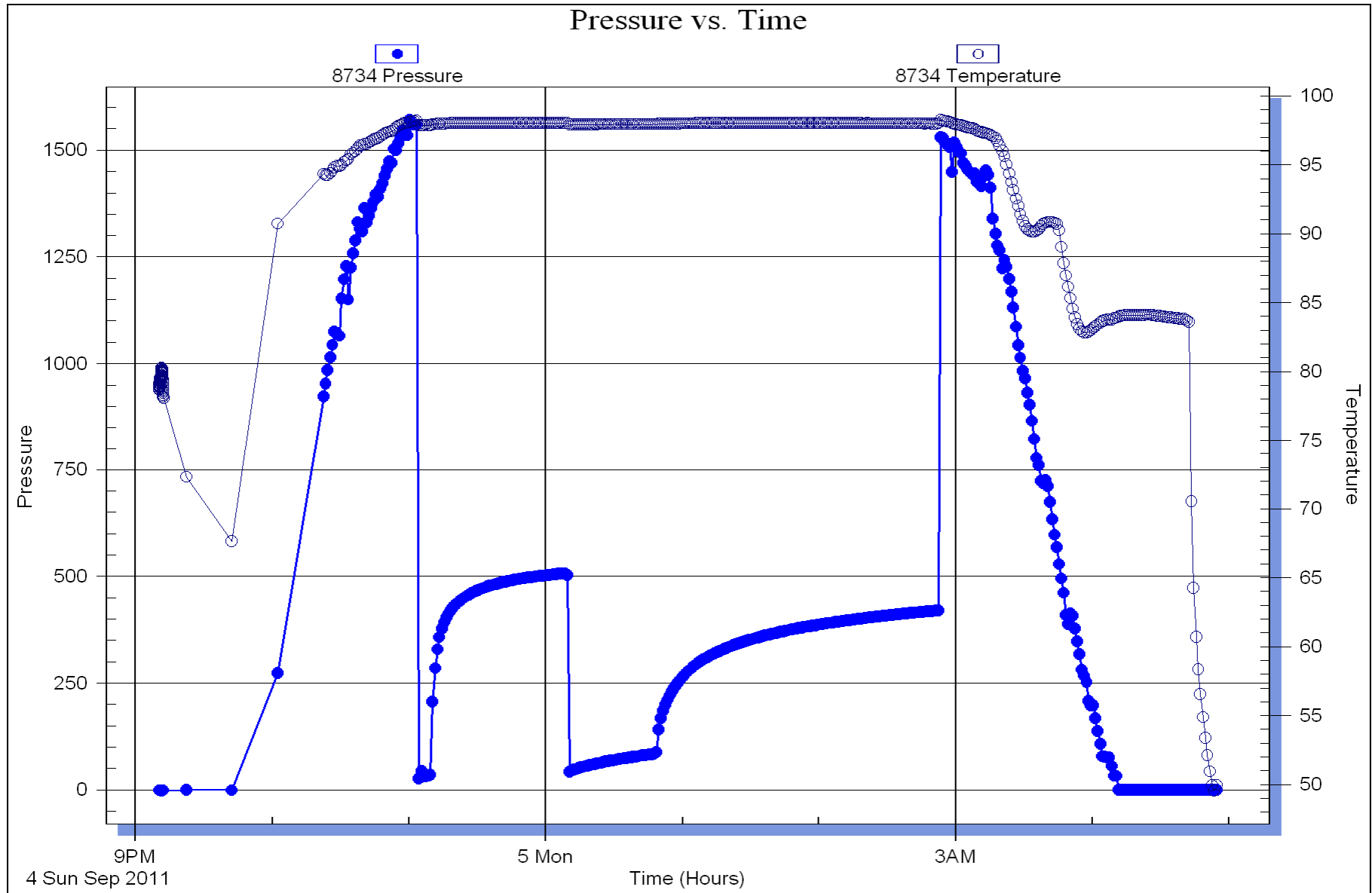
Laboratory Name:

Laboratory Location:

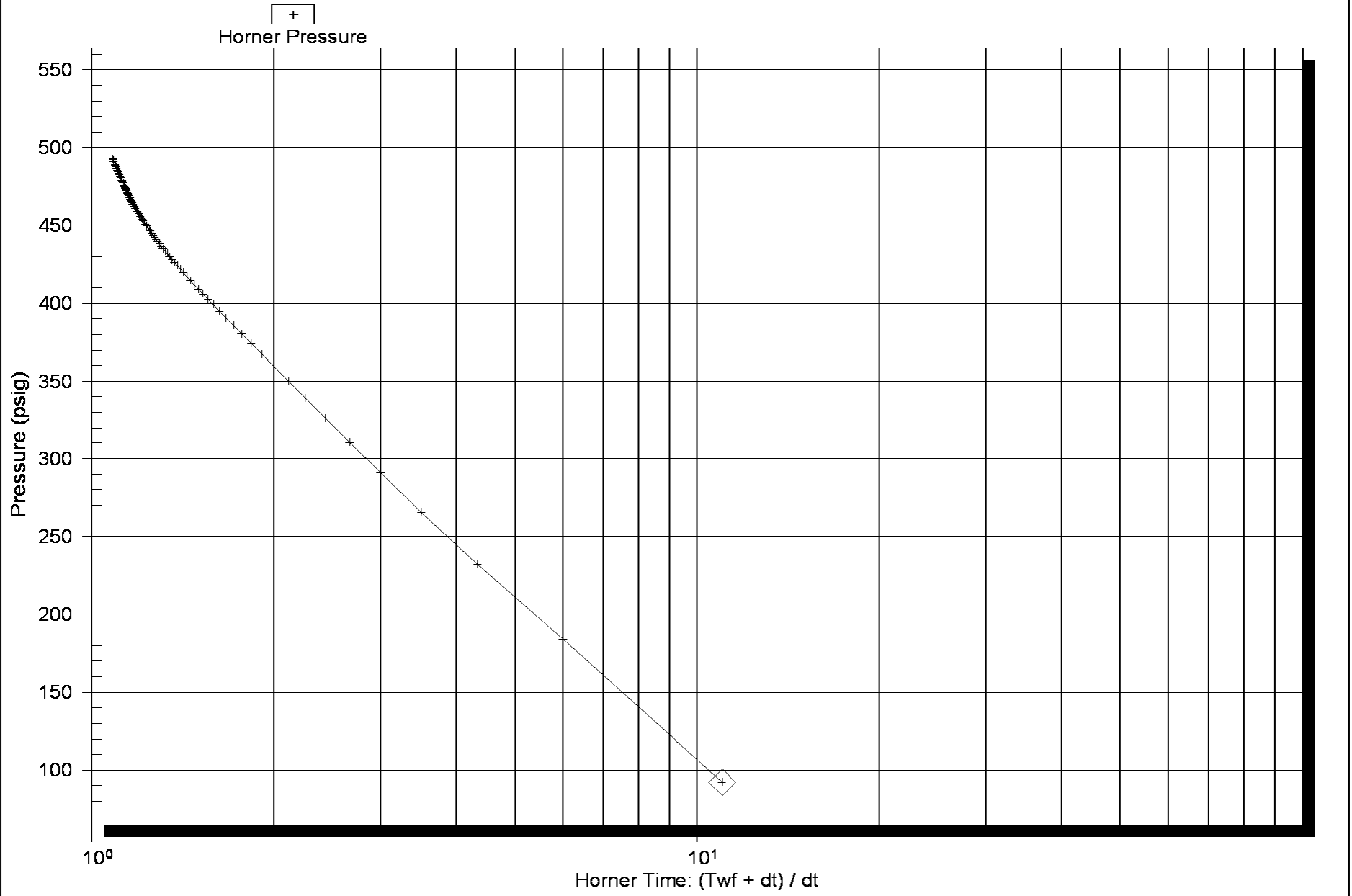
Recovery Comments: 800 ml Mud, 3200 ml Water, 220 LBS. Water w as .226 @ 51F = 50,000 Chl







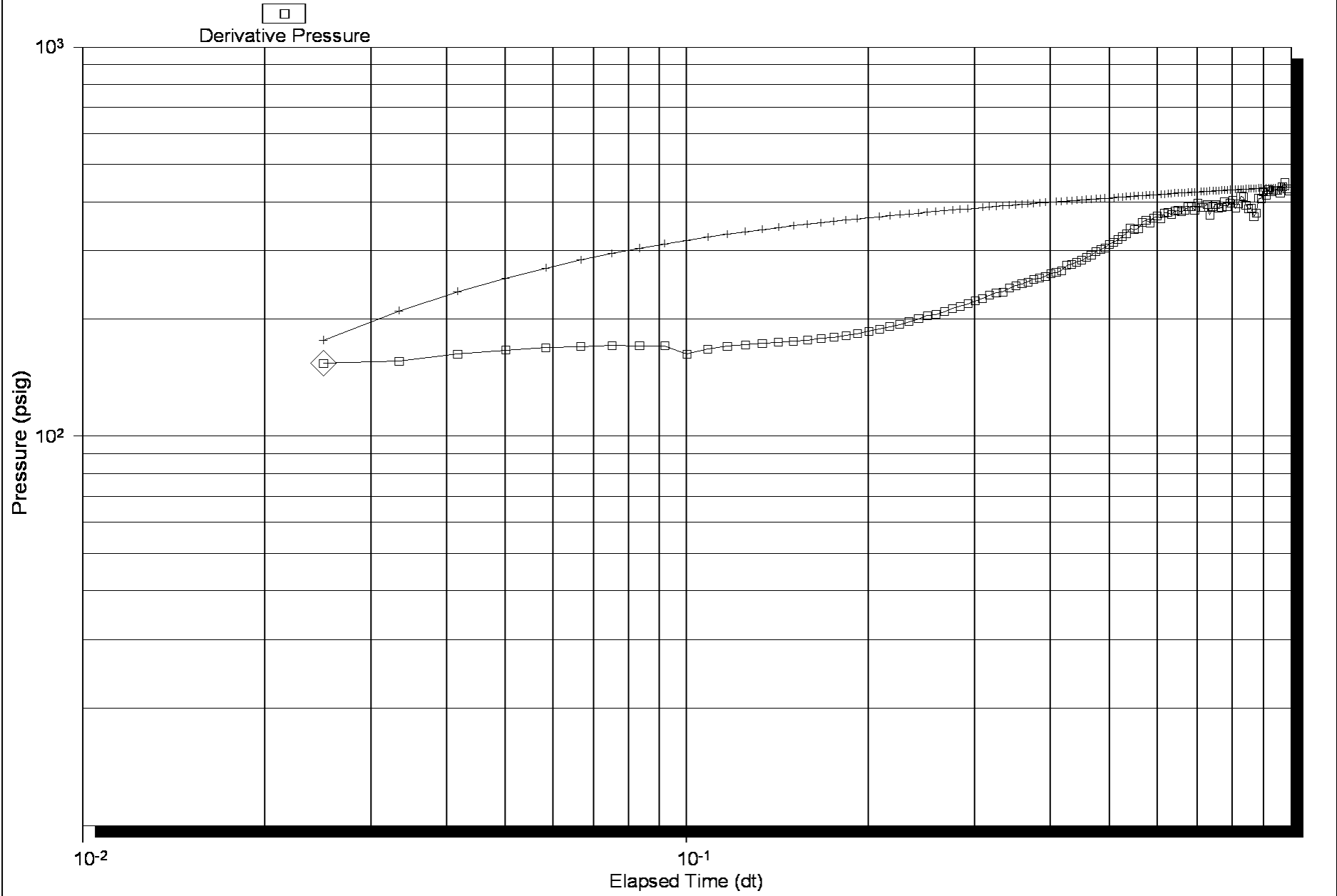
Horner Plot

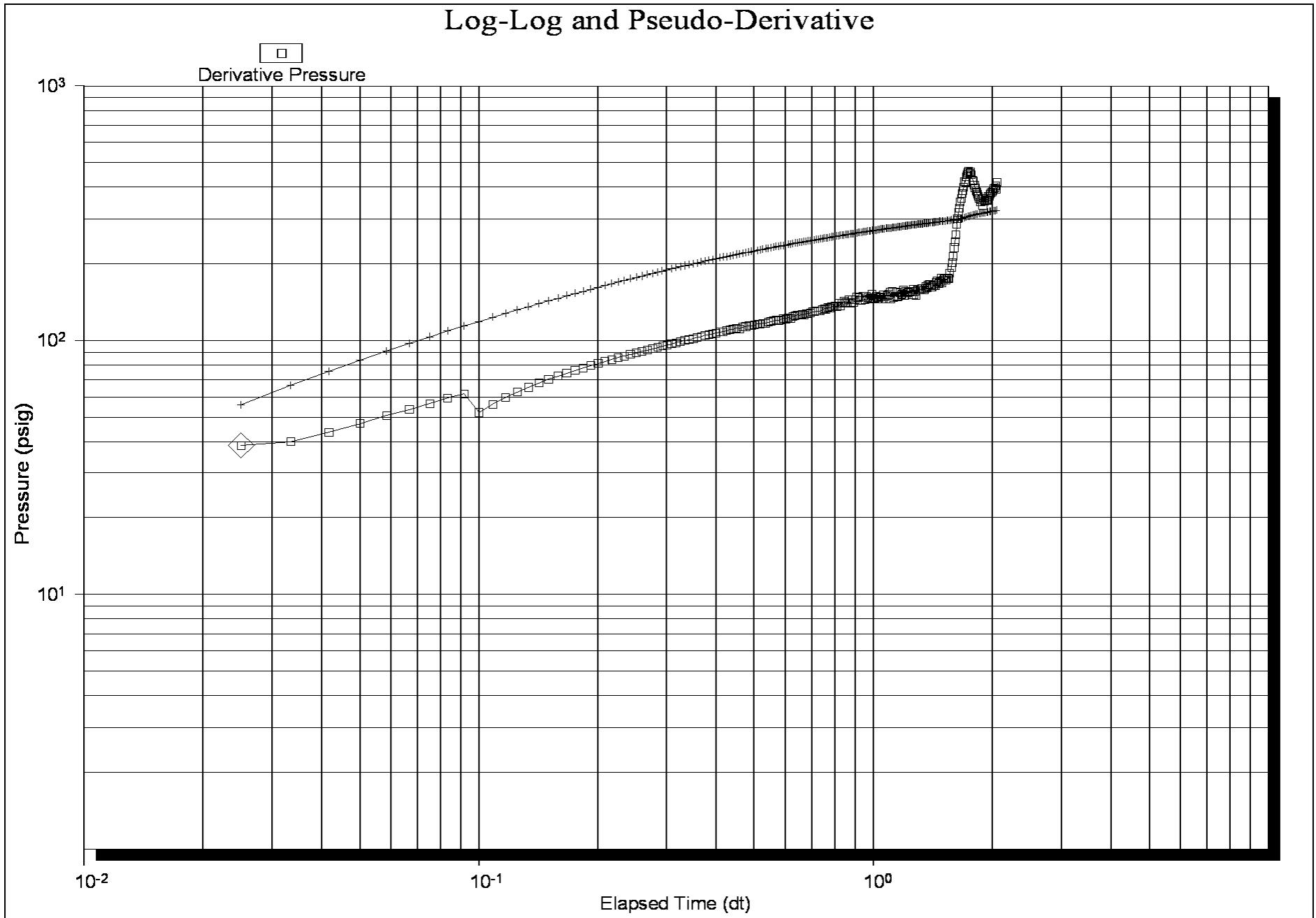


Horner Plot



Log-Log and Pseudo-Derivative







DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. and Associates, Inc.**

1515 Wynkoop St. Ste 700
Denver, CO 80202

ATTN: Clayton Camozzi

32-15-15 Russell, Ks

Hopkins et al 1-31

Start Date: 2011.09.05 @ 13:52:38

End Date: 2011.09.05 @ 19:36:38

Job Ticket #: 44166 DST #: 2

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. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44166

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2011.09.05 @ 13:52:38

GENERAL INFORMATION:

Formation: **LKC "F-G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:17:08

Time Test Ended: 19:36:38

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 41

Interval: 3258.00 ft (KB) To 3291.00 ft (KB) (TVD)

Reference Elevations: 1936.00 ft (KB)

Total Depth: 3291.00 ft (KB) (TVD)

1926.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8734 Outside

Press @ Run Depth: 19.70 psig @ 3263.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.09.05 End Date: 2011.09.05

Last Calib.: 2011.09.05

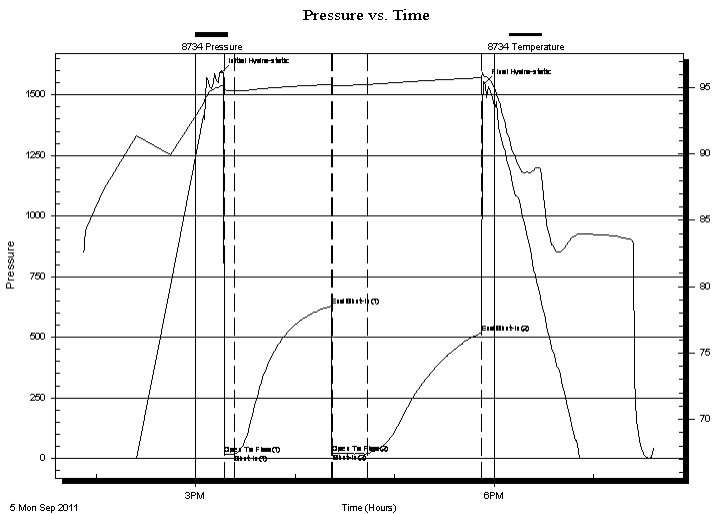
Start Time: 13:52:39 End Time: 19:36:38

Time On Btm: 2011.09.05 @ 15:15:38

Time Off Btm: 2011.09.05 @ 17:54:08

TEST COMMENT: 5 - IFP - dying sur blow
60 - ISI - no blow back
20 - FFP - no blow
70 - FSI - no blow back

PRESSURE SUMMARY



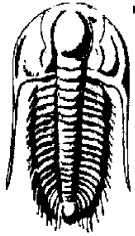
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1592.63	95.14	Initial Hydro-static
2	16.41	94.62	Open To Flow (1)
8	18.98	94.75	Shut-In(1)
66	628.70	95.25	End Shut-In(1)
67	19.94	94.96	Open To Flow (2)
88	19.70	95.24	Shut-In(2)
157	518.77	95.74	End Shut-In(2)
159	1548.11	95.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100%	0.03

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44166

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2011.09.05 @ 13:52:38

GENERAL INFORMATION:

Formation: **LKC "F-G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:17:08
 Time Test Ended: 19:36:38

Test Type: Conventional Bottom Hole
 Tester: Brian Fairbank
 Unit No: 41

Interval: 3258.00 ft (KB) To 3291.00 ft (KB) (TVD)
 Total Depth: 3291.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

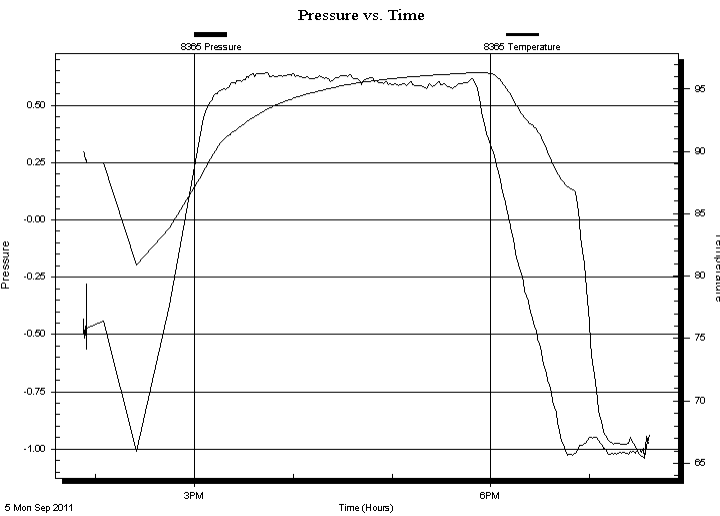
Reference Elevations: 1936.00 ft (KB)
 1926.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8365 Fluid

Press @ Run Depth: psig @ 3223.00 ft (KB)
 Start Date: 2011.09.05 End Date: 2011.09.05
 Start Time: 13:52:41 End Time: 19:36:40

Capacity: 8000.00 psig
 Last Calib.: 2011.09.05
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 5 - IFP - dying sur blow
 60 - ISI - no blow back
 20 - FFP - no blow
 70 - FSI - no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100%	0.03

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44166

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2011.09.05 @ 13:52:38

Tool Information

Drill Pipe:	Length: 3253.00 ft	Diameter: 3.80 inches	Volume: 45.63 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 45.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3258.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	68.00 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	8365	Fluid	3223.00	
Blank Spacing	5.00			3228.00	
Shut In Tool	5.00			3233.00	
Sampler	3.00			3236.00	
Hydraulic tool	5.00			3241.00	
Jars	5.00			3246.00	
Safety Joint	2.00			3248.00	
Packer	5.00			3253.00	35.00 Bottom Of Top Packer
Packer	5.00			3258.00	
Stubb	1.00			3259.00	
Perforations	4.00			3263.00	
Recorder	0.00	8372	Inside	3263.00	
Recorder	0.00	8734	Outside	3263.00	
Perforations	25.00			3288.00	
Bullnose	3.00			3291.00	33.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44166

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2011.09.05 @ 13:52:38

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4100.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

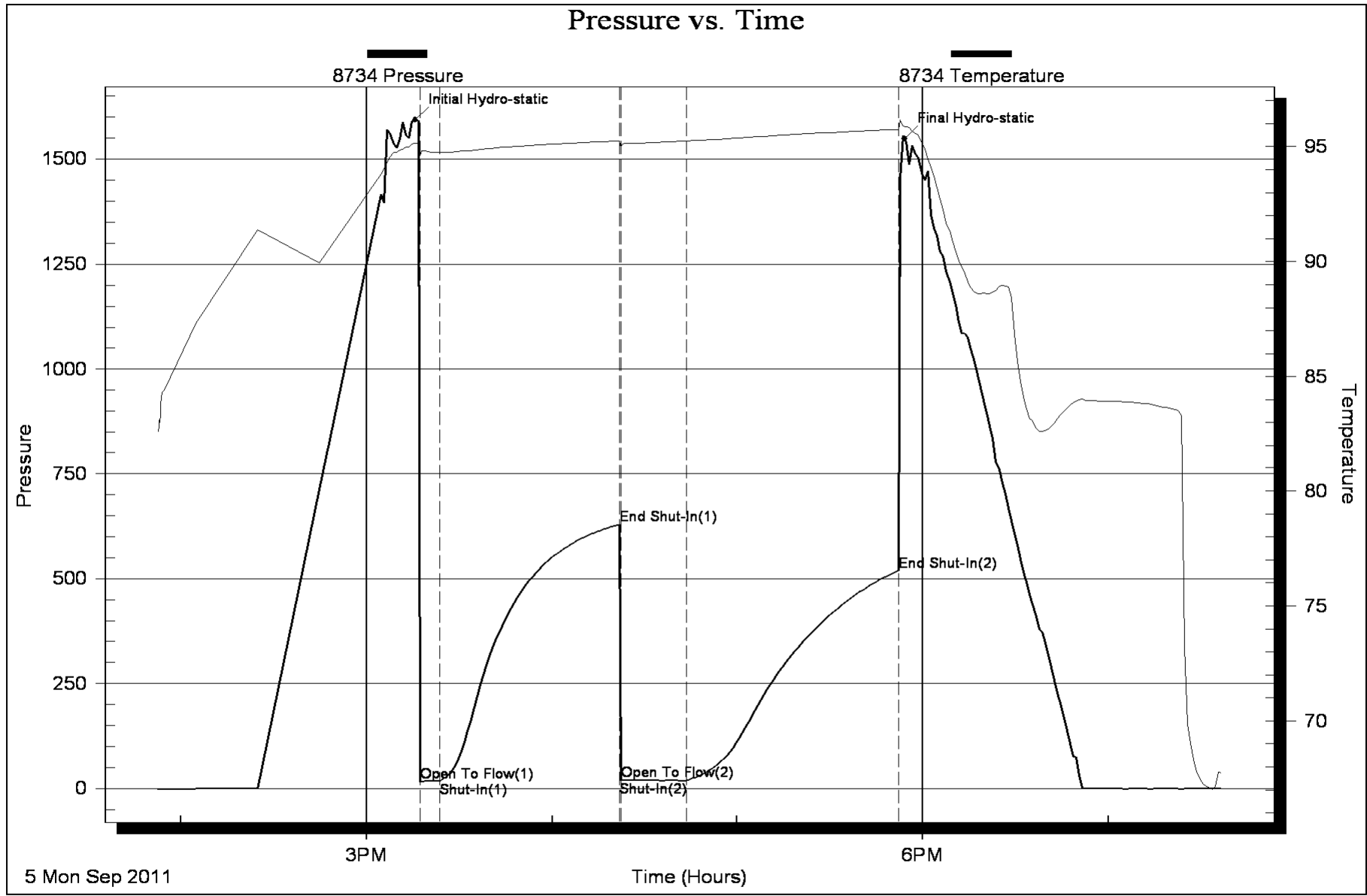
Length ft	Description	Volume bbl
2.00	mud 100%	0.028

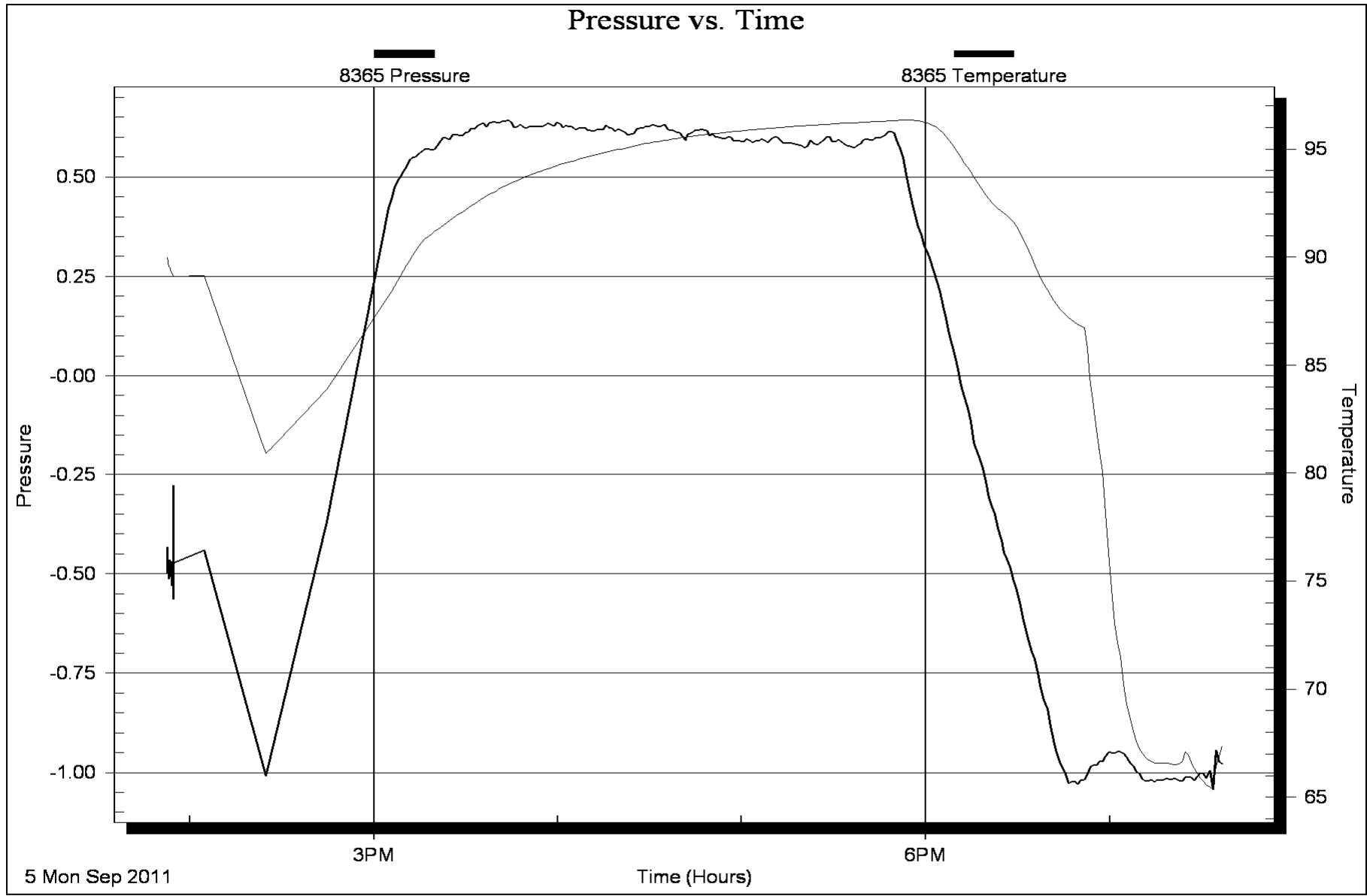
Total Length: 2.00 ft Total Volume: 0.028 bbl

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

Laboratory Name: Laboratory Location:

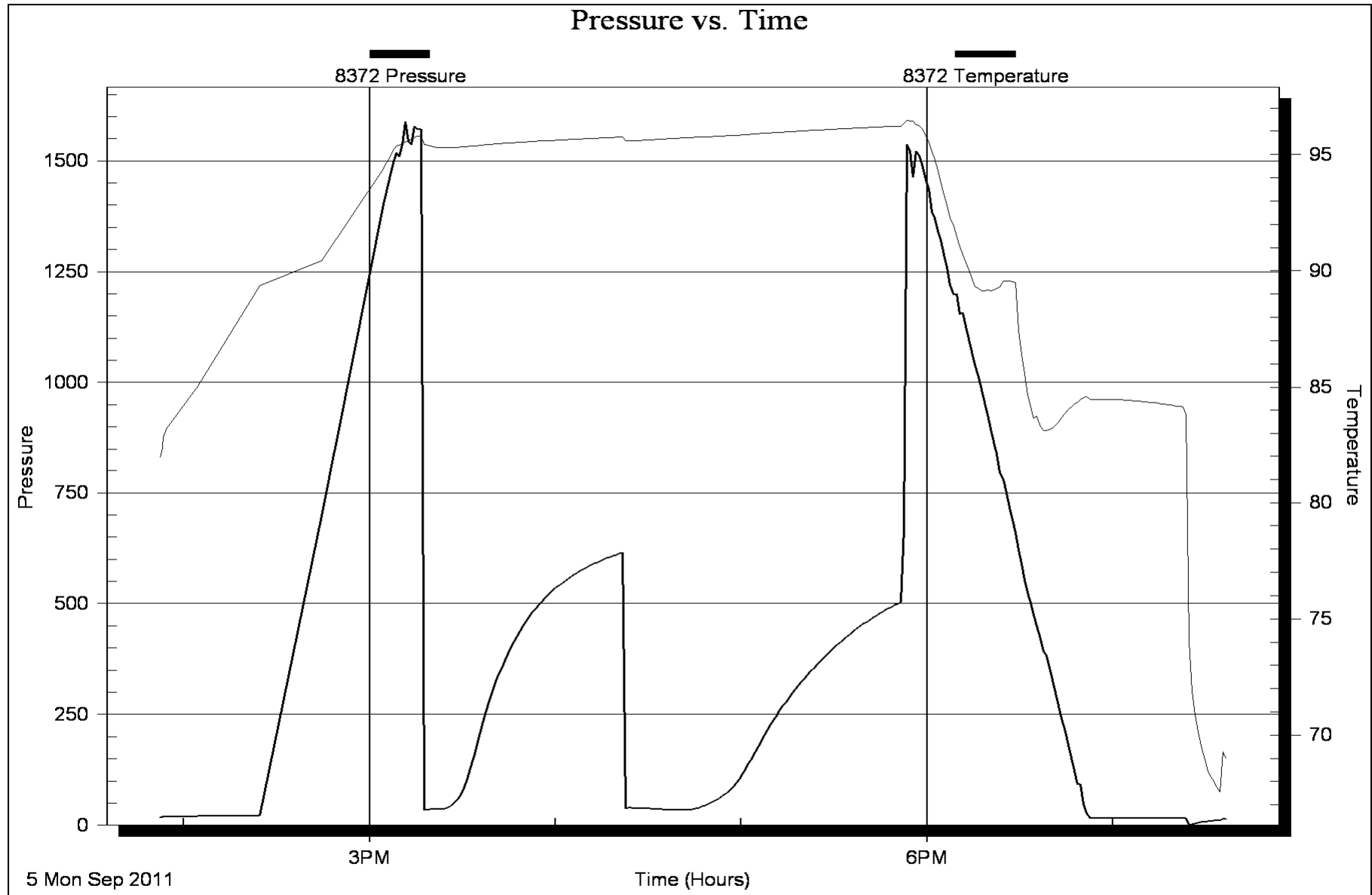
Recovery Comments: 4000 ml MUD, 80 lbs



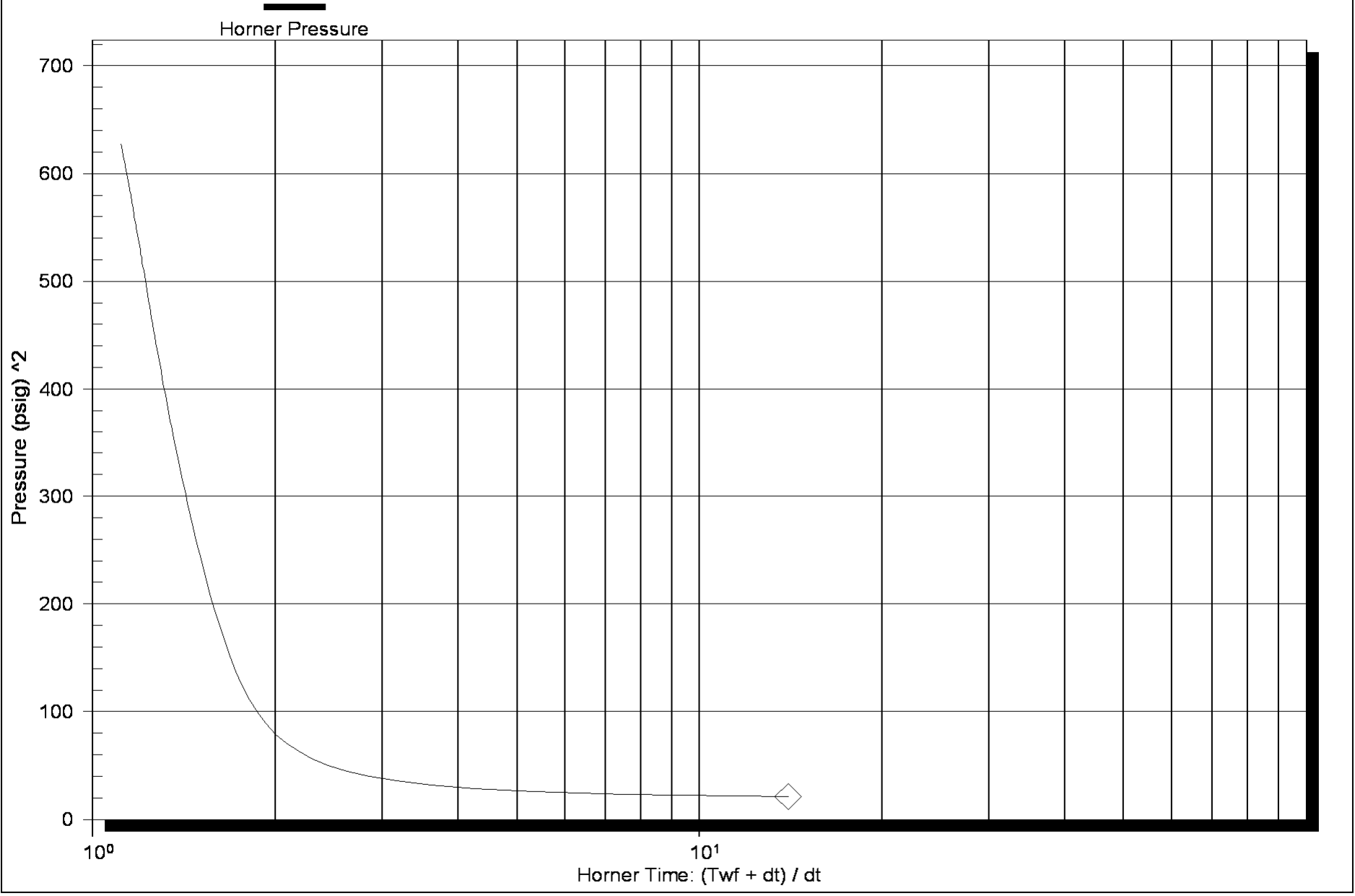


5 Mon Sep 2011

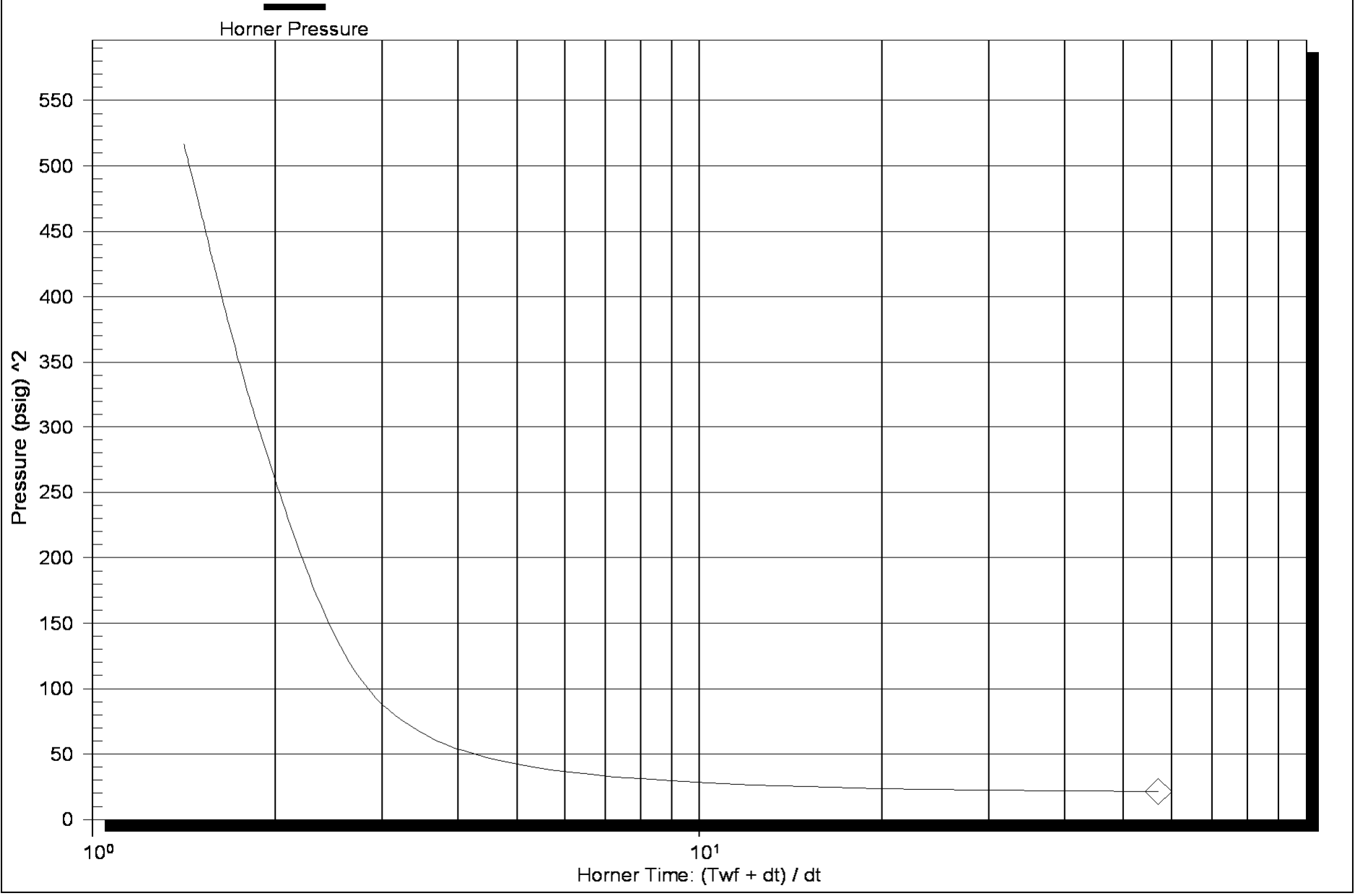
Time (Hours)



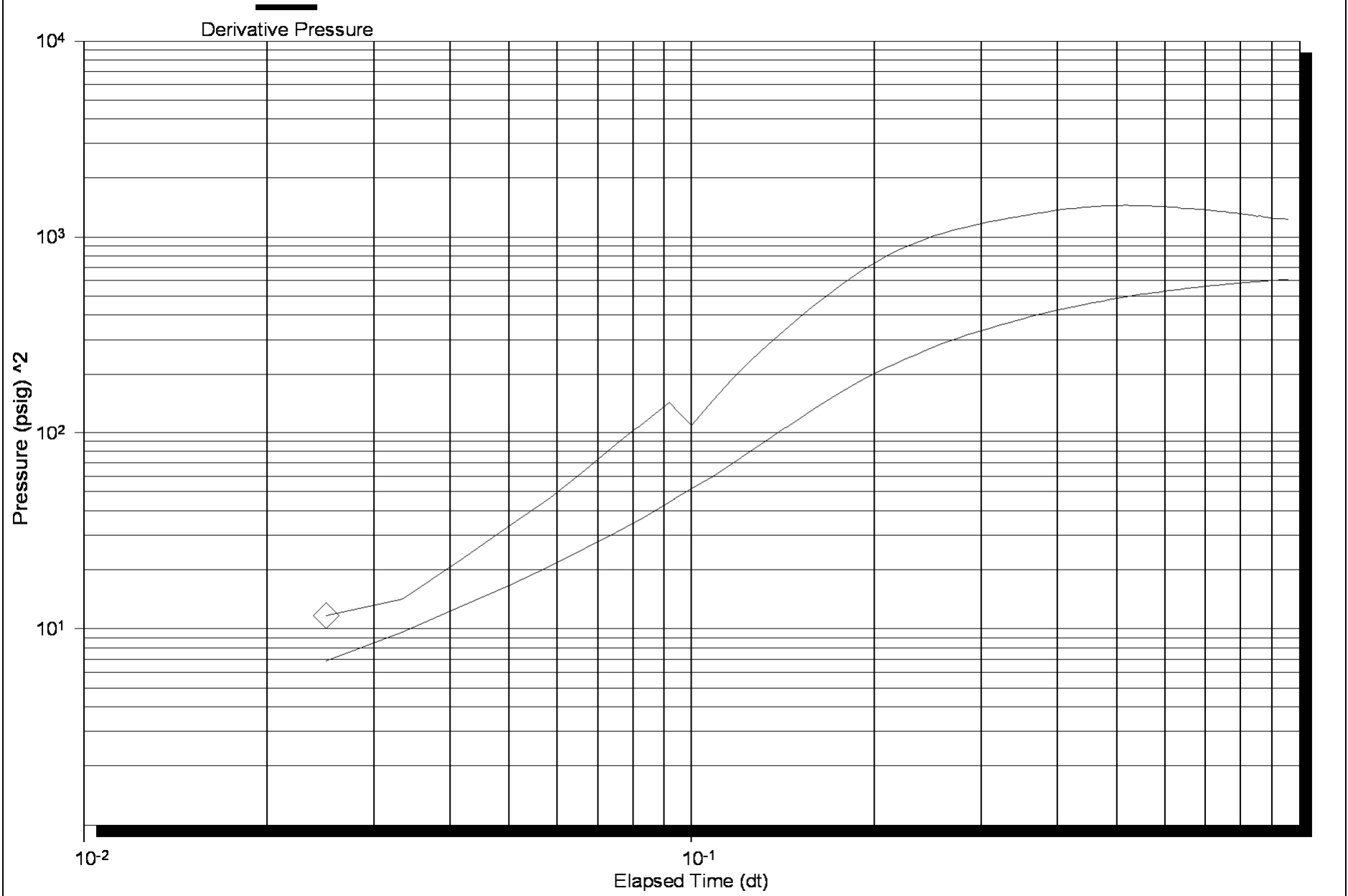
Horner Plot



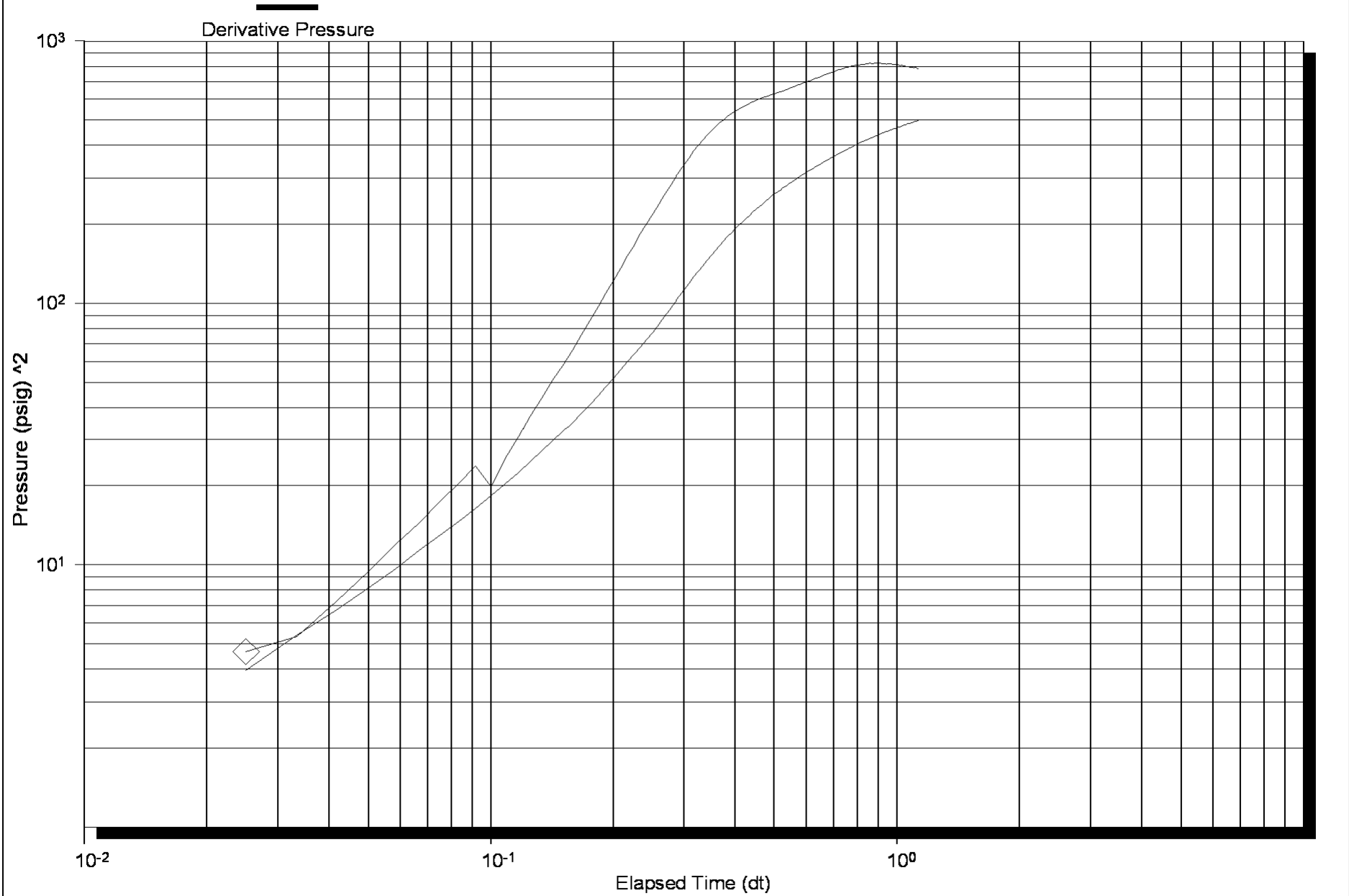
Horner Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative





DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. and Associates, Inc.**

1515 Wynkoop St. Ste 700
Denver, CO 80202

ATTN: Clayton Camozzi

32-15-15 Russell, Ks

Hopkins et al 1-31

Start Date: 2011.09.06 @ 07:30:10

End Date: 2011.09.06 @ 16:08:10

Job Ticket #: 44167 DST #: 3

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

Printed: 2011.09.28 @ 14:52:21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44167

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2011.09.06 @ 07:30:10

GENERAL INFORMATION:

Formation: **LKC "I-J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:17:40
 Time Test Ended: 16:08:10
 Interval: **3357.00 ft (KB) To 3390.00 ft (KB) (TVD)**
 Total Depth: 3390.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brian Fairbank
 Unit No: 41
 Reference Elevations: 1936.00 ft (KB)
 1926.00 ft (CF)
 KB to GR/CF: 10.00 ft

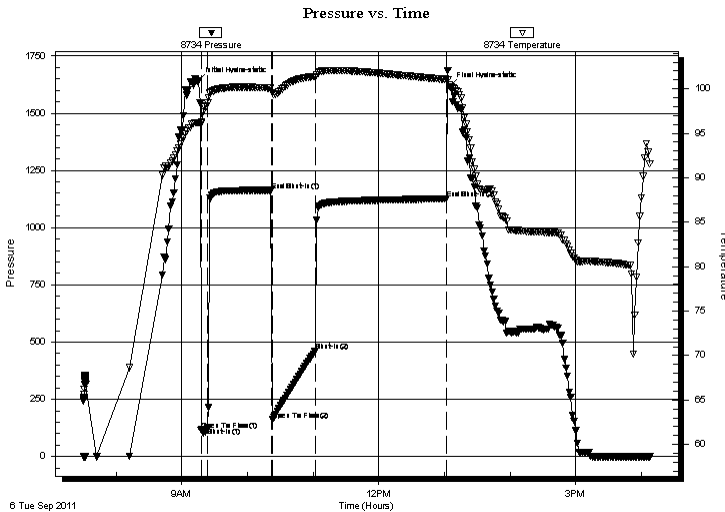
Serial #: 8734

Outside

Press @ Run Depth: 459.93 psig @ 3362.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2011.09.06 End Date: 2011.09.06 Last Calib.: 2011.09.06
 Start Time: 07:30:11 End Time: 16:08:10 Time On Btm: 2011.09.06 @ 09:14:40
 Time Off Btm: 2011.09.06 @ 13:04:40

TEST COMMENT: 5 - IFP - BOB 1 min
 60 - ISI - BOB 3 min
 40 - FFP - BOB 1 min GTS 20 min
 120 - FSI - BOB 3 min

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1639.89	96.15	Initial Hydro-static
3	115.96	96.13	Open To Flow (1)
9	126.48	98.46	Shut-In(1)
67	1163.17	100.05	End Shut-In(1)
68	160.96	99.59	Open To Flow (2)
108	459.93	101.35	Shut-In(2)
227	1126.48	101.03	End Shut-In(2)
230	1617.33	100.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GO & MCW50%G, 15%O, 20%W, 15%M	0.84
60.00	GW & MCO 20%G, 45%O, 10%W, 25%M	0.84
875.00	REVERSED OUT 5 BL FREE OIL, 3 BL HO	12.27
210.00	FREE OIL	2.95

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	3.50	6.70
Last Gas Rate			
Max. Gas Rate	0.13	6.00	7.63



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

ATTN: Clayton Camozzi

Job Ticket: 44167

DST#: 3

Test Start: 2011.09.06 @ 07:30:10

Tool Information

Drill Pipe:	Length: 3351.00 ft	Diameter: 3.80 inches	Volume: 47.01 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 47.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3357.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	68.00 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	8365	Fluid	3322.00	
Blank Spacing	5.00			3327.00	
Shut In Tool	5.00			3332.00	
Sampler	3.00			3335.00	
Hydraulic tool	5.00			3340.00	
Jars	5.00			3345.00	
Safety Joint	2.00			3347.00	
Packer	5.00			3352.00	35.00 Bottom Of Top Packer
Packer	5.00			3357.00	
Stubb	1.00			3358.00	
Perforations	4.00			3362.00	
Recorder	0.00	8372	Inside	3362.00	
Recorder	0.00	8734	Outside	3362.00	
Perforations	25.00			3387.00	
Bullnose	3.00			3390.00	33.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44167

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2011.09.06 @ 07:30:10

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

35000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	GO & MCW50%G, 15%O, 20%W, 15%M	0.842
60.00	GW & MCO 20%G, 45%O, 10%W, 25%M	0.842
875.00	REVERSED OUT 5 BL FREE OIL, 3 BL HOCLM	12.274
210.00	FREE OIL	2.946

Total Length: 1205.00 ft Total Volume: 16.904 bbl

Num Fluid Samples: 0

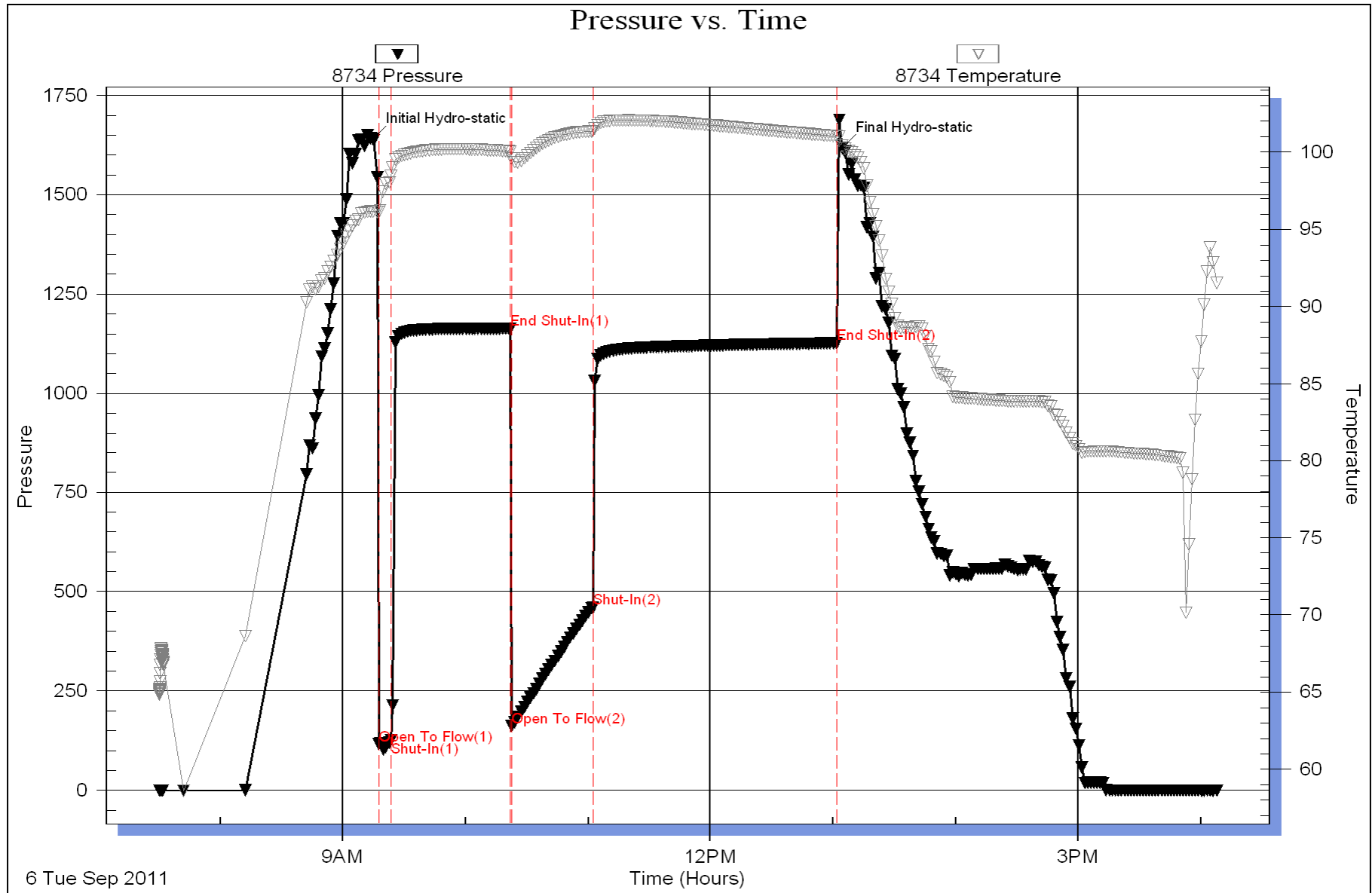
Num Gas Bombs: 0

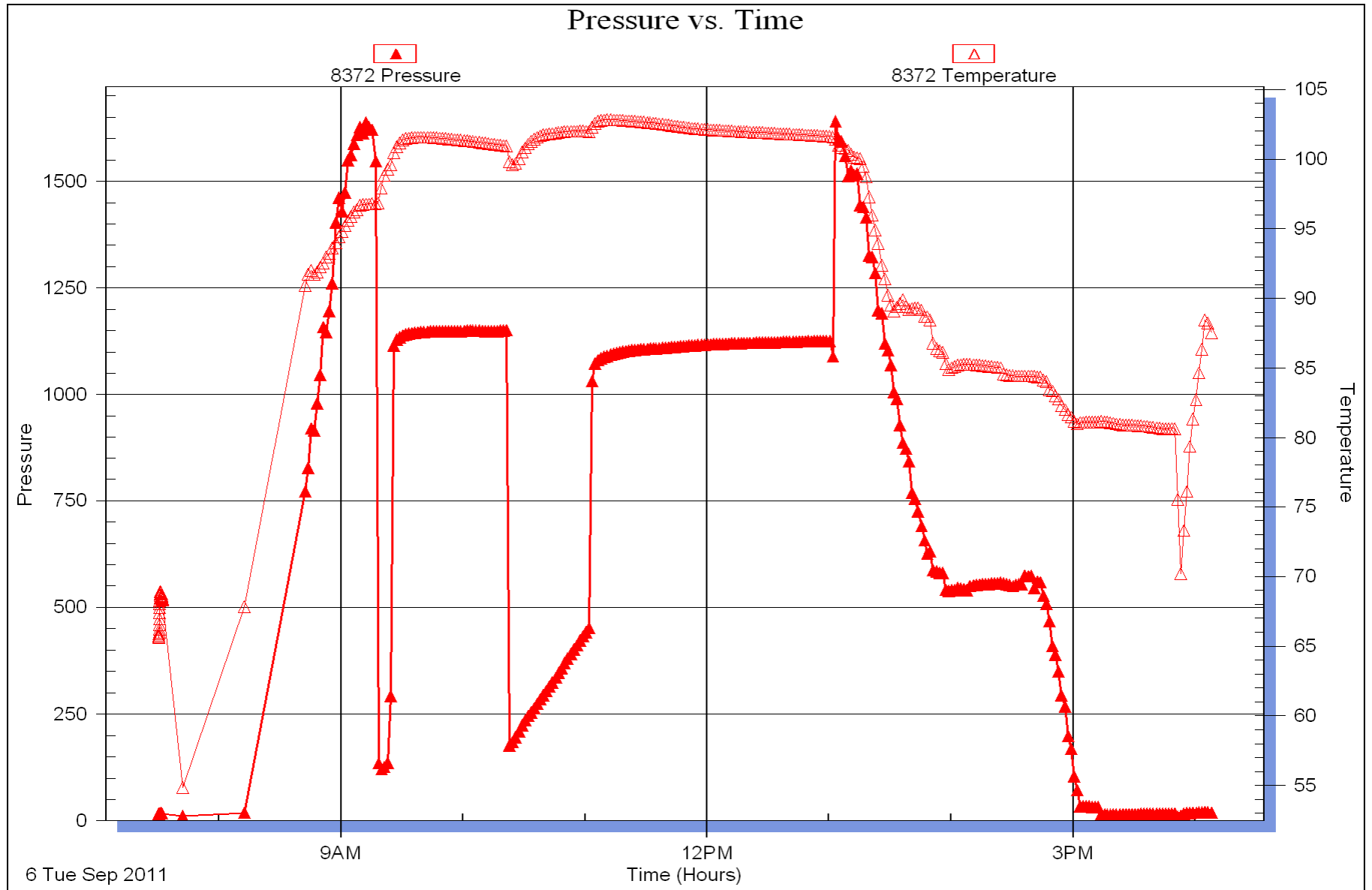
Serial #:

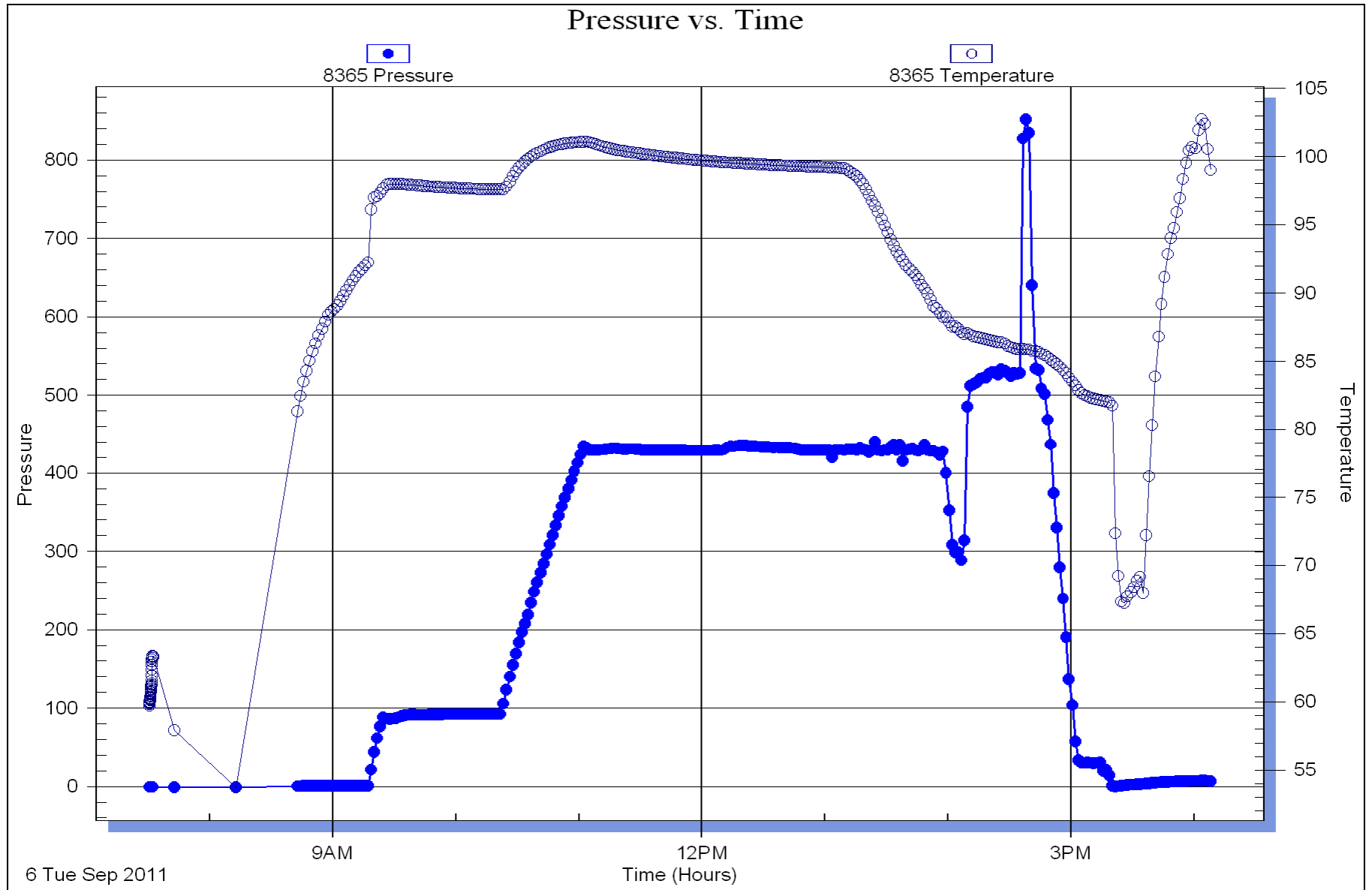
Laboratory Name:

Laboratory Location:

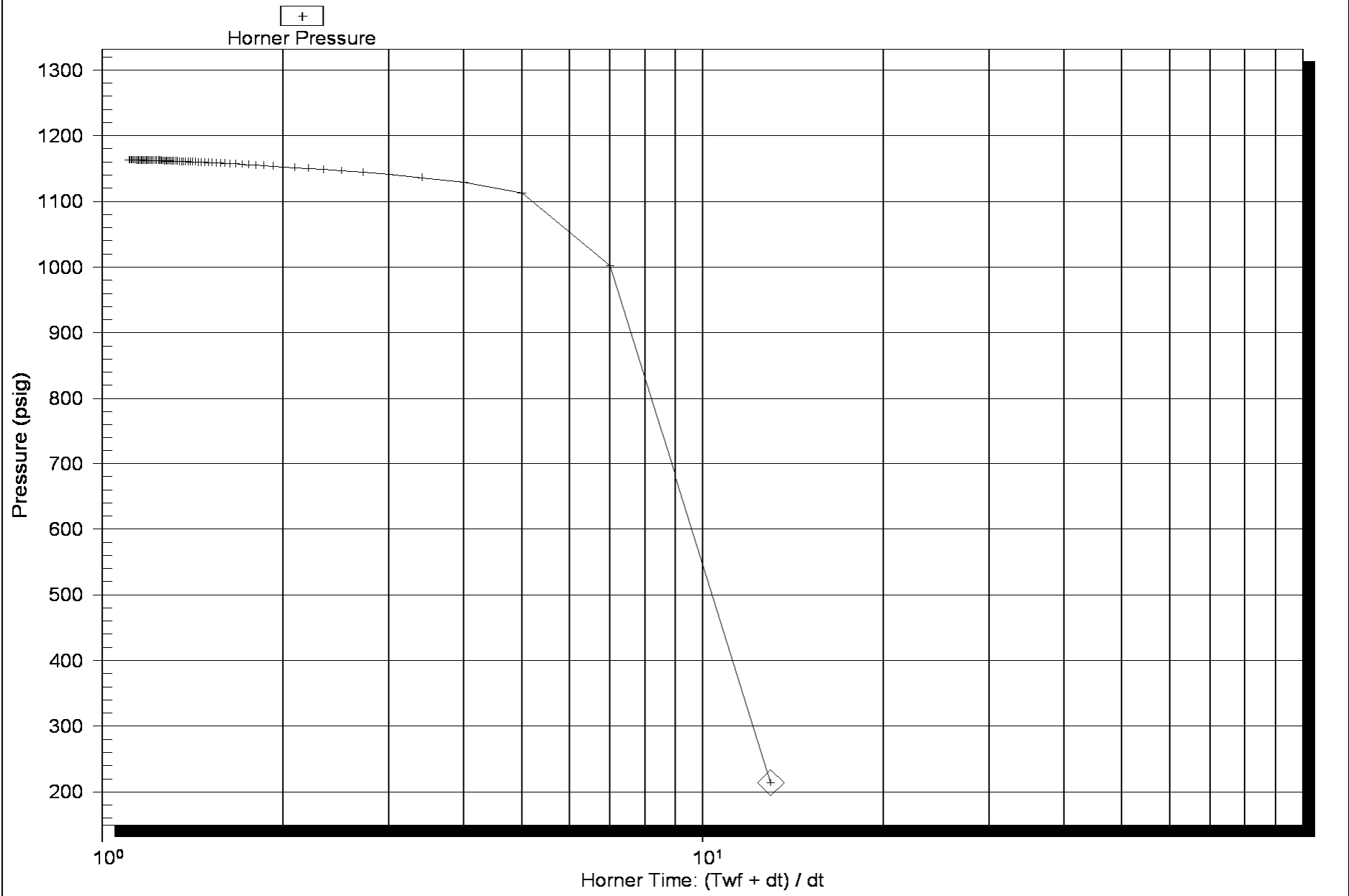
Recovery Comments: 1500 ML G, 2125 ML O, 250 ML M, 125 ML W, 875 LBS. Water w as .170 @ 82F = 35,000 Chl



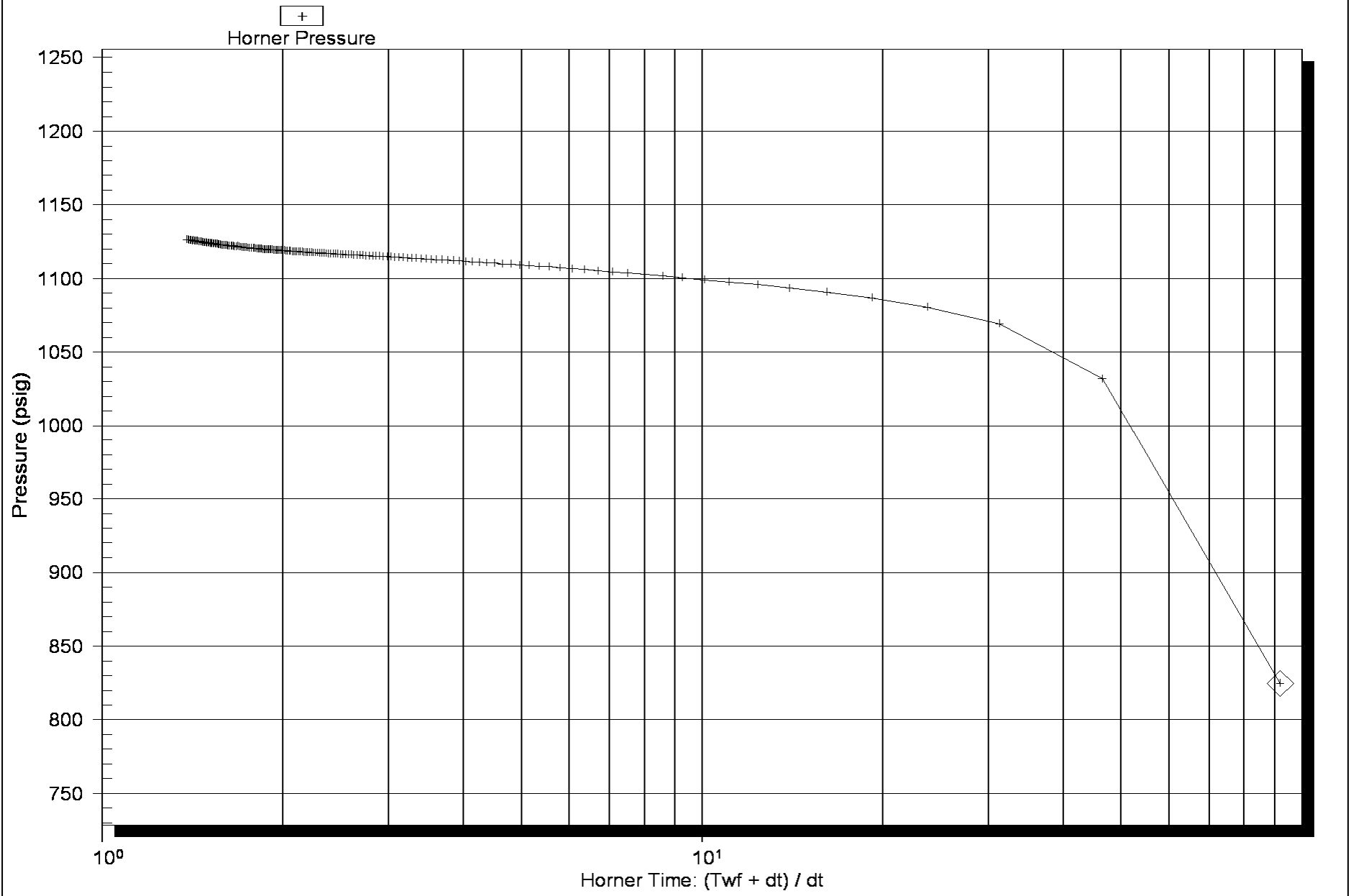




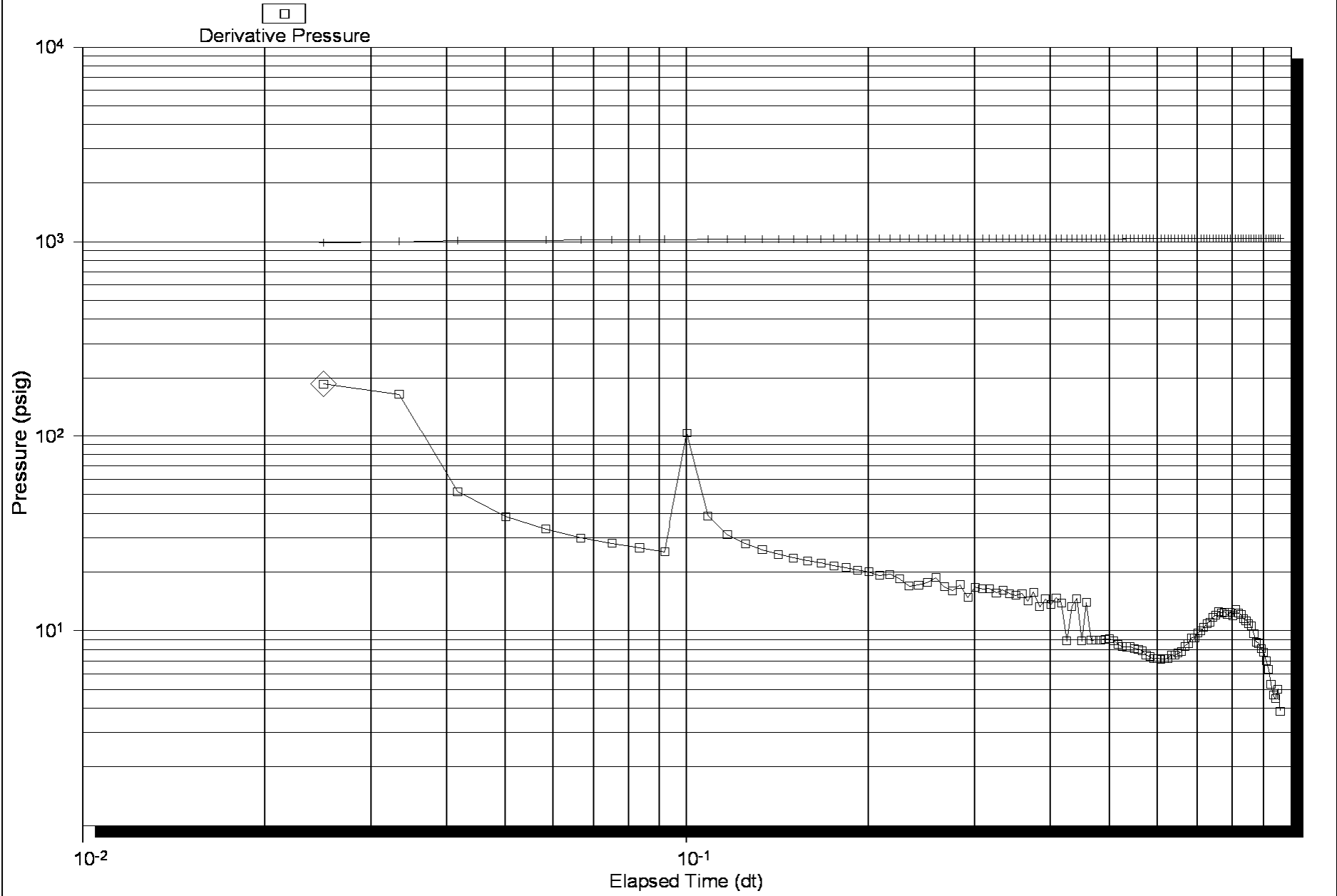
Horner Plot



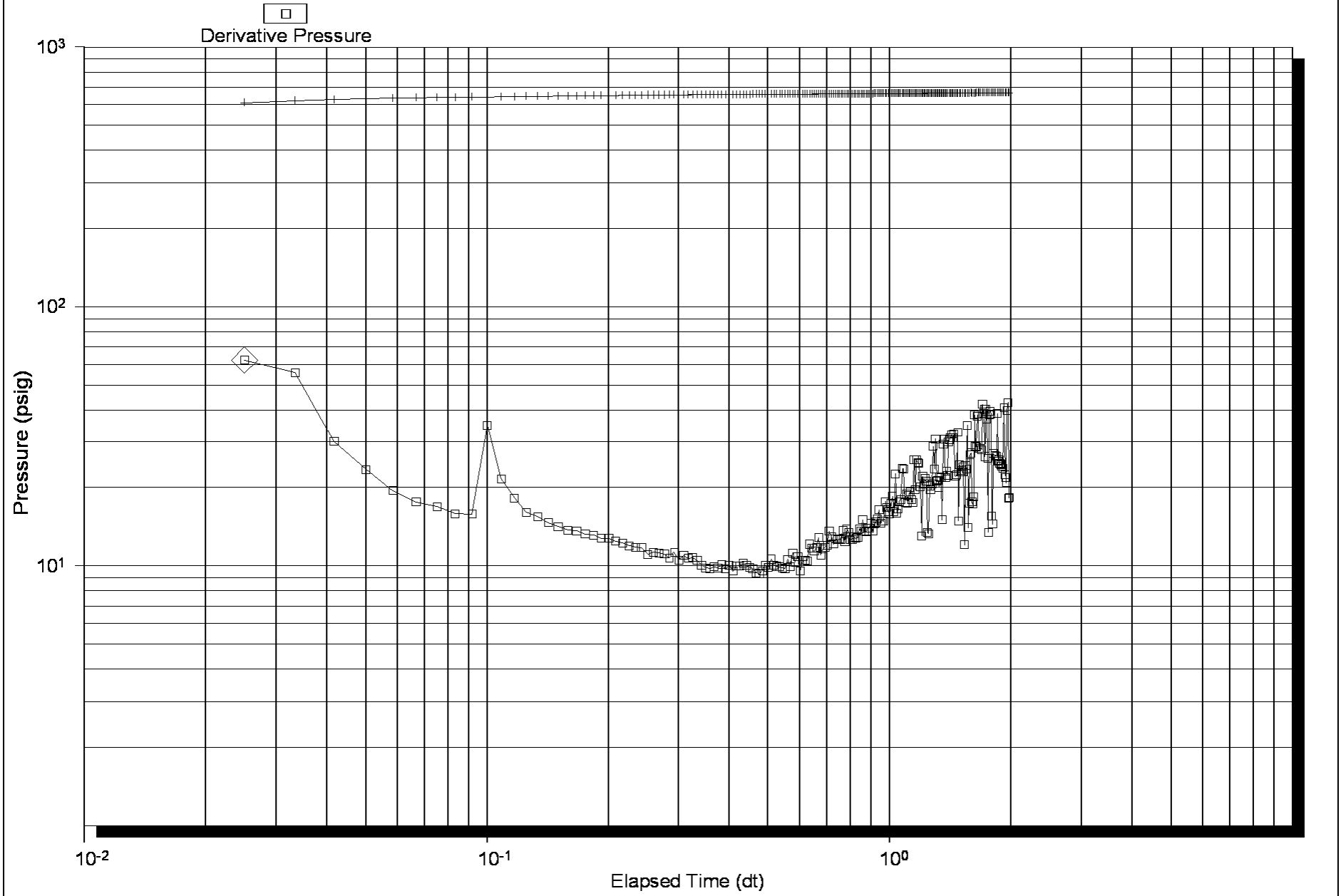
Horner Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative





DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. and Associates, Inc.**

1515 Wynkoop St. Ste 700
Denver, CO 80202

ATTN: Clayton Camozzi

32-15-15 Russell, Ks

Hopkins et al 1-31

Start Date: 2011.09.06 @ 23:47:45

End Date: 2011.09.07 @ 06:41:45

Job Ticket #: 44168 DST #: 4

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

Printed: 2011.09.28 @ 14:49:41



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

ATTN: Clayton Camozzi

Job Ticket: 44168

DST#: 4

Test Start: 2011.09.06 @ 23:47:45

GENERAL INFORMATION:

Formation: **LKC "K-M"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:44:45

Time Test Ended: 06:41:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Brian Fairbank

Unit No: 41

Interval: 3394.00 ft (KB) To 3428.00 ft (KB) (TVD)

Total Depth: 3428.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1936.00 ft (KB)

1926.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8734 Outside

Press @ Run Depth: 38.11 psig @ 3400.00 ft (KB)

Start Date: 2011.09.06

End Date: 2011.09.07

Start Time: 23:47:46

End Time: 06:41:45

Capacity: 8000.00 psig

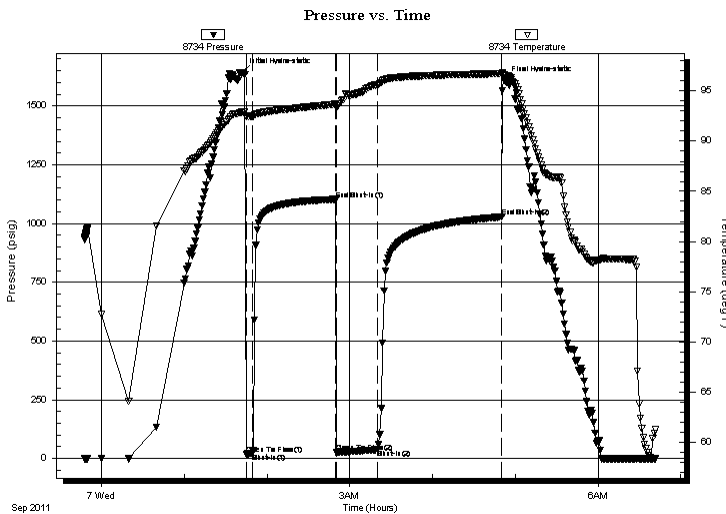
Last Calib.: 2011.09.07

Time On Btm: 2011.09.07 @ 01:41:45

Time Off Btm: 2011.09.07 @ 04:52:15

TEST COMMENT: 5 - IFP - weak blow throughout 1/4" - 1"
60 - ISI - no blow back
30 - FFP - no blow 4 min - 3"
90 - FSI - no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1640.47	92.87	Initial Hydro-static
3	18.27	92.41	Open To Flow (1)
8	22.96	92.44	Shut-In(1)
68	1103.04	93.69	End Shut-In(1)
69	24.39	93.37	Open To Flow (2)
98	38.11	95.59	Shut-In(2)
189	1028.03	96.73	End Shut-In(2)
191	1608.26	96.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	MUD 100%	0.14
30.00	MW 85%W, 15%M w / scum O on top	0.42

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44168

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2011.09.06 @ 23:47:45

Tool Information

Drill Pipe:	Length: 3382.00 ft	Diameter: 3.80 inches	Volume: 47.44 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 47.44 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3394.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	69.00 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	8365	Fluid	3359.00	
Blank Spacing	5.00			3364.00	
Shut In Tool	5.00			3369.00	
Sampler	3.00			3372.00	
Hydraulic tool	5.00			3377.00	
Jars	5.00			3382.00	
Safety Joint	2.00			3384.00	
Packer	5.00			3389.00	35.00 Bottom Of Top Packer
Packer	5.00			3394.00	
Stubb	1.00			3395.00	
Perforations	5.00			3400.00	
Recorder	0.00	8372	Inside	3400.00	
Recorder	0.00	8734	Outside	3400.00	
Perforations	25.00			3425.00	
Bullnose	3.00			3428.00	34.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. and Associates, Inc.

Hopkins et al 1-31

1515 Wynkoop St. Ste 700
Denver, CO 80202

32-15-15 Russell, Ks

Job Ticket: 44168

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2011.09.06 @ 23:47:45

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: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
10.00	MUD 100%	0.140
30.00	MW 85%W, 15%M w / scum O on top	0.421

Total Length: 40.00 ft Total Volume: 0.561 bbl

Num Fluid Samples: 0

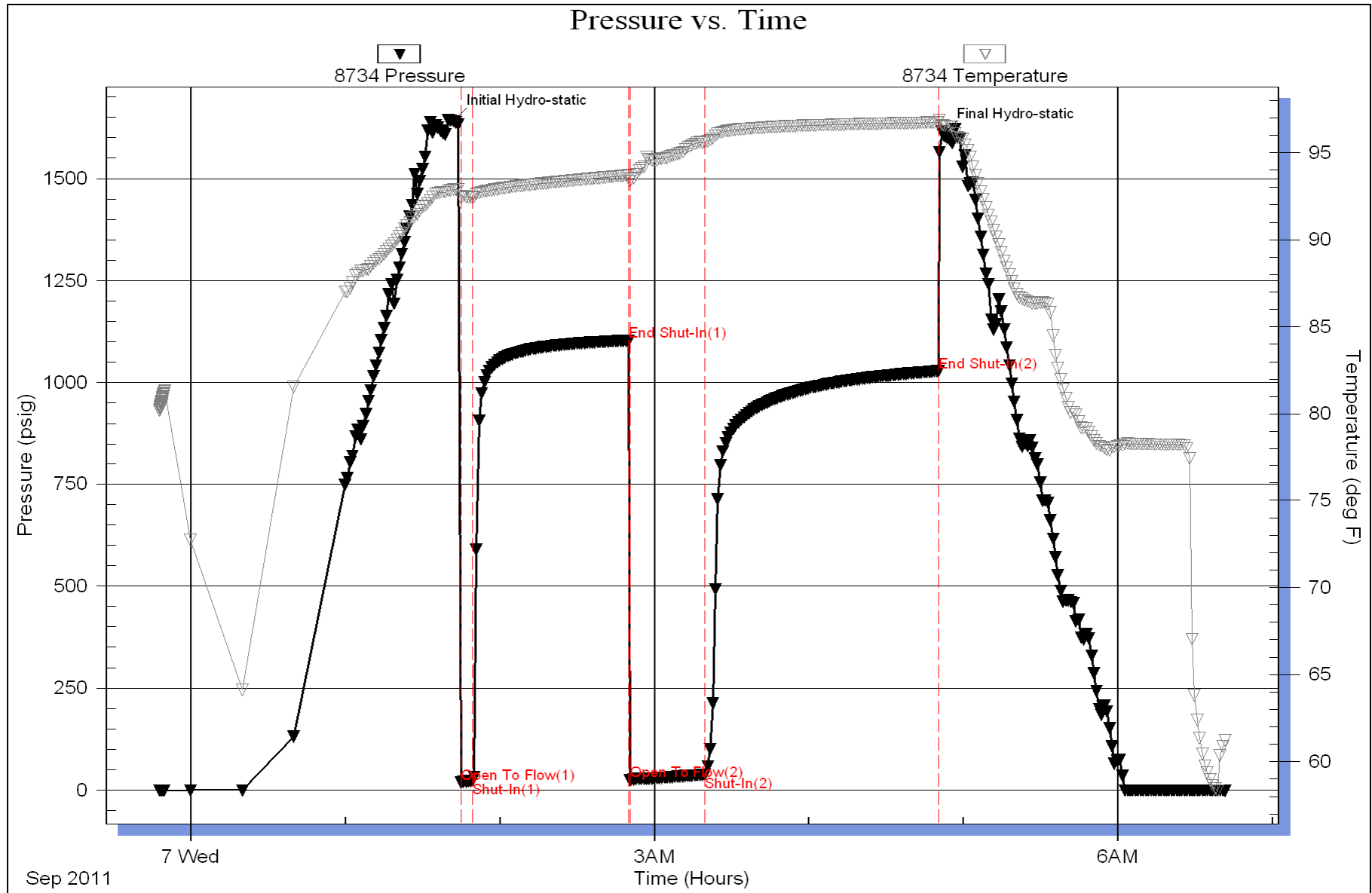
Num Gas Bombs: 0

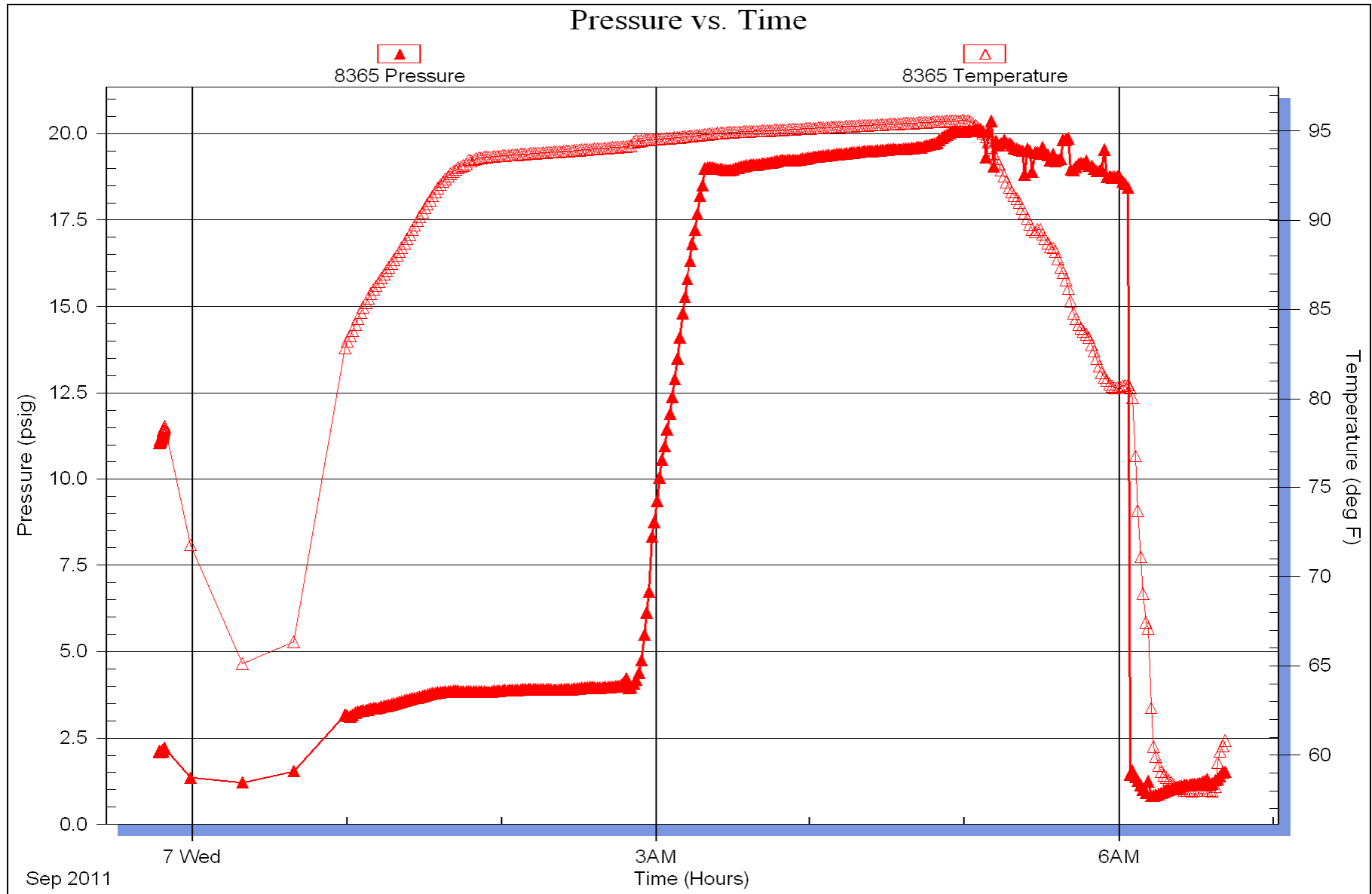
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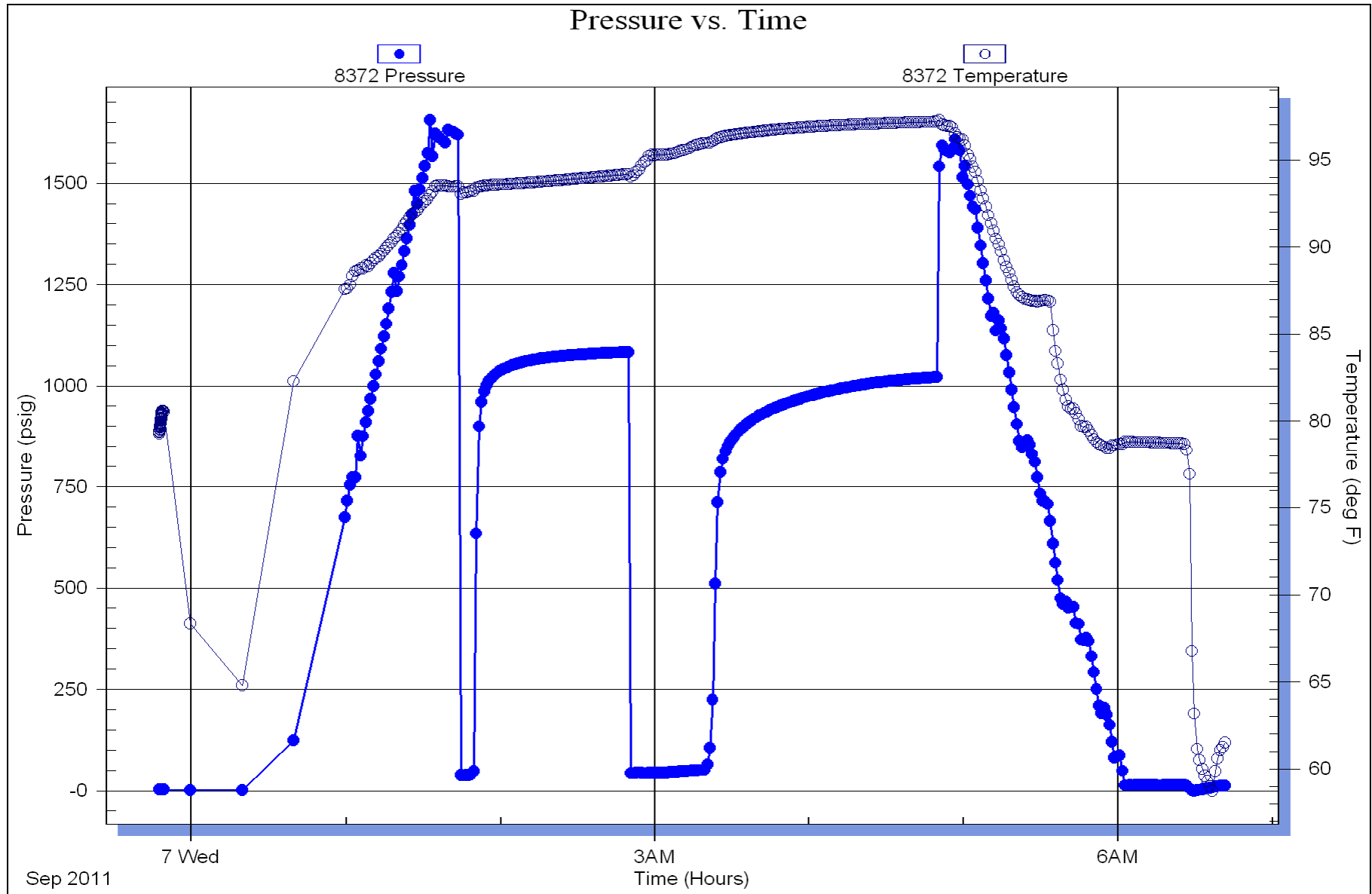
Laboratory Name:

Laboratory Location:

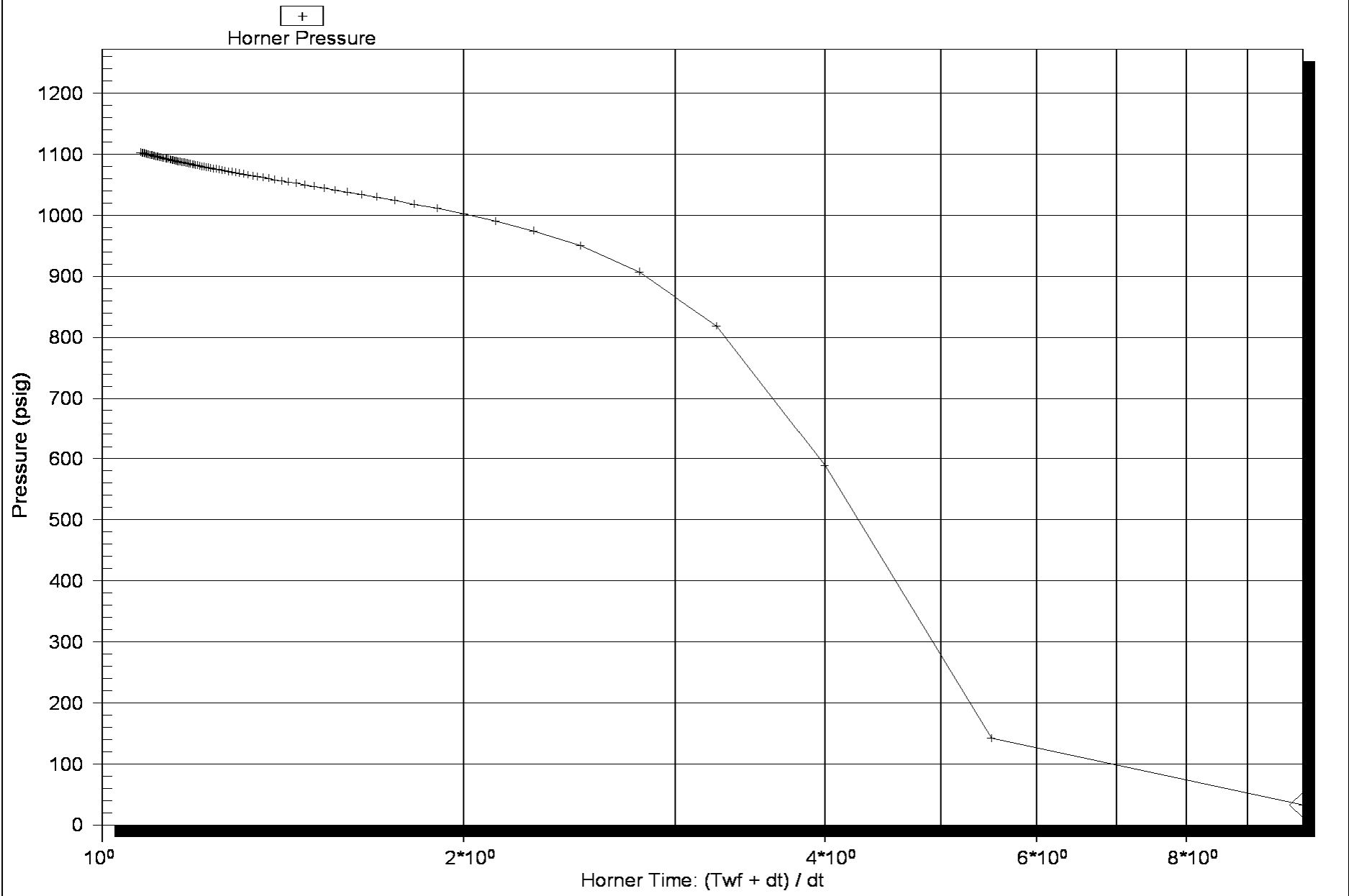
Recovery Comments: 600 ML M, 3400 ML W, 220 LBS, Water w as .251 @ 59F=35000 Chl



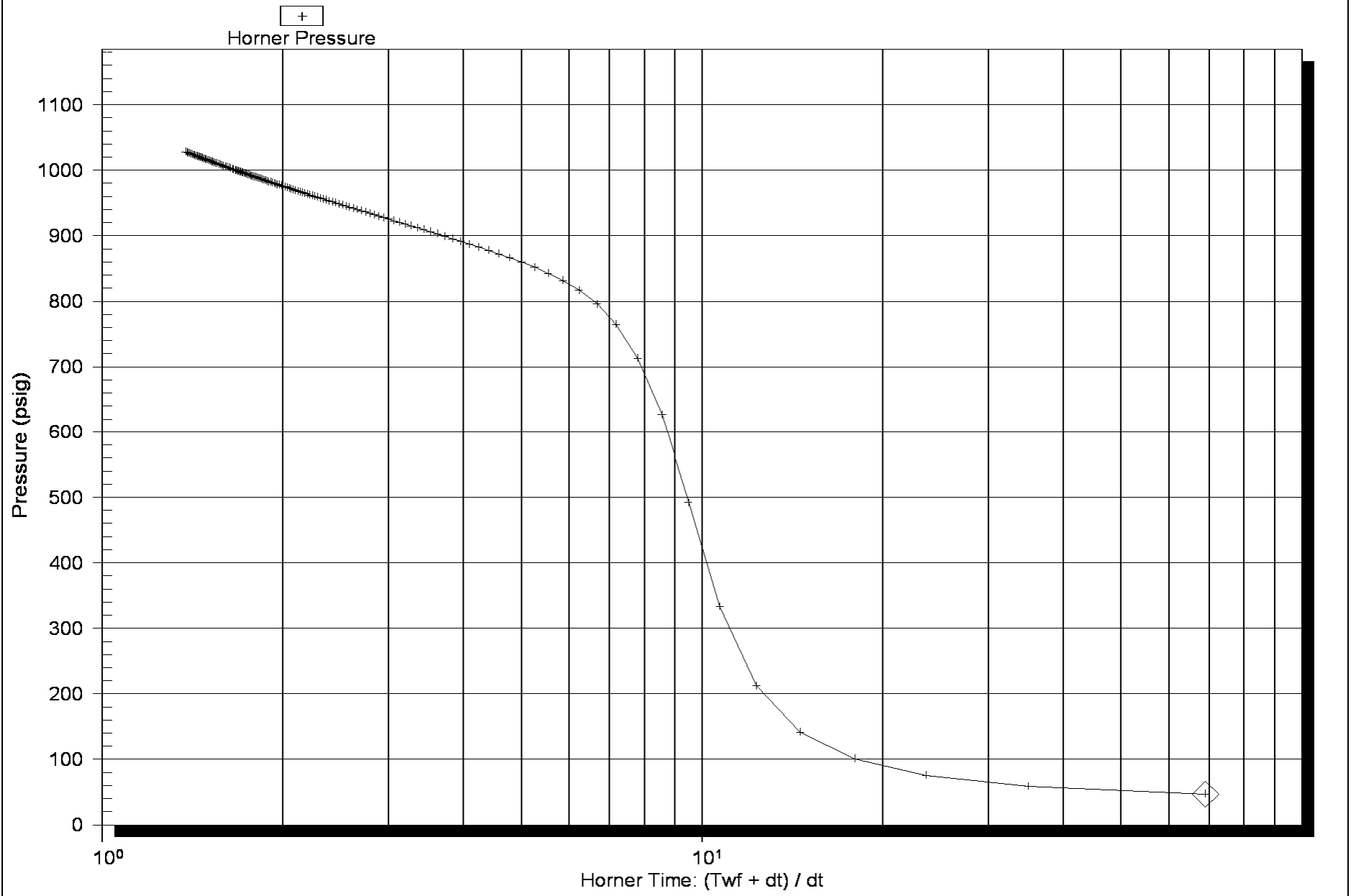


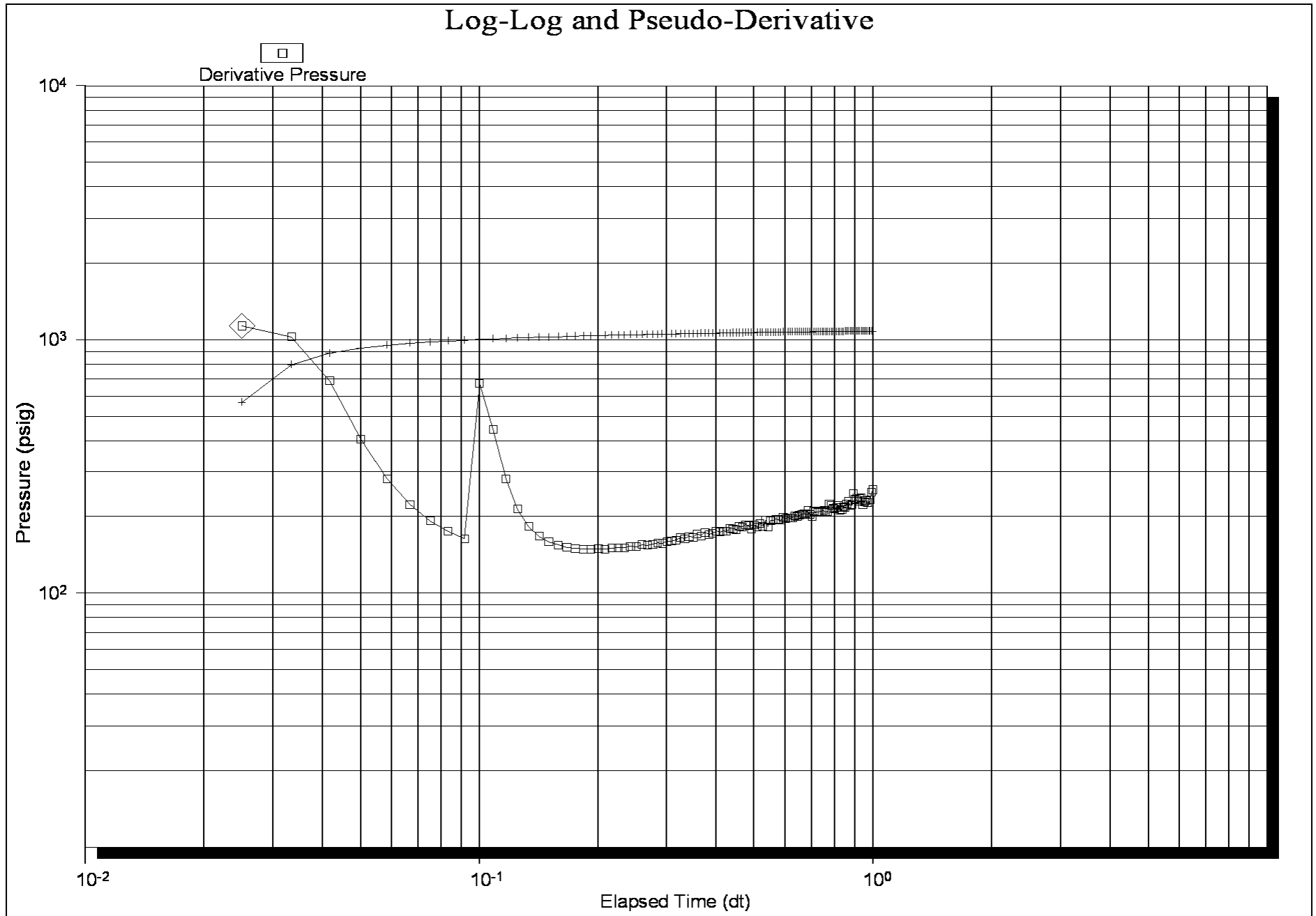


Horner Plot



Horner Plot





Log-Log and Pseudo-Derivative

