



Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_ ☐ East ☐ West County: \_\_\_\_\_

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Name	Top	Datum
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:					

<div style="text-align: center;"> <b>CASING RECORD</b>      <input type="checkbox"/> New    <input type="checkbox"/> Used            Report all strings set-conductor, surface, intermediate, production, etc.         </div>							
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 (Explain) _____			
Estimated Production Per 24 Hours	Oil      Bbls.	Gas      Mcf	Water	Bbls.	Gas-Oil Ratio      Gravity

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:	
<input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i>	Top	Bottom

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record (Amount and Kind of Material Used)

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	PRELLWITZ 1
Doc ID	1420822

All Electric Logs Run

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

Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	PRELLWITZ 1
Doc ID	1420822

#### Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	220	Common	150	3% C.C., 2% gel
Production	7.875	5.5	15.5	3110	Common	120	10% Salt, 5% Gilsonite



**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: Prellwitz # 1

Location: 2150 FSL - 90 FEL

SE/NE/NE/SE

Section 16/ 16S/ 11E

Lyon County, KS

Loggers Total Depth: 3115'

API#15- 111-20,537-00-00

Rotary Total Depth: 3114'

Elevation: 1389 GL - 1397 KB

Commenced: 5/15/2018

Completed: 5/21/2018

Casing: 8 5/8" @ 220'W/150sks

Status: Oil Well

5 1/2" @ 3110'W/120sks

### DEPTHS & FORMATIONS (All from KB)

Surface, Sand & Shale	<u>0'</u>	Viola	<u>2983'</u>
Shale-Sand & Lime	<u>429'</u>	Simpson	<u>3076'</u>
Shale	<u>745'</u>	Granite	<u>3107'</u>
Lime & Shale	<u>1033'</u>	RTD	<u>3114'</u>
Mississippian	<u>2346'</u>		
Kinderhook	<u>2759'</u>		
Hunton	<u>2901'</u>		

STATE OF KANSAS))

) ss

COUNTY OF ELLIS )

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

Thomas H. Alm

Subscribed and sworn to before me on 5-31-18

My Commission expires: 6-28-18

(Place stamp or seal below)

Myrna S. Hoffman  
Notary Public





# 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. 770

Date	5-16-18	Sec.	16	Twp.	16	Range	11	County	Lyon	State	Ks	On Location		Finish	4:00 AM
Lease								Well No.		Owner					
Contractor										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										Charge To					
Hole Size								T.D.		To					
Csg.								Depth		Street					
Tbg. Size								Depth		City					
Tool								Depth		State					
Cement Left in Csg.								Shoe Joint		The above was done to satisfaction and supervision of owner agent or contractor.					
Meas Line								Displace		Cement Amount Ordered					
EQUIPMENT										Common					
Pumptrk								No.		Cementer					
Bulktrk								No.		Helper					
Bulktrk								No.		Driver					
Bulktrk								No.		Driver					
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					
										Handling					
										Mileage					
										FLOAT EQUIPMENT					
										Guide Shoe					
										Centralizer					
										Baskets					
										AFU Inserts					
										Float Shoe					
										Latch Down					
										Pumptrk Charge					
										Mileage					
										Tax					
										Discount					
										Total Charge					
Signature															



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 771

Date	5-21-18	Sec.	16	Twp.	16	Range	11	County	Lyon	State	KS	On Location		Finish	3:00 PM
Lease								Well No.		Location					
Contractor								Discovery #2		Owner					
Type Job								Long St. Csg.		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								5 1/2" 15.50# New		T.D.		3114'			
Csg.								5 1/2" 15.50# New		Depth		3113'			
Tbg. Size										Depth					
Tool										Depth					
Cement Left in Csg.										Shoe Joint		23'			
Meas Line								Displace		73 1/2 BLS		Gelstonite - 500 gal mud CLR 48			
EQUIPMENT															
Pumptrk								16		No.		Cementer		David	
Bulktrk								14		No.		Driver		Jack	
Bulktrk								p.u.		No.		Driver		Rick	
JOB SERVICES & REMARKS															
Remarks:								Common							
Rat Hole								Poz. Mix							
Mouse Hole								Gel.							
Centralizers								13579							
Baskets								Calcium							
D/V or Port Collar								Hulls							
Circulation pump								Salt							
Pump to 300#								Flowseal							
Hook to 5 1/2" casing								Kol-Seal							
+ mix 120# cement								Mud CLR 48							
wash pump + lines								CFL-117 or CD110 CAF 38							
Released plug								Sand							
+ D. spacer								Handling							
Released + Held								Mileage							
Lift pressure								700#							
Land plug to								1300#							
FLOAT EQUIPMENT															
Guide Shoe															
Centralizer								6							
Baskets								1							
AFU Inserts															
Float Shoe								1							
Latch Down								1							
Rotating head															
Pumptrk Charge															
Mileage															
Tax															
Discount															
Total Charge															
Signature								The Wil							





# 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**

<b>Well Name:</b>	<b>Prellwitz #1</b>		
<b>Location:</b>	<b>Lyon County</b>		
<b>License Number:</b>	<b>API #15-111-20537-00-00</b>	<b>Region:</b>	<b>Kansas</b>
<b>Spud Date:</b>	<b>5/15/2018</b>	<b>Drilling Completed:</b>	<b>5/20/2018</b>
<b>Surface Coordinates:</b>	<b>Section 16, Township 16 South, Range 11 East 2,150' FSL &amp; 90' FEL</b>		
<b>Bottom Hole Coordinates:</b>	<b>Vertical well w/ minimal deviation, same as above</b>		
<b>Ground Elevation (ft):</b>	<b>1,389</b>	<b>K.B. Elevation (ft):</b>	<b>1,397</b>
<b>Logged Interval (ft):</b>	<b>2,300</b>	<b>To:</b>	<b>RTD</b>
		<b>Total Depth (ft):</b>	<b>3,114'</b>
<b>Formation:</b>	<b>Miss-Precambrian</b>		
<b>Type of Drilling Fluid:</b>	<b>Chemical (Mud Co.)</b>		

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

## OPERATOR

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

## Comments

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

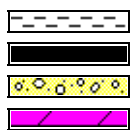
The location for the Prellwitz #1 was discovered via 3D seismic survey. Rock samples were gathered and evaluated from 2,300' - 3,114'. Oil shows were encountered in the Hunton & Simpson. Structurally, the Hunton top was picked 7' high to the comparison well, Day #1 (Midge Oil Co. - 1952). Structural thinning occurred through the Hunton, which resulted in a Simpson Sand picked 8' high to the comparison well. The precambrian section was encountered 30' below the Simpson Sand and Arbuckle was absent. After evaluation of all oil shows, DST results, and electric logs, it was decided that 5 1/2" production casing be set to further evaluate the Prellwitz #1 well on 5/21/2018.



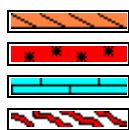
# ROCK TYPES



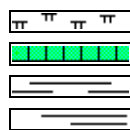
Anhy  
Bent  
Brec  
Cht



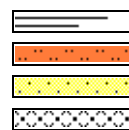
Clyst  
Coal  
Congl  
Dol



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

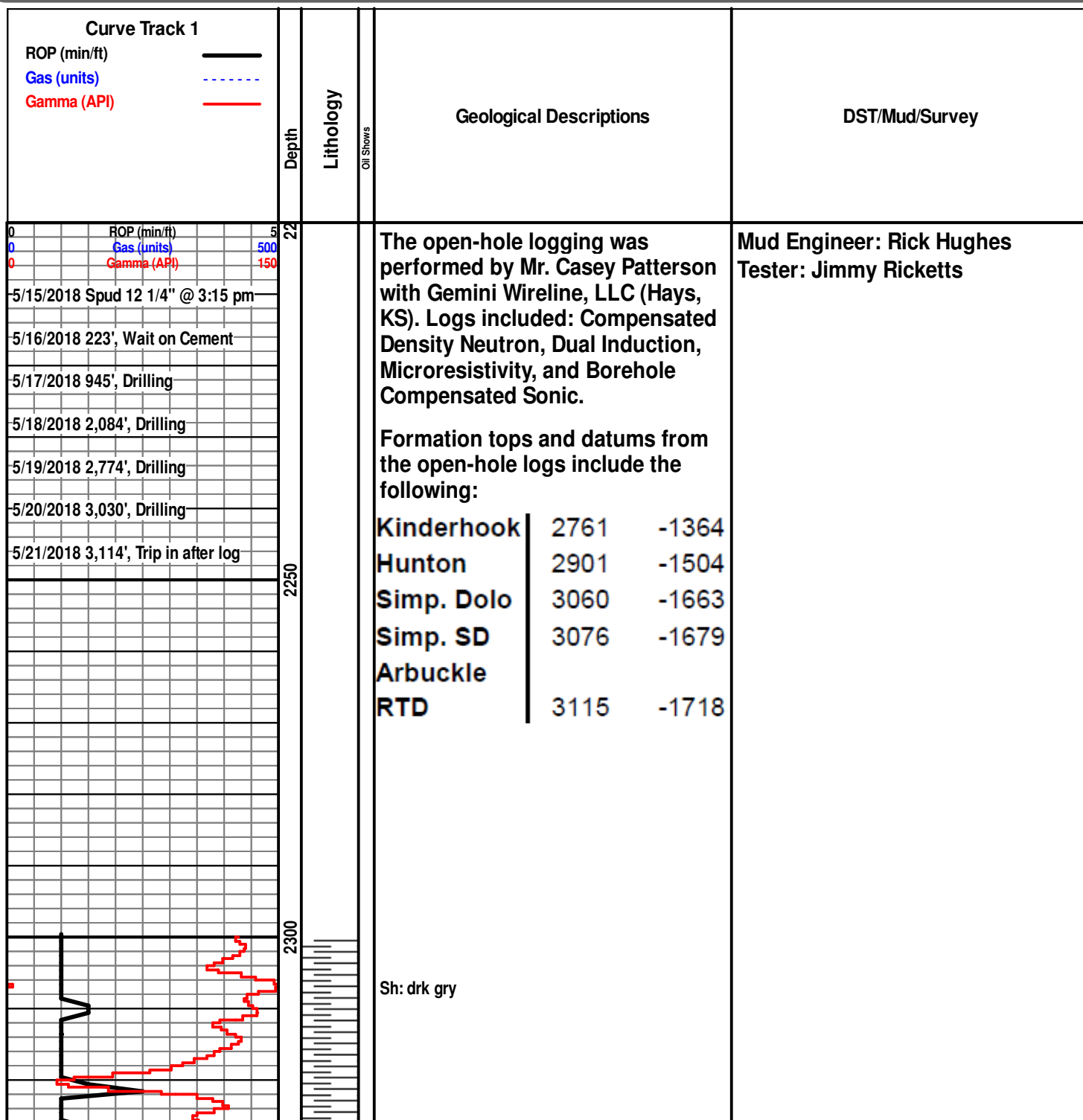
☐ Rft  
☐ Sidewall

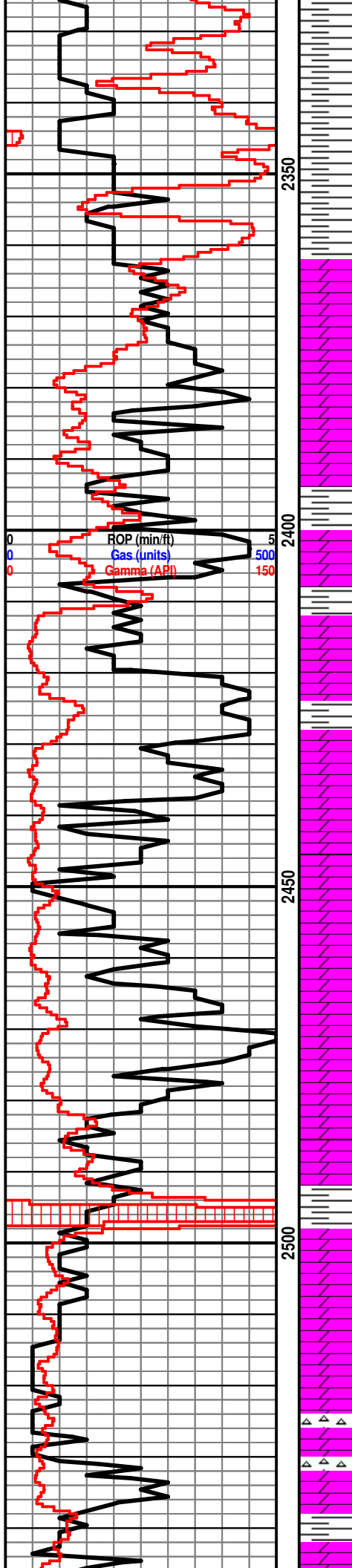
## INTERVAL

☐ Core  
☐ Dst

## OIL SHOW

☐ Even





Sh: drk gry-brn

Sh: drk gry

### Mississippian 2363' (-966)

Dolo: off wh-tan, fn xln, DNS

Dolo: ala

Dolo: tan-buff, fn xln, no visible porosity, scat foss

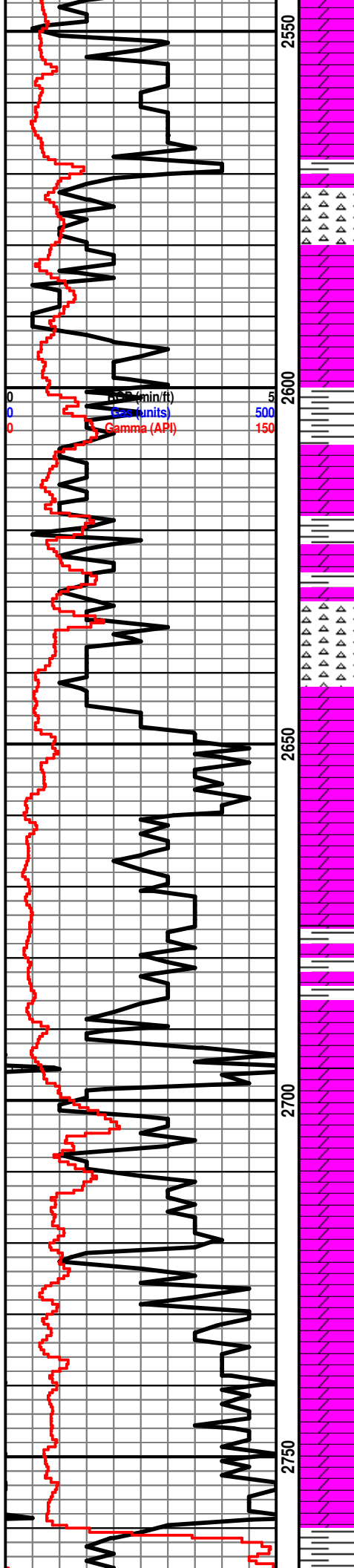
Dolo: off wh-tan, fn xln, int part & scat int xln porosity

Dolo: ala

Dolo: off wh-tan, fn xln, poor int xln & int part porosity, scat foss

Dolo: ala

Dolo: tan-buff, fn xln, scat int xln porosity, scat chert



Dolo: ala

Dolo: off wh-tan-gry, fn xln, scat int xln porosity, hvy chert-off wh

Dolo: ala

Dolo: tan-gry, fn xln, poor int xln porosity, hvy chert-off wh-lt gry, sharp

Dolo: ala

Dolo: gry, fn xln, poor int xln porosity, scat sh: drk gry

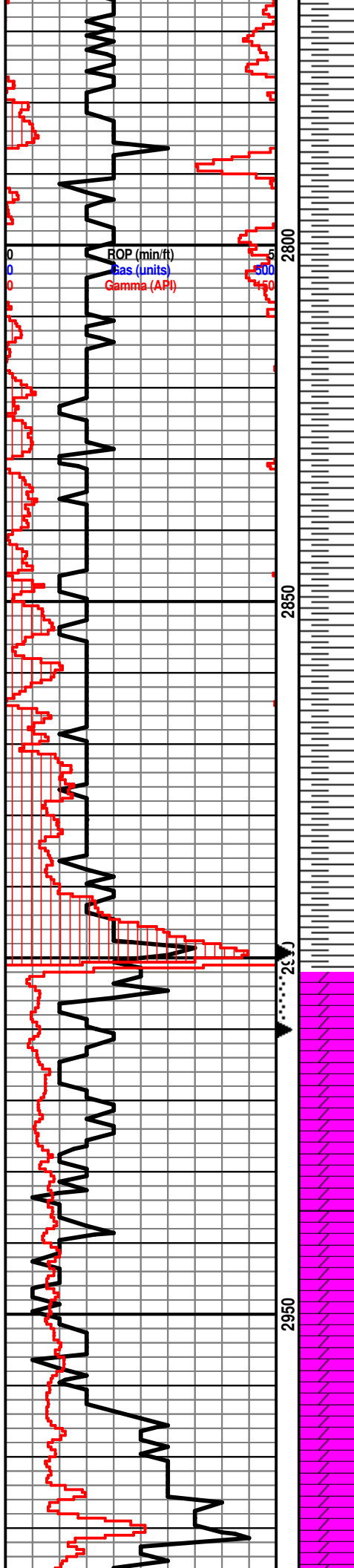
Dolo: drk gry-brn, fn-sub xln, DNS

Dolo: tan-brn, fn xln, poor int xln porosity, mostly DNS

Dolo: ala

Kinderhook 2759' (-1362)





Sh: drk gry-blk

Sh: ala

Sh: drk gry-blk

Sh: ala

Sh: lt gry

Sh: lt-drk gry

### Hunton 2899' (-1602)

Dolo: off wh, md-crs xln, fair int xln porosity, GSFO, good odor, oil bld from rx

Sh: drk gry-blk

Dolo: off wh, fn xln, fair-good int xln porosity, GSFO, good odor, oil bld from rx

Dolo: off wh, fn xln, poor int xln porosity, hvy tarry oil stn in porosity, SSFO, fair odor

Dolo: off wh-lt gry, fn xln, fair-good int xln porosity, mostly barren

Dolo: ala

Dolo: tan-lt gry, fn xln, poor int xln porosity, barren, chalky

Dolo: tan-lt gry, fn-sub xln, poor int xln porosity, mostly DNS, barren, scat chalk

Dolo: tan-lt gry, fn xln, poor int xln porosity, mostly barren

### DST #1 2,899-2,910' Hunton

30"-30"-60"-60"

IF: weak blow built to 4"

FF: weak blow built to 6"

Rec: 60' Clean Oil

90' Heavy Oil Cut Mud (22% O, 78% M)

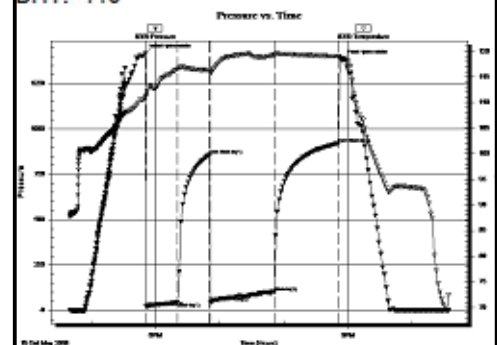
150' Total Fluid Recovery

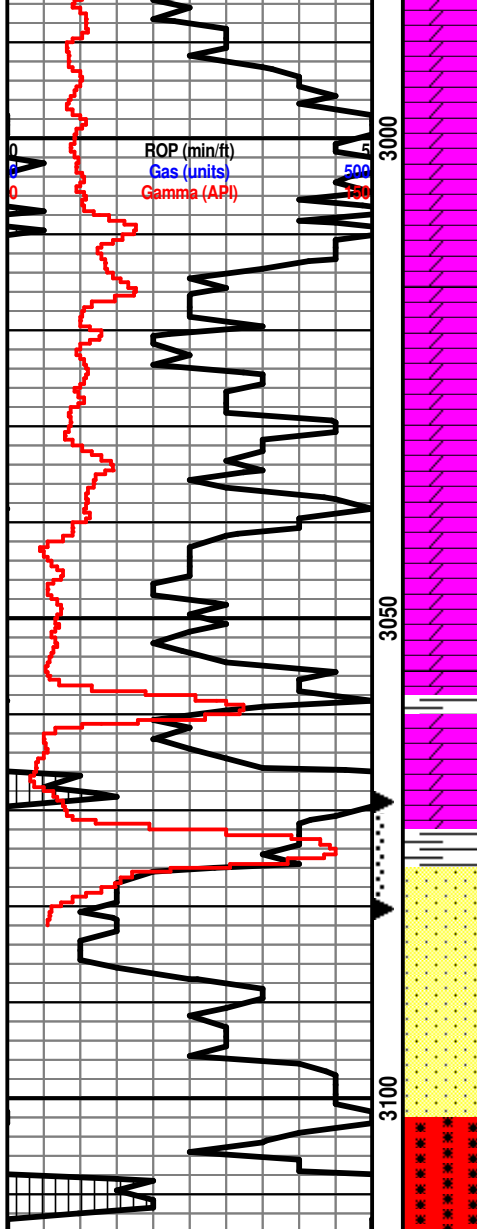
FP: 20-44, 45-101#

SIP: 856-919#

HP: 1,413-1,379#

BHT: 119°





Dolo: ala

Dolo: tan-brn, fn xln, poor int xln & scat int part porosity, barren, scat sltst

Dolo: ala

Dolo: tan-drk brn, fn xln, DNS, NSFO

Dolo: ala

Sh: drk gry

### Simpson Dolo 3060' (-1663)

Dolo: tan-brn, fn-md xln, poor, scat fair int xln porosity, FSFO, fair odor, scat chert-off wh, sndy in vry btm

### Simpson Sand 3070' (-1673)

Ss: qtz, off wh, fn-crs grn, poorly sorted, fair rnd, some pcs friable, fair-good int grn porosity, F-GSFO, good odor

Sh: drk gry-blk

Ss: qtz, off wh, fn-vry fn grn, fairly well sorted, fair rnd, few pcs friable, fair int grn porosity, good oil sat, F-GSFO, good odor

### Precambrian 3106' (-1709)

Qtz: clr, vry dns, ang

### DST #2 3,069-3,080' Simpson Sand

15"-30"-15"-30"

IF: BOB in 8 minutes, no blow back on shut in

FF: BOB in 10 minutes, 1/2" blow back on shut in

Rec: 335' Clean Gassy Oil (29° API)

40' Heavy Oil Cut Mud (22% O, 78% M)

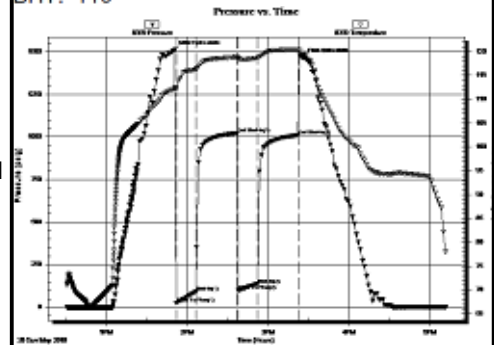
375' Total Fluid Recovery

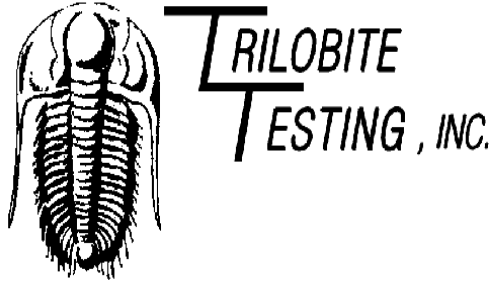
FP: 24-91, 98-136#

SIP: 1,022-1,010#

HP: 1,510-1,464#

BHT: 119°





## DRILL STEM TEST REPORT

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

370 West Wichita Ave  
Russell, KS 67665-2635

ATTN: John Farmer/Austin K

### **Prellwitz #1**

### **16-16S-11E Lyon,KS**

Start Date: 2018.05.19 @ 16:40:00

End Date: 2018.05.19 @ 22:33:50

Job Ticket #: 63393                      DST #: 1

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

Printed: 2018.05.22 @ 09:52:37





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

## DRILL STEM TEST REPORT

John O. Farmer, Inc.

370 West Wichita Ave  
Russell, KS 67665-2635

ATTN: John Farmer/Austin K

**16-16S-11E Lyon, KS**

**Prellwitz #1**

Job Ticket: 63393

**DST#: 1**

Test Start: 2018.05.19 @ 16:40:00

### GENERAL INFORMATION:

Formation: **Hunton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:51:30

Time Test Ended: 22:33:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Jimmy Ricketts

Unit No: 80

**Interval: 2899.00 ft (KB) To 2910.00 ft (KB) (TVD)**

Total Depth: 2910.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1397.00 ft (KB)

1389.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8369 Outside**

Press@RunDepth: 100.56 psig @ 2900.00 ft (KB)

Start Date: 2018.05.19

End Date:

2018.05.19

Start Time: 16:40:01

End Time:

22:33:50

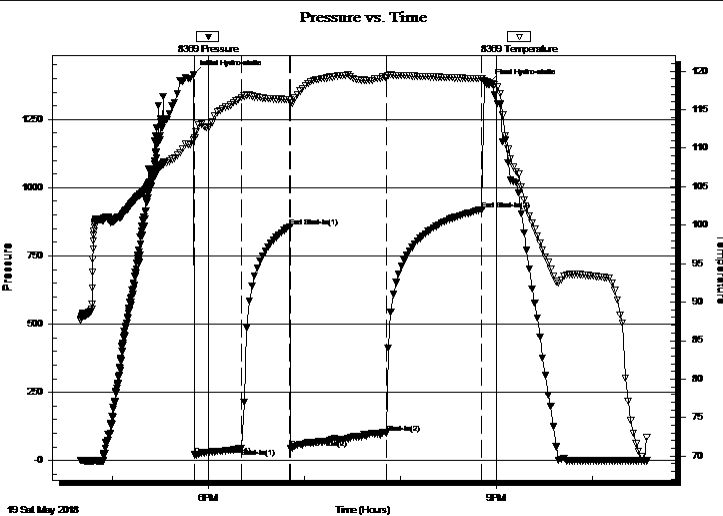
Capacity: 8000.00 psig

Last Calib.: 2018.05.19

Time On Btm: 2018.05.19 @ 17:50:40

Time Off Btm: 2018.05.19 @ 20:54:40

TEST COMMENT: IF - Weak blow building to 4"  
FF - Weak blow building to 6"



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1412.82	111.08	Initial Hydro-static
1	20.41	111.39	Open To Flow (1)
31	43.93	116.58	Shut-In (1)
61	856.35	116.32	End Shut-In (1)
61	45.25	115.90	Open To Flow (2)
121	100.56	119.17	Shut-In (2)
181	919.34	118.99	End Shut-In (2)
184	1379.27	118.51	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
90.00	Heavy oil cut mud 22% O & 78% M	0.64
60.00	Clean oil 100% O	0.42

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

John O. Farmer, Inc.

370 West Wichita Ave  
Russell, KS 67665-2635

ATTN: John Farmer/Austin K

**16-16S-11E Lyon, KS**

**Prellwitz #1**

Job Ticket: 63393

**DST#: 1**

Test Start: 2018.05.19 @ 16:40:00

### GENERAL INFORMATION:

Formation: **Hunton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:51:30

Time Test Ended: 22:33:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Jimmy Ricketts

Unit No: 80

**Interval: 2899.00 ft (KB) To 2910.00 ft (KB) (TVD)**

Total Depth: 2910.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1397.00 ft (KB)

1389.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8846 Inside**

Press@RunDepth: psig @ 2900.00 ft (KB)

Start Date: 2018.05.19

End Date:

2018.05.19

Start Time: 16:40:01

End Time:

22:33:30

Capacity: 8000.00 psig

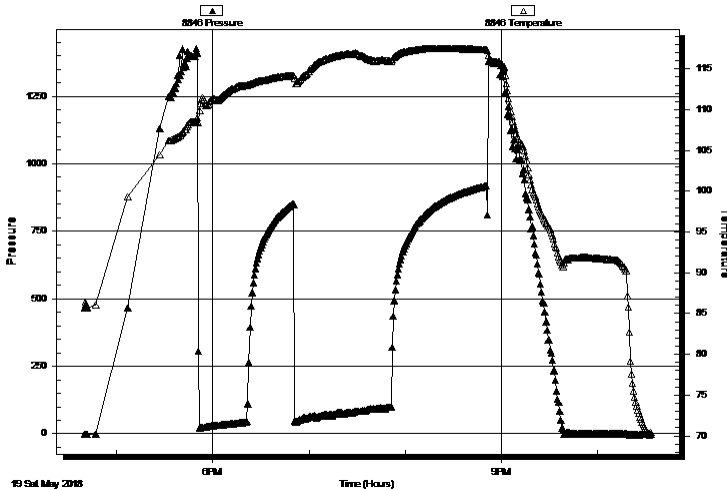
Last Calib.: 1899.12.30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF - Weak blow building to 4"  
FF - Weak blow building to 6"

Pressure vs. Time



### PRESSURE SUMMARY

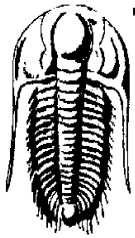
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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### Recovery

Length (ft)	Description	Volume (bbl)
90.00	Heavy oil cut mud 22% O & 78% M	0.64
60.00	Clean oil 100% O	0.42

### Gas Rates

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



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

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O. Farmer, Inc.

**16-16S-11E Lyon, KS**

370 West Wichita Ave  
Russell, KS 67665-2635

**Prellwitz #1**

Job Ticket: 63393

**DST#: 1**

ATTN: John Farmer/Austin K

Test Start: 2018.05.19 @ 16:40:00

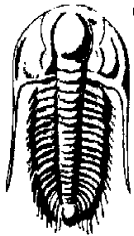
### Tool Information

Drill Pipe:	Length:	2661.00 ft	Diameter:	3.80 inches	Volume:	37.33 bbl	Tool Weight:	1900.00 lb
Heavy Wt. Pipe:	Length:	249.00 ft	Diameter:	2.70 inches	Volume:	1.76 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	Weight to Pull Loose:	49000.00 lb
					Total Volume:	39.09 bbl	Tool Chased	2.00 ft
Drill Pipe Above KB:		31.00 ft					String Weight: Initial	44000.00 lb
Depth to Top Packer:		2899.00 ft					Final	45000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		11.00 ft						
Tool Length:		31.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2880.00	
Shut In Tool	5.00			2885.00	
Hydraulic tool	5.00			2890.00	
Packer	4.00			2894.00	20.00 Bottom Of Top Packer
Packer	5.00			2899.00	
Stubb	1.00			2900.00	
Recorder	0.00	8369	Outside	2900.00	
Recorder	0.00	8846	Inside	2900.00	
Perforations	5.00			2905.00	
Bullnose	5.00			2910.00	11.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>31.00</b>				





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

## DRILL STEM TEST REPORT

### FLUID SUMMARY

John O. Farmer, Inc.

**16-16S-11E Lyon, KS**

370 West Wichita Ave  
Russell, KS 67665-2635

**Prellwitz #1**

Job Ticket: 63393

**DST#: 1**

ATTN: John Farmer/Austin K

Test Start: 2018.05.19 @ 16:40:00

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 7.98 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 560.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

17 deg API

ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	Heavy oil cut mud 22% O & 78% M	0.637
60.00	Clean oil 100% O	0.425

Total Length: 150.00 ft

Total Volume: 1.062 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

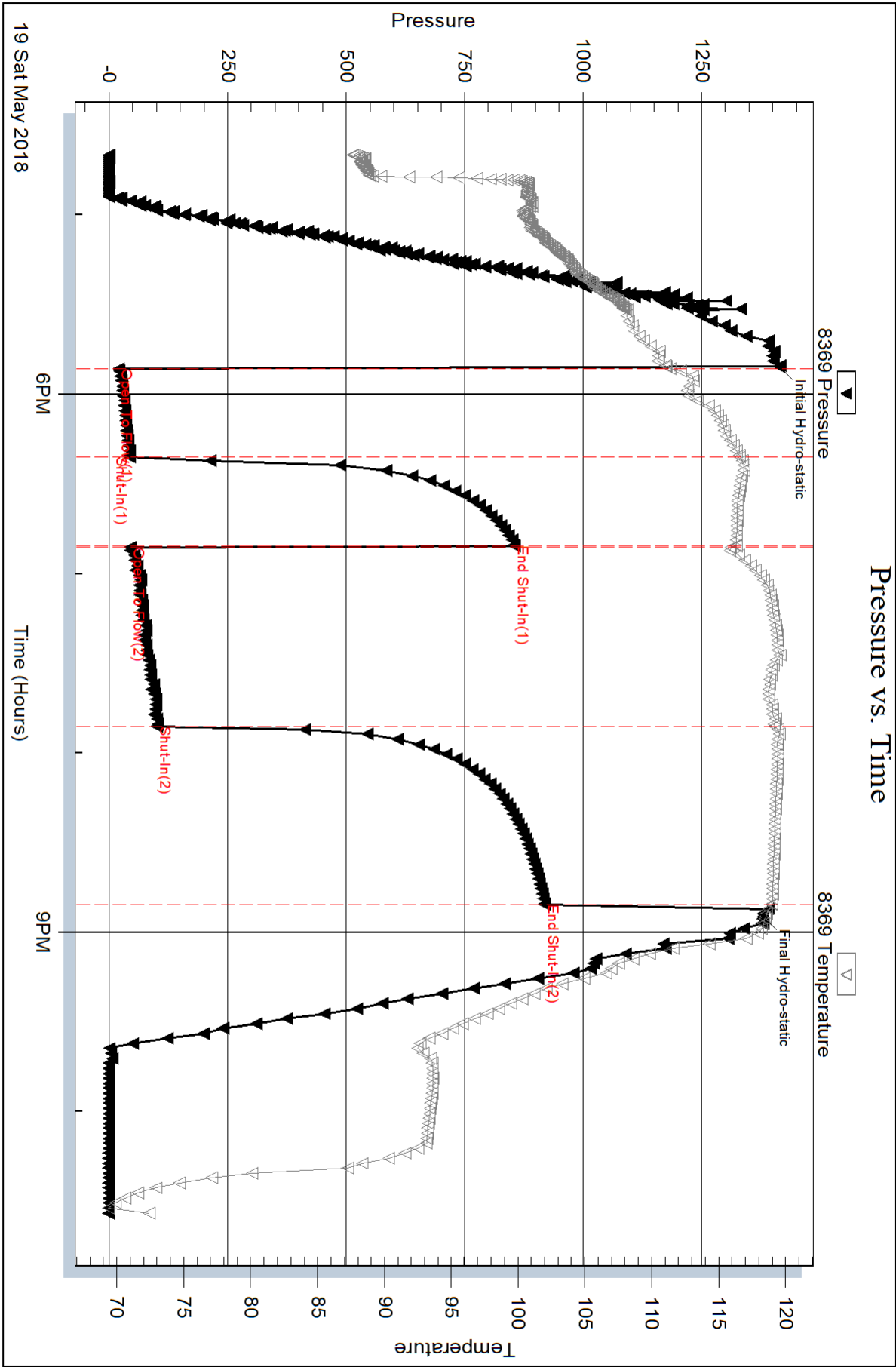
Recovery Comments:

Serial #: 8369

Outside John O. Farmer, Inc.

Prelw iz #1

DST Test Number: 1



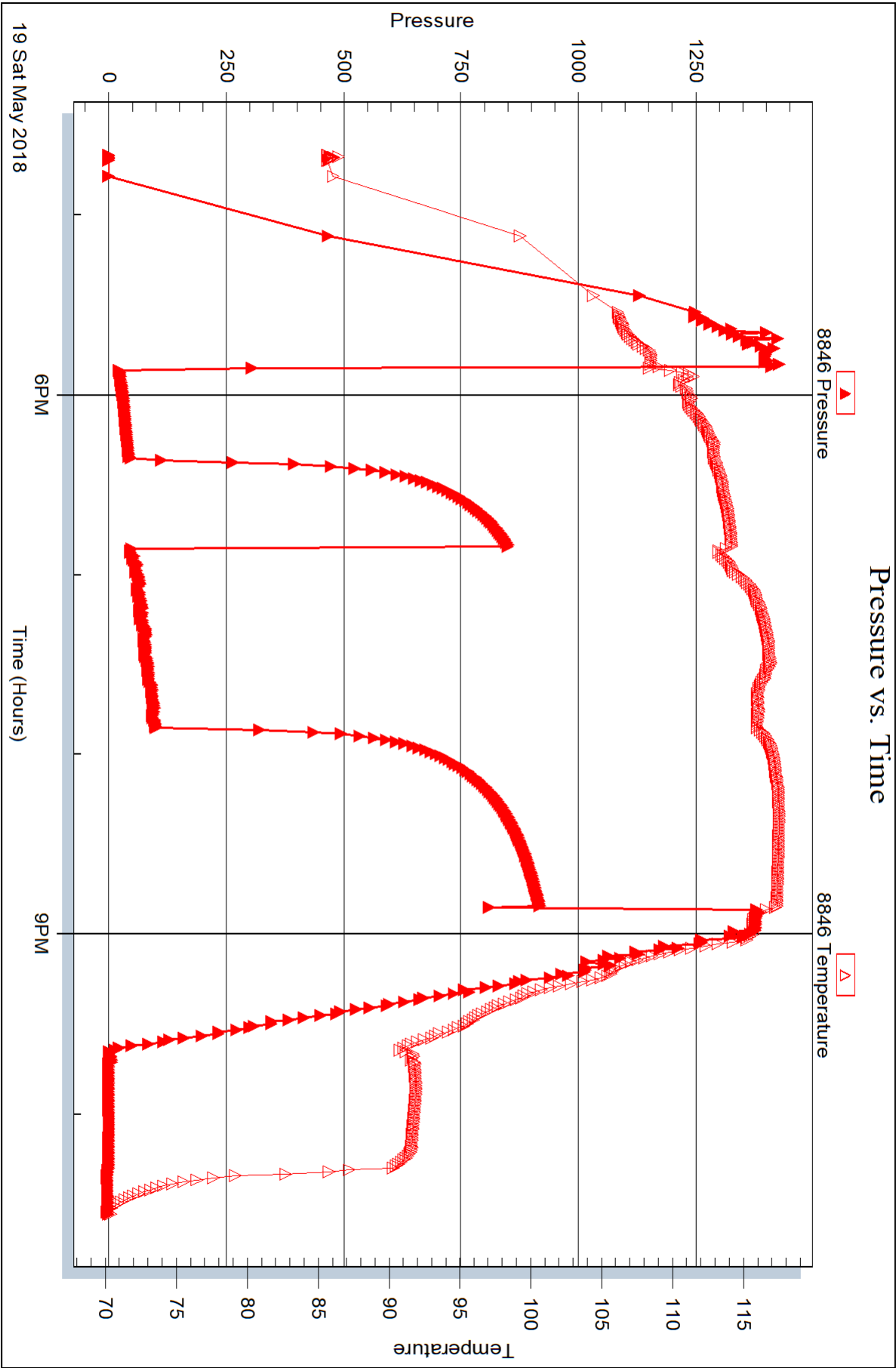
Serial #: 8846

Inside

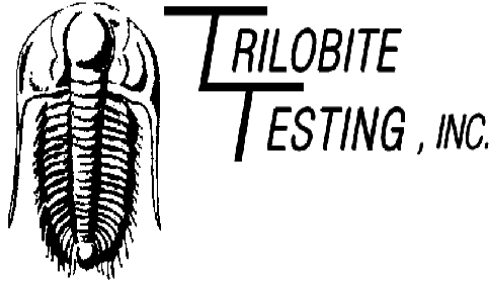
John O. Farmer, Inc.

Prelw iz #1

DST Test Number: 1







## DRILL STEM TEST REPORT

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

370 West Wichita Ave  
Russell, KS 67665-2635

ATTN: John Farmer/Austin K

### **Prellwitz #1**

### **16-16S-11E Lyon,KS**

Start Date: 2018.05.20 @ 12:31:00

End Date: 2018.05.20 @ 17:12:20

Job Ticket #: 63394                      DST #: 2

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

Printed: 2018.05.22 @ 09:34:15



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

## DRILL STEM TEST REPORT

John O. Farmer, Inc.

370 West Wichita Ave  
Russell, KS 67665-2635

ATTN: John Farmer/Austin K

**16-16S-11E Lyon, KS**

**Prellwitz #1**

Job Ticket: 63394

**DST#: 2**

Test Start: 2018.05.20 @ 12:31:00

### GENERAL INFORMATION:

Formation: **Simpson Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:52:00

Time Test Ended: 17:12:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Jimmy Ricketts

Unit No: 80

**Interval: 3069.00 ft (KB) To 3080.00 ft (KB) (TVD)**

Reference Elevations: 1397.00 ft (KB)

Total Depth: 3080.00 ft (KB) (TVD)

1389.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8369 Outside**

Press@RunDepth: 136.21 psig @ 3070.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.05.20

End Date:

2018.05.20

Last Calib.: 2018.05.20

Start Time: 12:31:01

End Time:

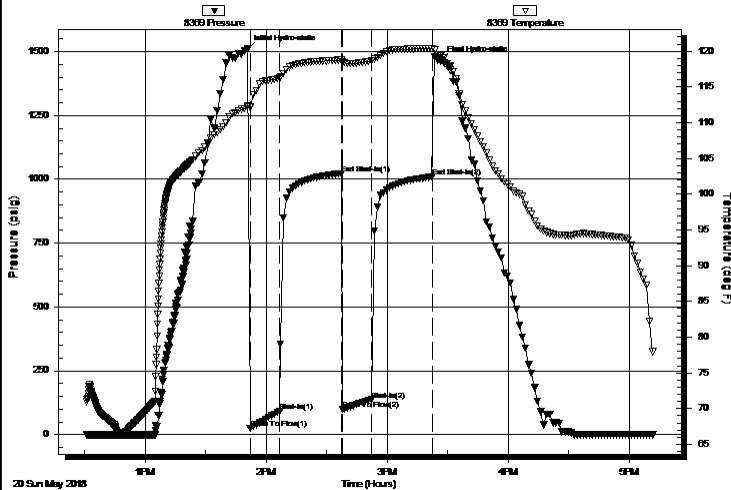
17:12:20

Time On Btm: 2018.05.20 @ 13:51:00

Time Off Btm: 2018.05.20 @ 15:26:20

TEST COMMENT: IF - Weak blow building to strong blow 8 minutes  
FF - Weak blow building to strong blow 10 minutes  
FS - 1/2" blow back

Pressure vs. Time



PRESSURE SUMMARY

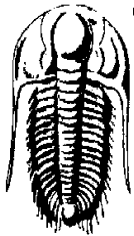
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1509.85	112.35	Initial Hydro-static
1	23.66	112.17	Open To Flow (1)
16	91.32	116.27	Shut-In(1)
47	1022.07	118.78	End Shut-In(1)
47	97.82	118.54	Open To Flow (2)
62	136.21	118.64	Shut-In(2)
92	1009.50	120.40	End Shut-In(2)
96	1464.44	119.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	HOCM 22% O 78% M	0.28
335.00	CO 100% O	3.25
0.00	>60' GIP	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

John O. Farmer, Inc.

**16-16S-11E Lyon, KS**

370 West Wichita Ave  
Russell, KS 67665-2635

**Prellwitz #1**

Job Ticket: 63394

**DST#: 2**

ATTN: John Farmer/Austin K

Test Start: 2018.05.20 @ 12:31:00

### GENERAL INFORMATION:

Formation: **Simpson Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:52:00

Time Test Ended: 17:12:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Jimmy Ricketts

Unit No: 80

**Interval: 3069.00 ft (KB) To 3080.00 ft (KB) (TVD)**

Total Depth: 3080.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1397.00 ft (KB)

1389.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8846 Inside**

Press@RunDepth: psig @ 3070.00 ft (KB)

Start Date: 2018.05.20

End Date:

2018.05.20

Start Time: 12:31:01

End Time:

17:12:38

Capacity: 8000.00 psig

Last Calib.:

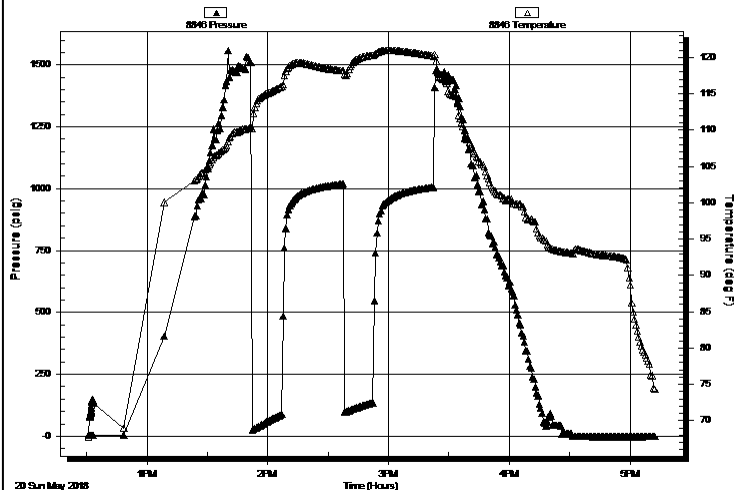
1899.12.30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF - Weak blow building to strong blow 8 minutes  
FF - Weak blow building to strong blow 10 minutes  
FS - 1/2" blow back

Pressure vs. Time



### PRESSURE SUMMARY

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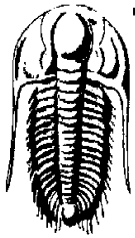
### Recovery

Length (ft)	Description	Volume (bbl)
40.00	HOCM 22% O 78% M	0.28
335.00	CO 100% O	3.25
0.00	>60' GIP	0.00

### Gas Rates

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





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

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O. Farmer, Inc.

**16-16S-11E Lyon, KS**

370 West Wichita Ave  
Russell, KS 67665-2635

**Prellwitz #1**

Job Ticket: 63394

**DST#: 2**

ATTN: John Farmer/Austin K

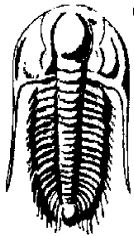
Test Start: 2018.05.20 @ 12:31:00

### Tool Information

Drill Pipe:	Length: 2817.00 ft	Diameter: 3.80 inches	Volume: 39.52 bbl	Tool Weight:	1900.00 lb
Heavy Wt. Pipe:	Length: 249.00 ft	Diameter: 2.70 inches	Volume: 1.76 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	53000.00 lb
		Total Volume:	41.28 bbl	Tool Chased	1.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3069.00 ft			Final	47000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	11.00 ft				
Tool Length:	31.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3050.00	
Shut In Tool	5.00			3055.00	
Hydraulic tool	5.00			3060.00	
Packer	4.00			3064.00	20.00 Bottom Of Top Packer
Packer	5.00			3069.00	
Stubb	1.00			3070.00	
Recorder	0.00	8369	Outside	3070.00	
Recorder	0.00	8846	Inside	3070.00	
Perforations	5.00			3075.00	
Bullnose	5.00			3080.00	11.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>31.00</b>				



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

## DRILL STEM TEST REPORT

### FLUID SUMMARY

John O. Farmer, Inc.

**16-16S-11E Lyon, KS**

370 West Wichita Ave  
Russell, KS 67665-2635

**Prellwitz #1**

Job Ticket: 63394

**DST#: 2**

ATTN: John Farmer/Austin K

Test Start: 2018.05.20 @ 12:31:00

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 7.98 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 790.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API: 28.6 deg API

Water Salinity: ppm

ft

bbl

psig

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	HOCM 22% O 78% M	0.283
335.00	CO 100% O	3.248
0.00	>60' GIP	0.000

Total Length: 375.00 ft

Total Volume: 3.531 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

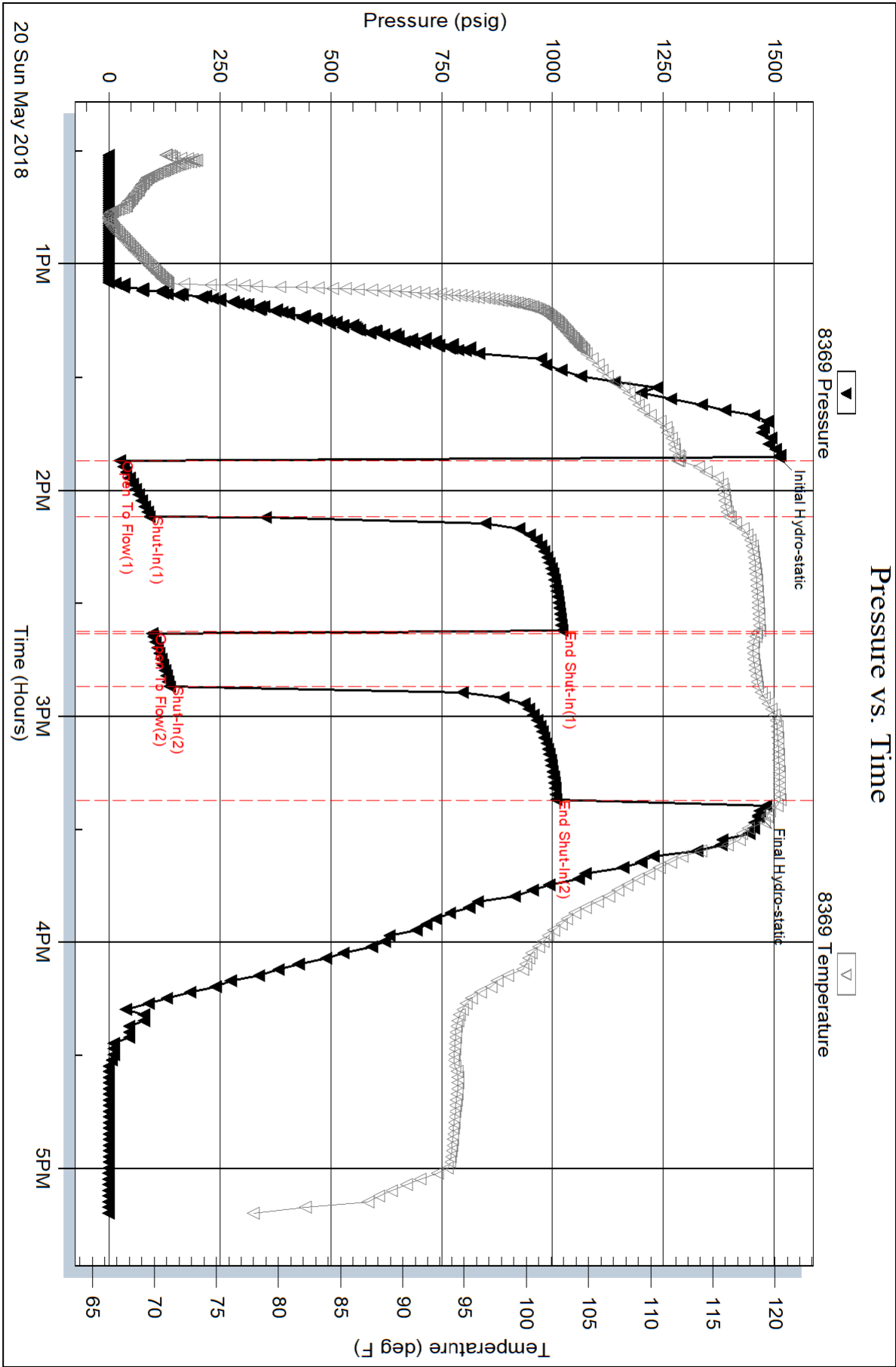
Recovery Comments:

Serial #: 8369

Outside John O. Farmer, Inc.

Prelw itz #1

DST Test Number: 2



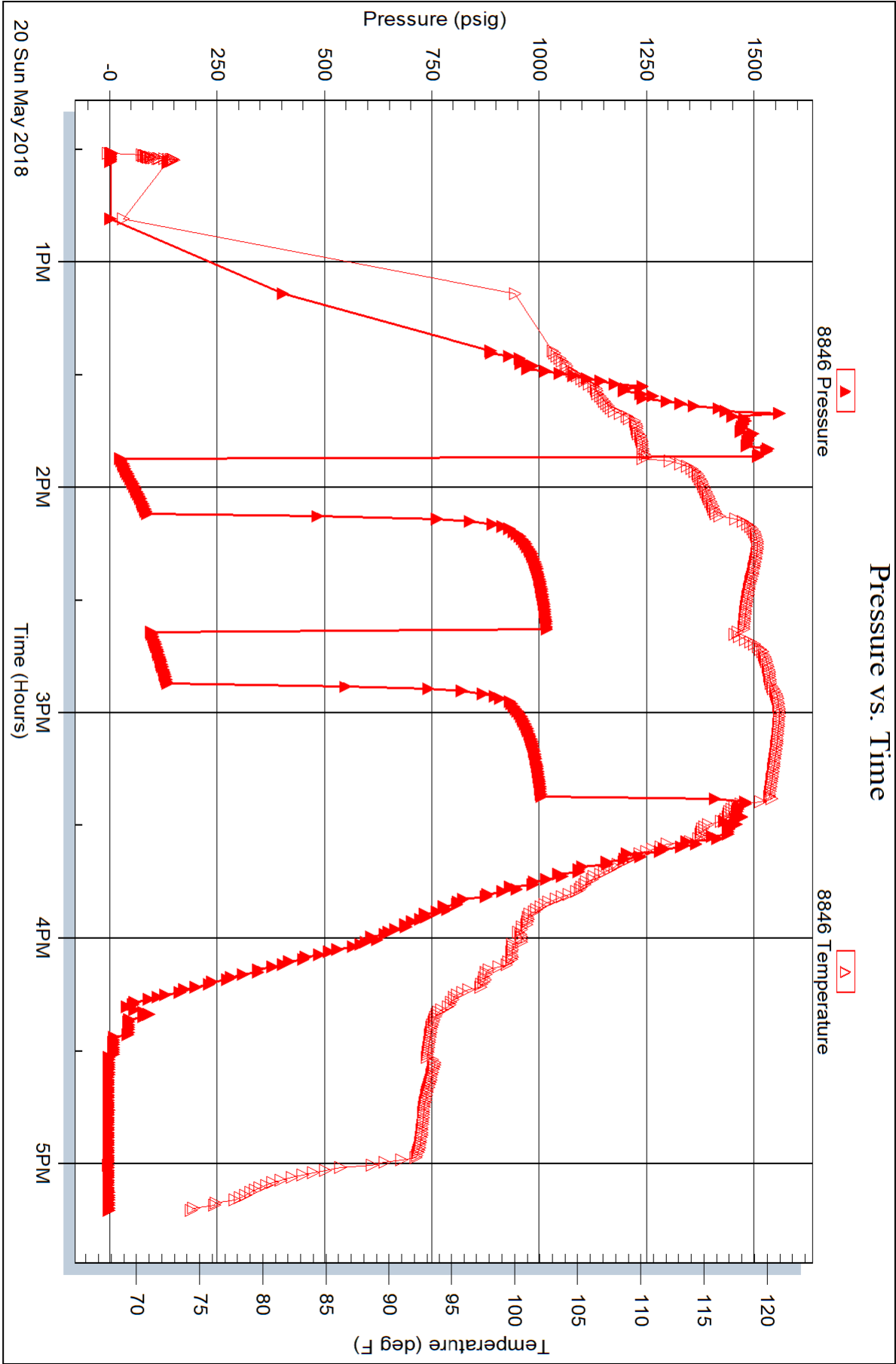
Serial #: 8846

Inside

John O. Farmer, Inc.

Prelw iz #1

DST Test Number: 2





**TRILOBITE  
TESTING INC.**

1515 Commerce Parkway • Hays, Kansas 67601

# Test Ticket

NO. **63393**

Well Name & No. Prellwitz #1 Test No. 1 Date 5-19-18  
 Company John O. Farmer, Inc. Elevation 1397 KB 1389 GL  
 Address 370 West Wichita Avenue, Russell, KS. 67665-2635  
 Co. Rep / Geo. John Farmer / Austin Klaus Rig Discovery Drilling #2  
 Location: Sec. 16 Twp 16 S Rge. 11 E Co. Lyon State KS.

Interval Tested 2899-2910 Zone Tested Hutton  
 Anchor Length 11' Drill Pipe Run 2661 Mud Wt. 9.1  
 Top Packer Depth 2894 Drill Collars Run 0 Vis 48  
 Bottom Packer Depth 2899 Wt. Pipe Run 249 WL 8.0  
 Total Depth 2910 Chlorides 560 ppm System LCM  
 Blow Description IF - weak blow building to 4 inches IFP  
FF - weak blow building to 6 inches FFP

Rec <u>90</u>	Feet of <u>Heavy oil cut mud</u>	%gas <u>22</u>	%oil <u>oil</u>	%water <u>78</u>	%mud
Rec <u>60</u>	Feet of <u>Clean oil</u>	%gas <u>100</u>	%oil <u>oil</u>	%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 150 BHT 119 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 1413 ☒ Test 1050 T-On Location 1530  
 (B) First Initial Flow 20 ☐ Jars \_\_\_\_\_ T-Started 1640  
 (C) First Final Flow 44 ☐ Safety Joint \_\_\_\_\_ T-Open 1751  
 (D) Initial Shut-In 856 ☐ Circ Sub \_\_\_\_\_ T-Pulled 2051  
 (E) Second Initial Flow 45 ☐ Hourly Standby \_\_\_\_\_ T-Out 2200  
 (F) Second Final Flow 101 ☒ Mileage 230 RT 230 Comments \_\_\_\_\_  
 (G) Final Shut-In 919 ☐ Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1379 ☐ Straddle \_\_\_\_\_  
☒ Shale Packer 250 ☐ Ruined Shale Packer \_\_\_\_\_  
☐ Extra Packer \_\_\_\_\_ ☐ Ruined Packer \_\_\_\_\_  
☐ Extra Recorder \_\_\_\_\_ ☐ Extra Copies \_\_\_\_\_  
☐ Day Standby \_\_\_\_\_ Sub Total 0  
☐ Accessibility \_\_\_\_\_ Total 1530  
 Sub Total 1530 MP/DST Disc't \_\_\_\_\_

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





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63394

Well Name & No. Prellwitz #1 Test No. 2 Date 5-20-16  
 Company John O. Farmer, Inc. Elevation 1397 KB 1389 GL  
 Address 370 West Wichita Avenue, Russell, KS 67665-2635  
 Co. Rep / Geo. John Farmer / Austin Klaus Rig Discovery Drilling #2  
 Location: Sec. 16 Twp 16S Rge. 11E Co. Lyon State KS

Interval Tested 3069-3080 Zone Tested Simpson Sand  
 Anchor Length 11 Drill Pipe Run 2817 Mud Wt. 9.2  
 Top Packer Depth 3064 Drill Collars Run 0 Vis 50  
 Bottom Packer Depth 3069 Wt. Pipe Run 249 WL 8.0  
 Total Depth 3080 Chlorides 790 ppm System LCM  
 Blow Description IF - weak blow building to strong blow 8 mins. into IFP  
FF - weak blow building to strong blow 10 mins. into FFP  
FS - 1/2 inch blow back during FSP

Rec	Feet of	%gas	%oil	%water	%mud
<u>335</u>	<u>clean oil</u>	<u>100</u>			
<u>40</u>	<u>Heavy oil cut mud</u>	<u>22</u>		<u>78</u>	

Rec Total 375 BHT 120 Gravity 28.6 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic <u>1510</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1200</u>
(B) First Initial Flow <u>24</u>	<input type="checkbox"/> Jars	T-Started <u>1231</u>
(C) First Final Flow <u>91</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1352</u>
(D) Initial Shut-In <u>1022</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1522</u>
(E) Second Initial Flow <u>98</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1700</u>
(F) Second Final Flow <u>136</u>	<input checked="" type="checkbox"/> Mileage <u>320rt RT 30</u>	Comments
(G) Final Shut-In <u>1010</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1464</u>	<input type="checkbox"/> Straddle	

Initial Open <u>15</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>15</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1620</u>
	Sub Total <u>1620</u>	MP/DST Disc't

Approved By Austin B. Klaus Our Representative Jimmy Smith  
 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.