



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

28-14s-18w Ellis,KS

Kraus-Stecklein Unit #1-28

Start Date: 2013.02.08 @ 03:31:05

End Date: 2013.02.08 @ 10:11:59

Job Ticket #: 51472 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:22:05

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

28-14s-18w Ellis,KS

DST # 1

Tor-LKC"A-B"

2013.02.08



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

ATTN: Paul Gunzelman

Job Ticket: 51472

DST#: 1

Test Start: 2013.02.08 @ 03:31:05

GENERAL INFORMATION:

Formation: **Tor-LKC "A-B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:38:30

Time Test Ended: 10:11:59

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 39

Interval: 3324.00 ft (KB) To 3412.00 ft (KB) (TVD)

Reference Elevations: 2081.00 ft (KB)

Total Depth: 3412.00 ft (KB) (TVD)

2076.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 28.98 psig @ 3330.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.08

End Date: 2013.02.08

Last Calib.: 2013.02.08

Start Time: 03:31:05

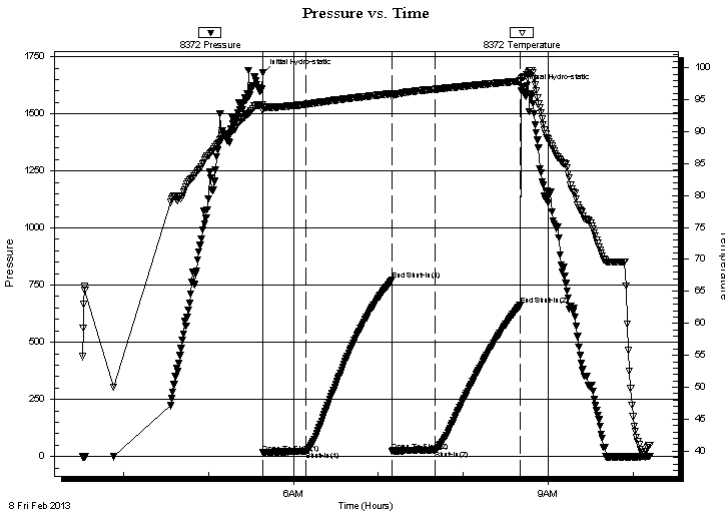
End Time: 10:11:59

Time On Btm: 2013.02.08 @ 05:38:10

Time Off Btm: 2013.02.08 @ 08:41:39

TEST COMMENT: IF:(30min) 1/2" Blow in 5 min. & throughout.
ISl:(60min) No Return
FF:(30min) Very weak surface blow, died in 6 min.
FSl:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.72	94.23	Initial Hydro-static
1	15.39	93.26	Open To Flow (1)
31	22.58	94.26	Shut-In(1)
92	771.73	95.94	End Shut-In(1)
92	23.62	95.52	Open To Flow (2)
122	28.98	96.61	Shut-In(2)
182	662.48	97.89	End Shut-In(2)
184	1611.69	98.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w / oil spks in tool	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51472

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2013.02.08 @ 03:31:05

Tool Information

Drill Pipe:	Length: 3298.00 ft	Diameter: 3.80 inches	Volume: 46.26 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 27.82 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 46.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.82 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3324.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	111.00 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			3302.00	
Shut In Tool	5.00			3307.00	
Hydraulic tool	5.00			3312.00	
Safety Joint	3.00			3315.00	
Packer	5.00			3320.00	23.00 Bottom Of Top Packer
Packer	4.00			3324.00	
Stubb	1.00			3325.00	
Perforations	4.00			3329.00	
Change Over Sub	1.00			3330.00	
Recorder	0.00	8844	Inside	3330.00	
Recorder	0.00	8372	Outside	3330.00	
Drill Pipe	63.00			3393.00	
Change Over Sub	1.00			3394.00	
Perforations	15.00			3409.00	
Bullnose	3.00			3412.00	88.00 Bottom Packers & Anchor

Total Tool Length: 111.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51472

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2013.02.08 @ 03:31:05

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.55 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w / oil spks in tool	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:

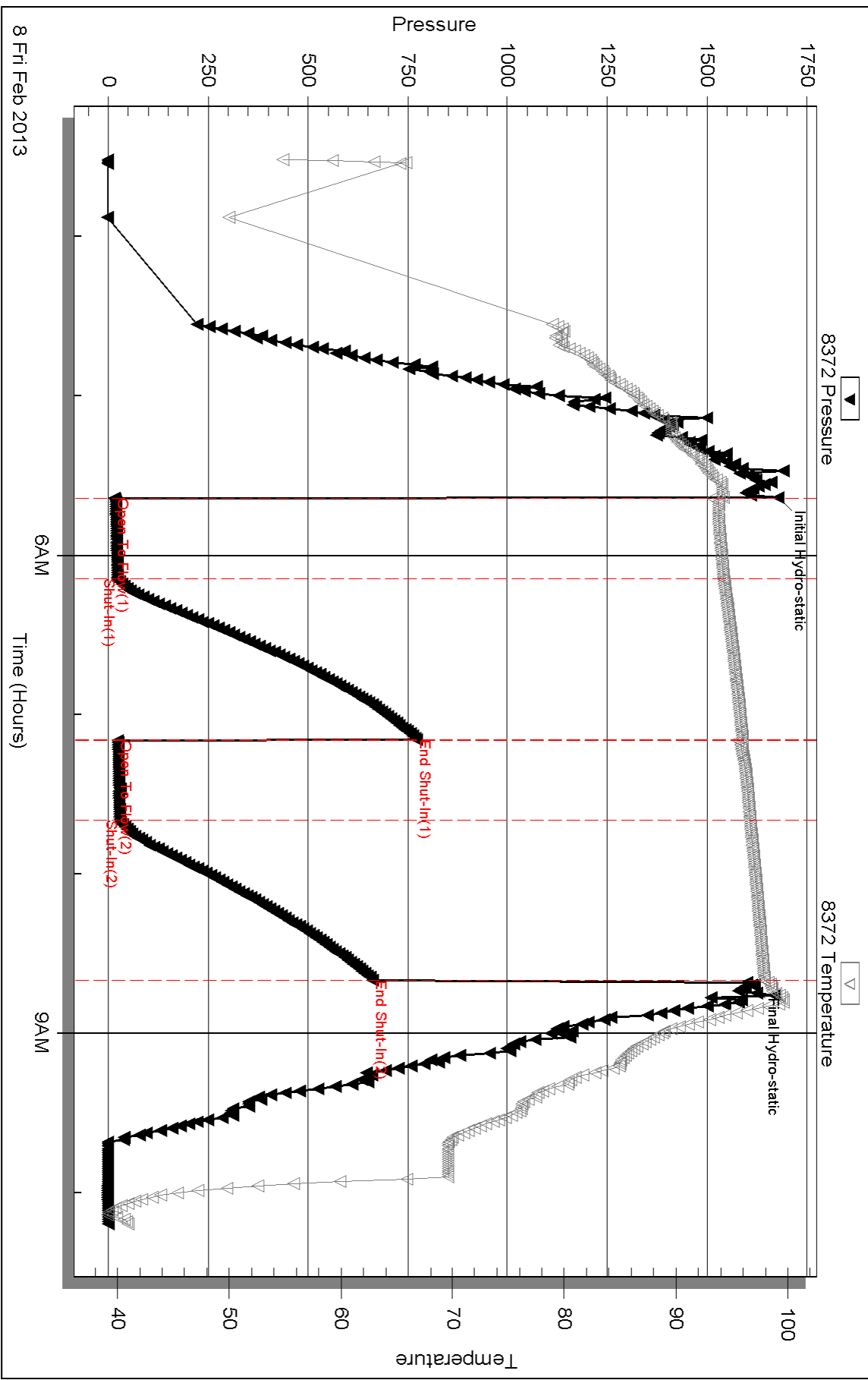
Serial #: 8372

Outside Murfin Drilling Co inc.

28-14s-18w Ellis,KS

DST Test Number: 1

Pressure vs. Time



8 Fri Feb 2013

6AM

Time (Hours)

9AM

Triobite Testing, Inc

Ref. No: 51472

Printed: 2013.02.19 @ 09:22:08

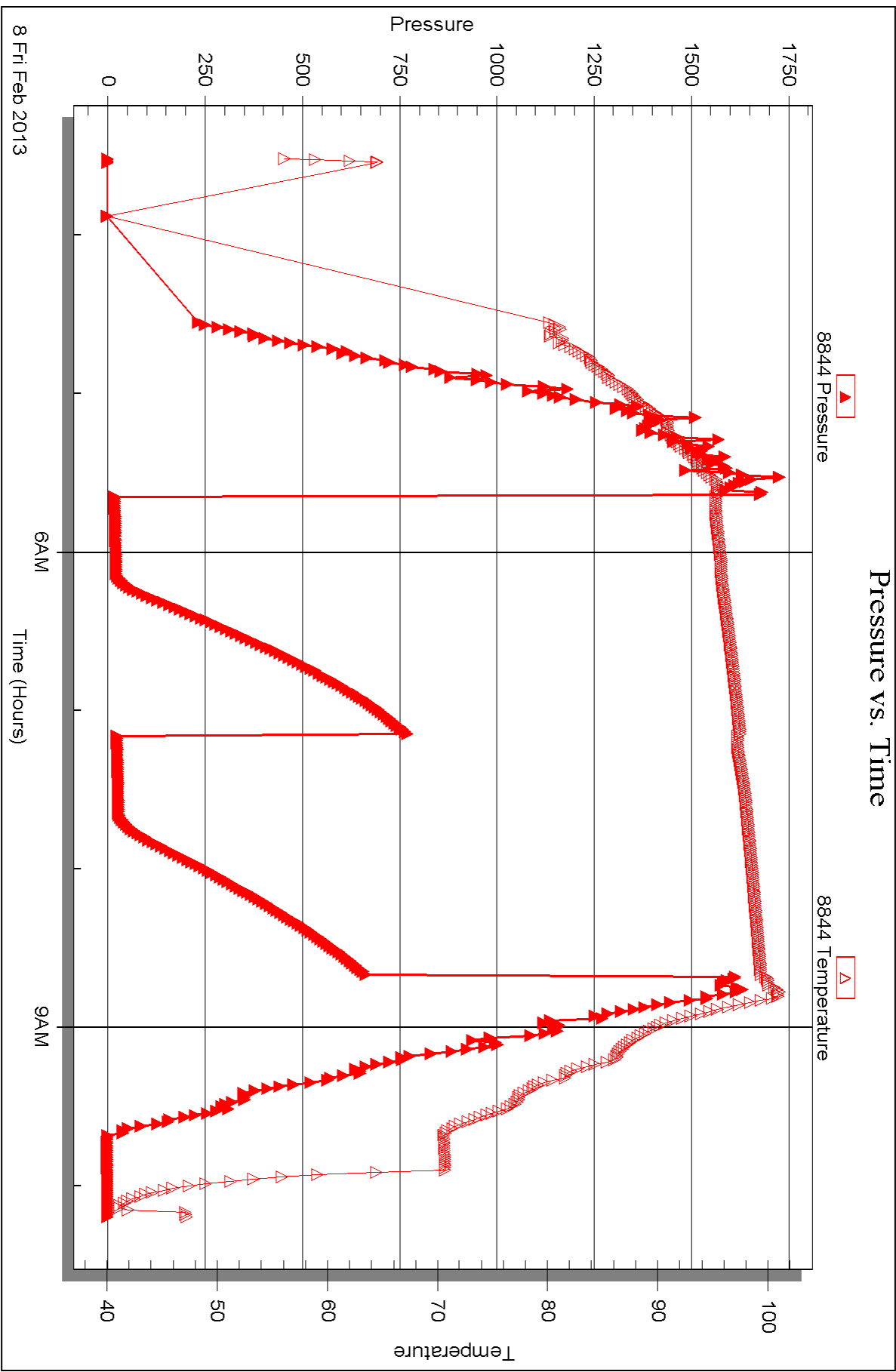
Serial #: 8844

Inside

Murfin Drilling Co inc.

28-14s-18w Ellis KS

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

28-14s-18w Ellis,KS

Kraus-Stecklein Unit #1-28

Start Date: 2013.02.08 @ 18:23:05

End Date: 2013.02.09 @ 01:16:50

Job Ticket #: 51473 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:21:21

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

28-14s-18w Ellis,KS

DST # 2

LKC"D-F"

2013.02.08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51473

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.02.08 @ 18:23:05

GENERAL INFORMATION:

Formation: **LKC"D-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:36:40

Time Test Ended: 01:16:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3410.00 ft (KB) To 3463.00 ft (KB) (TVD)

Reference Elevations: 2081.00 ft (KB)

Total Depth: 3463.00 ft (KB) (TVD)

2076.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @ RunDepth: 20.32 psig @ 3417.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.08

End Date:

2013.02.09

Last Calib.:

2013.02.09

Start Time:

18:23:05

End Time:

01:16:50

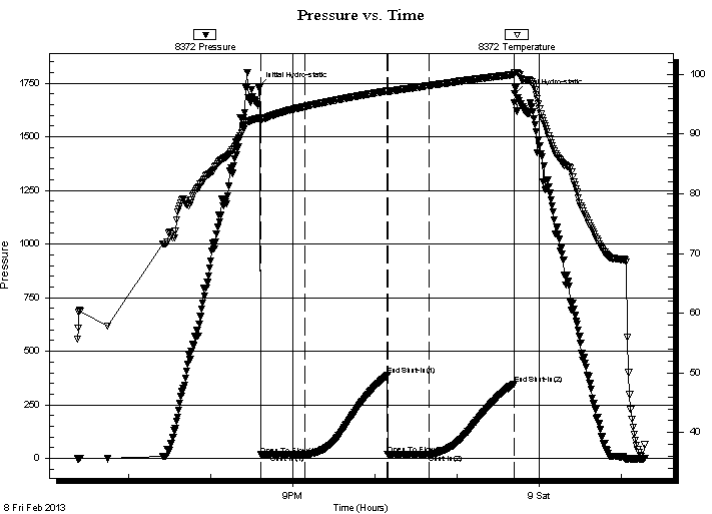
Time On Btm:

2013.02.08 @ 20:35:30

Time Off Btm:

2013.02.08 @ 23:41:59

TEST COMMENT: IF:(30min) Weak surface blow
ISl:(60min) No Return
FF:(30min) Weak surface blow , died in 6 min.
FSl:(60min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1733.34	92.71	Initial Hydro-static
2	16.98	92.13	Open To Flow (1)
34	17.08	94.61	Shut-In(1)
94	387.20	97.21	End Shut-In(1)
94	19.01	97.07	Open To Flow (2)
124	20.32	98.13	Shut-In(2)
186	347.50	99.97	End Shut-In(2)
187	1701.89	100.28	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
10.00	Mud w/oil spks in tool	0.05

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51473

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.02.08 @ 18:23:05

Tool Information

Drill Pipe:	Length: 3390.00 ft	Diameter: 3.80 inches	Volume: 47.55 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 27.82 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 47.69 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.82 ft			String Weight: Initial	47000.00 lb
Depth to Top Packer:	3410.00 ft			Final	47000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	76.00 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			3388.00	
Shut In Tool	5.00			3393.00	
Hydraulic tool	5.00			3398.00	
Safety Joint	3.00			3401.00	
Packer	5.00			3406.00	23.00 Bottom Of Top Packer
Packer	4.00			3410.00	
Stubb	1.00			3411.00	
Perforations	5.00			3416.00	
Change Over Sub	1.00			3417.00	
Recorder	0.00	8844	Inside	3417.00	
Recorder	0.00	8372	Outside	3417.00	
Drill Pipe	32.00			3449.00	
Change Over Sub	1.00			3450.00	
Perforations	10.00			3460.00	
Bullnose	3.00			3463.00	53.00 Bottom Packers & Anchor

Total Tool Length: 76.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51473

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.02.08 @ 18:23:05

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.16 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w/oil spks in tool	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:

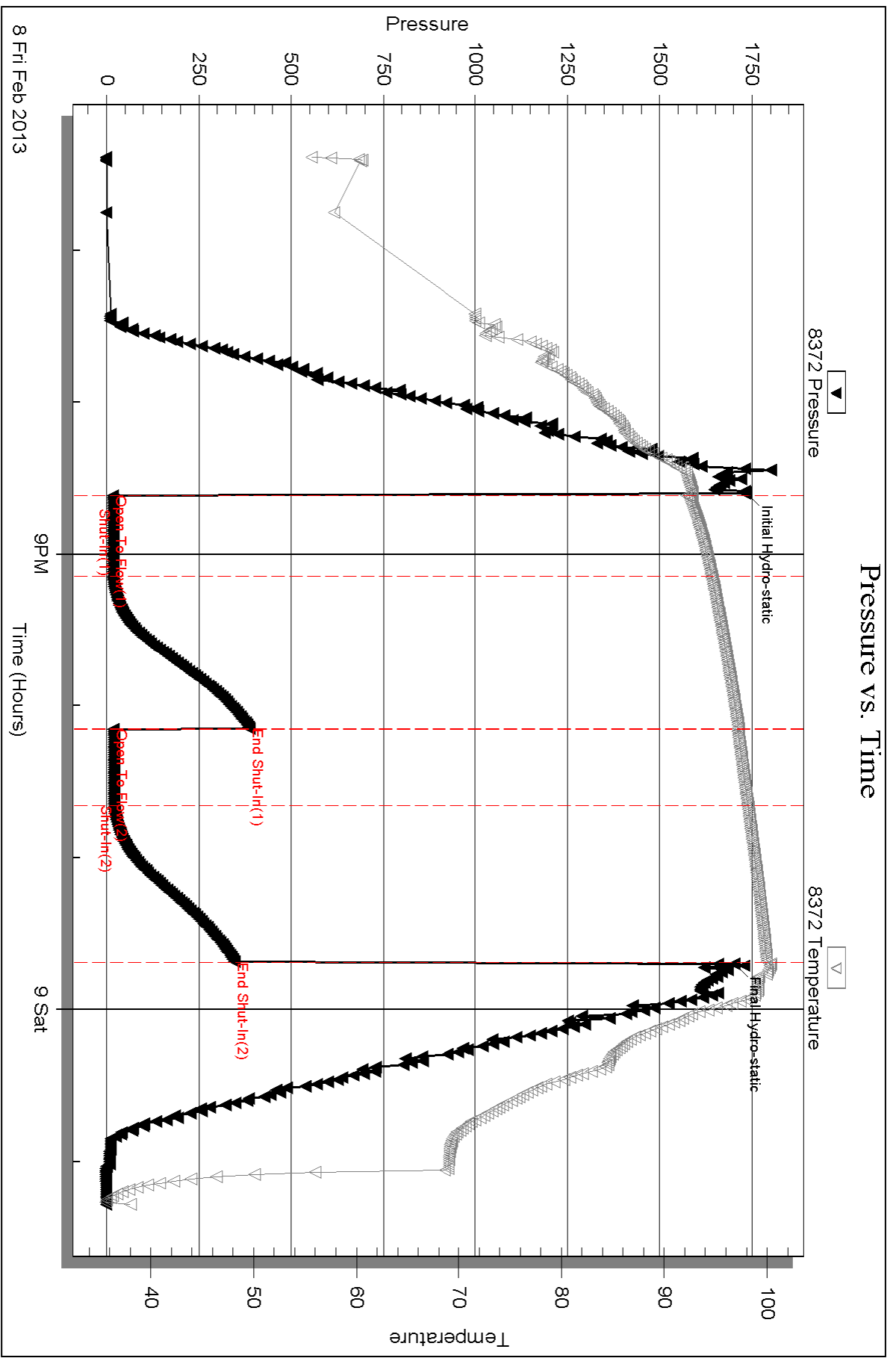
Recovery Comments:

Serial #: 8372

Outside Murfin Drilling Co inc.

28-14s-18w Ellis KS

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 51473

Printed: 2013.02.19 @ 09:21:24



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

28-14s-18w Ellis,KS

Kraus-Stecklein Unit #1-28

Start Date: 2013.02.09 @ 15:58:05

End Date: 2013.02.09 @ 22:40:29

Job Ticket #: 51474 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:20:40

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

28-14s-18w Ellis,KS

DST # 3

LKC "H-K"

2013.02.09



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51474

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.02.09 @ 15:58:05

GENERAL INFORMATION:

Formation: **LKC"H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:44:50

Time Test Ended: 22:40:29

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3496.00 ft (KB) To 3588.00 ft (KB) (TVD)

Reference Elevations: 2081.00 ft (KB)

Total Depth: 3588.00 ft (KB) (TVD)

2076.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @RunDepth: 47.54 psig @ 3503.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.09

End Date:

2013.02.09

Last Calib.:

2013.02.09

Start Time:

15:58:05

End Time:

22:40:29

Time On Btm:

2013.02.09 @ 17:43:30

Time Off Btm:

2013.02.09 @ 20:47:59

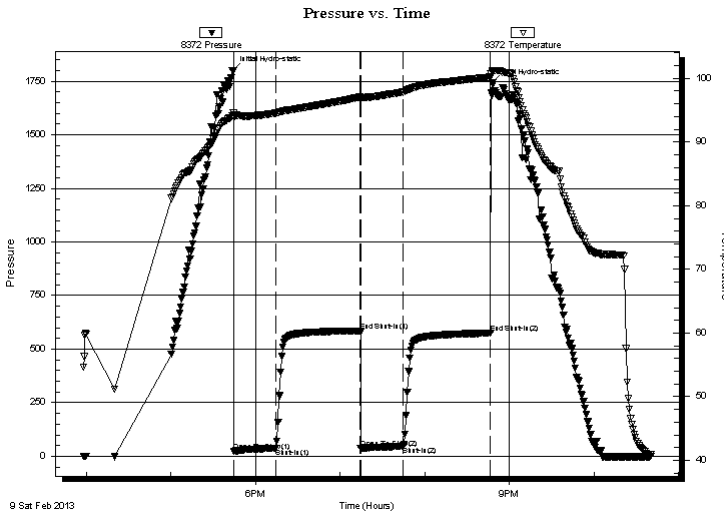
TEST COMMENT: IF:(30min) 1" blow in 5 min. 2" blow in 13 min. 3" in 23 min. built to 3.25"

ISl:(60min) No Return

FF:(30min) 1" in 9 min. built to 1.5"

FSl:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1798.64	94.10	Initial Hydro-static
2	23.64	93.93	Open To Flow (1)
31	37.43	94.56	Shut-In(1)
91	585.68	97.10	End Shut-In(1)
91	38.09	96.78	Open To Flow (2)
122	47.54	97.87	Shut-In(2)
183	574.53	100.20	End Shut-In(2)
185	1740.60	101.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud w / oil spks in tool	0.66

* 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 inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51474

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.02.09 @ 15:58:05

Tool Information

Drill Pipe:	Length: 3456.00 ft	Diameter: 3.80 inches	Volume: 48.48 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 27.82 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 48.62 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.82 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3496.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	92.00 ft			
Tool Length:	115.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3474.00	
Shut In Tool	5.00			3479.00	
Hydraulic tool	5.00			3484.00	
Safety Joint	3.00			3487.00	
Packer	5.00			3492.00	23.00 Bottom Of Top Packer
Packer	4.00			3496.00	
Stubb	1.00			3497.00	
Perforations	5.00			3502.00	
Change Over Sub	1.00			3503.00	
Recorder	0.00	8844	Inside	3503.00	
Recorder	0.00	8372	Outside	3503.00	
Drill Pipe	63.00			3566.00	
Change Over Sub	1.00			3567.00	
Perforations	18.00			3585.00	
Bullnose	3.00			3588.00	92.00 Bottom Packers & Anchor

Total Tool Length: 115.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51474

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.02.09 @ 15:58:05

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 11100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	Mud w / oil spks in tool	0.658

Total Length: 65.00 ft Total Volume: 0.658 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

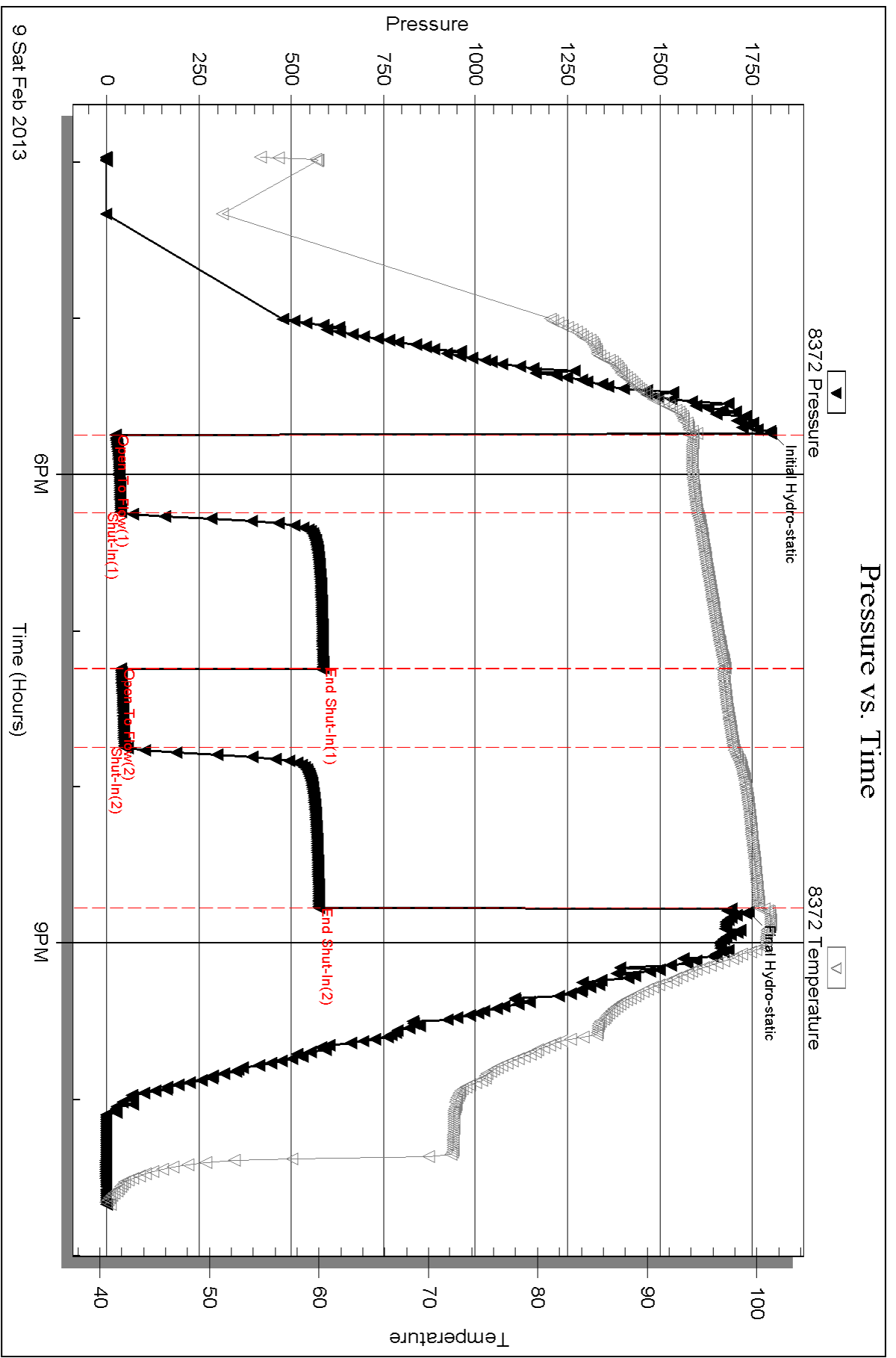
Recovery Comments:

Serial #: 8372

Outside Murfin Drilling Co inc.

28-14s-18w Ellis KS

DST Test Number: 3



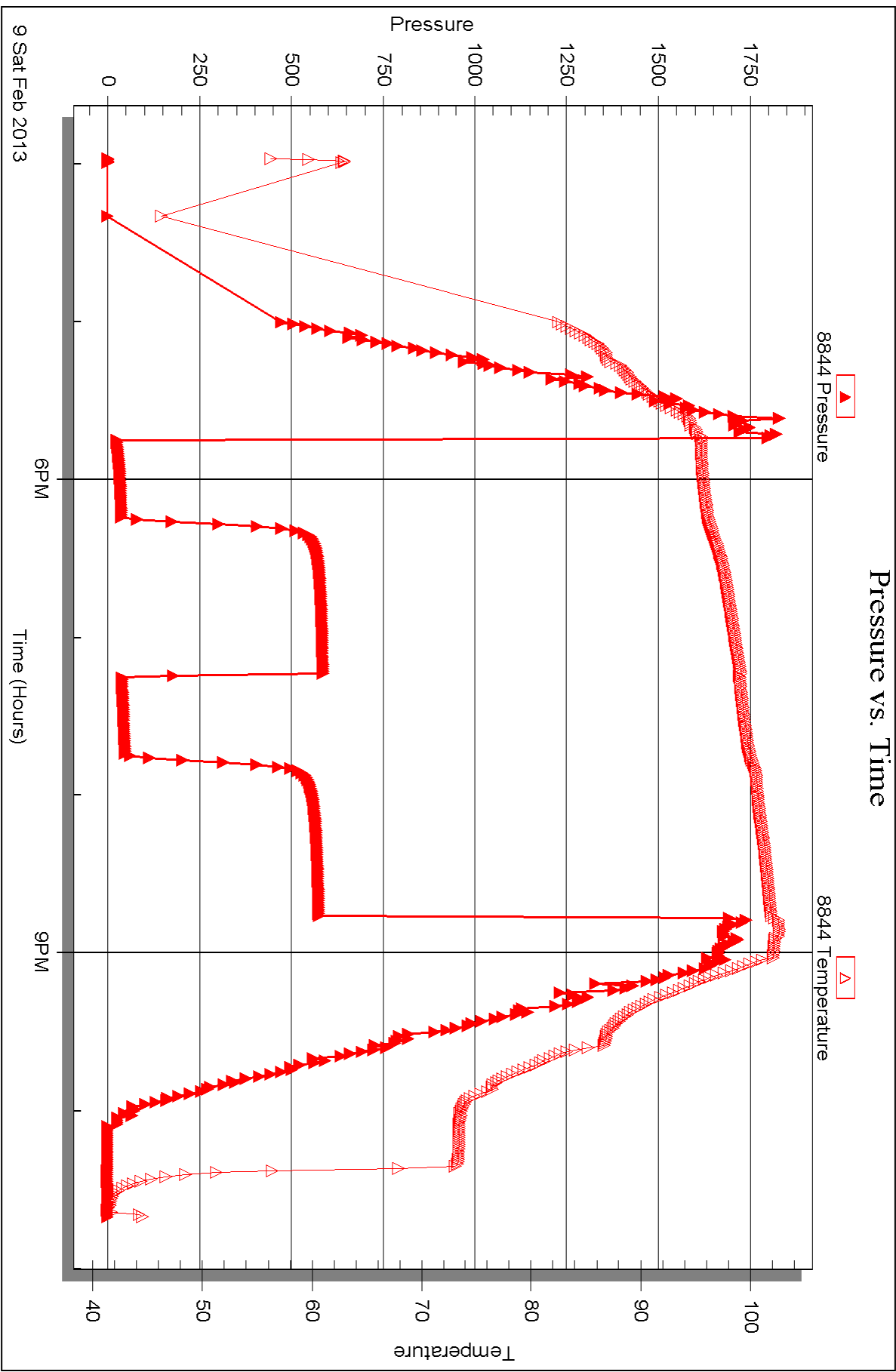
Serial #: 8844

Inside

Murfin Drilling Co inc.

28-14s-18w Ellis KS

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

28-14s-18w Ellis,KS

Kraus-Stecklein Unit #1-28

Start Date: 2013.02.10 @ 11:00:05

End Date: 2013.02.10 @ 17:21:20

Job Ticket #: 51475 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:19:58

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

28-14s-18w Ellis,KS

DST # 4

Arbuckle

2013.02.10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51475

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.02.10 @ 11:00:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:44:50

Time Test Ended: 17:21:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3649.00 ft (KB) To 3694.00 ft (KB) (TVD)

Reference Elevations: 2081.00 ft (KB)

Total Depth: 3694.00 ft (KB) (TVD)

2076.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8372 Outside

Press @ RunDepth: 35.93 psig @ 3656.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.10

End Date: 2013.02.10

Last Calib.: 2013.02.10

Start Time: 11:00:05

End Time: 17:21:20

Time On Btm: 2013.02.10 @ 12:44:00

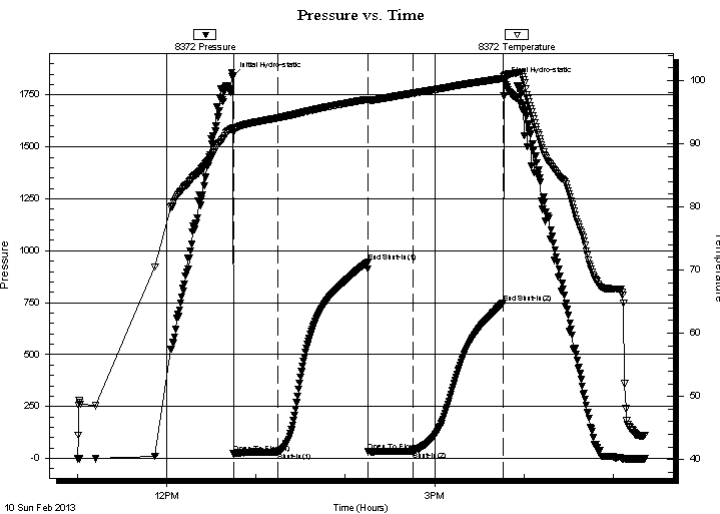
Time Off Btm: 2013.02.10 @ 15:46:59

TEST COMMENT: IF:(30min) Weak 3/4" blow . Decreased to surface blow .

ISl:(60min) No Return

FF:(30min) Very weak surface blow

FSl:(60min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1837.03	92.36	Initial Hydro-static
1	22.77	91.70	Open To Flow (1)
31	31.89	94.08	Shut-In(1)
91	943.99	97.00	End Shut-In(1)
92	33.91	96.76	Open To Flow (2)
122	35.93	97.96	Shut-In(2)
182	748.99	100.31	End Shut-In(2)
183	1814.58	100.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	HOCM o=25% m=75%	0.17
10.00	CO o=100%	0.14

* 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 inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51475

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.02.10 @ 11:00:05

Tool Information

Drill Pipe:	Length: 3614.00 ft	Diameter: 3.80 inches	Volume: 50.69 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 27.82 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: 50.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.82 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3649.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3627.00	
Shut In Tool	5.00			3632.00	
Hydraulic tool	5.00			3637.00	
Safety Joint	3.00			3640.00	
Packer	5.00			3645.00	23.00 Bottom Of Top Packer
Packer	4.00			3649.00	
Stubb	1.00			3650.00	
Perforations	5.00			3655.00	
Change Over Sub	1.00			3656.00	
Recorder	0.00	8844	Inside	3656.00	
Recorder	0.00	8372	Outside	3656.00	
Drill Pipe	32.00			3688.00	
Change Over Sub	1.00			3689.00	
Perforations	2.00			3691.00	
Bullnose	3.00			3694.00	45.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51475

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.02.10 @ 11:00:05

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
30.00	HOCM o=25% m=75%	0.167
10.00	CO o=100%	0.140

Total Length: 40.00 ft Total Volume: 0.307 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

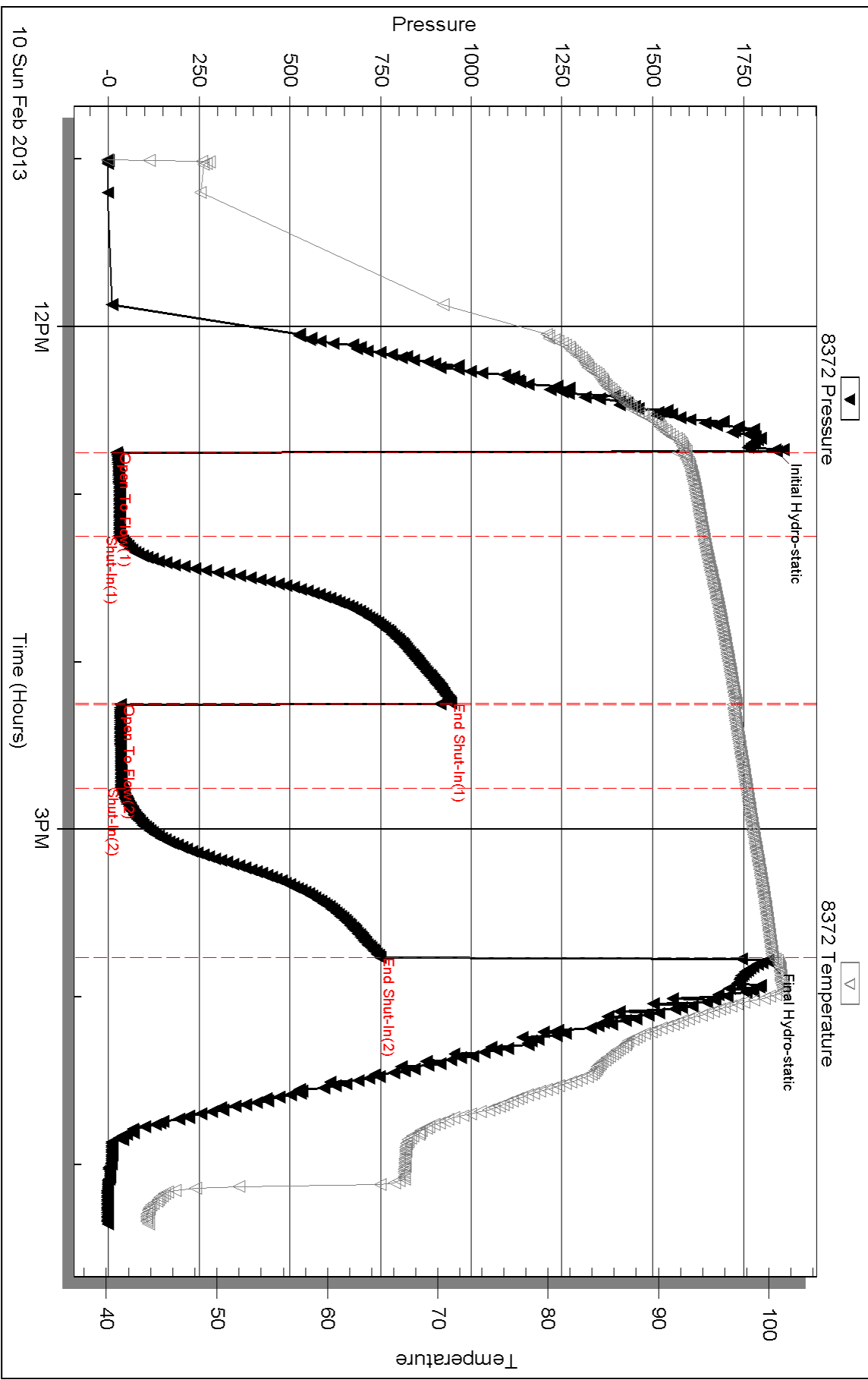
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



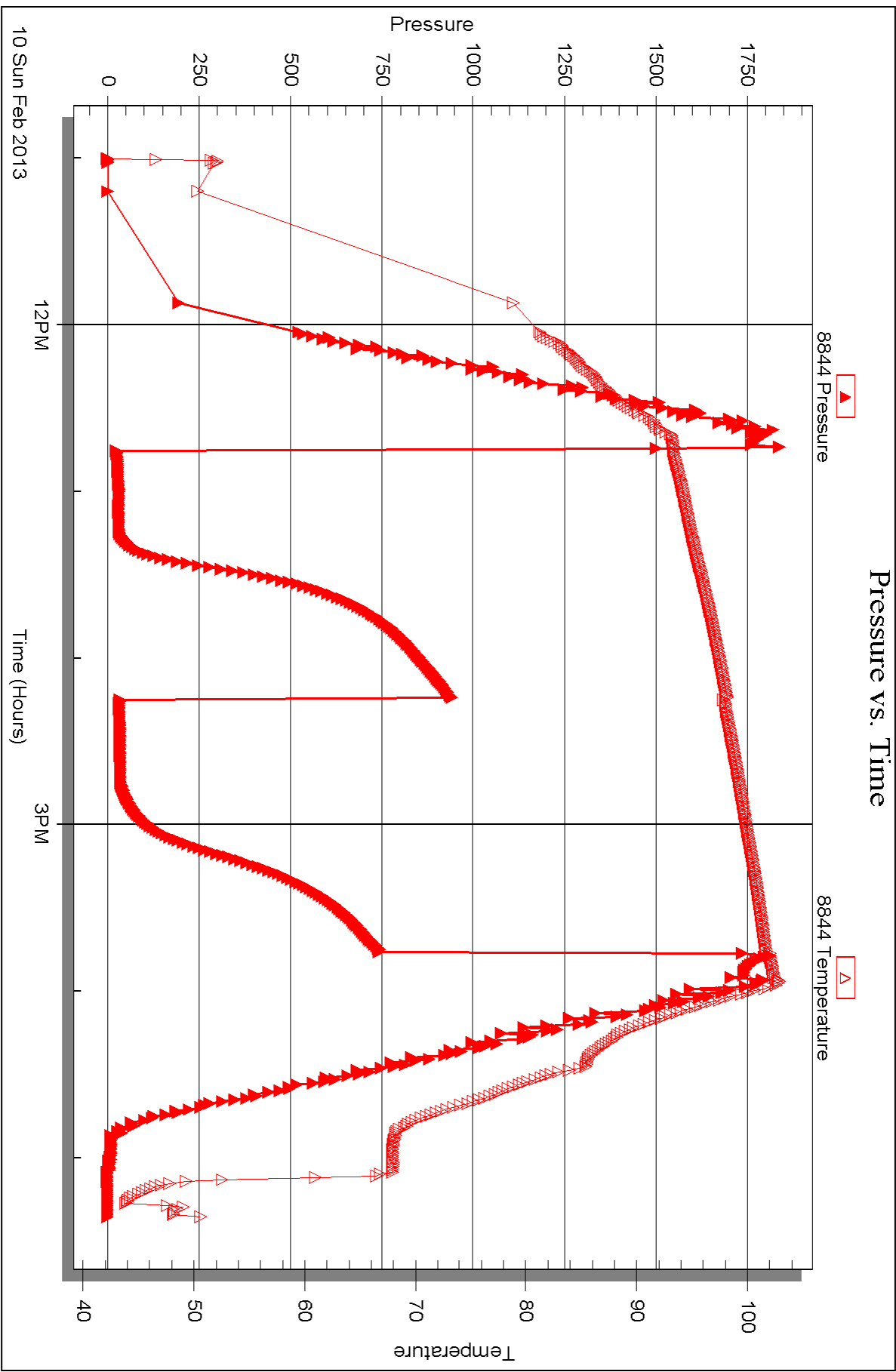
Serial #: 8844

Inside

Murfin Drilling Co inc.

28-14s-18w Ellis KS

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

28-14s-18w Ellis,KS

Kraus-Stecklein Unit #1-28

Start Date: 2013.02.10 @ 22:48:00

End Date: 2013.02.11 @ 06:14:09

Job Ticket #: 51587 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:24:47

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

28-14s-18w Ellis,KS

DST # 5

Arbuckle

2013.02.10



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51587

DST#: 5

ATTN: Paul Gunzelman

Test Start: 2013.02.10 @ 22:48:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:18:30

Time Test Ended: 06:14:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 39

Interval: 3694.00 ft (KB) To 3704.00 ft (KB) (TVD)

Reference Elevations: 2081.00 ft (KB)

Total Depth: 3704.00 ft (KB) (TVD)

2076.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8844

Inside

Press @ RunDepth: 36.36 psig @ 3701.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.10

End Date:

2013.02.11

Last Calib.:

2013.02.11

Start Time: 22:48:05

End Time:

06:14:10

Time On Btm:

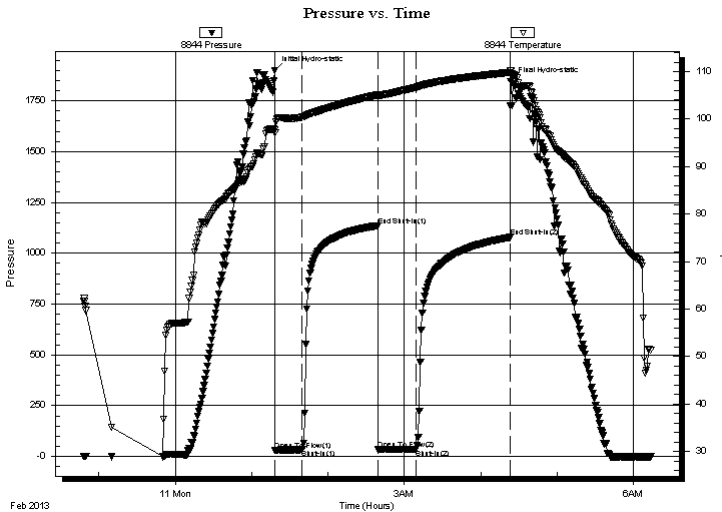
2013.02.11 @ 01:18:20

Time Off Btm:

2013.02.11 @ 04:23:39

TEST COMMENT: 20 - IF- 1 1/4" blow .
60 - IS- No blow back.
30 - FF- 1/2" blow .
60 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1899.32	97.66	Initial Hydro-static
1	30.64	97.13	Open To Flow (1)
22	33.54	100.44	Shut-In(1)
81	1135.33	105.09	End Shut-In(1)
81	35.33	104.70	Open To Flow (2)
112	36.36	106.66	Shut-In(2)
185	1078.18	109.81	End Shut-In(2)
186	1845.85	110.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	Mud, with spots of oil., 100%M	0.46

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51587

DST#: 5

ATTN: Paul Gunzelman

Test Start: 2013.02.10 @ 22:48:00

Tool Information

Drill Pipe:	Length: 3676.00 ft	Diameter: 3.80 inches	Volume: 51.56 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 27.00 ft	Diameter: 2.25 inches	Volume: 0.13 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 51.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3694.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	33.00 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			3672.00	
Shut In Tool	5.00			3677.00	
Hydraulic tool	5.00			3682.00	
Safety Joint	3.00			3685.00	
Packer	5.00			3690.00	23.00 Bottom Of Top Packer
Packer	4.00			3694.00	
Stubb	1.00			3695.00	
Perforations	6.00			3701.00	
Recorder	0.00	8844	Inside	3701.00	
Recorder	0.00	8372	Outside	3701.00	
Bullnose	3.00			3704.00	10.00 Bottom Packers & Anchor

Total Tool Length: 33.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51587

DST#: 5

ATTN: Paul Gunzelman

Test Start: 2013.02.10 @ 22:48:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	Mud, w ith spots of oil., 100%M	0.455

Total Length: 50.00 ft Total Volume: 0.455 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8844

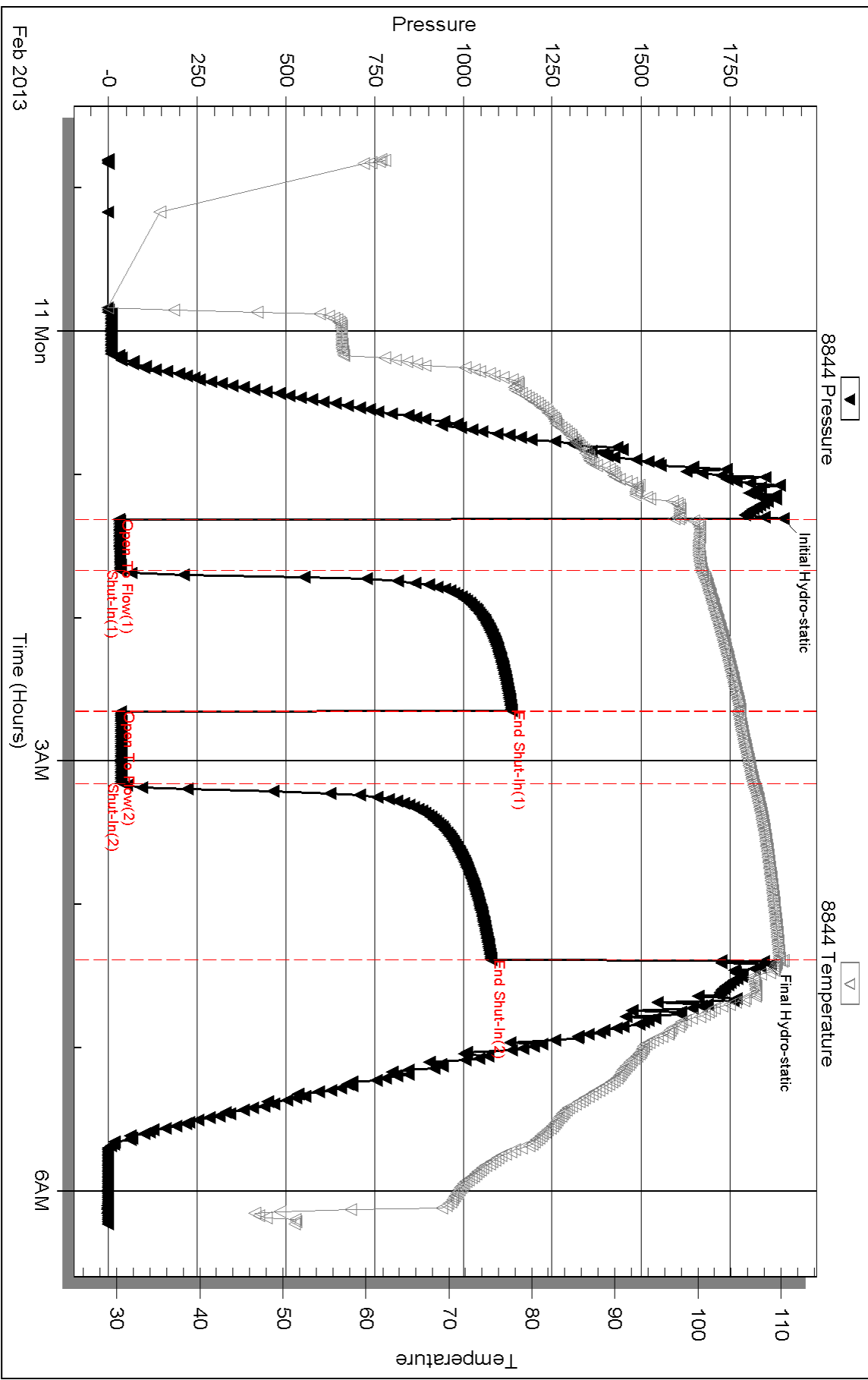
Inside

Murfin Drilling Co inc.

28-14s-18w Ellis KS

DST Test Number: 5

Pressure vs. Time

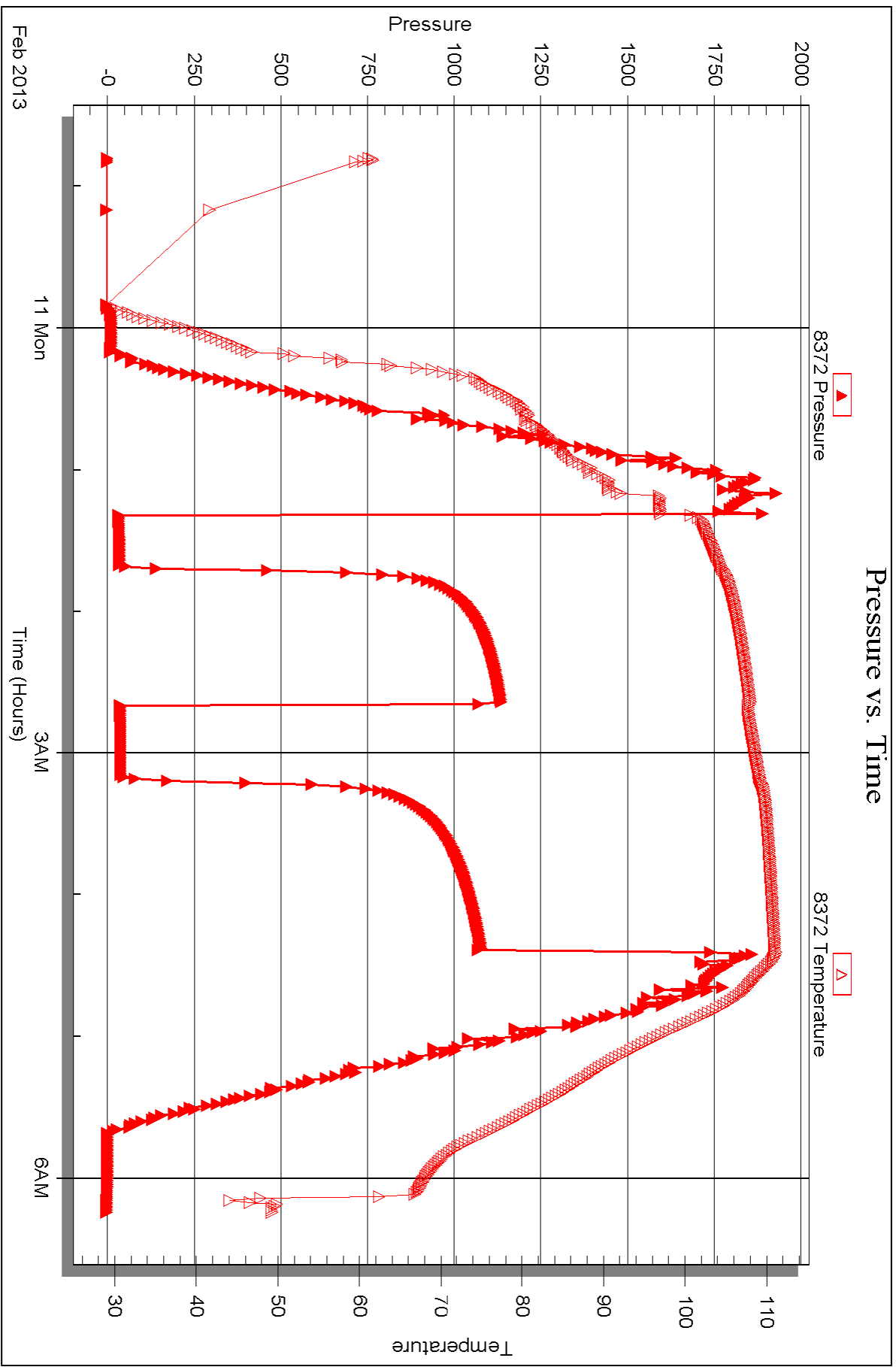


Serial #: 8372

Outside Murfin Drilling Co inc.

28-14s-18w Ellis, KS

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co inc.**

250 N Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

28-14s-18w Ellis,KS

Kraus-Stecklein Unit #1-28

Start Date: 2013.02.11 @ 10:52:00

End Date: 2013.02.11 @ 17:45:30

Job Ticket #: 51588 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:19:15

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

28-14s-18w Ellis,KS

DST # 6

Arbuckle

2013.02.11



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51588

DST#: 6

ATTN: Paul Gunzelman

Test Start: 2013.02.11 @ 10:52:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:54:50

Time Test Ended: 17:45:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 39

Interval: 3704.00 ft (KB) To 3714.00 ft (KB) (TVD)

Reference Elevations: 2081.00 ft (KB)

Total Depth: 3714.00 ft (KB) (TVD)

2076.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8844 Inside

Press @ RunDepth: 153.13 psig @ 3705.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.11

End Date:

2013.02.11

Last Calib.:

2013.02.11

Start Time: 10:52:05

End Time:

17:45:29

Time On Btm:

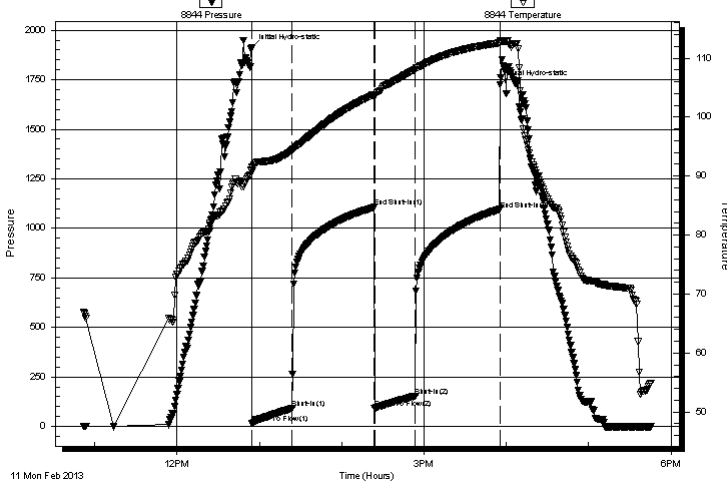
2013.02.11 @ 12:54:40

Time Off Btm:

2013.02.11 @ 15:55:30

TEST COMMENT: 30 - IF- B.O.B. in 15 Minutes.
60 - IS- Weak return. Died in 17 Minutes.
30 - FF- B.O.B. in 18 Minutes
60 - FS- Weak return fading in and out.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1909.35	91.61	Initial Hydro-static
1	16.89	90.94	Open To Flow (1)
30	90.09	94.35	Shut-In(1)
89	1105.89	103.82	End Shut-In(1)
90	92.73	103.50	Open To Flow (2)
119	153.13	108.10	Shut-In(2)
181	1094.88	112.60	End Shut-In(2)
181	1724.42	112.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
248.00	MW, 5%M, 95%W	3.23

* 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 inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51588

DST#: 6

ATTN: Paul Gunzelman

Test Start: 2013.02.11 @ 10:52:00

Tool Information

Drill Pipe:	Length: 3676.00 ft	Diameter: 3.80 inches	Volume: 51.56 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 27.00 ft	Diameter: 2.25 inches	Volume: 0.13 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 51.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3704.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	33.00 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			3682.00	
Shut In Tool	5.00			3687.00	
Hydraulic tool	5.00			3692.00	
Safety Joint	3.00			3695.00	
Packer	5.00			3700.00	23.00 Bottom Of Top Packer
Packer	4.00			3704.00	
Stubb	1.00			3705.00	
Recorder	0.00	8844	Inside	3705.00	
Recorder	0.00	8372	Outside	3705.00	
Perforations	6.00			3711.00	
Bullnose	3.00			3714.00	10.00 Bottom Packers & Anchor

Total Tool Length: 33.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co inc.

Kraus-Stecklein Unit #1-28

250 N Water STE 300
Wichita KS 67202

28-14s-18w Ellis,KS

Job Ticket: 51588

DST#: 6

ATTN: Paul Gunzelman

Test Start: 2013.02.11 @ 10:52:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
248.00	MW, 5%M, 95%W	3.233

Total Length: 248.00 ft Total Volume: 3.233 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8844

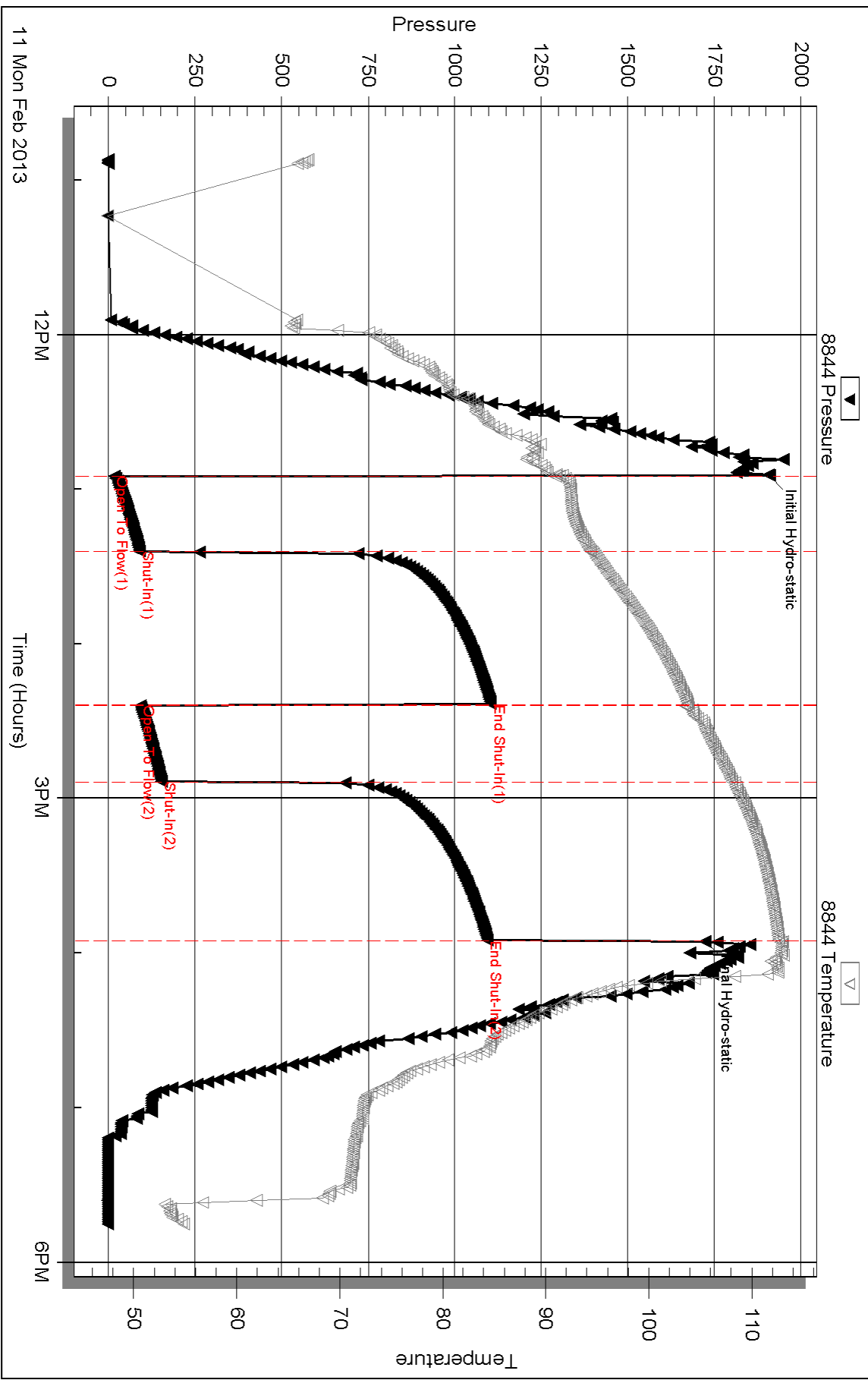
Inside

Murfin Drilling Co Inc.

28-14s-18w Ellis KS

DST Test Number: 6

Pressure vs. Time

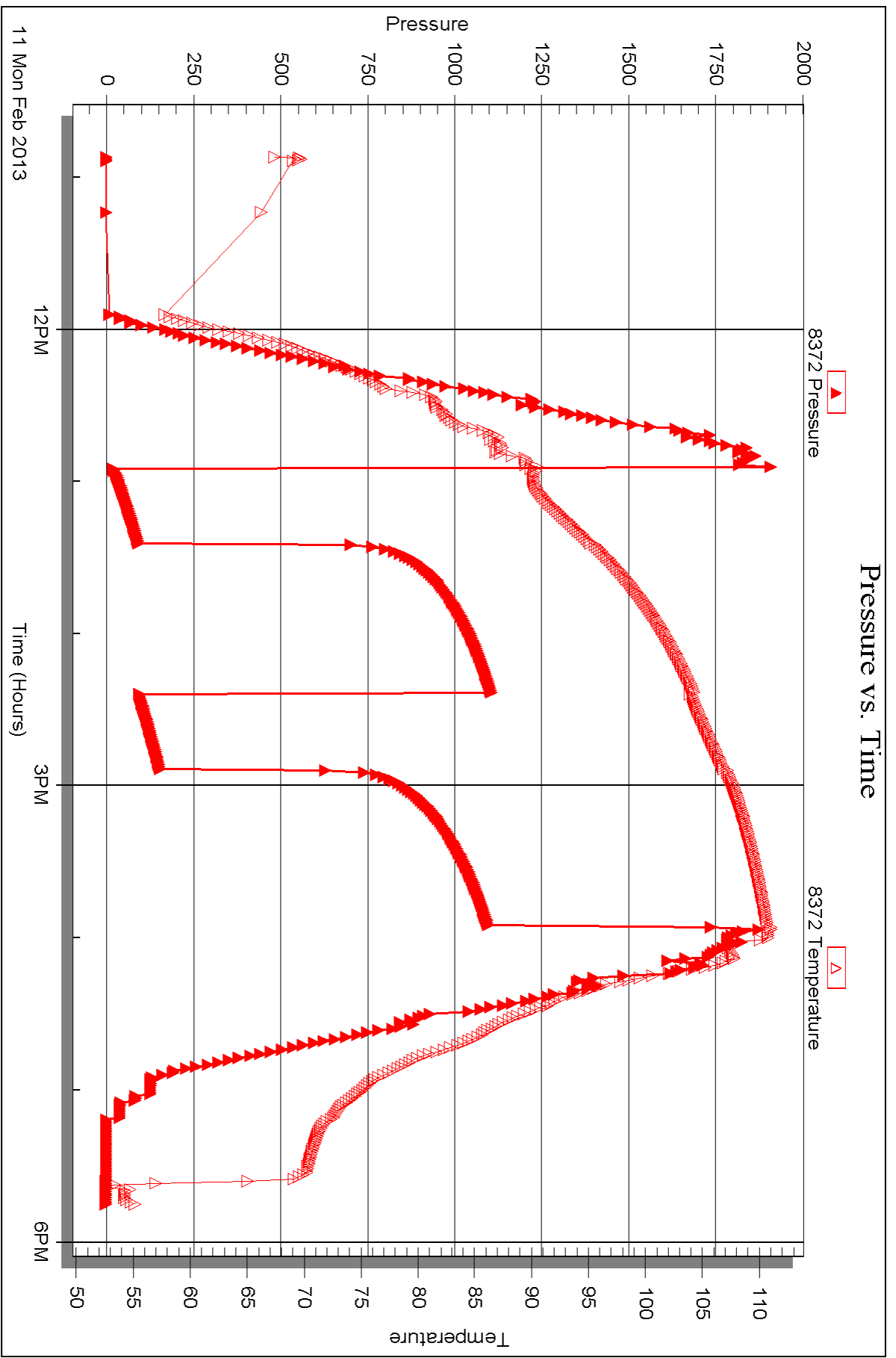


Serial #: 8372

Outside Murfin Drilling Co inc.

28-14s-18w Ellis, KS

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 51588

Printed: 2013.02.19 @ 09:19:18



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51472

Well Name & No. Keaus-Stecklein Unit 1-28 Test No. 1 Date 2-8-13
 Company Murfin Drilling Co. Inc Elevation 2081 KB 2076 GL
 Address 250 N. Water STE 300 Wichita Ks. 67202
 Co. Rep / Geo. Paul Gunzelman Rig Murfin 16
 Location: Sec. 28 Twp. 14s Rge. 18W Co. Ellis State Ks.

Interval Tested 3324-3412 Zone Tested Top-LKC "A-B"
 Anchor Length 88' Drill Pipe Run 3298 Mud Wt. 8.8
 Top Packer Depth 3319 Drill Collars Run 27.82 Vis 56
 Bottom Packer Depth 3324 Wt. Pipe Run 0 WL 7.6
 Total Depth 3412 Chlorides 5700 ppm System LCM 0

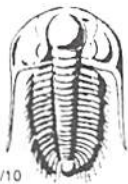
Blow Description IF: 1/2" blow in 5min. & Throughout.
ISI: NO Return
FF: Very Weak surface blow. died in 6min
FSI: NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud w/oil spks in Tool</u>		<u>100%</u>		
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total ~~10~~ 10' BHT 97° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1677 Test ← 1150 T-On Location 01:42
 (B) First Initial Flow 15 Jars _____ T-Started 03:31
 (C) First Final Flow 22 Safety Joint ← 75 T-Open 05:39
 (D) Initial Shut-In 771 Circ Sub _____ T-Pulled 05:39
 (E) Second Initial Flow 23 Hourly Standby _____ T-Out 10:12
 (F) Second Final Flow 28 Mileage ← 16RT 24.80 Comments _____
 (G) Final Shut-In 662 Sampler _____
 (H) Final Hydrostatic 1611 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1249.80
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1249.80

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51473

Well Name & No. KRAUS - STECKLEIN unit 1-28 Test No. 2 Date 2-8-13
 Company MURFIN DRILLING CO INC Elevation 2081 KB 2076 GL
 Address 250 N WATER STE 300 WICHITA KS. 67202
 Co. Rep / Geo. PAUL GUNZELMAN Rig MURFIN 16
 Location: Sec. 28 Twp. 14S Rge. 18W Co. ELLIS State KS

Interval Tested 3410 - 3463 Zone Tested LKC "D-F"
 Anchor Length 53' Drill Pipe Run 3390 Mud Wt. 9.1
 Top Packer Depth 3405 Drill Collars Run 27.82 Vis 52
 Bottom Packer Depth 3410 Wt. Pipe Run 0 WL 7.2
 Total Depth 3463 Chlorides 7800 ppm System LCM 0

Blow Description FF: Weak surface blow
ISI: NO RETURN
FF: Weak surface blow, died in 8 min.
FSD: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud w/ oil spks into tool</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 99° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1733 Test ← 1150 T-On Location 18:09
 (B) First Initial Flow 16 Jars T-Started 18:23
 (C) First Final Flow 17 Safety Joint ← 75 T-Open 20:39
 (D) Initial Shut-In 387 Circ Sub T-Pulled 23:39
 (E) Second Initial Flow 19 Hourly Standby T-Out 01:17
 (F) Second Final Flow 20 Mileage 16.4 ← 24.80 Comments _____
 (G) Final Shut-In 347 Sampler _____
 (H) Final Hydrostatic 1701 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 60 Extra Recorder _____
 Sub Total 0
 Total 1249.80
 Sub Total 1249.80 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51474

4/10

Well Name & No. KRAUS-STECKLEIN unit 1-28 Test No. 3 Date 2-9-13
 Company MURFIN Drilg. Co. inc Elevation 2081 KB 2076 GL
 Address 250 N Water STE 300 Wichita Ks. 67202
 Co. Rep / Geo. Paul GUNZELMAN Rig MURFIN 16
 Location: Sec. 28 Twp. 14S Rge. 18W Co. Ellis State Ks.

Interval Tested 3496-3588 Zone Tested LKC "H-K"
 Anchor Length 92' Drill Pipe Run 3456 Mud Wt. 9.2
 Top Packer Depth ~~3588~~ 3491 Drill Collars Run 27.82 Vis 55
 Bottom Packer Depth 3496 Wt. Pipe Run 0 WL 8.0
 Total Depth 3588 Chlorides 11,100 ppm System LCM 0

Blow Description IF: 1" blow in 5 min. 2" in 13 min. 3" in 23 min. built to 3 1/4"
ISI: NO RETURN
FF: 1" in 9 min. built to 1 1/2"
FSL: NO RETURN

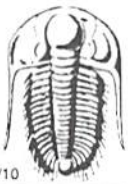
Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>Mud w/ oil spks in tool</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65 BHT 100° Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1798 Test ← 1150 T-On Location 15:20
 (B) First Initial Flow 23 Jars _____ T-Started 15:58
 (C) First Final Flow 37 Safety Joint ← 75 T-Open 17:45
 (D) Initial Shut-In 585 Circ Sub _____ T-Pulled 20:45
 (E) Second Initial Flow 38 Hourly Standby _____ T-Out 22:42
 (F) Second Final Flow 47 Mileage ← 16 RT 24.80 Comments _____
 (G) Final Shut-In 574 Sampler _____
 (H) Final Hydrostatic 1740 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30 ~~60~~
 Final Shut-In 60 ~~90~~
 Sub Total 1249.80
 Total 1249.80
 MP/DST Disc't _____

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51475

Well Name & No. Kraus - Stecklein unit 1-28 Test No. 4 Date 2-10-13
 Company Murfin Drilg. Co. Inc Elevation 2081 KB 2076 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Paul Gunzelman Rig Murfin 16
 Location: Sec. 28 Twp. 14s Rge. 18w Co. Ellis State Ks.

Interval Tested 3649-3694 Zone Tested Arbuckle
 Anchor Length 45 Drill Pipe Run 3614 Mud Wt. 9.2
 Top Packer Depth 3644 Drill Collars Run 27.82 Vis 57
 Bottom Packer Depth 3649 Wt. Pipe Run 0 WL 7.6
 Total Depth 3694 Chlorides 10,900 ppm System LCM 6#
 Blow Description IF: Weak 3/4" blow decreased to surface blow
ISI: No Return
FF: Very Weak surface blow
FSI: No Return

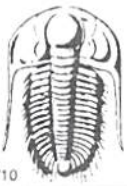
Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>CO</u>		<u>100</u>		
<u>30</u>	<u>HOCm</u>		<u>20</u>		<u>80</u>

Rec Total 40' BHT 100° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1837</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>10:42</u>
(B) First Initial Flow <u>22</u>	<input type="checkbox"/> Jars _____	T-Started <u>11:00</u>
(C) First Final Flow <u>31</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>12:45</u>
(D) Initial Shut-In <u>943</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>15:45</u>
(E) Second Initial Flow <u>33</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>17:21</u>
(F) Second Final Flow <u>35</u>	<input checked="" type="checkbox"/> Mileage <u>4.6</u> 24.80	Comments _____
(G) Final Shut-In <u>748</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1814</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby _____	Total <u>1249.80</u>
Final Shut-In <u>16</u>	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1249.80</u>	

Approved By _____ Our Representative Orby Co

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51587

Well Name & No. Kraus-Stecklein unit 1-28 Test No. 5 Date 2-10-13
 Company Murfin Drilling Company Inc. Elevation 2081 KB 2076 GL
 Address 250 N. Wated STE 300, Wichita KS, 67202
 Co. Rep / Geo. Paul Gunzelman Rig Murfin 16
 Location: Sec. 28 Twp. 14s Rge. 18w Co. Ellis State KS

Interval Tested 3694 - 3704 Zone Tested Arbuckle
 Anchor Length 10' Drill Pipe Run 3676 Mud Wt. 9.2
 Top Packer Depth 3689 Drill Collars Run 27.82 Vis 57
 Bottom Packer Depth 3694 Wt. Pipe Run — WL 7.6
 Total Depth 3704 Chlorides 10,900 ppm System LCM 6#
 Blow Description IF- 1 1/4" blow
IS- No blow back.
FF- 1/2" blow
FS- No return

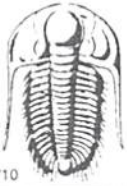
Rec	Feet of	%gas	%oil	%water	%mud
<u>50'</u>	<u>Mud with spots of oil</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 50' BHT 109° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1899</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>9:58pm</u>
(B) First Initial Flow <u>30</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>10:48pm</u>
(C) First Final Flow <u>33</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1:20am</u>
(D) Initial Shut-In <u>1135</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>4:10am</u>
(E) Second Initial Flow <u>35</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>6:14am</u>
(F) Second Final Flow <u>36</u>	<input checked="" type="checkbox"/> Mileage <u>24.80</u>	Comments <u>—</u>
(G) Final Shut-In <u>1678</u>	<input type="checkbox"/> Sampler <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
(H) Final Hydrostatic <u>1845</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Open <u>20 20</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u>—</u>	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Total <u>1249.80</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>—</u>	MP/DST Disc't <u>—</u>
	<input type="checkbox"/> Accessibility <u>—</u>	
	Sub Total <u>1249.80</u>	

Approved By _____ Our Representative Cody R...

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51588

Well Name & No. Krays-Stecklein unit 1-28 Test No. 6 Date 2-11-13
 Company Murfin Drilg Company Inc. Elevation 2081 KB 2076 GL
 Address 250 N. Watted STE 300, Wichita KS, 67202
 Co. Rep / Geo. Paul Gunzelman Rig Murfin 16
 Location: Sec. 28 Twp. 14s Rge. 18w Co. Ellis State KS

Interval Tested 3704-3714 Zone Tested Arbuckle
 Anchor Length 10' Drill Pipe Run 3676 Mud Wt. 9.2
 Top Packer Depth 3699 Drill Collars Run 27.82 Vis 57
 Bottom Packer Depth 3704 Wt. Pipe Run — WL 7.6
 Total Depth 3714 Chlorides 10,900 ppm System LCM 6#
 Blow Description IF - B.O.B. in 15 Minutes
ISI - Weak return. Died in 17 Minutes.
FF - B.O.B. in 18 Minutes
FSI - Weak return fading in & out.

Rec	Feet of	%gas	%oil	%water	%mud
<u>248</u>	<u>M W</u>		<u>95</u>	<u>5</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 248' BHT 112° Gravity — API RW .37 @ 55° F Chlorides 25,000 ppm

(A) Initial Hydrostatic <u>1909</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>10:25 am</u>
(B) First Initial Flow <u>16</u>	<input type="checkbox"/> Jars	T-Started <u>10:52 am</u>
(C) First Final Flow <u>90</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>12:55 pm</u>
(D) Initial Shut-In <u>1105</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>3:55 pm</u>
(E) Second Initial Flow <u>92</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>5:45 pm</u>
(F) Second Final Flow <u>153</u>	<input checked="" type="checkbox"/> Mileage <u>24.80</u>	Comments
(G) Final Shut-In <u>1094</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1724</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1249.80</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1249.80</u>	

Approved By _____ Our Representative Cody Bloodorn

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