

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	CARENDER 1
Doc ID	1516743

Tops

Name	Top	Datum
Anhydrite	1753'	(+435)
Topeka	3160'	(-972)
Heebner	3369'	(-1181)
Toronto	3390'	(-1202)
Lansing	3403'	(-1215)
Base/KC	3602'	(-1414)
Arbuckle	3741'	(-1553)
L.T.D.	3790'	(-1602)

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

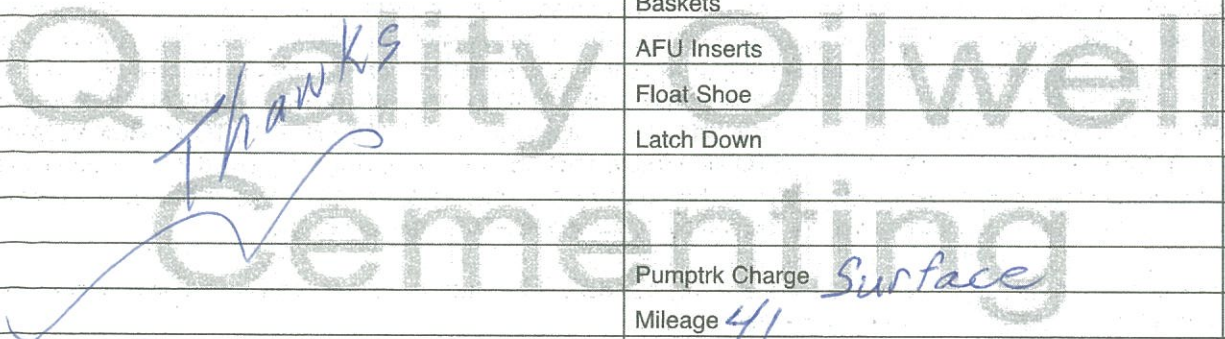
Phone 785-483-1071
Cell 785-324-1041

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

No. 1927

Date	Sec.	Twp.	Range	County	State	On Location	Finish
1-27-20	36	7	22	Graham	KS		9:15pm
Lease				Well No. 1		Owner	
Contractor				D. Sporen #4		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		T.D.		Depth		Street	
12 1/4		221		220			
Csg.		Depth		City		State	
8 5/8		220					
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Tool		Depth		Cement Amount Ordered 150 8/20 3/11 2/66L			
Cement Left in Csg. 10'		Shoe Joint					
Meas Line		Displace 13 BC					
EQUIPMENT				Common 120			
Pumptrk	No.	Cementer	Helper	Poz. Mix 30			
20		Craig					
Bulktrk	No.	Driver	Driver	Gel. 3			
		Nick					
Bulktrk	No.	Driver	Driver	Calcium 6			
14		Lance					
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			
8 5/8 on bottom Est. Circulation				Handling 159			
Mix 150 SK & Displace				Mileage			
Cement Circulated				FLOAT EQUIPMENT			
				Guide Shoe			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge Surface			
				Mileage 41			
				Tax			
				Discount			
				Total Charge			
X Signature John Janka							

Thanks



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071
Cell 785-324-1041

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

No. 1930

Date	Sec.	Twp.	Range	County	State	On Location	Finish
2-5-20	36	7	22	Graham	KS		300 AM
				Location <i>Begin 24 1/2 W 340 20 W into</i>			

Lease <i>Carender</i>	Well No. <i>1</i>	Owner
Contractor <i>Discovery #4</i>	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 <i>Rotary Plug</i>		
Hole Size <i>7 7/8</i>	T.D. <i>3790</i>	Charge To <i>J.O. Farmer</i>
Csg.	Depth	Street
Tbg. Size	Depth	City State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg.	Shoe Joint	Cement Amount <i>Ordered 305 600/40 4 1/2 602 1/4 #12</i>

Meas Line	Displace	
EQUIPMENT		
Pumptrk <i>17</i> No.	Cement Helper <i>Tim</i>	Common <i>183</i>
Bulktrk No.	Driver	Poz. Mix <i>122</i>
Bulktrk <i>15</i> No.	Driver <i>Lance</i>	Gel. <i>11</i>
		Calcium

JOB SERVICES & REMARKS		Hulls
Remarks:		Salt
Rat Hole <i>303K</i>		Flowseal <i>75 #</i>
Mouse Hole <i>155K</i>		Kol-Seal
Centralizers		Mud CLR 48
Baskets		CFL-117 or CD110 CAF 38
D/V or Port Collar		Sand
<i>1st 3720 50SK</i>		Handling <i>316</i>
<i>2nd 1765 50SK</i>		Mileage
<i>3rd 1030 100SK</i>		
<i>4th 280 50SK</i>		
<i>5th 40' 10SK</i>		

		FLOAT EQUIPMENT <i>8 5/8 Dry Hole plug</i>
		Guide Shoe
		Centralizer
		Baskets
		AFU Inserts
		Float Shoe
		Latch Down

	Pumptrk Charge <i>plug</i>	
	Mileage <i>41</i>	
		Tax
		Discount
		Total Charge

X Signature *Gabe Luchler*

Thanks

260 SKS.



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 + 0352 Hays, KS 67601

Lease: Carender # 1 Location: 370 FNL - 560 FEL
SW/NE/NE/NE
Section 36/ 7S/ 22W
Graham County, KS

Loggers Total Depth: 3790' API#15- 065-24,181-00-00
 Rotary Total Depth: 3790' Elevation: 2180 GL - 2188 KB
 Commenced: 1/27/2020 Completed: 2/5/2020
 Casing: 8 5/8" @ 220.98'W/150sks Status: D & A
 KCC Contact: Ed Schumacher
 Plugging Info: (1st Plug @ 3720'W/50sks)(2nd Plug @ 1765'W/50sks)
(3rd Plug @ 1030'W/100sks)(4th Plug @ 280'W/50sks)
(5th Plug @ 40'W/10sks)(30sks In Rat Hole)(15sks In
Mouse Hole)(Total 305sks 60/40Poz 4%Gel-1/4# FS/sk)
(By Quality Oilwell Cementing)(Completed @ 3:00AM
2/5/2020)

DEPTHS & FORMATIONS (All from KB)

Surface, Sand & Shale	<u>0'</u>	Shale	<u>1771'</u>
Dakota Sand	<u>906'</u>	Shale & Lime	<u>2224'</u>
Shale	<u>929'</u>	Shale	<u>2647'</u>
Cedar Hill Sand	<u>1267'</u>	Shale & Lime	<u>3000'</u>
Red Bed Shale	<u>1478'</u>	Lime & Shale	<u>3371'</u>
Anhydrite	<u>1741'</u>	RTD	<u>3790'</u>
Base Anhydrite	<u>1771'</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.

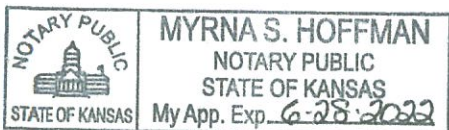
 Thomas H. Alm

Subscribed and sworn to before me on 2-10-2020

My Commission expires: 6-28-2022

(Place stamp or seal below)

 Notary Public





DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

370 W Wichita Ave.
Russell KS 67665

ATTN: Austin Klaus

Carender #1

36-7S-22W Graham,KS

Start Date: 2020.01.31 @ 02:35:00

End Date: 2020.01.31 @ 08:23:30

Job Ticket #: 66345 DST #: 1

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

Printed: 2020.02.05 @ 10:05:10

John O Farmer
36-7S-22W Graham,KS
Carender #1
DST # 1
Oread
2020.01.31



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

ATTN: Austin Klaus

Job Ticket: 66345

DST#: 1

Test Start: 2020.01.31 @ 02:35:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:24:45

Time Test Ended: 08:23:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3315.00 ft (KB) To 3335.00 ft (KB) (TVD)

Reference Elevations: 2188.00 ft (KB)

Total Depth: 3335.00 ft (KB) (TVD)

2180.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8671 Outside

Press@RunDepth: 358.19 psig @ 3316.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.31 End Date: 2020.01.31

Last Calib.: 2020.01.31

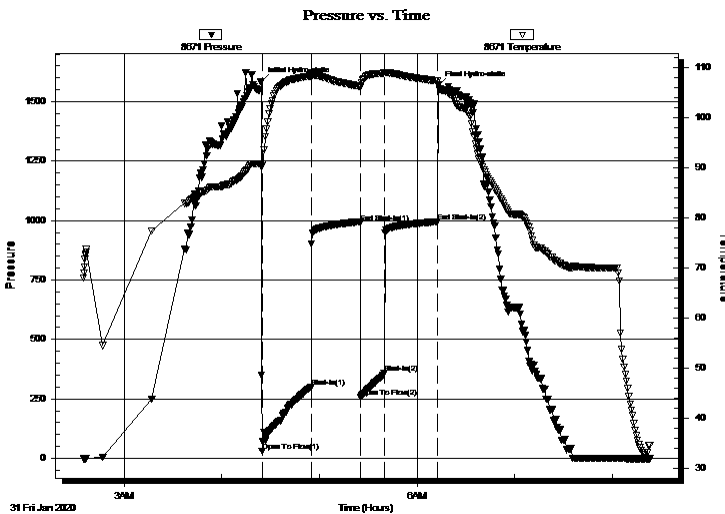
Start Time: 02:35:05 End Time: 08:23:29

Time On Btm: 2020.01.31 @ 04:24:15

Time Off Btm: 2020.01.31 @ 06:13:15

TEST COMMENT: 30 - IF - Blow built to B.o.B. in 5 mins & built to 60"
30 - ISI - No Return
15 - FF - Blow built to B.o.B. in 5 mins & built up to 25"
30 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1585.56	90.72	Initial Hydro-static
1	30.82	90.32	Open To Flow (1)
31	300.34	108.24	Shut-In(1)
61	992.37	106.17	End Shut-In(1)
61	256.95	105.86	Open To Flow (2)
76	358.19	108.80	Shut-In(2)
109	994.96	107.22	End Shut-In(2)
109	1566.57	106.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
635.00	MW - 5% m - 95% w	6.35

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer
370 W Wichita Ave.
Russell KS 67665
ATTN: Austin Klaus

36-7S-22W Graham,KS

Carender #1

Job Ticket: 66345

DST#: 1

Test Start: 2020.01.31 @ 02:35:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:24:45

Time Test Ended: 08:23:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3315.00 ft (KB) To 3335.00 ft (KB) (TVD)

Total Depth: 3335.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2188.00 ft (KB)

2180.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8360

Inside

Press@RunDepth: psig @ 3316.00 ft (KB)

Start Date: 2020.01.31

End Date:

2020.01.31

Start Time: 02:35:05

End Time:

08:23:29

Capacity: 8000.00 psig

Last Calib.:

2020.01.31

Time On Btm:

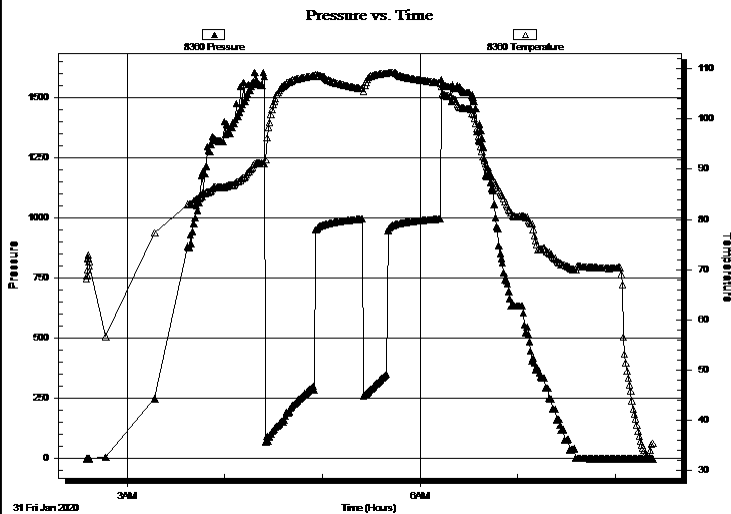
Time Off Btm:

TEST COMMENT: 30 - IF - Blow built to B.o.B. in 5 mins & built to 60"

30 - ISI - No Return

15 - FF - Blow built to B.o.B. in 5 mins & built up to 25"

30 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
635.00	MW - 5% m - 95% w	6.35

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66345

DST#: 1

ATTN: Austin Klaus

Test Start: 2020.01.31 @ 02:35:00

Tool Information

Drill Pipe:	Length: 3296.68 ft	Diameter: 3.25 inches	Volume: 33.83 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 33.99 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.21 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3315.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	40.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			3300.00	
Hydraulic tool	5.00			3305.00	
Packer	5.00			3310.00	20.00 Bottom Of Top Packer
Packer	5.00			3315.00	
Packer - Shale	0.00			3315.00	
Stubb	1.00			3316.00	
Recorder	0.00	8360	Inside	3316.00	
Recorder	0.00	8671	Outside	3316.00	
perforations	16.00			3332.00	
Bullnose	3.00			3335.00	20.00 Bottom Packers & Anchor
Total Tool Length:	40.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66345

DST#: 1

ATTN: Austin Klaus

Test Start: 2020.01.31 @ 02:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
635.00	MW - 5% _m - 95% _w	6.347

Total Length: 635.00 ft

Total Volume: 6.347 bbl

Num Fluid Samples: 0

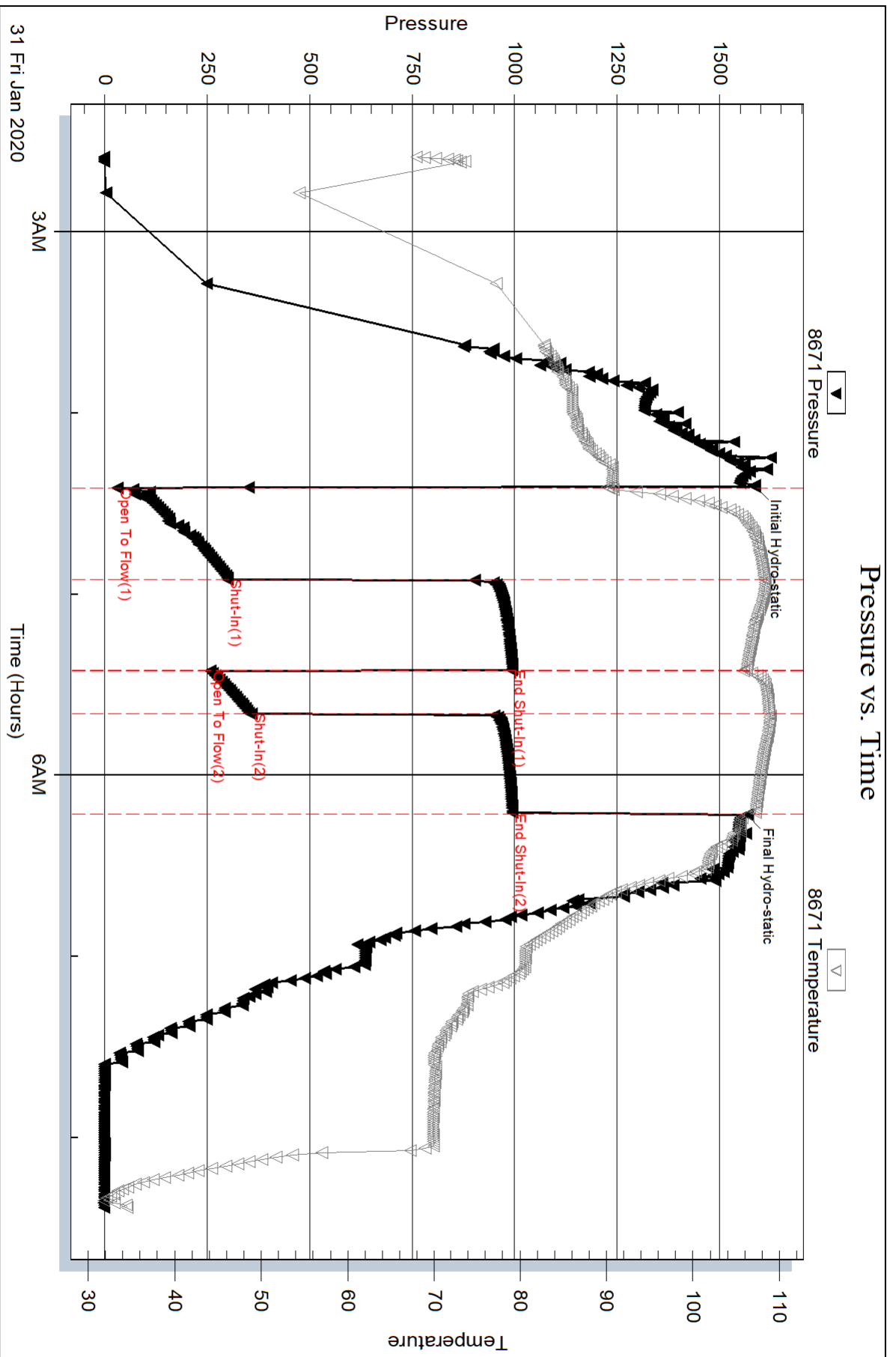
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



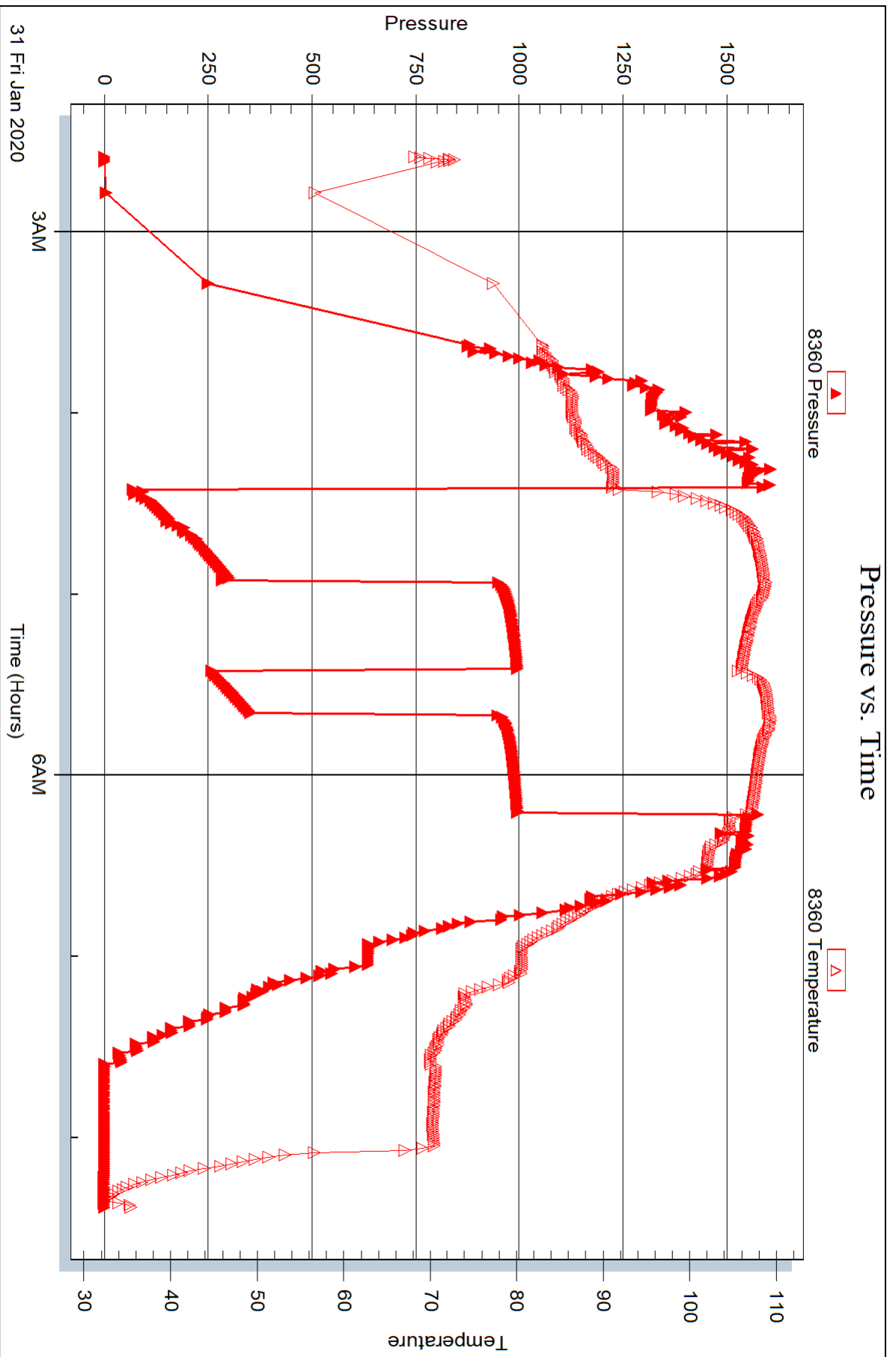
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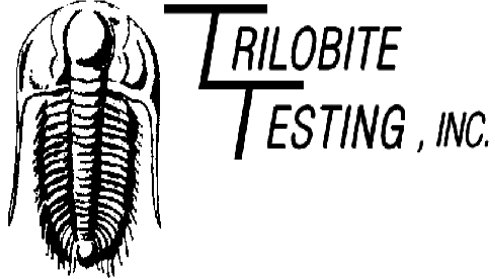
Inside

John O Farmer

Carender #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

370 W Wichita Ave.
Russell KS 67665

ATTN: Austin Klaus

Carender #1

36-7S-22W Graham,KS

Start Date: 2020.01.31 @ 16:34:00

End Date: 2020.01.31 @ 22:52:00

Job Ticket #: 66346 DST #: 2

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

Printed: 2020.02.05 @ 10:04:45



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

ATTN: Austin Klaus

Job Ticket: 66346

DST#: 2

Test Start: 2020.01.31 @ 16:34:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:16:15

Time Test Ended: 22:52:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3365.00 ft (KB) To 3402.00 ft (KB) (TVD)

Reference Elevations: 2188.00 ft (KB)

Total Depth: 3402.00 ft (KB) (TVD)

2180.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8671 Outside

Press@RunDepth: 420.04 psig @ 3366.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.31 End Date: 2020.01.31

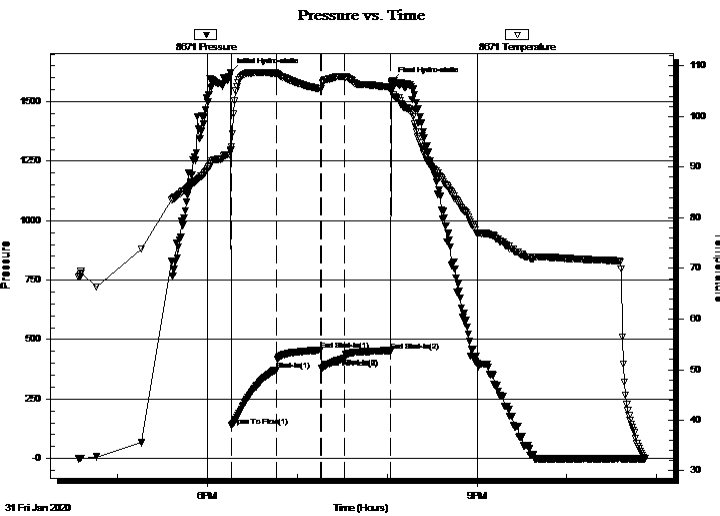
Last Calib.: 2020.01.31

Start Time: 16:34:05 End Time: 22:51:59

Time On Btm: 2020.01.31 @ 18:15:30

Time Off Btm: 2020.01.31 @ 20:02:45

TEST COMMENT: 30 - IF - Blow built to B.o.B. in 2 mins. and built to 73"
30 - ISI - No Return
15 - FF - Blow built to B.o.B. in 10 mins and built to 11"
30 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1623.33	93.32	Initial Hydro-static
1	137.60	93.97	Open To Flow (1)
31	372.31	108.52	Shut-In(1)
60	455.25	105.43	End Shut-In(1)
61	378.14	105.55	Open To Flow (2)
77	420.04	107.88	Shut-In(2)
107	453.29	105.78	End Shut-In(2)
108	1583.46	106.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
853.00	OSMW - Oil skim - 20% m - 80% w	8.58

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer
 370 W Wichita Ave.
 Russell KS 67665
 ATTN: Austin Klaus

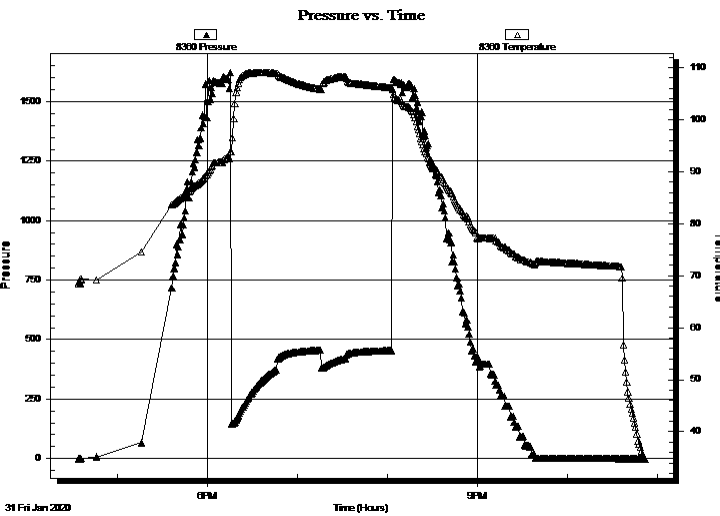
36-7S-22W Graham,KS
Carender #1
 Job Ticket: 66346 **DST#: 2**
 Test Start: 2020.01.31 @ 16:34:00

GENERAL INFORMATION:

Formation: **Toronto**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 18:16:15 Tester: Royal Fisher
 Time Test Ended: 22:52:00 Unit No: 77
 Interval: **3365.00 ft (KB) To 3402.00 ft (KB) (TVD)** Reference Elevations: 2188.00 ft (KB)
 Total Depth: 3402.00 ft (KB) (TVD) 2180.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 8.00 ft

Serial #: 8360 Inside
 Press@RunDepth: psig @ 3366.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2020.01.31 End Date: 2020.01.31 Last Calib.: 2020.01.31
 Start Time: 16:34:05 End Time: 22:51:44 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF - Blow built to B.o.B. in 2 mins. and built to 73"
 30 - ISI - No Return
 15 - FF - Blow built to B.o.B. in 10 mins and built to 11"
 30 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
853.00	OSMW - Oil skim - 20%m - 80%w	8.58

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66346

DST#: 2

ATTN: Austin Klaus

Test Start: 2020.01.31 @ 16:34:00

Tool Information

Drill Pipe:	Length: 3328.38 ft	Diameter: 3.25 inches	Volume: 34.15 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 34.31 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	14.91 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3365.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3350.00	
Hydraulic tool	5.00			3355.00	
Packer	5.00			3360.00	20.00 Bottom Of Top Packer
Packer	5.00			3365.00	
Packer - Shale	0.00			3365.00	
Stubb	1.00			3366.00	
Recorder	0.00	8360	Inside	3366.00	
Recorder	0.00	8671	Outside	3366.00	
perforations	33.00			3399.00	
Bullnose	3.00			3402.00	37.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66346

DST#: 2

ATTN: Austin Klaus

Test Start: 2020.01.31 @ 16:34:00

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:

48000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
853.00	OSMW - Oil skim - 20%m - 80%w	8.584

Total Length: 853.00 ft

Total Volume: 8.584 bbl

Num Fluid Samples: 0

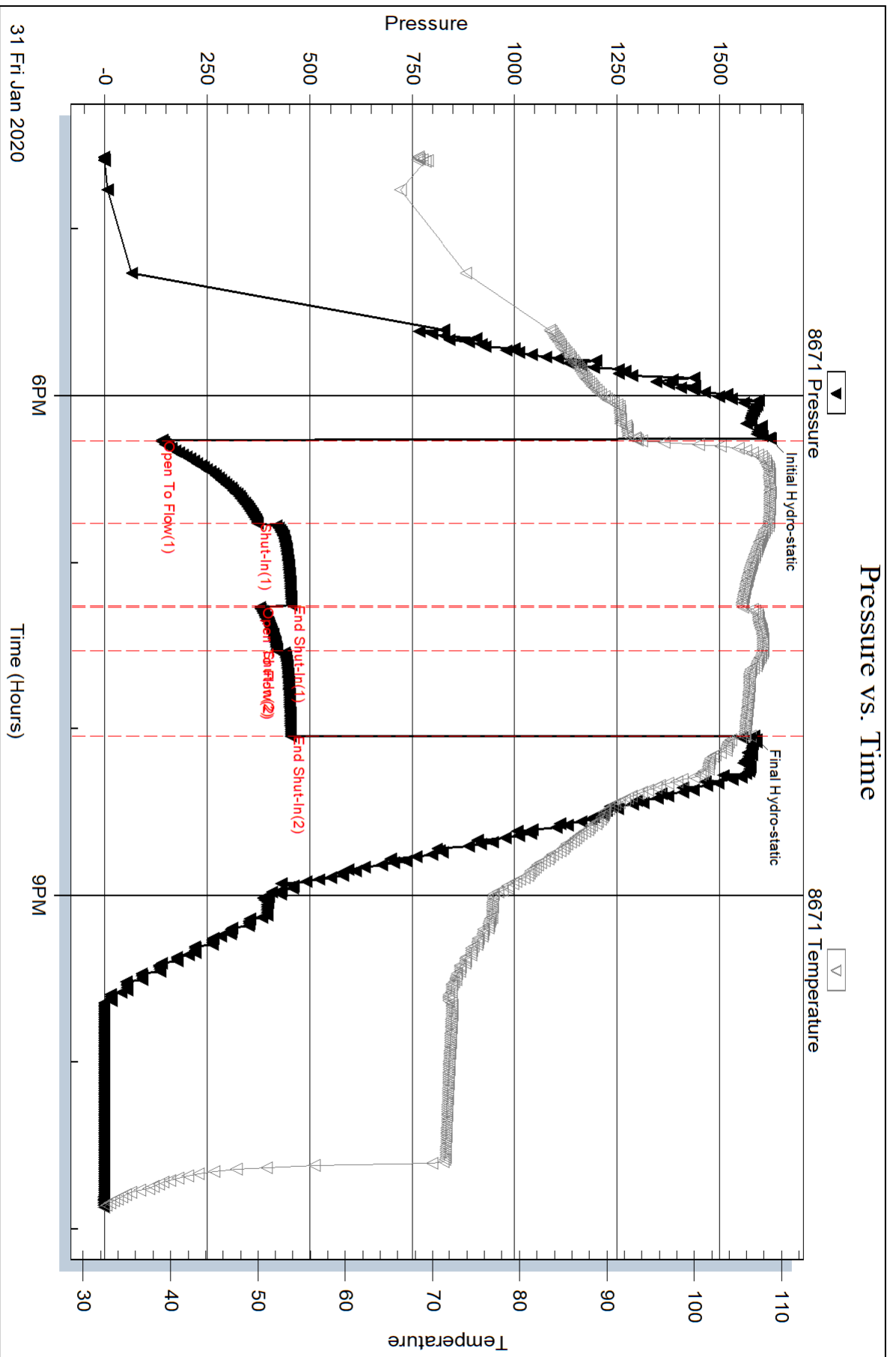
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



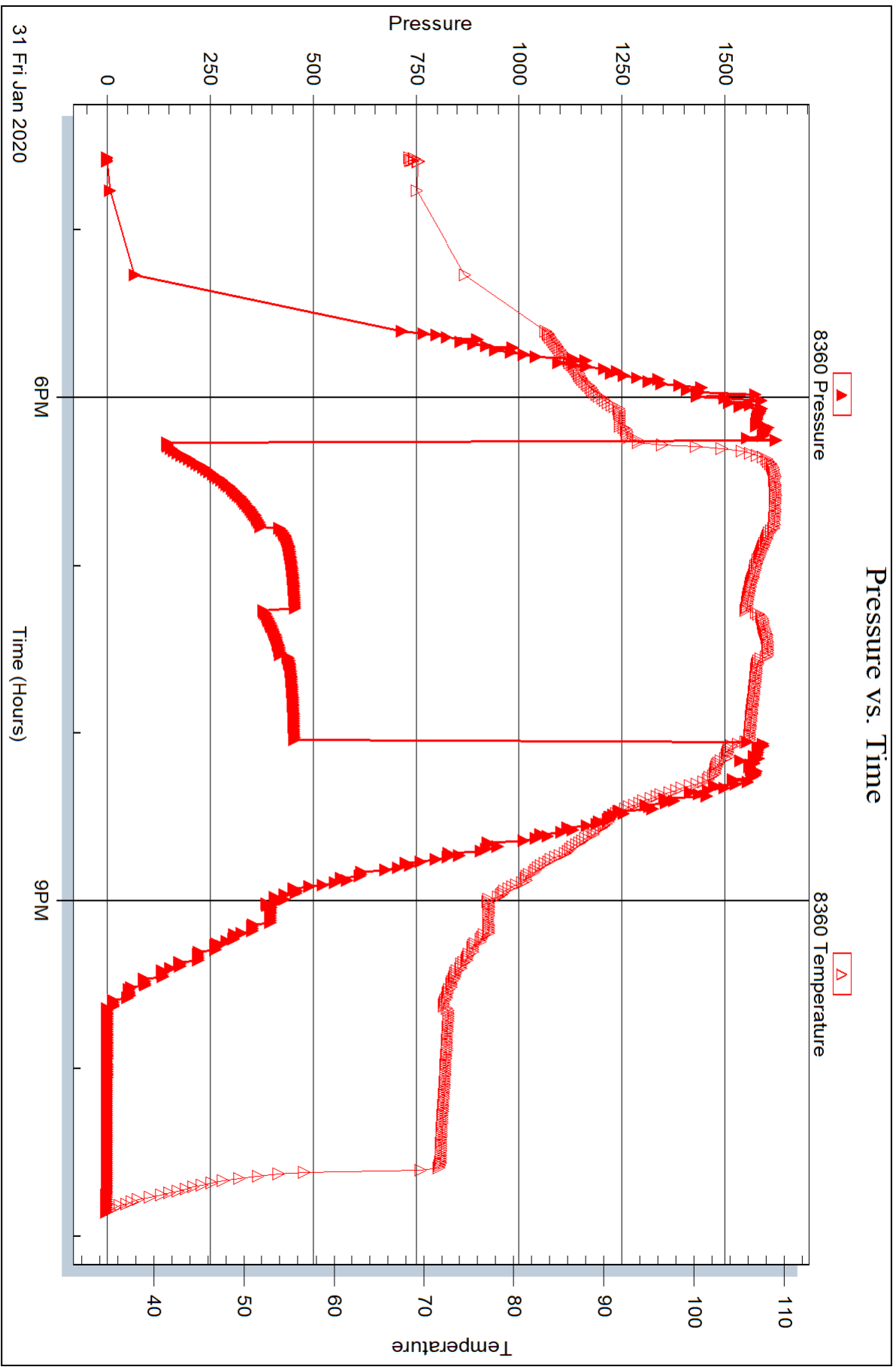
Serial #: 8360

Inside

John O Farmer

Carender #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 66346

Printed: 2020.02.05 @ 10:04:46



DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

370 W Wichita Ave.
Russell KS 67665

ATTN: Austin Klaus

Carender #1

36-7S-22W Graham,KS

Start Date: 2020.02.01 @ 08:05:00

End Date: 2020.02.01 @ 14:47:00

Job Ticket #: 66347 DST #: 3

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

Printed: 2020.02.05 @ 10:04:21

John O Farmer
36-7S-22W Graham,KS
Carender #1
DST # 3
LKC A - C
2020.02.01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

ATTN: Austin Klaus

Job Ticket: 66347

DST#: 3

Test Start: 2020.02.01 @ 08:05:00

GENERAL INFORMATION:

Formation: **LKC A - C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:57:30

Time Test Ended: 14:47:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3400.00 ft (KB) To 3448.00 ft (KB) (TVD)

Reference Elevations: 2188.00 ft (KB)

Total Depth: 3448.00 ft (KB) (TVD)

2180.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8671

Outside

Press@RunDepth: 78.42 psig @ 3401.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.02.01

End Date:

2020.02.01

Last Calib.:

2020.02.01

Start Time: 08:05:05

End Time:

14:46:59

Time On Btm:

2020.02.01 @ 09:57:15

Time Off Btm:

2020.02.01 @ 13:00:15

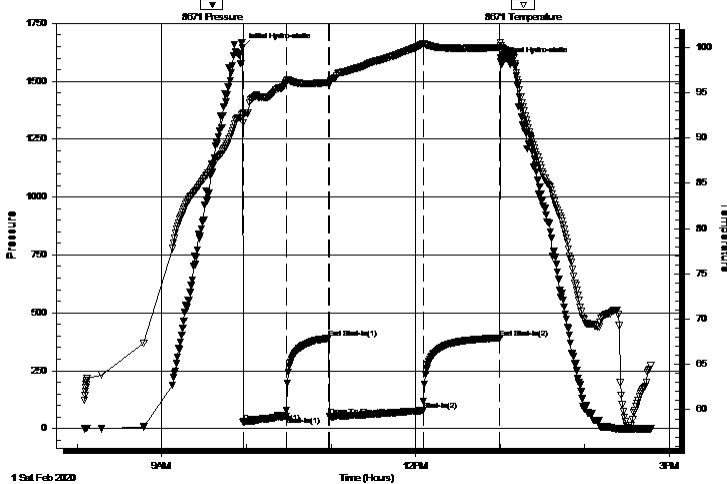
TEST COMMENT: 30 - IF - Chased tool 5', blow built up to 6 1/4"

30 - ISI - No Return

60 - FF - Blow slowly built up to 4 1/4"

60 - FSI - No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1645.83	92.66	Initial Hydro-static
1	28.50	91.69	Open To Flow (1)
31	52.10	96.14	Shut-In(1)
62	390.10	96.14	End Shut-In(1)
62	51.29	96.09	Open To Flow (2)
129	78.42	100.43	Shut-In(2)
183	391.10	99.98	End Shut-In(2)
183	1584.02	100.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
139.00	OSMW - Oil Spots - 50%m - 50%w	1.26

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer
 370 W Wichita Ave.
 Russell KS 67665
 ATTN: Austin Klaus

36-7S-22W Graham,KS

Carender #1

Job Ticket: 66347

DST#: 3

Test Start: 2020.02.01 @ 08:05:00

GENERAL INFORMATION:

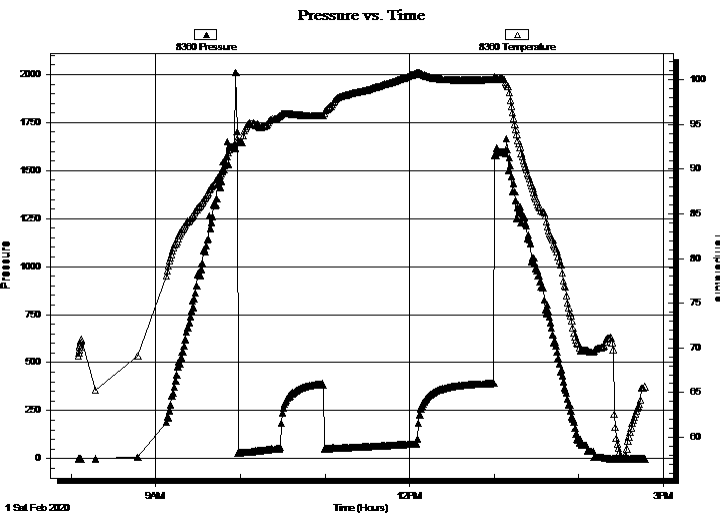
Formation: **LKC A - C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:57:30
 Time Test Ended: 14:47:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Royal Fisher
 Unit No: 77
 Interval: **3400.00 ft (KB) To 3448.00 ft (KB) (TVD)**
 Reference Elevations: 2188.00 ft (KB)
 Total Depth: 3448.00 ft (KB) (TVD)
 2180.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Poor
 KB to GR/CF: 8.00 ft

Serial #: 8360

Inside

Press@RunDepth: psig @ 3401.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2020.02.01 End Date: 2020.02.01 Last Calib.: 2020.02.01
 Start Time: 08:05:05 End Time: 14:46:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF - Chased tool 5', blow built up to 6 1/4"
 30 - ISI - No Return
 60 - FF - Blow slowly built up to 4 1/4"
 60 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
139.00	OSMW - Oil Spots - 50%m - 50%w	1.26

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66347

DST#: 3

ATTN: Austin Klaus

Test Start: 2020.02.01 @ 08:05:00

Tool Information

Drill Pipe:	Length: 3360.06 ft	Diameter: 3.25 inches	Volume: 34.48 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 34.64 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	11.59 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3400.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			3385.00	
Hydraulic tool	5.00			3390.00	
Packer	5.00			3395.00	20.00 Bottom Of Top Packer
Packer	5.00			3400.00	
Packer - Shale	0.00			3400.00	
Stubb	1.00			3401.00	
Recorder	0.00	8360	Inside	3401.00	
Recorder	0.00	8671	Outside	3401.00	
perforations	11.00			3412.00	
Change Over Sub	1.00			3413.00	
Drill Pipe	31.00			3444.00	
Change Over Sub	1.00			3445.00	
Bullnose	3.00			3448.00	48.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66347

DST#: 3

ATTN: Austin Klaus

Test Start: 2020.02.01 @ 08:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

28000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
139.00	OSMW - Oil Spots - 50%m - 50%w	1.258

Total Length: 139.00 ft Total Volume: 1.258 bbl

Num Fluid Samples: 0

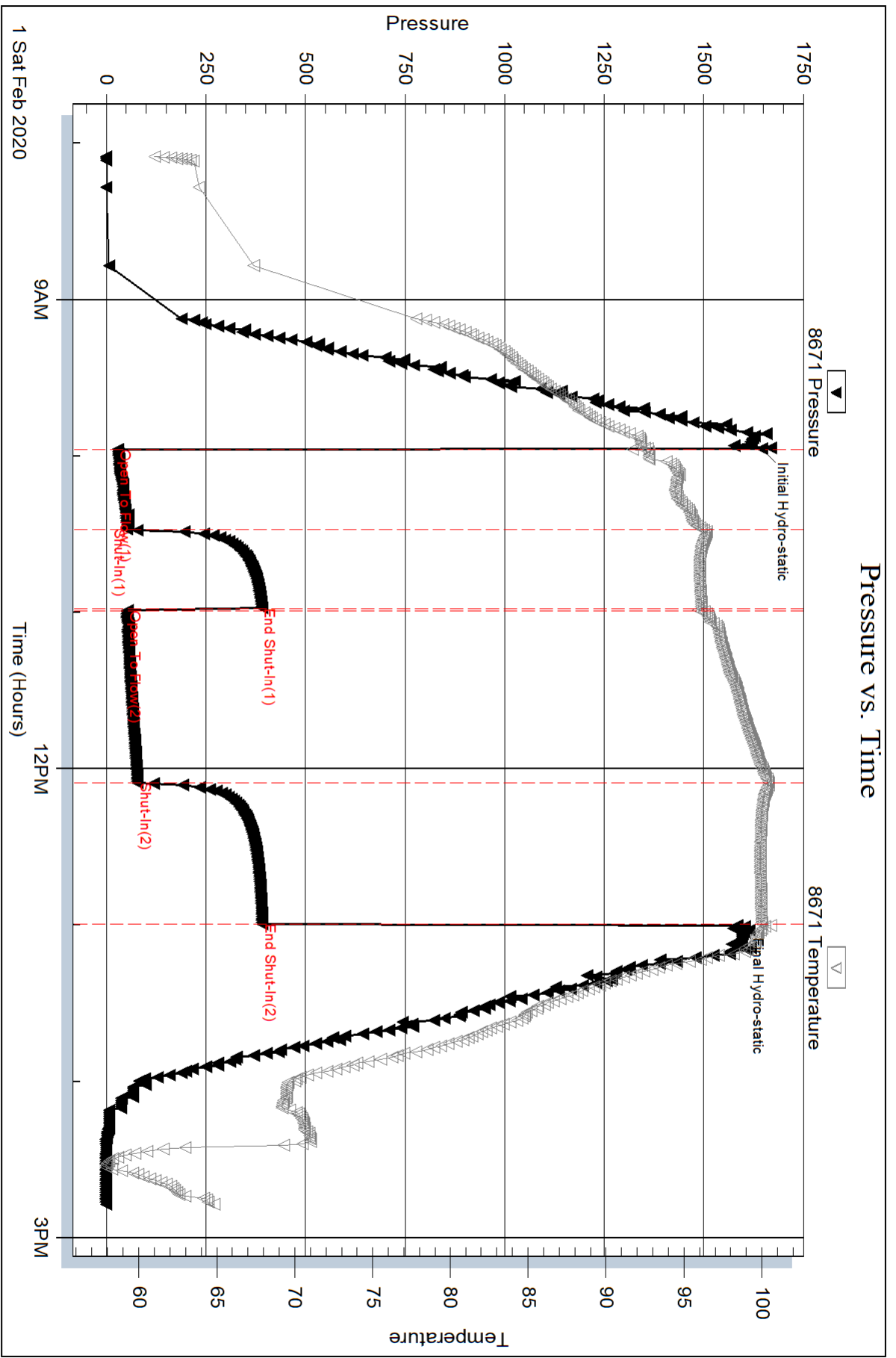
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Res. - .266 @ 65 deg.



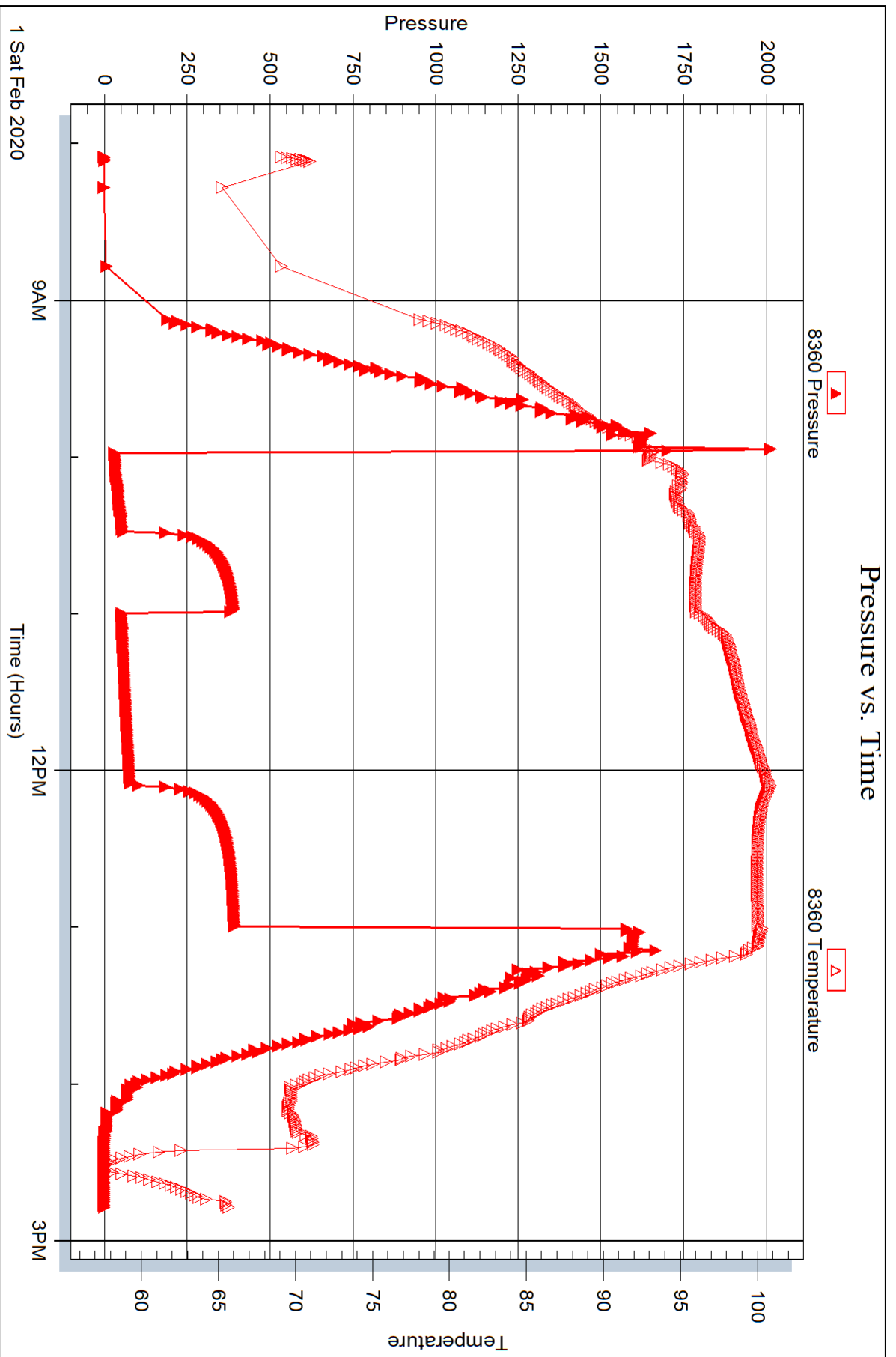
Serial #: 8360

Inside

John O Farmer

Carender #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

370 W Wichita Ave.
Russell KS 67665

ATTN: Austin Klaus

Carender #1

36-7S-22W Graham,KS

Start Date: 2020.02.01 @ 22:48:00

End Date: 2020.02.02 @ 04:16:30

Job Ticket #: 66348 DST #: 4

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

Printed: 2020.02.05 @ 10:03:58



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer
 370 W Wichita Ave.
 Russell KS 67665
 ATTN: Austin Klaus

36-7S-22W Graham,KS

Carender #1

Job Ticket: 66348

DST#: 4

Test Start: 2020.02.01 @ 22:48:00

GENERAL INFORMATION:

Formation: **LKC D-F**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 00:29:15
 Tester: Royal Fisher
 Time Test Ended: 04:16:30
 Unit No: 77
 Interval: **3446.00 ft (KB) To 3488.00 ft (KB) (TVD)**
 Reference Elevations: 2188.00 ft (KB)
 Total Depth: 3488.00 ft (KB) (TVD)
 2180.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Poor
 KB to GR/CF: 8.00 ft

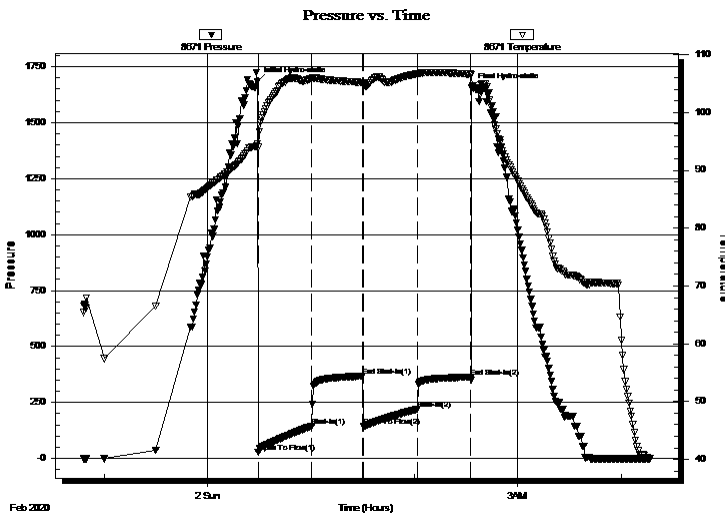
Serial #: 8671

Outside

Press@RunDepth: 219.04 psig @ 3447.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2020.02.01 End Date: 2020.02.02 Last Calib.: 2020.02.02
 Start Time: 22:48:05 End Time: 04:16:29 Time On Btm: 2020.02.02 @ 00:29:00
 Time Off Btm: 2020.02.02 @ 02:33:15

TEST COMMENT: 30 - IF - Blow built to B.o.B. in 7 mins. and built to 26"
 30 - ISI - No Return
 30 - FF - Blow built to B.o.B. in 15 mins. and built to
 30 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1682.54	94.58	Initial Hydro-static
1	28.23	93.97	Open To Flow (1)
32	143.43	105.89	Shut-In(1)
61	367.55	105.14	End Shut-In(1)
62	143.35	105.00	Open To Flow (2)
93	219.04	106.67	Shut-In(2)
124	363.90	106.59	End Shut-In(2)
125	1654.08	106.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	OSMW - Oil Spots - 20%m - 80%w	4.28

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

John O Farmer
 370 W Wichita Ave.
 Russell KS 67665
 ATTN: Austin Klaus

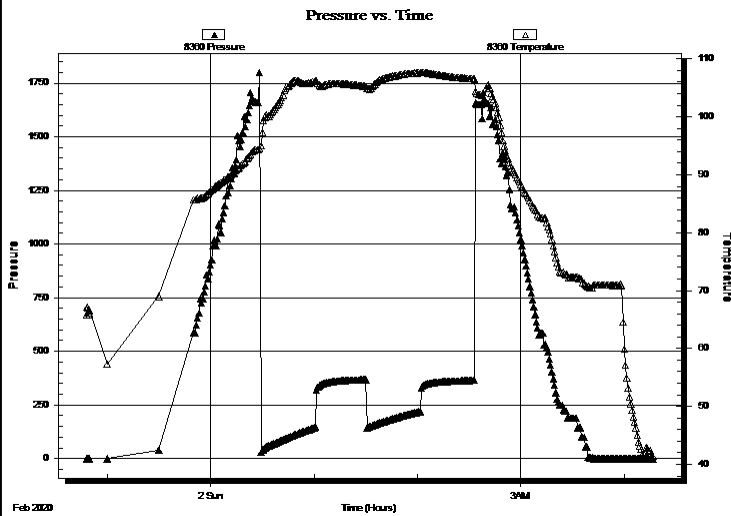
36-7S-22W Graham,KS
Carender #1
 Job Ticket: 66348 **DST#: 4**
 Test Start: 2020.02.01 @ 22:48:00

GENERAL INFORMATION:

Formation: **LKC D-F**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:29:15
 Time Test Ended: 04:16:30
Interval: 3446.00 ft (KB) To 3488.00 ft (KB) (TVD)
 Total Depth: 3488.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Royal Fisher
 Unit No: 77
 Reference Elevations: 2188.00 ft (KB)
 2180.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8360 **Inside**
 Press@RunDepth: psig @ 3447.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2020.02.01 End Date: 2020.02.02 Last Calib.: 2020.02.02
 Start Time: 22:48:05 End Time: 04:16:44 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF - Blow built to B.o.B. in 7 mins. and built to 26"
 30 - ISI - No Return
 30 - FF - Blow built to B.o.B. in 15 mins. and built to
 30 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
434.00	OSMW - Oil Spots - 20%m - 80%w	4.28

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66348

DST#: 4

ATTN: Austin Klaus

Test Start: 2020.02.01 @ 22:48:00

Tool Information

Drill Pipe:	Length: 3423.44 ft	Diameter: 3.25 inches	Volume: 35.13 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 35.29 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.97 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3446.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			3431.00	
Hydraulic tool	5.00			3436.00	
Packer	5.00			3441.00	20.00 Bottom Of Top Packer
Packer	5.00			3446.00	
Packer - Shale	0.00			3446.00	
Stubb	1.00			3447.00	
Recorder	0.00	8360	Inside	3447.00	
Recorder	0.00	8671	Outside	3447.00	
perforations	5.00			3452.00	
Change Over Sub	1.00			3453.00	
Drill Pipe	31.00			3484.00	
Change Over Sub	1.00			3485.00	
Bullnose	3.00			3488.00	42.00 Bottom Packers & Anchor

Total Tool Length: 62.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66348

DST#: 4

ATTN: Austin Klaus

Test Start: 2020.02.01 @ 22:48:00

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:

52000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
434.00	OSMW - Oil Spots - 20%m - 80%w	4.285

Total Length: 434.00 ft Total Volume: 4.285 bbl

Num Fluid Samples: 0

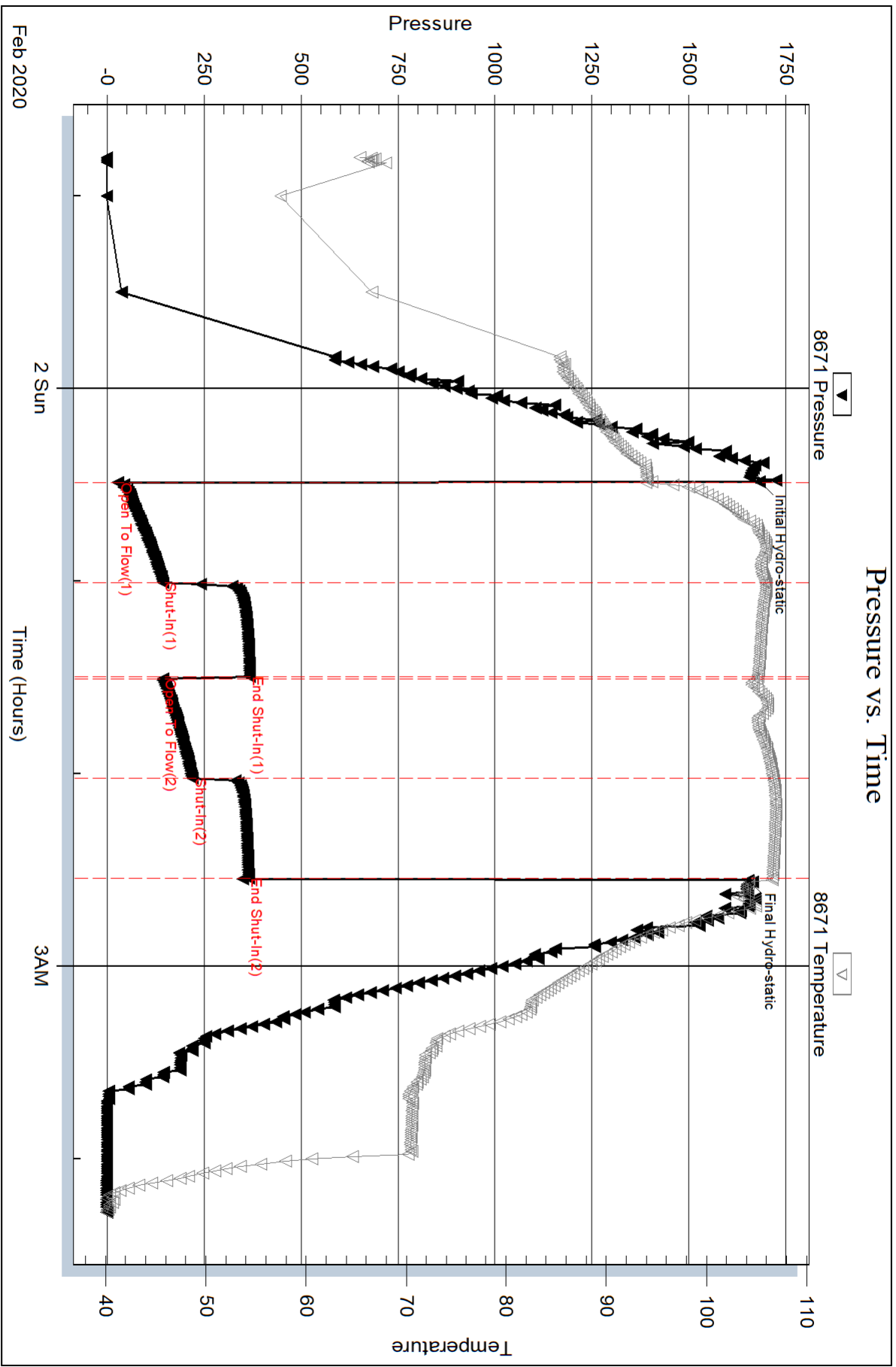
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Res. - .268 @ 37 deg.



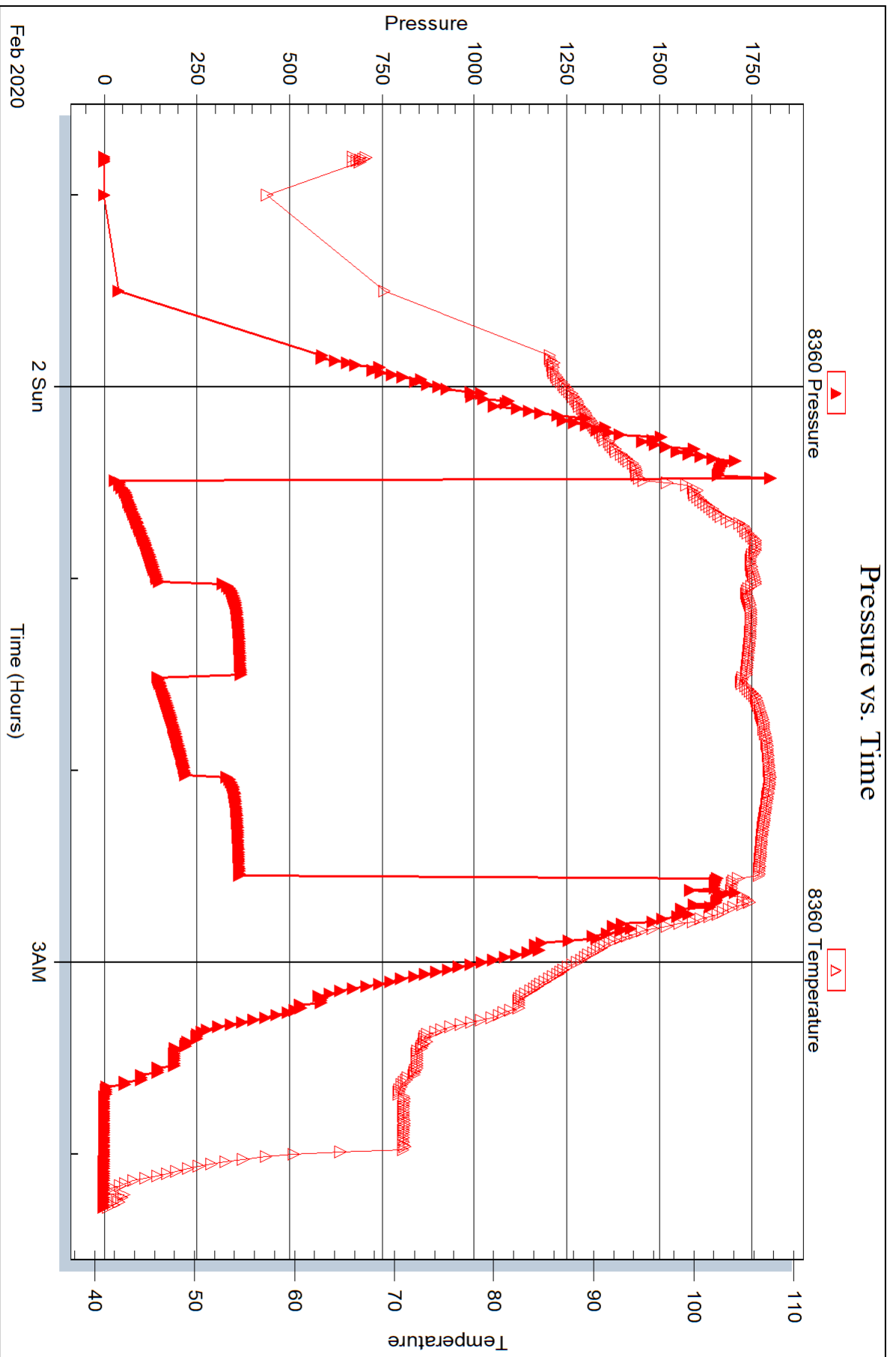
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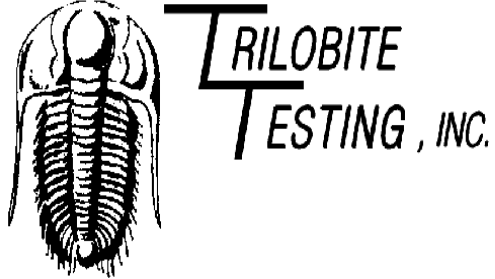
Inside

John O Farmer

Carender #1

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **John O Farmer**

370 W Wichita Ave.
Russell KS 67665

ATTN: Austin Klaus

Carender #1

36-7S-22W Graham,KS

Start Date: 2020.02.03 @ 20:08:00

End Date: 2020.02.04 @ 01:38:00

Job Ticket #: 66349 DST #: 5

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

Printed: 2020.02.05 @ 10:03:09

John O Farmer
36-7S-22W Graham,KS
Carender #1
DST # 5
LKC H-L
2020.02.03



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

ATTN: Austin Klaus

Job Ticket: 66349

DST#: 5

Test Start: 2020.02.03 @ 20:08:00

GENERAL INFORMATION:

Formation: **LKC H-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:11:15

Time Test Ended: 01:38:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3515.00 ft (KB) To 3605.00 ft (KB) (TVD)

Reference Elevations: 2188.00 ft (KB)

Total Depth: 3605.00 ft (KB) (TVD)

2180.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8671

Outside

Press@RunDepth: 17.27 psig @ 3516.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.02.03

End Date: 2020.02.04

Last Calib.: 2020.02.04

Start Time: 20:08:05

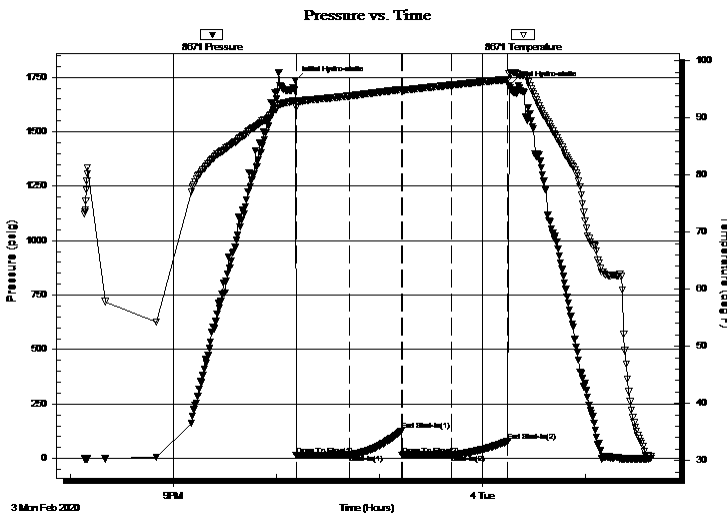
End Time: 01:37:59

Time On Btm: 2020.02.03 @ 22:11:00

Time Off Btm: 2020.02.04 @ 00:15:30

TEST COMMENT: 30 - IF - Blow slowly built up to 1" then started to die off to 3/4"
30 - ISI - No Return
30 - FF - Blow started at a faint blow then died off in 15 mins
30 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1733.91	93.08	Initial Hydro-static
1	14.51	91.89	Open To Flow (1)
32	16.84	93.85	Shut-In(1)
62	127.67	94.98	End Shut-In(1)
62	15.92	94.91	Open To Flow (2)
91	17.27	95.76	Shut-In(2)
124	80.14	96.75	End Shut-In(2)
125	1710.84	97.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud - 100%m	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66349

DST#: 5

ATTN: Austin Klaus

Test Start: 2020.02.03 @ 20:08:00

Tool Information

Drill Pipe:	Length: 3486.88 ft	Diameter: 3.25 inches	Volume: 35.78 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume: 35.94 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	23.41 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3515.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	110.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3500.00	
Hydraulic tool	5.00			3505.00	
Packer	5.00			3510.00	20.00 Bottom Of Top Packer
Packer	5.00			3515.00	
Packer - Shale	0.00			3515.00	
Stubb	1.00			3516.00	
Recorder	0.00	8360	Inside	3516.00	
Recorder	0.00	8671	Outside	3516.00	
perforations	21.00			3537.00	
Change Over Sub	1.00			3538.00	
Drill Pipe	63.00			3601.00	
Change Over Sub	1.00			3602.00	
Bullnose	3.00			3605.00	90.00 Bottom Packers & Anchor

Total Tool Length: 110.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer

36-7S-22W Graham,KS

370 W Wichita Ave.
Russell KS 67665

Carender #1

Job Ticket: 66349

DST#: 5

ATTN: Austin Klaus

Test Start: 2020.02.03 @ 20:08:00

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud - 100%m	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

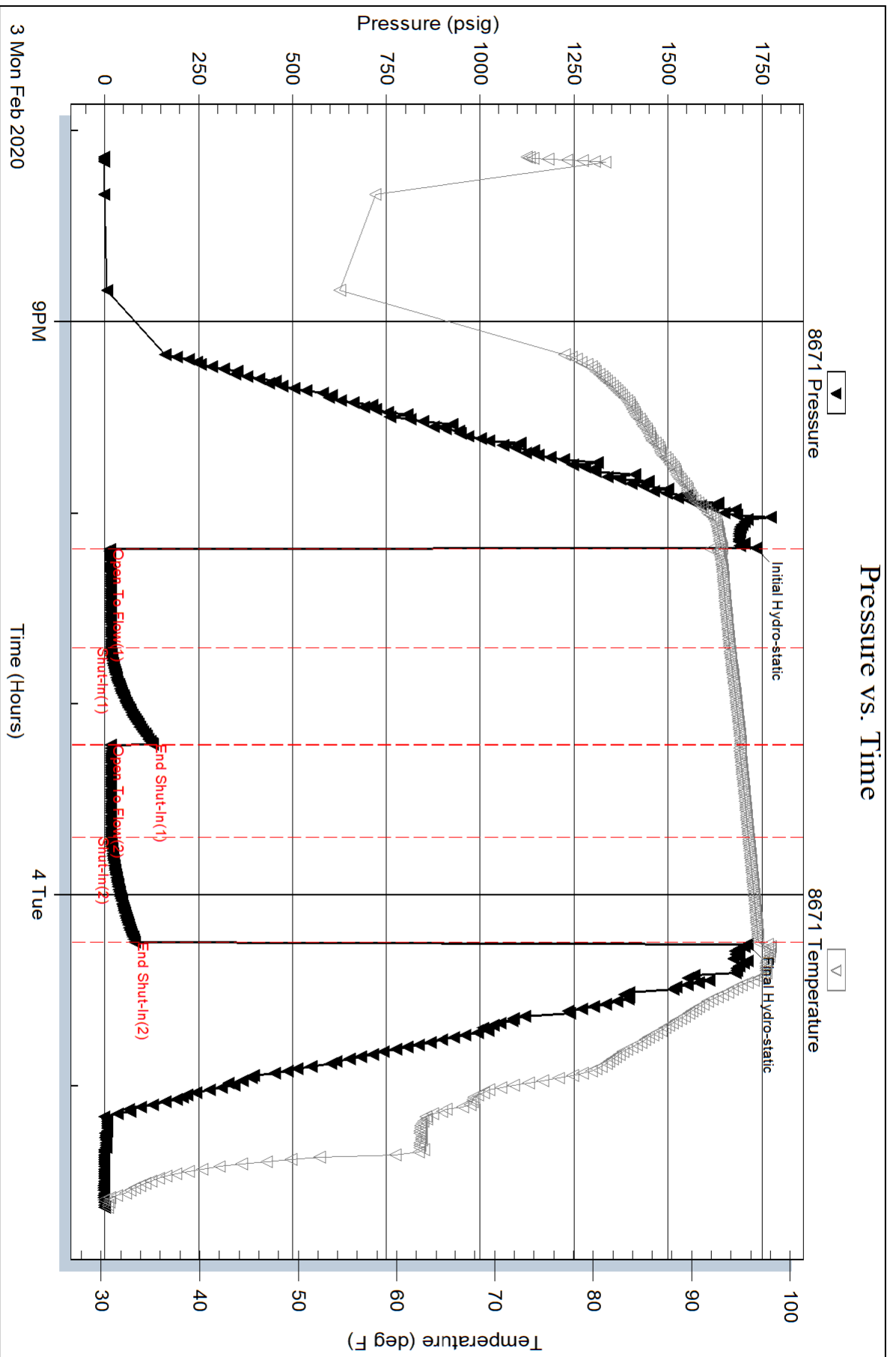
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



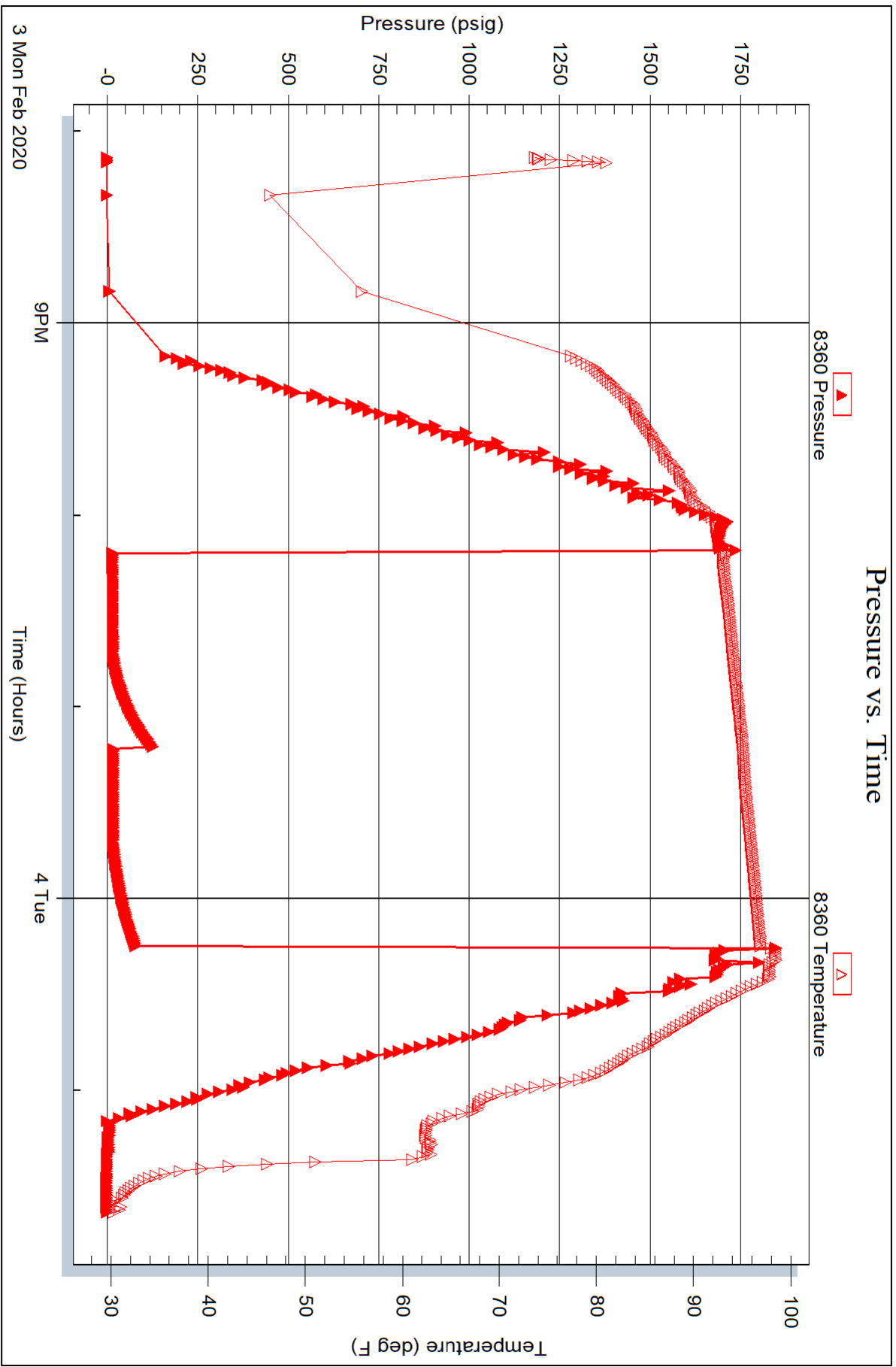
Serial #: 8360

Inside

John O Farmer

Carender #1

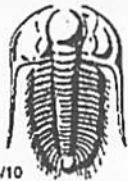
DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 66349

Printed: 2020.02.05 @ 10:03:10



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66345

NO.

Well Name & No. Carender #1 Test No. 1 Date 1-31-2020
 Company John O Farmer Elevation 2188 KB 2180 GL
 Address 370 W Wichita Ave. Russell Ks 67166
 Co. Rep / Geo. Austin Klaus Rig Discovery #4
 Location: Sec. 36 Twp 7S Rge. 22 W Co. Graham State Ks

Interval Tested 3315' - 3335' Zone Tested Oread
 Anchor Length 20' Drill Pipe Run 3296.68' Mud Wt. 8.7
 Top Packer Depth 3310' Drill Collars Run 31.53' Vis 51
 Bottom Packer Depth 3315' Wt. Pipe Run Ø WL 7.2
 Total Depth 3335' Chlorides 500 ppm System LCM 3#

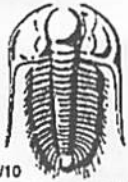
Blow Description IF-Blow built to B.O.B in 5mins + built to 60"
ISI- No Return
FF-Blow built to B.O.B in 5mins + built up to 25"
FST- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>635'</u>	<u>mw</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	Feet of	%gas	%oil	%water	%mud

Rec Total 635' BHT 1070F Gravity _____ API RW .331 @ 34 °F Chlorides 46,000 ppm

(A) Initial Hydrostatic 1586 Test 1200 T-On Location 1:40am
 (B) First Initial Flow 31 Jars _____ T-Started 2:35am
 (C) First Final Flow 300 Safety Joint _____ T-Open 4:24am
 (D) Initial Shut-In 992 Circ Sub _____ T-Pulled 6:09am
 (E) Second Initial Flow 257 Hourly Standby _____ T-Out 8:24am
 (F) Second Final Flow 358 Mileage 140 R/T 112 Comments _____
 (G) Final Shut-In 995 Sampler _____
 (H) Final Hydrostatic 1567 Straddle _____ EM Tool _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1562
 Sub Total 1562 MP/DST Disc't _____

Approved By _____ Our Representative Royal Fisher
 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 66346

NO.

Well Name & No. Carender #1 Test No. 2 Date 1-31-2020
 Company John O Farmer Elevation 2188 KB 2180 GL
 Address 370 W Wichita Ave, Russell Ks 67165
 Co. Rep / Geo. Austin Klaus Rig Discovery #4
 Location: Sec. 36 Twp 7S Rge. 22 W Co. Graham State Ks

Interval Tested 3365' - 3402' Zone Tested Toronto
 Anchor Length 37' Drill Pipe Run 3328, 38' Mud Wt. 8.9
 Top Packer Depth 3360' Drill Collars Run 31, 53' Vls 54
 Bottom Packer Depth 3365' Wt. Pipe Run 0 WL 7.6
 Total Depth 3402' Chlorides 1500 ppm System LCM 2#
 Blow Description IF-Blow built to B.O.B in 2 mins + built to 73"
ISF - No Return
FF-Blow built to B.O.B in 10 mins + built to 11"
FST - No Return

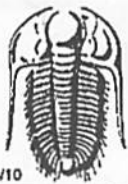
Rec	Feet of	%gas	%oil	%water	%mud
<u>853'</u>	<u>OSMW</u>	<u>Skim</u>	<u>80</u>	<u>20</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 853 BHT 106°F Gravity _____ API RW .345 @ 31 °F Chlorides 48,000 ppm

(A) Initial Hydrostatic <u>1123</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>4:15pm</u>
(B) First Initial Flow <u>138</u>	<input type="checkbox"/> Jars _____	T-Started <u>4:34pm</u>
(C) First Final Flow <u>372</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>6:15pm</u>
(D) Initial Shut-In <u>455</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>8:00pm</u>
(E) Second Initial Flow <u>378</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>10:52pm</u>
(F) Second Final Flow <u>420</u>	<input checked="" type="checkbox"/> Mileage <u>140 B/T</u> 112	Comments <u>Driller wanted to use wet caps</u>
(G) Final Shut-In <u>453</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1583</u>	<input type="checkbox"/> Straddle _____	
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> EM Tool _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Ruined Packer _____
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1562</u>
	Sub Total <u>1562</u>	MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66347

NO.

Well Name & No. Carender #1 Test No. 3 Date 2-1-2020
 Company John O Farmer Elevation 2188 KB 2180 GL
 Address 378 W Wichita Ave. Russell ks 67665
 Co. Rep / Geo. Austin Klaus Rig Discovery #4
 Location: Sec. 36 Twp 7S Rge. 22W Co. Graham State ks

Interval Tested 3400' - 3448' Zone Tested LHC-A-C
 Anchor Length 48' Drill Pipe Run 3310.06' Mud Wt. 9
 Top Packer Depth 3395' Drill Collars Run 31.53 Vis 55
 Bottom Packer Depth 3400' Wt. Pipe Run Ø WL 7.6
 Total Depth 3448' Chlorides 1500 ppm System LCM 2#

Blow Description IF-Chased tools', New built up to 6 1/4"
IST - No Return
FF - Blow built up to 4 1/4"
EST - No Return

Rec	Feet of	%gas	Spots	%oil	%water	%mud
<u>139'</u>	<u>0.5mw</u>			<u>50</u>	<u>50</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 139' BHT 100°F Gravity _____ API RW 2160 @ 65 °F Chlorides 28000 ppm

(A) Initial Hydrostatic <u>11046</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>7:25am</u>
(B) First Initial Flow <u>28</u>	<input type="checkbox"/> Jars _____	T-Started <u>8:05am</u>
(C) First Final Flow <u>52</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>9:57am</u>
(D) Initial Shut-In <u>390</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>12:57pm</u>
(E) Second Initial Flow <u>51</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>2:46pm</u>
(F) Second Final Flow <u>78</u>	<input checked="" type="checkbox"/> Mileage <u>140 BIT</u> 112	Comments _____
(G) Final Shut-In <u>391</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1584</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1562</u>
	Sub Total <u>1562</u>	MP/DST Disc't _____

Approved By _____ Our Representative Royal Fisher
 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 66348

NO.

Well Name & No. Corender #1 Test No. 4 Date 2-1-2020
 Company John O Farmer Elevation 2188 KB 2180 GL
 Address 370 W Wichita Ave. Russell ks 67665
 Co. Rep / Geo. Austin Klaus Rig Discovery #4
 Location: Sec. 36 Twp 7S Rge. 22W Co. Graham State ks

Interval Tested 3446'-3488' Zone Tested LKC-D-F
 Anchor Length 42' Drill Pipe Run 3423.44' Mud Wt. 9
 Top Packer Depth 3441' Drill Collars Run 31.53' Vls 55
 Bottom Packer Depth 3446' Wt. Pipe Run 0 WL 7.16
 Total Depth 3488' Chlorides 1500 ppm System LCM 2#

Blow Description IF - Blow built to B.O.B. in 7mins & built to 21"
ISC - No Return
FF - Blow built to B.O.B. in 15mins & built to 17"
FST - No Return

Rec	Feet of	%gas	spots	%oil	%water	%mud
<u>434</u>	<u>Qsmw</u>			<u>80</u>	<u>20</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 434' BHT 107PF Gravity _____ API RW 268 @ 37 °F Chlorides 52,000 ppm
 (A) Initial Hydrostatic 1108.3 Test 1200 T-On Location 10:15
 (B) First Initial Flow 28 Jars _____ T-Started 10:48pm
 (C) First Final Flow 143 Safety Joint _____ T-Open 12:30am
 (D) Initial Shut-In 3108 Circ Sub _____ T-Pulled 2:30am
 (E) Second Initial Flow 143 Hourly Standby _____ T-Out 4:11am
 (F) Second Final Flow 219 Mileage 140 R/T 112 Comments _____
 (G) Final Shut-In 3104 Sampler _____
 (H) Final Hydrostatic 1154 Straddle _____

Initial Open 30 Shale Packer 250 EM Tool _____
 Initial Shut-In 30 Extra Packer _____ Ruined Shale Packer _____
 Final Flow 30 Extra Recorder _____ Ruined Packer _____
 Final Shut-In 30 Day Standby _____ Extra Copies _____
 Sub Total 0 Total 1562 MP/DST Disc't _____
 Sub Total 1562

Approved By _____ Our Representative Royal Fisher
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66349

NO.

Well Name & No. Carender #1 Test No. 5 Date 2-3-2020
 Company John O Farmer Elevation 2188 KB 2180 GL
 Address 370 W Wichita Ave. Russell Ks 67465
 Co. Rep / Geo. Austin Klaus Rig Discovery #4
 Location: Sec. 30 Twp 7S Rge. 22 W Co. Graham State Ks

Interval Tested 3515' - 3605' Zone Tested LHC - H-L
 Anchor Length 90' Drill Pipe Run 3486.88" Mud Wt. 9.2
 Top Packer Depth 3510' Drill Collars Run 31.53' Vis 52
 Bottom Packer Depth 3515' Wt. Pipe Run Ø WL 8
 Total Depth 3605' Chlorides 1500 ppm System LCM 2 #

Blow Description FF

~~IF~~ - Blow slowly built to 1" then died off to 3/4"
~~IS~~ - No Return
~~FF~~ - Blow started at a faint blow then died off. FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>2'</u>	Feet of <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 Total 2' BHT 970 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1734 Test 1200 T-On Location 5:25pm
 (B) First Initial Flow 15 Jars _____ T-Started 8:08pm
 (C) First Final Flow 17 Safety Joint _____ T-Open 10:12pm
 (D) Initial Shut-In 128 Circ Sub _____ T-Pulled 12:12am
 (E) Second Initial Flow 16 Hourly Standby _____ T-Out 1:38am
 (F) Second Final Flow 17 Mileage 140 B/T 224 Comments Decided to do a short trip.
 (G) Final Shut-In 80 Sampler _____ loaded tools 2/4 20:00
 (H) Final Hydrostatic 1711 Straddle _____ EM Tool _____

Initial Open 30 Shale Packer 250 Ruined Shale Packer _____
 Initial Shut-In 30 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Extra Copies _____
 Final Shut-In 30 Day Standby _____ Sub Total 0
 Sub Total 1674 Accessibility _____ Total 1674
 MP/DST Disc't _____

Approved By _____ Our Representative Royal Fisher

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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: Carender #1
API: 15-065-24,181-0000
Location: Graham County
License Number:
Spud Date: 01/27/2020
Surface Coordinates: 370' FNL & 560' FEL
Bottom Hole Coordinates: Section 36, Township 7 South, Range 22 West
Vertical well w/ minimal deviation, same as above
Ground Elevation (ft): 2,180' **K.B. Elevation (ft):** 2,188'
Logged Interval (ft): 3,150' **To:** RTD **Total Depth (ft):** 3,790'
Formation: LKC, Arbuckle
Type of Drilling Fluid: Chemical (Andy's Mud)

Region: Kansas
Drilling Completed: 02/05/2020

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

OPERATOR

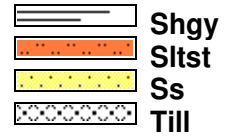
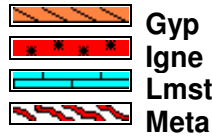
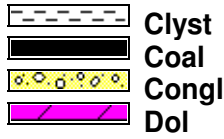
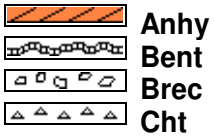
Company: John O. Farmer, Inc.
Address: P.O. Box 352
Russell, KS 67665

Comments

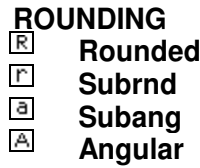
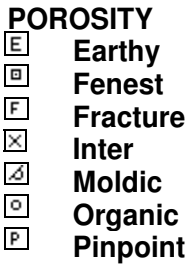
The Carender #1 well was drilled by Discovery Drilling Rig #4 (Tool Pusher: Galen Gaschler).

The location for the Carender #1 was discovered via 3D seismic survey. Rock samples were gathered and evaluated from 3,150'-3,790'. Oil shows were encountered in the Oread, Toronto, Lansing C,D, & E zones. Structurally, the Lansing top was picked 3' high to the comparison well, JM Wiesner #1 (Hollow Drilling). Five bottom-hole drill stem tests were conducted while drilling the Carender #1 (see results below). Structural thickening occurred below the B/KC, and the Arbuckle top was picked 14' low to the comparison well. After evaluation of all oil shows, drill stem test results, & electric logs, the decision was made to plug and abandon the Carender #1 well on 2/5/2020.

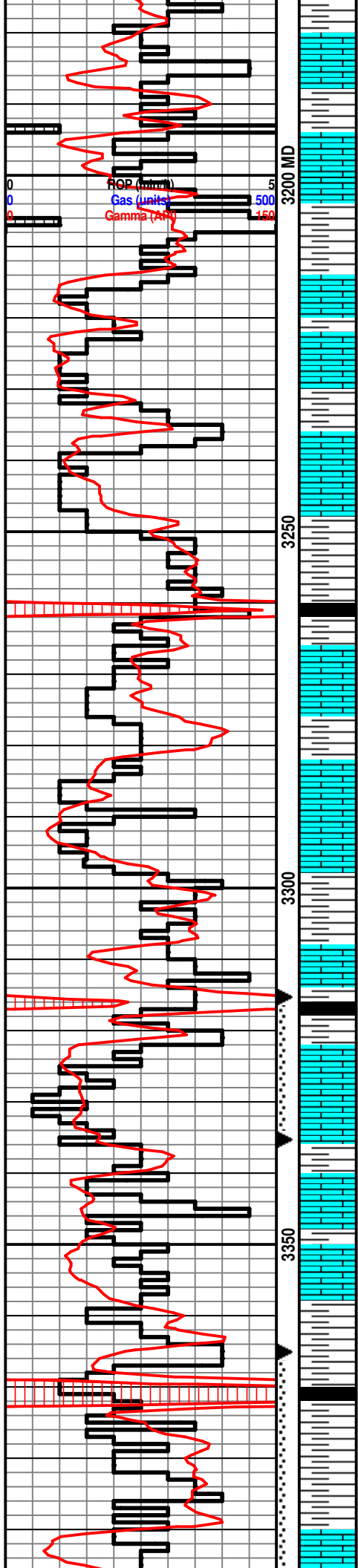
ROCK TYPES



OTHER SYMBOLS



Curve Track 1 ROP (min/ft) ——— Gas (units) - - - - - Gamma (API) ———	MD	Lithology <small>Oil Shows</small>	Geological Descriptions	DST/Mud/Survey																			
0 ROP (min/ft) 5 0 Gas (units) 500 0 Gamma (API) 150	30		The open-hole logging was performed by Mr. Casey Patterson with Gemini Wireline, LLC (Hays, KS). Logs included: Compensated Density Neutron, Dual Induction, and Microresistivity.	Mud Engineer: Brandon Mendez Tester: Royal Fisher																			
-1/27/2020 Spud @ 3:15 pm			Formation tops and datums from the open-hole logs include the following:																				
-1/28/2020 340', drilling			<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 2px solid black; padding-right: 5px;">Anhydrite</td> <td style="padding-right: 20px;">1753</td> <td>435</td> </tr> <tr> <td style="border-right: 2px solid black; padding-right: 5px;">Topeka</td> <td style="padding-right: 20px;">3160</td> <td>-972</td> </tr> <tr> <td style="border-right: 2px solid black; padding-right: 5px;">Heebner</td> <td style="padding-right: 20px;">3369</td> <td>-1181</td> </tr> <tr> <td style="border-right: 2px solid black; padding-right: 5px;">Toronto</td> <td style="padding-right: 20px;">3390</td> <td>-1202</td> </tr> <tr> <td style="border-right: 2px solid black; padding-right: 5px;">Lansing</td> <td style="padding-right: 20px;">3403</td> <td>-1215</td> </tr> <tr> <td style="border-right: 2px solid black; padding-right: 5px;">B/KC</td> <td style="padding-right: 20px;">3602</td> <td>-1414</td> </tr> </table>		Anhydrite	1753	435	Topeka	3160	-972	Heebner	3369	-1181	Toronto	3390	-1202	Lansing	3403	-1215	B/KC	3602	-1414	Wt: 8.7 Vis: 51
Anhydrite	1753	435																					
Topeka	3160	-972																					
Heebner	3369	-1181																					
Toronto	3390	-1202																					
Lansing	3403	-1215																					
B/KC	3602	-1414																					
-1/29/2020 2,075', drilling																							
-1/30/2020 3,000', drilling																							
-1/31/2020 3,335', DST #1																							
-2/1/2020 3,448', DST #3																							
-2/2/2020 3,488', on bank, will resume drilling 2/3/2020	3100																						
-2/3/2020 3,488', trip in hole w/ bit																							
-2/4/2020 3,665', drilling																							
-2/5/2020 3,790', completed																							
	3150		Sh: drk gry Topeka 3163' (-975) Ls: off wh-lt gry, fn-sub xln, mostly DNS, scat foss																				



Ls: off wh-lt gry, fn xln, scat foss, poor int foss porosity, NSFO

Sh: lt-drk gry

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

Ls: off wh, fn xln, foss, fair int foss porosity, scat lt oil stn, sl odor

Ls: off wh, fn xln, scat foss, poor-fair int foss porosity, NSFO, scat chalk, chert

Sh: lt-drk gry

Sh: drk gry-blk

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

Sh: lt drk-drk brn-rd, soft

Ls: off wh, fn xln, fair int part porosity, scat lt oil stn, lt odor, chalky

Sh: lt-drk gry, scat soft

Oread 3322' (-1134)

Ls: off wh-tan, fn xln, fair-good int xln & int part porosity, hvly tarry oil, FSO, sl-fair odor

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

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

Heebner 3368' (-1180)

Sh: blk, carb, fissile

Sh: lt-drk gry

Toronto 3392' (-1204)

Ls: off wh-tan, fn xln, fair int vug porosity, sl-fair oil stn in porosity, SSFO, sl-fair odor

DST #1 3.315-3.335' (Oread)

30"-30"-30"30"

IF: BOB in 5 minutes, no blow back on shut in

FF: BOB in 5 minutes, no blow back on shut in

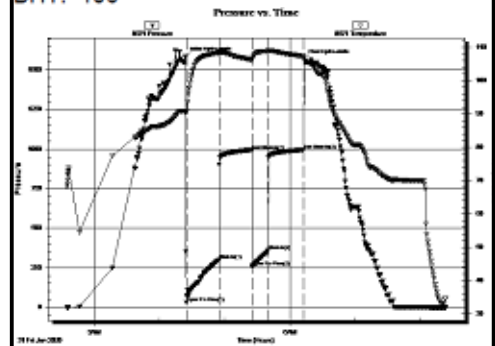
Rec: 635' Muddy Water (5% M, 95% W)

FP: 31-300, 257-358#

SIP: 992-995#

HP: 1,586-1,567#

BHT: 106°



Wt: 8.9

Vis: 54

DST #2 3.365-3.402' (Toronto)

30"-30"-15"30"

IF: BOB in 2 minutes, no blow back on shut in

FF: BOB in 10 minutes, no blow back on shut in

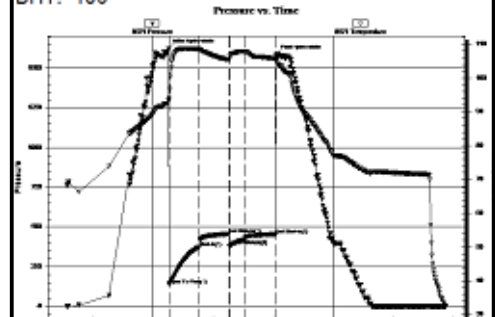
Rec: 853' Muddy Water (20% M, 80% W) (Chl. 48K)

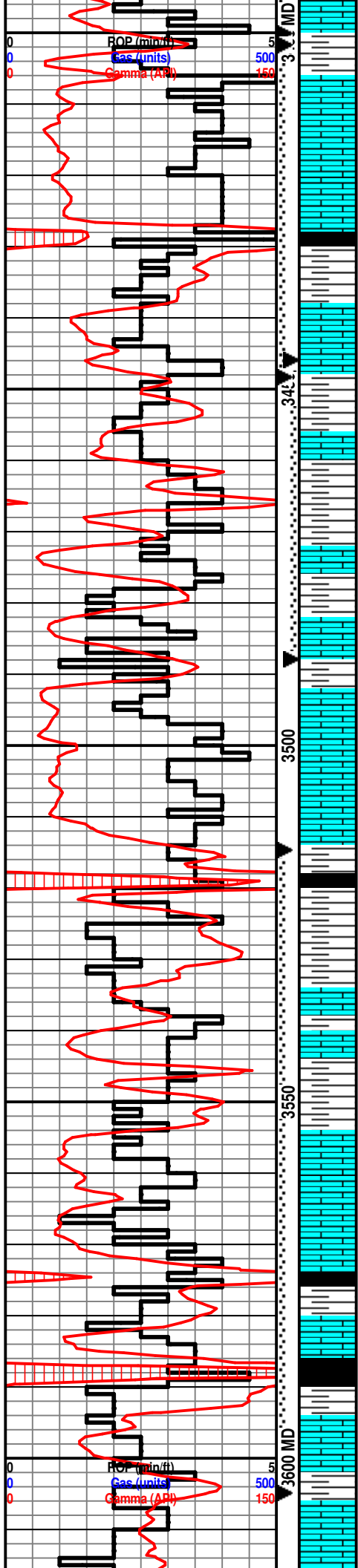
FP: 138-372, 378-420#

SIP: 455-453#

HP: 1,623-1,583#

BHT: 106°





Sh: lt gry-drk gry-brn

Lansing 3405' (-1217)

Ls: off wh-tan, fn xln, poor int lxn porosity, mostly barren, scat chert-off wh

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

Sh: lt-drk gry

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

Sh: lt-drk gry-drk, soft

Ls: off wh-tan, fn xln, poor-fair pp vuggy porosity, scat-fair oil stn in porosity, SSFO, sl odor

Sh: lt-drk gry-brn

Ls: off wh-tan, fn xln, foss, poor-fair int xln & int foss porosity, sl-fair oil sat in porosity, SSFO, sl odor

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

Sh: lt-drk gry

Ls: off wh-tan-lt gry, fn xln, poor int xln porosity, mostly barren, scat chert-off wh

Sh: blk, carb

Sh: lt-drk gry

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

Sh: lt-drk gry

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

Sh: lt-drk gry

Ls: off wh-tan, fn xln, scat fair int xln & int part porosity, scat-sl oil sat, sl odor

Sh: lt gry

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

Sh: lt-drk gry

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

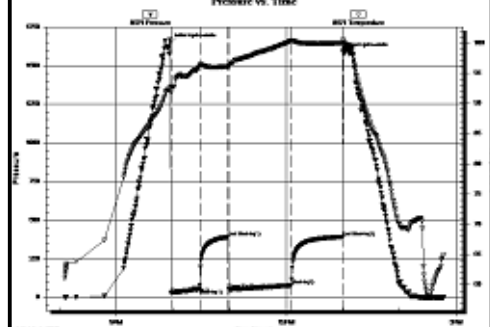
B/KC 3603' (-1415)

Sh: lt-drk gry

Sh: lt-drk gry-brn

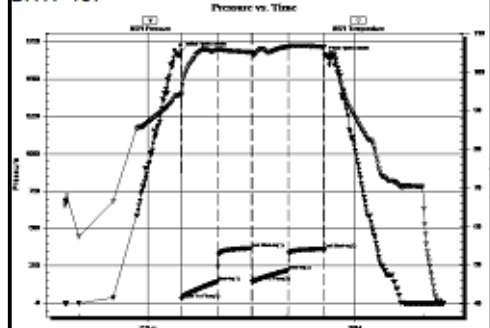
DST #3 3,400-3,448' (LKC A-C)

30"-30"-60"60"
 IF: weak blow built to 6.25"
 FF: weak blow built to 4.25"
 Rec: 139' Muddy Water (50% M, 50% W) (Chl. 28K)
 FP: 29-52, 51-78#
 SIP: 390-391#
 HP: 1,646-1,584#
 BHT: 101°



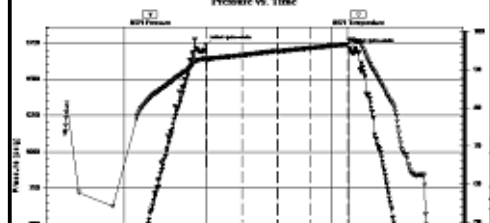
DST #4 3,446-3,488' (LKC D-F)

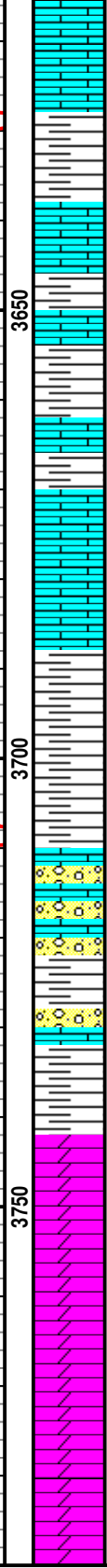
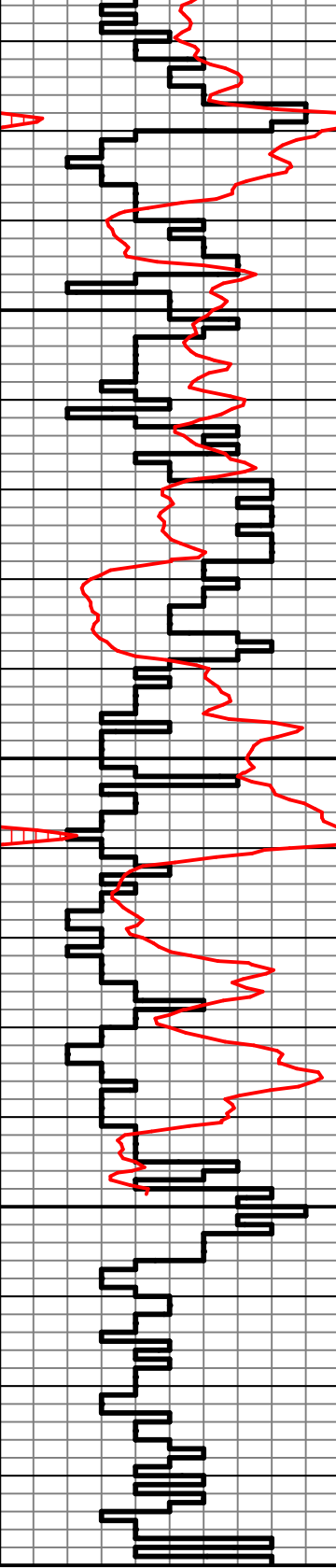
30"-30"-30"30"
 IF: BOB in 7 minutes, no blow back on shut in
 FF: BOB in 15 minutes, no blow back on shut in
 Rec: 434' Muddy Water (20% M, 80% W) (Chl. 52K)
 FP: 28-143, 143-219#
 SIP: 368-364#
 HP: 1,683-1,654#
 BHT: 107°



DST #5 3,515-3,605' (LKC H-L)

30"-30"-30"-30"
 IF: weak blow built to 1"
 FF: weak blow died in 15 minutes
 Rec: 2' Mud
 FP: 15-17, 16-17#
 SIP: 128-80#
 HP: 1,734-1,711#
 BHT: 98°





Ls: tan-gry, fn-sub xln, mostly DNS, no visible porosity, barren, scat chert-off wh, scat sh: drk gry

Sh: lt-drk gry-brn

Ls: tan-gry, fn xln, poor int xln porosity, scat foss, scat chert-off wh, scat sltst

Sh: lt-drk gry

Ls: off wh-lt gry, fn-sub xln, mostly DNS, scat foss, scat chert, scat sltst

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

Sh: drk gry-brn, scat soft

Cong: tan-brn, fn xln, ool, poor ool porosity, hvly chert-off wh

Sh: lt-drk gry

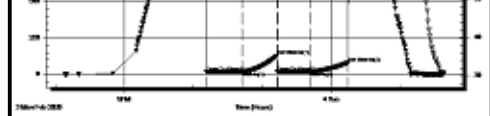
Arbuckle 3745' (-1557)

Dolo: off wh-lt gry, fn xln, poor-fair int xln porosity, barren, scat chert-off wh

Dolo: off wh-tan, fn-md xln, poor-fair int xln porosity, scat fair hvly tarry oil in porosity, sl odor

Dolo: off wh-lt gry, fn-md xln, poor int xln porosity, mostly barren, NSFO, scat chalk, scat chert-off wh

Dolo: off wh-lt gry, fn xln, poor int xln porosity, barren, scat chert



Wt: 9.2
Vis: 53

Final Survey: 1 degree