



DRILL STEM TEST REPORT

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

250 N Water Suite 300
Wichita, KS 67202

ATTN: Larry Nicholson

Abell Ranch B #2-31

S31-12s-30w Gove,KS

Start Date: 2014.12.15 @ 18:13:00

End Date: 2014.12.15 @ 23:01:50

Job Ticket #: 58484 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:30:33



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

ATTN: Larry Nicholson

Job Ticket: 58484

DST#: 1

Test Start: 2014.12.15 @ 18:13:00

GENERAL INFORMATION:

Formation: **Lansing 'B-D'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:40:00

Time Test Ended: 23:01:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Smith

Unit No: 62

Interval: 3970.00 ft (KB) To 4017.00 ft (KB) (TVD)

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4017.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8357

Inside

Press@RunDepth: 963.07 psig @ 3971.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.15

End Date:

2014.12.15

Last Calib.:

2014.12.15

Start Time: 18:13:02

End Time:

23:01:49

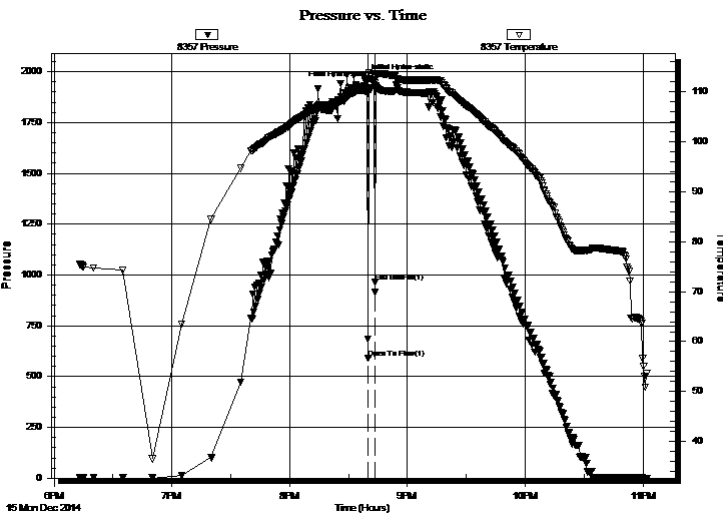
Time On Btm:

2014.12.15 @ 20:38:30

Time Off Btm:

2014.12.15 @ 20:43:50

TEST COMMENT: Packer seat failed during two attempts to land the tool, pulled tool out.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1964.40	110.14	Initial Hydro-static
2	591.05	110.77	Open To Flow (1)
5	963.07	112.20	End Shut-In(1)
6	1929.89	113.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
350.00	M 100m	2.40

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58484

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 18:13:00

Tool Information

Drill Pipe:	Length: 3698.00 ft	Diameter: 3.80 inches	Volume: 51.87 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 73000.00 lb
			<u>Total Volume: 53.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.50 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3970.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	74.50 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
Change Over Sub	1.00			3943.50	
Shut In Tool	5.00			3948.50	
Hydraulic tool	5.00			3953.50	
Jars	5.00			3958.50	
Safety Joint	2.50			3961.00	
Packer	5.00			3966.00	27.50 Bottom Of Top Packer
Packer	4.00			3970.00	
Stubb	1.00			3971.00	
Recorder	0.00	8357	Inside	3971.00	
Recorder	0.00	8645	Outside	3971.00	
Perforations	10.00			3981.00	
Change Over Sub	1.00			3982.00	
Drill Pipe	31.00			4013.00	
Change Over Sub	1.00			4014.00	
Bullnose	3.00			4017.00	47.00 Bottom Packers & Anchor

Total Tool Length: 74.50



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58484

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 18:13:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
350.00	M 100m	2.395

Total Length: 350.00 ft Total Volume: 2.395 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

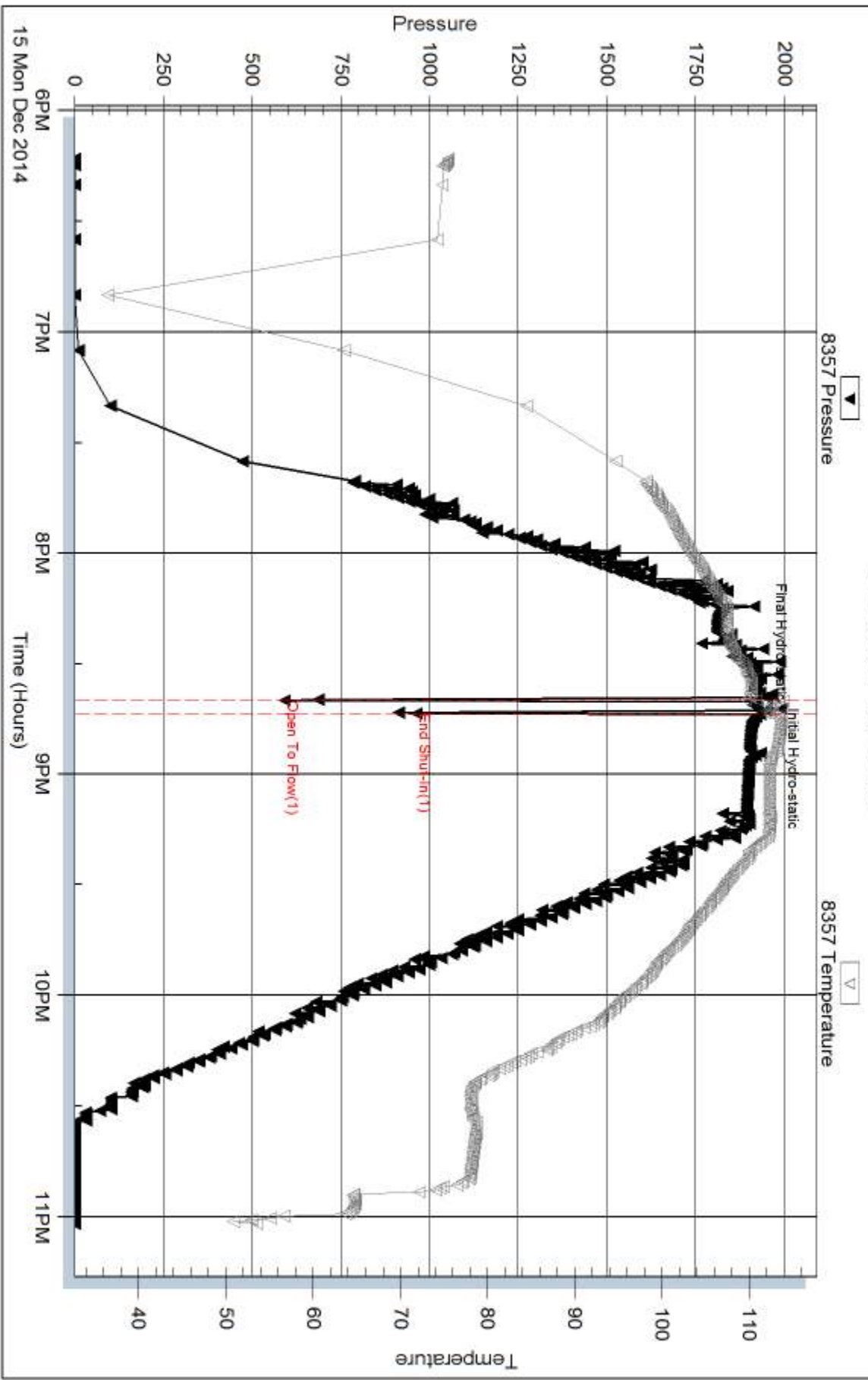
Serial #:

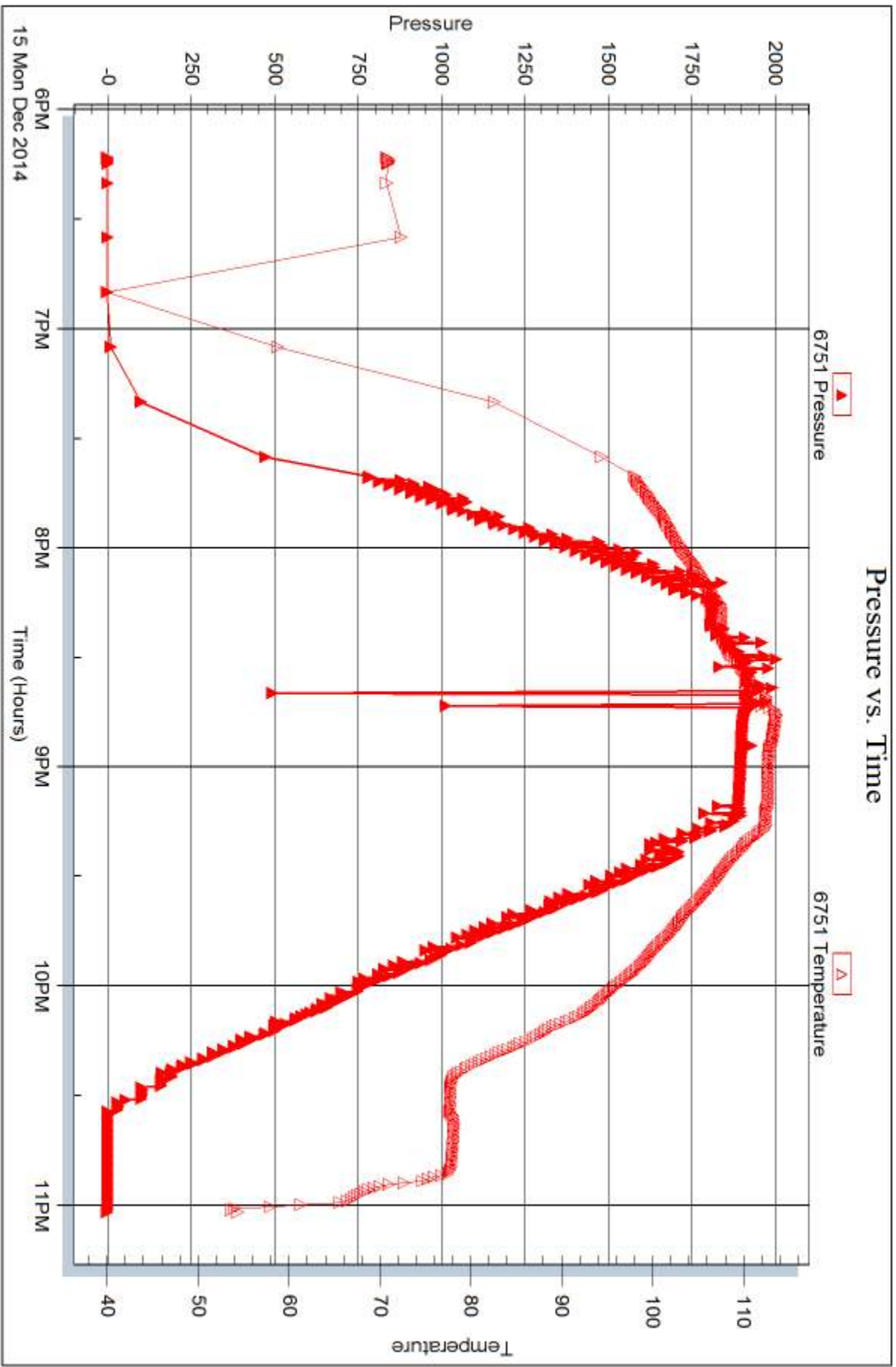
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

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

250 N Water Suite 300
Wichita, KS 67202

ATTN: Larry Nicholson

Abell Ranch B #2-31

S31-12s-30w Gove,KS

Start Date: 2014.12.15 @ 23:21:00

End Date: 2014.12.16 @ 06:57:20

Job Ticket #: 58485 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:30:10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

S31-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

ATTN: Larry Nicholson

Job Ticket: 58485

DST#: 2

Test Start: 2014.12.15 @ 23:21:00

GENERAL INFORMATION:

Formation: **LKC 'B-D'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:56:00

Time Test Ended: 06:57:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: 3964.00 ft (KB) To 4017.00 ft (KB) (TVD)

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4017.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8357

Inside

Press@RunDepth: 159.37 psig @ 3965.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.15

End Date:

2014.12.16

Last Calib.:

2014.12.16

Start Time: 23:21:02

End Time:

06:57:19

Time On Btm:

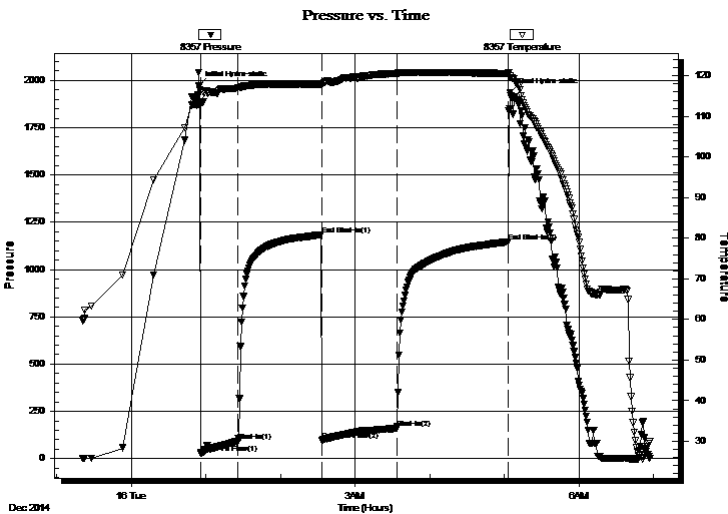
2014.12.16 @ 00:54:40

Time Off Btm:

2014.12.16 @ 05:04:50

TEST COMMENT: 30- 6" Blow .
66- No return.
60- 5" Blow .
90- No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1970.82	113.07	Initial Hydro-static
2	29.40	113.13	Open To Flow (1)
32	91.22	116.93	Shut-In(1)
99	1183.97	117.97	End Shut-In(1)
99	98.61	117.63	Open To Flow (2)
159	159.37	120.60	Shut-In(2)
249	1146.00	120.58	End Shut-In(2)
251	1933.84	119.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	OSWM 40w 60m	1.69

* 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., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58485

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 23:21:00

Tool Information

Drill Pipe:	Length: 3666.00 ft	Diameter: 3.80 inches	Volume: 51.42 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 52.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.50 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3964.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	80.50 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			3937.50	
Shut In Tool	5.00			3942.50	
Hydraulic tool	5.00			3947.50	
Jars	5.00			3952.50	
Safety Joint	2.50			3955.00	
Packer	5.00			3960.00	27.50 Bottom Of Top Packer
Packer	4.00			3964.00	
Stubb	1.00			3965.00	
Recorder	0.00	8357	Inside	3965.00	
Recorder	0.00	8645	Outside	3965.00	
Perforations	16.00			3981.00	
Change Over Sub	1.00			3982.00	
Drill Pipe	31.00			4013.00	
Change Over Sub	1.00			4014.00	
Bullnose	3.00			4017.00	53.00 Bottom Packers & Anchor

Total Tool Length: 80.50



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58485

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 23:21:00

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:

61000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	OSWM 40w 60m	1.694

Total Length: 300.00 ft Total Volume: 1.694 bbl

Num Fluid Samples: 0

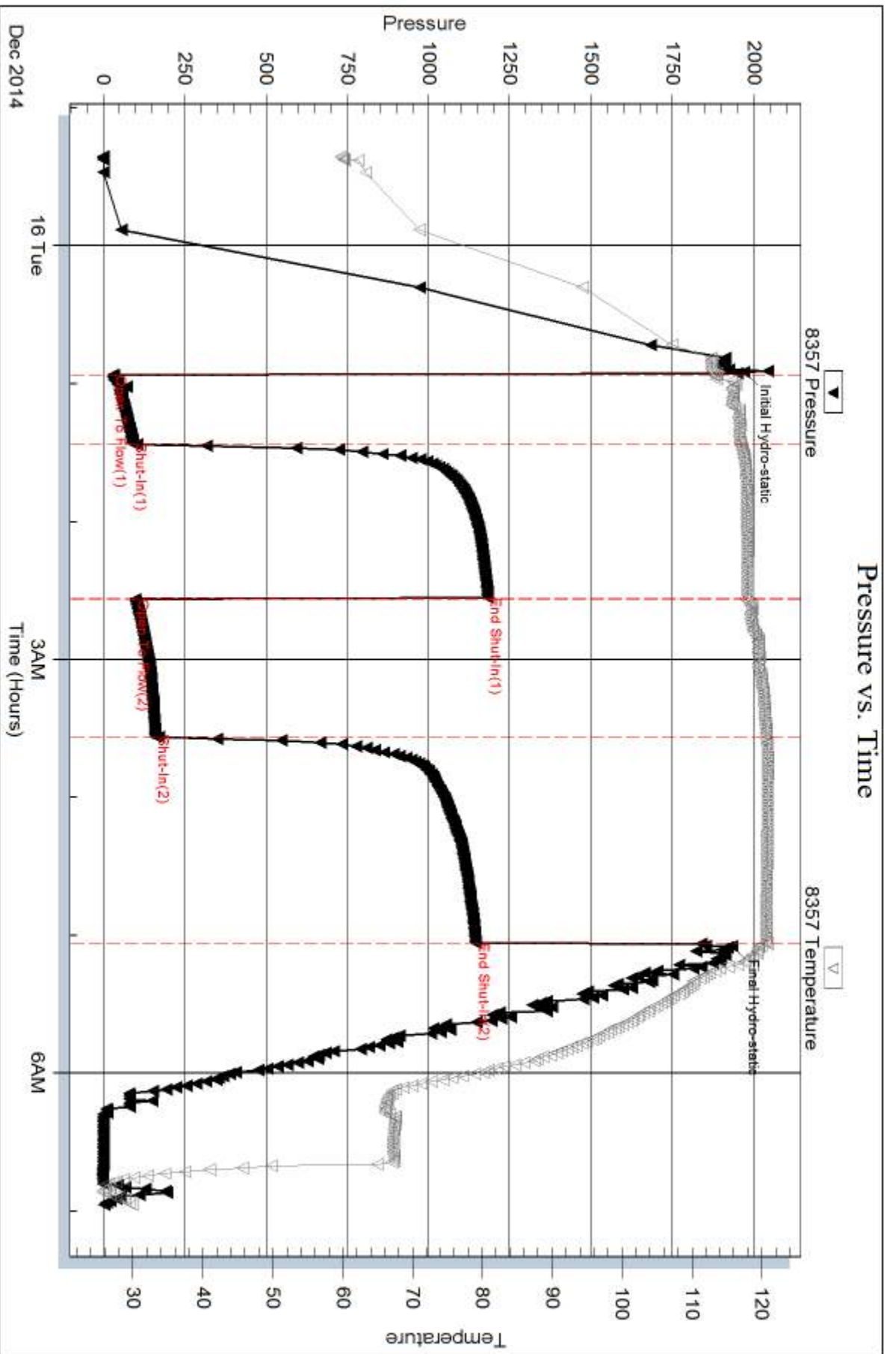
Num Gas Bombs: 0

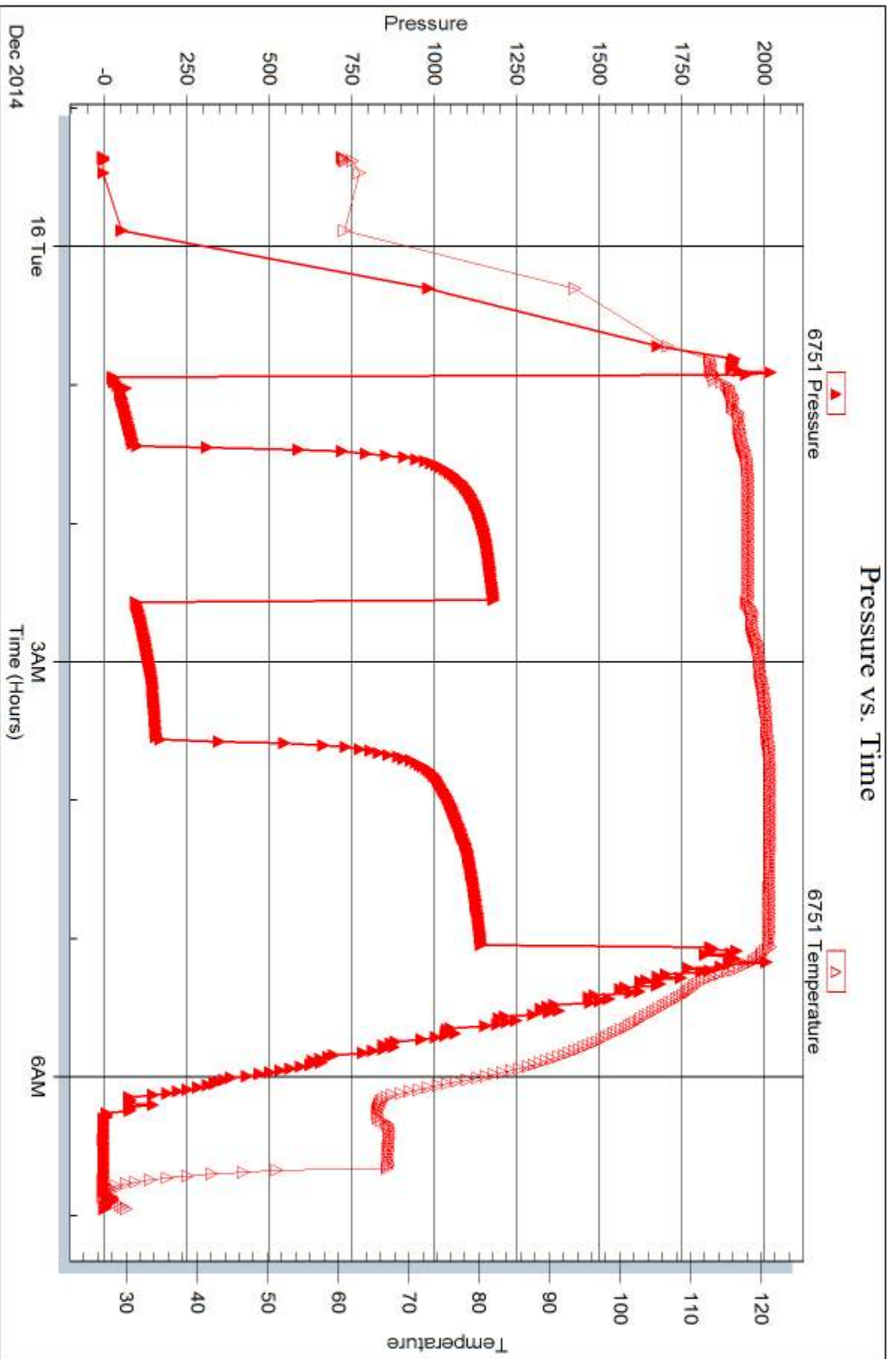
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .260 @ 34 Degrees F = 61000 PPM







DRILL STEM TEST REPORT

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

250 N Water Suite 300
Wichita, KS 67202

ATTN: Larry Nicholson

Abell Ranch B #2-31

S31-12s-30w Gove,KS

Start Date: 2014.12.16 @ 13:08:00

End Date: 2014.12.16 @ 20:45:39

Job Ticket #: 58486 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:29:46



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

S31-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58486

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.12.16 @ 13:08:00

GENERAL INFORMATION:

Formation: **LKC 'E-F'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:44:10

Time Test Ended: 20:45:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: 4011.00 ft (KB) To 4041.00 ft (KB) (TVD)

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4041.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8357

Inside

Press@RunDepth: 85.13 psig @ 4012.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.16

End Date: 2014.12.16

Last Calib.: 2014.12.16

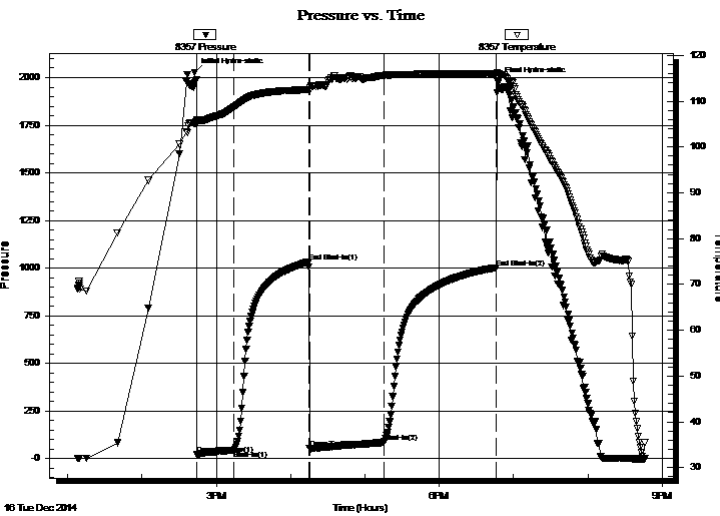
Start Time: 13:08:02

End Time: 20:45:40

Time On Btm: 2014.12.16 @ 14:42:40

Time Off Btm: 2014.12.16 @ 18:47:09

TEST COMMENT: 30- 3" Blow .
60- No return.
60- 2 1/2" Blow .
90- No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2027.42	105.13	Initial Hydro-static
2	20.99	104.90	Open To Flow (1)
32	46.13	108.71	Shut-In(1)
92	1034.29	112.52	End Shut-In(1)
93	53.68	112.43	Open To Flow (2)
153	85.13	115.62	Shut-In(2)
244	1002.89	115.97	End Shut-In(2)
245	1977.00	116.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	OSMW 50m 50w	0.61
10.00	OCWM 5o 30w 65m	0.05

* 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., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58486

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.12.16 @ 13:08:00

Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 53.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.50 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4011.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.50 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			3984.50	
Shut In Tool	5.00			3989.50	
Hydraulic tool	5.00			3994.50	
Jars	5.00			3999.50	
Safety Joint	2.50			4002.00	
Packer	5.00			4007.00	27.50 Bottom Of Top Packer
Packer	4.00			4011.00	
Stubb	1.00			4012.00	
Recorder	0.00	8357	Inside	4012.00	
Recorder	0.00	8645	Outside	4012.00	
Perforations	26.00			4038.00	
Bullnose	3.00			4041.00	30.00 Bottom Packers & Anchor

Total Tool Length: 57.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58486

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.12.16 @ 13:08:00

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:

75000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
125.00	OSMW 50m 50w	0.615
10.00	OCWM 5o 30w 65m	0.049

Total Length: 135.00 ft Total Volume: 0.664 bbf

Num Fluid Samples: 0

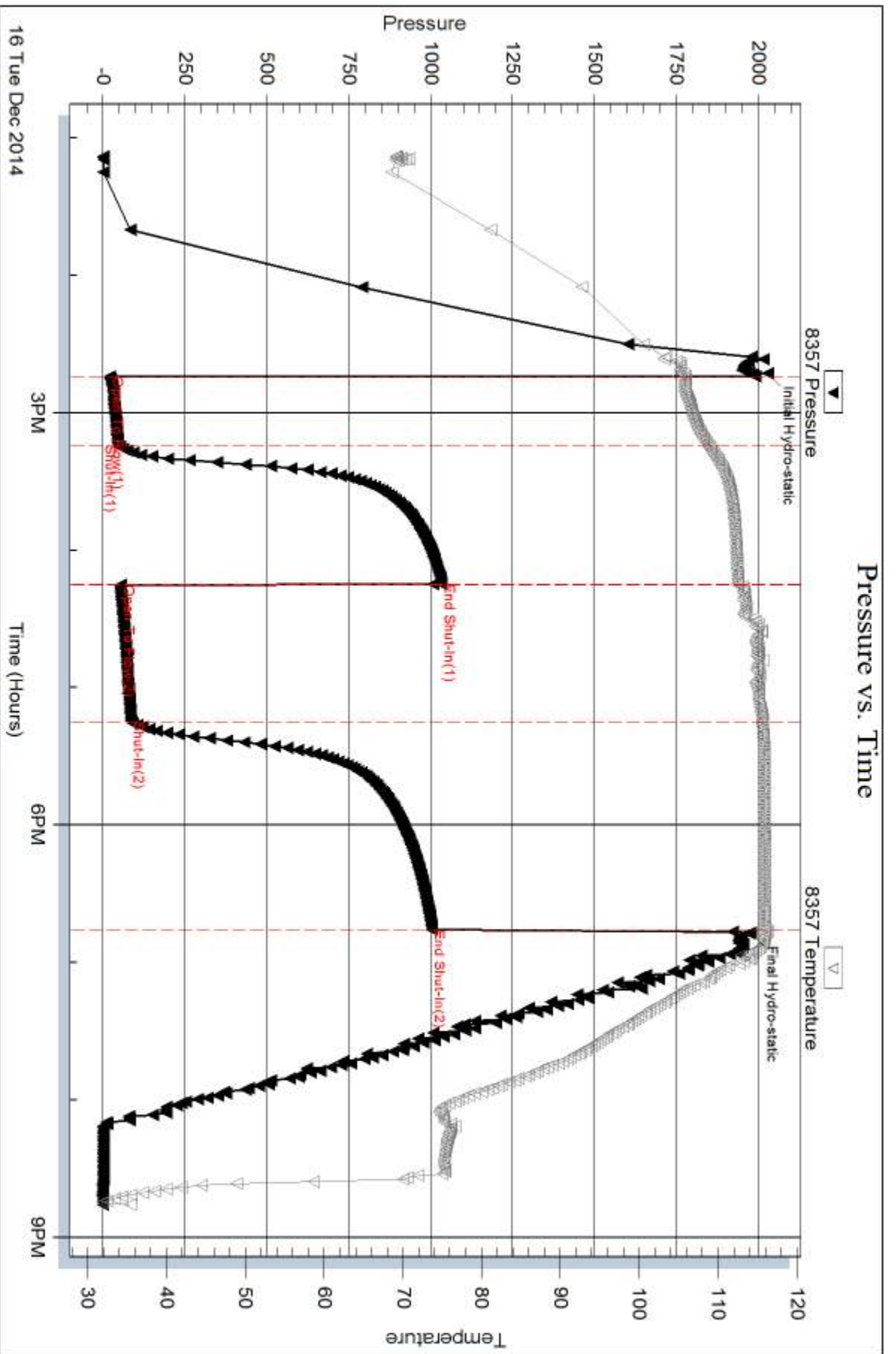
Num Gas Bombs: 0

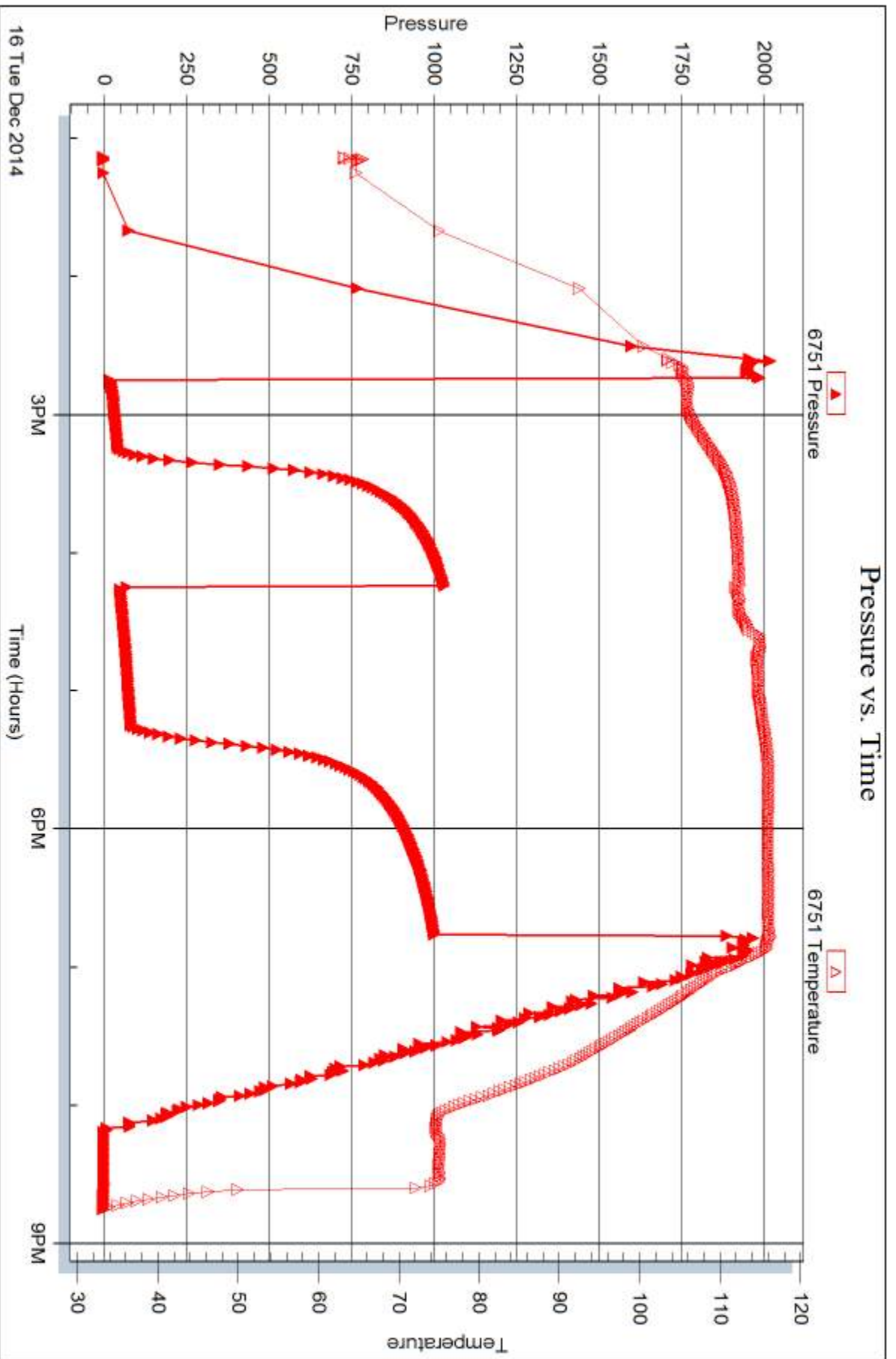
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .130 @ 55 Degrees F = 75000 PPM







DRILL STEM TEST REPORT

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

250 N Water Suite 300
Wichita, KS 67202

ATTN: Larry Nicholson

Abell Ranch B #2-31

S31-12s-30w Gove,KS

Start Date: 2014.12.17 @ 14:50:00

End Date: 2014.12.17 @ 22:58:30

Job Ticket #: 58487 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:29:19



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

S31-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

ATTN: Larry Nicholson

Job Ticket: 58487

DST#: 4

Test Start: 2014.12.17 @ 14:50:00

GENERAL INFORMATION:

Formation: **LKC 'H-K'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:59:20

Time Test Ended: 22:58:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: 4076.00 ft (KB) To 4203.00 ft (KB) (TVD)

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4203.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8357

Inside

Press@RunDepth: 197.88 psig @ 4077.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.17

End Date:

2014.12.17

Last Calib.:

2014.12.17

Start Time: 14:50:02

End Time:

22:58:30

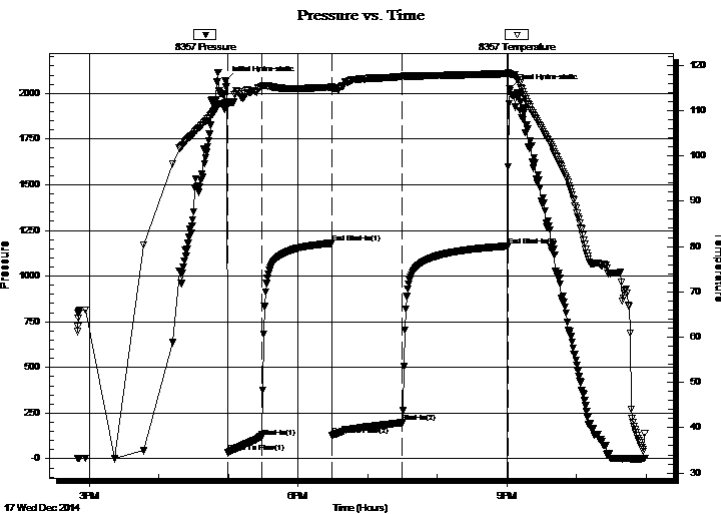
Time On Btm:

2014.12.17 @ 16:57:20

Time Off Btm:

2014.12.17 @ 21:02:20

TEST COMMENT: 30- 7" Blow .
60- No return.
60- 10" Blow .
90- No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2067.75	111.67	Initial Hydro-static
2	32.52	111.39	Open To Flow (1)
32	120.20	115.33	Shut-In(1)
92	1180.26	115.16	End Shut-In(1)
92	125.93	114.73	Open To Flow (2)
153	197.88	117.52	Shut-In(2)
244	1164.36	118.19	End Shut-In(2)
245	2026.53	118.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
184.00	OSWM 20w 80m	0.90
116.00	OSM 100m	0.79

* 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., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58487

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.12.17 @ 14:50:00

Tool Information

Drill Pipe:	Length: 3790.00 ft	Diameter: 3.80 inches	Volume: 53.16 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 54.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.50 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4076.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	127.00 ft			
Tool Length:	154.50 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
Change Over Sub	1.00			4049.50	
Shut In Tool	5.00			4054.50	
Hydraulic tool	5.00			4059.50	
Jars	5.00			4064.50	
Safety Joint	2.50			4067.00	
Packer	5.00			4072.00	27.50 Bottom Of Top Packer
Packer	4.00			4076.00	
Stubb	1.00			4077.00	
Recorder	0.00	8357	Inside	4077.00	
Recorder	0.00	8645	Outside	4077.00	
Perforations	27.00			4104.00	
Change Over Sub	1.00			4105.00	
Drill Pipe	94.00			4199.00	
Change Over Sub	1.00			4200.00	
Bullnose	3.00			4203.00	127.00 Bottom Packers & Anchor

Total Tool Length: 154.50



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58487

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.12.17 @ 14:50:00

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:

77000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
184.00	OSWM 20w 80m	0.905
116.00	OSM 100m	0.789

Total Length: 300.00 ft Total Volume: 1.694 bbf

Num Fluid Samples: 0

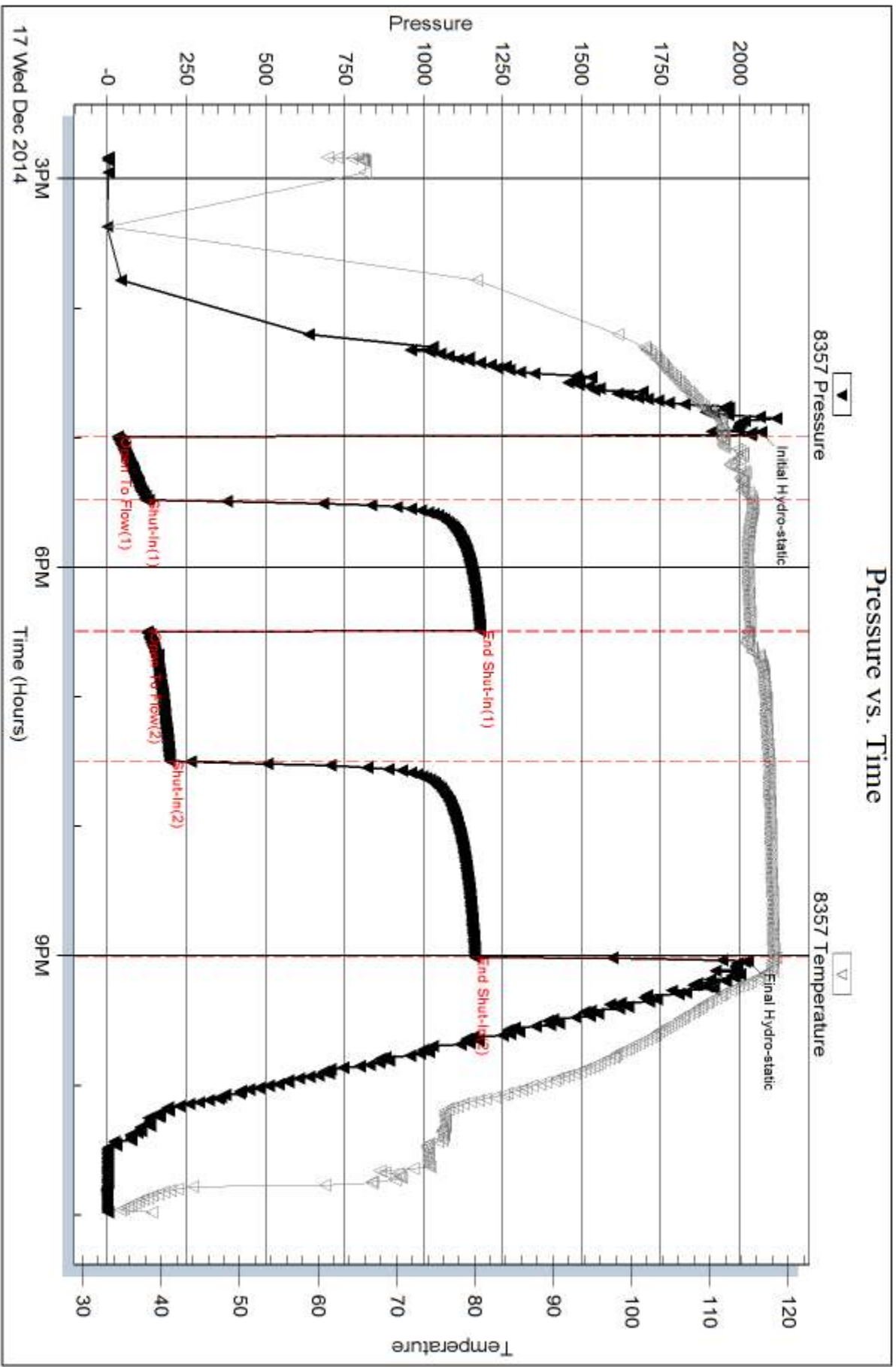
Num Gas Bombs: 0

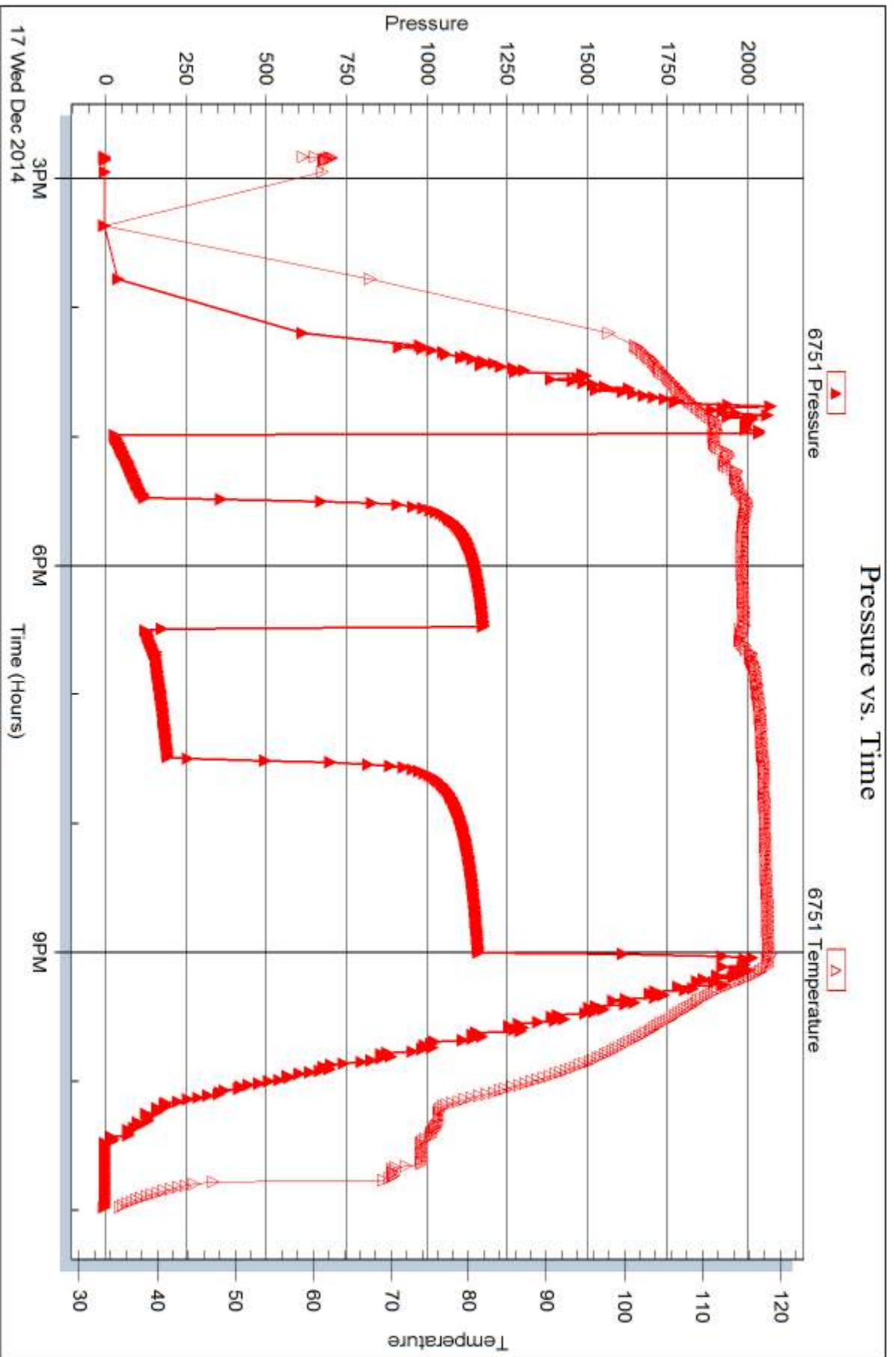
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .140 @ 50 Degrees F = 77000 PPM







DRILL STEM TEST REPORT

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

250 N Water Suite 300
Wichita, KS 67202

ATTN: Larry Nicholson

Abell Ranch B #2-31

S31-12s-30w Gove,KS

Start Date: 2014.12.19 @ 02:04:00

End Date: 2014.12.19 @ 10:27:39

Job Ticket #: 58488 DST #: 5

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:28:35



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58488

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 02:04:00

GENERAL INFORMATION:

Formation: **Pawnee - Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:27:20

Time Test Ended: 10:27:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: 4377.00 ft (KB) To 4504.00 ft (KB) (TVD)

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4504.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8357

Inside

Press@RunDepth: 54.51 psig @ 4378.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.19

End Date:

2014.12.19

Last Calib.:

2014.12.19

Start Time: 02:04:02

End Time:

10:27:40

Time On Btm:

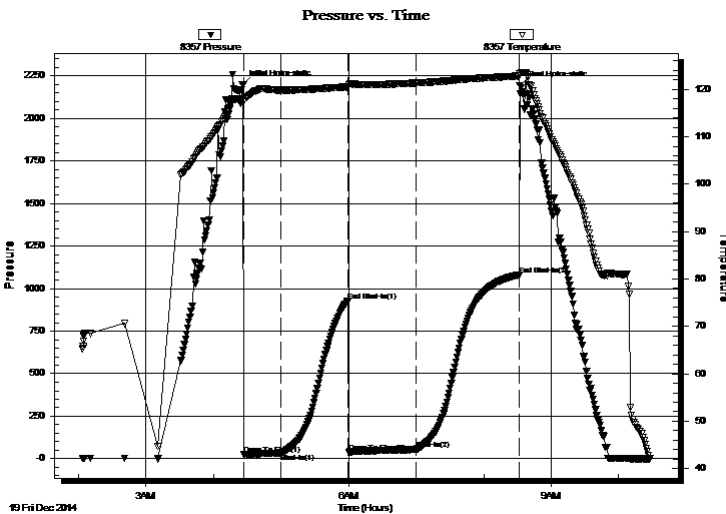
2014.12.19 @ 04:25:50

Time Off Btm:

2014.12.19 @ 08:32:00

TEST COMMENT: 30- 1/2" Steady blow .
60- No return.
60- 3" Building blow .
90- No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.19	118.02	Initial Hydro-static
2	23.63	117.58	Open To Flow (1)
34	34.26	119.84	Shut-In(1)
94	926.18	120.53	End Shut-In(1)
95	36.71	121.04	Open To Flow (2)
155	54.51	121.35	Shut-In(2)
246	1080.09	122.80	End Shut-In(2)
247	2191.79	123.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	OCM 20o 80m	0.32

* 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., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58488

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 02:04:00

Tool Information

Drill Pipe:	Length: 4105.00 ft	Diameter: 3.80 inches	Volume: 57.58 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 58.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.50 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4377.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	127.00 ft			
Tool Length:	154.50 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			4350.50	
Shut In Tool	5.00			4355.50	
Hydraulic tool	5.00			4360.50	
Jars	5.00			4365.50	
Safety Joint	2.50			4368.00	
Packer	5.00			4373.00	27.50 Bottom Of Top Packer
Packer	4.00			4377.00	
Stubb	1.00			4378.00	
Recorder	0.00	8357	Inside	4378.00	
Recorder	0.00	8645	Outside	4378.00	
Perforations	27.00			4405.00	
Change Over Sub	1.00			4406.00	
Drill Pipe	94.00			4500.00	
Change Over Sub	1.00			4501.00	
Bullnose	3.00			4504.00	127.00 Bottom Packers & Anchor

Total Tool Length: 154.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58488

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 02:04:00

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

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
65.00	OCM 20o 80m	0.320

Total Length: 65.00 ft Total Volume: 0.320 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

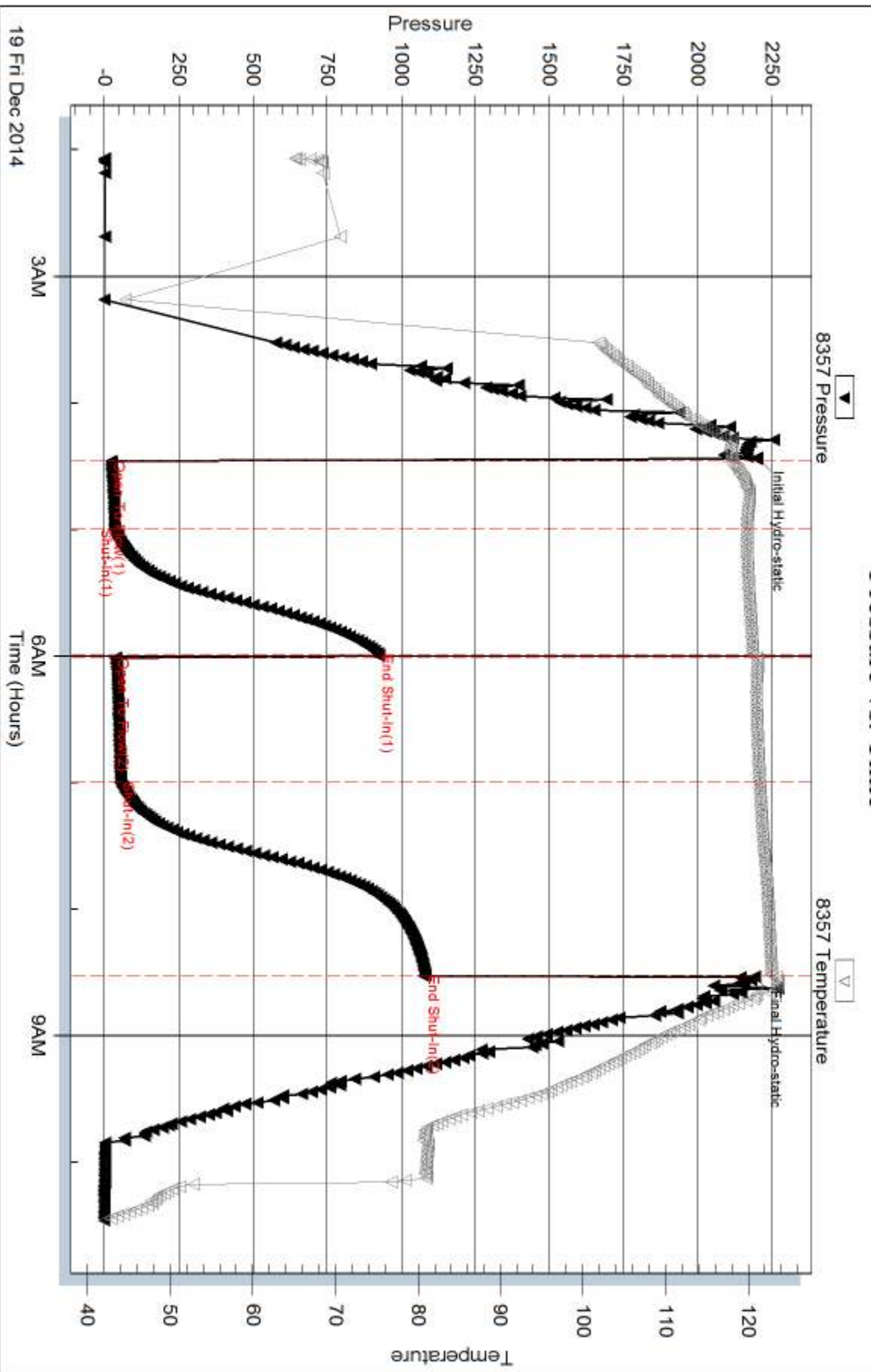
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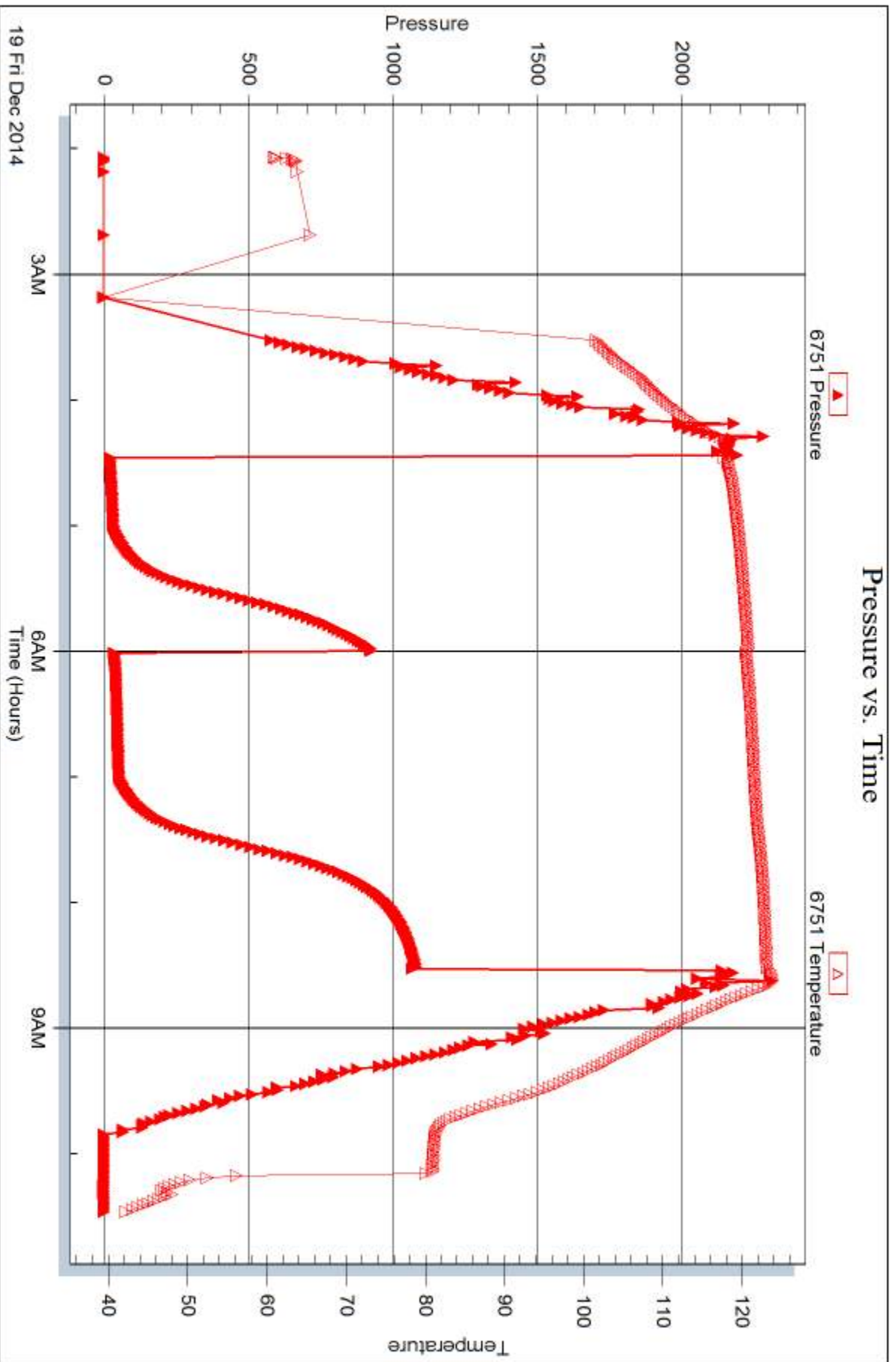
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

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

250 N Water Suite 300
Wichita, KS 67202

ATTN: Larry Nicholson

Abell Ranch B #2-31

S31-12s-30w Gove,KS

Start Date: 2014.12.19 @ 16:44:00

End Date: 2014.12.20 @ 01:13:39

Job Ticket #: 58489 DST #: 6

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:26:27



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

S31-12s-30w Gove, KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

ATTN: Larry Nicholson

Job Ticket: 58489

DST#: 6

Test Start: 2014.12.19 @ 16:44:00

GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:53:50

Time Test Ended: 01:13:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: 4513.00 ft (KB) To 4525.00 ft (KB) (TVD)

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4525.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8357

Inside

Press@RunDepth: 121.10 psig @ 4514.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.19

End Date:

2014.12.20

Last Calib.: 2014.12.20

Start Time: 16:44:02

End Time:

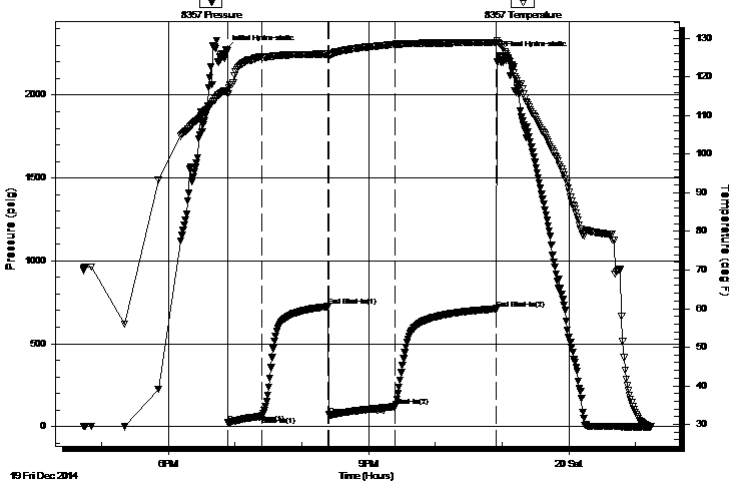
01:13:40

Time On Btm: 2014.12.19 @ 18:52:00

Time Off Btm: 2014.12.19 @ 22:57:20

TEST COMMENT: 30- 5" Blow .
60- Weak return died @ 25 min.
60- B.O.B. @ 35 min.
90- 1" Return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2276.20	116.28	Initial Hydro-static
2	22.77	115.68	Open To Flow (1)
32	63.90	125.24	Shut-In(1)
92	724.64	125.91	End Shut-In(1)
93	70.87	125.35	Open To Flow (2)
152	121.10	128.40	Shut-In(2)
243	711.07	128.93	End Shut-In(2)
246	2236.76	128.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	OSMW 50m 50w	0.30
62.00	GMCO 10g 30m 60o	0.30
124.00	GO 40g 60o	0.61
0.00	62' GIP	0.00

* 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., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58489

DST#: 6

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 16:44:00

Tool Information

Drill Pipe:	Length: 4233.00 ft	Diameter: 3.80 inches	Volume: 59.38 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 60.74 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.50 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4513.00 ft			Final 77000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	39.50 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			4486.50	
Shut In Tool	5.00			4491.50	
Hydraulic tool	5.00			4496.50	
Jars	5.00			4501.50	
Safety Joint	2.50			4504.00	
Packer	5.00			4509.00	27.50 Bottom Of Top Packer
Packer	4.00			4513.00	
Stubb	1.00			4514.00	
Recorder	0.00	8357	Inside	4514.00	
Recorder	0.00	8645	Outside	4514.00	
Perforations	8.00			4522.00	
Bullnose	3.00			4525.00	12.00 Bottom Packers & Anchor

Total Tool Length: 39.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

250 N Water Suite 300
Wichita, KS 67202

Abell Ranch B #2-31

Job Ticket: 58489

DST#: 6

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 16:44:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

26000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 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
62.00	OSMW 50m 50w	0.305
62.00	GMCO 10g 30m 60o	0.305
124.00	GO 40g 60o	0.610
0.00	62' GIP	0.000

Total Length: 248.00 ft Total Volume: 1.220 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

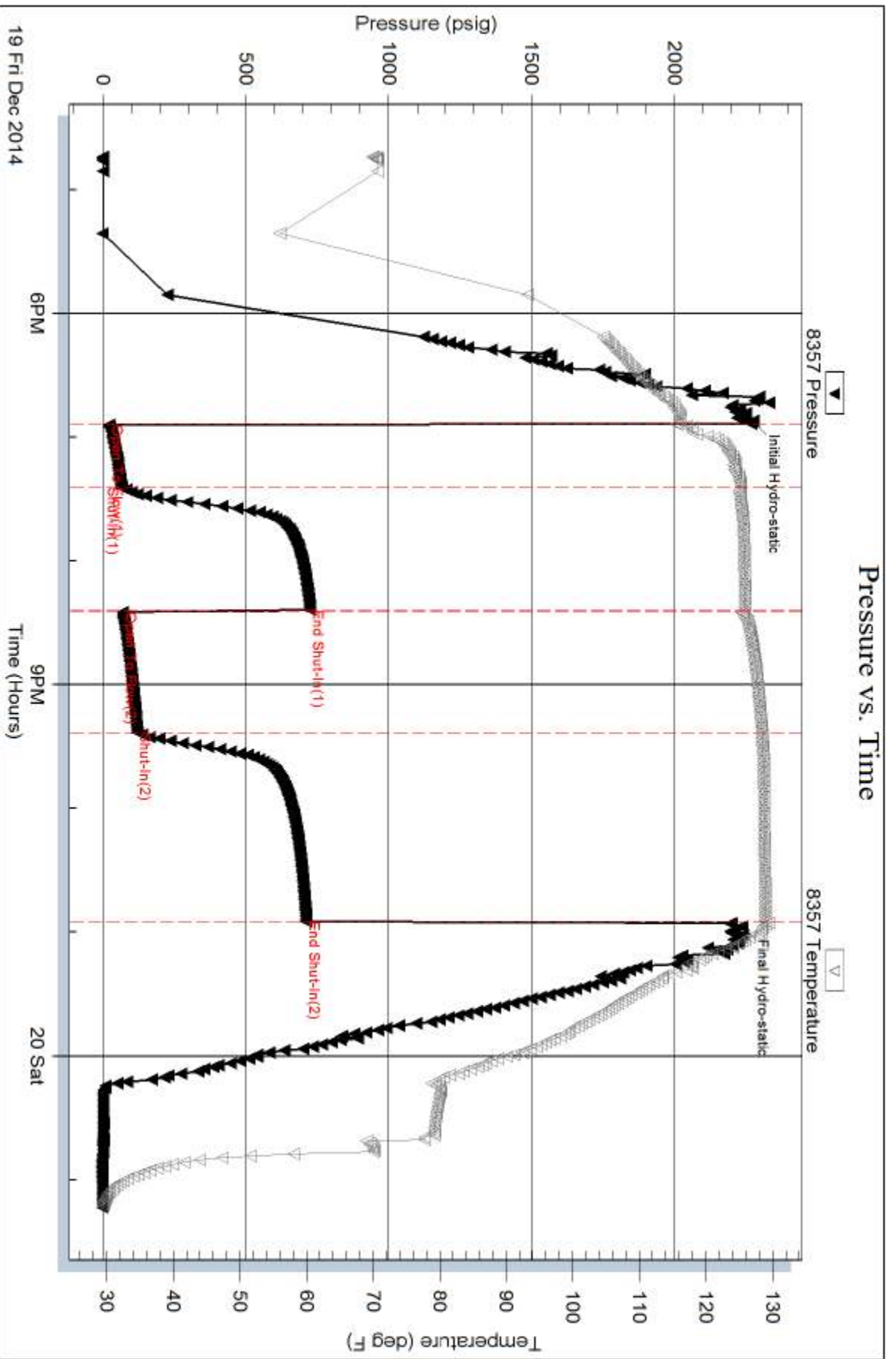
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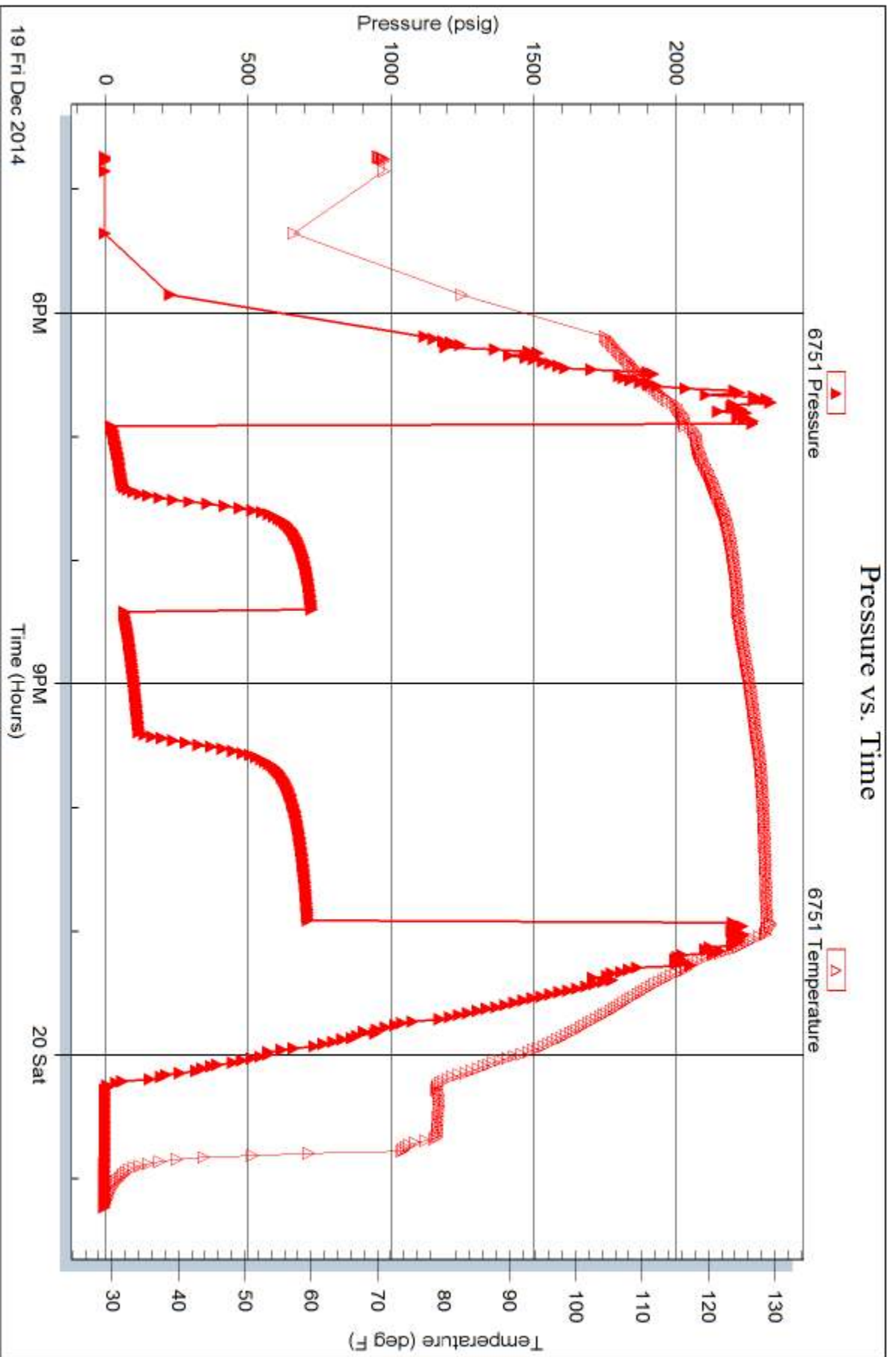
Laboratory Name:

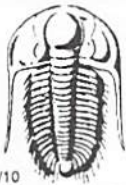
Laboratory Location:

Recovery Comments: API: 28 @ 30 Degrees F = 31. RW: .340 @ 55 Degrees F = 26000 PPM

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58484

4/10

Well Name & No. Abell Ranch B # 2-31 Test No. 1 Date 12-15-14
 Company Musfin Drilling Co, Inc. Elevation 2881 KB 2870 GL
 Address 250 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Larry Nicholson Rig MDC #21
 Location: Sec. 31 Twp. 12s Rge. 30w Co. Gove State KS

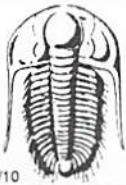
Interval Tested 3970-4017 Zone Tested Lansing B-D
 Anchor Length 47 Drill Pipe Run 3698 Mud Wt. 9.0
 Top Packer Depth 3966 Drill Collars Run 276 Vis 60
 Bottom Packer Depth 3970 Wt. Pipe Run 0 WL 5.6
 Total Depth 4017 Chlorides 3200 ppm System LCM 4"
 Blow Description Packer seat failed during two attempts to land the tool, pulled tool out.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>350</u>	Feet of <u>M</u>				<u>100</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 350 BHT 112 Gravity — API RW — @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 1964 Test 1050 1150 T-On Location 18:10
 (B) First Initial Flow 591 Jars 250 T-Started 18:13
 (C) First Final Flow — Safety Joint 75 T-Open 20:40
 (D) Initial Shut-In — Circ Sub NIC T-Pulled 20:44
 (E) Second Initial Flow — Hourly Standby — T-Out 23:02
 (F) Second Final Flow 963 Mileage 92RT 142.60 Comments Left to get shale packer for DST #2
 (G) Final Shut-In — Sampler — Ruined Shale Packer —
 (H) Final Hydrostatic 1930 Straddle — Ruined Packer —
 Initial Open Misrun Shale Packer — Extra Copies —
 Initial Shut-In — Extra Packer — Sub Total 0
 Final Flow — Extra Recorder — Total 1517.60
 Final Shut-In — Day Standby — MP/DST Disc't —
 Sub Total 1517.60

Approved By _____ Our Representative Chuck Amis

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. 58485

Well Name & No. Abell Ranch B #2-31 Test No. 2 Date 12-15-14
 Company Murfin Drilling Co, Inc. Elevation 2881 KB 2870 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Larry Nicholson Rig M.D.C. #21
 Location: Sec. 31 Twp. 12s Rge. 30w Co. Gove State KS

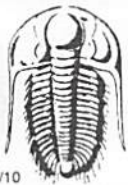
Interval Tested 3964-4017 Zone Tested Lansing B-D
 Anchor Length 53 Drill Pipe Run 3664 Mud Wt. 9.0
 Top Packer Depth 3960 Drill Collars Run 276 Vis 60
 Bottom Packer Depth 3964 Wt. Pipe Run 0 WL 5.6
 Total Depth 4017 Chlorides 3200 ppm System LCM 4"
 Blow Description 6" Blow.
No return.
5" Blow.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>300</u>	Feet of <u>OSWM</u>	%gas	%oil	<u>40</u> %water	<u>60</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 300 BHT 121 Gravity — API RW 260 @ 34 ° F Chlorides 61000 ppm
 (A) Initial Hydrostatic 1971 Test 1250 T-On Location 23:05
 (B) First Initial Flow 29 Jars 250 T-Started 23:21
 (C) First Final Flow 91 Safety Joint 75 T-Open 00:56
 (D) Initial Shut-In 1184 Circ Sub NIC T-Pulled 5:03
 (E) Second Initial Flow 99 Hourly Standby _____ T-Out 6:57
 (F) Second Final Flow 159 Mileage 92RT Comments _____
 (G) Final Shut-In 1146 Sampler _____
 (H) Final Hydrostatic 1934 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1825
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1825

Approved By [Signature] Our Representative Chuck Smith

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58486

Well Name & No. Abell Ranch B #2-31 Test No. 3 Date 12-16-14
 Company Murfin Drilling Co., Inc. Elevation 2881 KB 2870 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Larry Nicholson Rig M.D.C. #21
 Location: Sec. 31 Twp. 12s Rge. 30W Co. Gove State KS

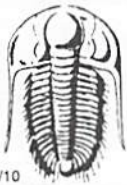
Interval Tested 4011 - 4041 Zone Tested Lansing 'E-F'
 Anchor Length 30 Drill Pipe Run 3729 Mud Wt. 9.1
 Top Packer Depth 4007 Drill Collars Run 276 Vis 60
 Bottom Packer Depth 4011 Wt. Pipe Run 0 WL 5.6
 Total Depth 4041 Chlorides 1600 ppm System LCM 4*
 Blow Description 3" Blow
No return.
2 1/2" Blow
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>10</u>	Feet of <u>CCWM</u>	%gas <u>5</u>	%oil <u>30</u>	%water <u>65</u>	%mud
Rec <u>125</u>	Feet of <u>OSMW</u>	%gas	%oil <u>50</u>	%water <u>50</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 135 BHT 116 Gravity — API RW .130 @ 55 °F Chlorides 75000 ppm
 (A) Initial Hydrostatic 2027 Test 1250 T-On Location 13:05
 (B) First Initial Flow 21 Jars 250 T-Started 13:08
 (C) First Final Flow 46 Safety Joint 75 T-Open 14:44
 (D) Initial Shut-In 1034 Circ Sub NIC T-Pulled 18:46
 (E) Second Initial Flow 54 Hourly Standby _____ T-Out 20:45
 (F) Second Final Flow 85 Mileage 142.60 Comments _____
 (G) Final Shut-In 1003 Sampler _____
 (H) Final Hydrostatic 1977 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1967.60
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1967.60

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. 58487

Well Name & No. Abell Ranch B# 2-31 Test No. 4 Date 12-17-14
 Company Murfin Drilling Co., Inc. Elevation 2881 KB 2870 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Larry Nicholson Rig M.D.C. #21
 Location: Sec. 31 Twp. 12s Rge. 30w Co. Gove State KS

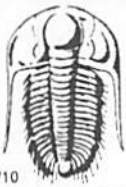
Interval Tested 4076-4203 Zone Tested Lansing 'H-K'
 Anchor Length 127 Drill Pipe Run 3790 Mud Wt. 9.0
 Top Packer Depth 4072 Drill Collars Run 276 Vis 53
 Bottom Packer Depth 4076 Wt. Pipe Run 0 WL 5.6
 Total Depth 4203 Chlorides 2200 ppm System LCM 4"
 Blow Description 7" Blow
No return.
10" Blow
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>116</u>	Feet of <u>OSM</u>			<u>100</u>	%mud
Rec <u>184</u>	Feet of <u>OSW.M</u>		<u>20</u>	<u>80</u>	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 300 BHT 118 Gravity - API RW 140 @ 50 ° F Chlorides 77000 ppm
 (A) Initial Hydrostatic 2068 Test 1250 T-On Location 14:50
 (B) First Initial Flow 33 Jars 250 T-Started 14:50
 (C) First Final Flow 120 Safety Joint 75 T-Open 16:59
 (D) Initial Shut-In 1180 Circ Sub NIC T-Pulled 21:01
 (E) Second Initial Flow 126 Hourly Standby _____ T-Out 22:59
 (F) Second Final Flow 198 Mileage 92RT 142.60 Comments _____
 (G) Final Shut-In 1164 Sampler _____
 (H) Final Hydrostatic 2027 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1717.60

Approved By _____ 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. 58488

4/10

Well Name & No. Abell Ranch B #2-31 Test No. 5 Date 12-19-14
 Company Murfin Drilling Co., Inc. Elevation 2881 KB 2870 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig M.D.C. #21
 Location: Sec. 36 Twp. 12s Rge. 30w Co. Gove State KS

Interval Tested 4377-4504 Zone Tested Pawnee-Johnson
 Anchor Length 127 Drill Pipe Run 4105 Mud Wt. 9.3
 Top Packer Depth 4373 Drill Collars Run 276 Vis 52
 Bottom Packer Depth 4377 Wt. Pipe Run 0 WL 6.4
 Total Depth 4504 Chlorides 2000 ppm System LCM 4[#]
 Blow Description 1/2" Steady blow.
No return
3" Bubbling blow.
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>65</u>	Feet of <u>OCM</u>	%gas <u>20</u>	%oil	%water <u>80</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 65 BHT 123 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2200</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>2:00</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2:04</u>
(C) First Final Flow <u>34</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>4:27</u>
(D) Initial Shut-In <u>926</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>8:31</u>
(E) Second Initial Flow <u>37</u>	<input checked="" type="checkbox"/> Hourly Standby <u>3x N/A</u>	T-Out <u>10:28</u>
(F) Second Final Flow <u>55</u>	<input checked="" type="checkbox"/> Mileage <u>92RT 142.60</u>	Comments _____
(G) Final Shut-In <u>1080</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>2192</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>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30 60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>100</u>
Final Shut-In <u>60/90</u>	<input checked="" type="checkbox"/> Day Standby <u>3x 1d 3h</u>	Total <u>1817.60</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1717.60</u>	

Approved By [Signature] Our Representative Chuck Smith

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58489

Well Name & No. Abell Ranch B #2-31 Test No. 6 Date 12-19-14
 Company Martin Drilling Co., Inc Elevation 2881 KB 2870 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Larry Nicholson Rig MDC #21
 Location: Sec. 31 Twp. 12s Rge. 30w Co. Gove State Ks

Interval Tested 4513-4525 Zone Tested Mississippian
 Anchor Length 12 Drill Pipe Run 4233 Mud Wt. 9.0
 Top Packer Depth 4509 Drill Collars Run 276 Vis 50
 Bottom Packer Depth 4513 Wt. Pipe Run 0 WL 6.4
 Total Depth 4525 Chlorides 1700 ppm System LCM 3#

Blow Description 5" Blow.
Weak return died @ 25 min.
B.O.B. @ 35 min.
1" Return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>124</u>	Feet of <u>GO</u>	<u>40</u>	<u>60</u>		
Rec <u>62</u>	Feet of <u>G MCO</u>	<u>10</u>	<u>60</u>		<u>30</u>
Rec <u>62</u>	Feet of <u>OSMW</u>			<u>50</u>	<u>50</u>
Rec	Feet of <u>62' GIP</u>				

Rec Total 240 BHT 129 Gravity 31 API RW .340 @ 55 °F Chlorides 26000 ppm

(A) Initial Hydrostatic 2274 Test 1250 T-On Location 16:40
 (B) First Initial Flow 23 Jars 250 T-Started 16:44
 (C) First Final Flow 64 Safety Joint 75 T-Open 18:54
 (D) Initial Shut-In 725 Circ Sub NIC T-Pulled 22:55
 (E) Second Initial Flow 71 Hourly Standby _____ T-Out 1:14
 (F) Second Final Flow 121 Mileage 142.60 Comments _____
 (G) Final Shut-In 711 Sampler _____
 (H) Final Hydrostatic 2237 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 60 Extra Recorder _____ Sub Total 0
 Final Shut-In 90 Day Standby _____ Total 1717.60
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1717.60

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