



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1092747
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

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

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

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

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

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

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

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

1092747

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

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

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

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

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

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

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

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

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

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

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

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

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

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: _____ _____
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Form	ACO1 - Well Completion
Operator	Caerus Kansas LLC
Well Name	Lacey 20-13
Doc ID	1092747

All Electric Logs Run

Sonic Log
Compensated Neutron Density
Microlog
Dual Induction

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
Thomas E. Wright, Commissioner

Sam Brownback, Governor

September 05, 2012

Amy Lay
Caerus Kansas LLC
600 17TH ST, STE 1600 N
DENVER, CO 80202

Re: ACO1
API 15-009-25734-00-00
Lacey 20-13
SW/4 Sec.20-17S-13W
Barton 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.

Respectfully,
Amy Lay



DRILL STEM TEST REPORT

Prepared For: **Caerus Kansas LLC**

PO Box 1378
Hays, KS 67601

ATTN: Justin Carter

Lacey 20-13

20-17S-13W Barton

Start Date: 2012.08.06 @ 00:44:34

End Date: 2012.08.06 @ 07:50:49

Job Ticket #: 49555 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.06 @ 08:09:40



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49555

DST#: 1

ATTN: Justin Carter

Test Start: 2012.08.06 @ 00:44:34

GENERAL INFORMATION:

Formation: **Lansing A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:01:19

Time Test Ended: 07:50:49

Test Type: Conventional Bottom Hole (Initial)

Tester: Leal Cason

Unit No: 45

Interval: 3206.00 ft (KB) To 3262.00 ft (KB) (TVD)

Reference Elevations: 1955.00 ft (KB)

Total Depth: 3262.00 ft (KB) (TVD)

1945.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6798

Inside

Press @ Run Depth: 40.06 psig @ 3207.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.06

End Date:

2012.08.06

Last Calib.:

2012.08.06

Start Time:

00:44:35

End Time:

07:50:49

Time On Btm:

2012.08.06 @ 03:00:19

Time Off Btm:

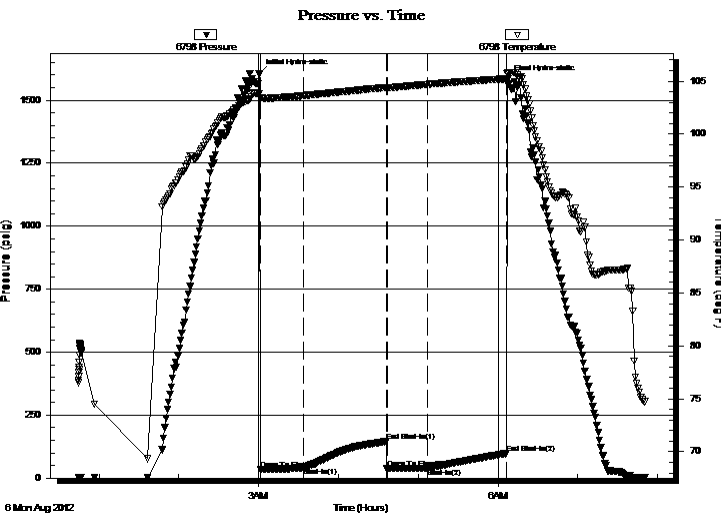
2012.08.06 @ 06:06:49

TEST COMMENT: IF: Weak Surface Blow, Dead @ 18 minutes

IS: No Blow Back

FF: No Blow

FS: No Blow Back



PRESSURE SUMMARY

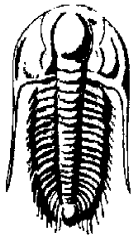
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1604.34	103.83	Initial Hydro-static
1	35.31	103.40	Open To Flow (1)
34	41.81	103.64	Shut-In(1)
96	145.49	104.41	End Shut-In(1)
97	38.97	104.37	Open To Flow (2)
127	40.06	104.70	Shut-In(2)
186	97.86	105.24	End Shut-In(2)
187	1580.21	105.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud	0.14

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49555

DST#: 1

ATTN: Justin Carter

Test Start: 2012.08.06 @ 00:44:34

GENERAL INFORMATION:

Formation: **Lansing A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:01:19

Time Test Ended: 07:50:49

Test Type: Conventional Bottom Hole (Initial)

Tester: Leal Cason

Unit No: 45

Interval: 3206.00 ft (KB) To 3262.00 ft (KB) (TVD)

Reference Elevations: 1955.00 ft (KB)

Total Depth: 3262.00 ft (KB) (TVD)

1945.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8367 **Outside**

Press @ Run Depth: psig @ 3207.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.06

End Date: 2012.08.06

Last Calib.: 2012.08.06

Start Time: 00:44:35

End Time: 07:51:19

Time On Btm:

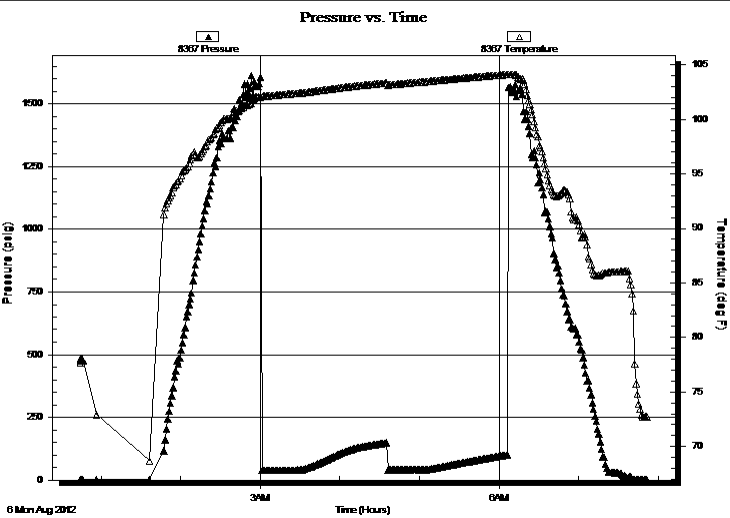
Time Off Btm:

TEST COMMENT: IF: Weak Surface Blow , Dead @ 18 minutes

IS: No Blow Back

FF: No Blow

FS: No Blow Back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud	0.14

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49555

DST#: 1

ATTN: Justin Carter

Test Start: 2012.08.06 @ 00:44:34

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud	0.140

Total Length: 10.00 ft Total Volume: 0.140 bbl

Num Fluid Samples: 0

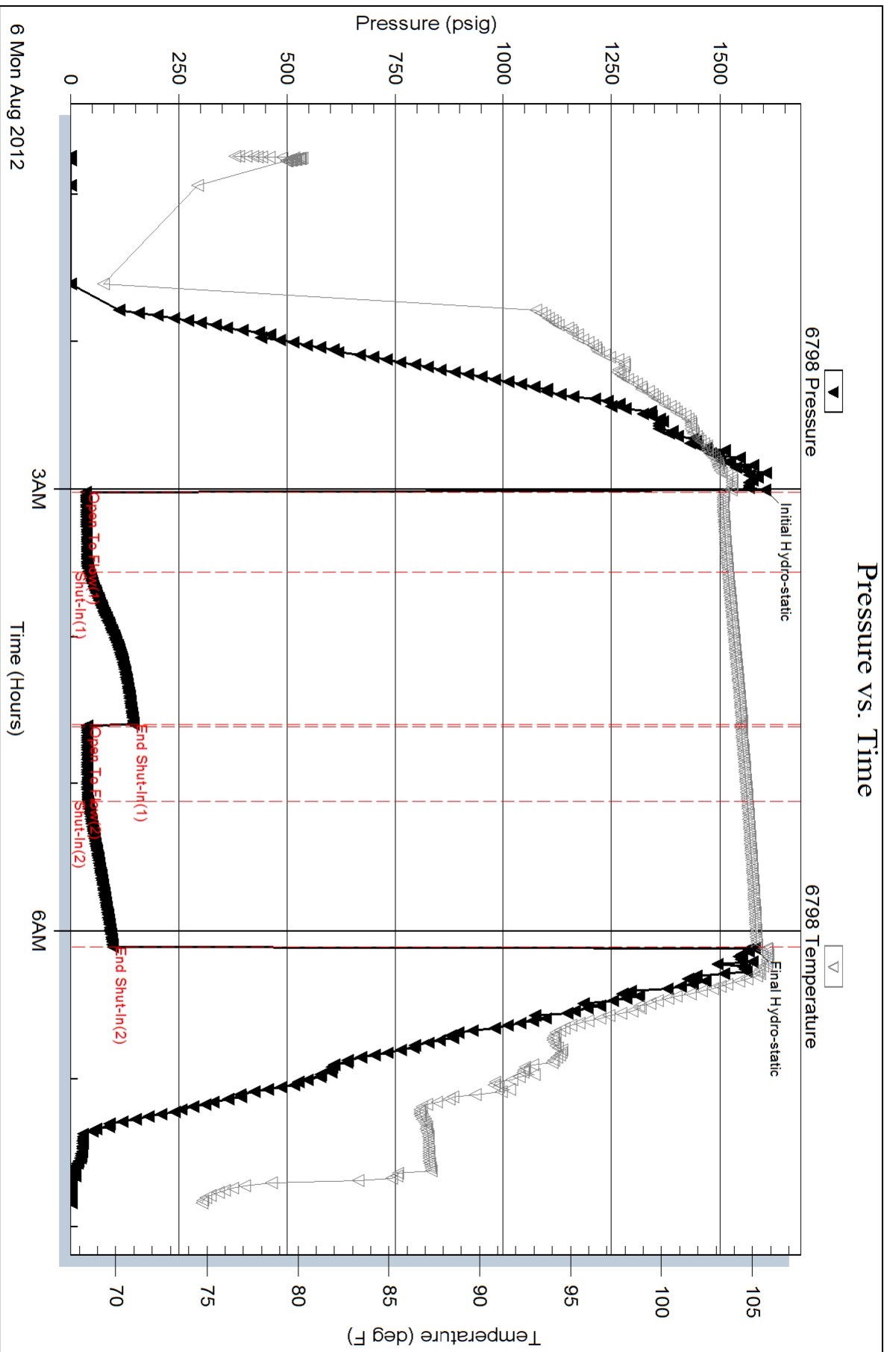
Num Gas Bombs: 0

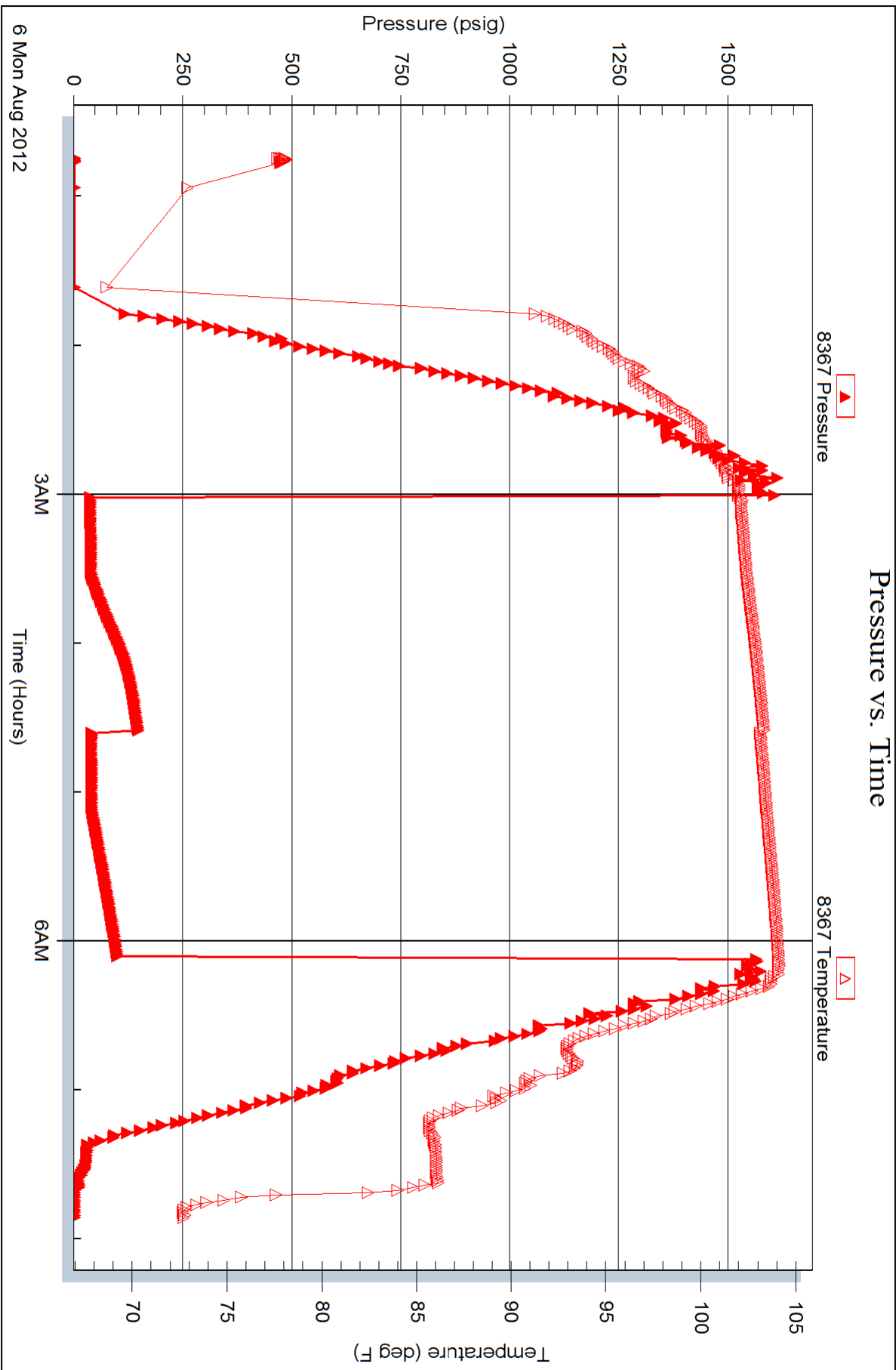
Serial #:

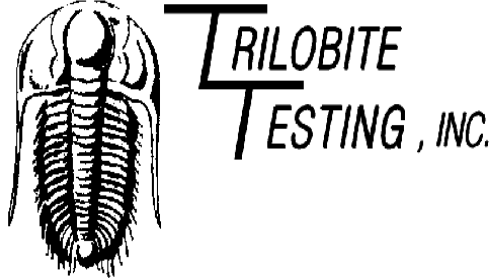
Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Caerus Kansas LLC**

PO Box 1378
Hays, KS 67601

ATTN: Justin Carter

Lacey 20-13

20-17S-13W Barton

Start Date: 2012.08.06 @ 23:39:49

End Date: 2012.08.07 @ 05:59:04

Job Ticket #: 49556 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.07 @ 08:08:49



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Caerus Kansas LLC
 PO Box 1378
 Hays, KS 67601
 ATTN: Justin Carter

20-17S-13W Barton
Lacey 20-13
 Job Ticket: 49556 **DST#: 2**
 Test Start: 2012.08.06 @ 23:39:49

GENERAL INFORMATION:

Formation: **Lansing "H, I, & J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:19:19
 Time Test Ended: 05:59:04
 Interval: **3331.00 ft (KB) To 3394.00 ft (KB) (TVD)**
 Total Depth: 3394.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Leal Cason
 Unit No: 45
 Reference Elevations: 1955.00 ft (KB)
 1945.00 ft (CF)
 KB to GR/CF: 10.00 ft

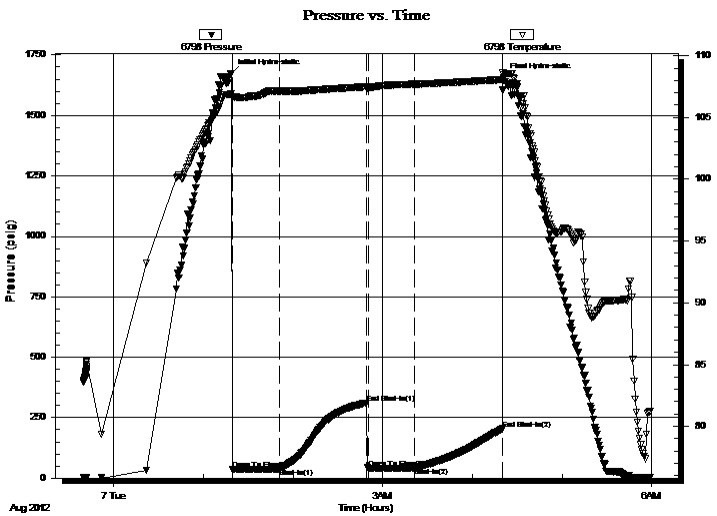
Serial #: 6798

Inside

Press @ Run Depth: 42.81 psig @ 3332.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.08.06 End Date: 2012.08.07 Last Calib.: 2012.08.07
 Start Time: 23:39:50 End Time: 05:59:04 Time On Btm: 2012.08.07 @ 01:18:49
 Time Off Btm: 2012.08.07 @ 04:20:49

TEST COMMENT: IF: Weak Surface Blow , Dead @ 25 minutes
 IS: No Blow Back
 FF: Weak Surface Blow , Dead @ 21 minutes
 FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1674.18	106.95	Initial Hydro-static
1	35.66	106.58	Open To Flow (1)
32	39.95	107.13	Shut-In(1)
91	311.54	107.49	End Shut-In(1)
92	40.51	107.41	Open To Flow (2)
123	42.81	107.69	Shut-In(2)
182	203.79	108.07	End Shut-In(2)
182	1654.48	108.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM 5% O 95%M	0.28

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49556

DST#: 2

ATTN: Justin Carter

Test Start: 2012.08.06 @ 23:39:49

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:19:19

Time Test Ended: 05:59:04

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 45

Interval: 3331.00 ft (KB) To 3394.00 ft (KB) (TVD)

Reference Elevations: 1955.00 ft (KB)

Total Depth: 3394.00 ft (KB) (TVD)

1945.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8367

Outside

Press @ Run Depth: psig @ 3332.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.06

End Date:

2012.08.07

Last Calib.:

2012.08.07

Start Time: 23:39:50

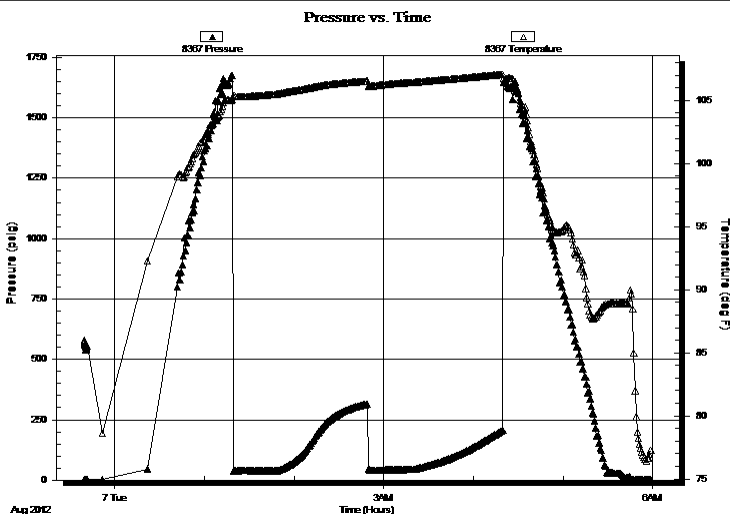
End Time:

05:59:04

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Weak Surface Blow , Dead @ 25 minutes
IS: No Blow Back
FF: Weak Surface Blow , Dead @ 21 minutes
FS: No Blow Back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM 5% O 95%M	0.28

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49556

DST#: 2

ATTN: Justin Carter

Test Start: 2012.08.06 @ 23:39:49

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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	SOCM 5% O 95%M	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

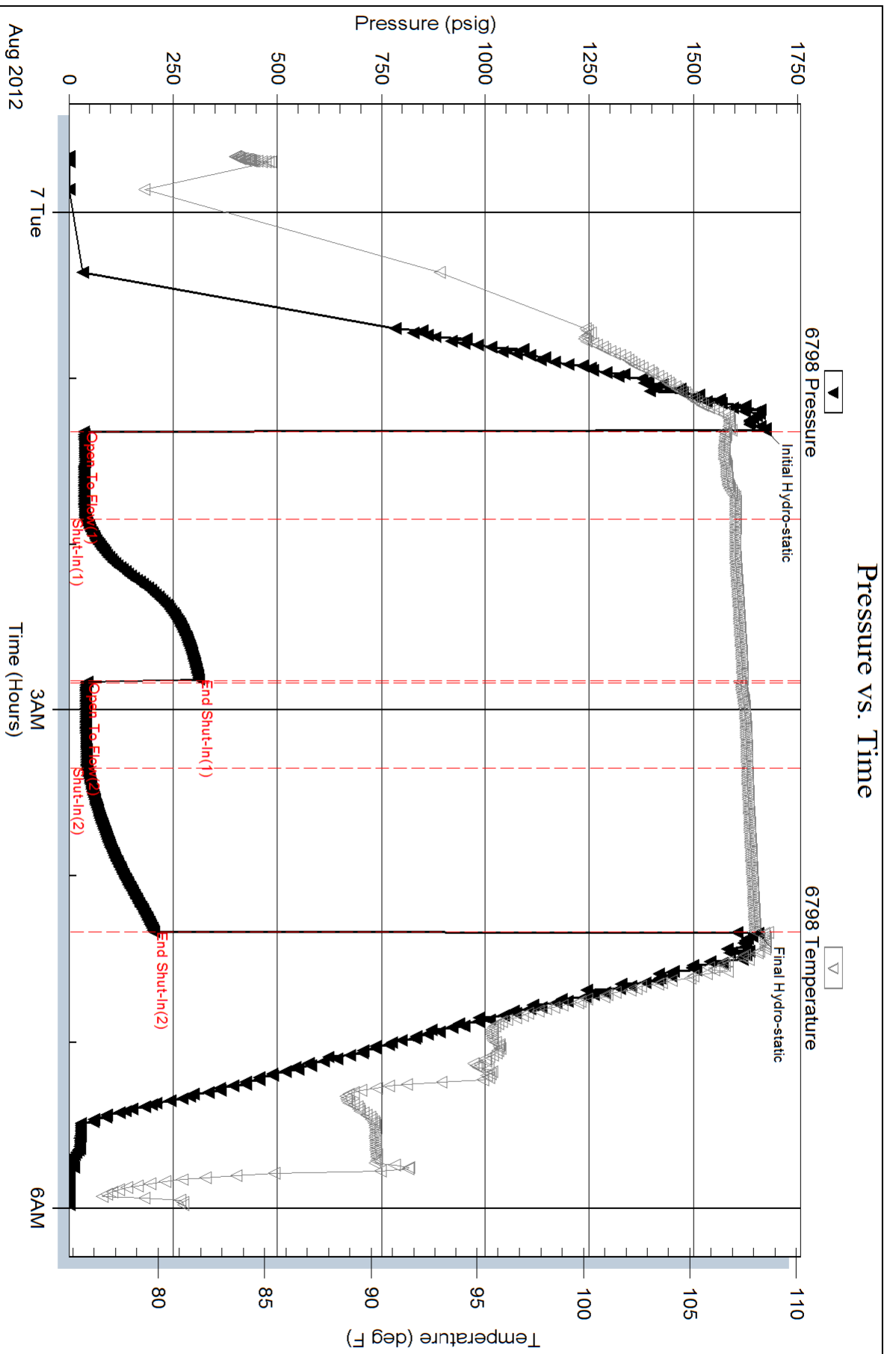
Num Gas Bombs: 0

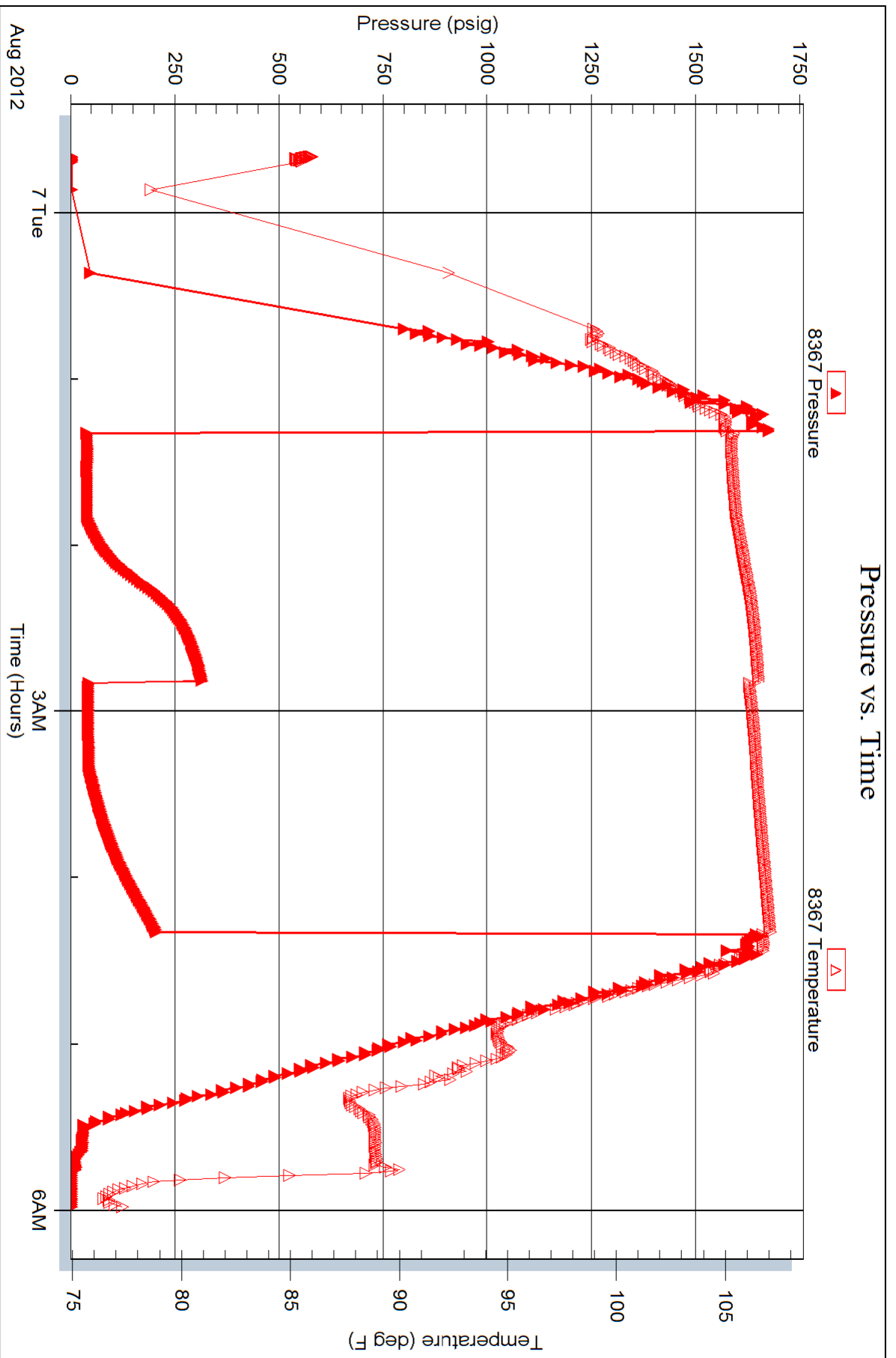
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Caerus Kansas LLC**

PO Box 1378
Hays, KS 67601

ATTN: Justin Carter

Lacey 20-13

20-17S-13W Barton

Start Date: 2012.08.07 @ 16:35:34

End Date: 2012.08.07 @ 23:07:49

Job Ticket #: 49557 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.07 @ 23:24:59



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Caerus Kansas LLC
 PO Box 1378
 Hays, KS 67601
 ATTN: Justin Carter

20-17S-13W Barton
Lacey 20-13
 Job Ticket: 49557 **DST#: 3**
 Test Start: 2012.08.07 @ 16:35:34

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 18:16:19
 Tester: Leal Cason
 Time Test Ended: 23:07:49
 Unit No: 45
 Interval: **3409.00 ft (KB) To 3459.00 ft (KB) (TVD)**
 Reference Elevations: 1955.00 ft (KB)
 Total Depth: 3459.00 ft (KB) (TVD)
 1945.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Good
 KB to GR/CF: 10.00 ft

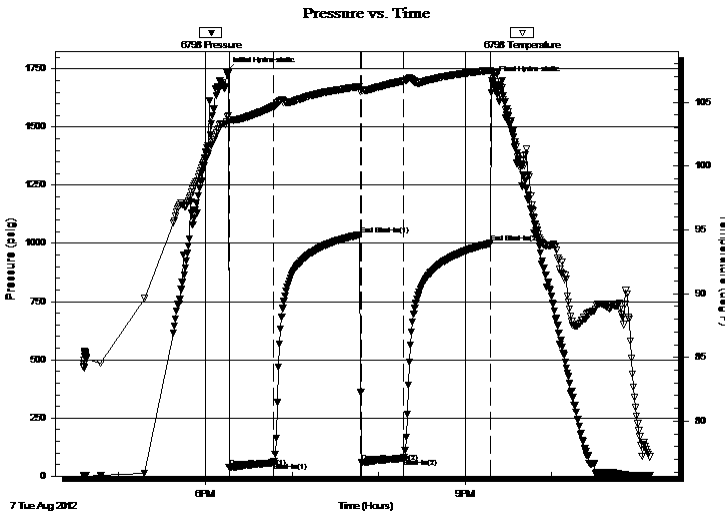
Serial #: 6798

Inside

Press @ Run Depth: 76.48 psig @ 3410.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.08.07 End Date: 2012.08.07 Last Calib.: 2012.08.07
 Start Time: 16:35:35 End Time: 23:07:49 Time On Btm: 2012.08.07 @ 18:14:34
 Time Off Btm: 2012.08.07 @ 21:18:34

TEST COMMENT: IF: Weak 1 1/2 inch Blow , Died Off to 3/4 inch in 30 minutes
 IS: No Blow Back
 FF: Weak 1/2 inch Blow
 FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1739.54	103.44	Initial Hydro-static
2	37.52	103.45	Open To Flow (1)
33	57.64	104.67	Shut-In(1)
93	1037.57	106.23	End Shut-In(1)
94	58.98	105.94	Open To Flow (2)
123	76.48	106.65	Shut-In(2)
183	1001.40	107.48	End Shut-In(2)
184	1700.61	107.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	OMCW 5%O 30%M 65%W	0.87
20.00	Gassy Oil 2%G 98%O	0.28

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49557

DST#: 3

ATTN: Justin Carter

Test Start: 2012.08.07 @ 16:35:34

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:16:19

Time Test Ended: 23:07:49

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 45

Interval: **3409.00 ft (KB) To 3459.00 ft (KB) (TVD)**

Reference Elevations: 1955.00 ft (KB)

Total Depth: 3459.00 ft (KB) (TVD)

1945.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8367 Outside

Press @ RunDepth: psig @ 3410.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.07 End Date: 2012.08.07

Last Calib.: 2012.08.07

Start Time: 16:35:35 End Time: 23:07:49

Time On Btm:

Time Off Btm:

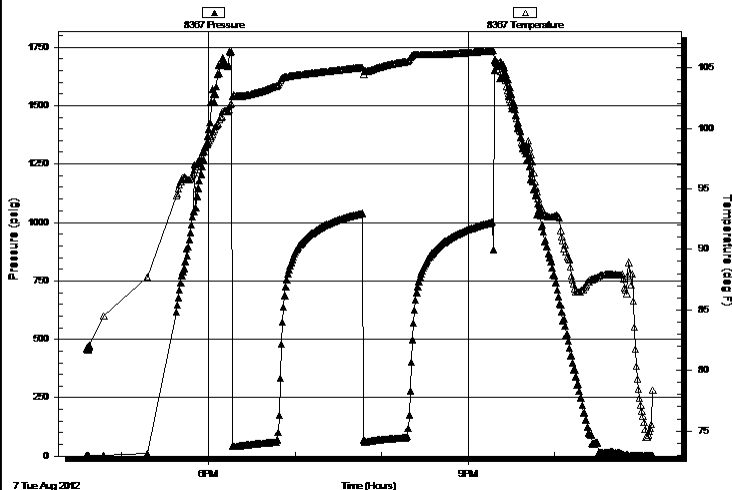
TEST COMMENT: IF: Weak 1 1/2 inch Blow , Died Off to 3/4 inch in 30 minutes

IS! No Blow Back

FF: Weak 1/2 inch Blow

FS! No Blow Back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
62.00	OMCW 5%O 30%M 65%W	0.87
20.00	Gassy Oil 2%G 98%O	0.28

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49557

DST#: 3

ATTN: Justin Carter

Test Start: 2012.08.07 @ 16:35:34

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38.2 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

44000 ppm

Viscosity: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	OMCW 5%O 30%M 65%W	0.870
20.00	Gassy Oil 2%G 98%O	0.281

Total Length: 82.00 ft Total Volume: 1.151 bbl

Num Fluid Samples: 0

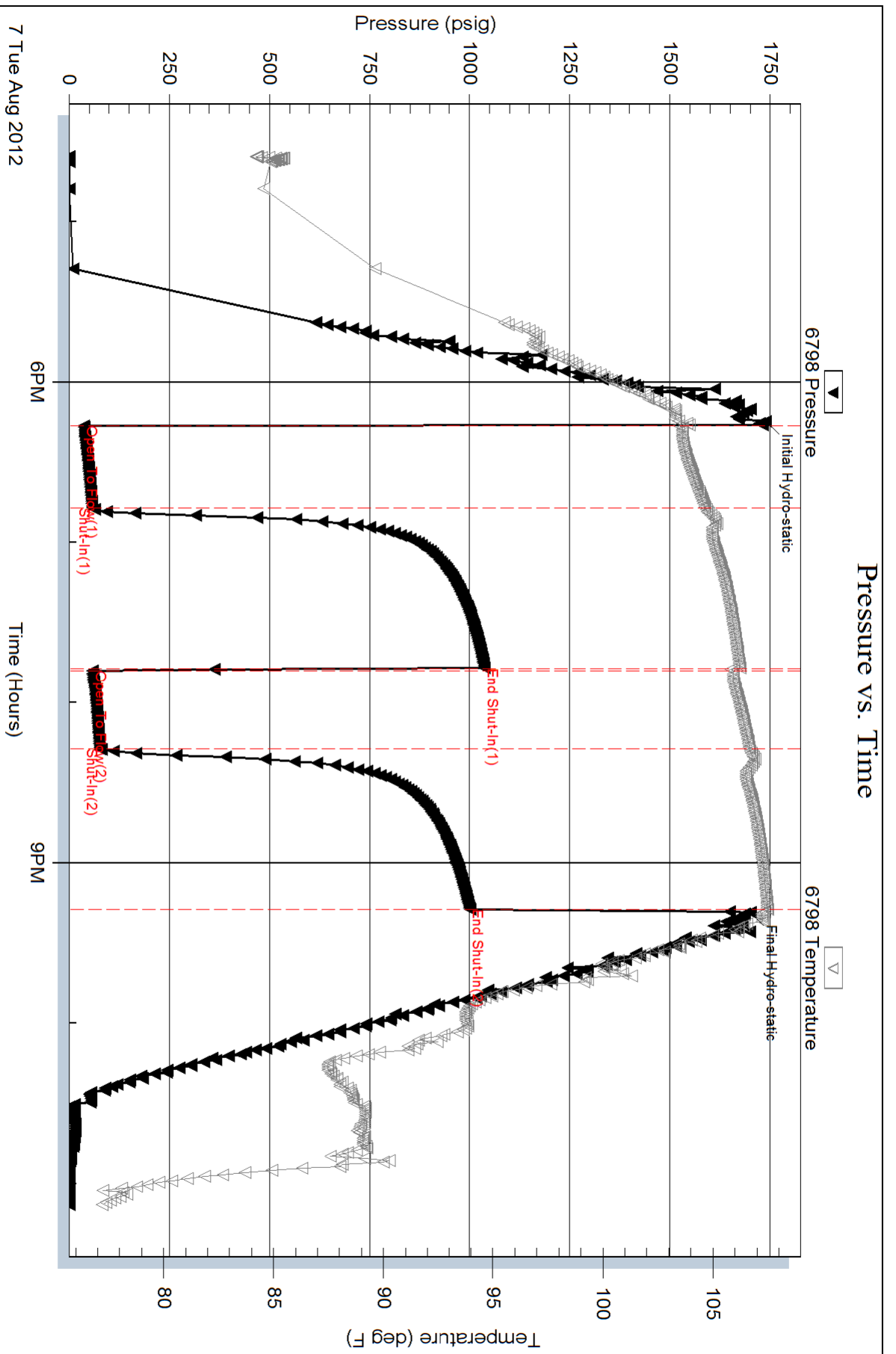
Num Gas Bombs: 0

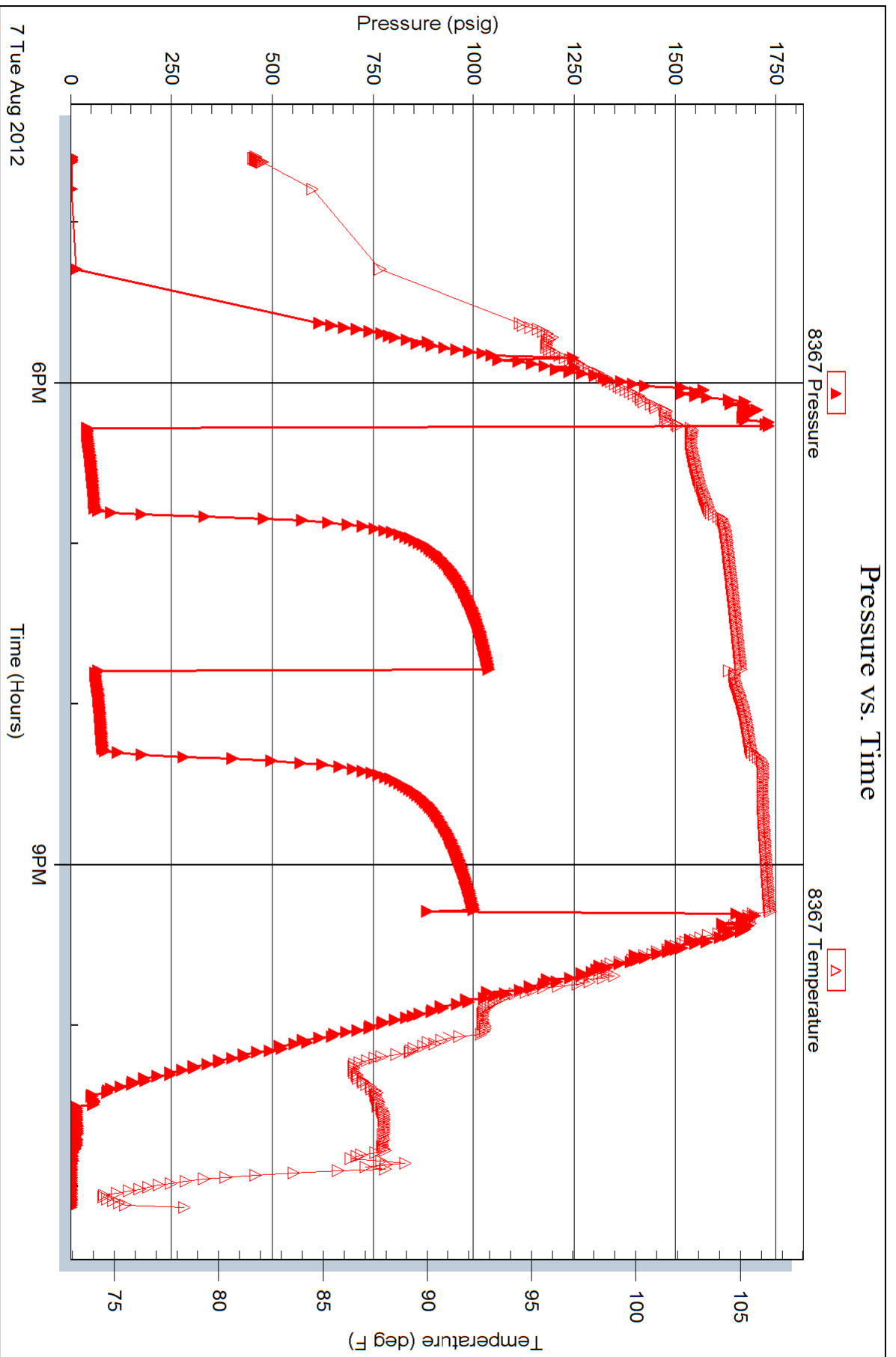
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity w as 40.2 @ 82 degrees
RW w as .14 @ 90 degrees







DRILL STEM TEST REPORT

Prepared For: **Caerus Kansas LLC**

PO Box 1378
Hays, KS 67601

ATTN: Justin Carter

Lacey 20-13

20-17S-13W Barton

Start Date: 2012.08.08 @ 13:17:02

End Date: 2012.08.08 @ 21:59:47

Job Ticket #: 49558 DST #: 4

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

Printed: 2012.08.08 @ 22:43:58



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49558

DST#: 4

ATTN: Justin Carter

Test Start: 2012.08.08 @ 13:17:02

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:40:32

Time Test Ended: 21:59:47

Test Type: Conventional Straddle (Reset)

Tester: Leal Cason

Unit No: 45

Interval: 3455.00 ft (KB) To 3475.00 ft (KB) (TVD)

Reference Elevations: 1955.00 ft (KB)

Total Depth: 3538.00 ft (KB) (TVD)

1945.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6798

Inside

Press @ Run Depth: 863.08 psig @ 3456.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.08

End Date:

2012.08.08

Last Calib.:

2012.08.08

Start Time: 13:17:03

End Time:

21:59:47

Time On Btm:

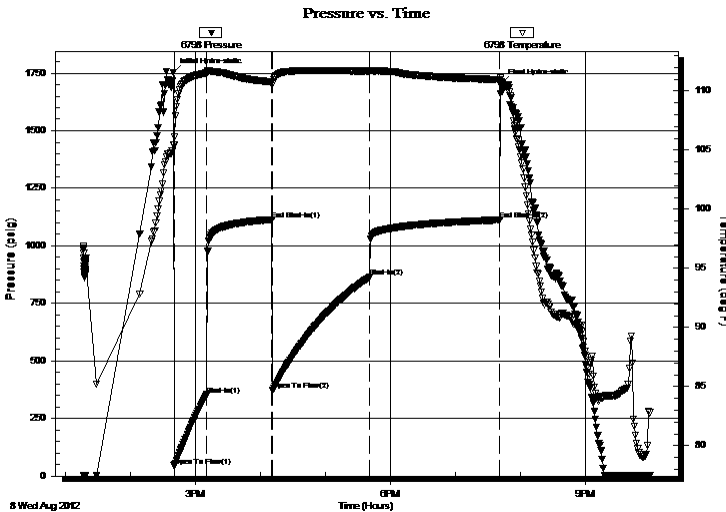
2012.08.08 @ 14:39:47

Time Off Btm:

2012.08.08 @ 19:42:32

TEST COMMENT: IF: Strong Blow , BOB in 4 minutes
IS: No Blow Back
FF: Strong Blow , BOB in 5 minutes
FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1752.82	105.42	Initial Hydro-static
1	44.03	105.42	Open To Flow (1)
31	353.50	111.51	Shut-In(1)
91	1112.30	110.75	End Shut-In(1)
92	372.67	110.65	Open To Flow (2)
182	863.08	111.66	Shut-In(2)
302	1111.78	110.95	End Shut-In(2)
303	1704.63	110.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1958.00	Water	27.47
77.00	SOMCW 2%O 30%M 68%W	1.08
5.00	Oil	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49558

DST#: 4

ATTN: Justin Carter

Test Start: 2012.08.08 @ 13:17:02

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:40:32

Time Test Ended: 21:59:47

Test Type: Conventional Straddle (Reset)

Tester: Leal Cason

Unit No: 45

Interval: 3455.00 ft (KB) To 3475.00 ft (KB) (TVD)

Reference Elevations: 1955.00 ft (KB)

Total Depth: 3538.00 ft (KB) (TVD)

1945.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8367 Outside

Press @ Run Depth: psig @ 3456.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.08 End Date: 2012.08.08

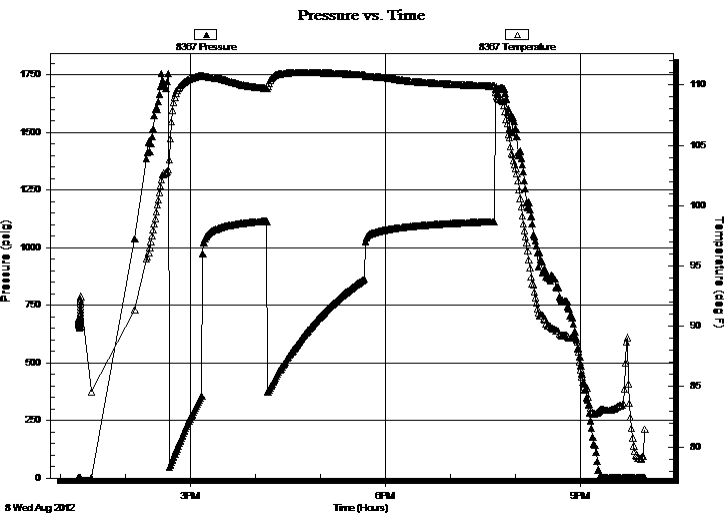
Last Calib.: 2012.08.08

Start Time: 13:17:03 End Time: 21:59:47

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Strong Blow , BOB in 4 minutes
IS: No Blow Back
FF: Strong Blow , BOB in 5 minutes
FS: No Blow Back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1958.00	Water	27.47
77.00	SOMCW 2%O 30%M 68%W	1.08
5.00	Oil	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49558

DST#: 4

ATTN: Justin Carter

Test Start: 2012.08.08 @ 13:17:02

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:40:32

Time Test Ended: 21:59:47

Test Type: Conventional Straddle (Reset)

Tester: Leal Cason

Unit No: 45

Interval: 3455.00 ft (KB) To 3475.00 ft (KB) (TVD)

Reference Elevations: 1955.00 ft (KB)

Total Depth: 3538.00 ft (KB) (TVD)

1945.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8358 Below (Straddle)

Press @ Run Depth: psig @ 3497.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.08 End Date: 2012.08.08

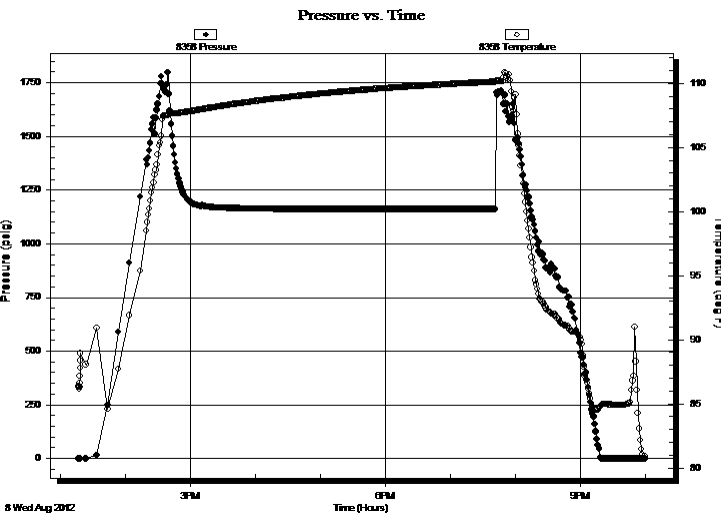
Last Calib.: 2012.08.08

Start Time: 13:17:07 End Time: 21:59:32

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Strong Blow , BOB in 4 minutes
IS: No Blow Back
FF: Strong Blow , BOB in 5 minutes
FS: No Blow Back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1958.00	Water	27.47
77.00	SOMCW 2%O 30%M 68%W	1.08
5.00	Oil	0.07

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Caerus Kansas LLC

20-17S-13W Barton

PO Box 1378
Hays, KS 67601

Lacey 20-13

Job Ticket: 49558

DST#: 4

ATTN: Justin Carter

Test Start: 2012.08.08 @ 13:17:02

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:

40000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1958.00	Water	27.466
77.00	SOMCW 2%O 30%M 68%W	1.080
5.00	Oil	0.070

Total Length: 2040.00 ft Total Volume: 28.616 bbl

Num Fluid Samples: 0

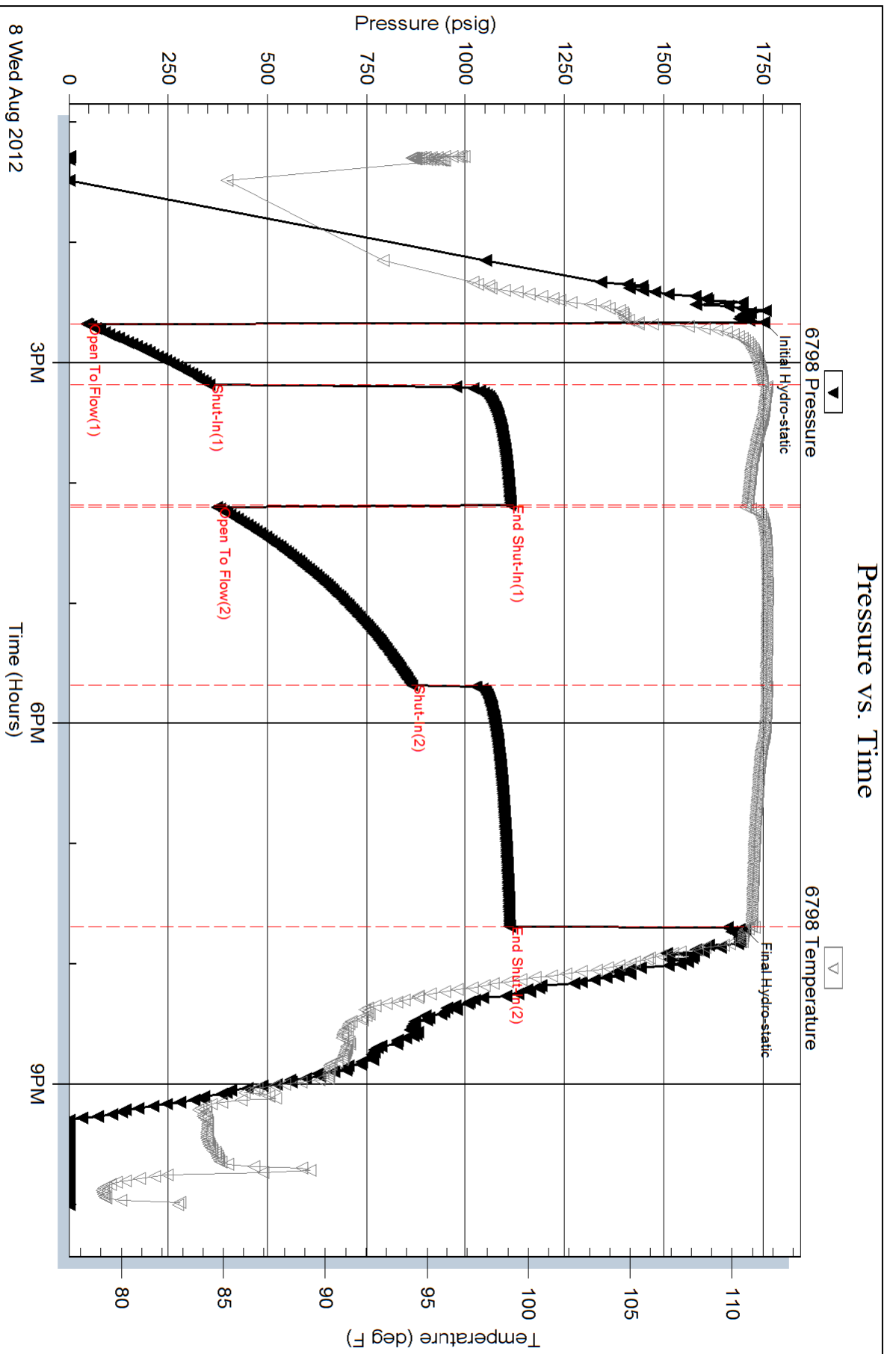
Num Gas Bombs: 0

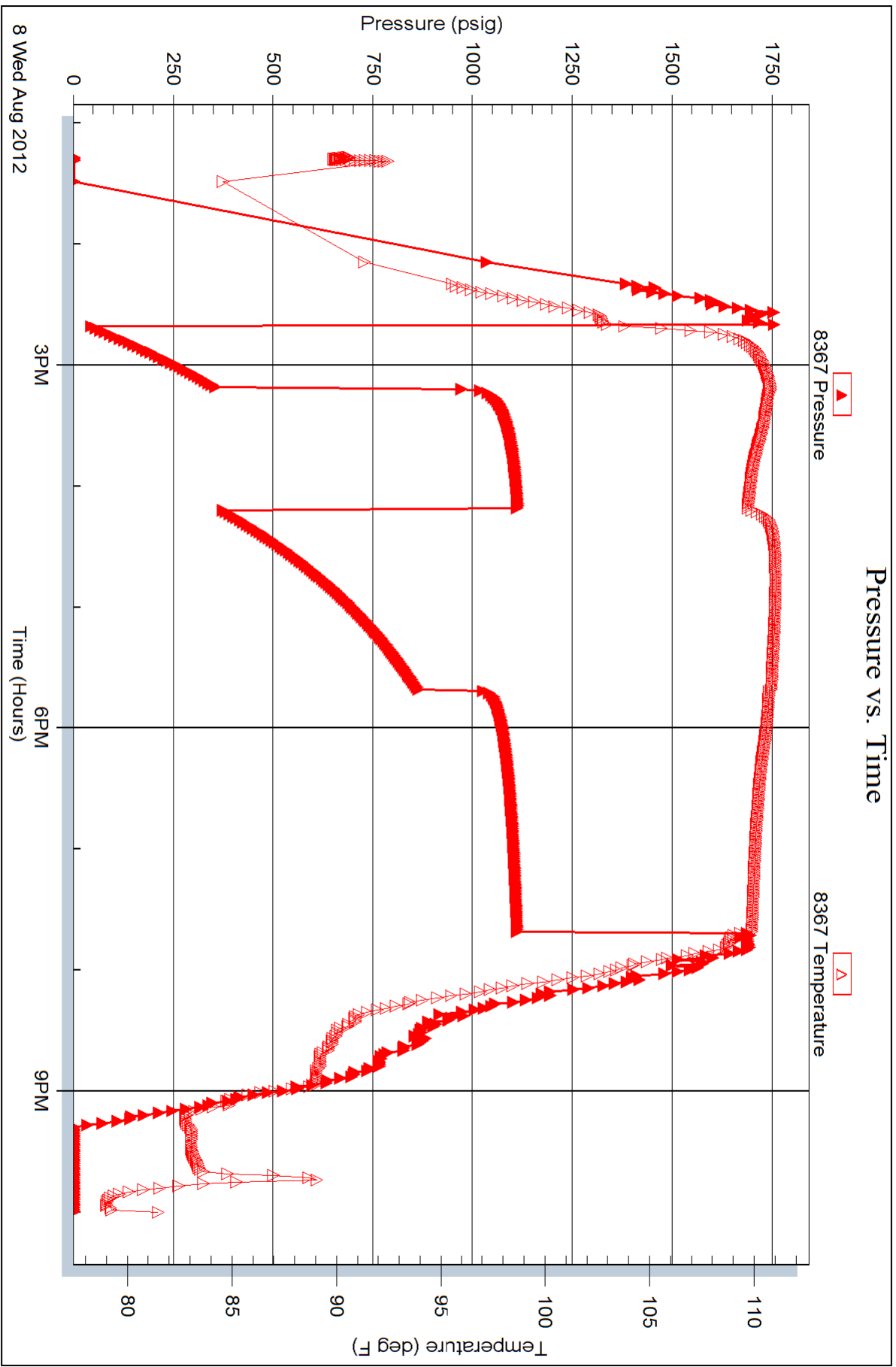
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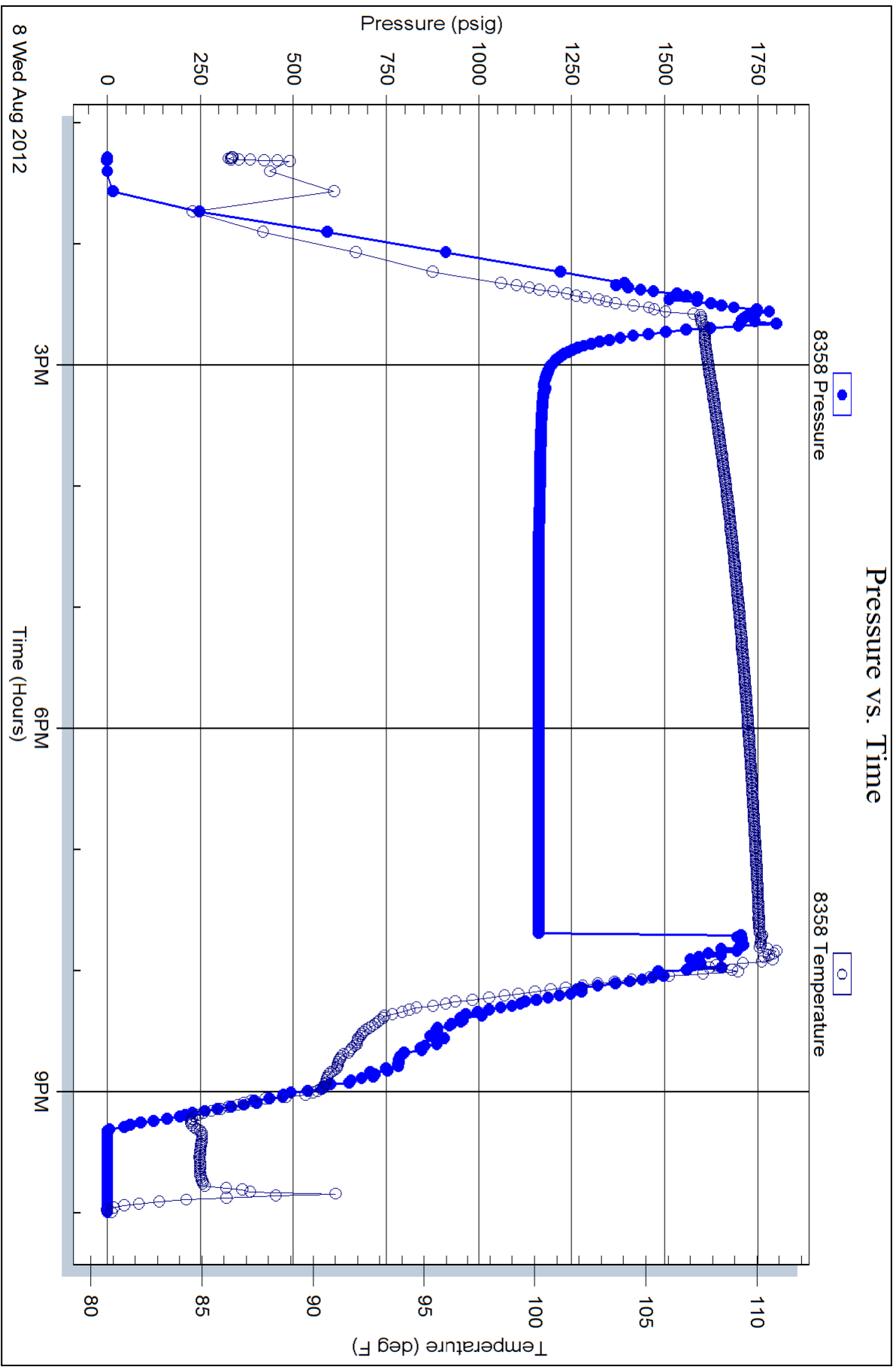
Laboratory Name:

Laboratory Location:

Recovery Comments: RW w as .15 @ 85 degrees







QUALITY WELL SERVICE, INC.

5620

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

Heath's Cell 620-727-3410
Office / Fax 620-672-3663

Rich's Cell 620-727-3409
Brady's Cell 620-727-6964

Date	8-9-12	Sec.	20	Twp.	17	Range	13	County	Barton	State	KS	On Location		Finish	5:15-5:45pm
Lease	Lucey	Well No.	20-13		Location Hairsington, KS 4 N 1/2 E N10										
Contractor	Maverick # 106				Owner										
Type Job	Rotary Plug				To Quality Well Service, 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					T.D.	3536									
Csg.					Depth	Charge To Caerus Kansas									
Tbg. Size					Depth	Street									
Tool					Depth	City State									
Cement Left in Csg.					Shoe Joint	The above was done to satisfaction and supervision of owner agent or contractor.									
Meas Line					Displace	Cement Amount Ordered 200sx 60/40 4% 1/4" Flt									
EQUIPMENT															
Pumptrk	No.	8	Cody		Common 120										
Bulktrk	No.	9	M. Ke		Poz. Mix 80										
Bulktrk	No.		Heath		Gel. 7										
Pickup	No.				Calcium										
JOB SERVICES & REMARKS															
Rat Hole	30sx				Hulls										
Mouse Hole	15sx				Salt										
Centralizers					Flowseal 50										
Baskets					Kol-Seal										
D/V or Port Collar					Mud CLR 48										
					CFL-117 or CD110 CAF 38										
					Sand										
	1st Plug @ 3410 = 25sx				Handling 207										
					Mileage 15										
	2nd Plug @ 960 = 40sx				FLOAT EQUIPMENT										
					Guide Shoe										
					Centralizer										
					Baskets										
					AFU Inserts										
					Float Shoe										
					Latch Down										
					8 5/8 Dry hole plug										
					Pumptrk Charge Rotary Plug.										
					Mileage 15										
Thank You!!														Tax	
X Signature <i>Carl E. Farmer</i>														Discount	
														Total Charge	

QUALITY WELL SERVICE, INC.

5615

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

Heath's Cell 620-727-3410
Office / Fax 620-672-3663

Rich's Cell 620-727-3409
Brady's Cell 620-727-6964

Date	8-3-12	Sec.	20	Twp.	17	Range	13	County	Barton	State	KS	On Location		Finish	1:15pm - 1:45pm
Lease	Lacey	Well No.	20-13			Location						Hoisirgton 4N 1/4E N10			
Contractor	Mawerick 106				Owner						To Quality Well Service, 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	Long Surface				T.D.						910				
Hole Size	12 1/4				Depth						908				
Csg.	8 5/8				Charge To						Caercus Kansas				
Tbg. Size					Depth										
Tool					Depth										
Cement Left in Csg.	38.430				Shoe Joint						The above was done to satisfaction and supervision of owner agent or contractor.				
Meas Line					Displace						56.01				
EQUIPMENT										1/4 C.F.					
Pumptrk	No.	8				Cody						Common 400			
Bulktrk	No.	5				Seen						Poz. Mix			
Bulktrk	No.											Gel. 7			
Pickup	No.											Calcium 14			
JOB SERVICES & REMARKS										Hulls					
Rat Hole										Salt					
Mouse Hole										Flowseal 100					
Centralizers										Kol-Seal					
Baskets										Mud CLR 48					
D/V or Port Collar										CFL-117 or CD110 CAF 38					
Ran 22 JTS of 8 5/8 and landing										Sand					
EST Circulation with mud pump										Handling 421					
										Mileage 8					
										FLOAT EQUIPMENT					
Hooked up and mixed 450sx										Guide Shoe					
Shut down and released plug										Centralizer					
Disp 56.01 bbl - Plug landed										Baskets					
@ 600psi										AFU Inserts					
										Float Shoe					
										Latch Down					
Cement Did Circulate !!										8 5/8 Solid Rubber plug					
										8 5/8 Chaffle Plate					
										Pumptrk Charge Surface					
										Mileage 8					
										Tax					
										Discount					
										Total Charge					
X Signature										Paul E. Janner					