



## DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co INC**

10050 Berkeley SQ PKWY  
STE 100  
Wichita KS 67206

ATTN: Kitt Noah

### **Todd Brooks #1-19**

### **19-5s-22w Norton,KS**

Start Date: 2013.09.24 @ 23:12:20

End Date: 2013.09.25 @ 05:25:59

Job Ticket #: 54828                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.27 @ 08:56:40

Hartman Oil Co INC  
19-5s-22w Norton,KS  
Todd Brooks #1-19  
DST # 1  
LKC 50 Zn  
2013.09.24



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co INC  
10050 Berkeley SQ PKWY  
STE 100  
Wichita KS 67206  
ATTN: Kitt Noah

**19-5s-22w Norton,KS**

**Todd Brooks #1-19**

Job Ticket: 54828

**DST#: 1**

Test Start: 2013.09.24 @ 23:12:20

## GENERAL INFORMATION:

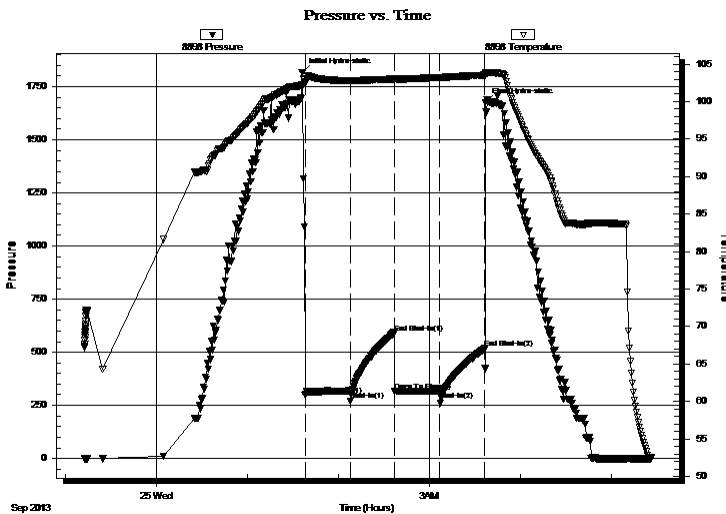
Formation: **LKC 50 Zn**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 01:37:50  
 Time Test Ended: 05:25:59  
 Interval: **3450.00 ft (KB) To 3474.00 ft (KB) (TVD)**  
 Total Depth: 3474.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 49  
 Reference Elevations: 2236.00 ft (KB)  
 2225.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 8898

Inside

Press @ Run Depth: 317.25 psig @ 3451.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.09.24 End Date: 2013.09.25 Last Calib.: 2013.09.25  
 Start Time: 23:12:21 End Time: 05:26:00 Time On Btm: 2013.09.25 @ 01:35:50  
 Time Off Btm: 2013.09.25 @ 03:36:59

TEST COMMENT: B.O.B. in 30 sec. slid 15 ft.  
 Dead no blow back  
 Dead no blow  
 Dead no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1817.29	102.21	Initial Hydro-static
2	296.46	102.40	Open To Flow (1)
32	315.17	102.81	Shut-In(1)
61	592.00	103.01	End Shut-In(1)
62	315.53	102.92	Open To Flow (2)
91	317.25	103.23	Shut-In(2)
121	517.64	103.53	End Shut-In(2)
122	1676.22	103.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
550.00	100%M	4.39

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co INC

**19-5s-22w Norton,KS**

10050 Berkeley SQ PKWY  
STE 100  
Wichita KS 67206  
ATTN: Kitt Noah

**Todd Brooks #1-19**

Job Ticket: 54828

**DST#: 1**

Test Start: 2013.09.24 @ 23:12:20

## Tool Information

Drill Pipe:	Length: 3073.00 ft	Diameter: 3.80 inches	Volume: 43.11 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 365.00 ft	Diameter: 2.25 inches	Volume: 1.80 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 44.91 bbl</u>	Tool Chased 15.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3450.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3428.00	
Hydraulic tool	5.00			3433.00	
Jars	5.00			3438.00	
Safety Joint	2.00			3440.00	
Packer	5.00			3445.00	27.00 Bottom Of Top Packer
Packer	5.00			3450.00	
Stubb	1.00			3451.00	
Recorder	0.00	8898	Inside	3451.00	
Recorder	0.00	8897	Outside	3451.00	
Perforations	20.00			3471.00	
Bullnose	3.00			3474.00	24.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co INC

**19-5s-22w Norton,KS**

10050 Berkeley SQ PKWY  
STE 100  
Wichita KS 67206  
ATTN: Kitt Noah

**Todd Brooks #1-19**

Job Ticket: 54828

**DST#: 1**

Test Start: 2013.09.24 @ 23:12:20

## 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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
550.00	100%M	4.390

Total Length: 550.00 ft      Total Volume: 4.390 bbl

Num Fluid Samples: 0

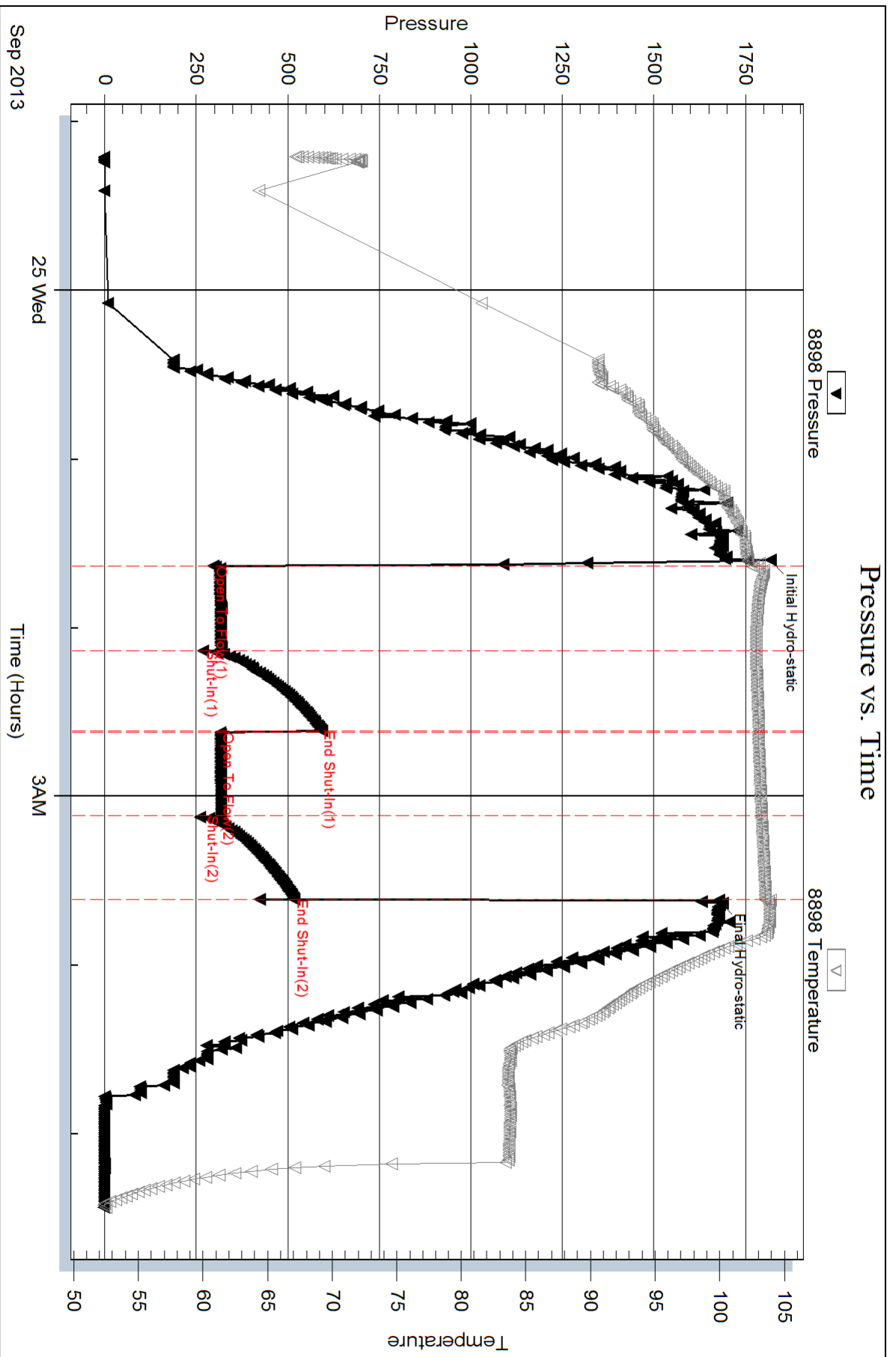
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

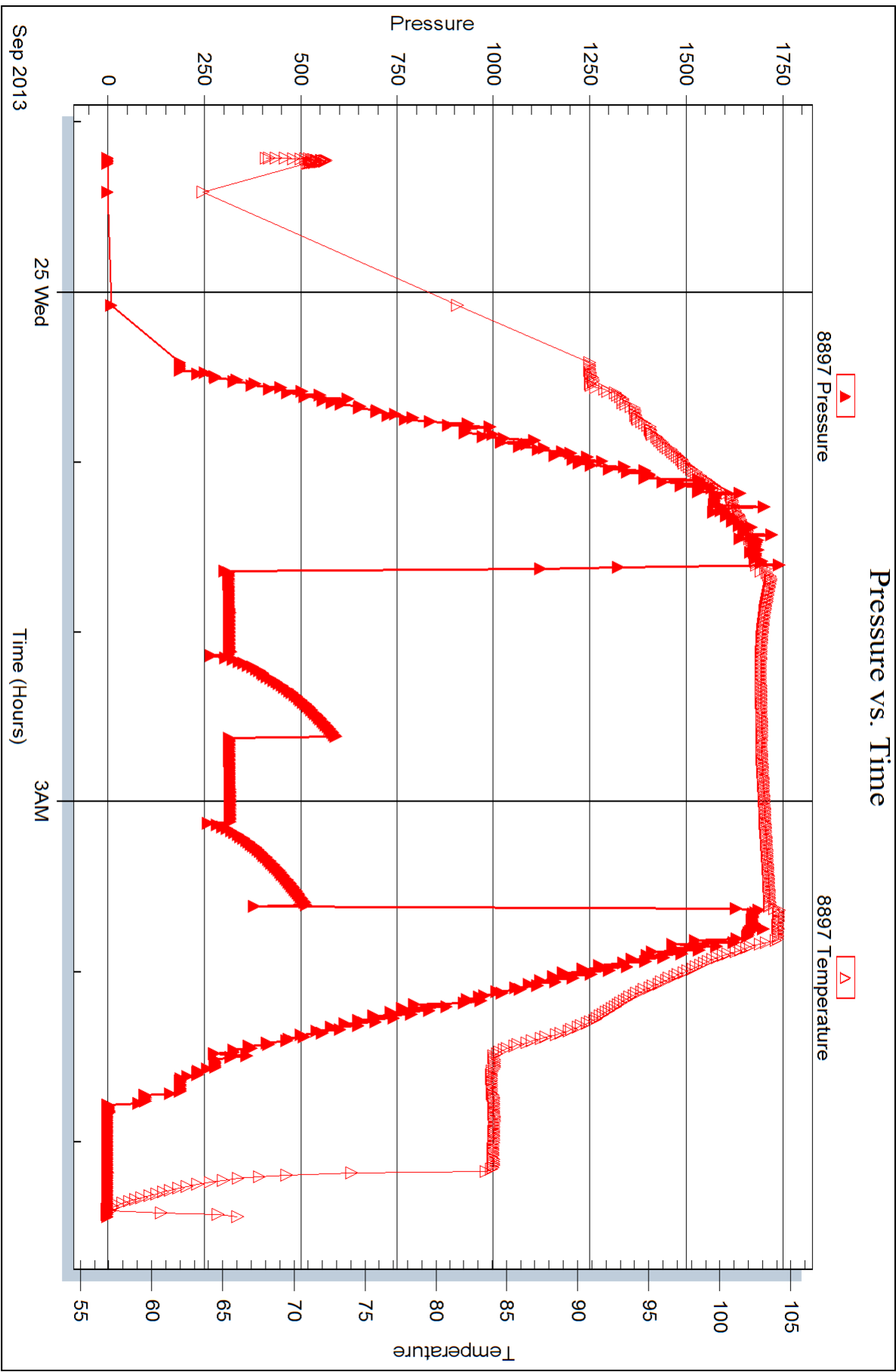


Serial #: 8897

Outside Hartman Oil Co INC

Todd Brooks #1-19

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co INC**

10050 Berkeley SQ PKWY  
STE 100  
Wichita KS 67206

ATTN: Kitt Noah

### **Todd Brooks #1-19**

### **19-5s-22w Norton,KS**

Start Date: 2013.09.25 @ 22:39:31

End Date: 2013.09.26 @ 04:37:31

Job Ticket #: 54829                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.27 @ 08:56:10





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Co INC  
 10050 Berkeley SQ PKWY  
 STE 100  
 Wichita KS 67206  
 ATTN: Kitt Noah

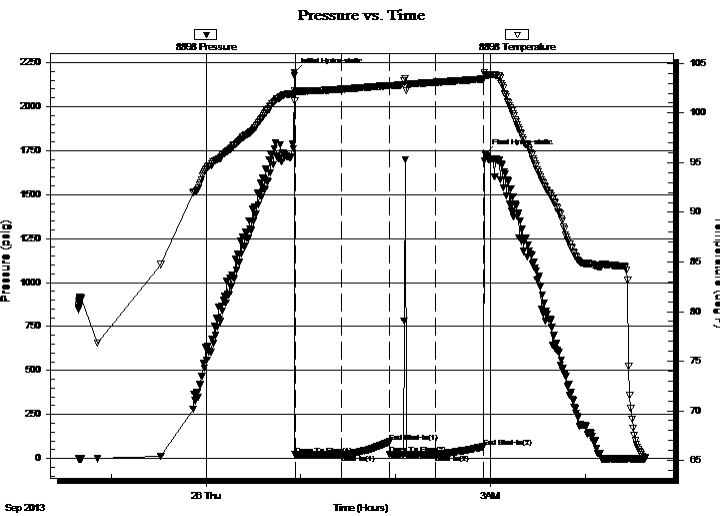
**19-5s-22w Norton, KS**  
**Todd Brooks #1-19**  
 Job Ticket: 54829 **DST#: 2**  
 Test Start: 2013.09.25 @ 22:39:31

## GENERAL INFORMATION:

Formation: **LKC 180 zone**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 00:56:11 Tester: Tate Lang  
 Time Test Ended: 04:37:31 Unit No: 49  
 Interval: **3539.00 ft (KB) To 3570.00 ft (KB) (TVD)** Reference Elevations: 2236.00 ft (KB)  
 Total Depth: 3570.00 ft (KB) (TVD) 2225.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

**Serial #: 8898 Outside**  
 Press @ Run Depth: 25.43 psig @ 3542.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.09.25 End Date: 2013.09.26 Last Calib.: 2013.09.26  
 Start Time: 22:39:32 End Time: 04:37:31 Time On Btm: 2013.09.26 @ 00:56:01  
 Time Off Btm: 2013.09.26 @ 02:56:21

**TEST COMMENT:** Weak surface blow deid in 5 mins. Slid 6 ft.  
 Dead no blow back  
 Dead no blow flushed tool after 10 mins surge blow then died  
 Dead no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2194.82	102.22	Initial Hydro-static
1	20.44	101.24	Open To Flow (1)
30	22.34	102.41	Shut-In(1)
60	94.66	102.77	End Shut-In(1)
61	22.71	102.74	Open To Flow (2)
89	25.43	103.10	Shut-In(2)
120	66.55	103.42	End Shut-In(2)
121	1731.58	103.82	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	100%M	0.02

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Hartman Oil Co INC  
 10050 Berkeley SQ PKWY  
 STE 100  
 Wichita KS 67206  
 ATTN: Kitt Noah

**19-5s-22w Norton,KS**

**Todd Brooks #1-19**

Job Ticket: 54829

**DST#: 2**

Test Start: 2013.09.25 @ 22:39:31

**GENERAL INFORMATION:**

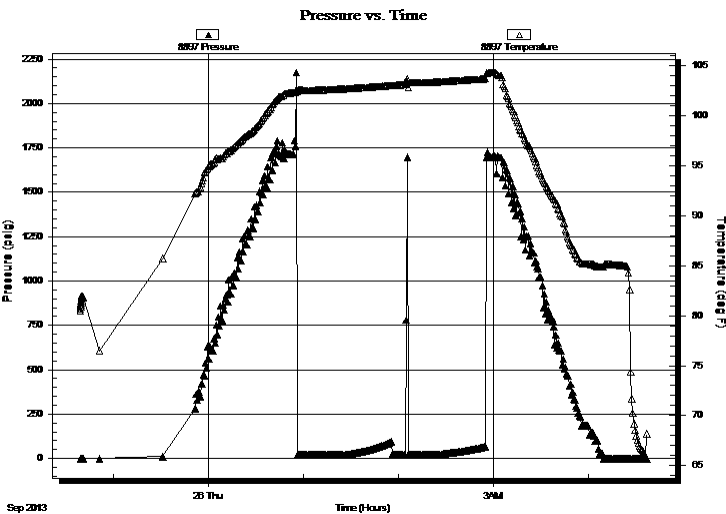
Formation: **LKC 180 zone**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:56:11  
 Time Test Ended: 04:37:31  
**Interval: 3539.00 ft (KB) To 3570.00 ft (KB) (TVD)**  
 Total Depth: 3570.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 49  
 Reference Elevations: 2236.00 ft (KB)  
 2225.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8897**

**Inside**

Press@RunDepth: psig @ 3542.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.09.25 End Date: 2013.09.26 Last Calib.: 2013.09.26  
 Start Time: 22:39:23 End Time: 04:37:22 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** Weak surface blow deid in 5 mins. Slid 6 ft.  
 Dead no blow back  
 Dead no blow flushed tool after 10 mins surge blow then died  
 Dead no blow back



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
5.00	100%M	0.02

**Gas Rates**

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Co INC  
10050 Berkeley SQ PKWY  
STE 100  
Wichita KS 67206  
ATTN: Kitt Noah

**19-5s-22w Norton,KS**  
**Todd Brooks #1-19**  
Job Ticket: 54829      **DST#: 2**  
Test Start: 2013.09.25 @ 22:39:31

**Tool Information**

Drill Pipe:	Length: 3171.00 ft	Diameter: 3.80 inches	Volume: 44.48 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 365.00 ft	Diameter: 2.25 inches	Volume: 1.80 bbl	Weight to Pull Loose:	77000.00 lb
			<u>Total Volume: 46.28 bbl</u>	Tool Chased	6.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	59000.00 lb
Depth to Top Packer:	3539.00 ft			Final	59000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	31.00 ft				
Tool Length:	58.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3517.00	
Hydraulic tool	5.00			3522.00	
Jars	5.00			3527.00	
Safety Joint	2.00			3529.00	
Packer	5.00			3534.00	27.00      Bottom Of Top Packer
Packer	5.00			3539.00	
Stubb	1.00			3540.00	
Perforations	2.00			3542.00	
Recorder	0.00	8897	Inside	3542.00	
Recorder	0.00	8898	Outside	3542.00	
Perforations	25.00			3567.00	
Bullnose	3.00			3570.00	31.00      Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Hartman Oil Co INC

**19-5s-22w Norton,KS**

10050 Berkeley SQ PKWY  
STE 100  
Wichita KS 67206  
ATTN: Kitt Noah

**Todd Brooks #1-19**

Job Ticket: 54829

**DST#: 2**

Test Start: 2013.09.25 @ 22:39:31

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100%M	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

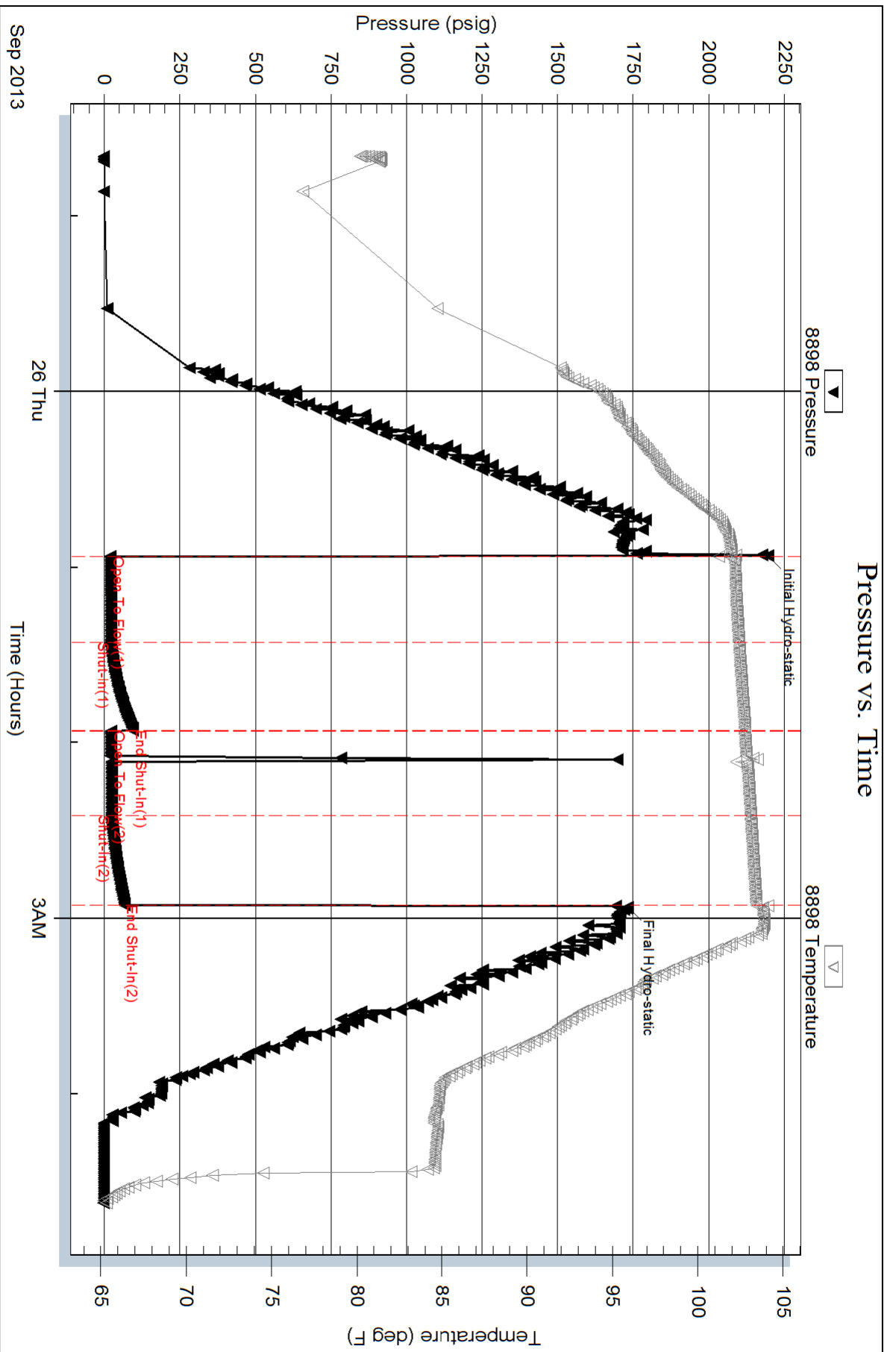
Recovery Comments:

Serial #: 8898

Outside Hartman Oil Co INC

Todd Brooks #1-19

DST Test Number: 2



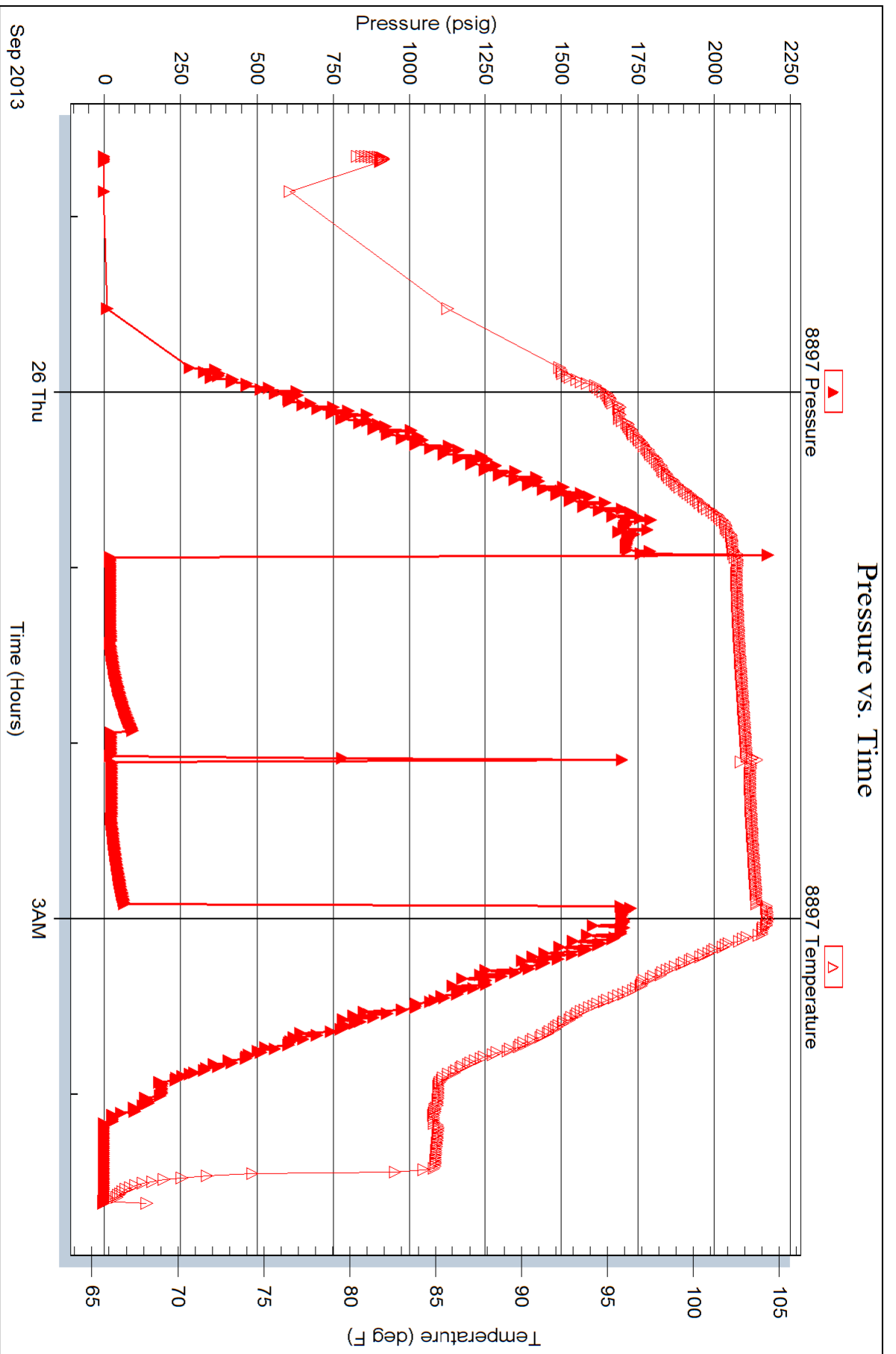
Serial #: 8897

Inside

Hartman Oil Co INC

Todd Brooks #1-19

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 54828

Well Name & No. Todd Brooks #1-19 Test No. 1 Date 9-24-13  
 Company Hartman Oil Co. INC. Elevation 2236 KB 2225 GL  
 Address 10500 E Berkeley SQ PKWay, STE 100 Wichita KS, 67206  
 Co. Rep / Geo. Mitt Noah Rig H2 Rig #1  
 Location: Sec. 19 Twp. 5S Rge. 22W Co. Norton State KS

Interval Tested 3450 3474 Zone Tested LHC 50 2N  
 Anchor Length 24' Drill Pipe Run 3073 Mud Wt. 8.9  
 Top Packer Depth 3446 Drill Collars Run 365 Vis 54  
 Bottom Packer Depth 3450 Wt. Pipe Run 0 WL 5.4  
 Total Depth 3474 Chlorides 1200 ppm System LCM 3#

Blow Description B.O.B. In 30 sec. slid 15 ft.  
Dead no blow back  
Dead no blow  
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>550</u>	Feet of <u>mud</u>	%gas	%oil	%water	<u>100</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 550 BHT 104 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1817  Test 1150 T-On Location 20:20  
 (B) First Initial Flow 296  Jars 250 T-Started 23:12  
 (C) First Final Flow 315  Safety Joint 75 T-Open 01:38  
 (D) Initial Shut-In 592  Circ Sub \_\_\_\_\_ T-Pulled 03:38  
 (E) Second Initial Flow 316  Hourly Standby \_\_\_\_\_ T-Out 05:25  
 (F) Second Final Flow 317  Mileage 154 R/A 108rt 167.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 518  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1676  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Day Standby \_\_\_\_\_ Total 1792.40  
 Final Flow 30  Accessibility 150 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 30 Sub Total 1792.40

Approved By \_\_\_\_\_ Our Representative [Signature]

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. 54829

Well Name & No. Todd Brooks #1-19 Test No. 2 Date 9-25-13  
 Company Hartman Oil Co. Inc. Elevation 2236 KB 2225 GL  
 Address 10500 Berkeley SQ PKWay STE 100 Wichita KS, 67206  
 Co. Rep / Geo. Kitt Noah Rig H2 Rig #1  
 Location: Sec. 19 Twp. 5S Rge. 22W Co. Norton State KS

Interval Tested 3539 3570 Zone Tested LML 180 zn  
 Anchor Length 31 Drill Pipe Run 317 Mud Wt. 9.0  
 Top Packer Depth 3534 Drill Collars Run 365 Vis 58  
 Bottom Packer Depth 3539 Wt. Pipe Run 0 WL 5.4  
 Total Depth 3570 Chlorides 1100 ppm System LCM 3#

Blow Description Went surface blow died in 5mins. Slid 6ft.  
Dead no blow back  
Dead no blow Flushed tool after 10 mins surge blow died  
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>5</u>	Feet of <u>18" mud</u>	%gas	%oil	%water <u>100</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 104 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides ~~ppm~~ ppm  
 (A) Initial Hydrostatic 2195  Test 1150 T-On Location 21:00  
 (B) First Initial Flow 20  Jars 250 T-Started 22:39  
 (C) First Final Flow 22  Safety Joint 75 T-Open 00:55  
 (D) Initial Shut-In 95  Circ Sub \_\_\_\_\_ T-Pulled 02:55  
 (E) Second Initial Flow 23  Hourly Standby \_\_\_\_\_ T-Out 04:35  
 (F) Second Final Flow 25  Mileage 154 RT X2 Comments Loaded tools  
 (G) Final Shut-In 67  Sampler \_\_\_\_\_ @ 04:00 DU 92713  
 (H) Final Hydrostatic 1732  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1959.80  
 Accessibility 150 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1959.80

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

Approved By \_\_\_\_\_ Our Representative [Signature] 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.