DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

Weber 15 Unit #1

15-13s-31w Gove, KS

Start Date: 2013.03.11 @ 05:45:00
End Date: 2013.03.11 @ 12:51:00
Job Ticket #: 49961 DST #: 1

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

Printed: 2013.03.21 @ 09:29:31

DRILL STEM TEST REPORT

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 49961 **DST#: 1**

Test Start: 2013.03.11 @ 05:45:00

GENERAL INFORMATION:

Formation: **Lansing " C & D "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:52:15
Time Test Ended: 12:51:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jace McKinney
Unit No: 64

Interval: 3993.00 ft (KB) To 4028.00 ft (KB) (TVD)
Total Depth: 4028.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

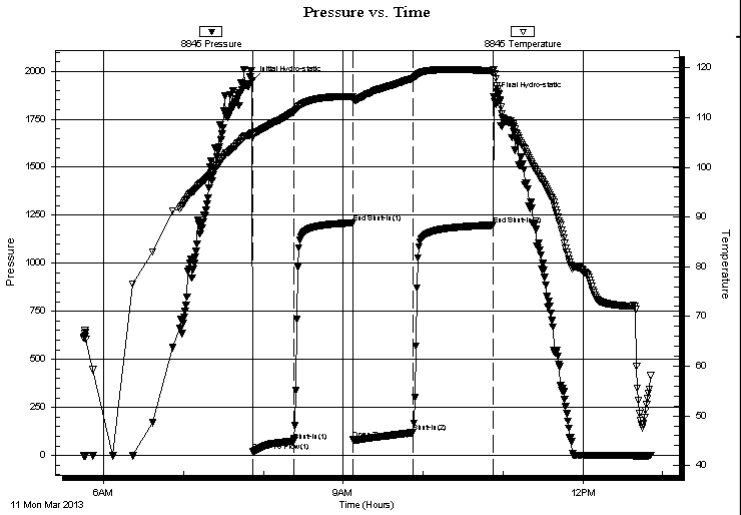
Reference Elevations: 2913.00 ft (KB)
2908.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8845 **Outside**

Press@RunDepth: 118.73 psig @ 3994.00 ft (KB)
Start Date: 2013.03.11 End Date: 2013.03.11
Start Time: 05:45:05 End Time: 12:50:59

Capacity: 8000.00 psig
Last Calib.: 2013.03.11
Time On Btm: 2013.03.11 @ 07:51:45
Time Off Btm: 2013.03.11 @ 10:53:00

TEST COMMENT: B.O.B. in 22 min.
Bled off for 5 min. Built to 1/4" return blow
B.O.B. in 20 min.
Bled off for 5 min. Built to 1/2" return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1950.98	107.04	Initial Hydro-static
1	19.83	105.90	Open To Flow (1)
31	75.64	111.18	Shut-In(1)
76	1210.77	114.25	End Shut-In(1)
76	84.60	113.70	Open To Flow (2)
121	118.73	117.89	Shut-In(2)
181	1198.92	119.34	End Shut-In(2)
182	1865.57	119.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
123.00	mco 40%M 60%O	0.60
212.00	gco 10%G 90%O	2.97
0.00	300 Feet Gas In Pipe	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 49961 **DST#: 1**

Test Start: 2013.03.11 @ 05:45:00

GENERAL INFORMATION:

Formation: **Lansing " C & D "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:52:15
Time Test Ended: 12:51:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jace McKinney
Unit No: 64

Interval: 3993.00 ft (KB) To 4028.00 ft (KB) (TVD)
Total Depth: 4028.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

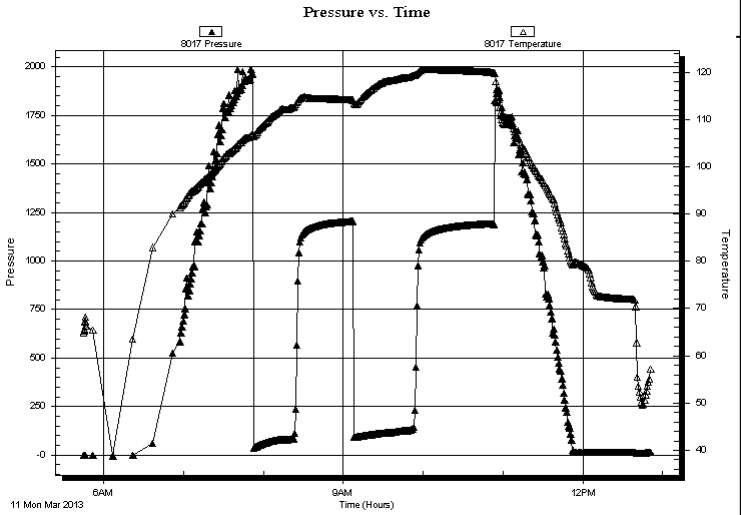
Reference Elevations: 2913.00 ft (KB)
2908.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8017 **Outside**

Press@RunDepth: psig @ 3994.00 ft (KB)
Start Date: 2013.03.11 End Date: 2013.03.11
Start Time: 05:45:05 End Time: 12:51:14

Capacity: 8000.00 psig
Last Calib.: 2013.03.11
Time On Btm:
Time Off Btm:

TEST COMMENT: B.O.B. in 22 min.
Bled off for 5 min. Built to 1/4" return blow
B.O.B. in 20 min.
Bled off for 5 min. Built to 1/2" return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
123.00	mco 40%M 60%O	0.60
212.00	gco 10%G 90%O	2.97
0.00	300 Feet Gas In Pipe	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 49961 **DST#: 1**

Test Start: 2013.03.11 @ 05:45:00

Tool Information

Drill Pipe:	Length:	3847.65 ft	Diameter:	3.80 inches	Volume:	53.97 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	123.91 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	
					Total Volume:	54.58 bbl	

Drill Pipe Above KB:	6.56 ft
Depth to Top Packer:	3993.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	35.00 ft
Tool Length:	63.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	2000.00 lb
Weight set on Packer:	25000.00 lb
Weight to Pull Loose:	66000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	54000.00 lb
Final	56000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3966.00		
Shut In Tool	5.00			3971.00		
Hydraulic tool	5.00			3976.00		
Jars	5.00			3981.00		
Safety Joint	3.00			3984.00		
Packer	5.00			3989.00	28.00	Bottom Of Top Packer
Packer	4.00			3993.00		
Stubb	1.00			3994.00		
Recorder	0.00	8017	Outside	3994.00		
Recorder	0.00	8845	Outside	3994.00		
Perforations	29.00			4023.00		
Bullnose	5.00			4028.00	35.00	Bottom Packers & Anchor
Total Tool Length:	**63.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 49961 **DST#: 1**

Test Start: 2013.03.11 @ 05:45:00

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:	64.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.19 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

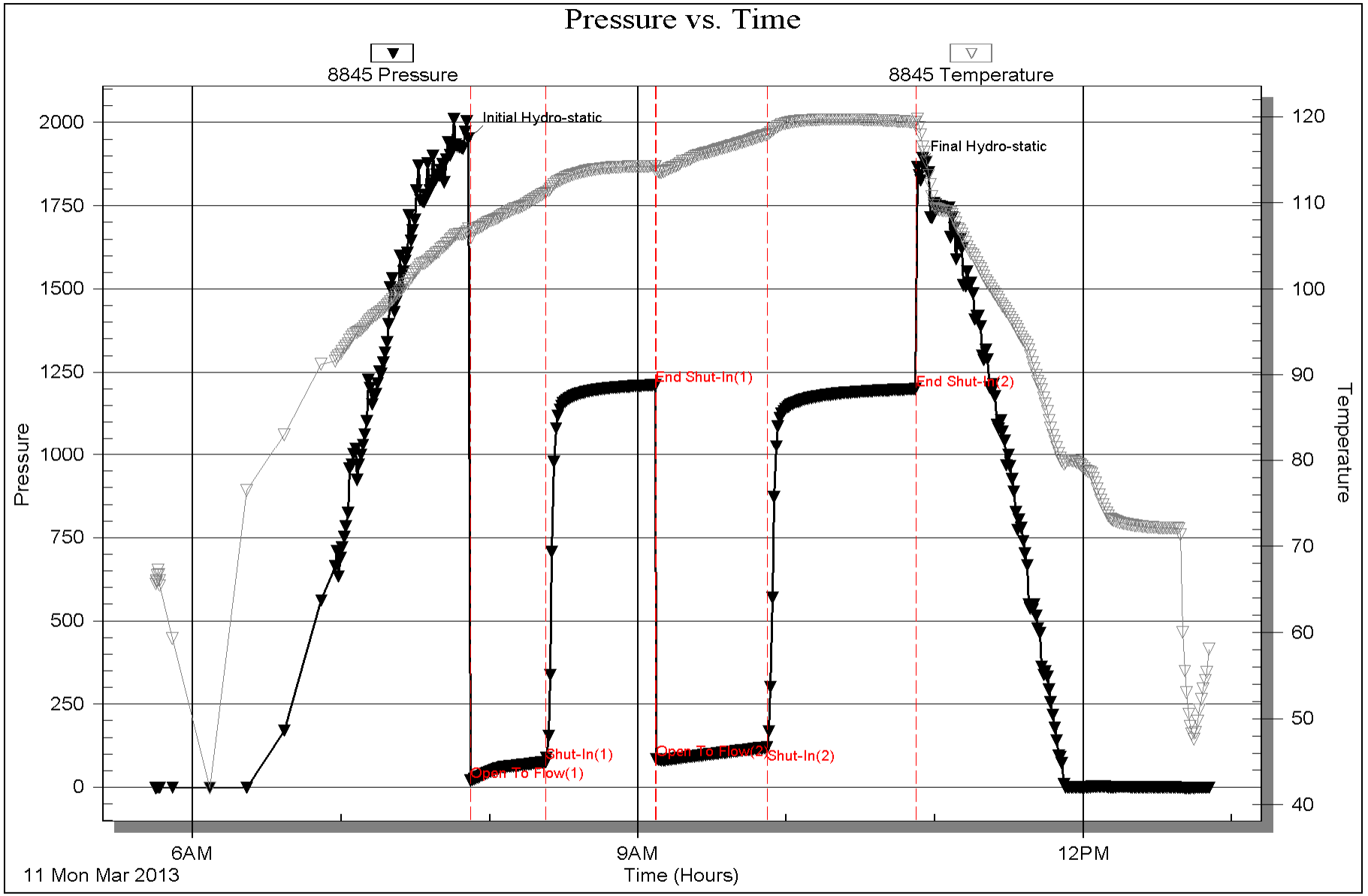
Length ft	Description	Volume bbl
123.00	mco 40%M 60%O	0.605
212.00	gco 10%G 90%O	2.966
0.00	300 Feet Gas In Pipe	0.000

Total Length: 335.00 ft Total Volume: 3.571 bbl

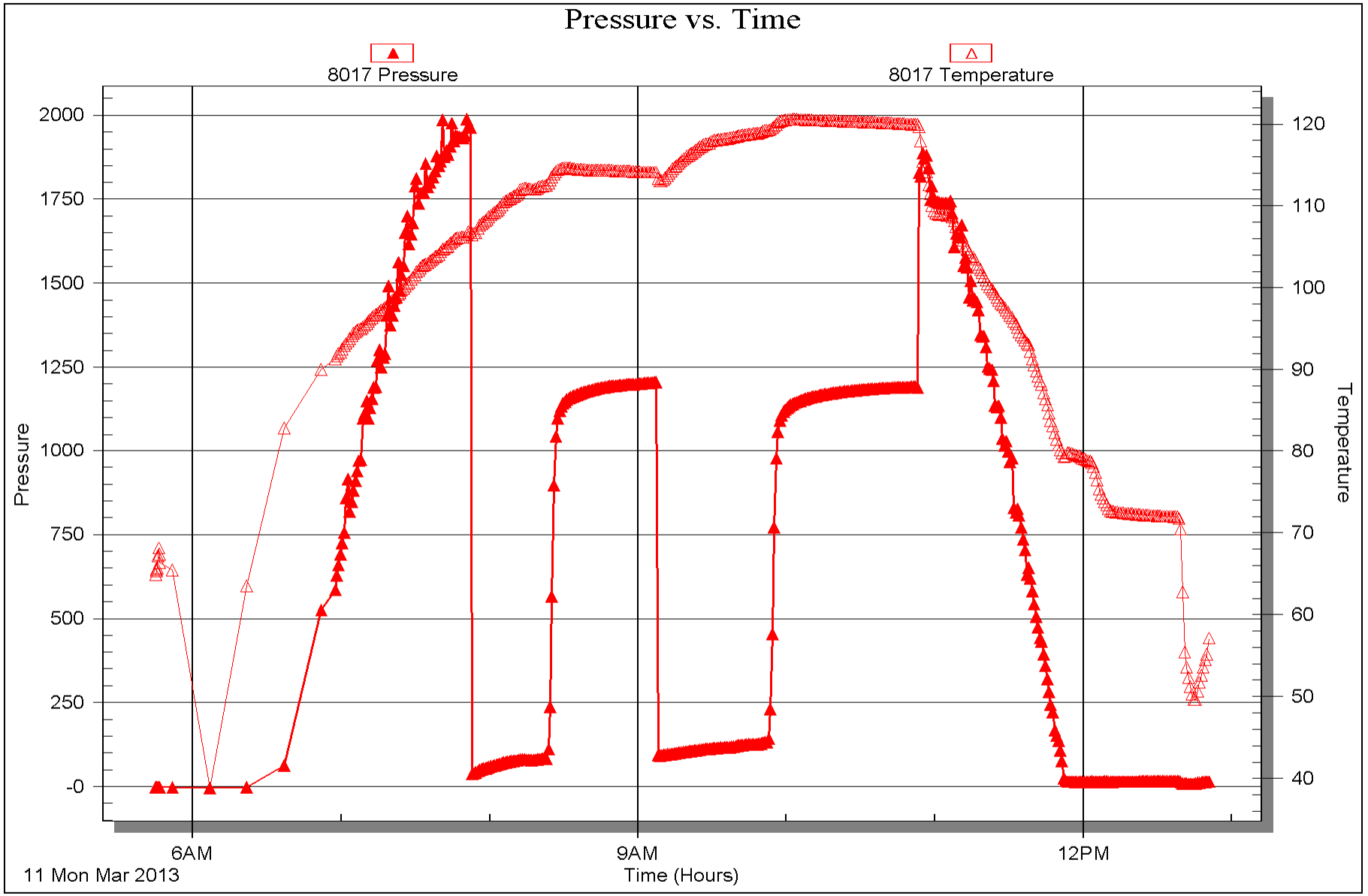
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: API: 32 @ 60 F = 32


Pressure vs. Time
8845 Pressure
8845 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Open To Flow(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
2000
1750
1500
1250
1000
750
500
250
0
120
110
100
90
80
70
60
50
40
6AM
9AM
12PM
11 Mon Mar 2013
Time (Hours)

Serial #: 8017 **Outside** Ritchie Exploration, Inc Weber 15 Unit #1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 49961 Printed: 2013.03.21 @ 09:29:34

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

Weber 15 Unit #1

15-13s-31w Gove, KS

Start Date: 2013.03.11 @ 21:13:00
End Date: 2013.03.12 @ 03:45:30
Job Ticket #: 46893 DST #: 2

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

Printed: 2013.03.21 @ 09:28:50

DRILL STEM TEST REPORT

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46893 **DST#: 2**

Test Start: 2013.03.11 @ 21:13:00

GENERAL INFORMATION:

Formation: **" E- F "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:01:15
Time Test Ended: 03:45:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Sam Esparza
Unit No: 64

Interval: 4043.00 ft (KB) To 4070.00 ft (KB) (TVD)
Total Depth: 4070.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

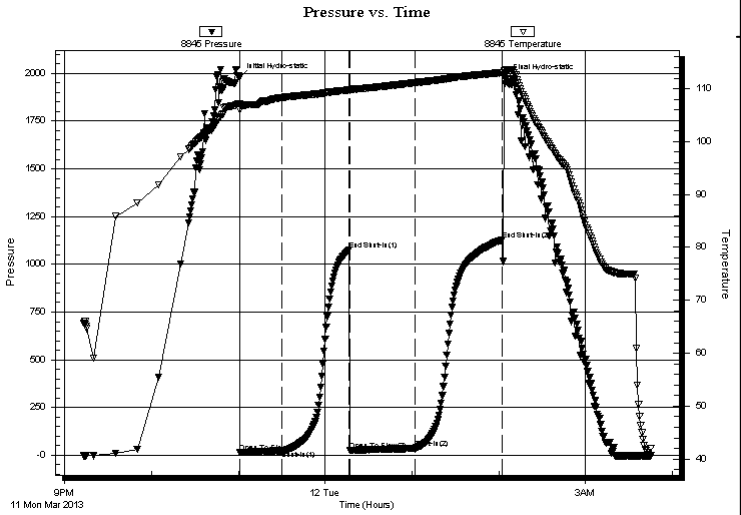
Reference Elevations: 2913.00 ft (KB)
2908.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8845 **Outside**

Press@RunDepth: 35.66 psig @ 4044.00 ft (KB)
Start Date: 2013.03.11 End Date: 2013.03.12
Start Time: 21:13:05 End Time: 03:45:29

Capacity: 8000.00 psig
Last Calib.: 2013.03.12
Time On Btm: 2013.03.11 @ 23:01:00
Time Off Btm: 2013.03.12 @ 02:05:15

TEST COMMENT: IF: 1" blow .
ISI: No return.
FF: 3" blow .
FSI: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1979.14	107.24	Initial Hydro-static
1	14.57	106.10	Open To Flow (1)
29	24.18	108.31	Shut-In(1)
76	1075.35	109.77	End Shut-In(1)
77	24.34	109.76	Open To Flow (2)
121	35.66	111.13	Shut-In(2)
182	1129.13	113.04	End Shut-In(2)
185	1969.68	113.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	MCO 40m 60o	0.15

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46893 **DST#: 2**

Test Start: 2013.03.11 @ 21:13:00

GENERAL INFORMATION:

Formation: **" E- F "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:01:15
Time Test Ended: 03:45:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Sam Esparza
Unit No: 64

Interval: 4043.00 ft (KB) To 4070.00 ft (KB) (TVD)
Total Depth: 4070.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

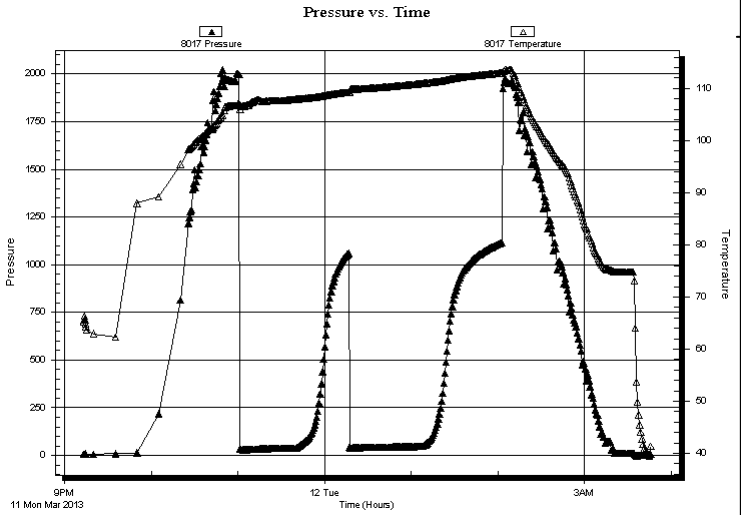
Reference Elevations: 2913.00 ft (KB)
2908.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8017 **Outside**

Press@RunDepth: psig @ 4044.00 ft (KB)
Start Date: 2013.03.11 End Date: 2013.03.12
Start Time: 21:13:05 End Time: 03:45:44

Capacity: 8000.00 psig
Last Calib.: 2013.03.12
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 1" blow .
ISI: No return.
FF: 3" blow .
FSI: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	MCO 40m 60o	0.15

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46893 **DST#: 2**

Test Start: 2013.03.11 @ 21:13:00

Tool Information

Drill Pipe:	Length:	3906.00 ft	Diameter:	3.80 inches	Volume:	54.79 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		30000.00 lb
Drill Collar:	Length:	124.00 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	Weight to Pull Loose:		75000.00 lb
					Total Volume:	55.40 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		15.00 ft					String Weight:	Initial	55000.00 lb
Depth to Top Packer:		4043.00 ft						Final	55000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		27.00 ft							
Tool Length:		55.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4016.00		
Shut In Tool	5.00			4021.00		
Hydraulic tool	5.00			4026.00		
Jars	5.00			4031.00		
Safety Joint	3.00			4034.00		
Packer	5.00			4039.00	28.00	Bottom Of Top Packer
Packer	4.00			4043.00		
Stubb	1.00			4044.00		
Recorder	0.00	8017	Outside	4044.00		
Recorder	0.00	8845	Outside	4044.00		
Perforations	21.00			4065.00		
Bullnose	5.00			4070.00	27.00	Bottom Packers & Anchor
Total Tool Length:	**55.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46893 **DST#: 2**

Test Start: 2013.03.11 @ 21:13:00

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:	bbl		
Water Loss:	6.39 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2400.00 ppm				
Filter Cake:	1.00 inches				

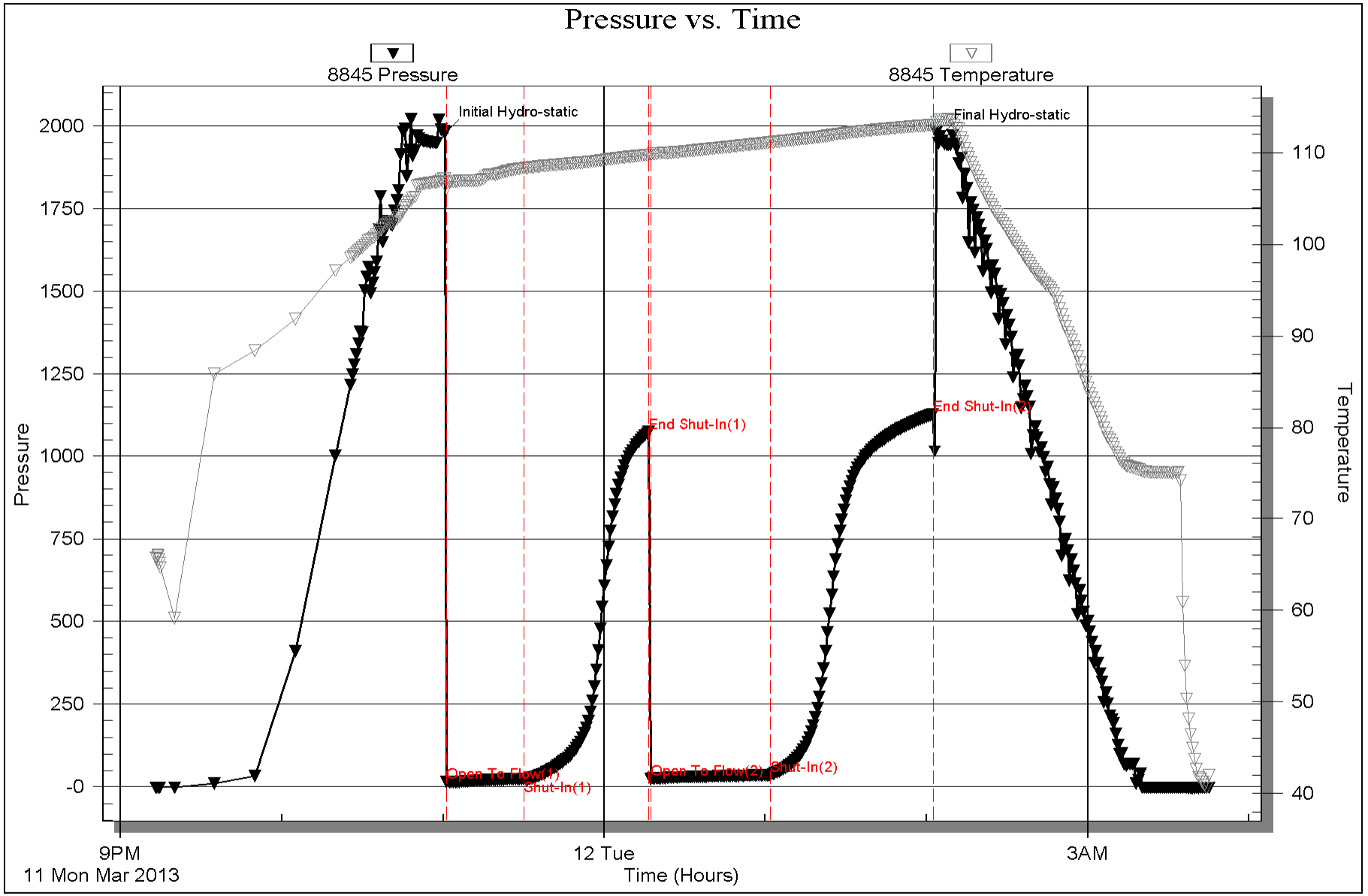
Recovery Information

Recovery Table

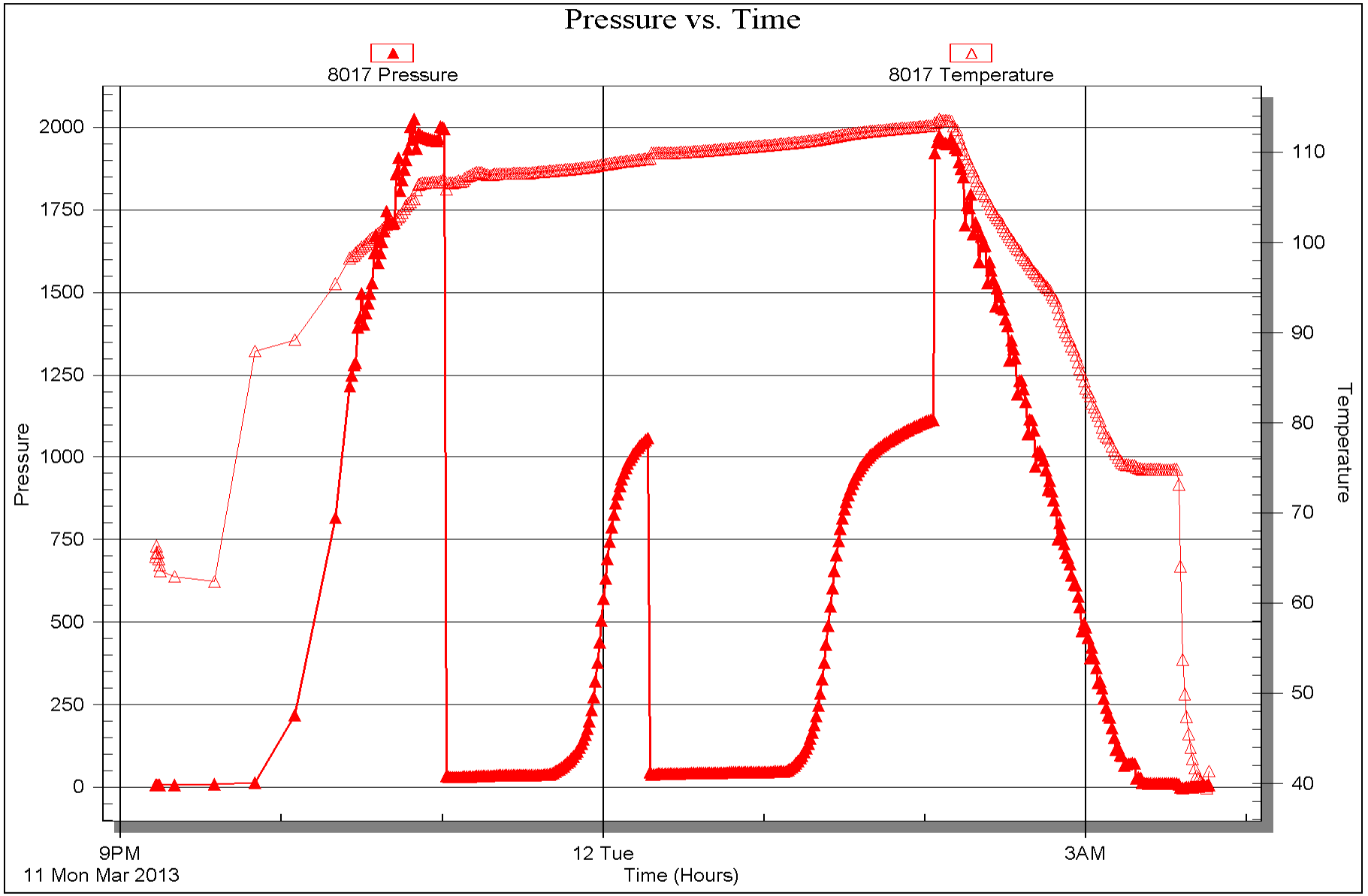
Length ft	Description	Volume bbl
30.00	MCO 40m 60o	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8845 Pressure
8845 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
2000
1750
1500
1250
1000
750
500
250
-0
Pressure
110
100
90
80
70
60
50
40
Temperature
9PM
11 Mon Mar 2013
12 Tue
3AM
Time (Hours)

Serial #: 8017 **Outside** Ritchie Exploration, Inc Weber 15 Unit #1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 46893 Printed: 2013.03.21 @ 09:28:54

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

Weber 15 Unit #1

15-13s-31w Gove, KS

Start Date: 2013.03.12 @ 23:25:00
End Date: 2013.03.13 @ 06:44:30
Job Ticket #: 46894 DST #: 3

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

Printed: 2013.03.21 @ 09:28:04

DRILL STEM TEST REPORT

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46894 **DST#: 3**

Test Start: 2013.03.12 @ 23:25:00

GENERAL INFORMATION:

Formation: **" K "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:51:30
Time Test Ended: 06:44:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Sam Esparza
Unit No: 64

Interval: 4210.00 ft (KB) To 4242.00 ft (KB) (TVD)
Total Depth: 4242.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

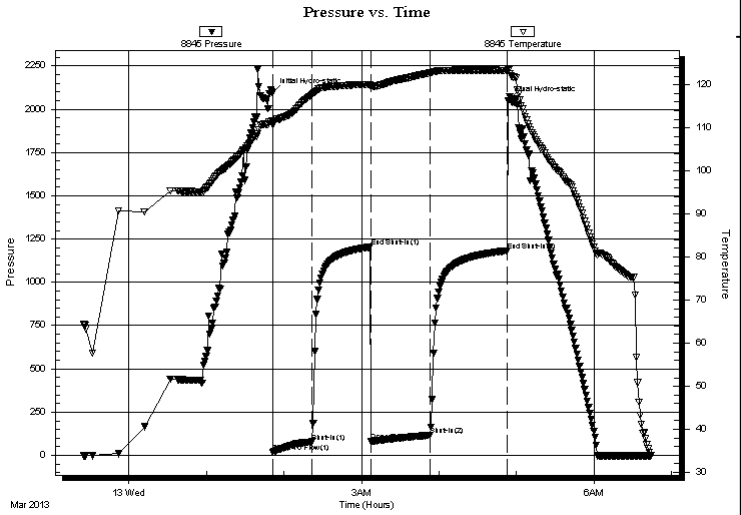
Reference Elevations: 2913.00 ft (KB)
2908.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8845 **Outside**

Press@RunDepth: 117.69 psig @ 4211.00 ft (KB)
Start Date: 2013.03.12 End Date: 2013.03.13
Start Time: 23:25:05 End Time: 06:44:29

Capacity: 8000.00 psig
Last Calib.: 2013.03.13
Time On Btm: 2013.03.13 @ 01:51:15
Time Off Btm: 2013.03.13 @ 04:53:45

TEST COMMENT: IF: 6 1/2" blow .
ISI: No return.
FF: 7 1/2" blow .
FSI: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2096.79	111.63	Initial Hydro-static
1	17.16	110.67	Open To Flow (1)
31	78.11	117.66	Shut-In(1)
76	1203.87	120.09	End Shut-In(1)
76	82.64	119.55	Open To Flow (2)
122	117.69	122.72	Shut-In(2)
182	1182.74	123.36	End Shut-In(2)
183	2050.39	123.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
200.00	MW 20m 80w	1.68
1.00	Oil 100o	0.01

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46894 **DST#: 3**

Test Start: 2013.03.12 @ 23:25:00

GENERAL INFORMATION:

Formation: **" K "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:51:30
Time Test Ended: 06:44:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Sam Esparza
Unit No: 64

Interval: 4210.00 ft (KB) To 4242.00 ft (KB) (TVD)
Total Depth: 4242.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

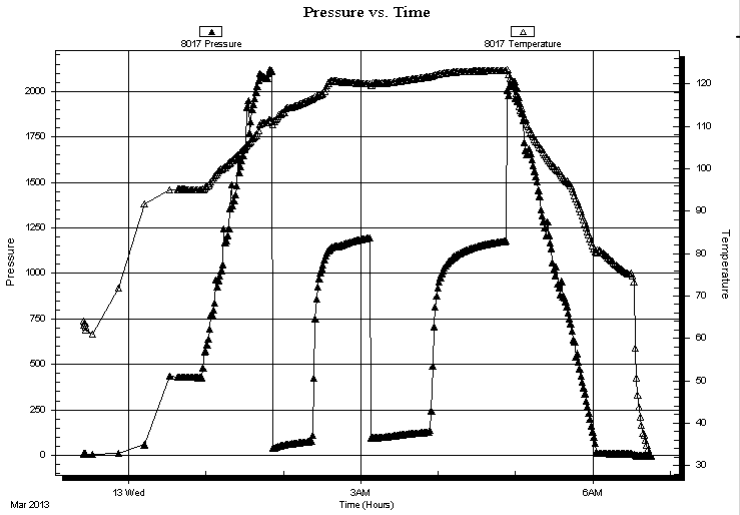
Reference Elevations: 2913.00 ft (KB)
2908.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8017 **Outside**

Press@RunDepth: psig @ 4211.00 ft (KB)
Start Date: 2013.03.12 End Date: 2013.03.13
Start Time: 23:25:05 End Time: 06:44:44

Capacity: 8000.00 psig
Last Calib.: 2013.03.13
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 6 1/2" blow .
ISI: No return.
FF: 7 1/2" blow .
FSI: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
200.00	MW 20m 80w	1.68
1.00	Oil 100o	0.01

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46894 **DST#: 3**

Test Start: 2013.03.12 @ 23:25:00

Tool Information

Drill Pipe:	Length:	4068.00 ft	Diameter:	3.80 inches	Volume:	57.06 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		30000.00 lb
Drill Collar:	Length:	124.00 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	Weight to Pull Loose:		70000.00 lb
					Total Volume:	57.67 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		10.00 ft					String Weight:	Initial	56000.00 lb
Depth to Top Packer:		4210.00 ft						Final	57000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		32.00 ft							
Tool Length:		60.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4183.00		
Shut In Tool	5.00			4188.00		
Hydraulic tool	5.00			4193.00		
Jars	5.00			4198.00		
Safety Joint	3.00			4201.00		
Packer	5.00			4206.00	28.00	Bottom Of Top Packer
Packer	4.00			4210.00		
Stubb	1.00			4211.00		
Recorder	0.00	8017	Outside	4211.00		
Recorder	0.00	8845	Outside	4211.00		
Perforations	26.00			4237.00		
Bullnose	5.00			4242.00	32.00	Bottom Packers & Anchor
Total Tool Length:	**60.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46894 **DST#: 3**

Test Start: 2013.03.12 @ 23:25:00

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:	96000 ppm
Viscosity:	59.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.39 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2600.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
200.00	MW 20m 80w	1.676
1.00	Oil 100o	0.014

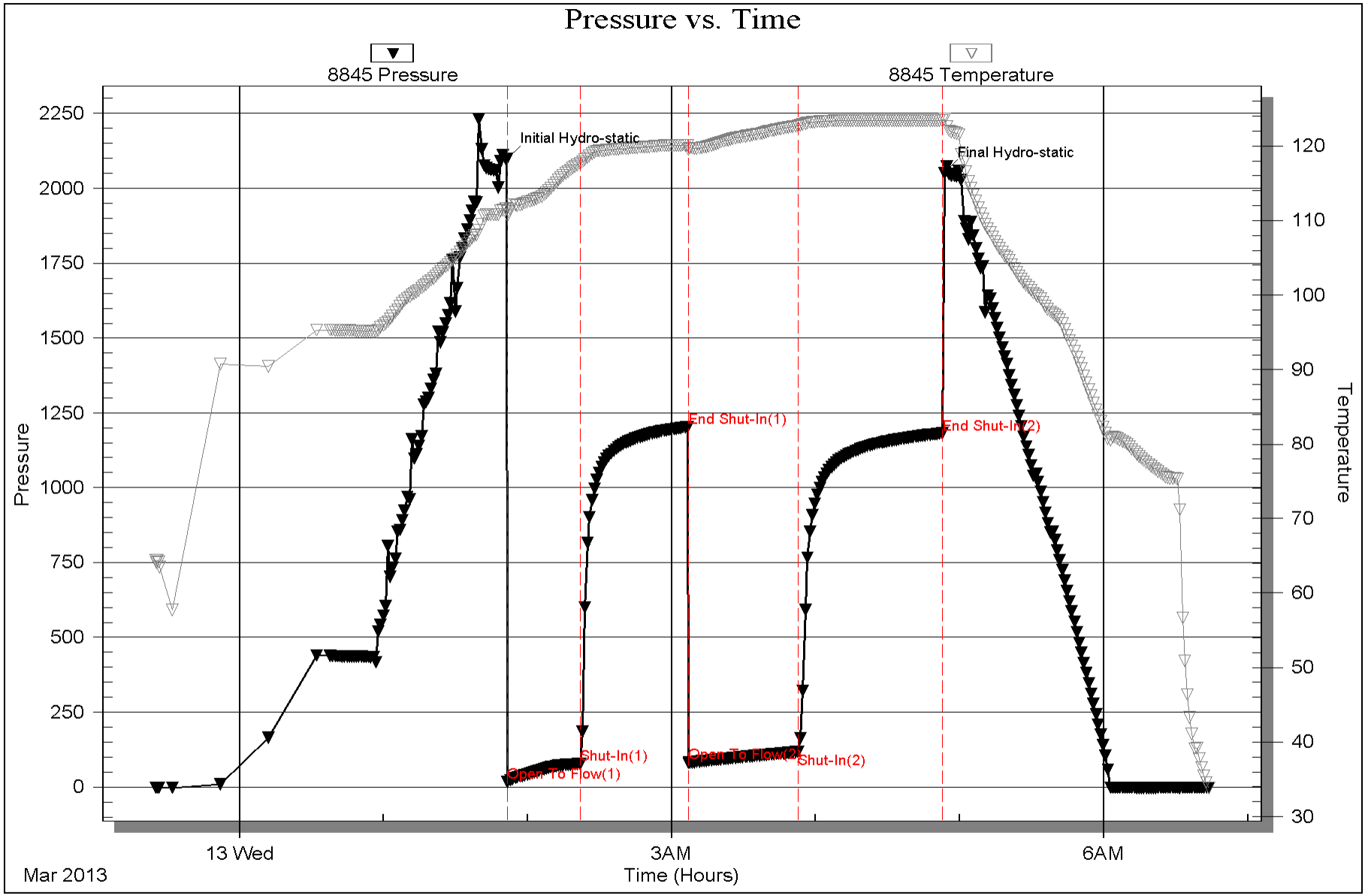
Total Length: 201.00 ft Total Volume: 1.690 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

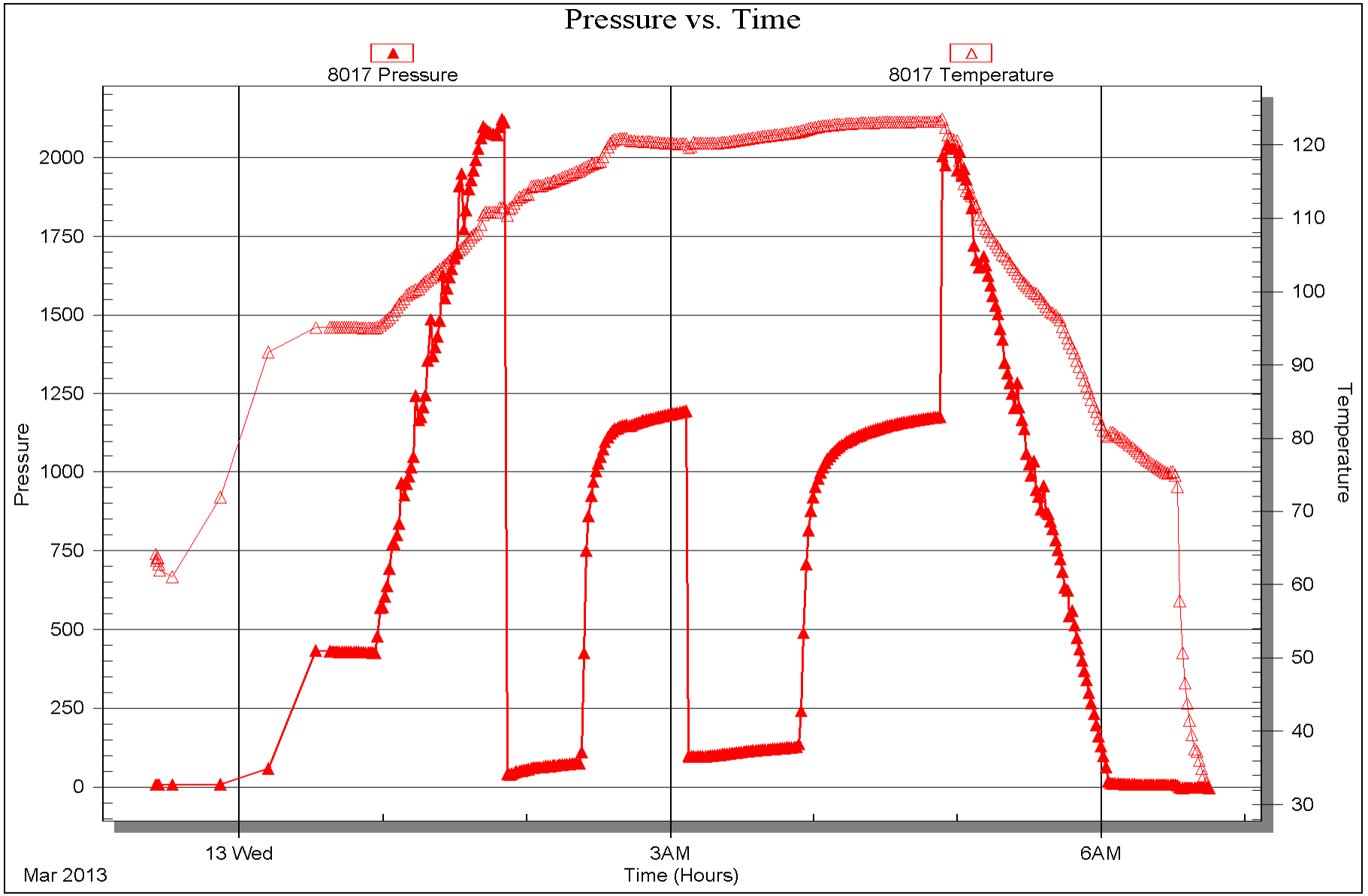
Recovery Comments: RW: .194 @ 27 degrees = 96,000 ppm

Serial #: 8845 **Outside** Ritchie Exploration, Inc Weber 15 Unit #1 DST Test Number: 3

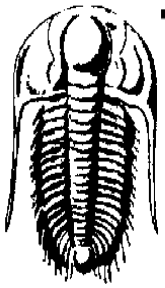


Trilobite Testing, Inc Ref. No: 46894 Printed: 2013.03.21 @ 09:28:07

Serial #: 8017 **Outside** Ritchie Exploration, Inc Weber 15 Unit #1 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 46894 Printed: 2013.03.21 @ 09:28:08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

Weber 15 Unit #1

15-13s-31w Gove, KS

Start Date: 2013.03.14 @ 14:55:00
End Date: 2013.03.14 @ 22:14:00
Job Ticket #: 46895 DST #: 4

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

Printed: 2013.03.21 @ 09:27:25

DRILL STEM TEST REPORT

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46895 **DST#: 4**

Test Start: 2013.03.14 @ 14:55:00

GENERAL INFORMATION:

Formation: **Cherokee - Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:37:30
Time Test Ended: 22:14:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Sam Esparza
Unit No: 64

Interval: 4476.00 ft (KB) To 4550.00 ft (KB) (TVD)
Total Depth: 4550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

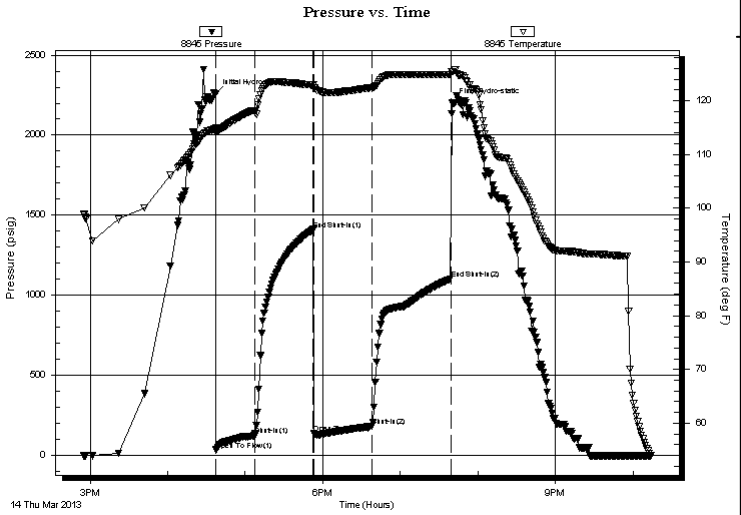
Reference Elevations: 2913.00 ft (KB)
2908.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8845 **Outside**

Press@RunDepth: 182.62 psig @ 4477.00 ft (KB)
Start Date: 2013.03.14 End Date: 2013.03.14
Start Time: 14:55:05 End Time: 22:13:59

Capacity: 8000.00 psig
Last Calib.: 2013.03.14
Time On Btm: 2013.03.14 @ 16:37:15
Time Off Btm: 2013.03.14 @ 19:40:15

TEST COMMENT: IF: BOB @ 10 min.
ISI: 1 3/4" return.
FF: BOB @ 10 min.
FSI: 9 1/2" return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2261.36	114.89	Initial Hydro-static
1	34.29	114.13	Open To Flow (1)
30	122.59	118.21	Shut-In(1)
76	1411.56	122.89	End Shut-In(1)
76	136.01	122.36	Open To Flow (2)
121	182.62	122.40	Shut-In(2)
182	1102.07	124.89	End Shut-In(2)
183	2201.31	125.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMO 10g 45m 45o	0.30
240.00	GMCO 10m 15g 75o	2.78
60.00	GMCO 20m 20g 60o	0.84
55.00	GMCO 10g 30m 60o	0.77
0.00	1070' GIP	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46895 **DST#: 4**

Test Start: 2013.03.14 @ 14:55:00

Tool Information

Drill Pipe:	Length:	4353.00 ft	Diameter:	3.80 inches	Volume:	61.06 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	124.00 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	
					Total Volume:	61.67 bbl	

Drill Pipe Above KB:	29.00 ft
Depth to Top Packer:	4476.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	74.00 ft
Tool Length:	102.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	2000.00 lb
Weight set on Packer:	30000.00 lb
Weight to Pull Loose:	95000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	59000.00 lb
Final	62000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4449.00		
Shut In Tool	5.00			4454.00		
Hydraulic tool	5.00			4459.00		
Jars	5.00			4464.00		
Safety Joint	3.00			4467.00		
Packer	5.00			4472.00	28.00	Bottom Of Top Packer
Packer	4.00			4476.00		
Stubb	1.00			4477.00		
Recorder	0.00	8017	Outside	4477.00		
Recorder	0.00	8845	Outside	4477.00		
Perforations	3.00			4480.00		
Change Over Sub	1.00			4481.00		
Drill Pipe	63.00			4544.00		
Change Over Sub	1.00			4545.00		
Bullnose	5.00			4550.00	74.00	Bottom Packers & Anchor
Total Tool Length:	**102.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration, Inc

8100 E 22nd ST # 700
Wichita KS 67278

ATTN: Adam Eldani

15-13s-31w Gove, KS

Weber 15 Unit #1

Job Ticket: 46895 **DST#: 4**

Test Start: 2013.03.14 @ 14:55:00

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:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2500.00 ppm				
Filter Cake:	1.00 inches				

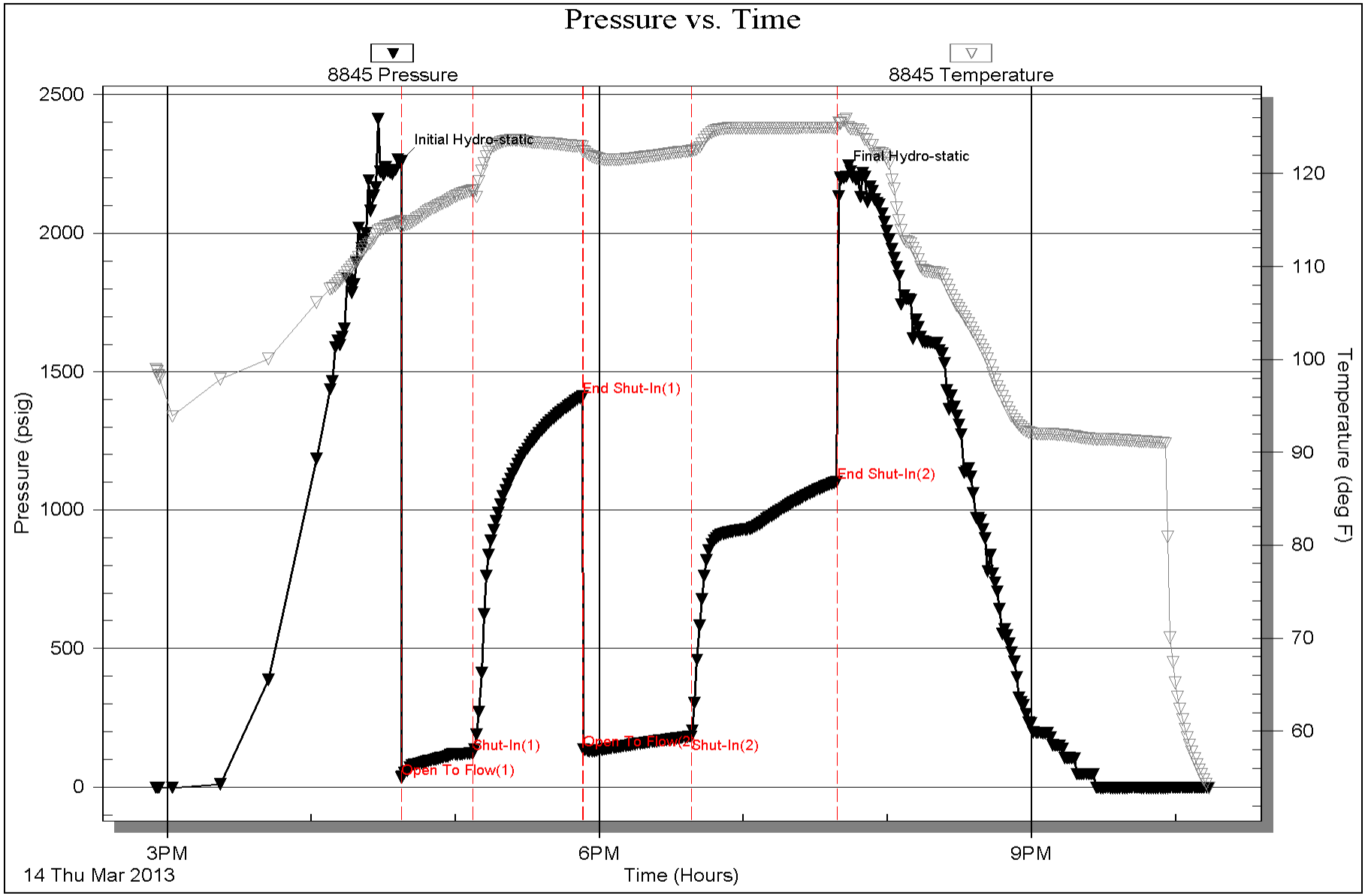
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	GMO 10g 45m 45o	0.295
240.00	GMCO 10m 15g 75o	2.784
60.00	GMCO 20m 20g 60o	0.842
55.00	GMCO 10g 30m 60o	0.772
0.00	1070' GIP	0.000

Total Length: 415.00 ft Total Volume: 4.693 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8845 Pressure
8845 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Open To Flow(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2500
2000
1500
1000
500
0
120
110
100
90
80
70
60
3PM
6PM
9PM
14 Thu Mar 2013
Time (Hours)

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 49961

Well Name & No. Weber 15 Unit #1 Test No. 1 Date 3/11/13

Company Ritchie Exploration, Inc Elevation 2913 KB 2908 GL

Address 8100 E 22nd ST N #700 Wichita KS 67278-3188

Co. Rep / Geo. Adam Eldani Rig WW Rig 2

Location: Sec. 15 Twp. 13S Rge. 31W Co. Gove Co. State KS

Interval Tested 3993-4028 Zone Tested Lansing "~~C~~E" C+D"

Anchor Length 35 Drill Pipe Run 3847.65 Mud Wt. 8.7

Top Packer Depth 3989 Drill Collars Run 123.91 Vis 64

Bottom Packer Depth 3993 Wt. Pipe Run — WL 7.2

Total Depth 4028 Chlorides 2,000 ppm System LCM 1#

Blow Description B.O.B. in 22 min.
Bled off for 5 min. Built to 1/4" return blow
B.O.B. in 20 min.
Bled off for 5 min. Built to 1/2" return blow

Rec 0	Feet of 300 Feet Gas In Pipe	%gas	%oil	%water	%mud
Rec 212	Feet of GCO	10 %gas	90 %oil	%water	%mud
Rec 123	Feet of MCO	%gas	60 %oil	%water 40	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 335 BHT 120 Gravity 32 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1,951	☑ Test 1250	T-On Location 1:05
(B) First Initial Flow 20	☑ Jars 250	T-Started 5:45
(C) First Final Flow 76	☑ Safety Joint 75	T-Open 7:55
(D) Initial Shut-In 1,211	☑ Circ Sub N/C	T-Pulled 10:55
(E) Second Initial Flow 85	☐ Hourly Standby	T-Out 12:51
(F) Second Final Flow 119	☑ Mileage 88 MT 136.40	Comments
(G) Final Shut-In 1,199	☐ Sampler	
(H) Final Hydrostatic 1,866	☐ Straddle	☐ Ruined Shale Packer
	☐ Shale Packer	☐ Ruined Packer
Initial Open 30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In 45	☐ Extra Recorder	Sub Total 0
Final Flow 45	☐ Day Standby	Total 1711.40
Final Shut-In 60	☐ Accessibility	MP/DST Disc't
	Sub Total 1711.40	

Approved By Our Representative

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.
P.O. Box 1733 • Hays, Kansas 67601

4/10

Test Ticket

NO. 46893

Well Name & No. Weber 15 Unit #1 Test No. 2 Date 3/11/13
Company Ritchie Exploration, Inc Elevation 2913 KB 2908 GL
Address 8100 E 22nd St #700 Wichita, KS 67278
Co. Rep / Geo. Adam Eldani Rig WW #2
Location: Sec. 15 Twp. 13S Rge. 31W Co. Gove State KS

Interval Tested 4043-4070 Zone Tested "E-F"
Anchor Length 27' Drill Pipe Run 3906 Mud Wt. 9.0
Top Packer Depth 4039 Drill Collars Run 124 Vis 57
Bottom Packer Depth 4043 Wt. Pipe Run Ø WL 6.4
Total Depth 4070 Chlorides 2400 ppm System LCM 1

Blow Description 1" blow.
No return.
3" blow.
No return.

Rec 30	Feet of MCO	%gas	60 %oil	%water	40 %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 113 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	1979	X Test 1250	T-On Location 20:55
(B) First Initial Flow	15	X Jars 250	T-Started 21:13
(C) First Final Flow	24	X Safety Joint 75	T-Open 23:02
(D) Initial Shut-In	1075	X Circ Sub N/C	T-Pulled 2:03
(E) Second Initial Flow	24	☐ Hourly Standby	T-Out 3:46
(F) Second Final Flow	36	X Mileage 88 R/T 136.40	Comments
(G) Final Shut-In	1129	☐ Sampler	
(H) Final Hydrostatic	1970	☐ Straddle	☐ Ruined Shale Packer
		☐ Shale Packer	☐ Ruined Packer
Initial Opon	30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In	45	☐ Extra Recorder	Sub Total 0
Final Flow	45	☐ Day Standby	Total 1711.40
Final Shut-In	60	☐ Accessibility	MP/DST Disc't
		Sub Total 1711.40	

Approved By _____ Our Representative _____

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TRILOBITE TESTING INC.
P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 46894

Well Name & No. Weber 15 Unit #1 Test No. 3 Date 3/12/13
Company Ritchie Exploration, Inc Elevation 2913 KB 2908 GL
Address 8100 E. 22nd ST #700 Wichita, KS 67278
Co. Rep / Geo. Adam Eldani Rig WW #2
Location: Sec. 15 Twp. 13S Rge. 31W Co. Gove State KS

Interval Tested 4210 - 4242 Zone Tested "K"
Anchor Length 32' Drill Pipe Run 4068 Mud Wt. 9.2
Top Packer Depth 4206 Drill Collars Run 124 Vis 59
Bottom Packer Depth 4210 Wt. Pipe Run Ø WL 6.4
Total Depth 4242 Chlorides 2600 ppm System LCM 1

Blow Description 6½" blow.
No return.
7½ blow.
No return.

Rec 1	Feet of Oil	%gas	100 %oil	%water	%mud	
Rec 200	Feet of MW	%gas	%oil	80 %water	20 %mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 201 BHT 123 Gravity — API RW@ 194 @ 27 °F Chlorides 96,000 ppm

(A) Initial Hydrostatic	2097	☒ Test 1250	T-On Location 23:05
(B) First Initial Flow	17	☒ Jars 250	T-Started 23:25
(C) First Final Flow	78	☒ Safety Joint 75	T-Open 1:52
(D) Initial Shut-In	1204	☒ Circ Sub N/C	T-Pulled 4:54
(E) Second Initial Flow	83	☐ Hourly Standby	T-Out 6:45
(F) Second Final Flow	118	☒ Mileage 88 R/T 136.40	Comments
(G) Final Shut-In	1183	☐ Sampler	
(H) Final Hydrostatic	2050	☐ Straddle	☐ Ruined Shale Packer
		☐ Shale Packer	☐ Ruined Packer
Initial Open	30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In	45	☐ Extra Recorder	Sub Total 0
Final Flow	45	☐ Day Standby	Total 1711.40
Final Shut-In	60	☐ Accessibility	MP/DST Disc't
		Sub Total 1711.40	

Approved By _____ Our Representative _____

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

4/10

Test Ticket

NO. 46895

Well Name & No. Weber 15 Unit #1 Test No. 4 Date 3/14/13

Company Ritchie Exploration, Inc Elevation 2913 KB 2908 GL

Address 8100 E 22nd ST #700 Wichita, KS 67278

Co. Rep / Geo. Adam Eldani Rig WW #2

Location: Sec. 15 Twp. 13S Rge. 31W Co. Gove State KS

Interval Tested 4476 - 4550 Zone Tested Cherokee - Johnson

Anchor Length 74' Drill Pipe Run 4353 Mud Wt. 9.3

Top Packer Depth 4472 Drill Collars Run 124 Vis 57

Bottom Packer Depth 4476 Wt. Pipe Run Ø WL 8.0

Total Depth 4550 Chlorides 2500 ppm System LCM 1

Blow Description BoB @ 10 min.
1 3/4" return.
BoB @ 10 min.
9 1/2" return.

Rec 55	Feet of GMCO	10 %gas	60 %oil	%water	30 %mud
Rec 60	Feet of GMCO	20 %gas	60 %oil	%water	20 %mud
Rec 240	Feet of GMCO	15 %gas	75 %oil	%water	10 %mud
Rec 60	Feet of GMO	10 %gas	45 %oil	%water	45 %mud
Rec	Feet of 1070' GIP	%gas	%oil	%water	%mud

Rec Total 415 BHT 125 Gravity To Muddy API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	2261	☒ Test 1250	T-On Location 14:10
(B) First Initial Flow	34	☒ Jars 250	T-Started 14:55
(C) First Final Flow	123	☒ Safety Joint 75	T-Open 16:37
(D) Initial Shut-In	1412	☒ Circ Sub N/C	T-Pulled 19:39
(E) Second Initial Flow	136	☒ Hourly Standby	T-Out 22:14
(F) Second Final Flow	183	☒ Mileage 88 R/T X2 272.80	Comments Loaded tools 3/15/13 @ 11:00 am
(G) Final Shut-In	1102	☐ Sampler	
(H) Final Hydrostatic	2201	☐ Straddle	☐ Ruined Shale Packer
		☐ Shale Packer	☐ Ruined Packer
Initial Open	30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In	45	☐ Extra Recorder	Sub Total 250
Final Flow	45	☒ Day Standby 1d 7.5h	Total 2097.80
Final Shut-In	60	☐ Accessibility	MP/DST Disc't
		Sub Total 1847.80	

Approved By _____ Our Representative _____

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