

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

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

Gas DH EOR

OG GSW

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 EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

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 Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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

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

INSTRUCTIONS: Show important tops 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 Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	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> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	SCHROEDER UNIT 1
Doc ID	1320770

All Electric Logs Run

Compensated Density Neutron Log
Micro Resistivity Log
Dual Induction Log
Cement Bond Log

Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	SCHROEDER UNIT 1
Doc ID	1320770

Tops

Name	Top	Datum
Anhydrite	2697	(+399)
Topeka	3710	(-614)
Heebner	3938	(-842)
Lansing	3987'	(-891)
Base/KC	4223	(-1127)
Pawnee	4348	(-1252)
Cherokee	4424	(-1328)
Mississippi	4556	(-1460)
L.T.D.	4600	(-1504)

Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	SCHROEDER UNIT 1
Doc ID	1320770

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	4427-4432' (Cherokee Lime)	500 gals. 15% NE	
4	4490-4496' (Cherokee Sand)	500 gals. 7.5% mud acid w/2% solvents	(non-productive)



DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

370 W Wichita Ave.
Russel, KS 67665

ATTN: Marc Downing

Schroeder Unit #1

14-6s-33w Thomas,KS

Start Date: 2016.07.06 @ 21:23:28

End Date: 2016.07.07 @ 05:10:58

Job Ticket #: 65480 DST #: 1

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

Printed: 2016.07.12 @ 08:34:03



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

ATTN: Marc Downing

Job Ticket: 65480

DST#: 1

Test Start: 2016.07.06 @ 21:23:28

GENERAL INFORMATION:

Formation: **LKC B-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:07:58

Time Test Ended: 05:10:58

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 3996.00 ft (KB) To 4026.00 ft (KB) (TVD)

Reference Elevations: 3092.00 ft (KB)

Total Depth: 4026.00 ft (KB) (TVD)

3084.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8875

Inside

Press@RunDepth: 183.18 psig @ 3997.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.06

End Date:

2016.07.07

Last Calib.:

2016.07.07

Start Time: 21:23:33

End Time:

05:10:57

Time On Btm:

2016.07.07 @ 00:07:28

Time Off Btm:

2016.07.07 @ 03:09:58

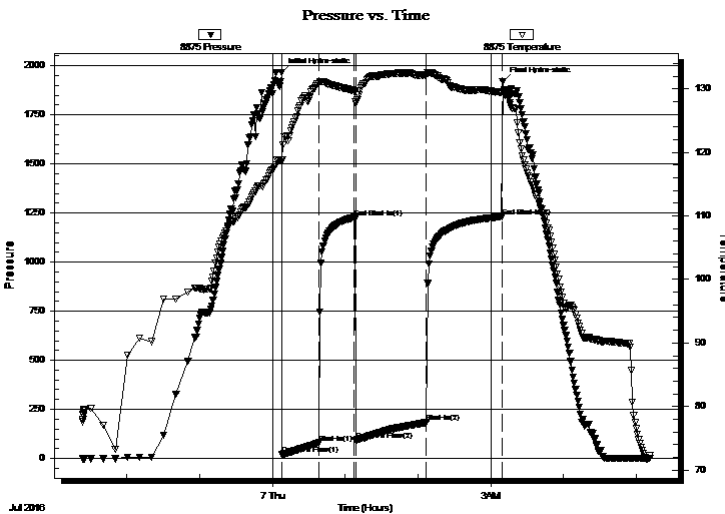
TEST COMMENT: IF: 1/4 blow built to 6" in 30 min.

IS: No return.

FF: BOB in 43 min.

FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1966.46	118.76	Initial Hydro-static
1	19.36	118.76	Open To Flow (1)
31	79.45	130.81	Shut-In(1)
60	1227.73	129.65	End Shut-In(1)
61	91.48	128.02	Open To Flow (2)
120	183.18	132.21	Shut-In(2)
182	1230.86	129.44	End Shut-In(2)
183	1921.22	129.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
189.00	mcw 95%w 5%m	0.93
204.00	nw 50%w 50%m	1.74

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc

14-6s-33w Thomas, KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

ATTN: Marc Downing

Job Ticket: 65480

DST#: 1

Test Start: 2016.07.06 @ 21:23:28

GENERAL INFORMATION:

Formation: **LKC B-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:07:58

Time Test Ended: 05:10:58

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 3996.00 ft (KB) To 4026.00 ft (KB) (TVD)

Reference Elevations: 3092.00 ft (KB)

Total Depth: 4026.00 ft (KB) (TVD)

3084.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8166

Outside

Press@RunDepth: psig @ 3997.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.06

End Date:

2016.07.07

Last Calib.:

2016.07.07

Start Time: 21:23:36

End Time:

05:11:00

Time On Btm:

Time Off Btm:

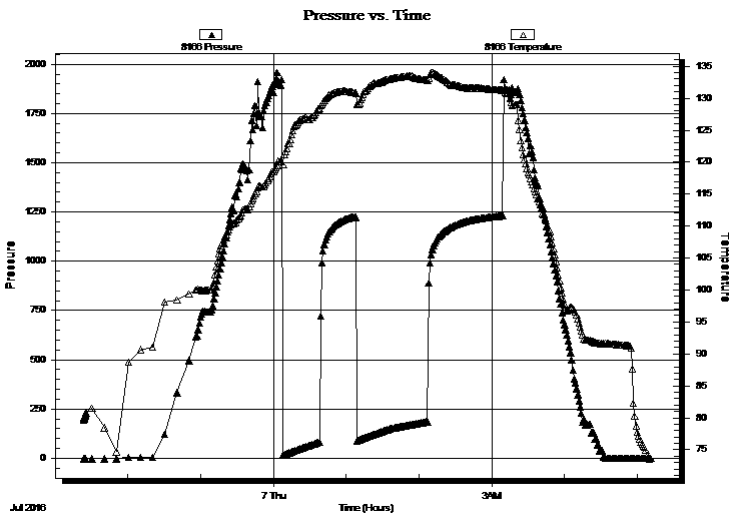
TEST COMMENT: IF: 1/4 blow built to 6" in 30 min.

IS: No return.

FF: BOB in 43 min.

FS: No return.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
189.00	mcw 95%w 5%m	0.93
204.00	nw 50%w 50%m	1.74

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65480

DST#: 1

ATTN: Marc Downing

Test Start: 2016.07.06 @ 21:23:28

Tool Information

Drill Pipe:	Length: 3696.00 ft	Diameter: 3.80 inches	Volume: 51.85 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 312.00 ft	Diameter: 2.25 inches	Volume: 1.53 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 53.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3996.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	50.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			3977.00	
Shut In Tool	5.00			3982.00	
Hydraulic tool	5.00			3987.00	
Packer	5.00			3992.00	20.00 Bottom Of Top Packer
Packer	4.00			3996.00	
Stubb	1.00			3997.00	
Recorder	0.00	8875	Inside	3997.00	
Recorder	0.00	8166	Outside	3997.00	
Perforations	24.00			4021.00	
Bullnose	5.00			4026.00	30.00 Bottom Packers & Anchor
Total Tool Length:	50.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65480

DST#: 1

ATTN: Marc Downing

Test Start: 2016.07.06 @ 21:23:28

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

21000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
189.00	mcw 95%w 5%m	0.929
204.00	mw 50%w 50%m	1.741

Total Length: 393.00 ft Total Volume: 2.670 bbl

Num Fluid Samples: 0

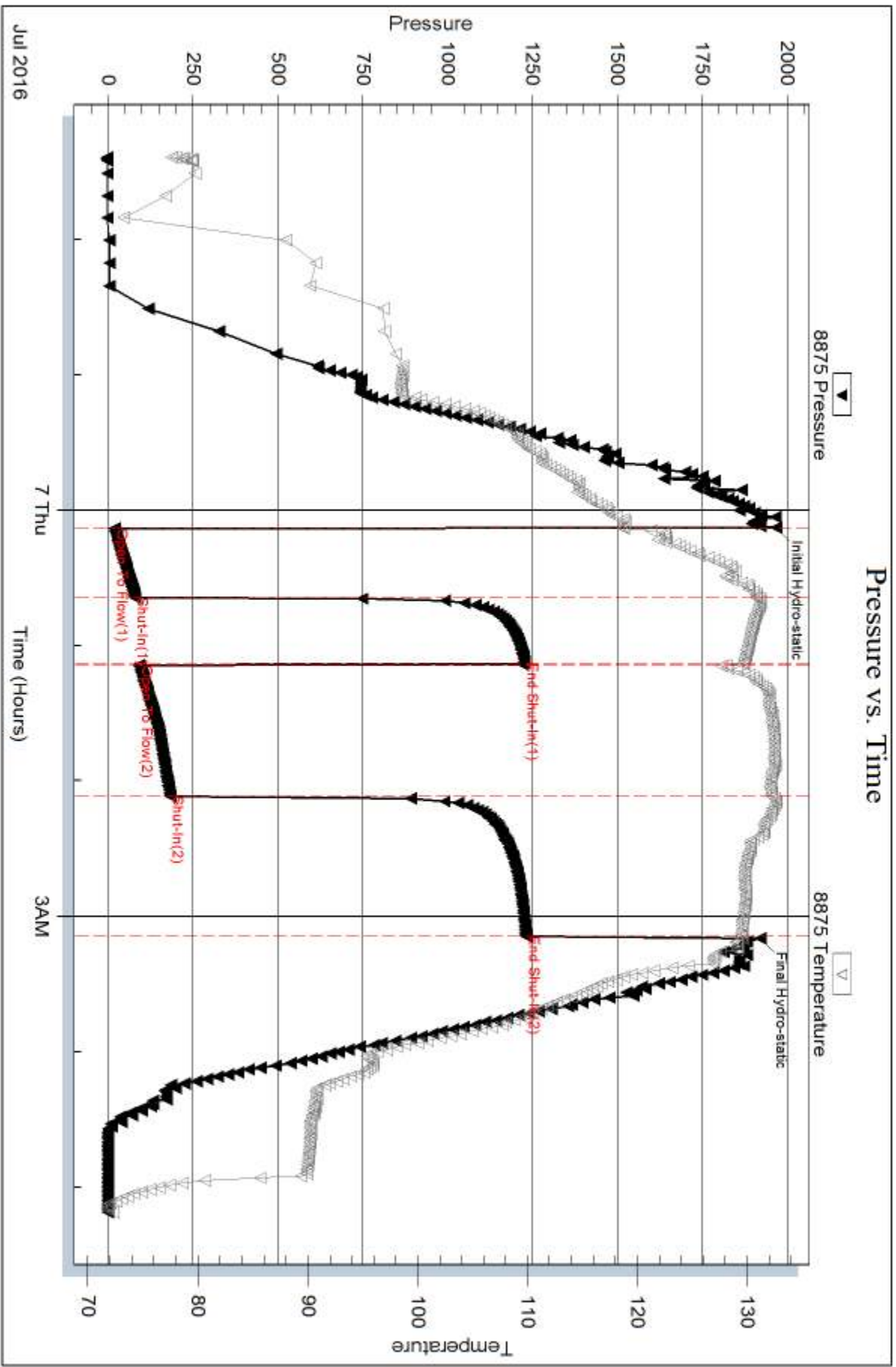
Num Gas Bombs: 0

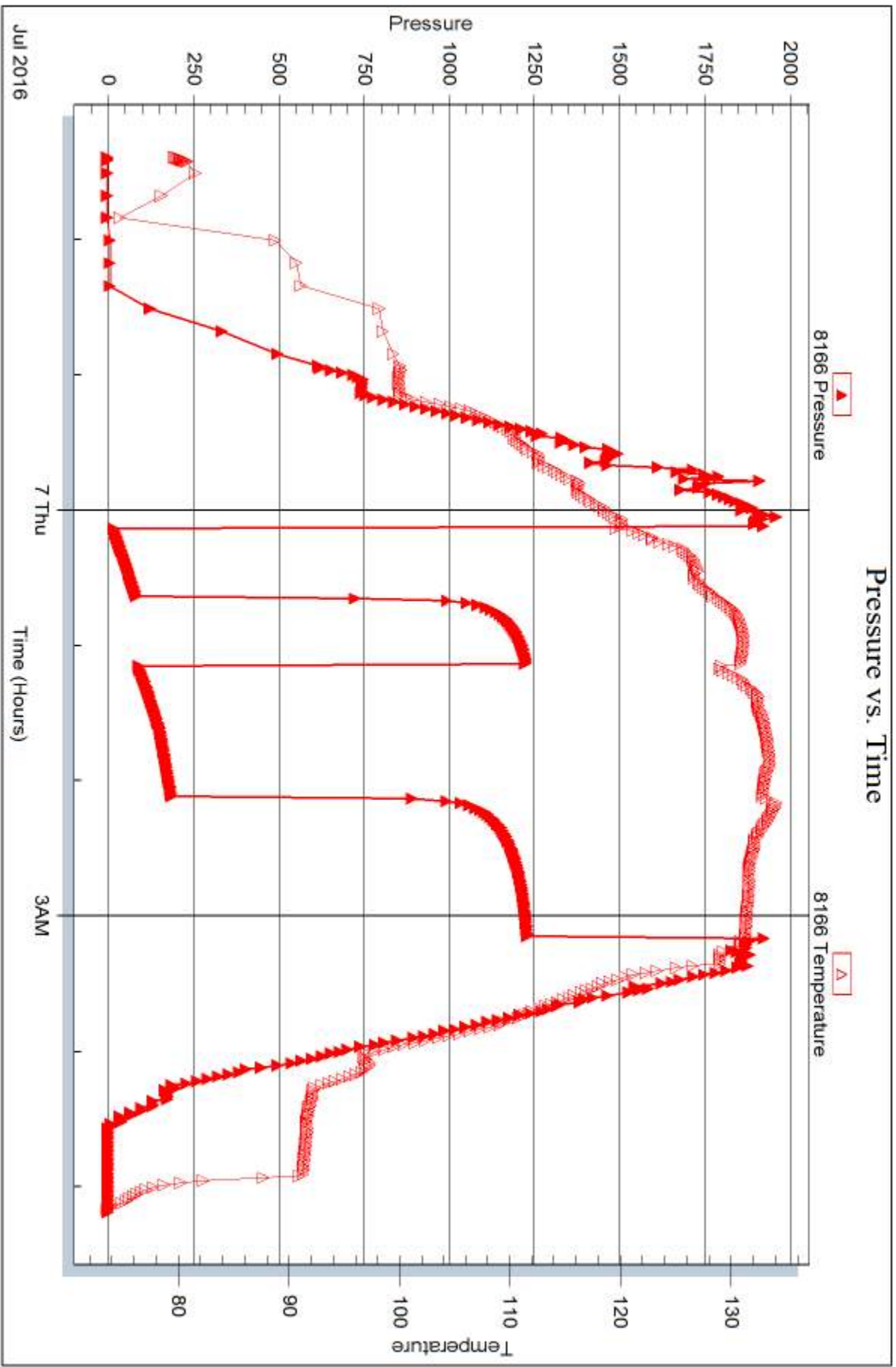
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .31@73=21000







DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

370 W Wichita Ave.
Russel, KS 67665

ATTN: Marc Downing

Schroeder Unit #1

14-6s-33w Thomas,KS

Start Date: 2016.07.07 @ 13:15:08

End Date: 2016.07.07 @ 20:21:08

Job Ticket #: 65481 DST #: 2

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

Printed: 2016.07.12 @ 08:33:38



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

ATTN: Marc Downing

Job Ticket: 65481

DST#: 2

Test Start: 2016.07.07 @ 13:15:08

GENERAL INFORMATION:

Formation: **LKC D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:29:38

Time Test Ended: 20:21:08

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4022.00 ft (KB) To 4045.00 ft (KB) (TVD)

Reference Elevations: 3092.00 ft (KB)

Total Depth: 4045.00 ft (KB) (TVD)

3084.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8875

Inside

Press@RunDepth: 1119.48 psig @ 4023.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.07

End Date:

2016.07.07

Last Calib.:

2016.07.07

Start Time: 13:15:13

End Time:

20:21:07

Time On Btm:

2016.07.07 @ 15:28:08

Time Off Btm:

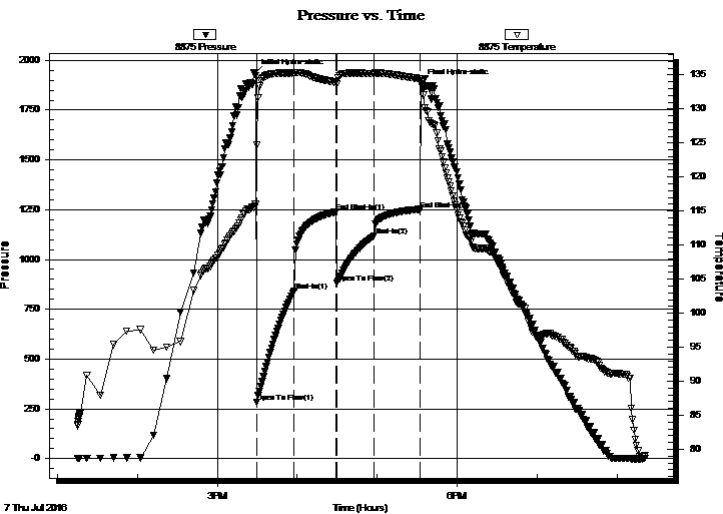
2016.07.07 @ 17:32:38

TEST COMMENT: IF: BOB in 30 sec.

IS: No return.

FF: BOB in 1 min.

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1932.27	115.71	Initial Hydro-static
2	283.14	124.67	Open To Flow (1)
30	842.56	135.30	Shut-In(1)
61	1238.09	133.91	End Shut-In(1)
62	883.42	133.65	Open To Flow (2)
90	1119.48	135.24	Shut-In(2)
124	1251.98	134.43	End Shut-In(2)
125	1881.43	134.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2142.00	mcw 95%w 5%m	27.20
283.00	w ater 100%w	3.97

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65481

DST#: 2

ATTN: Marc Downing

Test Start: 2016.07.07 @ 13:15:08

Tool Information

Drill Pipe:	Length: 3696.00 ft	Diameter: 3.80 inches	Volume: 51.85 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 312.00 ft	Diameter: 2.25 inches	Volume: 1.53 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 53.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4022.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	43.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4003.00	
Shut In Tool	5.00			4008.00	
Hydraulic tool	5.00			4013.00	
Packer	5.00			4018.00	20.00 Bottom Of Top Packer
Packer	4.00			4022.00	
Stubb	1.00			4023.00	
Recorder	0.00	8875	Inside	4023.00	
Recorder	0.00	8166	Outside	4023.00	
Perforations	17.00			4040.00	
Bullnose	5.00			4045.00	23.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65481

DST#: 2

ATTN: Marc Downing

Test Start: 2016.07.07 @ 13:15:08

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

26000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2142.00	mcw 95%w 5%m	27.204
283.00	water 100%w	3.970

Total Length: 2425.00 ft Total Volume: 31.174 bbl

Num Fluid Samples: 0

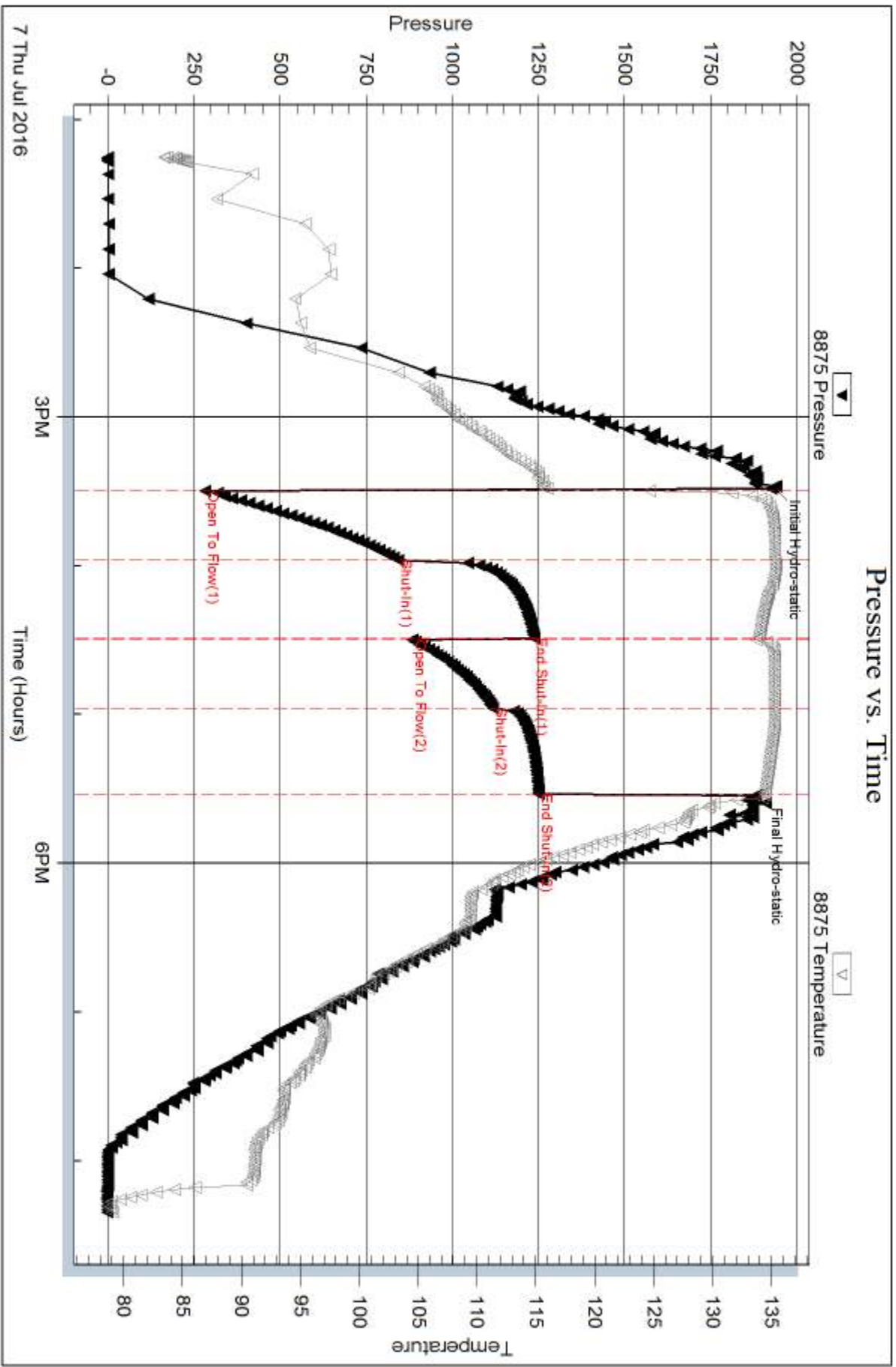
Num Gas Bombs: 0

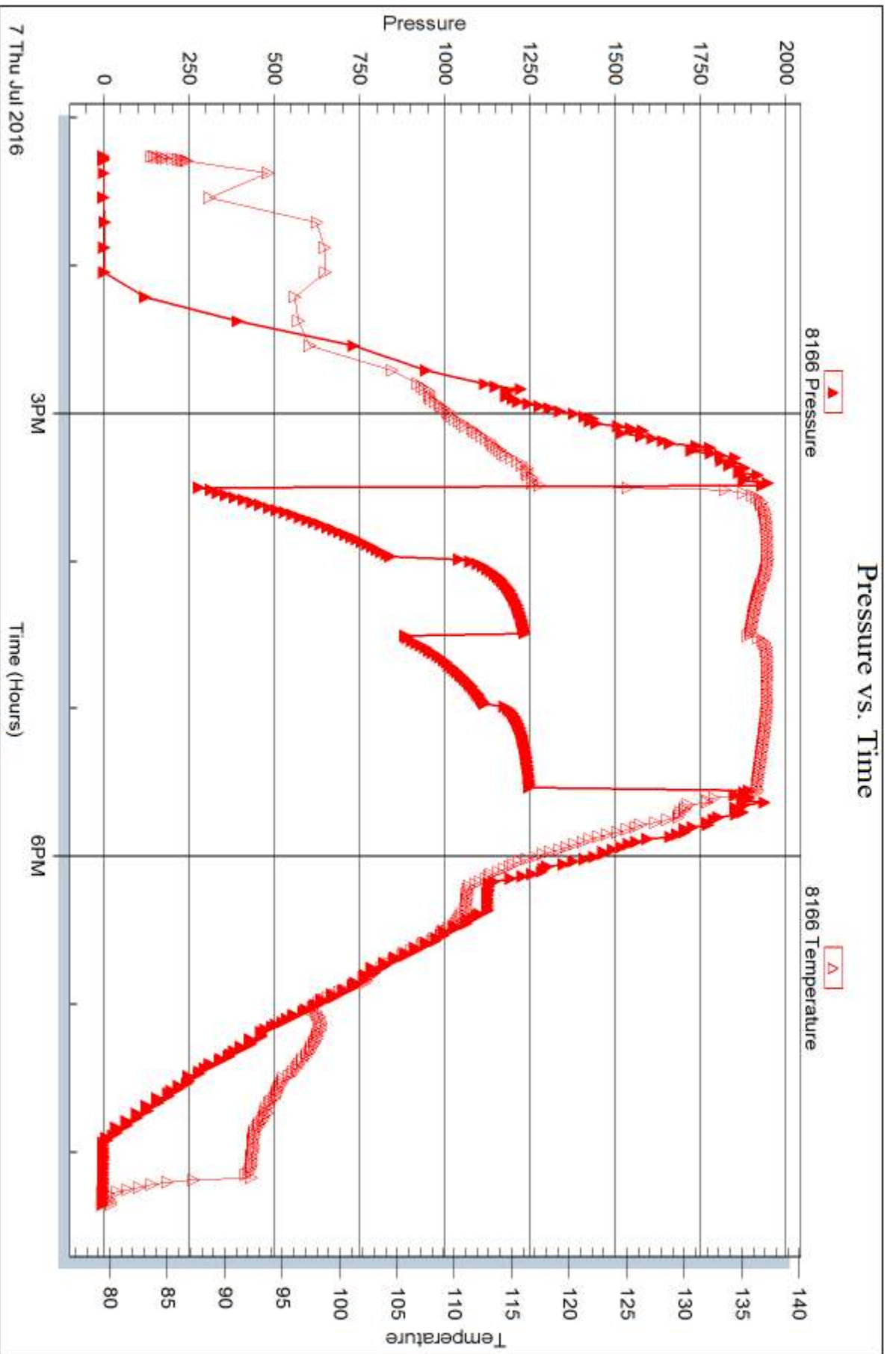
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .19@97=26000







DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

370 W Wichita Ave.
Russel, KS 67665

ATTN: Marc Downing

Schroeder Unit #1

14-6s-33w Thomas,KS

Start Date: 2016.07.08 @ 04:49:24

End Date: 2016.07.08 @ 11:03:24

Job Ticket #: 65482 DST #: 3

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

Printed: 2016.07.12 @ 08:33:11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

ATTN: Marc Downing

Job Ticket: 65482

DST#: 3

Test Start: 2016.07.08 @ 04:49:24

GENERAL INFORMATION:

Formation: **LKC F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:00:54

Time Test Ended: 11:03:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4043.00 ft (KB) To 4068.00 ft (KB) (TVD)

Reference Elevations: 3092.00 ft (KB)

Total Depth: 4068.00 ft (KB) (TVD)

3084.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8166 Outside

Press@RunDepth: 13.80 psig @ 4044.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.08

End Date:

2016.07.08

Last Calib.:

2016.07.08

Start Time:

04:49:29

End Time:

11:03:23

Time On Btm:

2016.07.08 @ 07:00:24

Time Off Btm:

2016.07.08 @ 09:04:24

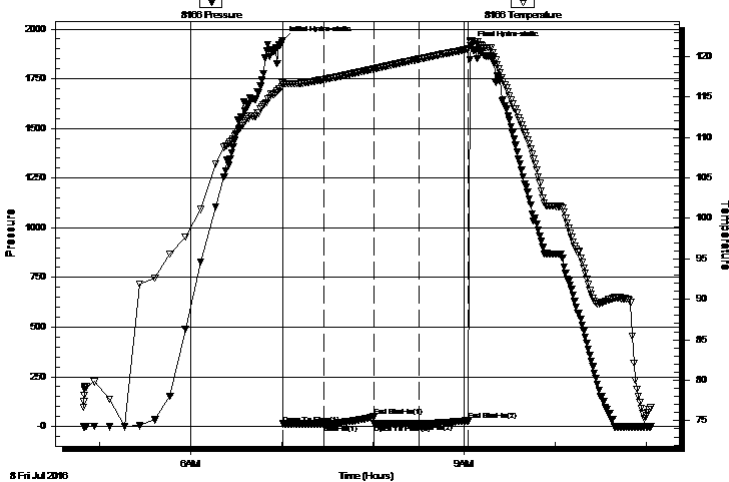
TEST COMMENT: IF: 1/4" blow died in 12 min.

IS: No return.

FF: No blow.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1942.97	116.73	Initial Hydro-static
1	12.85	116.53	Open To Flow (1)
28	13.21	117.16	Shut-In(1)
60	49.05	118.47	End Shut-In(1)
61	13.35	118.48	Open To Flow (2)
90	13.80	119.67	Shut-In(2)
123	28.51	120.89	End Shut-In(2)
124	1915.77	121.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65482

DST#: 3

ATTN: Marc Downing

Test Start: 2016.07.08 @ 04:49:24

Tool Information

Drill Pipe:	Length: 3728.00 ft	Diameter: 3.80 inches	Volume: 52.29 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 312.00 ft	Diameter: 2.25 inches	Volume: 1.53 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 53.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4043.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4024.00	
Shut In Tool	5.00			4029.00	
Hydraulic tool	5.00			4034.00	
Packer	5.00			4039.00	20.00 Bottom Of Top Packer
Packer	4.00			4043.00	
Stubb	1.00			4044.00	
Recorder	0.00	8875	Inside	4044.00	
Recorder	0.00	8166	Outside	4044.00	
Perforations	19.00			4063.00	
Bullnose	5.00			4068.00	25.00 Bottom Packers & Anchor
Total Tool Length:	45.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65482

DST#: 3

ATTN: Marc Downing

Test Start: 2016.07.08 @ 04:49:24

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

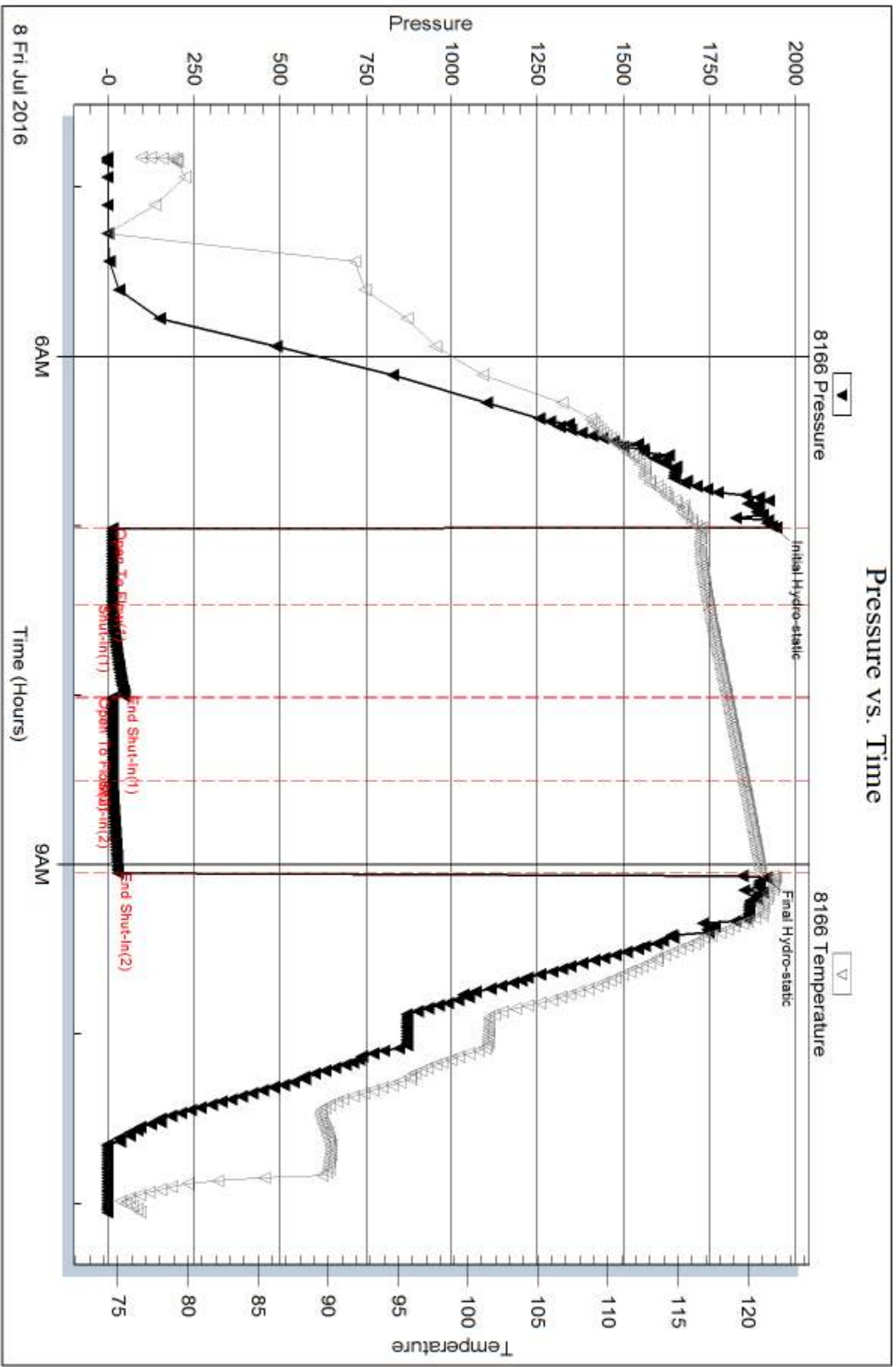
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



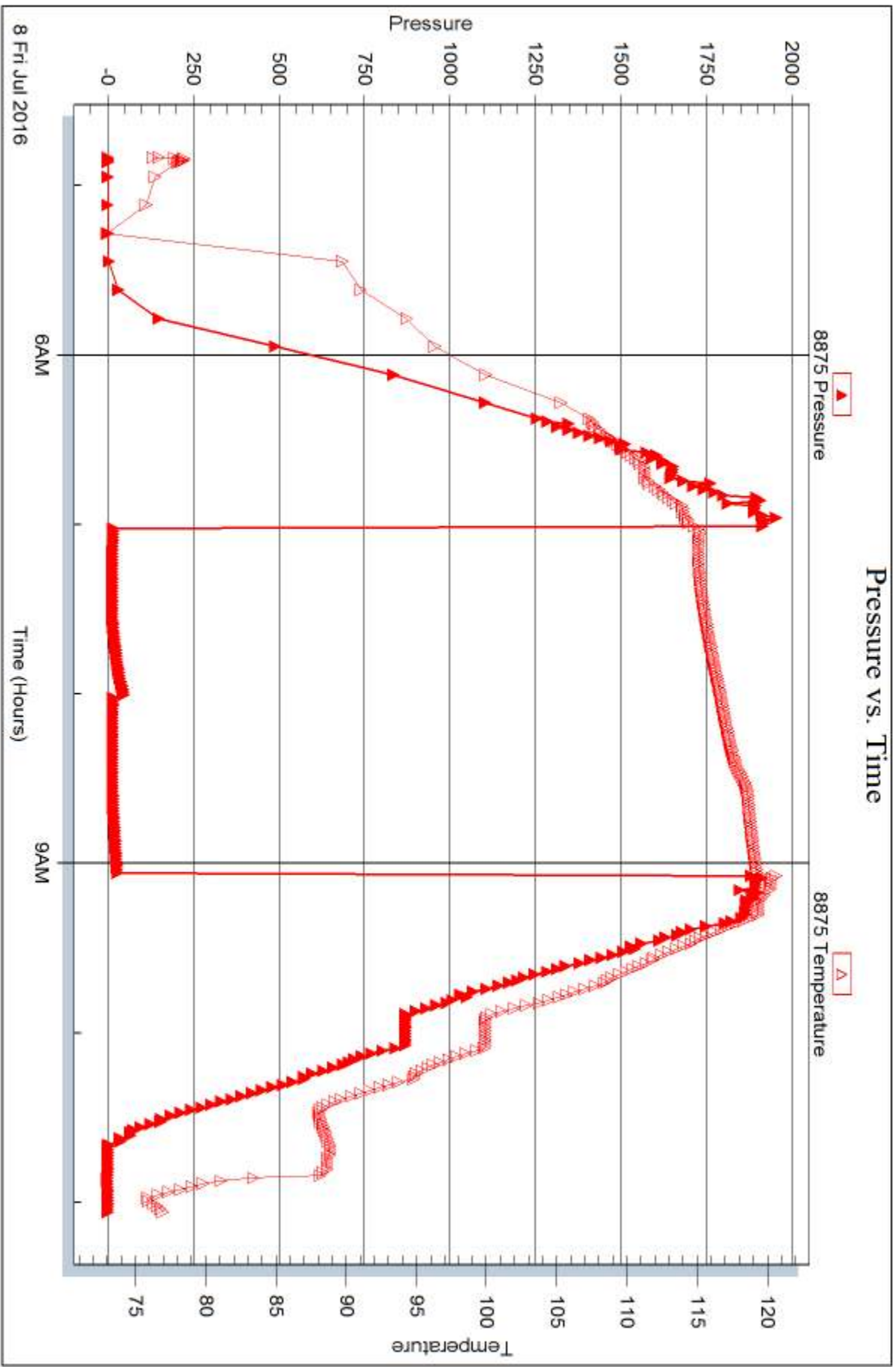
Serial #: 8875

Inside

John O Farmer Inc

Schroeder Unit #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

370 W Wichita Ave.
Russel, KS 67665

ATTN: Marc Downing

Schroeder Unit #1

14-6s-33w Thomas,KS

Start Date: 2016.07.08 @ 23:57:12

End Date: 2016.07.09 @ 08:22:42

Job Ticket #: 65483 DST #: 4

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

Printed: 2016.07.12 @ 08:32:39



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

ATTN: Marc Downing

Job Ticket: 65483

DST#: 4

Test Start: 2016.07.08 @ 23:57:12

GENERAL INFORMATION:

Formation: **LKC J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:40:12

Time Test Ended: 08:22:42

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4117.00 ft (KB) To 4167.00 ft (KB) (TVD)

Reference Elevations: 3092.00 ft (KB)

Total Depth: 4167.00 ft (KB) (TVD)

3084.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8166

Outside

Press@RunDepth: 157.24 psig @ 4118.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.08

End Date:

2016.07.09

Last Calib.:

2016.07.09

Start Time: 23:57:17

End Time:

08:22:41

Time On Btm:

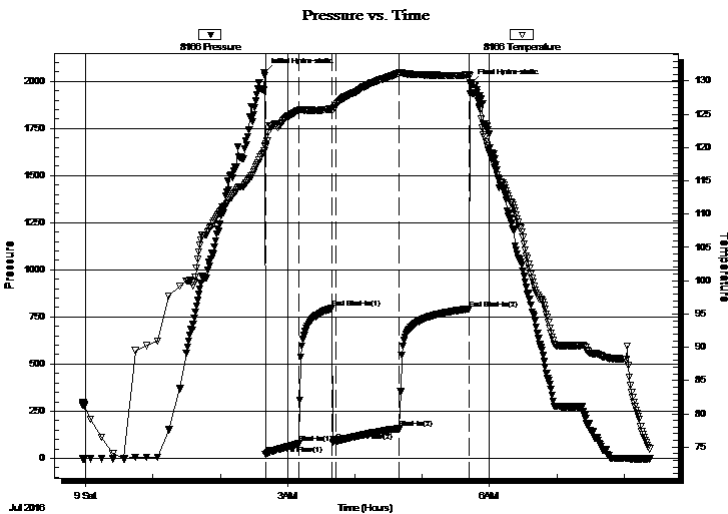
2016.07.09 @ 02:39:12

Time Off Btm:

2016.07.09 @ 05:43:12

TEST COMMENT: IF: 1/4" blow built to 8" in 30 min.
IS: No return.
FF: Surface blow built to 9" in 60 min.
FS: No return,

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2047.27	119.56	Initial Hydro-static
1	19.98	120.20	Open To Flow (1)
31	77.48	125.60	Shut-In(1)
61	796.16	125.80	End Shut-In(1)
64	88.83	126.32	Open To Flow (2)
121	157.24	131.20	Shut-In(2)
183	792.72	130.96	End Shut-In(2)
184	1989.41	129.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	mcw 70%w 30%m	0.62
126.00	w cm 15%w 85%m	0.62
73.00	w cm 5%w 95%m	0.48

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate		13.00	



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65483

DST#: 4

ATTN: Marc Downing

Test Start: 2016.07.08 @ 23:57:12

Tool Information

Drill Pipe:	Length: 3792.00 ft	Diameter: 3.80 inches	Volume: 53.19 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 312.00 ft	Diameter: 2.25 inches	Volume: 1.53 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4117.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4098.00	
Shut In Tool	5.00			4103.00	
Hydraulic tool	5.00			4108.00	
Packer	5.00			4113.00	20.00 Bottom Of Top Packer
Packer	4.00			4117.00	
Stubb	1.00			4118.00	
Recorder	0.00	8875	Inside	4118.00	
Recorder	0.00	8166	Outside	4118.00	
Perforations	10.00			4128.00	
Change Over Sub	1.00			4129.00	
Drill Pipe	32.00			4161.00	
Change Over Sub	1.00			4162.00	
Bullnose	5.00			4167.00	50.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65483

DST#: 4

ATTN: Marc Downing

Test Start: 2016.07.08 @ 23:57:12

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

26500 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
126.00	mcw 70%w 30%m	0.620
126.00	w cm 15%w 85%m	0.620
73.00	w cm 5%w 95%m	0.477

Total Length: 325.00 ft Total Volume: 1.717 bbf

Num Fluid Samples: 0

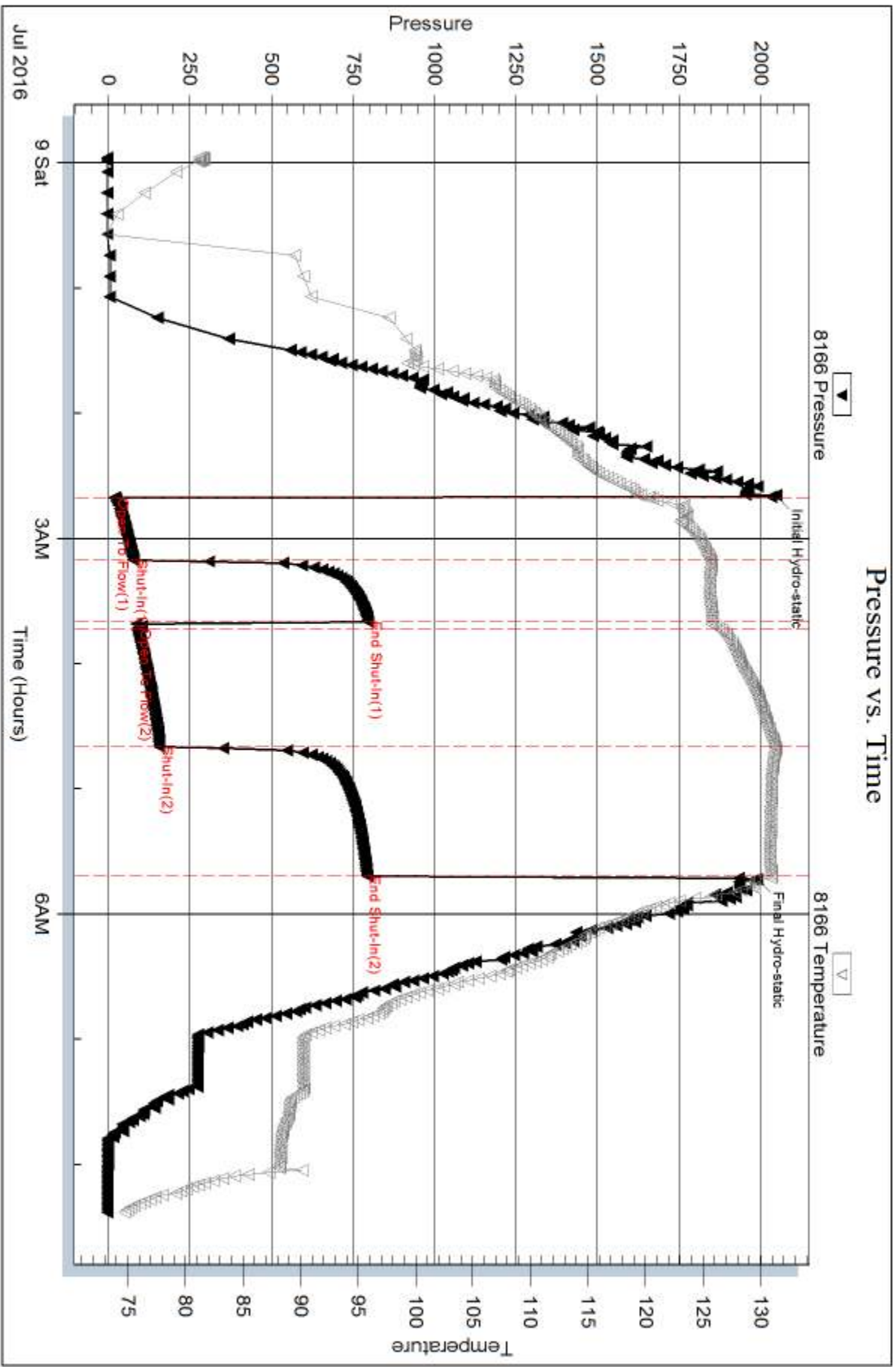
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .26@70=26500



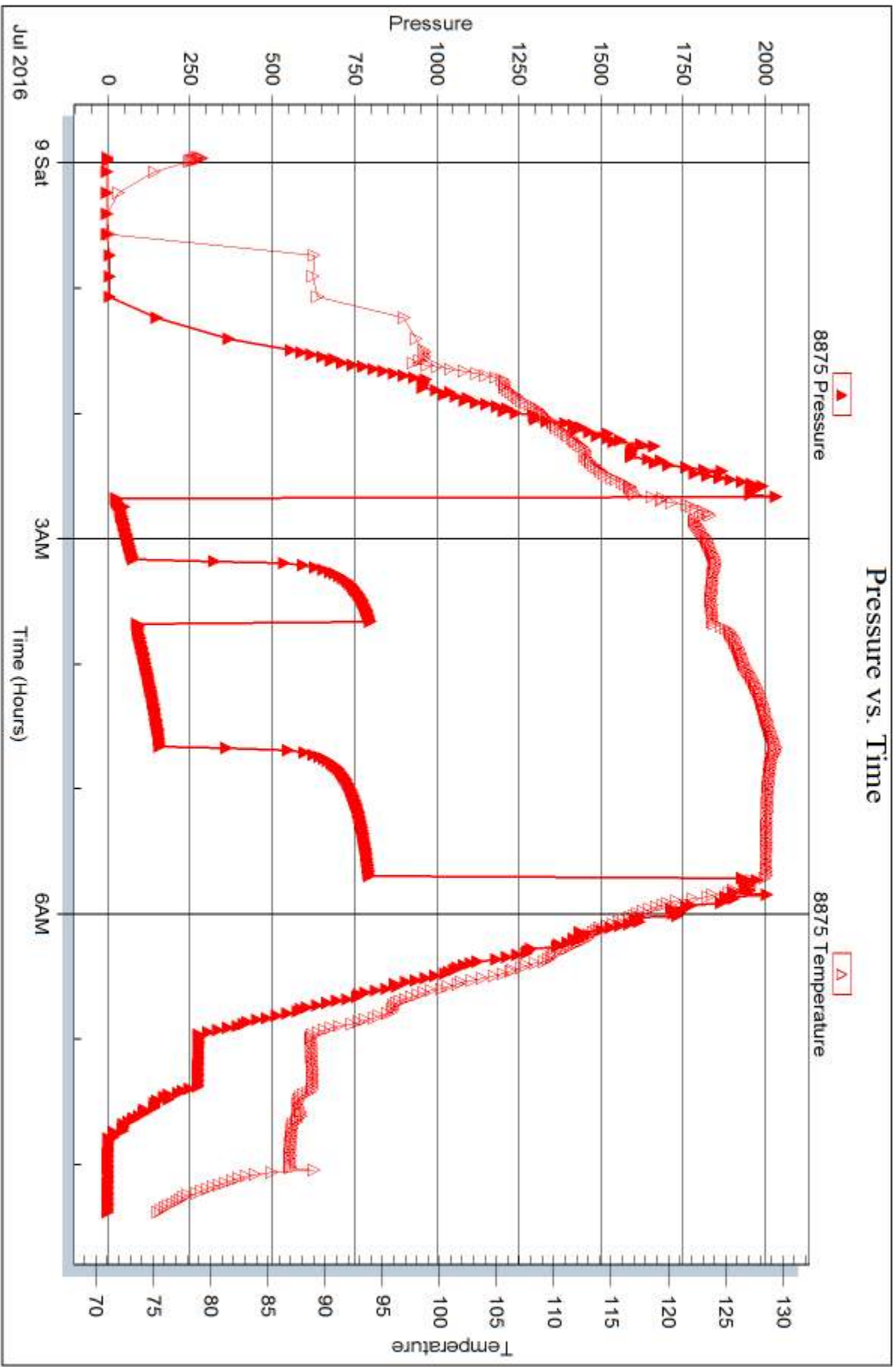
Serial #: 8875

Inside

John O Farmer Inc

Schroeder Unit #1

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

370 W Wichita Ave.
Russel, KS 67665

ATTN: Marc Downing

Schroeder Unit #1

14-6s-33w Thomas,KS

Start Date: 2016.07.10 @ 16:02:44

End Date: 2016.07.11 @ 00:26:44

Job Ticket #: 65484 DST #: 5

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

Printed: 2016.07.12 @ 08:31:58



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

ATTN: Marc Downing

Job Ticket: 65484

DST#: 5

Test Start: 2016.07.10 @ 16:02:44

GENERAL INFORMATION:

Formation: **Cherokee Lm**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:32:44

Time Test Ended: 00:26:44

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4417.00 ft (KB) To 4454.00 ft (KB) (TVD)

Reference Elevations: 3092.00 ft (KB)

Total Depth: 4454.00 ft (KB) (TVD)

3084.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8166 Outside

Press@RunDepth: 208.89 psig @ 4418.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.10

End Date:

2016.07.11

Last Calib.:

2016.07.11

Start Time: 16:02:49

End Time:

00:26:43

Time On Btm:

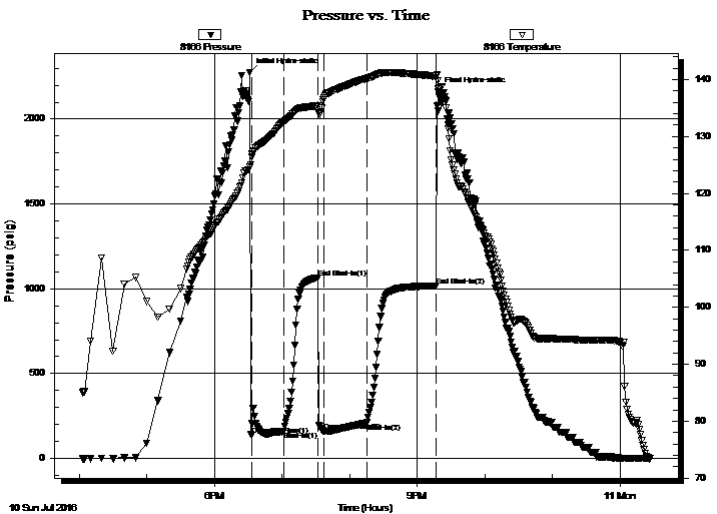
2016.07.10 @ 18:31:14

Time Off Btm:

2016.07.10 @ 21:18:44

TEST COMMENT: IF: BOB in 8 min.
IS: Surface blow built to 5"
FF: BOB in 6 min.
FS: BOB in 25 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2275.33	124.60	Initial Hydro-static
2	137.76	126.33	Open To Flow (1)
30	161.56	132.58	Shut-In(1)
61	1064.66	135.41	End Shut-In(1)
66	161.75	136.48	Open To Flow (2)
104	208.89	140.20	Shut-In(2)
165	1017.24	140.59	End Shut-In(2)
168	2163.43	138.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	gocm 20%g 10%o 70%m	0.62
189.00	go 20%g 80%o	0.96
239.00	go 30%g 70%o	3.35
0.00	769 GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65484

DST#: 5

ATTN: Marc Downing

Test Start: 2016.07.10 @ 16:02:44

Tool Information

Drill Pipe:	Length: 4111.00 ft	Diameter: 3.80 inches	Volume: 57.67 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 312.00 ft	Diameter: 2.25 inches	Volume: 1.53 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 59.20 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4417.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4398.00	
Shut In Tool	5.00			4403.00	
Hydraulic tool	5.00			4408.00	
Packer	5.00			4413.00	20.00 Bottom Of Top Packer
Packer	4.00			4417.00	
Stubb	1.00			4418.00	
Recorder	0.00	8875	Inside	4418.00	
Recorder	0.00	8166	Outside	4418.00	
Perforations	31.00			4449.00	
Bullnose	5.00			4454.00	37.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc

14-6s-33w Thomas,KS

370 W Wichita Ave.
Russel, KS 67665

Schroeder Unit #1

Job Ticket: 65484

DST#: 5

ATTN: Marc Downing

Test Start: 2016.07.10 @ 16:02:44

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	gocm 20%g 10%o 70%m	0.620
189.00	go 20%g 80%o	0.957
239.00	go 30%g 70%o	3.353
0.00	769 GIP	0.000

Total Length: 554.00 ft

Total Volume: 4.930 bbl

Num Fluid Samples: 0

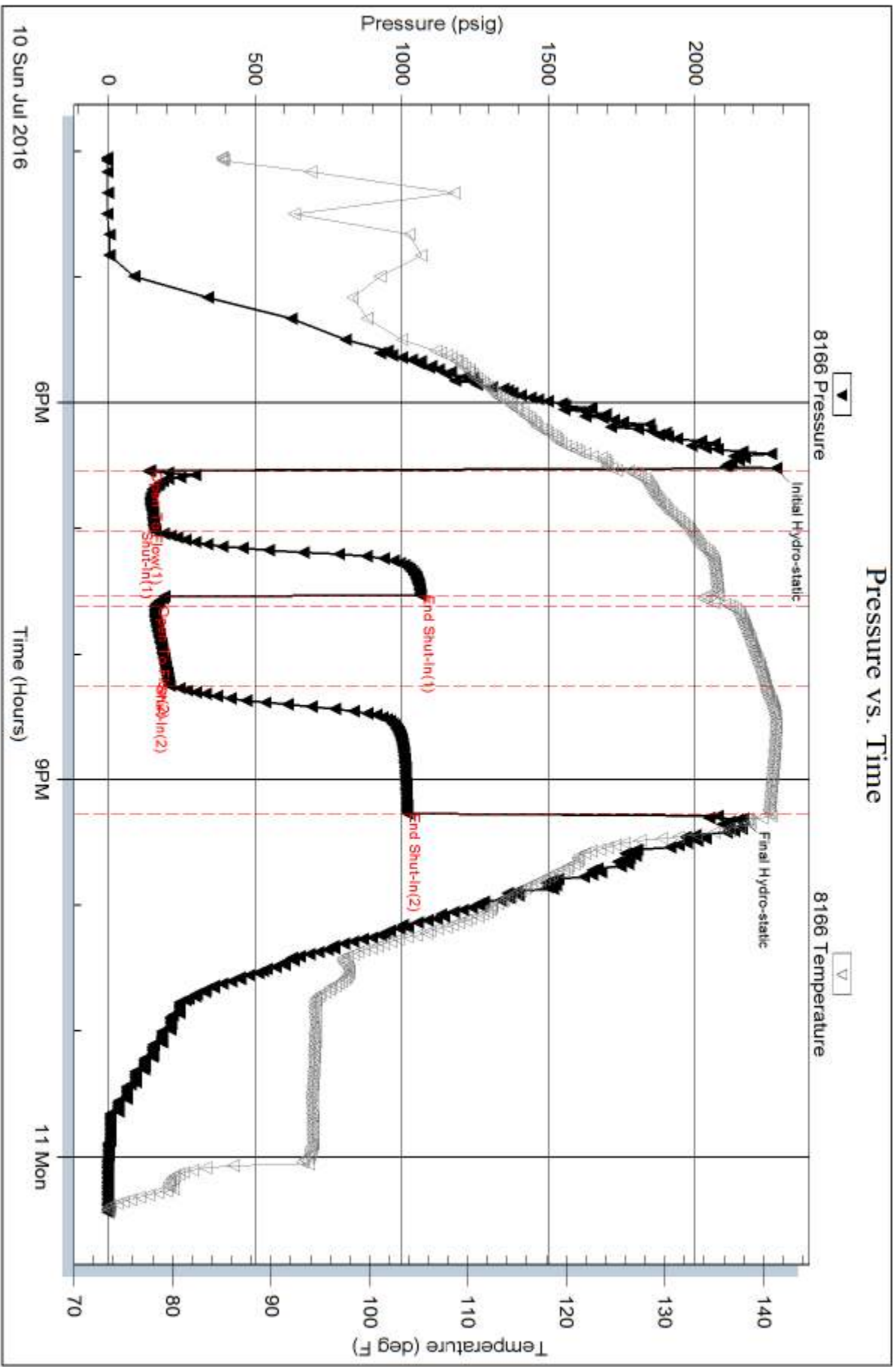
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 33@90=30



Serial #: 8875

Inside

John O Farmer Inc

Schroeder Unit #1

DST Test Number: 5

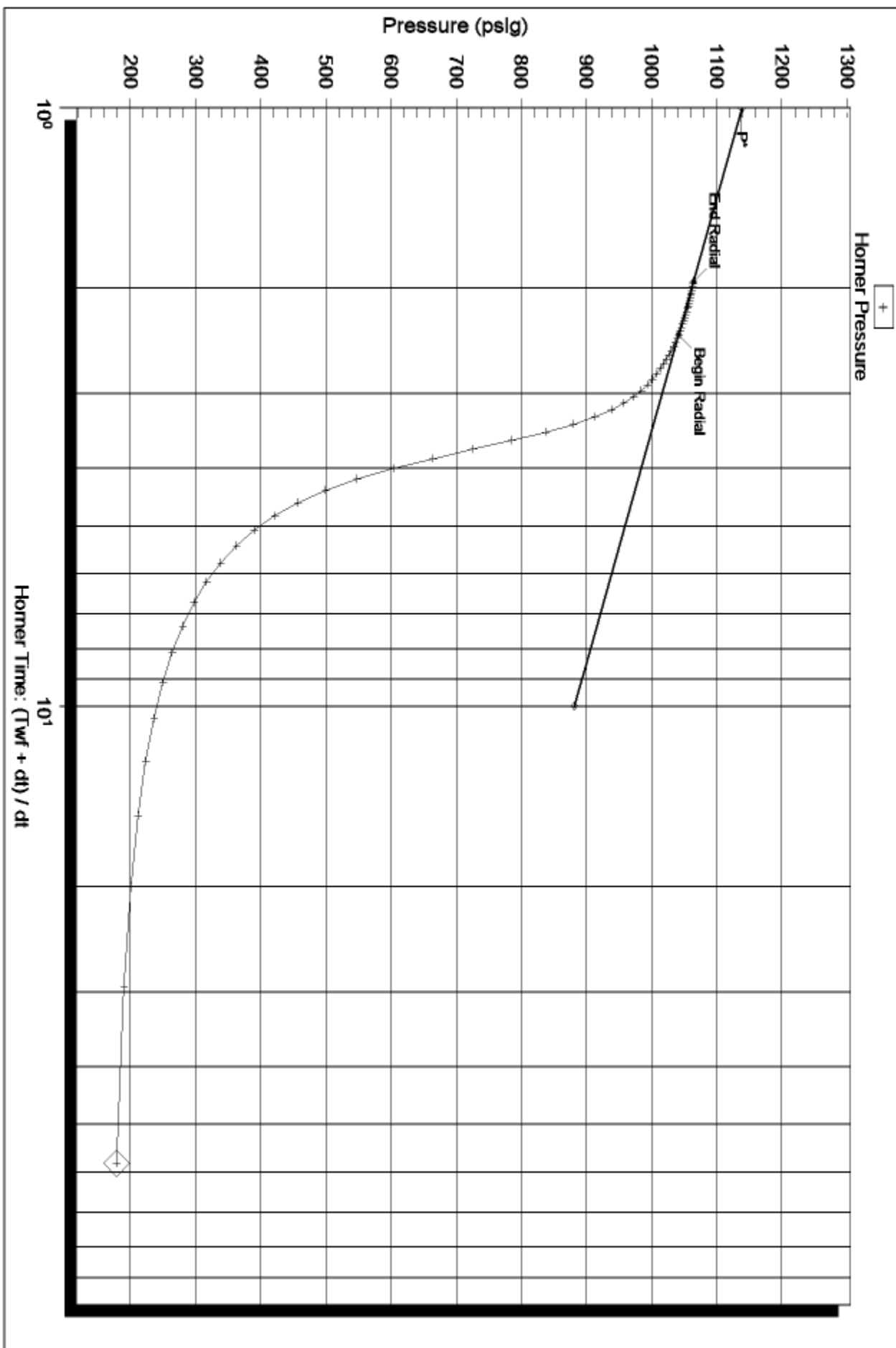


Triobite Testing, Inc

Ref. No: 65484

Printed: 2016.07.12 @ 08:32:00

Horner Plot



Serial Number: 8166 (Outside)

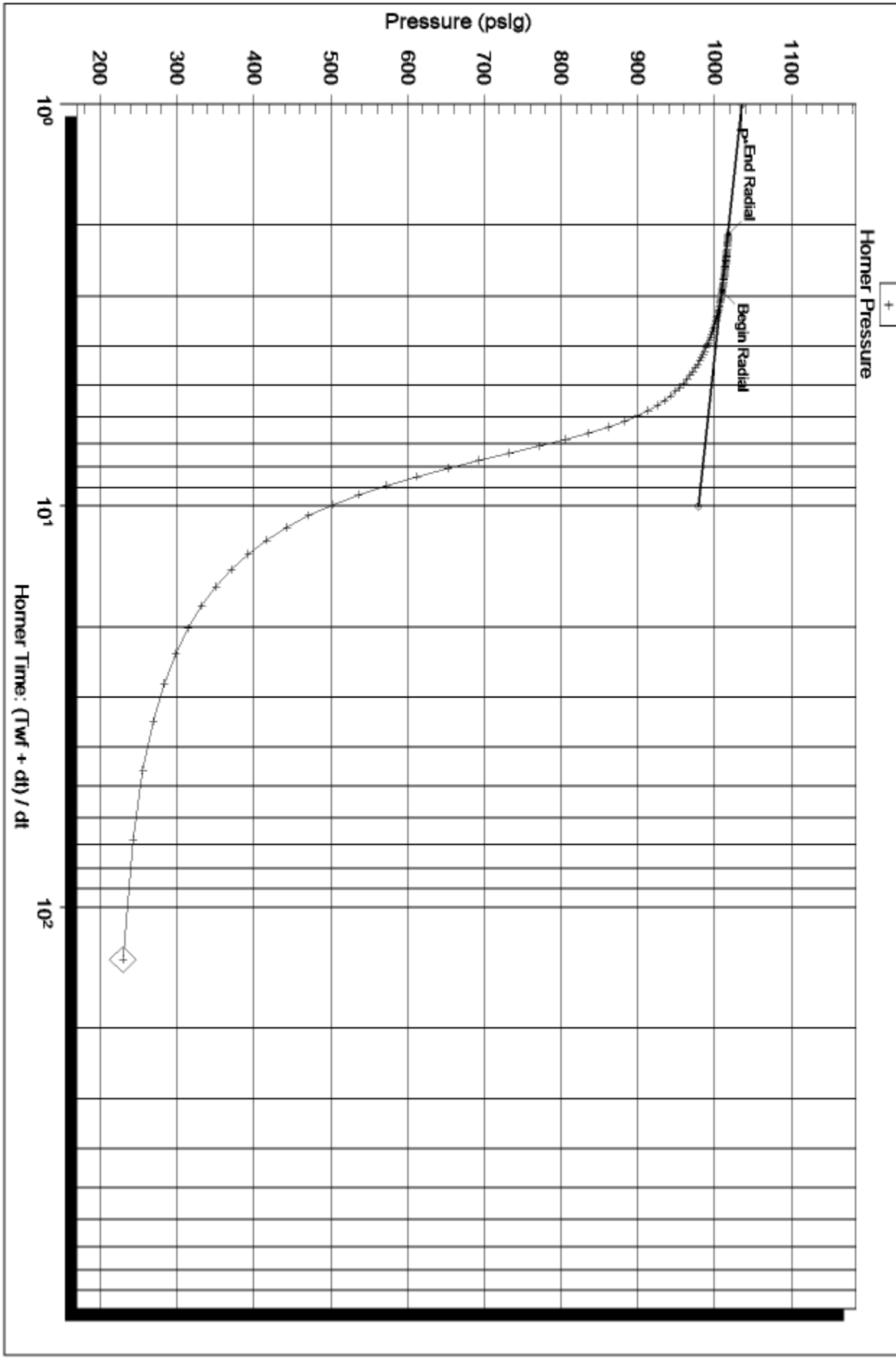
P* : 1138.57

Slope (m) : 256.88 kpa/log cycle

Flow Cycle: 1

Horner Time: $(T_{wf} + dt) / dt$

Horner Plot

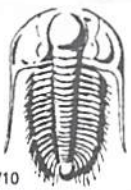


Serial Number: 8166 (Outside)

P* : 1035.69

Slope (m) : 57.08 kpa/log cycle

Flow Cycle: 2



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65480**

Well Name & No. Schroeder unit #1 Test No. 1 Date 7-6-16
 Company John O. Farmer, Inc Elevation 3092 KB 3084 GL
 Address 370 W Wichita Ave. Russell, KS 67665
 Co. Rep / Geo. Austin Klus Rig Discovery #1
 Location: Sec. 14 Twp. 65 Rge. 33W Co. Thom93 State KS

Interval Tested 3996 4026 Zone Tested LKC B-C
 Anchor Length 30 Drill Pipe Run 3696 Mud Wt. 8.9
 Top Packer Depth 3991 Drill Collars Run — Vis 52
 Bottom Packer Depth 3996 Wt. Pipe Run 312 WL 7.2
 Total Depth 4026 Chlorides 2200 ppm System LCM 5

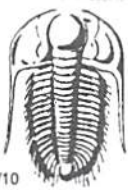
Blow Description IF: 1/4 blow built to 6 in 30 min,
IS: No return,
FF: BoB in 43 mins.
FS: No return,

Rec	Feet of	%gas	%oil	%water	%mud
<u>204</u>	<u>mw</u>		<u>50</u>	<u>50</u>	
<u>189</u>	<u>mcw</u>		<u>95</u>	<u>5</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 393 BHT 129 Gravity — API RW .31 @ 73 ° F Chlorides 21,000 ppm
 (A) Initial Hydrostatic 1966 Test 1150 T-On Location 17:45
 (B) First Initial Flow 19 Jars _____ T-Started 21:23
 (C) First Final Flow 79 Safety Joint _____ T-Open 00:07
 (D) Initial Shut-In 1227 Circ Sub NIC T-Pulled 3:07
 (E) Second Initial Flow 91 Hourly Standby _____ T-Out 5:10
 (F) Second Final Flow 183 Mileage 180 - 135 Comments out of
 (G) Final Shut-In 1230 Sampler _____ Town
 (H) Final Hydrostatic 1921 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Initial Open 30
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 60
 Sub Total 1285
 Total 1285
 MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

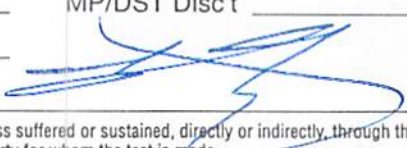
NO. **65481**

Well Name & No. Schroeder unit #1 Test No. 2 Date 7-7-16
 Company John O Farmer, Inc Elevation 3092 KB 3084 GL
 Address _____
 Co. Rep / Geo. Austin K/aus Rig Discovery #1
 Location: Sec. 14 Twp. 65 Rge. 33W Co. Thomas State 15S

Interval Tested 4022 4045 Zone Tested LKC D
 Anchor Length 23 Drill Pipe Run 3696 Mud Wt. 9.0
 Top Packer Depth 4017 Drill Collars Run — Vis 53
 Bottom Packer Depth 4022 Wt. Pipe Run 312 WL 8.0
 Total Depth 4045 Chlorides 2500 ppm System LCM 5
 Blow Description IFI BoB in 30 sec.
IS: No return.
FF: BoB in 1 min.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>283</u>	<u>wcm</u>		<u>40</u>	<u>60</u>	
<u>2142</u>	<u>water</u>		<u>100</u>	<u>5</u>	
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 2425 BHT 134 Gravity — API RW .19 @ 97 °F Chlorides 26,000 ppm
 (A) Initial Hydrostatic 1952 Test 1150 T-On Location 12:00
 (B) First Initial Flow 283 Jars _____ T-Started 13:15
 (C) First Final Flow 842 Safety Joint _____ T-Open 15:30
 (D) Initial Shut-In 1238 Circ Sub NIC T-Pulled 17:30
 (E) Second Initial Flow 883 Hourly Standby _____ T-Out 20:23
 (F) Second Final Flow 1119 Mileage 180 - 135 Comments out of Town
 (G) Final Shut-In 1251 Sampler _____
 (H) Final Hydrostatic 1881 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Extra Packer _____
 Initial Shut-In 30 Extra Recorder _____
 Final Flow 30 Day Standby _____
 Final Shut-In 30 Accessibility _____
 Sub Total 1285 Total 1285 MP/DST Disc't _____

Approved By _____ Our Representative 

TriLOBite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65482**

Well Name & No. Schroeder unit #1 Test No. 3 Date 7-8-16
 Company John O Farmer Inc Elevation 3092 KB 3084 GL
 Address _____
 Co. Rep / Geo. Mrc Downing Rig Discovery #1
 Location: Sec. 14 Twp. 65 Rge. 33W Co. Thomas State KS

Interval Tested 4043 4068 Zone Tested LKC F
 Anchor Length 25 Drill Pipe Run 3728 Mud Wt. 9.0
 Top Packer Depth 4038 Drill Collars Run — Vis 53
 Bottom Packer Depth 4043 Wt. Pipe Run 312 WL 8.0
 Total Depth 4068 Chlorides 2500 ppm System LCM 5
 Blow Description IF: 1/4 blow died in 12 min.
IS: No return.
FF: No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 120 Gravity — API RW — @ — ° F Chlorides — ppm

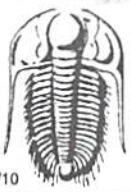
(A) Initial Hydrostatic 1942 Test 1150 T-On Location 3:50
 (B) First Initial Flow 12 Jars _____ T-Started 4:49
 (C) First Final Flow 13 Safety Joint _____ T-Open 7:00
 (D) Initial Shut-In 49 Circ Sub NIL T-Pulled 9:00
 (E) Second Initial Flow 13 Hourly Standby _____ T-Out 11:04
 (F) Second Final Flow 13 Mileage 180 - 135 Comments out of
 (G) Final Shut-In 28 Sampler _____ Town
 (H) Final Hydrostatic 1915 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1285

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1285
 MP/DST Disc't _____

Approved By _____ Our Representative

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65483**


Well Name & No. Schroeder unit #1 Test No. 4 Date 7-8-16
 Company John o Farmer Inc Elevation 3092 KB 3084 GL
 Address _____
 Co. Rep / Geo. Marc Downing Rig Discovery #1
 Location: Sec. 14 Twp. 6S Rge. 33W Co. THOMAS State KS

Interval Tested 4117 4167 Zone Tested LKC J
 Anchor Length _____ Drill Pipe Run 3792 Mud Wt. 8.9
 Top Packer Depth 4112 Drill Collars Run _____ Vis 47
 Bottom Packer Depth 4117 Wt. Pipe Run 312 WL 7.2
 Total Depth 4167 Chlorides 4400 ppm System LCM 5

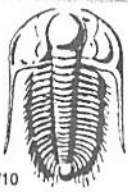
Blow Description IF: 1/4 blow built to 8 in 30 min,
IS: No return,
FF: Surface blow built to 9 in 60 min,
FS: No return,

Rec	Feet of	%gas	%oil	%water	%mud
<u>73</u>	<u>wcm</u>		<u>5</u>	<u>95</u>	
<u>126</u>	<u>wcm</u>		<u>15</u>	<u>85</u>	
<u>126</u>	<u>MCW</u>		<u>70</u>	<u>30</u>	
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 325 BHT 131 Gravity _____ API RW .26 @ 70 °F Chlorides 26500 ppm
 (A) Initial Hydrostatic 2047 Test 1150 T-On Location 23:00
 (B) First Initial Flow 19 Jars _____ T-Started 23:57
 (C) First Final Flow 77 Safety Joint _____ T-Open 2:40
 (D) Initial Shut-In 786 Circ Sub N/C T-Pulled 5:40
 (E) Second Initial Flow 88 Hourly Standby _____ T-Out 8:25
 (F) Second Final Flow 157 Mileage 180 - 135 Comments out of
 (G) Final Shut-In 792 Sampler _____ Town
 (H) Final Hydrostatic 1989 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1285
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1285

Approved By _____ Our Representative 

TriLOBite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65484**

Well Name & No. Schroeder unit #1 Test No. 5 Date 7-10-16
 Company John O Farmer Inc Elevation 3092 KB 3084 GL
 Address _____
 Co. Rep / Geo. MRC Downing Rig Discovery #1
 Location: Sec. 14 Twp. 65 Rge. 33W Co. Thomas State KS

Interval Tested 4417 4454 Zone Tested Cherokee Lm
 Anchor Length _____ Drill Pipe Run 4111 Mud Wt. 8.9
 Top Packer Depth 4412 Drill Collars Run _____ Vis 55
 Bottom Packer Depth 4417 Wt. Pipe Run 312 WL 9.6
 Total Depth 4454 Chlorides 5800 ppm System LCM 6

Blow Description IF: BoB in 8 min.
IS: surface blow built to 5.
FF: BoB in 6 min.
FS: BoB in 25 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>239</u>	<u>90</u>	<u>30</u>	<u>70</u>		
<u>189</u>	<u>90</u>	<u>20</u>	<u>80</u>		
<u>126</u>	<u>90cm</u>	<u>20</u>	<u>10</u>	<u>70</u>	
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 554 BHT 140 Gravity 30 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2275 Test 1150 T-On Location 13:45
 (B) First Initial Flow 137 Jars _____ T-Started 16:02
 (C) First Final Flow 161 Safety Joint _____ T-Open 18:30
 (D) Initial Shut-In 1064 Circ Sub NIC T-Pulled 21:15
 (E) Second Initial Flow 161 Hourly Standby 2- T-Out 00:28
 (F) Second Final Flow 208 Mileage 180-135 Comments on the bank
 (G) Final Shut-In 1617 Sampler _____ at 2:15
 (H) Final Hydrostatic 2163 Straddle _____ out of town
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1285
 MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 30
 Final Flow ~~50~~ 45
 Final Shut-In 60

Approved By [Signature] Our Representative [Signature]

TriLOBITE TESTING INC. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

QUALITY OILWELL CEMENTING, INC.

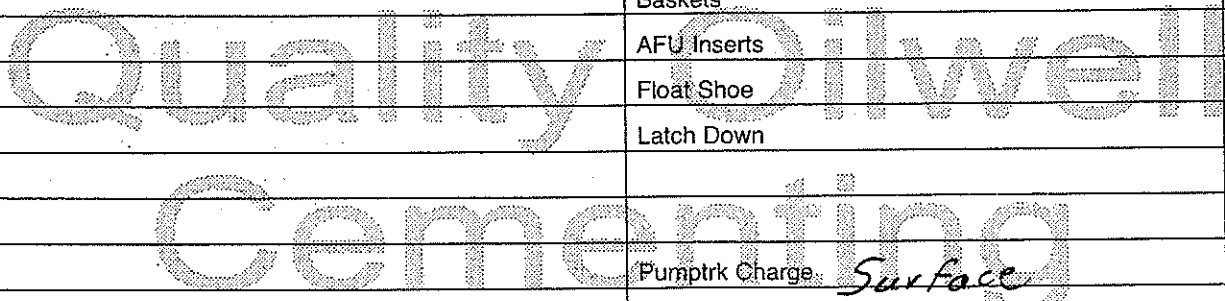
Federal Tax I.D.# 20-2886107

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

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

No. 1723

Date	6-30-16	Sec.	14	Twp.	6	Range	33	County	Thomas	State	KS	On Location		Finish	10:15 PM
Lease	Schroeder unit							Location	Colby, KS - 10 N to CC Rd, 4 1/4 E						
Well No.	1		Owner	S/T No											
Contractor	Discovery		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.												
Type Job	Surface														
Hole Size	12 1/4"		T.D.	263'		Charge To	J.O. Farmer								
Csg.	8 5/8"		Depth	263'		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.	15'		Shoe Joint	15'		Cement Amount Ordered	210 8 1/2" 3 1/4" 2 1/2"								
Meas Line			Displace	15 3/4 BCS		used	170								
EQUIPMENT						Common	136								
Pumptrk	20		No.	Cementer		Poz. Mix	34								
			No.	Helper		Gel.	3								
Bulktrk	14		No.	Driver		Calcium	7								
			No.	Driver											
Bulktrk	P.U.		No.	Driver											
JOB SERVICES & REMARKS						Hulls									
Remarks:	Cement did Circulate					Salt									
Rat Hole						Flowseal									
Mouse Hole						Kol-Seal									
Centralizers						Mud CLR 48									
Baskets						CFL-117 or CD110 CAF 38									
D/V or Port Collar						Sand									
Mixed 170 SX						Handling	210								
						Mileage									
						FLOAT EQUIPMENT									
						Guide Shoe									
						Centralizer									
						Baskets									
						AFU Inserts									
						Float Shoe									
						Latch Down									
						Pumptrk Charge	Surface								
						Mileage	40								
						Tax									
						Discount									
						Total Charge									
X Signature	[Signature]														





Discovery Drilling

P.O. Box 763 • Hays, KS 67601 • OFFICE (785) 623-2920 • CELLULAR (785) 635-1511

DRILLER'S LOG

Operator: John O. Farmer, Inc. Lic# 5135 Contractor: Discovery Drilling Co., Inc. LIC#31548
370 West Wichita Avenue - P.O. Box 352 PO Box 763
Russell, KS 67665 Hays, KS 67601

Lease: Schroeder Unit # 1 Location: 165 FNL - 2135 FWL
NW/NE/NE/NW
Section 14/ 6S/ 33W
Thomas County, KS

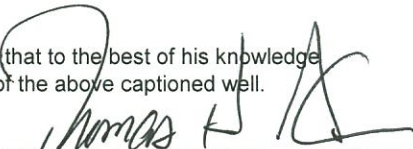
Loggers Total Depth: 4600' API#15- 193-20,965-00-00
Rotary Total Depth: 4600' Elevation: 3088 GL - 3096 KB
Commenced: 6/30/2016 Completed: 7/12/2016
Casing: 8 5/8" @ 263.26'W/170sks Status: Oilwell
5 1/2" @ 4595'W/200sks
D V Tool @ 2699'W/305sks

DEPTHS & FORMATIONS (All from KB)

Surface, Sand & Shale	<u>0'</u>	Shale	<u>2738'</u>
Dakota Sand	<u>1461'</u>	Shale & Lime	<u>3045'</u>
Shale	<u>1651'</u>	Shale	<u>3217'</u>
Cedar Hill Sand	<u>1991'</u>	Shale & Lime	<u>3593'</u>
Red Bed Shale	<u>2157'</u>	Lime & Shale	<u>3945'</u>
Anhydrite	<u>2700'</u>	RTD	<u>4600'</u>
Base Anhydrite	<u>2738'</u>		

STATE OF KANSAS)
) ss
COUNTY OF ELLIS)

Thomas H. Alm of Discovery Drilling states that to the best of his knowledge the above and foregoing is a true and correct log of the above captioned well.



Thomas H. Alm

Subscribed and sworn to before me on 7-19-2016

My Commission expires: 6-28-2018

(Place stamp or seal below)



Notary Public





AUSTIN B. KLAUS



Cell 785.650.3629
Work 785.483.3145
Ext 225

PO BOX 352
Russell, KS 67665
austin.klaus@johnofarmer.com

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

Well Name: Schroeder Unit #1
Location: Thomas County
License Number: API #15-193-20965-0000
Spud Date: 6/30/16
Surface Coordinates: Section 14, Township 6 South, Range 33 West
165' FNL & 2,135' FWL
Bottom Hole Coordinates: Vertical well with minimal deviation, same as above
Ground Elevation (ft): 3,088' **K.B. Elevation (ft):** 3,096'
Logged Interval (ft): 3,700 **To:** RTD **Total Depth (ft):** 4,600
Formation: Lansing-Miss
Type of Drilling Fluid: Chemical (Mud Co.)

Region: Kansas
Drilling Completed: 7/11/16

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

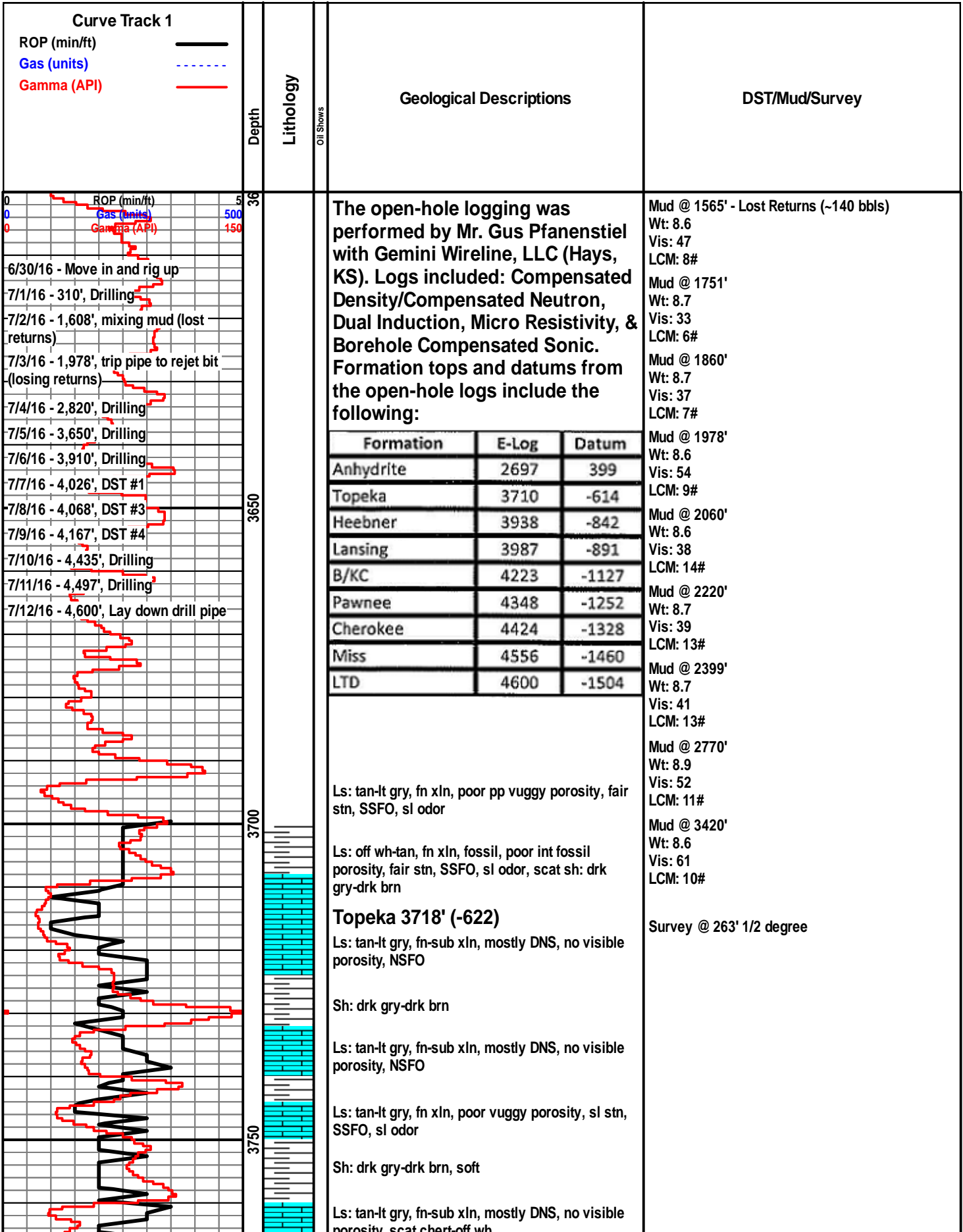
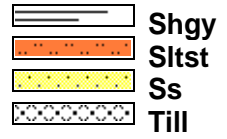
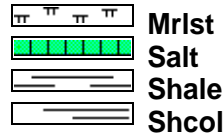
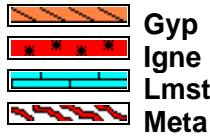
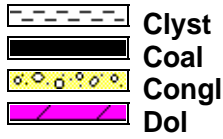
Company: John O. Farmer, Inc.
Address: 370 W. Wichita, Ave.
Russell, KS 67665

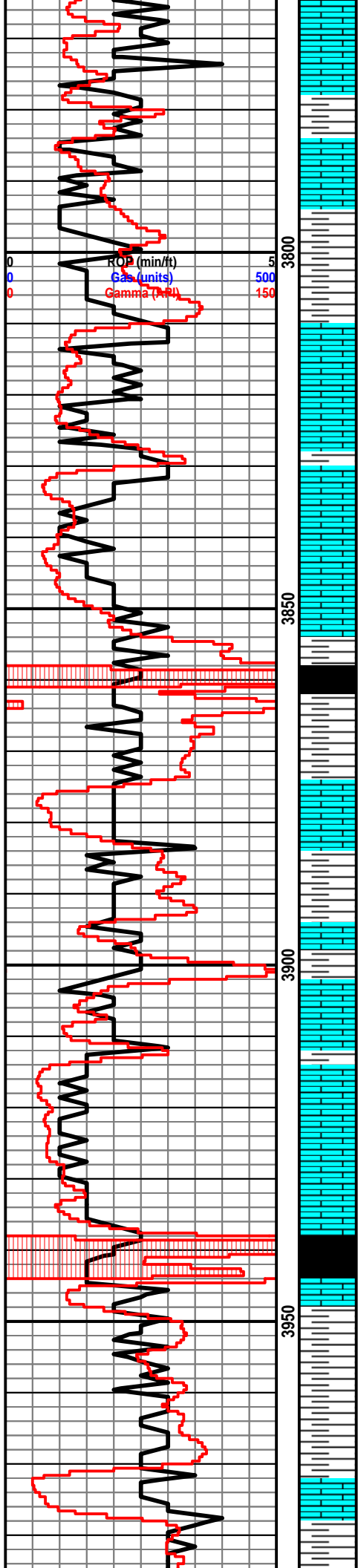
Comments

The Schroeder Unit #1 well was drilled by Discovery Drilling Rig #1 (Tool Pusher: Cliff Mayfield).

The location for the Schroeder Unit #1 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 3,700'-4,600'. Structurally, the Schroeder Unit #1 ran 14' high at the Lansing and 20' high at the Cherokee, to the Lincoln #1, 2,950' to the east, northeast. Four bottom-hole tests were conducted in the Lansing, all yielding negative results. A bottom-hole test was also conducted to evaluate the Cherokee, which resulted in positive fluid and pressure recovery. Based upon sample shows, electric log evaluation, DST results, and good structural position, the decision was made to set 5 1/2" production casing to further evaluate the Cherokee section in the Schroeder Unit #1 well on 7/12/16.

ROCK TYPES





Ls: ala

Sh: drk gry-brn

Ls: tan-lt gry, fn xln, poor int xln porosity, NSFO, scat chert

Sh: gry-brn

Ls: tan-lt gry, fn-sub xln, mostly DNS, no visible porosity, NSFO

Ls: tan-gry, fn xln, poor int xln porosity, scat blk tarry asph stn, SSFO, sl odor

Sh: drk gry-brn

Ls: tan-gry, fn xln, poor int xln porosity, scat blk tarry asph st, VSSFO, sl odor

Ls: tan-gry, fn-md xln, poor int xln porosity, DNS, scat-fair blk tarry asph st, VSSFO, sl odor

Sh: drk gry-blk, carb

Sh: drk gry-brn-grn-rd

Ls: off wh-tan, fn xln, chalky, poor int xln porosity, scat blk tarry asph st, SO in cup, no odor

Sh: gry-rd-grn

Ls: off wh-tan-gry, fn xln, fossil, poor int fossil porosity, scat drk brn tarry stn, NSFO, no odor

Ls: off wh-tan, fn xln, fossil, poor int fossil porosity, NSFO, no odor, chalky

Heebner 3940' (-844)

Sh: blk, carb, fissile

Sh: drk gry-brn-rd, soft

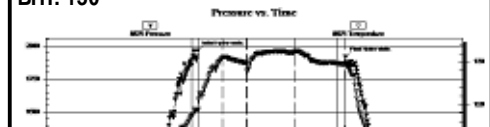
Sh: ala

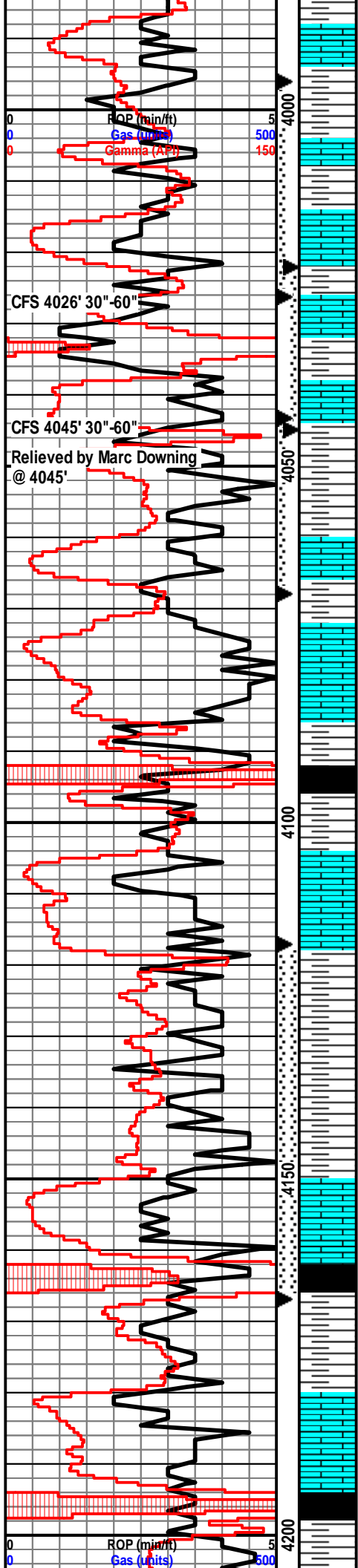
Ls: off wh-tan, fn xln, fossil, poor fossil & int part porosity, sl-fair oil st, S-FSFO, fair odor

Sh: gry-grn

Mud @ 3890'
Wt: 8.9
Vis: 52
LCM: 5#

DST #1 3,996-4,026' (Lansing B-C)
30"-30"-60"-60"
IF: weak blow built to 6", no blow on shut in
FF: BOB in 43 minutes, no blow on shut in
Rec: 189' Mud Cut Water (5% M, 95% W), 204' Muddy Water (50% W, 50% M)
FP: 19-79, 91-183#
SIP: 1,228-1,231#
HP: 1,966-1,921#
BHT: 130





Lansing 3988' (-892)

Ls: off wh-tan, fn xln, poor int xln porosity, scat brn stn, scat chalky

Ls: off wh-lt gry, fn xln, poor int xln porosity, NSFO, no odor, scat sh: gry

Ls: off wh-tan, fn xln, ool, fossil, fair int part porosity, fair-good oil sat, SSFO, sl odor, scat sh: gry-brn-grn

Ls: off wh-tan, fn xln, ool, fair vuggy & int part porosity, fair-good drk brn st, FSFO, fair-good odor

Ls: off wh-tan, fn-md xln, poor-fair int xln porosity, sl scat oil stn, VSSFO, no odor, hvy chert-off wh-tan-gry

Ls: tan-lt gry, fn xln, DNS, no visible porosity, NSFO

Sh: gry

Sh: brn-rd

Ls: wht, md xln, md-lrg ool, scat foss, scat sub xln, chalky rx, mostly vry dns, pr porosity, 1 pc w/ vry poor resid stn, NSFO, no odor

Sh: brn

Ls: tan-wht, md xln, vry DNS, poor porosity, NSFO

Ls: wht, fn-md xln, few rx w/ spotted SFO in fair int xln porosity, hvy chert gry-wht, pr-fr rnbw stn, rare edge stn, no odor

Sh: blk, carb

Sh: brn w/ red

Ls: wht, md xln, foss, fr int xln porosity, sub xln-chalky

Sh: gry w/ scat brn foss Ls

Sh: brn-red

Sh: red-brn, arg in prt

Ls: wht, fn-md xln, scat foss, fr-gd int xln porosity, sub xln in prt, many barren w/ pyt flakes, scat fr sat stn w/ fr-gd spotted SFO, lt odor

Stark 4165' (-1069)

Sh: blk, carb

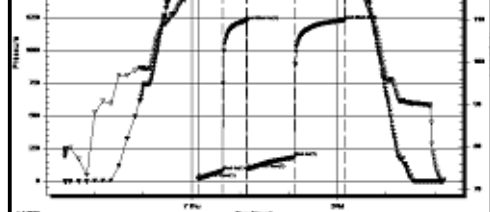
Sh: brn w/ red

Ls: wht, md xln, ool in prt, sub xln w/ scat fr int xln porosity, NSFO

Hushpuckney 4198' (-1102)

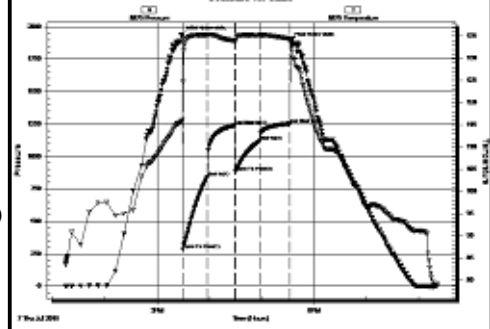
Sh: blk, carb

Sh: brn

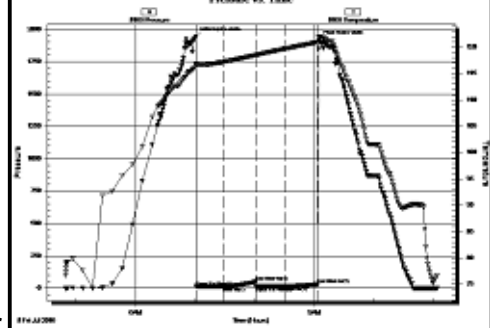


Mud @ 4026'
Wt: 9.0
Vis: 53
LCM: 5#

DST #2 4,022-4,045' (Lansing D)
30"-30"-30"-30"
IF: BOB in 30 seconds, no blow on shut in
FF: BOB in 1 minute, no blow on shut in
Rec: 2,142' Mud Cut Water (5% M, 95% W), 283' Water (Chl. 26k)
FP: 283-843, 883-1,119#
SIP: 1,238-1,252#
HP: 1,932-1,881#
BHT: 134

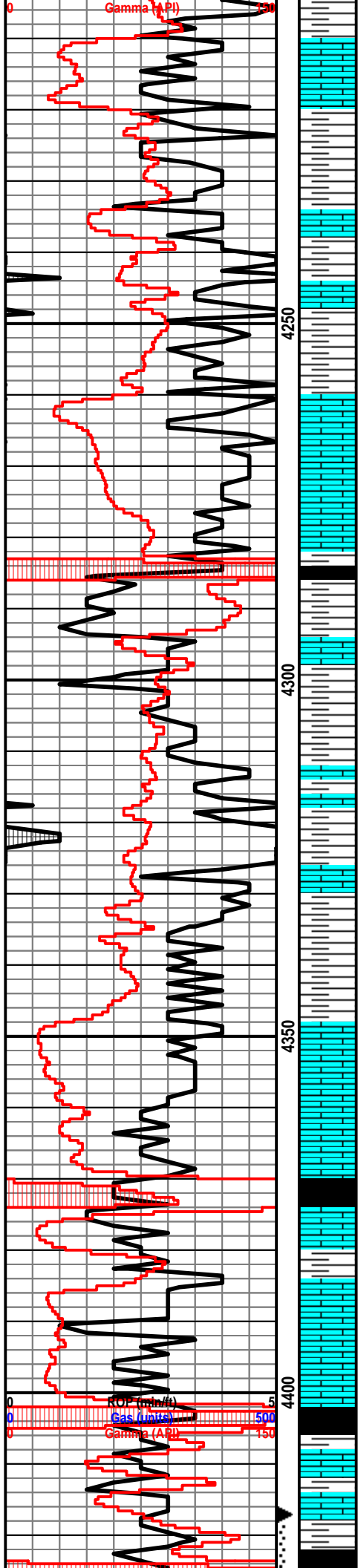


DST #3 4,043-4,068' (Lansing F)
30"-30"-30"-30"
IF: weak blow died in 12 minutes
FF: no blow
Rec: 5' Mud
FP: 13-13, 14-29#
SIP: 49-29#
HP: 1,943-1,916#
BHT: 122



Mud @ 4168'
Wt: 9.1
Vis: 47
LCM: 6#

DST #4 4,117-4,167' (Lansing J)
30"-30"-60"-60"
IF: weak blow built to 8", no blow on shut in
FF: weak blow built to 9", no blow on shut in
Rec: 126' Mud Cut Water (30%M, 70%W), 126' Water Cut Mud (15%W, 85%M), 73' Water Cut Mud (5%W, 95%M)
FP: 20-77, 89-157#
SIP: 796-793#
HP: 2,047-1,989#



Ls: tan-brn, md xln, foss, vry DNS, no visible porosity, scat sub xln, chalky rx, NSFO

Sh: brn w/ gry

Sh: brn

Ls: tan-gry, fn-md xln, poor porosity, NSFO

Sh: red-brn, washes red

Ls: tan-wht, mostly poor porosity & DNS, scat sub xln rx, 1-2 pcs w/ hvy brn stn in pr porosity, no odor

Ls: Trng, tan-gry, some drk gry, DNS w/ no visible porosity

Sh: gry w/ brn

Ls: tan, fn-md xln, poor porosity, DNS

Sh: brn w/ lt gry, vry gummy, Trng red

Ls: tan-wht, scat ool, poor porosity & DNS

scat DNS tan Ls, abnt red sh in samples

Ls: tan, md xln, w/ scat md-lrg foss, no visible porosity, NSFO

Sh: brn w/ gry

Pawnee 4349' (-1253)

Ls: tan-wht, fn-vry fn xln, no visible porosity, tite, DNS, scat wht-gry foss, chert, NSFO, no odor

Sh: blk, carb

Myrick Station 4374' (-1278)

Ls: wht, fn-md xln, sub xln-chalky, NSFO

Ls: wht-tan, fn-md xln, mostly DNS, w/ poor porosity, fr amt wht-tan, gry foss, chert, NSFO

Sh: blk, carb

Fort Scott 4402' (-1306)

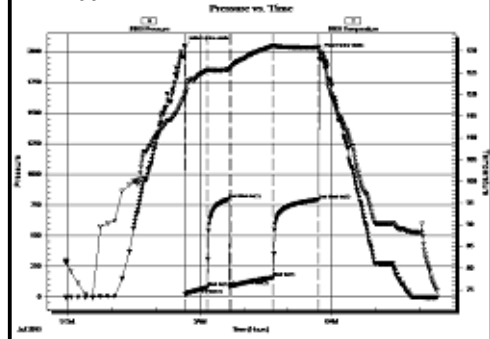
Ls: tan, md xln, mostly poor porosity & DNS, NSFO

Ls: Trng wht-tan, fn-md xln, sub xln in prt, rest DNS, NSFO

Cherokee Sh. 4422' (-1326)

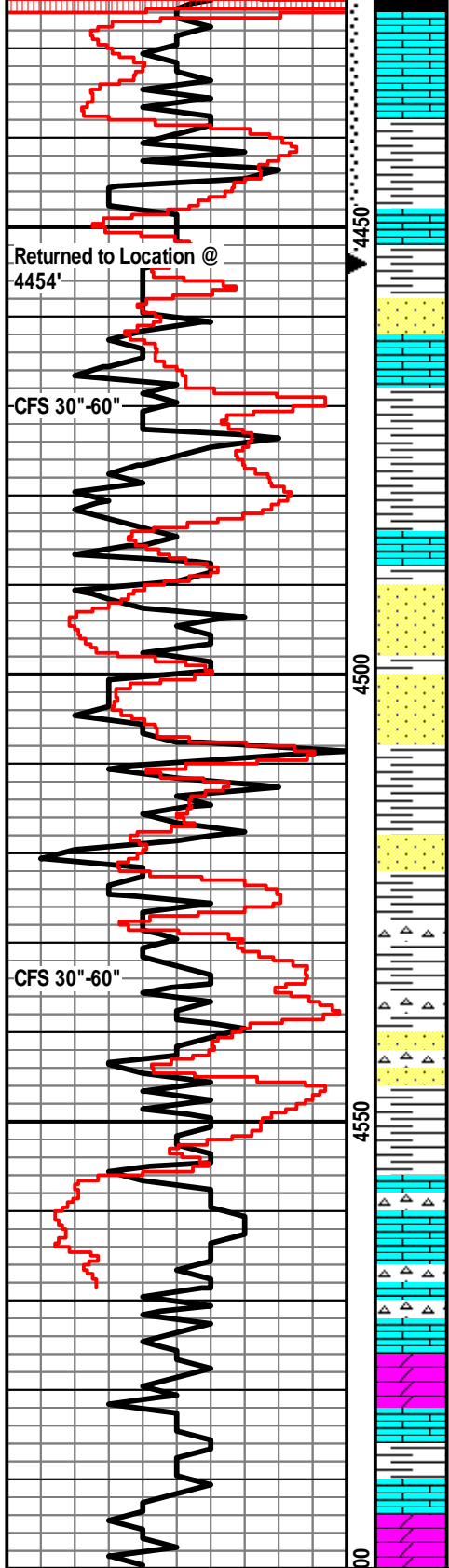
Sh: blk, carb

BHT: 130



Mud @ 4400'
Wt: 8.9
Vis: 55
LCM: 6#

DST #5 4,417-4,454' (Cherokee)
30"-30"-45"-60"
IF: BOB in 8 minutes, 5" blow back on shut in
FF: BOB in 6 minutes, BOB in 25 minutes on shut in
Rec: 769' Gas in Pipe, 239' Gassy Oil (30%G, 70% O), 189' Gassy Oil (20%G, 80%O), 126' Gassy Oil Cut Mud (10%O, 20%G, 70%M)
FP: 138-161, 162-209#
SIP: 1.064-1.017#



Sh: drk, carb

Ls: tan, fn-md xln, few sml foss, fr vuggy porosity, tite in prt, fr lt brn sat stn, FSFO, gassy in prt when broken, fr odor

Ls: tan-wht, fn-md xln, mostly DNS, 1-2 rxes w/ lt stn A/A, poss carry, scat tan-lt gry chert, no odor, Trng mostly gr sh in 60' CFS

Sh: drk gry-brn-grn

Sh: rd-grn, soft

Ss: md-crs grn, sub ang, poorly sorted, fairly well cemented, poor-fair int grn porosity, trace dead oil stn, no odor

Sh: rd-gry

Sh: drk gry-brn-rd

Ss: off wh, fn-md grn, sub ang, poorly sorted, poor-fairly well cemented, poor-fair int grn porosity, SSFO, sl odor

Ss: off wh-clr, fn-md grn, fairly well rnd, fair sorting, poorly cemented, poor-fair int grn porosity, fair oil stn, sl odor

Sh: drk gry-brn-grn

Ss: off wh, md-crs grn, ang, poorly sorted, well cemented, poor int grn porosity, NSFO, no odor, hvy sh: drk gry-brn-grn

Chert: vari-colored, DNS

Ss: fn-md grn, friable, w/ pr-fair int grn porosity, tr blk asph stn, trace wh chert, scat vari colored chert, DNS

Sh: rd-gry-grn-brn

Mississippi 4553' (-1457)

Ls: tan, fn-md xln, mostly DNS, sl foss, poor int xln porosity, NSFO, hvy chert-wh-lt gry-yellow

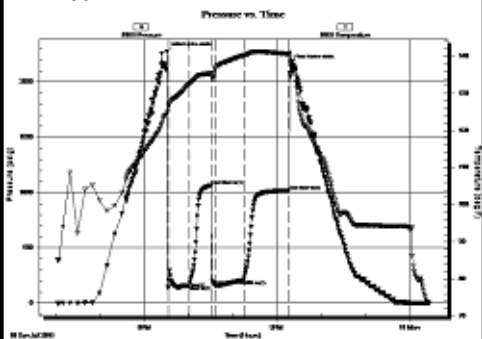
Ls: wh-lt gry, fn xln, mostly DNS, no visible porosity, NSFO, scat dolo: w/ poor int xln porosity, hvy chert-off wh-tan-lt gry

Dolo-Ls: wh-tan, fn-md xln, w/ poor int xln porosity, chert: ala, scat sh: drk gry-brn

Sh: gry-lt grn

Dolo: wh-tan, fn-md xln, mostly DNS, hvy chert-off wh-tan-lt gry

HP: 2,275-2,163#
BHT: 138



Mud @ 4470'
Wt: 8.9
Vis: 67
LCM: 4#

Survey @ 4600' 3/4 degree