



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Jeff Christian

**Romar #1-2**

**2-5s-31w Rawlins,KS**

Start Date: 2012.05.10 @ 00:15:57

End Date: 2012.05.10 @ 09:05:27

Job Ticket #: 47725                      DST #: 1

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

Printed: 2012.05.16 @ 11:57:31



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47725

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2012.05.10 @ 00:15:57

## GENERAL INFORMATION:

Formation: **Toronto-KC B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:43:57

Time Test Ended: 09:05:27

Test Type: Conventional Bottom Hole (Initial)

Tester: Brett Dickinson

Unit No: 59

**Interval: 3756.00 ft (KB) To 3840.00 ft (KB) (TVD)**

Reference Elevations: 2783.00 ft (KB)

Total Depth: 3840.00 ft (KB) (TVD)

2778.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8369**

**Inside**

Press @ Run Depth: 236.15 psig @ 3757.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.10

End Date:

2012.05.10

Last Calib.: 2012.05.10

Start Time: 00:16:02

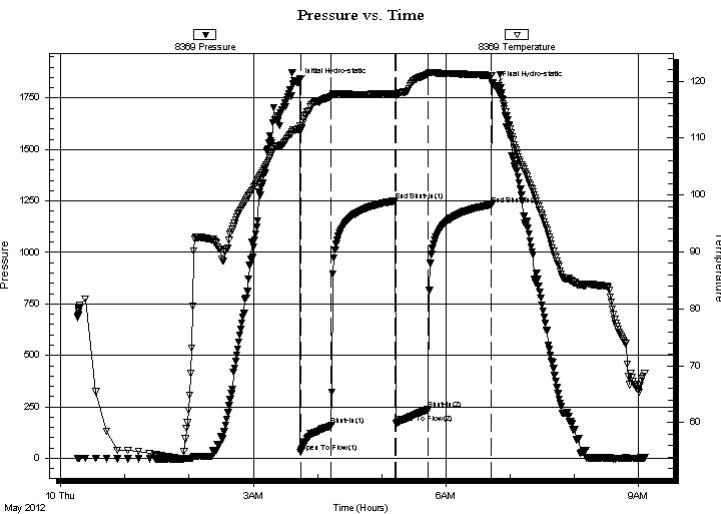
End Time:

09:05:27

Time On Btm: 2012.05.10 @ 03:41:27

Time Off Btm: 2012.05.10 @ 06:45:27

**TEST COMMENT:** IF-BOB in 15 1/2 min  
ISI-No blow  
FF-BOB in 23 min  
FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1825.32	111.56	Initial Hydro-static
3	29.44	111.65	Open To Flow (1)
32	158.88	117.35	Shut-In(1)
91	1250.68	117.72	End Shut-In(1)
92	171.53	117.36	Open To Flow (2)
122	236.15	121.24	Shut-In(2)
181	1231.86	121.01	End Shut-In(2)
184	1810.24	119.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
260.00	V SOMCW 2%O 78%W 20%M	1.95
199.00	SOCM 5%O 95%M	2.79
1.00	Free Oil	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47725

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2012.05.10 @ 00:15:57

## Tool Information

Drill Pipe:	Length: 3563.00 ft	Diameter: 3.80 inches	Volume: 49.98 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	58000.00 lb
Drill Pipe Above KB:	21.00 ft			Final	60000.00 lb
Depth to Top Packer:	3756.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	84.00 ft				
Tool Length:	112.00 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			3729.00	
Shut In Tool	5.00			3734.00	
Hydraulic tool	5.00			3739.00	
Jars	5.00			3744.00	
Safety Joint	2.00			3746.00	
Packer	5.00			3751.00	28.00 Bottom Of Top Packer
Packer	5.00			3756.00	
Stubb	1.00			3757.00	
Recorder	0.00	8369	Inside	3757.00	
Recorder	0.00	8319	Outside	3757.00	
Perforations	5.00			3762.00	
Change Over Sub	1.00			3763.00	
Drill Pipe	63.00			3826.00	
Change Over Sub	1.00			3827.00	
Perforations	10.00			3837.00	
Bullnose	3.00			3840.00	84.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>112.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47725

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2012.05.10 @ 00:15:57

## 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:

85000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
260.00	VSOMCW 2%O 78%W 20%M	1.953
199.00	SOCM 5%O 95%M	2.791
1.00	Free Oil	0.014

Total Length: 460.00 ft Total Volume: 4.758 bbl

Num Fluid Samples: 0

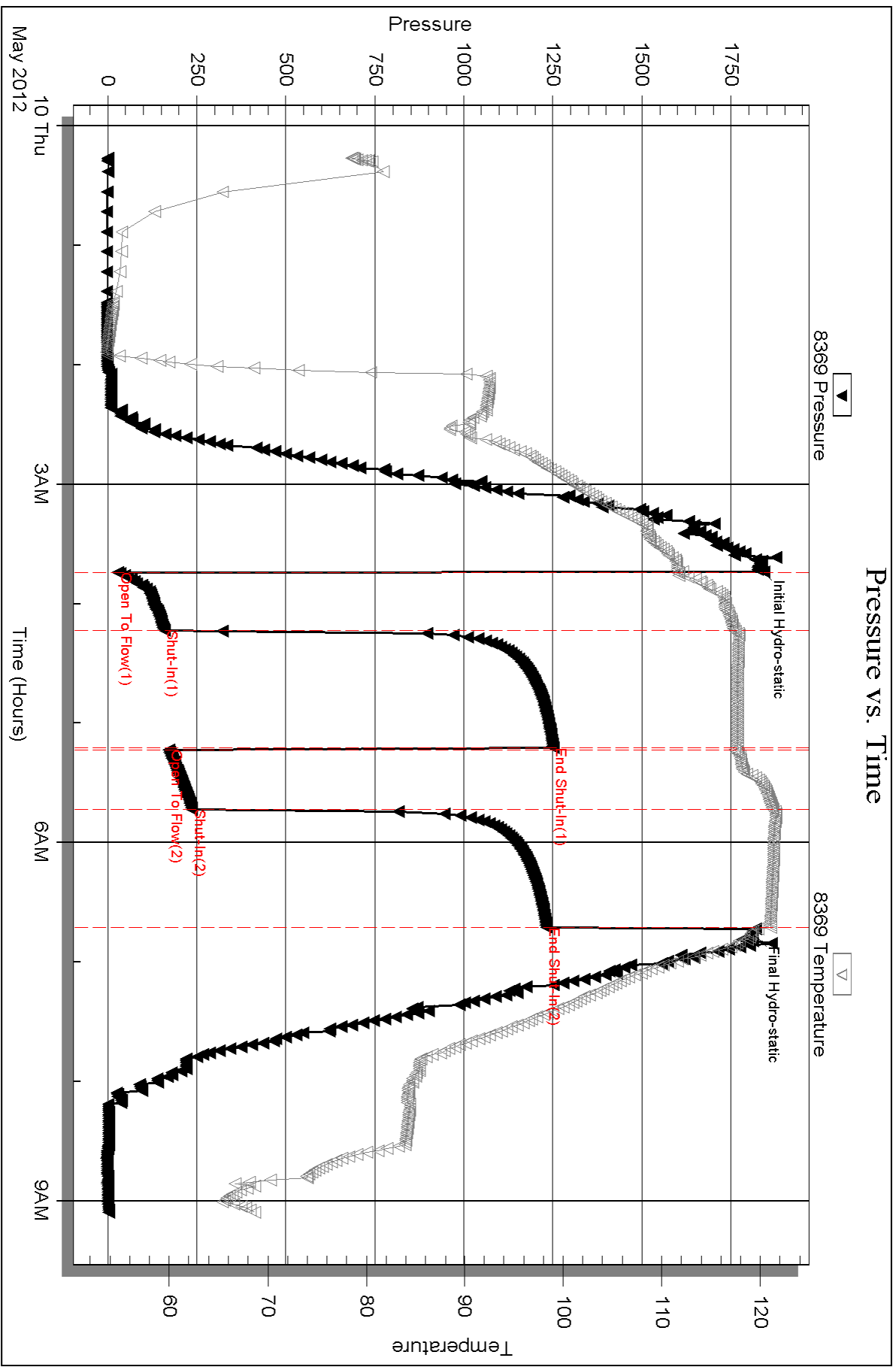
Num Gas Bombs: 0

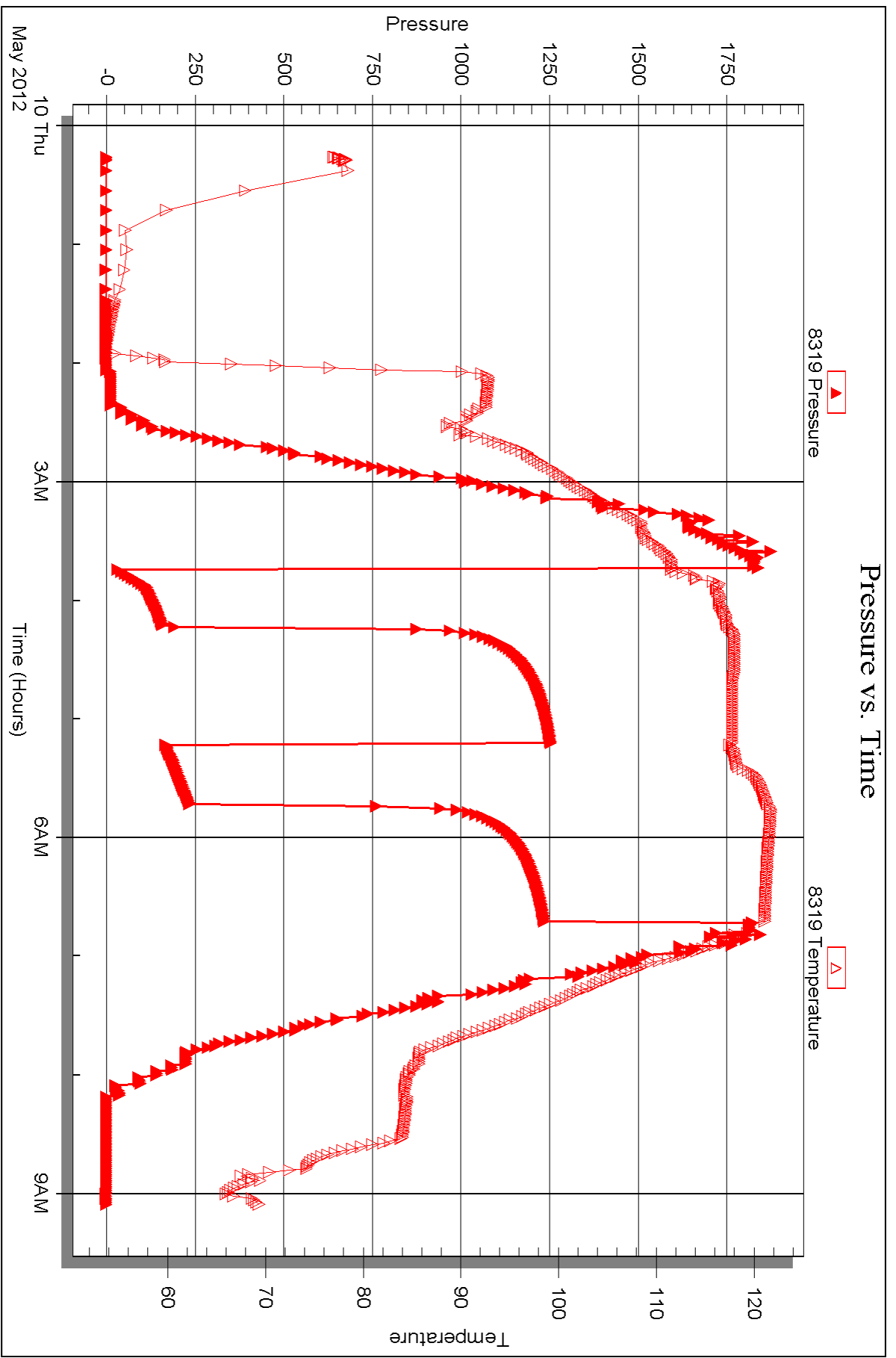
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .11 @ 60







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Romar #1-2**

### **2-5s-31w Rawlins,KS**

Start Date: 2012.05.10 @ 17:45:49

End Date: 2012.05.11 @ 00:46:19

Job Ticket #: 47101                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.16 @ 11:56:49





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47101

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2012.05.10 @ 17:45:49

## GENERAL INFORMATION:

Formation: **KC" E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:59:19

Time Test Ended: 00:46:19

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

**Interval: 3861.00 ft (KB) To 3883.00 ft (KB) (TVD)**

Reference Elevations: 2783.00 ft (KB)

Total Depth: 3883.00 ft (KB) (TVD)

2778.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8369**

**Inside**

Press @ Run Depth: 64.41 psig @ 3862.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.10

End Date:

2012.05.11

Last Calib.: 2012.05.11

Start Time: 17:45:54

End Time:

00:46:18

Time On Btm: 2012.05.10 @ 19:57:19

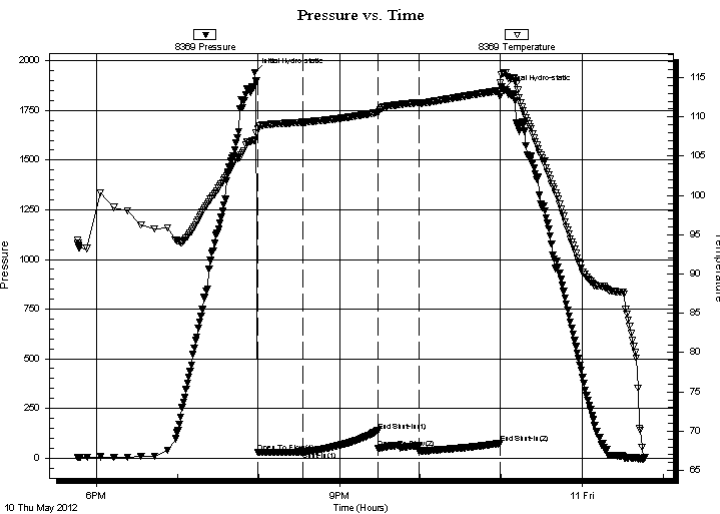
Time Off Btm: 2012.05.10 @ 23:01:19

TEST COMMENT: IF-1 in blow died in 24 min

ISI-No blow

FF-No blow

FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1942.09	107.04	Initial Hydro-static
2	29.78	108.54	Open To Flow (1)
36	32.04	109.32	Shut-In(1)
91	137.07	110.57	End Shut-In(1)
92	46.68	110.56	Open To Flow (2)
122	64.41	111.83	Shut-In(2)
182	73.98	113.36	End Shut-In(2)
184	1856.84	115.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud	0.05

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47101

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2012.05.10 @ 17:45:49

## Tool Information

Drill Pipe:	Length: 3656.00 ft	Diameter: 3.80 inches	Volume: 51.28 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume:</u>	Tool Chased	2.00 ft
			- bbl	String Weight: Initial	60000.00 lb
Drill Pipe Above KB:	9.00 ft			Final	60000.00 lb
Depth to Top Packer:	3861.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	22.00 ft				
Tool Length:	50.00 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			3834.00	
Shut In Tool	5.00			3839.00	
Hydraulic tool	5.00			3844.00	
Jars	5.00			3849.00	
Safety Joint	2.00			3851.00	
Packer	5.00			3856.00	28.00 Bottom Of Top Packer
Packer	5.00			3861.00	
Stubb	1.00			3862.00	
Recorder	0.00	8369	Inside	3862.00	
Recorder	0.00	8319	Outside	3862.00	
Perforations	3.00			3865.00	
Perforations	15.00			3880.00	
Bullnose	3.00			3883.00	22.00 Bottom Packers & Anchor

**Total Tool Length: 50.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47101

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2012.05.10 @ 17:45:49

**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: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
10.00	mud	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

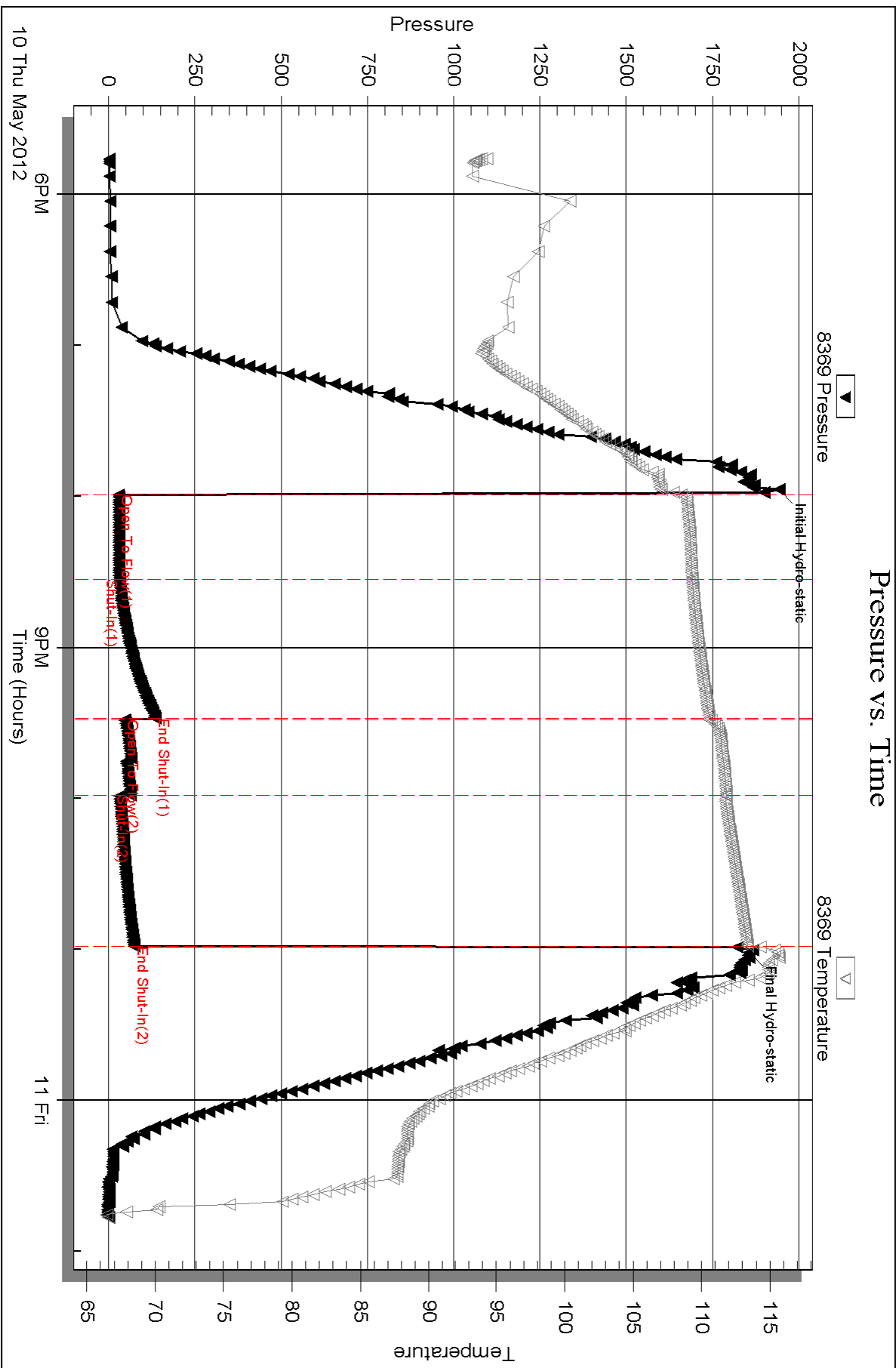
Serial #: 8369

Inside

Murfin Drilling Co.

Romar #1-2

DST Test Number: 2

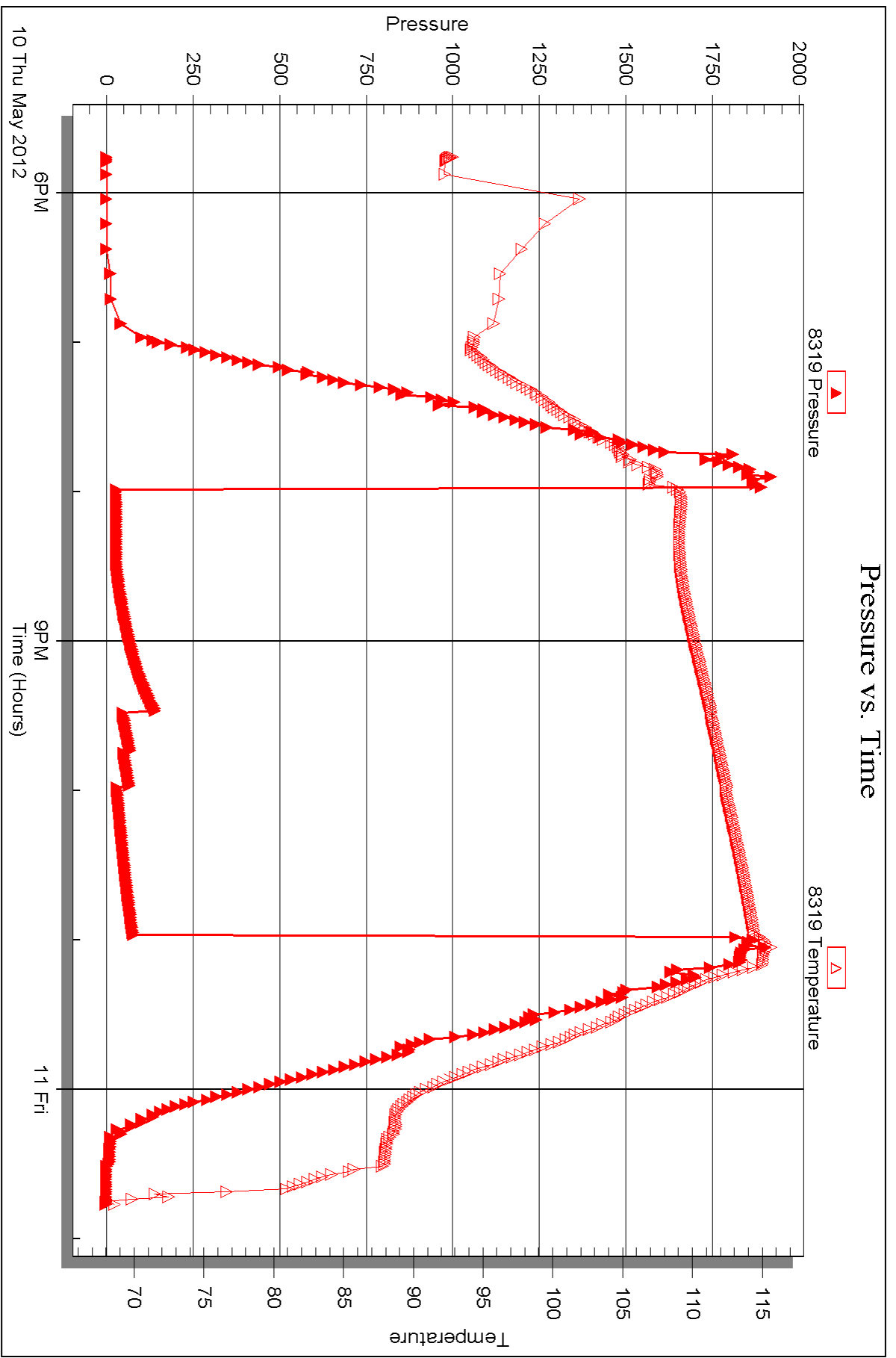


Serial #: 8319

Outside Murfin Drilling Co.

Ronar #1-2

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Romar #1-2**

### **2-5s-31w Rawlins,KS**

Start Date: 2012.05.11 @ 15:55:15

End Date: 2012.05.11 @ 23:19:45

Job Ticket #: 47102                      DST #: 3

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

Printed: 2012.05.16 @ 11:56:12

Murfin Drilling Co. 2-5s-31w Rawlins,KS Romar #1-2 DST # 3 KC:"H-K" 2012.05.11



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47102

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2012.05.11 @ 15:55:15

## GENERAL INFORMATION:

Formation: **KC"H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:20:15

Time Test Ended: 23:19:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

**Interval: 3909.00 ft (KB) To 4006.00 ft (KB) (TVD)**

Reference Elevations: 2783.00 ft (KB)

Total Depth: 4006.00 ft (KB) (TVD)

2778.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8369**

**Inside**

Press @ Run Depth: 36.31 psig @ 3910.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.11

End Date:

2012.05.11

Last Calib.:

2012.05.11

Start Time: 15:55:20

End Time:

23:19:44

Time On Btm:

2012.05.11 @ 18:18:45

Time Off Btm:

2012.05.11 @ 21:24:15

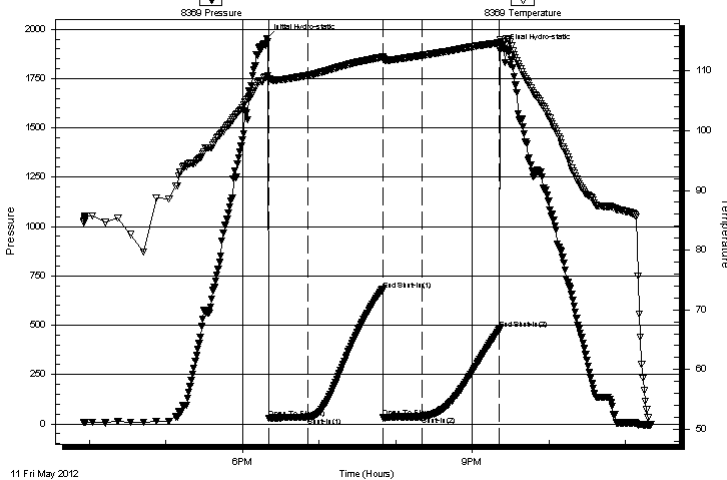
**TEST COMMENT:** IF-1/2 in blow died back to 1/4 in

ISI-No blow

FF-No blow

FSI-No blow

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1953.66	109.00	Initial Hydro-static
2	27.86	108.62	Open To Flow (1)
33	35.28	109.27	Shut-In(1)
91	680.90	112.30	End Shut-In(1)
92	31.16	111.98	Open To Flow (2)
122	36.31	112.58	Shut-In(2)
183	477.98	114.70	End Shut-In(2)
186	1902.76	114.96	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	SOCM 5%O 95%M	0.05

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47102

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2012.05.11 @ 15:55:15

### Tool Information

Drill Pipe:	Length: 3719.00 ft	Diameter: 3.80 inches	Volume: 52.17 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	61000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	61000.00 lb
Depth to Top Packer:	3909.00 ft			Final	61000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	97.00 ft				
Tool Length:	125.00 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			3882.00	
Shut In Tool	5.00			3887.00	
Hydraulic tool	5.00			3892.00	
Jars	5.00			3897.00	
Safety Joint	2.00			3899.00	
Packer	5.00			3904.00	28.00 Bottom Of Top Packer
Packer	5.00			3909.00	
Stubb	1.00			3910.00	
Recorder	0.00	8369	Inside	3910.00	
Recorder	0.00	8319	Outside	3910.00	
Perforations	5.00			3915.00	
Change Over Sub	1.00			3916.00	
Drill Pipe	63.00			3979.00	
Change Over Sub	1.00			3980.00	
Perforations	23.00			4003.00	
Bullnose	3.00			4006.00	97.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>125.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47102

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2012.05.11 @ 15:55:15

## 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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	SOCM 5%O 95%M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

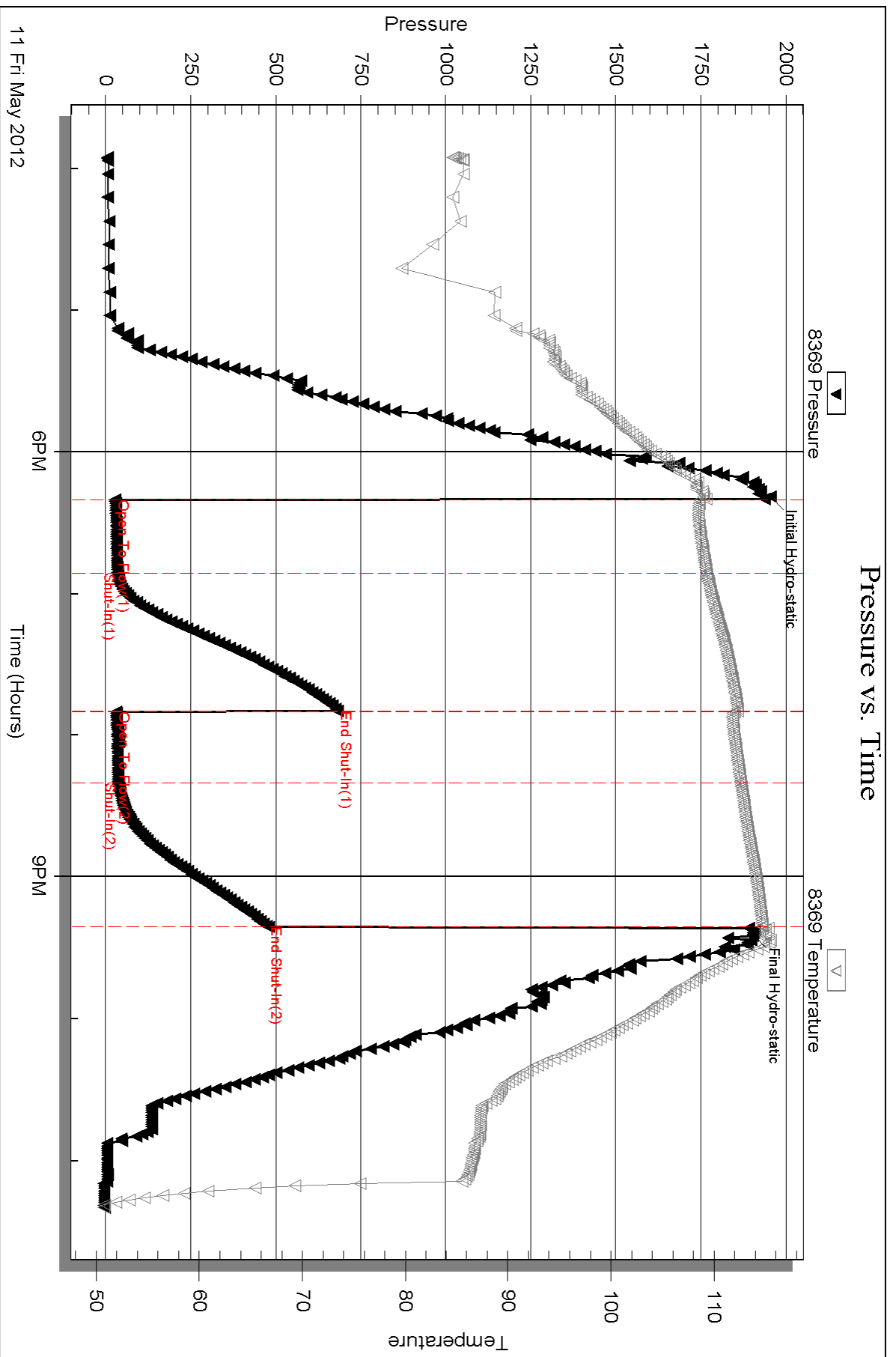
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

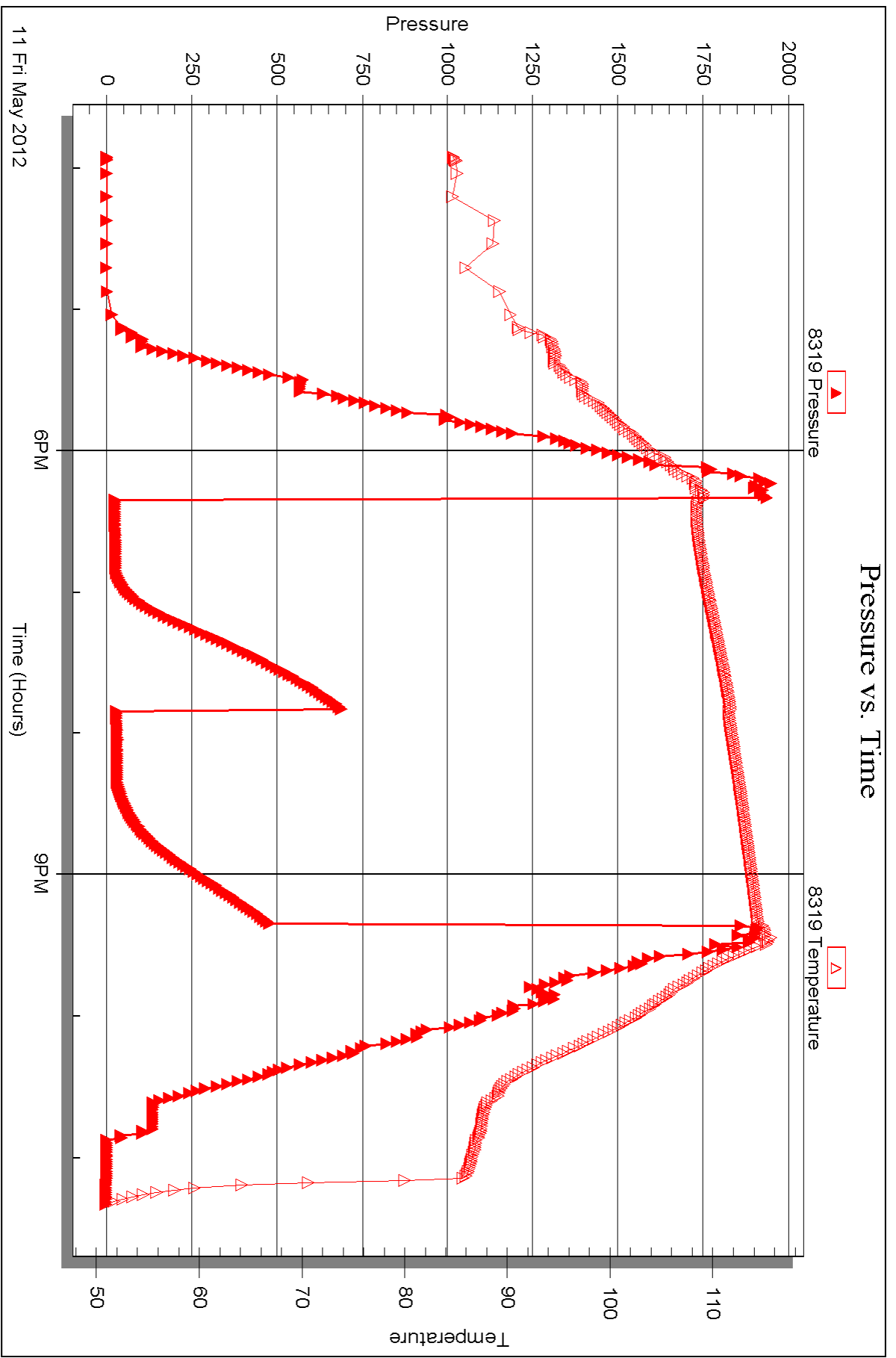


Serial #: 8319

Outside Murfin Drilling Co.

Ronar #1-2

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Jeff Christian

**Romar #1-2**

**2-5s-31w Rawlins,KS**

Start Date: 2012.05.12 @ 17:15:30

End Date: 2012.05.13 @ 00:46:30

Job Ticket #: 47103                      DST #: 4

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

Printed: 2012.05.16 @ 11:55:36



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47103

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2012.05.12 @ 17:15:30

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:40:30

Time Test Ended: 00:46:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

**Interval: 4113.00 ft (KB) To 4196.00 ft (KB) (TVD)**

Reference Elevations: 2783.00 ft (KB)

Total Depth: 4196.00 ft (KB) (TVD)

2778.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8369 Inside**

Press @ Run Depth: 39.86 psig @ 4114.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.12

End Date:

2012.05.13

Last Calib.:

2012.05.13

Start Time:

17:15:35

End Time:

00:46:29

Time On Btm:

2012.05.12 @ 19:37:00

Time Off Btm:

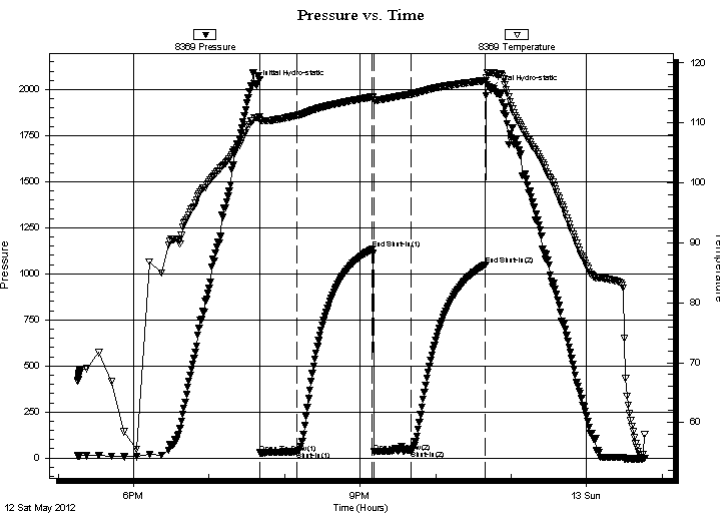
2012.05.12 @ 22:43:00

TEST COMMENT: IF-1 1/4 in blow

ISI-No blow

FF-No blow

FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2027.30	110.86	Initial Hydro-static
4	27.83	110.46	Open To Flow (1)
33	34.88	111.27	Shut-In(1)
93	1133.03	114.33	End Shut-In(1)
94	33.70	113.83	Open To Flow (2)
124	39.86	114.79	Shut-In(2)
183	1050.15	117.08	End Shut-In(2)
186	2001.98	118.41	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud	0.05

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47103

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2012.05.12 @ 17:15:30

## Tool Information

Drill Pipe:	Length: 3909.00 ft	Diameter: 3.80 inches	Volume: 54.83 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	61000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	61000.00 lb
Depth to Top Packer:	4113.00 ft			Final	61000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	83.00 ft				
Tool Length:	111.00 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			4086.00	
Shut In Tool	5.00			4091.00	
Hydraulic tool	5.00			4096.00	
Jars	5.00			4101.00	
Safety Joint	2.00			4103.00	
Packer	5.00			4108.00	28.00 Bottom Of Top Packer
Packer	5.00			4113.00	
Stubb	1.00			4114.00	
Recorder	0.00	8369	Inside	4114.00	
Recorder	0.00	8319	Outside	4114.00	
Perforations	4.00			4118.00	
Change Over Sub	1.00			4119.00	
Drill Pipe	63.00			4182.00	
Change Over Sub	1.00			4183.00	
Perforations	10.00			4193.00	
Bullnose	3.00			4196.00	83.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>111.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 47103

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2012.05.12 @ 17:15:30

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

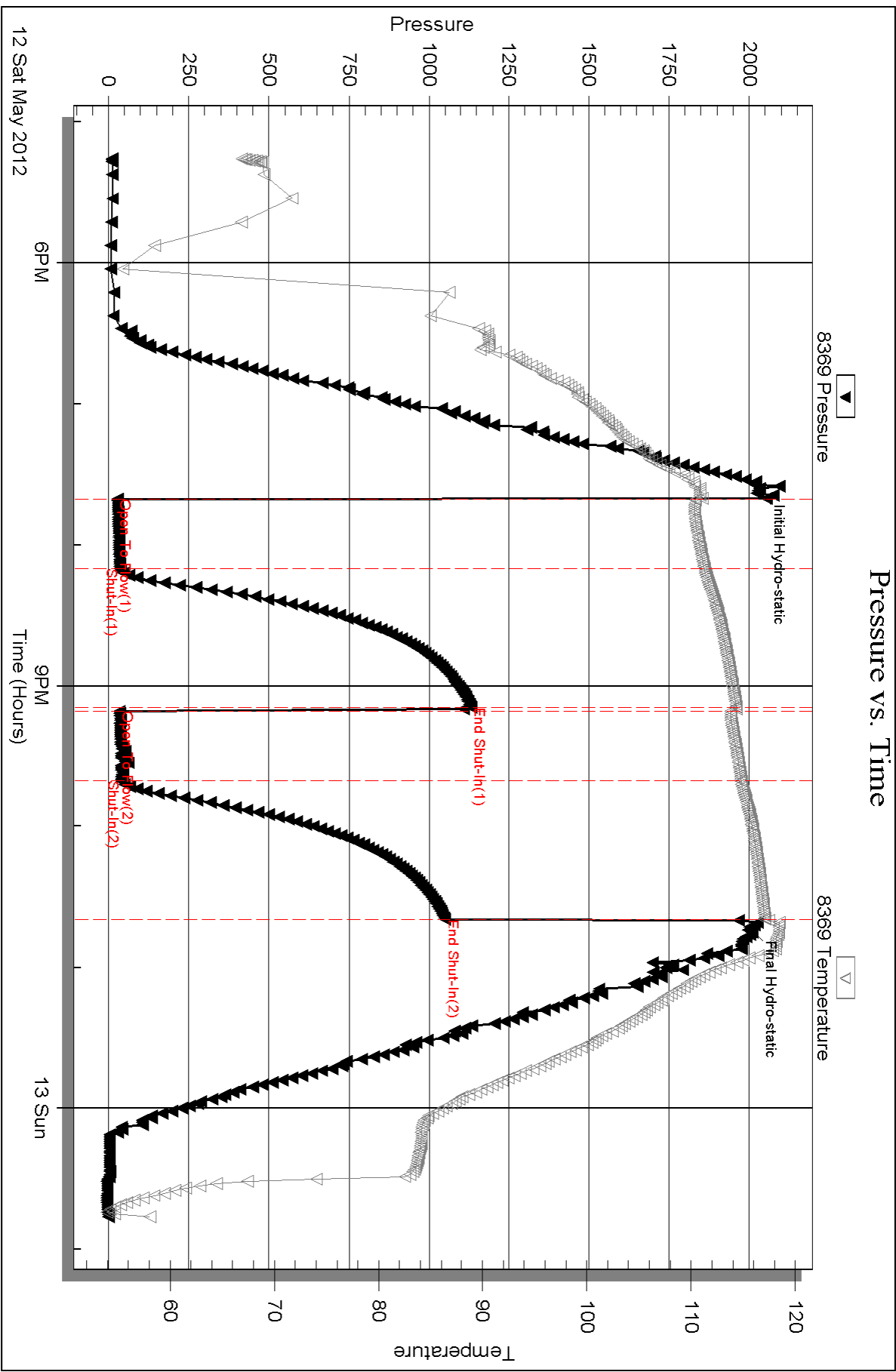
Serial #: 8369

Inside

Murfin Drilling Co.

Romar #1-2

DST Test Number: 4



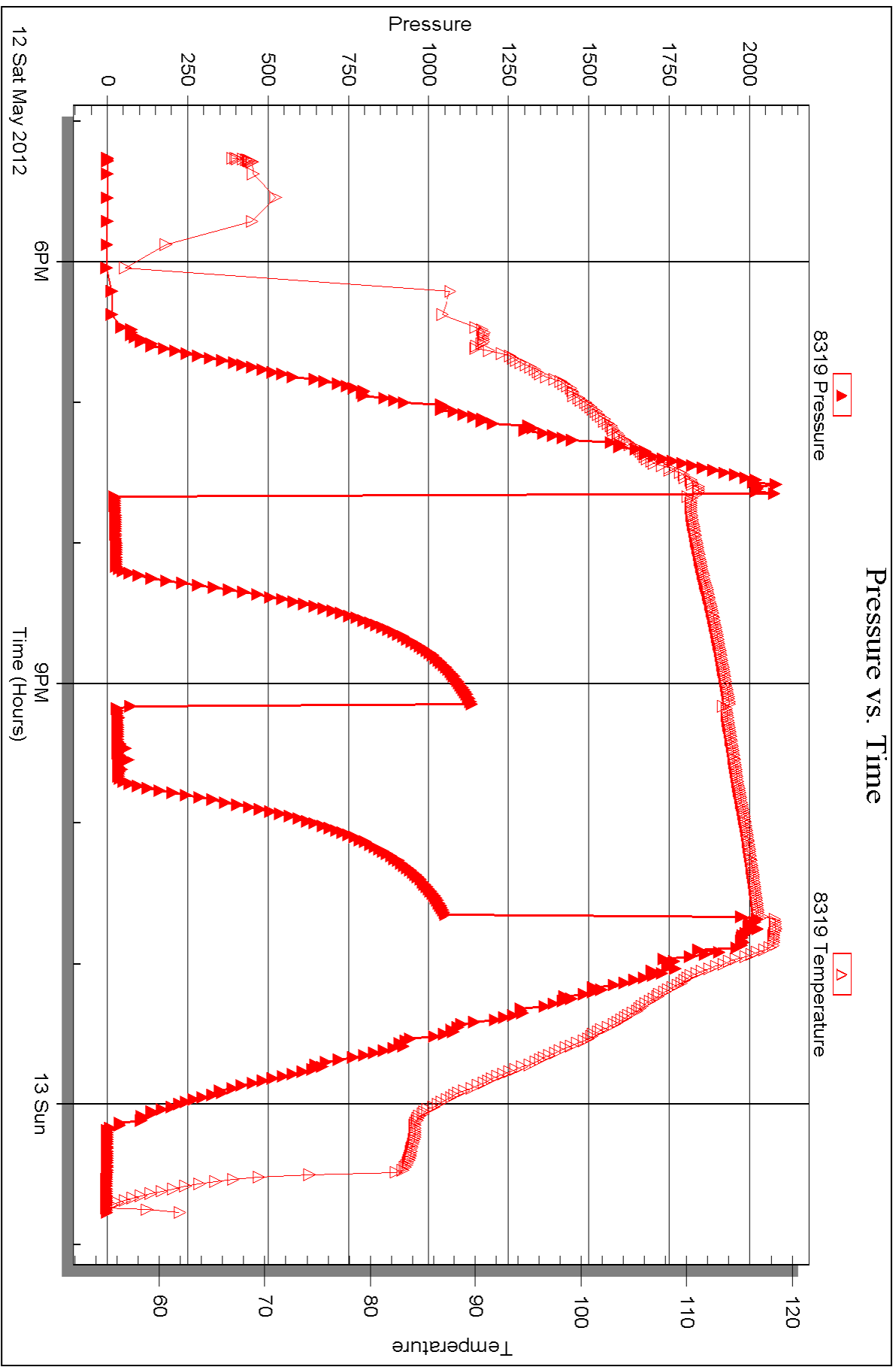
Serial #: 8319

Outside

Murfin Drilling Co.

Ronar #1-2

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Jeff Christian

**Romar #1-2**

**2-5s-31w Rawlins,KS**

Start Date: 2012.05.13 @ 10:34:00

End Date: 2012.05.13 @ 20:13:15

Job Ticket #: 42495                      DST #: 5

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

Printed: 2012.05.16 @ 11:55:00



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 42495

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2012.05.13 @ 10:34:00

## GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:41:15

Time Test Ended: 20:13:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

**Interval: 4216.00 ft (KB) To 4250.00 ft (KB) (TVD)**

Reference Elevations: 2783.00 ft (KB)

Total Depth: 4250.00 ft (KB) (TVD)

2778.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 6799 Inside**

Press @ Run Depth: 554.64 psig @ 4217.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.13

End Date:

2012.05.13

Last Calib.:

2012.05.13

Start Time:

10:34:05

End Time:

20:13:15

Time On Btm:

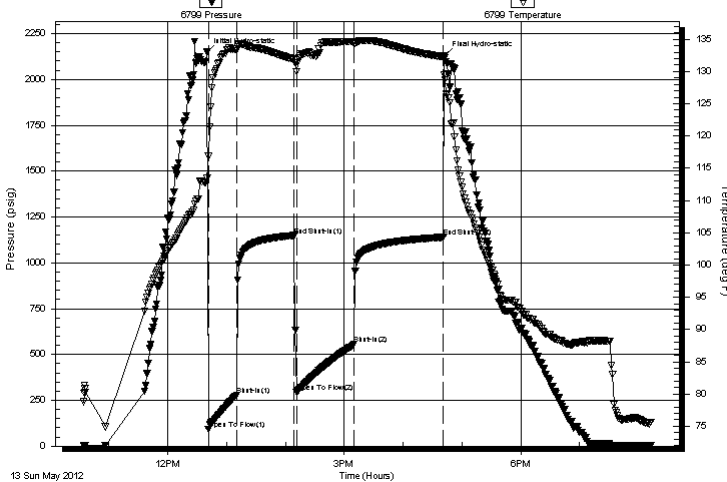
2012.05.13 @ 12:40:00

Time Off Btm:

2012.05.13 @ 16:42:15

**TEST COMMENT:** 30 - IF - BoB in 7 min. Then died back to 8"  
60 - IS - Return started at 20 min. Built to 1"  
60 - FF - BoB in 6 min.  
90 - FS - Return started at 10 min. Built to 5"

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2148.41	113.44	Initial Hydro-static
2	91.44	116.86	Open To Flow (1)
30	278.68	133.22	Shut-In(1)
89	1149.02	131.84	End Shut-In(1)
92	294.56	129.97	Open To Flow (2)
150	554.64	134.43	Shut-In(2)
242	1139.47	132.26	End Shut-In(2)
243	2129.08	129.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	MCO 60o 40M	0.05
1430.00	Free Oil 100o	18.46
0.00	315' GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 42495

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2012.05.13 @ 10:34:00

## Tool Information

Drill Pipe:	Length: 4008.00 ft	Diameter: 3.80 inches	Volume: 56.22 bbl	Tool Weight:	2500.00 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 57.13 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4216.00 ft			Final	63000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	63.00 ft				
Number of Packers:	5	Diameter: 6.75 inches			
Tool Comments:					

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

Change Over Sub	1.00			4188.00	
Shut In Tool	5.00			4193.00	
Hydraulic tool	5.00			4198.00	
Jars	5.00			4203.00	
Safety Joint	3.00			4206.00	
Packer	5.00			4211.00	29.00 Bottom Of Top Packer
Packer	5.00			4216.00	
Stubb	1.00			4217.00	
Recorder	0.00	8648	Inside	4217.00	
Recorder	0.00	6799	Inside	4217.00	
Perforations	28.00			4245.00	
Bullnose	5.00			4250.00	34.00 Bottom Packers & Anchor

**Total Tool Length: 63.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**2-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Romar #1-2**

Job Ticket: 42495

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2012.05.13 @ 10:34:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

45 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 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
10.00	MCO 60o 40M	0.049
1430.00	Free Oil 100o	18.456
0.00	315' GIP	0.000

Total Length: 1440.00 ft      Total Volume: 18.505 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

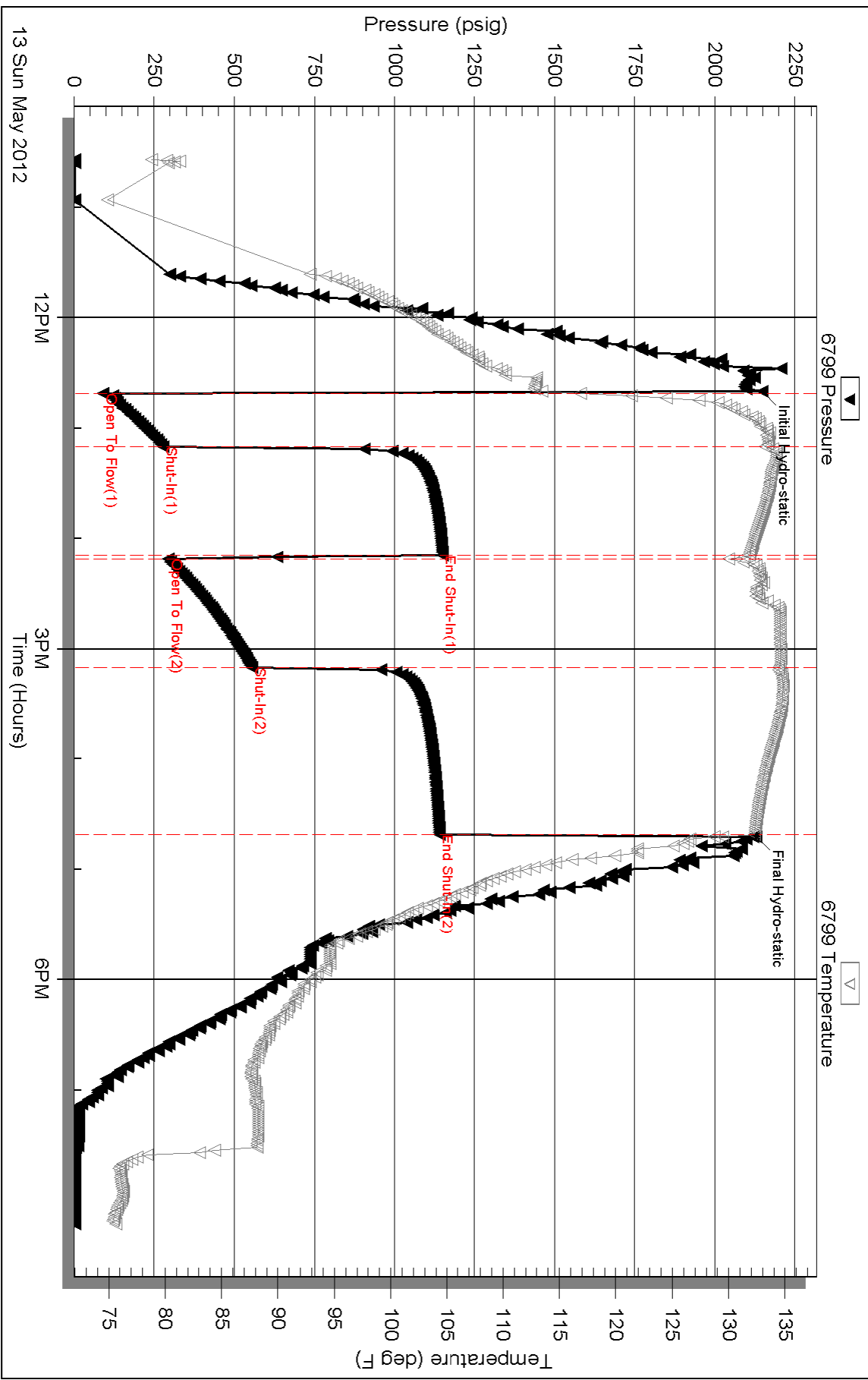
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API 48 @ 90 deg. 45

### Pressure vs. Time



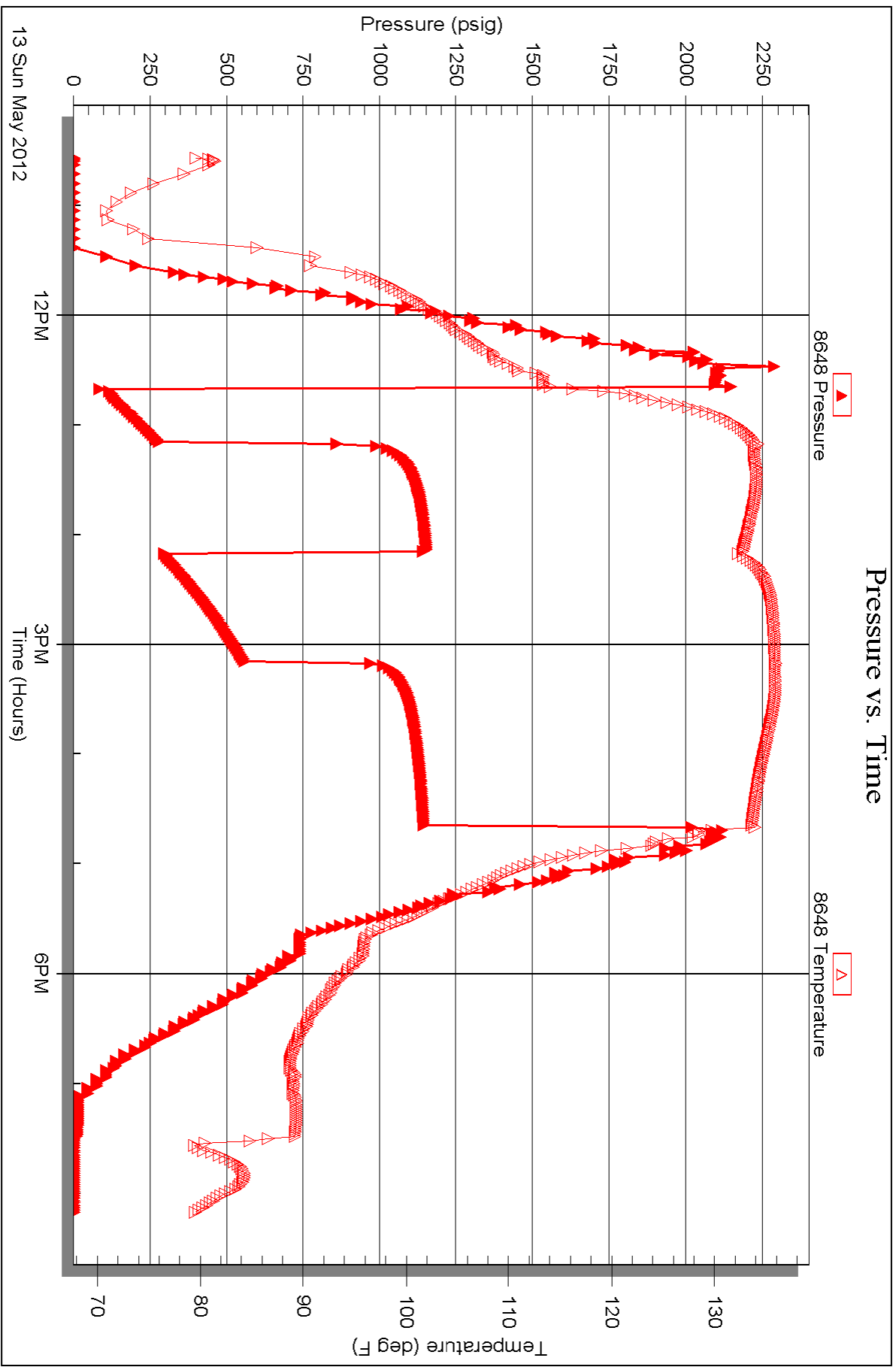
Serial #: 8648

Inside

Murfin Drilling Co.

Romar #1-2

DST Test Number: 5





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47725

Well Name & No. Romer #1-2 Test No. 1 Date 5/9/12  
 Company Murfin Drilling Co. Elevation 2783 KB 2778 GL  
 Address 250 N water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin #18  
 Location: Sec. 2 Twp. 3S Rge. 31w Co. Rawlins State KS

Interval Tested 3756 - 3840 Zone Tested Toronto - KCB  
 Anchor Length 84 Drill Pipe Run 3563 Mud Wt. 8.8  
 Top Packer Depth 3751 Drill Collars Run 186 Vis 54  
 Bottom Packer Depth 3756 Wt. Pipe Run — WL 5.6  
 Total Depth 3840 Chlorides 800 ppm System LCM 7#

Blow Description IF-BOB in 15 1/2 min  
ISI-NO blow  
FF-BOB in 23 min  
FST-NO blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>260</u>	<u>VSOMCW</u>	<u>2</u>	<u>78</u>	<u>20</u>	
<u>199</u>	<u>SOCM</u>	<u>5</u>		<u>95</u>	
<u>1</u>	<u>Free O. 1</u>				

Rec Total 460 BHT 121 Gravity \_\_\_\_\_ API RW 11 @ 60 ° F Chlorides 85000 ppm

(A) Initial Hydrostatic <u>1,825</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>23:35</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>00:15</u>
(C) First Final Flow <u>159</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:35</u>
(D) Initial Shut-In <u>1,251</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>6:35</u>
(E) Second Initial Flow <u>172</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>9:00</u>
(F) Second Final Flow <u>236</u>	<input checked="" type="checkbox"/> Mileage <u>128x2</u> 60rt 93	Comments _____
(G) Final Shut-In <u>4,232</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>4,810</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

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

Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Sub Total 1568

Sub Total 1568

Approved By \_\_\_\_\_ Our Representative Brett Dick

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. 47101

4/10

Well Name & No. Romar #1-2 Test No. 2 Date 5/10/12  
 Company Murfin Drilling Co. Elevation 2783 KB 2778 GL  
 Address 250 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin #8  
 Location: Sec. 2 Twp. 5S Rge. 3W Co. Rawlins State KS

Interval Tested 3861 - 3883 Zone Tested KC<sup>n</sup>E-F<sup>n</sup>  
 Anchor Length 22 Drill Pipe Run 3656 Mud Wt. 9.1  
 Top Packer Depth 3856 Drill Collars Run 186 Vis 54  
 Bottom Packer Depth 3861 Wt. Pipe Run — WL 5.6  
 Total Depth 3883 Chlorides 1100 ppm System LCM 7  
 Blow Description IF - lin blow died in 24min  
IS2 - No blow  
FF - N  
FS2 - N

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>				

Rec Total 10 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1942  Test 1150 T-On Location 17:45  
 (B) First Initial Flow 30  Jars 250 T-Started 17:45  
 (C) First Final Flow 32  Safety Joint 75 T-Open 20:00  
 (D) Initial Shut-In 137  Circ Sub T-Pulled 23:00  
 (E) Second Initial Flow 47  Hourly Standby T-Out 00:45  
 (F) Second Final Flow 64  Mileage ~~12842~~ 93 Comments \_\_\_\_\_  
 (G) Final Shut-In 74  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1857  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1568  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1568

Approved By \_\_\_\_\_ Our Representative Burt Stahl

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47102

Well Name & No. Roman #1-2 Test No. 3 Date 5/11/12  
 Company Murrin Drilling CO. Elevation 2783 KB 2778 GL  
 Address 250 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murrin #8  
 Location: Sec. 2 Twp. 5S Rge. 31w Co. Rawlins State KS

Interval Tested 3909 - 4006 Zone Tested KC "H-K"  
 Anchor Length 97 Drill Pipe Run 3719 Mud Wt. 9.1  
 Top Packer Depth 3904 Drill Collars Run 186 Vis 46  
 Bottom Packer Depth 3909 Wt. Pipe Run — WL 6  
 Total Depth 4006 Chlorides 1,600 ppm System LCM 6<sup>th</sup>  
 Blow Description IF - 1/2 in blow died back to 4 in  
ISI - No blow  
FF - N  
FSI - N

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>SOCM</u>		<u>5</u>		<u>95</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 10 BHT 115 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1,954  Test 1250 T-On Location 15:30  
 (B) First Initial Flow 28  Jars 250 T-Started 15:55  
 (C) First Final Flow 35  Safety Joint 75 T-Open 18:15  
 (D) Initial Shut-In 681  Circ Sub T-Pulled 21:15  
 (E) Second Initial Flow 31  Hourly Standby T-Out 23:15  
 (F) Second Final Flow 36  Mileage 128 x 2 93 Comments \_\_\_\_\_  
 (G) Final Shut-In 478  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1,903  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  
 Final Shut-In 60  Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1668 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Butt Dickson  
 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. 47103

Well Name & No. Romar #1-2 Test No. 4 Date 5/12/12  
 Company Martin Drilling Co. Elevation 2783 KB 2778 GL  
 Address 250 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Martin #8  
 Location: Sec. 2 Twp. 5S Rge. 3W Co. Rawlins State KS

Interval Tested 4113 - 4196 Zone Tested Pawnee  
 Anchor Length 83 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.3  
 Top Packer Depth 4108 Drill Collars Run 186 Vis 54  
 Bottom Packer Depth 4113 Wt. Pipe Run \_\_\_\_\_ WL 6  
 Total Depth 4196 Chlorides 2,000 ppm System LCM 4  
 Blow Description IF - 1 1/4 in blow  
ISI - No blow  
FF - N  
FSI - N

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>				
____	____				
____	____				
____	____				
____	____				

Rec Total 10 BHT 117 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2,027  Test 1250 T-On Location 16:40  
 (B) First Initial Flow 28  Jars 250 T-Started 17:15  
 (C) First Final Flow 35  Safety Joint 75 T-Open 19:40  
 (D) Initial Shut-In 1,133  Circ Sub \_\_\_\_\_ T-Pulled 22:40  
 (E) Second Initial Flow 34  Hourly Standby \_\_\_\_\_ T-Out 00:45  
 (F) Second Final Flow 40  Mileage ~~128x2~~ 93 Comments \_\_\_\_\_  
 (G) Final Shut-In 1,050  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2,002  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1668  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1668

Approved By \_\_\_\_\_ Our Representative Beth Dier

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. 042495

Well Name & No. Romar #1-2 Test No. 5 Date 5-13-12  
 Company Murfin Drilling Co. Elevation 2783 KB 2778 GL  
 Address 250 N. Water STE #300 Wichita, KS 67202  
 Co. Rep / Geo. JEFF Christian Rig Murfin #2  
 Location: Sec. 2 Twp. 5s Rge. 31w Co. Rawlins State KS


Interval Tested 4216-4250 Zone Tested Cherokee  
 Anchor Length 34' Drill Pipe Run 4608 Mud Wt. 9.2  
 Top Packer Depth 4212 Drill Collars Run 186' Vis SS  
 Bottom Packer Depth 4216 Wt. Pipe Run Ø WL 6.8  
 Total Depth 4250 Chlorides 1,900 ppm System LCM 5#  
 Blow Description IF- BoB in 7 min, Then died back to 8"  
IS- Return started at 20 min. Built to 1"  
AF- BoB in 6 min.  
FS- Return started at 10 min. Built to

Rec	Feet of	%gas	%oil	%water	%mud
<del>1200</del>	<del>1200</del>				
1430	Free Oil	100			
10	MCO	60		40	

Rec Total 1440 BHT 132 Gravity 45 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 2148  Test 1250 T-On Location 9:45 AM  
 (B) First Initial Flow 91  Jars 250 T-Started 10:34 AM  
 (C) First Final Flow 278  Safety Joint 75 T-Open 12:40 PM  
 (D) Initial Shut-In 1149  Circ Sub N/C T-Pulled 4:40 PM  
 (E) Second Initial Flow 294  Hourly Standby \_\_\_\_\_ T-Out 8:13 PM  
 (F) Second Final Flow 554  Mileage 60 RT 93 Comments 315' GFP  
 (G) Final Shut-In 1139  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2129  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1668 MP/DST Disc't \_\_\_\_\_

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

Approved By \_\_\_\_\_ Our Representative 

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.