

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 Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

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

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	FourWinds Oil Corporation
Well Name	BOWMAN TRUST 1
Doc ID	1422296

All Electric Logs Run

Micro Log
Neutron Density
Dual Induction
Sonic





REMIT TO  
 QES Pressure Pumping LLC  
 Dept:970  
 P.O.Box 4346  
 Houston,TX 77210-4346

MAIN OFFICE

P.O.Box884  
 Chanute,KS 66720  
 620/431-9210,1-800/467-8676  
 Fax 620/431-0012

Invoice

Invoice# 814002

Invoice Date: 08/31/18

Terms: Net 30

Page 1

FourWinds Oil Corporation  
 P.O. Box 1063  
 Hays KS 67601  
 USA  
 785-259-8403

BOWMAN TRUST 1

Part No	Description	Quantity	Unit Price	Discount(%)	Total
CE0471	Cement Pump Charge 301' - 500' (Coalbed/Methane)	1.000	1,150.0000	30.000	805.00
CE0002	Equipment Mileage Charge - Heavy Equipment	40.000	7.1500	30.000	200.20
CE0711	Minimum Cement Delivery Charge	1.000	660.0000	30.000	462.00
CC5871	Surface Blend II, 2% Gel/3% CaCl	200.000	24.0000	30.000	3,360.00
Subtotal					6,896.00
Discounted Amount					2,068.80
SubTotal After Discount					4,827.20
Amount Due 7,280.00 If paid after 09/30/18					

Tax: 268.80  
 Total: 5,096.00





PRESSURE PUMPING LLC  
 PO Box 884, Chanute, KS 66720  
 620-431-9210 or 800-467-8676

11473  
 11302

TICKET NUMBER 55268

LOCATION Ockler, KS

FOREMAN Miles Shaw

FIELD TICKET & TREATMENT REPORT

CEMENT

Invoice # 814002 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
8-29-18	2849	Bowman Trust 1	4	9 S	36 W	Thomas
CUSTOMER Four Winds oil			Drewsterh Sto chl EJ N. int			
MAILING ADDRESS PO Box 1063 / contact Dan Windholtz 785-259-8403			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY Hays			753	Roy S		
STATE KS			701	Neil W		
ZIP CODE 67601			703	Miles S		
			Asst	Corey W		

JOB TYPE Surface HOLE SIZE 12.25" HOLE DEPTH 261' CASING SIZE & WEIGHT 8 5/8" 23 #  
 CASING DEPTH 261' DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14.8 SLURRY VOL 1.36 WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 20'  
 DISPLACEMENT 15.25 bbls DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safe to mix and dig up on Discovery drilling. Circulate liquid mix  
200 ss Surface blend II class A cement with 33 calcium 23 gal displac 15.25 bbls  
Water shut in cement did circulate cellar only

Thank Miles & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0471	1	PUMP CHARGE	1150. <sup>00</sup>	1150. <sup>00</sup>
CE0002	40	MILEAGE	7.15	286. <sup>00</sup>
CE0011	9.4 Ton	Ton Mileage deliver	66.0. <sup>00</sup>	660. <sup>00</sup>
CE5871	200 SS	Surface blend II	24. <sup>00</sup>	4800. <sup>00</sup>
			Subtotal	6896. <sup>00</sup>
		loss 30 gal discum 1		2068.80
			Subtotal	4827.20
			SALES TAX	2168.80
			ESTIMATED TOTAL	5096.00

**SCANNED**

Ravin 3737

AUTHORIZATION [Signature] TITLE \_\_\_\_\_ DATE \_\_\_\_\_

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



Scale 1:240 Imperial

Well Name:	BOWMAN TRUST #1	
Surface Location:	N2 SW NW SW Sec. 4 - 9S - 36W	
Bottom Location:		
API:	15-193-21028	
License Number:	34916	
Spud Date:	8/29/2018	Time: 8:45 AM
Region:	THOMAS COUNTY	
Drilling Completed:	9/7/2018	Time: 1:25 PM
Surface Coordinates:	1750' FSL & 330' FWL	
Bottom Hole Coordinates:		
Ground Elevation:	3425.00ft	
K.B. Elevation:	3433.00ft	
Logged Interval:	3800.00ft	To: 4900.00ft
Total Depth:	4900.00ft	
Formation:	LANSING - KANSAS CITY	
Drilling Fluid Type:	FRESH WATER / CHEMICAL GEL	

**OPERATOR**

Company: FOURWIND OIL CORP.  
 Address: P.O. BOX 1063  
 HAYS, KS 67601

Contact Geologist: DAN WINDHOLZ  
 Contact Phone Nbr: (785) 259-8403  
 Well Name: BOWMAN TRUST #1  
 Location: N2 SW NW SW Sec. 4 - 9S - 36W  
 API: 15-193-21028  
 Pool:  
 State: KANSAS

Field: WILDCAT  
 Country: USA

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -101.3525988  
 Latitude: 39.2993792  
 N/S Co-ord: 1750' FSL  
 E/W Co-ord: 330' FWL

**LOGGED BY**



Company: BIG CREEK CONSULTING, INC

Company: BIG CREEK CONSULTING, INC.  
 Address: 1909 MAPLE  
 ELLIS, KS 67637

Phone Nbr: (785) 259-3737  
 Logged By: GEOLOGIST

Name: JEFF LAWLER

**CONTRACTOR**

Contractor: DISCOVERY DRILLING  
 Rig #: 1  
 Rig Type: MUD ROTARY  
 Spud Date: 8/29/2018  
 TD Date: 9/7/2018  
 Rig Release: 9/8/2018  
 Time: 8:45 AM  
 Time: 1:25 PM  
 Time: 9:00 AM

**ELEVATIONS**

K.B. Elevation: 3433.00ft  
 K.B. to Ground: 8.00ft  
 Ground Elevation: 3425.00ft


**NOTES**

DUE TO LACK OF ECONOMIC RECOVERY ON THREE DRILL STEM TESTS THE DECISION WAS MADE TO PLUG & ABANDON THE BOWMAN TRUST #1.

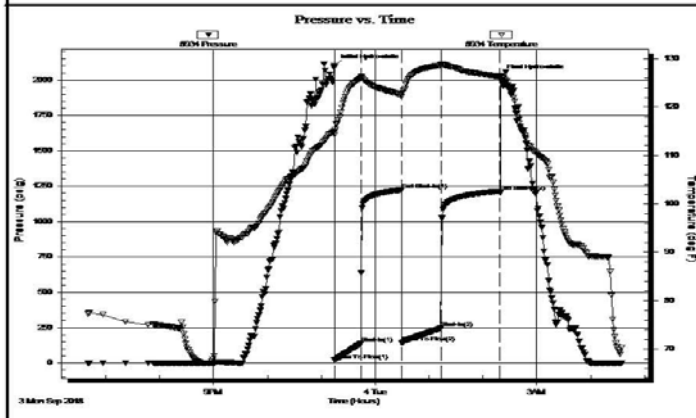
**WELL COMPARISON SHEET**

FORMATION	BOWMAN TRUST #1				P&A 3-11				●				P&A GAS WELL 7-03				EOR			
	KB 3433		GL 3425		KB 3396		KB 3407		KB 3427		KB 3417		KB 3417		KB 3417		KB 3417			
	LOG TOPS		SAMPLE TOPS		LOG		LOG		LOG		LOG		LOG		LOG		LOG			
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM		
ANHYDRITE TOP	2896	537	2894	539					2880	527	+ 10	+ 12	2895	532	+ 5	+ 7	2884	533	+ 4	+ 6
BASE	2923	510	2925	508	2896	500	+ 10	+ 8	2912	495	+ 15	+ 13	2926	501	+ 9	+ 7	2914	503	+ 7	+ 5
TOPEKA	3969	-536	3971	-538	3927	-531	- 5	- 7	3947	-540	+ 4	+ 2					3948	-531	- 5	- 7
HEEBNER SHALE	4161	-728	4164	-731	4118	-722	- 6	- 9	4139	-732	+ 4	+ 1	4162	-735	+ 7	+ 4	4141	-724	- 4	- 7
TORONTO	4189	-756	4194	-761					4170	-763	+ 7	+ 2								
LKC	4207	-774	4208	-775	4162	-766	- 8	- 9	4186	-779	+ 5	+ 4	4210	-783	+ 9	+ 8	4185	-768	- 6	- 7
BKC	4491	-1058	4500	-1067	4442	-1046	- 12	- 21	4461	-1054	- 4	- 13	4500	-1073	+ 15	+ 6	4469	-1052	- 6	- 15
MARMATON	4536	-1103	4547	-1114	4492	-1096	- 7	- 18	4510	-1103	+ 0	- 11	4536	-1109	+ 6	- 5	4523	-1106	+ 3	- 8
PAWNEE	4623	-1190	4623	-1190	4565	-1169	- 21	- 21	4586	-1179	- 11	- 11	4620	-1193	+ 3	+ 3	4594	-1177	- 13	- 13
FORT SCOTT	4659	-1226	4658	-1225	4603	-1207	- 19	- 18	4629	-1222	- 4	- 3	4660	-1233	+ 7	+ 8	4630	-1213	- 13	- 12
CHEROKEE SHALE	4669	-1236	4669	-1236	4621	-1225	- 11	- 11	4641	-1234	- 2	- 2	4672	-1245	+ 9	+ 9	4648	-1231	- 5	- 5
MISSISSIPPIAN	4850	-1417	4859	-1426	4812	-1416	- 1	- 10												
TOTAL DEPTH	4900	-1467	4900	-1467	4870	-1474	+ 7	+ 7	4700	-1293	- 174	- 174	4803	-1376	- 91	- 91	4745	-1328	- 139	- 139

**DST #1 LKC A 4198' - 4226'**

	<b>DRILL STEM TEST REPORT</b> FourWinds Oil Corporation PO BOX 1063 Hays KS 67601 ATTN: Jeff Lawler		<b>4-9s-36w Thomas KS</b> <b>Bowman Trust #1</b> Job Ticket: 64593 Test Start: 2018.09.03 @ 18:40:00	
	<b>GENERAL INFORMATION:</b> Formation: <b>LKC 'A'</b> Deviated: No Whipstock: ft (KB) Time Tool Opened: 23:14:45 Time Test Ended: 04:35:15 <b>Interval: 4198.00 ft (KB) To 4226.00 ft (KB) (TVD)</b> Total Depth: 4226.00 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: 3433.00 ft (KB) 3425.00 ft (CF) KB to GR/CF: 8.00 ft	
<b>Serial #: 8934</b> Press@RunDepth: 245.21 psig @ 4199.00 ft (KB) Start Date: 2018.09.03 Start Time: 18:40:15	<b>Outside</b> End Date: 2018.09.04 End Time: 04:35:15	Capacity: 8000.00 psig Last Calib.: 2018.09.04 Time On Btm: 2018.09.03 @ 23:14:30 Time Off Btm: 2018.09.04 @ 02:20:00		
<b>TEST COMMENT:</b> 30-IF-Fair; Built to 9&1/2" 45-ISI-No Return 30-FF-Fair to Strong in 27mins; Built to 20" 60-FSI-No Return				





PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2101.78	114.86	Initial Hydro-static
1	18.84	114.33	Open To Flow (1)
30	137.40	125.95	Shut-In(1)
75	1222.95	122.58	End Shut-In(1)
76	142.67	122.16	Open To Flow (2)
119	245.21	128.65	Shut-In(2)
185	1215.00	126.21	End Shut-In(2)
186	2029.64	126.35	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
340.00	Water 100%W	2.70
150.00	MCV 15%M 85%W	2.13

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

Trilobite Testing, Inc

Ref. No: 64593

Printed: 2018.09.04 @ 06:52:22

### DST #2 LKC D 4255' - 4282'

**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

FourWinds Oil Corporation **4-9s-36w Thomas KS**

PO BOX 1063 **Bowman Trust #1**  
Hays KS 67601

ATTN: Jeff Lawler Job Ticket: 64594 **DST#: 2**

Test Start: 2018.09.04 @ 15:40:00

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**GENERAL INFORMATION:**

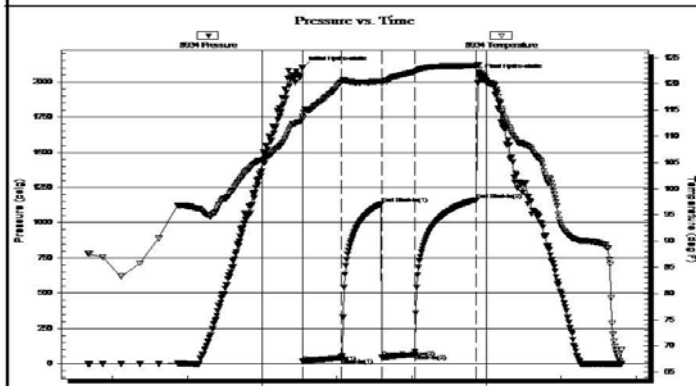
Formation: <b>LKC 'D'</b>	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock ft (KB)	Tester: Spencer J. Staab
Time Tool Opened: 18:32:45	Unit No: 84
Time Test Ended: 22:48:45	Reference Elevations: 3433.00 ft (KB)
<b>Interval: 4255.00 ft (KB) To 4282.00 ft (KB) (TVD)</b>	3425.00 ft (CF)
Total Depth: 4282.00 ft (KB) (TVD)	KB to GR/CF: 8.00 ft
Hole Diameter: 7.88 inches Hole Condition: Poor	

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**Serial #: 8934**

Press@RunDepth: 63.77 psig @ ft (KB)	Capacity: 8000.00 psig
Start Date: 2018.09.04	End Date: 2018.09.04
Start Time: 15:40:15	End Time: 22:48:45
	Time On Btm: 2018.09.04 @ 18:32:30
	Time Off Btm: 2018.09.04 @ 20:54:00

**TEST COMMENT:** 30-IF-Weak; Built to 4"  
30-ISI-No Return  
30-FF-Weak; Built to 2&1/2"  
45-FSI-No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2100.72	113.85	Initial Hydro-static
1	14.12	113.54	Open To Flow (1)
32	41.25	120.35	Shut-In(1)
64	1134.91	120.51	End Shut-In(1)
64	43.39	120.06	Open To Flow (2)
90	63.77	122.32	Shut-In(2)
140	1162.62	123.45	End Shut-In(2)
142	2048.72	122.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	SWCM 3%W 97%M	0.51

\* Recovery from multiple tests

Gas Rates

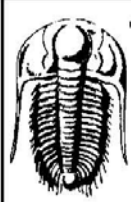
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 64594

Printed: 2018.09.05 @ 02:26:08

DST #3 LKC K 4426' - 4460'



**TRILOBITE TESTING, INC.**

DRILL STEM TEST REPORT

FourWinds Oil Corporation

4-9s-36w Thomas KS

PO BOX 1063  
Hays KS 67601

Bowman Trust #1

ATTN: Jeff Lawler

Job Ticket: 64595

DST#: 3

Test Start: 2018.09.05 @ 22:18:00

GENERAL INFORMATION:

Formation: **LKC 'K'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 02:03:00  
 Time Test Ended: 05:49:00

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84

Interval: **4426.00 ft (KB) To 4460.00 ft (KB) (TVD)**  
 Total Depth: 4460.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 3433.00 ft (KB)  
 3425.00 ft (CF)  
 KB to GR/CF: 8.00 ft

Serial #: 8934

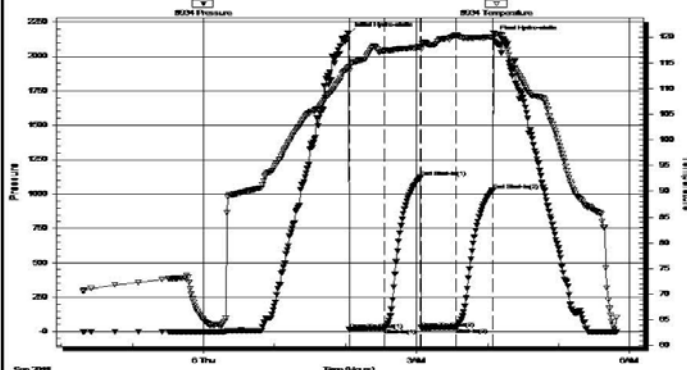
Outside

Press@RunDepth: 32.04 psig @ 4427.00 ft (KB)  
 Start Date: 2018.09.05 End Date:  
 Start Time: 22:18:15 End Time:

Capacity: 8000.00 psig  
 Last Calib.: 2018.09.06  
 Time On Btm: 2018.09.06 @ 02:02:45  
 Time Off Btm: 2018.09.06 @ 04:04:45

TEST COMMENT: 30-IF-Weak Surface  
 30-ISI-No Return  
 30-FF-Weak Surface  
 30-FSI-No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Anotation
0	2164.39	114.21	Initial Hydro-static
1	15.48	113.43	Open To Flow (1)
30	24.22	117.29	Shut-In(1)
61	1122.25	117.98	End Shut-In(1)
61	26.53	117.57	Open To Flow (2)
91	32.04	120.38	Shut-In(2)
122	1025.18	119.95	End Shut-In(2)
122	2140.77	120.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OSM	0.11

\* Recovery from multiple tests

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 64595


Printed: 2018.09.06 @ 07:16:08

**ROCK TYPES**

 Lmst fw7> shale, grn	 shale, gry	 Shblk shale, red	 Shcol Ss
 shale, grn	 Carbon Sh		










**ACCESSORIES**

**STRINGER**

 Sandstone

**OTHER SYMBOLS**

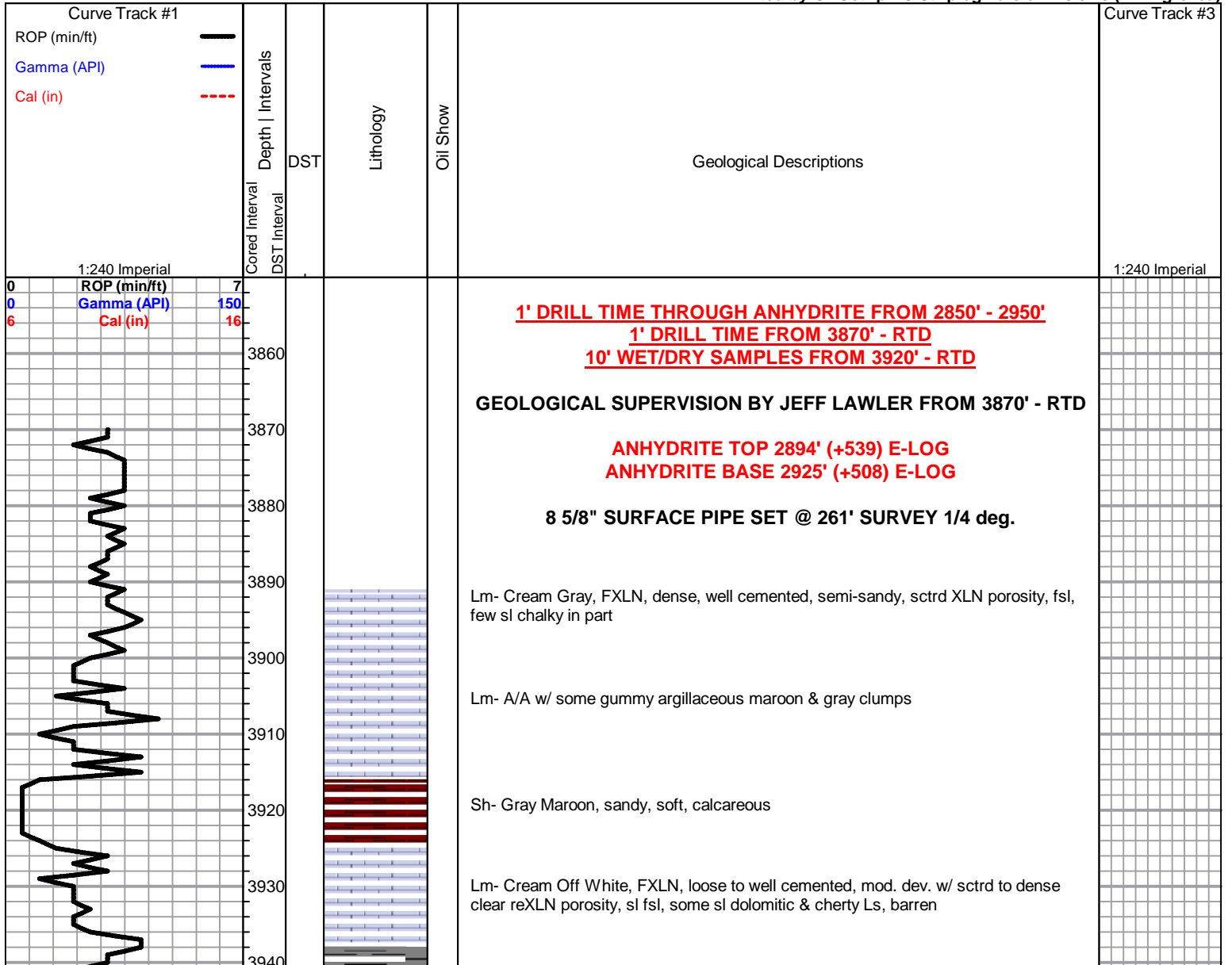
**MISC**

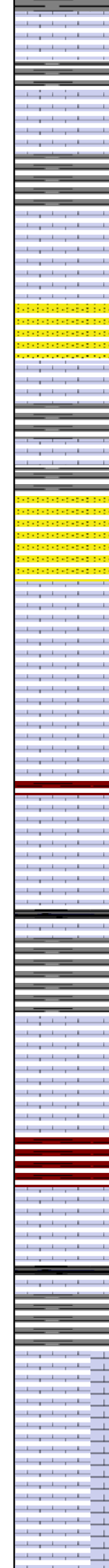
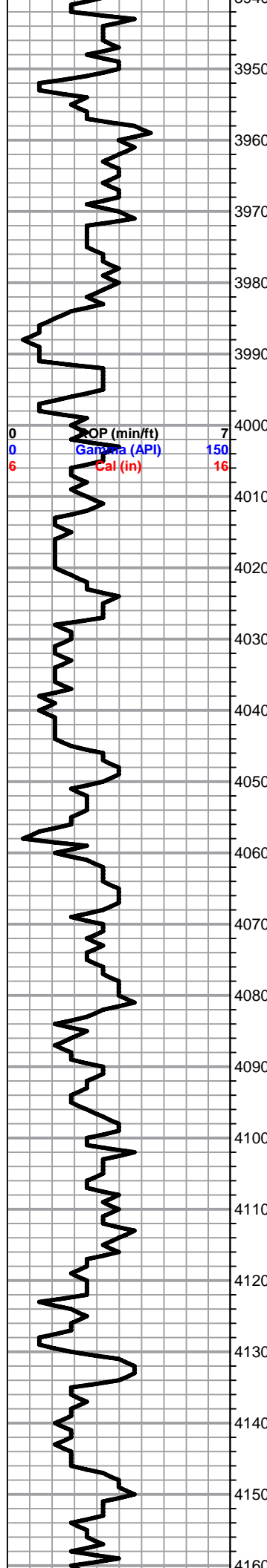
-  Daily Report
-  Digital Photo
-  Document
-  Folder
-  Link
-  Vertical Log File
-  Horizontal Log File
-  Core Log File
-  Drill Cuttings Rpt

**DST**

-  DST Int
-  DST alt

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)





Lm- A/A w/ lt gray, dense VF-FXLN, well cemented, sl granular, tight w/ dense micro XLN porosity

Sh- Gray Maroon Lt Green, sandy, silty & calcareous, some soft wash

**TOPEKA 3971' (-538) E-LOG 3969' (-536)** Lm- Lt Gray, VFXLN, dense, well cemented, sl fsl, poorly dev. & mostly tight w/ sctrd micro XLN porosity

Lm- Cream Gray, FXLN, loosely cemented, semi-crumbly, dense XLN porosity, some sl fsl, barren

Ss- Off White Maroon Gray, Med Grn, well sorted & consolidated, well cemented, barren

Lm- Cream, FXLN, dense, well cemented, sl fsl, dense XLN porosity, barren

Ss- Maroon, consolidated & well sorted, well cemented w/ ppt intergran. porosity

Lm- Cream Off White, FXLN, loosely cemented, sandy, mod. dev. w/ fn ppt porosity, some soft white chalk, barren, some mottled & sl fsl, w/ dense XLN porosity & clear reXLN porosity, barren

Sh- Maroon Gray, gritty & earthy, dense & sl waxy

Lm- Tan Lt Gray, VF-FXLN, well cemented, sctrd clear replacement cementation, sctrd micro XLN & reXLN porosity, barren & tight

Sh- Black Maroon, fissile & carbonaceous, gritty & earthy

Sh- Gray Maroon, dense & sl calcareous, gritty & earthy, some sl sandy

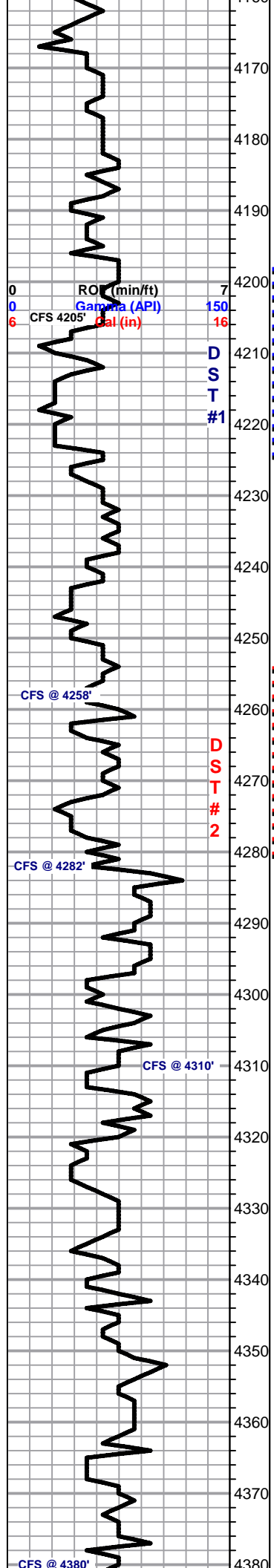
Lm- Drk Gray, VF-FXLN, dense, well cemented, fsl w/ some fragments, heavily mottled, high-energy, sctrd XLN & reXLN porosity, barren

Lm- Cream Off White, FXLN, dense, well cemented, poorly dev., some sl fsl, sctrd XLN porosity, tight

Sh- Black Gray Maroon, fissile & carbonaceous, gritty & earthy

Lm- Cream Off White, FXLN, dense, well cemented, sl fsl & oolitic, massive, sctrd fn ppt inter fsl porosity, barren

Lm- Cream Off White, FXLN, dense, well cemented, sctrd clear replacement cementation, sl fsl sctrd XLN porosity, barren



**HEEBNER 4164' (-731) E-LOG 4161' (-728)** Sh- Black Maroon, fissile & carbaceous, gritty & earthy

**TORONTO 4194' (-761) E-LOG 4189' (-756)** Lm- Cream Gray, FXLN, sl fsl, well cemented, mostly tight w/ sctrd XLN porosity, barren

**LKC 4208' (-775) E-LOG 4207' (-774)** Lm- White, FXLN, sl fsl & oolitic, massive, loosely cemented, dense sctrd fn ppt porosity, BLK THICK STN, TR ODR??, HVY TARRY STN

Lm- Cream Off White, FXLN, fsl, well cemented, poorly dev. w/ sctrd XLN porosity, barren

Lm- White Off White, FXLN, dense, well cemented, sl fsl, mostly tight w/ sctrd-dense XLN porosity, poorly dev. & barren

Sh- Maroon Green Gray, gritty & earthy, dense & semi-waxy

**D** Lm- Tan, FXLN, fsl & oolitic, sctrd fn ppt inter oolite & XLN porosity, well cemented, VARYING DEGREE OF BLK STN, TARRY DO-TR FO, NO ODR

Lm- White, FXLN, fsl, poorly dev. & mostly tight w/ sctrd micro XLN porosity, vry clean & barren

**D** Lm- Cream Off White, FXLN, fusulinids & sl oolitic, sctrd fn ppt inter fsl & XLN & reXLN porosity, some sctrd clear replacement cementation, DRK STN, VARYING FROM TR FO-HVY BLK DO STN, TR ODR??, LT YLW FLOR.

Lm- Off White Cream, VF-FXLN, dense, well cemented, mostly tight w/ sctrd micro XLN & XLN porosity, clean & barren, few pcs of sl cherty Ls w/ min. vis. porosity

Lm- Cream Off White, FXLN, densely packed & oolitic, loosely cemented, sl chalky in part, sctrd micro XLN inter fsl porosity, vry clean & barren

Lm- Cream off White, FXLN, sl fsl, sl chalky in part, poorly dev. w/ sctrd XLN porosity, some loosely cemented, clean & barren

Sh- Maroon, gummy wash

Lm- Cream Tan, VF-FXLN, well cemented, densely packed & oolitic, sctrd micro & XLN porosity, poorly dev. barren

Lm- Gray Off White, VF-FXLN, dense, well cemented, tight, sctrd micro XLN porosity, barren

Lm/Chert- Tan Black, high-energy trashy Ls & chert w/ min. vis. porosity, barren

Sh- Gray Green Maroon, dense & waxy, gritty & earthy

**D** Lm- Off White, FXLN, fsl & oolitic, sctrd dev. w/ XLN & sctrd fn ppt inter oolitic porosity, 2-3 PCS W/ BLK RESIDUAL STN, NSFO, NO ODR

Lm- Gray, VF-FXLN, dense, well cemented, tight w/ min. vis. porosity, barren

SHORT TRIP SURVEY 1 deg. STRAP +1.08'

DST #1 LKC A 4198' - 4226' 30-45-30-60

490' TOTAL FLUID  
340' WATER  
150' WCM (85%W,15%M)

IFP: 18-137#  
FFP: 142-245#  
SIP: 1222-1215#

4226.jpg

DST #2 LKC D 4255' - 4282' 30-30-30-45

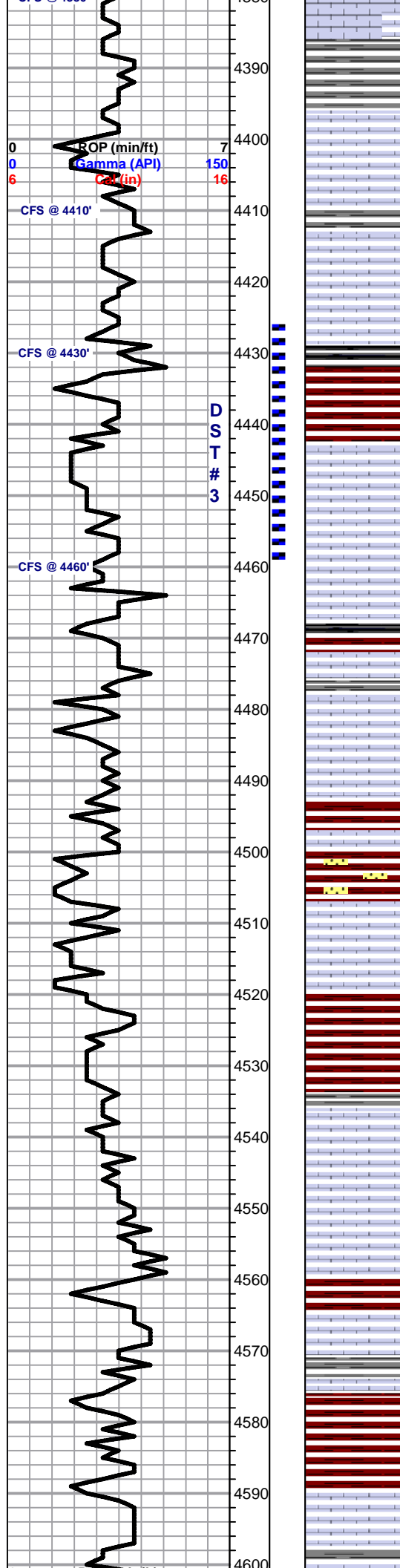
70' SWCM (3%W,97%M)

IFP:14-41#  
FFP: 43-63#  
SIP: 1134-1162#

4258.jpg

4282.jpg

4380.jpg



Sh- Gray Maroon, gritty & earthy, sandy shale/shaley Ss

Lm- Cream Tan, VF-FXLN, dense, well cemented, poorly dev., sl fsl, sctrd XLN porosity, barren & tight

Lm- Cream Off White, FXLN, densely packed oolites, poorly dev. w/ dense clear replacement cementation, sctrd micro XLN porosity, clean & barren

Lm- Off White, VFXLN, dense, well cemented, tight w/ min. vis. porosity, tight cherty Ls, some soft white chalk, vry clean & barren

Sh- Black Maroon Gray, fissile & carbonaceous, gritty & earthy

Lm- Cream, FXLN, oolitic, sctrd ppt inter oolite porosity, SCTRD LT STN, TR FO, WK ODR, SLW STRM FLOR

Lm- Gray Cream, FXLN, dense, well cemented, fsl, high-energy sl trashy, sctrd XLN & clear reXLN porosity, barren

Sh- Black Maroon Green, fissile & carbonaceous, gritty & earthy, sandy

Lm- Gray Tan, VF-FXLN, dense, well cemented, high-energy w/ fsl fragments, poor vis. porosity

Lm- Buff, FXLN, oolitic, sctrd XLN & fn ppt inter oolite porosity, clean & barren

**BKC 4500' (-1067) E-LOG 4491' (-1058)** Sh- Maroon Gray, gritty & earthy, calcareous

Sh/Ss- Maroon Gray Green, gritty & earthy, Ss- Frosted, med grn, consolidated & well sorted, rounded & mature, friable, barren

Lm- Cream Buff, VF-FXLN, dense, well cemented, tight w/ sctrd-dense XLN porosity

Lm- Cream Off White, FXLN, dense, loosely cemented & chalky to well cemented & tight w/ sctrd XLN porosity & sctrd clear replacement cementation, all barren

Sh- Maroon Brown Gray, gritty & earthy, flakey

Sh- Dove Gray Green, sandy & calcareous sandy shale/shaley Ss

**MARMATON 4540' (-1107) E-LOG 4536' (-1103)** Lm- Cream Dove Gray, VF-FXLN, dense, well cemented & tight w/ sctrd micro XLN porosity, barren

Sh- Maroon Gray White, gummy argillaceous clumps & soft white chalk

Lm- Cream Off White Lt Gray, VFXLN, dense, well cemented & tight w/ min. vis. porosity & VF Grn well cemented mudstone

Sh- Maroon Gray Green, soft, silty & calcareous, gritty & earthy, dense & waxy

Sh- Dove Gray Maroon Brown, abundant sandy shale, dense & waxy w/ rounded qtz inclusions

Sh- Gray, dense & waxy, semi sandy gummy clumps

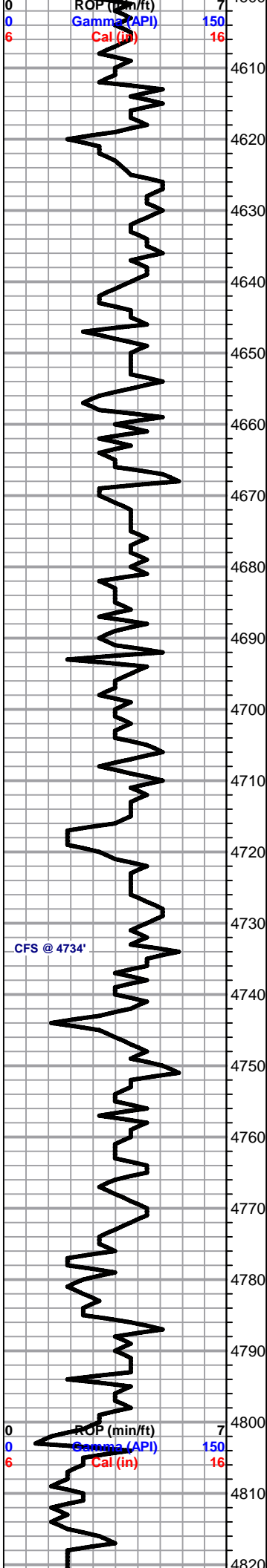
10 STND TRIP  
CTCH 1 HR

DST #3 LKC K  
4426' - 4460'  
30-30-30-30

15' OSPM

IFP: 15-24#  
FFP: 26-32#  
SIP: 1122-1025#

4460.jpg



Lm- Gray, FXLN, loosely cemented & crumbly, trashy high-energy mix

Sh- Black, platy, silty & soft

**PAWNEE 4623' (-1190) E-LOG 4623' (-1190)** Lm/Chert- Cream Buff, VFXLN, dense well cemented, tight w/ sctrd micro XLN porosity, Milky white vitreous fresh bedded chert

Lm- Gray, VFXLN, dense, well cemented & tight, no vis. porosity

Lm- Gray, FXLN, dense, well cemented, fsl, poorly dev. & sl trashy, sctrd XLN porosity, barren

Sh- Black, fissile & carbonaceous

**FORT SCOTT 4658' (-1225) E-LOG 4659' (-1226)** Lm/Chert- Cream, VF-FXLN, dense, well cemented, sctrd XLN porosity, barren, Chert-Black, sl fsl, fresh bedded chert

**CHEROKEE SHALE 4669' (-1236) E-LOG 4669' (-1236)** Sh- Black Maroon Gray, fissile & carbonaceous, gritty & earthy, sandy, argillaceous wash

Lm/Chert- Tan, VFXLN, dense, vry well cemented w/o vis. porosity Chert- Milky White Tan, sl fsl fresh bedded vitreous w/o vis. porosity

Lm- Cream Off White, VF-FXLN, mix of well cemented & tight w/ oolite inclusions, sctrd micro XLN porosity & vry tight, VFXLN w/o vis. porosity, few pcs of soft white chalk

Sh- Black Green, platy & fissile, dense & waxy

Lm- Cream, VF-FXLN, dense, well cemented, densely packed & oolitic, sctrd clear replacement cementation, sctrd XLN porosity, clean & barren

Lm- Cream Off White, VFXLN, dnse & well cemented, poorly dev. w/ sctrd micro XLN porosity, clean & barren

Sh- Gray Lt Green, dense & waxy, silty & calcareous

Lm- Cream Tan, VF-FXLN, dense, well cemented, poorly dev. & tight w/ poor vis. porosity, some sl chalky in part, some gran supported matrix

Lm- A/A Chert, Black Milky White, fresh bedded, sl fsl, vitreous w/o vis. porosity

Sh- Green Gray Maroon Black, dense & waxy, silty & calcareous, gummy wash, gritty & earthy, sandy inclusions

Lm- Tan, VFXLN, well cemented, tight w/ dense micro XLN porosity

Sh- Brown, dense & waxy, semi-gritty

Sh- A/A w/ Mint Green Mustard Yellow & Maroon, sl sandy, waxy & gritty

4820  
4830  
4840  
4850  
4860  
4870  
4880  
4890  
4900  
4910  
4920  
4930  
4940



Sh- A/A w/ gummy gray wash

Sh- A/A

**MISSISSIPPIAN 4859' (-1426) E-LOG 4850' (-1417)** Ss/Lm- Clear Frosted Mustard Yellow, consolidated & rounded mix, loosley cemented, barren, Lm- Buff, VF-FXLN, dense, well cemented, sctrd-dense micro XLN porosity, clean & barren

Lm- Mustard Yellow, VFXLN, vry well cemented, tight w/ no vis. porosity

Lm- Off White, FXLN, loosely cemented arenaceous Ls w/ sub-rounded qtz inclusions, consistent intergranular porosity, barren

**RTD 4900' (-1467) LTD 4900' (-1467) @ 13:25 9/7/2018**

10 STND SHORT  
TRIP  
CTCH  
SURVEY 1 deg.  
TOH FOR LOGS





20 mm

4226' X 20





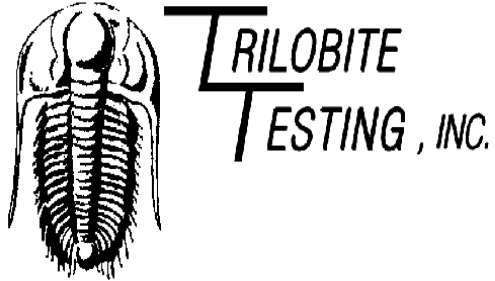
4282' X 20



2.0 mm

4380' X 25





## DRILL STEM TEST REPORT

Prepared For: **FourWinds Oil Corporation**

PO Box 1063  
Hays KS 67601

ATTN: Jeff Lawler

### **Bowman Trust #1**

### **4-9s-36w Thomas,KS**

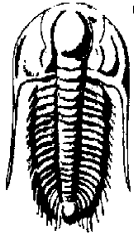
Start Date: 2018.09.03 @ 18:40:00

End Date: 2018.09.04 @ 04:35:15

Job Ticket #: 64593                      DST #: 1

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

Printed: 2018.09.10 @ 11:23:13



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

ATTN: Jeff Lawler

Job Ticket: 64593

**DST#: 1**

Test Start: 2018.09.03 @ 18:40:00

## GENERAL INFORMATION:

Formation: **LKC 'A'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:14:45

Time Test Ended: 04:35:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

**Interval: 4198.00 ft (KB) To 4226.00 ft (KB) (TVD)**

Reference Elevations: 3433.00 ft (KB)

Total Depth: 4226.00 ft (KB) (TVD)

3425.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

**Serial #: 8934**

**Outside**

Press@RunDepth: 245.21 psig @ 4199.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.03

End Date:

2018.09.04

Last Calib.: 2018.09.04

Start Time: 18:40:15

End Time:

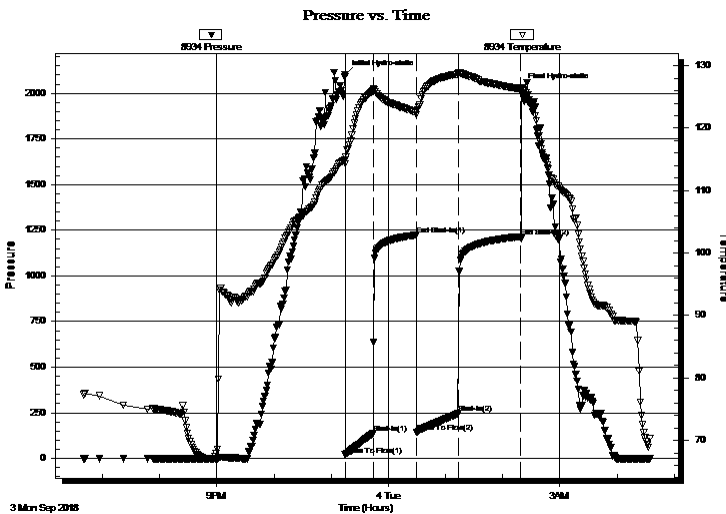
04:35:15

Time On Btm: 2018.09.03 @ 23:14:30

Time Off Btm: 2018.09.04 @ 02:20:00

**TEST COMMENT:** 30-IF-Fair; Built to 9 1/2"  
45-ISI-No Return  
30-FF-Fair to Strong in 27 mins; Built to 20"  
60-FSI-No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2101.78	114.86	Initial Hydro-static
1	18.84	114.33	Open To Flow (1)
30	137.40	125.95	Shut-In(1)
75	1222.95	122.58	End Shut-In(1)
76	142.67	122.16	Open To Flow (2)
119	245.21	128.65	Shut-In(2)
185	1215.00	126.21	End Shut-In(2)
186	2029.64	126.35	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
340.00	Water 100%W	2.70
150.00	MCW 15%M 85%W	2.13

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

Job Ticket: 64593

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2018.09.03 @ 18:40:00

## Tool Information

Drill Pipe:	Length: 3882.00 ft	Diameter: 3.82 inches	Volume: 55.03 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 57.31 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4198.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4170.00	
Shut In Tool	5.00			4175.00	
Hydraulic tool	5.00			4180.00	
Jars	5.00			4185.00	
Safety Joint	3.00			4188.00	
Packer	5.00			4193.00	29.00 Bottom Of Top Packer
Packer	5.00			4198.00	
Stubb	1.00			4199.00	
Recorder	0.00	8368	Inside	4199.00	
Recorder	0.00	8934	Outside	4199.00	
Perforations	24.00			4223.00	
Bullnose	3.00			4226.00	28.00 Bottom Packers & Anchor

**Total Tool Length: 57.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

Job Ticket: 64593

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2018.09.03 @ 18:40:00

## 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:

53000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 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
340.00	Water 100%W	2.703
150.00	MCW 15%M 85%W	2.126

Total Length: 490.00 ft      Total Volume: 4.829 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2#LCM

Rw = .144 @ 65F

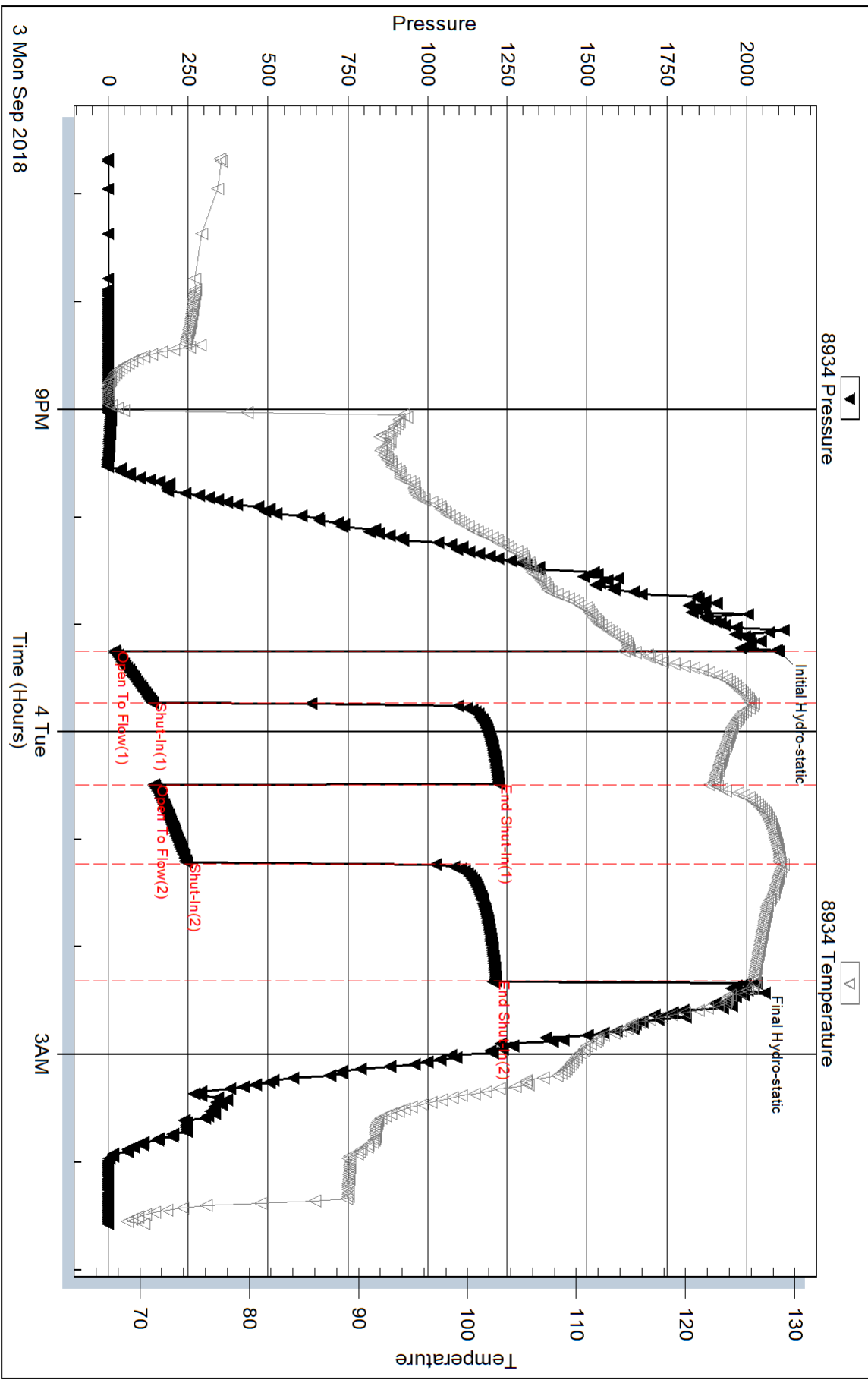
Serial #: 8934

Outside FourWinds Oil Corporation

Bowman Trust #1

DST Test Number: 1

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 64593

Printed: 2018.09.10 @ 11:23:14

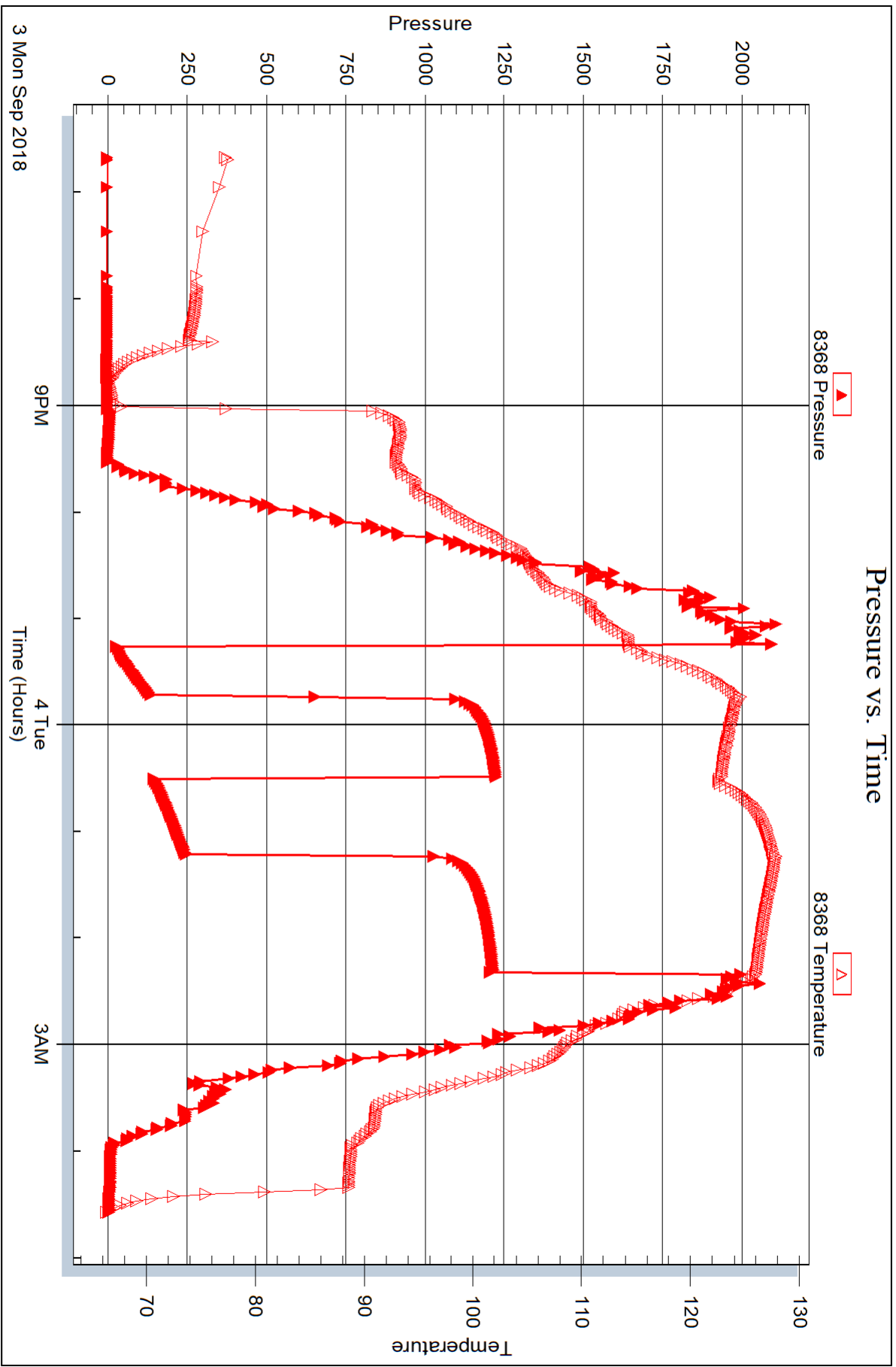
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Inside

FourWinds Oil Corporation

Bowman Trust #1

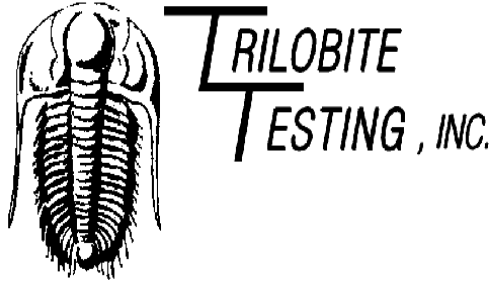
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64593

Printed: 2018.09.10 @ 11:23:14



## DRILL STEM TEST REPORT

Prepared For: **FourWinds Oil Corporation**

PO Box 1063  
Hays KS 67601

ATTN: Jeff Lawler

### **Bowman Trust #1**

### **4-9s-36w Thomas,KS**

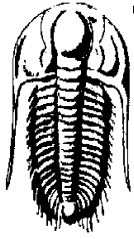
Start Date: 2018.09.04 @ 15:40:00

End Date: 2018.09.04 @ 22:48:45

Job Ticket #: 64594                      DST #: 2

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

Printed: 2018.09.10 @ 11:22:49



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

ATTN: Jeff Lawler

Job Ticket: 64594

**DST#: 2**

Test Start: 2018.09.04 @ 15:40:00

## GENERAL INFORMATION:

Formation: **LKC 'D'**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 18:32:45  
 Tester: Spencer J. Staab  
 Time Test Ended: 22:48:45  
 Unit No: 84  
 Interval: **4255.00 ft (KB) To 4282.00 ft (KB) (TVD)**  
 Reference Elevations: 3433.00 ft (KB)  
 Total Depth: 4282.00 ft (KB) (TVD)  
 3425.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Poor  
 KB to GR/CF: 8.00 ft

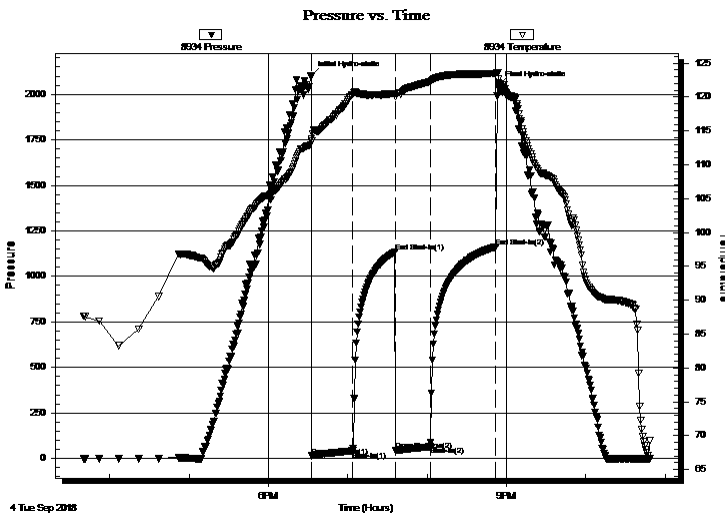
## Serial #: 8934

**Outside**

Press@RunDepth: 63.77 psig @ 4256.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.09.04 End Date: 2018.09.04 Last Calib.: 2018.09.04  
 Start Time: 15:40:15 End Time: 22:48:45 Time On Btm: 2018.09.04 @ 18:32:30  
 Time Off Btm: 2018.09.04 @ 20:54:00

TEST COMMENT: 30-IF-Weak; Built to 4"  
 30-ISI-No Return  
 30-FF-Weak; Built to 2 1/2"  
 45-FSI-No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2100.72	113.85	Initial Hydro-static
1	14.12	113.54	Open To Flow (1)
32	41.25	120.35	Shut-In(1)
64	1134.91	120.51	End Shut-In(1)
64	43.39	120.06	Open To Flow (2)
90	63.77	122.32	Shut-In(2)
140	1162.62	123.45	End Shut-In(2)
142	2048.72	122.11	Final Hydro-static

## Recovery

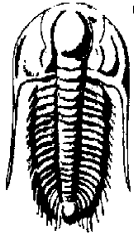
Length (ft)	Description	Volume (bbl)
70.00	SWCM 3%W 97%M	0.51

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

Job Ticket: 64594

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2018.09.04 @ 15:40:00

## Tool Information

Drill Pipe:	Length: 3945.00 ft	Diameter: 3.82 inches	Volume: 55.92 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 89000.00 lb
			<u>Total Volume: 58.20 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4255.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	56.00 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			4227.00	
Shut In Tool	5.00			4232.00	
Hydraulic tool	5.00			4237.00	
Jars	5.00			4242.00	
Safety Joint	3.00			4245.00	
Packer	5.00			4250.00	29.00 Bottom Of Top Packer
Packer	5.00			4255.00	
Stubb	1.00			4256.00	
Recorder	0.00	8368	Inside	4256.00	
Recorder	0.00	8934	Outside	4256.00	
Perforations	23.00			4279.00	
Bullnose	3.00			4282.00	27.00 Bottom Packers & Anchor

**Total Tool Length: 56.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

Job Ticket: 64594

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2018.09.04 @ 15:40:00

## 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: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.58 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
70.00	SWCM 3%W 97%M	0.514

Total Length: 70.00 ft      Total Volume: 0.514 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

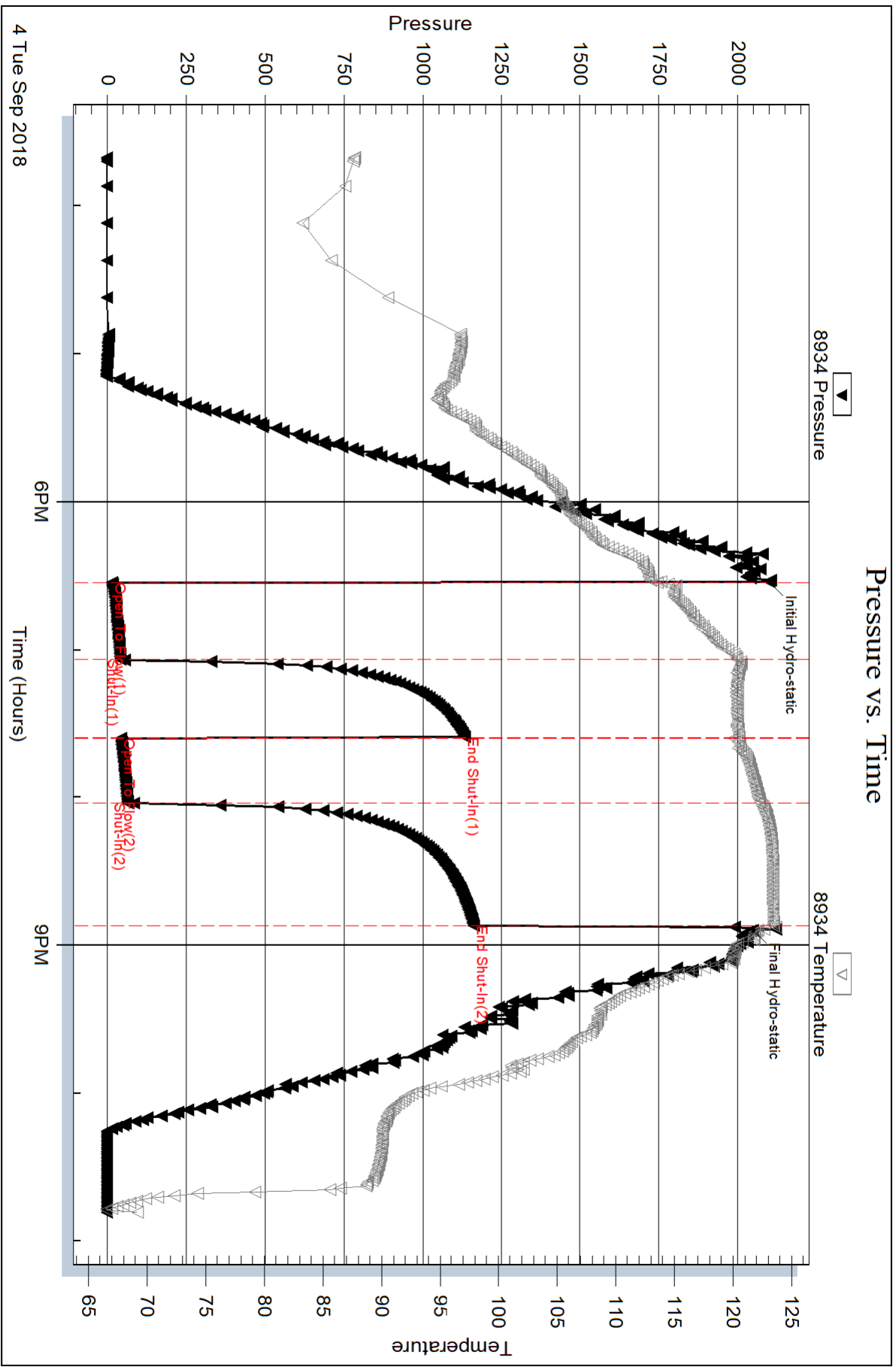
Recovery Comments: 3#LCM

Serial #: 8934

Outside FourWinds Oil Corporation

Bowman Trust #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64594

Printed: 2018.09.10 @ 11:22:50

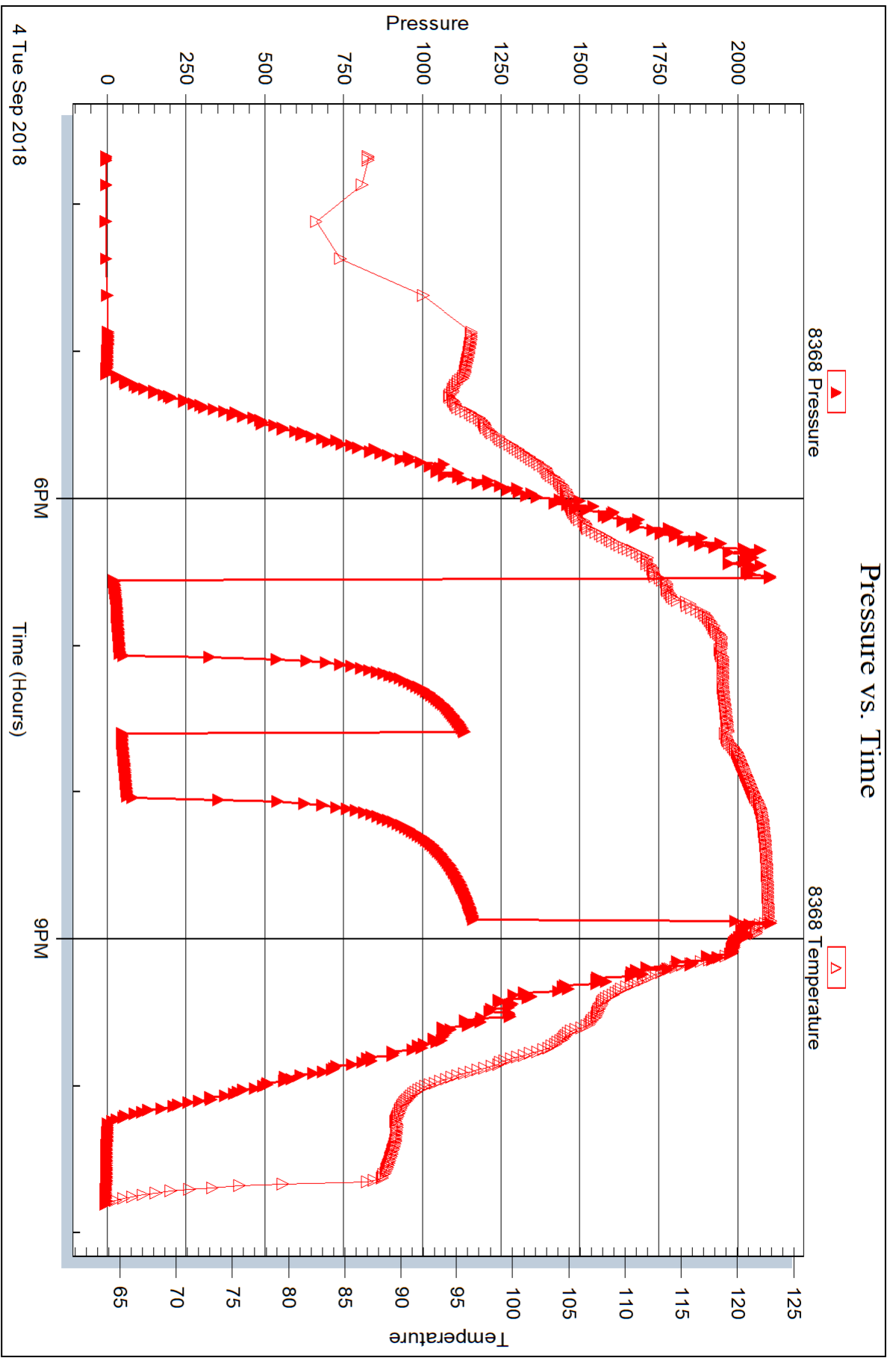
Serial #: 8368

Inside

FourWinds Oil Corporation

Bowman Trust #1

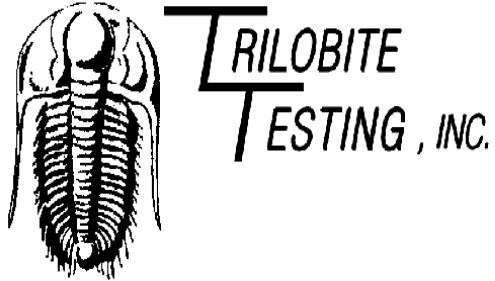
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 64594

Printed: 2018.09.10 @ 11:22:51



## DRILL STEM TEST REPORT

Prepared For: **FourWinds Oil Corporation**

PO Box 1063  
Hays KS 67601

ATTN: Jeff Lawler

### **Bowman Trust #1**

### **4-9s-36w Thomas,KS**

Start Date: 2018.09.05 @ 22:18:00

End Date: 2018.09.06 @ 05:49:00

Job Ticket #: 64595                      DST #: 3

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

Printed: 2018.09.10 @ 11:22:23



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

ATTN: Jeff Lawler

Job Ticket: 64595

**DST#: 3**

Test Start: 2018.09.05 @ 22:18:00

## GENERAL INFORMATION:

Formation: **LKC 'K'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:03:00

Time Test Ended: 05:49:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

**Interval: 4426.00 ft (KB) To 4460.00 ft (KB) (TVD)**

Reference Elevations: 3433.00 ft (KB)

Total Depth: 4460.00 ft (KB) (TVD)

3425.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

**Serial #: 8934 Outside**

Press@RunDepth: 32.04 psig @ 4427.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.05

End Date:

2018.09.06

Last Calib.:

2018.09.06

Start Time: 22:18:15

End Time:

05:49:00

Time On Btm:

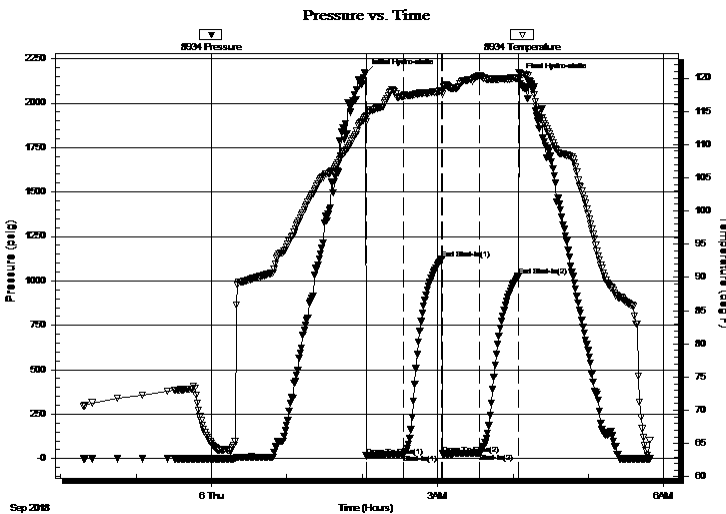
2018.09.06 @ 02:02:45

Time Off Btm:

2018.09.06 @ 04:04:45

TEST COMMENT: 30-IF-Weak Surface  
30-ISI-No Return  
30-FF-Weak Surface  
30-FSI-No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2164.39	114.21	Initial Hydro-static
1	15.48	113.43	Open To Flow (1)
30	24.22	117.29	Shut-In(1)
61	1122.25	117.98	End Shut-In(1)
61	26.53	117.57	Open To Flow (2)
91	32.04	120.38	Shut-In(2)
122	1025.18	119.95	End Shut-In(2)
122	2140.77	120.85	Final Hydro-static

## Recovery

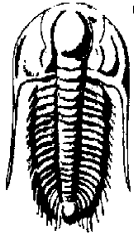
Length (ft)	Description	Volume (bbl)
15.00	OSM	0.11

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

Job Ticket: 64595

**DST#: 3**

ATTN: Jeff Lawler

Test Start: 2018.09.05 @ 22:18:00

## Tool Information

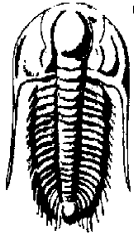
Drill Pipe:	Length: 4104.00 ft	Diameter: 3.82 inches	Volume: 58.18 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 60.46 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4426.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	63.00 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			4398.00	
Shut In Tool	5.00			4403.00	
Hydraulic tool	5.00			4408.00	
Jars	5.00			4413.00	
Safety Joint	3.00			4416.00	
Packer	5.00			4421.00	29.00 Bottom Of Top Packer
Packer	5.00			4426.00	
Stubb	1.00			4427.00	
Recorder	0.00	8368	Inside	4427.00	
Recorder	0.00	8934	Outside	4427.00	
Perforations	30.00			4457.00	
Bullnose	3.00			4460.00	34.00 Bottom Packers & Anchor

**Total Tool Length: 63.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

FourWinds Oil Corporation

**4-9s-36w Thomas,KS**

PO Box 1063  
Hays KS 67601

**Bowman Trust #1**

Job Ticket: 64595

**DST#: 3**

ATTN: Jeff Lawler

Test Start: 2018.09.05 @ 22:18:00

## 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: 58.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 14000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	OSM	0.110

Total Length: 15.00 ft      Total Volume: 0.110 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1&1/2#LCM



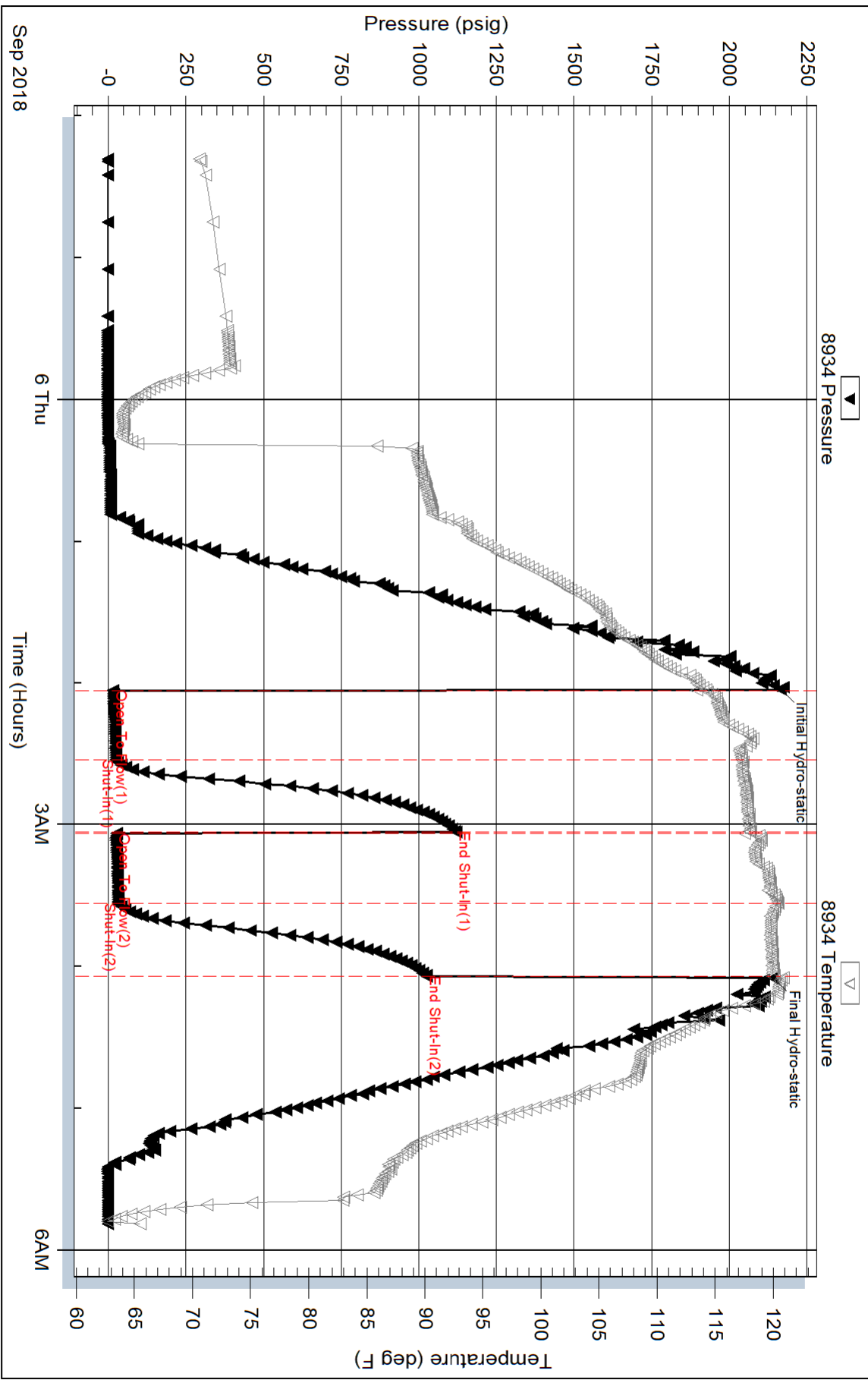
Serial #: 8934

Outside FourWinds Oil Corporation

Bowman Trust #1

DST Test Number: 3

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 64595

Printed: 2018.09.10 @ 11:22:24

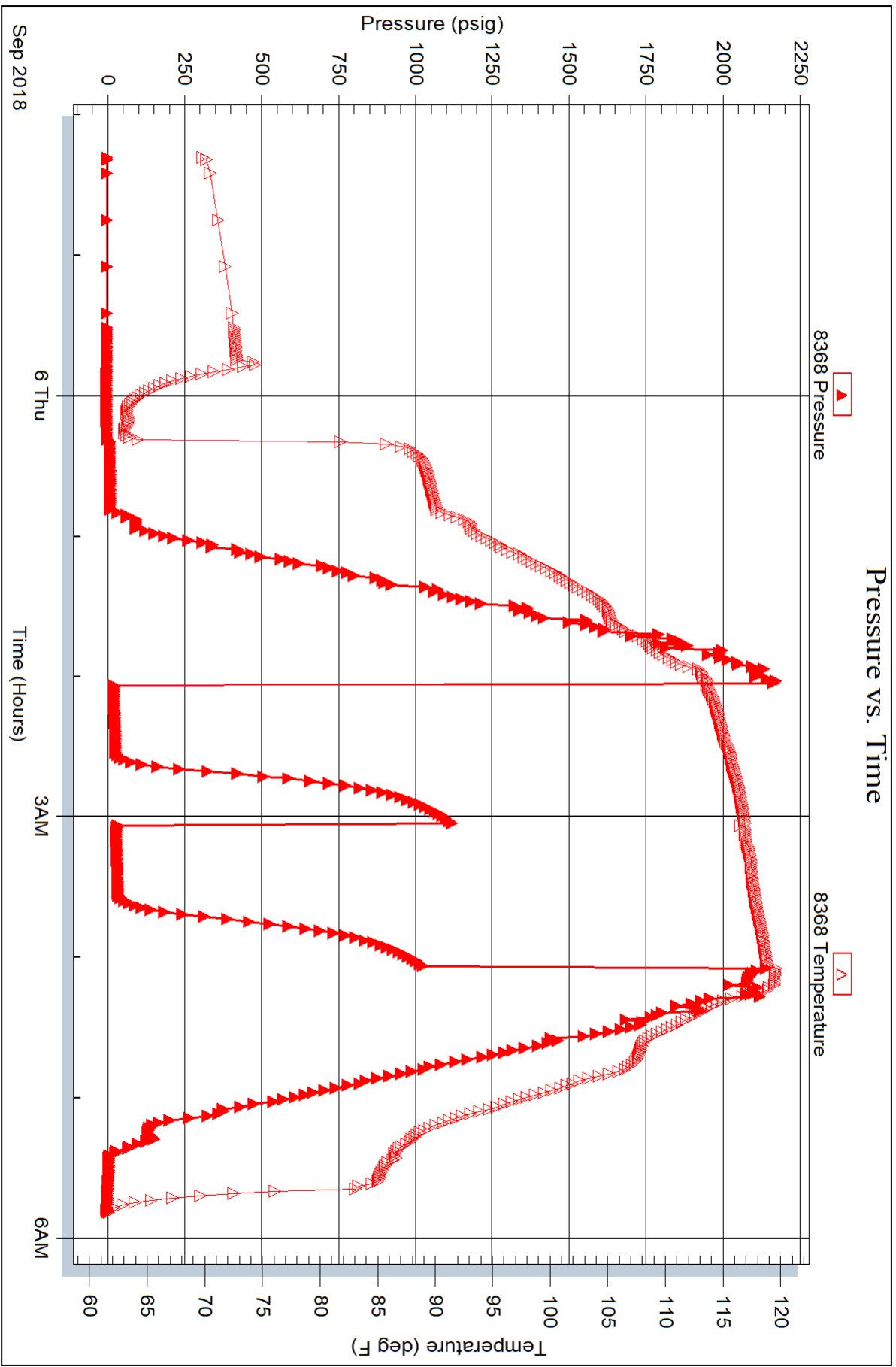
Serial #: 8368

Inside

FourWinds Oil Corporation

Bowman Trust #1

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64593

Well Name & No. Bowman Trust #1 Test No. 1 Date 09/03/2018  
 Company Fourwinds Oil Corporation Elevation 3433 KB 3425 GL  
 Address PO BOX 1063 Hays Ks 67601  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #1  
 Location: Sec. 14 Twp 9s Rge. 36w Co. Thomas State Ks

Interval Tested 4198' - 4226' Zone Tested LKC 'a'  
 Anchor Length 28' Drill Pipe Run 3882' Mud Wt. 9  
 Top Packer Depth 4193' Drill Collars Run - Vis 53  
 Bottom Packer Depth 4198' Wt. Pipe Run 310' WL 8.8  
 Total Depth 4226' Chlorides 9500 ppm System LCM 2#

Blow Description 27 min; Built to 9 1/2"  
1SD - No Return  
77' Fair to Strong in 27 min; Built to 20"  
7SD - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>340'</u>	<u>9W</u>		<u>100</u>		
<u>150'</u>	<u>MCW</u>		<u>85</u>	<u>15</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

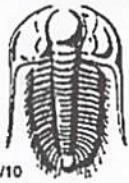
Rec Total 490' BHT 126° Gravity - API RW 144 @ 65 °F Chlorides 53,000 ppm

(A) Initial Hydrostatic 2101  Test 1150 T-On Location 17:45  
 (B) First Initial Flow 18  Jars 250 T-Started 18:40  
 (C) First Final Flow 137  Safety Joint 75 T-Open 23:14  
 (D) Initial Shut-In 1222  Circ Sub \_\_\_\_\_ T-Pulled 02:15 09/04/2018  
 (E) Second Initial Flow 142  Hourly Standby X1 T-Out 04:34  
 (F) Second Final Flow 245  Mileage 264 RT 150rt Comments Stayed 5 days in Colby  
 (G) Final Shut-In 1215  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2029  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1625  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 60  
 Sub Total 1625

Approved By \_\_\_\_\_ Our Representative Spencer A. Just Thanks  
 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.

785-259-0056



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64594

4/10

Well Name & No. Bowman Trust #1 Test No. 2 Date 09/04/2018  
 Company Four Winds Oil Corporation Elevation 3433 KB 3425 GL  
 Address PO BOX 1063 Hays Ks 67601  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #1  
 Location: Sec. 9 Twp 9S Rge. 36W Co. Thomas State Ks

Interval Tested 4258 - 4282' Zone Tested LHC 'D'  
 Anchor Length 27' Drill Pipe Run 3945' Mud Wt. 8.6  
 Top Packer Depth 4250' Drill Collars Run - Vis 55  
 Bottom Packer Depth 4255' Wt. Pipe Run 310' WL 7.6  
 Total Depth 4282' Chlorides 6000 ppm System LCM 3H

Blow Description 67- Weak; Built to 9"  
68- No Return  
77- Weak; Built to 2 1/2"  
78- No Return

Rec	Feet of	%gas	%oil	%water	%mud
70'	SWC M		3	97	

Rec Total 70' BHT 123° Gravity - API RW - @ - °F Chlorides - ppm

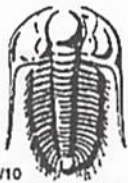
(A) Initial Hydrostatic 2100  Test 1150 T-On Location 15:10  
 (B) First Initial Flow 14  Jars 250 T-Started 15:40  
 (C) First Final Flow 41  Safety Joint 75 T-Open 18:32  
 (D) Initial Shut-In 1134  Circ Sub - T-Pulled 20:45  
 (E) Second Initial Flow 43  Hourly Standby - T-Out 22:47  
 (F) Second Final Flow 63  Mileage 26427 150  
 (G) Final Shut-In 1162  Sampler -  
 (H) Final Hydrostatic 2048  Straddle -

Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1625  
 MP/DST Disc't -  
 Sub Total 1625

Approved By \_\_\_\_\_ Our Representative Spencer J. Neal *Thanks!*

Trilobite Testing Inc. shall not be liable for damaged or 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.

785-259-0056



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64595

Well Name & No. Brauman Trust # Test No. 3 Date 09/05/2018  
 Company Four Winds Oil Corporation Elevation 3433 KB 3425 GL  
 Address PO BOX 1063 Hays KS 67601  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #1  
 Location: Sec. 4 Twp 9s Rge. 36w Co. Thomas State KS

Interval Tested 4426' - 4460' Zone Tested LKC 'K'  
 Anchor Length 34' Drill Pipe Run 4104' Mud Wt. 9.1  
 Top Packer Depth 4421' Drill Collars Run - Vis 38  
 Bottom Packer Depth 4426' Wt. Pipe Run 310' WL 9.6  
 Total Depth 4460' Chlorides 14000 ppm System LCM 1 1/2#

Blow Description 77- Weak Surface; Mud 25 min  
75D- No Return  
77- Weak Surface  
78D- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>15'</u>	<u>OSM</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15' BHT 120° Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 2164  Test 1150 T-On Location 21:35  
 (B) First Initial Flow 15  Jars 250 T-Started 22:18  
 (C) First Final Flow 24  Safety Joint 75 T-Open 02:02 09/06/2018  
 (D) Initial Shut-In 1122  Circ Sub - T-Pulled 04:02  
 (E) Second Initial Flow 26  Hourly Standby - T-Out 05:47  
 (F) Second Final Flow 32  Mileage 26427 300 Comments Loaded 09/07/2018  
 (G) Final Shut-In 1025  Sampler - @ 1100  
 (H) Final Hydrostatic 2140  Straddle -  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies

Initial Open 30  Extra Packer -  
 Initial Shut-In 30  Extra Recorder - Sub Total 0  
 Final Flow 30  Day Standby X1 Total 1775  
 Final Shut-In 30  Accessibility - MP/DST Disc't -  
 Sub Total 1775

Approved By \_\_\_\_\_ Our Representative Spencer J. Stahl

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.

785-259-0067