



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Tom Funk

DCFY Unit #1-11

11-2s-29w Decatur,KS

Start Date: 2013.05.11 @ 05:35:00

End Date: 2013.05.11 @ 12:55:00

Job Ticket #: 50670 DST #: 1

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

Printed: 2013.05.17 @ 15:11:33



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N. Water Ste. 300
Wichita KS 67202
ATTN: Tom Funk

11-2s-29w Decatur, KS
DCFY Unit #1-11
Job Ticket: 50670 **DST#: 1**
Test Start: 2013.05.11 @ 05:35:00

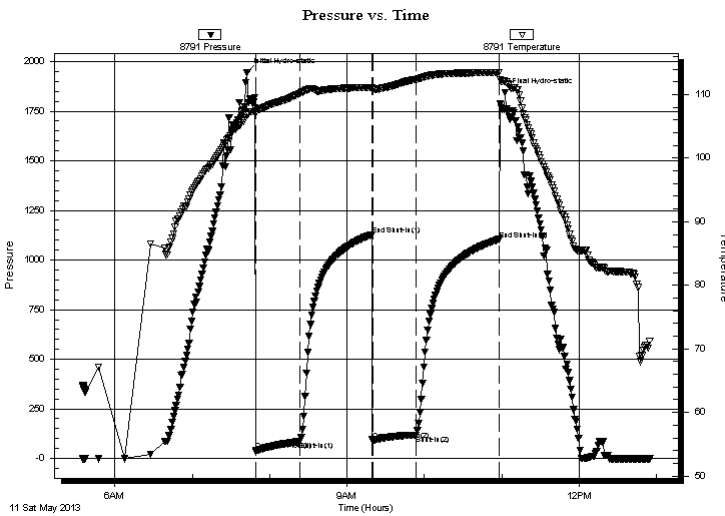
GENERAL INFORMATION:

Formation: **LKC-A**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:49:00
Time Test Ended: 12:55:00
Interval: **3666.00 ft (KB) To 3725.00 ft (KB) (TVD)**
Total Depth: 3725.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Chuck Kreuzer Jr.
Unit No: 61
Reference Elevations: 2719.00 ft (KB)
2714.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 Inside
Press @ Run Depth: 117.28 psig @ 3667.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.05.11 End Date: 2013.05.11 Last Calib.: 2013.05.11
Start Time: 05:35:01 End Time: 12:55:00 Time On Btm: 2013.05.11 @ 07:42:30
Time Off Btm: 2013.05.11 @ 11:02:30

TEST COMMENT: IF: Weak blow , Built to 1 1/2 in. over 30 mins.
IS: No blow back over 60 mins.
FF: No blow over 30 mins.
FS: No blow back over 60 mins.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1945.43	106.77	Initial Hydro-static
7	42.39	107.06	Open To Flow (1)
41	85.42	110.15	Shut-In(1)
97	1127.28	111.12	End Shut-In(1)
98	93.58	110.94	Open To Flow (2)
131	117.28	112.37	Shut-In(2)
195	1103.81	113.49	End Shut-In(2)
200	1844.09	112.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	vsw co-5%w 10%o85%m	0.30
124.00	vsw cmo-5%w 45%m55%o	0.61
5.00	oil-100%	0.07

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water Ste. 300
 Wichita KS 67202
 ATTN: Tom Funk

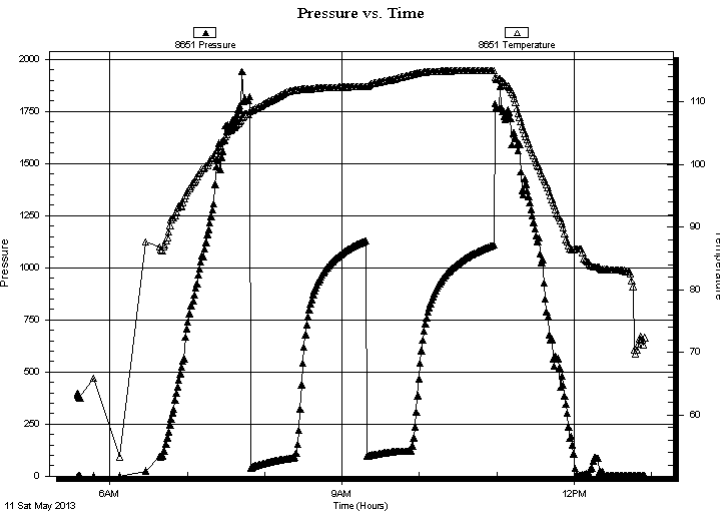
11-2s-29w Decatur,KS
DCFY Unit #1-11
 Job Ticket: 50670 **DST#: 1**
 Test Start: 2013.05.11 @ 05:35:00

GENERAL INFORMATION:

Formation: **LKC-A**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 07:49:00 Tester: Chuck Kreutzer Jr.
 Time Test Ended: 12:55:00 Unit No: 61
 Interval: **3666.00 ft (KB) To 3725.00 ft (KB) (TVD)** Reference Elevations: 2719.00 ft (KB)
 Total Depth: 3725.00 ft (KB) (TVD) 2714.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8651 Outside
 Press @ Run Depth: psig @ 3667.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.11 End Date: 2013.05.11 Last Calib.: 2013.05.11
 Start Time: 05:35:01 End Time: 12:55:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Weak blow , Built to 1 1/2 in. over 30 mins.
 IS: No blow back over 60 mins.
 FF: No blow over 30 mins.
 FS: No blow back over 60 mins.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
62.00	vsw co-5%w 10%o85%m	0.30
124.00	vsw cmo-5%w 45%m55%o	0.61
5.00	oil-100%	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

11-2s-29w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

DCFY Unit #1-11

Job Ticket: 50670

DST#: 1

ATTN: Tom Funk

Test Start: 2013.05.11 @ 05:35:00

Tool Information

Drill Pipe:	Length: 3472.00 ft	Diameter: 3.80 inches	Volume: 48.70 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 49.61 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3666.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	87.00 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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Shut In Tool	5.00			3643.00	
Hydraulic tool	5.00			3648.00	
Jars	5.00			3653.00	
Safety Joint	3.00			3656.00	
Packer	5.00			3661.00	28.00 Bottom Of Top Packer
Packer	5.00			3666.00	
Stubb	1.00			3667.00	
Recorder	0.00	8791	Inside	3667.00	
Recorder	0.00	8651	Outside	3667.00	
Perforations	1.00			3668.00	
change Over Sub	1.00			3669.00	
Drill Pipe	32.00			3701.00	
Change Over Sub	1.00			3702.00	
Perforations	20.00			3722.00	
Bullnose	3.00			3725.00	59.00 Bottom Packers & Anchor

Total Tool Length: 87.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

11-2s-29w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

DCFY Unit #1-11

Job Ticket: 50670

DST#: 1

ATTN: Tom Funk

Test Start: 2013.05.11 @ 05:35:00

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: 5.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	vsw co-5%w 10%o85%m	0.305
124.00	vsw cmo-5%w 45%m55%o	0.610
5.00	oil-100%	0.070

Total Length: 191.00 ft

Total Volume: 0.985 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

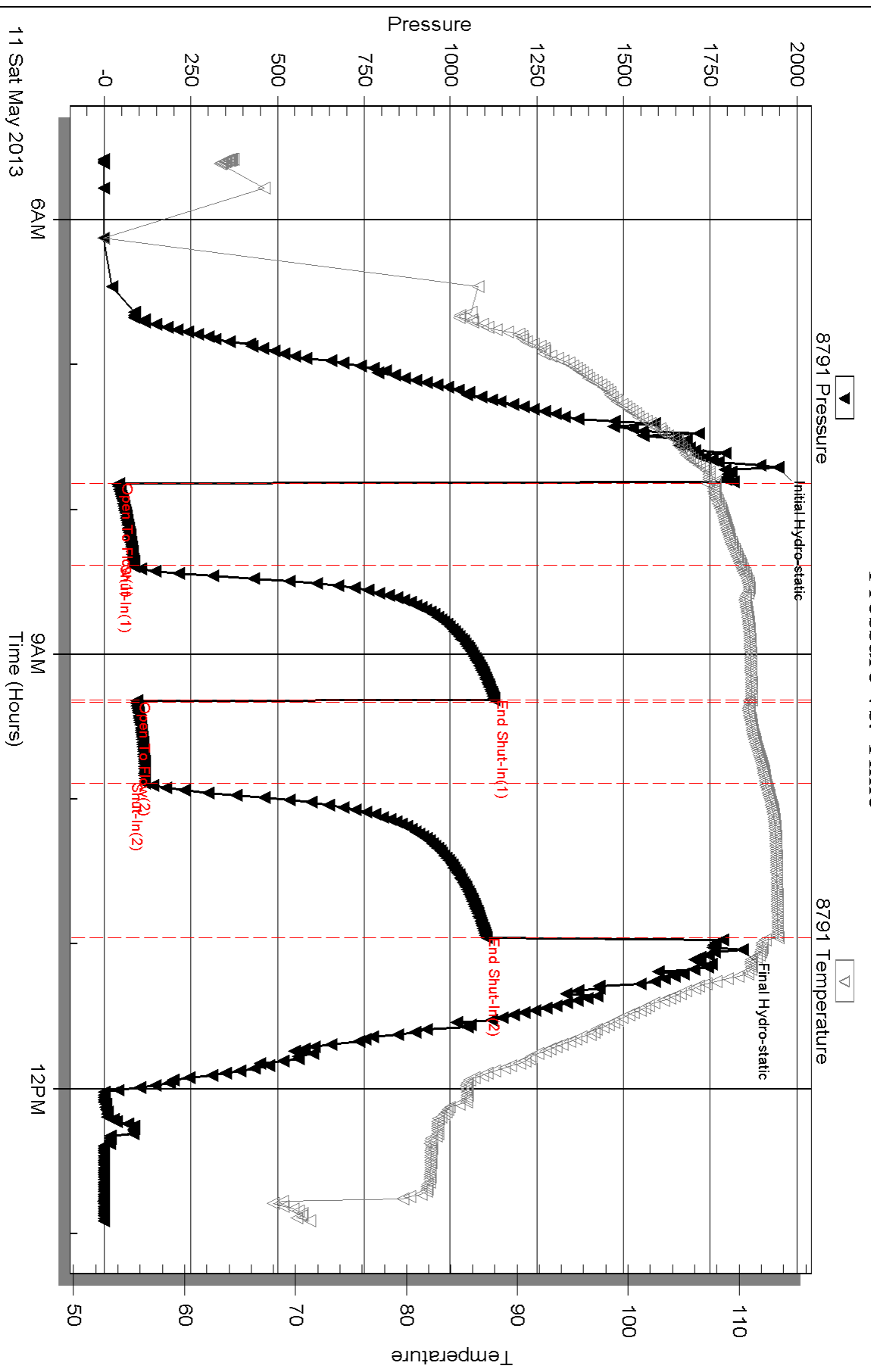
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

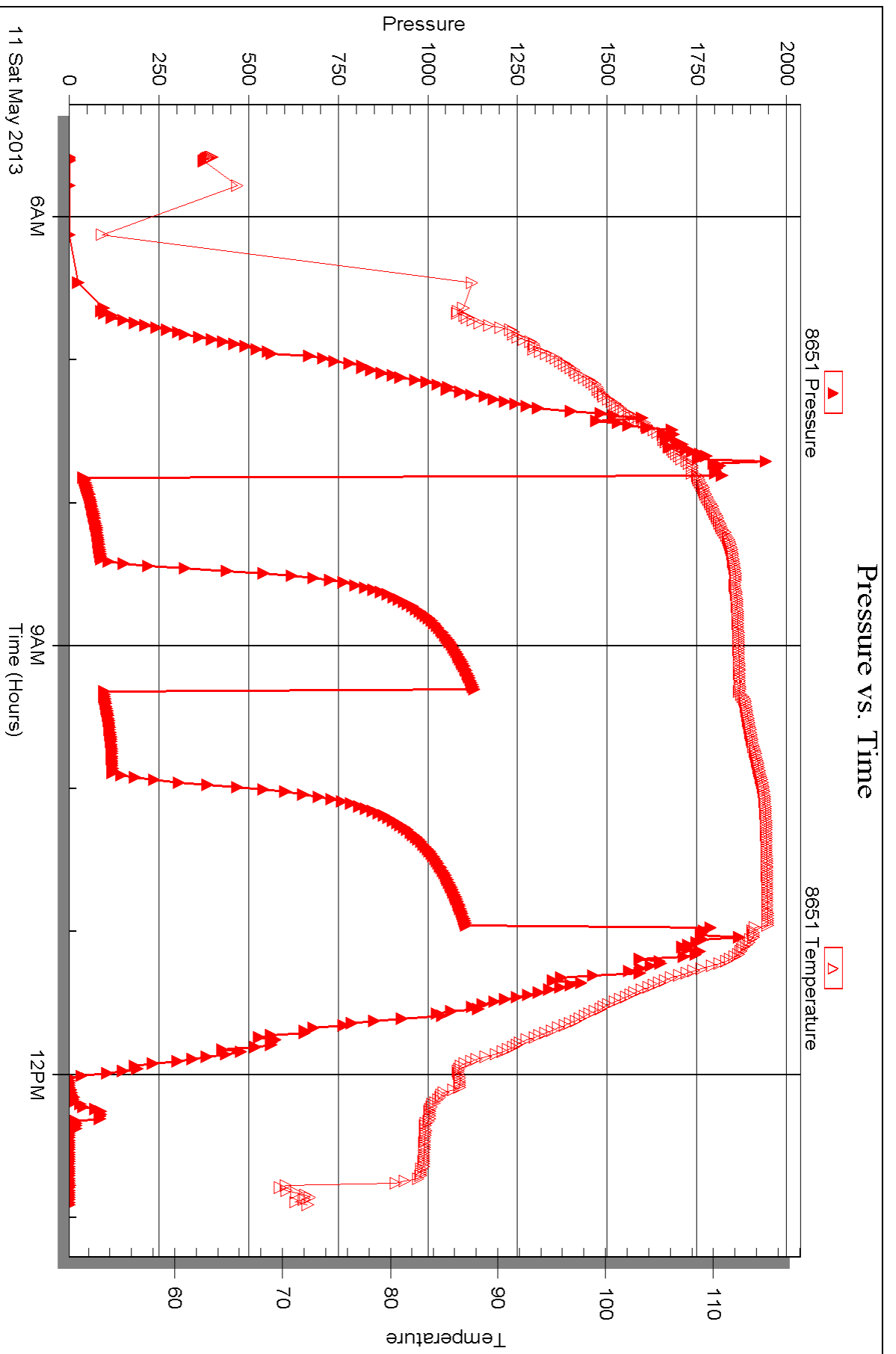


Serial #: 8651

Outside Murfin Drilling Co.

DCFY Unit #1-11

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Tom Funk

DCFY Unit #1-11

11-2s-29w Decatur,KS

Start Date: 2013.05.12 @ 03:10:00

End Date: 2013.05.12 @ 10:30:00

Job Ticket #: 50671 DST #: 2

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

Printed: 2013.05.17 @ 15:10:43



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N. Water Ste. 300
Wichita KS 67202
ATTN: Tom Funk

11-2s-29w Decatur, KS
DCFY Unit #1-11
Job Ticket: 50671 **DST#: 2**
Test Start: 2013.05.12 @ 03:10:00

GENERAL INFORMATION:

Formation: **LKC H-J**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:26:00
Time Test Ended: 10:30:00
Test Type: Conventional Bottom Hole (Reset)
Tester: Chuck Kreuzer Jr.
Unit No: 61
Interval: **3806.00 ft (KB) To 3868.00 ft (KB) (TVD)**
Reference Elevations: 2719.00 ft (KB)
Total Depth: 3868.00 ft (KB) (TVD) 2714.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

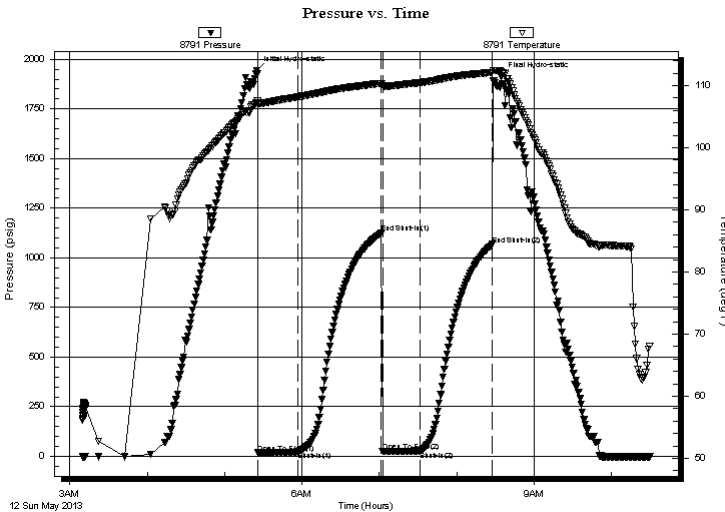
Serial #: 8791

Inside

Press @ Run Depth: 28.02 psig @ 3807.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.05.12 End Date: 2013.05.12 Last Calib.: 2013.05.12
Start Time: 03:10:01 End Time: 10:30:00 Time On Btm: 2013.05.12 @ 05:25:00
Time Off Btm: 2013.05.12 @ 08:34:30

TEST COMMENT: IF: Weak blow, Surface. Dead in 20 mins.
IS: No blow back over 60 mins.
FF: No blow over 30 mins.
FS: No blow back over 60 mins.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1944.04	107.27	Initial Hydro-static
1	17.60	107.03	Open To Flow (1)
32	24.52	108.16	Shut-In(1)
97	1124.69	110.36	End Shut-In(1)
98	24.39	110.00	Open To Flow (2)
127	28.02	110.45	Shut-In(2)
183	1067.54	112.10	End Shut-In(2)
190	1911.06	112.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	mud-100%m	0.07

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water Ste. 300
 Wichita KS 67202
 ATTN: Tom Funk

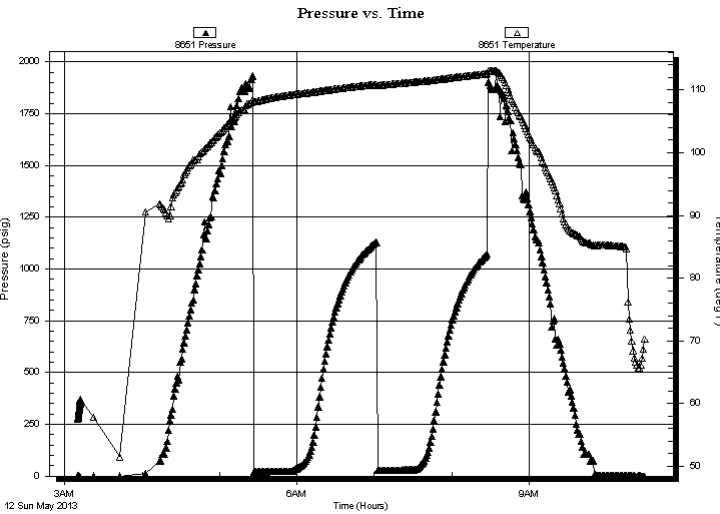
11-2s-29w Decatur, KS
DCFY Unit #1-11
 Job Ticket: 50671 **DST#: 2**
 Test Start: 2013.05.12 @ 03:10:00

GENERAL INFORMATION:

Formation: **LKC H-J**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 05:26:00 Tester: Chuck Kreutzer Jr.
 Time Test Ended: 10:30:00 Unit No: 61
Interval: 3806.00 ft (KB) To 3868.00 ft (KB) (TVD) Reference Elevations: 2719.00 ft (KB)
 Total Depth: 3868.00 ft (KB) (TVD) 2714.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8651 Outside
 Press @ Run Depth: psig @ 3807.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.12 End Date: 2013.05.12 Last Calib.: 2013.05.12
 Start Time: 03:10:01 End Time: 10:30:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Weak blow , Surface . Dead in 20 mins.
 IS: No blow back over 60 mins.
 FF: No blow over 30 mins.
 FS: No blow back over 60 mins.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	mud-100%m	0.07

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

11-2s-29w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

DCFY Unit #1-11

Job Ticket: 50671

DST#: 2

ATTN: Tom Funk

Test Start: 2013.05.12 @ 03:10:00

Tool Information

Drill Pipe:	Length: 3600.00 ft	Diameter: 3.80 inches	Volume: 50.50 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 51.41 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3806.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	90.00 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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Shut In Tool	5.00			3783.00	
Hydraulic tool	5.00			3788.00	
Jars	5.00			3793.00	
Safety Joint	3.00			3796.00	
Packer	5.00			3801.00	28.00 Bottom Of Top Packer
Packer	5.00			3806.00	
Stubb	1.00			3807.00	
Recorder	0.00	8791	Inside	3807.00	
Recorder	0.00	8651	Outside	3807.00	
Perforations	4.00			3811.00	
change Over Sub	1.00			3812.00	
Drill Pipe	32.00			3844.00	
Change Over Sub	1.00			3845.00	
Perforations	20.00			3865.00	
Bullnose	3.00			3868.00	62.00 Bottom Packers & Anchor

Total Tool Length: 90.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

11-2s-29w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

DCFY Unit #1-11

Job Ticket: 50671

DST#: 2

ATTN: Tom Funk

Test Start: 2013.05.12 @ 03:10:00

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	mud-100%m	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8791

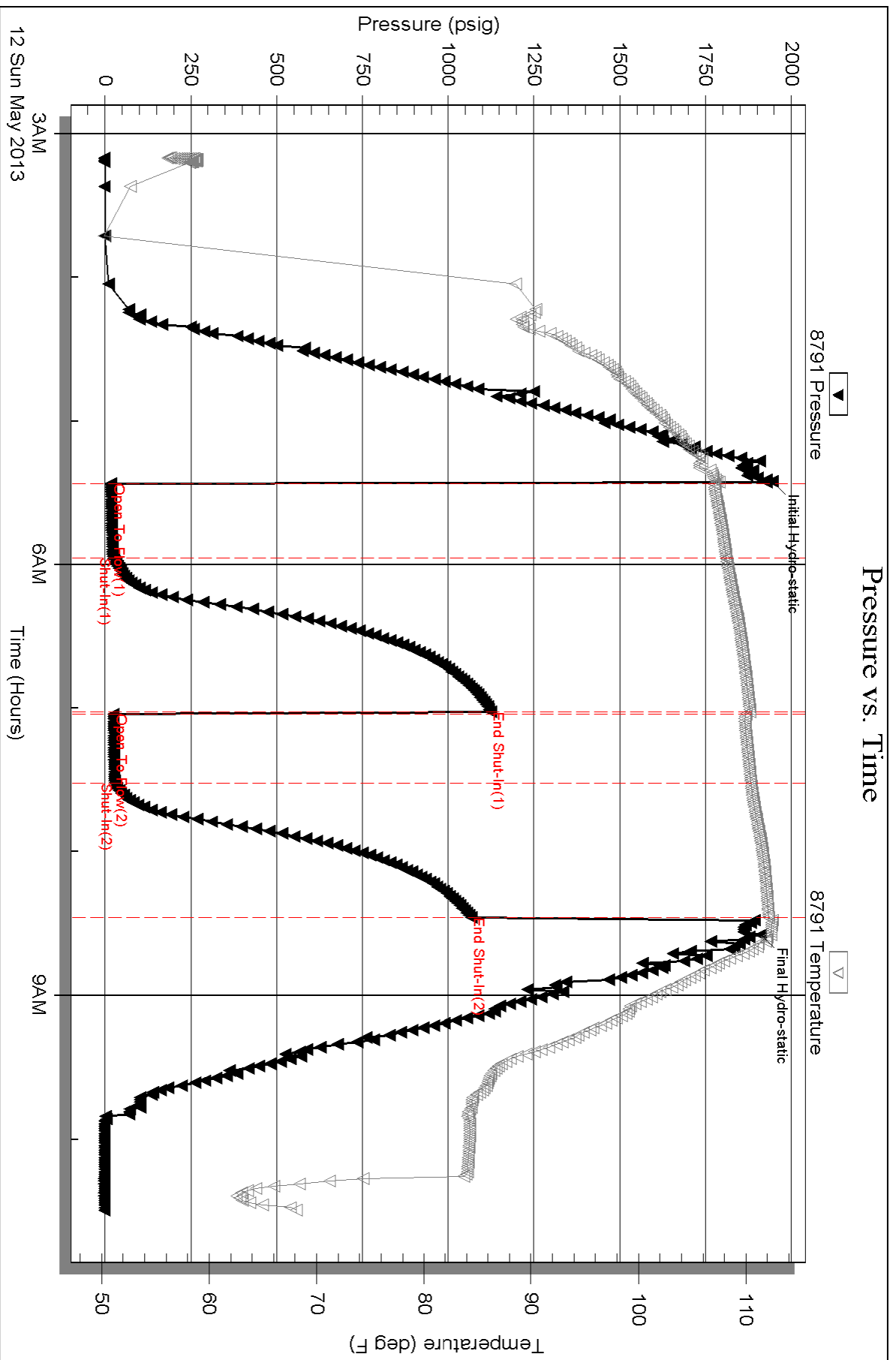
Inside

Murfin Drilling Co.

DCFY Unit #1-11

DST Test Number: 2

Pressure vs. Time

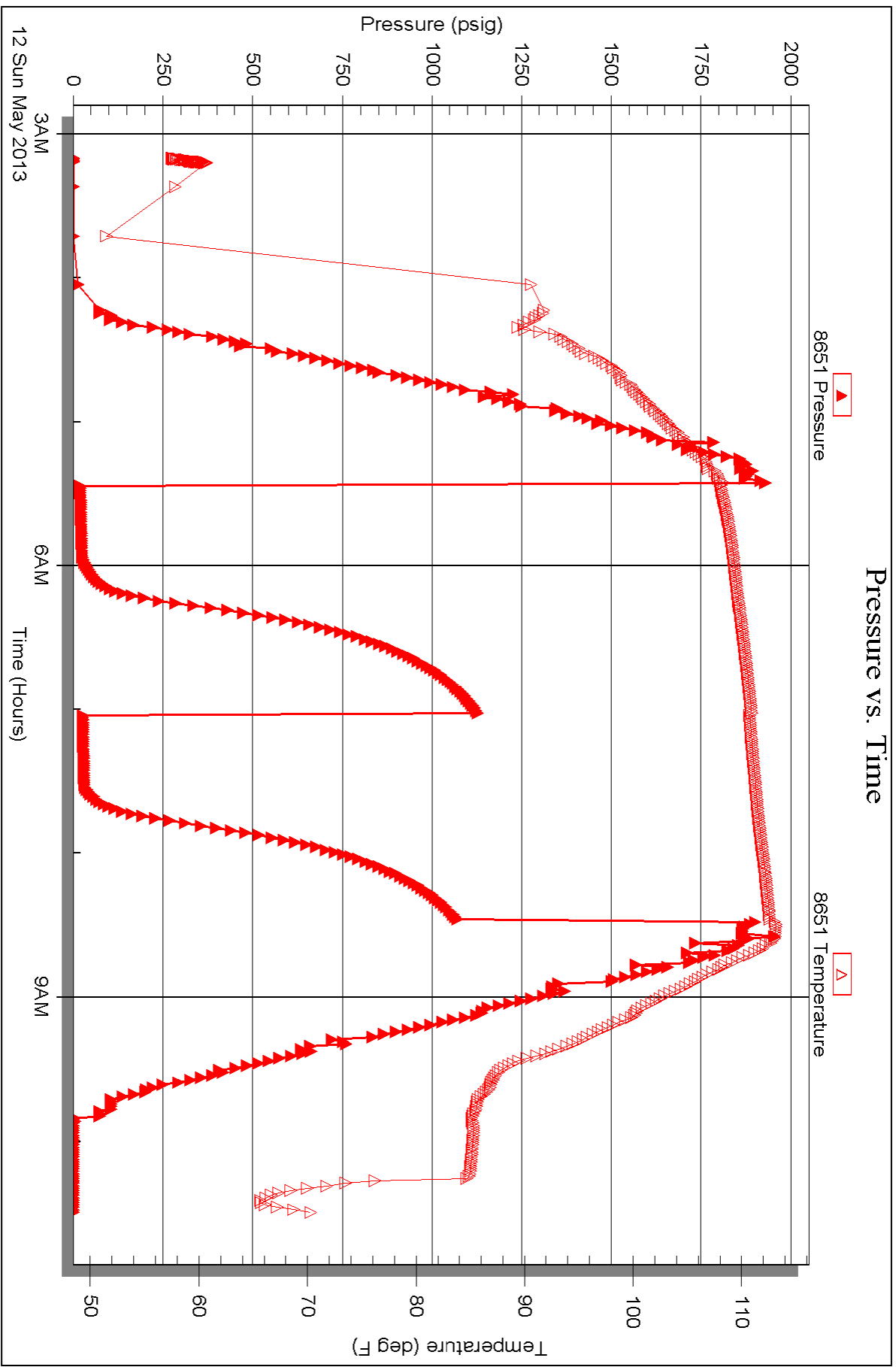


Serial #: 8651

Outside Murfin Drilling Co.

DCFY Unit #1-11

DST Test Number: 2



Batt - Rec
308- 251 bottom
385- 8701 top



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50670

Well Name & No. OCFY unit #1-11 Test No. 1 Date 5-11-13
 Company Murfin Drilling Co. Elevation 2719 KB 2714 GL
 Address 250 N. Water ste. 300 Wichita Ks. 67202
 Co. Rep / Geo. Tom Funk Rig Murfin #8
 Location: Sec. 11 Twp. 25 Rge. 29W Co. Decatur State Ks

Interval Tested 3666 3725 Zone Tested LRC-A
 Anchor Length 59 Drill Pipe Run 3472 Mud Wt. 8.7
 Top Packer Depth 3661 Drill Collars Run 186 Vis 57
 Bottom Packer Depth 3666 Wt. Pipe Run - 0- WL 5.2
 Total Depth 3725 Chlorides 1,000 ppm System LCM 4#

Blow Description IF! Weak blow, Built to 1 1/2 in over 30 mins.
ISI: No blow back over 60 mins.

FF: No blow over 30 mins.

FSI: No blow back over 60 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>oil</u>		<u>100%</u>		
<u>124</u>	<u>VSWGMO</u>		<u>50</u>	<u>5</u>	<u>45</u>
<u>62</u>	<u>VSWCOM</u>		<u>10</u>	<u>5</u>	<u>85</u>

Rec Total 191 BHT 111 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1945 Test 1150 T-On Location 4:21
 (B) First Initial Flow 42 Jars 250 T-Started 5:35
 (C) First Final Flow 85 Safety Joint 75 T-Open 7:49
 (D) Initial Shut-In 1127 Circ Sub _____ T-Pulled 11:00
 (E) Second Initial Flow 94 Hourly Standby _____ T-Out 12:55

(F) Second Final Flow 117 Mileage 6x2=12x155= 18.60
 (G) Final Shut-In 1104 Sampler _____
 (H) Final Hydrostatic 1844 Straddle _____

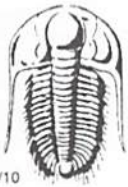
Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1493.60

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1493.60
 MP/DST Disc't _____

Approved By _____ Our Representative Chuck Huger

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.

785-259-3188



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **50671**

Rec TOP 8791 Bottom 8651 = 3.31
= 3.10

Well Name & No. DCFY unit #1-11 Test No. 2 Date 5-12-13
 Company Murfin Drilling Co. Elevation 2719 KB 2714 GL
 Address 250 N. Water Ste. 900 Wichita Ks. 67202
 Co. Rep / Geo. Tom Funk Rig Murfin
 Location: Sec. 11 Twp. 25 Rge. 29W Co. Decatur State Ks

Interval Tested 3806 3868 Zone Tested LKC-HJ
 Anchor Length 62 Drill Pipe Run 3600 Mud Wt. 9.1
 Top Packer Depth 3801 Drill Collars Run 186 Vis 58
 Bottom Packer Depth 3806 Wt. Pipe Run 0 WL 5.6
 Total Depth 3868 Chlorides 1,400 ppm System LCM 5#

Blow Description IF: Weak blow, surface. Dead in 20 mins.

FSI: No blow back over 60 mins

FF: No blow over 30 mins

FSI: No blow back over 60 mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud</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 BHT 111 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1944 Test 1150 T-On Location 2:37
 (B) First Initial Flow 18 Jars 250 T-Started 3:10
 (C) First Final Flow 25 Safety Joint 75 T-Open 5:26
 (D) Initial Shut-In 1125 Circ Sub _____ T-Pulled 8:30
 (E) Second Initial Flow 24 Hourly Standby _____ T-Out 10:30
 (F) Second Final Flow 28 Mileage 37.20 Comments Load tools on 5-12-13
 (G) Final Shut-In 1068 Sampler _____ at 9:30pm
 (H) Final Hydrostatic 1911 Straddle _____
 Shale Packer _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____

Initial Open 30 Extra Packer _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 30 Day Standby _____ Total 1512.20
 Final Shut-In 60 Accessibility _____ MP/DST Disc't _____
 Sub Total 1512.20

Approved By _____ Our Representative Chuck [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.