

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste. 300
Wichita KS 67202-1216

ATTN: Robert Hendrix

Hattrup #1-3

3-24s-20w Edwards,KS

Start Date: 2012.06.29 @ 11:30:00

End Date: 2012.06.29 @ 19:11:30

Job Ticket #: 47638 DST #: 1

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

Printed: 2012.07.06 @ 11:37:35



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N Water Ste. 300
Wichita KS 67202-1216
ATTN: Robert Hendrix

3-24s-20w Edwards,KS

Hattrup #1-3

Job Ticket: 47638

DST#: 1

Test Start: 2012.06.29 @ 11:30:00

GENERAL INFORMATION:

Formation: **Miss**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:56:15
 Time Test Ended: 19:11:30
 Interval: **4626.00 ft (KB) To 4657.00 ft (KB) (TVD)**
 Total Depth: 4657.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Harley Davidson
 Unit No: 58
 Reference Elevations: 2285.00 ft (KB)
 2274.00 ft (CF)
 KB to GR/CF: 11.00 ft

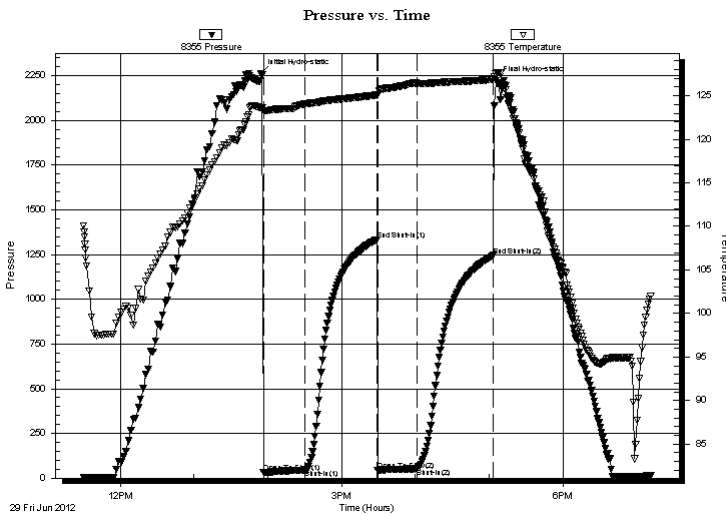
Serial #: 8355

Inside

Press @ Run Depth: 56.31 psig @ 4627.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.06.29 End Date: 2012.06.29 Last Calib.: 2012.06.29
 Start Time: 11:30:05 End Time: 19:11:29 Time On Btm: 2012.06.29 @ 13:54:15
 Time Off Btm: 2012.06.29 @ 17:05:15

TEST COMMENT: IF- Weak blow 1/2" into bucket and then died.
 IS- No blow back.
 FF- No blow .
 FS- No blow back.

PRESSURE SUMMARY



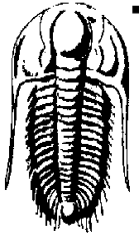
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2263.48	123.65	Initial Hydro-static
2	31.47	123.27	Open To Flow (1)
36	47.13	124.07	Shut-In(1)
94	1333.69	125.08	End Shut-In(1)
95	44.91	125.10	Open To Flow (2)
127	56.31	126.44	Shut-In(2)
189	1244.98	126.87	End Shut-In(2)
191	2224.20	127.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	95% water 5% mud trace of oil	0.30

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 67202-1216
ATTN: Robert Hendrix

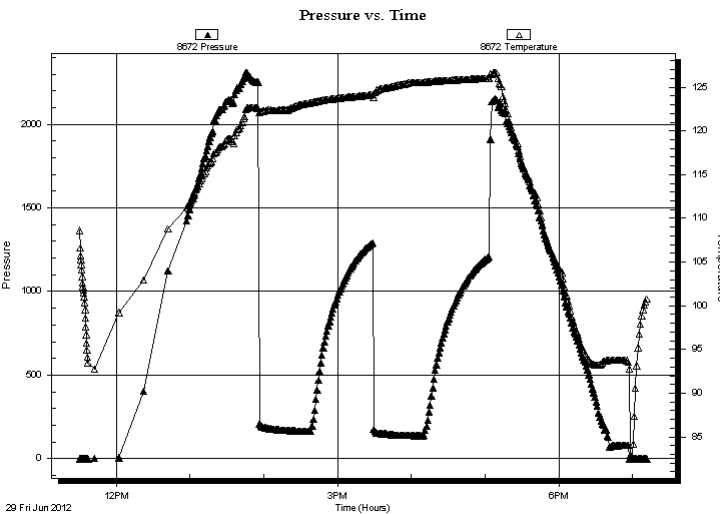
3-24s-20w Edwards,KS
Hatrup #1-3
Job Ticket: 47638 **DST#: 1**
Test Start: 2012.06.29 @ 11:30:00

GENERAL INFORMATION:

Formation: **Miss**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:56:15
Time Test Ended: 19:11:30
Interval: **4626.00 ft (KB) To 4657.00 ft (KB) (TVD)**
Total Depth: 4657.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Harley Davidson
Unit No: 58
Reference Elevations: 2285.00 ft (KB)
2274.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8672 **Outside**
Press@RunDepth: psig @ 4627.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.06.29 End Date: 2012.06.29 Last Calib.: 2012.06.29
Start Time: 11:30:05 End Time: 19:11:44 Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Weak blow 1/2" into bucket and then died.
ISI- No blow back.
FF- No blow .
FSI- No blow back.



PRESSURE SUMMARY

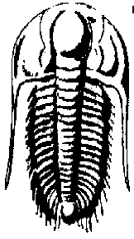
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
60.00	95% water 5% mud trace of oil	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.
250 N Water Ste. 300
Wichita KS 67202-1216
ATTN: Robert Hendrix

3-24s-20w Edwards,KS
Hattrup #1-3
Job Ticket: 47638 **DST#: 1**
Test Start: 2012.06.29 @ 11:30:00

Tool Information

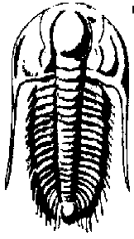
Drill Pipe:	Length: 4335.00 ft	Diameter: 3.80 inches	Volume: 60.81 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 296.00 ft	Diameter: 2.25 inches	Volume: 1.46 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 62.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 85000.00 lb
Depth to Top Packer:	4626.00 ft			Final 85000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 7.78 inches		

Tool Comments:

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

Shut In Tool	5.00			4604.00	
Hydraulic tool	5.00			4609.00	
Jars	5.00			4614.00	
Safety Joint	3.00			4617.00	
Packer	5.00			4622.00	27.00 Bottom Of Top Packer
Packer	4.00			4626.00	
Stubb	1.00			4627.00	
Recorder	0.00	8355	Inside	4627.00	
Recorder	0.00	8672	Outside	4627.00	
Perforations	27.00			4654.00	
Bullnose	3.00			4657.00	31.00 Bottom Packers & Anchor

Total Tool Length: 58.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

3-24s-20w Edwards,KS

250 N Water Ste. 300
Wichita KS 67202-1216

Hattrup #1-3

Job Ticket: 47638

DST#: 1

ATTN: Robert Hendrix

Test Start: 2012.06.29 @ 11:30:00

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:

26000 ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
60.00	95% water 5% mud trace of oil	0.295

Total Length: 60.00 ft Total Volume: 0.295 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Water Chl. .2@90=26000 chl.

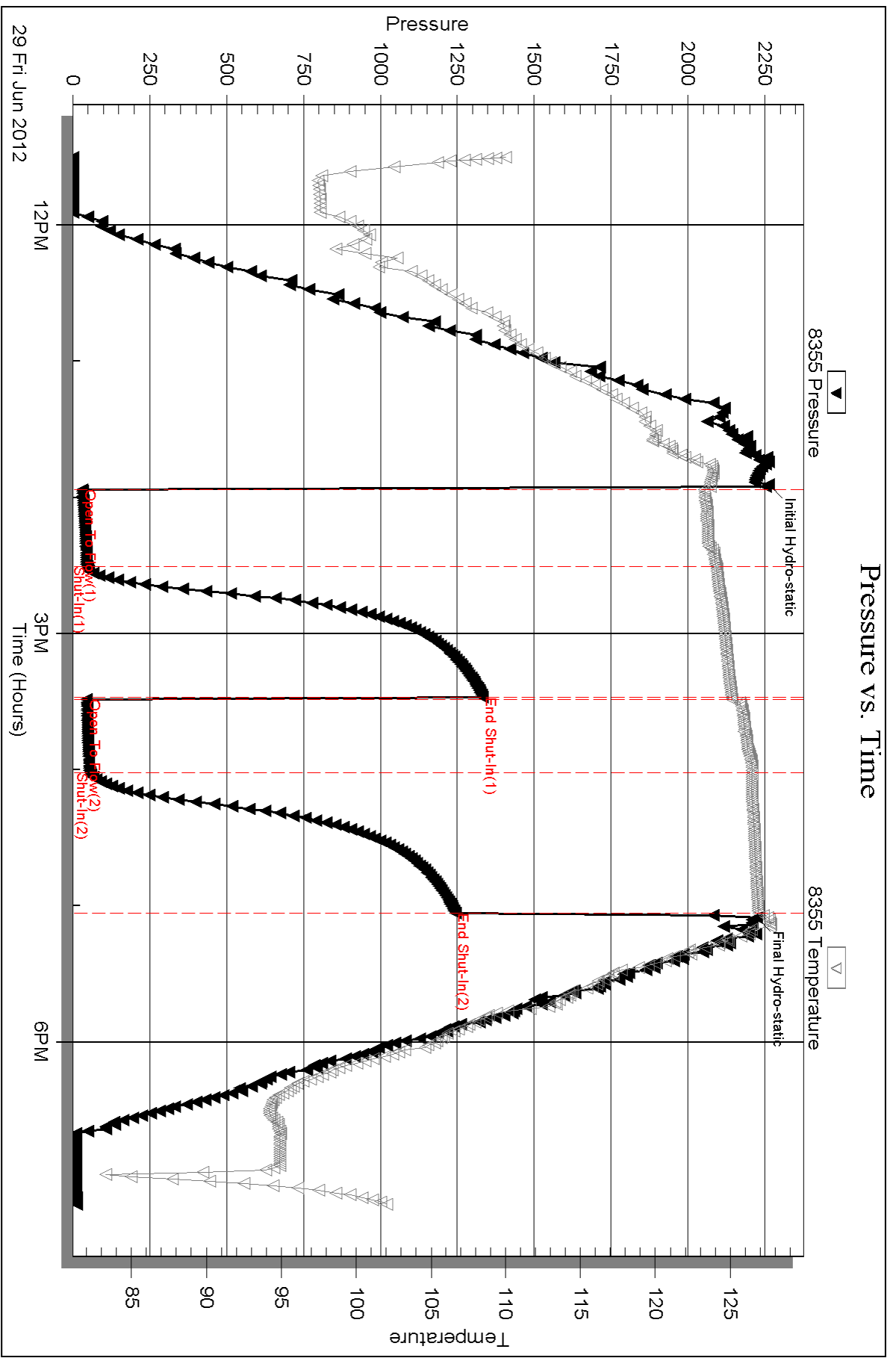
Serial #: 8355

Inside

Murfin Drilling Co.

Hattrup #1-3

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 47638

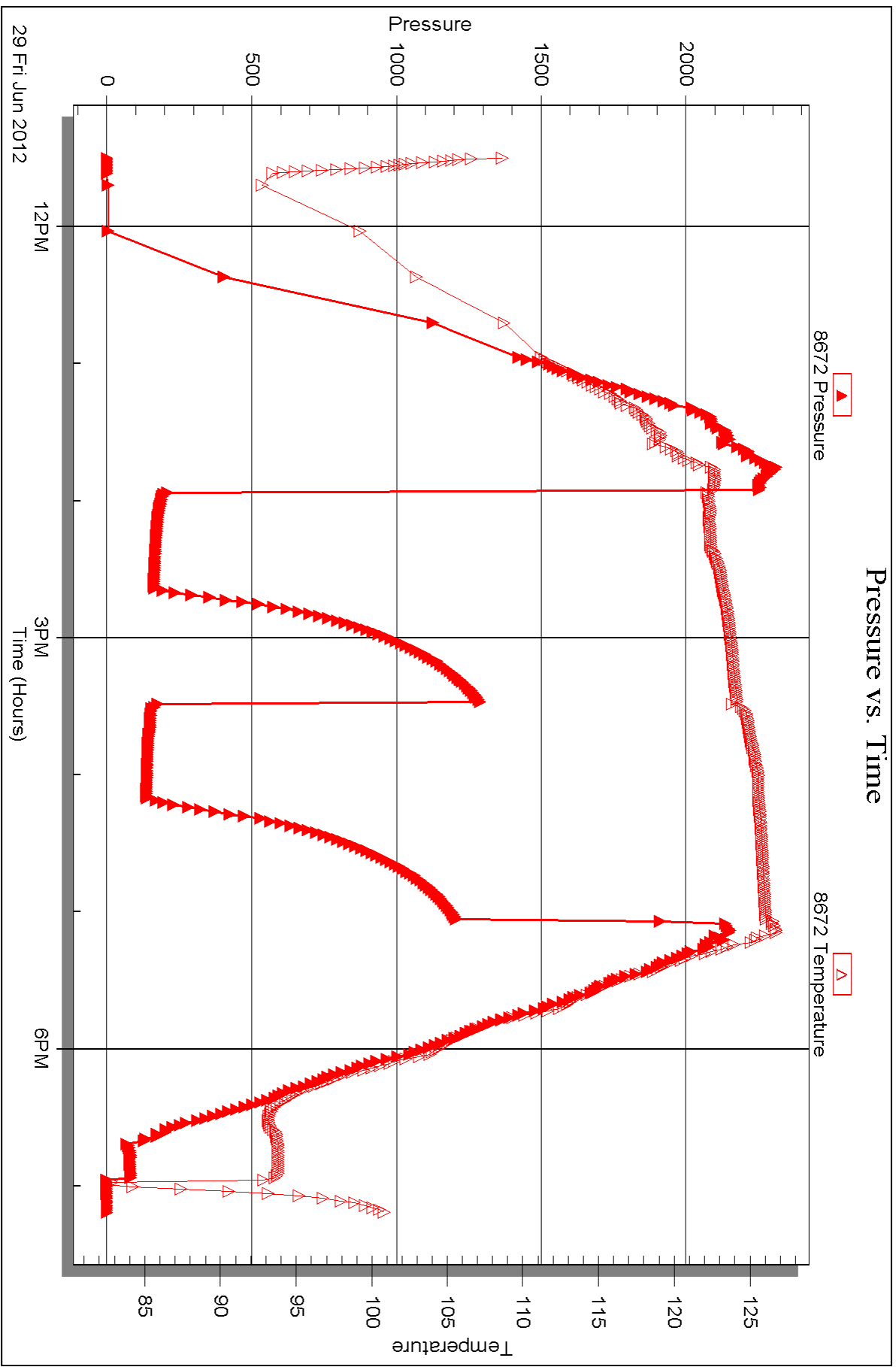
Printed: 2012.07.06 @ 11:37:37

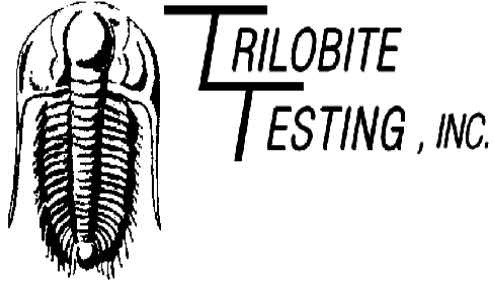
Serial #: 8672

Outside Murfin Drilling Co.

Hattrup #1-3

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste. 300
Wichita KS 67202-1216

ATTN: Robert Hendrix

Hattrup #1-3

3-24s-20w Edwards,KS

Start Date: 2012.06.30 @ 03:31:25

End Date: 2012.06.30 @ 12:08:51

Job Ticket #: 47610 DST #: 2

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

Printed: 2012.07.06 @ 11:35:45



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N Water Ste. 300
 Wichita KS 67202-1216
 ATTN: Robert Hendrix

3-24s-20w Edwards,KS
Hattrup #1-3
 Job Ticket: 47610 **DST#: 2**
 Test Start: 2012.06.30 @ 03:31:25

GENERAL INFORMATION:

Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:38:06
 Time Test Ended: 12:08:51
 Interval: **4626.00 ft (KB) To 4693.00 ft (KB) (TVD)**
 Total Depth: 4693.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Leal Cason
 Unit No: 45
 Reference Elevations: 2285.00 ft (KB)
 2274.00 ft (CF)
 KB to GR/CF: 11.00 ft

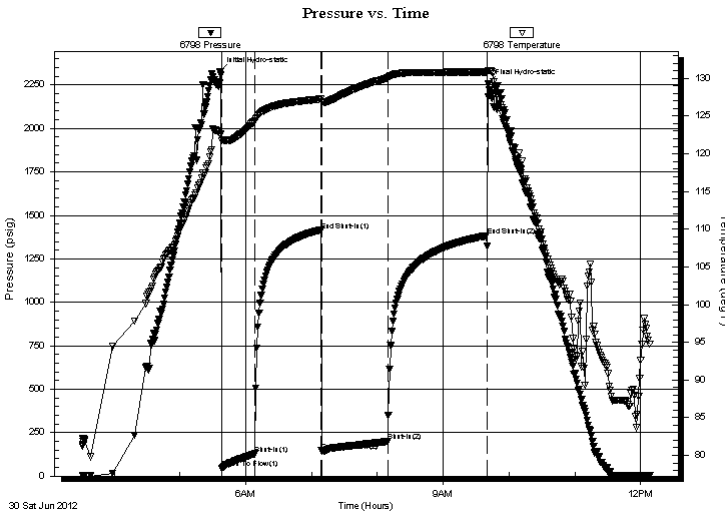
Serial #: 6798

Inside

Press @ Run Depth: 199.08 psig @ 4627.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.06.30 End Date: 2012.06.30 Last Calib.: 2012.06.30
 Start Time: 03:31:26 End Time: 12:08:51 Time On Btm: 2012.06.30 @ 05:36:36
 Time Off Btm: 2012.06.30 @ 09:41:20

TEST COMMENT: IF: Fair Blow Built to 5 inches
 IS: No Blow Back
 FF: Weak Blow, Built to 2 inches
 FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2328.60	122.63	Initial Hydro-static
2	42.92	121.75	Open To Flow (1)
32	127.88	124.33	Shut-In(1)
92	1411.42	127.25	End Shut-In(1)
93	142.73	126.87	Open To Flow (2)
153	199.08	130.04	Shut-In(2)
243	1383.39	130.86	End Shut-In(2)
245	2257.51	131.06	Final Hydro-static

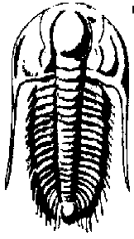
Recovery

Length (ft)	Description	Volume (bbl)
120.00	Water	0.59
62.00	MCW 30%M 70%W	0.30
147.00	GCM 2%G 98%M	1.28
1.00	Oil	0.01

* 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.
250 N Water Ste. 300
Wichita KS 67202-1216
ATTN: Robert Hendrix

3-24s-20w Edwards, KS
Hattrup #1-3
Job Ticket: 47610 **DST#: 2**
Test Start: 2012.06.30 @ 03:31:25

Tool Information

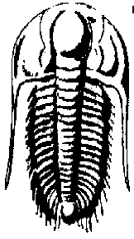
Drill Pipe:	Length: 4368.00 ft	Diameter: 3.80 inches	Volume: 61.27 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 268.00 ft	Diameter: 2.25 inches	Volume: 1.32 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 62.59 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 86000.00 lb
Depth to Top Packer:	4626.00 ft			Final 87000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	89.00 ft			
Number of Packers:	2	Diameter: 7.78 inches		

Tool Comments:

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

Shut In Tool	5.00			4609.00	
Hydraulic tool	5.00			4614.00	
Safety Joint	2.00			4616.00	
Packer	5.00			4621.00	22.00 Bottom Of Top Packer
Packer	5.00			4626.00	
Stubb	1.00			4627.00	
Recorder	0.00	6798	Inside	4627.00	
Recorder	0.00	8367	Outside	4627.00	
Perforations	9.00			4636.00	
Change Over Sub	1.00			4637.00	
Drill Pipe	32.00			4669.00	
Change Over Sub	1.00			4670.00	
Perforations	20.00			4690.00	
Bullnose	3.00			4693.00	67.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.
250 N Water Ste. 300
Wichita KS 67202-1216
ATTN: Robert Hendrix

3-24s-20w Edwards,KS
Hatrup #1-3
Job Ticket: 47610 **DST#: 2**
Test Start: 2012.06.30 @ 03:31:25

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:	95000 ppm
Viscosity: 46.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.78 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3500.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

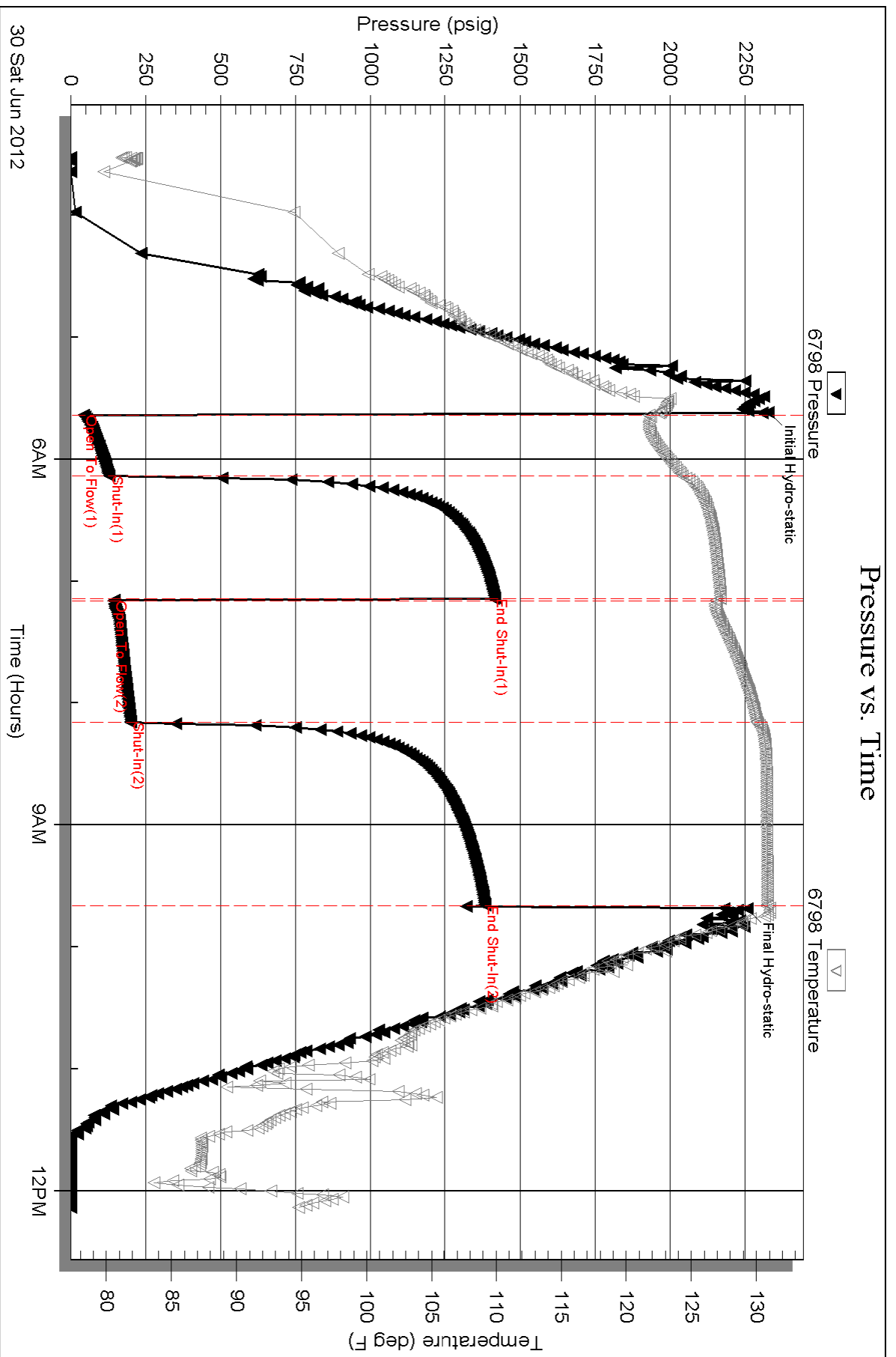
Length ft	Description	Volume bbl
120.00	Water	0.590
62.00	MCW 30%M 70%W	0.305
147.00	GCM 2%G 98%M	1.279
1.00	Oil	0.014

Total Length: 330.00 ft Total Volume: 2.188 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW w as .065 @ 88 degrees

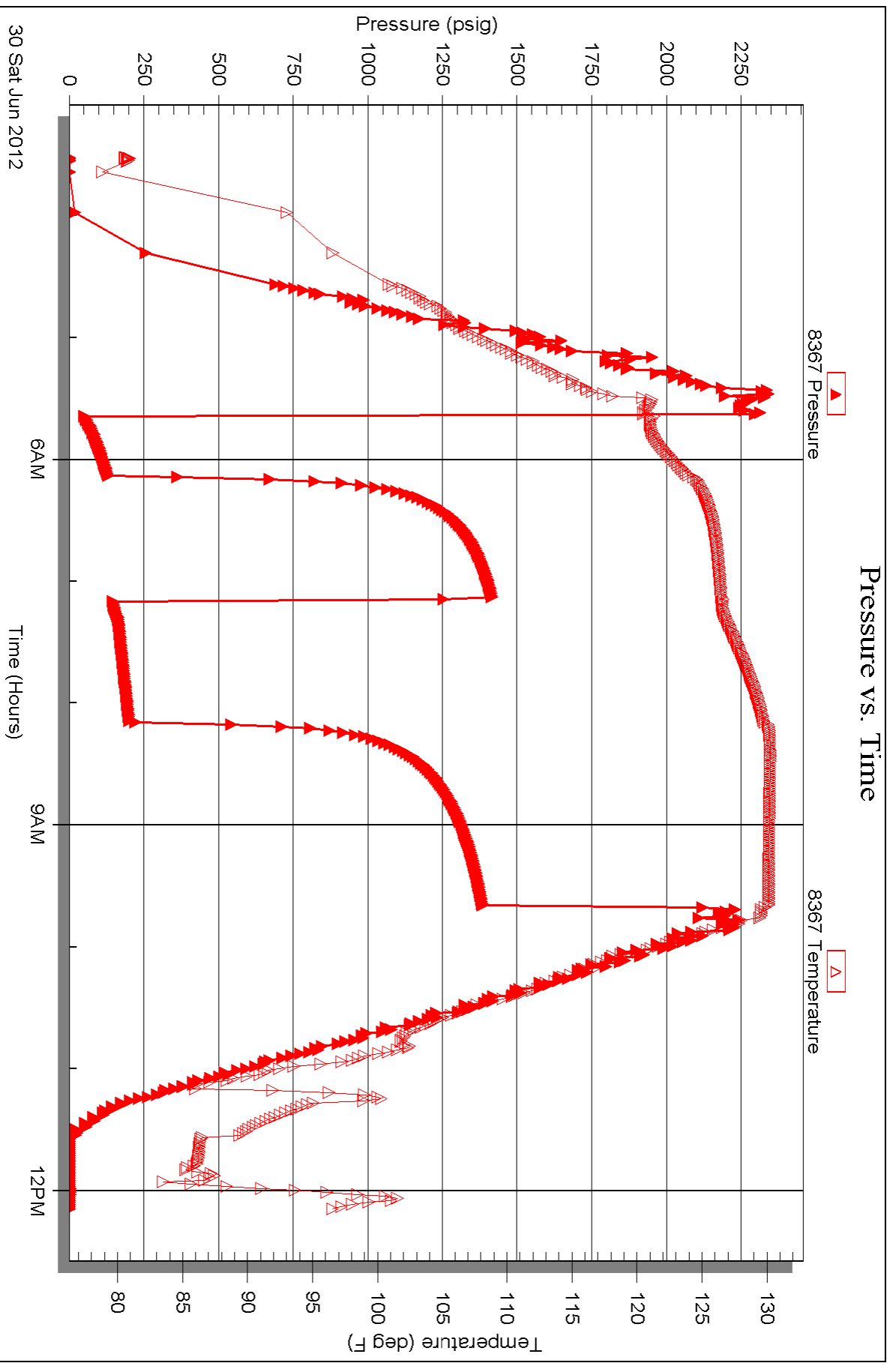


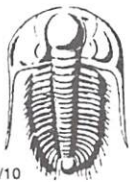
Serial #: 8367

Outside Murfin Drilling Co.

Hattrup #1-3

DST Test Number: 2





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47638

Well Name & No. Hattrop #1-3 Test No. 1 Date 6-29-12
 Company Morfin Drilling Co Inc. Elevation 2285 KB 2274 GL
 Address 250 N Water Ste 300 Wichita KS 67202-1216
 Co. Rep / Geo. Robert Hendrix Rig Morfin 21
 Location: Sec. 3 Twp. 24 Rge. 20 Co. Edwards State KS

Interval Tested 4626 - 4657 Zone Tested MISS
 Anchor Length 31 Drill Pipe Run 4335 Mud Wt. 9.4
 Top Packer Depth 4621 Drill Collars Run 296 Vis 46
 Bottom Packer Depth 4626 Wt. Pipe Run Ø WL 8.8
 Total Depth 4657 Chlorides 3500 ppm System LCM 3
 Blow Description IF - Weak blow 1/2 into bucket and died.
IST - No blow back
EF - No blow
FST - No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>		<u>Trace</u>	<u>95</u>	<u>5</u>	

Rec Total 60' BHT _____ Gravity API RW 0.2 @ 90 °F Chlorides 26000 ppm
 (A) Initial Hydrostatic 2264 Test 1300 1250 T-On Location 10 30 Am
 (B) First Initial Flow 31 Jars 250 T-Started 11 30 Am
 (C) First Final Flow 47 Safety Joint 75 T-Open 2 15 PM
 (D) Initial Shut-In 1334 Circ Sub _____ T-Pulled 5 15 PM
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 7 30
 (F) Second Final Flow 56 Mileage 200 round trip, 160rt 248 Comments _____
 (G) Final Shut-In 1745 Sampler _____
 (H) Final Hydrostatic 2224 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1823

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

Approved By Robert D. Hendrix Our Representative Arthur D. ...

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



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47610

Well Name & No. Hattrup 1-3 Test No. 2 Date 06/30/12
 Company Murfin Drilling Co Elevation 2285 KB 2274 GL
 Address 250 N. Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin 21
 Location: Sec. 3 Twp. 24 Rge. 20 Co. Edwards State KS

Interval Tested 4626 - 4693 Zone Tested Mississippi
 Anchor Length 67 Drill Pipe Run 4368 Mud Wt. 9.4
 Top Packer Depth 4621 Drill Collars Run 268 Vis 46
 Bottom Packer Depth 4626 Wt. Pipe Run 0 WL 8.8
 Total Depth 4693 Chlorides 3500 ppm System LCM

Blow Description IF: Fair Blow Built to 5 inches

ISI: NO BLOW BACK

FF: weak Blow Built to 2 inches

FSI: NO BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Oil</u>				
<u>147</u>	<u>MCW GCM</u>	<u>2</u>			<u>98</u>
<u>62</u>	<u>MCW</u>			<u>70</u>	<u>30</u>
<u>120</u>	<u>water</u>				

Rec Total 330 BHT 131 Gravity N/C API RW .065 @ 88 °F Chlorides 95000 ppm

(A) Initial Hydrostatic	<u>2328</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>03:00</u>
(B) First Initial Flow	<u>43</u>	<input type="checkbox"/> Jars		T-Started	<u>03:31</u>
(C) First Final Flow	<u>128</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>05:38</u>
(D) Initial Shut-In	<u>1411</u>	<input type="checkbox"/> Circ Sub		T-Pulled	<u>09:39</u>
(E) Second Initial Flow	<u>143</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>12:08</u>
(F) Second Final Flow	<u>199</u>	<input checked="" type="checkbox"/> Mileage	<u>1607</u> 248	Comments	
(G) Final Shut-In	<u>1383</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2257</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	
		<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
		<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	

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

Sub Total 1573

Sub Total 1573

Sub Total 0
 Total 1573
 MP/DST Disc't

Approved By [Signature] 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.