

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](mailto: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
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------

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) (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	NUSS C 1
Doc ID	1376468

All Electric Logs Run

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

Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	NUSS C 1
Doc ID	1376468

Tops

Name	Top	Datum
Anhydrite	1274	(+795)
Topeka	3056'	(-987)
Heebner	3292'	(-1223)
Toronto	3312'	(-1243)
Lansing	3338'	(-1269)
Base/KC	3565'	(-1496)
Arbuckle	3583'	(-1514)
L.T.D.	3683'	(-1614)



# GLOBAL OIL FIELD SERVICES, LLC

3123

REMIT TO 24 S. Lincoln  
Russell, KS 67665

SERVICE POINT:  
8215011

DATE <u>8/22/17</u>	SEC. <u>19</u>	TWP. <u>13</u>	RANGE <u>21</u>	CALLED OUT	ON LOCATION <u>5:30 PM</u>	JOB START	JOB FINISH <u>1:00 PM</u>
LEASE <u>NUSS</u>	WELL # <u>21</u>	LOCATION <u>NUSS 21 SE</u>			COUNTY <u>211</u>	STATE <u>KS</u>	
OLD OR NEW (CIRCLE ONE)							

CONTRACTOR <u>D. J. Farmer Inc</u>	OWNER
TYPE OF JOB <u>SPUR LINE</u>	CEMENT AMOUNT ORDERED
HOLE SIZE <u>5 1/2" ID</u>	<u>150 lbs 8090 3% 24 Gal</u>
CASING SIZE	COMMON @
TUBING SIZE	POZMIX @
DRILL PIPE	GEL @
TOOL	CHLORIDE @
PRES. MAX.	ASC @
MEAS. LINE	@
CEMENT LEFT IN CSG. <u>15</u>	@
PERFS	@
DISPLACEMENT <u>13 bbls</u>	@
EQUIPMENT	@
PUMP TRUCK #	CEMENTER HELPER <u>BILL JASON</u>
BULK TRUCK #	DRIVER <u>MARIS</u>
BULK TRUCK #	DRIVER

REMARKS:

Ran 15 lbs of 8090 cement  
in 1500' line 3-2  
pump plus 4 bbls of water  
from 1st cell.  
THANKS

CHARGE TO: J O FARMER INC  
STREET: P.O. BOX 352  
CITY: Russell STATE: KS ZIP: 67665-0352

Global Oil Field Services, LLC  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME J O Farmer  
SIGNATURE [Signature]

COMMON	@	
POZMIX	@	
GEL	@	
CHLORIDE	@	
ASC	@	
HANDLING	@	
MILEAGE	@	
		TOTAL

SERVICE

DEPTH OF JOB		
PUMP TRUCK CHARGE		
EXTRA FOOTAGE	@	
MILEAGE	@	
MANIFOLD	@	
	@	
	@	
		TOTAL

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
		TOTAL

(Did not)  
SALES TAX (if Any) 4.7%  
TOTAL CHARGES 150.00  
DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

# 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. **371**

Date	Sec.	Twp.	Range	County	State	On Location	Finish
8-29-17	32	12	17	Ellis	KS		12:45 PM

Location **1/2 mile N Emmertown Rd 3/4 E onto**

Lease **Nuss C** Well No. **1** Owner

Contractor **Discovery #2**  
Type Job **Production String**  
To Quality Oilwell Cementing, Inc.  
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Hole Size **7 7/8** T.D. **3680** Charge To **SO Farmer**

Csg. **5 1/2** Depth **3677** Street

Tbg. Size Depth City State

Tool **Port Collar** Depth **1268** The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. **43.39** Shoe Joint **43.39** Cement Amount Ordered **175 com 10/ Salt 5/ Gilsenite**

Meas Line Displace **88 1/2 BBL** **500 gal mud clear 70 BBL KCL**

**EQUIPMENT**

Pumptrk <b>5</b> No. Cementer <b>g</b>	Helper <b>Brett</b>	Poz. Mix
Bulktrk No. Driver <b>Brett</b>	Driver	Gel.
Bulktrk <b>15</b> No. Driver <b>Jordan</b>	Driver	Calcium

**JOB SERVICES & REMARKS**

Remarks:	Hulls
Rat Hole <b>30SK</b>	Salt
Mouse Hole <b>15SK</b>	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
<b>5 1/2 sp @ 3677</b>	Sand
<b>Buttler @ 3633.61</b>	Handling
<b>2st. Circulation Pump 500 gal mud clear</b>	Mileage
<b>4 10 BBL KCL. Plug Kothole mousehole.</b>	

**FLOAT EQUIPMENT**

<b>13 1/2 KBL Displacement with KCL</b>	Guide Shoe <b>Rotating Scratchers 15</b>
<b>Cement 5 1/2 with 130SK</b>	Centralizer <b>6</b>
<b>Clear lines + Displace Plug</b>	Baskets <b>1</b>
<b>Plug land @ 1500 ft</b>	AFU Inserts <b>Port Collar</b>
	Float Shoe <b>1</b>
	Latch Down <b>1</b>

Pumptrk Charge

Mileage

Signature  Tax

Discount

Total Charge

# 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. 399

Date	9-28-17	Sec.		Twp.		Range		County	Ellis	State	KS	On Location		Finish	10/09/17
Lease								Well No.		Owner					
Auss								C-1		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.					
Contractor										Charge To					
Western										J.D. Farmer					
Type Job										The above was done to satisfaction and supervision of owner agent or contractor.					
Port Color										Cement Amount Ordered					
Hole Size								T.D.		275 3/20 QMDC 44# Plb					
7 7/8										1091 used 175					
Csg.								Depth		Common					
5 1/2										175 3/20 QMDC					
Tbg. Size								Depth		Poz. Mix					
7 3/8										8					
Tool								Depth		Calcium					
Port Color								1264		Hulls					
Cement Left in Csg.								Shoe Joint		Salt					
Meas Line								Displace		Flowseal					
								4.3L		60#					
<b>EQUIPMENT</b>															
Pumptrk		No.		Cementer		Helper		Driver		Gel.					
5				Mike		Brett		David		8					
Bulktrk		No.		Driver		Driver		Driver		Handling					
19				David						275					
<b>JOB SERVICES &amp; REMARKS</b>															
Remarks:								Hulls							
Rat Hole								Salt							
Mouse Hole								Flowseal							
Centralizers								Kol-Seal							
Baskets								Mud CLR 48							
D/V or Port Collar								CFL-117 or CD110 CAF 38							
Test 5 1/2 to 900'								Sand							
Spot Gel to Tool								Handling							
Open Tool & Bst Circulation								275							
USED 8 gal Gel of 1755K & Cement over tool								Mileage							
Close Tool & Pressure to 900'								<b>FLOAT EQUIPMENT</b>							
Run 5 joints & Wash clean								Guide Shoe							
USED 8 gal x 1755K								Centralizer							
								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge							
								port collar							
								Mileage							
								15							
												Tax			
												Discount			
												Total Charge			
X Signature		U. [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: Nuss "C" # 1 Location: 920 FSL - 1510 FEL  
SE/NE/SW/SE  
Section 32/ 12S/ 17W  
Ellis County, KS

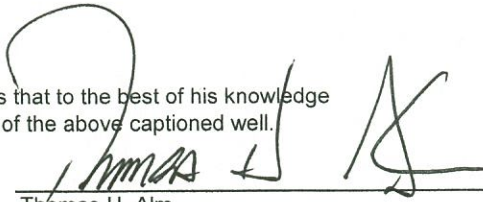
Loggers Total Depth: 3683' API#15- 051-26,887-00-00-  
Rotary Total Depth: 3680' Elevation: 2068 GL - 2069 KB  
Commenced: 8/22/2017 Completed: 8/29/2017  
Casing: 8 5/8" @ 220.89'W/150sks Status: Oilwell  
5 1/2" @ 3677'W/130sks  
(Port Collar @ 126')

### DEPTHS & FORMATIONS (All from KB)

Surface, Sand & Shale	<u>0'</u>	Shale	<u>1318'</u>
Dakota Sand	<u>641'</u>	Shale & Lime	<u>1902'</u>
Shale	<u>671'</u>	Shale	<u>2314'</u>
Cedar Hill Sand	<u>714'</u>	Shale & Lime	<u>2748'</u>
Red Bed Shale	<u>930'</u>	Lime & Shale	<u>3220'</u>
Anhydrite	<u>1278'</u>	RTD	<u>3680'</u>
Base Anhydrite	<u>1319'</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.

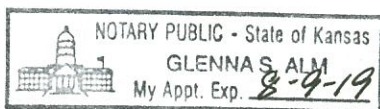
  
\_\_\_\_\_  
Thomas H. Alm

Subscribed and sworn to before me on 9-5-17

My Commission expires: 8-9-19

(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

**Nuss 'C' #1**

**32-12S-17W Ellis,KS**

Start Date: 2017.08.26 @ 08:33:00

End Date: 2017.08.26 @ 14:17:00

Job Ticket #: 63034                      DST #: 1

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

Printed: 2017.08.29 @ 11:56:09



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

John O. Farmer, Inc.  
PO Box 352  
Russell KS 67665+2635  
ATTN: Austin Klaus

**32-12S-17W Ellis,KS**  
**Nuss 'C' #1**  
Job Ticket: 63034      **DST#: 1**  
Test Start: 2017.08.26 @ 08:33:00

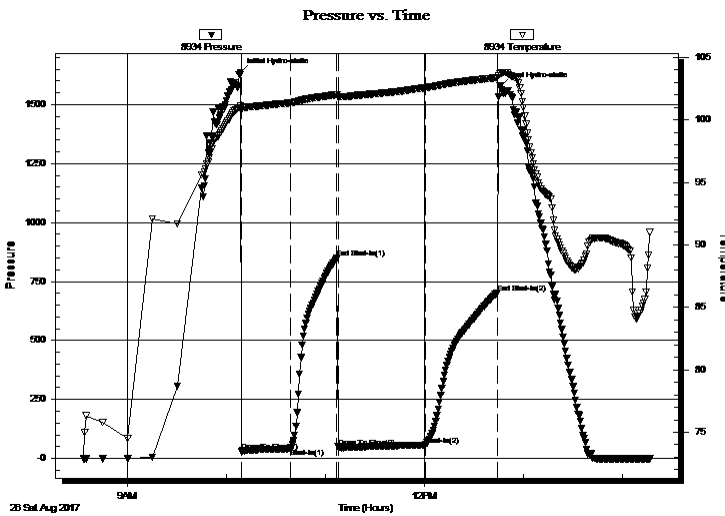
## GENERAL INFORMATION:

Formation: **LKC 'A-D'**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 10:09:00  
Time Test Ended: 14:17:00  
Interval: **3316.00 ft (KB) To 3396.00 ft (KB) (TVD)**  
Total Depth: 3396.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Poor  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Spencer J. Staab  
Unit No: 84  
Reference Elevations: 2069.00 ft (KB)  
2061.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8934      Inside**  
Press@RunDepth: 57.01 psig @ 3317.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2017.08.26      End Date: 2017.08.26      Last Calib.: 2017.08.26  
Start Time: 08:33:15      End Time: 14:17:00      Time On Btm: 2017.08.26 @ 10:08:30  
Time Off Btm: 2017.08.26 @ 12:45:45

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 1 3/4"  
30-ISI-No Return  
45-FF-Weak Blow ; Built to 3/4"  
45-FSI-No Return

## PRESSURE SUMMARY



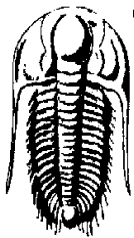
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1636.77	101.14	Initial Hydro-static
1	30.60	100.79	Open To Flow (1)
31	41.87	101.36	Shut-In(1)
59	848.49	102.01	End Shut-In(1)
60	49.09	101.82	Open To Flow (2)
112	57.01	102.57	Shut-In(2)
156	702.88	103.36	End Shut-In(2)
158	1578.34	103.72	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
80.00	Mud w/oil specks 100%M	0.59

## 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

**32-12S-17W Ellis, KS**  
**Nuss 'C' #1**  
Job Ticket: 63034 **DST#: 1**  
Test Start: 2017.08.26 @ 08:33:00

### GENERAL INFORMATION:

**Formation:** LKC 'A-D'  
**Deviated:** No Whipstock: ft (KB)  
**Time Tool Opened:** 10:09:00  
**Time Test Ended:** 14:17:00  
**Test Type:** Conventional Bottom Hole (Initial)  
**Tester:** Spencer J. Staab  
**Unit No:** 84  
**Interval:** 3316.00 ft (KB) To 3396.00 ft (KB) (TVD)  
**Reference Elevations:** 2069.00 ft (KB) 2061.00 ft (CF)  
**Total Depth:** 3396.00 ft (KB) (TVD)  
**Hole Diameter:** 7.88 inches **Hole Condition:** Poor  
**KB to GR/CF:** 8.00 ft

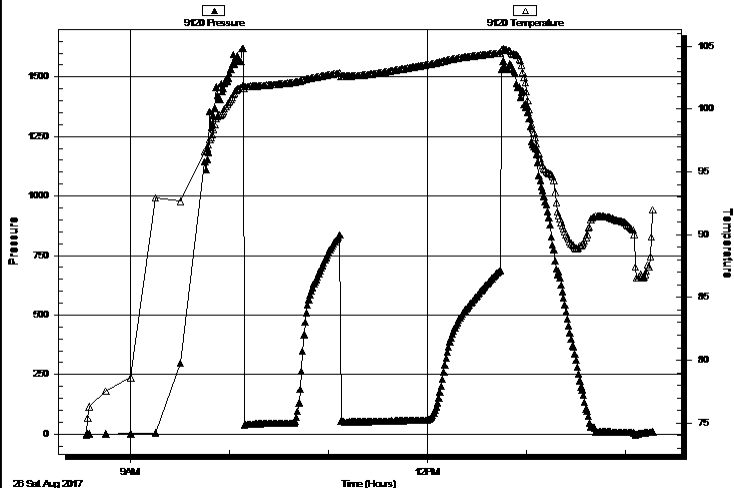
### Serial #: 9120

Inside

**Press@RunDepth:** psig @ 3317.00 ft (KB) **Capacity:** 8000.00 psig  
**Start Date:** 2017.08.26 **End Date:** 2017.08.26 **Last Calib.:** 2017.08.26  
**Start Time:** 08:33:15 **End Time:** 14:17:00 **Time On Btm:**  
**Time Off Btm:**

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 1 3/4"  
30-ISI-No Return  
45-FF-Weak Blow ; Built to 3/4"  
45-FSI-No Return

Pressure vs. Time



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
80.00	Mud w /oil specks 100%M	0.59

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O. Farmer, Inc.

**32-12S-17W Ellis,KS**

PO Box 352  
Russell KS 67665+2635

**Nuss 'C' #1**

Job Ticket: 63034

**DST#: 1**

ATTN: Austin Klaus

Test Start: 2017.08.26 @ 08:33:00

## Tool Information

Drill Pipe:	Length: 3063.00 ft	Diameter: 3.80 inches	Volume: 42.97 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 249.00 ft	Diameter: 2.75 inches	Volume: 1.83 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 44.80 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3316.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	100.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3297.00	
Shut In Tool	5.00			3302.00	
Hydraulic tool	5.00			3307.00	
Packer	5.00			3312.00	20.00 Bottom Of Top Packer
Packer	4.00			3316.00	
Stubb	1.00			3317.00	
Recorder	0.00	9120	Inside	3317.00	
Recorder	0.00	8934	Inside	3317.00	
Perforations	1.00			3318.00	
Change Over Sub	1.00			3319.00	
Drill Pipe	63.00			3382.00	
Change Over Sub	1.00			3383.00	
Perforations	9.00			3392.00	
Bullnose	4.00			3396.00	80.00 Bottom Packers & Anchor

**Total Tool Length: 100.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O. Farmer, Inc.

**32-12S-17W Ellis,KS**

PO Box 352  
Russell KS 67665+2635

**Nuss 'C' #1**

Job Ticket: 63034

**DST#: 1**

ATTN: Austin Klaus

Test Start: 2017.08.26 @ 08:33:00

## 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: 45.00 sec/qt

Cushion Volume: bbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	Mud w /oil specks 100%M	0.588

Total Length: 80.00 ft      Total Volume: 0.588 bbl

Num Fluid Samples: 0

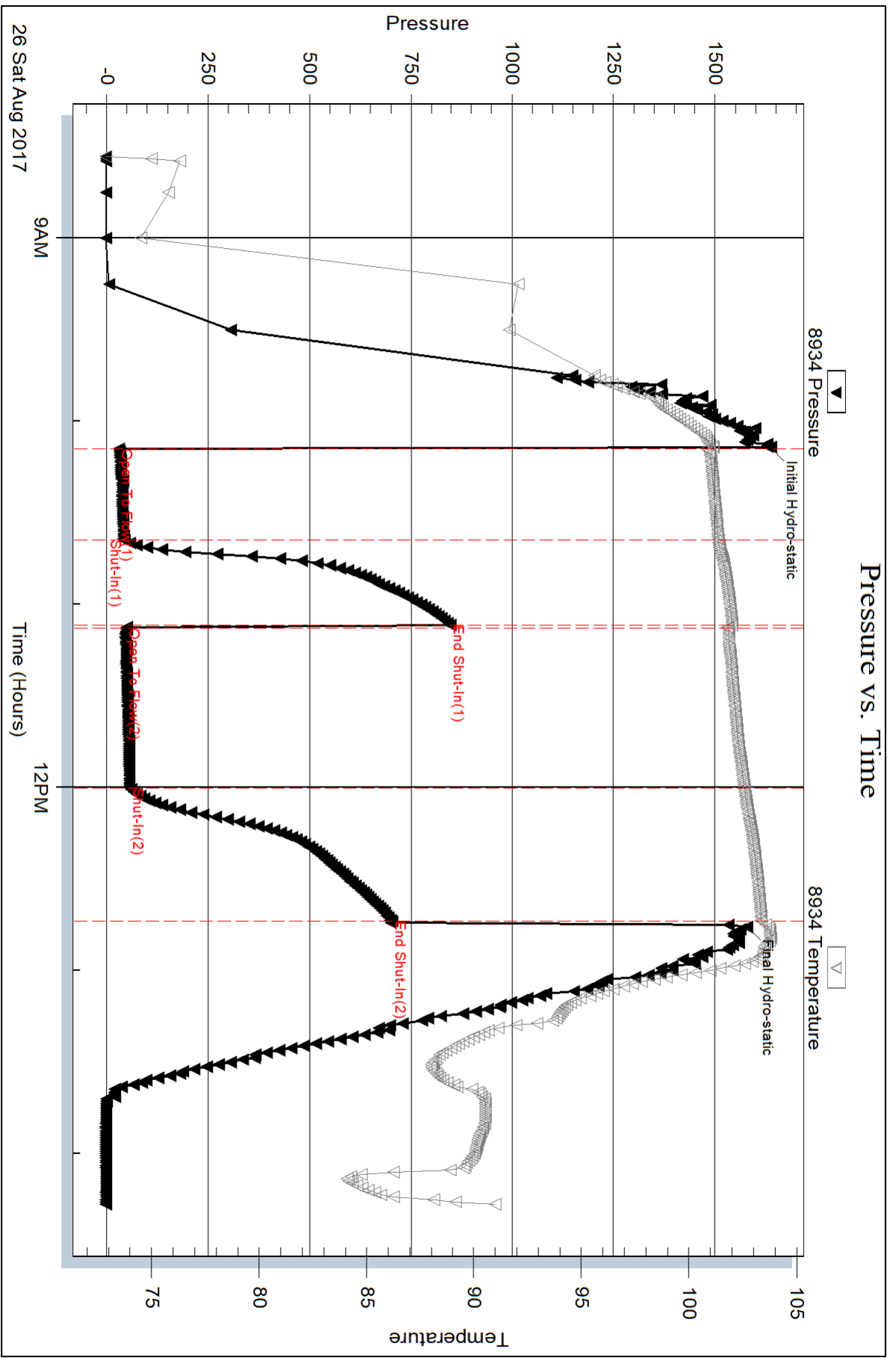
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 3#LCM



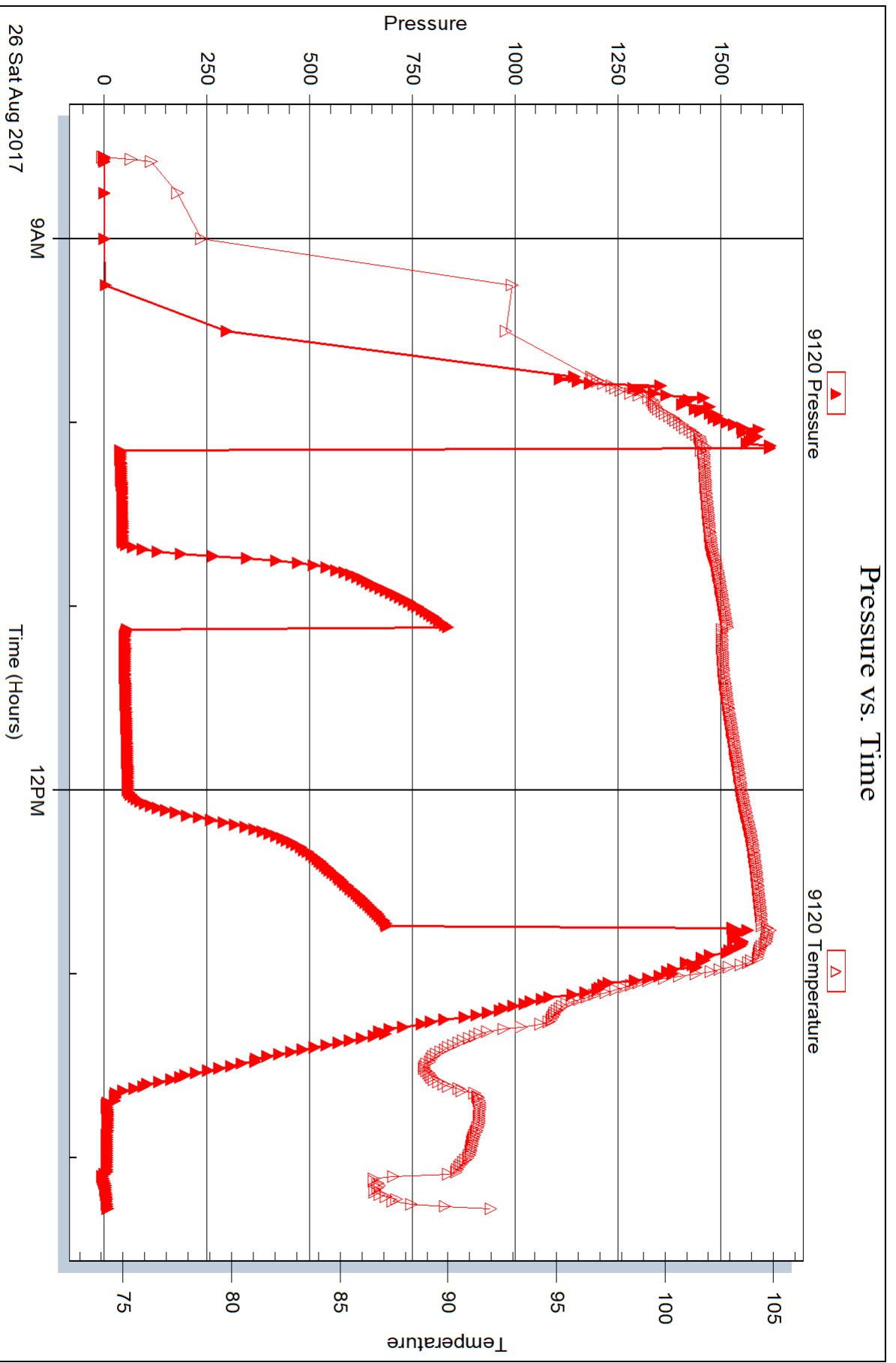
Serial #: 9120

Inside

John O. Farmer, Inc.

Nuss 'C' #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 63034

Printed: 2017.08.29 @ 11:56:10





## DRILL STEM TEST REPORT

Prepared For: **John O. Farmer, Inc.**

PO Box 352  
Russell KS 67665+2635

ATTN: Austin Klaus

**Nuss 'C' #1**

**32-12S-17W Ellis,KS**

Start Date: 2017.08.26 @ 21:03:00

End Date: 2017.08.27 @ 03:18:45

Job Ticket #: 63034                      DST #: 2

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

Printed: 2017.08.29 @ 11:54:20



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

John O. Farmer, Inc.  
PO Box 352  
Russell KS 67665+2635  
ATTN: Austin Klaus

**32-12S-17W Ellis, KS**  
**Nuss 'C' #1**  
Job Ticket: 63034      **DST#: 2**  
Test Start: 2017.08.26 @ 21:03:00

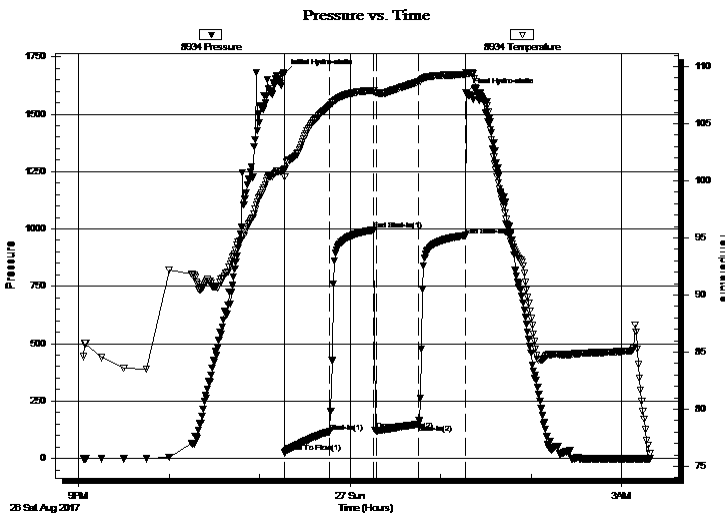
## GENERAL INFORMATION:

Formation: **LKC 'E-F'**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 23:16:45      Tester: Spencer J. Staab  
Time Test Ended: 03:18:45      Unit No: 84  
**Interval: 3394.00 ft (KB) To 3418.00 ft (KB) (TVD)**      Reference Elevations: 2069.00 ft (KB)  
Total Depth: 3418.00 ft (KB) (TVD)      2061.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Poor      KB to GR/CF: 8.00 ft

**Serial #: 8934      Outside**  
Press@RunDepth: 149.83 psig @ 3396.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2017.08.26      End Date: 2017.08.27      Last Calib.: 2017.08.27  
Start Time: 21:03:15      End Time: 03:18:45      Time On Btm: 2017.08.26 @ 23:16:30  
Time Off Btm: 2017.08.27 @ 01:17:00

**TEST COMMENT:** 30-IF-Strong Blow ; BOB in 6 mins  
30-ISI-Weak Return; Built to 2 1/2"  
30-FF-Strong Blow ; BOB in 8 mins  
30-FSI-Weak Return; Built to

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.87	101.08	Initial Hydro-static
1	25.25	100.34	Open To Flow (1)
30	114.79	106.55	Shut-In(1)
60	995.77	107.92	End Shut-In(1)
61	120.84	107.72	Open To Flow (2)
89	149.83	108.66	Shut-In(2)
120	971.72	109.29	End Shut-In(2)
121	1593.13	109.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCGMW 5%O 20%G 20%M 55%W	0.44
30.00	OCWM 10%O 30%W 60%M	0.22
210.00	WMCGO 5%W 15%M 25%G 55%O	1.88
20.00	MCO 10%M 90%O	0.28
0.00	500' 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

**32-12S-17W Ellis, KS**  
**Nuss 'C' #1**  
Job Ticket: 63034      **DST#: 2**  
Test Start: 2017.08.26 @ 21:03:00

## GENERAL INFORMATION:

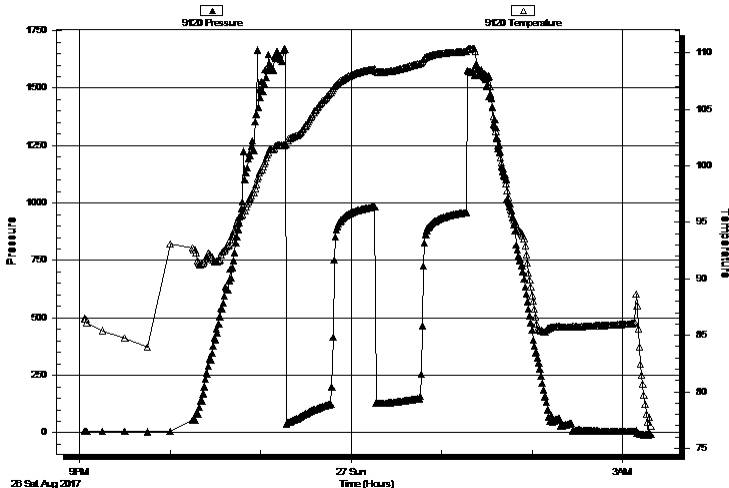
Formation: **LKC 'E-F'**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 23:16:45  
Time Test Ended: 03:18:45  
Interval: **3394.00 ft (KB) To 3418.00 ft (KB) (TVD)**  
Total Depth: 3418.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Poor  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Spencer J. Staab  
Unit No: 84  
Reference Elevations: 2069.00 ft (KB)  
2061.00 ft (CF)  
KB to GR/CF: 8.00 ft

## Serial #: 9120 Inside

Press@RunDepth:                      psig @      3396.00 ft (KB)                      Capacity:                      8000.00 psig  
Start Date:                      2017.08.26                      End Date:                      2017.08.27                      Last Calib.:                      2017.08.27  
Start Time:                      21:03:15                      End Time:                      03:18:45                      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 30-IF-Strong Blow ; BOB in 6 mins  
30-ISI-Weak Return; Built to 2 1/2"  
30-FF-Strong Blow ; BOB in 8 mins  
30-FSI-Weak Return; Built to

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCGMW 5%O 20%G 20%M 55%W	0.44
30.00	OCWM 10%O 30%W 60%M	0.22
210.00	WMCGO 5%W 15%M 25%G 55%O	1.88
20.00	MCO 10%M 90%O	0.28
0.00	500' 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.

**32-12S-17W Ellis, KS**

PO Box 352  
Russell KS 67665+2635

**Nuss 'C' #1**

Job Ticket: 63034

**DST#: 2**

ATTN: Austin Klaus

Test Start: 2017.08.26 @ 21:03:00

## Tool Information

Drill Pipe:	Length: 3158.00 ft	Diameter: 3.80 inches	Volume: 44.30 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 249.00 ft	Diameter: 2.75 inches	Volume: 1.83 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 46.13 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3394.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3375.00	
Shut In Tool	5.00			3380.00	
Hydraulic tool	5.00			3385.00	
Packer	5.00			3390.00	20.00 Bottom Of Top Packer
Packer	4.00			3394.00	
Stubb	1.00			3395.00	
Perforations	1.00			3396.00	
Recorder	0.00	9120	Inside	3396.00	
Recorder	0.00	8934	Outside	3396.00	
Perforations	18.00			3414.00	
Bullnose	4.00			3418.00	24.00 Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O. Farmer, Inc.

**32-12S-17W Ellis,KS**

PO Box 352  
Russell KS 67665+2635

**Nuss 'C' #1**

Job Ticket: 63034

**DST#: 2**

ATTN: Austin Klaus

Test Start: 2017.08.26 @ 21:03:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

19 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

50000 ppm

Viscosity: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	OCGMW 5%O 20%G 20%M 55%W	0.441
30.00	OCWM 10%O 30%W 60%M	0.220
210.00	WMCGO 5%W 15%M 25%G 55%O	1.883
20.00	MCO 10%M 90%O	0.281
0.00	500' GIP	0.000

Total Length: 320.00 ft      Total Volume: 2.825 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

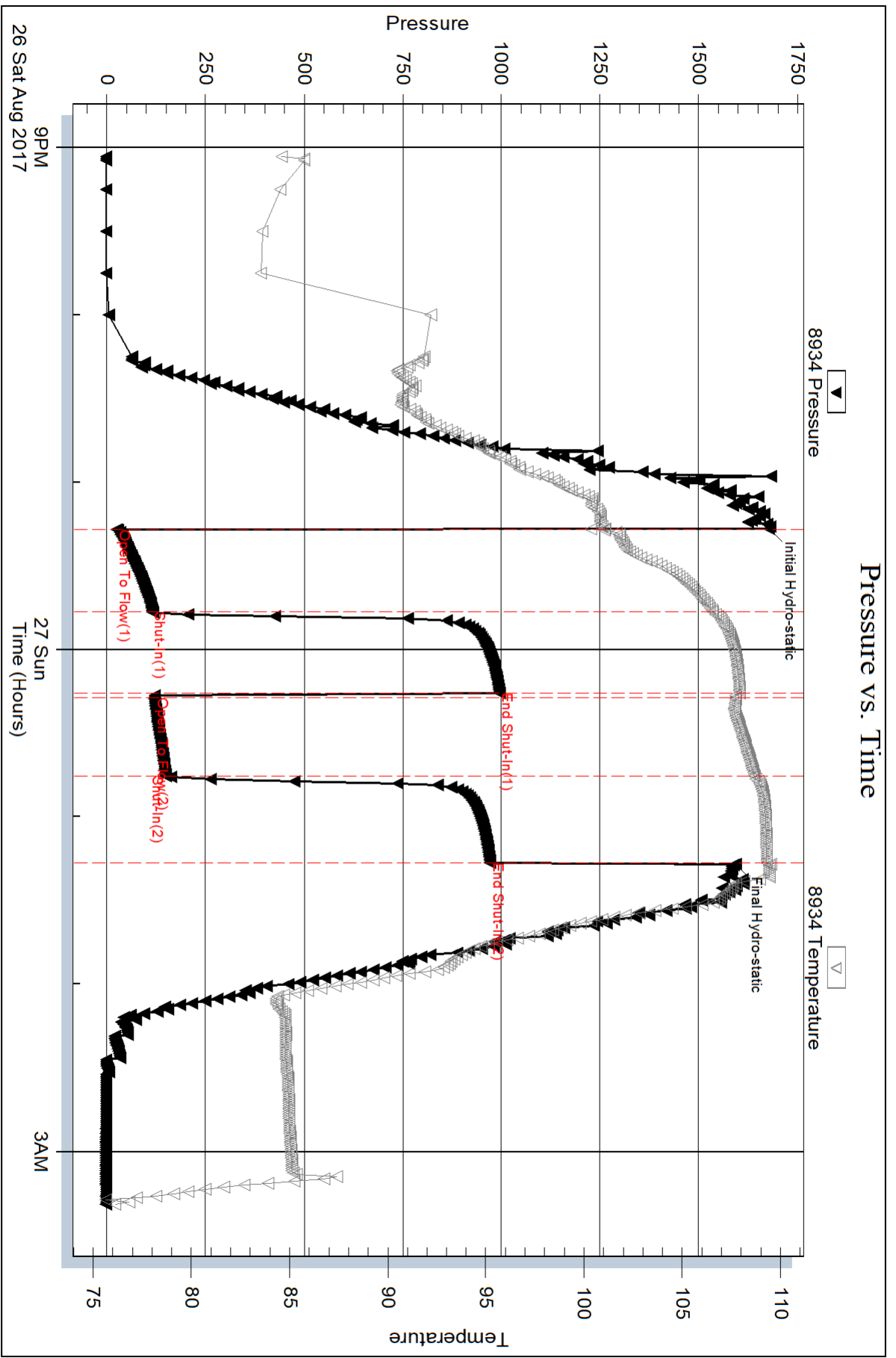
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 3#LCM

Rw = .163@68degrees



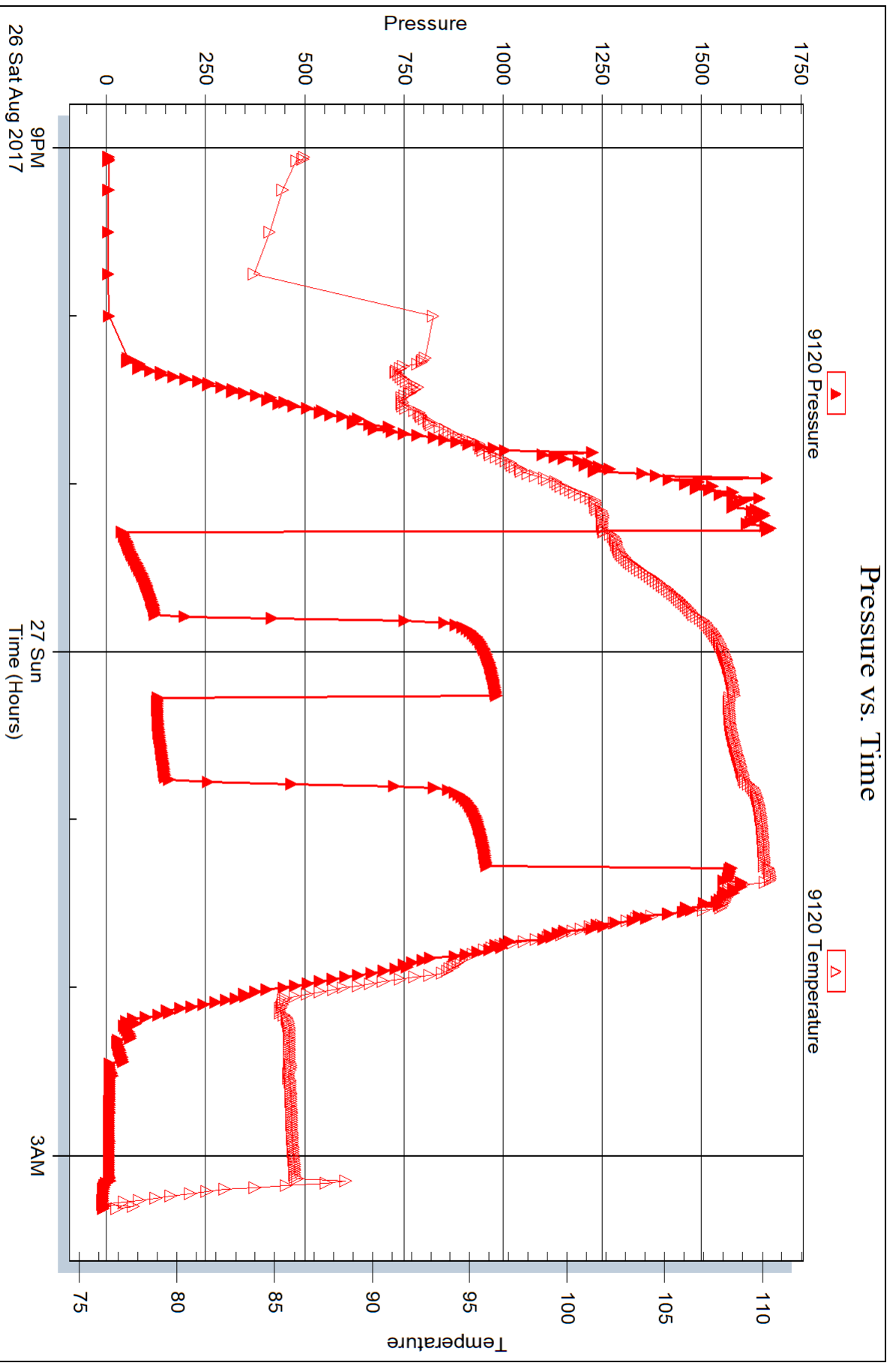
Serial #: 9120

Inside

John O. Farmer, Inc.

Nuss 'C' #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 63034

Printed: 2017.08.29 @ 11:54:21



## DRILL STEM TEST REPORT

Prepared For: **John O. Farmer, Inc.**

PO Box 352  
Russell KS 67665+2635

ATTN: Austin Klaus

**Nuss 'C' #1**

**32-12S-17W Ellis,KS**

Start Date: 2017.08.27 @ 16:08:00

End Date: 2017.08.27 @ 21:46:00

Job Ticket #: 63036                      DST #: 3

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

Printed: 2017.08.29 @ 11:53:47

John O. Farmer, Inc. 32-12S-17W Ellis,KS Nuss 'C' #1 DST # 3 LKC 'H - J' 2017.08.27





**TRILOBITE**  
**TESTING, INC.**

**DRILL STEM TEST REPORT**

John O. Farmer, Inc.

PO Box 352  
Russell KS 67665+2635

ATTN: Austin Klaus

**32-12S-17W Ellis, KS**

**Nuss 'C' #1**

Job Ticket: 63036

**DST#: 3**

Test Start: 2017.08.27 @ 16:08:00

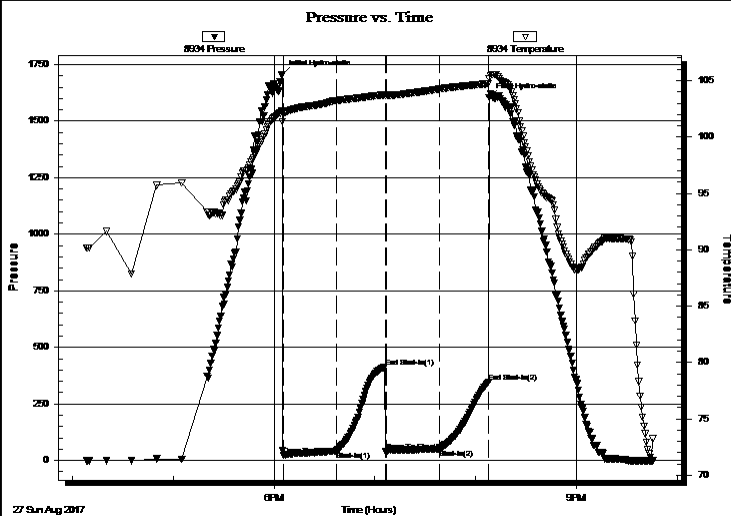
**GENERAL INFORMATION:**

Formation: **LKC 'H - J'**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 18:05:30  
 Tester: Spencer J. Staab  
 Time Test Ended: 21:46:00  
 Unit No: 84  
 Interval: **3450.00 ft (KB) To 3520.00 ft (KB) (TVD)**  
 Reference Elevations: 2069.00 ft (KB)  
 Total Depth: 3520.00 ft (KB) (TVD)  
 2061.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 8.00 ft

**Serial #: 8934 Inside**

Press@RunDepth: 51.23 psig @ 3451.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.08.27 End Date: 2017.08.27 Last Calib.: 2017.08.27  
 Start Time: 16:08:15 End Time: 21:46:00 Time On Btm: 2017.08.27 @ 18:04:45  
 Time Off Btm: 2017.08.27 @ 20:08:00

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 2 1/2"  
 30-ISI-No Return  
 30-FF-Very Weak Blow ; Built to 1/2"; Died back to surface blow  
 30-FSI-No Return



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1705.39	102.33	Initial Hydro-static
1	23.76	102.02	Open To Flow (1)
33	40.62	103.23	Shut-In(1)
62	413.20	103.74	End Shut-In(1)
62	41.27	103.66	Open To Flow (2)
94	51.23	104.25	Shut-In(2)
123	345.77	104.73	End Shut-In(2)
124	1604.57	105.18	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
80.00	OCGM 2%O 10%G 88%M	0.59

**Gas Rates**

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

\* Recovery from multiple tests



**TRILOBITE**  
**TESTING, INC.**

# DRILL STEM TEST REPORT

John O. Farmer, Inc.  
PO Box 352  
Russell KS 67665+2635  
ATTN: Austin Klaus

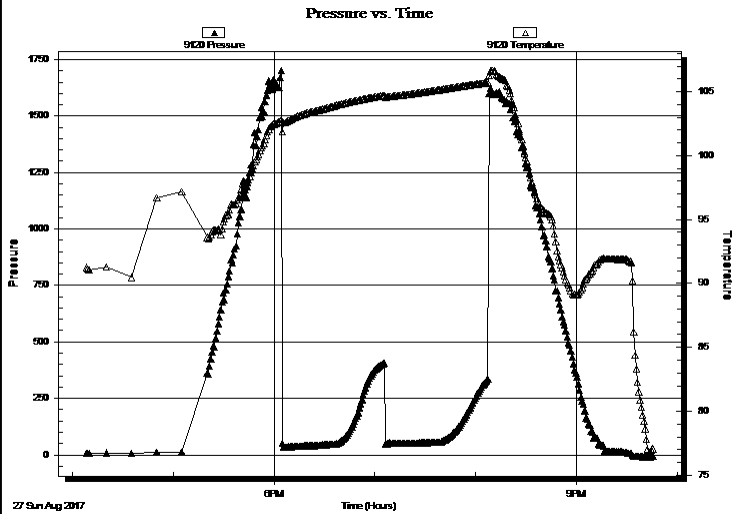
**32-12S-17W Ellis,KS**  
**Nuss 'C' #1**  
Job Ticket: 63036      **DST#: 3**  
Test Start: 2017.08.27 @ 16:08:00

**GENERAL INFORMATION:**

Formation: <b>LKC 'H - J'</b>			
Deviated: No Whipstock: ft (KB)		Test Type: Conventional Bottom Hole (Reset)	
Time Tool Opened: 18:05:30		Tester: Spencer J. Staab	
Time Test Ended: 21:46:00		Unit No: 84	
<b>Interval: 3450.00 ft (KB) To 3520.00 ft (KB) (TVD)</b>		Reference Elevations: 2069.00 ft (KB)	
Total Depth: 3520.00 ft (KB) (TVD)		2061.00 ft (CF)	
Hole Diameter: 7.88 inches Hole Condition: Fair		KB to GR/CF: 8.00 ft	

<b>Serial #: 9120</b>	<b>Inside</b>		
Press@RunDepth: psig @ 3451.00 ft (KB)		Capacity: 8000.00 psig	
Start Date: 2017.08.27	End Date: 2017.08.27	Last Calib.: 2017.08.27	
Start Time: 16:08:15	End Time: 21:46:00	Time On Btm:	
		Time Off Btm:	

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 2 1/2"  
30-ISI-No Return  
30-FF-Very Weak Blow ; Built to 1/2"; Died back to surface blow  
30-FSI-No Return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
80.00	OCGM 2%O 10%G 88%M	0.59

**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.

**32-12S-17W Ellis, KS**

PO Box 352  
Russell KS 67665+2635

**Nuss 'C' #1**

Job Ticket: 63036

**DST#: 3**

ATTN: Austin Klaus

Test Start: 2017.08.27 @ 16:08:00

## Tool Information

Drill Pipe:	Length: 3190.00 ft	Diameter: 3.80 inches	Volume: 44.75 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 249.00 ft	Diameter: 2.75 inches	Volume: 1.83 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 46.58 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3450.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	90.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3431.00	
Shut In Tool	5.00			3436.00	
Hydraulic tool	5.00			3441.00	
Packer	5.00			3446.00	20.00 Bottom Of Top Packer
Packer	4.00			3450.00	
Stubb	1.00			3451.00	
Recorder	0.00	9120	Inside	3451.00	
Recorder	0.00	8934	Inside	3451.00	
Perforations	1.00			3452.00	
Change Over Sub	1.00			3453.00	
Drill Pipe	62.00			3515.00	
Change Over Sub	1.00			3516.00	
Bullnose	4.00			3520.00	70.00 Bottom Packers & Anchor

**Total Tool Length: 90.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O. Farmer, Inc.

**32-12S-17W Ellis, KS**

PO Box 352  
Russell KS 67665+2635

**Nuss 'C' #1**

Job Ticket: 63036

**DST#: 3**

ATTN: Austin Klaus

Test Start: 2017.08.27 @ 16:08:00

## 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: 40.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 12500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	OCGM 2%O 10%G 88%M	0.588

Total Length: 80.00 ft      Total Volume: 0.588 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2&1/2#LCM

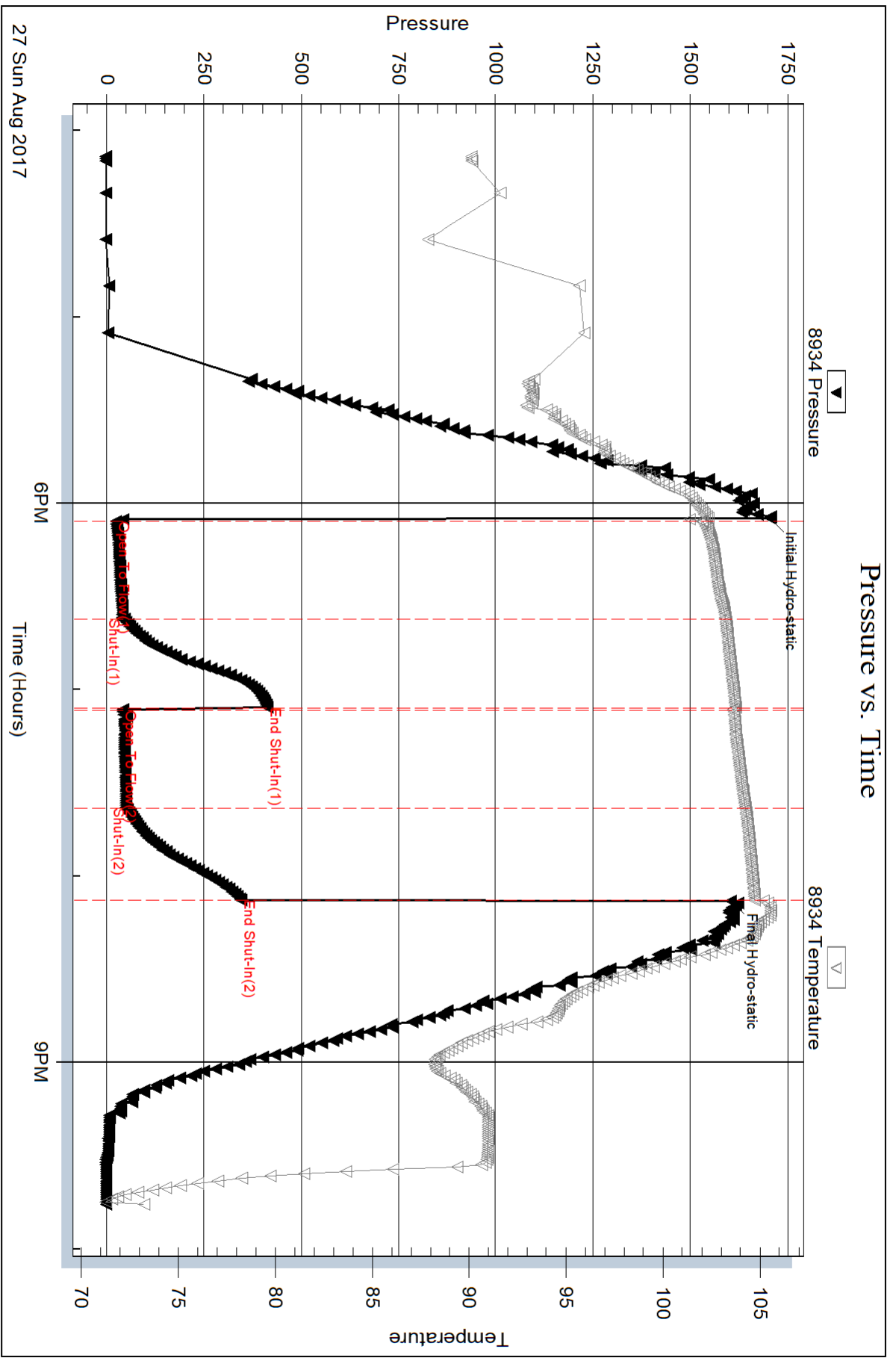
Serial #: 8934

Inside

John O. Farmer, Inc.

Nuss 'C' #1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 63036

Printed: 2017.08.29 @ 11:53:47

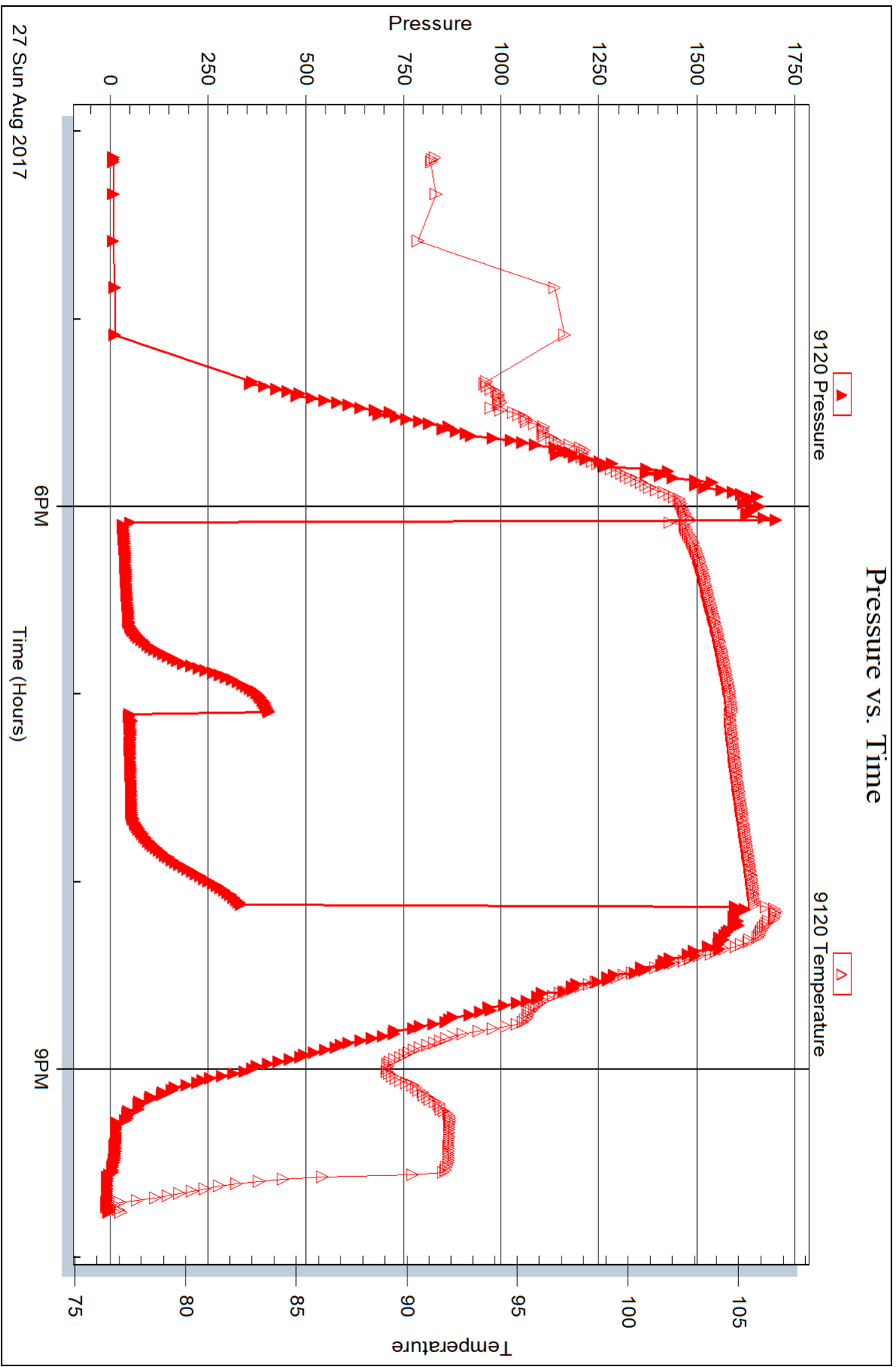
Serial #: 9120

Inside

John O. Farmer, Inc.

Nuss 'C' #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

**Nuss 'C' #1**

**32-12S-17W Ellis,KS**

Start Date: 2017.08.28 @ 20:46:15

End Date: 2017.08.29 @ 01:54:30

Job Ticket #: 63037                      DST #: 4

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

Printed: 2017.08.29 @ 11:48:19



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

John O. Farmer, Inc.  
 PO Box 352  
 Russell KS 67665+2635  
 ATTN: Austin Klaus

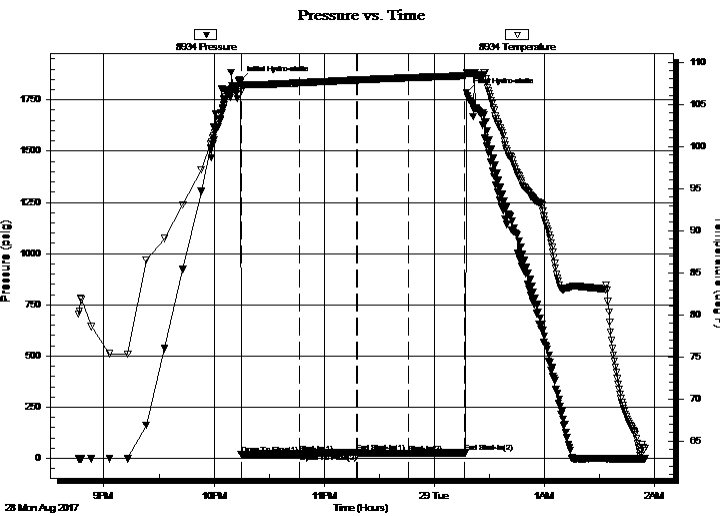
**32-12S-17W Ellis, KS**  
**Nuss 'C' #1**  
 Job Ticket: 63037 **DST#: 4**  
 Test Start: 2017.08.28 @ 20:46:15

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:14:45  
 Time Test Ended: 01:54:30  
 Interval: **3560.00 ft (KB) To 3600.00 ft (KB) (TVD)**  
 Total Depth: 3680.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2069.00 ft (KB)  
 2061.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 8934 Outside**  
 Press@RunDepth: 26.04 psig @ 3572.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.08.28 End Date: 2017.08.29 Last Calib.: 2017.08.29  
 Start Time: 20:46:15 End Time: 01:54:30 Time On Btm: 2017.08.28 @ 22:14:30  
 Time Off Btm: 2017.08.29 @ 00:17:30

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 1/2"; Died back to surface blow  
 30-ISI-No Return  
 30-FF-Surface Blow ; Died in 5 mins  
 30-FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1842.35	107.65	Initial Hydro-static
1	19.82	106.51	Open To Flow (1)
32	23.77	107.54	Shut-In(1)
64	30.44	107.88	End Shut-In(1)
64	23.73	107.88	Open To Flow (2)
92	26.04	108.14	Shut-In(2)
122	28.54	108.39	End Shut-In(2)
123	1784.13	108.76	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w /oil specks 100%M	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

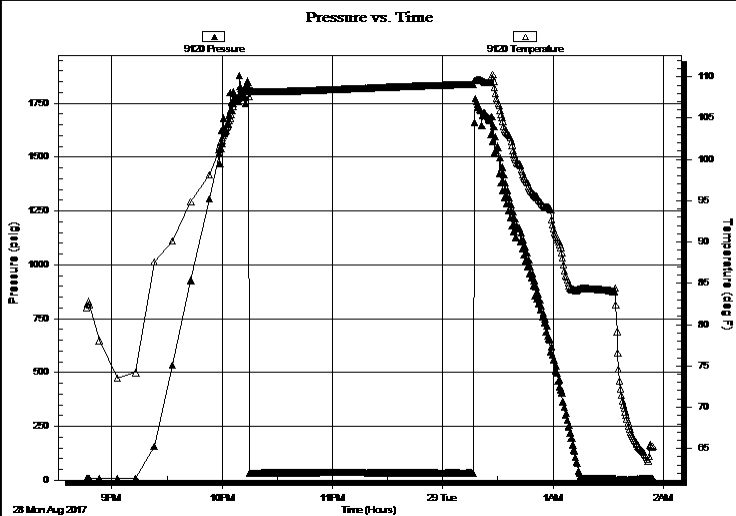
**32-12S-17W Ellis, KS**  
**Nuss 'C' #1**  
 Job Ticket: 63037      **DST#: 4**  
 Test Start: 2017.08.28 @ 20:46:15

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 22:14:45  
 Time Test Ended: 01:54:30  
 Interval: **3560.00 ft (KB) To 3600.00 ft (KB) (TVD)**  
 Total Depth: 3680.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2069.00 ft (KB)  
 2061.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 9120**      **Inside**  
 Press@RunDepth:      psig @ 3572.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2017.08.28      End Date: 2017.08.29      Last Calib.: 2017.08.29  
 Start Time: 20:46:15      End Time: 01:54:30      Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 1/2"; Died back to surface blow  
 30-ISI-No Return  
 30-FF-Surface Blow ; Died in 5 mins  
 30-FSI-No Return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w /oil specks 100%M	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

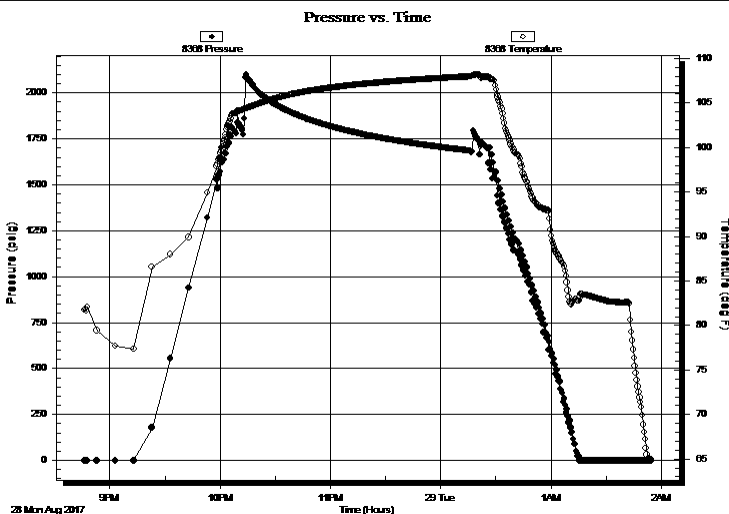
**32-12S-17W Ellis, KS**  
**Nuss 'C' #1**  
 Job Ticket: 63037 **DST#: 4**  
 Test Start: 2017.08.28 @ 20:46:15

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:14:45  
 Time Test Ended: 01:54:30  
 Interval: **3560.00 ft (KB) To 3600.00 ft (KB) (TVD)**  
 Total Depth: 3680.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2069.00 ft (KB)  
 2061.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 8368 Below (Straddle)**  
 Press@RunDepth: psig @ 3612.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.08.28 End Date: 2017.08.29 Last Calib.: 2017.08.29  
 Start Time: 20:46:15 End Time: 01:54:30 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 1/2"; Died back to surface blow  
 30-ISI-No Return  
 30-FF-Surface Blow ; Died in 5 mins  
 30-FSI-No Return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w /oil specks 100%M	0.07

## 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.

**32-12S-17W Ellis,KS**

PO Box 352  
Russell KS 67665+2635

**Nuss 'C' #1**

Job Ticket: 63037

**DST#: 4**

ATTN: Austin Klaus

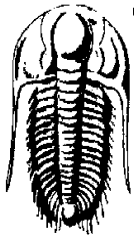
Test Start: 2017.08.28 @ 20:46:15

## Tool Information

Drill Pipe:	Length: 3307.00 ft	Diameter: 3.80 inches	Volume: 46.39 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 249.00 ft	Diameter: 2.75 inches	Volume: 1.83 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 53000.00 lb
			<u>Total Volume: 48.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3560.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	120.00 ft			
Tool Length:	148.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		
Tool Comments:				

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3533.00	
Shut In Tool	5.00			3538.00	
Hydraulic tool	5.00			3543.00	
Jars	5.00			3548.00	
Safety Joint	3.00			3551.00	
Packer	5.00			3556.00	28.00 Bottom Of Top Packer
Packer	4.00			3560.00	
Stubb	1.00			3561.00	
Perforations	11.00			3572.00	
Recorder	0.00	9120	Inside	3572.00	
Recorder	0.00	8934	Outside	3572.00	
Perforations	24.00			3596.00	
Blank Off Sub	1.00			3597.00	
top of s.packer	3.00			3600.00	120.00 Tool Interval
Packer	0.00			3600.00	
Stubb	1.00			3601.00	
Change Over Sub	1.00			3602.00	
Perforations	10.00			3612.00	
Recorder	0.00	8368	Below	3612.00	
Drill Pipe	63.00			3675.00	
Change Over Sub	1.00			3676.00	
Bullnose	4.00			3680.00	1000147.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>148.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

John O. Farmer, Inc.

**32-12S-17W Ellis,KS**

PO Box 352  
Russell KS 67665+2635

**Nuss 'C' #1**

Job Ticket: 63037

**DST#: 4**

ATTN: Austin Klaus

Test Start: 2017.08.28 @ 20:46:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9500.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w /oil specks 100%M	0.073

Total Length: 10.00 ft      Total Volume: 0.073 bbl

Num Fluid Samples: 0

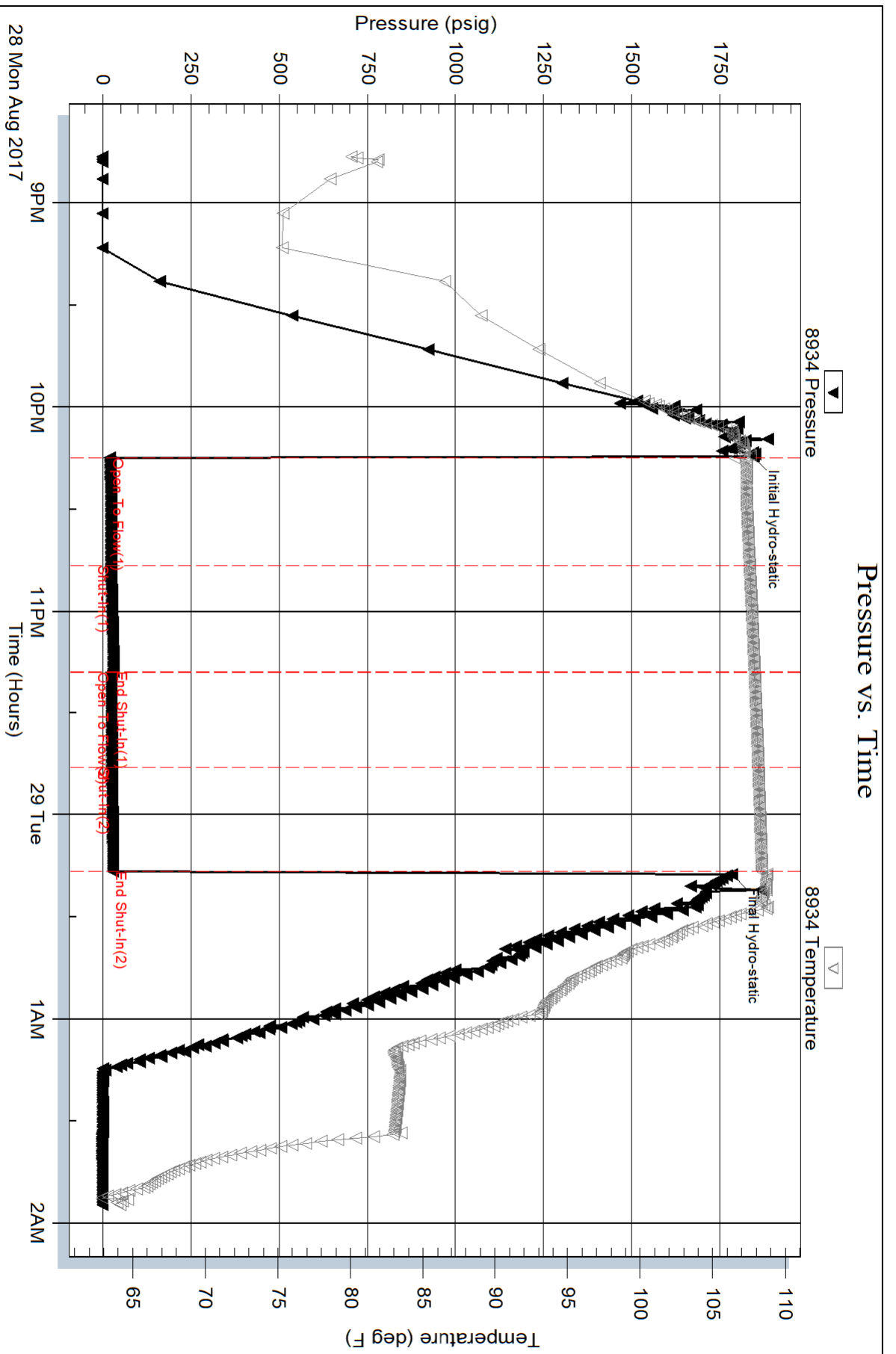
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 3&1/2#LCM



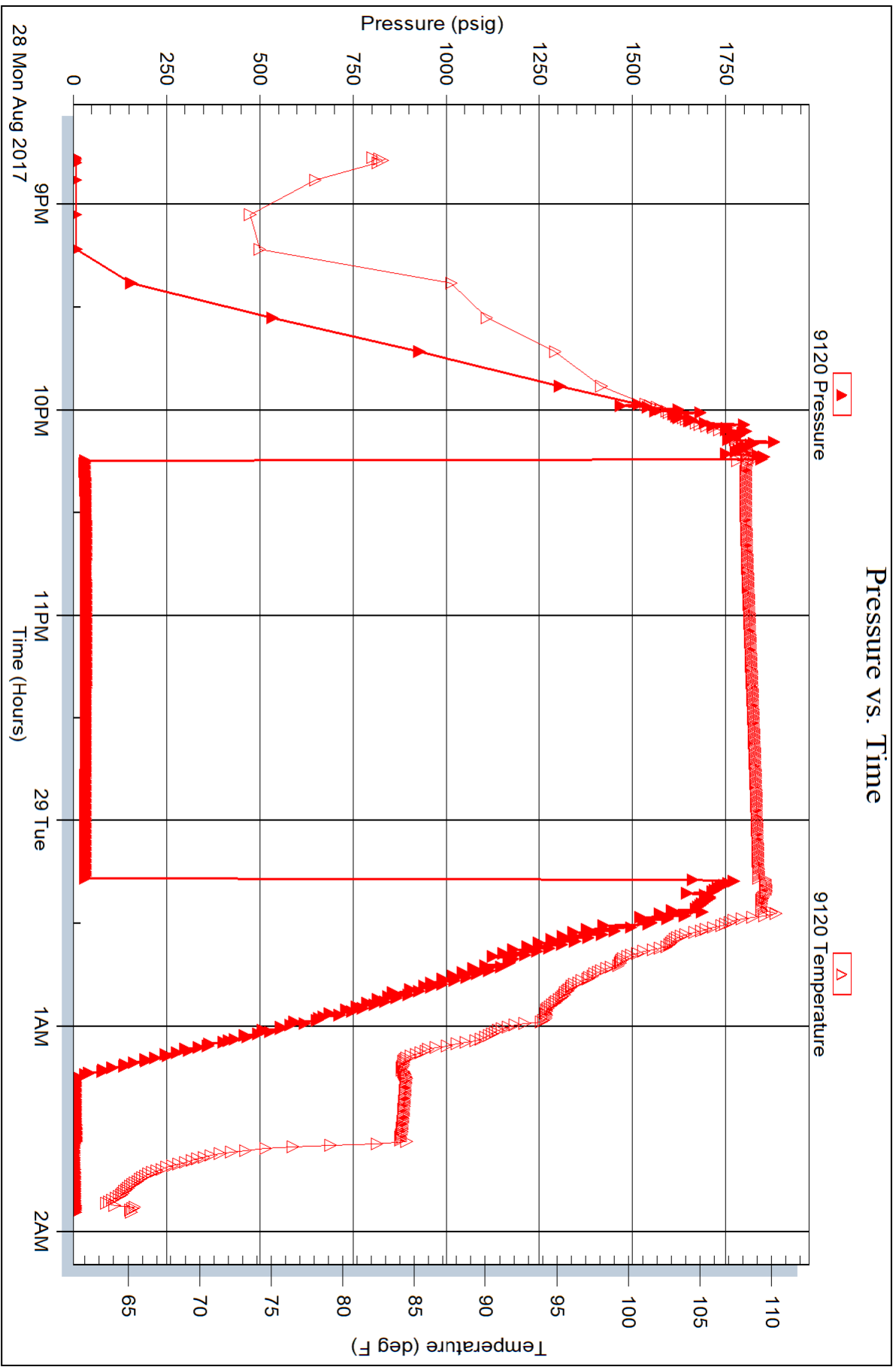
Serial #: 9120

Inside

John O. Farmer, Inc.

Nuss 'C' #1

DST Test Number: 4

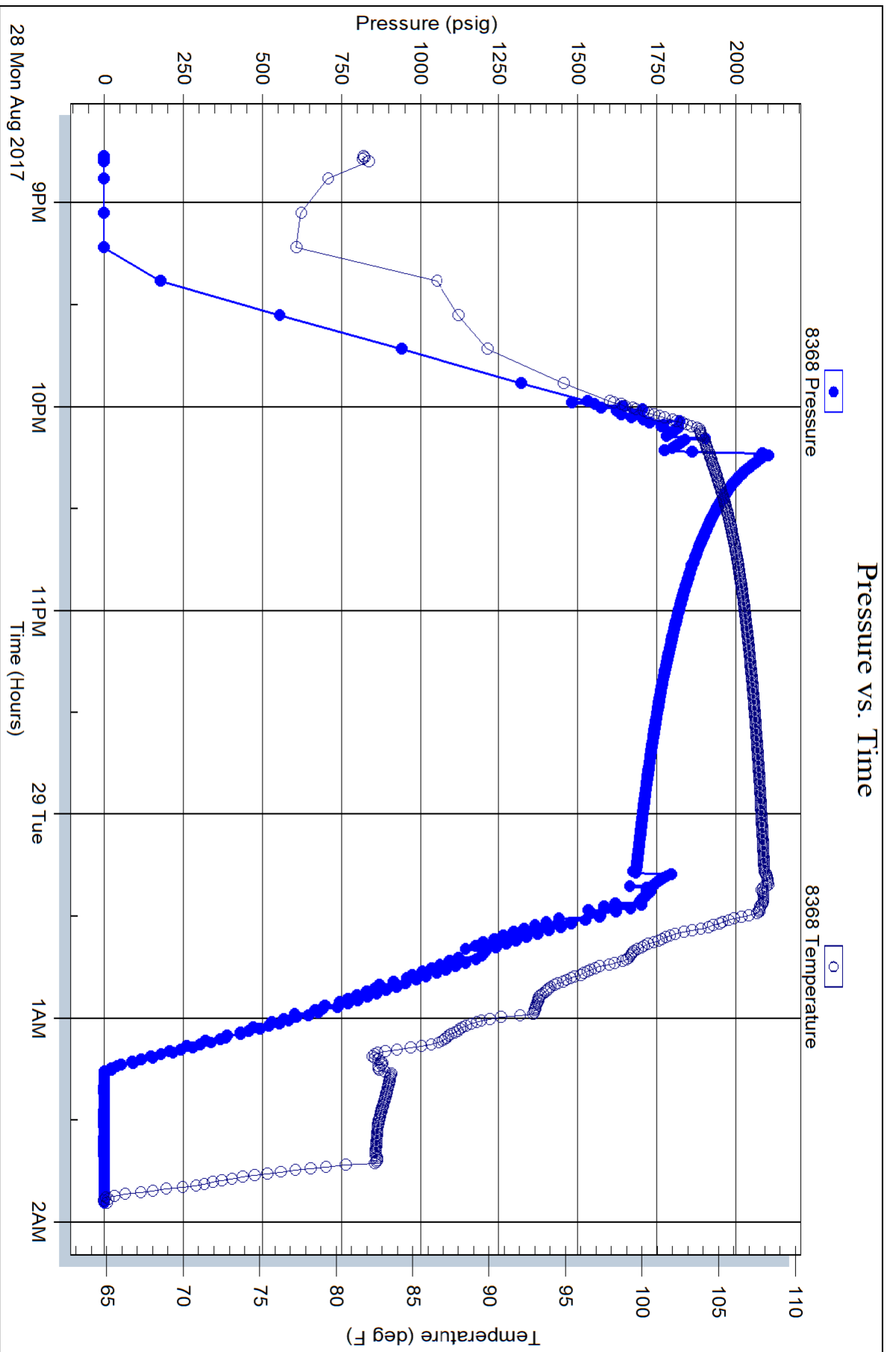


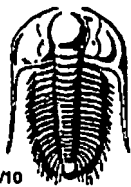
Serial #: 8368

Below (Straddled) Farmer, Inc.

Nuss 'C' #1

DST Test Number: 4





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63034

Well Name & No. Russ 'C' #1 Test No. 1 Date 08/26/2017  
 Company John O. Farmer, Inc. Elevation 2069 KB 2061 GL  
 Address 370 W. Wichita Ave PO BOX 352 Russell Ks 67665-12635  
 Co. Rep / Geo. Austin Klaus Rig Discovery #2  
 Location: Sec. 32 Twp. 2s Rge. 17w Co. Ellis State Ks

Interval Tested 3316' - 3396' Zone Tested LKC 'a-d'  
 Anchor Length 80' Drill Pipe Run 3063' Mud Wt. 9.1  
 Top Packer Depth 3311' Drill Collars Run — Vis 45  
 Bottom Packer Depth 3316' Wt. Pipe Run 249' WL 8.8  
 Total Depth 3396' Chlorides 6000 ppm System LCM 3#

Blow Description 17-Weak Blow; Built to 1 3/4"

1SD- No Return

77- Weak Blow; Built to 3/4"

7SD- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>80'</u>	<u>Mud w/ oil specks</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 80' BHT 103° Gravity — API RW — @ — °F Chlorides — ppm

- (A) Initial Hydrostatic 1636  Test 1050
- (B) First Initial Flow 30  Jars —
- (C) First Final Flow 41  Safety Joint —
- (D) Initial Shut-In 848  Circ Sub —
- (E) Second Initial Flow 49  Hourly Standby —
- (F) Second Final Flow 57  Mileage 18 R 7 13.50
- (G) Final Shut-In 702  Sampler —
- (H) Final Hydrostatic 1578  Straddle —

T-On Location 07:15  
 T-Started 08:33  
 T-Open 10:08  
 T-Pulled 12:38  
 T-Out 14:15  
 Comments tool slid 4ft to bottom

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 45  
 Final Shut-In 45

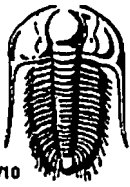
- Ruined Shale Packer
- Ruined Packer
- Extra Copies
- Sub Total 0
- Total 1063.50
- MP/DST Disc't —
- Sub Total 1063.50

Approved By \_\_\_\_\_

Our Representative Spencer J. Jacob Thanks

785-259-0056





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63035

Well Name & No. Miss 'C' #1 Test No. 2 Date 08/26/2017  
 Company John O. Farmer, Inc. Elevation 2069 KB 2061 GL  
 Address 370 W. Wichita Ave PO Box 352 Russell Ks 67665-2635  
 Co. Rep / Geo. Austin Klaus Rig Discovery #2  
 Location: Sec. 32 Twp. 12s Rge. 17w Co. Ellis State Ks

Interval Tested 3394'-3418' Zone Tested LKC 'E-7'  
 Anchor Length 24' Drill Pipe Run 3158' Mud Wt. 9.1  
 Top Packer Depth 3389' Drill Collars Run - Vis 45  
 Bottom Packer Depth 3394' Wt. Pipe Run 249' WL 8.8  
 Total Depth 3418' Chlorides 6,000 ppm System LCM 3#

Blow Description 17-Strong Blow; BOB in 6 mins  
1SD-Weak Return; Built to 2 1/2"  
77-Strong Blow; BOB in 8 mins  
7SD-Weak Return; Built to

Rec	Feet of	%gas	%oil	%water	%mud
60'	OCJMW	20	5	55	20
30'	OCJWM		10	30	60
210'	WMCJO	25	55	5	15
20'	MCO		90		10
500'	JAP	100			

Rec Total 320' BHT 109° Gravity 19° API RW 163 @ 68 °F Chlorides 50,000 ppm

- (A) Initial Hydrostatic 1677
- (B) First Initial Flow 85
- (C) First Final Flow 114
- (D) Initial Shut-In 995
- (E) Second Initial Flow 120
- (F) Second Final Flow 149
- (G) Final Shut-In 971
- (H) Final Hydrostatic 1593

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

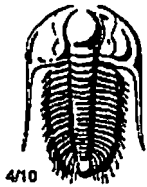
- Test 1050
- Jars
- Safety Joint
- Circ Sub
- Hourly Standby
- Mileage 1827 13.50
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility

T-On Location 20:32  
 T-Started 21:03  
 T-Open 23:15  
 T-Pulled 01:15 08/27/2017  
 T-Out 03:17

Comments \_\_\_\_\_  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1063.50  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_

Our Representative Spencer J. Staab Thanks  
 785-259-1754



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63036

Well Name & No. Nuss 'C' #1 Test No. 3 Date 08/27/2017  
 Company John O. Farmer, Inc Elevation 2069 KB 2061 GL  
 Address 370 W. Wichita Ave PO BOX 352 Russell KS 67665-2635  
 Co. Rep / Geo. Austin Klaus Rig Discovery #2  
 Location: Sec. 32 Twp. 12s Rge. 17w Co. Ellis State KS

Interval Tested 3450' - 3520' Zone Tested LHC 'A-D-J'  
 Anchor Length 70' Drill Pipe Run 3190' Mud Wt. 8.8  
 Top Packer Depth 3445' Drill Collars Run - Vis 40  
 Bottom Packer Depth 3450' Wt. Pipe Run 249' WL 10.6  
 Total Depth 3520' Chlorides 12,500 ppm System LCM 2 1/2#

Blow Description 7-Weak Blow; Built to 2 1/2"  
75- No Return  
77-Very Weak Blow; Built to 1/2" and died back to surface blow  
78- No Return

Rec	Feet of	%gas	%oil	%water	%mud
80'	OC 29M	10	2	88	

Rec Total 80 BHT 1040 Gravity - API RW - @ - °F Chlorides - ppm

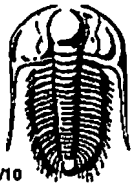
(A) Initial Hydrostatic 1705  Test 1050 T-On Location 15:30  
 (B) First Initial Flow 23  Jars - T-Started 16:08  
 (C) First Final Flow 40  Safety Joint - T-Open 18:05  
 (D) Initial Shut-In 413  Circ Sub - T-Pulled 20:05  
 (E) Second Initial Flow 41  Hourly Standby - T-Out 21:43  
 (F) Second Final Flow 51  Mileage 18R7 13.50 Comments -  
 (G) Final Shut-In 345  Sampler -  
 (H) Final Hydrostatic 1604  Straddle -

Initial Open 30  Ruined Shale Packer -  
 Initial Shut-In 30  Ruined Packer -  
 Final Flow 30  Extra Copies -  
 Final Shut-In 30  Extra Recorder - Sub Total 0  
 Day Standby - Total 1063.50  
 Accessibility - MP/DST Disc't -  
 Sub Total 1063.50

Approved By \_\_\_\_\_

Our Representative Spencer J. Fernald Thanks!

785-259-0056



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63037

Well Name & No. Russ 'C' #1 Test No. 4 Date 08/28/2017  
 Company John O. Farmer, Inc Elevation 2069 KB 2061 GL  
 Address 870 W. Wichita Ave PO Box 352 Russell Ks 67665-2635  
 Co. Rep / Geo. Austin Klaus Rig Discovery #2  
 Location: Sec. 32 Twp. 24 Rge. 17W Co. Ellis State Ks

Interval Tested 3560'-3600' 80' tail pipe Zone Tested Arbuckle  
 Anchor Length 40' Drill Pipe Run 3307' Mud Wt. 9.1  
 Top Packer Depth 3560' Drill Collars Run - Vis 49  
 Bottom Packer Depth 3600' Wt. Pipe Run 249' WL 8.8  
 Total Depth 3680' Chlorides 9,500 ppm System LCM 3 1/2 #

Blow Description J7-Weak Blow, Built to 1/2"; died back to surface  
JSD- No Return  
J7- Surface Blow; died 5mins in  
JSD- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>Mud w/oil specks</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10' BHT 108° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1842  Test 1050 T-On Location 20:10  
 (B) First Initial Flow 19  Jars \_\_\_\_\_ T-Started 20:46  
 (C) First Final Flow 23  Safety Joint \_\_\_\_\_ T-Open 22:15  
 (D) Initial Shut-In 30  Circ Sub \_\_\_\_\_ T-Pulled 00:15 08/29/2017  
 (E) Second Initial Flow 23  Hourly Standby \_\_\_\_\_ T-Out 01:52  
 (F) Second Final Flow 26  Mileage 18 R7x2 13.50 Comments drove back to  
 (G) Final Shut-In 28  Sampler \_\_\_\_\_ 13.50 hays for additional  
 (H) Final Hydrostatic 1784  Straddle 600 perf  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1677  
 Sub Total \_\_\_\_\_  
 Total 1677  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Spencer J. Juab Thanks!  
 785-259-0056



# 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:** Nuss C #1  
**Location:** Ellis County  
**License Number:** API #15-051-26,887-0000  
**Spud Date:** 8/22/17  
**Surface Coordinates:** Section 32, Township 12 South, Range 17 West  
920' FSL & 1,510' FEL  
**Bottom Hole Coordinates:** Vertical well with minimal deviation, same as above  
**Ground Elevation (ft):** 2,061  
**Logged Interval (ft):** 3,000  
**Formation:** LKC, Arbuckle  
**Type of Drilling Fluid:** Chemical (Andy's)

**Region:** Kansas  
**Drilling Completed:** 8/30/17  
**K.B. Elevation (ft):** 2,069  
**Total Depth (ft):** 3,680  
**To:** 3,683

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

The location for the Nuss C #1 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 3,000' - 3,680'. Three bottom-hole drill stem tests were conducted in the Lansing, one of which yielded positive results (Lansing E & F zones). Structurally, the Nuss C #1 ran 8' high at the Lansing and 27' high at the Arbuckle, to the Nuss-Schmeidler #1 (330' FSL & 2,640' FWL Sec 32-12S-17W). Upon completion of the logging operation, a straddle test was conducted over the top 17' of the Arbuckle, which resulted in 10' of mud w/ oil spots. Upon completion of the drill stem test, the decision was made to set 5 1/2" production casing to further evaluate the Lansing zones in the Nuss C # 1 well, on 8/29/17.

**ROCK TYPES**

Anhy  
 Bent  
 Brec  
 Cht

Clyst  
 Coal  
 Congl  
 Dol

Gyp  
 Igne  
 Lmst  
 Meta

Mrlst  
 Salt  
 Shale  
 Shcol

Shgy  
 Sltst  
 Ss  
 Till

**OTHER SYMBOLS**

**POROSITY**

Earthy  
 Fenest  
 Fracture  
 Inter  
 Moldic  
 Organic  
 Pinpoint

Vuggy

**SORTING**

Well  
 Moderate  
 Poor

**ROUNDING**

Rounded  
 Subrnd  
 Subang  
 Angular

Spotted  
 Ques  
 Dead

**EVENT**

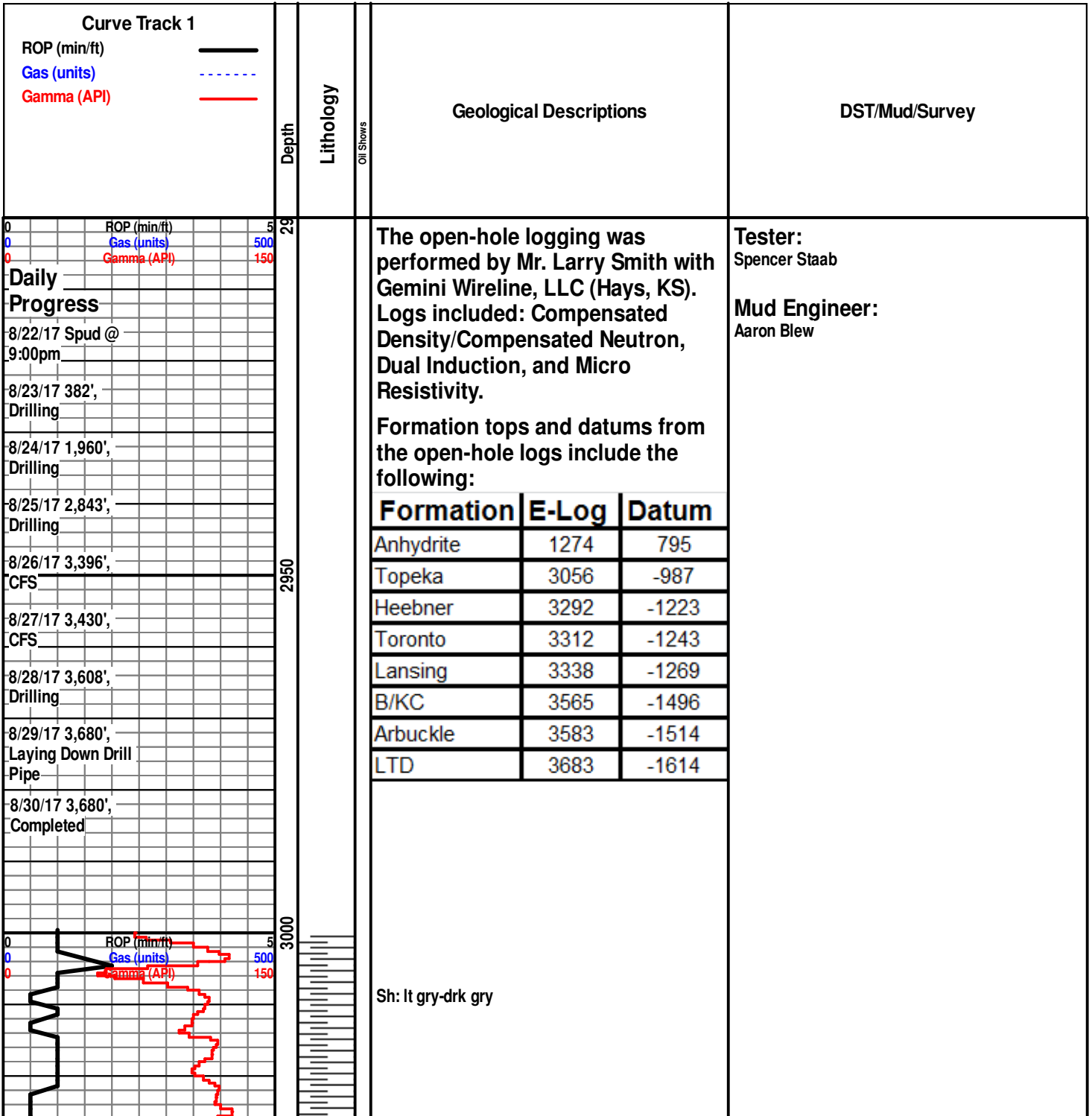
Rft  
 Sidewall

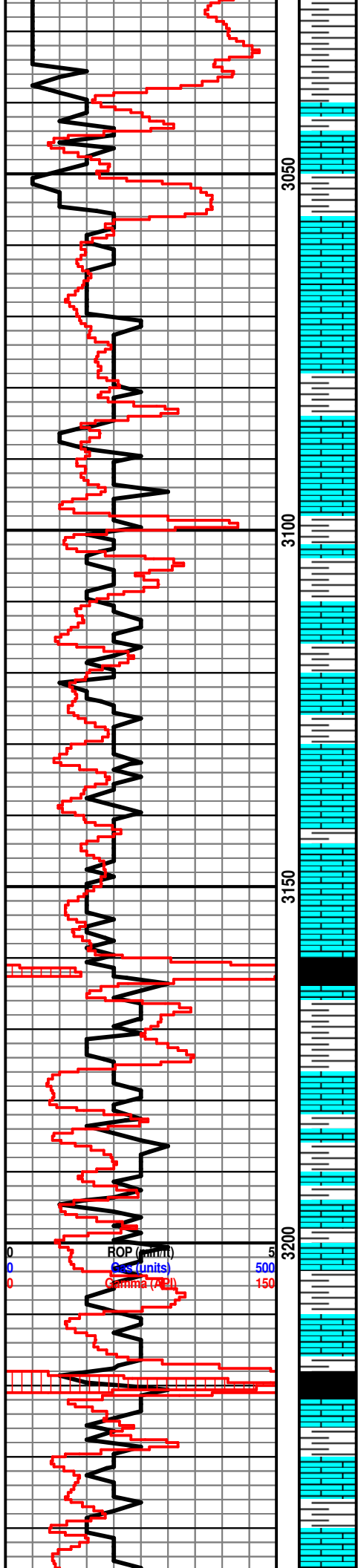
**INTERVAL**

Core  
 Dst

**OIL SHOW**

Even





Sh: ala

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

**Topeka 3055' (-986)**

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

Ls: ala

Sh: scat drk gry

Ls: off wh-tan, fn xln, scat int xln & vuggy porosity, scat dead oil stn, NSFO

Sh: lt-drk gry

Ls: off wh-tan, fn-vry fn xln, foss, poor-fair vuggy porosity, scat dead oil stn, NSFO

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

Sh: lt-drk gry

Ls: tan-brn, fn xln, foss, poor vuggy porosity, NSFO

**Kinghill 3160' (-1091)**

Sh: drk gry, few pcs blk

Sh: lt-drk gry

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

Ls: tan-gry, vry fn-fn xln, vry poor vuggy porosity, NSFO, scat chalk

Ls: ala

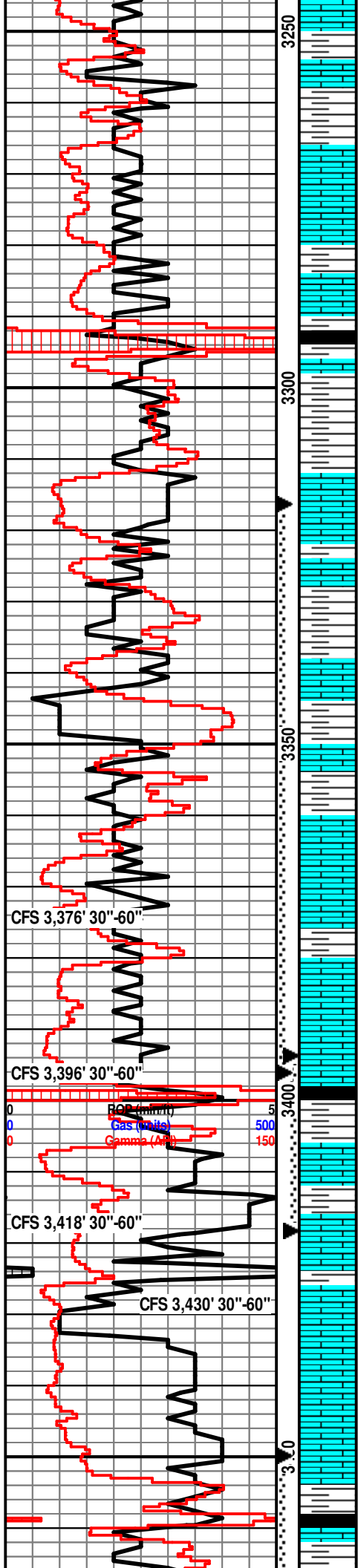
**Queenhill 3217' (-1148)**

Sh: drk gry, few pcs blk

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

Ls: tan-brn, vry fn xln, poor-fair int xln & vuggy porosity, poor oil stn, NSFO

Ls: tan-brn, fn xln, poor int xln porosity, dead oil NSFO



stn, NSFO

Sh: lt-drk gry

Ls: tan-lt brn, fn xln, scat foss, poor int xln porosity, scat vuggy porosity, scat oil stn, NSFO, no odor

**Heebner 3290' (-1221)**  
Sh: blk, carb, fissile

Sh: lt-drk gry

**Toronto 3311' (-1242)**  
Ls: off wh-tan, fn xln, poor int xln porosity, dead oil stn, NSFO

Sh: lt gry, few pcs soft

**Lansing 3336' (-1267)**  
Ls: off wh-tan, fn xln, scat poor int xln porosity, scat fair oil stn in porosity, scat fossil, VSSFO

Sh: drk brn

Ls: off wh-tan, fn xln, poor int xln porosity, scat pp porosity, fair-good oil sat, SSFO, sl odor, dull yel fluor, scat pyrite

Sh: lt-drk gry

Ls: off wh-tan, fn xln, poor int xln & vuggy porosity, fair brn stn in porosity, scat dull fluor

Sh: lt gry-drk gry-brn

Ls: off wh-tan, fn xln, ool, fair ool & vuggy porosity, fair-good oil sat, SSFO, fair odor, dull-fair yel fluor

Sh: lt gry

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

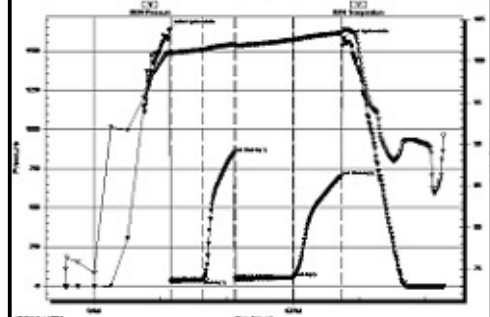
Ls: off wh-tan, fn xln, ool, fair-good ool porosity, scat dead oil stn, VSSFO, sl odor, dull yel fluor, hvy pyrite

Ls: tan-gry, fn xln, ool, fair ool porosity, NSFO, no odor, scat pyrite

Sh: drk gry-blk

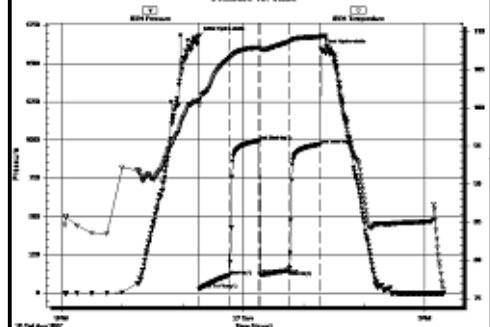
**DST #1- 3,316'-3,396' (Lansing A-D zones)**  
30" - 30" - 45" - 45"

IF: Surface blow, built to 1 3/4", no blow back  
FF: Surface blow, built to 3/4", no blow back  
Rec: 80' Mud with oil specks  
FP: 31-42#, 49-57#  
SIP: 848-703#  
HP: 1,637- 1,578 #  
BHT: 104° F



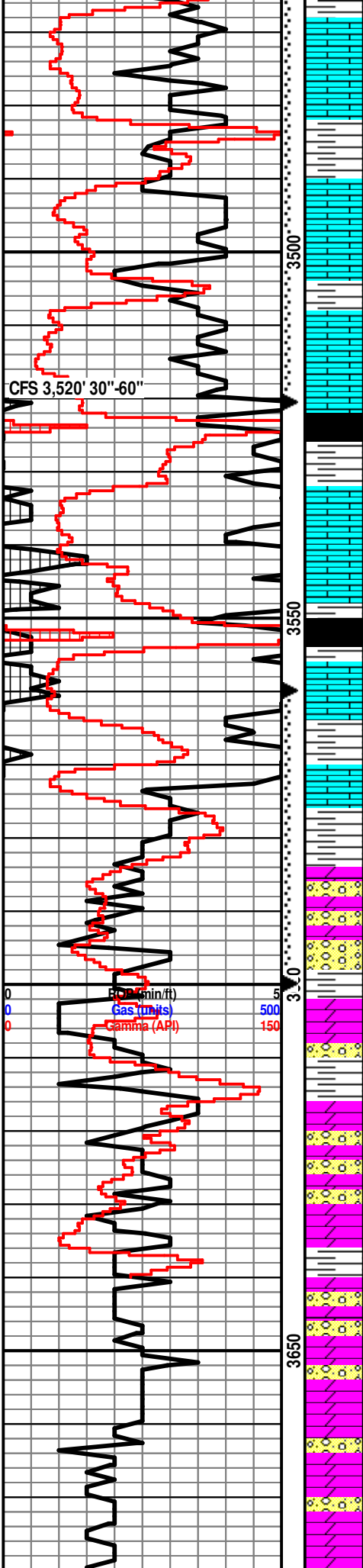
**DST #2- 3,394'-3,418' (Lansing E & F zones)**  
30" - 30" - 30" - 30"

IF: BOB in 6 min, 2 1/2" blow back on shut in  
FF: BOB in 8 minutes, surface blow back on shut in  
Rec: 500' Gas in pipe  
20' MCO (10% Mud, 90% Oil) 19° API  
210' WMCGO (5% W, 15% M, 25% G, 55% O)  
30' OCWM (10% O, 30% W, 60% M)  
60' OCGMW (5% O, 20% G, 20% M, 55% W) Chl. 50K  
320' Total Fluid Recovery  
FP: 25-115#, 121-150#  
SIP: 996-972#  
HP: 1,678- 1,593 #  
BHT: 109° F



**DST #3- 3,450'-3,520' (Lansing H, I, J zones)**  
30" - 30" - 30" - 30"

IF: Surface blow, built to 2 1/2", no blow back  
FF: Surface blow, built to 1/2", no blow back  
Rec: 80' O&GCM (2% O, 10% G, 88% M)  
FP: 23-41#, 41-51#  
SIP: 413-346#  
HP: 1,705- 1,605 #



Ls: tan-gry, fn xln, poor int xln porosity, scat dead oil stn, NSFO, no odor, hvy chert

Sh: drk gry

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

Sh: lt-drk gry

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

Sh: lt-drk gry

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

Sh: drk gry-blk

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

**B/KC 3563' (-1494)'**

Sh: lt-drk gry

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

Sh: drk gry-drk rd, soft

Rework Dolo: tan-brn, fn-md xln, fair-good int xln porosity, fair-good oil sat, SSFO, sl-fair odor, fair yel fluor, hvy chert

**Arbuckle 3601' (-1532)**

Dolo: off wh-tan, ool, fair-good ool porosity, fair oil sat, SSFO, sl odor, hvy cher-off wh-tan

Sh: drk gry-drk brn

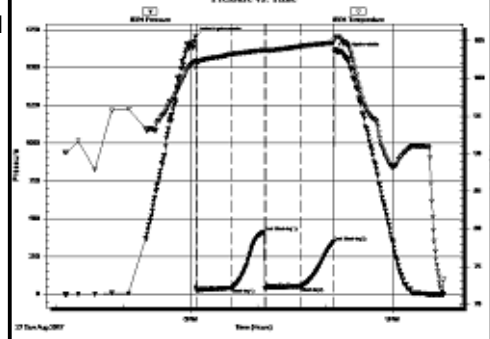
Dolo: off wh-tan, fn xln, fair int xln porosity, poor-fair oil sat, VSSFO, sl odor, dull yel fluor, hvy chert-off wh-tan-rd

Dolo: ala

Dolo: off wh-tan, fn-md xln, fair int xln porosity, NSFO, no odor, hvy cher-off wh-tan-rd

Dolo: ala

BHT: 105° F



**DST #4- 3,560'-3,600' (Arbuckle, top 17')**

30" - 30" - 30" - 30"

IF: Surface blow, built to 1/2", no blow back

FF: Surface blow, no blow back

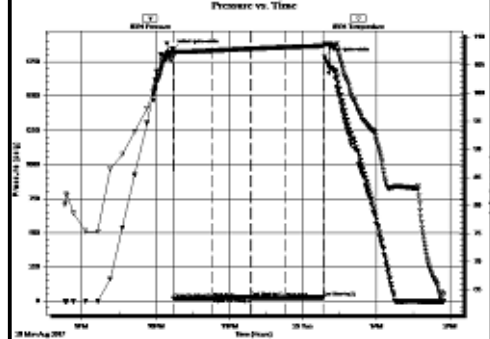
Rec: 10' Mud with Oil spots

FP: 20-24#, 24-26#

SIP: 24-29#

HP: 1,842- 1,784 #

BHT: 109° F



3,630' Sample



3,640' Sample

