



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co., LLC.**

250 N. Water, STE. 300
Wichita, KS 67202

ATTN: Keith Reavis

Kacirek Trust #3-5

5-2s-36w Rawlins,KS

Start Date: 2014.10.05 @ 11:09:00

End Date: 2014.10.05 @ 19:50:30

Job Ticket #: 60729 DST #: 1

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

Printed: 2014.10.10 @ 15:01:17



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60729

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.10.05 @ 11:09:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:14:00

Time Test Ended: 19:50:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 48

Interval: 4034.00 ft (KB) To 4092.00 ft (KB) (TVD)

Reference Elevations: 3240.00 ft (KB)

Total Depth: 4092.00 ft (KB) (TVD)

3229.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8372 Outside

Press@RunDepth: 363.59 psig @ 4035.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.05 End Date: 2014.10.05

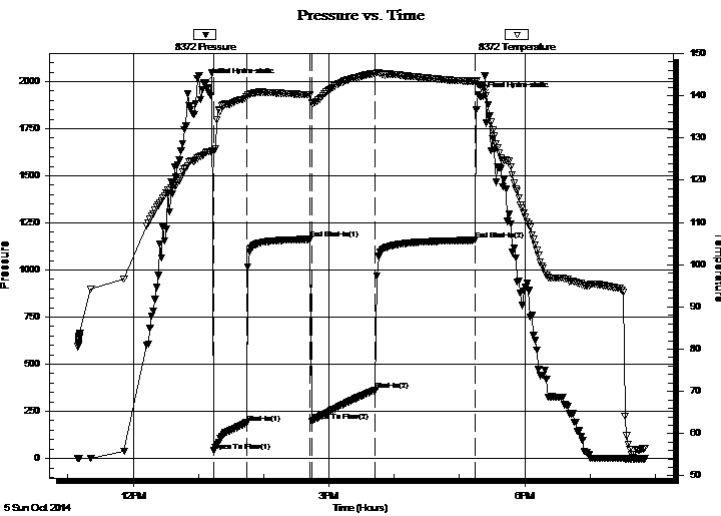
Last Calib.: 2014.10.05

Start Time: 11:09:01 End Time: 19:50:30

Time On Btm: 2014.10.05 @ 13:06:30

Time Off Btm: 2014.10.05 @ 17:20:00

TEST COMMENT: 30 - IF - Opened w/ surface blow , B.o.B in 14 min.
60 - ISI - Return built to 1/2", died back to surface
60 - FF - Blow built to B.o.B in 15 min.
90 - FSI - Return built to 3 1/2", died back to 3"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1991.85	126.53	Initial Hydro-static
8	40.69	126.84	Open To Flow (1)
38	189.09	139.72	Shut-In(1)
96	1163.32	140.18	End Shut-In(1)
98	196.46	138.32	Open To Flow (2)
156	363.59	145.25	Shut-In(2)
248	1158.14	143.39	End Shut-In(2)
254	1918.89	142.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	MW 90%w , 10%m	0.89
184.00	WOCM 65%w , 30%m, 5%o	2.33
280.00	OCM 80%m,20%o	3.93
122.00	100% FO	1.71

Gas Rates

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



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Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60729

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.10.05 @ 11:09:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:14:00

Time Test Ended: 19:50:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 48

Interval: **4034.00 ft (KB) To 4092.00 ft (KB) (TVD)**

Reference Elevations: 3240.00 ft (KB)

Total Depth: 4092.00 ft (KB) (TVD)

3229.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8647 Inside

Press@RunDepth: psig @ 4035.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.05

End Date: 2014.10.05

Last Calib.: 2014.10.05

Start Time: 11:09:01

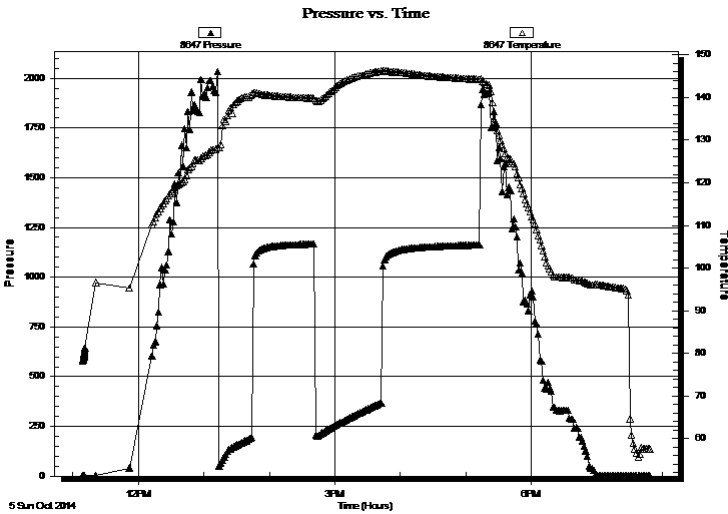
End Time: 19:49:00

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - Opened w/ surface blow , B.o.B in 14 min.
60 - ISI - Return built to 1/2", died back to surface
60 - FF - Blow built to B.o.B in 15 min.
90 - FSI - Return built to 3 1/2", died back to 3"

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	MW 90%w , 10%m	0.89
184.00	WOCM 65%w , 30%m, 5%o	2.33
280.00	OCM 80%m,20%o	3.93
122.00	100% FO	1.71

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60729

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.10.05 @ 11:09:00

Tool Information

Drill Pipe:	Length: 3813.00 ft	Diameter: 3.80 inches	Volume: 53.49 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 54.51 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.34 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4034.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	86.00 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			4007.00	
Shut In Tool	5.00			4012.00	
Hydraulic tool	5.00		Inside	4017.00	
Jars	5.00			4022.00	
Safety Joint	3.00			4025.00	
Packer	5.00			4030.00	28.00 Bottom Of Top Packer
Packer	4.00			4034.00	
Stubb	1.00			4035.00	
Recorder	0.00	8647	Inside	4035.00	
Recorder	0.00	8372	Outside	4035.00	
Perforations	20.00			4055.00	
Change Over Sub	1.00			4056.00	
Drill Pipe	32.00			4088.00	
Change Over Sub	1.00			4089.00	
Bullnose	3.00			4092.00	58.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60729

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.10.05 @ 11:09:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	MW 90%w , 10%m	0.885
184.00	WOCM 65%w , 30%m, 5%o	2.332
280.00	OCM 80%m,20%o	3.928
122.00	100% FO	1.711

Total Length: 766.00 ft Total Volume: 8.856 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

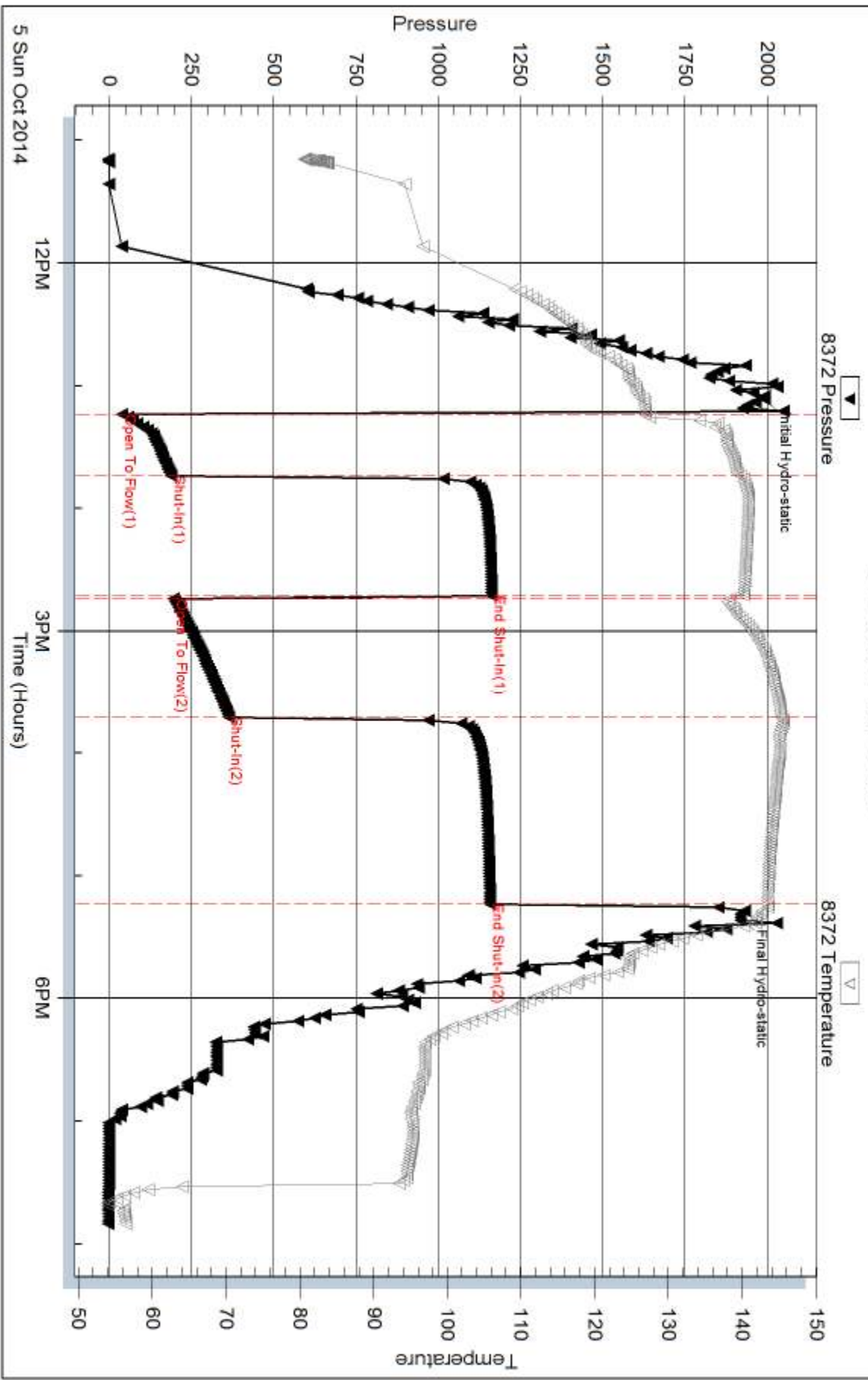
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .15 @ 75 Chlorides 52000ppm

Pressure vs. Time



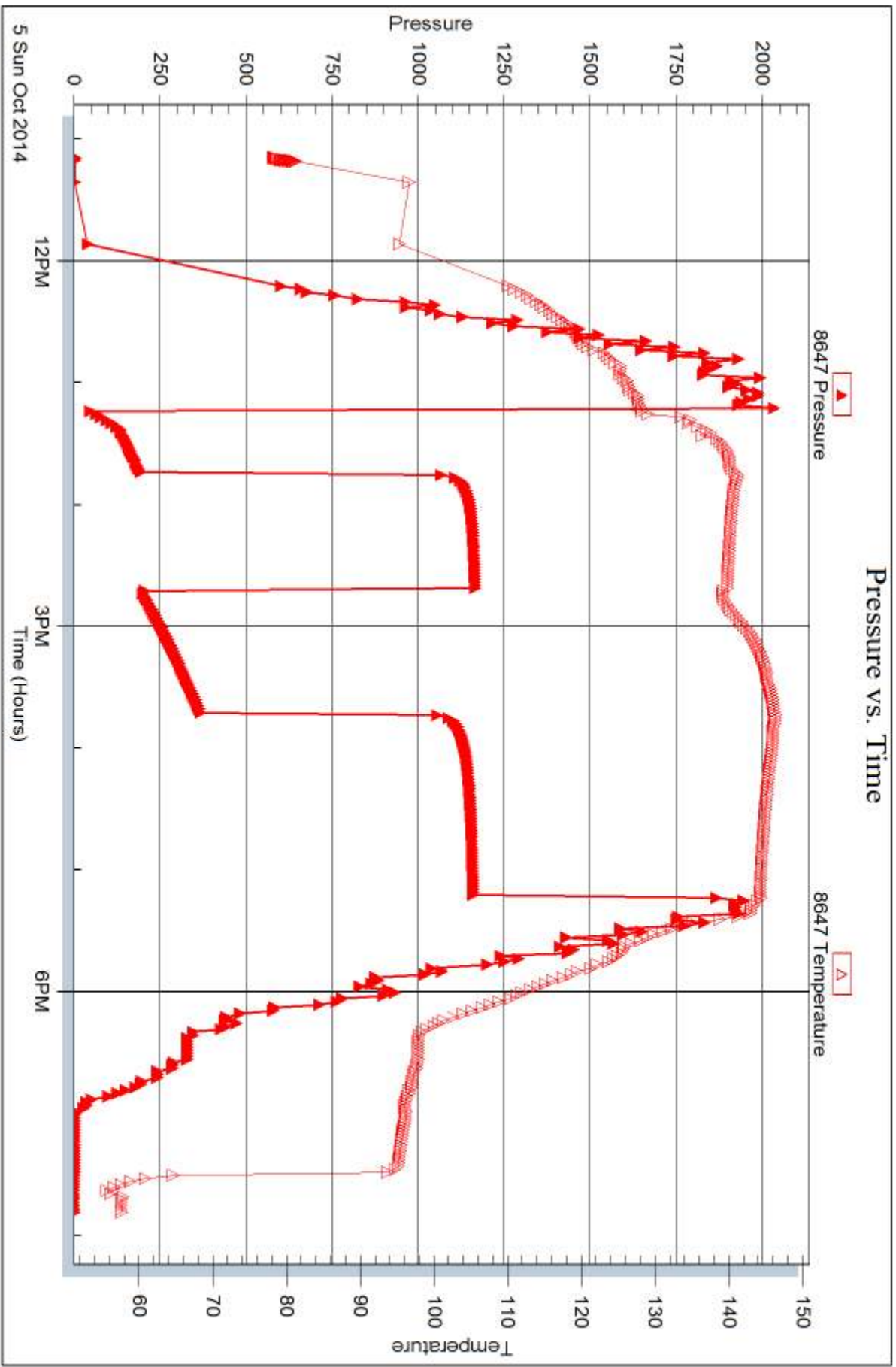
Serial #: 8647

Inside

Murfin Dtg. Co., LLC.

Kacirek Trust #3-5

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 60729

Printed: 2014.10.10 @ 15:01:18



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co., LLC.**

250 N. Water, STE. 300
Wichita, KS 67202

ATTN: Keith Reavis

Kacirek Trust #3-5

5-2s-36w Rawlins,KS

Start Date: 2014.10.06 @ 12:58:00

End Date: 2014.10.06 @ 21:04:30

Job Ticket #: 60730 DST #: 2

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

Printed: 2014.10.10 @ 15:00:55



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60730

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.10.06 @ 12:58:00

GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:42:30

Time Test Ended: 21:04:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 48

Interval: 4196.00 ft (KB) To 4250.00 ft (KB) (TVD)

Reference Elevations: 3240.00 ft (KB)

Total Depth: 4250.00 ft (KB) (TVD)

3229.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8647

Inside

Press@RunDepth: 343.58 psig @ 4197.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.06

End Date:

2014.10.06

Last Calib.:

2014.10.06

Start Time:

12:58:01

End Time:

21:04:30

Time On Btm:

2014.10.06 @ 14:40:30

Time Off Btm:

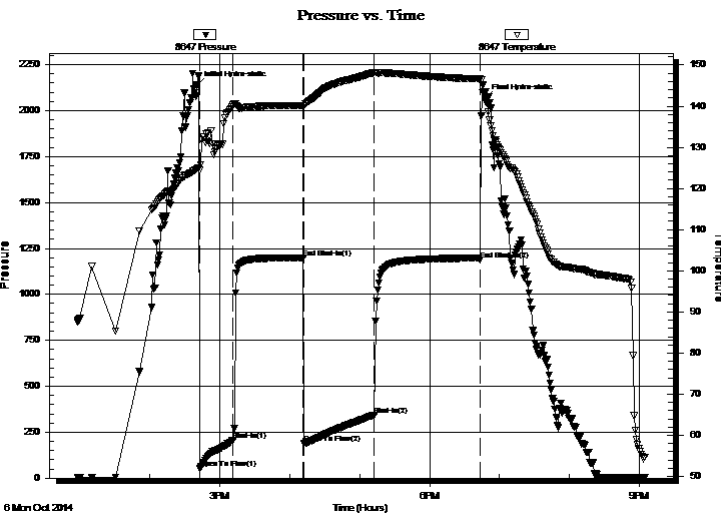
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TEST COMMENT: 30 - IF - Opened w/ surface blow , B.o.B in 12 min.

60 - ISI - No Return

30 - FF - Blow built to B.o.B in 20 min.

60 - FSI - Return built to 2 1/2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2137.83	124.75	Initial Hydro-static
2	51.59	124.44	Open To Flow (1)
31	204.79	140.24	Shut-In(1)
91	1199.92	140.17	End Shut-In(1)
92	189.83	140.19	Open To Flow (2)
152	343.58	148.11	Shut-In(2)
243	1188.58	146.58	End Shut-In(2)
247	2062.55	143.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
382.00	MCO 90%o, 10%m	3.47
124.00	GWOCM 30%o, 30%m, 30%w, 10%g	1.74
120.00	MCO 90%o, 10%m	1.68
120.00	WOCM 70%w, 20%m, 10%o	1.68

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drlg. Co., LLC.
 250 N. Water, STE 300
 Wichita, KS 67202
 ATTN: Keith Reavis

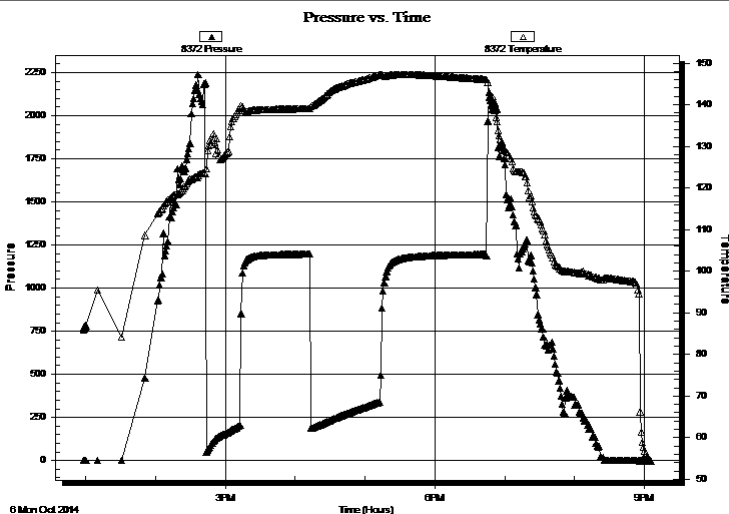
5-2s-36w Rawlins,KS
Kacirek Trust #3-5
 Job Ticket: 60730 **DST#: 2**
 Test Start: 2014.10.06 @ 12:58:00

GENERAL INFORMATION:

Formation: **LKC "D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:42:30
 Time Test Ended: 21:04:30
Interval: 4196.00 ft (KB) To 4250.00 ft (KB) (TVD)
 Total Depth: 4250.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Quintana
 Unit No: 48
 Reference Elevations: 3240.00 ft (KB)
 3229.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8372 **Outside**
 Press@RunDepth: psig @ 4197.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.10.06 End Date: 2014.10.06 Last Calib.: 1899.12.30
 Start Time: 12:58:01 End Time: 21:05:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF - Opened w/ surface blow, B.o.B in 12 min.
 60 - ISI - No Return
 30 - FF - Blow built to B.o.B in 20 min.
 60 - FSI - Return built to 2 1/2"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
382.00	MCO 90%o, 10%m	3.47
124.00	GWOCM 30%o, 30%m, 30%w, 10%g	1.74
120.00	MCO 90%o, 10%m	1.68
120.00	WOCM 70%w, 20%m, 10%o	1.68

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60730

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.10.06 @ 12:58:00

Tool Information

Drill Pipe:	Length: 3970.00 ft	Diameter: 3.80 inches	Volume: 55.69 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 56.71 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.34 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4196.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4169.00	
Shut In Tool	5.00			4174.00	
Hydraulic tool	5.00		Inside	4179.00	
Jars	5.00			4184.00	
Safety Joint	3.00			4187.00	
Packer	5.00			4192.00	28.00 Bottom Of Top Packer
Packer	4.00			4196.00	
Stubb	1.00			4197.00	
Recorder	0.00	8647	Inside	4197.00	
Recorder	0.00	8372	Outside	4197.00	
Perforations	17.00			4214.00	
Change Over Sub	1.00			4215.00	
Drill Pipe	31.00			4246.00	
Change Over Sub	1.00			4247.00	
Bullnose	3.00			4250.00	54.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60730

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.10.06 @ 12:58:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

75000 ppm

Viscosity: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
382.00	MCO 90%o, 10%m	3.470
124.00	GWOCM 30%o, 30%m, 30%w, 10%g	1.739
120.00	MCO 90%o, 10%m	1.683
120.00	WOCM 70%w, 20%m, 10%o	1.683

Total Length: 746.00 ft Total Volume: 8.575 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

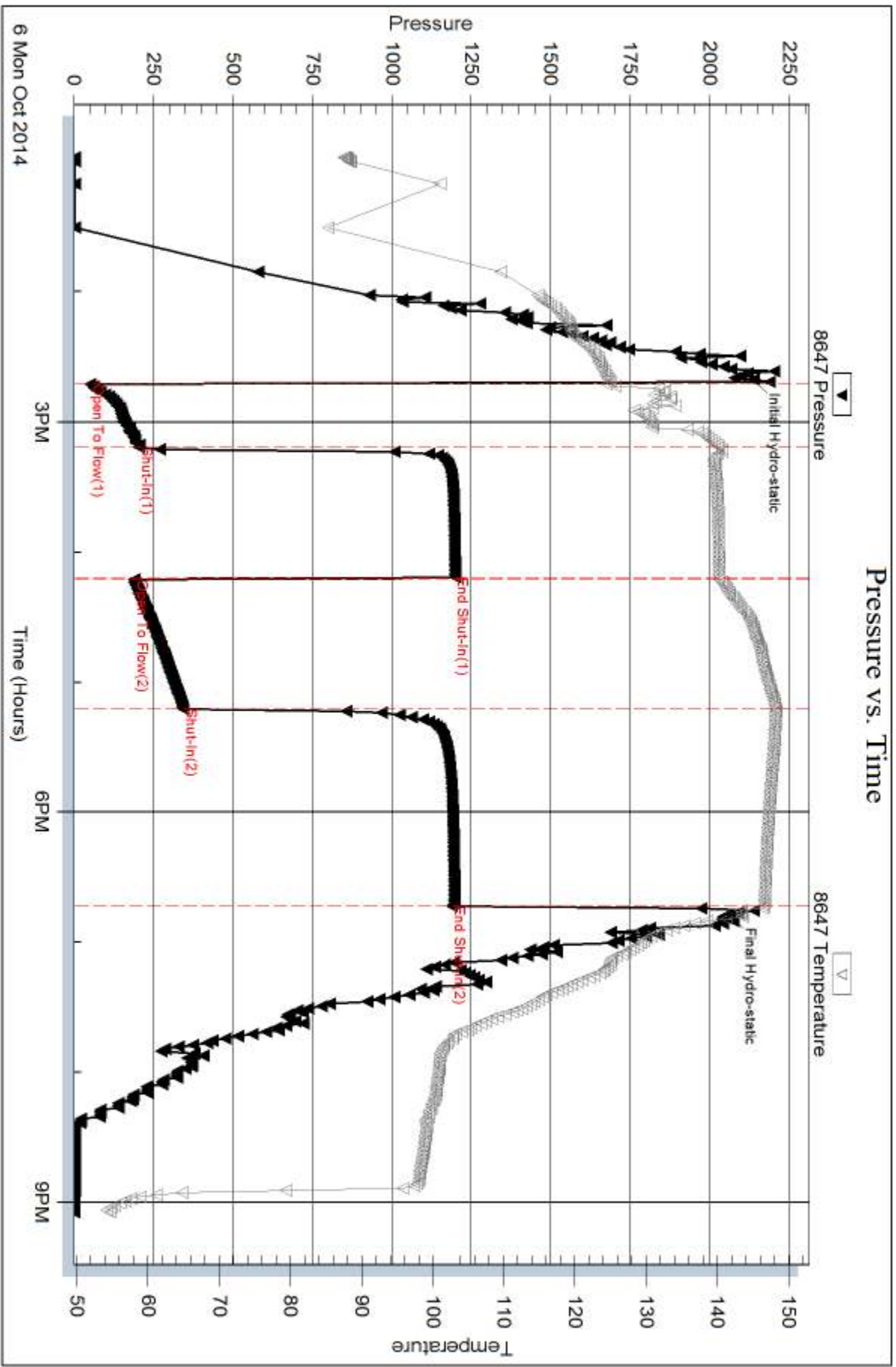
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 22 @ 85 Corrected = 24

RW .15 @ 65 Chlorides 75000ppm

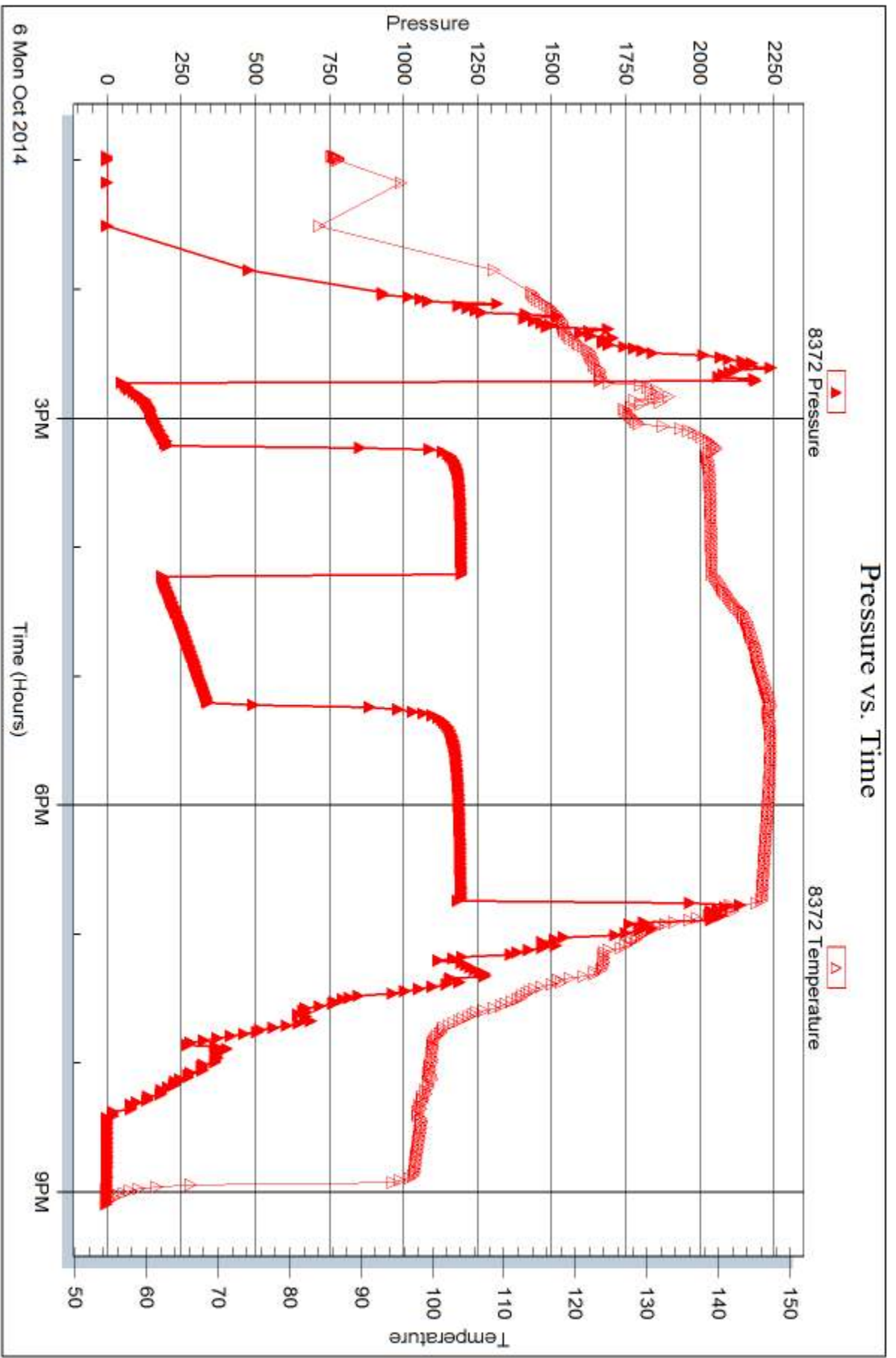


Serial #: 8372

Outside Murfin Dtg. Co., LLC.

Kacirek Trust #3-5

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 60730

Printed: 2014.10.10 @ 15:00:56



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co., LLC.**

250 N. Water, STE. 300
Wichita, KS 67202

ATTN: Keith Reavis

Kacirek Trust #3-5

5-2s-36w Rawlins,KS

Start Date: 2014.10.07 @ 08:38:00

End Date: 2014.10.07 @ 17:53:00

Job Ticket #: 60731 DST #: 3

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

Printed: 2014.10.10 @ 15:00:33



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60731

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.10.07 @ 08:38:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:50:30

Time Test Ended: 17:53:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 48

Interval: 4260.00 ft (KB) To 4310.00 ft (KB) (TVD)

Reference Elevations: 3240.00 ft (KB)

Total Depth: 4310.00 ft (KB) (TVD)

3229.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8647

Inside

Press@RunDepth: 739.04 psig @ 4261.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.07

End Date:

2014.10.07

Last Calib.:

2014.10.07

Start Time:

08:38:01

End Time:

17:53:00

Time On Btm:

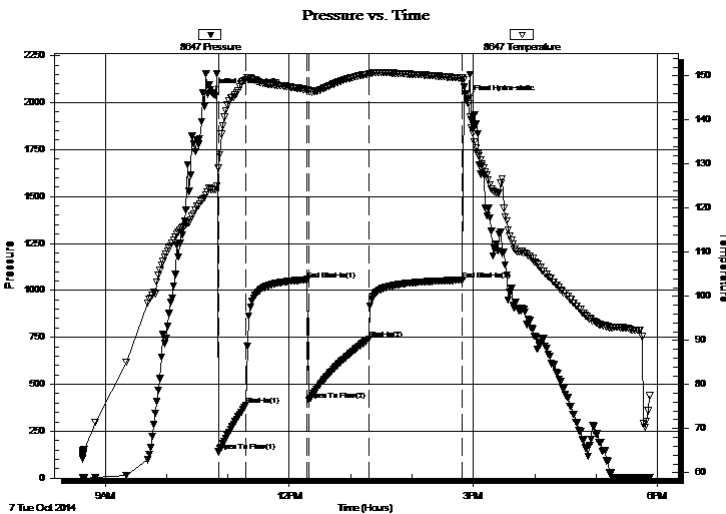
2014.10.07 @ 10:44:30

Time Off Btm:

2014.10.07 @ 14:53:30

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to B.o.B in 3 min.
60 - ISI - No Return
30 - FF - Blow built to B.o.B in 6 min., died back to 6 1/2"
60 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2053.30	124.17	Initial Hydro-static
6	140.78	129.13	Open To Flow (1)
33	389.22	149.18	Shut-In(1)
93	1057.42	146.85	End Shut-In(1)
95	416.06	146.66	Open To Flow (2)
153	739.04	150.42	Shut-In(2)
245	1055.76	149.49	End Shut-In(2)
249	2018.43	144.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
364.00	GMCO 55%o, 30%g, 15%m	3.22
1498.00	GO 87%o, 13%g	21.01
0.00	424' GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drlg. Co., LLC.

250 N. Water, STE 300
Wichita, KS 67202

ATTN: Keith Reavis

5-2s-36w Rawlins, KS

Kacirek Trust #3-5

Job Ticket: 60731

DST#: 3

Test Start: 2014.10.07 @ 08:38:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)

Time Tool Opened: 10:50:30 Tester: Brandon Quintana

Time Test Ended: 17:53:00 Unit No: 48

Interval: 4260.00 ft (KB) To 4310.00 ft (KB) (TVD) Reference Elevations: 3240.00 ft (KB)

Total Depth: 4310.00 ft (KB) (TVD) 3229.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

Serial #: 8372 Outside

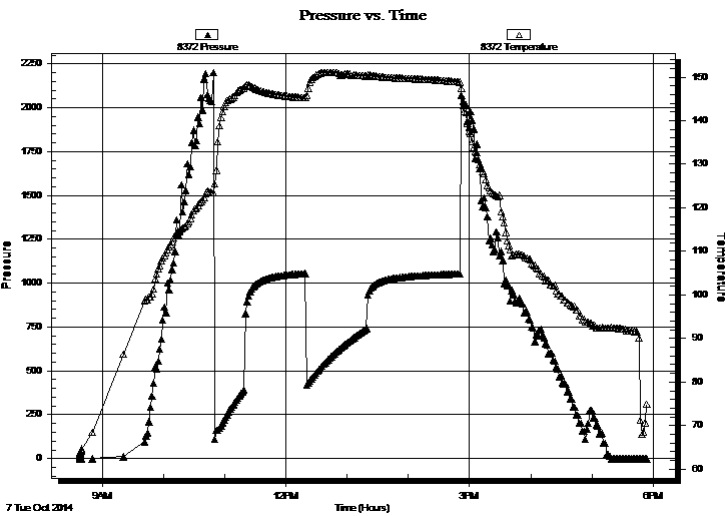
Press@RunDepth: psig @ 4261.00 ft (KB) Capacity: 8000.00 psig

Start Date: 2014.10.07 End Date: 2014.10.07 Last Calib.: 2014.10.07

Start Time: 08:38:01 End Time: 17:54:30 Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to B.o.B in 3 min.
60 - ISI - No Return
30 - FF - Blow built to B.o.B in 6 min., died back to 6 1/2"
60 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
364.00	GMCO 55%o, 30%g, 15%m	3.22
1498.00	GO 87%o, 13%g	21.01
0.00	424' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60731

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.10.07 @ 08:38:00

Tool Information

Drill Pipe:	Length: 4034.00 ft	Diameter: 3.80 inches	Volume: 56.59 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 57.61 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.34 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4260.00 ft			Final 88000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	78.00 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			4233.00	
Shut In Tool	5.00			4238.00	
Hydraulic tool	5.00		Inside	4243.00	
Jars	5.00			4248.00	
Safety Joint	3.00			4251.00	
Packer	5.00			4256.00	28.00 Bottom Of Top Packer
Packer	4.00			4260.00	
Stubb	1.00			4261.00	
Recorder	0.00	8647	Inside	4261.00	
Recorder	0.00	8372	Outside	4261.00	
Perforations	12.00			4273.00	
Change Over Sub	1.00			4274.00	
Drill Pipe	32.00			4306.00	
Change Over Sub	1.00			4307.00	
Bullnose	3.00			4310.00	50.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60731

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.10.07 @ 08:38:00

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: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 10.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
364.00	GMCO 55%o, 30%g, 15%m	3.217
1498.00	GO 87%o, 13%g	21.013
0.00	424' GIP	0.000

Total Length: 1862.00 ft Total Volume: 24.230 bbl

Num Fluid Samples: 0

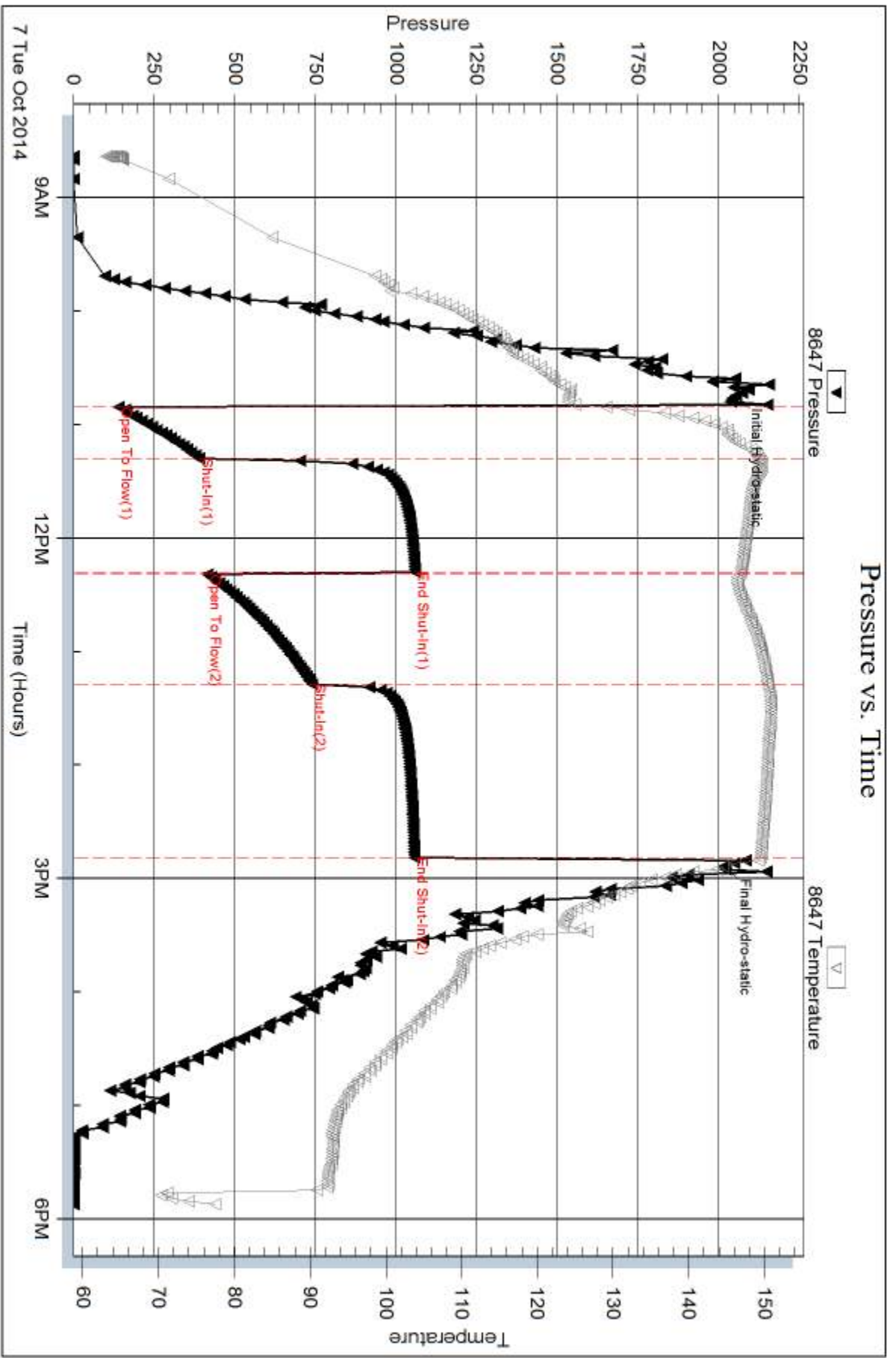
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 29 @ 90 Corrected = 32

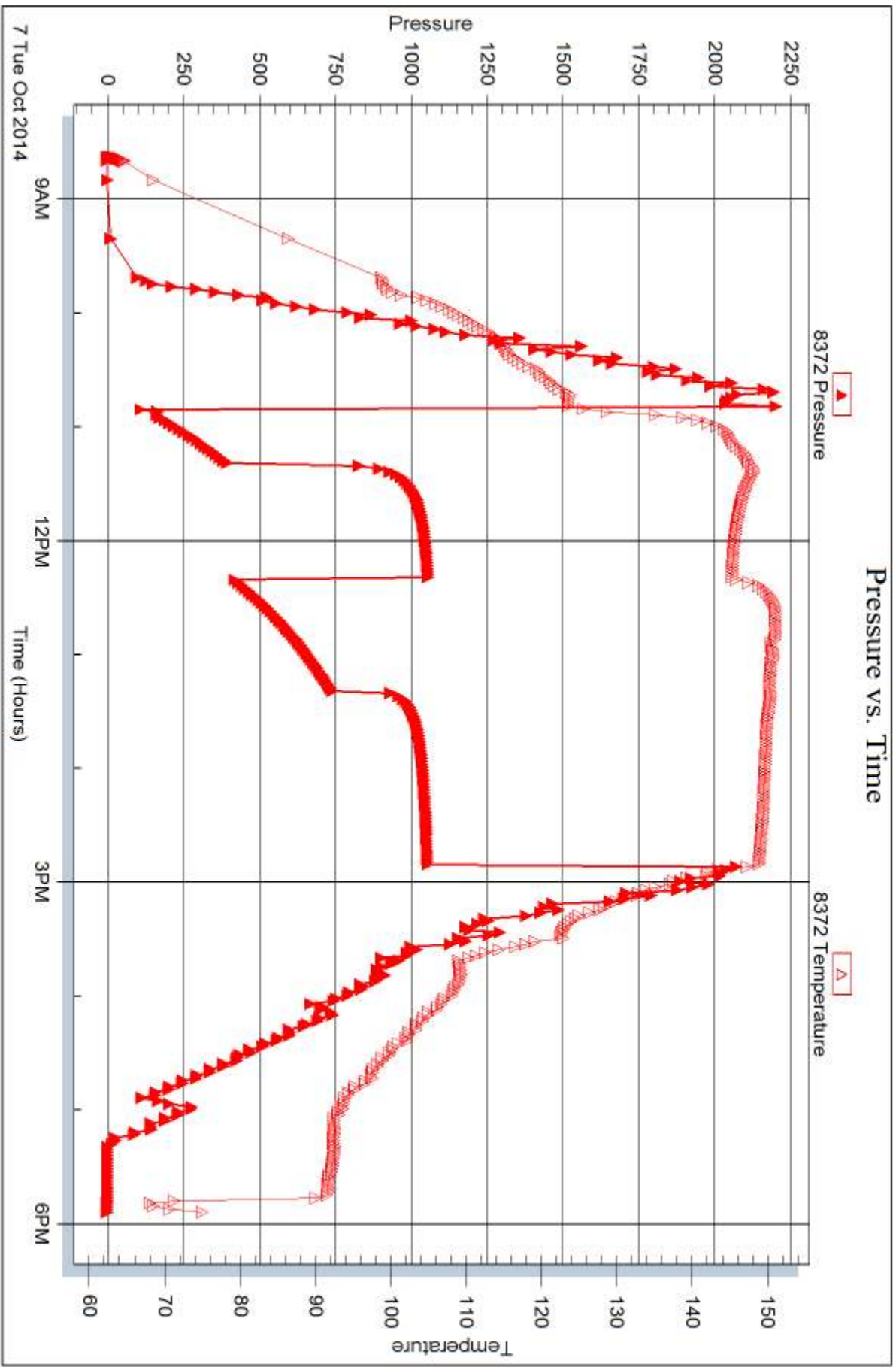


Serial #: 8372

Outside Murfin Dtg. Co., LLC.

Kacirek Trust #3-5

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 60731

Printed: 2014.10.10 @ 15:00:34



DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg. Co., LLC.**

250 N. Water, STE. 300
Wichita, KS 67202

ATTN: Keith Reavis

Kacirek Trust #3-5

5-2s-36w Rawlins,KS

Start Date: 2014.10.08 @ 06:39:00

End Date: 2014.10.08 @ 15:12:30

Job Ticket #: 60732 DST #: 4

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

Printed: 2014.10.10 @ 14:58:26



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60732

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.10.08 @ 06:39:00

GENERAL INFORMATION:

Formation: **LKC "H&J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:38:00

Time Test Ended: 15:12:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 48

Interval: 4308.00 ft (KB) To 4395.00 ft (KB) (TVD)

Reference Elevations: 3240.00 ft (KB)

Total Depth: 4395.00 ft (KB) (TVD)

3229.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8647

Inside

Press@RunDepth: 299.77 psig @ 4309.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.08

End Date:

2014.10.08

Last Calib.:

2014.10.08

Start Time: 06:39:01

End Time:

15:12:30

Time On Btm:

2014.10.08 @ 08:32:00

Time Off Btm:

2014.10.08 @ 12:41:00

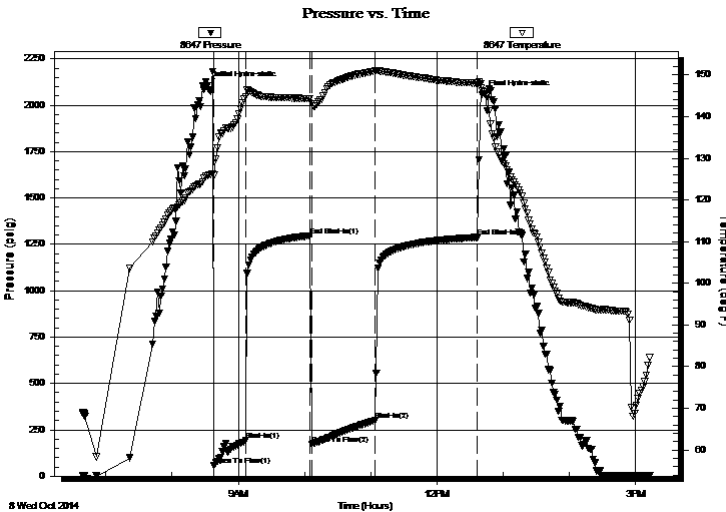
TEST COMMENT: 30 - IF - Opened w/ surface blow , built to B.o.B in 13 min.

60 - ISI - No Return

60 - FF - Blow built to B.o.B in 17 min.

90 - FSI - Return built to 5 1/4"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2104.05	125.86	Initial Hydro-static
6	57.06	125.94	Open To Flow (1)
35	194.57	144.88	Shut-In(1)
93	1296.73	144.28	End Shut-In(1)
95	172.06	143.07	Open To Flow (2)
152	299.77	150.91	Shut-In(2)
245	1287.99	148.03	End Shut-In(2)
249	2058.50	146.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
364.00	WOCM 60%w , 25%m, 15%g	3.22
226.00	GMCO 60%o, 30%m, 10%g	3.17
52.00	100%FO	0.73
278.00	278' GIP	3.90

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drlg. Co., LLC.
250 N. Water, STE 300
Wichita, KS 67202
ATTN: Keith Reavis

5-2s-36w Rawlins, KS

Kacirek Trust #3-5

Job Ticket: 60732

DST#: 4

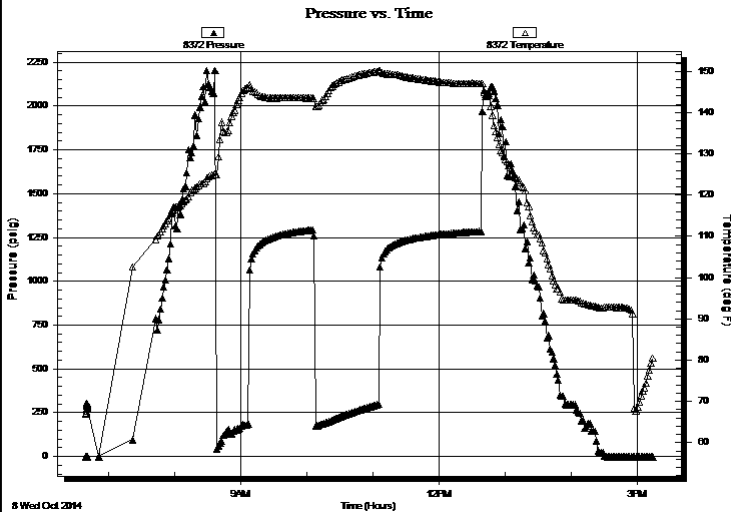
Test Start: 2014.10.08 @ 06:39:00

GENERAL INFORMATION:

Formation: LKC "H&J"		
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 08:38:00		Tester: Brandon Quintana
Time Test Ended: 15:12:30		Unit No: 48
Interval: 4308.00 ft (KB) To 4395.00 ft (KB) (TVD)		Reference Elevations: 3240.00 ft (KB)
Total Depth: 4395.00 ft (KB) (TVD)		3229.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF: 11.00 ft

Serial #: 8372	Outside		
Press@RunDepth: psig @	4309.00 ft (KB)	Capacity:	8000.00 psig
Start Date: 2014.10.08	End Date: 2014.10.08	Last Calib.:	2014.10.08
Start Time: 06:39:01	End Time: 15:14:00	Time On Btm:	
		Time Off Btm:	

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to B.o.B in 13 min.
60 - ISI - No Return
60 - FF - Blow built to B.o.B in 17 min.
90 - FSI - Return built to 5 1/4"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
364.00	WOCM 60%w , 25%m, 15%g	3.22
226.00	GMCO 60%o, 30%m, 10%g	3.17
52.00	100%FO	0.73
278.00	278' GIP	3.90

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60732

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.10.08 @ 06:39:00

Tool Information

Drill Pipe:	Length: 4097.00 ft	Diameter: 3.80 inches	Volume: 57.47 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 58.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.34 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4308.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	87.00 ft			
Tool Length:	115.00 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			4281.00	
Shut In Tool	5.00			4286.00	
Hydraulic tool	5.00		Inside	4291.00	
Jars	5.00			4296.00	
Safety Joint	3.00			4299.00	
Packer	5.00			4304.00	28.00 Bottom Of Top Packer
Packer	4.00			4308.00	
Stubb	1.00			4309.00	
Recorder	0.00	8647	Inside	4309.00	
Recorder	0.00	8372	Outside	4309.00	
Perforations	19.00			4328.00	
Change Over Sub	1.00			4329.00	
Drill Pipe	62.00			4391.00	
Change Over Sub	1.00			4392.00	
Bullnose	3.00			4395.00	87.00 Bottom Packers & Anchor

Total Tool Length: 115.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg. Co., LLC.

5-2s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Kacirek Trust #3-5

Job Ticket: 60732

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.10.08 @ 06:39:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

52000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
364.00	WOCM 60%w , 25%m, 15%g	3.217
226.00	GMCO 60%o, 30%m, 10%g	3.170
52.00	100%FO	0.729
278.00	278' GIP	3.900

Total Length: 920.00 ft Total Volume: 11.016 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

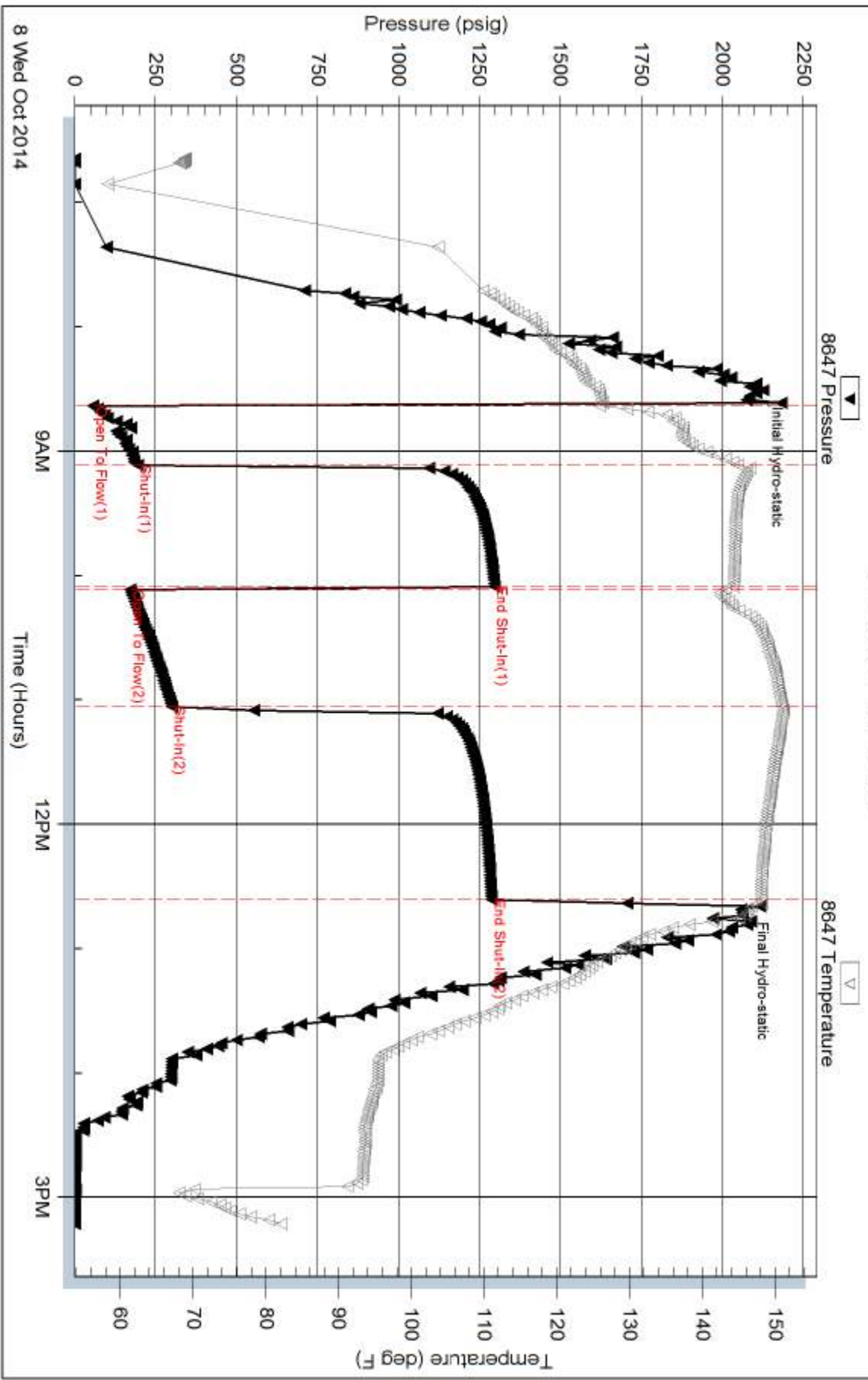
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 33 @ 80 Corrected = 35

RW .13 @ 80F Chlorides 52000ppm

Pressure vs. Time

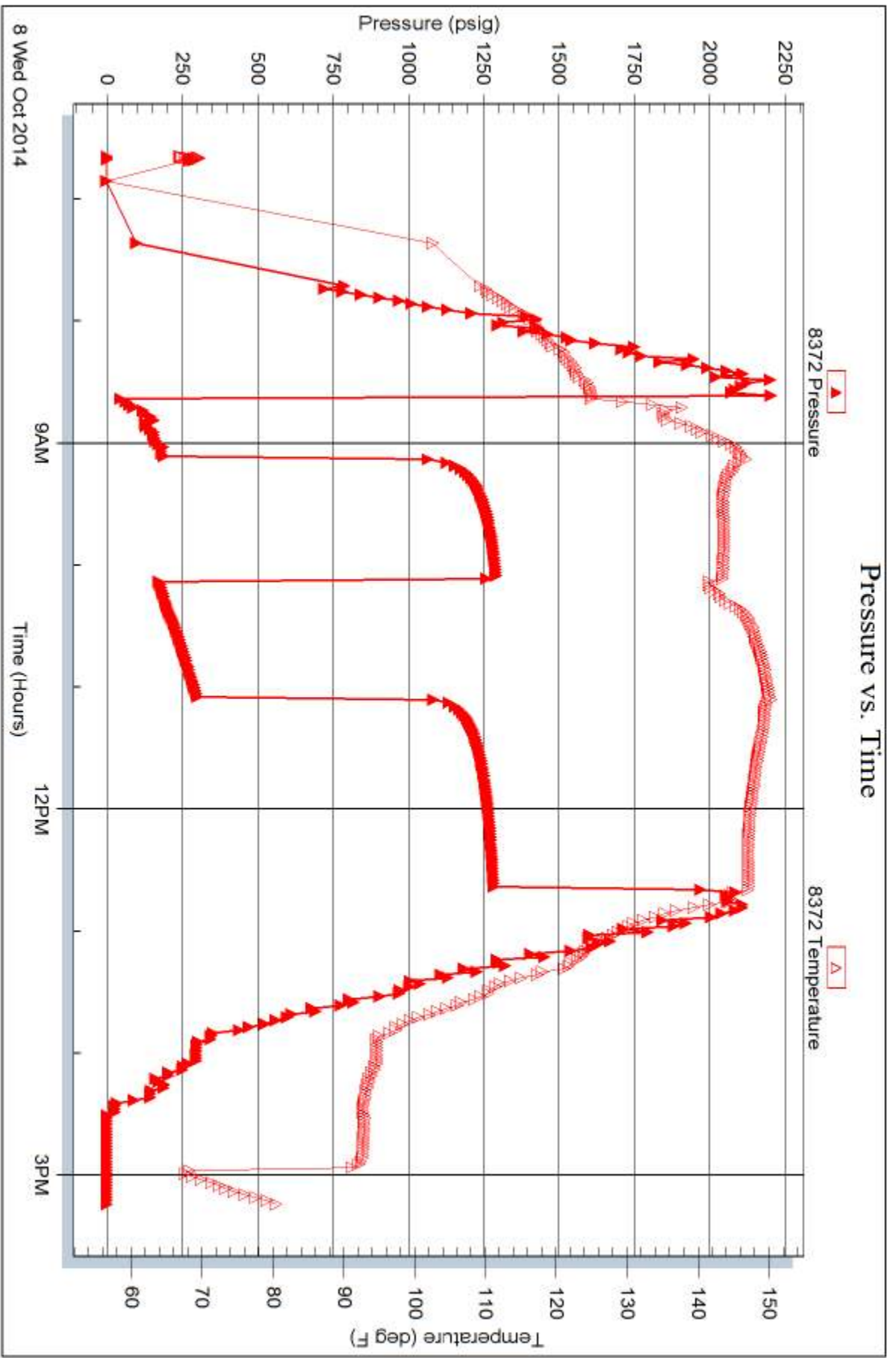


Serial #: 8372

Outside Murfin Drfg. Co., LLC.

Kacirek Trust #3-5

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **60729**

Well Name & No. Kacirek Trust #3-5 Test No. 1 Date 10-5-14
 Company Murfin Drlg Co., INC. Elevation 3240 KB 3229 GL
 Address 250 N. Water, STE 300 Wichita, KS. 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #2
 Location: Sec. 5 Twp. 2S Rge. 36w Co. Rawlins State Ks.

Interval Tested 4034-4092 Zone Tested Oread
 Anchor Length 58' Drill Pipe Run 3813 Mud Wt. 8.9
 Top Packer Depth 4029 Drill Collars Run 207.34 Vis 57
 Bottom Packer Depth 4034 Wt. Pipe Run — WL 8.4
 Total Depth 4092 Chlorides 600 ppm System LCM 8

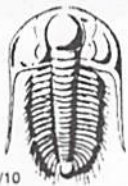
Blow Description IF - Opened w/ surface blow, B.o.B in 14 min.
ISI - Return built to 1/2", died back to surface
FF - Blow built to B.o.B in 15 min.
FSI - Return built to 3 1/2", died back to 3"

Rec	Feet of	%gas	%oil	%water	%mud
<u>122</u>	<u>Fo</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>280</u>	<u>OCM</u>	<u>20</u>	<u>0</u>	<u>0</u>	<u>80</u>
<u>184</u>	<u>WOCM</u>	<u>5</u>	<u>0</u>	<u>65</u>	<u>30</u>
<u>180</u>	<u>MW</u>	<u>0</u>	<u>0</u>	<u>90</u>	<u>10</u>
<u>180</u>	<u></u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Rec Total 766 BHT 143 Gravity — API RW .15 @ 75 °F Chlorides 52,000 ppm
 (A) Initial Hydrostatic 1991 Test 1250 T-On Location 10:45 AM
 (B) First Initial Flow 40 Jars 250 T-Started 11:09 AM
 (C) First Final Flow 189 Safety Joint 75 T-Open 1:15 PM
 (D) Initial Shut-In 1163 Circ Sub _____ T-Pulled 5:15 PM
 (E) Second Initial Flow 196 Hourly Standby _____ T-Out 8:51 PM
 (F) Second Final Flow 363 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 1158 Sampler _____
 (H) Final Hydrostatic 1918 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 0
 Total 1750.15
 MP/DST Disc't _____

Approved By Keith Reavis Our Representative Bud Oitz



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **60730**

4/10

Well Name & No. Kacirek Trust #3-5 Test No. 2 Date 10-6-14
 Company Murfin Drlg. Co., INC. Elevation 3240 KB 3229 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #2
 Location: Sec. 5 Twp. 25 Rge. 36W Co. Rawlins State KS

Interval Tested 4196 - 4250 Zone Tested L56 "D"
 Anchor Length 54 Drill Pipe Run 3970 Mud Wt. 9.3
 Top Packer Depth 4191 Drill Collars Run 207.34 Vis 66
 Bottom Packer Depth 4196 Wt. Pipe Run - WL 8.8
 Total Depth 4250 Chlorides 1000 ppm System LCM 10

Blow Description IF - Opened w/ surface blow, B.o.B in 12 min.
ISI - No Return
FF - Blow built to B.o.B in 20 min.
FSI - Return built to 2 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
382	MCO		90		10
124	GWOCM	10	30	30	30
120	MCO		90		10
120	WOCM		10	70	20

Rec Total 746 BHT 146 Gravity 24.2 API RW .15 @ 1065 F Chlorides 75000 ppm
 (A) Initial Hydrostatic 2137 Test 1250 T-On Location 12:50 PM
 (B) First Initial Flow 51 Jars 250 T-Started 12:58 PM
 (C) First Final Flow 204 Safety Joint 75 T-Open 2:44 PM
 (D) Initial Shut-In 1199 Circ Sub _____ T-Pulled 6:44 PM
 (E) Second Initial Flow 189 Hourly Standby _____ T-Out 9:06 PM
 (F) Second Final Flow 343 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 1188 Sampler _____
 (H) Final Hydrostatic 2062 Straddle _____
 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 0
 Total 1750.15
 MP/DST Disc't _____
 Sub Total 1750.15

Approved By Keith Reavis Our Representative Bud O. ...

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. **60731**

4/10

Well Name & No. Kacirek Trust #3-5 Test No. 3 Date 10-7-14
 Company Murfin Drlg. Co., Inc. Elevation 3240 KB 3229 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #2
 Location: Sec. 5 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4260 - 4310 Zone Tested LSG "G"
 Anchor Length 50 Drill Pipe Run 4034 Mud Wt. 9.3
 Top Packer Depth 4255 Drill Collars Run 207.34 Vis 66
 Bottom Packer Depth 4260 Wt. Pipe Run — WL 8.8
 Total Depth 4310 Chlorides 1000 ppm System LCM 10

Blow Description IF- Opened w/ surface blow, built to B.O.B in 3 min.
ISI- No Return
FF- Blow, built to B.O.B in 6 min., died back to 6 1/2"
FSI- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1498</u>	<u>60</u>	<u>13</u>	<u>87</u>		
<u>364</u>	<u>Gmco</u>	<u>30</u>	<u>55</u>		<u>15</u>
<u>424</u>	<u>Gas</u>	<u>100</u>			

Rec Total 1862 BHT 149 Gravity 32 API RW @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2053 Test 1250 T-On Location 8:30 AM
 (B) First Initial Flow 140 Jars 250 T-Started 8:38 AM
 (C) First Final Flow 389 Safety Joint 75 T-Open 10:51 AM
 (D) Initial Shut-In 1057 Circ Sub _____ T-Pulled 2:51 PM
 (E) Second Initial Flow 416 Hourly Standby _____ T-Out 5:56 PM
 (F) Second Final Flow 739 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 1055 Sampler _____
 (H) Final Hydrostatic 2018 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 60 Day Standby _____ Total 1750.15
 Final Shut-In 90 Accessibility _____ MP/DST Disc't _____
 Sub Total 1750.15

Approved By Keith Reavis Our Representative Bud Ait

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. **60732**

Well Name & No. Kacirek Trust #3-5 Test No. 4 Date 10-8-14
 Company Murfin Drlg. Co., Inc. Elevation 3240 KB 3229 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #2
 Location: Sec. 5 Twp. Z5 Rge. 36W Co. Rawlins State KS

Interval Tested 4308-4395 Zone Tested LSG "H+J"
 Anchor Length 87 Drill Pipe Run 4097 Mud Wt. 9.2
 Top Packer Depth 4303 Drill Collars Run 207.34 Vis 62
 Bottom Packer Depth 4308 Wt. Pipe Run — WL 7.6
 Total Depth 4395 Chlorides 900 ppm System LCM 10
 Blow Description IF - Opened w/ surface blow, built to B.O.B in 13 min.
ISI - No Return
FF - Blow built to B.O.B in 17 min.
FSI - Return built to 5 1/4"

Rec	Feet of	%gas	%oil	%water	%mud
<u>52'</u>	<u>FO</u>		<u>100%</u>		
<u>226</u>	<u>GMCO</u>	<u>10%</u>	<u>60%</u>		<u>30%</u>
<u>364'</u>	<u>WOCM</u>		<u>15%</u>	<u>60%</u>	<u>25%</u>
<u>278'</u>	<u>GIP</u>	<u>100%</u>			

Rec Total 642 BHT 148 Gravity 35 API RW .13 @ 80 °F Chlorides 52000 ppm
 (A) Initial Hydrostatic 2104 Test 1250 T-On Location 6:24 AM
 (B) First Initial Flow 57 Jars 250 T-Started 6:39 AM
 (C) First Final Flow 194 Safety Joint 75 T-Open 8:38 AM
 (D) Initial Shut-In 1296 Circ Sub _____ T-Pulled 12:38 PM
 (E) Second Initial Flow 172 Hourly Standby _____ T-Out 3:14 PM
 (F) Second Final Flow 299 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 1287 Sampler _____ 175.15 Donovan loaded tools 10/10 10:45
 (H) Final Hydrostatic 2058 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby 1d 19.5h 43.5h
 Accessibility _____
 Sub Total 1925.30

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Approved By Keith Reavis Our Representative Bruce O. E.
 Sub Total 800
 Total 2725.30
 MP/DST Disc't _____

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