



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700  
Wichita KS 67278

ATTN: John Goldsmith

### **Biermann 8D #1**

#### **8-17s-37w Wichita,KS**

Start Date: 2015.04.30 @ 03:30:15

End Date: 2015.04.30 @ 08:53:15

Job Ticket #: 61426                      DST #: 1

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

Printed: 2015.05.05 @ 09:12:26



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration  
8100 E 22nd St N #700  
Wichita KS 67278  
ATTN: John Goldsmith

**8-17s-37w Wichita, KS**

**Biermann 8D #1**

Job Ticket: 61426 **DST#: 1**

Test Start: 2015.04.30 @ 03:30:15

## GENERAL INFORMATION:

Formation: **LKC I**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:22:45  
 Time Test Ended: 08:53:15  
 Interval: **4256.00 ft (KB) To 4292.00 ft (KB) (TVD)**  
 Total Depth: 4292.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Mike Roberts  
 Unit No: 65  
 Reference Elevations: 3360.00 ft (KB)  
 3355.00 ft (CF)  
 KB to GR/CF: 5.00 ft

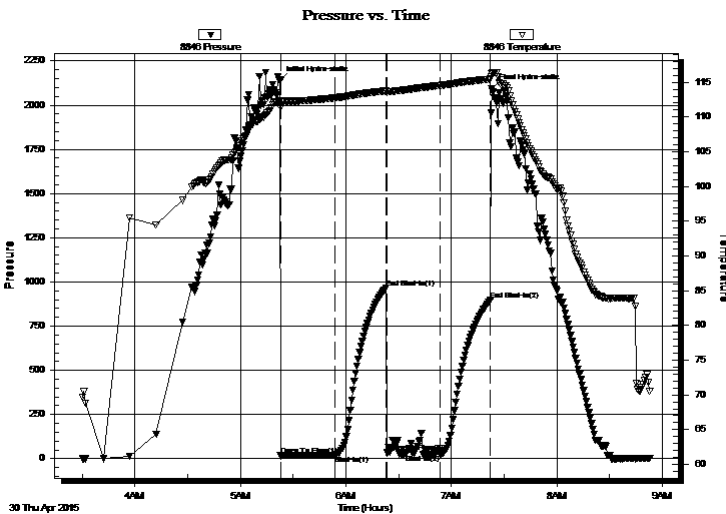
## Serial #: 8846

Inside

Press@RunDepth: 23.67 psig @ 4287.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.04.30 End Date: 2015.04.30 Last Calib.: 2015.04.30  
 Start Time: 03:30:15 End Time: 08:53:15 Time On Btm: 2015.04.30 @ 05:22:30  
 Time Off Btm: 2015.04.30 @ 07:23:00

TEST COMMENT: IF: Built to 1/4" blow  
 IS: No return blow  
 FF: No blow  
 FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2138.41	112.37	Initial Hydro-static
1	17.38	111.32	Open To Flow (1)
32	20.99	112.75	Shut-In(1)
61	965.92	113.76	End Shut-In(1)
61	34.30	113.61	Open To Flow (2)
91	23.67	114.53	Shut-In(2)
120	896.82	115.45	End Shut-In(2)
121	2094.77	116.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud w ith trace of oil	0.02

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration

**8-17s-37w Wichita,KS**

8100 E 22nd St N #700  
Wichita KS 67278

**Biermann 8D #1**

Job Ticket: 61426

**DST#: 1**

ATTN: John Goldsmith

Test Start: 2015.04.30 @ 03:30:15

## Tool Information

Drill Pipe:	Length: 4128.00 ft	Diameter: 3.80 inches	Volume: 57.90 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 58.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4256.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4229.00	
Shut In Tool	5.00			4234.00	
Hydraulic tool	5.00			4239.00	
Jars	5.00			4244.00	
Safety Joint	3.00			4247.00	
Packer	5.00			4252.00	28.00 Bottom Of Top Packer
Packer	4.00			4256.00	
Stubb	1.00			4257.00	
Perforations	30.00			4287.00	
Recorder	0.00	8846	Inside	4287.00	
Recorder	0.00	8737	Outside	4287.00	
Bullnose	5.00			4292.00	36.00 Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration

**8-17s-37w Wichita,KS**

8100 E 22nd St N #700  
Wichita KS 67278

**Biermann 8D #1**

Job Ticket: 61426

**DST#: 1**

ATTN: John Goldsmith

Test Start: 2015.04.30 @ 03:30:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud w ith trace of oil	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

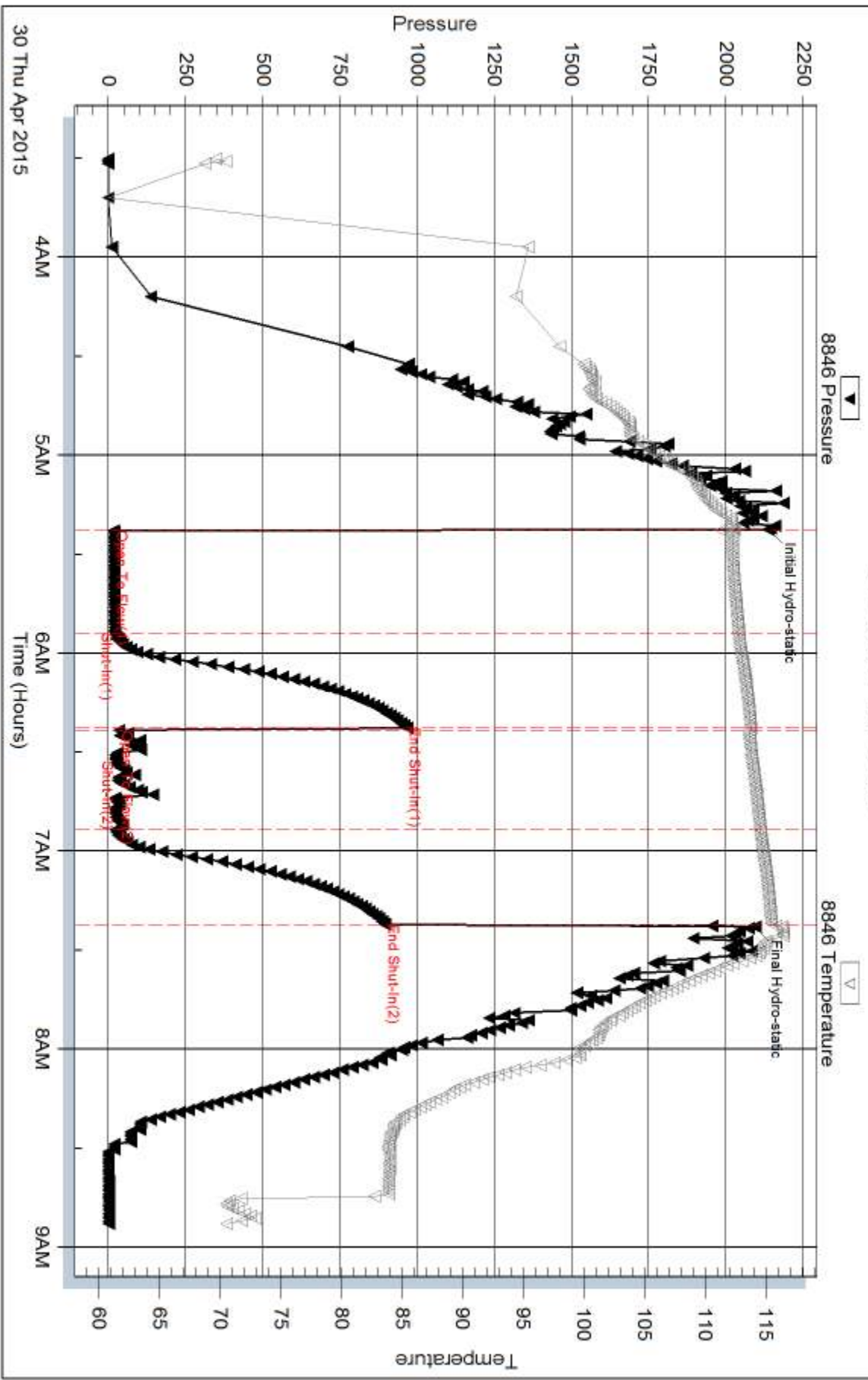
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

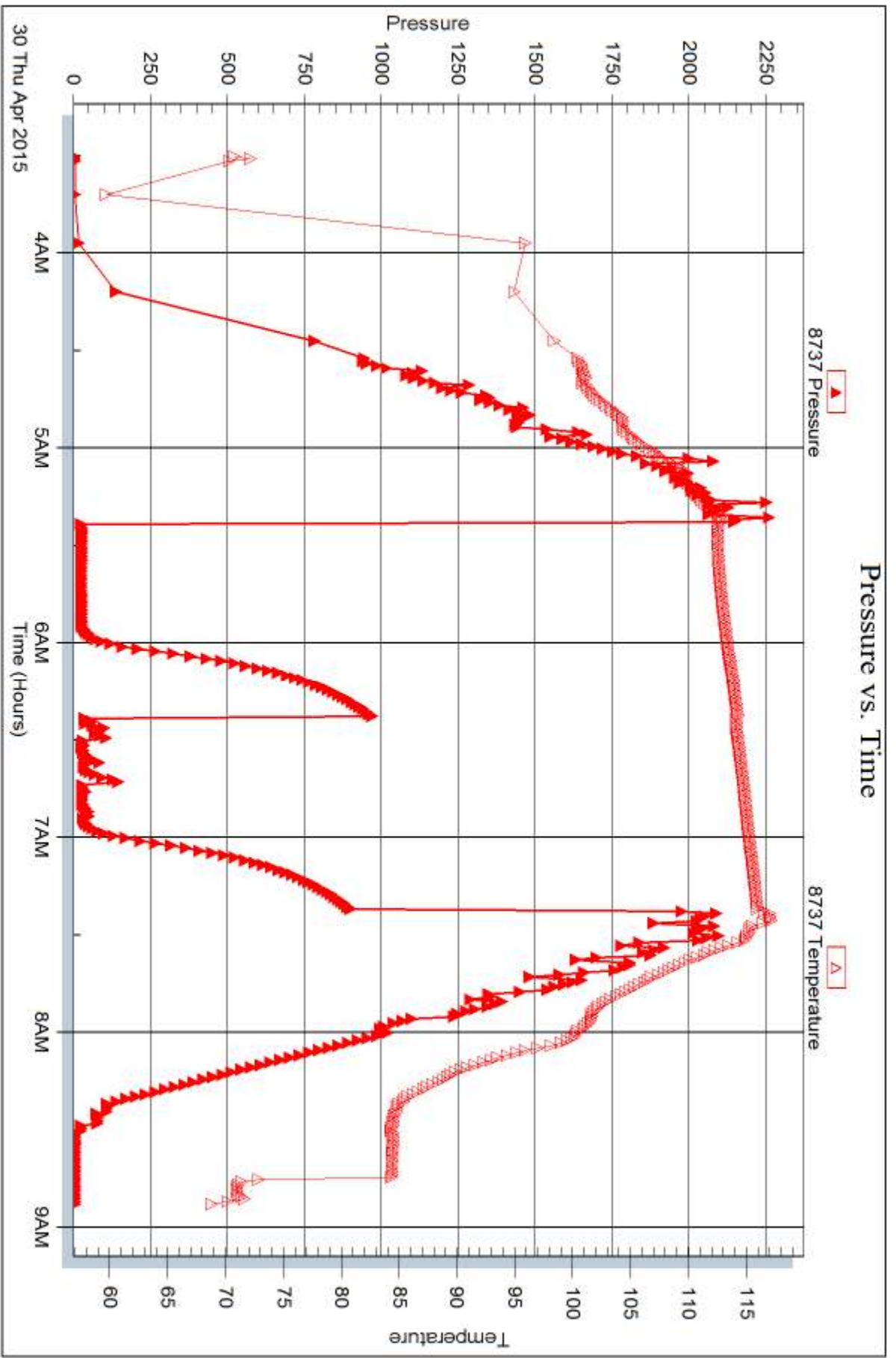


Serial #: 8737

Outside Ritchie Exploration

Biermann 8D#1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 61426

Printed: 2015.05.05 @ 09:12:28



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700  
Wichita KS 67278

ATTN: John Goldsmith

### **Biermann 8D #1**

### **8-17s-37w Wichita,KS**

Start Date: 2015.05.01 @ 09:21:15

End Date: 2015.05.01 @ 16:28:30

Job Ticket #: 61428                      DST #: 2

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

Printed: 2015.05.05 @ 09:11:31



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration  
8100 E 22nd St N #700  
Wichita KS 67278  
ATTN: John Goldsmith

**8-17s-37w Wichita, KS**

**Biermann 8D #1**

Job Ticket: 61428

**DST#: 2**

Test Start: 2015.05.01 @ 09:21:15

## GENERAL INFORMATION:

Formation: **Altamont A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:11:15

Time Test Ended: 16:28:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4434.00 ft (KB) To 4510.00 ft (KB) (TVD)**

Reference Elevations: 3360.00 ft (KB)

Total Depth: 4510.00 ft (KB) (TVD)

3355.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8846**

**Inside**

Press@RunDepth: 371.90 psig @ 4440.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.05.01

End Date:

2015.05.01

Last Calib.:

2015.05.01

Start Time: 09:21:15

End Time:

16:28:30

Time On Btm:

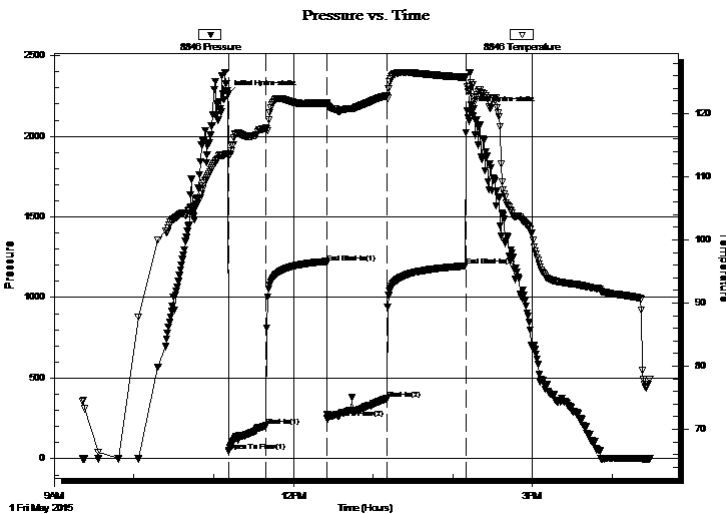
2015.05.01 @ 11:10:45

Time Off Btm:

2015.05.01 @ 14:10:45

TEST COMMENT: IF:BOB in 8 min.  
IS:BOB in 24 min.  
FF:BOB instantly  
FS:Built to 8" return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2261.13	113.69	Initial Hydro-static
1	43.98	113.27	Open To Flow (1)
29	204.46	117.71	Shut-In(1)
74	1215.99	121.67	End Shut-In(1)
75	251.94	121.41	Open To Flow (2)
120	371.90	122.80	Shut-In(2)
179	1196.01	125.76	End Shut-In(2)
180	2159.99	124.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
370.00	gcmo 10%g 40%m 50%o	4.08
558.00	gco 50%g 50%o	7.83
186.00	gcmo 10%g 30%m 60%o	2.61
92.00	gco 25%g 75%o	1.29
0.00	GIP - 1210 feet	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration

**8-17s-37w Wichita,KS**

8100 E 22nd St N #700  
Wichita KS 67278

**Biermann 8D #1**

Job Ticket: 61428

**DST#: 2**

ATTN: John Goldsmith

Test Start: 2015.05.01 @ 09:21:15

## Tool Information

Drill Pipe:	Length: 4319.00 ft	Diameter: 3.80 inches	Volume: 60.58 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 61.18 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	35.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4434.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	104.00 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			4407.00	
Shut In Tool	5.00			4412.00	
Hydraulic tool	5.00			4417.00	
Jars	5.00			4422.00	
Safety Joint	3.00			4425.00	
Packer	5.00			4430.00	28.00 Bottom Of Top Packer
Packer	4.00			4434.00	
Stubb	1.00			4435.00	
Perforations	5.00			4440.00	
Recorder	0.00	8846	Inside	4440.00	
Recorder	0.00	8737	Outside	4440.00	
Change Over Sub	1.00			4441.00	
Drill Pipe	63.00			4504.00	
Change Over Sub	1.00			4505.00	
Bullnose	5.00			4510.00	76.00 Bottom Packers & Anchor

**Total Tool Length: 104.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**8-17s-37w Wichita,KS**

8100 E 22nd St N #700  
Wichita KS 67278

**Biermann 8D #1**

Job Ticket: 61428

**DST#: 2**

ATTN: John Goldsmith

Test Start: 2015.05.01 @ 09:21:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.56 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 7600.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
370.00	gcmo 10%g 40%m 50%o	4.079
558.00	gco 50%g 50%o	7.827
186.00	gcmo 10%g 30%m 60%o	2.609
92.00	gco 25%g 75%o	1.291
0.00	GIP - 1210 feet	0.000

Total Length: 1206.00 ft      Total Volume: 15.806 bbl

Num Fluid Samples: 0

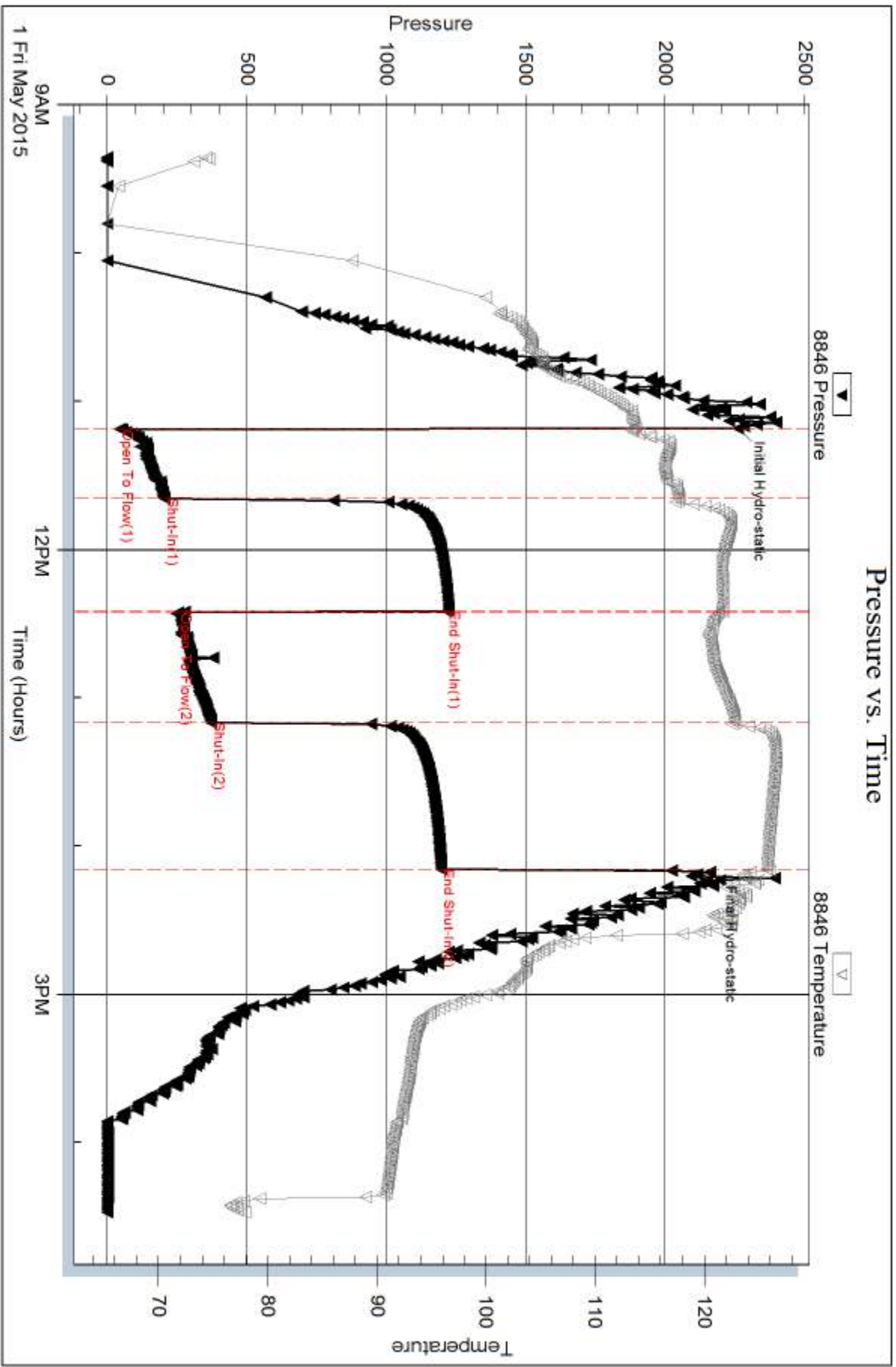
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API= 29 @80 corrected to 31 @ 60



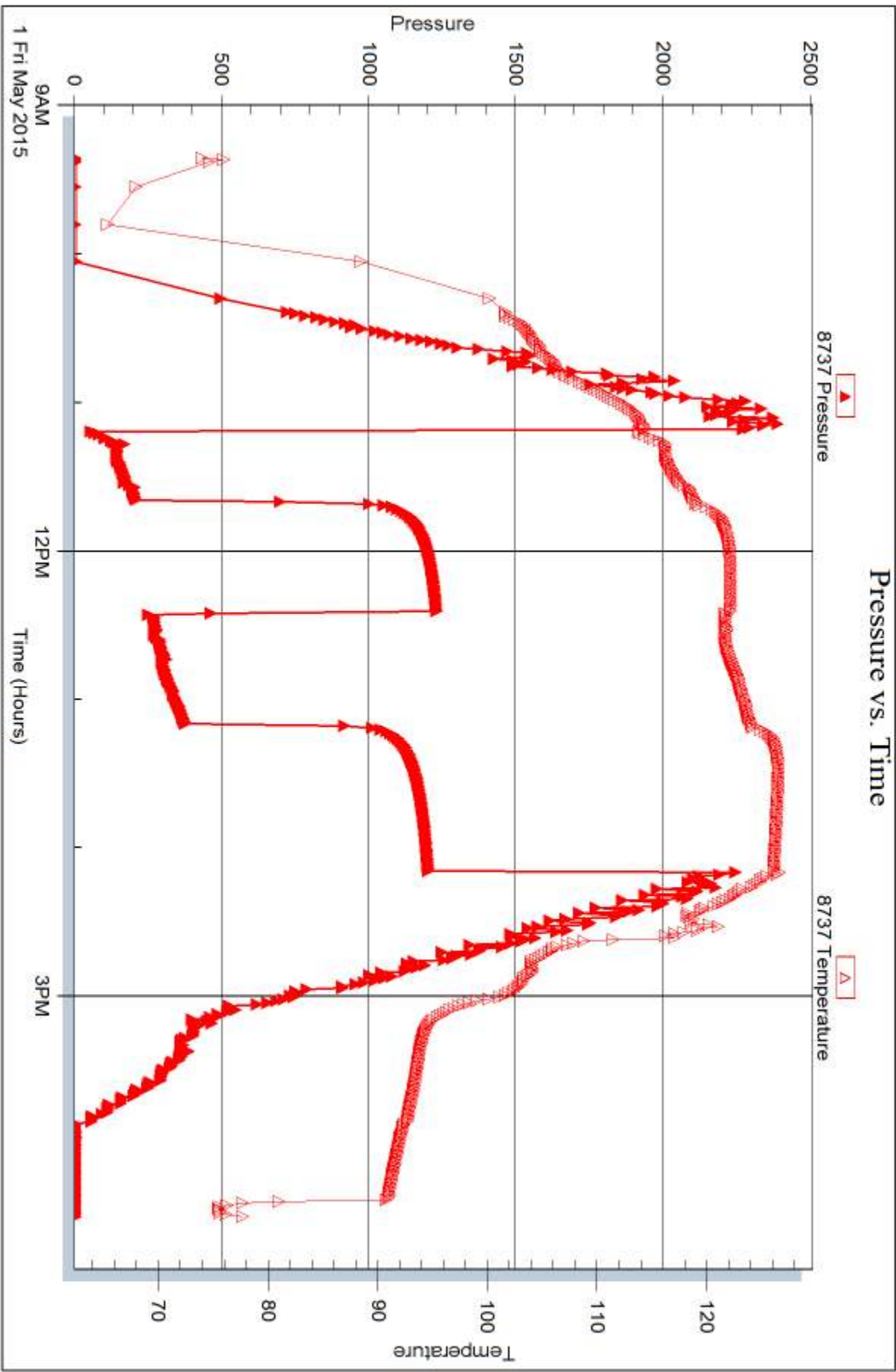
Serial #: 8737

Outside

Ritchie Exploration

Biermann 8D#1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700  
Wichita KS 67278

ATTN: John Goldsmith

### **Biermann 8D #1**

#### **8-17s-37w Wichita,KS**

Start Date: 2015.05.02 @ 02:26:15

End Date: 2015.05.02 @ 07:29:45

Job Ticket #: 61429                      DST #: 3

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

Printed: 2015.05.05 @ 09:10:45



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration  
8100 E 22nd St N #700  
Wichita KS 67278  
ATTN: John Goldsmith

**8-17s-37w Wichita, KS**

**Biermann 8D #1**

Job Ticket: 61429      **DST#: 3**  
Test Start: 2015.05.02 @ 02:26:15

## GENERAL INFORMATION:

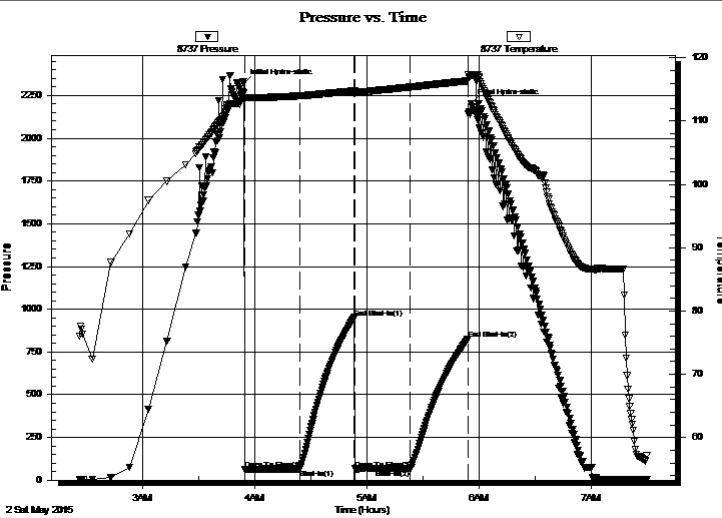
Formation: **Altamont B-C**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:54:30  
 Time Test Ended: 07:29:45  
 Interval: **4508.00 ft (KB) To 4548.00 ft (KB) (TVD)**  
 Total Depth: 4548.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 65  
 Reference Elevations: 3360.00 ft (KB)  
 3355.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8737

**Outside**

Press@RunDepth: 65.78 psig @ 4543.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2015.05.02      End Date: 2015.05.02      Last Calib.: 2015.05.02  
 Start Time: 02:26:15      End Time: 07:29:45      Time On Btm: 2015.05.02 @ 03:54:15  
 Time Off Btm: 2015.05.02 @ 05:55:45

TEST COMMENT: IF: Built to 1/4" blow and died in 20 min  
 IS: No return blow  
 FF: No blow  
 FS: No return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2320.62	114.42	Initial Hydro-static
1	63.25	113.36	Open To Flow (1)
30	65.16	114.00	Shut-In(1)
59	95.17	114.77	End Shut-In(1)
60	65.86	114.38	Open To Flow (2)
89	65.78	115.37	Shut-In(2)
120	824.12	116.35	End Shut-In(2)
122	2201.50	117.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	mud 100% m	0.30

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration

**8-17s-37w Wichita,KS**

8100 E 22nd St N #700  
Wichita KS 67278

**Biermann 8D #1**

Job Ticket: 61429

**DST#: 3**

ATTN: John Goldsmith

Test Start: 2015.05.02 @ 02:26:15

## Tool Information

Drill Pipe:	Length: 4384.00 ft	Diameter: 3.80 inches	Volume: 61.50 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 62.10 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4508.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4481.00	
Shut In Tool	5.00			4486.00	
Hydraulic tool	5.00			4491.00	
Jars	5.00			4496.00	
Safety Joint	3.00			4499.00	
Packer	5.00			4504.00	28.00 Bottom Of Top Packer
Packer	4.00			4508.00	
Stubb	1.00			4509.00	
Perforations	34.00			4543.00	
Recorder	0.00	8646	Inside	4543.00	
Recorder	0.00	8737	Outside	4543.00	
Bullnose	5.00			4548.00	40.00 Bottom Packers & Anchor

**Total Tool Length: 68.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**8-17s-37w Wichita,KS**

8100 E 22nd St N #700  
Wichita KS 67278

**Biermann 8D #1**

Job Ticket: 61429

**DST#: 3**

ATTN: John Goldsmith

Test Start: 2015.05.02 @ 02:26:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 7600.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	mud 100%m	0.305

Total Length: 62.00 ft      Total Volume: 0.305 bbl

Num Fluid Samples: 0

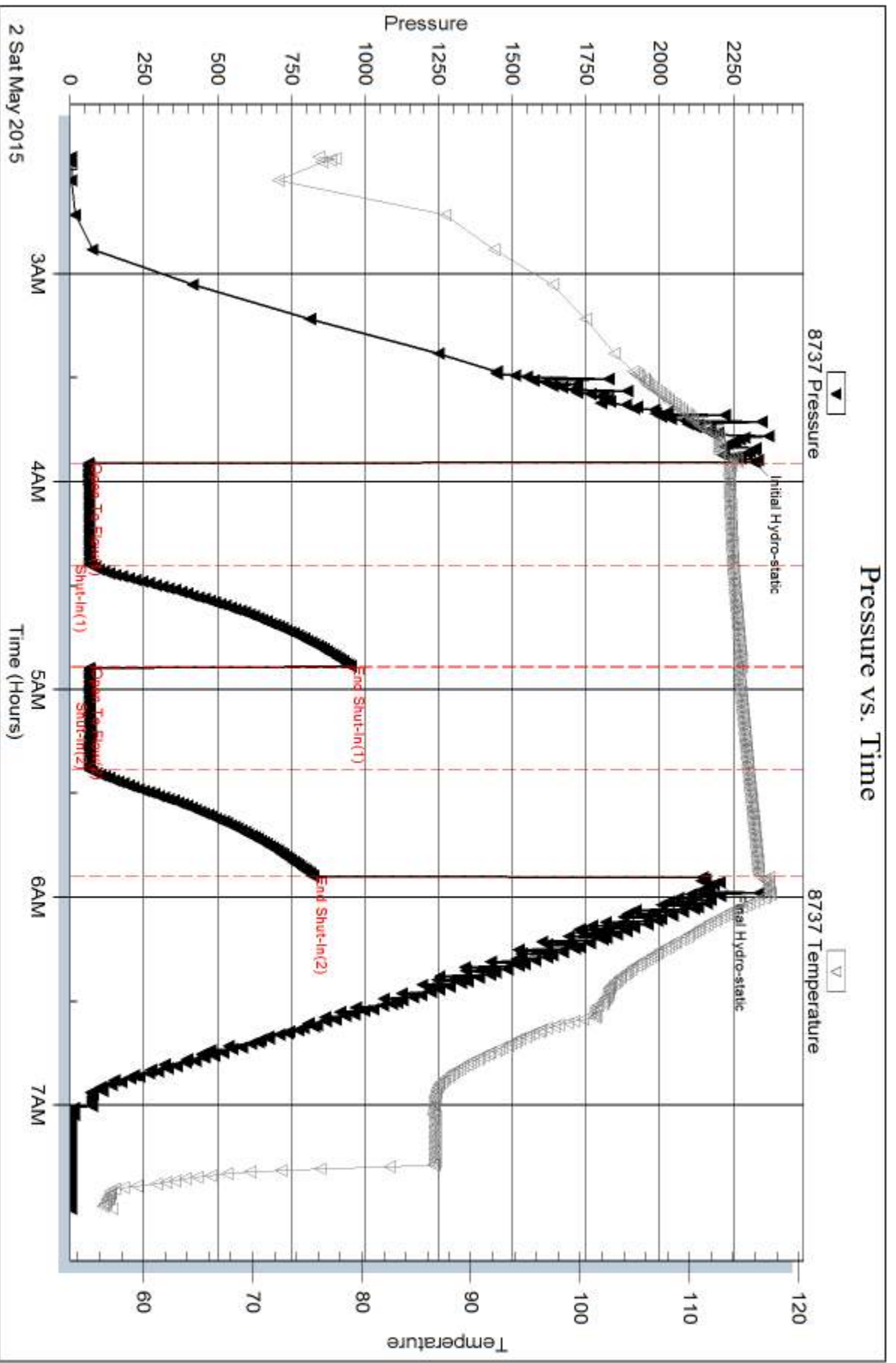
Num Gas Bombs: 0

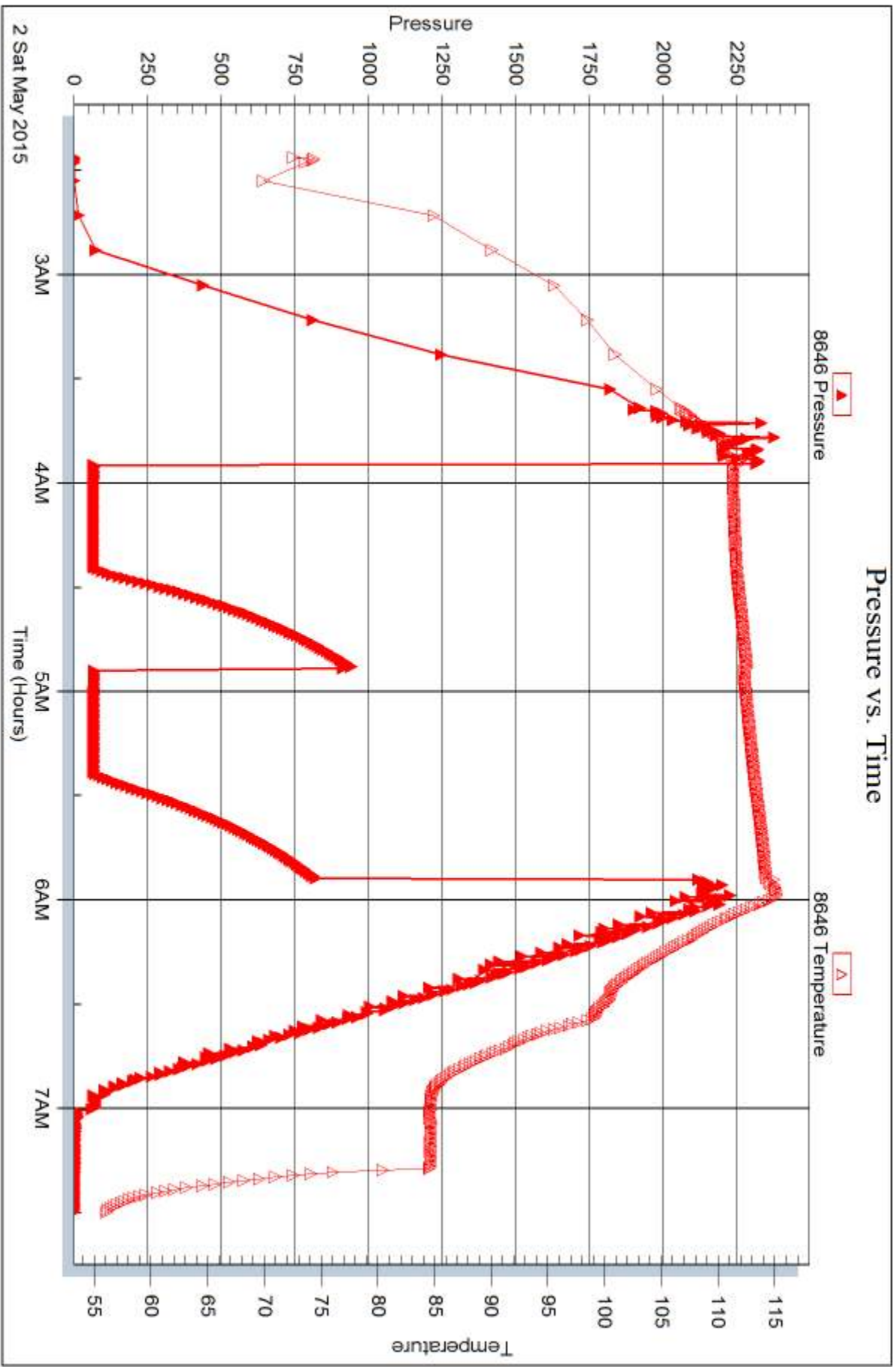
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61426

Well Name & No. #1 Biermann 8D Test No. 1 Date 4-30-15  
 Company Ritchie Exploration Elevation 3360 KB 3355 GL  
 Address 8100 E 22nd St. N. #700 Wichita KS 67278  
 Co. Rep / Geo. John Goldsmith Rig W602  
 Location: Sec. 8 Twp. 17S Rge. 37W Co. Wichita State KS

Interval Tested 4256-4292 Zone Tested I  
 Anchor Length 36 Drill Pipe Run 4128 Mud Wt. 9.1  
 Top Packer Depth 4251 Drill Collars Run 122 Vis 60  
 Bottom Packer Depth 4256 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4292 Chlorides 4200 ppm System LCM 1

Blow Description IF: Built to 1/4" Blow  
IS: No Return Blow  
FF: No Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud with trace of oil</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 115 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	<u>2138</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	<u>1250.00</u>	T-On Location	<u>02:15</u>
(B) First Initial Flow	<u>17</u>	<input checked="" type="checkbox"/> Jars		<u>250.00</u>	T-Started	<u>03:30</u>
(C) First Final Flow	<u>20</u>	<input checked="" type="checkbox"/> Safety Joint		<u>75.00</u>	T-Open	<u>05:22</u>
(D) Initial Shut-In	<u>965</u>	<input checked="" type="checkbox"/> Circ Sub		<u>NC</u>	T-Pulled	<u>07:22</u>
(E) Second Initial Flow	<u>34</u>	<input type="checkbox"/> Hourly Standby			T-Out	<u>08:53</u>
(F) Second Final Flow	<u>23</u>	<input checked="" type="checkbox"/> Mileage	<u>80 RT = #80.00</u>		Comments	
(G) Final Shut-In	<u>896</u>	<input type="checkbox"/> Sampler				
(H) Final Hydrostatic	<u>2094</u>	<input type="checkbox"/> Straddle			<input type="checkbox"/> Ruined Shale Packer	

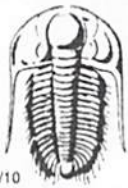
Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30

Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility

Sub Total 0  
 Total 1555  
 MP/DST Disc't

Approved By [Signature] Our Representative Mike Roberts

Trilobite Testing Inc. shall not be liable for damages 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. 61428

Well Name & No. #1 Biermann 8D Test No. 2 Date 5-1-15  
 Company Ritchie Exploration Elevation 3360 KB 3355 GL  
 Address 8100 E 22<sup>nd</sup> St. N#700 Wichita KS 67278  
 Co. Rep / Geo. John Goldsmith Rig WW 2  
 Location: Sec. 8 Twp. 17S Rge. 37W Co. Wichita State KS

Interval Tested 4434-4510 Zone Tested Altamont "A"  
 Anchor Length 76 Drill Pipe Run 4319 Mud Wt. 9.3  
 Top Packer Depth 4429 Drill Collars Run 122 Vis 52  
 Bottom Packer Depth 4434 Wt. Pipe Run Ø WL 9.4  
 Total Depth 4510 Chlorides 7600 ppm System LCM 1  
 Blow Description IF: BOB IN 8 MIN  
IS: BOB IN 24 MIN  
FF: BOB Instantly  
FS: Built to 8" Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>Ø</u>	<u>GIP = 1210</u>				
<u>92</u>	<u>gco</u>	<u>25</u>	<u>75</u>		
<u>186</u>	<u>gcmo</u>	<u>10</u>	<u>60</u>	<u>30</u>	
<u>558</u>	<u>gco</u>	<u>50</u>	<u>50</u>		
<u>320</u>	<u>gcmo</u>	<u>10</u>	<u>50</u>	<u>40</u>	
Rec Total	<u>1206</u> BHT <u>119</u>	Gravity <u>31</u>	API RW <u>—</u>	@ <u>—</u> ° F	Chlorides <u>Ø</u> ppm

(A) Initial Hydrostatic 2261  
 (B) First Initial Flow 43  
 (C) First Final Flow 204  
 (D) Initial Shut-In 1215  
 (E) Second Initial Flow 251  
 (F) Second Final Flow 371  
 (G) Final Shut-In 1196  
 (H) Final Hydrostatic 2159

Test 1150 \$1250.00  
 Jars 250.00  
 Safety Joint 75.00  
 Circ Sub NC  
 Hourly Standby \_\_\_\_\_  
 Mileage 80 RT = \$80.00  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility 1555  
 Sub Total \$1655.00

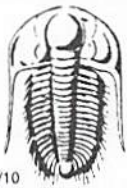
T-On Location 08:20  
 T-Started 09:21  
 T-Open 11:11  
 T-Pulled 14:11  
 T-Out 16:28  
 Comments \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1555  
 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 60

Approved By [Signature]

Our Representative Mike Roberts

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

8646 BTM  
8737 Top

## Test Ticket

NO. 61429

Well Name & No. #1 Biermann 8D Test No. 3 Date 5-2-15  
 Company Ritchie Exploration Elevation 3360 KB 3355 GL  
 Address 8100 E 22nd St. N #700 Wichita KS 67278  
 Co. Rep / Geo. John Goldsmith Rig WW2  
 Location: Sec. 8 Twp. 17S Rge. 37W Co. Wichita State KS

Interval Tested 4508-4548 Zone Tested Altamont B-C  
 Anchor Length 40 Drill Pipe Run 4384 Mud Wt. 9.3  
 Top Packer Depth 4503 Drill Collars Run 122 Vis 52  
 Bottom Packer Depth 4508 Wt. Pipe Run φ WL 9.6  
 Total Depth 4548 Chlorides 7600 ppm System LCM 1  
 Blow Description IF: Built to 4" Blow + Died in 20 min  
IS: No Return Blow  
FF: NO Blow  
FS: NO Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>Feet of mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 62 BHT 120 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic	<u>2320</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	<u>1250.00</u>	T-On Location	<u>02:00</u>
(B) First Initial Flow	<u>63</u>	<input checked="" type="checkbox"/> Jars		<u>250.00</u>	T-Started	<u>02:26</u>
(C) First Final Flow	<u>65</u>	<input checked="" type="checkbox"/> Safety Joint		<u>75.00</u>	T-Open	<u>03:54</u>
(D) Initial Shut-In	<u>951</u>	<input checked="" type="checkbox"/> Circ Sub		<u>NL</u>	T-Pulled	<u>06:54</u>
(E) Second Initial Flow	<u>65</u>	<input type="checkbox"/> Hourly Standby			T-Out	<u>07:29</u>
(F) Second Final Flow	<u>65</u>	<input checked="" type="checkbox"/> Mileage	<u>BORT = \$80.00/AZ</u>		Comments	<u>Loaded Tools</u>
(G) Final Shut-In	<u>824</u>	<input type="checkbox"/> Sampler	<u>80+80</u>			<u>at 21:30 on</u>
(H) Final Hydrostatic	<u>2201</u>	<input type="checkbox"/> Straddle				<u>5-4-15</u>

Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer		<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>30</u>	<input type="checkbox"/> Extra Recorder		<input type="checkbox"/> Extra Copies	<u>800</u>
Final Shut-In	<u>30</u>	<input checked="" type="checkbox"/> Day Standby	<u>1.5 d 26h</u>	Sub Total	<u>2435</u>
		<input type="checkbox"/> Accessibility	<u>1635</u>	Total	<u>2435</u>
		Sub Total	<u>\$1655.00</u>	MP/DST Disc't	

Approved By [Signature] Our Representative [Signature]

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