

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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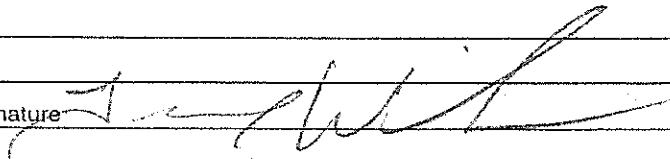
QUALITY OILWELL CEMENTING, INC.

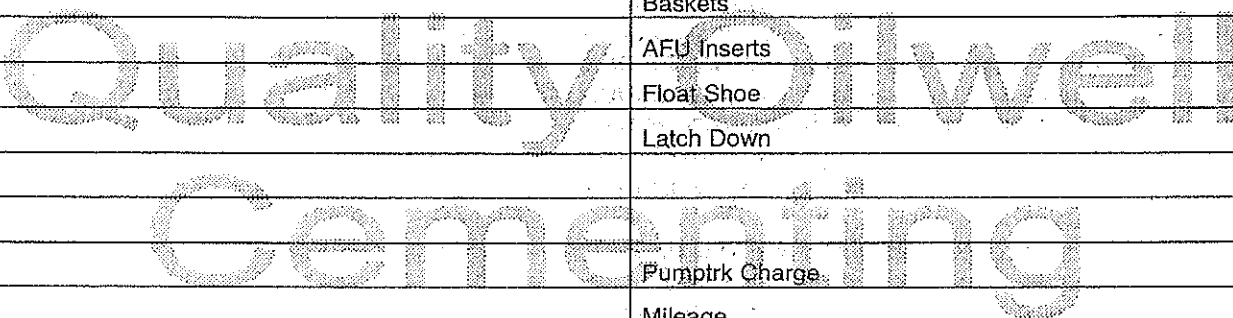
Federal Tax I.D.# 20-2886107

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

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

No. 171

Date	5-22-17	Sec.	28	Twp.	15	Range	14	County	Russell	State	KS	On Location		Finish	8:15 PM
Lease	Radke			Well No.	1			Location 281 + Michael's Rd - 2 1/2 W N+E							
Contractor	Discovery #2							Owner To Rig To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Type Job	Surface							Charge To J.O. Farmer							
Hole Size	12 1/4"			T.D.	433'			Street							
Csg.	8 5/8"			Depth	431'			City							
Tbg. Size				Depth				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 190 80/20 3% CC 2% Gel							
Meas Line				Displace	26 1/2 BLS										
EQUIPMENT								Common							
Pumptrk	16	No.	Cementer	Helper				Travis							
Bulktrk	3	No.	Driver	Driver				Tony							
Bulktrk	pu	No.	Driver	Driver				Rick							
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								
							Handling								
							Mileage								
FLOAT EQUIPMENT															
							Guide Shoe								
							Centralizer								
							Baskets								
							AFU Inserts								
							Float Shoe								
							Latch Down								
							Pumptrk Charge								
							Mileage								
							Tax								
							Discount								
							Total Charge								
X Signature															



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. 057

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-28-17	28	15	14	Russell	KS		2:00 AM

Location: Milberger Rd. 2 1/2 W, N 1/2

Lease Radke Well No. 1 Owner To Quality Oilwell Cementing, Inc.

Contractor Discovery 2 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 Plug Charge To J.O. Farmer

Hole Size _____ T.D. 3410 Depth _____ Street _____

Csg. _____ Depth _____ City _____ State _____

Tbg. Size _____ Depth _____ The above was done to satisfaction and supervision of owner agent or contractor.

Tool _____ Depth _____ Cement Amount Ordered 255 sks 60/40, 4% gel, 1/4 Flt

Cement Left in Csg. _____ Shoe Joint _____

Meas Line _____ Displace _____

EQUIPMENT Common

Pumptrk 16 No. Cementer Travis Helper _____ Poz. Mix _____

Bulktrk 3 No. Driver Jordan Driver _____ Gel. _____

Bulktrk _____ No. _____ Driver _____ Calcium _____

JOB SERVICES & REMARKS Hulls _____

Remarks: _____ 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 _____

50 sk at 3,332 Handling _____

50 sk at 900 Mileage _____

100 sk at 490 **FLOAT EQUIPMENT** Guide Shoe _____

10 sk at 40 Centralizer _____

30 sk Rat Baskets _____

15 sk Mouse AFU Inserts _____

_____ Float Shoe _____

_____ Latch Down _____

_____ 1 wood plug _____

_____ Pumptrk Charge _____

_____ Mileage _____

_____ Tax _____

_____ Discount _____

_____ Total Charge _____

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 + 2635 Hays, KS 67601

Lease: Radke # 1 Location: 330 FSL - 1600 FWL
W2/SWSE/SW
Section 28/ 15S/ 14W
Russell County, KS

Loggers Total Depth: 3410' API#15- 167-24,062-00-00
 Rotary Total Depth: 3410' Elevation: 1867 GL - 1875 KB
 Commenced: 5/22/2017 Completed: 5/29/2017
 Casing: 8 5/8" @ 431'W/190sks Status: D & A
 KCC Contact: Chris Neeley

Plugging Info: (1st Plug @ 3332'W/50sks)(2nd Plug @ 900'W/50sks)
(3rd Plug @ 490'W/100sks)(4th Plug @ 40'W/10sks)
(30sks In Rat Hole)(15sks In Mouse Hole)(Total 255sks
60/40Poz 4%Gel-1/4# FS/sk-By Quality Oilwell)
(Completed @ 2:00AM 5/29/2017)

DEPTHS & FORMATIONS (All from KB)

Surface, Sand & Shale	<u>0'</u>	Shale	<u>915'</u>
Dakota Sand	<u>289'</u>	Shale & Lime	<u>1595'</u>
Shale	<u>351'</u>	Shale	<u>1880'</u>
Cedar Hill Sand	<u>371'</u>	Shale & Lime	<u>2187'</u>
Red Bed Shale	<u>523'</u>	Lime & Shale	<u>3035'</u>
Anhydrite	<u>886'</u>	RTD	<u>3410'</u>
Base Anhydrite	<u>915'</u>		

STATE OF KANSAS)
) ss
 COUNTY OF ELLIS)

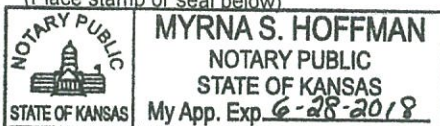
Thomas H. Alm of Discovery Drilling states that to the best of his knowledge the above and foregoing is a true and correct log of the above captioned well.

Thomas H. Alm

Subscribed and sworn to before me on 5-31-2017

My Commission expires: 6-28-2018

(Place stamp or seal below)



Notary Public



DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

Radke #1

28-15s-14w Russell,KS

Start Date: 2017.05.26 @ 04:20:22

End Date: 2017.05.26 @ 09:33:46

Job Ticket #: 63955 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.05.30 @ 09:05:27



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
 Job Ticket: 63955 **DST#: 1**
 Test Start: 2017.05.26 @ 04:20:22

GENERAL INFORMATION:

Formation: **LKC A-C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:15:17
 Time Test Ended: 09:33:46
 Interval: **3058.00 ft (KB) To 3132.00 ft (KB) (TVD)**
 Total Depth: 3132.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 1877.00 ft (KB)
 1869.00 ft (CF)
 KB to GR/CF: 8.00 ft

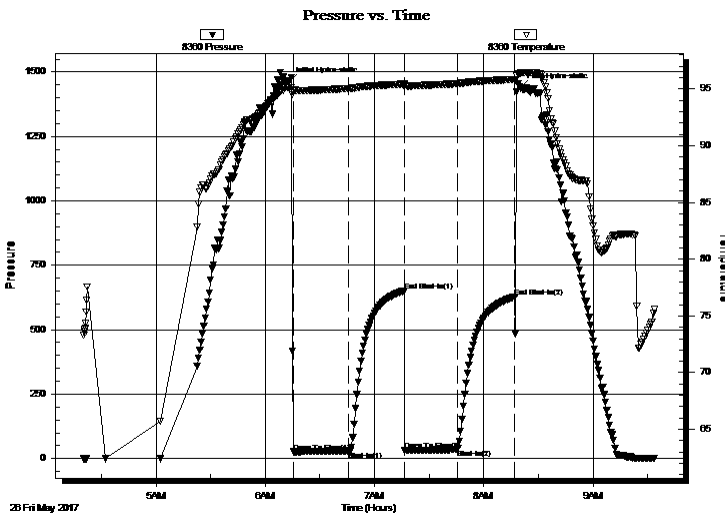
Serial #: 8360

Inside

Press@RunDepth: 35.03 psig @ 3066.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.05.26 End Date: 2017.05.26 Last Calib.: 2017.05.26
 Start Time: 04:20:22 End Time: 09:33:46 Time On Btm: 2017.05.26 @ 06:13:17
 Time Off Btm: 2017.05.26 @ 08:20:17

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 1 1/2" bl
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1463.22	95.12	Initial Hydro-static
2	26.07	94.87	Open To Flow (1)
33	30.00	95.04	Shut-In(1)
63	650.54	95.43	End Shut-In(1)
64	31.36	95.20	Open To Flow (2)
93	35.03	95.47	Shut-In(2)
124	627.24	95.85	End Shut-In(2)
127	1437.37	96.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud w/show of oil	0.15

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

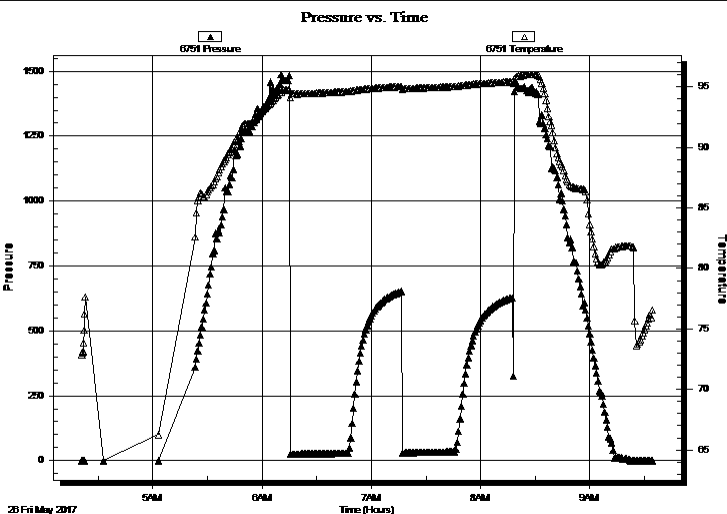
28-15s-14w Russell, KS
Radke #1
 Job Ticket: 63955 **DST#: 1**
 Test Start: 2017.05.26 @ 04:20:22

GENERAL INFORMATION:

Formation: **LKC A-C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:15:17
 Time Test Ended: 09:33:46
Interval: 3058.00 ft (KB) To 3132.00 ft (KB) (TVD)
 Total Depth: 3132.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 1877.00 ft (KB)
 1869.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6751 Outside
 Press@RunDepth: psig @ 3066.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.05.26 End Date: 2017.05.26 Last Calib.: 2017.05.26
 Start Time: 04:21:02 End Time: 09:34:26 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 1 1/2" bl
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud w/show of oil	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63955 **DST#: 1**
Test Start: 2017.05.26 @ 04:20:22

Tool Information

Drill Pipe:	Length: 2752.00 ft	Diameter: 3.80 inches	Volume: 38.60 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 40.88 bbl</u>	Tool Chased	4.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3058.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	74.00 ft				
Tool Length:	95.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3038.00	
Shut In Tool	5.00			3043.00	
Hydraulic tool	5.00			3048.00	
Packer	5.00			3053.00	21.00 Bottom Of Top Packer
Packer	5.00			3058.00	
Stubb	1.00			3059.00	
Perforations	7.00			3066.00	
Recorder	0.00	8360	Inside	3066.00	
Recorder	0.00	6751	Outside	3066.00	
Blank Spacing	63.00			3129.00	
Bullnose	3.00			3132.00	74.00 Bottom Packers & Anchor

Total Tool Length: 95.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63955 **DST#: 1**
Test Start: 2017.05.26 @ 04:20:22

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.52 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2900.00 ppm			
Filter Cake: 1.00 inches			

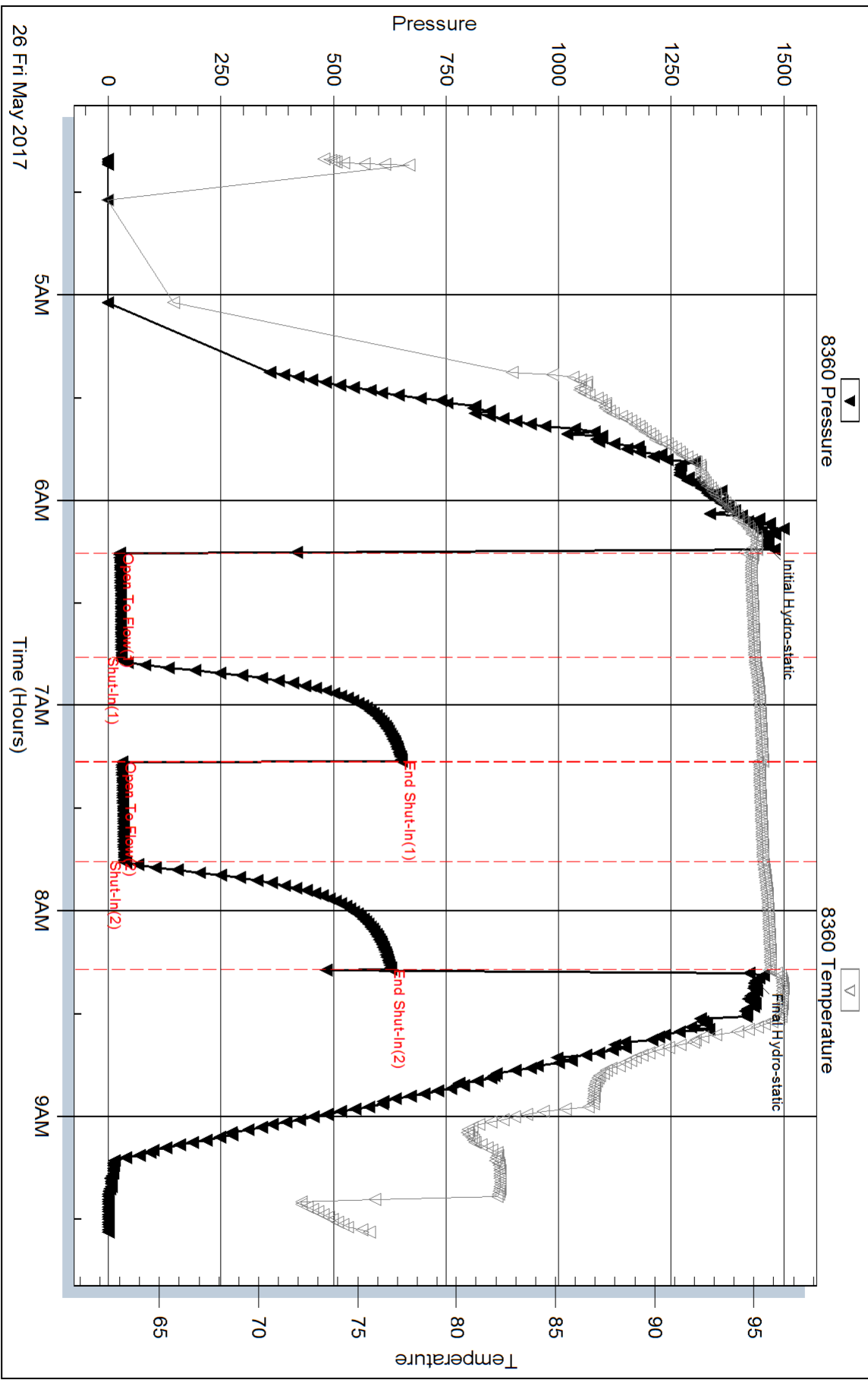
Recovery Information

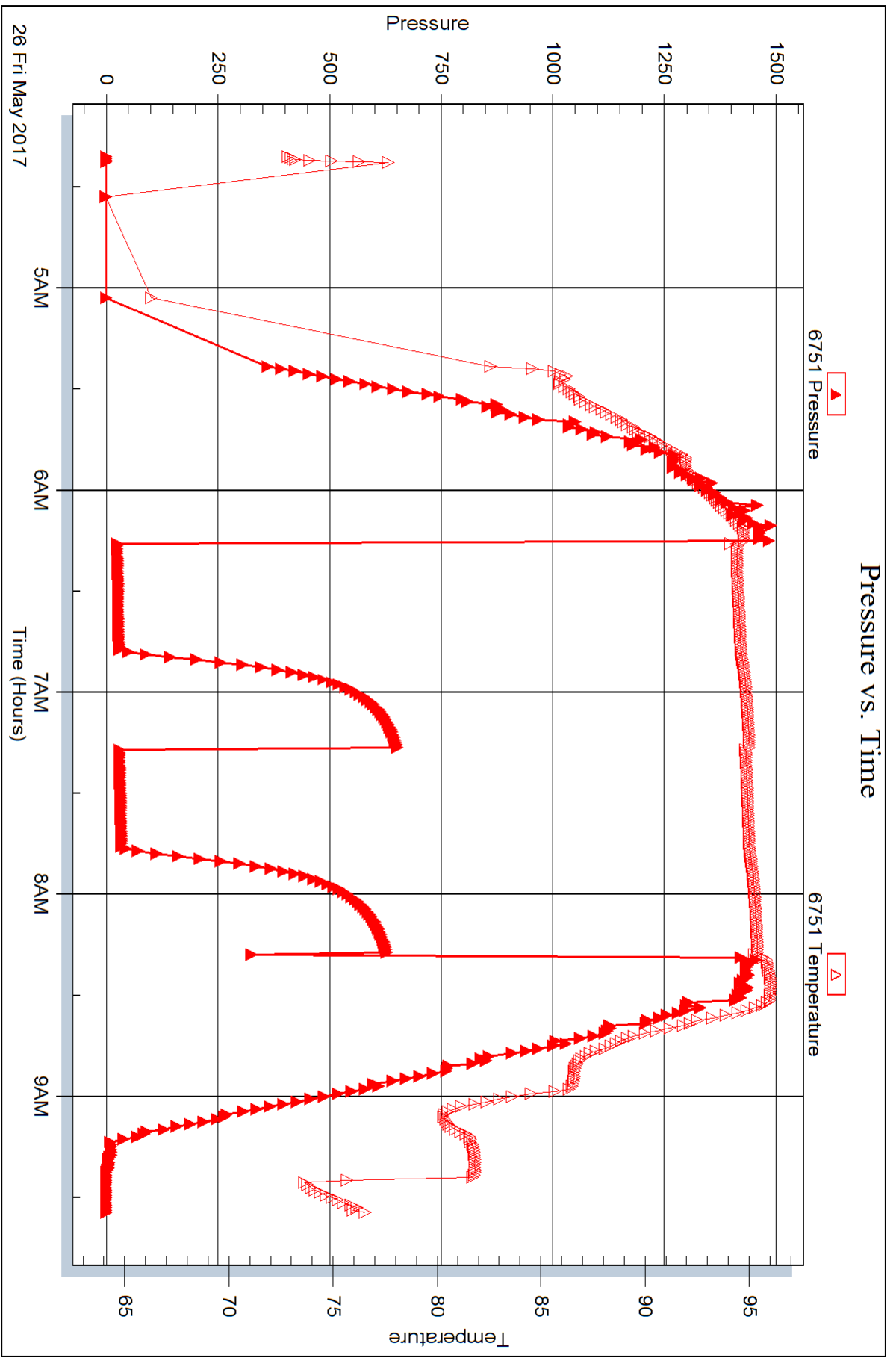
Recovery Table

Length ft	Description	Volume bbl
20.00	Mud w/show of oil	0.147

Total Length: 20.00 ft Total Volume: 0.147 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

Radke #1

28-15s-14w Russell,KS

Start Date: 2017.05.26 @ 19:45:48

End Date: 2017.05.27 @ 00:40:27

Job Ticket #: 63956 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.05.30 @ 09:04:54



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

28-15s-14w Russell, KS
Radke #1
 Job Ticket: 63956 **DST#: 2**
 Test Start: 2017.05.26 @ 19:45:48

GENERAL INFORMATION:

Formation: **LKC D-F**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:15:58
 Time Test Ended: 00:40:27
 Interval: **3130.00 ft (KB) To 3200.00 ft (KB) (TVD)**
 Total Depth: 3200.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 1877.00 ft (KB)
 1869.00 ft (CF)
 KB to GR/CF: 8.00 ft

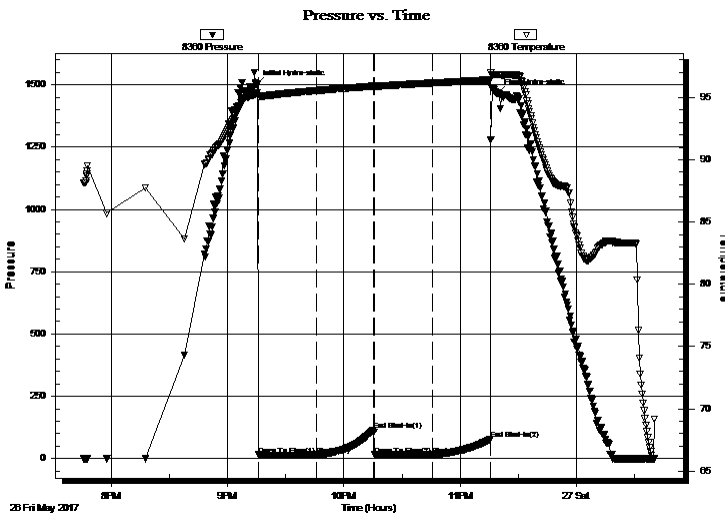
Serial #: 8360

Inside

Press@RunDepth: 15.05 psig @ 3134.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.05.26 End Date: 2017.05.27 Last Calib.: 2017.05.26
 Start Time: 19:45:48 End Time: 00:40:27 Time On Btm: 2017.05.26 @ 21:14:43
 Time Off Btm: 2017.05.26 @ 23:19:28

TEST COMMENT: 30-IFP-surface bl died in 20 min
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1500.39	95.29	Initial Hydro-static
2	15.17	95.03	Open To Flow (1)
32	14.13	95.55	Shut-In(1)
61	113.55	95.91	End Shut-In(1)
61	14.99	95.88	Open To Flow (2)
92	15.05	96.16	Shut-In(2)
121	77.95	96.41	End Shut-In(2)
125	1464.27	96.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud	0.07

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

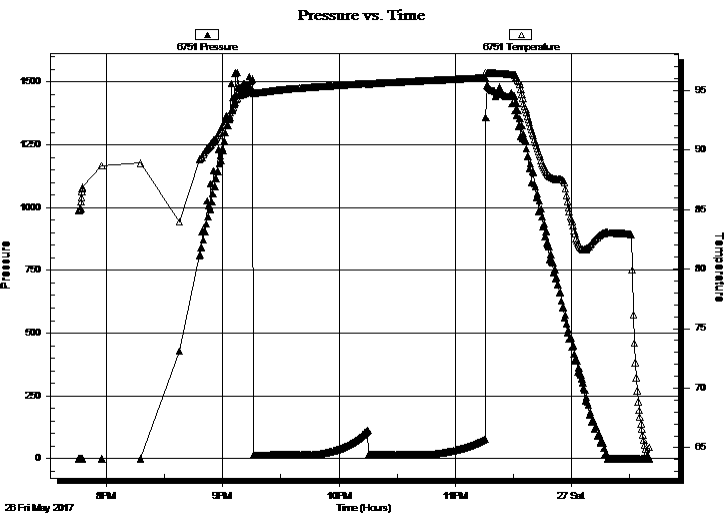
28-15s-14w Russell, KS
Radke #1
Job Ticket: 63956 **DST#: 2**
Test Start: 2017.05.26 @ 19:45:48

GENERAL INFORMATION:

Formation: **LKC D-F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:15:58
Time Test Ended: 00:40:27
Interval: **3130.00 ft (KB) To 3200.00 ft (KB) (TVD)**
Total Depth: 3200.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 77
Reference Elevations: 1877.00 ft (KB)
1869.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6751 Outside
Press@RunDepth: psig @ 3134.00 ft (KB)
Start Date: 2017.05.26 End Date: 2017.05.27
Start Time: 19:45:44 End Time: 00:40:23
Capacity: 8000.00 psig
Last Calib.: 2017.05.26
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-surface bl died in 20 min
30-ISIP-no bl
30-FFP-no bl
30-FSIP-no bl



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud	0.07

* 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
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63956 **DST#: 2**
Test Start: 2017.05.26 @ 19:45:48

Tool Information

Drill Pipe:	Length: 2815.00 ft	Diameter: 3.80 inches	Volume: 39.49 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 41.77 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3130.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	70.00 ft				
Tool Length:	91.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

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

Change Over Sub	1.00			3110.00	
Shut In Tool	5.00			3115.00	
Hydraulic tool	5.00			3120.00	
Packer	5.00			3125.00	21.00 Bottom Of Top Packer
Packer	5.00			3130.00	
Stubb	1.00			3131.00	
Perforations	3.00			3134.00	
Recorder	0.00	8360	Inside	3134.00	
Recorder	0.00	6751	Outside	3134.00	
Blank Spacing	63.00			3197.00	
Bullnose	3.00			3200.00	70.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell, KS
Radke #1
Job Ticket: 63956 **DST#: 2**
Test Start: 2017.05.26 @ 19:45:48

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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.10 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4400.00 ppm			
Filter Cake: 1.00 inches			

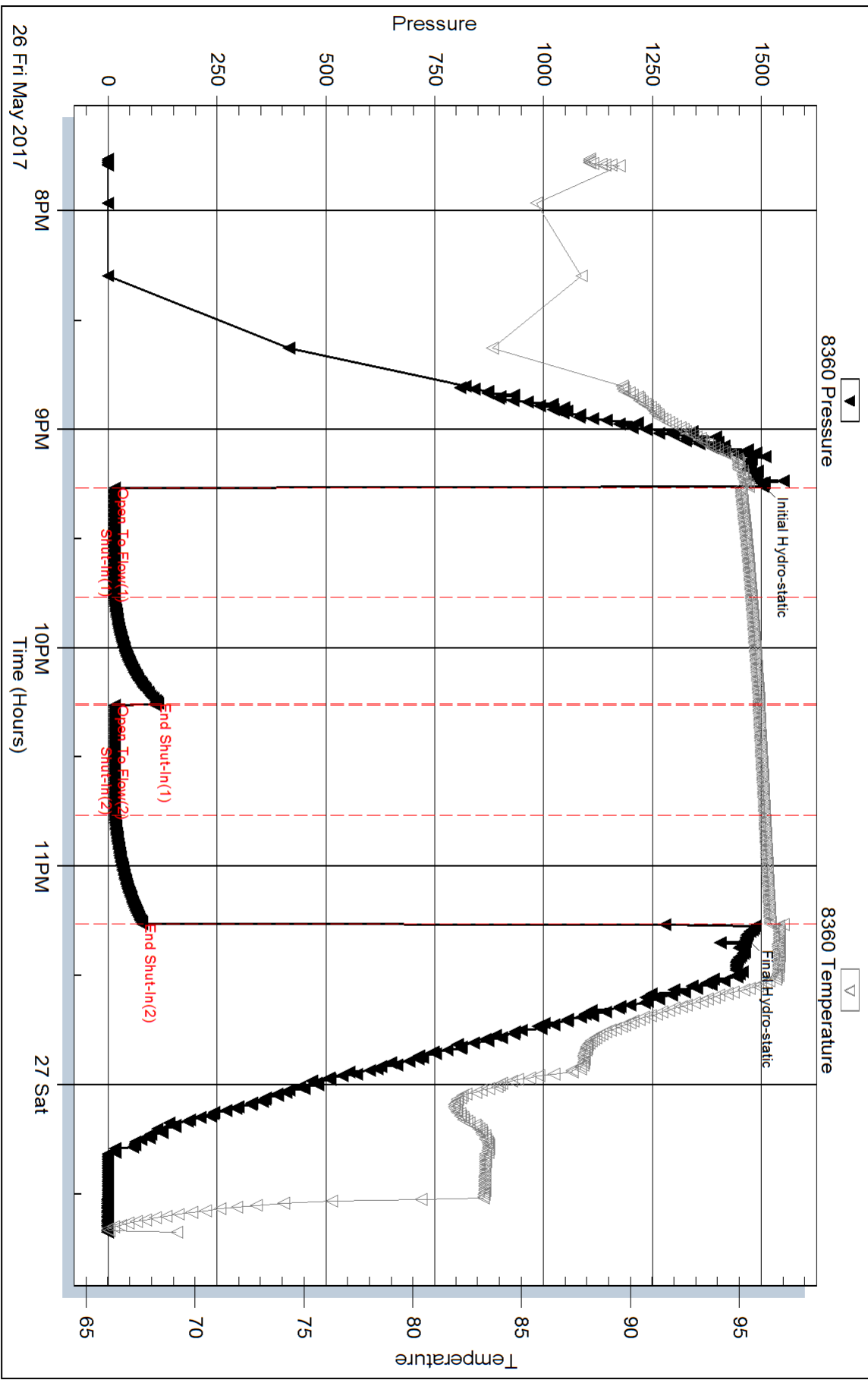
Recovery Information

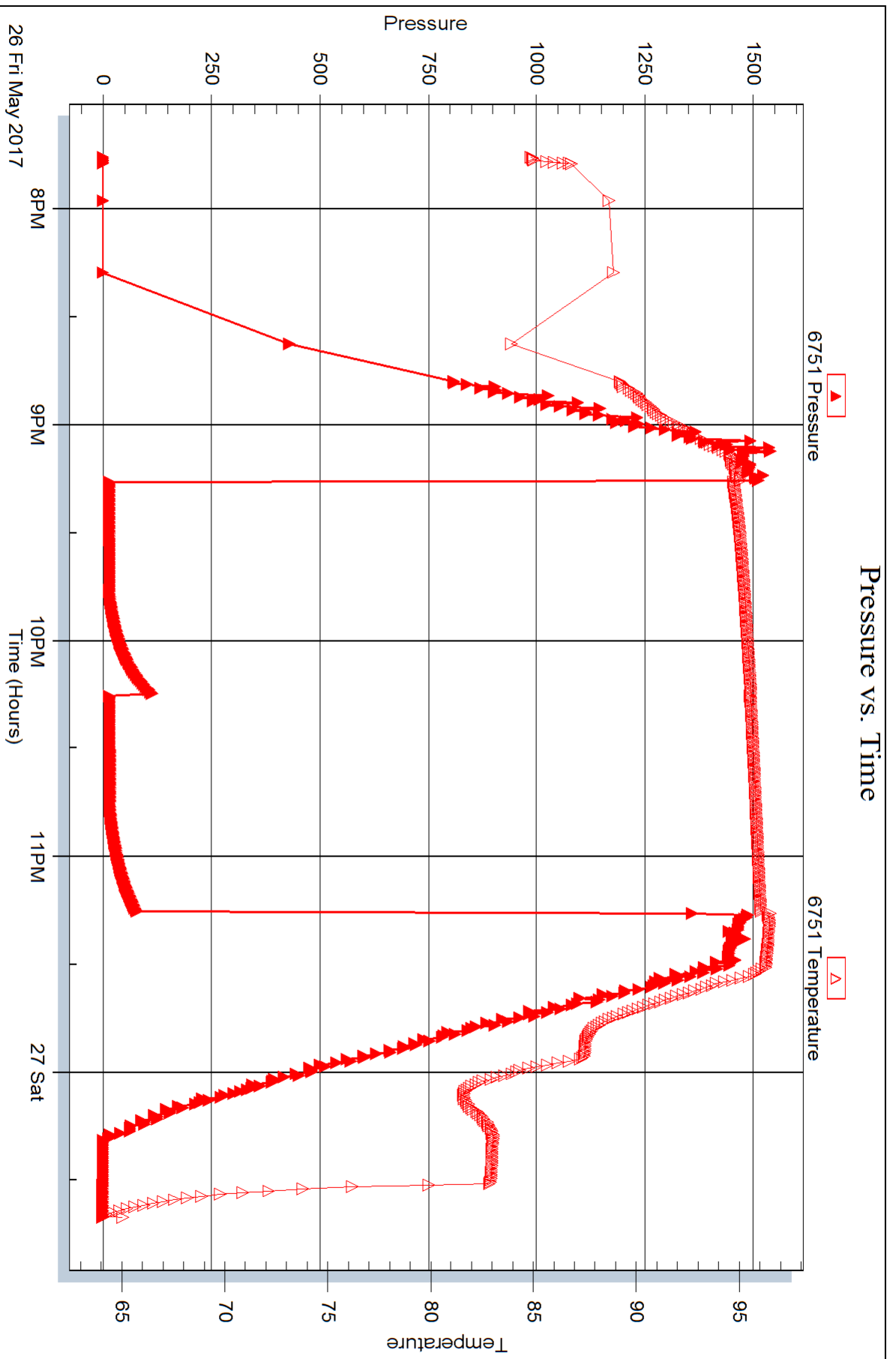
Recovery Table

Length ft	Description	Volume bbl
10.00	Mud	0.073

Total Length: 10.00 ft Total Volume: 0.073 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

Radke #1

28-15s-14w Russell,KS

Start Date: 2017.05.27 @ 12:50:35

End Date: 2017.05.27 @ 18:33:37

Job Ticket #: 63957 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.05.30 @ 09:04:25



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

28-15s-14w Russell, KS
Radke #1
 Job Ticket: 63957 **DST#: 3**
 Test Start: 2017.05.27 @ 12:50:35

GENERAL INFORMATION:

Formation: **LKC H-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:08:53
 Time Test Ended: 18:33:37
 Interval: **3228.00 ft (KB) To 3296.00 ft (KB) (TVD)**
 Total Depth: 3296.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 1877.00 ft (KB)
 1869.00 ft (CF)
 KB to GR/CF: 8.00 ft

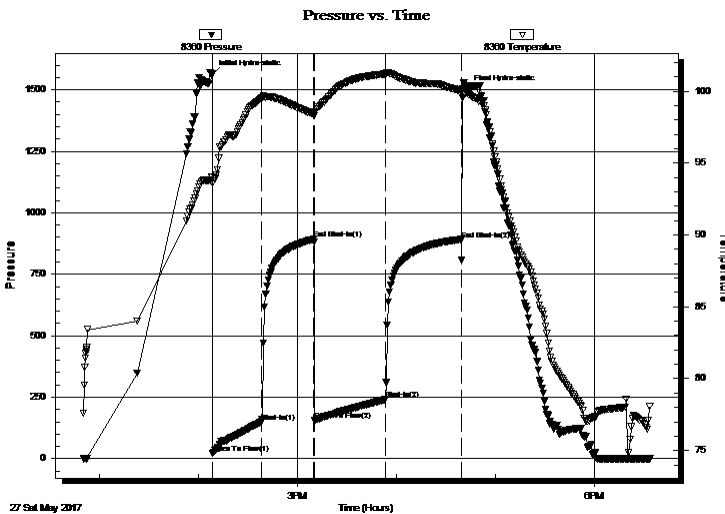
Serial #: 8360

Inside

Press@RunDepth: 240.82 psig @ 3232.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.05.27 End Date: 2017.05.27 Last Calib.: 2017.05.27
 Start Time: 12:50:35 End Time: 18:33:37 Time On Btm: 2017.05.27 @ 14:08:23
 Time Off Btm: 2017.05.27 @ 16:43:08

TEST COMMENT: 30-IFP-w k to BOB in 15 min
 30-ISIP-surface bl bk
 45-FFP-w k to BOB in 25 min
 45-FSIP-2" bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1560.86	94.06	Initial Hydro-static
1	22.73	93.61	Open To Flow (1)
30	150.48	99.52	Shut-In(1)
62	891.69	98.42	End Shut-In(1)
62	155.61	98.28	Open To Flow (2)
105	240.82	101.21	Shut-In(2)
151	891.59	100.04	End Shut-In(2)
155	1501.99	99.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	Water	2.28
45.00	SO&GCWM 5%G1%O25%W69%M	0.63
10.00	CO	0.14
0.00	190' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
 Job Ticket: 63957 **DST#: 3**
 Test Start: 2017.05.27 @ 12:50:35

GENERAL INFORMATION:

Formation: **LKC H-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:08:53
 Time Test Ended: 18:33:37

Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77

Interval: **3228.00 ft (KB) To 3296.00 ft (KB) (TVD)**
 Total Depth: 3296.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1877.00 ft (KB)
 1869.00 ft (CF)
 KB to GR/CF: 8.00 ft

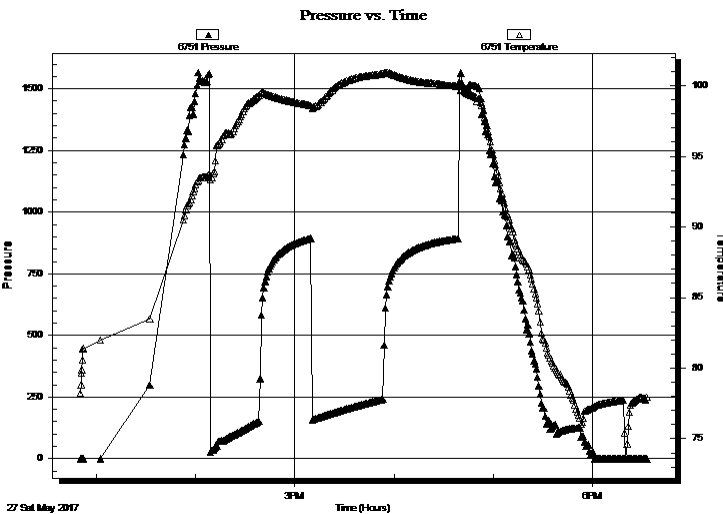
Serial #: 6751

Outside

Press@RunDepth: psig @ 3232.00 ft (KB)
 Start Date: 2017.05.27 End Date: 2017.05.27
 Start Time: 12:50:20 End Time: 18:33:29

Capacity: 8000.00 psig
 Last Calib.: 2017.05.27
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-w k to BOB in 15 min
 30-ISIP-surface bl bk
 45-FFP-w k to BOB in 25 min
 45-FSIP-2" bl bk



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
310.00	Water	2.28
45.00	SO&GCWM 5%G1%O25%W69%M	0.63
10.00	CO	0.14
0.00	190' 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
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63957 **DST#: 3**
Test Start: 2017.05.27 @ 12:50:35

Tool Information

Drill Pipe:	Length: 2907.00 ft	Diameter: 3.80 inches	Volume: 40.78 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 43.06 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3228.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	68.00 ft			
Tool Length:	89.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3208.00	
Shut In Tool	5.00			3213.00	
Hydraulic tool	5.00			3218.00	
Packer	5.00			3223.00	21.00 Bottom Of Top Packer
Packer	5.00			3228.00	
Stubb	1.00			3229.00	
Perforations	3.00			3232.00	
Recorder	0.00	8360	Inside	3232.00	
Recorder	0.00	6751	Outside	3232.00	
Blank Spacing	33.00			3265.00	
Perforations	28.00			3293.00	
Bullnose	3.00			3296.00	68.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63957 **DST#: 3**
Test Start: 2017.05.27 @ 12:50:35

Mud and Cushion Information

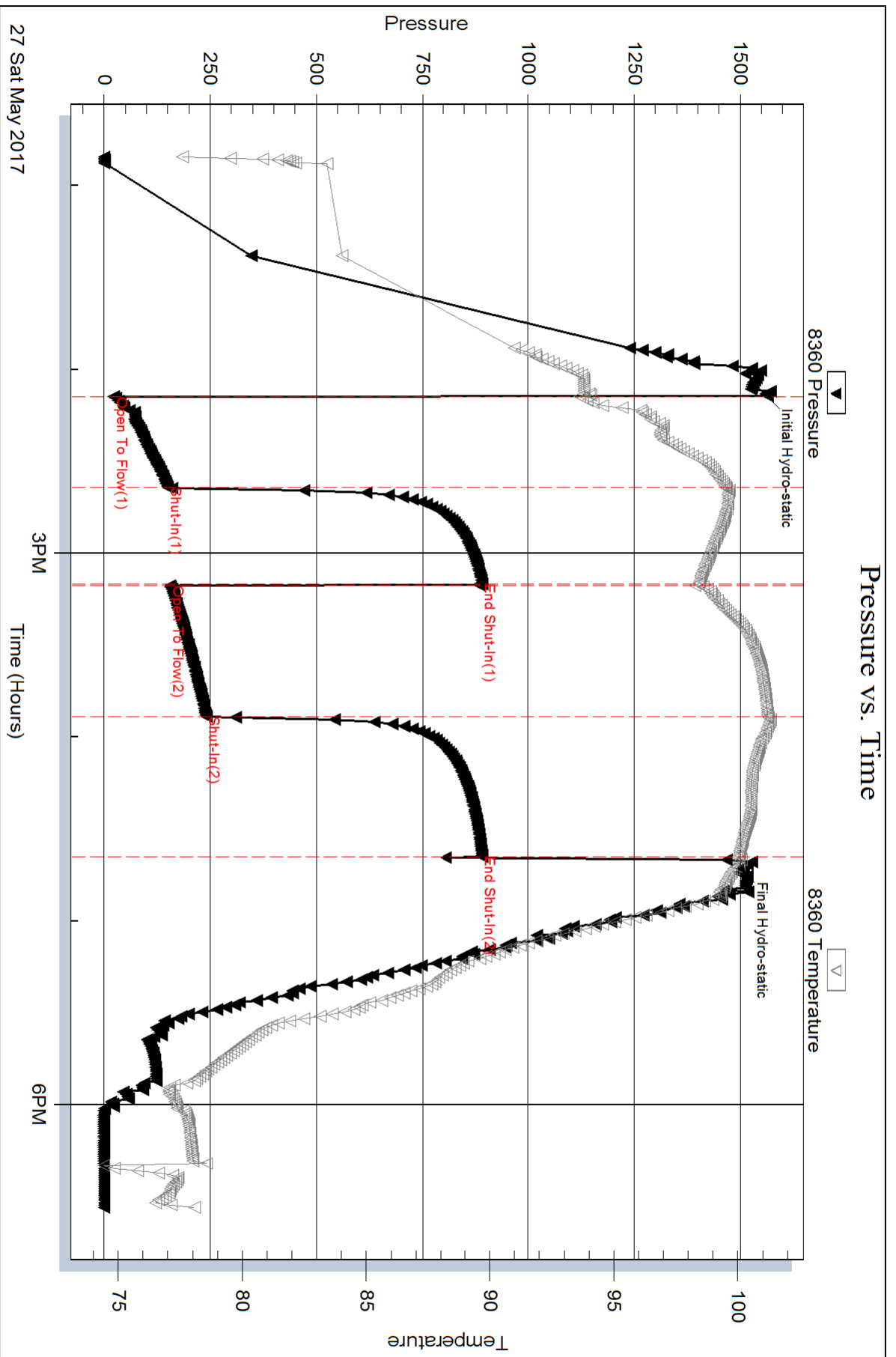
Mud Type: Gel Chem	Cushion Type:	Oil API: 43 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 68000 ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.52 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 6400.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
310.00	Water	2.277
45.00	SO&GCWM 5%G1%O25%W69%M	0.631
10.00	CO	0.140
0.00	190' GIP	0.000

Total Length: 365.00 ft Total Volume: 3.048 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: RW .11@70F

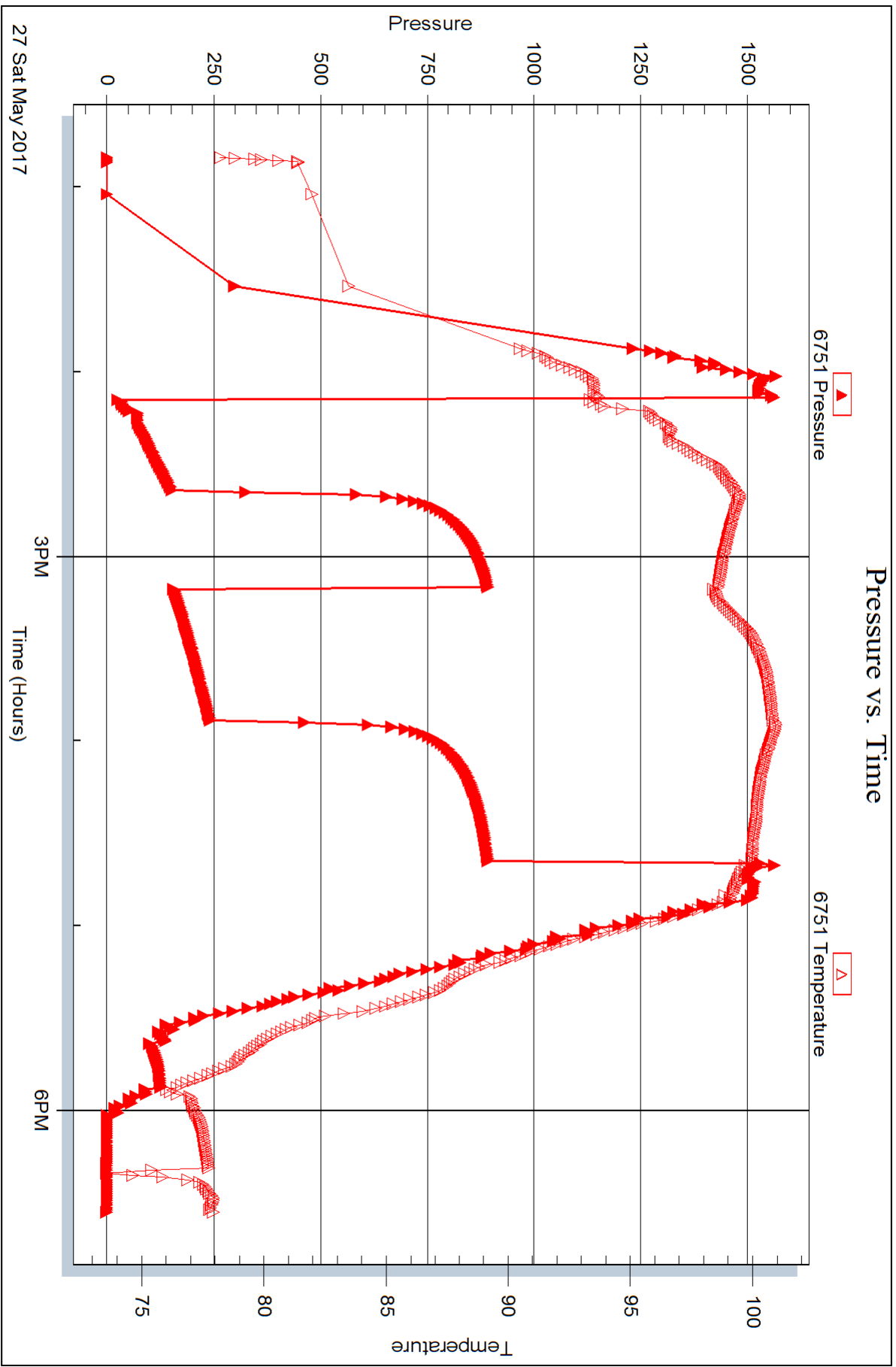


Serial #: 6751

Outside John O Farmer Inc

Radke #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

Radke #1

28-15s-14w Russell,KS

Start Date: 2017.05.28 @ 09:25:09

End Date: 2017.05.28 @ 14:00:48

Job Ticket #: 63958 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.05.30 @ 09:03:57



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell, KS
Radke #1
Job Ticket: 63958 **DST#: 4**
Test Start: 2017.05.28 @ 09:25:09

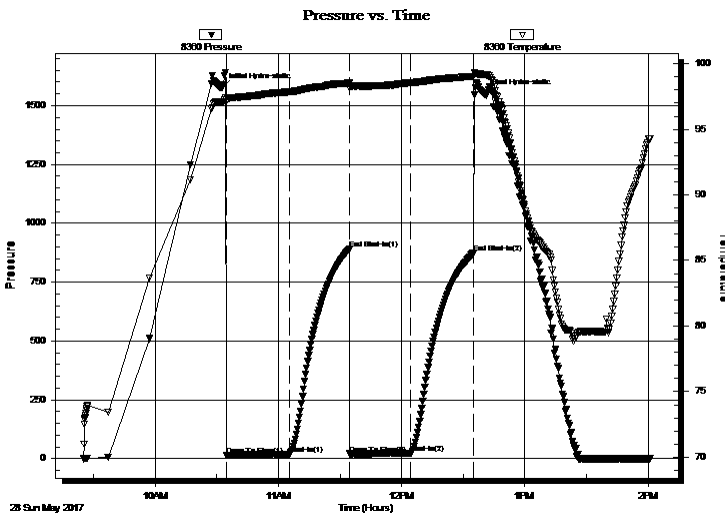
GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:34:49
Time Test Ended: 14:00:48
Interval: **3314.00 ft (KB) To 3372.00 ft (KB) (TVD)**
Total Depth: 3410.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 1877.00 ft (KB)
1869.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8360 Inside
Press@RunDepth: 24.00 psig @ 3316.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.05.28 End Date: 2017.05.28 Last Calib.: 2017.05.28
Start Time: 09:25:09 End Time: 14:00:48 Time On Btm: 2017.05.28 @ 10:32:49
Time Off Btm: 2017.05.28 @ 12:40:04

TEST COMMENT: 30-IFP-w k bl 1/4" to surface bl
30-ISIP-no bl
30-FFP-no bl
30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1576.36	97.12	Initial Hydro-static
2	14.81	97.13	Open To Flow (1)
33	19.68	97.86	Shut-In(1)
62	889.54	98.52	End Shut-In(1)
62	20.86	98.18	Open To Flow (2)
92	24.00	98.55	Shut-In(2)
123	874.55	99.04	End Shut-In(2)
128	1550.52	99.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud	0.15

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

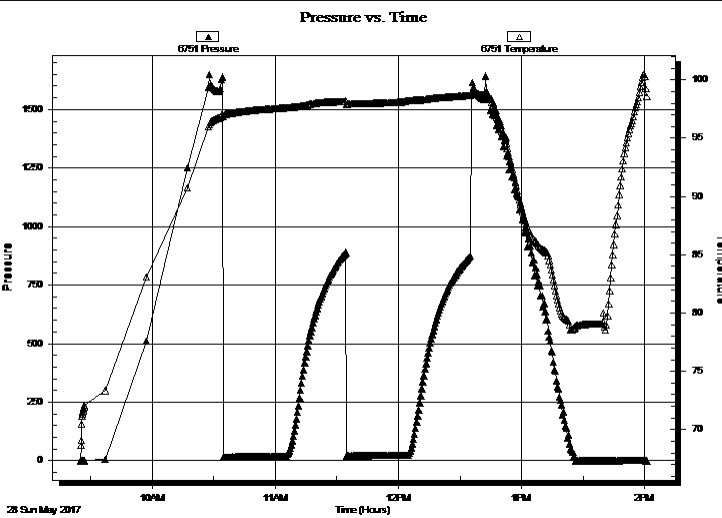
28-15s-14w Russell,KS
Radke #1
Job Ticket: 63958 **DST#: 4**
Test Start: 2017.05.28 @ 09:25:09

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Reset)
Time Tool Opened: 10:34:49 Tester: Ray Schwager
Time Test Ended: 14:00:48 Unit No: 77
Interval: 3314.00 ft (KB) To 3372.00 ft (KB) (TVD) Reference Elevations: 1877.00 ft (KB)
Total Depth: 3410.00 ft (KB) (TVD) 1869.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 6751 Outside
Press@RunDepth: psig @ 3316.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.05.28 End Date: 2017.05.28 Last Calib.: 2017.05.28
Start Time: 09:25:14 End Time: 14:00:53 Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-w k bl 1/4" to surface bl
30-ISIP-no bl
30-FFP-no bl
30-FSIP-no bl

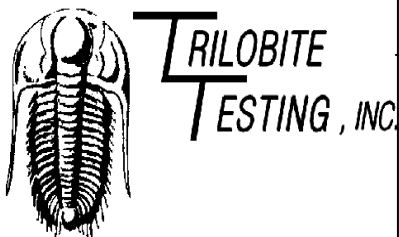


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
20.00	Mud	0.15

* Recovery from multiple tests

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



DRILL STEM TEST REPORT

John O Farmer Inc
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

28-15s-14w Russell,KS

Radke #1

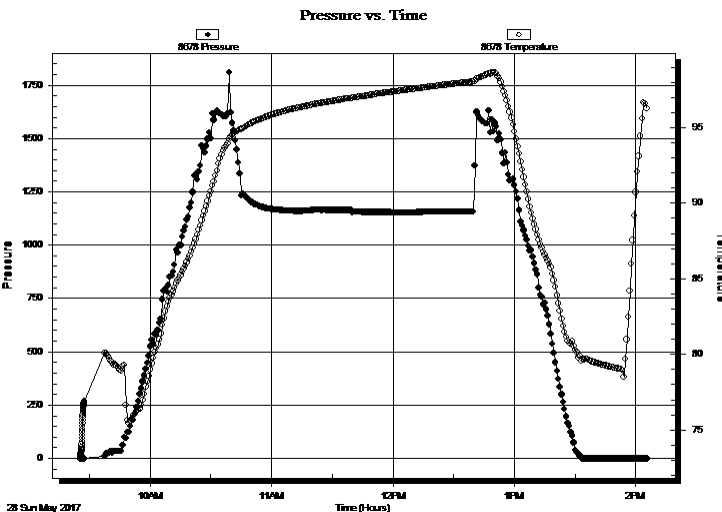
Job Ticket: 63958 **DST#: 4**
 Test Start: 2017.05.28 @ 09:25:09

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Reset)
 Time Tool Opened: 10:34:49 Tester: Ray Schwager
 Time Test Ended: 14:00:48 Unit No: 77
 Interval: **3314.00 ft (KB) To 3372.00 ft (KB) (TVD)** Reference Elevations: 1877.00 ft (KB)
 Total Depth: 3410.00 ft (KB) (TVD) 1869.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8678 Below (Straddle)
 Press@RunDepth: psig @ 3378.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.05.28 End Date: 2017.05.28 Last Calib.: 2017.05.28
 Start Time: 09:25:35 End Time: 14:05:35 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-w k bl 1/4" to surface bl
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl



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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud	0.15

* 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
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63958 **DST#: 4**
Test Start: 2017.05.28 @ 09:25:09

Tool Information

Drill Pipe:	Length: 2999.00 ft	Diameter: 3.80 inches	Volume: 42.07 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 44.35 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3314.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	3372.00 ft			
Interval between Packers:	58.00 ft			
Tool Length:	121.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3294.00	
Shut In Tool	5.00			3299.00	
Hydraulic tool	5.00			3304.00	
Packer	5.00			3309.00	21.00 Bottom Of Top Packer
Packer	5.00			3314.00	
Stubb	1.00			3315.00	
Perforations	1.00			3316.00	
Recorder	0.00	8360	Inside	3316.00	
Recorder	0.00	6751	Outside	3316.00	
Blank Spacing	33.00			3349.00	
Perforations	19.00			3368.00	
Blank Off Sub	1.00			3369.00	
Blank Spacing	3.00			3372.00	58.00 Tool Interval
Packer	5.00			3377.00	
Stubb	1.00			3378.00	
Recorder	0.00	8678	Below	3378.00	
Blank Spacing	33.00			3411.00	
Bullnose	3.00			3414.00	42.00 Bottom Packers & Anchor

Total Tool Length: 121.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63958 **DST#: 4**
Test Start: 2017.05.28 @ 09:25:09

Mud and Cushion Information

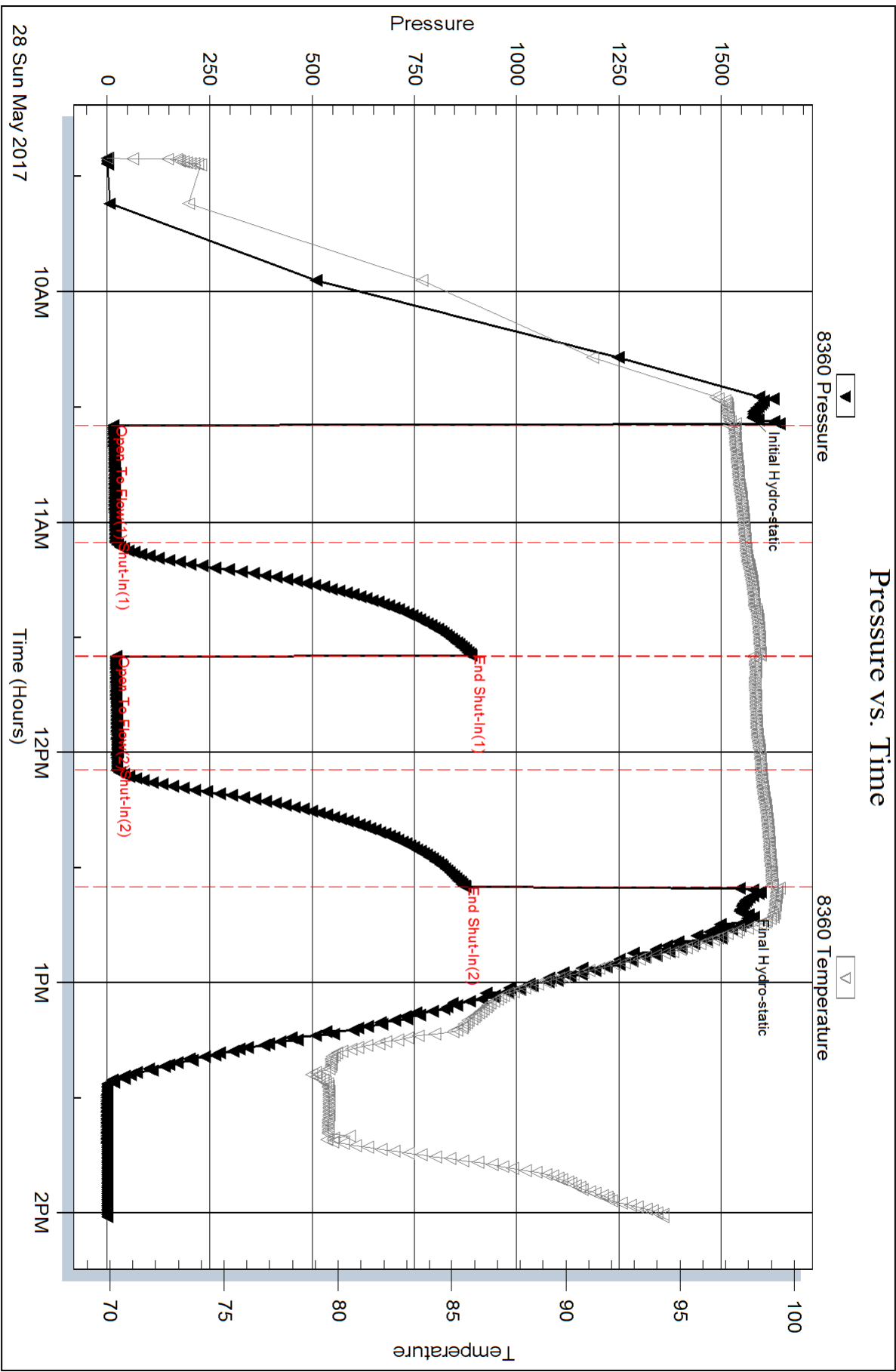
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.14 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 1.00 inches			

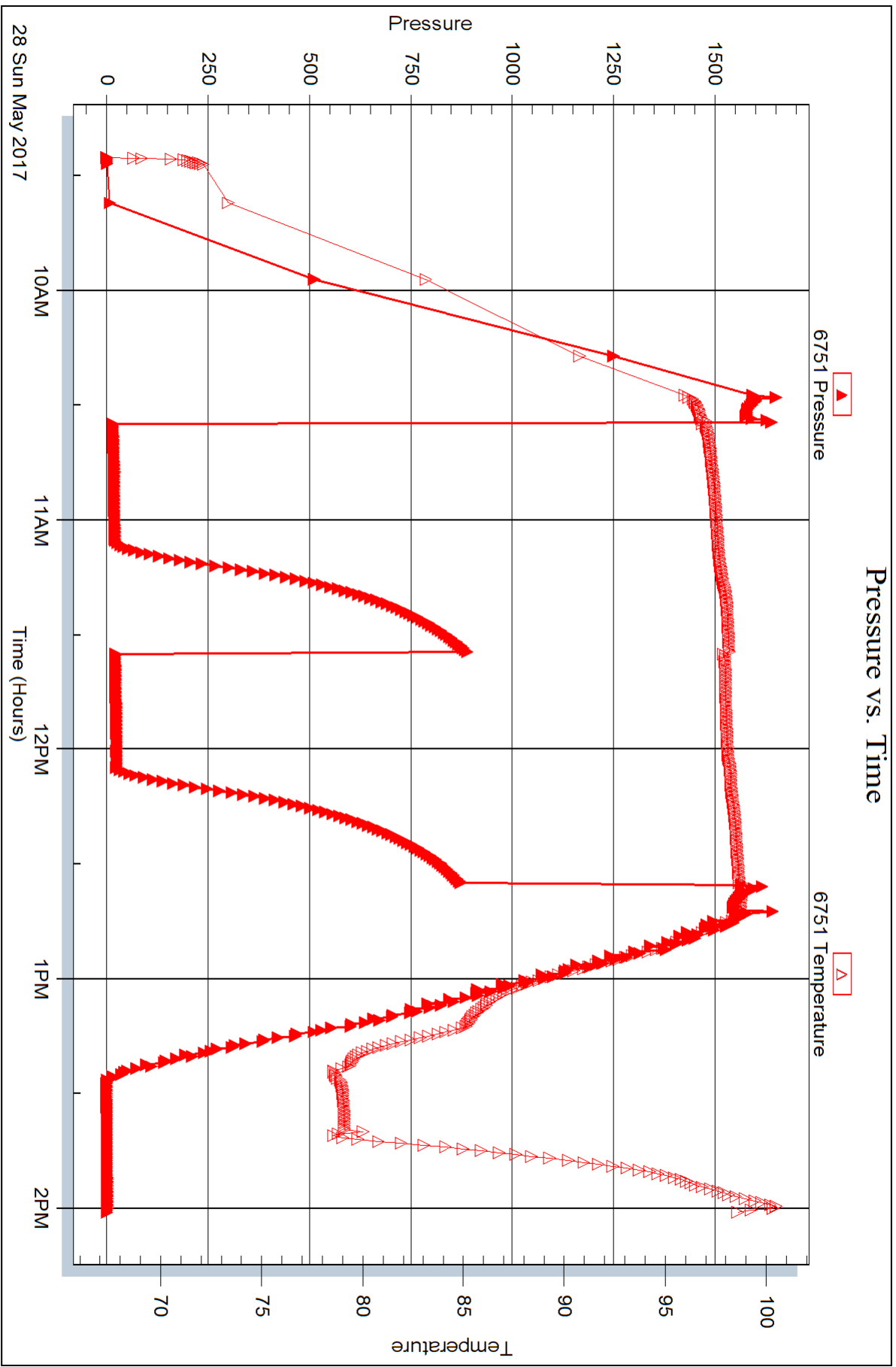
Recovery Information

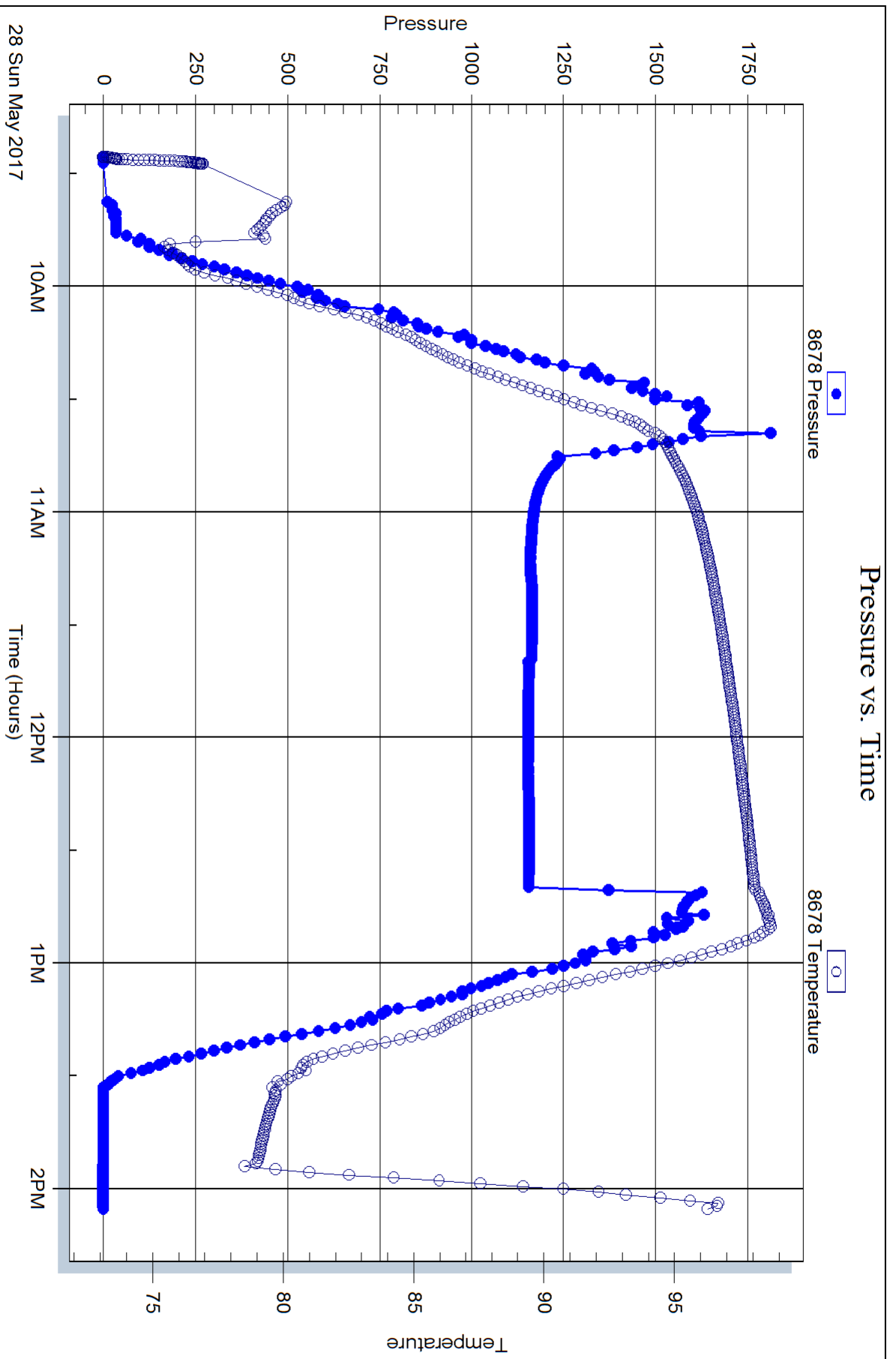
Recovery Table

Length ft	Description	Volume bbl
20.00	Mud	0.147

Total Length: 20.00 ft Total Volume: 0.147 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:









DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

Radke #1

28-15s-14w Russell,KS

Start Date: 2017.05.28 @ 14:25:31

End Date: 2017.05.28 @ 19:30:40

Job Ticket #: 63959 DST #: 5

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.05.30 @ 09:00:41



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

28-15s-14w Russell, KS
Radke #1
 Job Ticket: 63959 **DST#: 5**
 Test Start: 2017.05.28 @ 14:25:31

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:38:56
 Time Test Ended: 19:30:40
 Interval: **3314.00 ft (KB) To 3390.00 ft (KB) (TVD)**
 Total Depth: 3410.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 1877.00 ft (KB)
 1869.00 ft (CF)
 KB to GR/CF: 8.00 ft

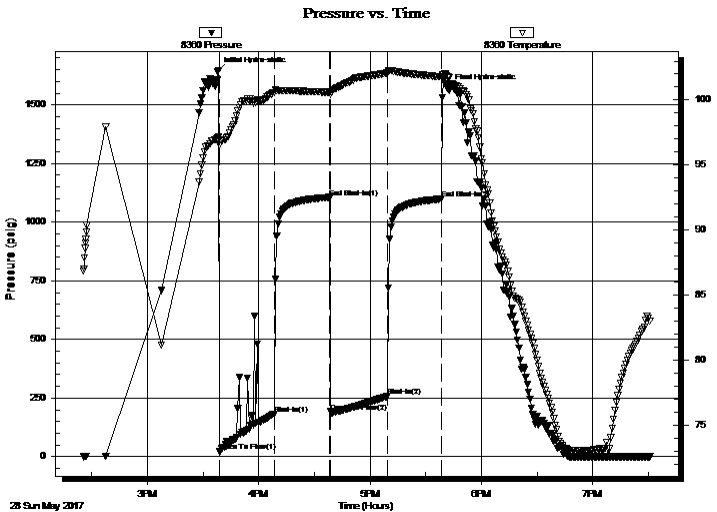
Serial #: 8360

Inside

Press@RunDepth: 256.65 psig @ 3318.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.05.28 End Date: 2017.05.28 Last Calib.: 2017.05.28
 Start Time: 14:25:31 End Time: 19:30:40 Time On Btm: 2017.05.28 @ 15:37:56
 Time Off Btm: 2017.05.28 @ 17:42:11

TEST COMMENT: 30-IFP-w k to BOB in 15 min
 30-ISIP-no bl
 30-FFP-w k to BOB in 20 min
 30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1643.22	97.08	Initial Hydro-static
1	21.09	96.59	Open To Flow (1)
31	181.90	100.61	Shut-In(1)
61	1106.00	100.61	End Shut-In(1)
61	191.56	100.46	Open To Flow (2)
92	256.65	102.08	Shut-In(2)
121	1098.77	101.81	End Shut-In(2)
125	1567.63	101.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
430.00	Water	3.96
150.00	MW 30%M70%W	2.10

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc
 PO Box 352
 Russell KS 67665-2635
 ATTN: Austin Klaus

28-15s-14w Russell, KS
Radke #1
 Job Ticket: 63959 **DST#: 5**
 Test Start: 2017.05.28 @ 14:25:31

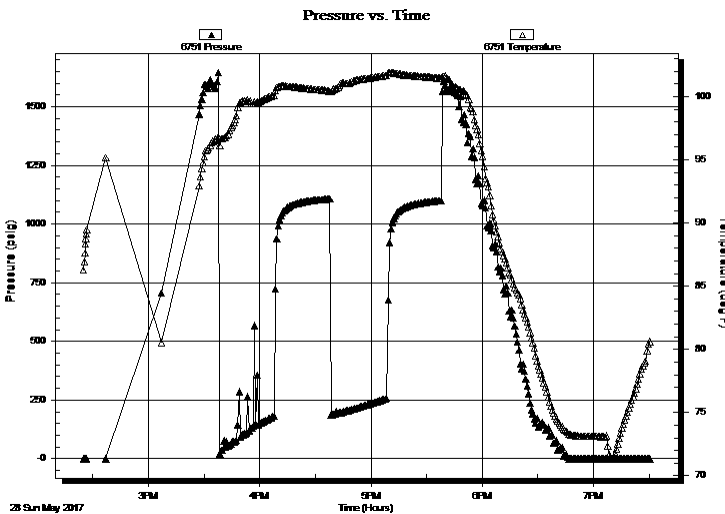
GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:38:56
 Time Test Ended: 19:30:40
Interval: 3314.00 ft (KB) To 3390.00 ft (KB) (TVD)
 Total Depth: 3410.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 1877.00 ft (KB)
 1869.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6751 Outside
 Press@RunDepth: psig @ 3318.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.05.28 End Date: 2017.05.28 Last Calib.: 2017.05.28
 Start Time: 14:25:05 End Time: 19:30:14 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-w k to BOB in 15 min
 30-ISIP-no bl
 30-FFP-w k to BOB in 20 min
 30-FSIP-no bl

PRESSURE SUMMARY



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

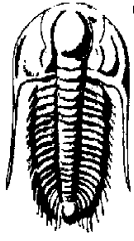
Recovery

Length (ft)	Description	Volume (bbl)
430.00	Water	3.96
150.00	MW 30%M70%W	2.10

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer Inc
PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

28-15s-14w Russell,KS

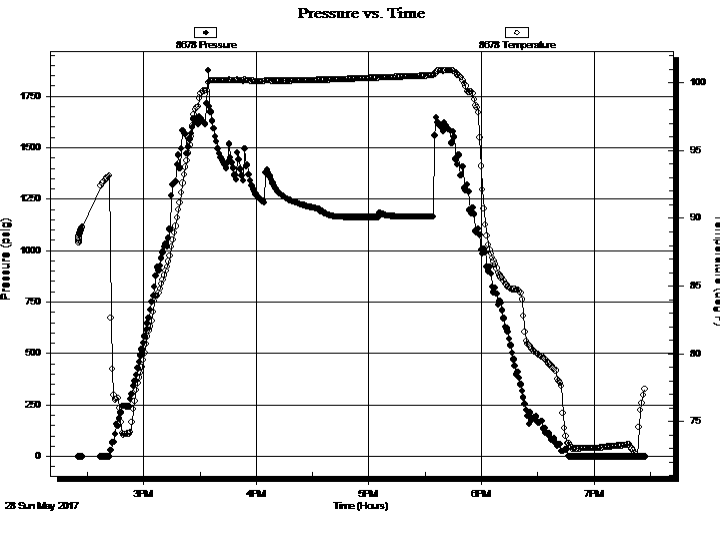
Radke #1
Job Ticket: 63959 **DST#: 5**
Test Start: 2017.05.28 @ 14:25:31

GENERAL INFORMATION:

Formation:	Arbuckle		Test Type:	Conventional Bottom Hole (Reset)
Deviated:	No Whipstock:	ft (KB)	Tester:	Ray Schwager
Time Tool Opened:	15:38:56		Unit No:	77
Time Test Ended:	19:30:40		Reference Elevations:	1877.00 ft (KB) 1869.00 ft (CF)
Interval:	3314.00 ft (KB) To 3390.00 ft (KB) (TVD)		KB to GR/CF:	8.00 ft
Total Depth:	3410.00 ft (KB) (TVD)			
Hole Diameter:	7.88 inches	Hole Condition: Fair		

Serial #: 8678	Below (Straddle)		Capacity:	8000.00 psig
Press@RunDepth:	psig @ 3396.00 ft (KB)		Last Calib.:	2017.05.28
Start Date:	2017.05.28	End Date:	2017.05.28	
Start Time:	14:25:22	End Time:	19:26:52	Time On Btm: Time Off Btm:

TEST COMMENT: 30-IFP-w k to BOB in 15 min
30-ISIP-no bl
30-FFP-w k to BOB in 20 min
30-FSIP-no bl



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
430.00	Water	3.96
150.00	MW 30%M70%W	2.10

* 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
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63959 **DST#: 5**
Test Start: 2017.05.28 @ 14:25:31

Tool Information

Drill Pipe:	Length: 2999.00 ft	Diameter: 3.80 inches	Volume: 42.07 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 44.35 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3314.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	100.00 ft			
Tool Length:	122.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3293.00	
Shut In Tool	5.00			3298.00	
Hydraulic tool	5.00			3303.00	
Packer	6.00			3309.00	22.00 Bottom Of Top Packer
Packer	5.00			3314.00	
Stubb	1.00			3315.00	
Perforations	3.00			3318.00	
Recorder	0.00	8360	Inside	3318.00	
Recorder	0.00	6751	Outside	3318.00	
Blank Spacing	63.00			3381.00	
Perforations	5.00			3386.00	
Blank Off Sub	1.00			3387.00	
Blank Spacing	3.00			3390.00	100.00 Tool Interval
Packer	5.00			3395.00	
Stubb	1.00			3396.00	
Recorder	0.00	8678	Below	3396.00	
Perforations	15.00			3411.00	
Bullnose	3.00			3414.00	1000121.00 Bottom Packers & Anchor

Total Tool Length: 122.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc
PO Box 352
Russell KS 67665-2635
ATTN: Austin Klaus

28-15s-14w Russell,KS
Radke #1
Job Ticket: 63959 **DST#: 5**
Test Start: 2017.05.28 @ 14:25:31

Mud and Cushion Information

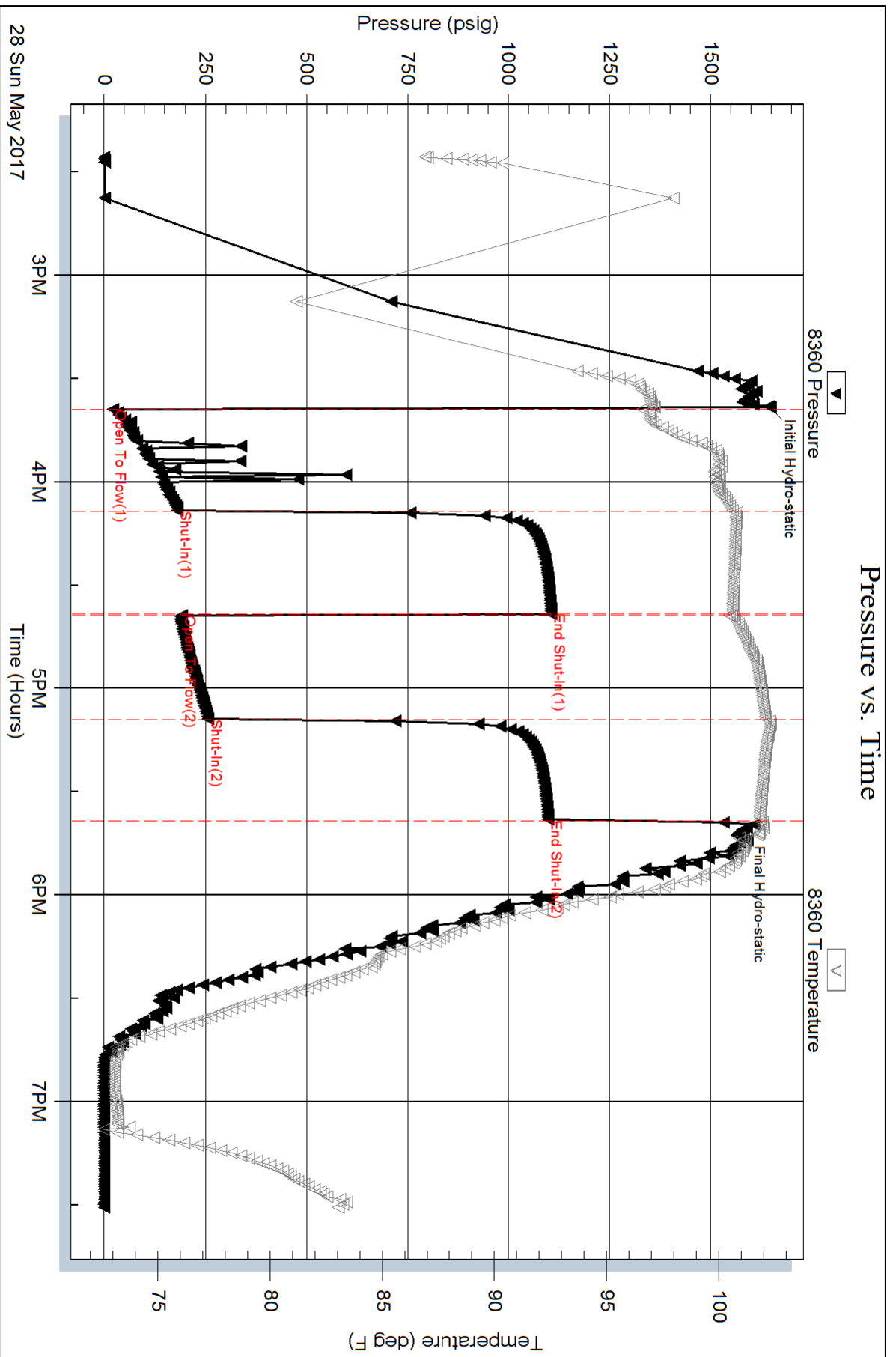
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	34000 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.16 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
430.00	Water	3.961
150.00	MW 30%M70%W	2.104

Total Length: 580.00 ft Total Volume: 6.065 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: RW .19 @ 75F

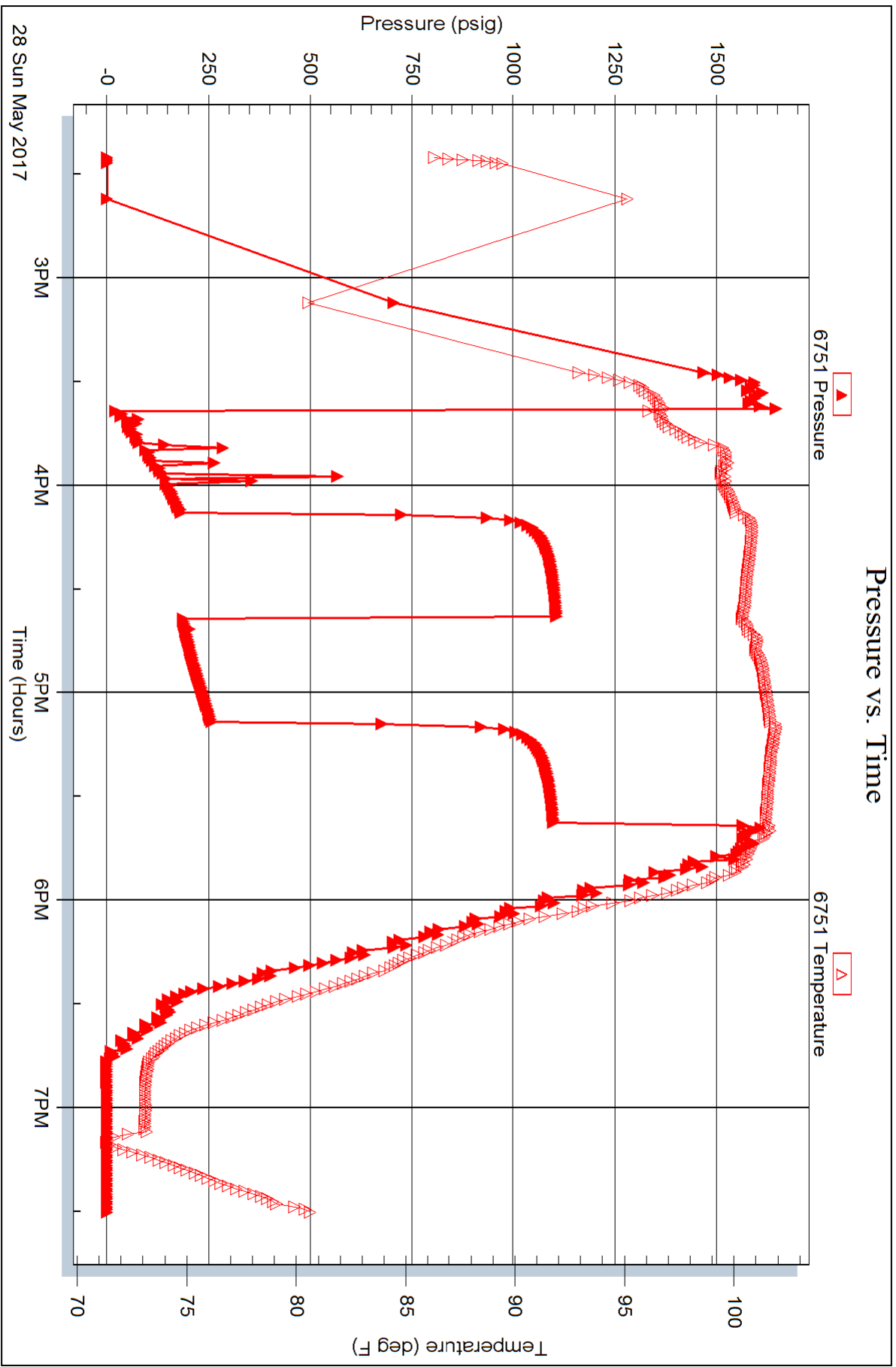


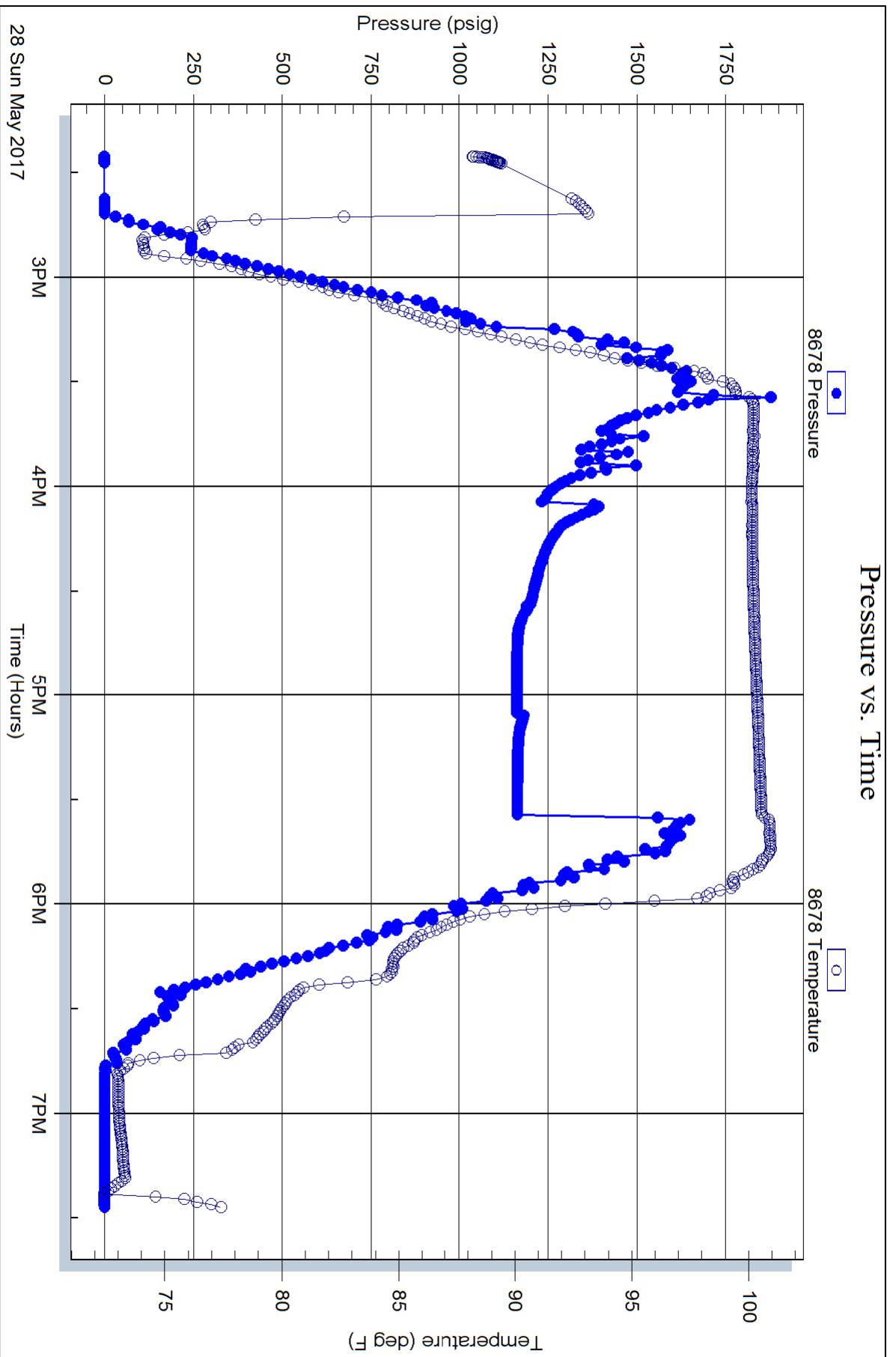
Serial #: 6751

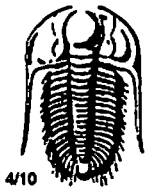
Outside John O Farmer Inc

Radke #1

DST Test Number: 5







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63955

Well Name & No. Radke #1 Test No. 1 Date 5-26-17
 Company John O. Farmer Inc Elevation 1877 KB 1869 GL
 Address 370 W. WICHITA AVE PO. BOX 352 RUSSELL, KS 67665-2635
 Co. Rep / Geo. AUSTIN KLAUS Rig Discovery rig 2
 Location: Sec. 28 Twp. 15^s Rge. 14^w Co. Russell State Ks

Interval Tested 3058-3132 Zone Tested LKC A-C
 Anchor Length 74 Drill Pipe Run 2752 Mud Wt. 8.8
 Top Packer Depth 3053 Drill Collars Run - Vis 51
 Bottom Packer Depth 3058 Wt. Pipe Run 310 WL 7.6
 Total Depth 3132 Chlorides 2900 ppm System LCM 2#

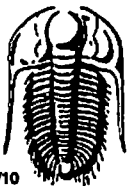
Blow Description IFP - Weak Blow thru-out 1/2" to 1 1/2" Blow
ISIP - NO Blow
FFP - NO Blow
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Med w/show flow</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 20 BHT _____ Gravity - API RW - @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1463 Test 1050 T-On Location 0300
 (B) First Initial Flow 26 Jars _____ T-Started 0420
 (C) First Final Flow 30 Safety Joint _____ T-Open 0615
 (D) Initial Shut-In 650 Circ Sub _____ T-Pulled 0815
 (E) Second Initial Flow 31 Hourly Standby _____ T-Out 0933
 (F) Second Final Flow 35 Mileage 7.5 RT 56.25 Comments _____
 (G) Final Shut-In 627 Sampler _____
 (H) Final Hydrostatic 1437 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1106.25
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1106.25

Approved By _____ Our Representative Ray Schwager *Ray*
 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. 63956

Well Name & No. Radke #1 Test No. 2 Date 5-26-17
 Company John O Farmer Inc Elevation 1877 KB 1869 GL
 Address 370 W. WICHITA AVE PO Box 352 Russell, Ko 67665-2635
 Co. Rep / Geo. AUSTIN KLAUS Rig Discovery rig 2
 Location: Sec. 28 Twp. 15^s Rge. 14^w Co. Russell State Ko

Interval Tested 3130-3200 Zone Tested LKC 0-F
 Anchor Length 70 Drill Pipe Run 2815 Mud Wt. 8.9
 Top Packer Depth 3125 Drill Collars Run — Vis 50
 Bottom Packer Depth 3130 Wt. Pipe Run 310 WL 9.2
 Total Depth 3200 Chlorides 4400 ppm System LCM 1#

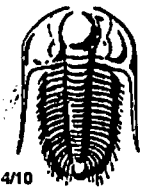
Blow Description JFP - SURFACE Blow died in 20 min
ISTP - NO Blow
FFP - NO Blow
FSTP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 96 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 1500 Test 1050 T-On Location 1850
 (B) First Initial Flow 15 Jars — T-Started 1945
 (C) First Final Flow 14 Safety Joint — T-Open 2115
 (D) Initial Shut-In 113 Circ Sub — T-Pulled 2315
 (E) Second Initial Flow 14 Hourly Standby — T-Out 0040
 (F) Second Final Flow 15 Mileage 56.25 Comments —
 (G) Final Shut-In 77 Sampler —
 (H) Final Hydrostatic 1464 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1106.25
 Accessibility — MP/DST Disc't —
 Sub Total 1106.25

Approved By — Our Representative RAY SCHWAGN *Thank you*
 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. 63957

Well Name & No. Radke #1 Test No. 3 Date 5-27-17
 Company John O. Farmer Inc Elevation 1877 KB 1869 GL
 Address 370 W. WICHITA AVE PO BOX 352 RUSSELL, KS 67665-2635
 Co. Rep / Geo. AUSTIN KLAUS Rig Discovery rig 2
 Location: Sec. 28 Twp. 15^s Rge. 14^w Co. Russell State Ks

Interval Tested 3228-3296 Zone Tested LKC H-J
 Anchor Length 68 Drill Pipe Run 2907 Mud Wt. 9
 Top Packer Depth 3223 Drill Collars Run - Vis 47
 Bottom Packer Depth 3228 Wt. Pipe Run 310 WL 9.6
 Total Depth 3296 Chlorides 6400 ppm System LCM 1/2#

Blow Description IFP - WEAK TO BOBIN 15min
T SIP - SURFACE BLOW BACK
FFP - WEAK TO BOBIN 25min
FSIP - 2" BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>190</u>	<u>GIP</u>				
<u>10</u>	<u>CO</u>				
<u>45</u>	<u>SOFGCWM</u>	<u>5</u>	<u>1</u>	<u>25</u>	<u>69</u>
<u>310</u>	<u>WATER</u>				
Rec	Feet of	%gas	%oil	%water	%mud

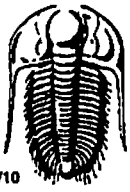
Rec Total 365 BHT 100 Gravity 43 API RW .11 @ 70 °F Chlorides 68000 ppm

(A) Initial Hydrostatic 1560 Test 1050 T-On Location 1220
 (B) First Initial Flow 22 Jars T-Started 1250
 (C) First Final Flow 150 Safety Joint T-Open 1405
 (D) Initial Shut-In 891 Circ Sub T-Pulled 1635
 (E) Second Initial Flow 155 Hourly Standby T-Out 1833
 (F) Second Final Flow 240 Mileage 56.25 Comments
 (G) Final Shut-In 891 Sampler
 (H) Final Hydrostatic 1501 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer

Initial Open 30 Extra Packer Extra Copies
 Initial Shut-In 30 Extra Recorder Sub Total 0
 Final Flow 45 Day Standby Total 1106.25
 Final Shut-In 45 Accessibility MP/DST Disc't
 Sub Total 1106.25

Approved By Our Representative RAY SCHWAGN *Thank you.*

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. 63958

Well Name & No. Radke #1 Test No. 4 Date 5-28-17
 Company John D. Farmer Inc Elevation 1877 KB 1889 GL
 Address 370 W. Wichita Ave P.O. Box 352 Russell KS 67665-2635
 Co. Rep / Geo. Austin Klaus Rig Discovery rig 2
 Location: Sec. 28 Twp. 15^s Rge. 14^w Co. Russell State K

Interval Tested 3314-3372 Zone Tested Arbuckle
 Anchor Length 58 Drill Pipe Run 2999 Mud Wt. 9.1
 Top Packer Depth 3314-3309 Drill Collars Run - Vis 60
 Bottom Packer Depth 3372 Wt. Pipe Run 310 WL 9.2
 Total Depth 3410 Chlorides 8000 ppm System LCM 2#

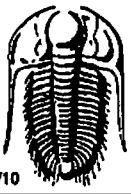
Blow Description IFP - Weak Blow 1/4" To surface Blow
ISIP - NO Blow
FFP - NO Blow
FSTIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud</u>				

Rec Total 20 BHT 99 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1576 Test 1050 T-On Location 0850
 (B) First Initial Flow 14 Jars - T-Started 0925
 (C) First Final Flow 19 Safety Joint - T-Open 1035
 (D) Initial Shut-In 889 Circ Sub - T-Pulled 1235
 (E) Second Initial Flow 20 Hourly Standby - T-Out 1400
 (F) Second Final Flow 24 Mileage 56.25 Comments -
 (G) Final Shut-In 874 Sampler -
 (H) Final Hydrostatic 1550 Straddle 600 Ruined Shale Packer -
 Shale Packer - Ruined Packer -
 Extra Packer - Extra Copies -
 Extra Recorder - Sub Total 0
 Day Standby - Total 1706.25
 Accessibility - MP/DST Disc't -
 Sub Total 1706.25

Approved By _____ Our Representative Ray Schwager *Thank you*
 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. 63959

Well Name & No. Radke #1 Test No. 5 Date 5-28-17
 Company John O Farmce Inc Elevation 1877 KB 1869 GL
 Address 370 W. Wichita Ave PO Box Russell Ks 67665-2635
 Co. Rep / Geo. Austin Klaus Rig Discovery rig 2
 Location: Sec. 28 Twp. 15^s Rge. 14^w Co. Russell State Ks

Interval Tested 3314-3390 Zone Tested Arbuckle
 Anchor Length 76 Drill Pipe Run 2999 Mud Wt. 9.1
 Top Packer Depth 3314-3309 Drill Collars Run — Vis 60
 Bottom Packer Depth 3390 Wt. Pipe Run 310 WL 9.2
 Total Depth 3410 Chlorides 8000 ppm System LCM 2#
 Blow Description IFP - Weak to BOB in 15 min
ISTP - NO Blow
FFP - Weak to BOB in 20 min
FSTP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>MW</u>		<u>70</u>	<u>30</u>	
<u>430</u>	<u>WATER</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 580 BHT Gravity — API RW .19 @ 75 °F Chlorides 34000 ppm

(A) Initial Hydrostatic <u>1643</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1400</u>
(B) First Initial Flow <u>21</u>	<input type="checkbox"/> Jars	T-Started <u>1425</u>
(C) First Final Flow <u>181</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1535</u>
(D) Initial Shut-In <u>1106</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1735</u>
(E) Second Initial Flow <u>191</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1930</u>
(F) Second Final Flow <u>256</u>	<input checked="" type="checkbox"/> Mileage <u>N/C</u>	Comments
(G) Final Shut-In <u>1098</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1567</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1650</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1650</u>	

Approved By _____ Our Representative RAY SCHWAGN *Thank you*
 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.



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: Radke #1
Location: Russell County
License Number: API #15-167-24,062-0000
Spud Date: 5/19/2017
Surface Coordinates: Section 28, Township 15 South, Range 14 West
330' FSL & 1600' FWL
Bottom Hole Coordinates: Vertical well with minimal deviation, same as above
Ground Elevation (ft): 1,869
Logged Interval (ft): 2,700 To: 3,400
Formation: LKC & Arbuckle
Type of Drilling Fluid: Chemical (Mud Co.)

Region: Kansas
Drilling Completed: 5/28/2017
K.B. Elevation (ft): 1,877
Total Depth (ft): 3,400

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

OPERATOR

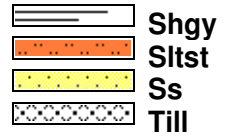
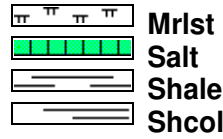
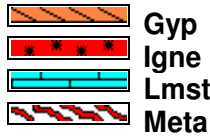
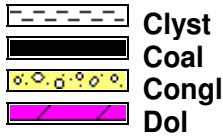
Company: John O. Farmer, Inc.
Address: 370 W. Wichita Ave.
Russell, KS 67665

Comments

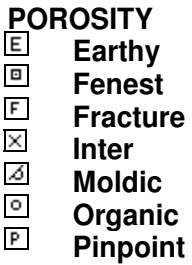
The Radke #1 well was drilled by Discovery Drilling Rig #2 (Tool Pusher: Terry Wickham).

The location for the Radke #1 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 2,750'-3,400'. Three bottom-hole drill stem tests were conducted in the Lansing, all yielding negative results. Structurally, the Radke #1 ran 9' low at the Lansing and 20' low at the Arbuckle, to the Becker #2 (480' FSL & 990' FEL, Sec 29-15S-14W). Upon completion of the logging operation two straddle tests were conducted over the top 20' and top 40' of the Arbuckle, both yielding negative results. Upon completion of the drill stem tests, the decision was made to plug and abandon the Radke #1 well on 5/30/17.

ROCK TYPES



OTHER SYMBOLS



Vuggy

SORTING
 Well
 Moderate
 Poor

ROUNDING
 Rounded
 Subrnd
 Subang
 Angular

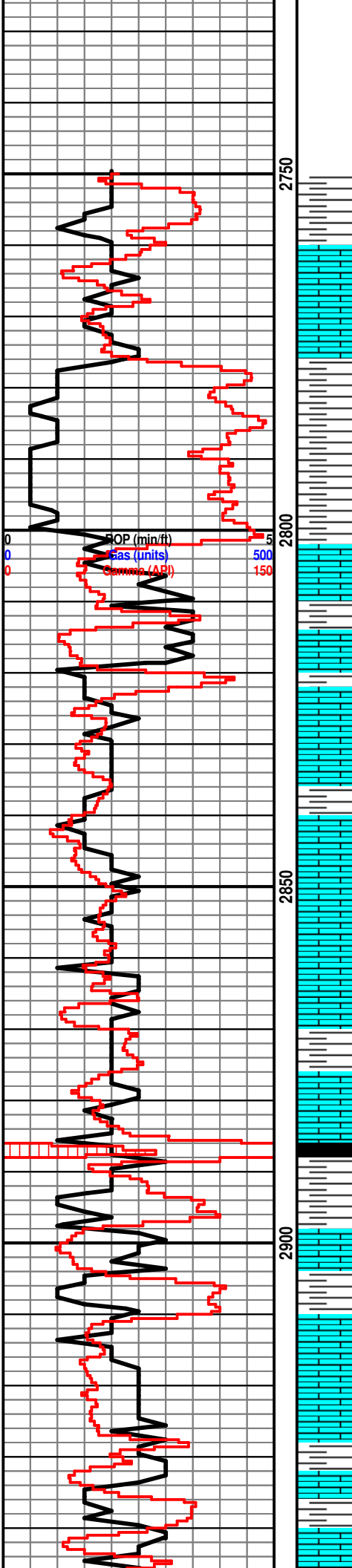
OIL SHOW
 Even

Spotted
 Ques
 Dead

INTERVAL
 Core
 Dst

EVENT
 Rft
 Sidewall

Curve Track 1		Depth	Litholog	Geological Descriptions	DST/Mud/Survey																				
ROP (min/ft)	Gas (units)					Gamma (API)																			
0	0	0																							
500	500	150																							
<p>Daily Progress</p> <p>5/22/17 Spud @ 4:15am</p> <p>5/23/17 601', Drilling</p> <p>5/24/17 1,928', Drilling</p> <p>5/25/17 2,748', Drilling</p> <p>5/26/17 3,132', DST #1</p> <p>5/27/17 3,261', CFS</p> <p>5/28/17 3,410', Logging</p> <p>5/29/17 3,410', Completed</p>			<p>The open-hole logging was performed by Mr. Casey Patterson with Gemini Wireline, LLC (Hays, KS). Logs included: Compensated Density/Compensated Neutron, Dual Induction, and Micro Resistivity.</p> <p>Formation tops and datums from the open-hole logs include the following:</p> <table border="1"> <tr> <td>Anhydrite</td> <td>882</td> <td>995</td> </tr> <tr> <td>Topeka</td> <td>2802</td> <td>-925</td> </tr> <tr> <td>Heebner</td> <td>3034</td> <td>-1157</td> </tr> <tr> <td>Lansing</td> <td>3098</td> <td>-1221</td> </tr> <tr> <td>B/KC</td> <td>3333</td> <td>-1456</td> </tr> <tr> <td>Arbuckle</td> <td>3351</td> <td>-1474</td> </tr> <tr> <td>TD</td> <td>3410</td> <td>-1533</td> </tr> </table>	Anhydrite	882	995	Topeka	2802	-925	Heebner	3034	-1157	Lansing	3098	-1221	B/KC	3333	-1456	Arbuckle	3351	-1474	TD	3410	-1533	<p>Tester: Ray Schwager</p> <p>Mud Engineer: Rick Hughes</p>
Anhydrite	882	995																							
Topeka	2802	-925																							
Heebner	3034	-1157																							
Lansing	3098	-1221																							
B/KC	3333	-1456																							
Arbuckle	3351	-1474																							
TD	3410	-1533																							



Ls: tan-gry, fn-sub xln, DNS

Ls: ala

Sh: lt-drk gry

Sh: ala

Topeka 2800 (-923)

Ls: lt gry, fn-sub xln, mostly DNS

Ls: ala

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

Sh: lt-drk gry

Ls: tan-gry, fn-sub xln, mostly DNS

Ls: ala

Ls: tan-lt gry, fn-sub xln mostly DNS

Sh: lt-drk gry, few pcs black

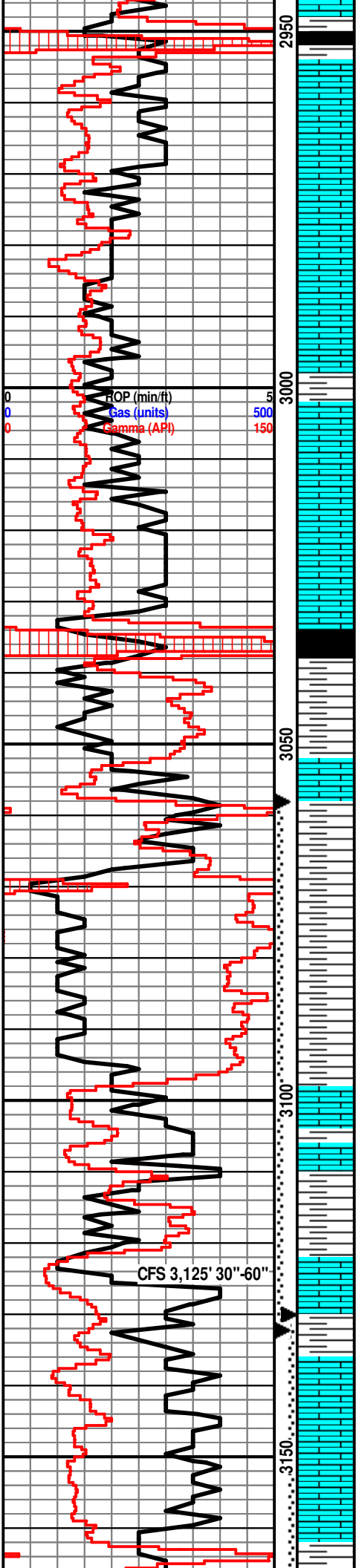
Sh: lt gry-drk gry

Ls: tan-gry, fn-md xln, scat int xln porosity, sl oil stn, NSFO, scat pyrite

Ls: tan-gry, fn-sub xln, mostly DNS

Sh: lt-drk gry

Ls: tan-gry, fn-sub xln, mostly DNS, scat fossil



Sh: drk gr-blk

Ls: tan-lt gry, fn xln, mostly DNS, scat chalk

Ls: ala

Ls: off wh-tan, fn xln, poor int xln porosity, scat fossil

Ls: off wh-tan, fn xln, scat fair int xln porosity, scat oil stn, NSFO

Sh: lt gry

Ls: tan-lt gry, fn xln, mostly DNS, NSFO

Ls: ala

Heebner 3031 (-1154)

Sh: drk gry-blk, carb, fissile

Sh: lt gry-drk gry

Toronto 3049 (-1172)

Ls: off wh-tan, fn xln, poor int xln porosity, scat oil stn, VSSFO, sl odor, scat chalk

Sh: lt gry-drk gry, soft

Sh: ala

Sh: lt gry-drk gry, brn

Lansing 3093 (-1216)

Ls: off wh-tan, fn-md xln, poor int xln porosity, scat chalk, NSFO

Sh: lt gry-drk gry

CFS 3,125' 30"-60"

Ls: off wh-tan, fn xln, poor int xln porosity, scat oil stn, VSSFO, sl odor

Sh: drk gry

Ls: off wh-tan, fn xln, ool, poor oom porosity, scat oil stn, NSFO, scat chalk, scat pyrite

Ls: ala

Sh: lt-drk gry

DST #1 3,058-3,132' (LKC A-C)

30"-30"-30"-30"

IF: weak blow, built to 1.5"

FF: no blow

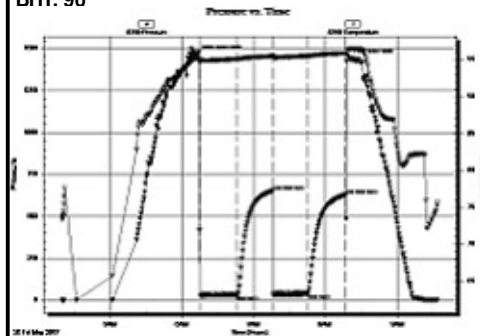
Rec: 20' Mud with oil show

FP: 26-30, 31-35#

SIP: 651-627#

HP: 1,463-1,437#

BHT: 96



DST #2 3,130-3,200' (LKC D-F)

30"-30"-30"-30"

IF: weak blow, died in 20 minutes

FF: no blow

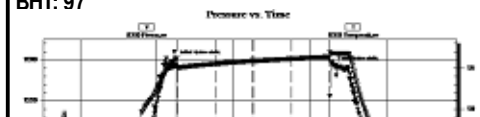
Rec: 10' Mud

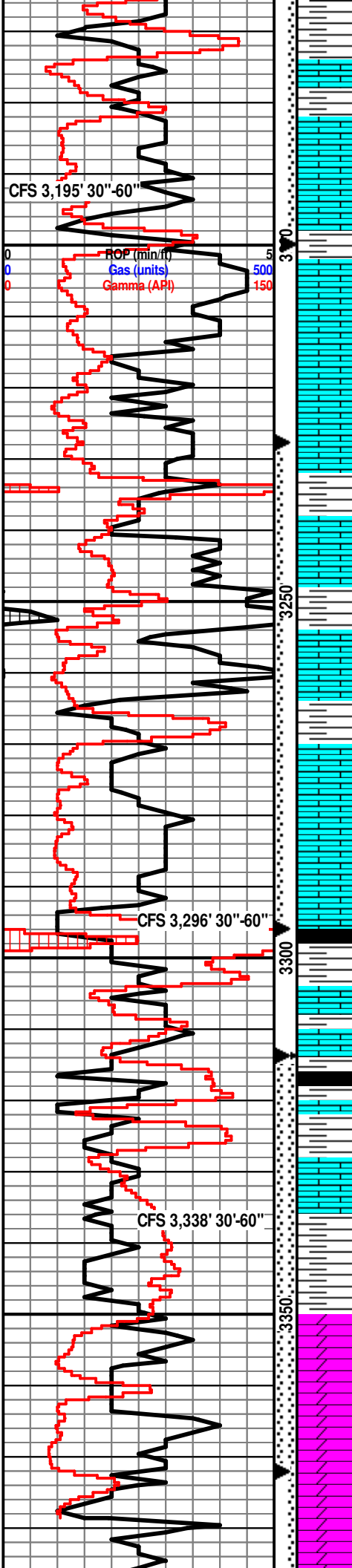
FP: 15-14, 15-15#

SIP: 114-78#

HP: 1,500-1,464#

BHT: 97





Ls: off wh-tan, fn xln, ool, poor int oom porosity, scat oil stn, VSSFO, sl odor

Sh: lt gry-drk gry

Ls: off wh-tan, fn xln, ool, scat int xln porosity, poor int oom porosity, scat oil stn, SSFO, sl odor

Sh: lt-drk gry

Ls: off wh-tan, fn xln, poor int xln porosity, NSFO

Ls: off wh-tan, fn xln, ool scat int xln & ool porosity, scat chalk, NSFO

Sh: lt-drk gry

Ls: lt gry, fn-sub xln, mostly DNS, NSFO, scat chalk

Sh: lt gry

Ls: off wh-tan, fn xln, foss, poor-fair int fossil porosity, scat oil stn, SSFO, sl odor

Sh: drk gry-blk

Ls: off wh-tan, fn xln, ool, poor-fair ool porosity, scat int xln porosity, fair oil stn, SSFO, sl odor

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

Sh: drk gry-blk

Ls: ala

Sh: drk gry-blk

B/KC 3323 (-1446)

Sh: lt gry-drk gry-brn

Ls: tan-gry, fn-sub xln, mostly DNS, chert-off wh, NSFO

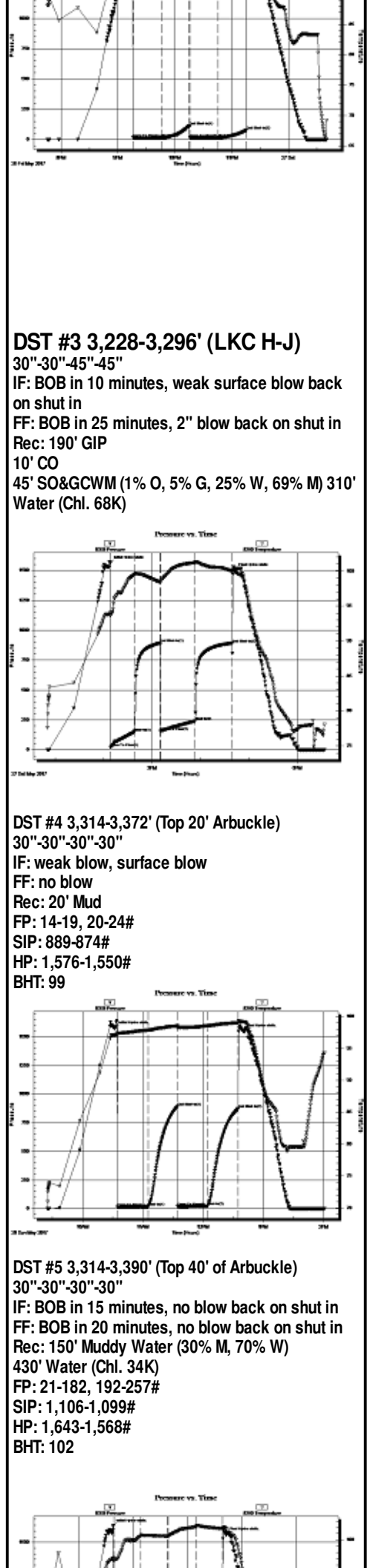
CFS 3,338' 30"-60"

Arbuckle 3348 (-1471)

Dolo: off wh-tan, fn-md xln, fair int xln porosity, scat oil stn, VSSFO, sl odor, scat chalk

Dolo: off wh-tan, fn-md xln, poor-fair int xln porosity, fair oil stn, SSFO, sl odor

Dolo: off wh-tan, fn-md xln, fair int xln porosity, lt brn oil stn, VSSFO, sl odor



DST #3 3,228-3,296' (LKC H-J)

30"-30"-45"-45"

IF: BOB in 10 minutes, weak surface blow back on shut in

FF: BOB in 25 minutes, 2" blow back on shut in

Rec: 190' GIP

10' CO

45' SO&GCWM (1% O, 5% G, 25% W, 69% M) 310' Water (Chl. 68K)

DST #4 3,314-3,372' (Top 20' Arbuckle)

30"-30"-30"-30"

IF: weak blow, surface blow

FF: no blow

Rec: 20' Mud

FP: 14-19, 20-24#

SIP: 889-874#

HP: 1,576-1,550#

BHT: 99

DST #5 3,314-3,390' (Top 40' of Arbuckle)

30"-30"-30"-30"

IF: BOB in 15 minutes, no blow back on shut in

FF: BOB in 20 minutes, no blow back on shut in

Rec: 150' Muddy Water (30% M, 70% W)

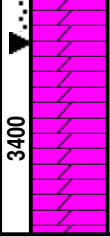
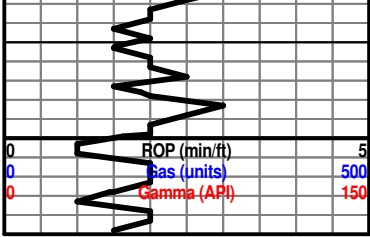
430' Water (Chl. 34K)

FP: 21-182, 192-257#

SIP: 1,106-1,099#

HP: 1,643-1,568#

BHT: 102



Dolo: off wh-tan, fn-md xln, fair int xln porosity,
scat oil str, NSFO, scat chalk

Dolo: ala

