



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Jeff Christian

Sauvage #1-34

34-4s-30w Decatur,KS

Start Date: 2012.08.05 @ 02:15:00

End Date: 2012.08.05 @ 12:08:30

Job Ticket #: 47394 DST #: 1

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

Printed: 2012.08.15 @ 09:15:13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N. Water Ste. 300
 Wichita KS 67202
 ATTN: Jeff Christian

34-4s-30w Decatur, KS
Sauvage #1-34
 Job Ticket: 47394 **DST#: 1**
 Test Start: 2012.08.05 @ 02:15:00

GENERAL INFORMATION:

Formation: **Toronto-LKC-B**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:19:00
 Time Test Ended: 12:08:30
 Interval: **3910.00 ft (KB) To 3994.00 ft (KB) (TVD)**
 Total Depth: 3994.00 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: 2890.00 ft (KB)
 2885.00 ft (CF)
 KB to GR/CF: 5.00 ft

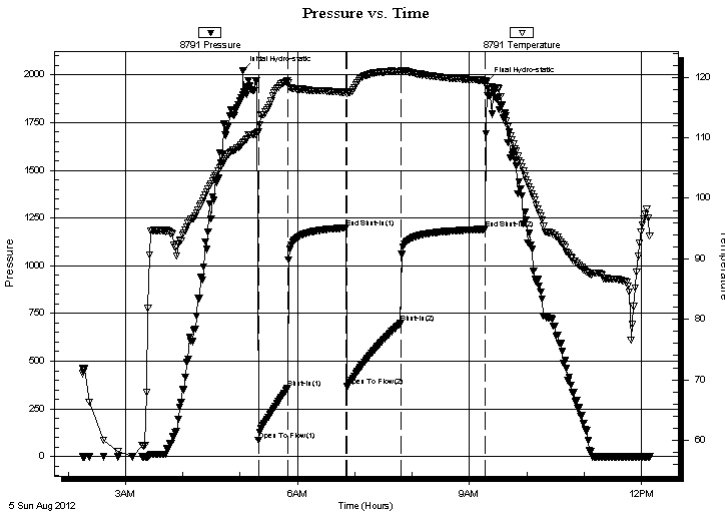
Serial #: 8791

Inside

Press @ Run Depth: 697.97 psig @ 3924.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.08.05 End Date: 2012.08.05 Last Calib.: 2012.08.05
 Start Time: 02:15:05 End Time: 12:08:30 Time On Btm: 2012.08.05 @ 05:03:00
 Time Off Btm: 2012.08.05 @ 09:18:00

TEST COMMENT: IF: Strong blow , Built to B.O.B in 4 mins.
 IS: No blow back over 60 mins.
 FF: Strong blow , Built to B.O.B in 4 mins.
 FS: No blow back over 90 mins.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2024.06	109.24	Initial Hydro-static
16	83.86	111.02	Open To Flow (1)
47	358.65	119.43	Shut-In(1)
108	1198.60	117.46	End Shut-In(1)
109	366.95	117.28	Open To Flow (2)
165	697.97	120.99	Shut-In(2)
254	1191.72	119.48	End Shut-In(2)
255	1965.94	118.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1120.00	mcw -15% m85% w	14.02
372.00	mcw -50% m50% w	5.22
186.00	w cm-20% w 80% m	2.61
120.00	mud-100%	1.68

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

34-4s-30w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

Sauvage #1-34

Job Ticket: 47394

DST#: 1

ATTN: Jeff Christian

Test Start: 2012.08.05 @ 02:15:00

Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 bbl	Tool Weight:	2600.00 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:	60000.00 lb
			<u>Total Volume: 53.22 bbl</u>	Tool Chased	10.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3910.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	84.00 ft				
Tool Length:	112.00 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			3887.00	
Hydraulic tool	5.00			3892.00	
Jars	5.00			3897.00	
Safety Joint	3.00			3900.00	
Packer	5.00			3905.00	28.00 Bottom Of Top Packer
Packer	5.00			3910.00	
Stubb	1.00			3911.00	
Perforations	12.00			3923.00	
Change Over Sub	1.00			3924.00	
Recorder	0.00	8791	Inside	3924.00	
Recorder	0.00	8673	Outside	3924.00	
Drill Pipe	63.00			3987.00	
Change Over Sub	1.00			3988.00	
Perforations	3.00			3991.00	
Bullnose	3.00			3994.00	84.00 Bottom Packers & Anchor

Total Tool Length: 112.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

34-4s-30w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

Sauvage #1-34

Job Ticket: 47394

DST#: 1

ATTN: Jeff Christian

Test Start: 2012.08.05 @ 02:15:00

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:

70000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: 0.13 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
1120.00	mcw -15%m85%w	14.016
372.00	mcw -50%m50%w	5.218
186.00	w cm-20%w 80%m	2.609
120.00	mud-100%	1.683

Total Length: 1798.00 ft Total Volume: 23.526 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

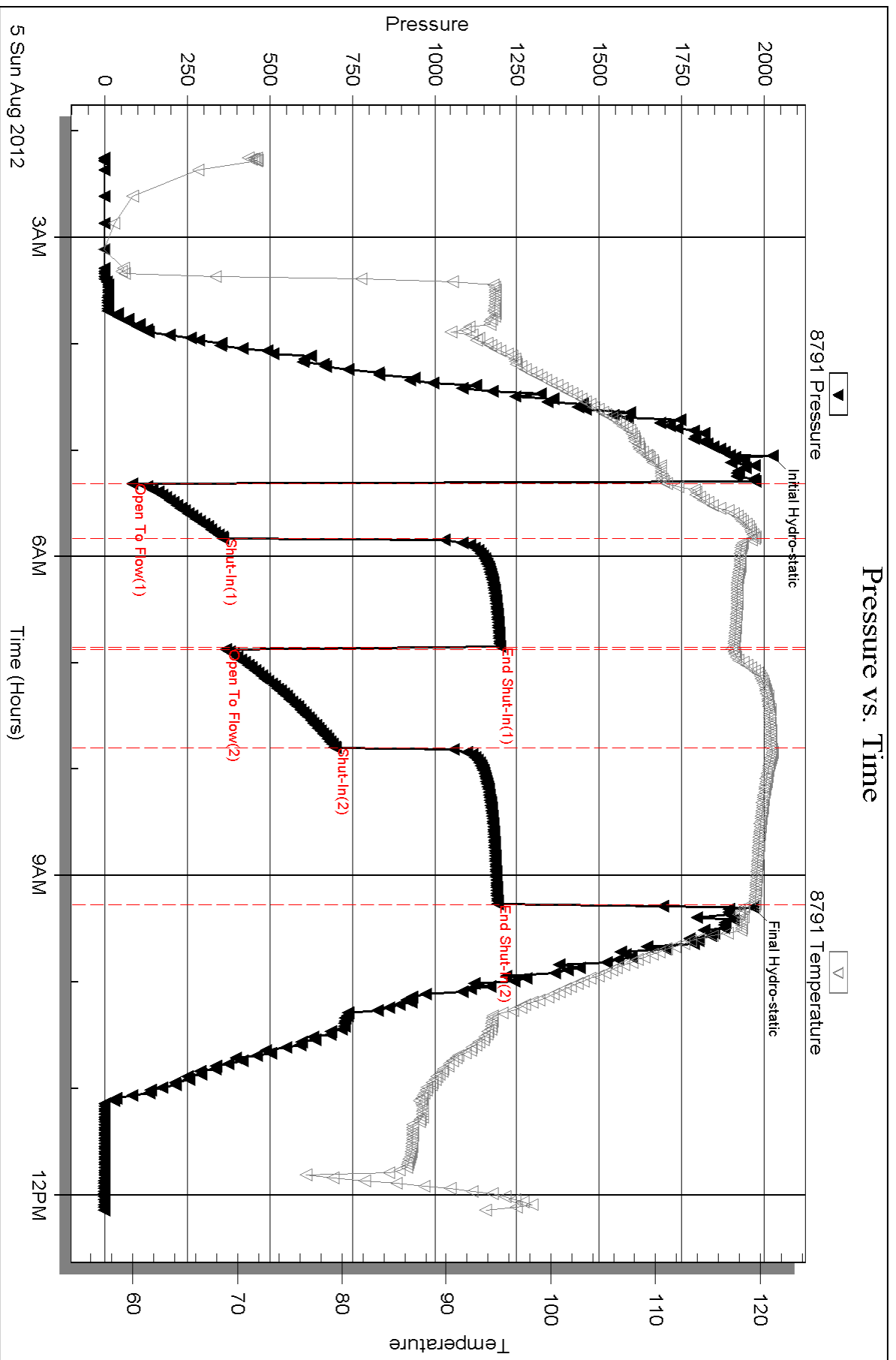
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .13@70*=70000 chlorides

Pressure vs. Time

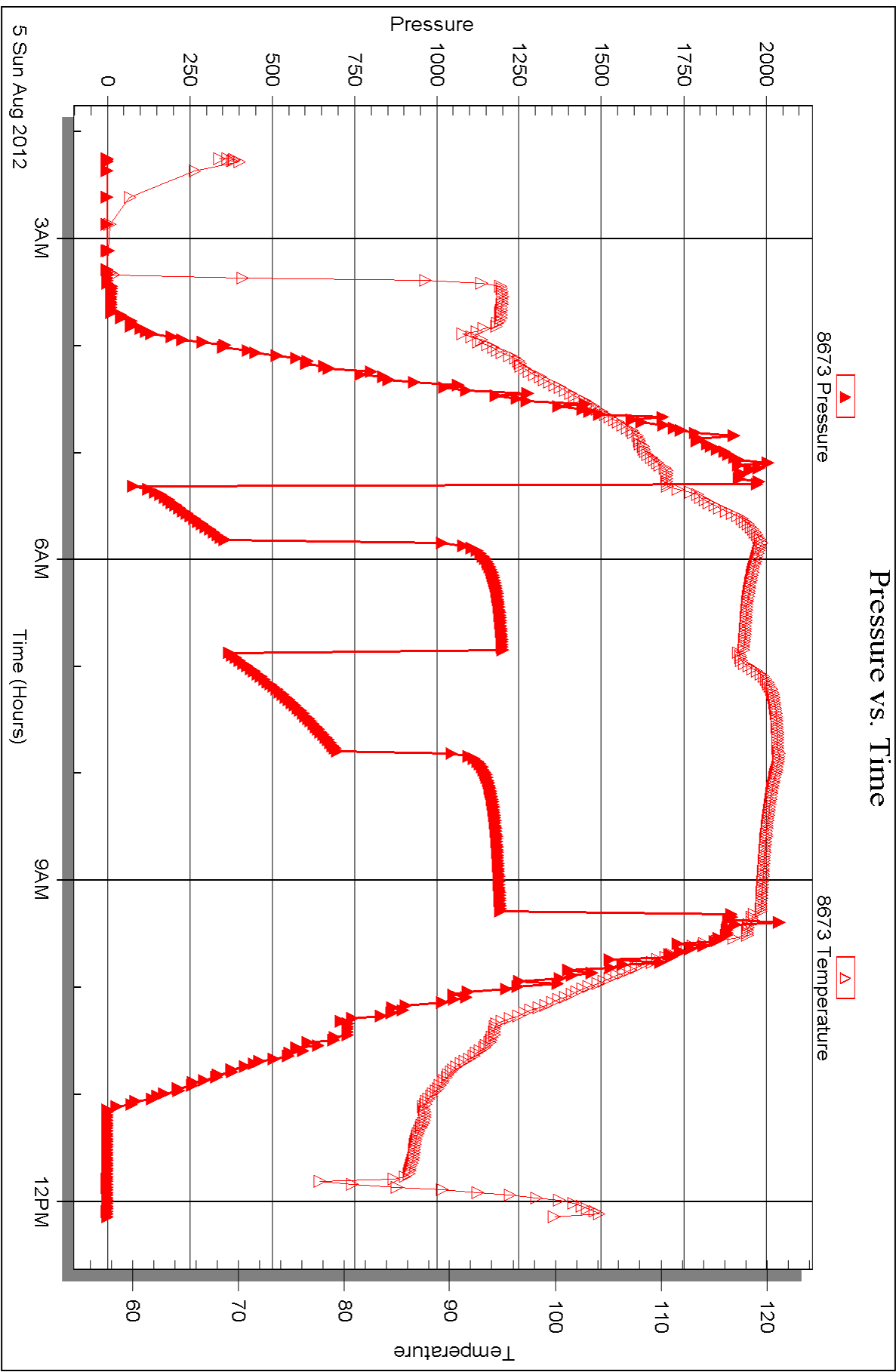


Serial #: 8673

Outside Murfin Drilling Co.

Sauvage #1-34

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Jeff Christian

Sauvage #1-34

34-4s-30w Decatur,KS

Start Date: 2012.08.06 @ 01:50:00

End Date: 2012.08.06 @ 10:47:00

Job Ticket #: 47395 DST #: 2

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

Printed: 2012.08.15 @ 09:10:48



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N. Water Ste. 300
Wichita KS 67202
ATTN: Jeff Christian

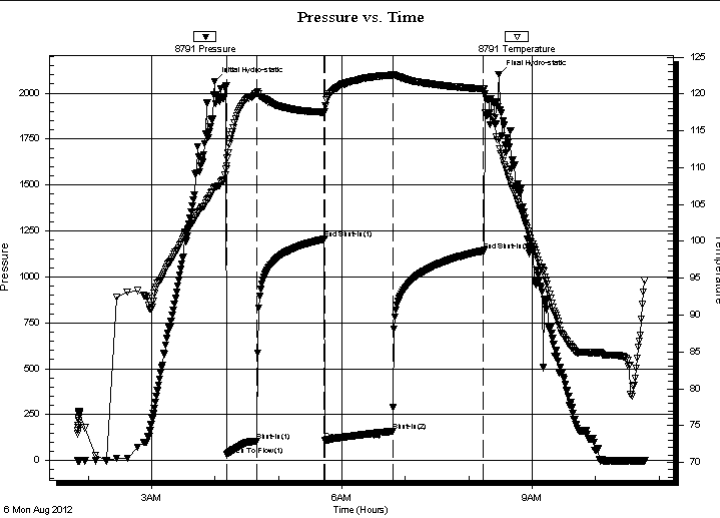
34-4s-30w Decatur, KS
Sauvage #1-34
Job Ticket: 47395 **DST#: 2**
Test Start: 2012.08.06 @ 01:50:00

GENERAL INFORMATION:

Formation: **LKC-H**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:11:00
Time Test Ended: 10:47:00
Interval: **4056.00 ft (KB) To 4075.00 ft (KB) (TVD)**
Total Depth: 4075.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Chuck Kreuzer Jr.
Unit No: 61
Reference Elevations: 2890.00 ft (KB)
2885.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 Inside
Press @ Run Depth: 159.36 psig @ 4057.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.08.06 End Date: 2012.08.06 Last Calib.: 2012.08.06
Start Time: 01:50:05 End Time: 10:47:00 Time On Btm: 2012.08.06 @ 03:59:30
Time Off Btm: 2012.08.06 @ 08:28:30

TEST COMMENT: IF: Weak blow , Built to 4 in. over 30 mins.
IS: No blow back over 60 mins.
FF: Weak blow , Built to 5 in. over 60 mins.
FS: No blow back over 90 mins.



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2063.10	107.45	Initial Hydro-static
12	30.13	110.30	Open To Flow (1)
40	106.55	120.12	Shut-In(1)
104	1205.51	117.52	End Shut-In(1)
105	110.45	117.61	Open To Flow (2)
169	159.36	122.58	Shut-In(2)
255	1142.40	120.67	End Shut-In(2)
269	2102.28	113.80	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
186.00	MCW-10% m90% w	0.91
124.00	VSO CMW-5% o 15% m80% w	1.74
5.00	oil-100%	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.

34-4s-30w Decatur, KS

250 N. Water Ste. 300
Wichita KS 67202

Sauvage #1-34

Job Ticket: 47395

DST#: 2

ATTN: Jeff Christian

Test Start: 2012.08.06 @ 01:50:00

Tool Information

Drill Pipe:	Length: 3854.00 ft	Diameter: 3.80 inches	Volume: 54.06 bbl	Tool Weight: 2600.00 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: 60000.00 lb
			<u>Total Volume: 54.97 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4056.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	47.00 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			4033.00	
Hydraulic tool	5.00			4038.00	
Jars	5.00			4043.00	
Safety Joint	3.00			4046.00	
Packer	5.00			4051.00	28.00 Bottom Of Top Packer
Packer	5.00			4056.00	
Stubb	1.00			4057.00	
Recorder	0.00	8791	Inside	4057.00	
Recorder	0.00	8673	Outside	4057.00	
Perforations	15.00			4072.00	
Bullnose	3.00			4075.00	19.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

34-4s-30w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

Sauvage #1-34

Job Ticket: 47395

DST#: 2

ATTN: Jeff Christian

Test Start: 2012.08.06 @ 01:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

19 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: 0.13 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	MCW-10% <i>m</i> 90% <i>w</i>	0.915
124.00	VSOCMW-5% <i>o</i> 15% <i>m</i> 80% <i>w</i>	1.739
5.00	oil-100%	0.070

Total Length: 315.00 ft

Total Volume: 2.724 bbl

Num Fluid Samples: 0

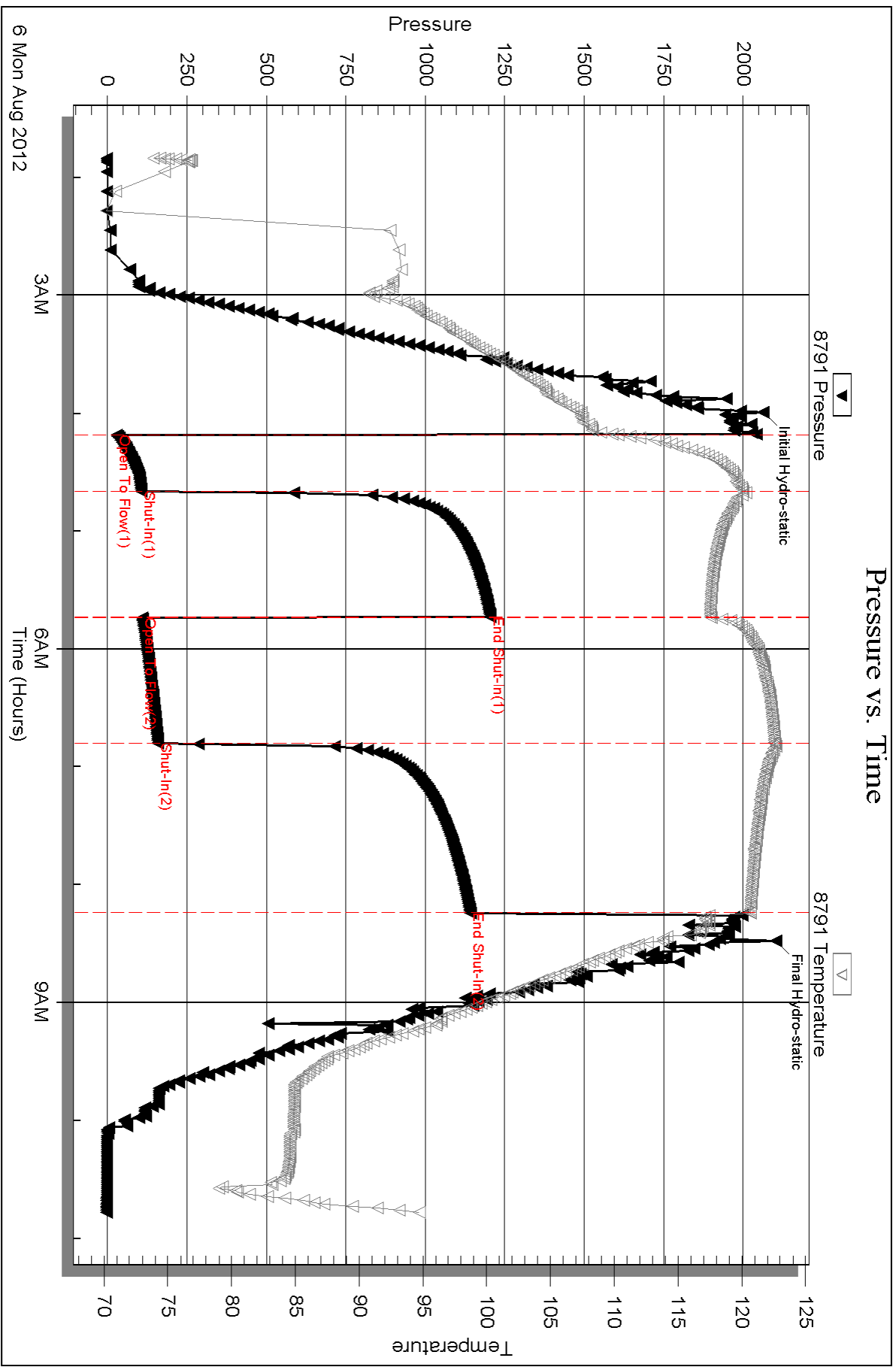
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

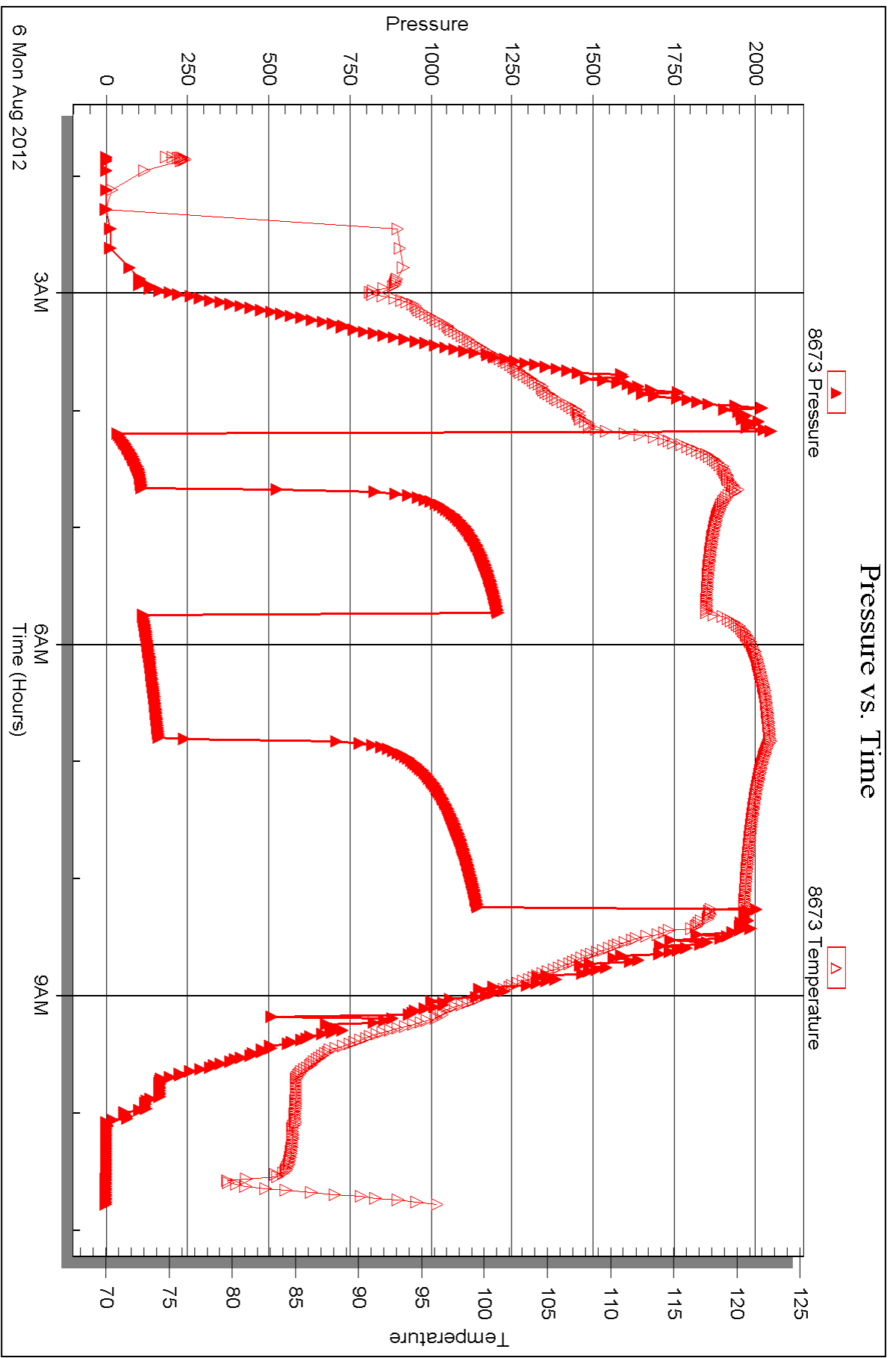


Serial #: 8673

Outside Murfin Drilling Co.

Sauvage #1-34

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Jeff Christian

Sauvage #1-34

34-4s-30w Decatur,KS

Start Date: 2012.08.06 @ 20:55:00

End Date: 2012.08.07 @ 05:22:30

Job Ticket #: 47396 DST #: 3

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

Printed: 2012.08.15 @ 09:09:59



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

34-4s-30w Decatur, KS

250 N. Water Ste. 300
Wichita KS 67202

Sauvage #1-34

Job Ticket: 47396

DST#: 3

ATTN: Jeff Christian

Test Start: 2012.08.06 @ 20:55:00

Tool Information

Drill Pipe:	Length: 3887.00 ft	Diameter: 3.80 inches	Volume: 54.52 bbl	Tool Weight: 2600.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: 55.43 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	4082.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	92.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4059.00	
Hydraulic tool	5.00			4064.00	
Jars	5.00			4069.00	
Safety Joint	3.00			4072.00	
Packer	5.00			4077.00	28.00 Bottom Of Top Packer
Packer	5.00			4082.00	
Stubb	1.00			4083.00	
Perforations	2.00			4085.00	
Change Over Sub	1.00			4086.00	
Recorder	0.00	8791	Inside	4086.00	
Recorder	0.00	8673	Outside	4086.00	
Drill Pipe	31.00			4117.00	
Change Over Sub	1.00			4118.00	
Perforations	25.00			4143.00	
Bullnose	3.00			4146.00	64.00 Bottom Packers & Anchor

Total Tool Length: 92.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

34-4s-30w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

Sauvage #1-34

Job Ticket: 47396

DST#: 3

ATTN: Jeff Christian

Test Start: 2012.08.06 @ 20:55:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 43.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: 0.13 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	gw ocm-20%g5%w 15%m60%m	0.305
62.00	gw mco-20%g10%w 10%o60%m	0.305
62.00	gw cmo-10%g10%w 40%m40%o	0.305
62.00	oil-100%	0.870
0.00	186ft. gas in pipe.	0.000

Total Length: 248.00 ft

Total Volume: 1.785 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8791

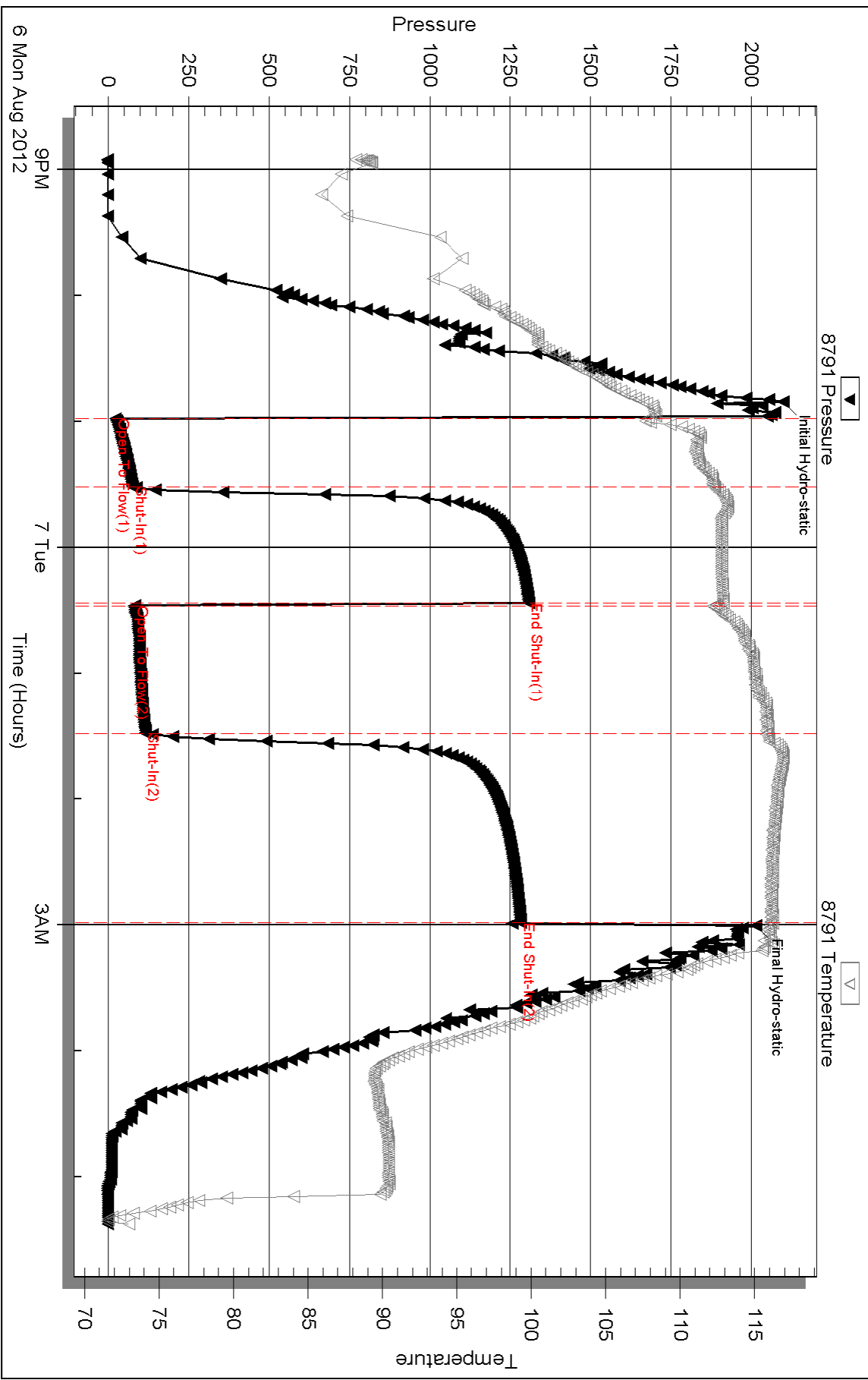
Inside

Murfin Drilling Co.

Sauvage #1-34

DST Test Number: 3

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 47396

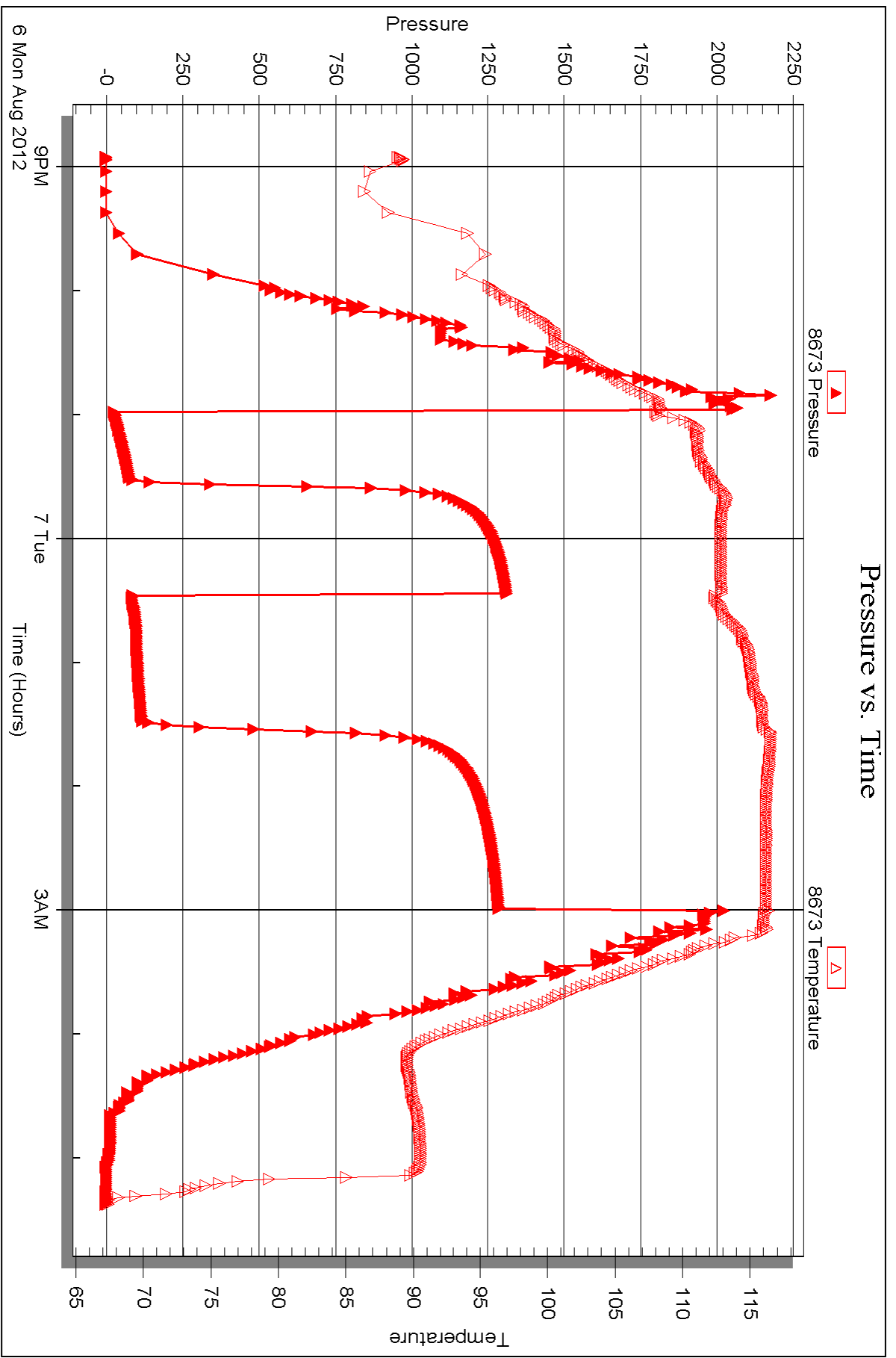
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Serial #: 8673

Outside Murfin Drilling Co.

Sauvage #1-34

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300
Wichita KS 67202

ATTN: Jeff Christian

Sauvage #1-34

34-4s-30w Decatur,KS

Start Date: 2012.08.08 @ 07:15:00

End Date: 2012.08.08 @ 14:09:30

Job Ticket #: 47397 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.15 @ 09:09:09



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N. Water Ste. 300
Wichita KS 67202
ATTN: Jeff Christian

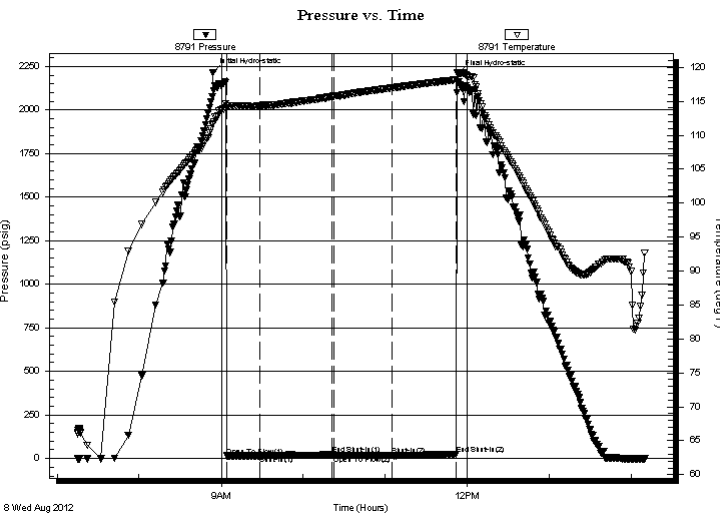
34-4s-30w Decatur, KS
Sauvage #1-34
Job Ticket: 47397 **DST#: 4**
Test Start: 2012.08.08 @ 07:15:00

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:04:00
Time Test Ended: 14:09:30
Interval: **4360.00 ft (KB) To 4390.00 ft (KB) (TVD)**
Total Depth: 4390.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Chuck Kreuzer Jr.
Unit No: 61
Reference Elevations: 2890.00 ft (KB)
2885.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 Inside
Press @ Run Depth: 16.89 psig @ 4361.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.08.08 End Date: 2012.08.08 Last Calib.: 2012.08.08
Start Time: 07:15:05 End Time: 14:09:29 Time On Btm: 2012.08.08 @ 08:54:00
Time Off Btm: 2012.08.08 @ 11:53:00

TEST COMMENT: IF: Weak blow, Dead in 5 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	2215.32	111.72	Initial Hydro-static
10	15.34	114.00	Open To Flow (1)
34	16.02	114.28	Shut-In(1)
87	22.67	115.62	End Shut-In(1)
88	16.17	115.74	Open To Flow (2)
131	16.89	116.99	Shut-In(2)
178	22.70	118.17	End Shut-In(2)
179	2205.65	119.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud with oil specs	0.02

* 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.

34-4s-30w Decatur, KS

250 N. Water Ste. 300
Wichita KS 67202

Sauvage #1-34

Job Ticket: 47397

DST#: 4

ATTN: Jeff Christian

Test Start: 2012.08.08 @ 07:15:00

Tool Information

Drill Pipe:	Length: 4171.00 ft	Diameter: 3.80 inches	Volume: 58.51 bbl	Tool Weight: 2600.00 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: 65000.00 lb
			<u>Total Volume: 59.42 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4360.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 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			4337.00	
Hydraulic tool	5.00			4342.00	
Jars	5.00			4347.00	
Safety Joint	3.00			4350.00	
Packer	5.00			4355.00	28.00 Bottom Of Top Packer
Packer	5.00			4360.00	
Stubb	1.00			4361.00	
Recorder	0.00	8791	Inside	4361.00	
Recorder	0.00	8673	Outside	4361.00	
Perforations	26.00			4387.00	
Bullnose	3.00			4390.00	30.00 Bottom Packers & Anchor

Total Tool Length: 58.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

34-4s-30w Decatur,KS

250 N. Water Ste. 300
Wichita KS 67202

Sauvage #1-34

Job Ticket: 47397

DST#: 4

ATTN: Jeff Christian

Test Start: 2012.08.08 @ 07:15:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 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 bbl
5.00	mud w ith oil specs	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:

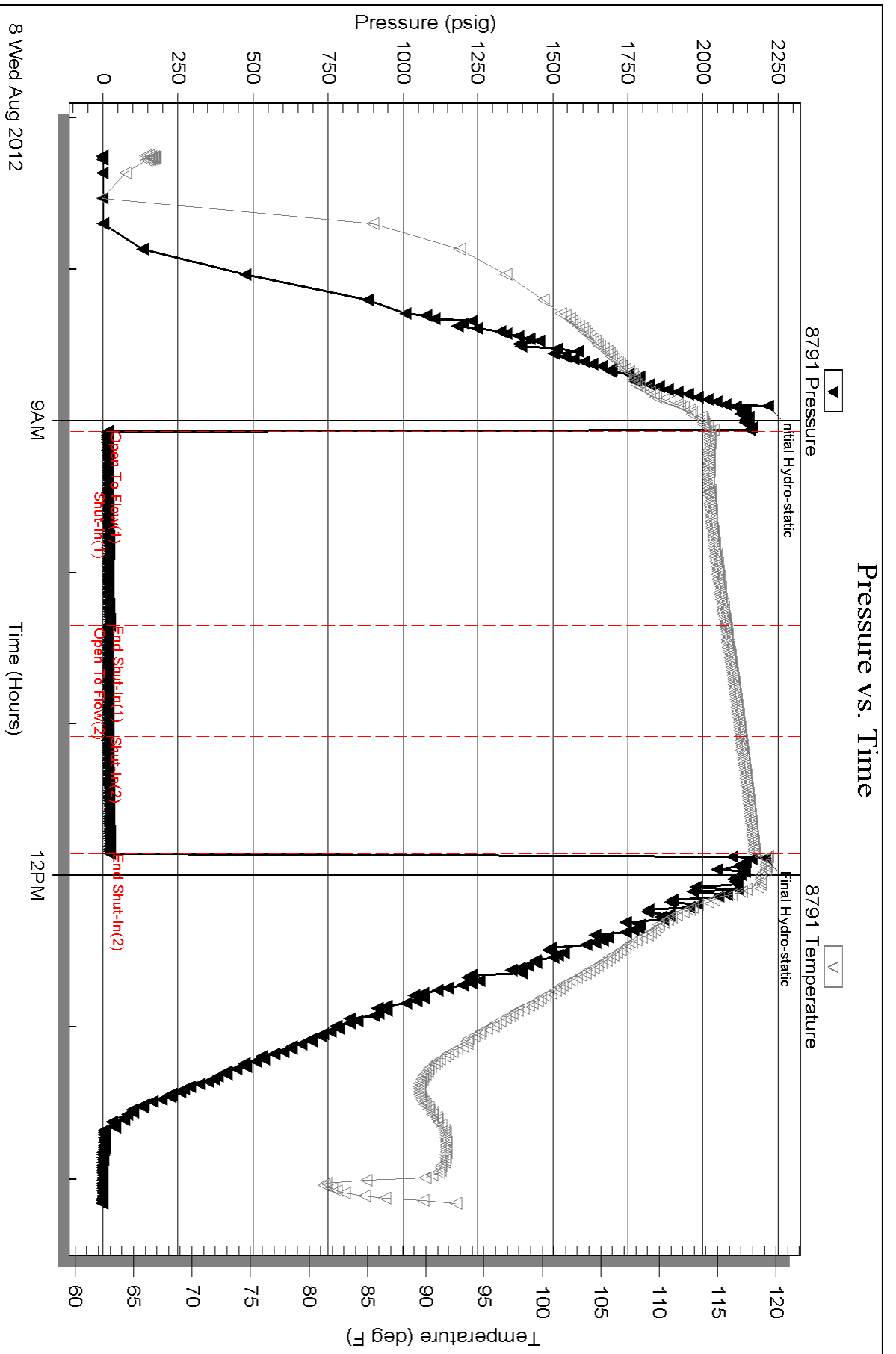
Serial #: 8791

Inside

Murfin Drilling Co.

Sauvage #1-34

DST Test Number: 4

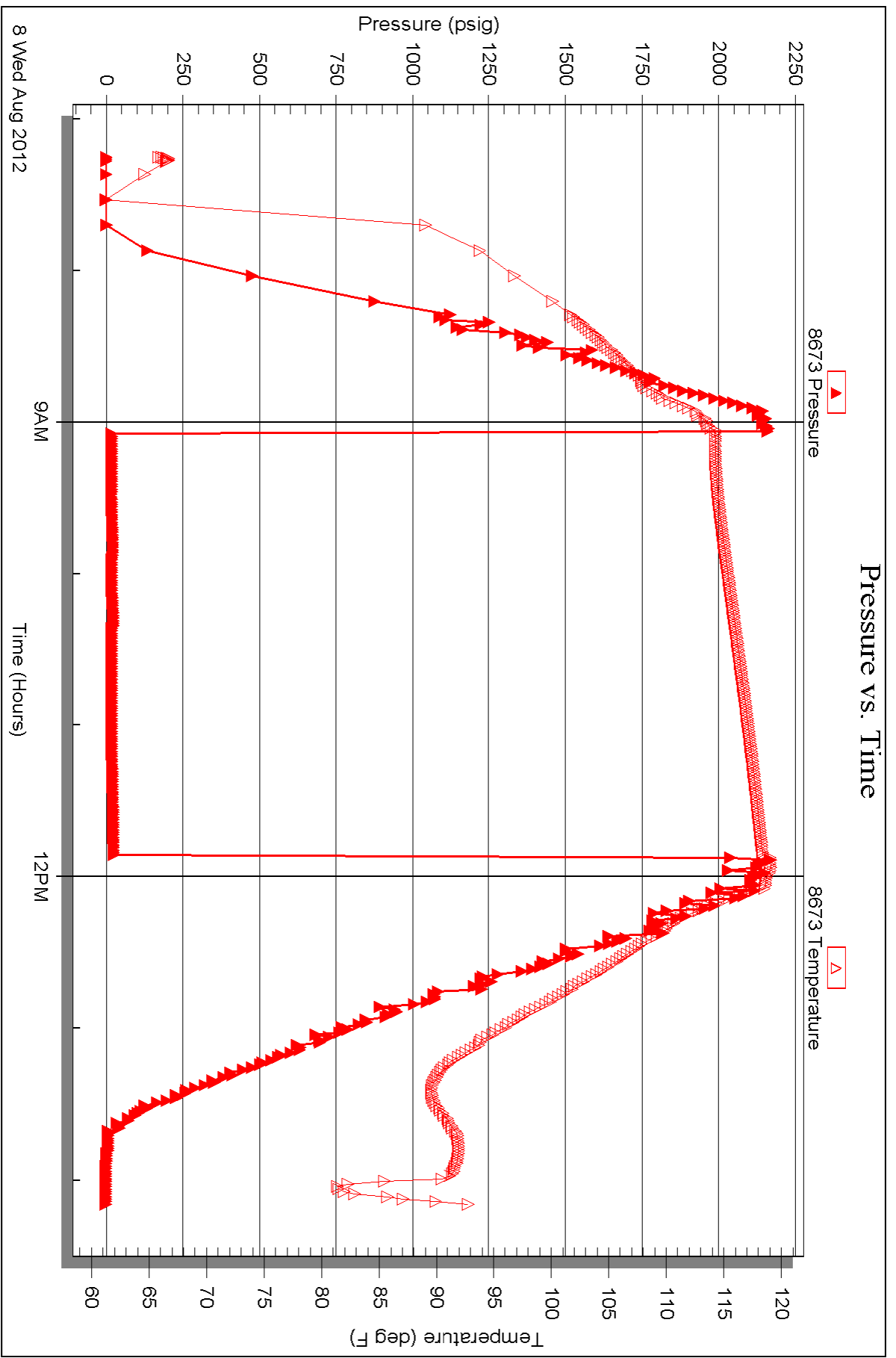


Serial #: 8673

Outside Murfin Drilling Co.

Sauvage #1-34

DST Test Number: 4





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47394

Well Name & No. Sauvage # 1-34 Test No. 1 Date 8-5-2012
 Company MURFIN Drilling Co. Elevation 2890 KB 2885 GL
 Address 250 N. Waters St. 300 Wichita Kc. 67202
 Co. Rep / Geo. Jeff Christian Rig MURFIN #8
 Location: Sec. 34 Twp. 4S Rge. 30W Co. Decatur State Ks

Interval Tested 3910 3994 Zone Tested Toronto - LKC.B
 Anchor Length 84 Drill Pipe Run 3729 Mud Wt. 9.2
 Top Packer Depth 3905 Drill Collars Run 186 Vis 57
 Bottom Packer Depth 3910 Wt. Pipe Run - 0- WL 6.8
 Total Depth 3994 Chlorides 1000 ppm System LCM 4.0

Blow Description IF: Strong blow, Built to B.O.B in 4 mins.
IST: No blow back over 60 mins
FF: strong blow, Built to B.O.B in 4 mins.
FST: No blow back over 90 mins.

Rec	Feet of mud	%gas	%oil	%water	%mud
120				100	
186	Feet of <u>WCM</u>			20	80
372	Feet of <u>MCW</u>			50	50
1120	Feet of <u>MCW</u>			85	15

Rec Total 1798 BHT 119 Gravity API RW .13 @ 70 ° F Chlorides 70,000 ppm

(A) Initial Hydrostatic 2024 Test 1150 T-On Location 1:20
 (B) First Initial Flow 84 Jars 250 T-Started 2:15
 (C) First Final Flow 359 Safety Joint 75 T-Open 5:19
 (D) Initial Shut-In 1199 Circ Sub T-Pulled 9:20
 (E) Second Initial Flow 367 Hourly Standby 1.75hrs 175 T-Out 12:08
 (F) Second Final Flow 698 Mileage 20x2=40x1.55=62 Comments Loaded tools on 8-9-12 14:05
 (G) Final Shut-In 1192 Sampler
 (H) Final Hydrostatic 1966 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 1712
 Final Shut-In 90 Accessibility MP/DST Disc't
 Sub Total 1712

Approved By _____ Our Representative Chad [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47395

Well Name & No. Savage # 1-34 Test No. 2 Date 8-06-2012
 Company Murfin Drilling Co. Elevation 2890 KB 2885 GL
 Address 250 N. Water Ste. 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin B
 Location: Sec. 34 Twp. 45 Rge. 30W Co. Decatur State KS

Interval Tested 4056 4075 Zone Tested LKC-H
 Anchor Length 19 Drill Pipe Run 3854 Mud Wt. 9.3
 Top Packer Depth 4051 Drill Collars Run 186 Vis 59
 Bottom Packer Depth 4056 Wt. Pipe Run - 0 - WL 7.6
 Total Depth 4075 Chlorides 3,000 ppm System LCM 4#

Blow Description IF: Weak blow, Built to 4 in. over 30 mins.

ISI: No blow back over 60 mins.

FF: Weak blow, Built to 5 in. over 60 mins.

FSI: No blow back over 90 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>oil</u>	<u>100</u>			
<u>124</u>	<u>VS OCMW</u>	<u>5</u>	<u>80</u>	<u>15</u>	
<u>186</u>	<u>MCW</u>		<u>90</u>	<u>10</u>	

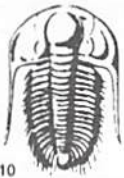
Rec Total 315 BHT 120 Gravity 19 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic <u>2063</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1:30</u>
(B) First Initial Flow <u>30</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1:50</u>
(C) First Final Flow <u>107</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>4:11</u>
(D) Initial Shut-In <u>1206</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>8:12</u>
(E) Second Initial Flow <u>110</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:47</u>
(F) Second Final Flow <u>159</u>	<input checked="" type="checkbox"/> Mileage <u>20x2 = 40x1.55 = 62</u>	Comments
(G) Final Shut-In <u>1142</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2102</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input checked="" type="checkbox"/> Ruined Packer <u>320</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>320</u>
Final Shut-In <u>20</u>	<input type="checkbox"/> Day Standby	Total <u>1957</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1637</u>	

Approved By _____

Our Representative Chuck Kuyper

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47396

Well Name & No. Savage # 1-34 Test No. 3 Date 8-06-2012
 Company Murfin Drilling Co. Elevation 2890 KB 2885 GL
 Address 250 N. Water Ste. 300 Wichita Ks. 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #8
 Location: Sec. 34 Twp. 4S Rge. 30W Co. Decatur State Ks.

Interval Tested 4082 4146 Zone Tested LKC-J, K
 Anchor Length 64 Drill Pipe Run 186 Mud Wt. 9.3
 Top Packer Depth 4077 Drill Collars Run 186 Vis 43
 Bottom Packer Depth 4082 Wt. Pipe Run 0 WL 7.6
 Total Depth 4146 Chlorides 2500 ppm System LCM 4#

Blow Description IF: Weak blow, Built to 5 in. over 30 mins
ISI: No blow back over 60 mins.
FF: Fair blow, Built to B.O.B over 45 mins
FSI: No blow back over 90 mins

Rec	Feet of	%gas	%oil	%water	%mud
62	92	10	90		
62	gwcmo	10	40	10	40
62	gwcmo	20	10	10	60
62	gwcmo	20	15	5	60
0	gas in pipe				

Rec Total 248 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2099 Test 1250 T-On Location 20:15
 (B) First Initial Flow 23 Jars 250 T-Started 20:55
 (C) First Final Flow 76 Safety Joint 75 T-Open 22:58
 (D) Initial Shut-In 1310 Circ Sub _____ T-Pulled 3:00
 (E) Second Initial Flow 81 Hourly Standby _____ T-Out 5:22
 (F) Second Final Flow 116 Mileage 20x2 = 40 x 1.55 = 62 Comments _____
 (G) Final Shut-In 1284 Sampler _____
 (H) Final Hydrostatic 2015 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1637
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1637

Approved By _____ Our Representative Chuck Kuyper

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47397

Well Name & No. Savage # 1-34 Test No. 4 Date 8-8-12
 Company Murfin Drilling Co. Elevation 2840 KB 2885 GL
 Address 250 N. Water Ste. 300 Wichita Ks. 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #18
 Location: Sec. 34 Twp. 4S Rge. 30W Co. Decatur State Ks

Interval Tested 4360 4390 Zone Tested Cherokee
 Anchor Length 30 Drill Pipe Run 4171 Mud Wt. 9.2
 Top Packer Depth 4355 Drill Collars Run 188 Vis 54
 Bottom Packer Depth 4360 Wt. Pipe Run -0- WL 6.8
 Total Depth 4390 Chlorides 1000 ppm System LCM 6#

Blow Description IF: Weak blow, died in 5 mins.
ISI: No blow back
FF: No blow
FST: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud with oil specs</u>				

Rec Total 5 BHT 119 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2215</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>7:15</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>7:15</u>
(C) First Final Flow <u>16</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>9:04</u>
(D) Initial Shut-In <u>23</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>12:00</u>
(E) Second Initial Flow <u>16</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>14:09</u>
(F) Second Final Flow <u>17</u>	<input checked="" type="checkbox"/> Mileage <u>20x2 = 40x1.55 = 124</u>	Comments _____
(G) Final Shut-In <u>23</u>	<input type="checkbox"/> Sampler	loaded tools 8/9
(H) Final Hydrostatic <u>2206</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1699</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1699</u>	

Approved By _____ Our Representative Chuck [Signature]

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