



DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Tom Funk

Weiland Unit #1-36

36-12s-32w Logan,KS

Start Date: 2011.12.27 @ 09:38:01

End Date: 2011.12.27 @ 17:54:30

Job Ticket #: 44982 DST #: 1

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

Printed: 2012.01.04 @ 12:11:35



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

36-12s-32w Logan, KS

Weiland Unit #1-36

Job Ticket: 44982

DST#: 1

Test Start: 2011.12.27 @ 09:38:01

GENERAL INFORMATION:

Formation: **LKC "E & F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:54:45

Time Test Ended: 17:54:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Will MacLean

Unit No: 46

Interval: 4101.00 ft (KB) To 4134.00 ft (KB) (TVD)

Reference Elevations: 2997.00 ft (KB)

Total Depth: 4134.00 ft (KB) (TVD)

2984.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8675

Inside

Press @ Run Depth: 173.98 psig @ 4102.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.27

End Date:

2011.12.27

Last Calib.:

2011.12.27

Start Time: 09:38:00

End Time:

17:54:29

Time On Btm:

2011.12.27 @ 11:53:44

Time Off Btm:

2011.12.27 @ 15:28:14

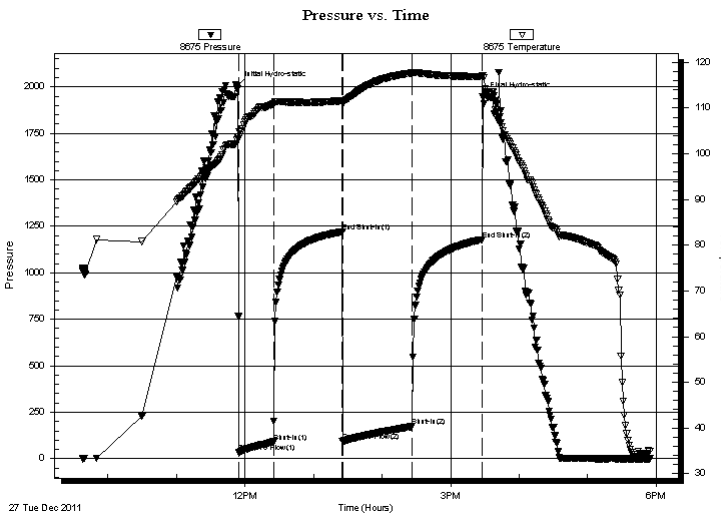
TEST COMMENT: IF- Surface Blow Built to 4 1/2"

IS- No Blow

FF- Weak Surface Blow Built to 4"

FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2005.19	103.71	Initial Hydro-static
1	33.23	103.64	Open To Flow (1)
32	90.55	110.94	Shut-In(1)
92	1220.49	111.60	End Shut-In(1)
92	93.26	110.96	Open To Flow (2)
153	173.98	117.65	Shut-In(2)
214	1178.04	116.89	End Shut-In(2)
215	1945.70	117.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	MCW 15%m 85%w	0.44
90.00	MCW 30%m 70%w	0.44
100.00	WCM 10%w 90%m	0.49

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: Tom Funk

36-12s-32w Logan,KS

Weiland Unit #1-36

Job Ticket: 44982

DST#: 1

Test Start: 2011.12.27 @ 09:38:01

Tool Information

Drill Pipe:	Length: 3539.00 ft	Diameter: 3.80 inches	Volume: 49.64 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 554.00 ft	Diameter: 2.25 inches	Volume: 2.72 bbl	Weight to Pull Loose: 8000.00 lb
			<u>Total Volume: 52.36 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4101.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4082.00	
Shut In Tool	5.00			4087.00	
Hydraulic tool	5.00			4092.00	
Packer	5.00			4097.00	20.00 Bottom Of Top Packer
Packer	4.00			4101.00	
Stubb	1.00			4102.00	
Recorder	0.00	8675	Inside	4102.00	
Recorder	0.00	8371	Outside	4102.00	
Perforations	29.00			4131.00	
Bullnose	3.00			4134.00	33.00 Bottom Packers & Anchor
Total Tool Length:	53.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

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

36-12s-32w Logan,KS

Weiland Unit #1-36

Job Ticket: 44982

DST#: 1

Test Start: 2011.12.27 @ 09:38:01

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 56.00 sec/qt
Water Loss: 6.36 in³
Resistivity: ohm.m
Salinity: 2900.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 68000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	MCW 15%m 85%w	0.443
90.00	MCW 30%m 70%w	0.443
100.00	WCM 10%w 90%m	0.492

Total Length: 280.00 ft Total Volume: 1.378 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is .159 @ 40f = 68000

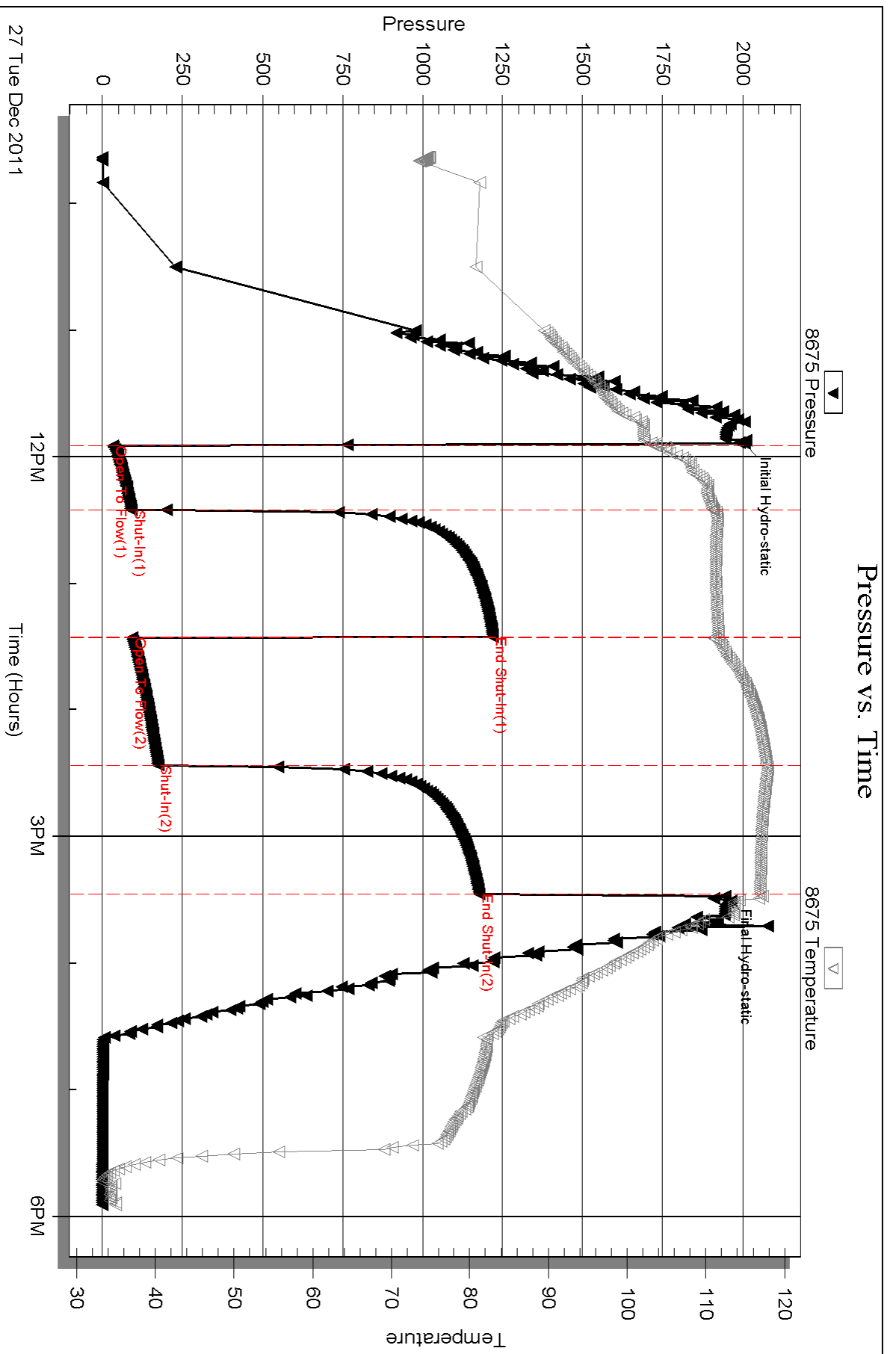
Serial #: 8675

Inside

Murfin Drilling Co. Inc

Welland Unit #1-36

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 44982

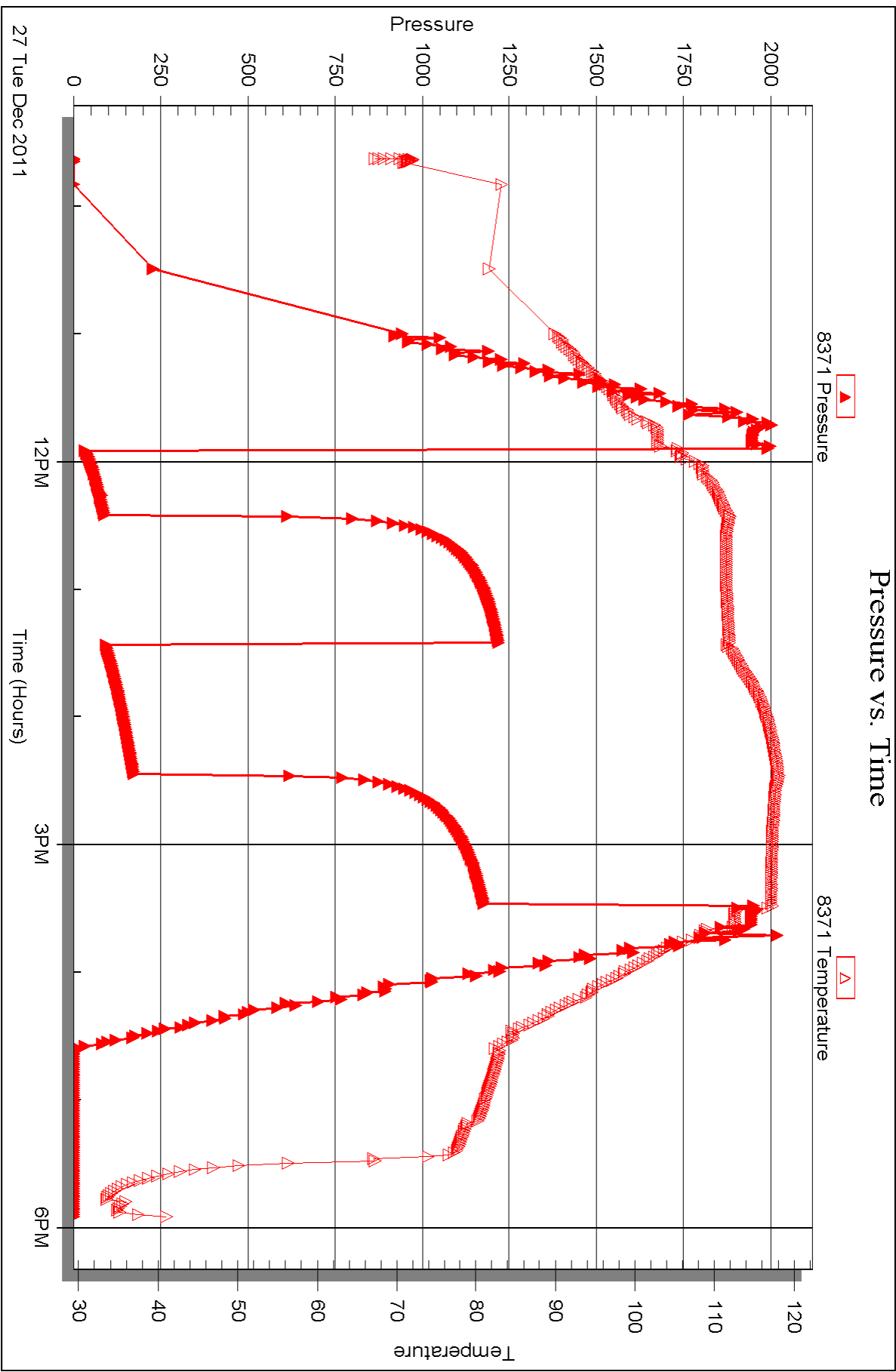
Printed: 2012.01.04 @ 12:11:38

Serial #: 8371

Outside Murfin Drilling Co. Inc

Welland Unit #1-36

DST Test Number: 1





DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Tom Funk

Weiland Unit #1-36

36-12s-32w Logan,KS

Start Date: 2011.12.29 @ 08:08:00

End Date: 2011.12.29 @ 16:44:59

Job Ticket #: 44983 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.01.04 @ 12:10:36



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

36-12s-32w Logan,KS

Weiland Unit #1-36

Job Ticket: 44983

DST#: 2

Test Start: 2011.12.29 @ 08:08:00

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:33:29

Time Test Ended: 16:44:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 46

Interval: 4568.00 ft (KB) To 4620.00 ft (KB) (TVD)

Reference Elevations: 2997.00 ft (KB)

Total Depth: 4620.00 ft (KB) (TVD)

2984.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8675 Inside

Press @ Run Depth: 73.35 psig @ 4569.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.29

End Date:

2011.12.29

Last Calib.:

2011.12.29

Start Time: 08:08:00

End Time:

16:44:59

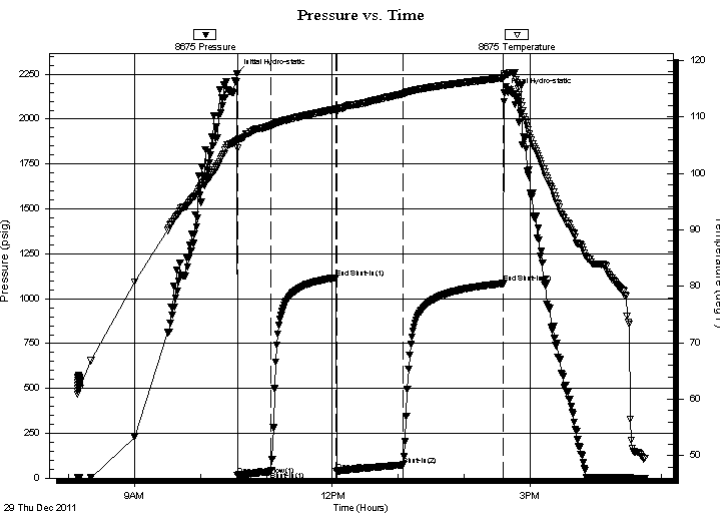
Time On Btm:

2011.12.29 @ 10:33:14

Time Off Btm:

2011.12.29 @ 14:36:29

TEST COMMENT: IF- Weak Surface Blow Built to 1 1/4"
 IS- No Blow
 FF- Weak Surface Blow Built to 1 3/4"
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2255.59	105.79	Initial Hydro-static
1	15.17	104.43	Open To Flow (1)
31	36.17	108.40	Shut-In(1)
91	1117.28	111.37	End Shut-In(1)
91	38.46	110.69	Open To Flow (2)
151	73.35	114.04	Shut-In(2)
243	1084.93	116.87	End Shut-In(2)
244	2145.23	117.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
100.00	WCM 4%w 96%m With Oil Spots	0.49

* Recovery from multiple tests

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

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

36-12s-32w Logan,KS

Weiland Unit #1-36

Job Ticket: 44983

DST#: 2

Test Start: 2011.12.29 @ 08:08:00

Tool Information

Drill Pipe:	Length: 4009.00 ft	Diameter: 3.80 inches	Volume: 56.24 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 554.00 ft	Diameter: 2.25 inches	Volume: 2.72 bbl	Weight to Pull Loose: 22000.00 lb
			<u>Total Volume: 58.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 88000.00 lb
Depth to Top Packer:	4568.00 ft			Final 88000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	72.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4549.00	
Shut In Tool	5.00			4554.00	
Hydraulic tool	5.00			4559.00	
Packer	5.00			4564.00	20.00 Bottom Of Top Packer
Packer	4.00			4568.00	
Stubb	1.00			4569.00	
Recorder	0.00	8675	Inside	4569.00	
Recorder	0.00	8371	Outside	4569.00	
Perforations	15.00			4584.00	
Change Over Sub	1.00			4585.00	
Drill Pipe	31.00			4616.00	
Change Over Sub	1.00			4617.00	
Bullnose	3.00			4620.00	52.00 Bottom Packers & Anchor

Total Tool Length: 72.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

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250 N Water STE 300
Wichita KS 67202
ATTN: Tom Funk

36-12s-32w Logan,KS

Weiland Unit #1-36

Job Ticket: 44983

DST#: 2

Test Start: 2011.12.29 @ 08:08:00

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: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
100.00	WCM 4%w 96%m With Oil Spots	0.492

Total Length: 100.00 ft Total Volume: 0.492 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8675

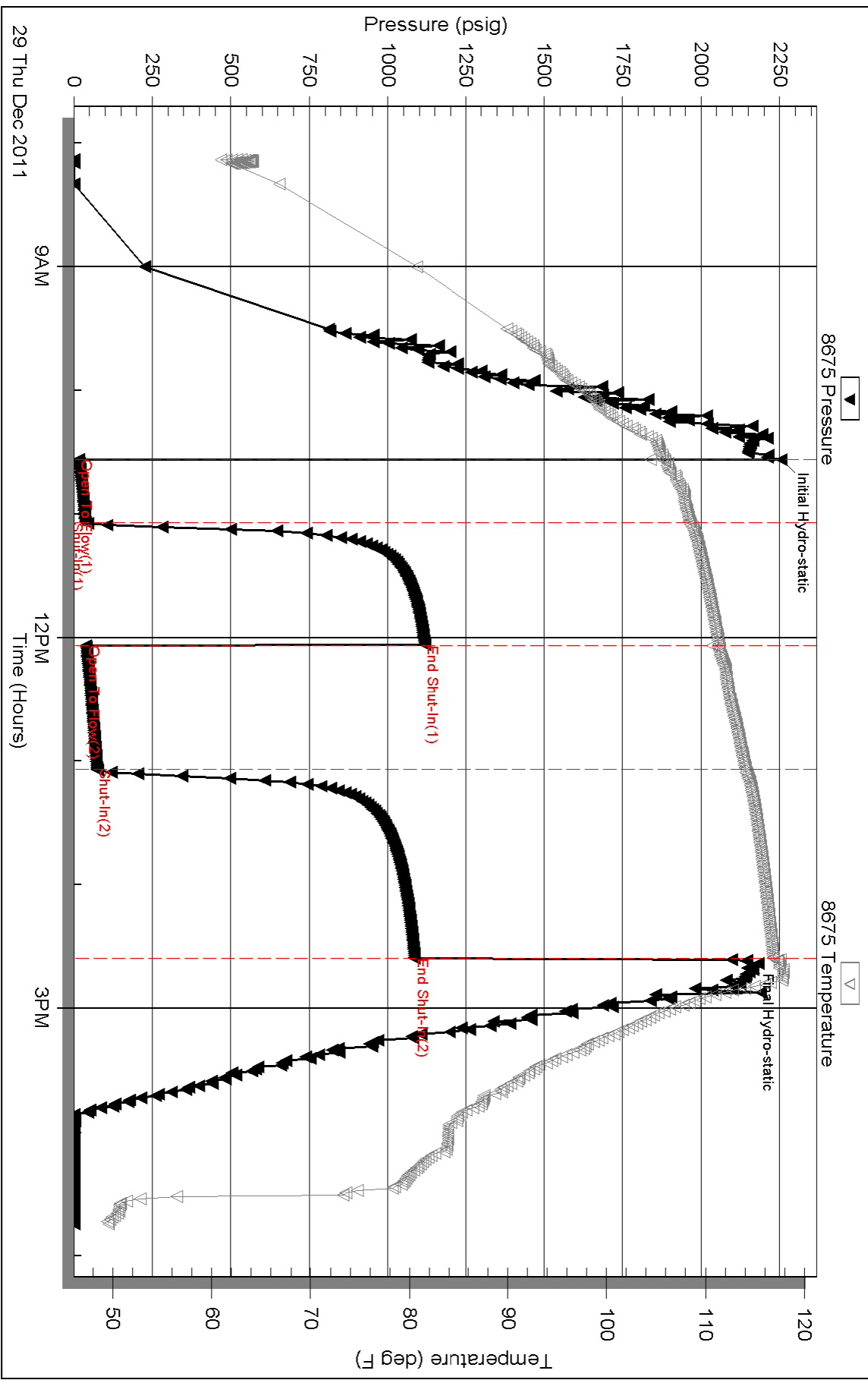
Inside

Murfin Drilling Co. Inc

Welland Unit #1-36

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 44983

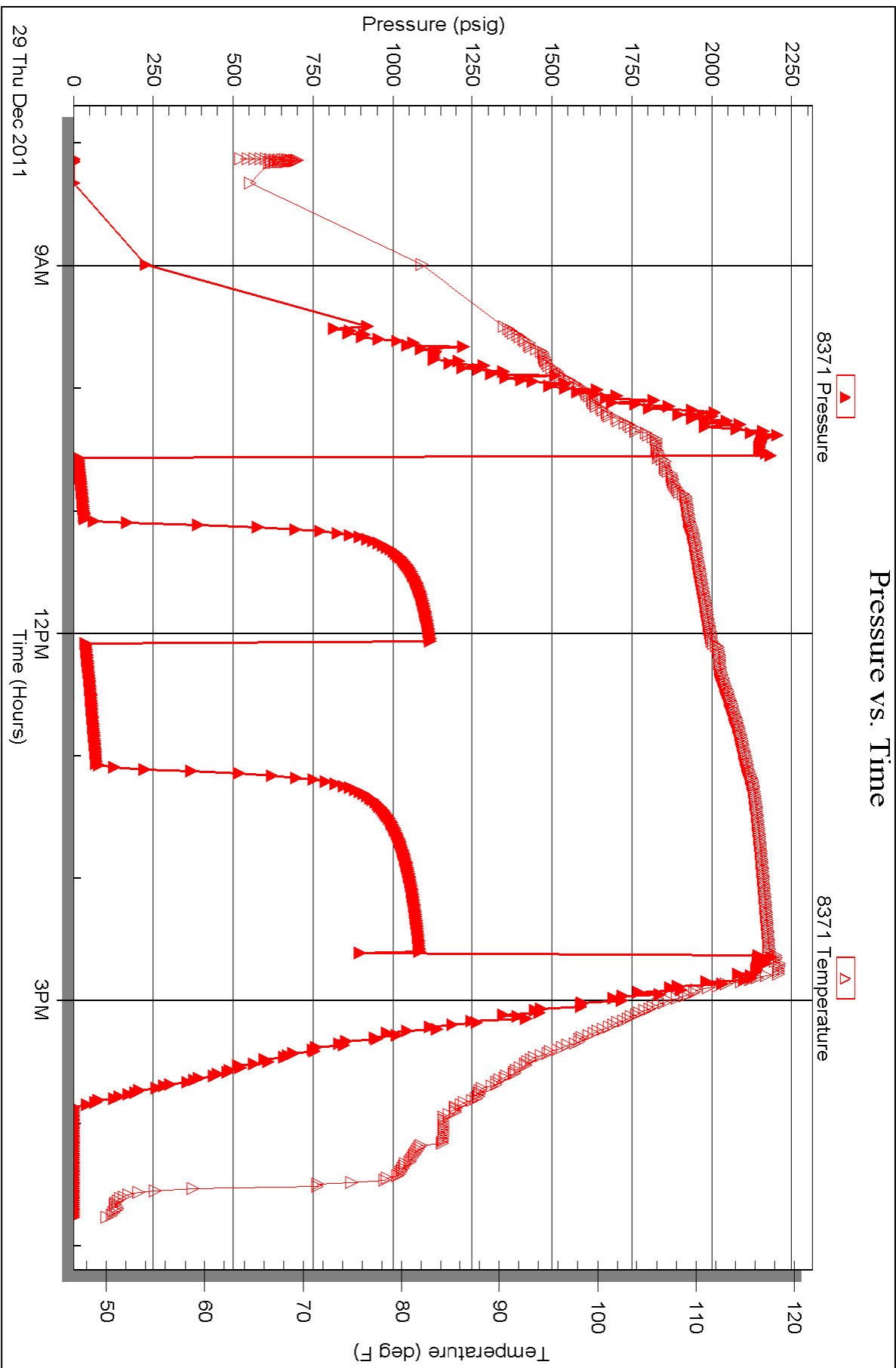
Printed: 2012.01.04 @ 12:10:38

Serial #: 8371

Outside Murfin Drilling Co. Inc

Welland Unit #1-36

DST Test Number: 2





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
DEC 30 2011

Test Ticket

NO. 44982

4/10

Well Name & No. Wieland #1-36 Test No. DST #1 Date 12-27-11
 Company Murfin Drilling Co. Elevation 2997 KB 2984 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Tom Funk Rig Murfin Rig #25
 Location: Sec. 36 Twp. 12S Rge. 32W Co. Logan State KS

Interval Tested 4101-4134 Zone Tested LKC "E-F"
 Anchor Length 33 Drill Pipe Run 3539 Mud Wt. 8.8
 Top Packer Depth 4097 Drill Collars Run 554 Vis 56
 Bottom Packer Depth 4101 Wt. Pipe Run 0 WL 6.4
 Total Depth 4134 Chlorides 2900 ppm System LCM 2

Blow Description IF- Surface Blow Built to 4 1/2"
ISI- No Blow
FF- Weak Surface Blow Built to 4"
FSI- No Blow

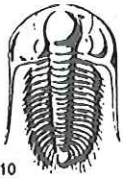
Rec	Feet of	%gas	%oil	%water	%mud
<u>100</u>	<u>WCM</u>			<u>10</u>	<u>90</u>
<u>90</u>	<u>MCW</u>			<u>70</u>	<u>30</u>
<u>90</u>	<u>MCW</u>			<u>85</u>	<u>15</u>

Rec Total BHT 113 Gravity API RW 159 @ 40° F Chlorides 68000 ppm
 (A) Initial Hydrostatic 1991 2005 Test 1225 T-On Location 8:54 AM
 (B) First Initial Flow 33 33 Jars T-Started 9:38 AM
 (C) First Final Flow 89 90 Safety Joint T-Open 11:54 AM
 (D) Initial Shut-In 1220 Circ Sub N/C T-Pulled 15:30
 (E) Second Initial Flow 92 93 Hourly Standby T-Out 17:54
 (F) Second Final Flow 173 Mileage 78 R/T 109.20 Comments _____
 (G) Final Shut-In 1178 Sampler _____
 (H) Final Hydrostatic 1951 1945 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 1334.20
 Final Shut-In 60 Accessibility _____ MP/DST Disc't _____
 Sub Total 1334.20

Approved By [Signature] Our Representative Will Murfin

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

RECEIVED
DEC 30 2011

Test Ticket

NO. 44983

Well Name & No. Weiland Unit #1-36 Test No. DST #2 Date 12-29-11
 Company Murfin Drilling Co. Elevation 2997 KB 2984 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Tom Funk Rig Murfin Rig #25
 Location: Sec. 36 Twp. 12s Rge. 32w Co. Logan Co. State KS

Interval Tested 4568-4620 Zone Tested Johnson
 Anchor Length 52' Drill Pipe Run 4009 Mud Wt. 9.1
 Top Packer Depth 4564 Drill Collars Run 554 Vis 49
 Bottom Packer Depth 4568 Wt. Pipe Run 0 WL 6.0
 Total Depth 4620 Chlorides 2000 ppm System LCM 416
 Blow Description IF - Weak Surface Blow Built to 1 1/4"
ISI - No Blow
FF - Weak Surface Blow Built to 1 3/4"
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>100</u>	<u>WCM with oil spots</u>		<u>4</u>	<u>96</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 100' BHT 114 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2255 Test 1225 T-On Location 6:48 AM
 (B) First Initial Flow 15 Jars _____ T-Started 8:08 AM
 (C) First Final Flow 36 Safety Joint _____ T-Open 10:33
 (D) Initial Shut-In 1117 Circ Sub NIC T-Pulled 14:37
 (E) Second Initial Flow 38 Hourly Standby _____ T-Out 16:44
 (F) Second Final Flow 73 Mileage 78 R/T 109.20 Comments _____
 (G) Final Shut-In 1084 Sampler _____
 (H) Final Hydrostatic 2145 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer 320
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 425.09 + 320
 Day Standby 1 Day + 12 3/4 Hrs Total 2079.29
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1334.20

Approved By [Signature] Our Representative Will Moore

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.