



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operatting Inc**

PO Box 86  
Plainville KS 67663-0086

ATTN: Charles Ramsey

### **Augustine #14-1**

### **14-6s-24w Graham,KS**

Start Date: 2012.11.13 @ 03:10:51

End Date: 2012.11.13 @ 10:38:15

Job Ticket #: 48594                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.21 @ 09:07:47



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
 Job Ticket: 48594 **DST#: 1**  
 Test Start: 2012.11.13 @ 03:10:51

## GENERAL INFORMATION:

Formation: **LKC "C"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 06:06:16 Tester: Ray Schwager  
 Time Test Ended: 10:38:15 Unit No: 42  
 Interval: **3709.00 ft (KB) To 3734.00 ft (KB) (TVD)** Reference Elevations: 2458.00 ft (KB)  
 Total Depth: 3734.00 ft (KB) (TVD) 2453.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

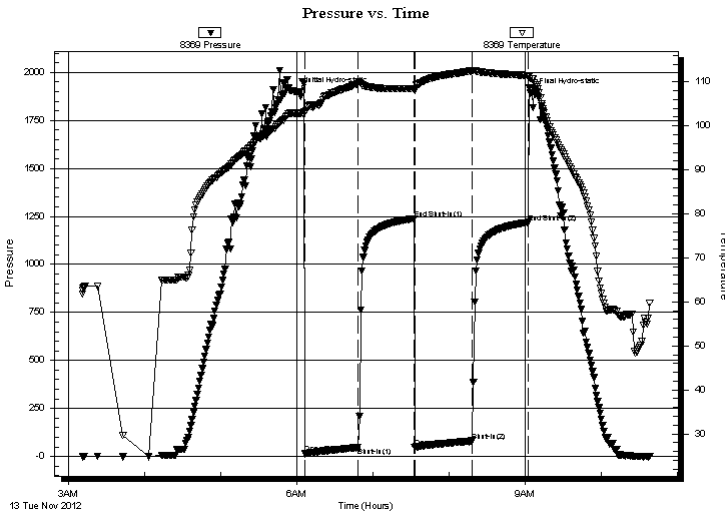
## Serial #: 8369

Inside

Press @ Run Depth: 81.68 psig @ 3710.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.11.13 End Date: 2012.11.13 Last Calib.: 2012.11.13  
 Start Time: 03:10:51 End Time: 10:38:15 Time On Btm: 2012.11.13 @ 06:01:16  
 Time Off Btm: 2012.11.13 @ 09:05:15

TEST COMMENT: 45-IFP-w k bl thru-out 1/2" to 2" bl  
 45-ISIP-no bl  
 45-FFP-w k bl thru-out 1/4" to 1 1/2" bl  
 45-FSIP-no bl

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1898.67	102.81	Initial Hydro-static
5	14.44	103.02	Open To Flow (1)
47	47.37	109.58	Shut-In(1)
91	1238.16	108.38	End Shut-In(1)
92	49.10	108.08	Open To Flow (2)
137	81.68	112.49	Shut-In(2)
181	1218.88	111.46	End Shut-In(2)
184	1892.90	110.66	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	MW 20%M80%W	0.28
120.00	Water	1.68

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operatting Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
 Job Ticket: 48594      **DST#: 1**  
 Test Start: 2012.11.13 @ 03:10:51

**Tool Information**

Drill Pipe:	Length: 3713.00 ft	Diameter: 3.80 inches	Volume: 52.08 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 52.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3709.00 ft			Final 41000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	46.00 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			3689.00	
Shut In Tool	5.00			3694.00	
Hydraulic tool	5.00			3699.00	
Packer	5.00			3704.00	21.00      Bottom Of Top Packer
Packer	5.00			3709.00	
Stubb	1.00			3710.00	
Recorder	0.00	8369	Inside	3710.00	
Recorder	0.00	8700	Outside	3710.00	
Perforations	21.00			3731.00	
Bullnose	3.00			3734.00	25.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>46.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operatting Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
Job Ticket: 48594      **DST#: 1**  
Test Start: 2012.11.13 @ 03:10:51

## Mud and Cushion Information

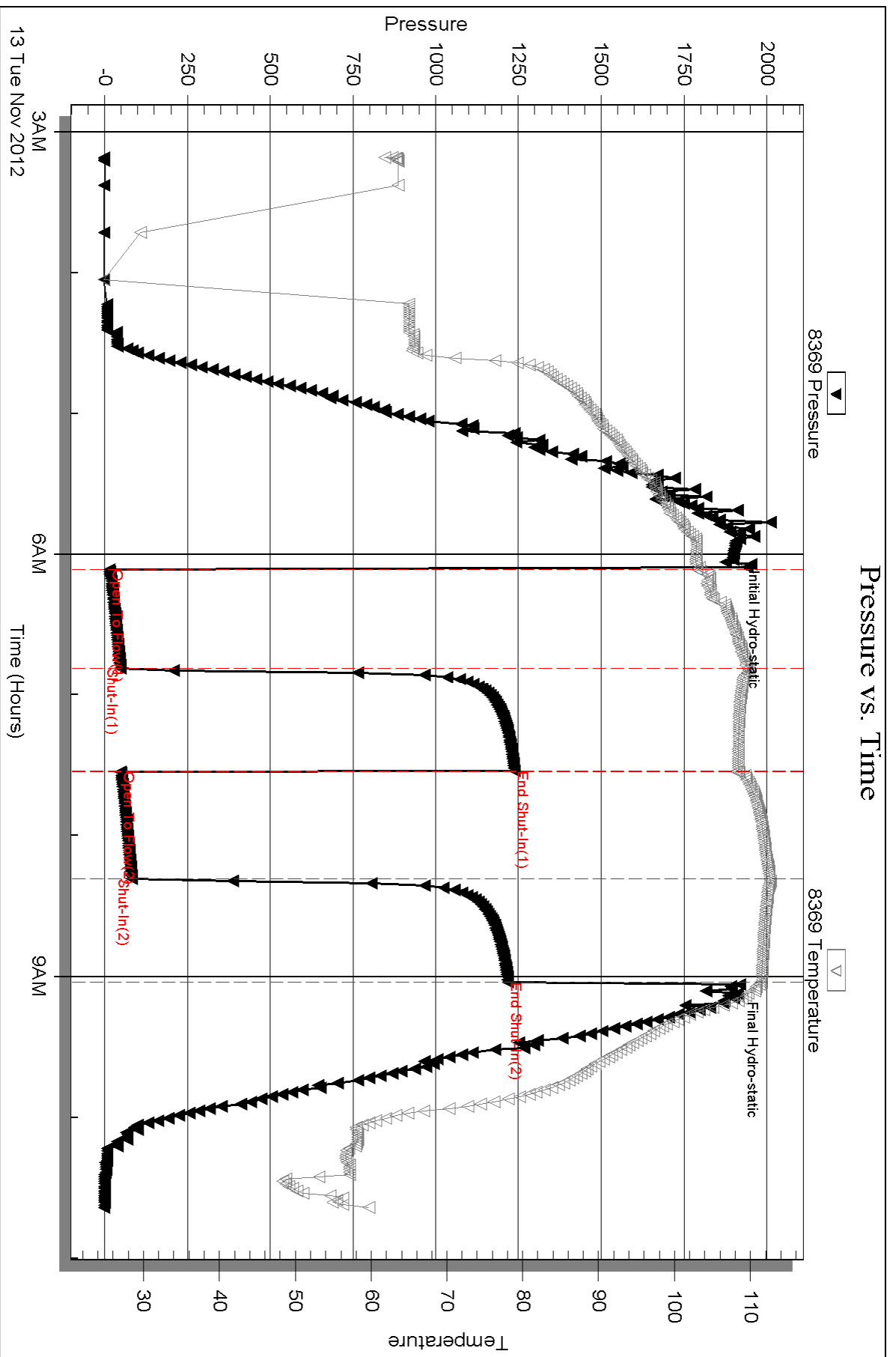
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	46000 ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.90 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	MW 20%M80%W	0.281
120.00	Water	1.683

Total Length: 140.00 ft      Total Volume: 1.964 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW .17 @65F

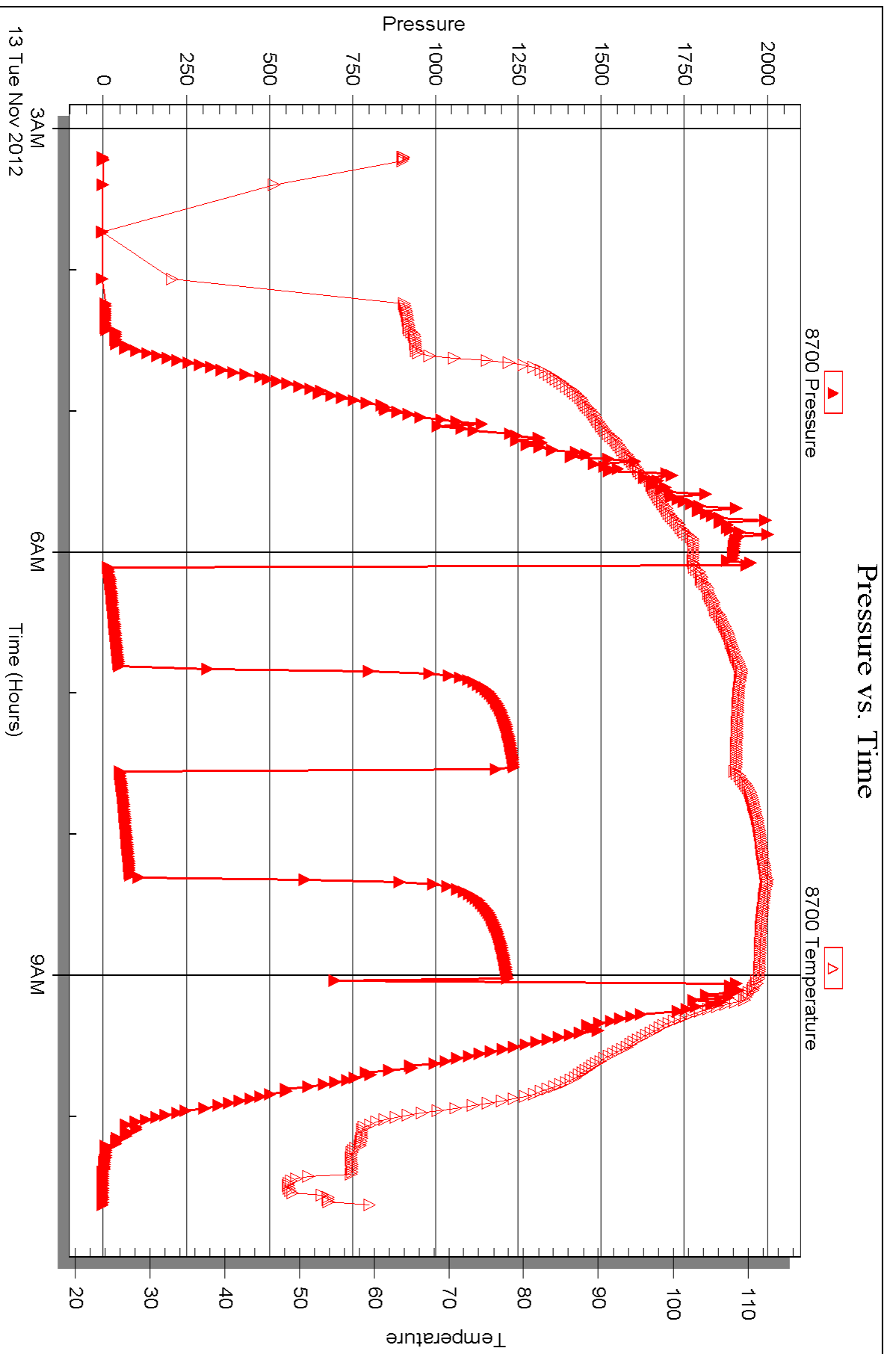


Serial #: 8700

Outside H&C Oil Operating Inc

Augustine #14-1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operatting Inc**

PO Box 86  
Plainville KS 67663-0086

ATTN: Charles Ramsey

### **Augustine #14-1**

### **14-6s-24w Graham,KS**

Start Date: 2012.11.13 @ 19:35:14

End Date: 2012.11.14 @ 01:30:08

Job Ticket #: 48595                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.21 @ 09:06:55





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charles Ramsey

**14-6s-24w Graham,KS**

**Augustine #14-1**

Job Ticket: 48595

**DST#: 2**

Test Start: 2012.11.13 @ 19:35:14

## GENERAL INFORMATION:

Formation: **LKC "E"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:40:09  
 Time Test Ended: 01:30:08  
 Interval: **3745.00 ft (KB) To 3761.00 ft (KB) (TVD)**  
 Total Depth: 3761.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 42  
 Reference Elevations: 2458.00 ft (KB)  
 2453.00 ft (CF)  
 KB to GR/CF: 5.00 ft

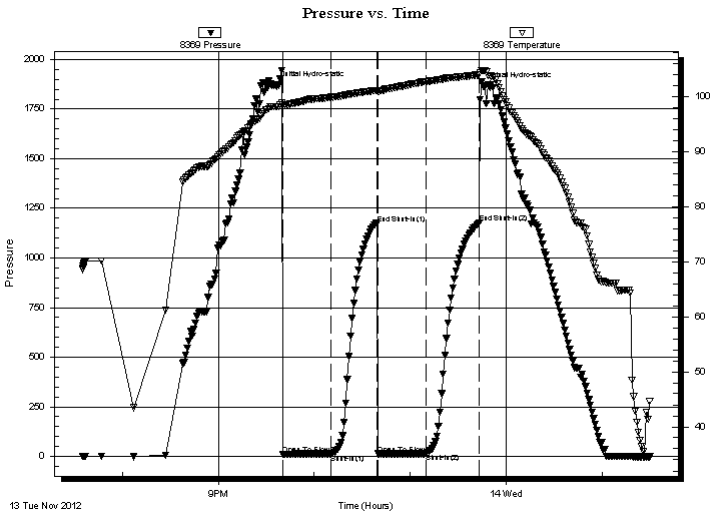
## Serial #: 8369

Inside

Press @ Run Depth: 16.58 psig @ 3746.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.11.13 End Date: 2012.11.14 Last Calib.: 2012.11.14  
 Start Time: 19:35:14 End Time: 01:30:08 Time On Btm: 2012.11.13 @ 21:36:09  
 Time Off Btm: 2012.11.13 @ 23:46:09

TEST COMMENT: 30-IFP-vy w k bl thru-out 1/8" to surface bl  
 30-ISIP-no bl  
 30-FFP-surface bl thru-out  
 30-FSP-no bl

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1866.53	98.10	Initial Hydro-static
4	10.52	98.46	Open To Flow (1)
35	13.57	99.85	Shut-In(1)
63	1171.68	101.09	End Shut-In(1)
64	13.41	100.87	Open To Flow (2)
94	16.58	102.68	Shut-In(2)
127	1176.62	103.95	End Shut-In(2)
130	1862.32	104.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.07

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operatting Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
Job Ticket: 48595      **DST#: 2**  
Test Start: 2012.11.13 @ 19:35:14

**Tool Information**

Drill Pipe:	Length: 3746.00 ft	Diameter: 3.80 inches	Volume: 52.55 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 52.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3745.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	37.00 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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Change Over Sub	1.00			3725.00	
Shut In Tool	5.00			3730.00	
Hydraulic tool	5.00			3735.00	
Packer	5.00			3740.00	21.00      Bottom Of Top Packer
Packer	5.00			3745.00	
Stubb	1.00			3746.00	
Recorder	0.00	8369	Inside	3746.00	
Recorder	0.00	8700	Outside	3746.00	
Perforations	12.00			3758.00	
Bullnose	3.00			3761.00	16.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>37.00</b>				



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operatting Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
 Job Ticket: 48595      **DST#: 2**  
 Test Start: 2012.11.13 @ 19:35:14

## 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: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.70 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 1.00 inches			

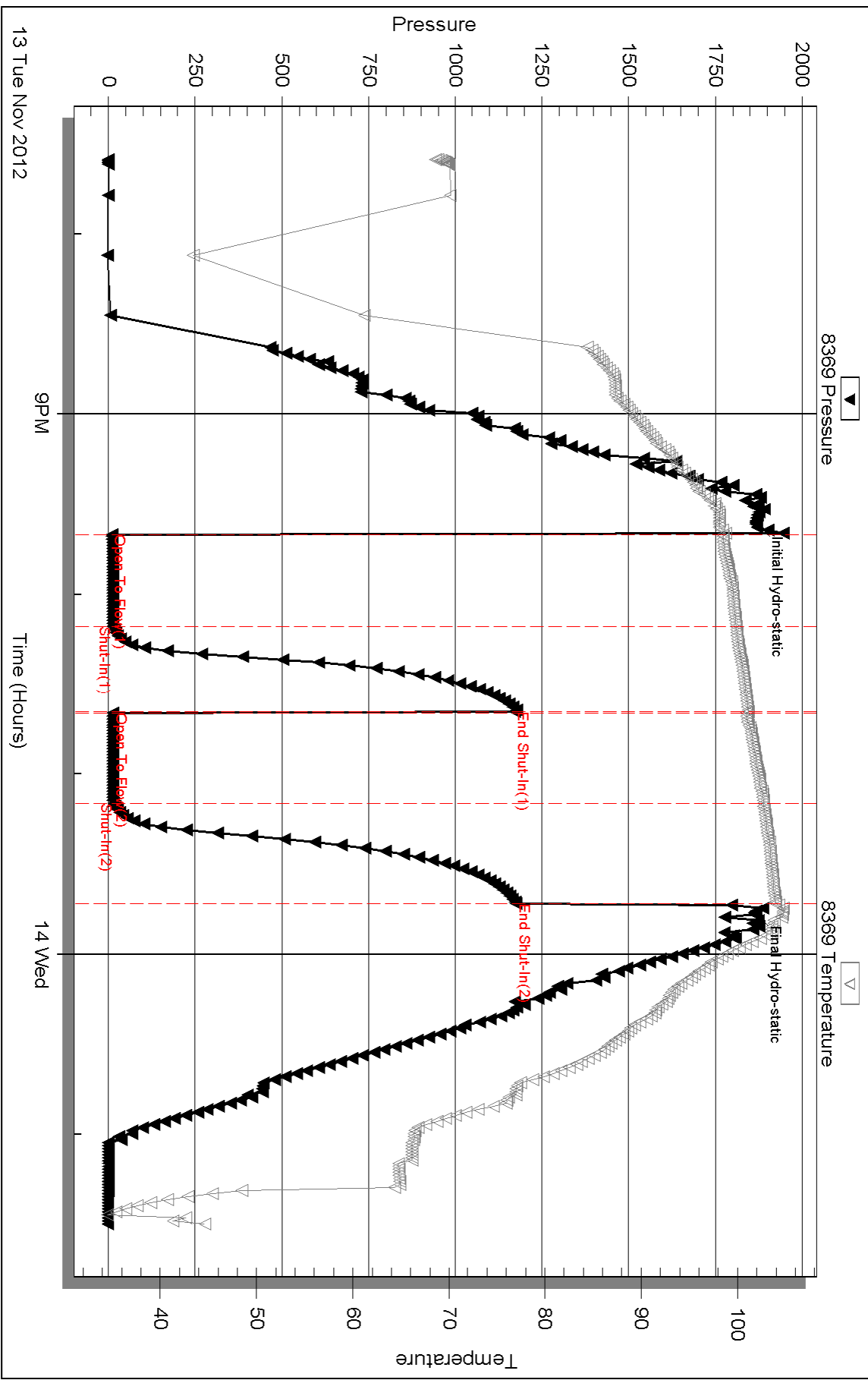
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

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PO Box 86  
Plainville KS 67663-0086

ATTN: Charles Ramsey

### **Augustine #14-1**

### **14-6s-24w Graham,KS**

Start Date: 2012.11.14 @ 15:56:00

End Date: 2012.11.14 @ 21:38:54

Job Ticket #: 48596                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.21 @ 09:06:09



**TRILOBITE  
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# DRILL STEM TEST REPORT

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charles Ramsey

**14-6s-24w Graham, KS**

**Augustine #14-1**

Job Ticket: 48596

**DST#: 3**

Test Start: 2012.11.14 @ 15:56:00

## GENERAL INFORMATION:

Formation: **LKC H-J**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 18:01:25  
 Tester: Ray Schwager  
 Time Test Ended: 21:38:54  
 Unit No: 42  
 Interval: **3789.00 ft (KB) To 3848.00 ft (KB) (TVD)**  
 Reference Elevations: 2458.00 ft (KB)  
 Total Depth: 3848.00 ft (KB) (TVD)  
 2453.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

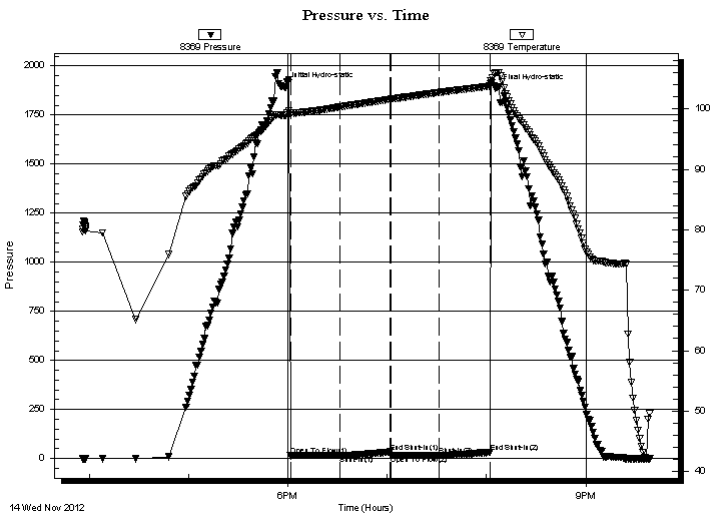
## Serial #: 8369

Inside

Press @ Run Depth: 15.65 psig @ 3793.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.11.14 End Date: 2012.11.14 Last Calib.: 2012.11.14  
 Start Time: 15:56:00 End Time: 21:38:54 Time On Btm: 2012.11.14 @ 17:57:55  
 Time Off Btm: 2012.11.14 @ 20:05:25

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 3/4" bl  
 30-ISIP-no bl  
 30-FFP-no bl  
 30-FSIP-no bl

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1893.09	98.96	Initial Hydro-static
4	14.56	99.06	Open To Flow (1)
34	16.19	100.30	Shut-In(1)
64	33.88	101.57	End Shut-In(1)
64	15.49	101.58	Open To Flow (2)
94	15.65	102.71	Shut-In(2)
124	31.89	103.75	End Shut-In(2)
128	1886.80	105.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud w/show of oil	0.03

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charles Ramsey

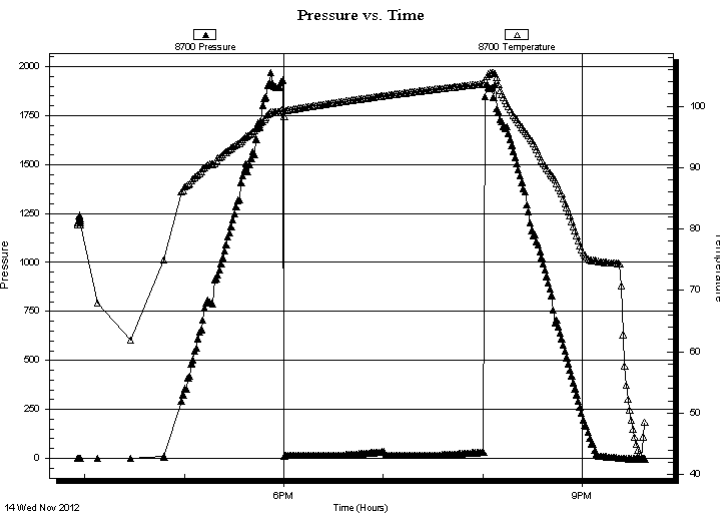
**14-6s-24w Graham,KS**  
**Augustine #14-1**  
 Job Ticket: 48596 **DST#: 3**  
 Test Start: 2012.11.14 @ 15:56:00

## GENERAL INFORMATION:

Formation: **LKC H-J**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 18:01:25 Tester: Ray Schwager  
 Time Test Ended: 21:38:54 Unit No: 42  
**Interval: 3789.00 ft (KB) To 3848.00 ft (KB) (TVD)** Reference Elevations: 2458.00 ft (KB)  
 Total Depth: 3848.00 ft (KB) (TVD) 2453.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8700 Outside**  
 Press @ Run Depth: psig @ 3793.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.11.14 End Date: 2012.11.14 Last Calib.: 2012.11.14  
 Start Time: 15:55:53 End Time: 21:37:17 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30-IFP-w k bl thru-out 1/4" to 3/4" bl  
 30-ISIP-no bl  
 30-FFP-no bl  
 30-FSIP-no bl



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud w/show of oil	0.03

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operatting Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
 Job Ticket: 48596 **DST#: 3**  
 Test Start: 2012.11.14 @ 15:56:00

**Tool Information**

Drill Pipe:	Length: 3779.00 ft	Diameter: 3.80 inches	Volume: 53.01 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 53.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 41000.00 lb
Depth to Top Packer:	3789.00 ft			Final 41000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	80.00 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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<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
Change Over Sub	1.00			3769.00	
Shut In Tool	5.00			3774.00	
Hydraulic tool	5.00			3779.00	
Packer	5.00			3784.00	21.00 Bottom Of Top Packer
Packer	5.00			3789.00	
Stubb	1.00			3790.00	
Perforations	3.00			3793.00	
Recorder	0.00	8369	Inside	3793.00	
Recorder	0.00	8700	Outside	3793.00	
Blank Spacing	32.00			3825.00	
Perforations	20.00			3845.00	
Bullnose	3.00			3848.00	59.00 Bottom Packers & Anchor

**Total Tool Length: 80.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operatting Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
Job Ticket: 48596      **DST#: 3**  
Test Start: 2012.11.14 @ 15:56:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.95 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud w/show of oil	0.028

Total Length: 2.00 ft      Total Volume: 0.028 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:

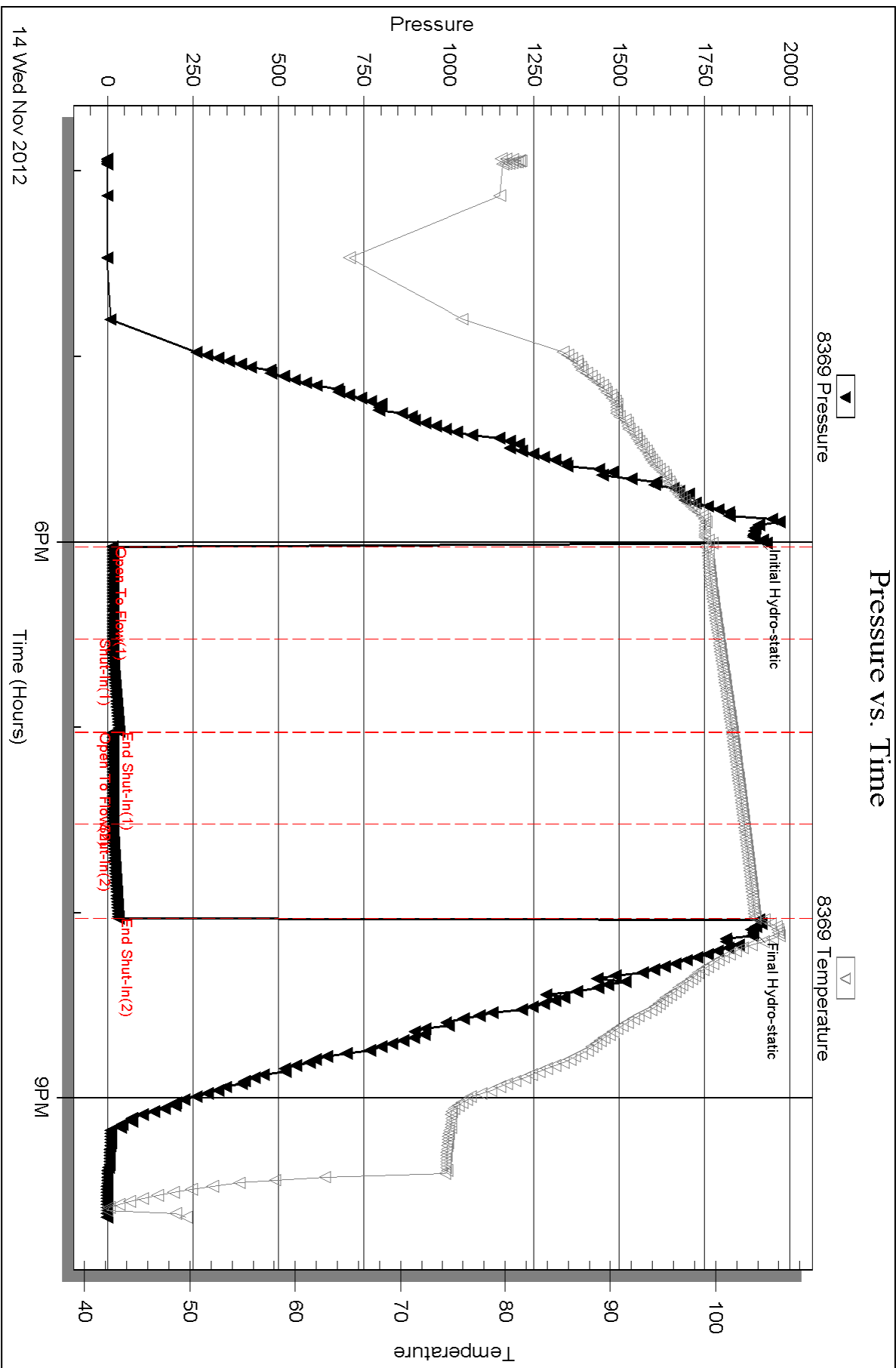
Serial #: 8369

Inside

H&C Oil Operating Inc

Augustine #14-1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 48596

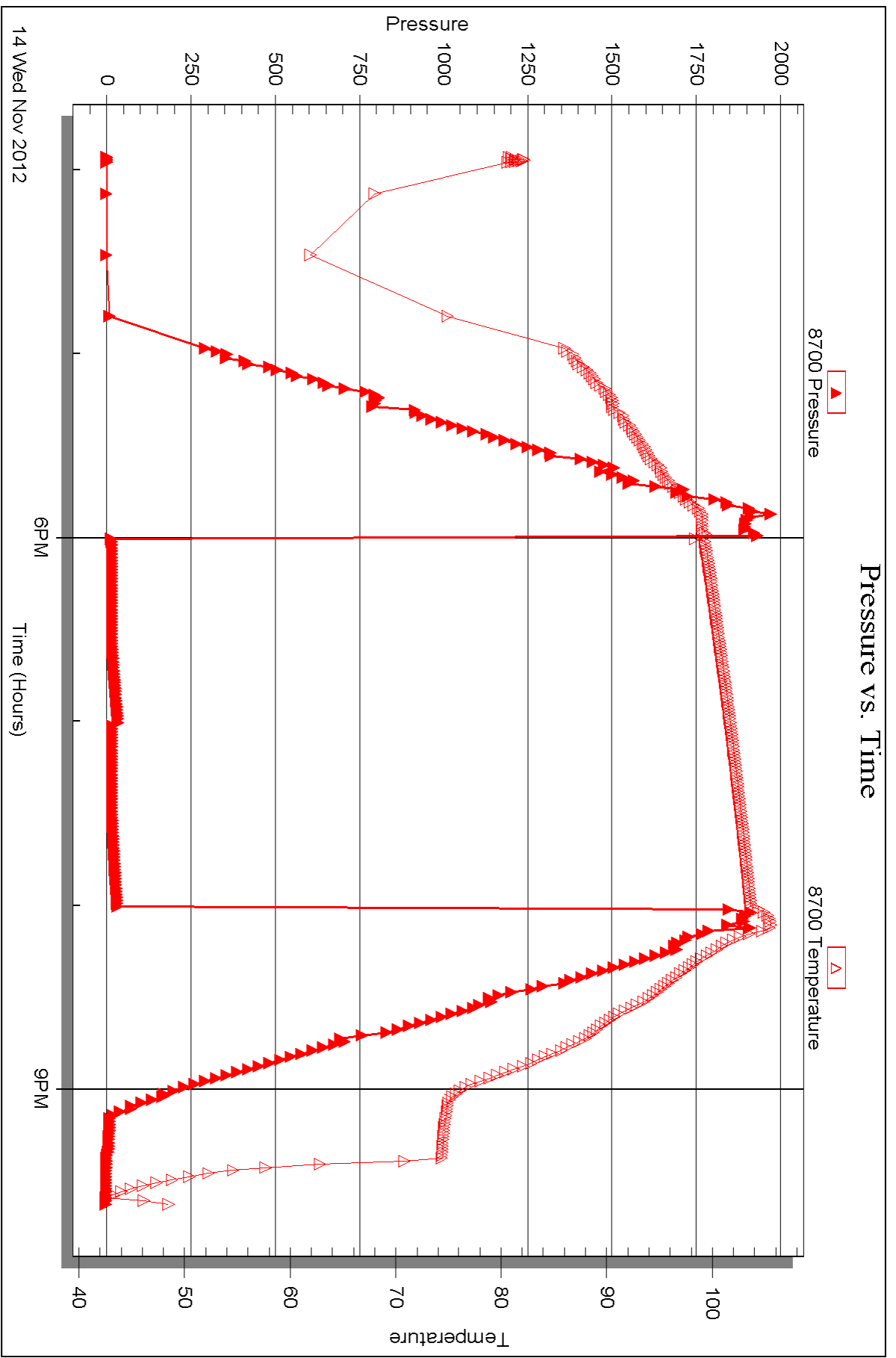
Printed: 2012.11.21 @ 09:06:13

Serial #: 8700

Outside H&C Oil Operating Inc

Augustine #14-1

DST Test Number: 3



14 Wed Nov 2012

Triobite Testing, Inc

Ref. No: 48596

Printed: 2012.11.21 @ 09:06:14



## DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operatting Inc**

PO Box 86  
Plainville KS 67663-0086

ATTN: Charles Ramsey

### **Augustine #14-1**

### **14-6s-24w Graham,KS**

Start Date: 2012.11.15 @ 12:25:11

End Date: 2012.11.15 @ 18:16:35

Job Ticket #: 48597                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.21 @ 09:05:25



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
 Job Ticket: 48597 **DST#: 4**  
 Test Start: 2012.11.15 @ 12:25:11

## GENERAL INFORMATION:

Formation: **LKC K-L**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:00:36  
 Time Test Ended: 18:16:35  
 Interval: **3846.00 ft (KB) To 3925.00 ft (KB) (TVD)**  
 Total Depth: 3925.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 42  
 Reference Elevations: 2458.00 ft (KB)  
 2453.00 ft (CF)  
 KB to GR/CF: 5.00 ft

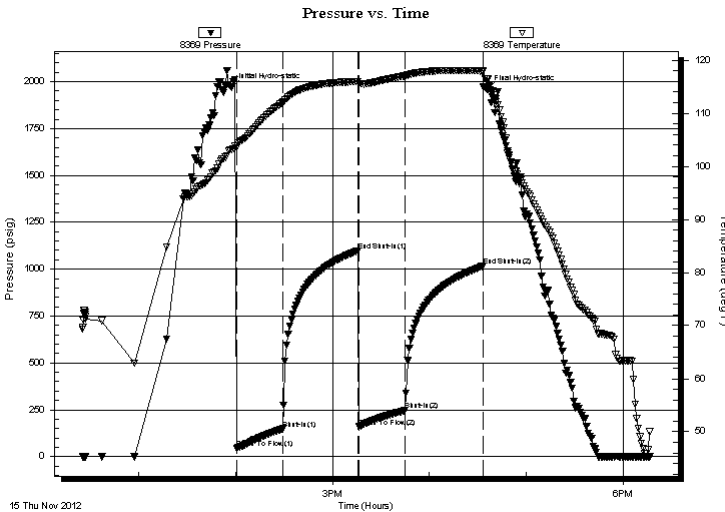
## Serial #: 8369

Inside

Press @ Run Depth: 246.52 psig @ 3850.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.11.15 End Date: 2012.11.15 Last Calib.: 2012.11.15  
 Start Time: 12:25:11 End Time: 18:16:35 Time On Btm: 2012.11.15 @ 13:57:36  
 Time Off Btm: 2012.11.15 @ 16:36:06

TEST COMMENT: 30-IFP-strg bl in 5 min  
 45-ISIP-no bl  
 30-FFP-strg bl in 10 min  
 45-FSIP-no bl

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1968.17	103.19	Initial Hydro-static
3	42.96	103.49	Open To Flow (1)
32	148.16	112.01	Shut-In(1)
78	1096.81	115.94	End Shut-In(1)
79	158.90	115.63	Open To Flow (2)
108	246.52	117.06	Shut-In(2)
156	1015.39	117.96	End Shut-In(2)
159	1958.92	116.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
610.00	Water	8.56

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

H&C Oil Operating Inc  
PO Box 86  
Plainville KS 67663-0086  
ATTN: Charles Ramsey

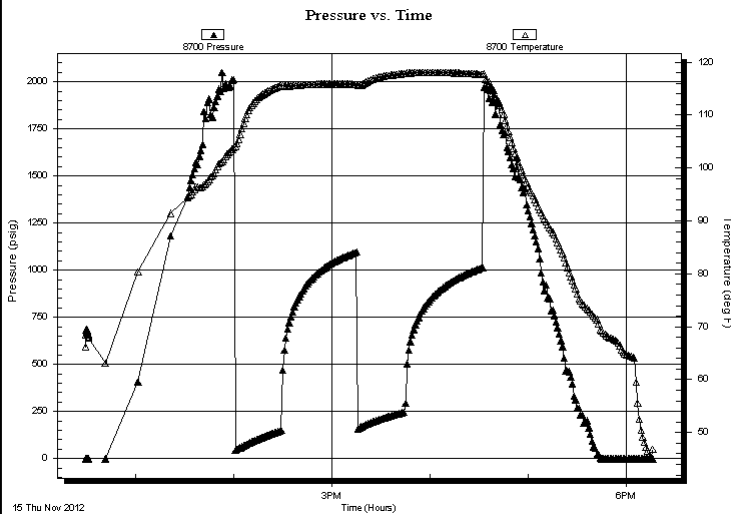
**14-6s-24w Graham,KS**  
**Augustine #14-1**  
Job Ticket: 48597      **DST#: 4**  
Test Start: 2012.11.15 @ 12:25:11

### GENERAL INFORMATION:

Formation: **LKC K-L**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 14:00:36      Tester: Ray Schwager  
Time Test Ended: 18:16:35      Unit No: 42  
**Interval: 3846.00 ft (KB) To 3925.00 ft (KB) (TVD)**      Reference Elevations: 2458.00 ft (KB)  
Total Depth: 3925.00 ft (KB) (TVD)      2453.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair      KB to GR/CF: 5.00 ft

**Serial #: 8700      Outside**  
Press @ Run Depth: psig @ 3850.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.11.15      End Date: 2012.11.15      Last Calib.: 2012.11.15  
Start Time: 12:29:41      End Time: 18:16:05      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 30-IFP-strg bl in 5 min  
45-ISIP-no bl  
30-FFP-strg bl in 10 min  
45-FSIP-no bl



### PRESSURE SUMMARY

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

### Recovery

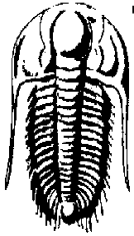
Length (ft)	Description	Volume (bbl)
610.00	Water	8.56

### Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operatting Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
 Job Ticket: 48597 **DST#: 4**  
 Test Start: 2012.11.15 @ 12:25:11

**Tool Information**

Drill Pipe:	Length: 3841.00 ft	Diameter: 3.80 inches	Volume: 53.88 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 53.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 41000.00 lb
Depth to Top Packer:	3846.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	79.00 ft			
Tool Length:	100.00 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>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			3826.00	
Shut In Tool	5.00			3831.00	
Hydraulic tool	5.00			3836.00	
Packer	5.00			3841.00	21.00 Bottom Of Top Packer
Packer	5.00			3846.00	
Stubb	1.00			3847.00	
Perforations	3.00			3850.00	
Recorder	0.00	8369	Inside	3850.00	
Recorder	0.00	8700	Outside	3850.00	
Blank Spacing	62.00			3912.00	
Perforations	10.00			3922.00	
Bullnose	3.00			3925.00	79.00 Bottom Packers & Anchor

**Total Tool Length: 100.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operatting Inc  
 PO Box 86  
 Plainville KS 67663-0086  
 ATTN: Charles Ramsey

**14-6s-24w Graham,KS**  
**Augustine #14-1**  
 Job Ticket: 48597      **DST#: 4**  
 Test Start: 2012.11.15 @ 12:25:11

## Mud and Cushion Information

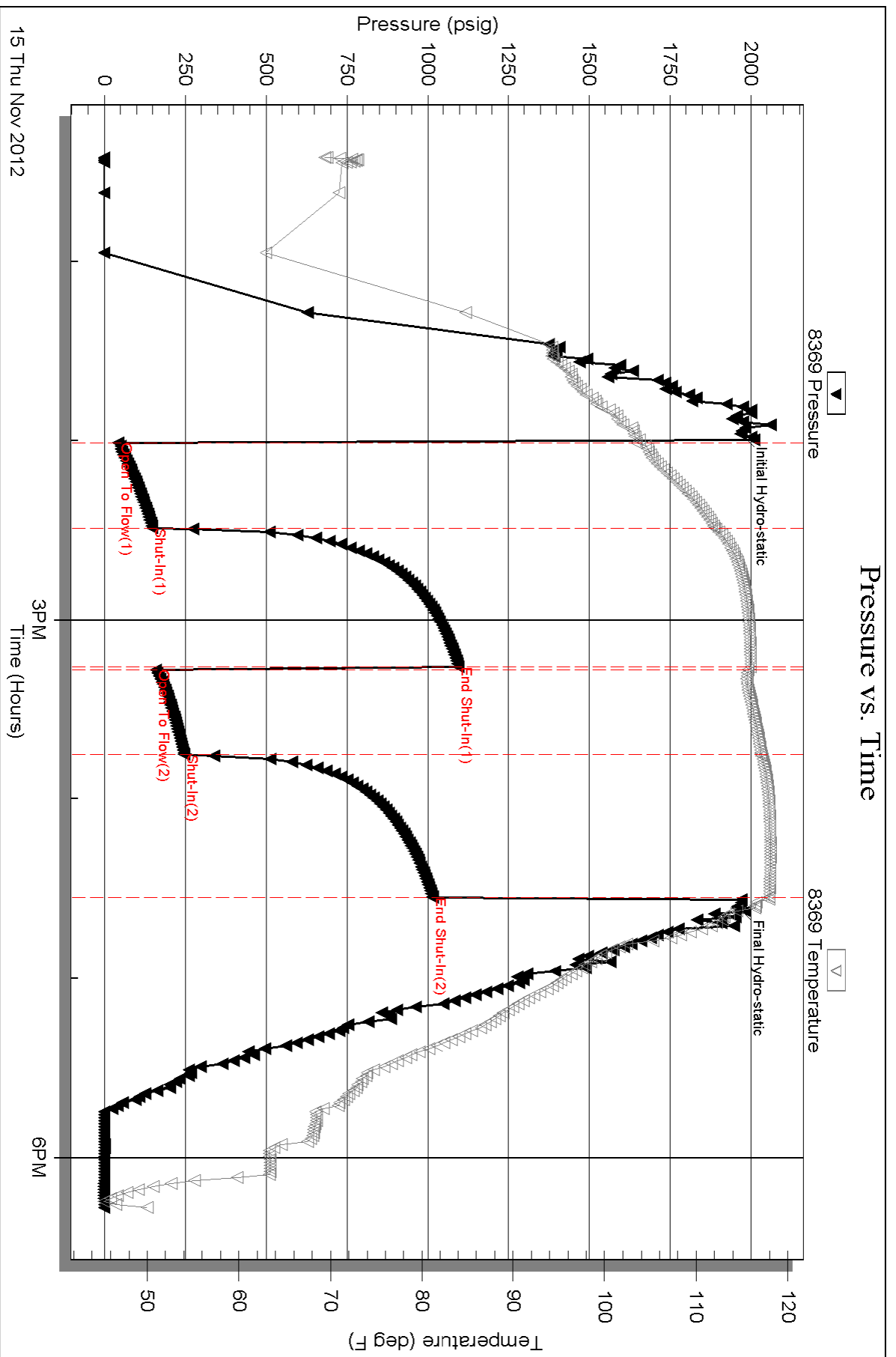
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	68000 ppm
Viscosity: 70.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.97 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
610.00	Water	8.557

Total Length: 610.00 ft      Total Volume: 8.557 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: RW .12@65F

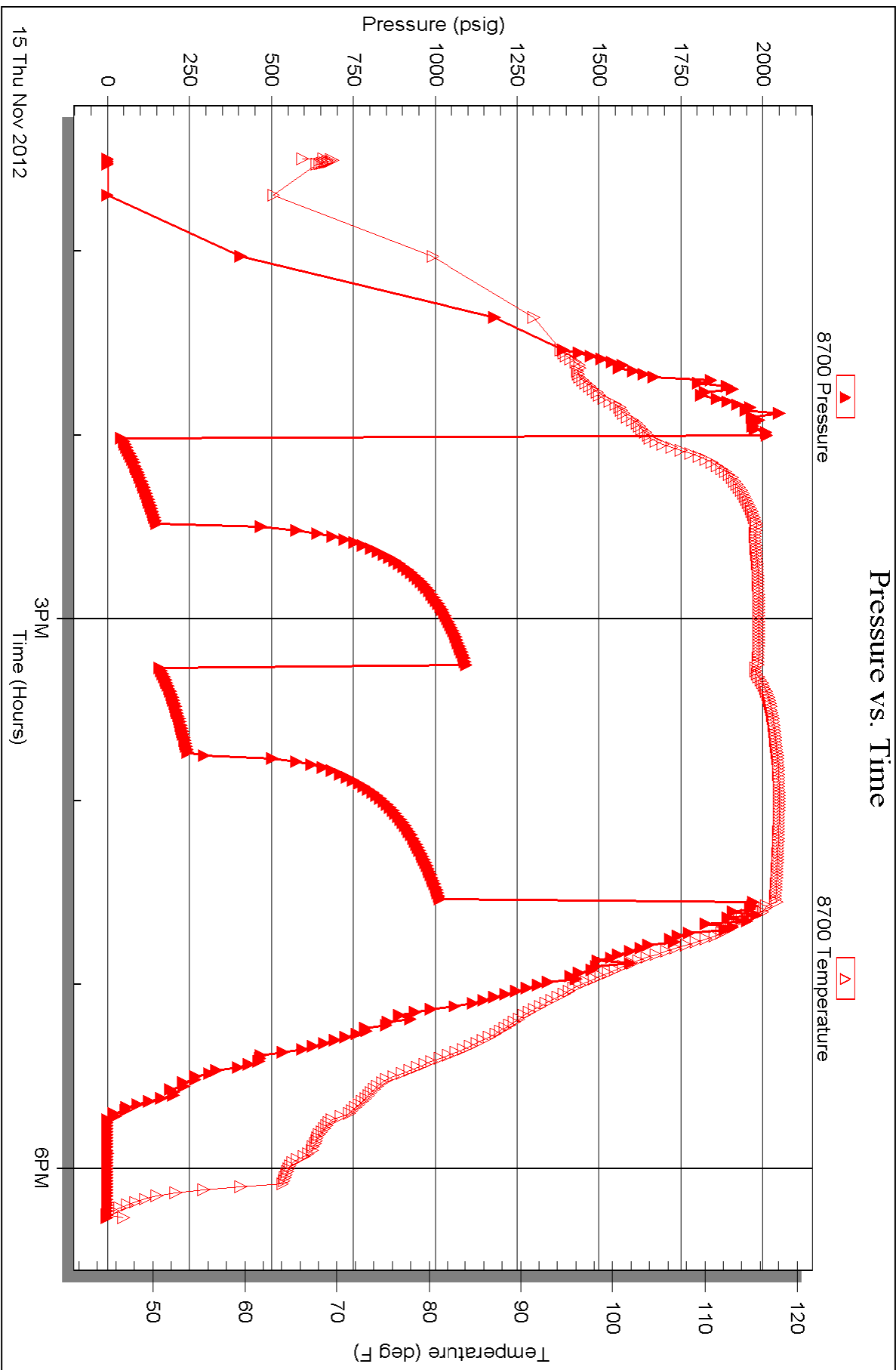


Serial #: 8700

Outside H&C Oil Operating Inc

Augustine #14-1

DST Test Number: 4





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48594

Well Name & No. Augustine #14-1 Test No. 1 Date 11-13-12  
 Company H+C Oil Operating Inc Elevation 2458 KB 2453 GL  
 Address PO Box 86 Plainville, Ks 67663-0086  
 Co. Rep / Geo. MARC Downing Rig Am Eagle rig 3  
 Location: Sec. 14 Twp. 6<sup>s</sup> Rge. 24<sup>w</sup> Co. Graham State Ks

Interval Tested 3709-3734 Zone Tested LKC "C"  
 Anchor Length 25 Drill Pipe Run 3713 Mud Wt. 9.2  
 Top Packer Depth 3704 Drill Collars Run - Vis 62  
 Bottom Packer Depth 3709 Wt. Pipe Run - WL 8  
 Total Depth 3734 Chlorides 1000 ppm System LCM 2#  
 Blow Description IFP - WEAK Blow thru-out 1/4" To 2" Blow  
ISIP - NO Blow  
FFP - WEAK Blow thru-out 1/4" To 1 1/2" Blow  
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>MW</u>		<u>80</u>	<u>20</u>	
<u>120</u>	<u>WATER</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 140 BHT 111 Gravity - API RW .17 @ 65 ° F Chlorides 46000 ppm

(A) Initial Hydrostatic <u>1898</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0015</u>
(B) First Initial Flow <u>14</u>	<input type="checkbox"/> Jars	T-Started <u>0310</u>
(C) First Final Flow <u>47</u>	<input type="checkbox"/> Safety Joint	T-Open <u>0600</u>
(D) Initial Shut-In <u>1238</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0900</u>
(E) Second Initial Flow <u>49</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1038</u>
(F) Second Final Flow <u>81</u>	<input checked="" type="checkbox"/> Mileage <u>156</u> 241.80	Comments
(G) Final Shut-In <u>1218</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1892</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1391.80</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1391.80</u>	

Approved By \_\_\_\_\_ Our Representative Ray Schwager *thank you*

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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48595

Well Name & No. Augustine #14-1 Test No. 2 Date 11-13-12  
 Company H+C Oil Operating Inc Elevation 2458 KB 2453 GL  
 Address Po Box 86 Plainville, Ks 67663-0086  
 Co. Rep / Geo. MARC Downing Rig Am Eagle rig 3  
 Location: Sec. 14 Twp. 6<sup>s</sup> Rge. 24<sup>w</sup> Co. GRAHAM State Ks

Interval Tested 3745-3761 Zone Tested LKC "E"  
 Anchor Length 16 Drill Pipe Run 3746 Mud Wt. 9  
 Top Packer Depth 3740 Drill Collars Run - Vis 59  
 Bottom Packer Depth 3745 Wt. Pipe Run - WL 8.8  
 Total Depth 3761 Chlorides 2000 ppm System LCM 3#  
 Blow Description IFP - Very Weak Blow thru-out 1/8" to surface Blow  
ISIP - NO Blow  
FFP - Very Weak surface Blow  
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>				

Rec Total 5 BHT 104 Gravity - API RW - @ - F Chlorides - ppm

(A) Initial Hydrostatic 1866  Test 1150 T-On Location 1845  
 (B) First Initial Flow 10  Jars - T-Started 1935  
 (C) First Final Flow 13  Safety Joint - T-Open 2135  
 (D) Initial Shut-In 1171  Circ Sub - T-Pulled 2335  
 (E) Second Initial Flow 13  Hourly Standby - T-Out 0/30  
 (F) Second Final Flow 16  Mileage 241.80 Comments -  
 (G) Final Shut-In 1176  Sampler -  
 (H) Final Hydrostatic 1862  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 1391.80  
 Final Flow 30  Accessibility - MP/DST Disc't -  
 Final Shut-In 30 Sub Total 1391.80

Approved By \_\_\_\_\_ Our Representative Ray Schwager Thank 409  
 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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48596

Well Name & No. Augustine #14-1 Test No. 3 Date 11-14-12  
 Company H+C O.I. Operating Inc Elevation 2458 KB 2453 GL  
 Address PO Box 86 Plainville, Ks 67663-0086  
 Co. Rep / Geo. MARC Downing Rig Am Eagle rig 3  
 Location: Sec. 14 Twp. 6<sup>s</sup> Rge. 24<sup>w</sup> Co. GRAHAM State Ks

Interval Tested 3789-3848 Zone Tested LKC H-J  
 Anchor Length 59 Drill Pipe Run 3779 Mud Wt. 9.6  
 Top Packer Depth 3784 Drill Collars Run - Vis 53  
 Bottom Packer Depth 3789 Wt. Pipe Run - WL 8  
 Total Depth 3848 Chlorides 2000 ppm System LCM 3#

Blow Description IFP - WEAK Blow thru-out 1/4" To 3/4" Blow  
ISIP - NO Blow  
FFP - NO Blow  
FSIP - NO Blow

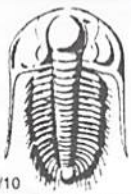
Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud w/show foam</u>				

Rec Total 2 BHT 103 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1893  Test 1150 T-On Location 1530  
 (B) First Initial Flow 14  Jars - T-Started 1555  
 (C) First Final Flow 16  Safety Joint - T-Open 1805  
 (D) Initial Shut-In 33  Circ Sub - T-Pulled 2005  
 (E) Second Initial Flow 15  Hourly Standby - T-Out 2138  
 (F) Second Final Flow 15  Mileage 241.80 Comments -  
 (G) Final Shut-In 31  Sampler -  
 (H) Final Hydrostatic 1886  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 1391.80  
 Final Flow 30  Accessibility - MP/DST Disc't -  
 Final Shut-In 30 Sub Total 1391.80

Approved By \_\_\_\_\_ Our Representative RAY SCHWAGER *Thank you*  
 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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48597

Well Name & No. Augustine #14-1 Test No. 4 Date 11-15-12  
 Company H+C Oil Operating Inc Elevation 2458 KB 2453 GL  
 Address PO Box 86 Plainville, Ks 67663-0086  
 Co. Rep / Geo. MARC Downing Rig Am Eagle 1193  
 Location: Sec. 14 Twp. 6<sup>s</sup> Rge. 24<sup>w</sup> Co. Graham State Ks

Interval Tested 3846-3925 Zone Tested LKC K-L  
 Anchor Length 79 Drill Pipe Run 3841 Mud Wt. 9.3  
 Top Packer Depth 3841 Drill Collars Run - Vis 70  
 Bottom Packer Depth 3846 Wt. Pipe Run - WL 8  
 Total Depth 3925 Chlorides 2000 ppm System LCM 3#  
 Blow Description TFP - STRONG BLOW IN 5 MIN  
ISTIP - NO BLOW  
FFP - STRONG BLOW IN 10 MIN  
FSIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>610</u>	<u>WATER</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 610 BHT 118 Gravity - API RW .12 @ 65 ° F Chlorides 65000 ppm

(A) Initial Hydrostatic 1968  Test 1150 T-On Location 1200  
 (B) First Initial Flow 42  Jars - T-Started 1225  
 (C) First Final Flow 148  Safety Joint - T-Open 1400  
 (D) Initial Shut-In 1096  Circ Sub - T-Pulled 1630  
 (E) Second Initial Flow 158  Hourly Standby - T-Out 1816  
 (F) Second Final Flow 246  Mileage 241.80 Comments -  
 (G) Final Shut-In 1015  Sampler -  
 (H) Final Hydrostatic 1958  Straddle -  Ruined Shale Packer -  
 Shale Packer -  Ruined Packer -  
 Extra Packer -  Extra Copies -  
 Extra Recorder - Sub Total 0  
 Day Standby - Total 1391.80  
 Accessibility - MP/DST Disc't -  
 Sub Total 1391.80

Approved By \_\_\_\_\_ Our Representative RAY Schwager 904  
 Thank you

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.