



DRILL STEM TEST REPORT

Prepared For: **Double D's LLC**

133 E 12th
Hays, KS 67601

ATTN: Marc Downing

Reichert #4

23-15S-19W Ellis, KS

Start Date: 2016.08.07 @ 06:13:47

End Date: 2016.08.07 @ 13:17:47

Job Ticket #: 58057 DST #: 1

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

Printed: 2016.08.11 @ 08:41:57

Double D's LLC
23-15S-19W Ellis, KS
Reichert #4
DST # 1
LKC "C"
2016.08.07



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58057

DST#: 1

ATTN: Marc Downing

Test Start: 2016.08.07 @ 06:13:47

GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:53:17

Time Test Ended: 13:17:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3279.00 ft (KB) To 3309.00 ft (KB) (TVD)

Reference Elevations: 1979.00 ft (KB)

Total Depth: 3309.00 ft (KB) (TVD)

1972.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 6651

Inside

Press@RunDepth: 16.89 psig @ 3280.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.08.07

End Date:

2016.08.07

Last Calib.:

2016.08.07

Start Time:

06:13:48

End Time:

13:17:47

Time On Btm:

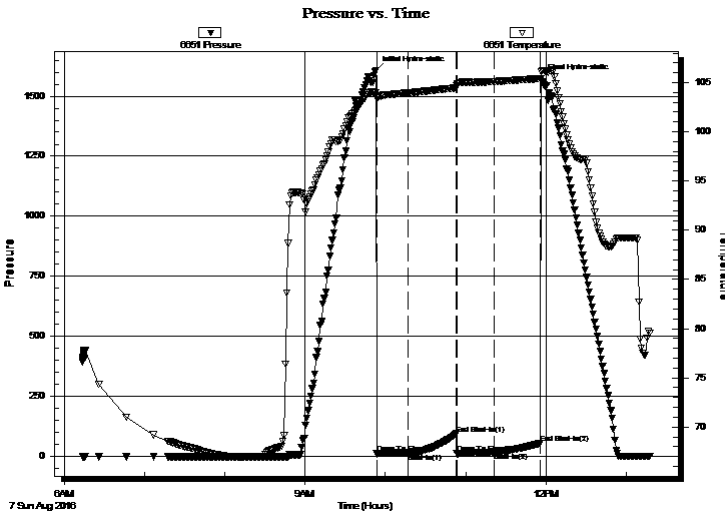
2016.08.07 @ 09:52:47

Time Off Btm:

2016.08.07 @ 11:56:17

TEST COMMENT: 30- IF- Slowly built to 1"
30- IS- No blow
30- FF- Slowly built to 1"
30- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1607.57	103.98	Initial Hydro-static
1	10.46	103.42	Open To Flow (1)
24	14.01	103.95	Shut-In(1)
60	93.19	104.47	End Shut-In(1)
61	10.40	104.85	Open To Flow (2)
88	16.89	105.11	Shut-In(2)
123	53.64	105.41	End Shut-In(2)
124	1574.14	106.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	SOCM, 3%O 97%M	0.21

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58057

DST#: 1

ATTN: Marc Downing

Test Start: 2016.08.07 @ 06:13:47

Tool Information

Drill Pipe:	Length: 3262.00 ft	Diameter: 3.82 inches	Volume: 46.24 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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: 43000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3279.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	50.00 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			3260.00	
Shut In Tool	5.00			3265.00	
Hydraulic tool	5.00			3270.00	
Packer	5.00			3275.00	20.00 Bottom Of Top Packer
Packer	4.00			3279.00	
Stubb	1.00			3280.00	
Recorder	0.00	6651	Inside	3280.00	
Recorder	0.00	8959	Outside	3280.00	
Perforations	26.00			3306.00	
Bullnose	3.00			3309.00	30.00 Bottom Packers & Anchor
Total Tool Length:	50.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58057

DST#: 1

ATTN: Marc Downing

Test Start: 2016.08.07 @ 06:13:47

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: 42.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	SOCM, 3%O 97%M	0.213

Total Length: 15.00 ft Total Volume: 0.213 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6651

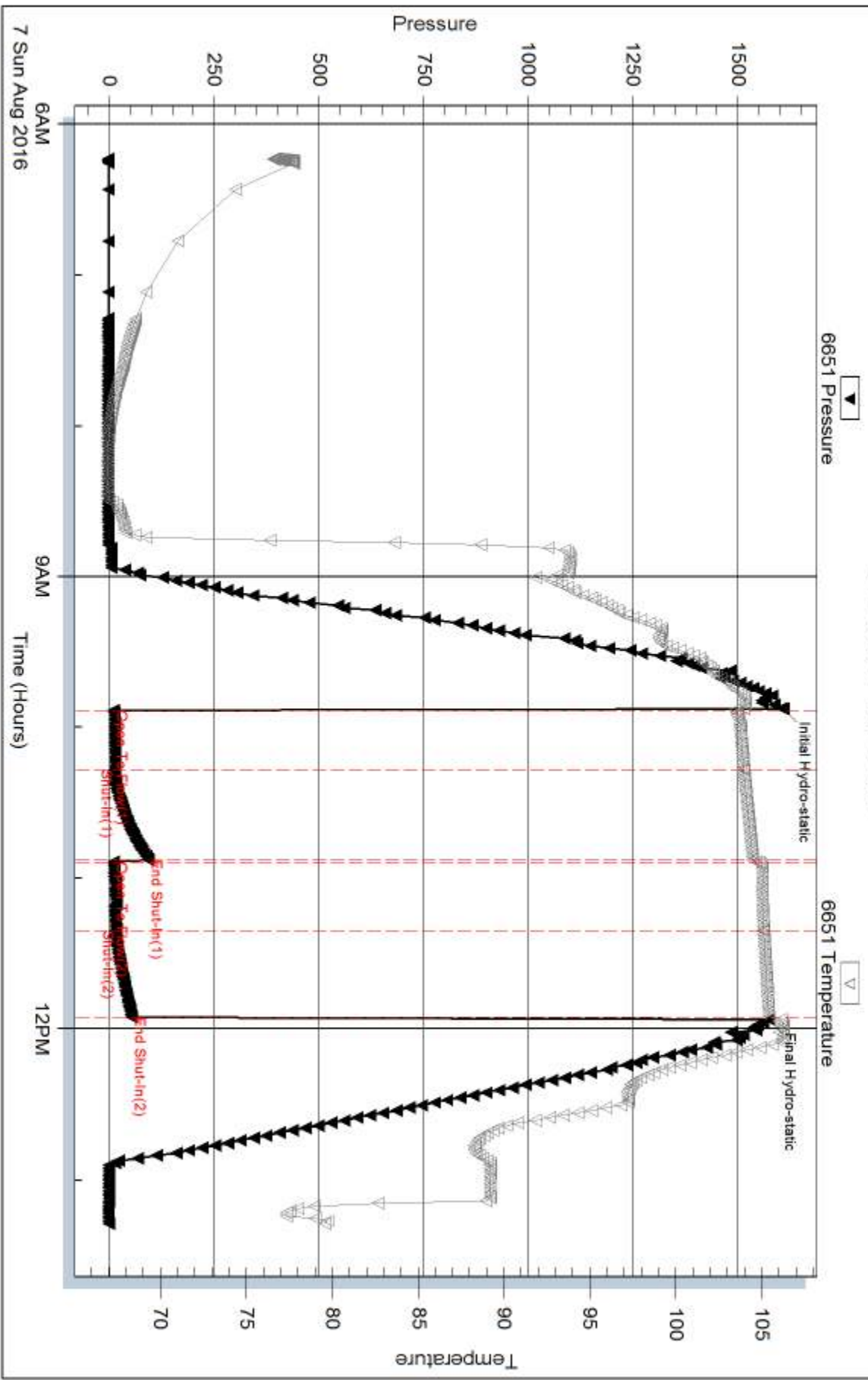
Inside

Double Ds LLC

Reichert #4

DST Test Number: 1

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 58057

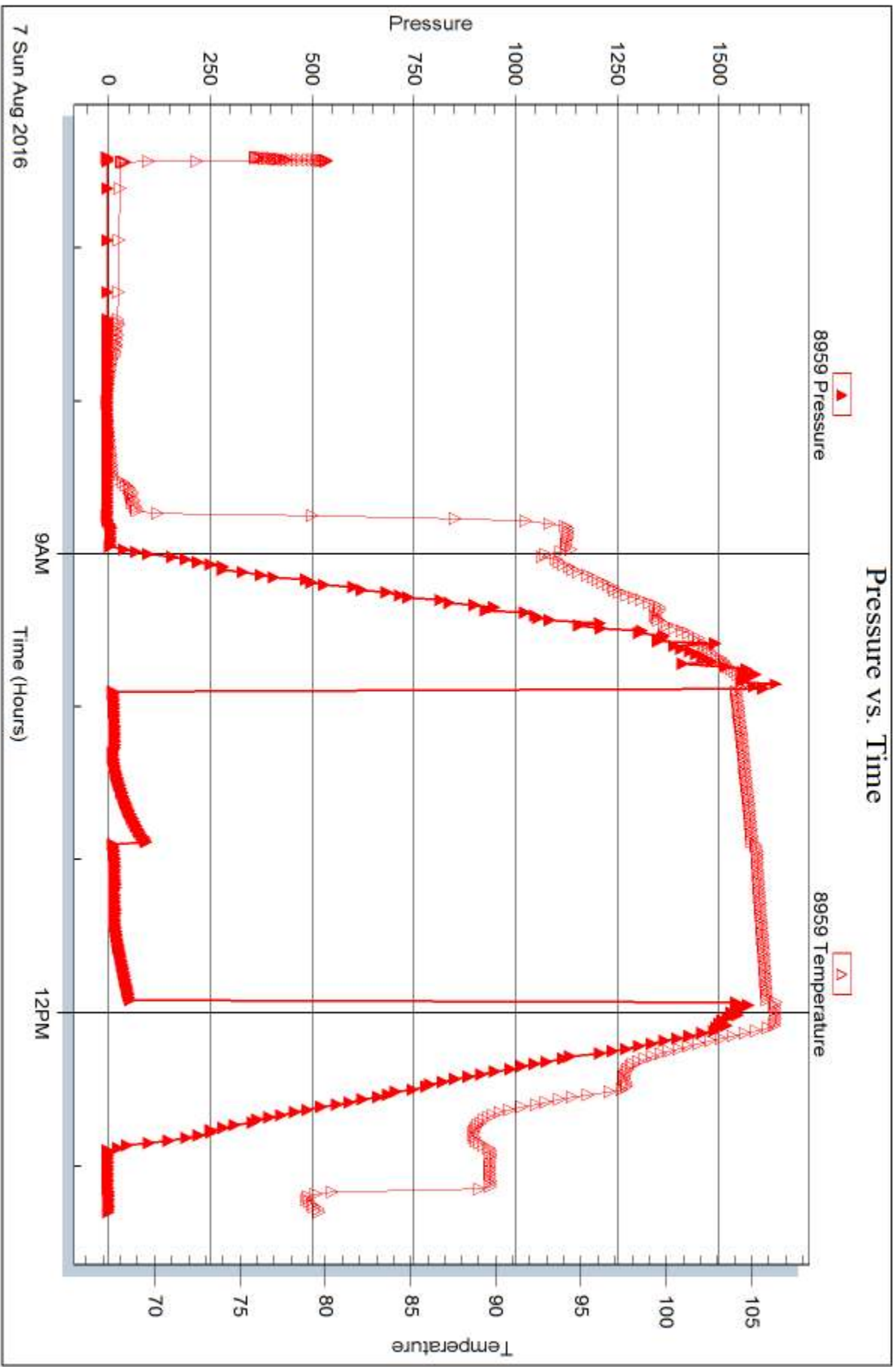
Printed: 2016.08.11 @ 08:41:59

Serial #: 8959

Outside Double Ds LLC

Reichert #4

DST Test Number: 1



Trickle Testing, Inc

Ref. No: 58057

Printed: 2016.08.11 @ 08:41:59



DRILL STEM TEST REPORT

Prepared For: **Double D's LLC**

133 E 12th
Hays, KS 67601

ATTN: Marc Downing

Reichert #4

23-15S-19W Ellis, KS

Start Date: 2016.08.07 @ 19:03:00

End Date: 2016.08.08 @ 00:54:00

Job Ticket #: 58058 DST #: 2

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

Printed: 2016.08.11 @ 08:41:35

Double D's LLC
23-15S-19W Ellis, KS
Reichert #4
DST # 2
LKC "D"
2016.08.07



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58058

DST#: 2

ATTN: Marc Downing

Test Start: 2016.08.07 @ 19:03:00

GENERAL INFORMATION:

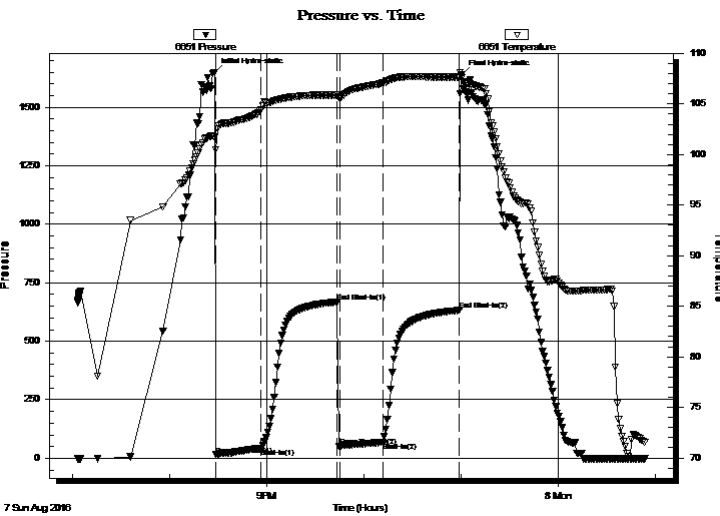
Formation: **LKC "D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:28:30
 Time Test Ended: 00:54:00
 Interval: **3306.00 ft (KB) To 3332.00 ft (KB) (TVD)**
 Total Depth: 3332.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 1979.00 ft (KB)
 1972.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 6651

Inside

Press@RunDepth: 68.51 psig @ 3307.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.08.07 End Date: 2016.08.08 Last Calib.: 2016.08.08
 Start Time: 19:03:01 End Time: 00:54:00 Time On Btm: 2016.08.07 @ 20:27:30
 Time Off Btm: 2016.08.07 @ 23:00:30

TEST COMMENT: 30- IF- BOB 4 mins
 45- IS- Surface blow
 30- FF- BOB 1 min
 45- FS- Slowly built to 1"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1649.03	101.72	Initial Hydro-static
1	14.31	100.47	Open To Flow (1)
29	43.57	104.47	Shut-In(1)
76	667.82	105.89	End Shut-In(1)
78	51.19	105.67	Open To Flow (2)
104	68.51	107.07	Shut-In(2)
152	632.39	107.65	End Shut-In(2)
153	1639.44	107.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	VGSWSMCO, 45%G 45%O 5%W 5%M	1.79
30.00	GOCM, 10%G 35%O 55%M	0.43
0.00	1356' 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

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58058

DST#: 2

ATTN: Marc Downing

Test Start: 2016.08.07 @ 19:03:00

Tool Information

Drill Pipe:	Length: 3294.00 ft	Diameter: 3.82 inches	Volume: 46.69 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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: 44000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3306.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	46.00 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			3287.00	
Shut In Tool	5.00			3292.00	
Hydraulic tool	5.00			3297.00	
Packer	5.00			3302.00	20.00 Bottom Of Top Packer
Packer	4.00			3306.00	
Stubb	1.00			3307.00	
Recorder	0.00	6651	Inside	3307.00	
Recorder	0.00	8959	Outside	3307.00	
Perforations	22.00			3329.00	
Bullnose	3.00			3332.00	26.00 Bottom Packers & Anchor
Total Tool Length:	46.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58058

DST#: 2

ATTN: Marc Downing

Test Start: 2016.08.07 @ 19:03:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
126.00	VGSWSMCO, 45%G 45%O 5%W 5%M	1.786
30.00	GOCM, 10%G 35%O 55%M	0.425
0.00	1356' GIP	0.000

Total Length: 156.00 ft

Total Volume: 2.211 bbl

Num Fluid Samples: 0

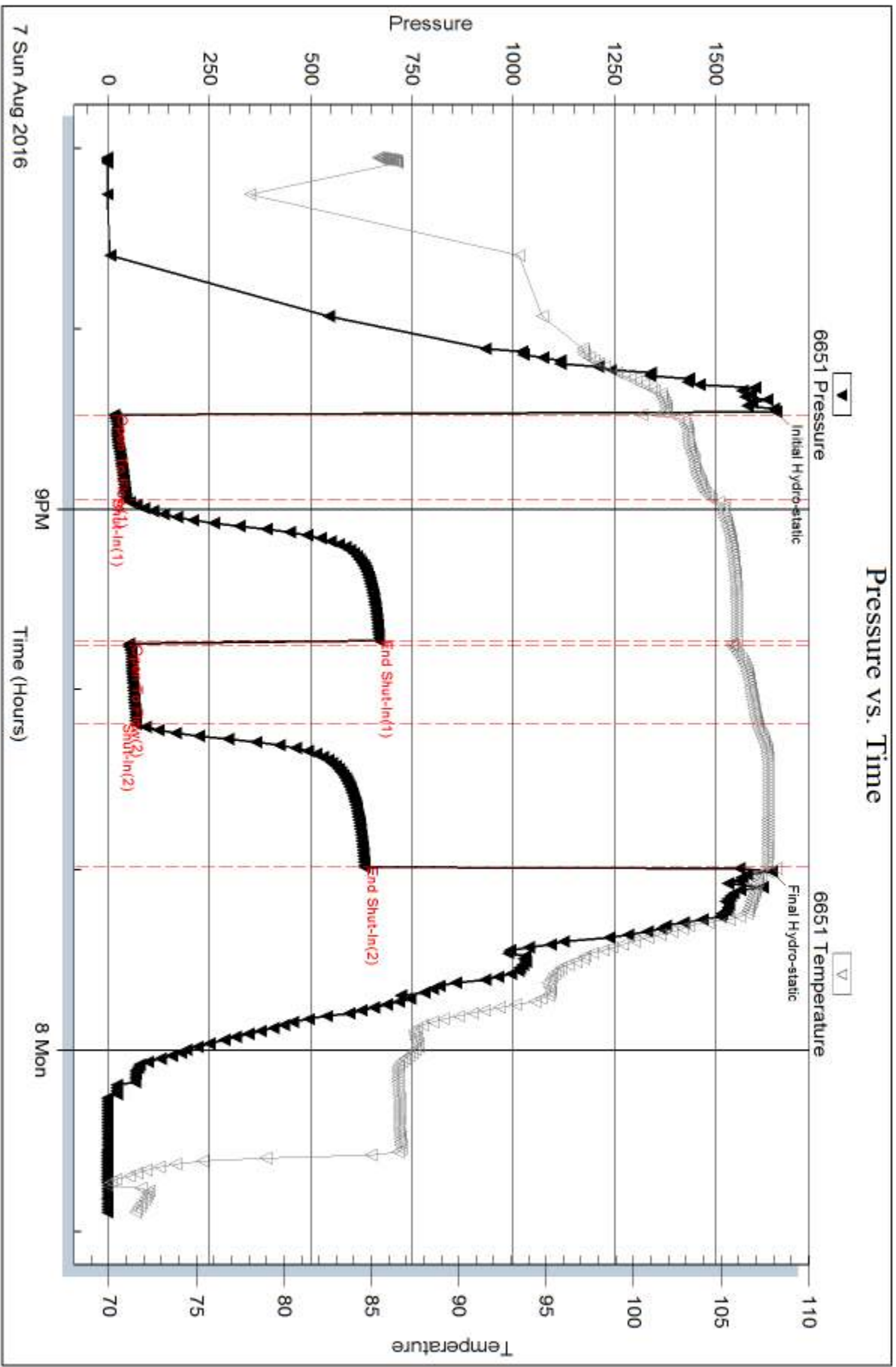
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

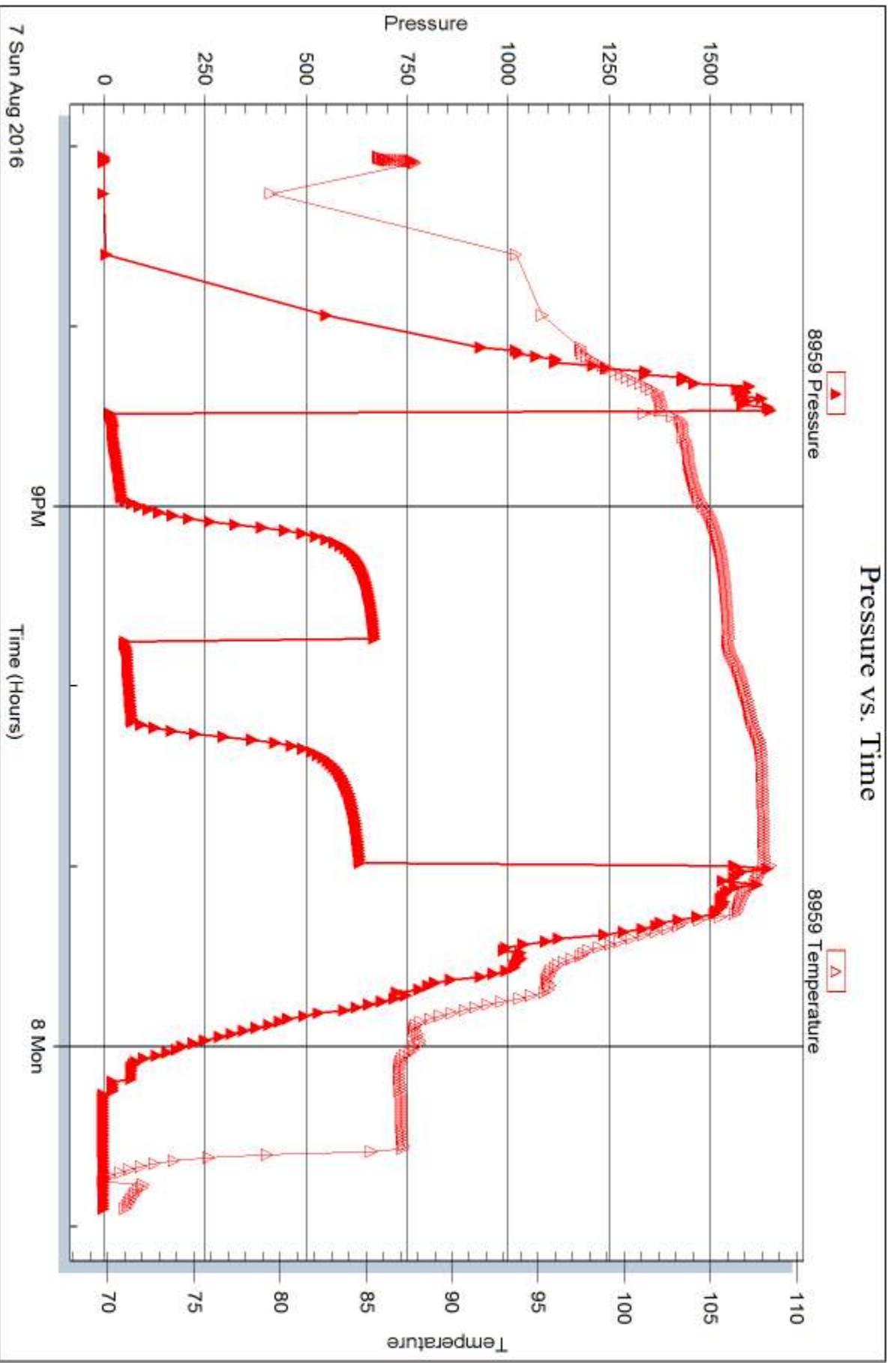


Serial #: 8959

Outside Double Ds LLC

Reichert #4

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58058

Printed: 2016.08.11 @ 08:41:37



DRILL STEM TEST REPORT

Prepared For: **Double D's LLC**

133 E 12th
Hays, KS 67601

ATTN: Marc Downing

Reichert #4

23-15S-19W Ellis, KS

Start Date: 2016.08.08 @ 07:15:53

End Date: 2016.08.08 @ 11:33:53

Job Ticket #: 58059 DST #: 3

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

Printed: 2016.08.11 @ 08:41:11

Double D's LLC 23-15S-19W Ellis, KS Reichert #4 DST # 3 LKC "E" 2016.08.08



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58059

DST#: 3

ATTN: Marc Downing

Test Start: 2016.08.08 @ 07:15:53

GENERAL INFORMATION:

Formation: **LKC "E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:04:23

Time Test Ended: 11:33:53

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3329.00 ft (KB) To 3350.00 ft (KB) (TVD)

Reference Elevations: 1979.00 ft (KB)

Total Depth: 3350.00 ft (KB) (TVD)

1972.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8959 Outside

Press@RunDepth: 12.42 psig @ 3330.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.08.08

End Date:

2016.08.08

Last Calib.:

2016.08.08

Start Time: 07:15:54

End Time:

11:33:53

Time On Btm:

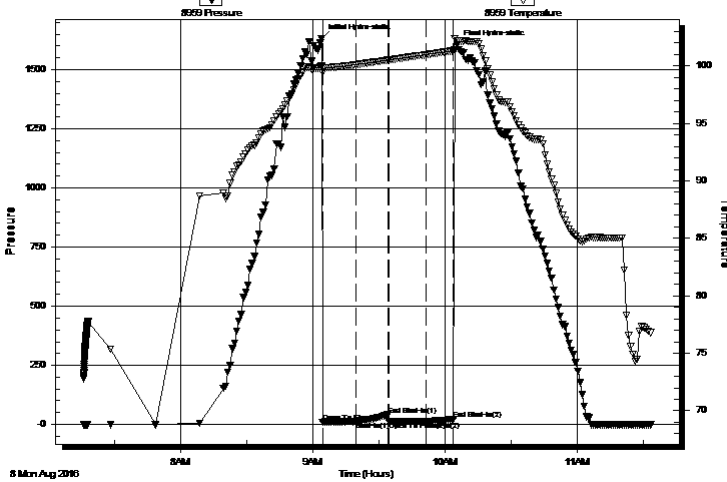
2016.08.08 @ 09:03:53

Time Off Btm:

2016.08.08 @ 10:05:23

TEST COMMENT: 15- IF- Slowly built to .5"
15- IS- No blow
15- FF- No blow
15- FSI- No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1631.88	99.98	Initial Hydro-static
1	9.76	99.41	Open To Flow (1)
16	12.47	100.10	Shut-In(1)
30	40.72	100.50	End Shut-In(1)
31	11.99	100.51	Open To Flow (2)
48	12.42	100.98	Shut-In(2)
60	21.66	101.32	End Shut-In(2)
62	1605.01	102.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	M	0.03

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58059

DST#: 3

ATTN: Marc Downing

Test Start: 2016.08.08 @ 07:15:53

Tool Information

Drill Pipe:	Length: 3325.00 ft	Diameter: 3.82 inches	Volume: 47.13 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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: 45000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3329.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 ft			
Tool Length:	41.00 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			3310.00	
Shut In Tool	5.00			3315.00	
Hydraulic tool	5.00			3320.00	
Packer	5.00			3325.00	20.00 Bottom Of Top Packer
Packer	4.00			3329.00	
Stubb	1.00			3330.00	
Recorder	0.00	6651	Inside	3330.00	
Recorder	0.00	8959	Outside	3330.00	
Perforations	17.00			3347.00	
Bullnose	3.00			3350.00	21.00 Bottom Packers & Anchor
Total Tool Length:	41.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58059

DST#: 3

ATTN: Marc Downing

Test Start: 2016.08.08 @ 07:15:53

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	M	0.028

Total Length: 2.00 ft Total Volume: 0.028 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

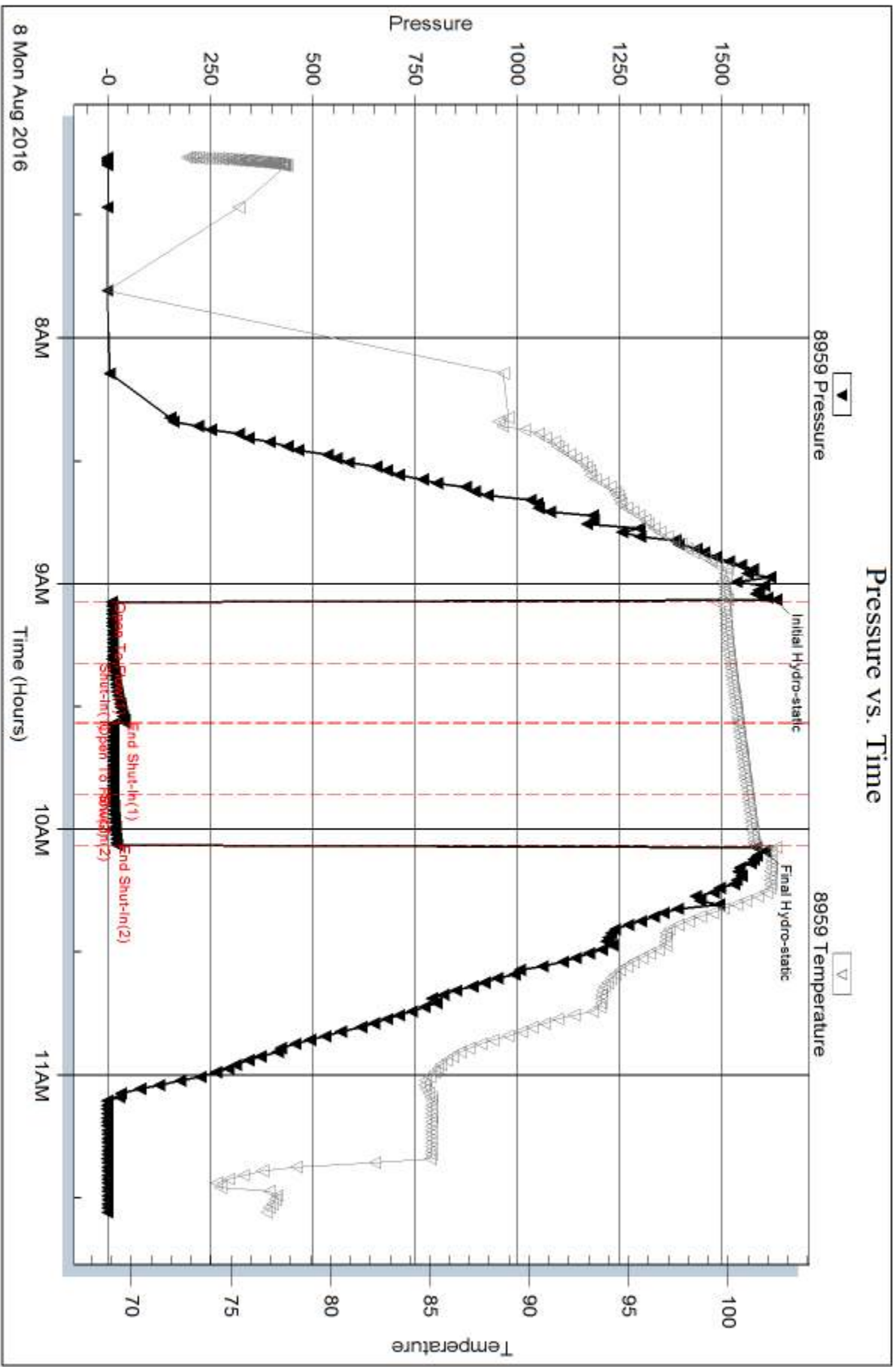
Recovery Comments:

Serial #: 8959

Outside Double Ds LLC

Reichert #4

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 58059

Printed: 2016.08.11 @ 08:41:13

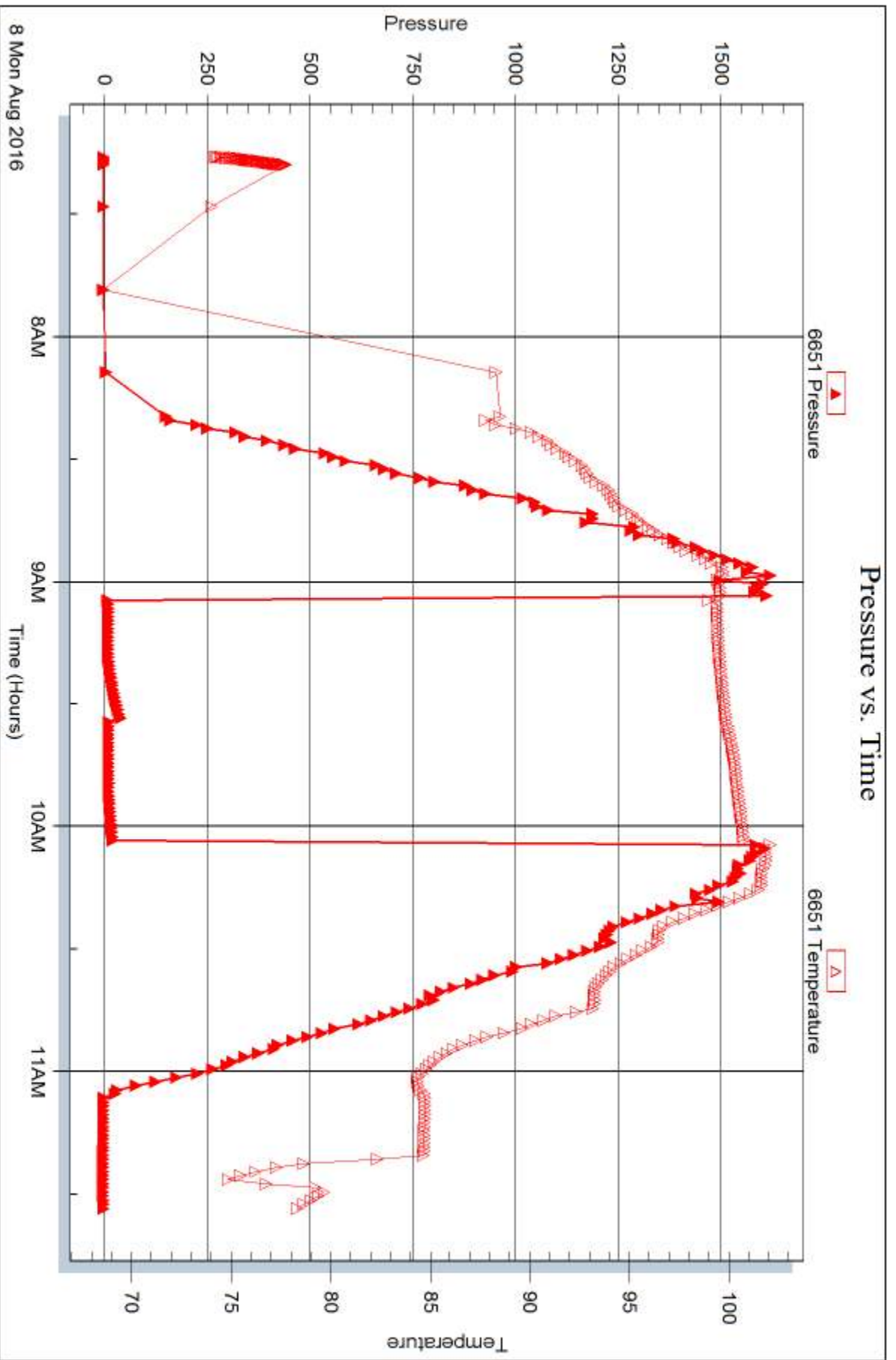
Serial #: 6651

Inside

Double Ds LLC

Reichert #4

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Double D's LLC**

133 E 12th
Hays, KS 67601

ATTN: Marc Downing

Reichert #4

23-15S-19W Ellis, KS

Start Date: 2016.08.09 @ 00:25:52

End Date: 2016.08.09 @ 07:20:22

Job Ticket #: 58060 DST #: 4

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

Printed: 2016.08.11 @ 08:40:15

Double D's LLC
23-15S-19W Ellis, KS
Reichert #4
DST # 4
LKC "I - J"
2016.08.09



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58060

DST#: 4

ATTN: Marc Downing

Test Start: 2016.08.09 @ 00:25:52

GENERAL INFORMATION:

Formation: **LKC "I - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:57:52

Time Test Ended: 07:20:22

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3422.00 ft (KB) To 3470.00 ft (KB) (TVD)

Reference Elevations: 1979.00 ft (KB)

Total Depth: 3470.00 ft (KB) (TVD)

1972.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 6651

Inside

Press@RunDepth: 82.71 psig @ 3423.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.08.09

End Date:

2016.08.09

Last Calib.:

2016.08.09

Start Time: 00:25:53

End Time:

07:20:22

Time On Btm:

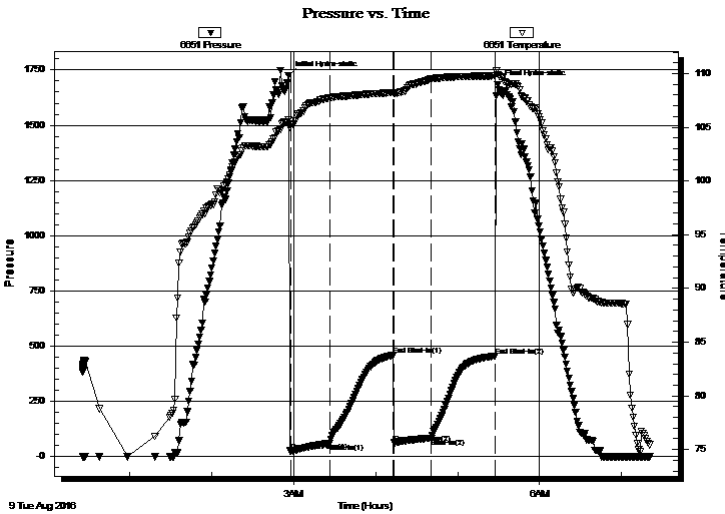
2016.08.09 @ 02:56:22

Time Off Btm:

2016.08.09 @ 05:29:22

TEST COMMENT: 30- IF- BOB 2 mins
45- IS- No blow
30- FF- BOB 2 mins
45- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.15	105.69	Initial Hydro-static
2	23.28	105.28	Open To Flow (1)
30	58.31	107.73	Shut-In(1)
76	456.52	108.22	End Shut-In(1)
78	60.93	108.12	Open To Flow (2)
105	82.71	109.49	Shut-In(2)
151	453.89	109.79	End Shut-In(2)
153	1685.55	109.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	GWOCM, 25%G 25%O 10%W 40%M	1.79
30.00	SOCM, 5%O 95%M	0.43
0.00	285' 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

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58060

DST#: 4

ATTN: Marc Downing

Test Start: 2016.08.09 @ 00:25:52

Tool Information

Drill Pipe:	Length: 3421.00 ft	Diameter: 3.82 inches	Volume: 48.49 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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: 44000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 41000.00 lb
Depth to Top Packer:	3422.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	68.00 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			3403.00	
Shut In Tool	5.00			3408.00	
Hydraulic tool	5.00			3413.00	
Packer	5.00			3418.00	20.00 Bottom Of Top Packer
Packer	4.00			3422.00	
Stubb	1.00			3423.00	
Recorder	0.00	6651	Inside	3423.00	
Recorder	0.00	8959	Outside	3423.00	
Perforations	10.00			3433.00	
Change Over Sub	1.00			3434.00	
Drill Pipe	32.00			3466.00	
Change Over Sub	1.00			3467.00	
Bullnose	3.00			3470.00	48.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58060

DST#: 4

ATTN: Marc Downing

Test Start: 2016.08.09 @ 00:25:52

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

26 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
126.00	GWOCM, 25%G 25%O 10%W 40%M	1.786
30.00	SOCM, 5%O 95%M	0.425
0.00	285' GIP	0.000

Total Length: 156.00 ft Total Volume: 2.211 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

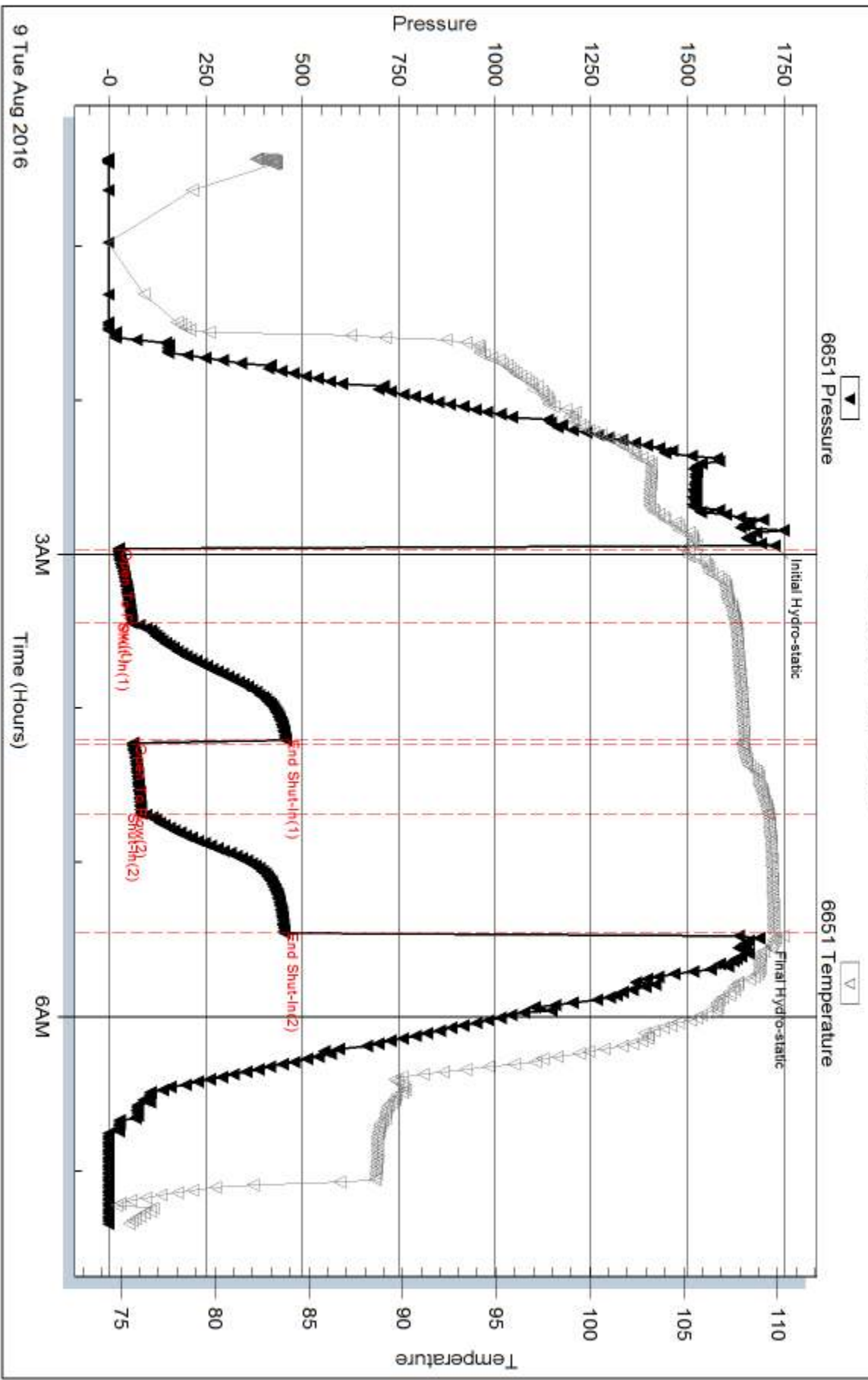
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

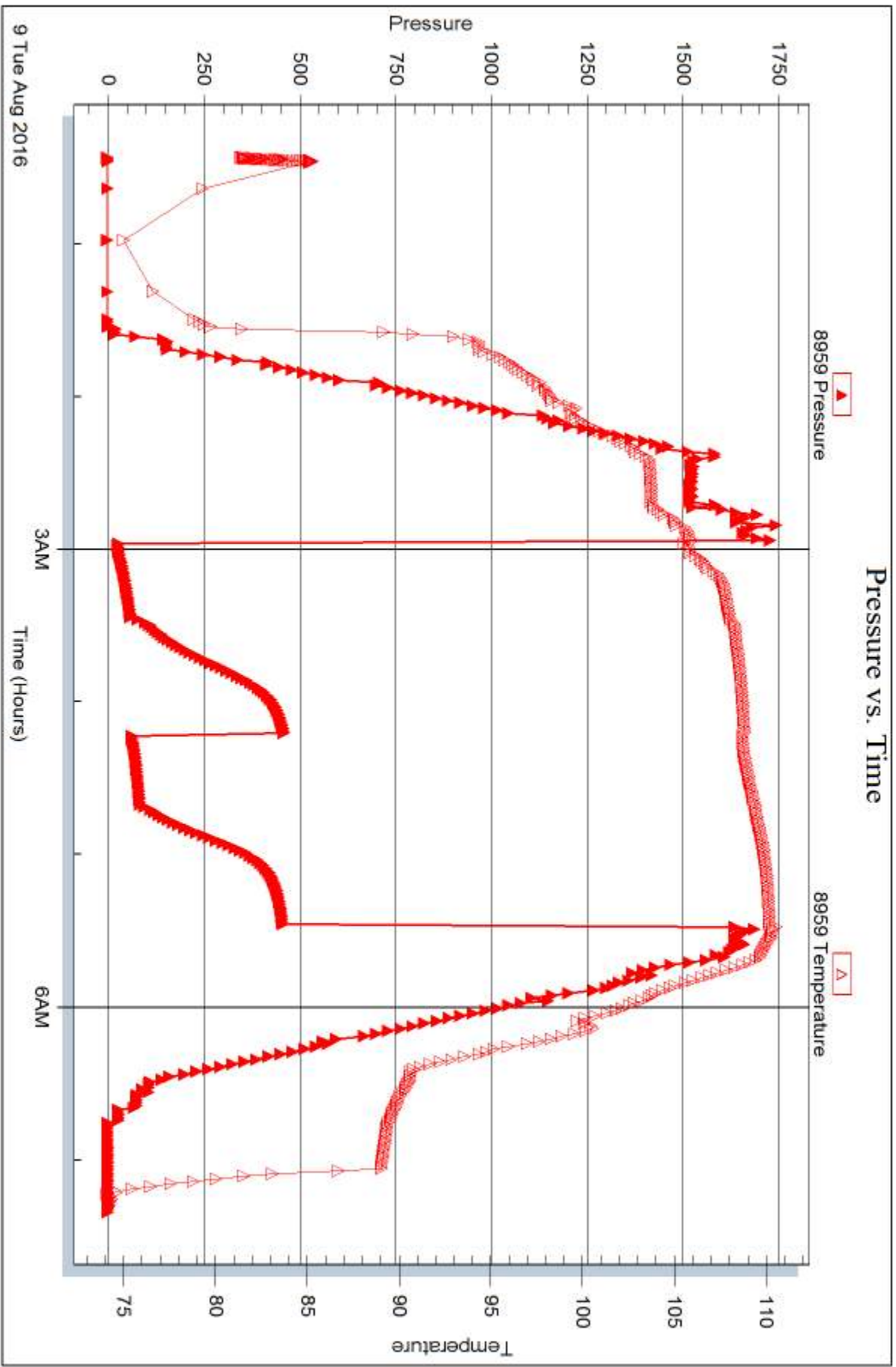


Serial #: 8959

Outside Double Ds LLC

Reichert #4

DST Test Number: 4



Trickle Testing, Inc

Ref. No: 58060

Printed: 2016.08.11 @ 08:40:17



DRILL STEM TEST REPORT

Prepared For: **Double D's LLC**

133 E 12th
Hays, KS 67601

ATTN: Marc Downing

Reichert #4

23-15S-19W Ellis, KS

Start Date: 2016.08.09 @ 18:25:41

End Date: 2016.08.10 @ 01:11:41

Job Ticket #: 58061 DST #: 5

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

Printed: 2016.08.11 @ 08:39:55



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58061

DST#: 5

ATTN: Marc Downing

Test Start: 2016.08.09 @ 18:25:41

GENERAL INFORMATION:

Formation: **Cong Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:07:41

Time Test Ended: 01:11:41

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3575.00 ft (KB) To 3605.00 ft (KB) (TVD)

Reference Elevations: 1979.00 ft (KB)

Total Depth: 3605.00 ft (KB) (TVD)

1972.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 6651

Inside

Press@RunDepth: 631.31 psig @ 3576.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.08.09

End Date:

2016.08.10

Last Calib.:

2016.08.10

Start Time: 18:25:42

End Time:

01:11:41

Time On Btm:

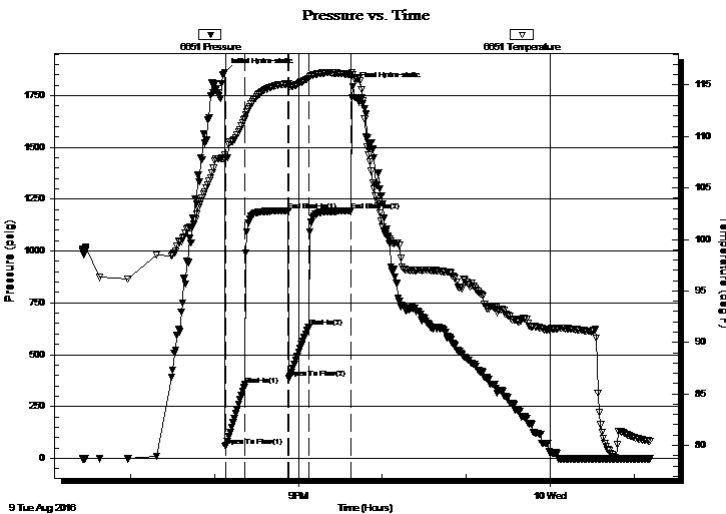
2016.08.09 @ 20:07:11

Time Off Btm:

2016.08.09 @ 21:39:11

TEST COMMENT: 15- IF- BOB 2 mins
30- IS- No blow
15- FF- BOB 2 mins
30- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1862.29	108.18	Initial Hydro-static
1	58.13	107.73	Open To Flow (1)
15	354.63	111.71	Shut-In(1)
46	1193.94	115.11	End Shut-In(1)
46	384.72	114.83	Open To Flow (2)
60	631.31	115.62	Shut-In(2)
91	1193.43	116.01	End Shut-In(2)
92	1792.69	116.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1197.00	GMCOV, 10%G 25%O 55%W 10%M	16.97
195.00	GWMCO, 5%G 50%O 25%W 20%M	2.76
0.00	2187' GIP (Very faint odor)	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

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58061

DST#: 5

ATTN: Marc Downing

Test Start: 2016.08.09 @ 18:25:41

Tool Information

Drill Pipe:	Length: 3579.00 ft	Diameter: 3.82 inches	Volume: 50.73 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - 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: 49000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	3575.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	50.00 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			3556.00	
Shut In Tool	5.00			3561.00	
Hydraulic tool	5.00			3566.00	
Packer	5.00			3571.00	20.00 Bottom Of Top Packer
Packer	4.00			3575.00	
Stubb	1.00			3576.00	
Recorder	0.00	6651	Inside	3576.00	
Recorder	0.00	8959	Outside	3576.00	
Perforations	26.00			3602.00	
Bullnose	3.00			3605.00	30.00 Bottom Packers & Anchor
Total Tool Length:	50.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Double D's LLC

23-15S-19W Ellis, KS

133 E 12th
Hays, KS 67601

Reichert #4

Job Ticket: 58061

DST#: 5

ATTN: Marc Downing

Test Start: 2016.08.09 @ 18:25:41

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:

43000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1197.00	GMCOV, 10%G 25%O 55%W 10%M	16.968
195.00	GWMCO, 5%G 50%O 25%W 20%M	2.764
0.00	2187' GIP (Very faint odor)	0.000

Total Length: 1392.00 ft Total Volume: 19.732 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

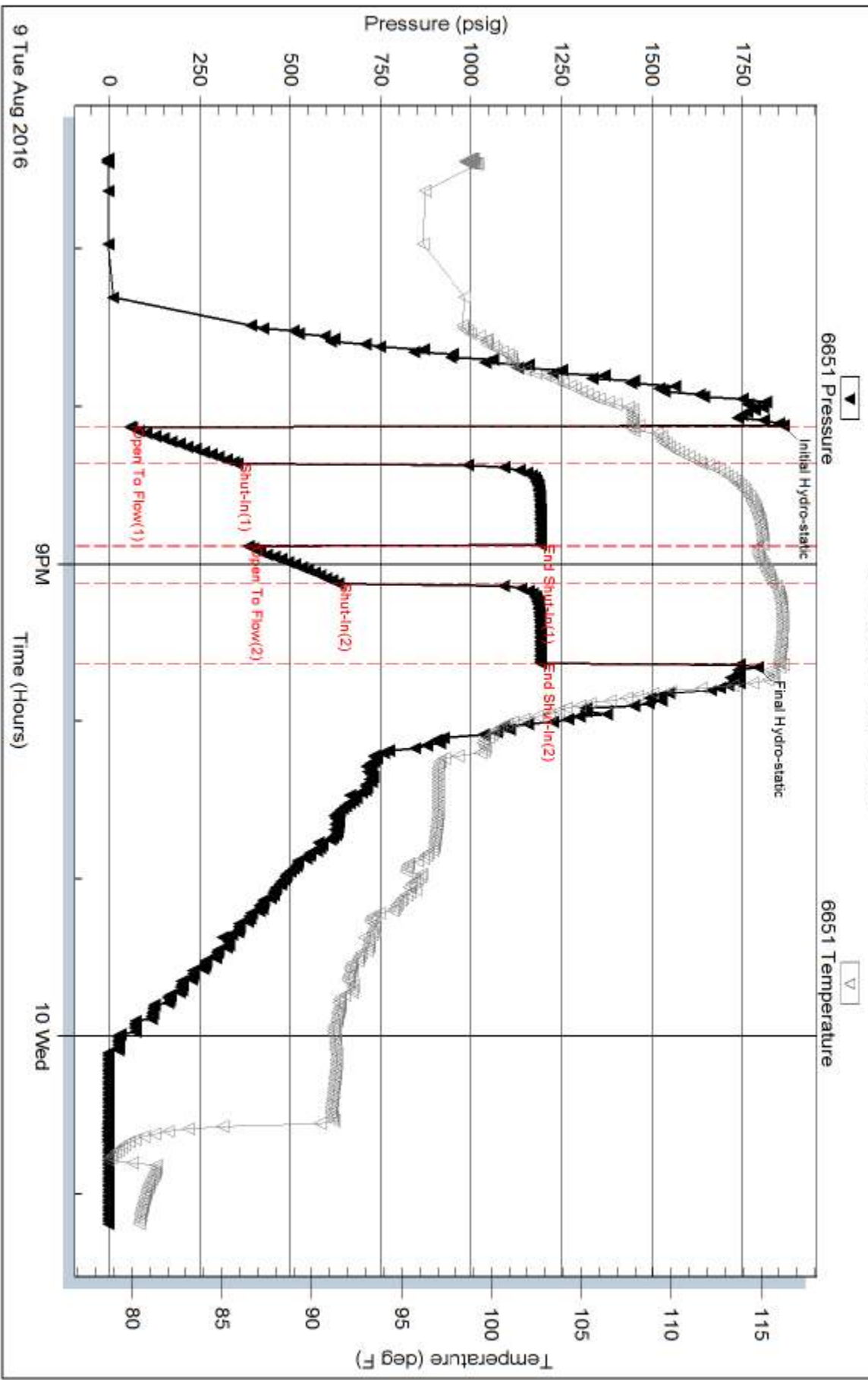
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .rW 13 @ 84

Pressure vs. Time

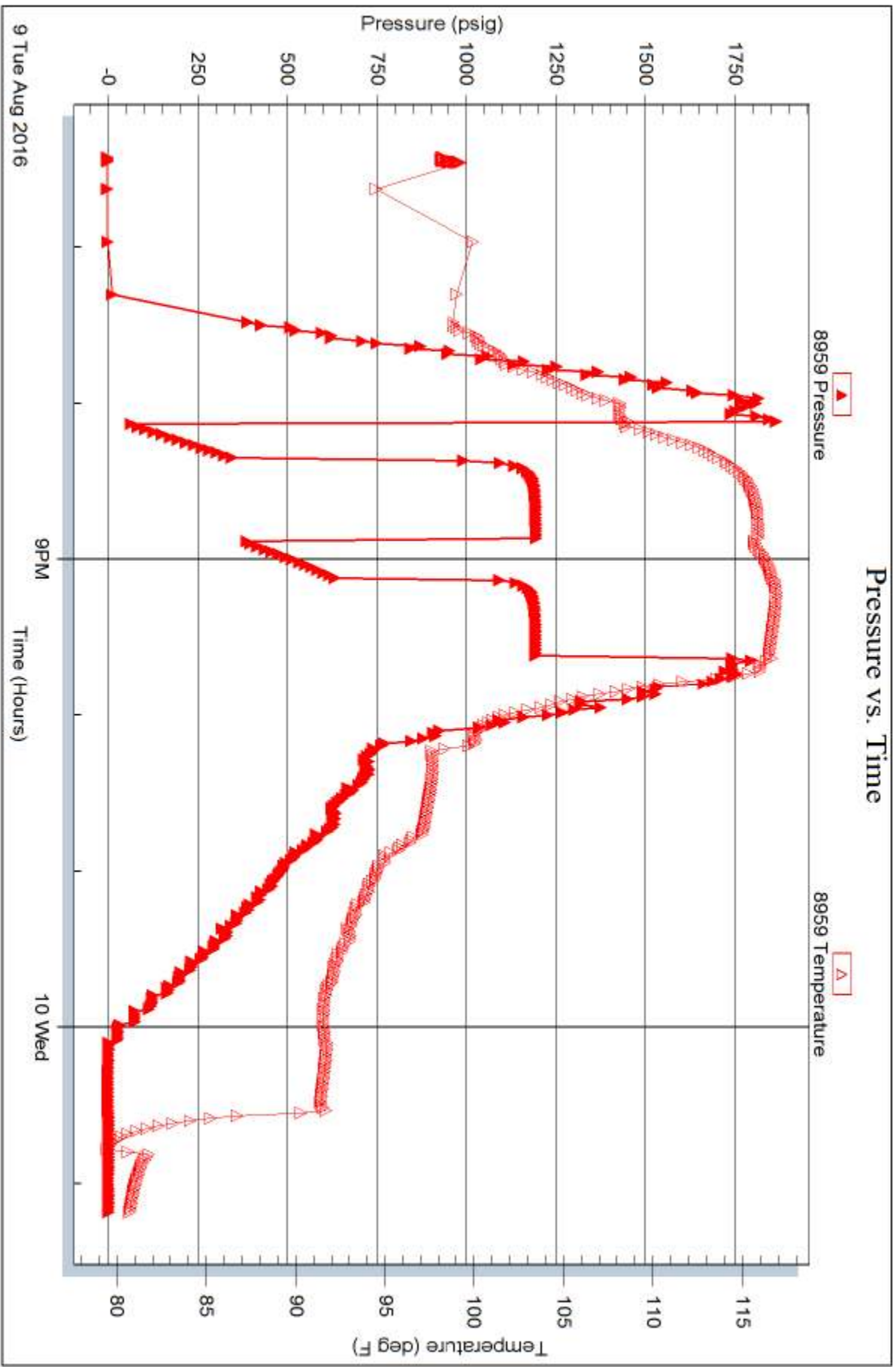


Serial #: 8959

Outside Double D's LLC

Reichert #4

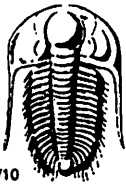
DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 58061

Printed: 2016.08.11 @ 08:39:57



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58057

Well Name & No. Reichert #4 Test No. 1 Date 8/7/16
 Company Double D's LLC Elevation 1979 KB 1972 GL
 Address 133 E. 12th Hays, KS 67601
 Co. Rep / Geo. Marc Downing Rig Royal #1
 Location: Sec. 23 Twp. 15 S Rge. 19 W Co. Ellis State KS

Interval Tested 3279-3309 Zone Tested LKC "C"
 Anchor Length 30' Drill Pipe Run 3262 Mud Wt. 8.8
 Top Packer Depth 3274 Drill Collars Run — Vis 42
 Bottom Packer Depth 3279 Wt. Pipe Run — WL 2.2
 Total Depth 3309 Chlorides 2,500 ppm System LCM 2#

Blow Description IF - Slowly built to 1"
FSI - No blow
FF - Slowly built to 1"
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>SOCM</u>		<u>3</u>		<u>97</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

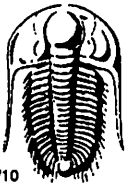
Rec Total 15' BHT 105° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1608 Test 1050 T-On Location 0545
 (B) First Initial Flow 10 Jars _____ T-Started 0613
 (C) First Final Flow 14 Safety Joint _____ T-Open 0952
 (D) Initial Shut-In 93 Circ Sub _____ T-Pulled 1152
 (E) Second Initial Flow 10 Hourly Standby _____ T-Out 1317
 (F) Second Final Flow 17 Mileage 34 RT 25.50 Comments _____
 (G) Final Shut-In 54 Sampler _____
 (H) Final Hydrostatic 1574 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 30 Ruined Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 30 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1075.50 Total 1075.50
 MP/DST Disc't _____

Approved By _____ Our Representative Brennan Lonsdak

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58058

Well Name & No. Reichert #4 Test No. 2 Date 8/7/16
 Company Double D's LLC Elevation 1979 KB 1972 GL
 Address 133 E. 12th Hays, KS 67601
 Co. Rep / Geo. Marc Downing Rig Royal #1
 Location: Sec. 23 Twp. 15 S Rge. 19 W Co. Ellis State KS

Interval Tested 3306-3332 Zone Tested LKC "D"
 Anchor Length 26' Drill Pipe Run 3294 Mud Wt. 9.3
 Top Packer Depth 3301 Drill Collars Run — Vis 48
 Bottom Packer Depth 3306 Wt. Pipe Run — WL 2.2
 Total Depth 3332 Chlorides 2,600 ppm System LCM 2nd

Blow Description IF - BOB 4mins
ISI - Surface blow
PF - BOB 1min
FSI - Slowly built to 1"

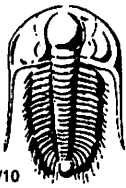
Rec	Feet of	%gas	%oil	%water	%mud
<u>126</u>	<u>VGSWSMCO</u>	<u>45</u>	<u>45</u>	<u>5</u>	<u>5</u>
<u>30</u>	<u>GOCM</u>	<u>10</u>	<u>25</u>	<u>—</u>	<u>55</u>
<u>—</u>	<u>B56' GIP</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 156' BHT 108^o Gravity 29 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1649</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1900</u>
(B) First Initial Flow <u>14</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>1903</u>
(C) First Final Flow <u>44</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>2029</u>
(D) Initial Shut-In <u>668</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>2259</u>
(E) Second Initial Flow <u>51</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>7/8 0054</u>
(F) Second Final Flow <u>69</u>	<input checked="" type="checkbox"/> Mileage <u>34 RT 25.50</u>	Comments <u>—</u>
(G) Final Shut-In <u>632</u>	<input type="checkbox"/> Sampler <u>—</u>	<u>—</u>
(H) Final Hydrostatic <u>1639</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>1075.50</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>1075.50</u>	

Approved By _____ Our Representative Brannan Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58059

Well Name & No. Reichert #4 Test No. 3 Date 8/8/16
 Company Double D's LLC Elevation 1979 KB 1972 GL
 Address 133 E 12th Hays, KS 67601
 Co. Rep / Geo. Marc Dunning Rig Royal #1
 Location: Sec. 23 Twp. 15 S Rge. 19 W Co. Ellis State KS

Interval Tested 3329-3350 Zone Tested 2KC "E"
 Anchor Length 21' Drill Pipe Run 3325 Mud Wt. 93
 Top Packer Depth 3324 Drill Collars Run — Vis 48
 Bottom Packer Depth 3329 Wt. Pipe Run — WL 72
 Total Depth 3350 Chlorides 2,600 ppm System LCM 2[#]
 Blow Description IF - slowly built to 1/2"
TSD - No blow
FP - No blow
FSD - No blow

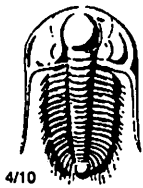
Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>MI</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2' BHT 101° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1632</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0653</u>
(B) First Initial Flow <u>10</u>	<input type="checkbox"/> Jars _____	T-Started <u>0715</u>
(C) First Final Flow <u>12</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>0904</u>
(D) Initial Shut-In <u>41</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>1024</u>
(E) Second Initial Flow <u>12</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>1134</u>
(F) Second Final Flow <u>12</u>	<input checked="" type="checkbox"/> Mileage <u>34 RT</u> 25.50	Comments _____
(G) Final Shut-In <u>22</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1605</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Flow <u>15</u>	<input type="checkbox"/> Day Standby _____	Total <u>1075.50</u>
Final Shut-In <u>15</u>	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1075.50</u>	

Approved By _____ Our Representative Braman Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58060

Well Name & No. Reichert #4 Test No. 4 Date 8/9/16
 Company Double D's LLC Elevation 1979 KB 1972 GL
 Address 133 E. 12th Hays, KS 67601
 Co. Rep / Geo. Marc Downing Rig Royal #1
 Location: Sec. 23 Twp. 15 S Rge. 19 W Co. Ellis State KS

Interval Tested 3422-3470 Zone Tested LKC "JNJ"
 Anchor Length 48' Drill Pipe Run 3421 Mud Wt. 9.0
 Top Packer Depth 3417 Drill Collars Run — Vis 50
 Bottom Packer Depth 3422 Wt. Pipe Run — WL 6.8
 Total Depth 3470 Chlorides 2,900 ppm System LCM 2nd

Blow Description IF- BOB 2mins
ISI- No Blow
FF- BOB 2mins
PST- No Blow

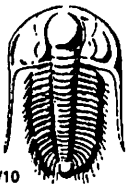
Rec	Feet of	%gas	%oil	%water	%mud
<u>12.6</u>	<u>6 WOCM</u>	<u>25</u>	<u>25</u>	<u>10</u>	<u>40</u>
<u>30</u>	<u>SOCM</u>	<u>—</u>	<u>5</u>	<u>—</u>	<u>95</u>
<u>—</u>	<u>285 WIP</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 156' BHT 110° Gravity 26 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1726 Test 1050 T-On Location 0012
 (B) First Initial Flow 27 Jars — T-Started 0025
 (C) First Final Flow 58 Safety Joint — T-Open 0256
 (D) Initial Shut-In 457 Circ Sub — T-Pulled 0526
 (E) Second Initial Flow 61 Hourly Standby — T-Out 0719
 (F) Second Final Flow 83 Mileage 34 RT 25.50 Comments —
 (G) Final Shut-In 454 Sampler —
 (H) Final Hydrostatic 1686 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1075.50
 Accessibility — MP/DST Disc't —
 Sub Total 1075.50

Approved By _____ Our Representative Brannan Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58061

4/10

Well Name & No. Reichert #4 Test No. 5 Date 8/9/16
 Company Double D's LLC Elevation 1979 KB 1972 GL
 Address 133 E 12th Hays, KS 67601
 Co. Rep / Geo. Marc Dunning Rig Royal #1
 Location: Sec. 23 Twp. 15 S Rge. 19 W Co. Ellis State KS

Interval Tested 3575-3605 Zone Tested Cong. Sand
 Anchor Length 30' Drill Pipe Run 3579 Mud Wt. 9.1
 Top Packer Depth 3570 Drill Collars Run — Vis 52
 Bottom Packer Depth 3575 Wt. Pipe Run — WL 7.2
 Total Depth 3605 Chlorides 2,900 ppm System LCM 2nd
 Blow Description IF-BOB 2 mins
ISI- No blow
FF-BOB 2 mins
FSI- No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1197</u>	<u>Feet of G/MCOW</u>	<u>10%</u>	<u>25%</u>	<u>55%</u>	<u>10%</u>
<u>195</u>	<u>Feet of G/MCO</u>	<u>5%</u>	<u>30%</u>	<u>25%</u>	<u>20%</u>
<u>—</u>	<u>Feet of 2187' GIP (Very faint odor)</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>Feet of</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>Feet of</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 1392 BHT 116° Gravity 24 API RW 13 @ 84° F Chlorides 43,000 ppm
 (A) Initial Hydrostatic 1862 Test 1050 T-On Location 1817
 (B) First Initial Flow 58 Jars — T-Started 1825
 (C) First Final Flow 355 Safety Joint — T-Open 2007
 (D) Initial Shut-In 1194 Circ Sub — T-Pulled 2137
 (E) Second Initial Flow 385 Hourly Standby — T-Out 8/10 @ 1515
 (F) Second Final Flow 631 Mileage 34 RT x 2 Comments Tools loaded
 (G) Final Shut-In 1193 Sampler 51 8/10 @ 1515
 (H) Final Hydrostatic 1793 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1101
 Accessibility — MP/DST Disc't —
 Sub Total 1101

Approved By _____ Our Representative Braman Lonsdale

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