



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

ATTN: Bob Elder

### **Durham #2-24**

### **24-11-32w Logan,KS**

Start Date: 2014.01.17 @ 12:20:33

End Date: 2014.01.17 @ 18:15:33

Job Ticket #: 56613                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.22 @ 15:48:37



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

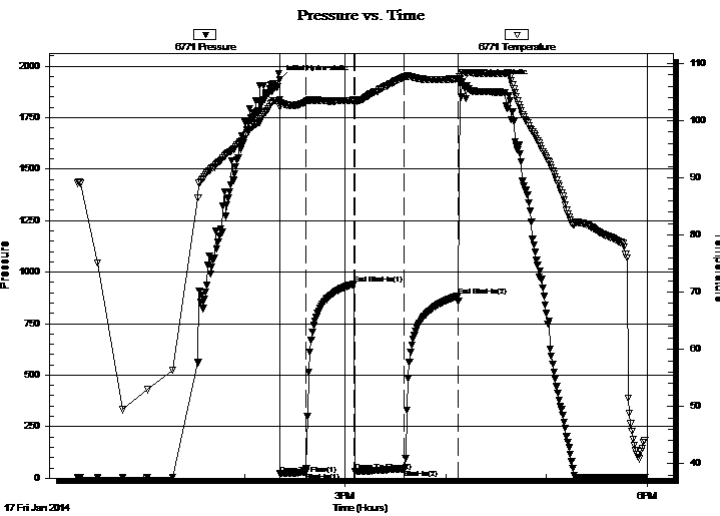
**24-11-32w Logan, KS**  
**Durham #2-24**  
Job Ticket: 56613 **DST#: 1**  
Test Start: 2014.01.17 @ 12:20:33

## GENERAL INFORMATION:

Formation: **Toronto**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 14:21:18  
Time Test Ended: 18:15:33  
Interval: **3991.00 ft (KB) To 4007.00 ft (KB) (TVD)**  
Total Depth: 4007.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Shane McBride  
Unit No: 55  
Reference Elevations: 3006.00 ft (KB)  
3001.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 6771 Inside**  
Press@RunDepth: 44.94 psig @ 3992.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.01.17 End Date: 2014.01.17 Last Calib.: 2014.01.17  
Start Time: 12:20:33 End Time: 17:58:33 Time On Btm: 2014.01.17 @ 14:21:03  
Time Off Btm: 2014.01.17 @ 16:08:33

TEST COMMENT: 1" blow  
No return  
1/4" blow  
No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1935.96	103.64	Initial Hydro-static
1	20.09	102.47	Open To Flow (1)
16	29.78	103.22	Shut-In(1)
45	942.50	103.59	End Shut-In(1)
45	32.09	103.31	Open To Flow (2)
75	44.94	107.63	Shut-In(2)
107	884.58	107.32	End Shut-In(2)
108	1913.41	107.76	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	m c w 40% m 60% w	0.30
0.00	2" in free oil on top	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56613      **DST#: 1**  
Test Start: 2014.01.17 @ 12:20:33

**Tool Information**

Drill Pipe:	Length: 3866.00 ft	Diameter: 3.80 inches	Volume: 54.23 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: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3991.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 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			3964.00	
Shut In Tool	5.00			3969.00	
Hydraulic tool	5.00			3974.00	
Jars	5.00			3979.00	
Safety Joint	3.00			3982.00	
Packer	5.00			3987.00	28.00      Bottom Of Top Packer
Packer	4.00			3991.00	
Stubb	1.00			3992.00	
Recorder	0.00	6771	Inside	3992.00	
Recorder	0.00	8844	Outside	3992.00	
Perforations	10.00			4002.00	
Bullnose	5.00			4007.00	16.00      Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56613      **DST#: 1**  
Test Start: 2014.01.17 @ 12:20:33

### Mud and Cushion Information

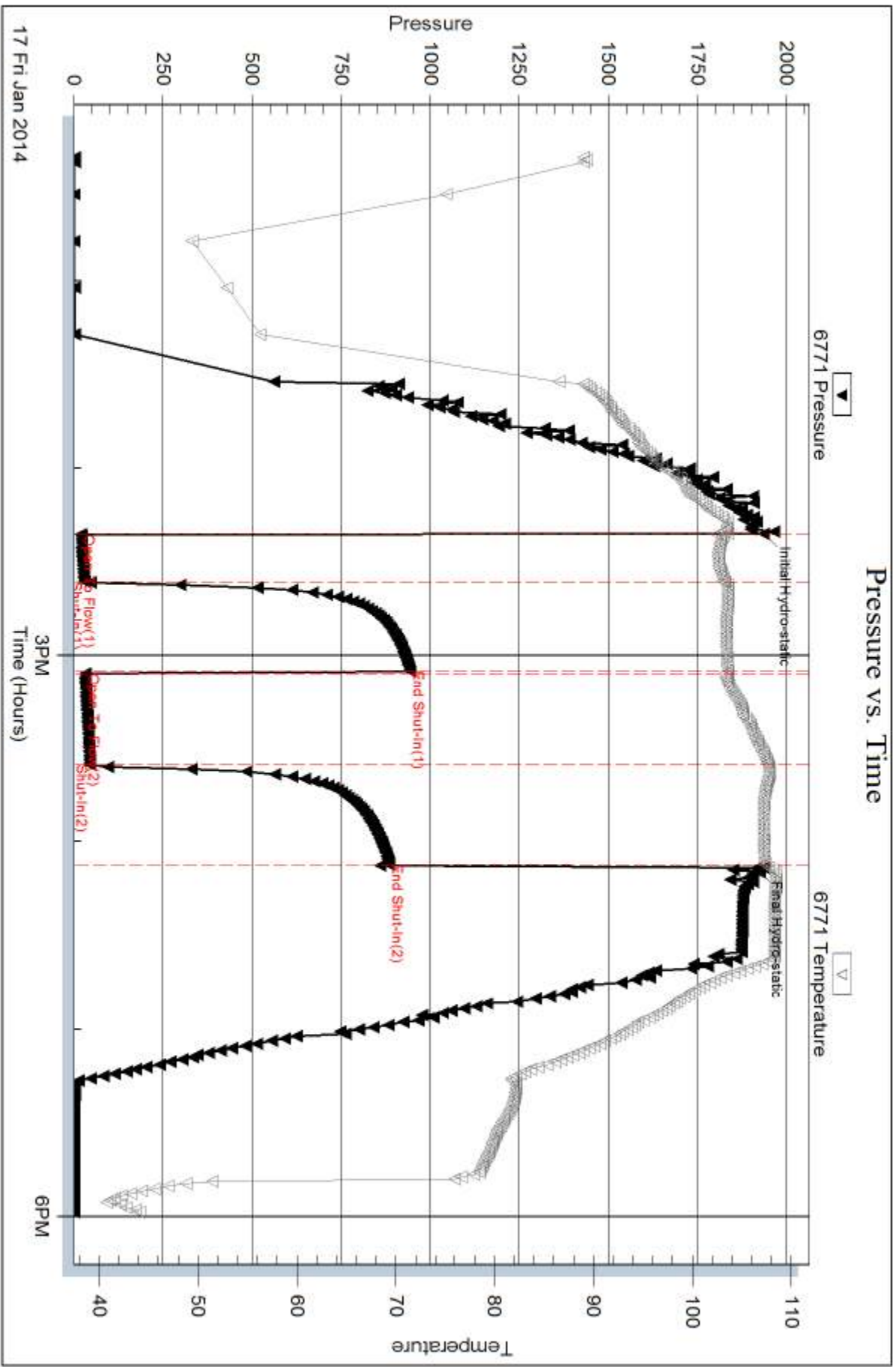
Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 22000 ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.97 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 1400.00 ppm		
Filter Cake: 2.00 inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	m c w 40% m 60% w	0.295
0.00	2" in free oil on top	0.000

Total Length: 60.00 ft      Total Volume: 0.295 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: rw .511 @40\*f = 22,000 chlor

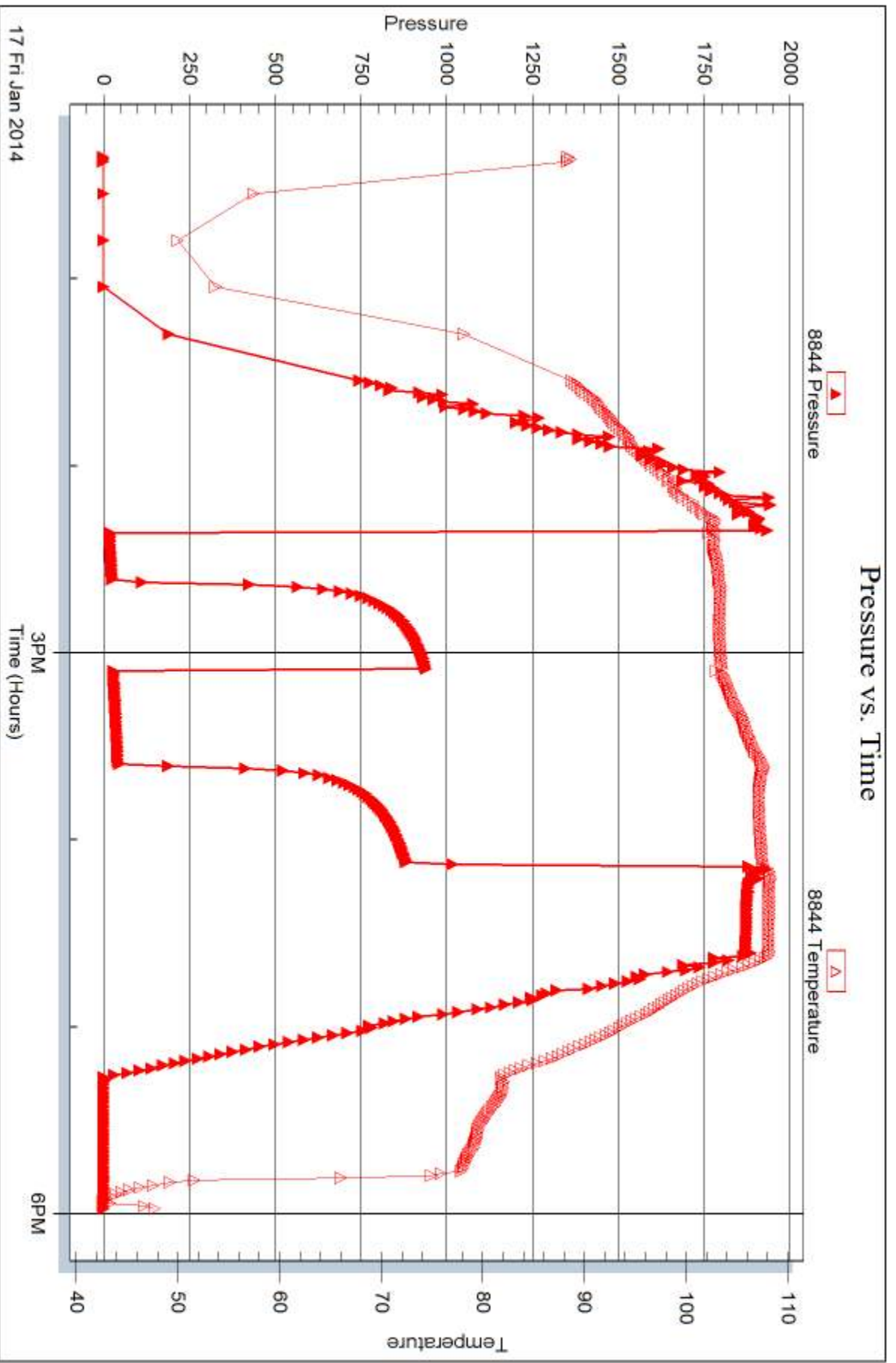


Serial #: 8844

Outside Norstar Petroleum Inc

Durham#2-24

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 56613

Printed: 2014.01.22 @ 15:48:40



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

ATTN: Bob Elder

### **Durham #2-24**

#### **24-11-32w Logan,KS**

Start Date: 2014.01.18 @ 06:00:29

End Date: 2014.01.18 @ 13:40:44

Job Ticket #: 56614                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.22 @ 15:48:13





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

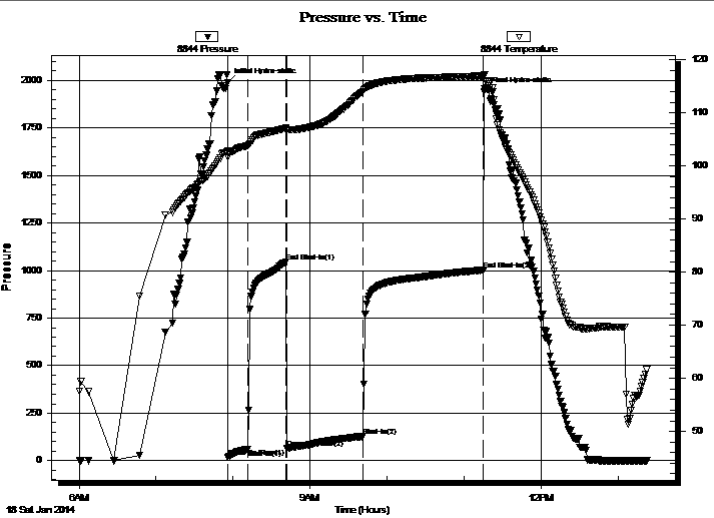
**24-11-32w Logan, KS**  
**Durham #2-24**  
Job Ticket: 56614      **DST#: 2**  
Test Start: 2014.01.18 @ 06:00:29

## GENERAL INFORMATION:

Formation: **D,E,F**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 07:55:59  
Time Test Ended: 13:40:44  
Interval: **4084.00 ft (KB) To 4114.00 ft (KB) (TVD)**  
Total Depth: 4114.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Shane McBride  
Unit No: 55  
Reference Elevations: 3006.00 ft (KB)  
3001.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8844      Outside**  
Press@RunDepth: 127.74 psig @ 4085.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.01.18      End Date: 2014.01.18      Last Calib.: 2014.01.18  
Start Time: 06:00:29      End Time: 13:22:44      Time On Btm: 2014.01.18 @ 07:55:44  
Time Off Btm: 2014.01.18 @ 11:15:29

**TEST COMMENT:** B.O.B. in 15 min.  
Very weak Surface return died in 21 min.  
B.O.B. in 20 min.  
1/4" return blow , died back to a surface blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1987.91	102.79	Initial Hydro-static
1	19.05	101.61	Open To Flow (1)
16	60.68	103.79	Shut-In(1)
46	1044.91	107.11	End Shut-In(1)
46	64.29	106.85	Open To Flow (2)
106	127.74	114.07	Shut-In(2)
200	1002.65	116.94	End Shut-In(2)
200	1940.50	117.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	m c g o 20g 40m 40o	0.15
60.00	s m c g o 15m 20g 65o	0.30
205.00	c g o 15g 85o	2.57
0.00	305' gas in pipe	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56614      **DST#: 2**  
Test Start: 2014.01.18 @ 06:00:29

**Tool Information**

Drill Pipe:	Length: 3963.00 ft	Diameter: 3.80 inches	Volume: 55.59 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: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4084.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 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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Change Over Sub	1.00			4057.00	
Shut In Tool	5.00			4062.00	
Hydraulic tool	5.00			4067.00	
Jars	5.00			4072.00	
Safety Joint	3.00			4075.00	
Packer	5.00			4080.00	28.00      Bottom Of Top Packer
Packer	4.00			4084.00	
Stubb	1.00			4085.00	
Recorder	0.00	6771	Inside	4085.00	
Recorder	0.00	8844	Outside	4085.00	
Perforations	24.00			4109.00	
Bullnose	5.00			4114.00	30.00      Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56614      **DST#: 2**  
Test Start: 2014.01.18 @ 06:00:29

### Mud and Cushion Information

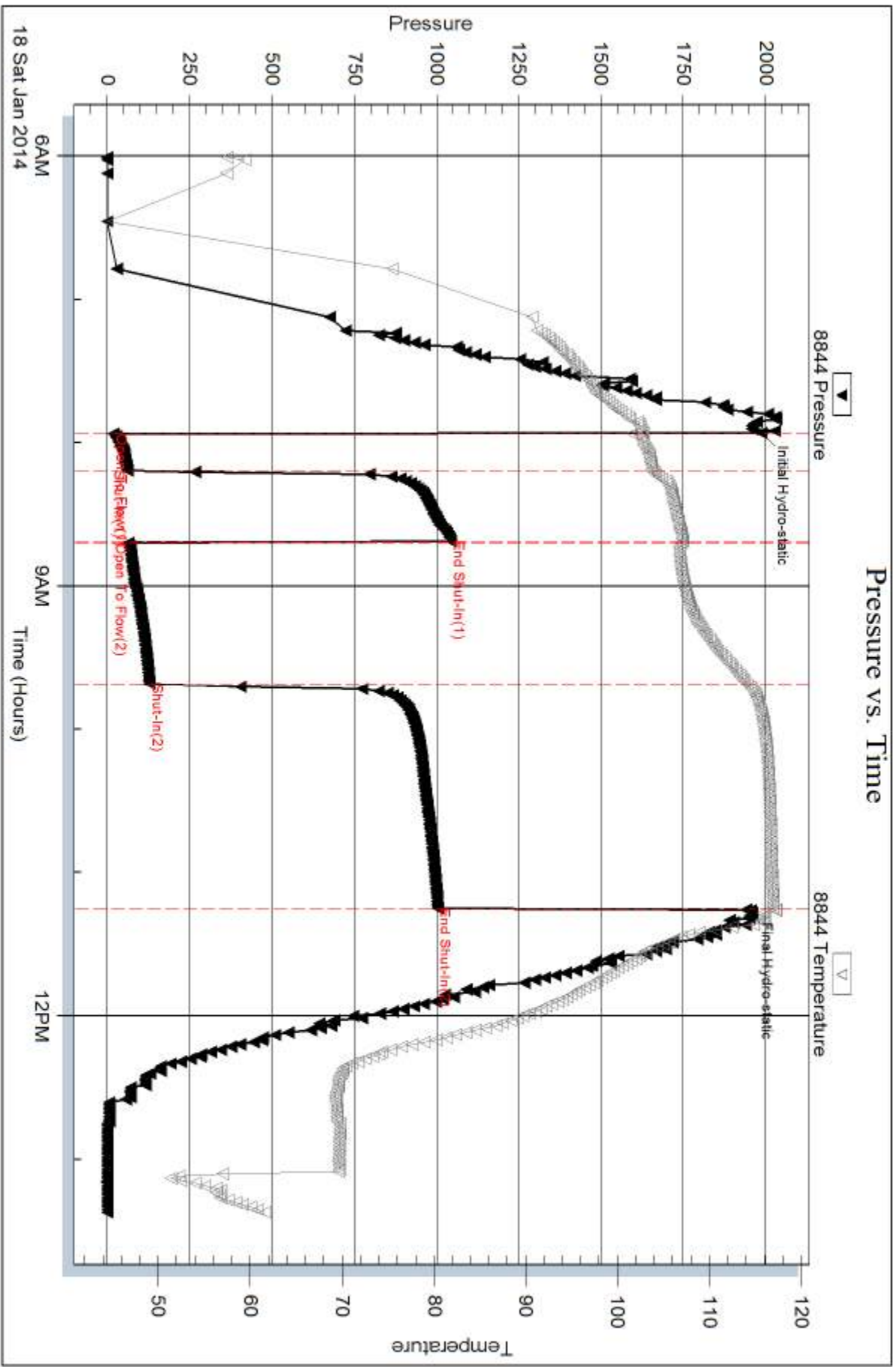
Mud Type:	Gel Chem	Cushion Type:		Oil API:	37 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	58.00 sec/qt	Cushion Volume:	bbbl		
Water Loss:	5.98 in <sup>3</sup>	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1400.00 ppm				
Filter Cake:	2.00 inches				

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
30.00	m c g o 20g 40m 40o	0.148
60.00	s m c g o 15m 20g65o	0.295
205.00	c g o 15g 85o	2.575
0.00	305' gas in pipe	0.000

Total Length: 295.00 ft      Total Volume: 3.018 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

ATTN: Bob Elder

### **Durham #2-24**

### **24-11-32w Logan,KS**

Start Date: 2014.01.18 @ 21:25:44

End Date: 2014.01.19 @ 04:55:29

Job Ticket #: 56615                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.22 @ 15:47:50



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
 88 Inverness Cir E Unit F 104  
 Englewood, CO 80112-5514  
 ATTN: Bob Elder

**24-11-32w Logan, KS**  
**Durham #2-24**  
 Job Ticket: 56615 **DST#: 3**  
 Test Start: 2014.01.18 @ 21:25:44

## GENERAL INFORMATION:

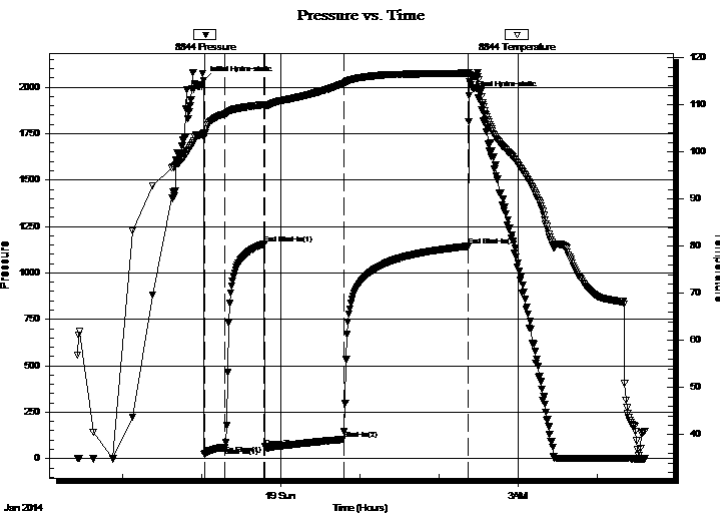
Formation: **H**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 23:01:44  
 Time Test Ended: 04:55:29  
 Interval: **4152.00 ft (KB) To 4182.00 ft (KB) (TVD)**  
 Total Depth: 4182.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3006.00 ft (KB)  
 3001.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8844

**Outside**

Press@RunDepth: 103.14 psig @ 4153.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.18 End Date: 2014.01.19 Last Calib.: 2014.01.19  
 Start Time: 21:25:44 End Time: 04:36:29 Time On Btm: 2014.01.18 @ 23:01:29  
 Time Off Btm: 2014.01.19 @ 02:22:44

TEST COMMENT: 10" blow  
 No return  
 B.O.B. in 17 min  
 1/4" return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2036.53	104.10	Initial Hydro-static
1	22.63	103.30	Open To Flow (1)
16	58.42	108.04	Shut-In(1)
46	1156.04	110.05	End Shut-In(1)
47	63.69	109.77	Open To Flow (2)
106	103.14	114.52	Shut-In(2)
201	1143.50	116.76	End Shut-In(2)
202	1954.83	116.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	m c g o 25g 35m 40o	0.30
90.00	s m c g o 15m 20g 65o	0.69
80.00	c g o 15g 85o	1.12
0.00	490' gas in pipe	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56615      **DST#: 3**  
Test Start: 2014.01.18 @ 21:25:44

**Tool Information**

Drill Pipe:	Length: 4026.00 ft	Diameter: 3.80 inches	Volume: 56.47 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: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4152.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 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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Change Over Sub	1.00			4125.00	
Shut In Tool	5.00			4130.00	
Hydraulic tool	5.00			4135.00	
Jars	5.00			4140.00	
Safety Joint	3.00			4143.00	
Packer	5.00			4148.00	28.00      Bottom Of Top Packer
Packer	4.00			4152.00	
Stubb	1.00			4153.00	
Recorder	0.00	6771	Inside	4153.00	
Recorder	0.00	8844	Outside	4153.00	
Perforations	24.00			4177.00	
Bullnose	5.00			4182.00	30.00      Bottom Packers & Anchor

**Total Tool Length: 58.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56615      **DST#: 3**  
Test Start: 2014.01.18 @ 21:25:44

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 34 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.39 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 1500.00 ppm		
Filter Cake: 2.00 inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	m c g o 25g 35m 40o	0.295
90.00	s m c g o 15m 20g 65o	0.689
80.00	c g o 15g 85o	1.122
0.00	490' gas in pipe	0.000

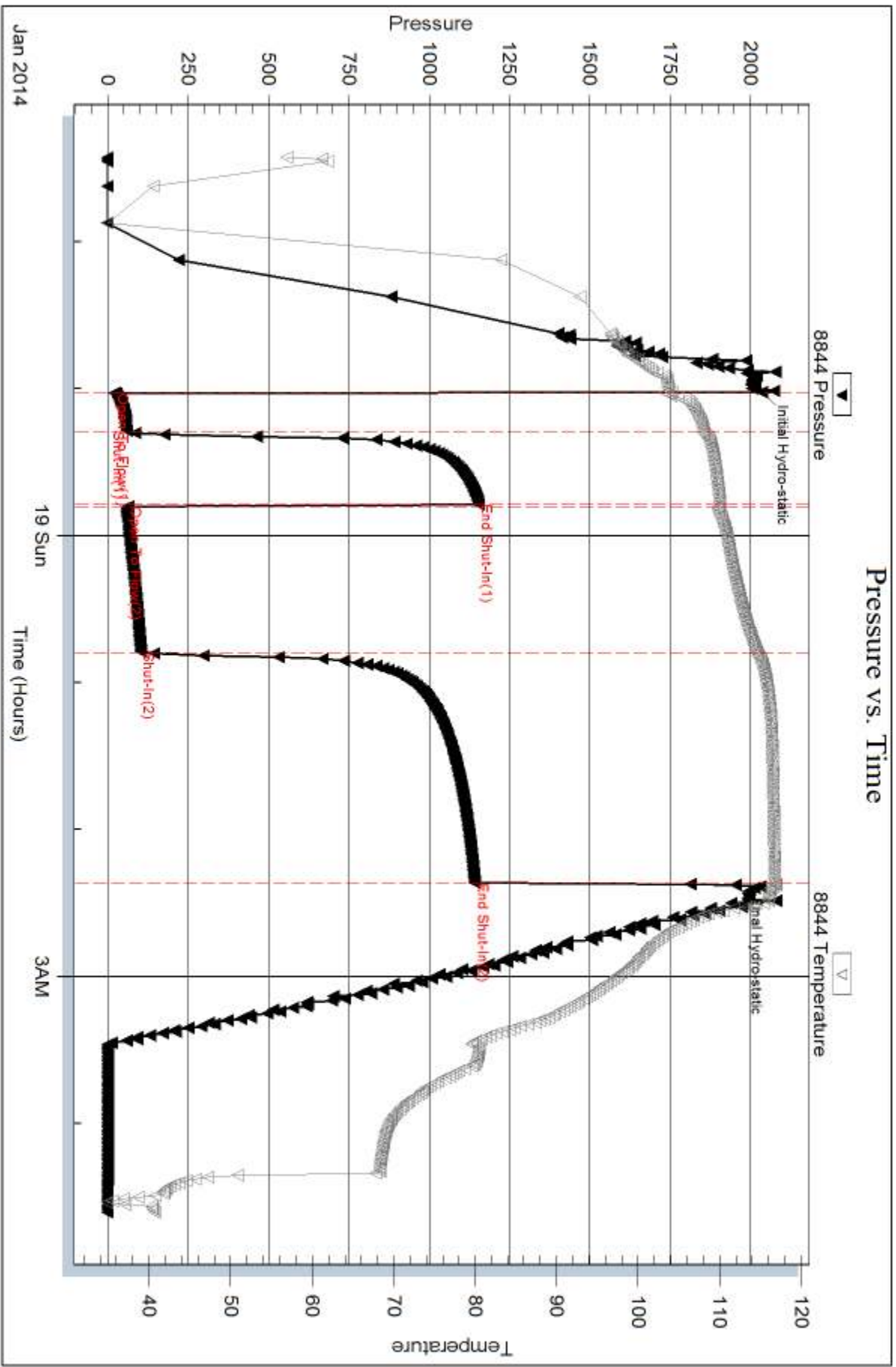
Total Length: 230.00 ft      Total Volume: 2.106 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 8844

Outside Norstar Petroleum Inc

Durham#2-24

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 56615

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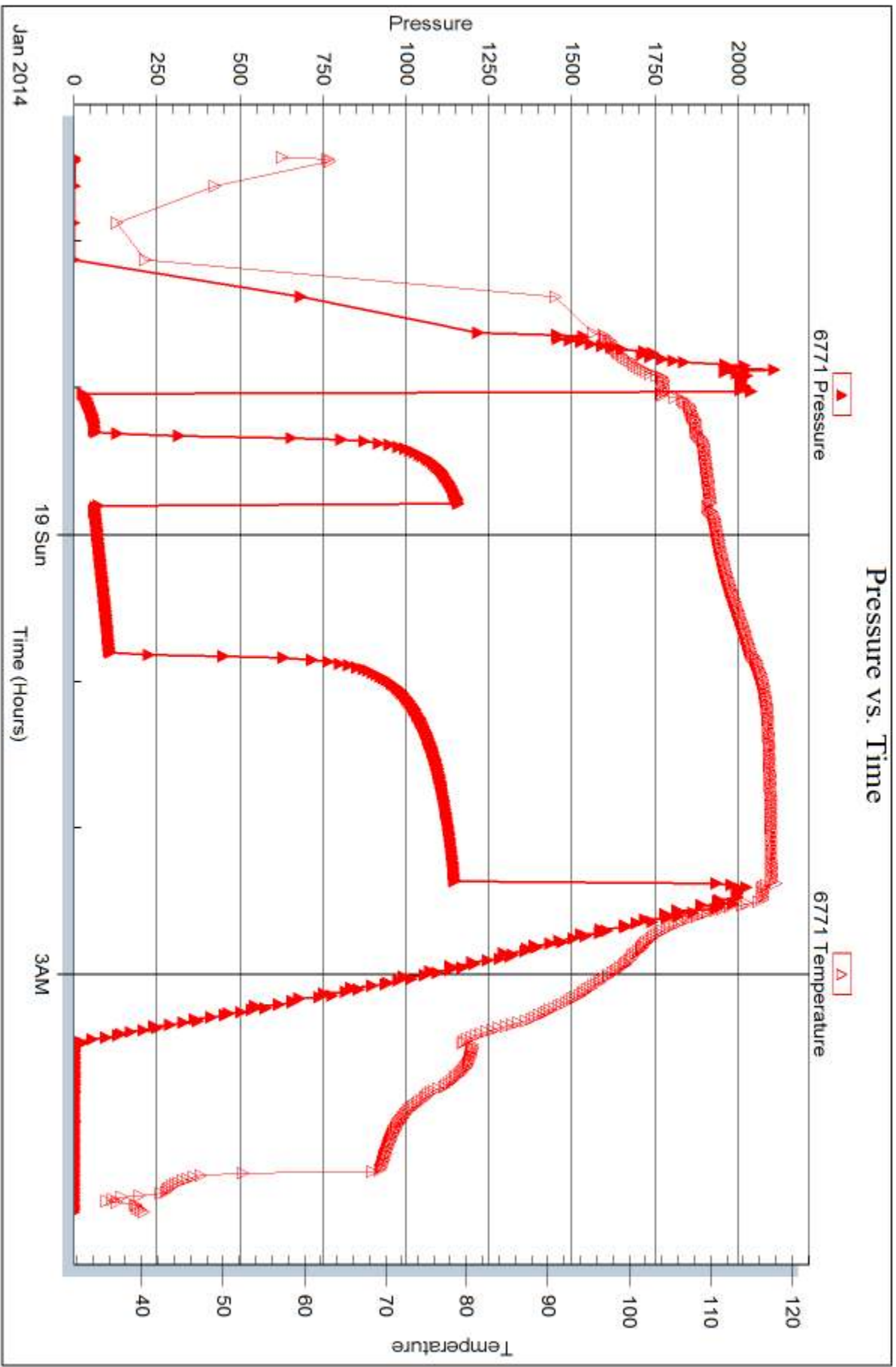
Serial #: 6771

Inside

Norstar Petroleum Inc

Durham#2-24

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

ATTN: Bob Elder

### **Durham #2-24**

### **24-11-32w Logan,KS**

Start Date: 2014.01.19 @ 16:00:32

End Date: 2014.01.19 @ 21:20:17

Job Ticket #: 56616                      DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.22 @ 15:47:01



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
 88 Inverness Cir E Unit F 104  
 Englewood, CO 80112-5514  
 ATTN: Bob Elder

**24-11-32w Logan, KS**  
**Durham #2-24**  
 Job Ticket: 56616 **DST#: 4**  
 Test Start: 2014.01.19 @ 16:00:32

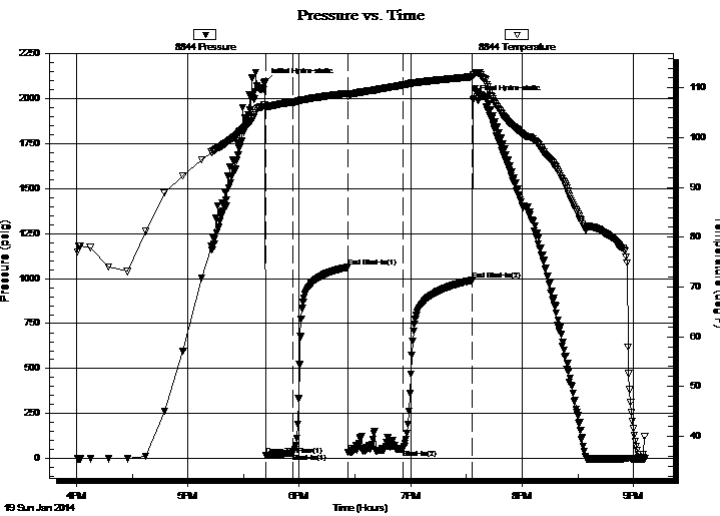
## GENERAL INFORMATION:

Formation: **K**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 17:41:47  
 Time Test Ended: 21:20:17  
 Interval: **4234.00 ft (KB) To 4264.00 ft (KB) (TVD)**  
 Total Depth: 4264.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3006.00 ft (KB)  
 3001.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8844 Outside

Press@RunDepth: 53.44 psig @ 4235.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.19 End Date: 2014.01.19 Last Calib.: 2014.01.19  
 Start Time: 16:00:32 End Time: 21:06:17 Time On Btm: 2014.01.19 @ 17:41:32  
 Time Off Btm: 2014.01.19 @ 19:33:32

TEST COMMENT: 1 1/2" blow  
 No return  
 1/4" blow  
 No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2092.08	106.67	Initial Hydro-static
1	17.39	105.86	Open To Flow (1)
15	30.96	107.15	Shut-In(1)
45	1063.50	108.94	End Shut-In(1)
45	36.33	108.35	Open To Flow (2)
75	53.44	110.59	Shut-In(2)
112	990.74	112.28	End Shut-In(2)
112	1996.58	112.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	s o c m 4%o 96%m	0.34

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56616      **DST#: 4**  
Test Start: 2014.01.19 @ 16:00:32

**Tool Information**

Drill Pipe:	Length: 4090.00 ft	Diameter: 3.80 inches	Volume: 57.37 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: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 57.97 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4234.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	30.00 ft				
Tool Length:	58.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

**Tool Description**

**Length (ft)    Serial No.    Position    Depth (ft)    Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4207.00	
Shut In Tool	5.00			4212.00	
Hydraulic tool	5.00			4217.00	
Jars	5.00			4222.00	
Safety Joint	3.00			4225.00	
Packer	5.00			4230.00	28.00      Bottom Of Top Packer
Packer	4.00			4234.00	
Stubb	1.00			4235.00	
Recorder	0.00	6771	Inside	4235.00	
Recorder	0.00	8844	Outside	4235.00	
Perforations	24.00			4259.00	
Bullnose	5.00			4264.00	30.00      Bottom Packers & Anchor

**Total Tool Length:    58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Norstar Petroleum Inc

**24-11-32w Logan,KS**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

**Durham #2-24**

Job Ticket: 56616

**DST#: 4**

ATTN: Bob Elder

Test Start: 2014.01.19 @ 16:00:32

## 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: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	s o c m 4%o 96%m	0.344

Total Length: 70.00 ft      Total Volume: 0.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

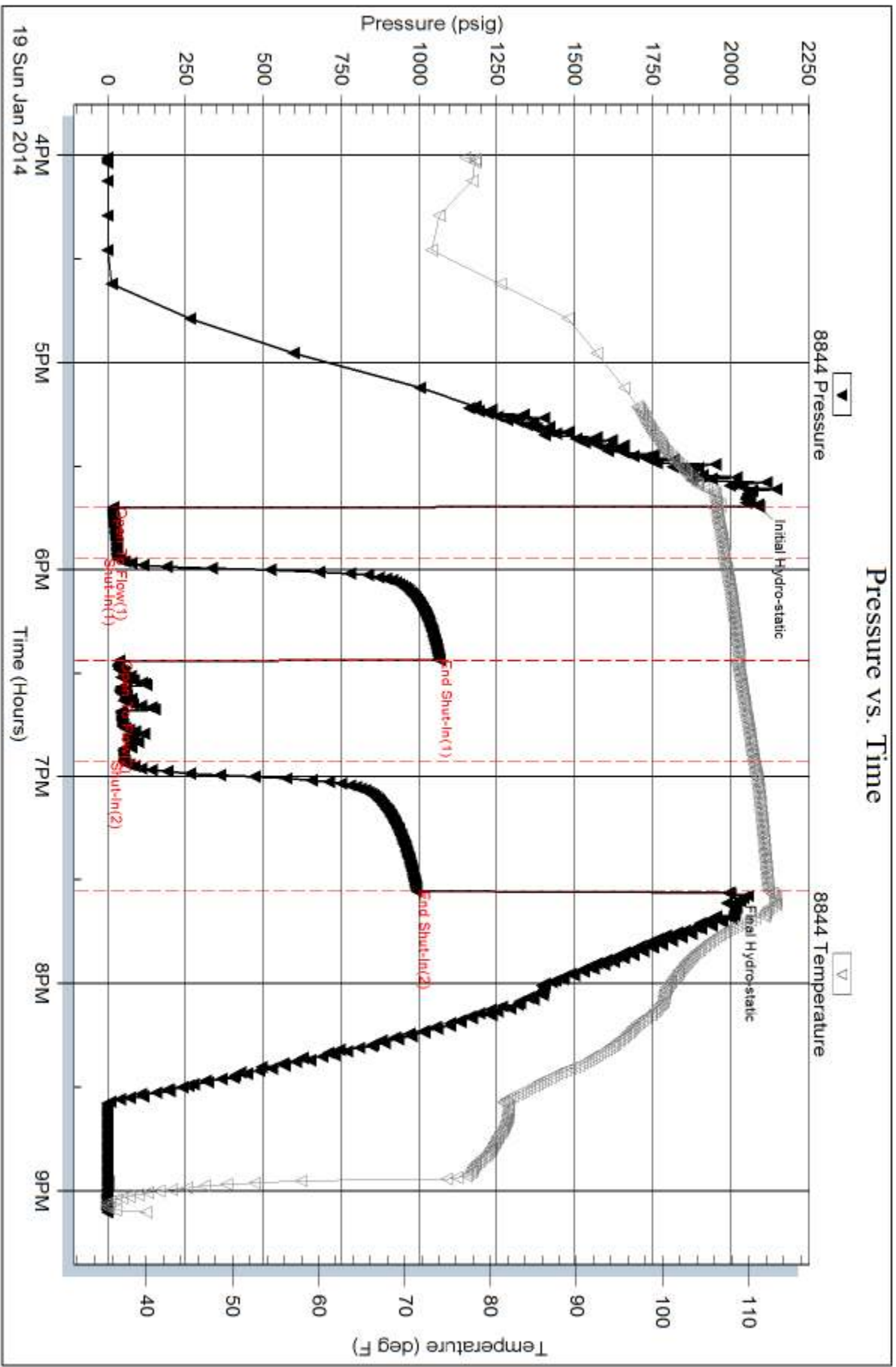


Serial #: 8844

Outside Norstar Petroleum Inc

Durham#2-24

DST Test Number: 4



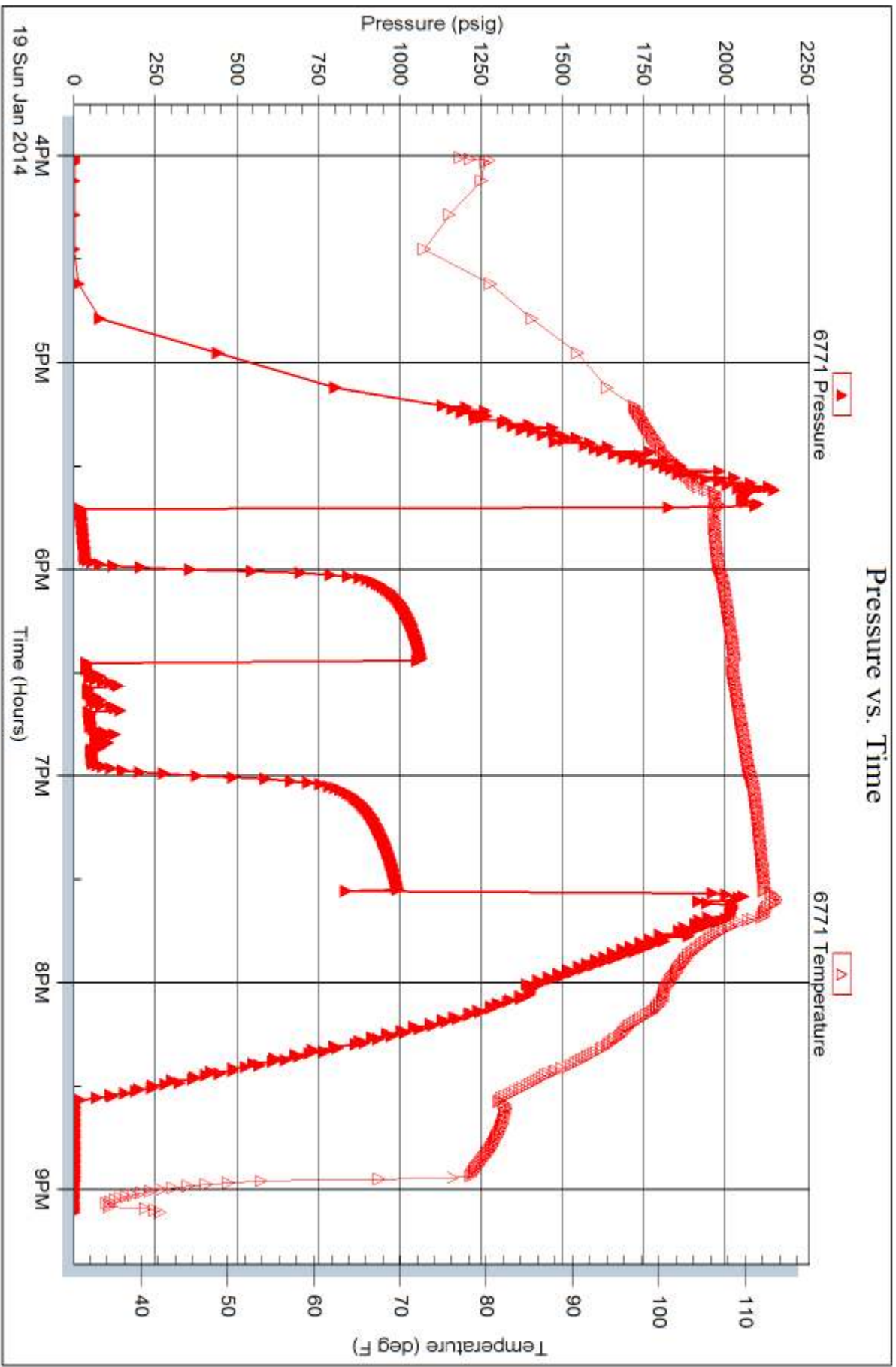
Serial #: 6771

Inside

Norstar Petroleum Inc

Durham#2-24

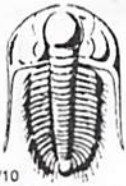
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 56616

Printed: 2014.01.22 @ 15:47:03



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56613

Well Name & No. Durham #2-2d Test No. #1 Date 1/17/14  
 Company Norstar Petroleum Inc. Elevation 3006 KB 3001 GL  
 Address 88 Inverness Cir E Unit F104, Englewood Colo, 8012-514  
 Co. Rep / Geo. Bob Elder Rig WCS#10  
 Location: Sec. 24 Twp. 11 Rge. 32W Co. Logan State Ks

Interval Tested 3991 4007 Zone Tested Toronto  
 Anchor Length 16 Drill Pipe Run 3864 Mud Wt. 9.0  
 Top Packer Depth 3986 Drill Collars Run 123 Vis 65  
 Bottom Packer Depth 3991 Wt. Pipe Run — WL 6.0  
 Total Depth 4007 Chlorides 1400 ppm System LCM #1/2

Blow Description 1" in blow  
No return  
1/4" in blow  
No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>60'</u>	<u>new</u>			<u>60</u>	<u>40</u>
	<u>2" in free oil on top</u>				

Rec Total 60' BHT 107° Gravity — API RW 1.511 @ 80 ° F Chlorides 22,000 ppm

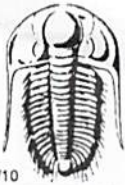
(A) Initial Hydrostatic <u>1935</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>10:50</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:20</u>
(C) First Final Flow <u>29</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>14:20</u>
(D) Initial Shut-In <u>942</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>16:05</u>
(E) Second Initial Flow <u>32</u>	<input type="checkbox"/> Hourly Standby	T-Out
(F) Second Final Flow <u>44</u>	<input checked="" type="checkbox"/> Mileage <u>94 RT</u> <u>145.70</u>	Comments
(G) Final Shut-In <u>884</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1913</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>2220.70</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc
	Sub Total <u>2220.70</u>	

Approved By Bob Elder 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. 56614

4/10

Well Name & No. Durham #2-24 Test No. #2 Date 1/18/14  
 Company Norstar Petroleum Inc Elevation 3006 KB 3001 GL  
 Address 88 Edgewood Cir F Unit F109, Englewood, Colo 80112-5514  
 Co. Rep / Geo. Bob Elder Rig WW #10  
 Location: Sec. 24 Twp. 11 Rge. 32w Co. Logan State Ks

Interval Tested 4084 4114 Zone Tested D-E-F  
 Anchor Length 30 Drill Pipe Run 3963 Mud Wt. 8.9  
 Top Packer Depth 4079 Drill Collars Run 123' Vis 58  
 Bottom Packer Depth 4084 Wt. Pipe Run --- WL 6.0  
 Total Depth 4114 Chlorides 1400 ppm System LCM #2

Blow Description B.O.B. in 15 min  
Very weak return in 8 min died in 21 min  
B.O.B. in 20 min  
1/4" in return blow died back to a surface blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>205</u>	<u>Cgo</u>	<u>15</u>	<u>85</u>		
<u>60</u>	<u>Smcgo</u>	<u>20</u>	<u>65</u>		<u>15</u>
<u>30</u>	<u>mcgo</u>	<u>20</u>	<u>40</u>		<u>40</u>
	<u>305' Gas in pipe</u>				

Rec Total 295' BHT 117° Gravity 37 API RW --- @ --- F Chlorides --- ppm

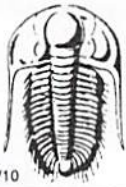
(A) Initial Hydrostatic <u>1987</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>05:30</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>06:00</u>
(C) First Final Flow <u>60</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>07:55</u>
(D) Initial Shut-In <u>1044</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>11:10</u>
(E) Second Initial Flow <u>64</u>	<input type="checkbox"/> Hourly Standby <u>---</u>	T-Out <u>13:40</u>
(F) Second Final Flow <u>127</u>	<input checked="" type="checkbox"/> Mileage <u>94 RT</u> <u>145.70</u>	Comments <u>---</u>
(G) Final Shut-In <u>1002</u>	<input type="checkbox"/> Sampler <u>---</u>	
(H) Final Hydrostatic <u>1940</u>	<input type="checkbox"/> Straddle <u>---</u>	<input type="checkbox"/> Ruined Shale Packer <u>---</u>

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 90

Sub Total 2220.70

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **56615**

4/10

Well Name & No. Darham #2-24 Test No. #3 Date 1/19/14  
 Company NorStar Petroleum Elevation 3006 KB 3001 GL  
 Address 88 Inverness Cir E Unit F104, Englewood, Colo. 80112  
 Co. Rep / Geo. Bob Elder Rig WOW #8  
 Location: Sec. 24 Twp. 11 Rge. 32W Co. Doguan State KS

Interval Tested 4152 4182 Zone Tested H  
 Anchor Length 30 Drill Pipe Run 4026 Mud Wt. 9.0  
 Top Packer Depth 4147 Drill Collars Run 123' Vis 57  
 Bottom Packer Depth 4152 Wt. Pipe Run --- WL 6.4  
 Total Depth 4182 Chlorides 1500 ppm System LCM #2

Blow Description 10" m blow  
No return  
B.O.B. in 17 min  
1/4" in return blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>cgo</u>	<u>15</u>	<u>85</u>		
<u>90</u>	<u>smcgo</u>	<u>20</u>	<u>65</u>		<u>15</u>
<u>60</u>	<u>mcgo</u>	<u>25</u>	<u>40</u>		<u>35</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>(490' Gas in pipe)</u>	%gas	%oil	%water	%mud

Rec Total 230' BHT 116° Gravity 34 API RW --- @ --- ° F Chlorides --- ppm

(A) Initial Hydrostatic	<u>2036</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>21:20</u>
(B) First Initial Flow	<u>22</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>21:25</u>
(C) First Final Flow	<u>58</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>23:02</u>
(D) Initial Shut-In	<u>1156</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>	T-Pulled	<u>02:17</u>
(E) Second Initial Flow	<u>63</u>	<input type="checkbox"/> Hourly Standby		T-Out	
(F) Second Final Flow	<u>103</u>	<input checked="" type="checkbox"/> Mileage	<u>94 RT</u> <u>145.70</u>	Comments	
(G) Final Shut-In	<u>1143</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>1954</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	
		<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
		<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
		<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
		<input type="checkbox"/> Day Standby		Total	<u>2220.70</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>2220.70</u>		

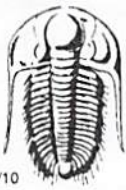
Initial Open 15  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 90

Approved By [Signature]

Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56616

4/10

Well Name & No. Durham # 2-24 Test No. #4 Date 1/19/14  
 Company Norstar Petroleum Elevation 3006 KB 3001 GL  
 Address 88 Inverness Cir E Unit Floyd Englewood Colo 80112  
 Co. Rep / Geo. Bob Elder Rig WWT#10  
 Location: Sec. 24 Twp. 11 Rge. 32W Co. Hagan State Ks

Interval Tested 4234 4264 Zone Tested K  
 Anchor Length 30 Drill Pipe Run 4090 Mud Wt. 9.2  
 Top Packer Depth 4229 Drill Collars Run 123' Vis SR  
 Bottom Packer Depth 4234 Wt. Pipe Run --- WL 6.8  
 Total Depth 4264 Chlorides 1900 ppm System LCM #2

Blow Description 1 1/2" in blow  
No return  
1/4" in blow  
No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>70'</u>	<u>80cm</u>	<u>4</u>		<u>96</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 70' BHT 113° Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>2092</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>15:30</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>16:00</u>
(C) First Final Flow <u>30</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>17:40</u>
(D) Initial Shut-In <u>1063</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>19:25</u>
(E) Second Initial Flow <u>34</u>	<input type="checkbox"/> Hourly Standby	T-Out
(F) Second Final Flow <u>53</u>	<input checked="" type="checkbox"/> Mileage <u>94 RT</u> 291.40	Comments <u>loaded tools 1/20 21:00</u>
(G) Final Shut-In <u>990</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1996</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby	Total <u>1866.40</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1866.40</u>	

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30

Approved By Bob Elder Our Representative [Signature]

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