



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste 300
Wichita KS 67202

ATTN: Ken Dean

Emmerentia #1-23

23-15s-19w Ellis,KS

Start Date: 2013.02.17 @ 20:35:57

End Date: 2013.02.18 @ 04:35:06

Job Ticket #: 50355 DST #: 1

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

Printed: 2013.03.06 @ 13:46:24



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N.Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis,KS

Emmerentia #1-23

Job Ticket: 50355

DST#: 1

Test Start: 2013.02.17 @ 20:35:57

GENERAL INFORMATION:

Formation: **LKC A-B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:39:22

Time Test Ended: 04:35:06

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 42

Interval: 3263.00 ft (KB) To 3318.00 ft (KB) (TVD)

Reference Elevations: 1981.00 ft (KB)

Total Depth: 3318.00 ft (KB) (TVD)

1976.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8369 Inside

Press @ Run Depth: 64.18 psig @ 3264.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.17 End Date: 2013.02.18

Last Calib.: 2013.02.18

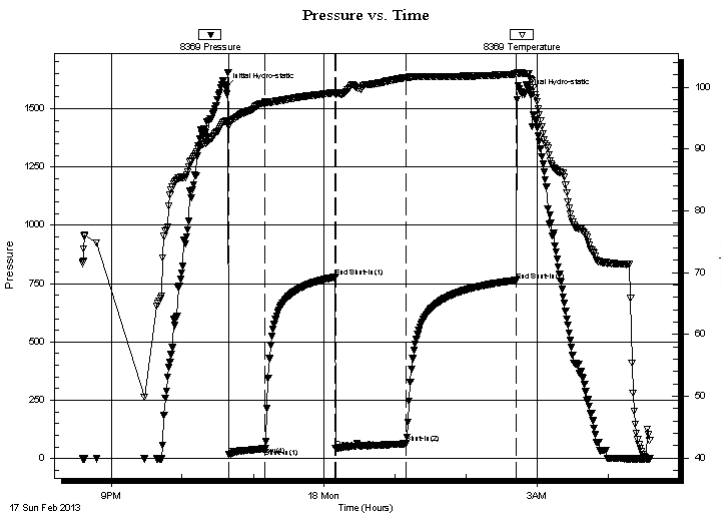
Start Time: 20:35:57 End Time: 04:35:06

Time On Btm: 2013.02.17 @ 22:37:07

Time Off Btm: 2013.02.18 @ 02:47:06

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 2" bl
60-ISIP-no bl bk
60-FFP-w k bl thru-out 1/2" to 1" bl
90-FSIP-no bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1588.63	94.49	Initial Hydro-static
3	16.10	93.59	Open To Flow (1)
33	42.44	97.58	Shut-In(1)
92	777.98	99.15	End Shut-In(1)
93	44.34	98.77	Open To Flow (2)
152	64.18	101.55	Shut-In(2)
245	761.34	102.10	End Shut-In(2)
250	1562.91	102.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
100.00	Mud w /show of oil	1.13

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50355 **DST#: 1**
Test Start: 2013.02.17 @ 20:35:57

GENERAL INFORMATION:

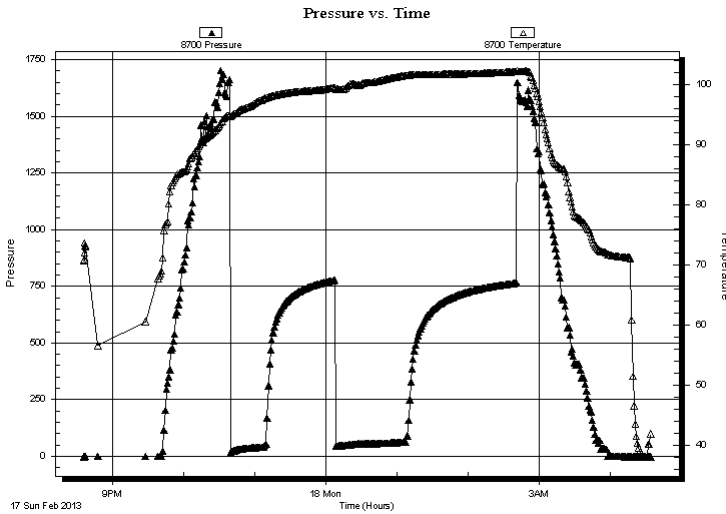
Formation: LKC A-B	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Ray Schwager
Time Tool Opened: 22:39:22	Unit No: 42
Time Test Ended: 04:35:06	Reference Elevations: 1981.00 ft (KB)
Interval: 3263.00 ft (KB) To 3318.00 ft (KB) (TVD)	1976.00 ft (CF)
Total Depth: 3318.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

Serial #: 8700 Outside

Press @ Run Depth: psig @ 3264.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2013.02.17 End Date: 2013.02.18	Last Calib.: 2013.02.18
Start Time: 20:36:00 End Time: 04:33:39	Time On Btm:
	Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 2" bl
60-ISIP-no bl bk
60-FFP-w k bl thru-out 1/2" to 1" bl
90-FSIP-no bl bk

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
100.00	Mud w/show of oil	1.13

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50355 **DST#: 1**
Test Start: 2013.02.17 @ 20:35:57

Tool Information

Drill Pipe:	Length: 3232.00 ft	Diameter: 3.80 inches	Volume: 45.34 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 45.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3263.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	78.00 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			3241.00	
Shut In Tool	5.00			3246.00	
Hydraulic tool	5.00			3251.00	
Safety Joint	2.00			3253.00	
Packer	5.00			3258.00	23.00 Bottom Of Top Packer
Packer	5.00			3263.00	
Stubb	1.00			3264.00	
Recorder	0.00	8369	Inside	3264.00	
Recorder	0.00	8700	Outside	3264.00	
Blank Spacing	33.00			3297.00	
Perforations	18.00			3315.00	
Bullnose	3.00			3318.00	55.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50355 **DST#: 1**
Test Start: 2013.02.17 @ 20:35:57

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:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.53 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
100.00	Mud w/show of oil	1.129

Total Length: 100.00 ft Total Volume: 1.129 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

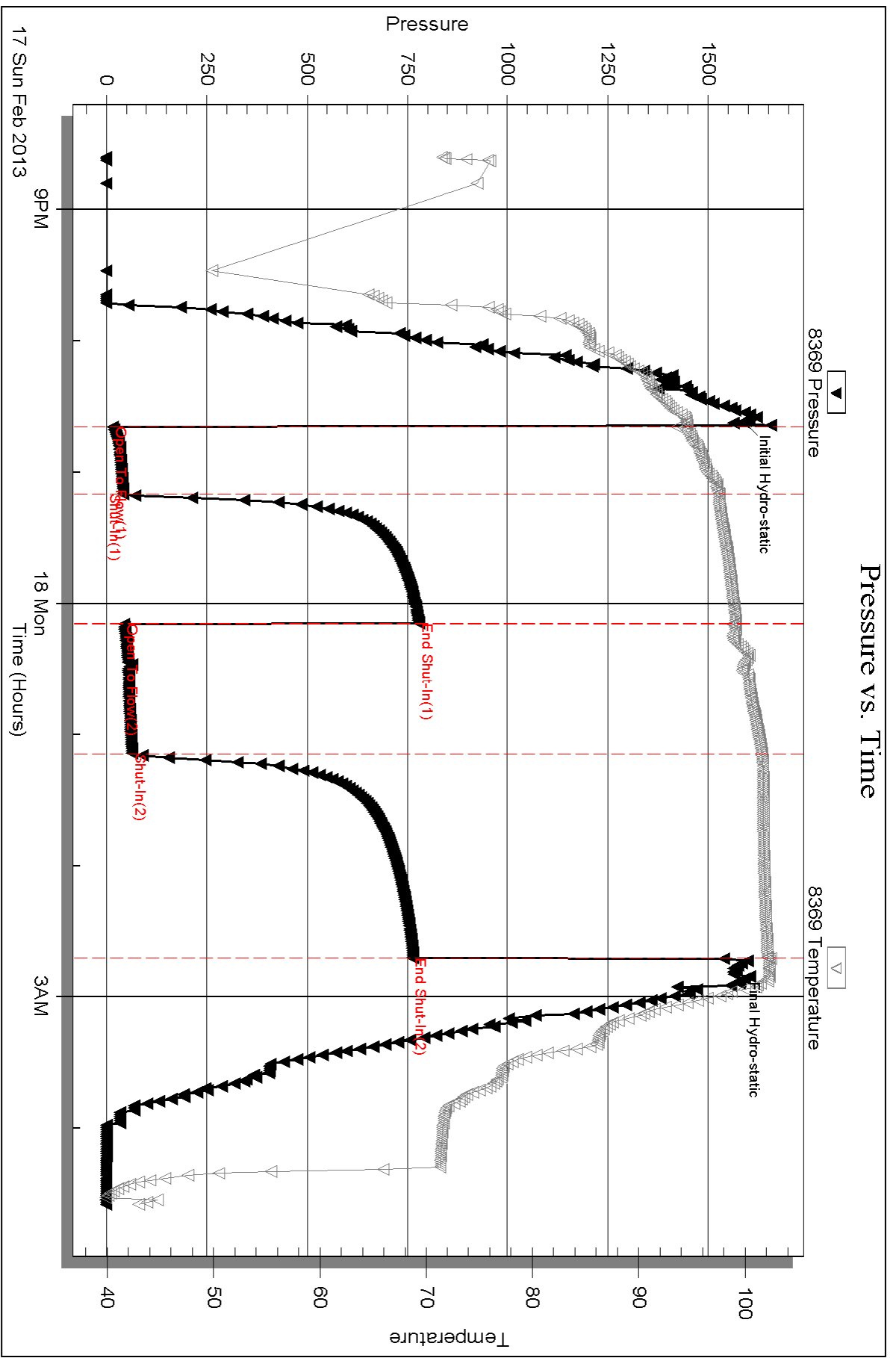
Serial #: 8369

Inside

Murfin Drilling Co Inc

Emmerentia #1-23

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 50355

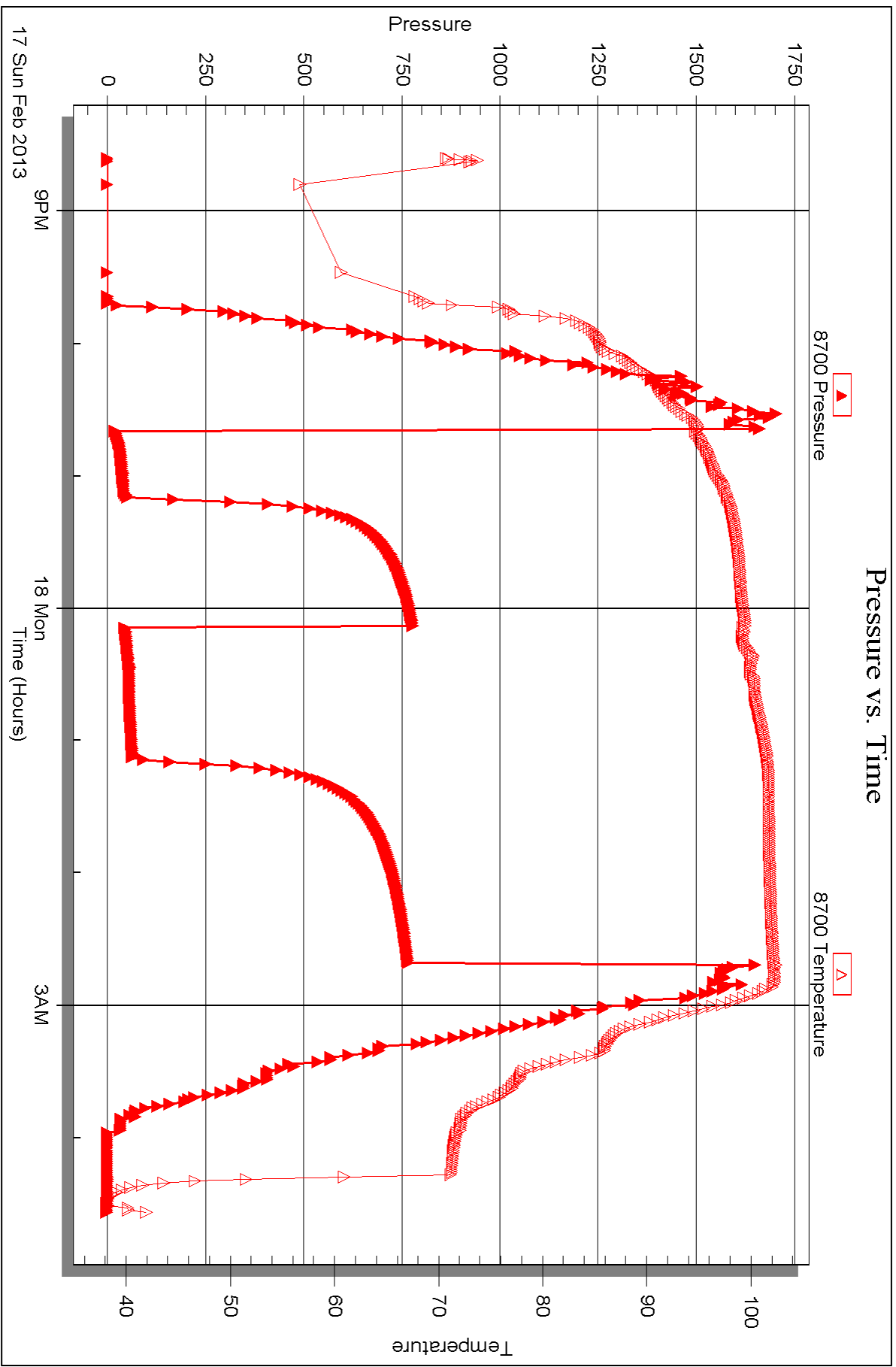
Printed: 2013.03.06 @ 13:46:26

Serial #: 8700

Outside Murfin Drilling Co Inc

Emergentia #1-23

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste 300
Wichita KS 67202

ATTN: Ken Dean

Emmerentia #1-23

23-15s-19w Ellis,KS

Start Date: 2013.02.18 @ 13:35:23

End Date: 2013.02.18 @ 20:59:02

Job Ticket #: 50356 DST #: 2

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

Printed: 2013.03.06 @ 13:45:47

Murfin Drilling Co Inc
23-15s-19w Ellis,KS
Emmerentia #1-23
DST # 2
LKC D-F
2013.02.18



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N.Water Ste 300
 Wichita KS 67202
 ATTN: Ken Dean

23-15s-19w Ellis,KS

Emmerentia #1-23

Job Ticket: 50356

DST#: 2

Test Start: 2013.02.18 @ 13:35:23

GENERAL INFORMATION:

Formation: **LKC D-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:16:18

Time Test Ended: 20:59:02

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 42

Interval: 3317.00 ft (KB) To 3372.00 ft (KB) (TVD)

Reference Elevations: 1981.00 ft (KB)

Total Depth: 3372.00 ft (KB) (TVD)

1976.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8369

Inside

Press @ Run Depth: 102.59 psig @ 3318.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.18

End Date:

2013.02.18

Last Calib.: 2013.02.18

Start Time: 13:35:23

End Time:

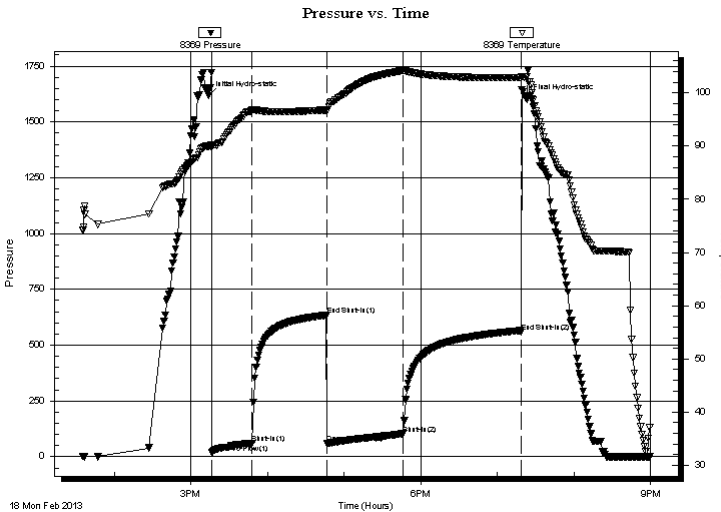
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Time On Btm: 2013.02.18 @ 15:14:03

Time Off Btm: 2013.02.18 @ 19:22:32

TEST COMMENT: 30-IFP-w k to a fr bl 1/2" to 4 1/4" bl
 60-ISIP-no bl
 60-FFP-w k bl thru-out 1/4" to 2" bl
 90-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1618.85	90.02	Initial Hydro-static
3	17.91	89.69	Open To Flow (1)
34	60.70	96.77	Shut-In(1)
92	634.23	96.82	End Shut-In(1)
93	59.99	96.53	Open To Flow (2)
153	102.59	104.25	Shut-In(2)
245	559.61	102.84	End Shut-In(2)
249	1603.49	103.02	Final Hydro-static

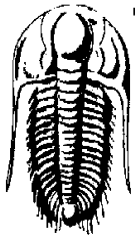
Recovery

Length (ft)	Description	Volume (bbl)
150.00	Water	1.83

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50356 **DST#: 2**
Test Start: 2013.02.18 @ 13:35:23

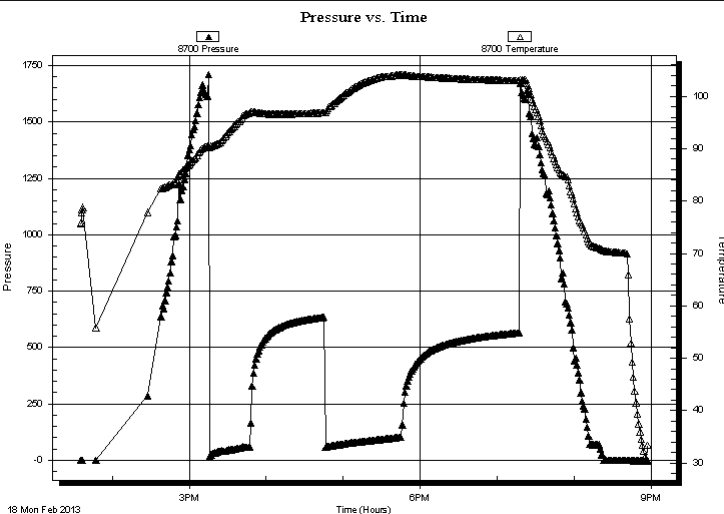
GENERAL INFORMATION:

Formation: **LKC D-F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:16:18
Time Test Ended: 20:59:02
Interval: 3317.00 ft (KB) To 3372.00 ft (KB) (TVD)
Total Depth: 3372.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 42
Reference Elevations: 1981.00 ft (KB)
1976.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8700 Outside
Press @ Run Depth: psig @ 3318.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.02.18 End Date: 2013.02.18 Last Calib.: 2013.02.18
Start Time: 13:35:22 End Time: 20:57:31 Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-w k to a fr bl 1/2" to 4 1/4" bl
60-ISIP-no bl
60-FFP-w k bl thru-out 1/4" to 2" bl
90-FSIP-no bl



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
150.00	Water	1.83

* 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
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50356 **DST#: 2**
Test Start: 2013.02.18 @ 13:35:23

Tool Information

Drill Pipe:	Length: 3295.00 ft	Diameter: 3.80 inches	Volume: 46.22 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 46.37 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	45000.00 lb
Depth to Top Packer:	3317.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 ft				
Tool Length:	78.00 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			3295.00	
Shut In Tool	5.00			3300.00	
Hydraulic tool	5.00			3305.00	
Safety Joint	2.00			3307.00	
Packer	5.00			3312.00	23.00 Bottom Of Top Packer
Packer	5.00			3317.00	
Stubb	1.00			3318.00	
Recorder	0.00	8369	Inside	3318.00	
Recorder	0.00	8700	Outside	3318.00	
Blank Spacing	33.00			3351.00	
Perforations	18.00			3369.00	
Bullnose	3.00			3372.00	55.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N.Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis,KS
Emmerentia #1-23
Job Ticket: 50356 **DST#: 2**
Test Start: 2013.02.18 @ 13:35:23

Mud and Cushion Information

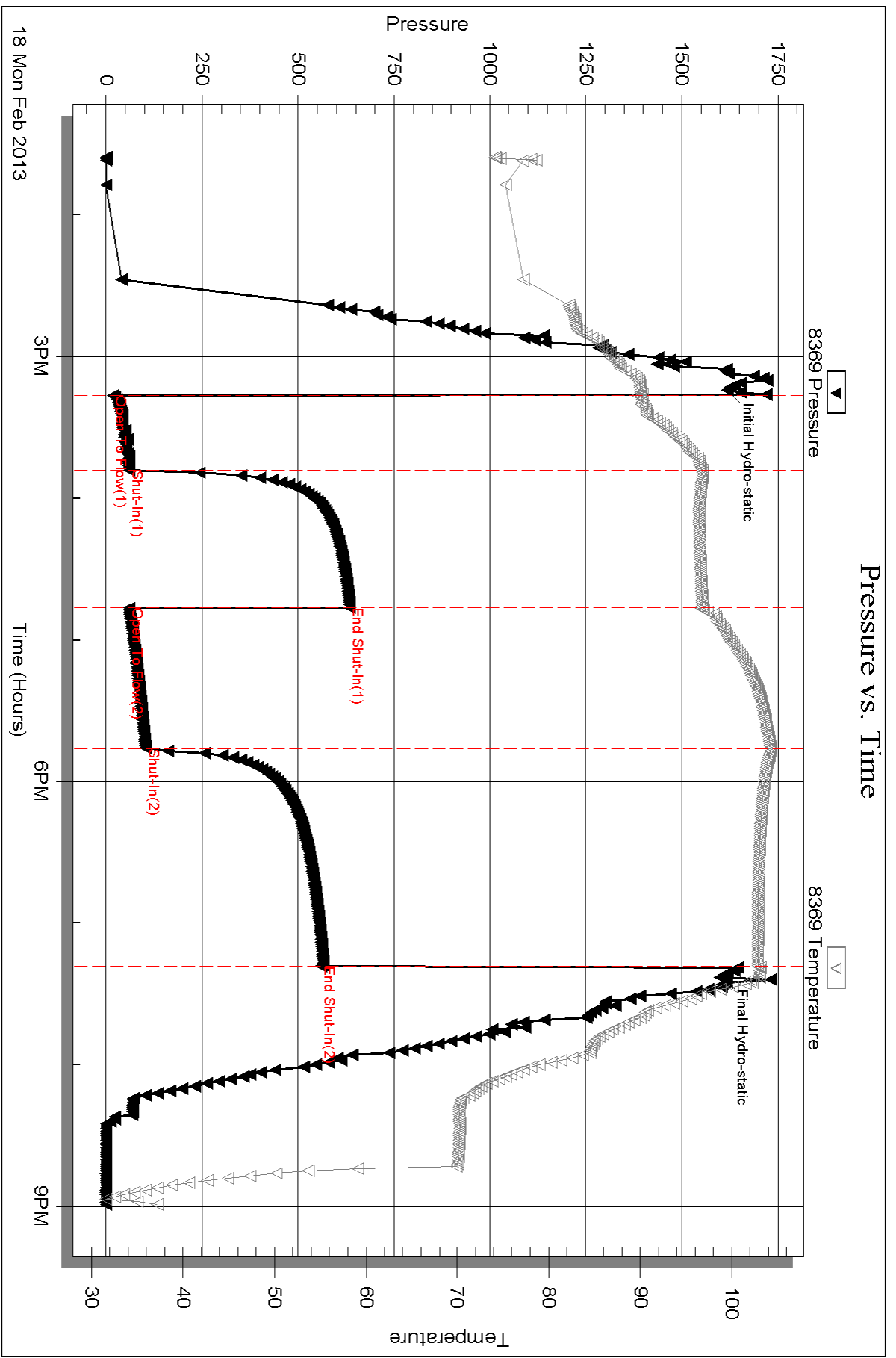
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	55000 ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.92 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8400.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	Water	1.831

Total Length: 150.00 ft Total Volume: 1.831 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: RW .19@55F

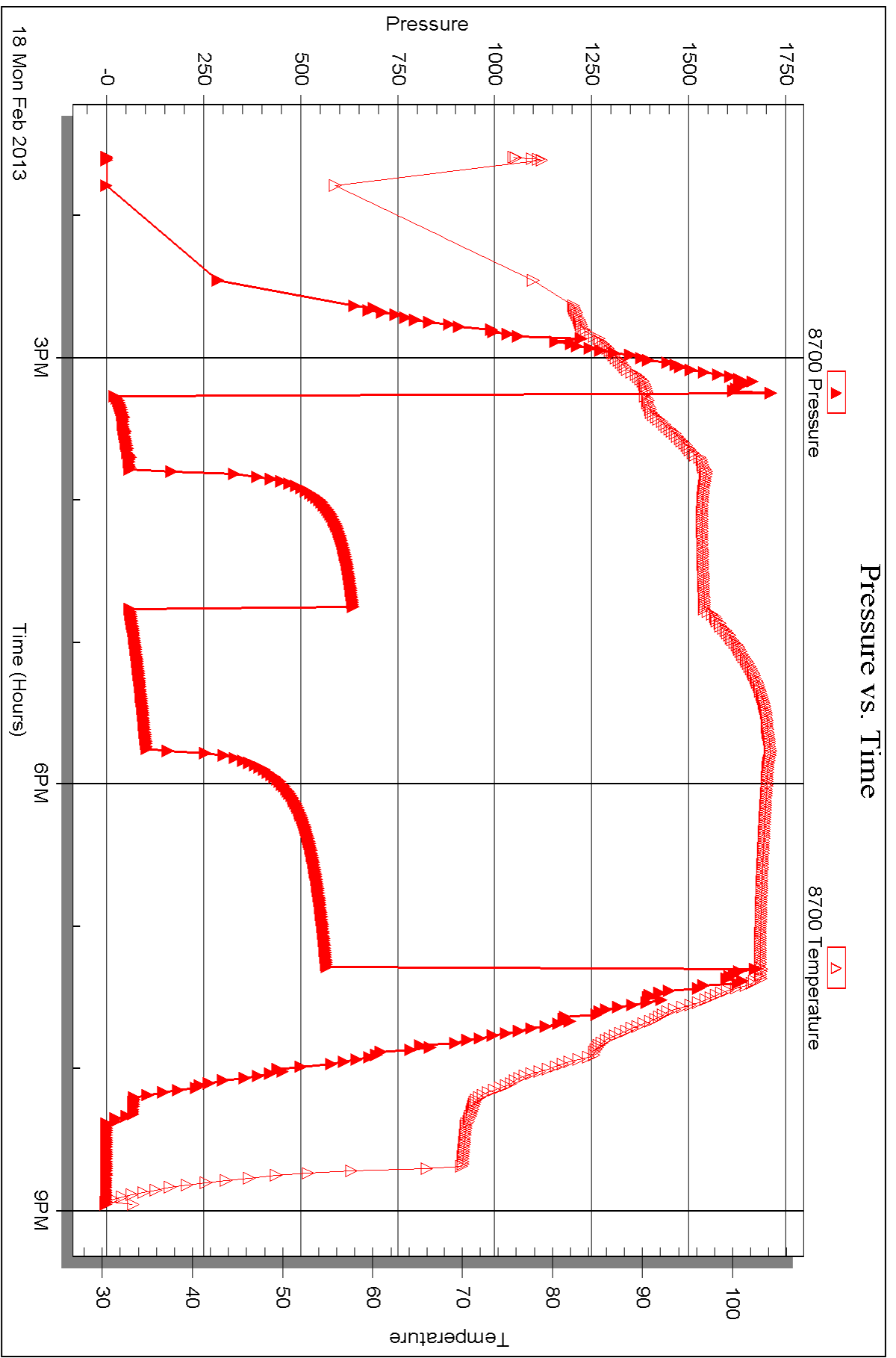


Serial #: 8700

Outside Murfin Drilling Co Inc

Emergentia #1-23

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 50356

Printed: 2013.03.06 @ 13:45:50



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste 300
Wichita KS 67202

ATTN: Ken Dean

Emmerentia #1-23

23-15s-19w Ellis,KS

Start Date: 2013.02.19 @ 07:40:13

End Date: 2013.02.19 @ 13:34:07

Job Ticket #: 50357 DST #: 3

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

Printed: 2013.03.06 @ 13:45:07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N.Water Ste 300
 Wichita KS 67202
 ATTN: Ken Dean

23-15s-19w Ellis,KS

Emmerentia #1-23

Job Ticket: 50357

DST#: 3

Test Start: 2013.02.19 @ 07:40:13

GENERAL INFORMATION:

Formation: **LKC H-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:15:23

Time Test Ended: 13:34:07

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 42

Interval: 3405.00 ft (KB) To 3459.00 ft (KB) (TVD)

Reference Elevations: 1981.00 ft (KB)

Total Depth: 3318.00 ft (KB) (TVD)

1976.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8369

Inside

Press @ Run Depth: 25.04 psig @ 3406.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.19

End Date:

2013.02.19

Last Calib.: 2013.02.19

Start Time: 07:40:13

End Time:

13:34:07

Time On Btm: 2013.02.19 @ 09:13:23

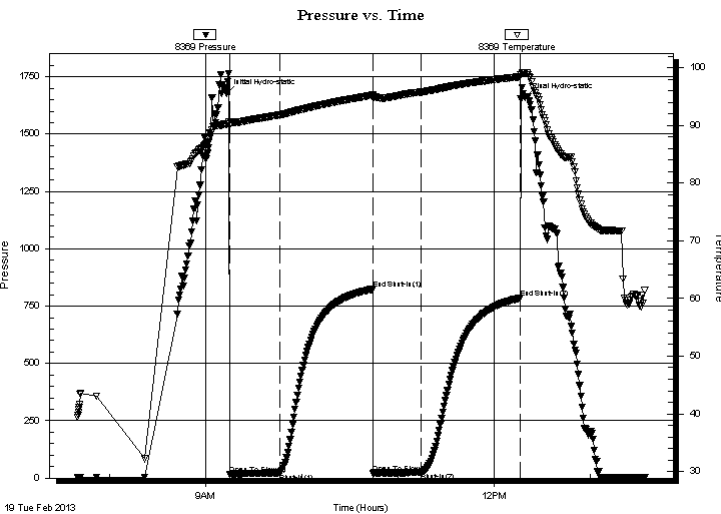
Time Off Btm: 2013.02.19 @ 12:19:37

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" bl

60-ISIP-no bl

30-FFP-no bl

60-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.73	90.25	Initial Hydro-static
2	17.20	90.26	Open To Flow (1)
33	22.57	91.83	Shut-In(1)
91	823.58	95.26	End Shut-In(1)
92	22.24	94.85	Open To Flow (2)
122	25.04	95.79	Shut-In(2)
183	785.15	98.46	End Shut-In(2)
187	1659.25	99.21	Final Hydro-static

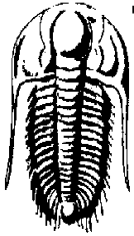
Recovery

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

Murfin Drilling Co Inc
 250 N.Water Ste 300
 Wichita KS 67202
 ATTN: Ken Dean

23-15s-19w Ellis,KS

Emmerentia #1-23

Job Ticket: 50357 **DST#: 3**

Test Start: 2013.02.19 @ 07:40:13

GENERAL INFORMATION:

Formation: **LKC H-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:15:23

Time Test Ended: 13:34:07

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 42

Interval: **3405.00 ft (KB) To 3459.00 ft (KB) (TVD)**

Reference Elevations: 1981.00 ft (KB)

Total Depth: 3318.00 ft (KB) (TVD)

1976.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8700 Outside

Press @RunDepth: psig @ 3406.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.19

End Date:

2013.02.19

Last Calib.:

2013.02.19

Start Time: 07:40:09

End Time:

13:32:48

Time On Btm:

Time Off Btm:

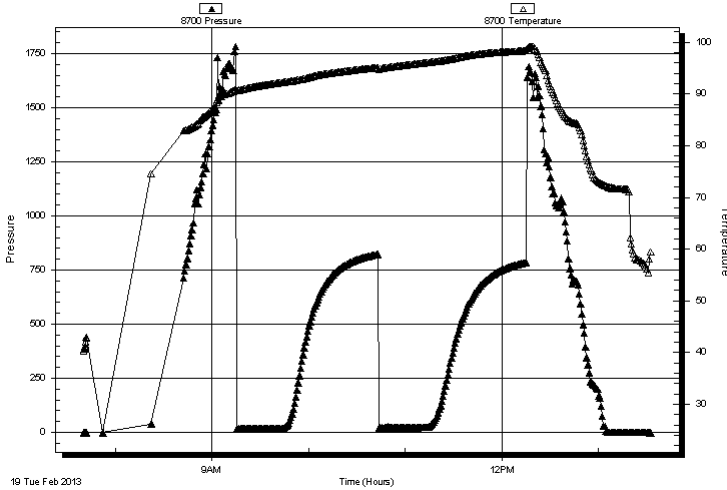
TEST COMMENT: 30-IFP-w k bl thru-out 1/4" bl

60-ISIP-no bl

30-FFP-no bl

60-FSIP-no bl

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

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

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
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50357 **DST#: 3**
Test Start: 2013.02.19 @ 07:40:13

Tool Information

Drill Pipe:	Length: 3360.00 ft	Diameter: 3.80 inches	Volume: 47.13 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 47.28 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3405.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	54.00 ft				
Tool Length:	77.00 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			3383.00	
Shut In Tool	5.00			3388.00	
Hydraulic tool	5.00			3393.00	
Safety Joint	2.00			3395.00	
Packer	5.00			3400.00	23.00 Bottom Of Top Packer
Packer	5.00			3405.00	
Stubb	1.00			3406.00	
Recorder	0.00	8369	Inside	3406.00	
Recorder	0.00	8700	Outside	3406.00	
Blank Spacing	32.00			3438.00	
Perforations	18.00			3456.00	
Bullnose	3.00			3459.00	54.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50357 **DST#: 3**
Test Start: 2013.02.19 @ 07:40:13

Mud and Cushion Information

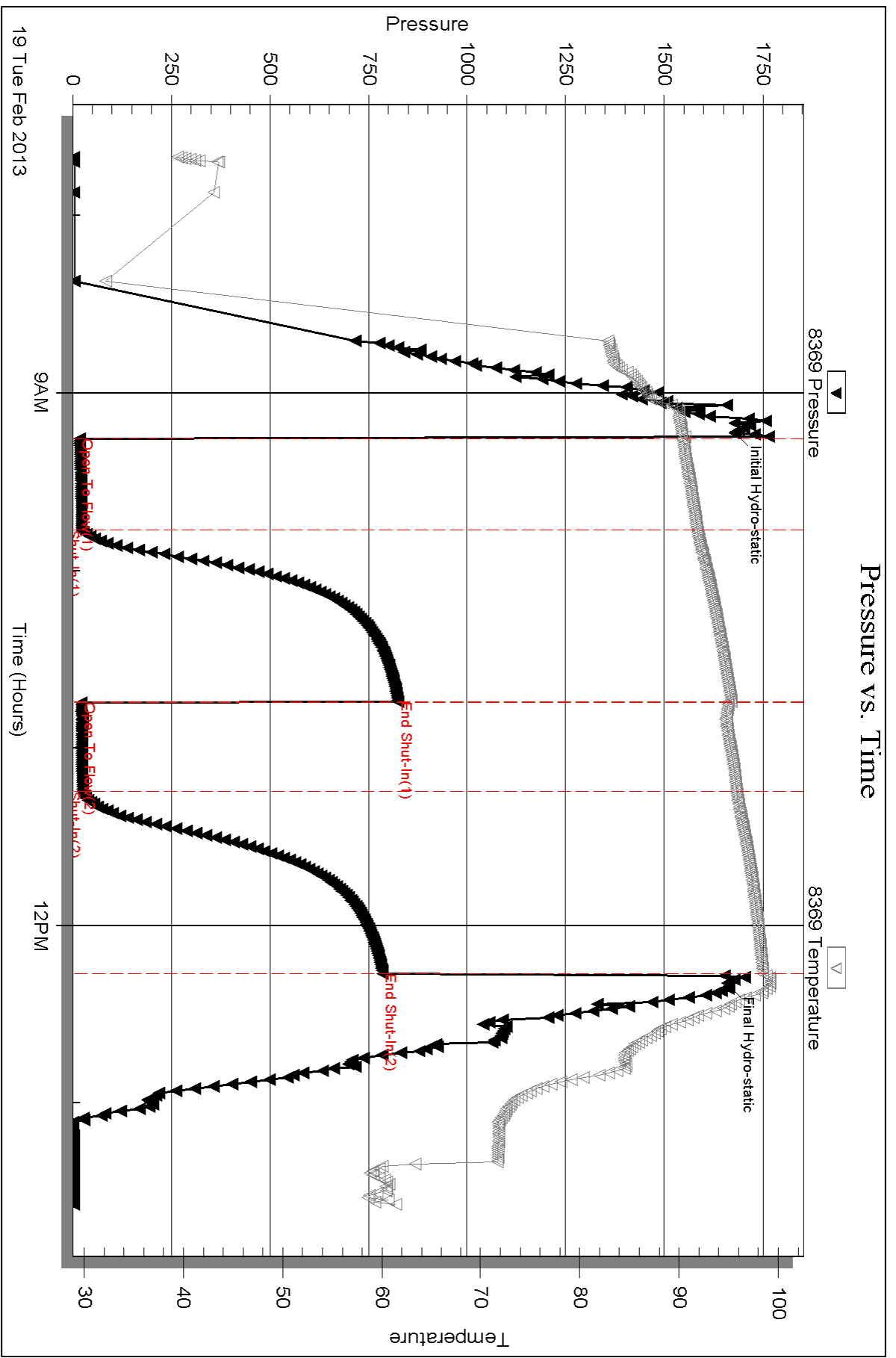
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.92 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8400.00 ppm			
Filter Cake: 1.00 inches			

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:

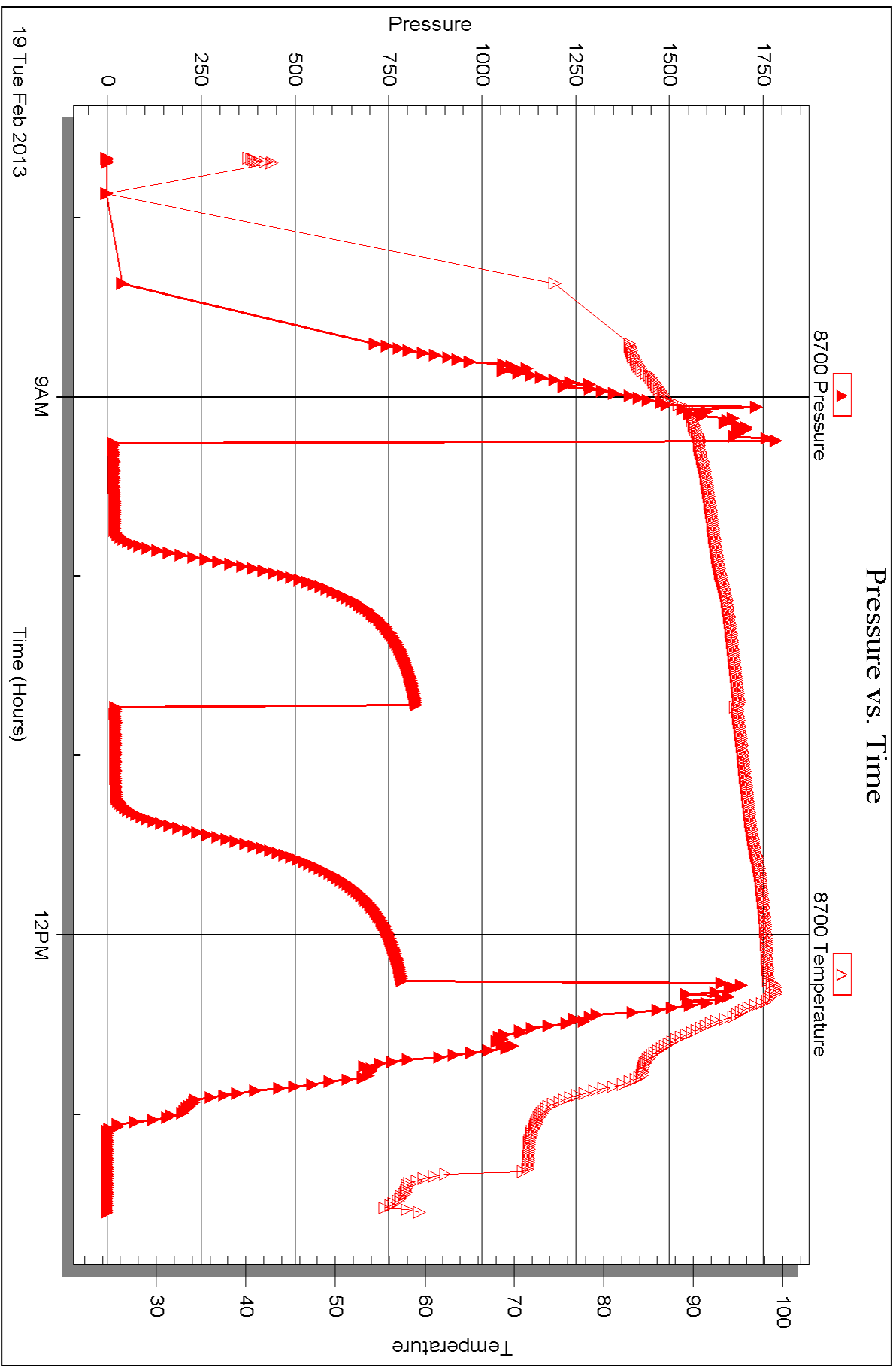


Serial #: 8700

Outside Murfin Drilling Co Inc

Emergentia #1-23

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste 300
Wichita KS 67202

ATTN: Ken Dean

Emmerentia #1-23

23-15s-19w Ellis,KS

Start Date: 2013.02.19 @ 21:20:15

End Date: 2013.02.20 @ 05:08:09

Job Ticket #: 50358 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.06 @ 13:44:25



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N.Water Ste 300
 Wichita KS 67202
 ATTN: Ken Dean

23-15s-19w Ellis,KS
Emmerentia #1-23
 Job Ticket: 50358 **DST#: 4**
 Test Start: 2013.02.19 @ 21:20:15

GENERAL INFORMATION:

Formation: **LKC J-K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:20:10
 Time Test Ended: 05:08:09
 Interval: **3455.00 ft (KB) To 3507.00 ft (KB) (TVD)**
 Total Depth: 3507.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 42
 Reference Elevations: 1981.00 ft (KB)
 1976.00 ft (CF)
 KB to GR/CF: 5.00 ft

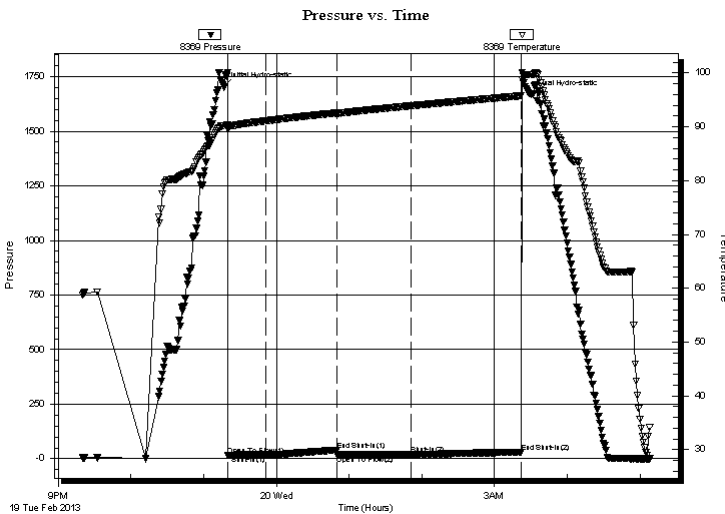
Serial #: 8369

Inside

Press @ Run Depth: 18.57 psig @ 3456.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.19 End Date: 2013.02.20 Last Calib.: 2013.02.20
 Start Time: 21:20:15 End Time: 05:08:09 Time On Btm: 2013.02.19 @ 23:16:55
 Time Off Btm: 2013.02.20 @ 03:29:09

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 3/4" bl
 60-ISIP-no bl
 60-FFP-w k bl thru-out surface to 1/4" bl
 90-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1702.62	90.18	Initial Hydro-static
4	17.54	89.68	Open To Flow (1)
34	17.13	91.10	Shut-In(1)
93	40.17	92.59	End Shut-In(1)
94	17.93	92.57	Open To Flow (2)
154	18.57	93.90	Shut-In(2)
246	30.04	95.78	End Shut-In(2)
253	1670.05	99.78	Final Hydro-static

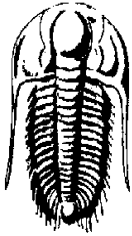
Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w/show of oil	0.02

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N.Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis,KS

Emmerentia #1-23

Job Ticket: 50358

DST#: 4

Test Start: 2013.02.19 @ 21:20:15

GENERAL INFORMATION:

Formation: **LKC J-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:20:10

Time Test Ended: 05:08:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 42

Interval: 3455.00 ft (KB) To 3507.00 ft (KB) (TVD)

Reference Elevations: 1981.00 ft (KB)

Total Depth: 3507.00 ft (KB) (TVD)

1976.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8700 Outside

Press @RunDepth: psig @ 3456.00 ft (KB)

Start Date: 2013.02.19

End Date: 2013.02.20

Capacity: 8000.00 psig

Last Calib.: 2013.02.20

Start Time: 21:20:55

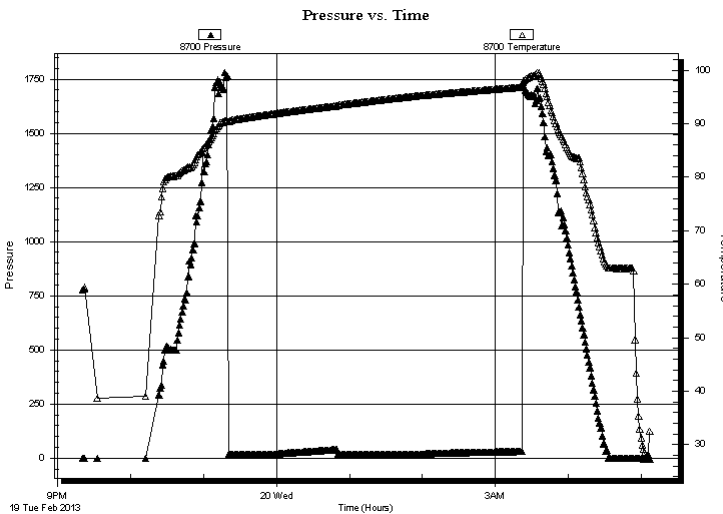
End Time: 05:07:19

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 3/4" bl
60-ISIP-no bl
60-FFP-w k bl thru-out surface to 1/4" bl
90-FSIP-no bl

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w /show of oil	0.02

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
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50358 **DST#: 4**
Test Start: 2013.02.19 @ 21:20:15

Tool Information

Drill Pipe:	Length: 3413.00 ft	Diameter: 3.80 inches	Volume: 47.88 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 48.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3455.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	75.00 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			3433.00	
Shut In Tool	5.00			3438.00	
Hydraulic tool	5.00			3443.00	
Safety Joint	2.00			3445.00	
Packer	5.00			3450.00	23.00 Bottom Of Top Packer
Packer	5.00			3455.00	
Stubb	1.00			3456.00	
Recorder	0.00	8369	Inside	3456.00	
Recorder	0.00	8700	Outside	3456.00	
Blank Spacing	33.00			3489.00	
Perforations	15.00			3504.00	
Bullnose	3.00			3507.00	52.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 50358 **DST#: 4**
Test Start: 2013.02.19 @ 21:20:15

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: 73.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.96 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8200.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud w/show of oil	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8369

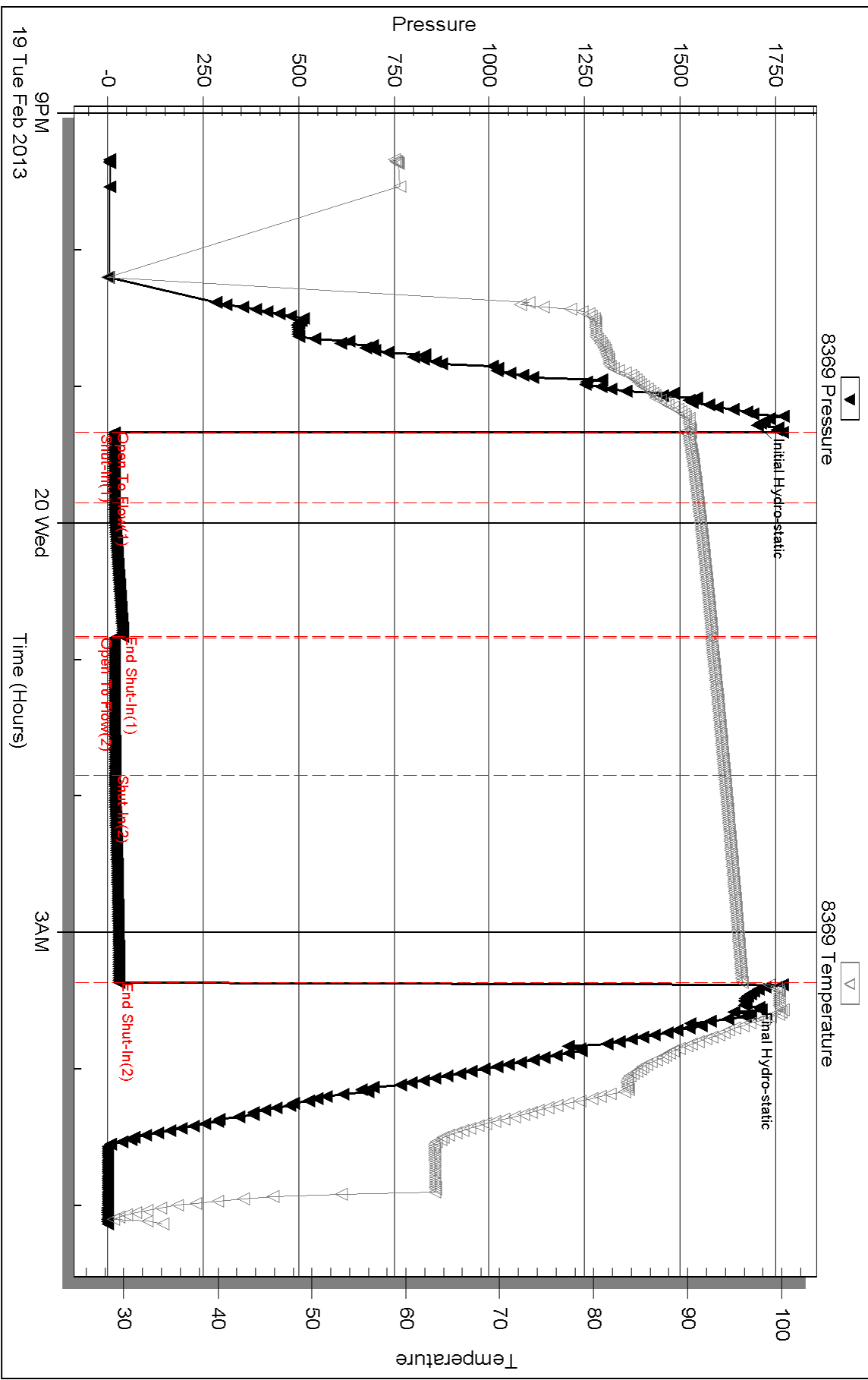
Inside

Murfin Drilling Co Inc

Emmerentia #1-23

DST Test Number: 4

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50358

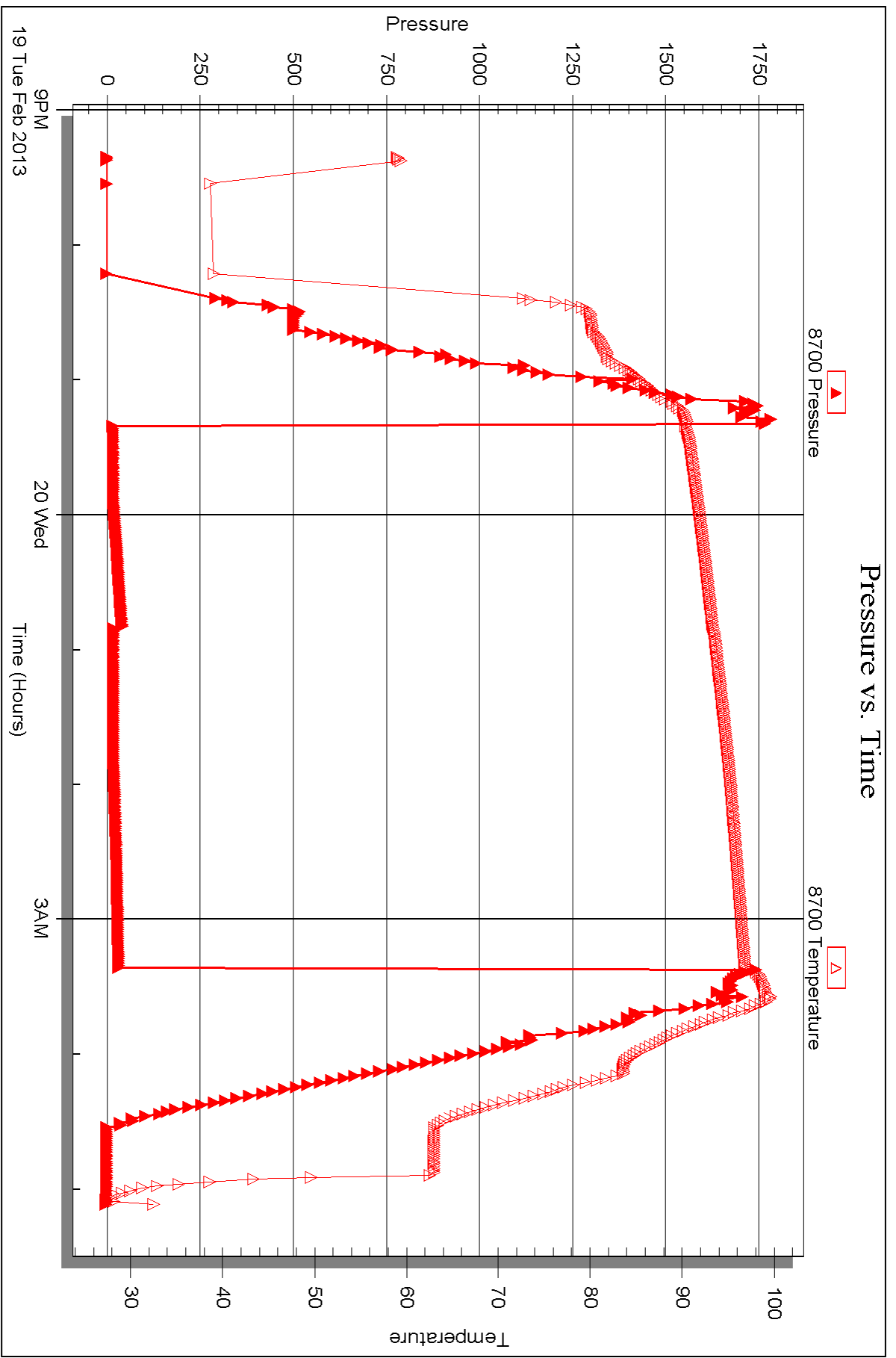
Printed: 2013.03.06 @ 13:44:28

Serial #: 8700

Outside Murfin Drilling Co Inc

Emmerentia #1-23

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste 300
Wichita KS 67202

ATTN: Ken Dean

Emmerentia #1-23

23-15s-19w Ellis,KS

Start Date: 2013.02.23 @ 16:16:00

End Date: 2013.02.23 @ 22:18:30

Job Ticket #: 51595 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.06 @ 13:42:11



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste 300
 Wichita KS 67202
 ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
 Job Ticket: 51595 **DST#: 5**
 Test Start: 2013.02.23 @ 16:16:00

GENERAL INFORMATION:

Formation: **Cong. Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:40:15
 Time Test Ended: 22:18:30
 Interval: **3588.00 ft (KB) To 3612.00 ft (KB) (TVD)**
 Total Depth: 3612.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Cody Bloedorn
 Unit No: 42
 Reference Elevations: 1981.00 ft (KB)
 1976.00 ft (CF)
 KB to GR/CF: 5.00 ft

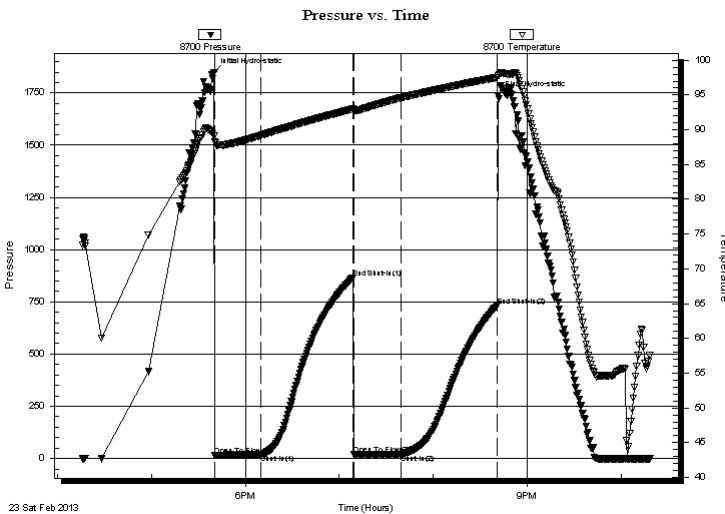
Serial #: 8700

Outside

Press @ Run Depth: 20.55 psig @ 3589.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.23 End Date: 2013.02.23 Last Calib.: 2013.02.23
 Start Time: 16:16:05 End Time: 22:18:29 Time On Btm: 2013.02.23 @ 17:40:00
 Time Off Btm: 2013.02.23 @ 20:41:30

TEST COMMENT: 30 - IF- 1" blow
 60 - IS- No return
 30 - FF- No blow
 60 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1848.71	89.08	Initial Hydro-static
1	15.42	88.30	Open To Flow (1)
30	17.75	89.19	Shut-In(1)
89	865.82	93.00	End Shut-In(1)
90	19.12	92.80	Open To Flow (2)
120	20.55	94.58	Shut-In(2)
181	732.04	97.51	End Shut-In(2)
182	1738.93	97.82	Final Hydro-static

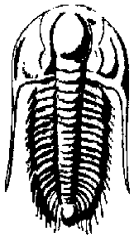
Recovery

Length (ft)	Description	Volume (bbl)
10.00	VSOCM, 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

Murfin Drilling Co Inc
250 N.Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis,KS

Emmerentia #1-23

Job Ticket: 51595 **DST#: 5**
Test Start: 2013.02.23 @ 16:16:00

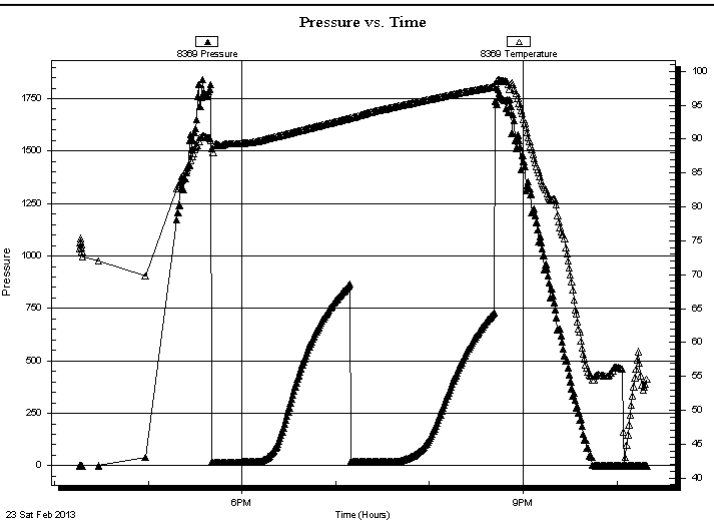
GENERAL INFORMATION:

Formation: Cong. Sand	
Deviated: No Whipstock:	ft (KB)
Test Type:	Conventional Bottom Hole (Reset)
Time Tool Opened: 17:40:15	Tester: Cody Bloedorn
Time Test Ended: 22:18:30	Unit No: 42
Interval: 3588.00 ft (KB) To 3612.00 ft (KB) (TVD)	Reference Elevations: 1981.00 ft (KB)
Total Depth: 3612.00 ft (KB) (TVD)	1976.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair
	KB to GR/CF: 5.00 ft

Serial #: 8369 Inside

Press @ RunDepth:	psig @ 3589.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2013.02.23 End Date:	2013.02.23	Last Calib.: 2013.02.23
Start Time:	16:16:05 End Time:	22:19:29	Time On Btm:
			Time Off Btm:

TEST COMMENT:
30 - IF- 1" blow
60 - IS- No return
30 - FF- No blow
60 - FS- No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	VSOCM, 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 Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 51595 **DST#: 5**
Test Start: 2013.02.23 @ 16:16:00

Tool Information

Drill Pipe:	Length: 3549.00 ft	Diameter: 3.80 inches	Volume: 49.78 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 49.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3588.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	47.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: I ran a shale packer as the bottom packer, however when I put the shale packer into the tool diagram it messes up my anchor. So I left the bottom packer as a regular packer in the diagram, but we did run a shale packer. Cody Bloedorn.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3566.00	
Shut In Tool	5.00			3571.00	
Hydraulic tool	5.00			3576.00	
Safety Joint	2.00			3578.00	
Packer	5.00			3583.00	23.00 Bottom Of Top Packer
Packer	5.00			3588.00	
Stubb	1.00			3589.00	
Recorder	0.00	8369	Inside	3589.00	
Recorder	0.00	8700	Outside	3589.00	
Perforations	20.00			3609.00	
Bullnose	3.00			3612.00	24.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 51595 **DST#: 5**
Test Start: 2013.02.23 @ 16:16:00

Mud and Cushion Information

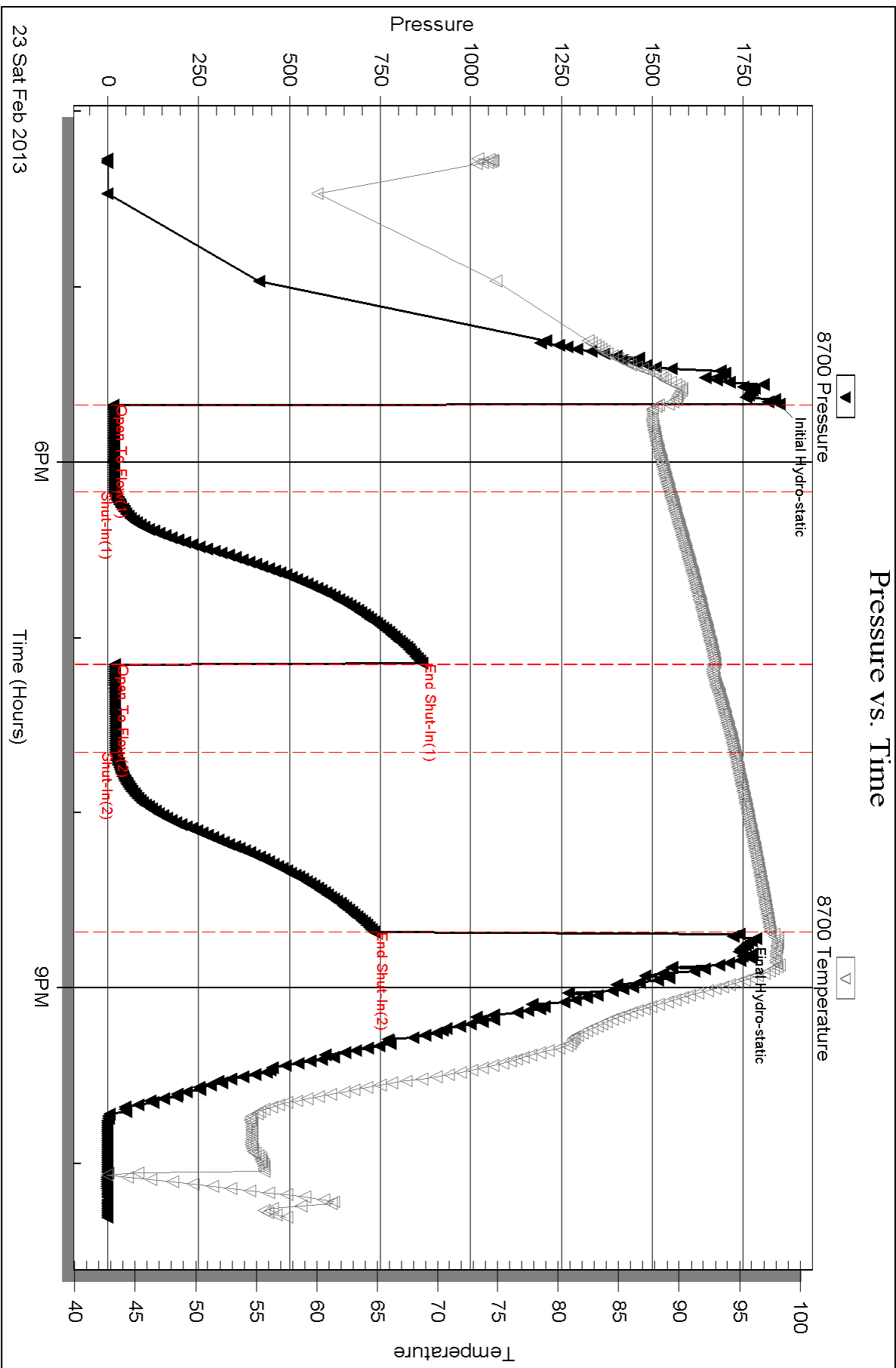
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7600.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	VSOCM, 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:



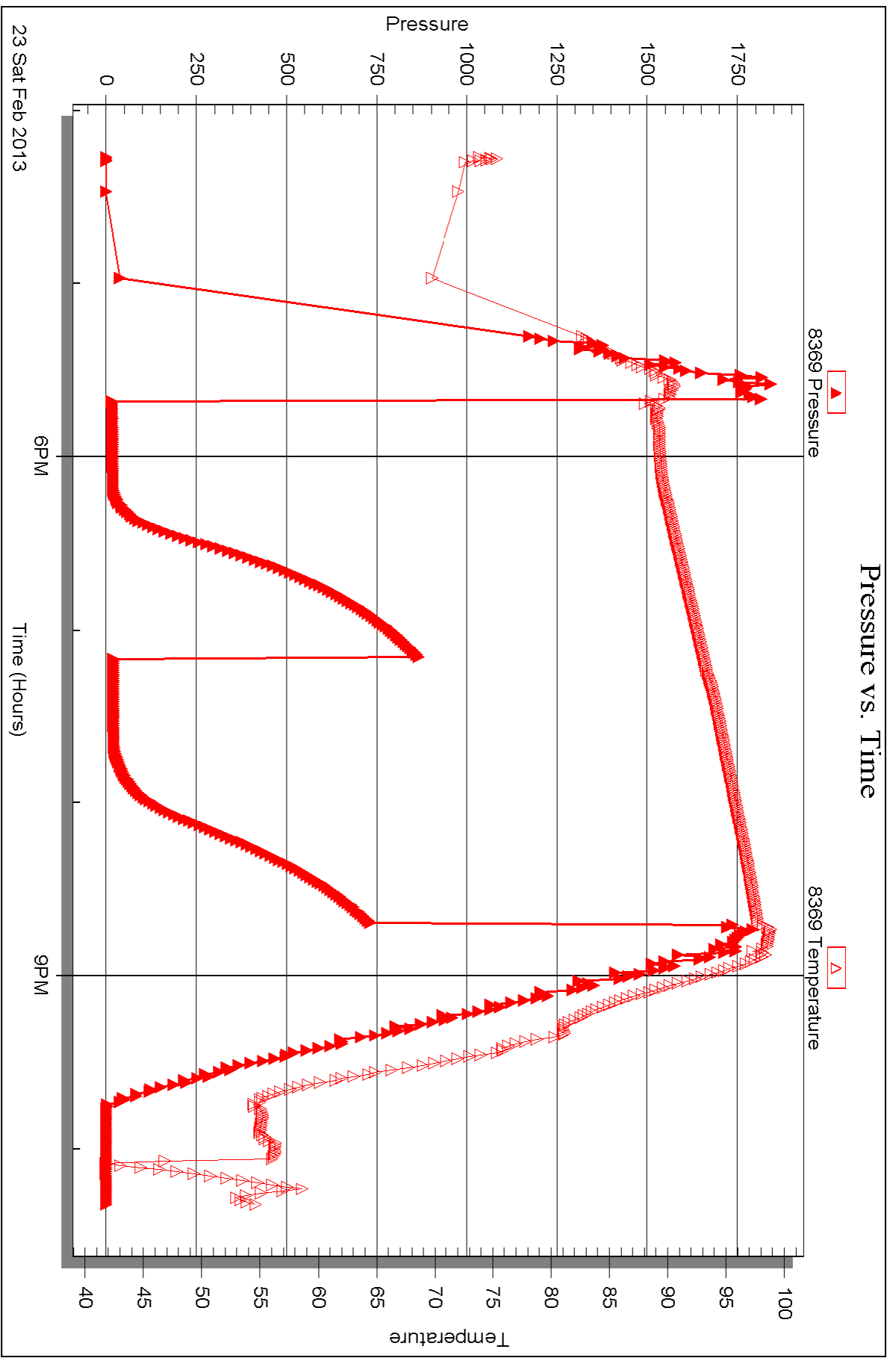
Serial #: 8369

Inside

Murfin Drilling Co Inc

Emmerentia #1-23

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 51595

Printed: 2013.03.06 @ 13:42:14



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste 300
Wichita KS 67202

ATTN: Ken Dean

Emmerentia #1-23

23-15s-19w Ellis,KS

Start Date: 2013.02.24 @ 09:10:00

End Date: 2013.02.24 @ 13:11:30

Job Ticket #: 51596 DST #: 6

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

Printed: 2013.03.06 @ 13:41:21



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

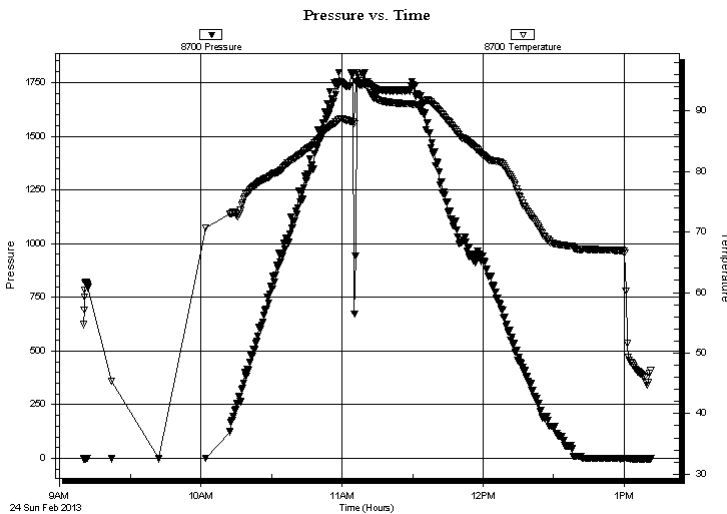
23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 51596 **DST#: 6**
Test Start: 2013.02.24 @ 09:10:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 13:11:30
Interval: **3587.00 ft (KB) To 3627.00 ft (KB) (TVD)**
Total Depth: 3627.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Cody Bloedorn
Unit No: 42
Reference Elevations: 1981.00 ft (KB)
1976.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8700 Outside
Press @ Run Depth: psig @ 3588.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.02.24 End Date: 2013.02.24 Last Calib.: 2013.02.24
Start Time: 09:10:05 End Time: 13:11:30 Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Set tool on bottom, packer failure, pulled tool, bled pressure, refilled hole. Tried to reset again. Packer failure.
pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
355.00	Rig mud	4.70

* 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

23-15s-19w Ellis,KS

250 N.Water Ste 300
Wichita KS 67202

Emmerentia #1-23

Job Ticket: 51596

DST#: 6

ATTN: Ken Dean

Test Start: 2013.02.24 @ 09:10:00

Tool Information

Drill Pipe:	Length: 3549.00 ft	Diameter: 3.80 inches	Volume: 49.78 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 49.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3587.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	63.00 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			3565.00	
Shut In Tool	5.00			3570.00	
Hydraulic tool	5.00			3575.00	
Safety Joint	2.00			3577.00	
Packer	5.00			3582.00	23.00 Bottom Of Top Packer
Packer	5.00			3587.00	
Stubb	1.00			3588.00	
Recorder	0.00	8369	Inside	3588.00	
Recorder	0.00	8700	Outside	3588.00	
Perforations	3.00			3591.00	
Change Over Sub	1.00			3592.00	
Drill Pipe	31.00			3623.00	
Change Over Sub	1.00			3624.00	
Bullnose	3.00			3627.00	40.00 Bottom Packers & Anchor

Total Tool Length: 63.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 51596 **DST#: 6**
Test Start: 2013.02.24 @ 09:10:00

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: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7600.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
355.00	Rig mud	4.697

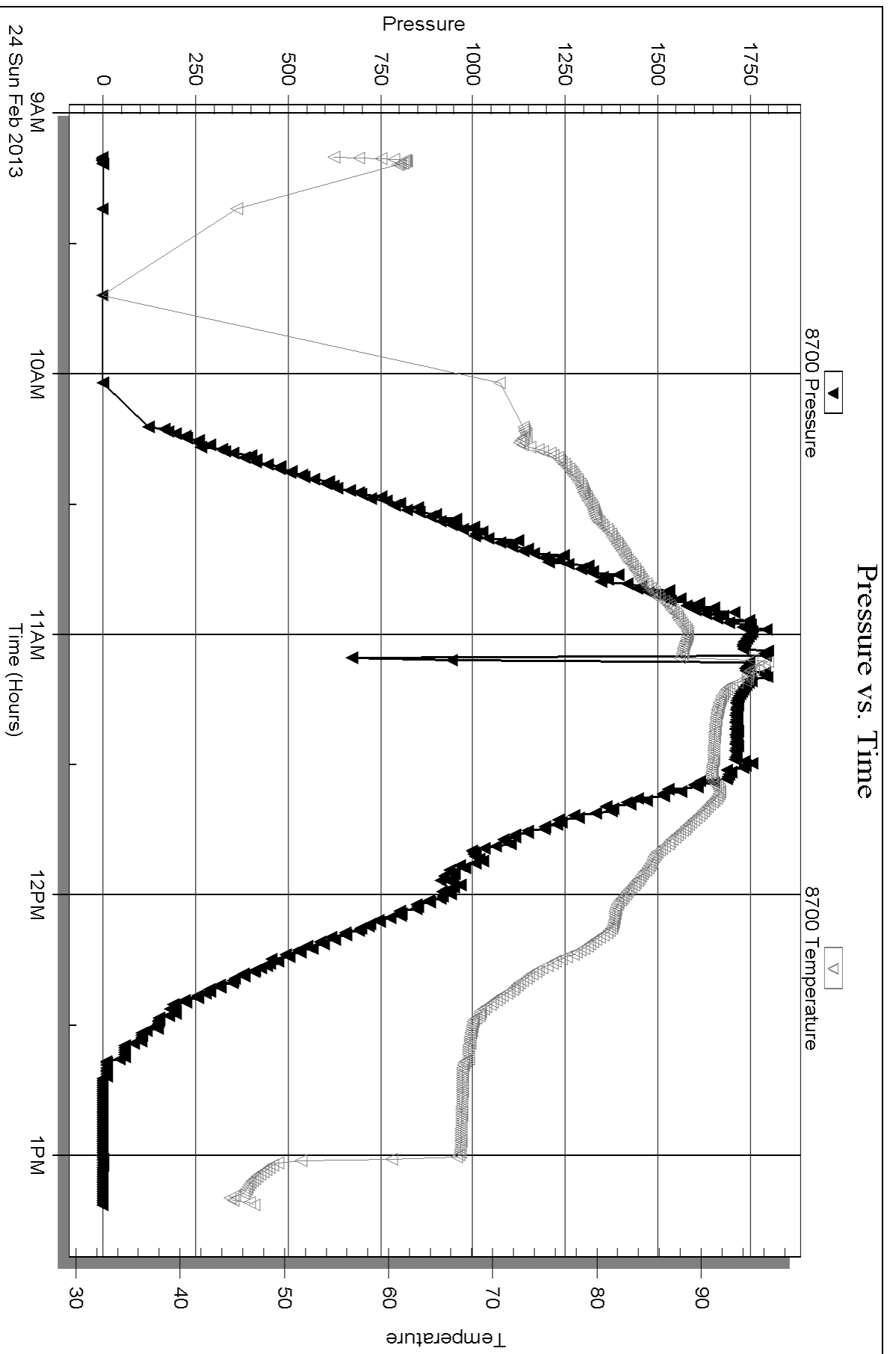
Total Length: 355.00 ft Total Volume: 4.697 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8700

Outside Murfin Drilling Co Inc

Emergentia #1-23

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 51596

Printed: 2013.03.06 @ 13:41:24

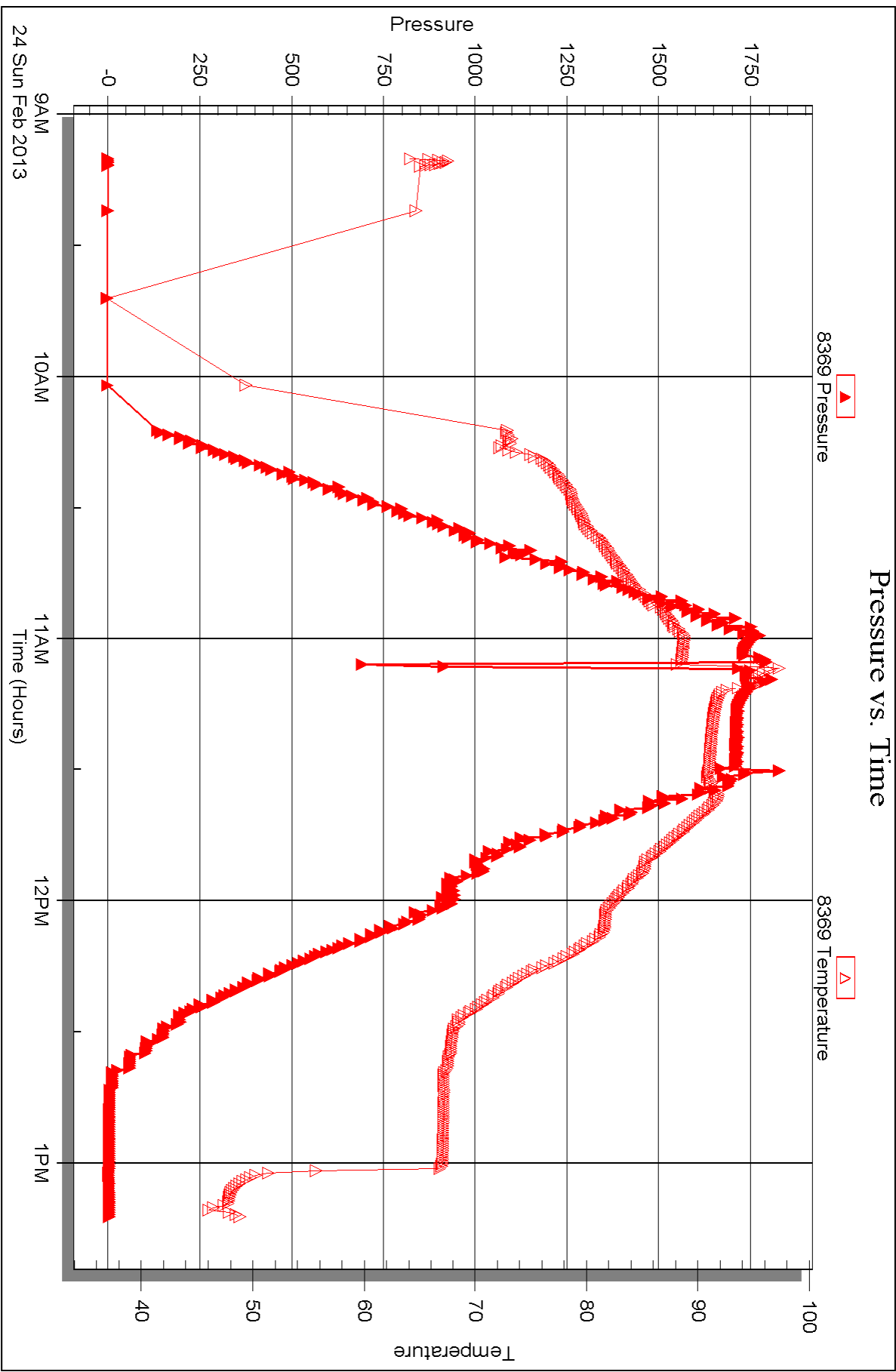
Serial #: 8369

Inside

Murfin Drilling Co Inc

Emergentia #1-23

DST Test Number: 6





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste 300
Wichita KS 67202

ATTN: Ken Dean

Emmerentia #1-23

23-15s-19w Ellis,KS

Start Date: 2013.02.24 @ 13:29:00

End Date: 2013.02.24 @ 20:26:45

Job Ticket #: 51570 DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.06 @ 13:40:39



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste 300
 Wichita KS 67202
 ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
 Job Ticket: 51570 **DST#: 7**
 Test Start: 2013.02.24 @ 13:29:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:04:45
 Time Test Ended: 20:26:45
 Interval: **3523.00 ft (KB) To 3627.00 ft (KB) (TVD)**
 Total Depth: 3627.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Cody Bloedorn
 Unit No: 42
 Reference Elevations: 1981.00 ft (KB)
 1976.00 ft (CF)
 KB to GR/CF: 5.00 ft

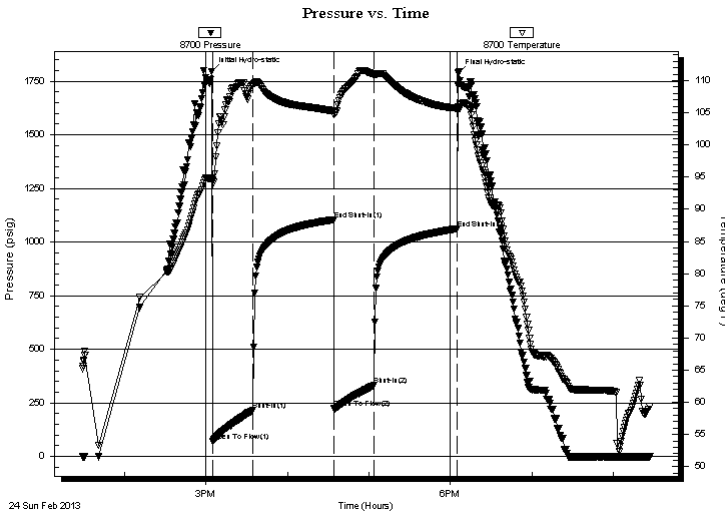
Serial #: 8700

Outside

Press @ Run Depth: 332.73 psig @ 3528.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.24 End Date: 2013.02.24 Last Calib.: 2013.02.24
 Start Time: 13:29:05 End Time: 20:26:44 Time On Btm: 2013.02.24 @ 15:04:15
 Time Off Btm: 2013.02.24 @ 18:05:30

TEST COMMENT: 30 - IF- B.O.B. in 4 Minutes
 60 - IS- No return
 30 - FF- B.O.B. in 6 Minutes
 60 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.45	94.75	Initial Hydro-static
1	72.19	94.33	Open To Flow (1)
31	216.49	109.32	Shut-In(1)
90	1103.20	105.29	End Shut-In(1)
91	223.00	104.73	Open To Flow (2)
120	332.73	110.93	Shut-In(2)
181	1062.20	105.71	End Shut-In(2)
182	1787.61	105.95	Final Hydro-static

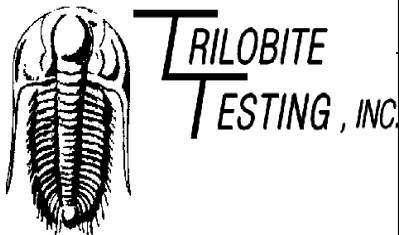
Recovery

Length (ft)	Description	Volume (bbl)
107.00	Mud, 100%M	1.23
186.00	WM, 20%W, 80%M	2.61
310.00	Mud, 100%M	4.35

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co Inc

250 N.Water Ste 300
Wichita KS 67202

ATTN: Ken Dean

23-15s-19w Ellis, KS

Emmerentia #1-23

Job Ticket: 51570

DST#: 7

Test Start: 2013.02.24 @ 13:29:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:04:45

Time Test Ended: 20:26:45

Interval: 3523.00 ft (KB) To 3627.00 ft (KB) (TVD)

Total Depth: 3627.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 42

Reference Elevations: 1981.00 ft (KB)

1976.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8369 **Inside**

Press @ Run Depth: psig @ 3528.00 ft (KB)

Start Date: 2013.02.24 End Date: 2013.02.24

Start Time: 13:29:05 End Time: 20:27:59

Capacity: 8000.00 psig

Last Calib.: 2013.02.24

Time On Btm:

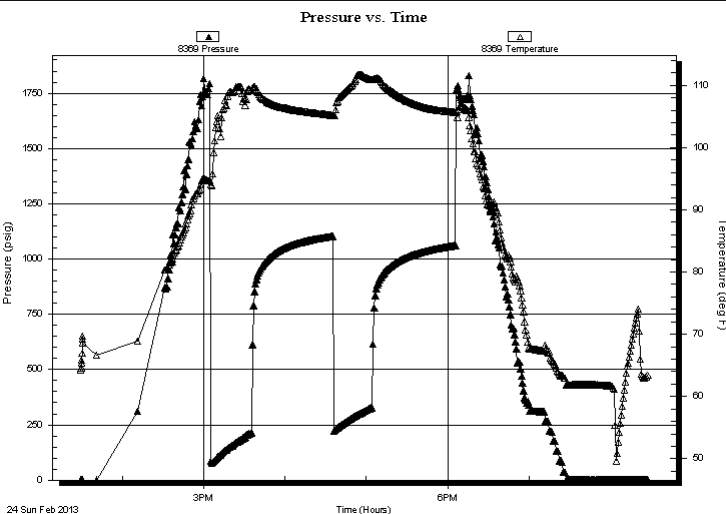
Time Off Btm:

TEST COMMENT: 30 - IF- B.O.B. in 4 Minutes

60 - IS- No return

30 - FF- B.O.B. in 6 Minutes

60 - FS- No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
107.00	Mud, 100%M	1.23
186.00	WM, 20%W, 80%M	2.61
310.00	Mud, 100%M	4.35

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
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 51570 **DST#: 7**
Test Start: 2013.02.24 @ 13:29:00

Tool Information

Drill Pipe:	Length: 3487.00 ft	Diameter: 3.80 inches	Volume: 48.91 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 54000.00 lb
			<u>Total Volume: 49.06 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3523.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	104.00 ft			
Tool Length:	127.00 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			3501.00	
Shut In Tool	5.00			3506.00	
Hydraulic tool	5.00			3511.00	
Safety Joint	2.00			3513.00	
Packer	5.00			3518.00	23.00 Bottom Of Top Packer
Packer	5.00			3523.00	
Stubb	1.00			3524.00	
Perforations	3.00			3527.00	
Change Over Sub	1.00			3528.00	
Recorder	0.00	8369	Inside	3528.00	
Recorder	0.00	8700	Outside	3528.00	
Blank Spacing	62.00			3590.00	
Change Over Sub	1.00			3591.00	
Perforations	33.00			3624.00	
Bullnose	3.00			3627.00	104.00 Bottom Packers & Anchor

Total Tool Length: 127.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N. Water Ste 300
Wichita KS 67202
ATTN: Ken Dean

23-15s-19w Ellis, KS
Emmerentia #1-23
Job Ticket: 51570 **DST#: 7**
Test Start: 2013.02.24 @ 13:29:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: lb/gal	Cushion Length: ft	Water Salinity:	14000 ppm
Viscosity: 43.00 sec/qt	Cushion Volume: bbl		
Water Loss: in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
107.00	Mud, 100%M	1.228
186.00	WM, 20%W, 80%M	2.609
310.00	Mud, 100%M	4.348

Total Length: 603.00 ft Total Volume: 8.185 bbl

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

Laboratory Name: Laboratory Location:

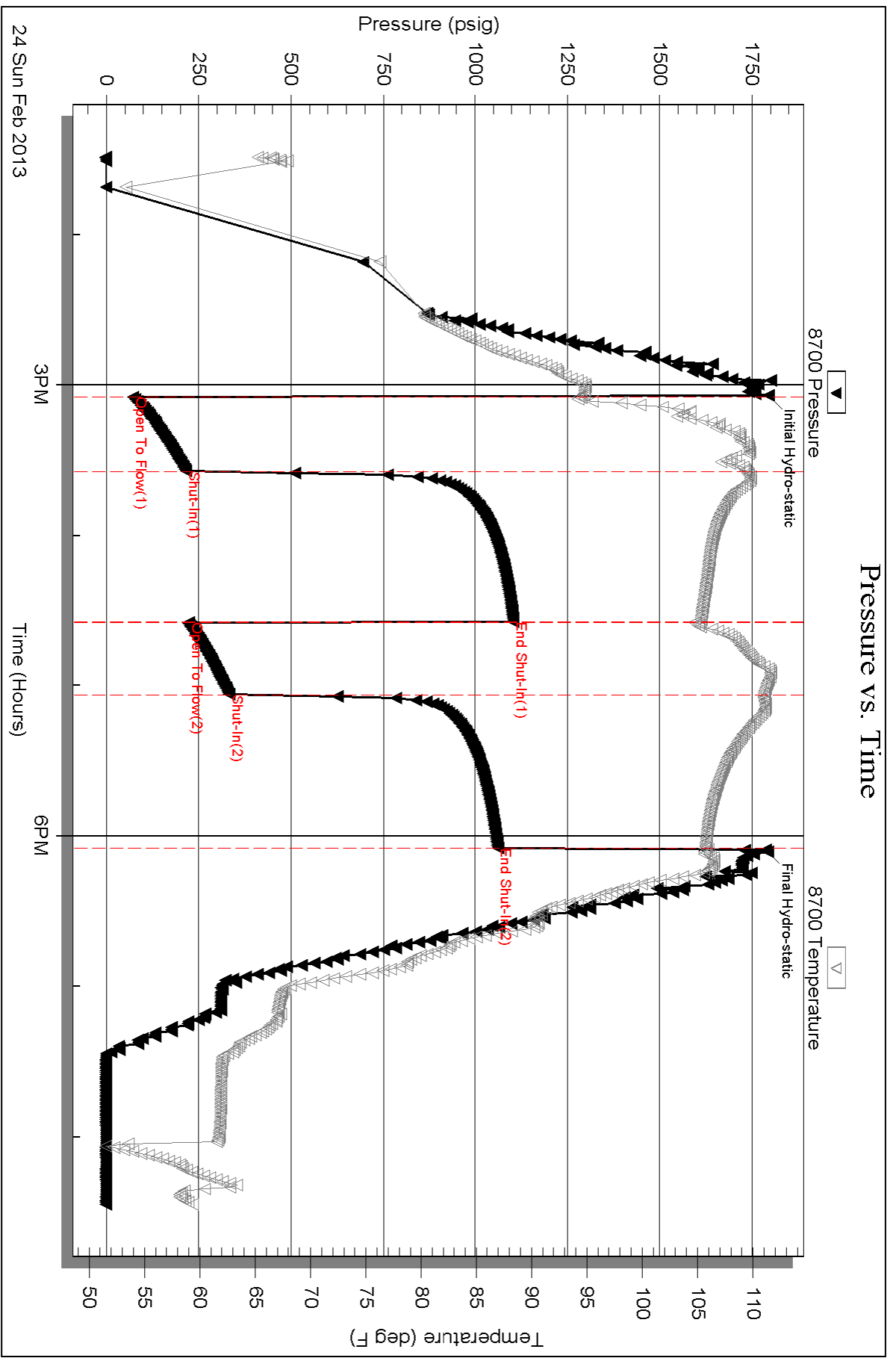
Recovery Comments: Salinity: 1.25 @ 32 Degrees = 14000

Serial #: 8700

Outside Murfin Drilling Co Inc

Emmerentia #1-23

DST Test Number: 7



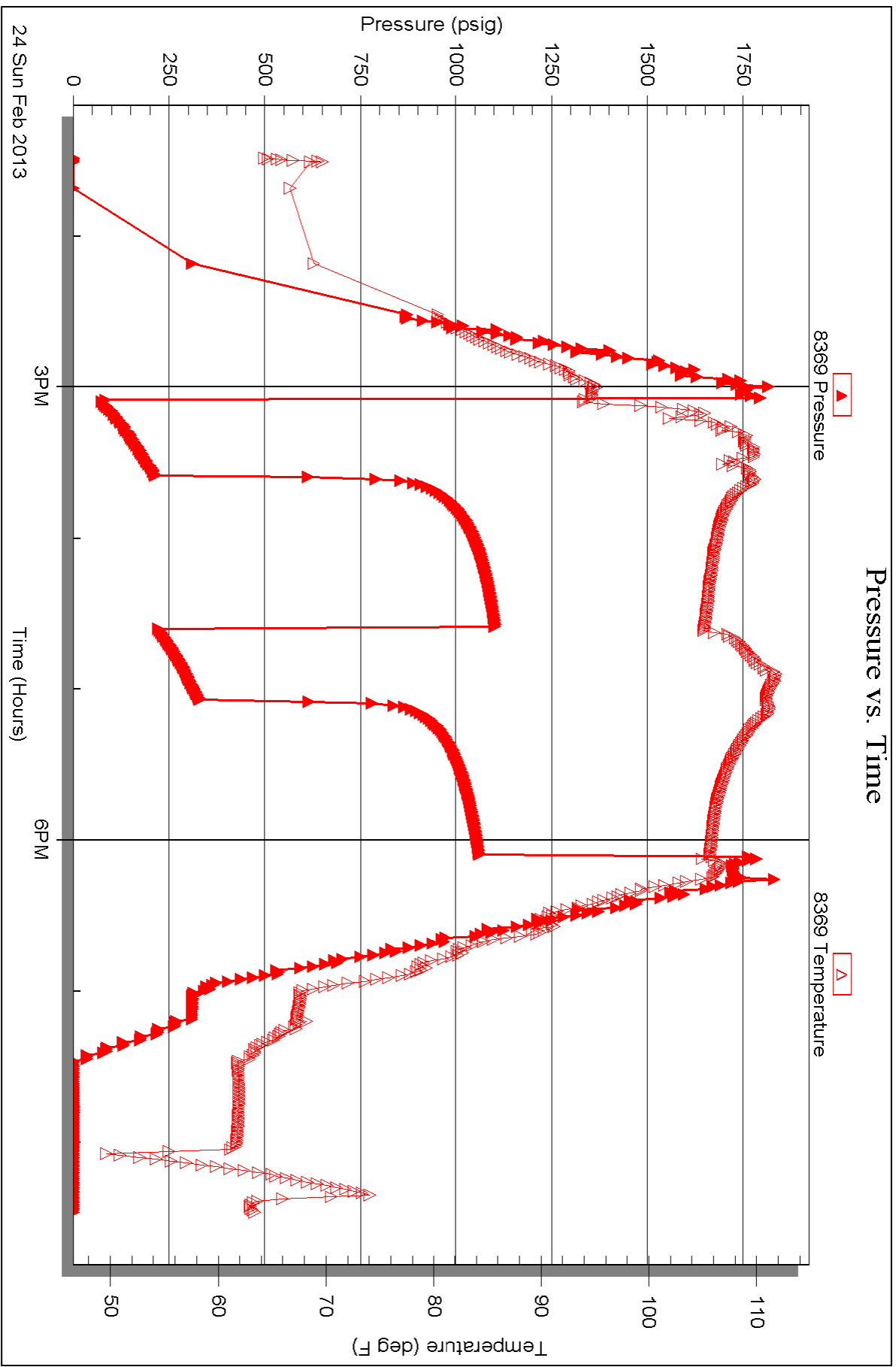
Serial #: 8369

Inside

Murfin Drilling Co Inc

Emergentia #1-23

DST Test Number: 7





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50355

4/10

Well Name & No. Emmerentia #1-23 Test No. 1 Date 2-17-13
 Company Murfin Drilling Co Inc Elevation 1981 KB 1976 GL
 Address 250 N. WATER ST 300 WICHITA, Ks 67202-1216
 Co. Rep / Geo. Rocky Milford Rig Murfin rig 16
 Location: Sec. 23 Twp. 15^s Rge. 19^w Co. ELLIS State Ks

Interval Tested 3263-3318 Zone Tested LKC A-B
 Anchor Length 55 Drill Pipe Run 3232 Mud Wt. 9.2
 Top Packer Depth 3258 Drill Collars Run 30 Vis 54
 Bottom Packer Depth 3263 Wt. Pipe Run - WL 7.6
 Total Depth 3318 Chlorides 6000 ppm System LCM TR

Blow Description IFP - WEAK BLOW 1/2" TO 2" BLOW
ISIP - NO BLOW
FFP - WEAK BLOW 1/2" TO 1" BLOW
FSTIP - NO BLOW

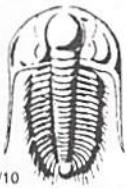
Rec	Feet of	%gas	%oil	%water	%mud
<u>100</u>	<u>Mud</u>				
	<u>w/show of a</u>				

Rec Total 100 BHT 102 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1588 Test 1150 T-On Location 1850
 (B) First Initial Flow 16 Jars - T-Started 2035
 (C) First Final Flow 42 Safety Joint 75 T-Open 2240
 (D) Initial Shut-In 777 Circ Sub - T-Pulled 0240
 (E) Second Initial Flow 44 Hourly Standby - T-Out 0435
 (F) Second Final Flow 64 Mileage 35RT 54.25
 (G) Final Shut-In 761 Sampler -
 (H) Final Hydrostatic 1562 Straddle - Ruined Shale Packer -
 Shale Packer - Ruined Packer -

Initial Open 30 Extra Packer - Extra Copies -
 Initial Shut-In 60 Extra Recorder - Sub Total 0
 Final Flow 60 Day Standby - Total 1279.25
 Final Shut-In 90 Accessibility - MP/DST Disc't -
 Sub Total 1279.25

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50356

Well Name & No. Emmerentia #1-23 Test No. 2 Date 2-18-13
 Company Murfin Drilling Co Inc Elevation 1981 KB 1976 GL
 Address 250 N. WATER ST 300 WICHITA, K 67202-1216
 Co. Rep / Geo. Rocky Milford Rig Murfin rig 16
 Location: Sec. 23 Twp. 15^s Rge. 19^w Co. ELLIS State Ks

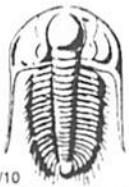
Interval Tested 3317-3372 Zone Tested LKC D-F
 Anchor Length 55 Drill Pipe Run 3295 Mud Wt. 9.2
 Top Packer Depth 3312 Drill Collars Run 30 Vis 58
 Bottom Packer Depth 3317 Wt. Pipe Run - WL 8
 Total Depth 3372 Chlorides 8400 ppm System LCM TR
 Blow Description IFP - WEAK TO A FAIR BLOW 1/2" TO 4 1/4" BLOW
ISIP - NO BLOW
FFP - WEAK BLOW THRU-OUT 1/4" TO 2" BLOW
FSIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>WATER</u>				

Rec Total 150 BHT 103 Gravity - API RW .19 @ 55 ° F Chlorides 55000 ppm

(A) Initial Hydrostatic <u>1618</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1310</u>
(B) First Initial Flow <u>17</u>	<input type="checkbox"/> Jars	T-Started <u>1335</u>
(C) First Final Flow <u>60</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1515</u>
(D) Initial Shut-In <u>634</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1915</u>
(E) Second Initial Flow <u>59</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2059</u>
(F) Second Final Flow <u>102</u>	<input checked="" type="checkbox"/> Mileage <u>35RT</u> 54.25	Comments
(G) Final Shut-In <u>559</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1603</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>60</u>	<input type="checkbox"/> Day Standby	Total <u>1279.25</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1279.25</u>	

Approved By Rocky Milford Our Representative RAY SCHWAGER Thank you
 Trilobite Testing Inc. shall not be liable for damaged or 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. 50357

Well Name & No. Emmeentia # 1-23 Test No. 3 Date 2-19-13
 Company Murfin Drilling Co Inc Elevation 1981 KB 1976 GL
 Address 250 N. WATER ST 300 WICHITA, KS 67202-1216
 Co. Rep / Geo. Rocky Milford Rig Murfin rig 16
 Location: Sec. 23 Twp. 15^s Rge. 19^w Co. ELLIS State Ks

Interval Tested 3405-3459 Zone Tested LKC H-I
 Anchor Length 54 Drill Pipe Run 3360 Mud Wt. 9.3
 Top Packer Depth 3400 Drill Collars Run 30 Vis 53
 Bottom Packer Depth 3405 Wt. Pipe Run - WL 8
 Total Depth 3459 Chlorides 8400 ppm System LCM TR

Blow Description IFP - WEAK Blow then-out 1/4" Blow
ISIP - NO Blow
FFP - NO Blow
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</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 98 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1677 Test 1150 T-On Location 0725
 (B) First Initial Flow 17 Jars _____ T-Started 0740
 (C) First Final Flow 22 Safety Joint 75 T-Open 0915
 (D) Initial Shut-In 823 Circ Sub _____ T-Pulled 1215
 (E) Second Initial Flow 22 Hourly Standby _____ T-Out 1334
 (F) Second Final Flow 25 Mileage 35RT 54.25 Comments _____
 (G) Final Shut-In 785 Sampler _____
 (H) Final Hydrostatic 1659 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 30 Day Standby _____ Total 1279.25
 Final Shut-In 60 Accessibility _____ MP/DST Disc't _____
 Sub Total 1279.25

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50358

4/10

Well Name & No. Emmerentia #1-23 Test No. 4 Date 2-19-13
 Company Murfin Drilling Co Inc Elevation 1981 KB 1976 GL
 Address 250 N. WATER STE 300 WICHITA KS 67202-1216
 Co. Rep / Geo. Rocky Milford Rig Murfin rig 16
 Location: Sec. 23 Twp. 15^s Rge. 19^w Co. Ellis State Ks

Interval Tested 3455-3507 Zone Tested LKC J-K
 Anchor Length 52 Drill Pipe Run 3413 Mud Wt. 9.3
 Top Packer Depth 3450 Drill Collars Run 30 Vis 73
 Bottom Packer Depth 3455 Wt. Pipe Run - WL 8
 Total Depth 3507 Chlorides 8200 ppm System LCM TR

Blow Description IFP - WEAK Blow thru-out 1/2" to 3/4" Blow
ISIP - NO BLOW
FFP - WEAK Blow thru-out surface to 1/4" Blow
FSIP - NO BLOW

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

Rec Total 5 BHT 96 Gravity - API RW - @ - ° F Chlorides - ppm

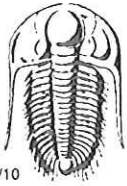
(A) Initial Hydrostatic 1702 Test 1150 T-On Location 2100
 (B) First Initial Flow 17 Jars T-Started 2120
 (C) First Final Flow 17 Safety Joint 75 T-Open 2320
 (D) Initial Shut-In 40 Circ Sub T-Pulled 0320
 (E) Second Initial Flow 17 Hourly Standby T-Out 0508
 (F) Second Final Flow 18 Mileage 35RT 54.25
 (G) Final Shut-In 30 Sampler
 (H) Final Hydrostatic 1670 Straddle
 Shale Packer
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

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

Sub Total 1279.25

MP/DST Disc't

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51595

4/10

Well Name & No. Emmerentia 1-23 Test No. 5 Date 2-23-13
 Company Murfin Drilling Co Inc Elevation 1981 KB 1976 GL
 Address 250 N. Water, STE 300, Wichita KS, 67202
 Co. Rep / Geo. Ken Dean Rig Murfin #16
 Location: Sec. 23 Twp. 15S Rge. 19W Co. Ellis State KS

Interval Tested 3588-3612 Zone Tested Conglomerate Sand
 Anchor Length 24' Drill Pipe Run 3549' Mud Wt. 9.3
 Top Packer Depth 3583 Drill Collars Run 31' Vis 48
 Bottom Packer Depth 3588 Wt. Pipe Run — WL 7.6
 Total Depth 3612 Chlorides 7,600 ppm System LCM —

Blow Description IF- 1" blow
ISI- No return
FF- No blow
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>VSOCM</u>	<u>5</u>	<u>—</u>	<u>95</u>	<u>—</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

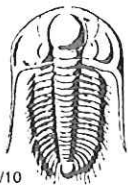
Rec Total 10' BHT 97° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>1848</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>3:58 pm</u>
(B) First Initial Flow <u>15</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>4:16 pm</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>5:41 pm</u>
(D) Initial Shut-In <u>865</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>8:41 pm</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>10:20 pm</u>
(F) Second Final Flow <u>20</u>	<input checked="" type="checkbox"/> Mileage <u>54.25</u>	Comments <u>—</u>
(G) Final Shut-In <u>732</u>	<input type="checkbox"/> Sampler <u>—</u>	
(H) Final Hydrostatic <u>1738</u>	<input type="checkbox"/> Straddle <u>—</u>	

Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>1529.25</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>1529.25</u>	

Approved By _____ Our Representative Cody Blake

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. 51596

Well Name & No. Emmerentia 1-23 Test No. 6 Date 2-24-13
 Company Murfin Drilling Co Inc Elevation 1981 KB 1976 GL
 Address 250 N. Water, STE 300, Wichita KS, 67202
 Co. Rep / Geo. Ken Dean Rig Murfin #16
 Location: Sec. 23 Twp. 15s Rge. 19w Co. Ellis State KS

Interval Tested 3587 - 3627 Zone Tested Arbuckle
 Anchor Length 40' Drill Pipe Run 3549' Mud Wt. 9.3
 Top Packer Depth 3582 Drill Collars Run 31' Vis 48
 Bottom Packer Depth 3587 Wt. Pipe Run — WL 7.6
 Total Depth 3627 Chlorides 7,600 ppm System LCM —
 Blow Description IF - Opened tool, Packer failure. Pulled tool, bled off
ISI - Pressure & refilled hole. opened again. Packer failure.
FF - * Pulled Tool *
FSI -

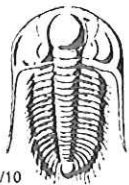
Rec	Feet of	%gas	%oil	%water	%mud
<u>355</u>	<u>Rig Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 355 BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic _____ Test 950 T-On Location 8:28am
 (B) First Initial Flow _____ Jars _____ T-Started 9:10am
 (C) First Final Flow _____ Safety Joint 75 T-Open 11:06am
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled 11:20am
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 1:12 pm
 (F) Second Final Flow _____ Mileage 54.25 Comments _____
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic _____ Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open _____ Extra Recorder _____ Sub Total 0
 Initial Shut-In _____ Day Standby _____ Total 1329.25
 Final Flow _____ Accessibility _____ MP/DST Disc't _____
 Final Shut-In _____ Sub Total 1329.25

Approved By _____ Our Representative Cody Bledorn

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. 51597

4/10

Well Name & No. Emmerentic 1-23 Test No. 7 Date 2-24-13
 Company Murfin Drilling Co INC Elevation 1981 KB 1976 GL
 Address 250 N. Water STE 300, Wichita KS, 67202
 Co. Rep / Geo. Ken Dean Rig Murfin #16
 Location: Sec. 23 Twp. 15s Rge. 19w Co. Ellis State KS

Interval Tested 3523 - 3627 Zone Tested Arbuckle
 Anchor Length 104' Drill Pipe Run 3487' Mud Wt. _____
 Top Packer Depth 3518 Drill Collars Run 31' Vis 43
 Bottom Packer Depth 3523 Wt. Pipe Run _____ WL _____
 Total Depth 3627 Chlorides _____ ppm System _____ LCM _____

Blow Description IF - B.O.B. in 4 Minutes
ISI - No return
FF - B.O.B. in 6 Minutes
FBI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>107</u>	<u>Mud</u>			<u>100</u>	
<u>186</u>	<u>WM</u>		<u>20</u>	<u>80</u>	
<u>310</u>	<u>Mud</u>			<u>100</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 603' BHT 105° Gravity _____ API RW 1.25 @ 32 °F Chlorides 14,000 ppm

(A) Initial Hydrostatic <u>1795</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>8:28am</u>
(B) First Initial Flow <u>72</u>	<input type="checkbox"/> Jars _____	T-Started <u>1:29pm</u>
(C) First Final Flow <u>216</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:05pm</u>
(D) Initial Shut-In <u>1103</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>6:05pm</u>
(E) Second Initial Flow <u>223</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>8:28pm</u>
(F) Second Final Flow <u>332</u>	<input checked="" type="checkbox"/> Mileage <u>108.50</u> <u>X2</u>	Comments <u>loaded tools 2-25-13</u>
(G) Final Shut-In <u>1062</u>	<input type="checkbox"/> Sampler _____	<u>@ 3:10am</u>
(H) Final Hydrostatic <u>1787</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 250
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1583.50

Sub Total 1583.50

Approved By _____

Our Representative Cody Bled

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