



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Suite 300
Wichita, KS 67202

ATTN: Tom Funk

Abell Ranch A #1-30

S30-12s-30w Gove, KS

Start Date: 2013.12.31 @ 10:10:00

End Date: 2013.12.31 @ 19:08:30

Job Ticket #: 55567 DST #: 1

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

Printed: 2014.01.08 @ 11:15:08



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

S30-12s-30w Gove, KS
Abell Ranch A #1-30
 Job Ticket: 55567 **DST#: 1**
 Test Start: 2013.12.31 @ 10:10:00

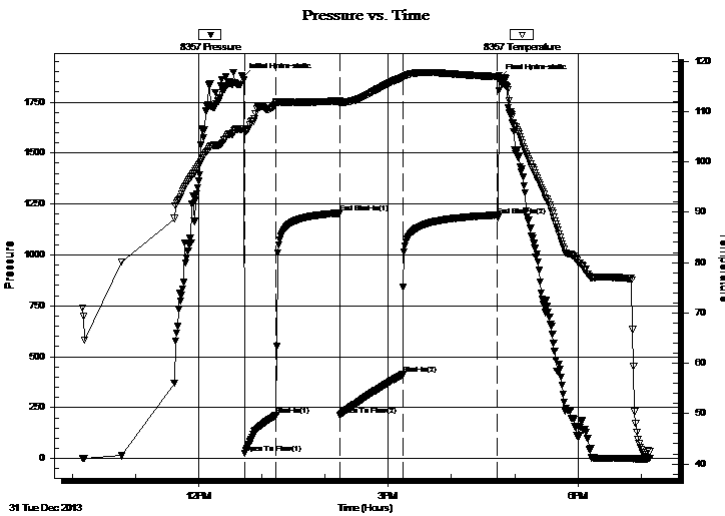
GENERAL INFORMATION:

Formation: **Lecompton - Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:44:00
 Time Test Ended: 19:08:30
 Interval: **3798.00 ft (KB) To 3880.00 ft (KB) (TVD)**
 Total Depth: 3880.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Chuck Smith
 Unit No: 62
 Reference Elevations: 2907.00 ft (KB)
 2896.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8357 Inside
 Press@RunDepth: 412.19 psig @ 3800.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.12.31 End Date: 2013.12.31 Last Calib.: 2013.12.31
 Start Time: 10:10:05 End Time: 19:08:30 Time On Btm: 2013.12.31 @ 12:41:48
 Time Off Btm: 2013.12.31 @ 16:45:12

TEST COMMENT: B.O.B. @ 11 min.
 No return.
 B.O.B. @ 14 min.
 No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1870.86	106.65	Initial Hydro-static
3	25.12	105.93	Open To Flow (1)
32	212.30	111.66	Shut-In(1)
92	1205.13	112.11	End Shut-In(1)
93	213.40	111.62	Open To Flow (2)
152	412.19	116.76	Shut-In(2)
242	1193.86	116.95	End Shut-In(2)
244	1865.10	117.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
301.00	MW 5m 95w Oil spots Popping gas	2.05
496.00	MW 25m 75w Oil spots Popping gas	6.96
72.00	WM 13w 85m	1.01

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

S30-12s-30w Gove, KS

Abell Ranch A #1-30

Job Ticket: 55567 **DST#: 1**
Test Start: 2013.12.31 @ 10:10:00

GENERAL INFORMATION:

Formation: **Lecompton - Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:44:00

Time Test Ended: 19:08:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Smith

Unit No: 62

Interval: **3798.00 ft (KB) To 3880.00 ft (KB) (TVD)**

Reference Elevations: 2907.00 ft (KB)

Total Depth: 3880.00 ft (KB) (TVD)

2896.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8645 Outside

Press@RunDepth: psig @ 3800.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.12.31 End Date: 2013.12.31

Last Calib.: 2013.12.31

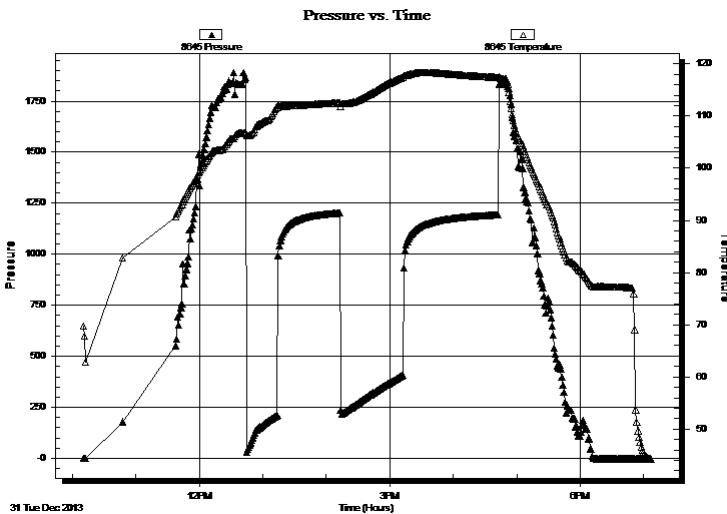
Start Time: 10:10:38 End Time: 19:06:56

Time On Btm:

Time Off Btm:

TEST COMMENT: B.O.B. @ 11 min.
No return.
B.O.B. @ 14 min.
No return.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
301.00	MW 5m 95w Oil spots Popping gas	2.05
496.00	MW 25m 75w Oil spots Popping gas	6.96
72.00	WM 13w 85m	1.01

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55567

DST#: 1

ATTN: Tom Funk

Test Start: 2013.12.31 @ 10:10:00

Tool Information

Drill Pipe:	Length: 3570.00 ft	Diameter: 3.80 inches	Volume: 50.08 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 239.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 51.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	3798.00 ft			Final 88000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	102.00 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			3779.00	
Shut In Tool	5.00			3784.00	
Hydraulic tool	5.00			3789.00	
Packer	5.00			3794.00	20.00 Bottom Of Top Packer
Packer	4.00			3798.00	
Stubb	1.00			3799.00	
Perforations	1.00			3800.00	
Recorder	0.00	8357	Inside	3800.00	
Recorder	0.00	8645	Outside	3800.00	
Perforations	13.00			3813.00	
Change Over Sub	1.00			3814.00	
Drill Pipe	62.00			3876.00	
Bullnose	1.00			3877.00	
Bullnose	3.00			3880.00	82.00 Bottom Packers & Anchor

Total Tool Length: 102.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55567

DST#: 1

ATTN: Tom Funk

Test Start: 2013.12.31 @ 10:10:00

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:

150000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
301.00	MW 5m 95w Oil spots Popping gas	2.045
496.00	MW 25m 75w Oil spots Popping gas	6.958
72.00	WM 13w 85m	1.010

Total Length: 869.00 ft Total Volume: 10.013 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

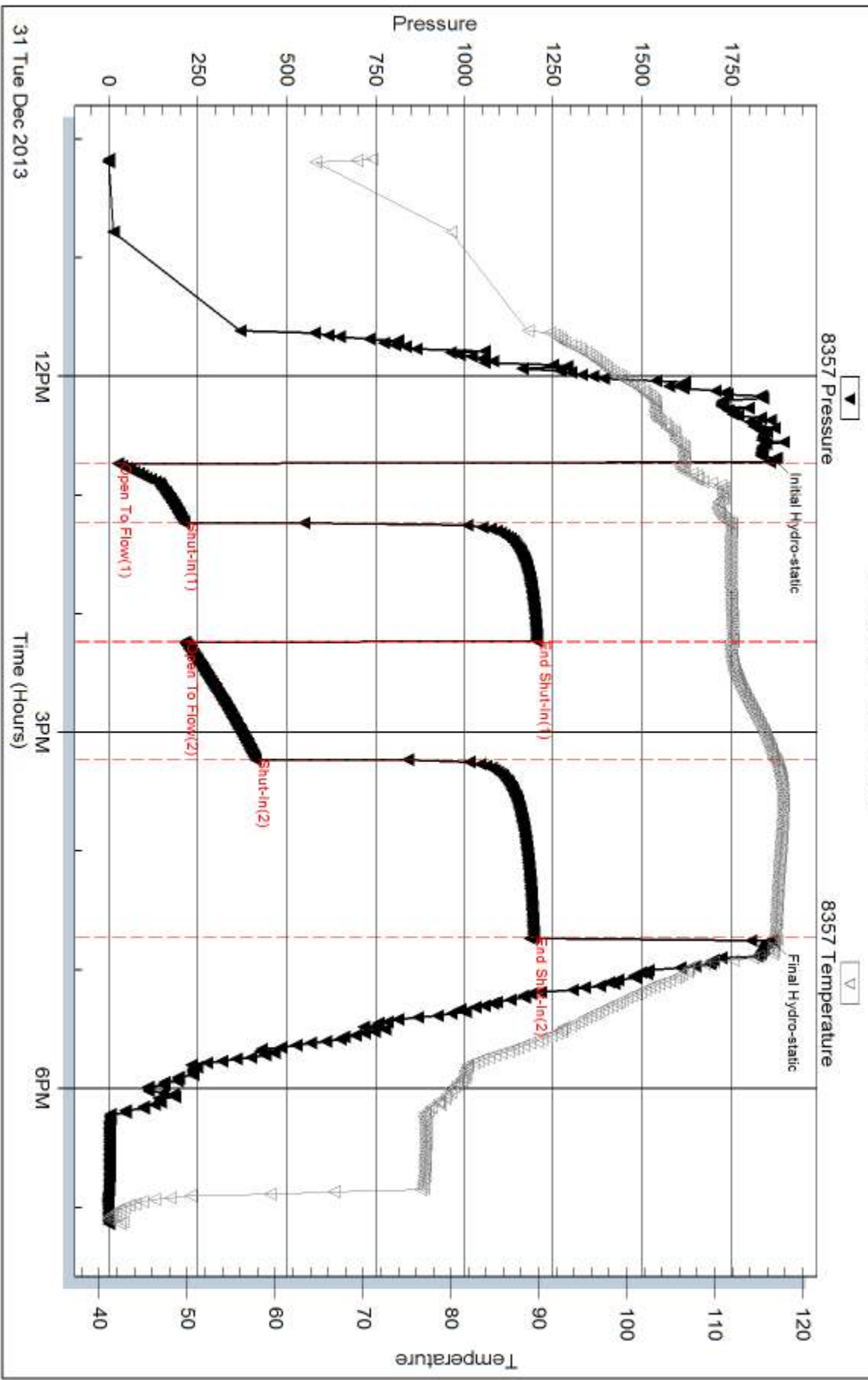
Serial #:

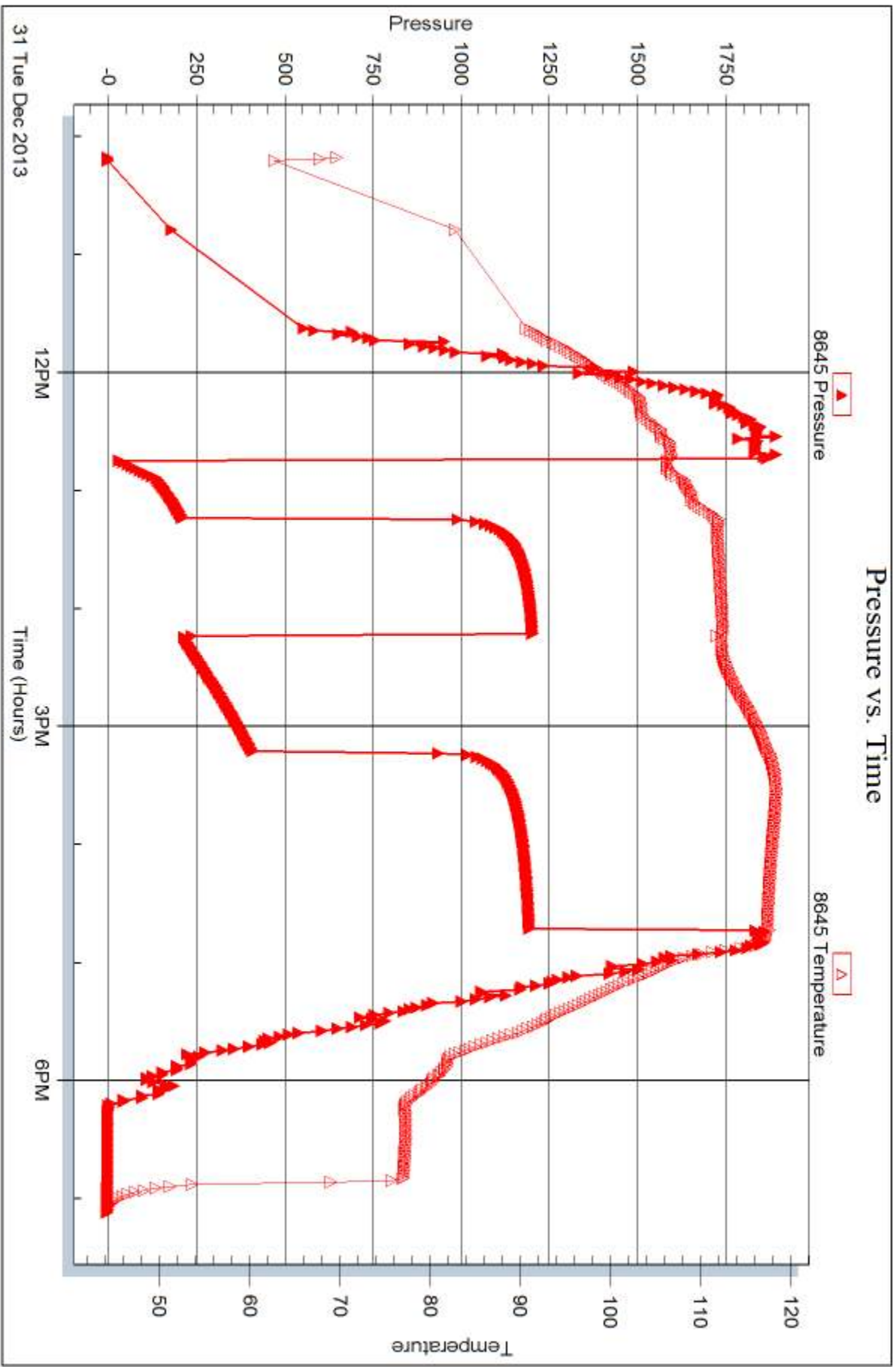
Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .084 @ 49 Degrees F = 150000 PPM

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Suite 300
Wichita, KS 67202

ATTN: Tom Funk

Abell Ranch A #1-30

S30-12s-30w Gove, KS

Start Date: 2014.01.01 @ 11:43:00

End Date: 2014.01.01 @ 18:30:47

Job Ticket #: 55568 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.08 @ 11:14:36



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

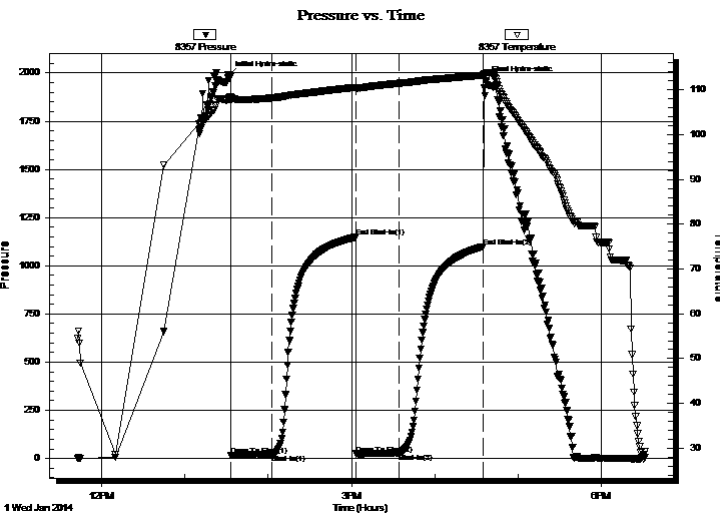
S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55568 **DST#: 2**
Test Start: 2014.01.01 @ 11:43:00

GENERAL INFORMATION:

Formation: **LKC 'B'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:33:24
Time Test Ended: 18:30:47
Interval: **3972.00 ft (KB) To 4005.00 ft (KB) (TVD)**
Total Depth: 4005.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Chuck Smith
Unit No: 62
Reference Elevations: 2907.00 ft (KB)
2896.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8357 Inside
Press@RunDepth: 28.00 psig @ 3979.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.01.01 End Date: 2014.01.01 Last Calib.: 2014.01.01
Start Time: 11:43:05 End Time: 18:30:48 Time On Btm: 2014.01.01 @ 13:31:24
Time Off Btm: 2014.01.01 @ 16:36:17

TEST COMMENT: Surface blow throughout.
No return.
No blow.
No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1988.94	107.90	Initial Hydro-static
2	16.83	107.63	Open To Flow (1)
31	22.62	108.18	Shut-In(1)
92	1149.32	110.58	End Shut-In(1)
93	23.93	110.19	Open To Flow (2)
123	28.00	111.45	Shut-In(2)
184	1100.23	113.26	End Shut-In(2)
185	1959.06	113.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	SOCM 1 to 99m	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 Suite 300
Wichita, KS 67202
ATTN: Tom Funk

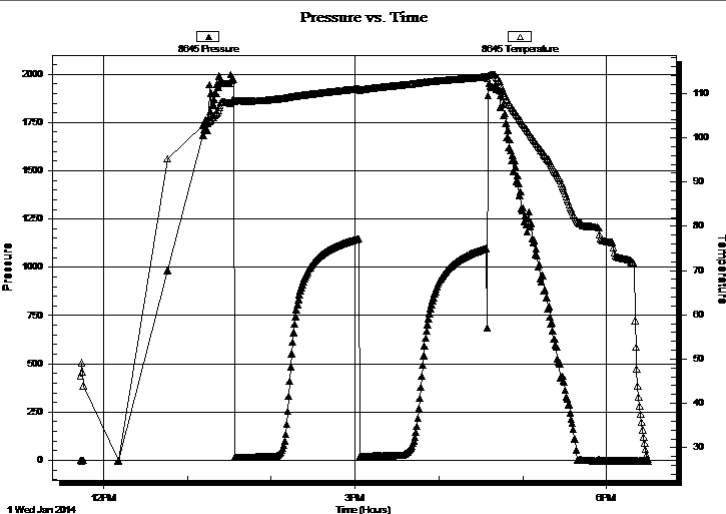
S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55568 **DST#: 2**
Test Start: 2014.01.01 @ 11:43:00

GENERAL INFORMATION:

Formation: **LKC 'B'**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 13:33:24 Tester: Chuck Smith
Time Test Ended: 18:30:47 Unit No: 62
Interval: 3972.00 ft (KB) To 4005.00 ft (KB) (TVD) Reference Elevations: 2907.00 ft (KB)
Total Depth: 4005.00 ft (KB) (TVD) 2896.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

Serial #: 8645 Outside
Press@RunDepth: psig @ 3979.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.01.01 End Date: 2014.01.01 Last Calib.: 2014.01.01
Start Time: 11:43:43 End Time: 18:29:44 Time On Btm:
Time Off Btm:

TEST COMMENT: Surface blow throughout.
No return.
No blow.
No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	SOCM 1 to 99m	0.07

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.
250 N Water Suite 300
Wichita, KS 67202
ATTN: Tom Funk

S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55568 **DST#: 2**
Test Start: 2014.01.01 @ 11:43:00

Tool Information

Drill Pipe:	Length: 3728.00 ft	Diameter: 3.80 inches	Volume: 52.29 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 239.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 53.47 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	3972.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3953.00	
Shut In Tool	5.00			3958.00	
Hydraulic tool	5.00			3963.00	
Packer	5.00			3968.00	20.00 Bottom Of Top Packer
Packer	4.00			3972.00	
Stubb	1.00			3973.00	
Perforations	5.00			3978.00	
Perforations	1.00			3979.00	
Recorder	0.00	8357	Inside	3979.00	
Recorder	0.00	8645	Outside	3979.00	
Perforations	23.00			4002.00	
Bullnose	3.00			4005.00	33.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55568

DST#: 2

ATTN: Tom Funk

Test Start: 2014.01.01 @ 11:43:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	SOCM 1o 99m	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

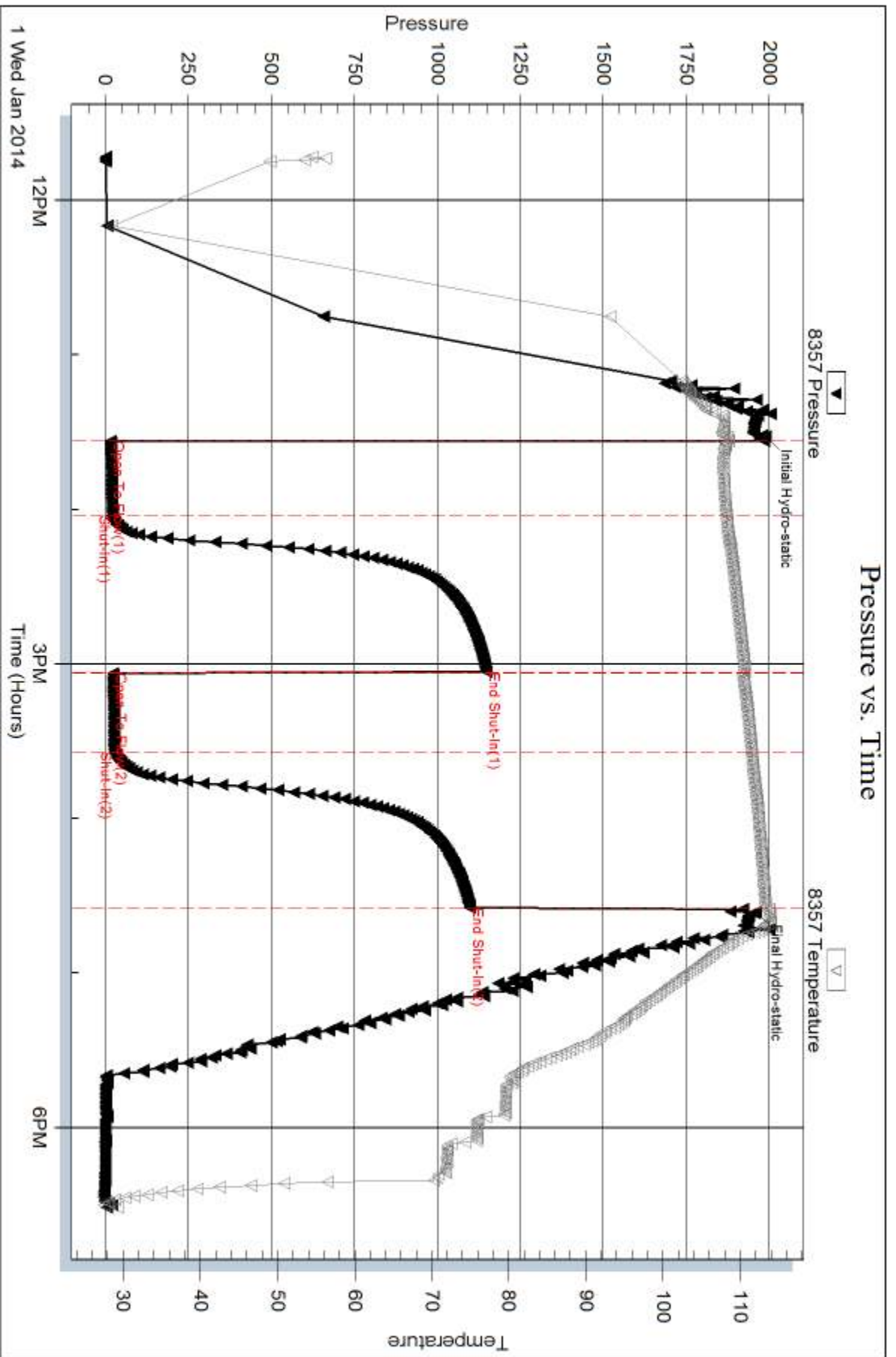
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

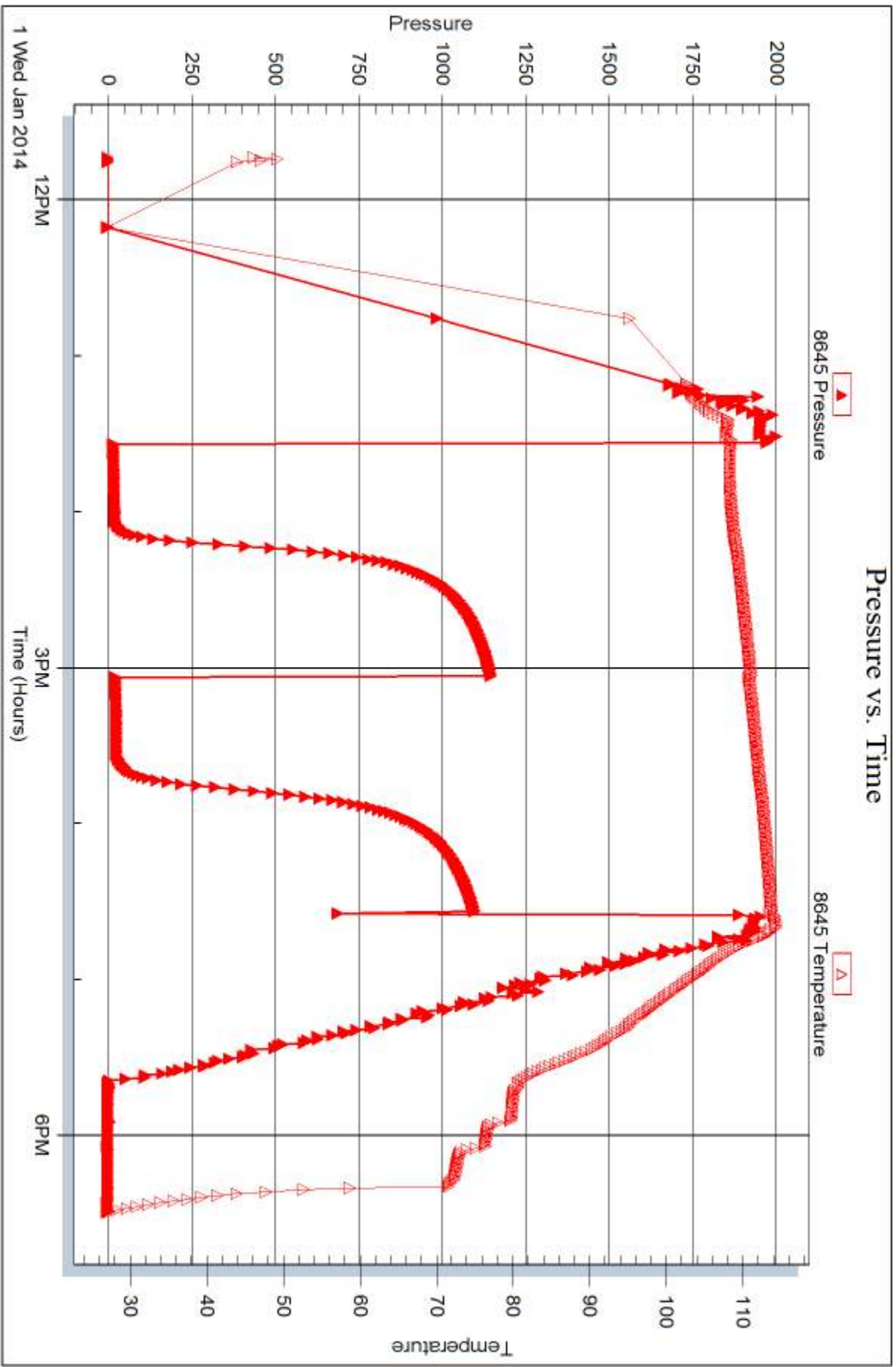


Serial #: 8645

Outside Murfin Drilling Co.

Abell Ranch A #1-30

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 55568

Printed: 2014.01.08 @ 11:14:38



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Suite 300
Wichita, KS 67202

ATTN: Tom Funk

Abell Ranch A #1-30

S30-12s-30w Gove, KS

Start Date: 2014.01.02 @ 03:38:00

End Date: 2014.01.02 @ 11:54:42

Job Ticket #: 55569 DST #: 3

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

Printed: 2014.01.08 @ 11:14:04

Murfin Drilling Co. S30-12s-30w Gove, KS Abell Ranch A #1-30 DST # 3 LKC E.F. 2014.01.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

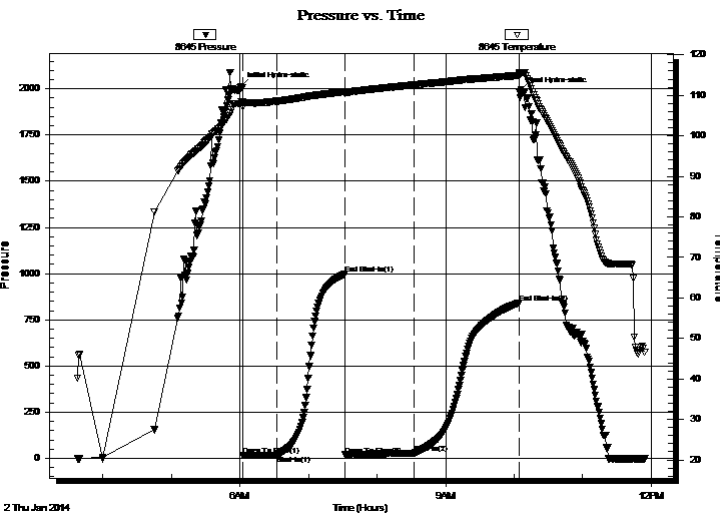
S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55569 **DST#: 3**
Test Start: 2014.01.02 @ 03:38:00

GENERAL INFORMATION:

Formation: **LKC 'E-F'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:02:30
Time Test Ended: 11:54:42
Interval: **4024.00 ft (KB) To 4056.00 ft (KB) (TVD)**
Total Depth: 4056.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Chuck Smith
Unit No: 62
Reference Elevations: 2907.00 ft (KB)
2896.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8645 Outside
Press@RunDepth: 28.39 psig @ 4030.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.01.02 End Date: 2014.01.02 Last Calib.: 2014.01.02
Start Time: 03:38:05 End Time: 11:54:42 Time On Btm: 2014.01.02 @ 06:00:30
Time Off Btm: 2014.01.02 @ 10:04:24

TEST COMMENT: 2" Blow .
No return.
5" Blow .
No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2013.87	107.95	Initial Hydro-static
2	14.75	107.09	Open To Flow (1)
32	19.01	108.54	Shut-In(1)
92	996.56	110.93	End Shut-In(1)
92	18.70	110.42	Open To Flow (2)
153	28.39	112.58	Shut-In(2)
244	842.55	114.90	End Shut-In(2)
244	1986.11	115.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GOCM 5g 450 50m	0.15

* 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 Suite 300
Wichita, KS 67202
ATTN: Tom Funk

S30-12s-30w Gove, KS

Abell Ranch A #1-30
Job Ticket: 55569 DST#: 3
Test Start: 2014.01.02 @ 03:38:00

GENERAL INFORMATION:

Formation: LKC 'E-F'
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:02:30
Time Test Ended: 11:54:42
Interval: 4024.00 ft (KB) To 4056.00 ft (KB) (TVD)
Total Depth: 4056.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 2907.00 ft (KB)
2896.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8357 Inside
Press@RunDepth: psig @ 4030.00 ft (KB)
Start Date: 2014.01.02 End Date: 2014.01.02
Start Time: 03:37:20 End Time: 11:55:57
Capacity: 8000.00 psig
Last Calib.: 2014.01.02
Time On Btm:
Time Off Btm:

TEST COMMENT: 2" Blow.
No return.
5" Blow.
No return.

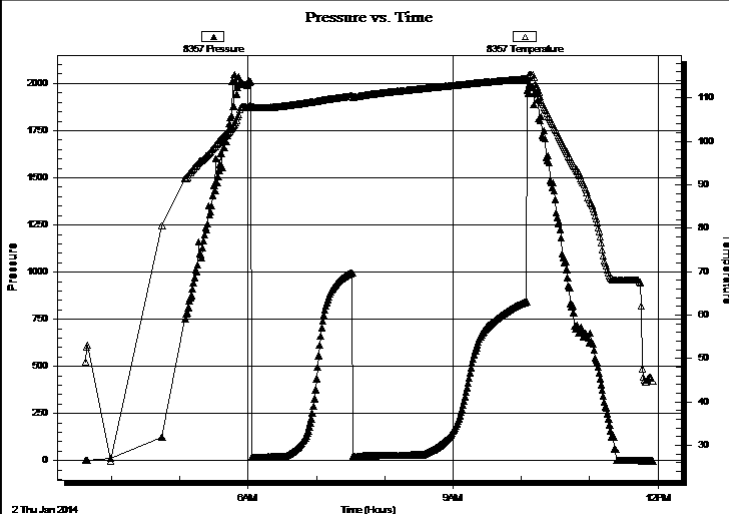


Table with columns: Time (Min.), Pressure (psig), Temp (deg F), Annotation. Title: PRESSURE SUMMARY.

Table with columns: Length (ft), Description, Volume (bbl). Title: Recovery.

Table with columns: Choke (inches), Pressure (psig), Gas Rate (Mcf/d). Title: Gas Rates.

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55569 **DST#: 3**
Test Start: 2014.01.02 @ 03:38:00

Tool Information

Drill Pipe:	Length: 3781.00 ft	Diameter: 3.80 inches	Volume: 53.04 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 239.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 54.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4024.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	52.00 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			4005.00	
Shut In Tool	5.00			4010.00	
Hydraulic tool	5.00			4015.00	
Packer	5.00			4020.00	20.00 Bottom Of Top Packer
Packer	4.00			4024.00	
Stubb	1.00			4025.00	
Perforations	5.00			4030.00	
Recorder	0.00	8357	Inside	4030.00	
Recorder	0.00	8645	Outside	4030.00	
Perforations	23.00			4053.00	
Bullnose	3.00			4056.00	32.00 Bottom Packers & Anchor

Total Tool Length: 52.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55569

DST#: 3

ATTN: Tom Funk

Test Start: 2014.01.02 @ 03:38:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	GOCM 5g 450 50m	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

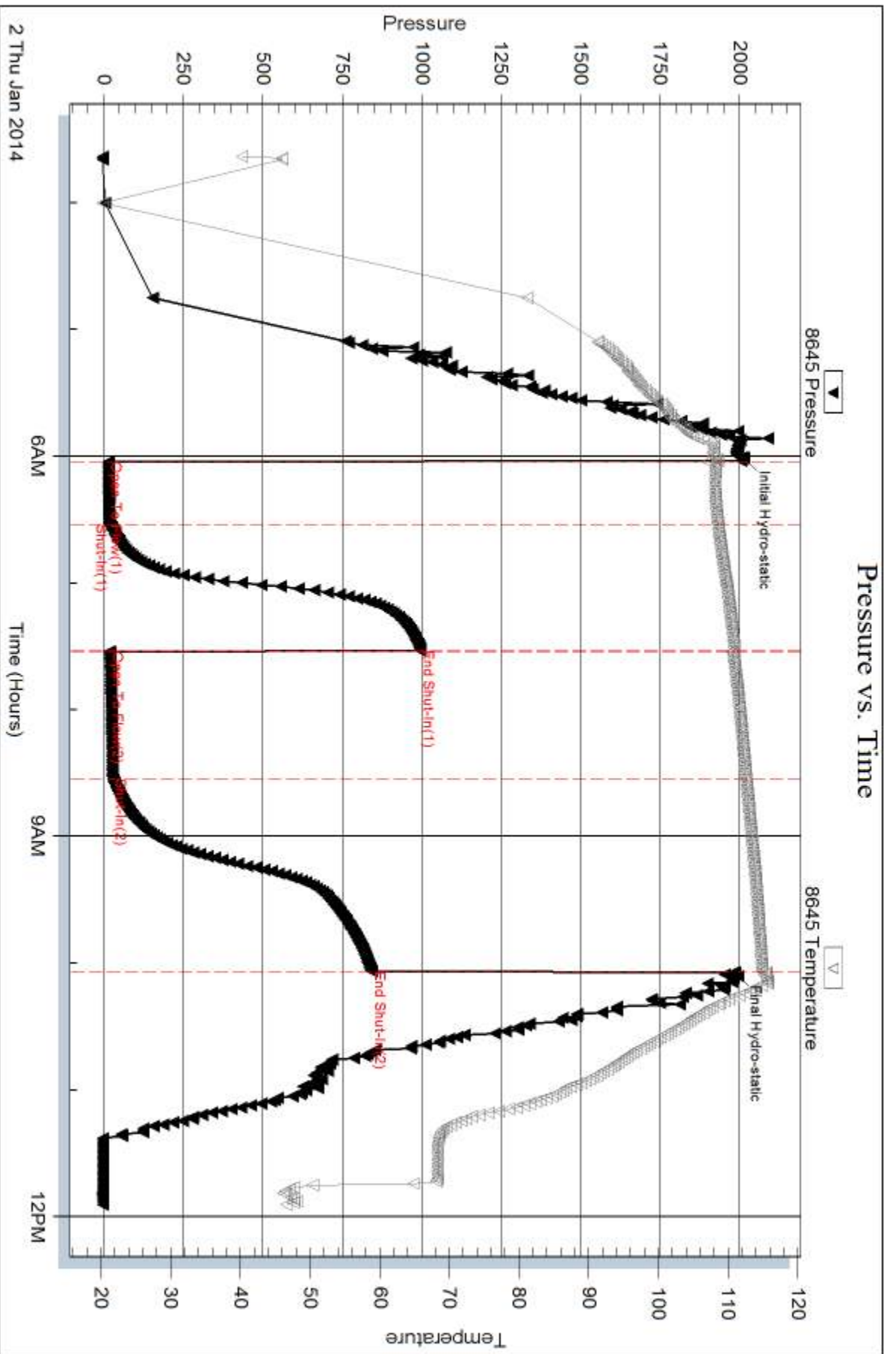
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 38 @ 60 Degrees F = 38



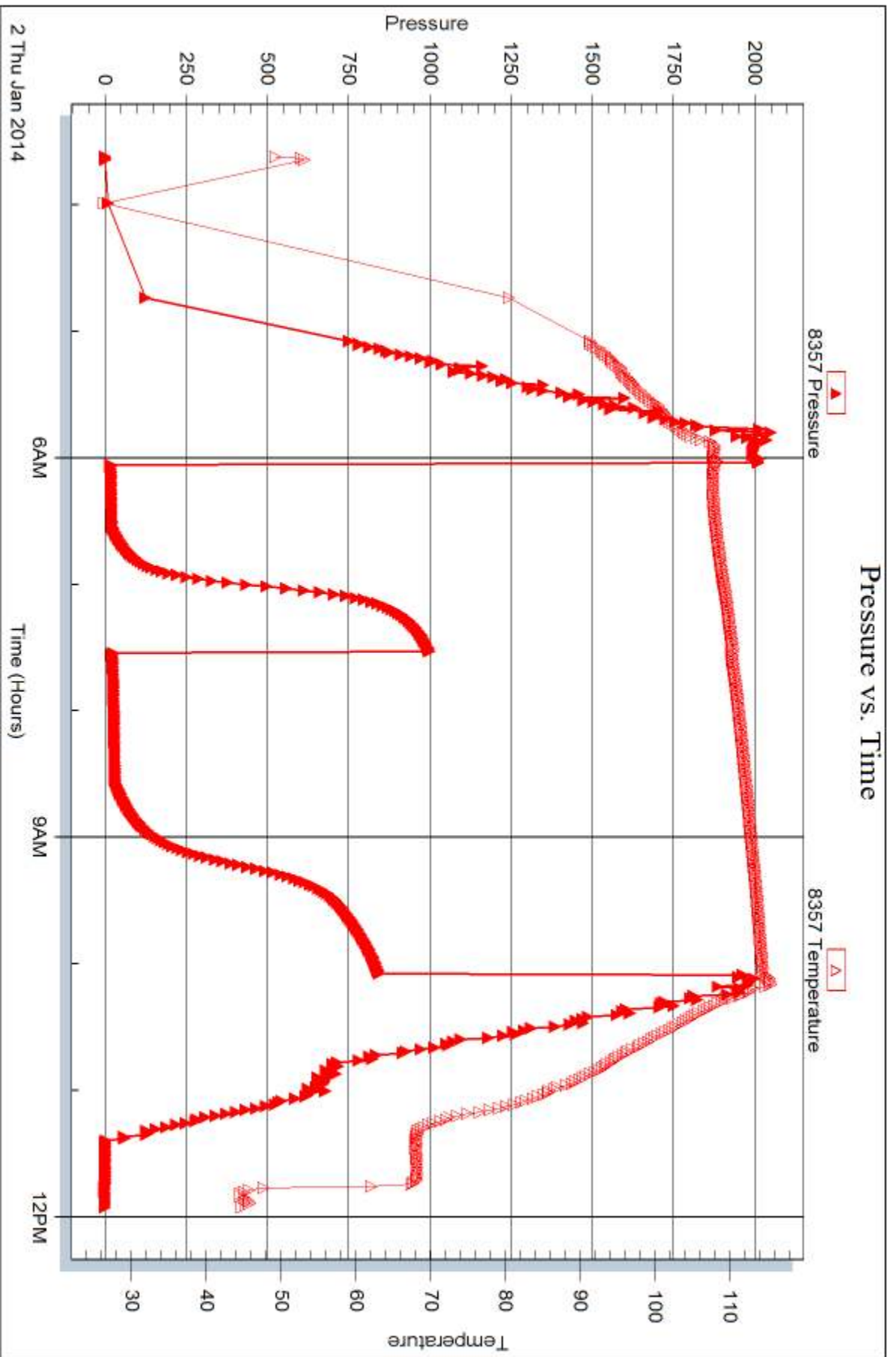
Serial #: 8357

Inside

Murfin Drilling Co.

Abell Ranch A #1-30

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Suite 300
Wichita, KS 67202

ATTN: Tom Funk

Abell Ranch A #1-30

S30-12s-30w Gove, KS

Start Date: 2014.01.03 @ 10:15:00

End Date: 2014.01.03 @ 18:39:36

Job Ticket #: 55570 DST #: 4

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

Printed: 2014.01.08 @ 11:13:36

Murfin Drilling Co. S30-12s-30w Gove, KS Abell Ranch A #1-30 DST # 4 LKC:H-K 2014.01.03



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

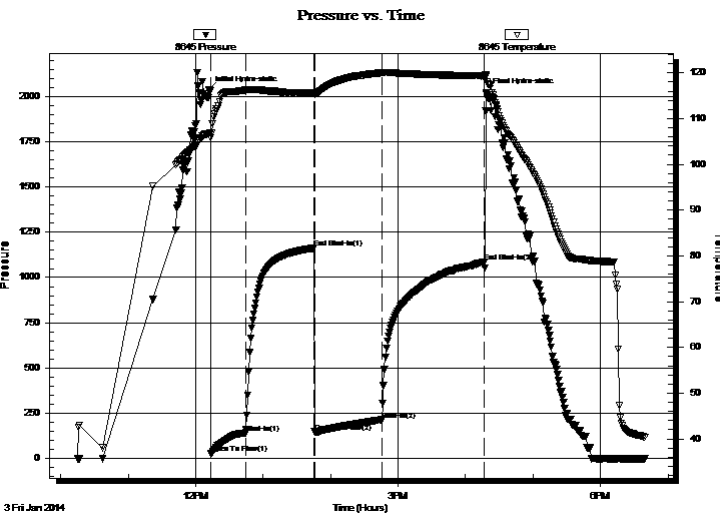
S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55570 **DST#: 4**
Test Start: 2014.01.03 @ 10:15:00

GENERAL INFORMATION:

Formation: **LKC 'H-K'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:13:24
Time Test Ended: 18:39:36
Interval: **4096.00 ft (KB) To 4200.00 ft (KB) (TVD)**
Total Depth: 4200.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Chuck Smith
Unit No: 62
Reference Elevations: 2907.00 ft (KB)
2896.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8645 Outside
Press@RunDepth: 213.00 psig @ 4097.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.01.03 End Date: 2014.01.03 Last Calib.: 2014.01.03
Start Time: 10:15:05 End Time: 18:39:36 Time On Btm: 2014.01.03 @ 12:11:54
Time Off Btm: 2014.01.03 @ 16:18:18

TEST COMMENT: B.O.B. @ 24 min.
1" Return.
B.O.B. @ 11 min.
1" Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2036.37	106.74	Initial Hydro-static
2	25.22	105.79	Open To Flow (1)
33	140.55	116.26	Shut-In(1)
93	1162.81	115.67	End Shut-In(1)
94	145.95	115.32	Open To Flow (2)
154	213.00	119.99	Shut-In(2)
245	1084.47	119.32	End Shut-In(2)
247	2021.68	119.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
239.00	OSMW 40m 60w	1.18
189.00	GOCM 10g 5o 85m	2.65
10.00	GOCM 10g 30o 60m	0.14
0.00	350' GIP	0.00

* 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 Suite 300
Wichita, KS 67202
ATTN: Tom Funk

S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55570 **DST#: 4**
Test Start: 2014.01.03 @ 10:15:00

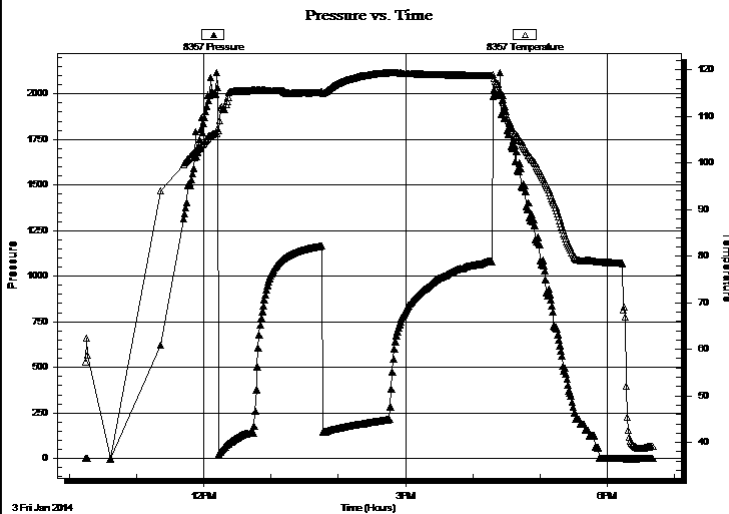
GENERAL INFORMATION:

Formation: **LKC 'H-K'**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 12:13:24 Tester: Chuck Smith
Time Test Ended: 18:39:36 Unit No: 62
Interval: 4096.00 ft (KB) To 4200.00 ft (KB) (TVD) Reference Elevations: 2907.00 ft (KB)
Total Depth: 4200.00 ft (KB) (TVD) 2896.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

Serial #: 8357 Inside

Press@RunDepth: psig @ 4097.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.01.03 End Date: 2014.01.03 Last Calib.: 2014.01.03
Start Time: 10:14:30 End Time: 18:40:54 Time On Btm:
Time Off Btm:

TEST COMMENT: B.O.B. @ 24 min.
1" Return.
B.O.B. @ 11 min.
1" Return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
239.00	OSMW 40m 60w	1.18
189.00	GOCM 10g 5o 85m	2.65
10.00	GOCM 10g 30o 60m	0.14
0.00	350' GIP	0.00

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.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55570

DST#: 4

ATTN: Tom Funk

Test Start: 2014.01.03 @ 10:15:00

Tool Information

Drill Pipe:	Length: 3854.00 ft	Diameter: 3.80 inches	Volume: 54.06 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 239.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 55.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	4096.00 ft			Final 87000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	104.00 ft			
Tool Length:	124.00 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			4077.00	
Shut In Tool	5.00			4082.00	
Hydraulic tool	5.00			4087.00	
Packer	5.00			4092.00	20.00 Bottom Of Top Packer
Packer	4.00			4096.00	
Stubb	1.00			4097.00	
Recorder	0.00	8357	Inside	4097.00	
Recorder	0.00	8645	Outside	4097.00	
Perforations	5.00			4102.00	
Change Over Sub	1.00			4103.00	
Drill Pipe	93.00			4196.00	
Bullnose	1.00			4197.00	
Bullnose	3.00			4200.00	104.00 Bottom Packers & Anchor

Total Tool Length: 124.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55570

DST#: 4

ATTN: Tom Funk

Test Start: 2014.01.03 @ 10:15:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

90000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
239.00	OSMW 40m 60w	1.175
189.00	GOCM 10g 5o 85m	2.651
10.00	GOCM 10g 30o 60m	0.140
0.00	350' GIP	0.000

Total Length: 438.00 ft Total Volume: 3.966 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

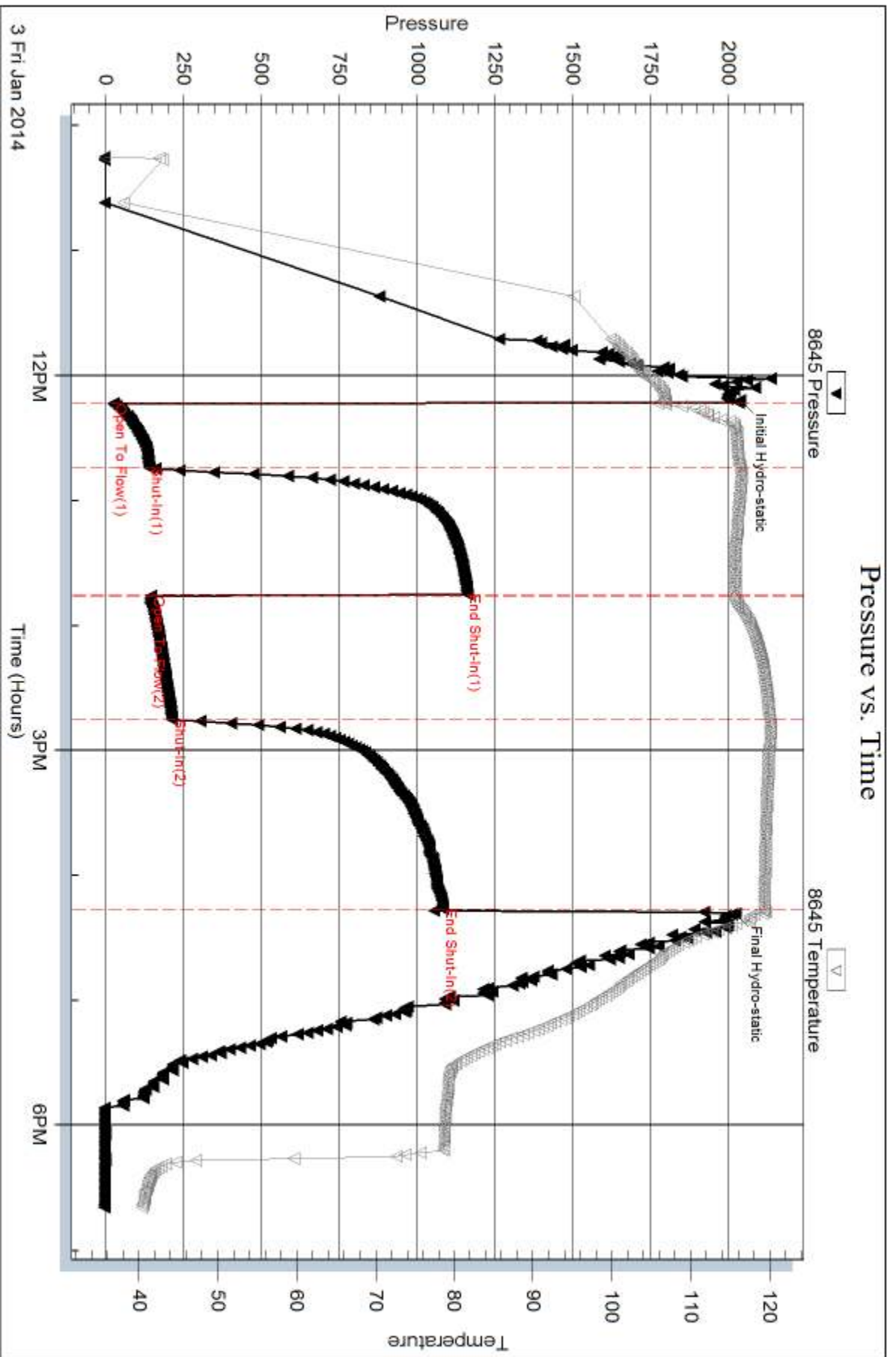
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 38 @ 50 Degrees F = 39.

RW: .145 @ 43 Degrees F = 90000 PPM



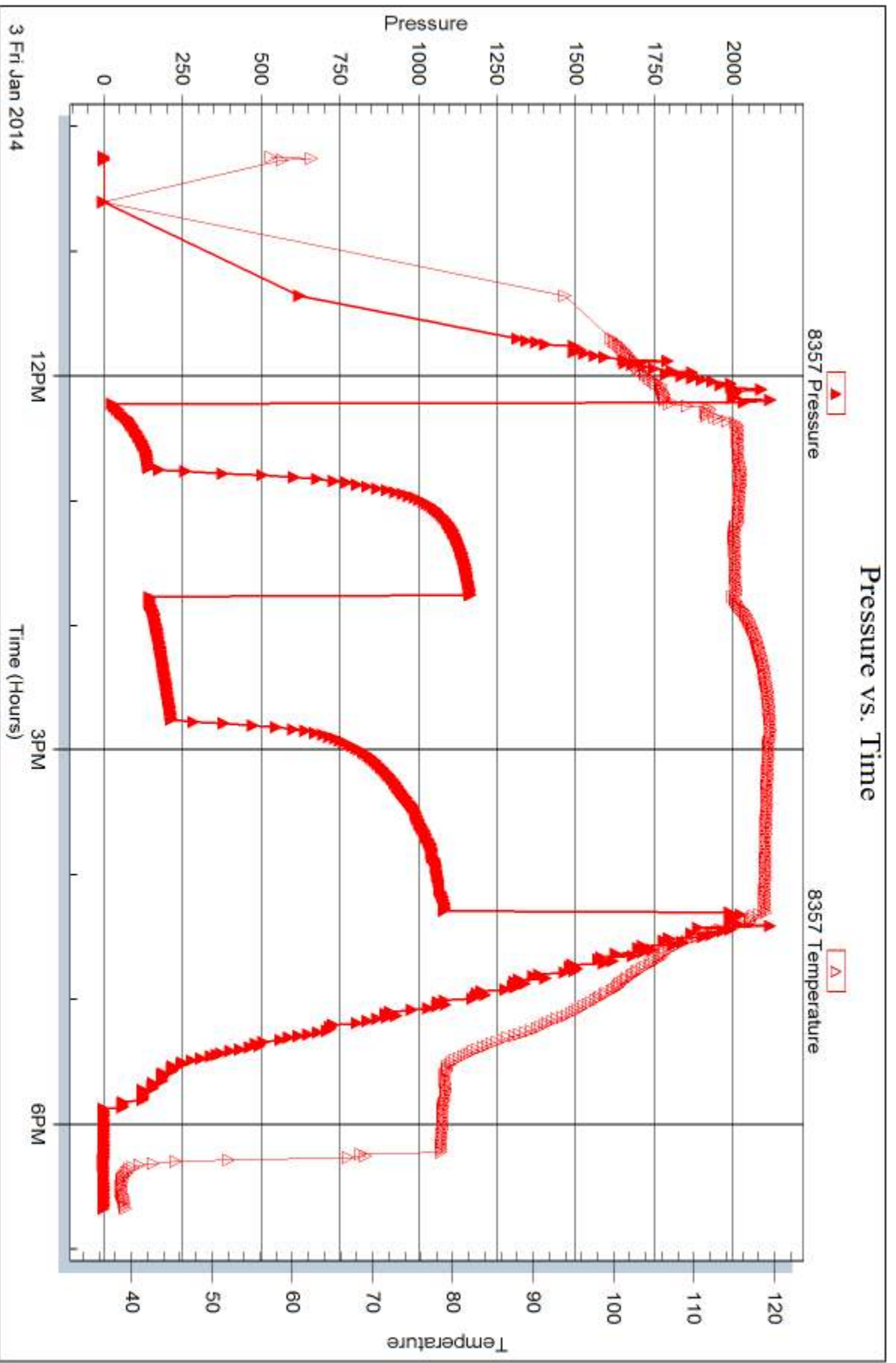
Serial #: 8357

Inside

Murfin Drilling Co.

Abell Ranch A #1-30

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 55570

Printed: 2014.01.08 @ 11:13:39



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Suite 300
Wichita, KS 67202

ATTN: Tom Funk

Abell Ranch A #1-30

S30-12s-30w Gove, KS

Start Date: 2014.01.05 @ 10:26:00

End Date: 2014.01.05 @ 17:49:12

Job Ticket #: 55571 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.08 @ 11:13:11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

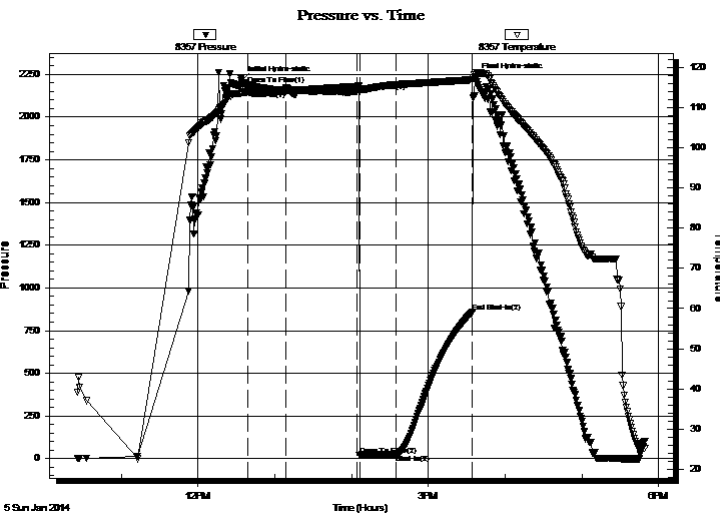
S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55571 **DST#: 5**
Test Start: 2014.01.05 @ 10:26:00

GENERAL INFORMATION:

Formation: **Lower Pawnee - Ft. S**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:38:42
 Time Test Ended: 17:49:12
 Interval: **4394.00 ft (KB) To 4524.00 ft (KB) (TVD)**
 Total Depth: 4524.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Chuck Smith
 Unit No: 62
 Reference Elevations: 2907.00 ft (KB)
 2896.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8357 Inside
 Press@RunDepth: 23.91 psig @ 4396.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.01.05 End Date: 2014.01.05 Last Calib.: 2014.01.05
 Start Time: 10:26:05 End Time: 17:49:12 Time On Btm: 2014.01.05 @ 12:34:00
 Time Off Btm: 2014.01.05 @ 15:36:42

TEST COMMENT: Weak surface blow died @ 10 min. Tool did not open.
 No return.
 Weak surface blow died @ 15 min.
 No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2215.71	113.48	Initial Hydro-static
5	2188.67	113.80	Open To Flow (1)
35	2153.37	114.10	Shut-In(1)
90	2150.32	115.25	End Shut-In(1)
93	20.93	114.47	Open To Flow (2)
121	23.91	115.68	Shut-In(2)
181	858.85	116.88	End Shut-In(2)
183	2234.51	118.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OSM 100m	0.10

* 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 Suite 300
Wichita, KS 67202
ATTN: Tom Funk

S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55571 **DST#: 5**
Test Start: 2014.01.05 @ 10:26:00

GENERAL INFORMATION:

Formation: **Lower Pawnee - Ft. S**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:38:42

Time Test Ended: 17:49:12

Interval: 4394.00 ft (KB) To 4524.00 ft (KB) (TVD)

Total Depth: 4524.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Reference Elevations: 2907.00 ft (KB)

2896.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8645

Outside

Press@RunDepth: psig @ 4396.00 ft (KB)

Start Date: 2014.01.05 End Date: 2014.01.05

Start Time: 10:27:05 End Time: 17:48:29

Capacity: 8000.00 psig

Last Calib.: 2014.01.05

Time On Btm:

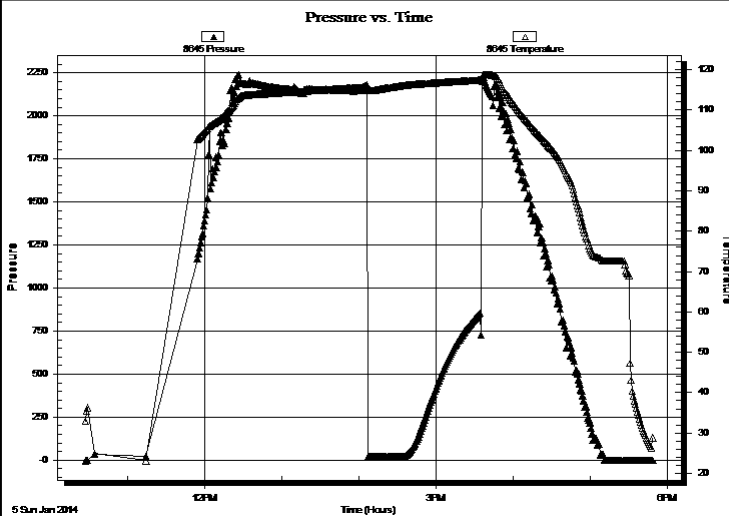
Time Off Btm:

TEST COMMENT: Weak surface blow died @ 10 min. Tool did not open.

No return.

Weak surface blow died @ 15 min.

No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OSM 100m	0.10

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.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55571

DST#: 5

ATTN: Tom Funk

Test Start: 2014.01.05 @ 10:26:00

Tool Information

Drill Pipe:	Length: 4167.00 ft	Diameter: 3.80 inches	Volume: 58.45 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 239.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 59.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 85000.00 lb
Depth to Top Packer:	4394.00 ft			Final 85000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	130.00 ft			
Tool Length:	150.00 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			4375.00	
Shut In Tool	5.00			4380.00	
Hydraulic tool	5.00			4385.00	
Packer	5.00			4390.00	20.00 Bottom Of Top Packer
Packer	4.00			4394.00	
Stubb	1.00			4395.00	
Perforations	1.00			4396.00	
Recorder	0.00	8357	Inside	4396.00	
Recorder	0.00	8645	Outside	4396.00	
Perforations	30.00			4426.00	
Change Over Sub	1.00			4427.00	
Drill Pipe	93.00			4520.00	
Bullnose	1.00			4521.00	
Bullnose	3.00			4524.00	130.00 Bottom Packers & Anchor

Total Tool Length: 150.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55571

DST#: 5

ATTN: Tom Funk

Test Start: 2014.01.05 @ 10:26:00

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: 55.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
20.00	OSM 100m	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbf

Num Fluid Samples: 0

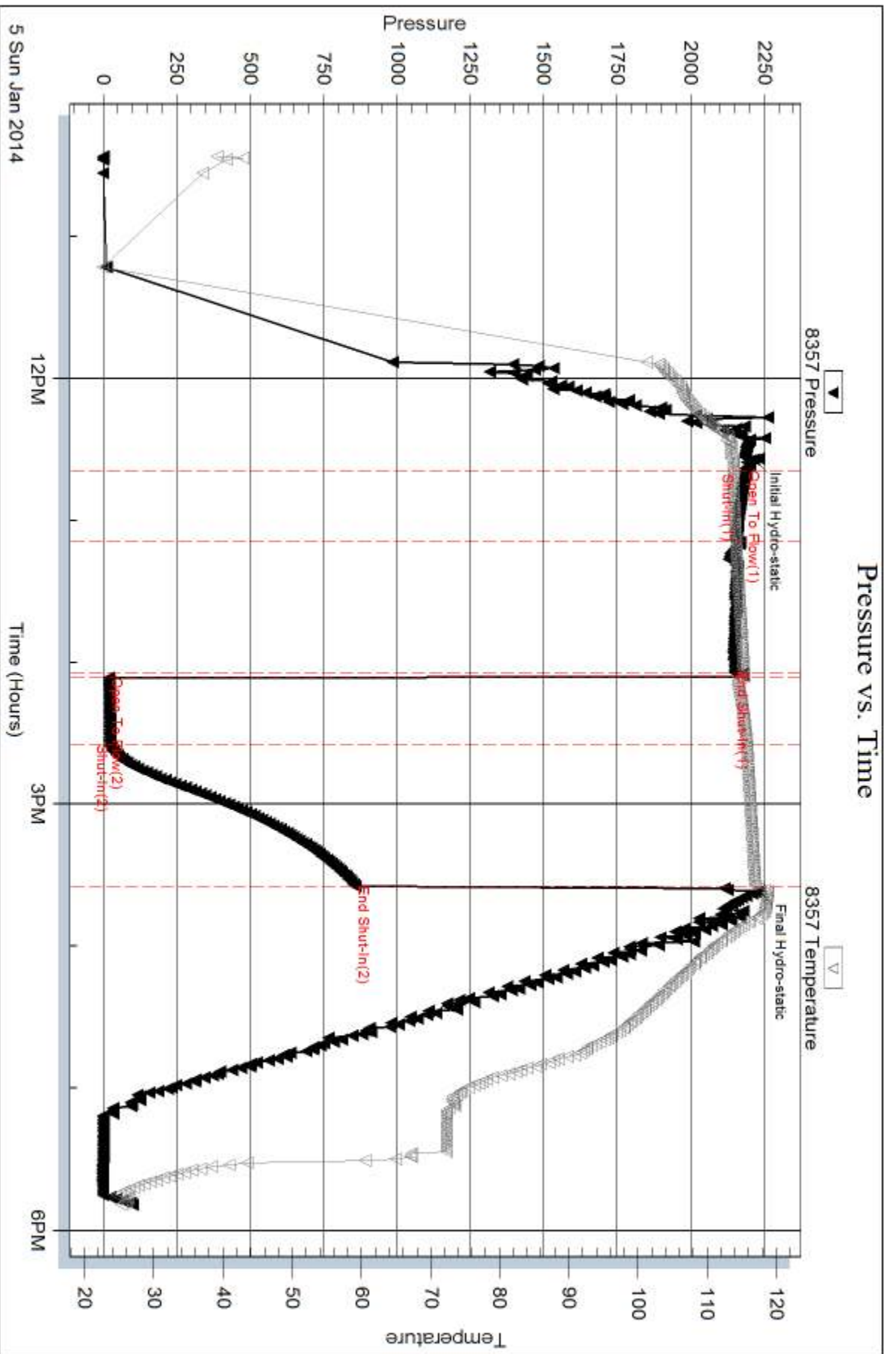
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

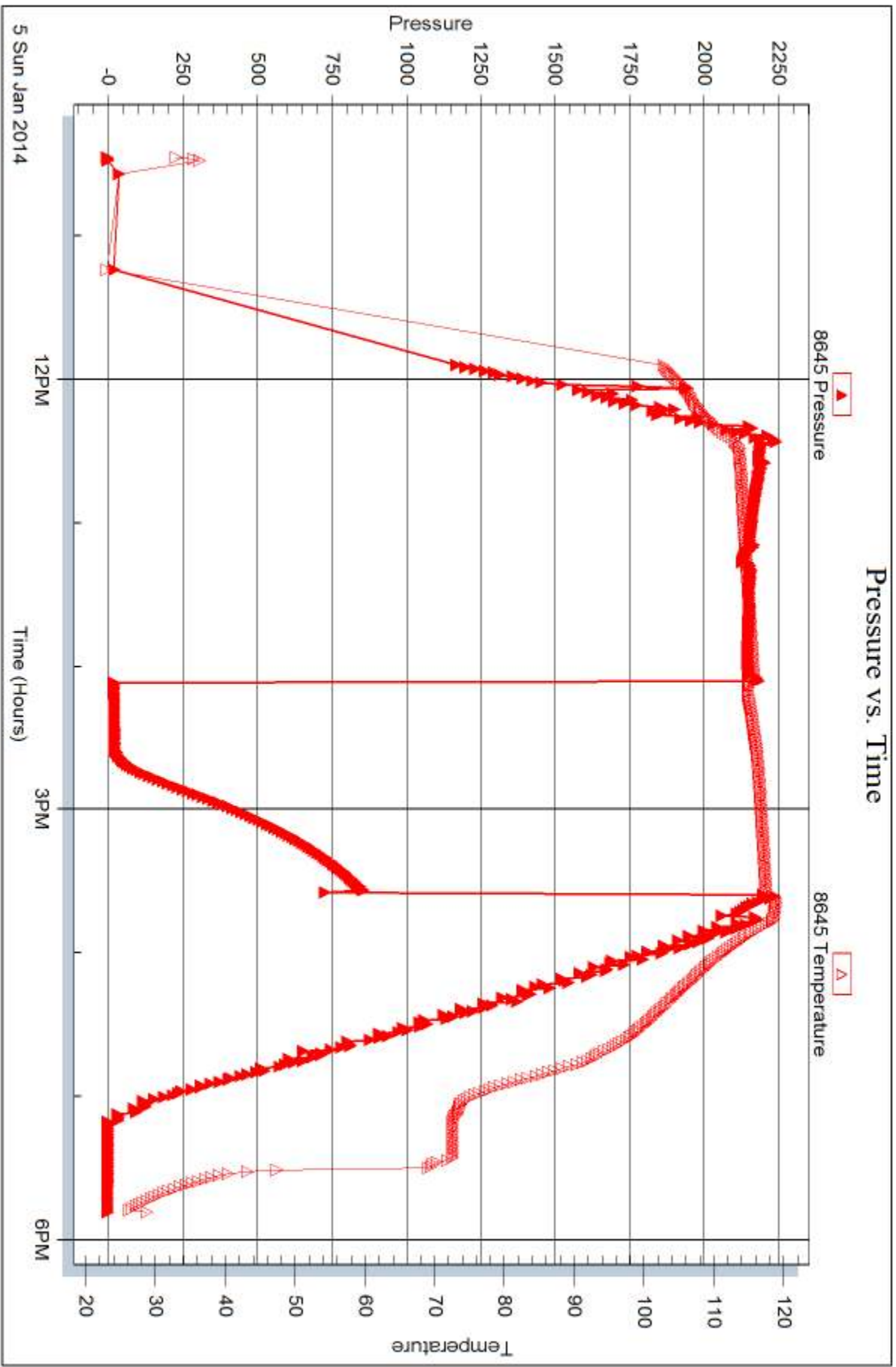


Serial #: 8645

Outside Murfin Drilling Co.

Abell Ranch A #1-30

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 55571

Printed: 2014.01.08 @ 11:13:13



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Suite 300
Wichita, KS 67202

ATTN: Tom Funk

Abell Ranch A #1-30

S30-12s-30w Gove, KS

Start Date: 2014.01.06 @ 00:41:00

End Date: 2014.01.06 @ 14:12:35

Job Ticket #: 55572 DST #: 6

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

Printed: 2014.01.08 @ 11:12:12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55572 **DST#: 6**
Test Start: 2014.01.06 @ 00:41:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:43:30
Time Test Ended: 14:12:35
Interval: **4514.00 ft (KB) To 4541.00 ft (KB) (TVD)**
Total Depth: 4541.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 2907.00 ft (KB)
2896.00 ft (CF)
KB to GR/CF: 11.00 ft

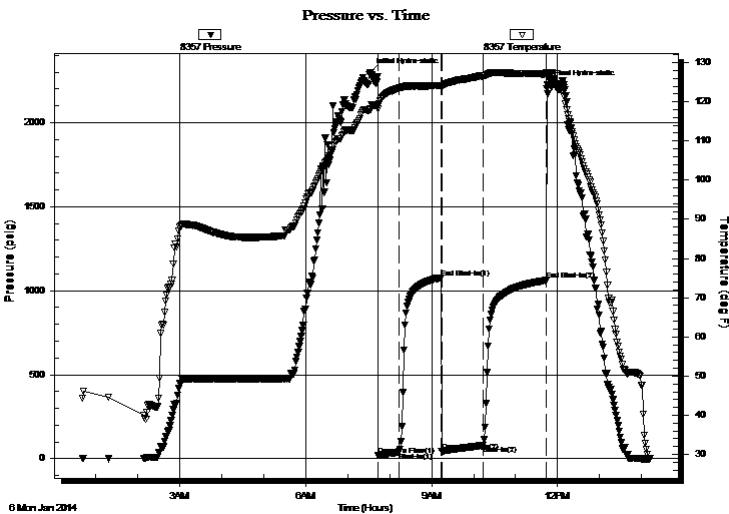
Serial #: 8357

Inside

Press@RunDepth: 78.23 psig @ 4516.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.01.06 End Date: 2014.01.06 Last Calib.: 2014.01.06
Start Time: 00:41:05 End Time: 14:12:36 Time On Btm: 2014.01.06 @ 07:32:17
Time Off Btm: 2014.01.06 @ 11:45:24

TEST COMMENT: B.O.B. @ 28 min.
Weak surface return died @ 25 min.
B.O.B. @ 20 min.
2" Return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2299.35	117.96	Initial Hydro-static
12	19.30	118.15	Open To Flow (1)
42	40.36	123.51	Shut-In(1)
102	1077.99	124.10	End Shut-In(1)
102	43.91	123.81	Open To Flow (2)
162	78.23	126.61	Shut-In(2)
252	1061.32	127.11	End Shut-In(2)
254	2228.10	127.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	GOCM 10g 40o 50m	1.74
31.00	GMCO 10g 5m 85o	0.43

* 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 Suite 300
Wichita, KS 67202
ATTN: Tom Funk

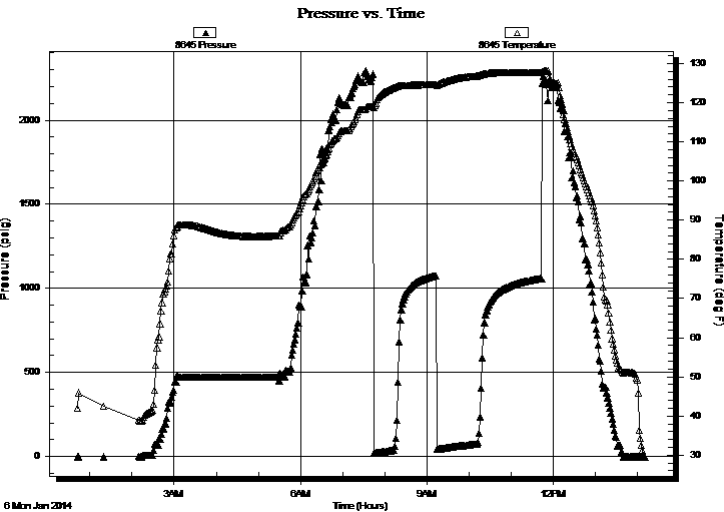
S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55572 **DST#: 6**
Test Start: 2014.01.06 @ 00:41:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:43:30
Time Test Ended: 14:12:35
Interval: **4514.00 ft (KB) To 4541.00 ft (KB) (TVD)**
Total Depth: 4541.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Chuck Smith
Unit No: 62
Reference Elevations: 2907.00 ft (KB)
2896.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8645 Outside
Press@RunDepth: psig @ 4516.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.01.06 End Date: 2014.01.06 Last Calib.: 2014.01.06
Start Time: 00:42:37 End Time: 14:11:08 Time On Btm:
Time Off Btm:

TEST COMMENT: B.O.B. @ 28 min.
Weak surface return died @ 25 min.
B.O.B. @ 20 min.
2" Return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
124.00	GOCM 10g 40o 50m	1.74
31.00	GMCO 10g 5m 85o	0.43

* 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 Suite 300
Wichita, KS 67202
ATTN: Tom Funk

S30-12s-30w Gove, KS
Abell Ranch A #1-30
Job Ticket: 55572 **DST#: 6**
Test Start: 2014.01.06 @ 00:41:00

Tool Information

Drill Pipe:	Length: 4510.00 ft	Diameter: 3.80 inches	Volume: 63.26 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 63.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4514.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 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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Change Over Sub	1.00			4495.00	
Shut In Tool	5.00			4500.00	
Hydraulic tool	5.00			4505.00	
Packer	5.00			4510.00	20.00 Bottom Of Top Packer
Packer	4.00			4514.00	
Stubb	1.00			4515.00	
Perforations	1.00			4516.00	
Recorder	0.00	8357	Inside	4516.00	
Recorder	0.00	8645	Outside	4516.00	
Perforations	22.00			4538.00	
Bullnose	3.00			4541.00	27.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

S30-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch A #1-30

Job Ticket: 55572

DST#: 6

ATTN: Tom Funk

Test Start: 2014.01.06 @ 00:41:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
124.00	GOCM 10g 40o 50m	1.739
31.00	GMCO 10g 5m 85o	0.435

Total Length: 155.00 ft Total Volume: 2.174 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

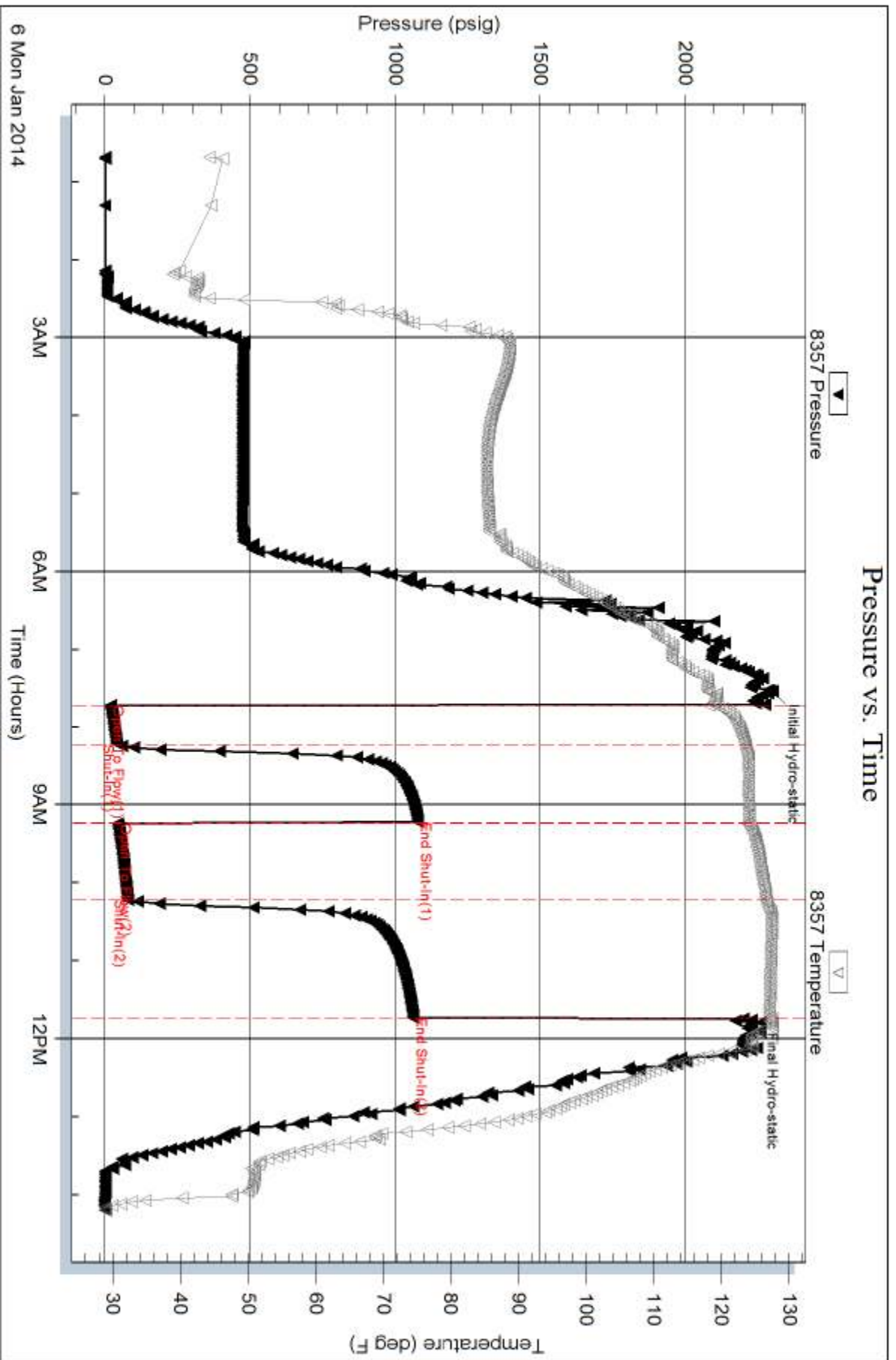
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 29 @ 30 Degrees F = 32.

Pressure vs. Time

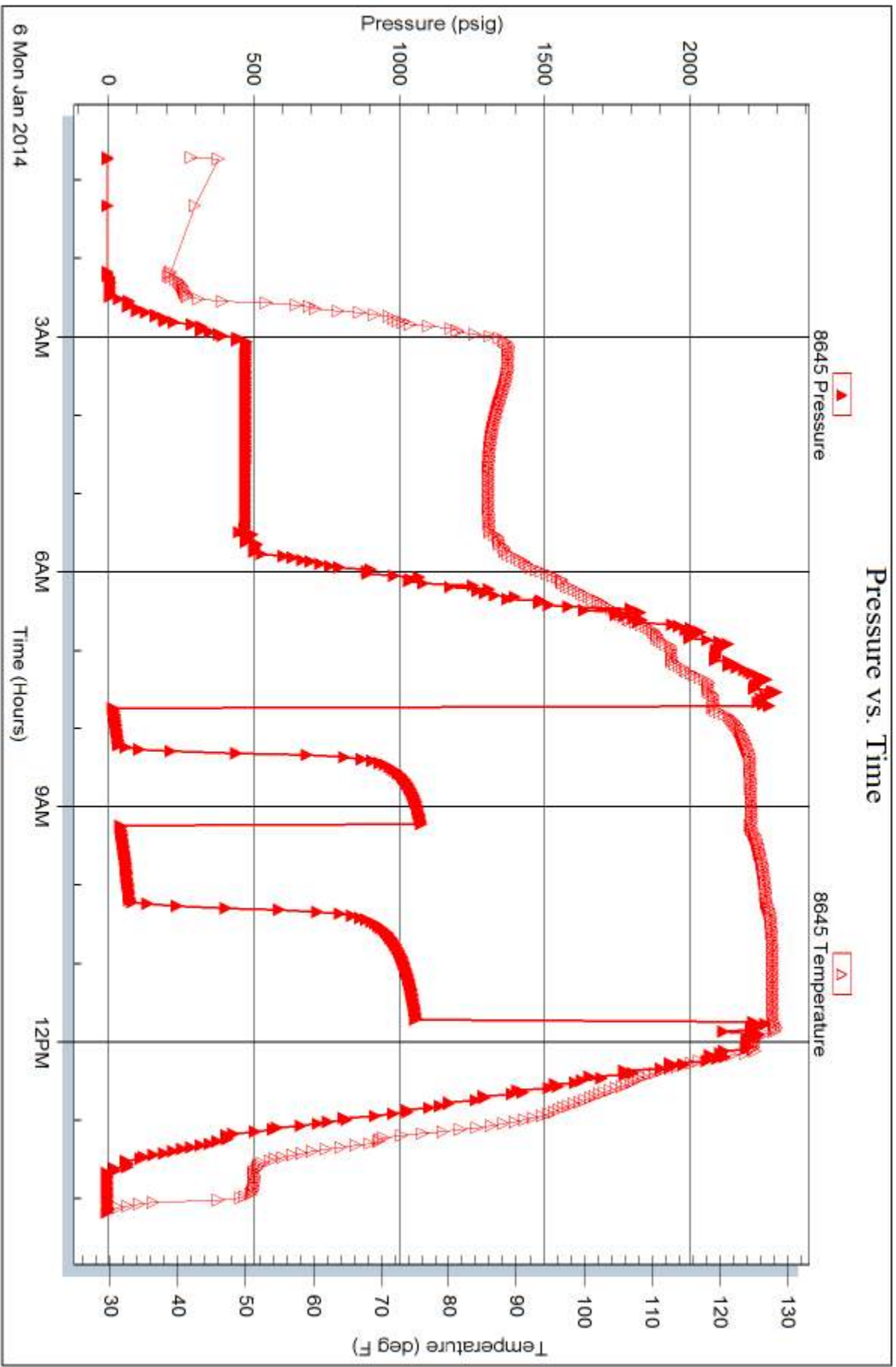


Serial #: 8645

Outside Murfin Drilling Co.

Abell Ranch A #1-30

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 55572

Printed: 2014.01.08 @ 11:12:14



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55567

Well Name & No. Abell Ranch 'A' #1-30 Test No. 1 Date 12-31-13
 Company Musfin Drilling Co. Elevation 2907 KB 2896 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Tom Funk Rig MDC #22
 Location: Sec. 30 Twp. 12s Rge. 30w Co. Gove State KS

Interval Tested 3798-3880 Zone Tested Leocompton - Oread
 Anchor Length 82 Drill Pipe Run 3570 Mud Wt. 9.1
 Top Packer Depth 3794 Drill Collars Run 239 Vis 5.5
 Bottom Packer Depth 3798 Wt. Pipe Run 0 WL 5.2
 Total Depth 3880 Chlorides 1700 ppm System LCM 3"

Blow Description B.O.B. @ 11 min.
No return.
B.O.B. @ 14 min.
No return.

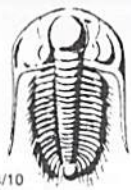
Rec	Feet of	%gas	%oil	%water	%mud
<u>72</u>	<u>WM</u>		<u>15</u>	<u>85</u>	
<u>496</u>	<u>MW Oil spots Popping gas</u>		<u>75</u>	<u>25</u>	
<u>301</u>	<u>MW Oil spots Popping gas</u>		<u>95</u>	<u>2.5</u>	

Rec Total 869 BHT 117 Gravity — API RW .084 @ 49 °F Chlorides 150,000 ppm
 (A) Initial Hydrostatic 1871 Test 1150 T-On Location 9:45
 (B) First Initial Flow 25 Jars T-Started 10:10
 (C) First Final Flow 212 Safety Joint T-Open 12:44
 (D) Initial Shut-In 1205 Circ Sub NIC T-Pulled 16:44
 (E) Second Initial Flow 213 Hourly Standby T-Out 19:09
 (F) Second Final Flow 412 Mileage 90RT 139.50
 (G) Final Shut-In 1194 Sampler
 (H) Final Hydrostatic 1865 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 1289.50
 Total 1289.50
 MP/DST Disc't

Approved By [Signature] Our Representative Chuck Smith

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. **55568**

Well Name & No. Abell Ranch 'A' #1-30 Test No. 2 Date 1-1-14
 Company Murfin Drilling Co. Elevation 2907 KB 2896 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Tom Funk Rig MDC #22
 Location: Sec. 30 Twp. 12s Rge. 30w Co. Gove State Ks

Interval Tested 3972-4005 Zone Tested LKC 'B'
 Anchor Length 33 Drill Pipe Run 3728 Mud Wt. 9.2
 Top Packer Depth 3968 Drill Collars Run 239 Vis 50
 Bottom Packer Depth 3972 Wt. Pipe Run 0 WL 5.2
 Total Depth 4005 Chlorides 2400 ppm System LCM 2"

Blow Description Surface blow throughout.
No return.
No blow.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>15</u>	Feet of <u>500cm</u>		<u>1</u>		<u>99</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

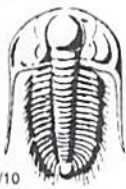
Rec Total 15 BHT 113 Gravity — API RW @ ° F Chlorides — ppm

(A) Initial Hydrostatic 1989 Test 1250 T-On Location 11:15
 (B) First Initial Flow 17 Jars — T-Started 11:43
 (C) First Final Flow 23 Safety Joint — T-Open 13:33
 (D) Initial Shut-In 1149 Circ Sub NIC T-Pulled 16:35
 (E) Second Initial Flow 24 Hourly Standby — T-Out 18:31
 (F) Second Final Flow 28 Mileage 139.50 Comments —
 (G) Final Shut-In 1100 Sampler —
 (H) Final Hydrostatic 1,959 Straddle —

Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 0
 Total 1389.50
 MP/DST Disc't —
 Sub Total 1389.50

Approved By [Signature] Our Representative Chuck Smith

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55569**

Well Name & No. Abell Ranch A 1-30 Test No. 3 Date 1-2-14
 Company Musfin Drilling Co. Elevation 2907 KB 2896 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Tom Funk Rig MDC #22
 Location: Sec. 30 Twp. 12s Rge. 30w Co. Gove State KS

Interval Tested 4024-4056 Zone Tested LKC 'E-F'
 Anchor Length 32 Drill Pipe Run 3781 Mud Wt. 9.3
 Top Packer Depth 4020 Drill Collars Run 239 Vis 55
 Bottom Packer Depth 4024 Wt. Pipe Run 0 WL 5.2
 Total Depth 4056 Chlorides 2400 ppm System LCM 2"

Blow Description 2" Blow.
No return.
5" Blow.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>30</u>	Feet of <u>60CM</u>	<u>5</u> %gas	<u>45</u> %oil	%water	<u>50</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

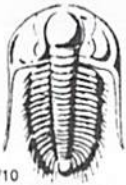
Rec Total 30 BHT 115 Gravity 38 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2014 Test 1250 T-On Location 3:35
 (B) First Initial Flow 15 Jars T-Started 3:38
 (C) First Final Flow 19 Safety Joint T-Open 6:03
 (D) Initial Shut-In 997 Circ Sub N/C T-Pulled 10:04
 (E) Second Initial Flow 19 Hourly Standby T-Out 11:55
 (F) Second Final Flow 28 Mileage 90RT 139.50
 (G) Final Shut-In 843 Sampler
 (H) Final Hydrostatic 1986 Straddle

Initial Open 30 Shale Packer
 Initial Shut-In 60 Shale Packer
 Final Flow 60 Extra Packer
 Final Shut-In 90 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 1389.50

Approved By [Signature] Our Representative Chuck Smith

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55570

Well Name & No. Abell Ranch 'A' 1-30 Test No. 4 Date 1-3-14
 Company Murfin Drilling Co. Elevation 2907 KB 2896 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Tom Funk Rig MDC #22
 Location: Sec. 30 Twp. 12s Rge. 30w Co. Gove State Ks

Interval Tested 4096-4200 Zone Tested LKC 'H,I,J,K'
 Anchor Length 104 Drill Pipe Run 3854 Mud Wt. 9.2
 Top Packer Depth 4092 Drill Collars Run 239 Vis 55
 Bottom Packer Depth 4096 Wt. Pipe Run 0 WL 5.6
 Total Depth 4200 Chlorides 2400 ppm System LCM 2[#]

Blow Description B.O.B. @ 24 min.
1" Return.
B.O.B. @ 11 min.
1" Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>GOCM</u>	<u>10</u>	<u>30</u>	<u>60</u>	
<u>189</u>	<u>GOCM</u>	<u>10</u>	<u>5</u>	<u>85</u>	
<u>239</u>	<u>OSMW</u>		<u>60</u>	<u>40</u>	
	<u>350' RIP</u>				
<u>438</u>					

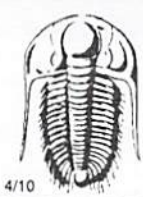
Rec Total 438 BHT 119 Gravity 39 API RW .145 @ 43 °F Chlorides 90,000 ppm

(A) Initial Hydrostatic 2034 Test 1250 T-On Location 10:15
 (B) First Initial Flow 25 Jars T-Started 10:15
 (C) First Final Flow 141 Safety Joint T-Open 12:13
 (D) Initial Shut-In 1163 Circ Sub NIC T-Pulled 16:16
 (E) Second Initial Flow 146 Hourly Standby T-Out 18:40
 (F) Second Final Flow 213 Mileage 139.50 Comments _____
 (G) Final Shut-In 1084 Sampler _____
 (H) Final Hydrostatic 2022 Straddle _____

Ruined Shale Packer
 Ruined Packer
 Extra Packer
 Extra Copies
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 1389.50
 Sub Total 1389.50

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Approved By [Signature] Our Representative Chuck Amick

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55571

Well Name & No. Abell Ranch A 1-30 Test No. 5 Date 1-5-14
 Company Murfin Drilling Co. Elevation 2907 KB 2896 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Tom Funk Rig MDC #22
 Location: Sec. 30 Twp. 12s Rge. 30W Co. Gove State Ks

Interval Tested 4394 - 4524 Zone Tested Lower Pawnee - Ft. Scott - Johnson
 Anchor Length 130 Drill Pipe Run 4167 Mud Wt. 9.4
 Top Packer Depth 4390 Drill Collars Run 239 Vis 55
 Bottom Packer Depth 4394 Wt. Pipe Run 0 WL 5.2
 Total Depth 4524 Chlorides 2100 ppm System LCM 3"
 Blow Description Weak surface blow, died @ 10 min. Tool did not open
No return.
Weak surface blow died @ 15 min.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>20</u>	Feet of <u>0.5M</u>				
Rec	Feet of				
Rec	Feet of				
Rec	Feet of				

Rec Total 20 BHT 117 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2216</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>10:15</u>
(B) First Initial Flow <u>2189</u>	<input type="checkbox"/> Jars	T-Started <u>10:26</u>
(C) First Final Flow <u>2153</u>	<input type="checkbox"/> Safety Joint	T-Open <u>12:40</u>
(D) Initial Shut-In <u>2150</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>15:35</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>17:49</u>
(F) Second Final Flow <u>24</u>	<input checked="" type="checkbox"/> Mileage <u>90RT</u> 139.50	Comments
(G) Final Shut-In <u>8.59</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2235</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>55</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>516.67</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Day Standby <u>1d 15.5h</u>	Total <u>1706.17</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1189.50</u>	

Approved By

Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55572

Well Name & No. Abell Ranch 'A' 1-30 Test No. 6 Date 1-6-14
 Company Murfin Drilling Co. Elevation 2907 KB 2896 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Tom Funk Rig MDC #22
 Location: Sec. 30 Twp. 12s Rge. 30w Co. Gove State KS

Interval Tested 4514-4541 Zone Tested Mississippi
 Anchor Length 27 Drill Pipe Run 4510 Mud Wt. 9.3
 Top Packer Depth 4510 Drill Collars Run 0 Vis 60
 Bottom Packer Depth 4514 Wt. Pipe Run 0 WL 5.2
 Total Depth 4541 Chlorides 2400 ppm System LCM 2nd

Blow Description B.O.B. @ 28 min.
Weak surface return died @ 25 min.
B.O.B. @ 20 min.
2" Return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>31</u>	Feet of <u>GMCO</u>	<u>10</u>	<u>85</u>	<u>5</u>	<u>5</u>
Rec <u>124</u>	Feet of <u>GOOM</u>	<u>10</u>	<u>40</u>	<u>50</u>	<u>50</u>
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 155 BHT 127 Gravity 32 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2299 Test 1250 T-On Location 00:30
 (B) First Initial Flow 19 Jars _____ T-Started 00:41
 (C) First Final Flow 40 Safety Joint _____ T-Open 7:44
 (D) Initial Shut-In 1078 Circ Sub NIC T-Pulled 11:44
 (E) Second Initial Flow 44 Hourly Standby 3.5h 350 T-Out 14:13
 (F) Second Final Flow 78 Mileage 90RT 139.50 Comments _____
 (G) Final Shut-In 1061 Sampler _____
 (H) Final Hydrostatic 2228 Straddle _____
 Shale Packer _____
 Ruined Packer 320
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1739.50
 Total 2059.50
 MP/DST Disc't _____

Approved By [Signature] Our Representative Chuck Smith

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