



DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E. Unit F104
Englewood, CO 80112

ATTN: Ryan Davis

4-D Farms #1-14

14-6s-31w Thomas,KS

Start Date: 2019.09.21 @ 11:46:52

End Date: 2019.09.21 @ 16:23:52

Job Ticket #: 66053 DST #: 1

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

Printed: 2019.09.26 @ 08:23:16



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

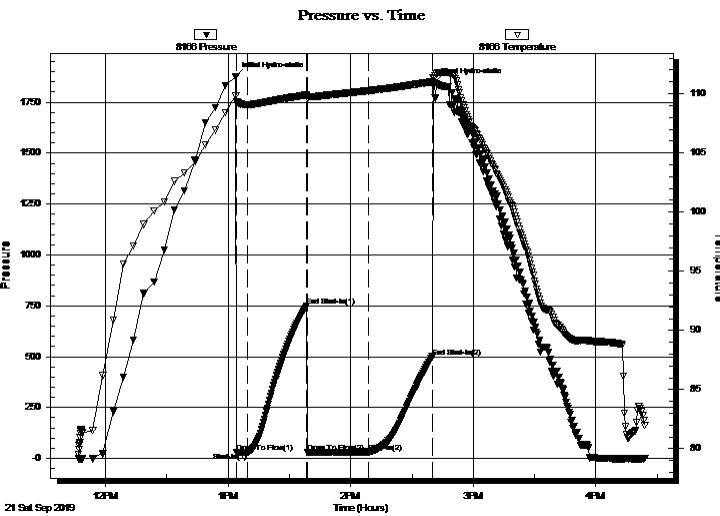
14-6s-31w Thomas, KS
4-D Farms #1-14
Job Ticket: 66053 **DST#: 1**
Test Start: 2019.09.21 @ 11:46:52

GENERAL INFORMATION:

Formation: **Toronto**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:04:22
Time Test Ended: 16:23:52
Interval: **3892.00 ft (KB) To 3933.00 ft (KB) (TVD)**
Total Depth: 3933.00 ft (KB) (TVD)
Hole Diameter: 3.88 inches Hole Condition: Good
Reference Elevations: 2918.00 ft (KB)
2911.00 ft (CF)
KB to GR/CF: 7.00 ft
Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Turley
Unit No: 79

Serial #: 8166 Outside
Press@RunDepth: 30.71 psig @ 3893.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.09.21 End Date: 2019.09.21 Last Calib.: 2019.09.21
Start Time: 11:46:57 End Time: 16:23:51 Time On Btm: 2019.09.21 @ 13:03:52
Time Off Btm: 2019.09.21 @ 14:40:52

TEST COMMENT: IF: 1.3" blow built to 1.44"
IS: No return.
FF: No blow.
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1877.28	109.86	Initial Hydro-static
1	29.73	109.33	Open To Flow (1)
6	29.56	109.06	Shut-In(1)
35	749.06	109.88	End Shut-In(1)
35	30.25	109.61	Open To Flow (2)
65	30.71	110.25	Shut-In(2)
96	499.89	110.99	End Shut-In(2)
97	1845.65	111.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% m	0.10

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66053 **DST#: 1**
Test Start: 2019.09.21 @ 11:46:52

GENERAL INFORMATION:

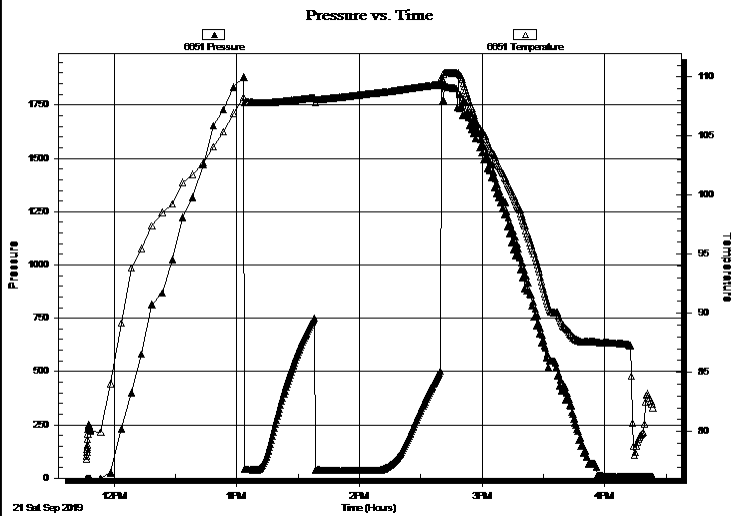
Formation: **Toronto**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 13:04:22 Tester: Brandon Turley
Time Test Ended: 16:23:52 Unit No: 79

Interval: **3892.00 ft (KB) To 3933.00 ft (KB) (TVD)** Reference Elevations: 2918.00 ft (KB)
Total Depth: 3933.00 ft (KB) (TVD) 2911.00 ft (CF)
Hole Diameter: 3.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 6651 **Inside**

Press@RunDepth: psig @ 3893.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.09.21 End Date: 2019.09.21 Last Calib.: 2019.09.21
Start Time: 11:46:31 End Time: 16:23:25 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 1.3" blow built to 1.44"
IS: No return.
FF: No blow.
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% m	0.10

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66053 **DST#: 1**
Test Start: 2019.09.21 @ 11:46:52

Tool Information

Drill Pipe:	Length: 3759.00 ft	Diameter: 3.80 inches	Volume: 52.73 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.33 bbl</u>	Tool Chased 7.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3892.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	41.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			3866.00	
Shut In Tool	5.00			3871.00	
Hydraulic tool	5.00			3876.00	
Jars	5.00			3881.00	
Safety Joint	2.00			3883.00	
Packer	5.00			3888.00	27.00 Bottom Of Top Packer
Packer	4.00			3892.00	
Stubb	1.00			3893.00	
Recorder	0.00	6651	Inside	3893.00	
Recorder	0.00	8166	Outside	3893.00	
Perforations	1.00			3894.00	
Change Over Sub	1.00			3895.00	
Drill Pipe	32.00			3927.00	
Change Over Sub	1.00			3928.00	
Bullnose	5.00			3933.00	41.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66053 **DST#: 1**
Test Start: 2019.09.21 @ 11:46:52

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.18 in ³	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
20.00	mud 100%m	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

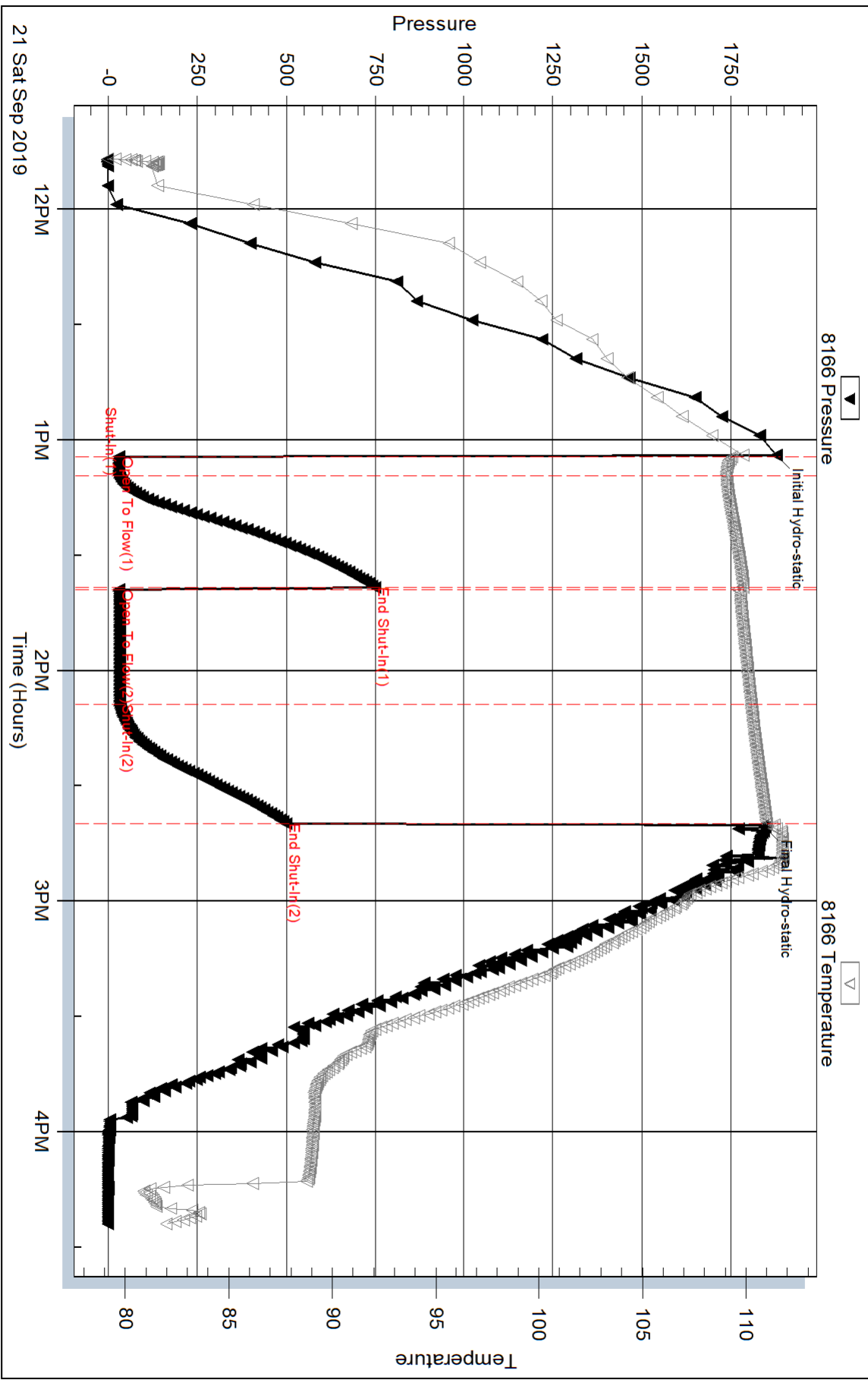
Serial #: 8166

Outside Norstar Petroleum Inc

4-D Farms #1-14

DST Test Number: 1

Pressure vs. Time



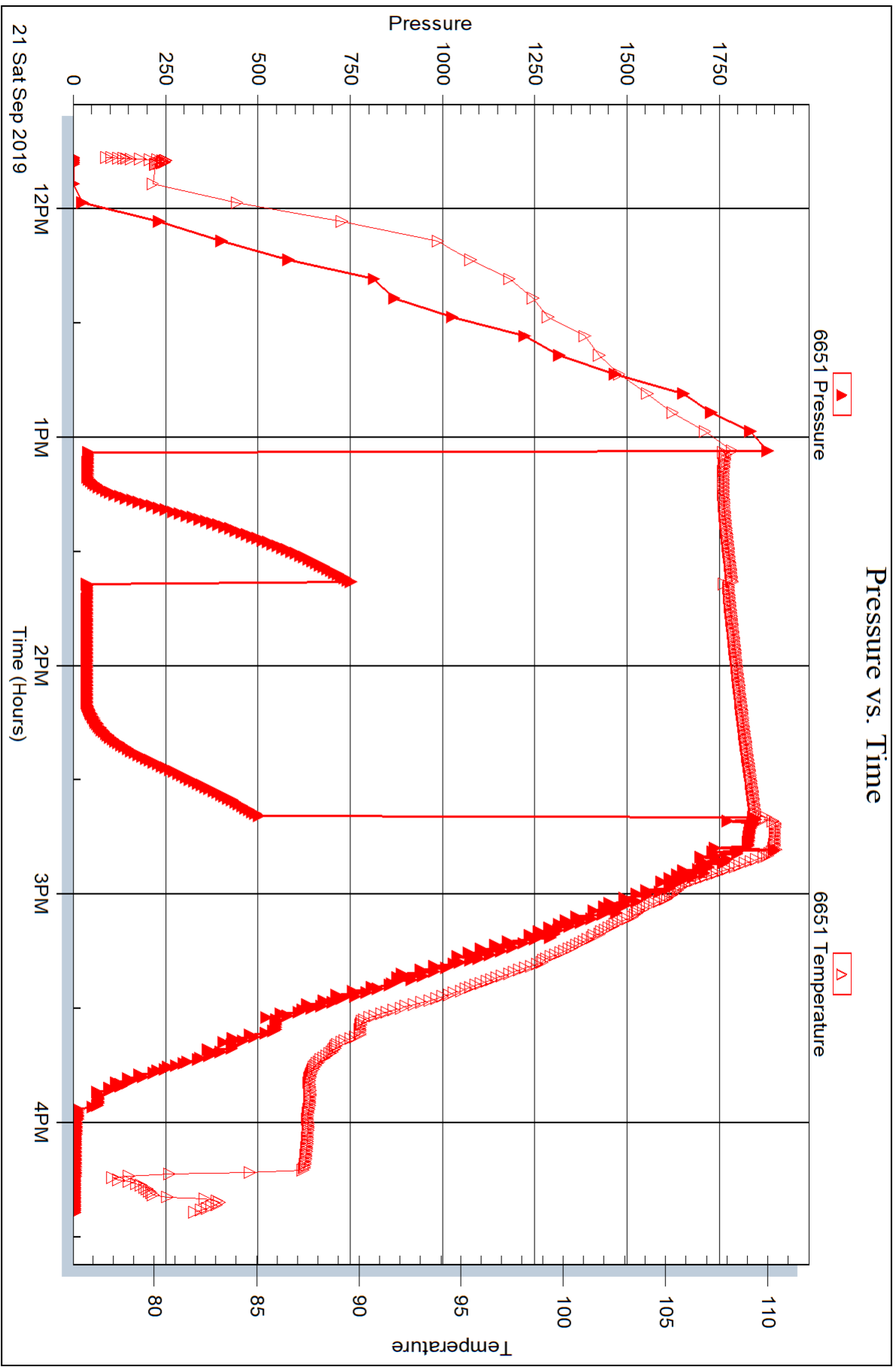
Serial #: 6651

Inside

Norstar Petroleum Inc

4-D Farms #1-14

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 66053

Printed: 2019.09.26 @ 08:23:17



DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E. Unit F104
Englewood, CO 80112

ATTN: Ryan Davis

4-D Farms #1-14

14-6s-31w Thomas,KS

Start Date: 2019.09.22 @ 01:02:26

End Date: 2019.09.22 @ 06:41:26

Job Ticket #: 66054 DST #: 2

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

Printed: 2019.09.26 @ 08:21:36



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir E. Unit F104
 Englewood, CO 80112
 ATTN: Ryan Davis

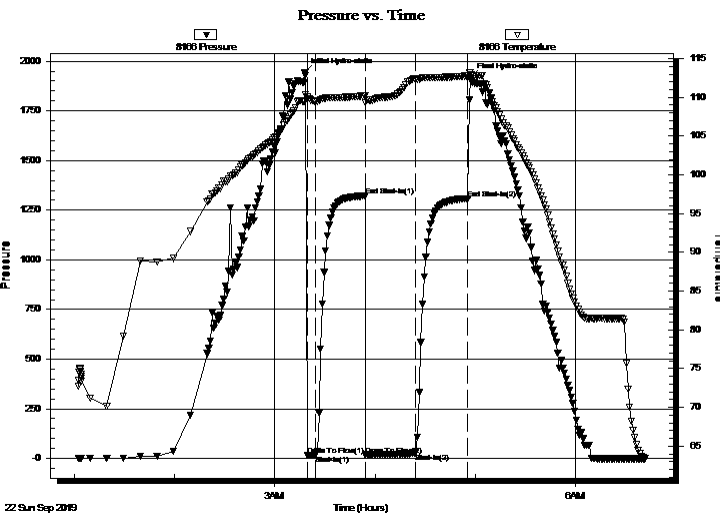
14-6s-31w Thomas, KS
4-D Farms #1-14
 Job Ticket: 66054 **DST#: 2**
 Test Start: 2019.09.22 @ 01:02:26

GENERAL INFORMATION:

Formation: **LKC B-C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:19:26
 Time Test Ended: 06:41:26
 Interval: **3946.00 ft (KB) To 3978.00 ft (KB) (TVD)**
 Total Depth: 3978.00 ft (KB) (TVD)
 Hole Diameter: 3.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2918.00 ft (KB)
 2911.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8166 Outside
 Press@RunDepth: 25.01 psig @ 3947.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.09.22 End Date: 2019.09.22 Last Calib.: 2019.09.22
 Start Time: 01:02:31 End Time: 06:41:25 Time On Btm: 2019.09.22 @ 03:17:56
 Time Off Btm: 2019.09.22 @ 04:56:56

TEST COMMENT: IF: Surface blow .
 IS: No return.
 FF: Surface blow built to 1/4"
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1943.33	109.43	Initial Hydro-static
2	15.94	110.01	Open To Flow (1)
7	16.81	109.44	Shut-In(1)
36	1321.09	110.21	End Shut-In(1)
37	17.62	109.34	Open To Flow (2)
66	25.01	112.33	Shut-In(2)
98	1308.84	112.78	End Shut-In(2)
99	1915.21	113.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100%m	0.05

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas, KS

4-D Farms #1-14

Job Ticket: 66054

DST#: 2

Test Start: 2019.09.22 @ 01:02:26

GENERAL INFORMATION:

Formation: **LKC B-C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:19:26
Time Test Ended: 06:41:26

Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79

Interval: **3946.00 ft (KB) To 3978.00 ft (KB) (TVD)**
Total Depth: 3978.00 ft (KB) (TVD)
Hole Diameter: 3.88 inches
Hole Condition: Good

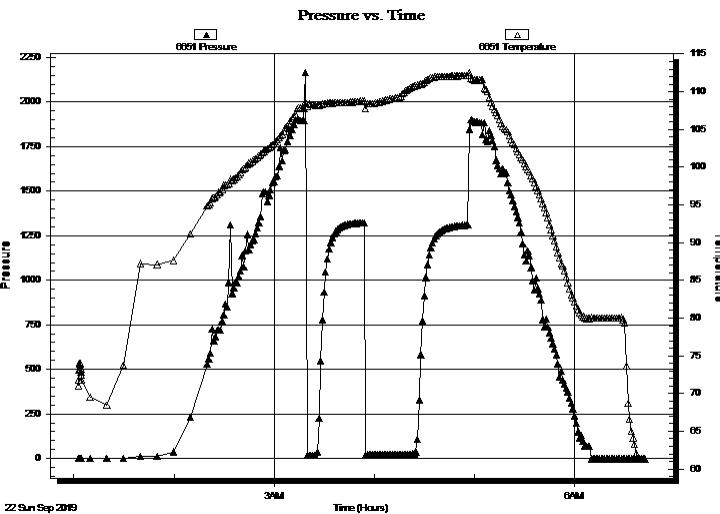
Reference Elevations: 2918.00 ft (KB)
2911.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 3947.00 ft (KB)
Start Date: 2019.09.22 End Date: 2019.09.22
Start Time: 01:02:53 End Time: 06:41:47

Capacity: 8000.00 psig
Last Calib.: 2019.09.22
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Surface blow .
IS: No return.
FF: Surface blow built to 1/4"
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100% m	0.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66054 **DST#: 2**
Test Start: 2019.09.22 @ 01:02:26

Tool Information

Drill Pipe:	Length: 3822.00 ft	Diameter: 3.80 inches	Volume: 53.61 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 54.21 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3946.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	32.00 ft				
Tool Length:	59.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			3920.00	
Shut In Tool	5.00			3925.00	
Hydraulic tool	5.00			3930.00	
Jars	5.00			3935.00	
Safety Joint	2.00			3937.00	
Packer	5.00			3942.00	27.00 Bottom Of Top Packer
Packer	4.00			3946.00	
Stubb	1.00			3947.00	
Recorder	0.00	6651	Inside	3947.00	
Recorder	0.00	8166	Outside	3947.00	
Perforations	26.00			3973.00	
Bullnose	5.00			3978.00	32.00 Bottom Packers & Anchor

Total Tool Length: 59.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66054 **DST#: 2**
Test Start: 2019.09.22 @ 01:02:26

Mud and Cushion Information

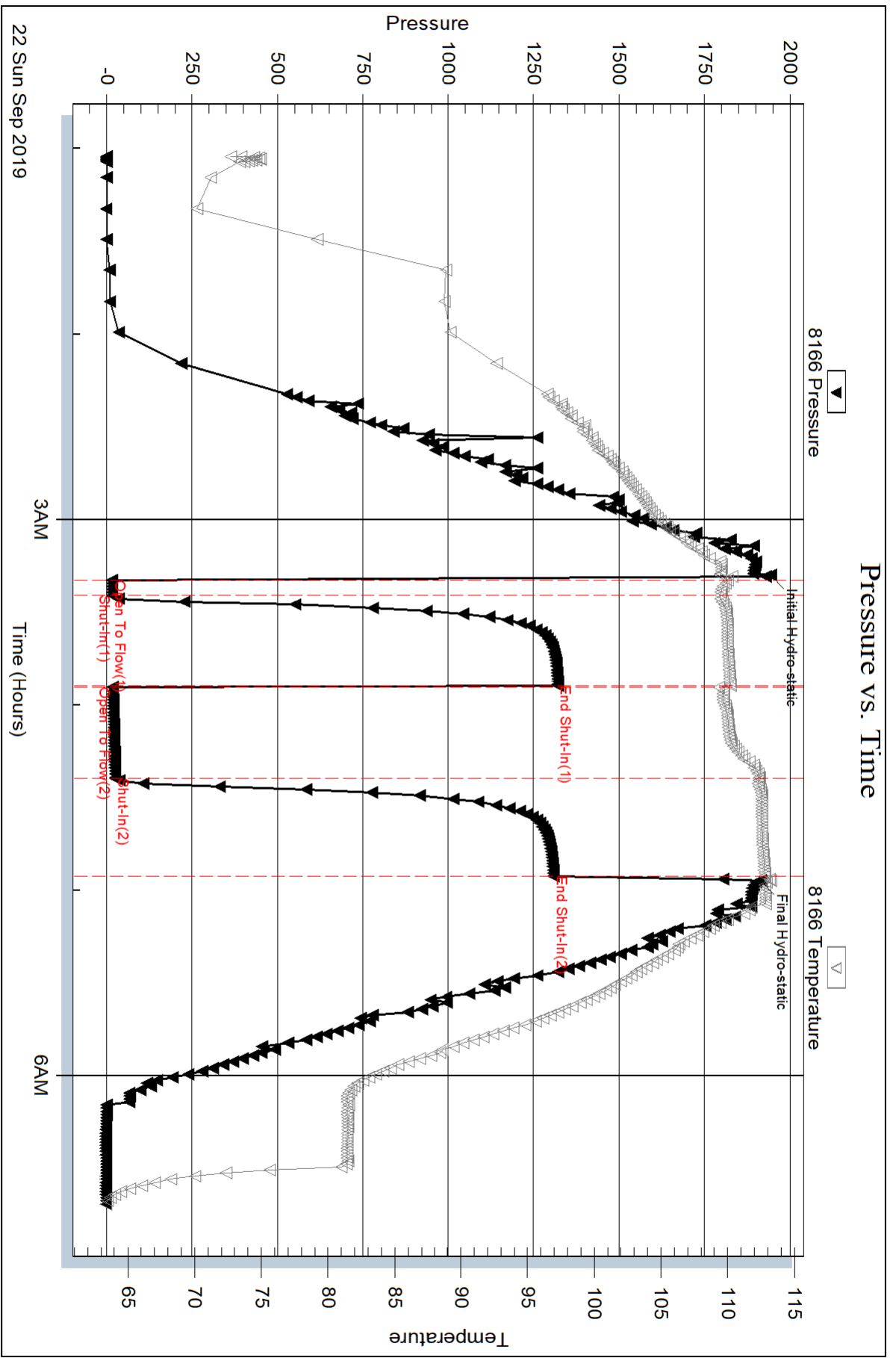
Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100%m	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



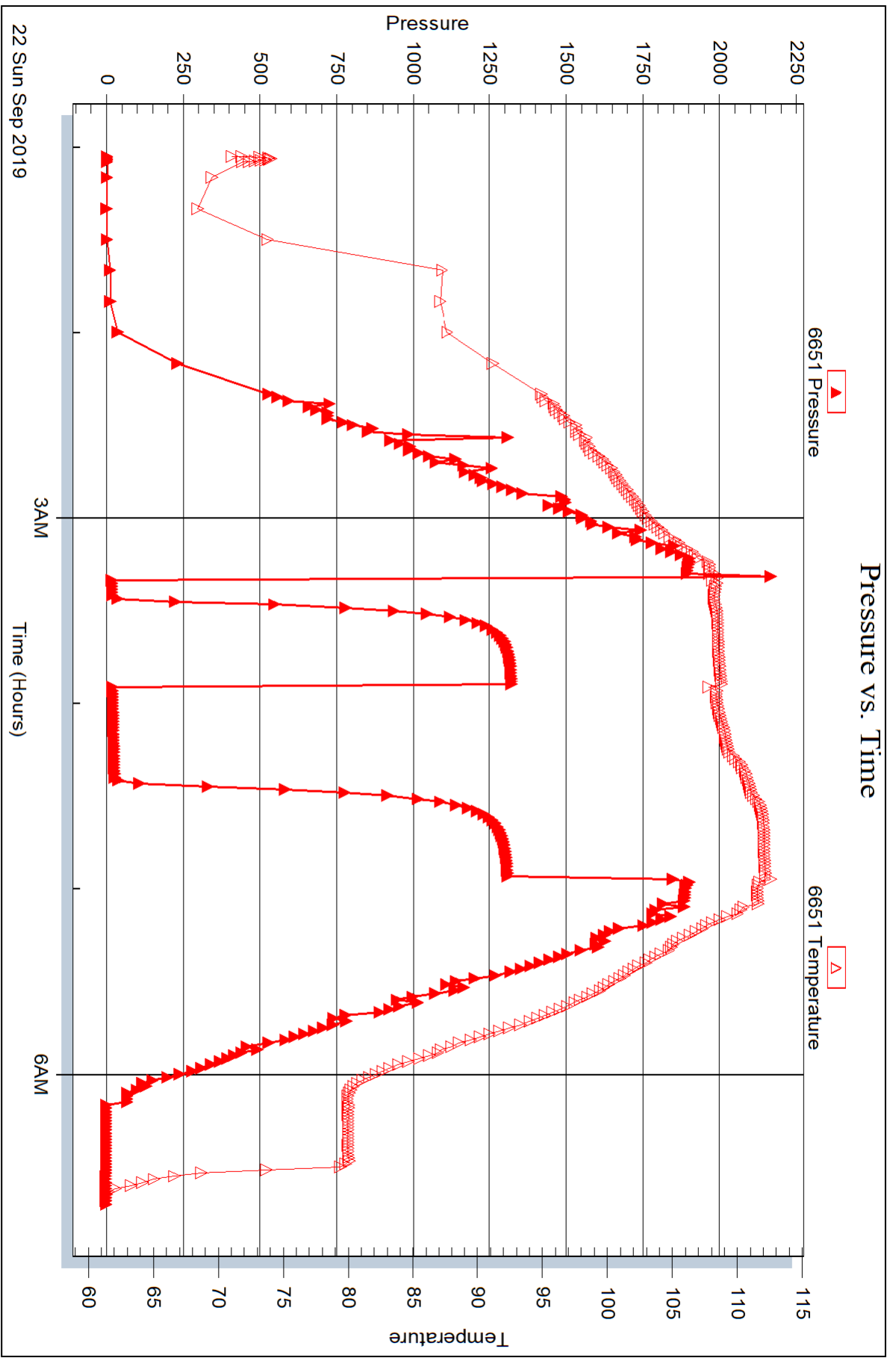
Serial #: 6651

Inside

Norstar Petroleum Inc

4-D Farms #1-14

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 66054

Printed: 2019.09.26 @ 08:21:37



DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E. Unit F104
Englewood, CO 80112

ATTN: Ryan Davis

4-D Farms #1-14

14-6s-31w Thomas,KS

Start Date: 2019.09.22 @ 21:53:38

End Date: 2019.09.23 @ 04:03:08

Job Ticket #: 66055 DST #: 3

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

Printed: 2019.09.26 @ 08:20:50



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir E. Unit F104
 Englewood, CO 80112
 ATTN: Ryan Davis

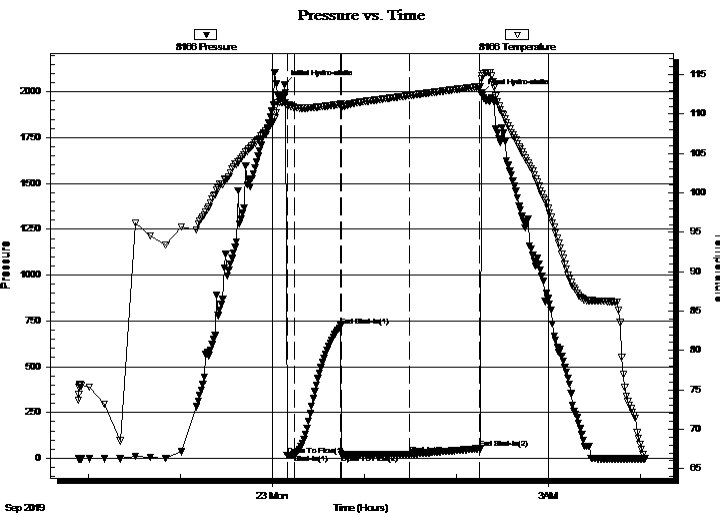
14-6s-31w Thomas,KS
4-D Farms #1-14
 Job Ticket: 66055 **DST#: 3**
 Test Start: 2019.09.22 @ 21:53:38

GENERAL INFORMATION:

Formation: **LKC I-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:09:38
 Time Test Ended: 04:03:08
 Interval: **4069.00 ft (KB) To 4123.00 ft (KB) (TVD)**
 Total Depth: 4123.00 ft (KB) (TVD)
 Hole Diameter: 3.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2918.00 ft (KB)
 2911.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8166 Outside
 Press@RunDepth: 22.78 psig @ 4070.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.09.22 End Date: 2019.09.23 Last Calib.: 2019.09.23
 Start Time: 21:53:43 End Time: 04:03:07 Time On Btm: 2019.09.23 @ 00:08:08
 Time Off Btm: 2019.09.23 @ 02:16:08

TEST COMMENT: IF: 1/2" blow built to 1"
 IS: No return.
 FF: Surface blow built to 1/2"
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.53	111.46	Initial Hydro-static
2	16.88	111.11	Open To Flow (1)
7	19.53	110.85	Shut-In(1)
37	723.54	111.25	End Shut-In(1)
37	21.35	111.01	Open To Flow (2)
82	22.78	112.37	Shut-In(2)
127	53.83	113.50	End Shut-In(2)
128	1992.14	114.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	free oil 100%o	0.00
15.00	ocm 20%o 80%m	0.07

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

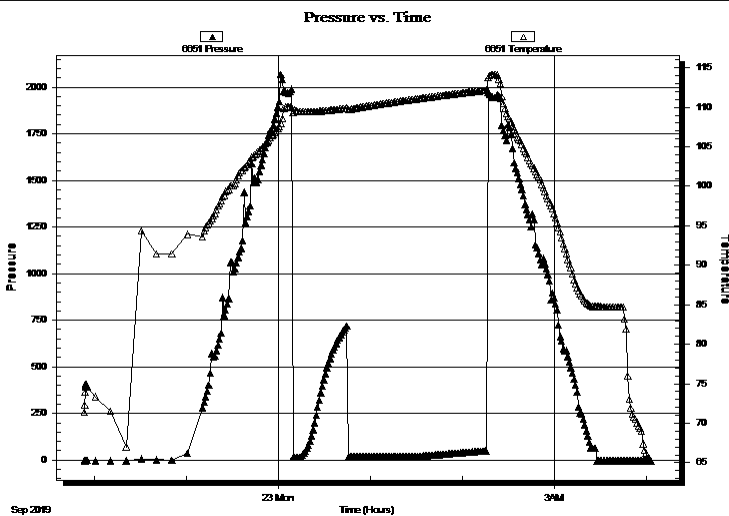
14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66055 **DST#: 3**
Test Start: 2019.09.22 @ 21:53:38

GENERAL INFORMATION:

Formation: LKC I-J			
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Reset)	
Time Tool Opened: 00:09:38		Tester: Brandon Turley	
Time Test Ended: 04:03:08		Unit No: 79	
Interval: 4069.00 ft (KB) To 4123.00 ft (KB) (TVD)		Reference Elevations:	2918.00 ft (KB)
Total Depth: 4123.00 ft (KB) (TVD)			2911.00 ft (CF)
Hole Diameter: 3.88 inches	Hole Condition: Good	KB to GR/CF:	7.00 ft

Serial #: 6651	Inside				
Press@RunDepth:	psig @	4070.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2019.09.22	End Date:	2019.09.23	Last Calib.:	2019.09.23
Start Time:	21:53:43	End Time:	04:03:07	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: 1/2" blow built to 1"
IS: No return.
FF: Surface blow built to 1/2"
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1.00	free oil 100%o	0.00
15.00	ocm 20%o 80%m	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66055 **DST#: 3**
Test Start: 2019.09.22 @ 21:53:38

Tool Information

Drill Pipe:	Length: 3948.00 ft	Diameter: 3.80 inches	Volume: 55.38 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 55.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4069.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4043.00	
Shut In Tool	5.00			4048.00	
Hydraulic tool	5.00			4053.00	
Jars	5.00			4058.00	
Safety Joint	2.00			4060.00	
Packer	5.00			4065.00	27.00 Bottom Of Top Packer
Packer	4.00			4069.00	
Stubb	1.00			4070.00	
Recorder	0.00	6651	Inside	4070.00	
Recorder	0.00	8166	Outside	4070.00	
Perforations	15.00			4085.00	
Change Over Sub	1.00			4086.00	
Drill Pipe	31.00			4117.00	
Change Over Sub	1.00			4118.00	
Bullnose	5.00			4123.00	54.00 Bottom Packers & Anchor

Total Tool Length: 81.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66055 **DST#: 3**
Test Start: 2019.09.22 @ 21:53:38

Mud and Cushion Information

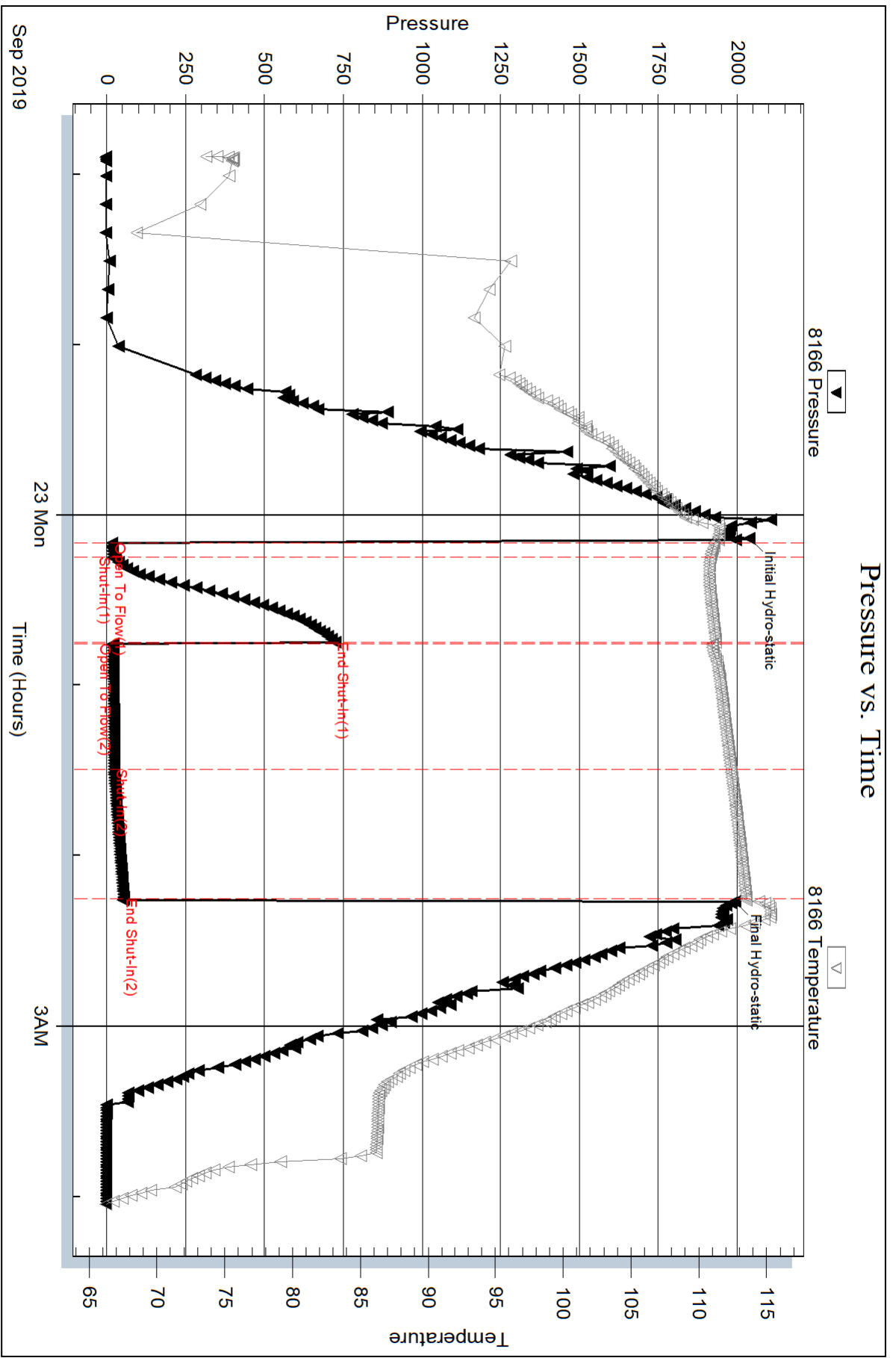
Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.19 in ³	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 2300.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	free oil 100%o	0.005
15.00	ocm 20%o 80%m	0.074

Total Length: 16.00 ft Total Volume: 0.079 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



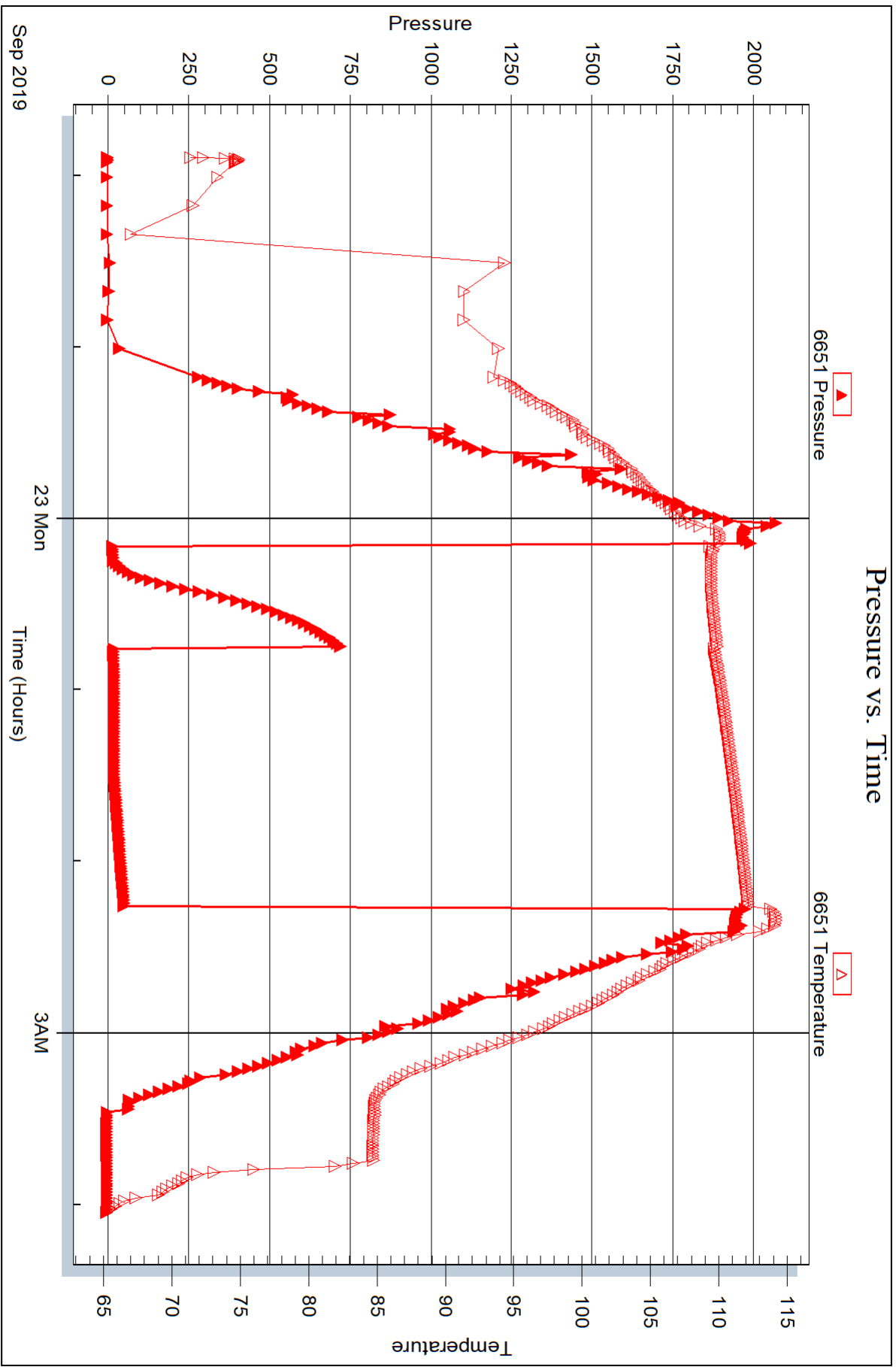
Serial #: 6651

Inside

Norstar Petroleum Inc

4-D Farms #1-14

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E. Unit F104
Englewood, CO 80112

ATTN: Ryan Davis

4-D Farms #1-14

14-6s-31w Thomas,KS

Start Date: 2019.09.24 @ 23:43:50

End Date: 2019.09.25 @ 06:45:50

Job Ticket #: 66056 DST #: 4

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

Printed: 2019.09.26 @ 08:19:53



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir E. Unit F104
 Englewood, CO 80112
 ATTN: Ryan Davis

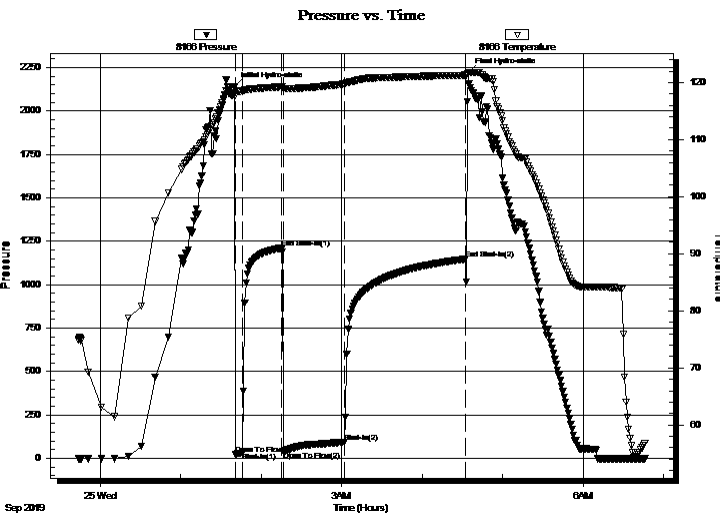
14-6s-31w Thomas, KS
4-D Farms #1-14
 Job Ticket: 66056 **DST#: 4**
 Test Start: 2019.09.24 @ 23:43:50

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:40:50
 Time Test Ended: 06:45:50
 Interval: **4255.00 ft (KB) To 4318.00 ft (KB) (TVD)**
 Total Depth: 4572.00 ft (KB) (TVD)
 Hole Diameter: 3.88 inches Hole Condition: Good
 Test Type: Conventional Straddle (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2918.00 ft (KB)
 2911.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8166 Outside
 Press@RunDepth: 93.95 psig @ 4261.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.09.24 End Date: 2019.09.25 Last Calib.: 2019.09.25
 Start Time: 23:43:55 End Time: 06:45:49 Time On Btm: 2019.09.25 @ 01:39:50
 Time Off Btm: 2019.09.25 @ 04:34:20

TEST COMMENT: IF: 1/4" blow built to 1 1/2"
 IS: No return.
 FF: Surface blow built to 6"
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2139.86	119.21	Initial Hydro-static
1	21.54	117.74	Open To Flow (1)
7	34.99	118.41	Shut-In(1)
36	1211.74	119.25	End Shut-In(1)
37	39.70	118.95	Open To Flow (2)
82	93.95	119.74	Shut-In(2)
173	1147.79	121.27	End Shut-In(2)
175	2221.92	121.74	Final Hydro-static

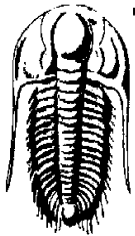
Recovery

Length (ft)	Description	Volume (bbl)
61.00	mcw 80%w 20%m	0.30
111.00	w cm 30%w 70%m	1.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66056 **DST#: 4**
Test Start: 2019.09.24 @ 23:43:50

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:40:50

Time Test Ended: 06:45:50

Test Type: Conventional Straddle (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4255.00 ft (KB) To 4318.00 ft (KB) (TVD)

Reference Elevations: 2918.00 ft (KB)

Total Depth: 4572.00 ft (KB) (TVD)

2911.00 ft (CF)

Hole Diameter: 3.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 4261.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.09.24

End Date: 2019.09.25

Last Calib.: 2019.09.25

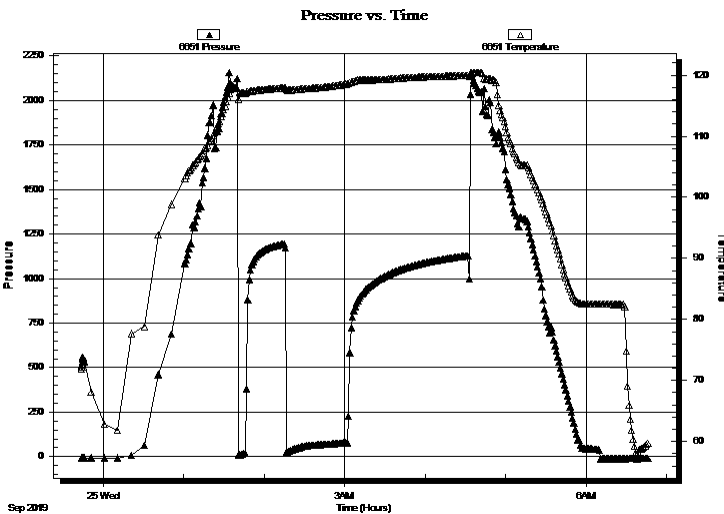
Start Time: 23:43:59

End Time: 06:45:53

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/4" blow built to 1 1/2"
IS: No return.
FF: Surface blow built to 6"
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
61.00	mcw 80%w 20%m	0.30
111.00	w cm 30%w 70%m	1.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

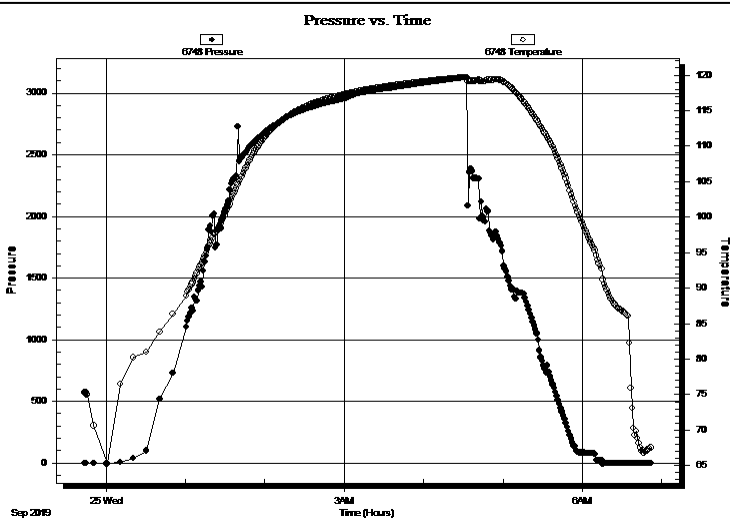
14-6s-31w Thomas, KS
4-D Farms #1-14
Job Ticket: 66056 **DST#: 4**
Test Start: 2019.09.24 @ 23:43:50

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:40:50
Time Test Ended: 06:45:50
Test Type: Conventional Straddle (Reset)
Tester: Brandon Turley
Unit No: 79
Interval: **4255.00 ft (KB) To 4318.00 ft (KB) (TVD)**
Reference Elevations: 2918.00 ft (KB)
Total Depth: 4572.00 ft (KB) (TVD) 2911.00 ft (CF)
Hole Diameter: 3.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 6748 Below (Straddle)
Press@RunDepth: psig @ 4320.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.09.24 End Date: 2019.09.25 Last Calib.: 2019.09.25
Start Time: 23:43:48 End Time: 06:51:42 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 1/4" blow built to 1 1/2"
IS: No return.
FF: Surface blow built to 6"
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
61.00	mcw 80%w 20%m	0.30
111.00	w cm 30%w 70%m	1.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66056 **DST#: 4**
Test Start: 2019.09.24 @ 23:43:50

Tool Information

Drill Pipe:	Length: 4136.00 ft	Diameter: 3.80 inches	Volume: 58.02 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 75000.00 lb
			Total Volume: 58.62 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4255.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	4318.00 ft			
Interval between Packers:	63.00 ft			
Tool Length:	346.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4227.00	
Shut In Tool	5.00			4232.00	
Sampler	2.00			4234.00	
Hydraulic tool	5.00			4239.00	
Jars	5.00			4244.00	
Safety Joint	2.00			4246.00	
Packer	5.00			4251.00	29.00 Bottom Of Top Packer
Packer	4.00			4255.00	
Stubb	1.00			4256.00	
Perforations	5.00			4261.00	
Recorder	0.00	6651	Inside	4261.00	
Recorder	0.00	8166	Outside	4261.00	
Change Over Sub	1.00			4262.00	
Drill Pipe	31.00			4293.00	
Change Over Sub	1.00			4294.00	
Perforations	19.00			4313.00	
Blank Off Sub	1.00			4314.00	
Packer - Shale	4.00			4318.00	63.00 Tool Interval
Packer	0.00			4318.00	
Stubb	1.00			4319.00	
Change Over Sub	1.00			4320.00	
Recorder	0.00	6748	Below	4320.00	
Drill Pipe	252.00			4572.00	254.00 Bottom Packers & Anchor
Total Tool Length:		346.00			



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Norstar Petroleum Inc
88 Inverness Cir E. Unit F104
Englewood, CO 80112
ATTN: Ryan Davis

14-6s-31w Thomas,KS
4-D Farms #1-14
Job Ticket: 66056 **DST#: 4**
Test Start: 2019.09.24 @ 23:43:50

Mud and Cushion Information

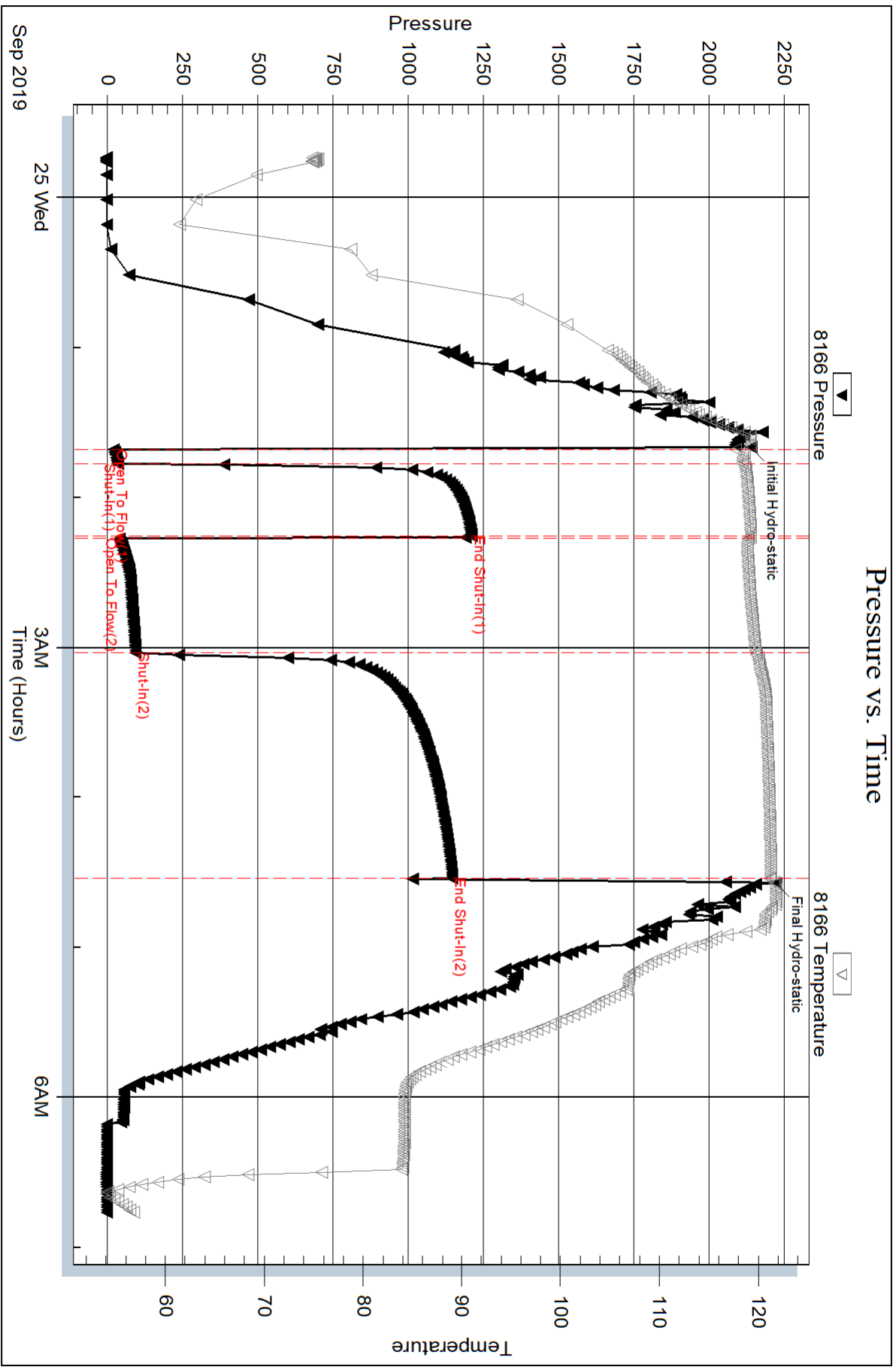
Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 18000 ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.18 in ³	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 2000.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
61.00	mcw 80%w 20%m	0.300
111.00	wcm 30%w 70%m	1.001

Total Length: 172.00 ft Total Volume: 1.301 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: .54@56=18000



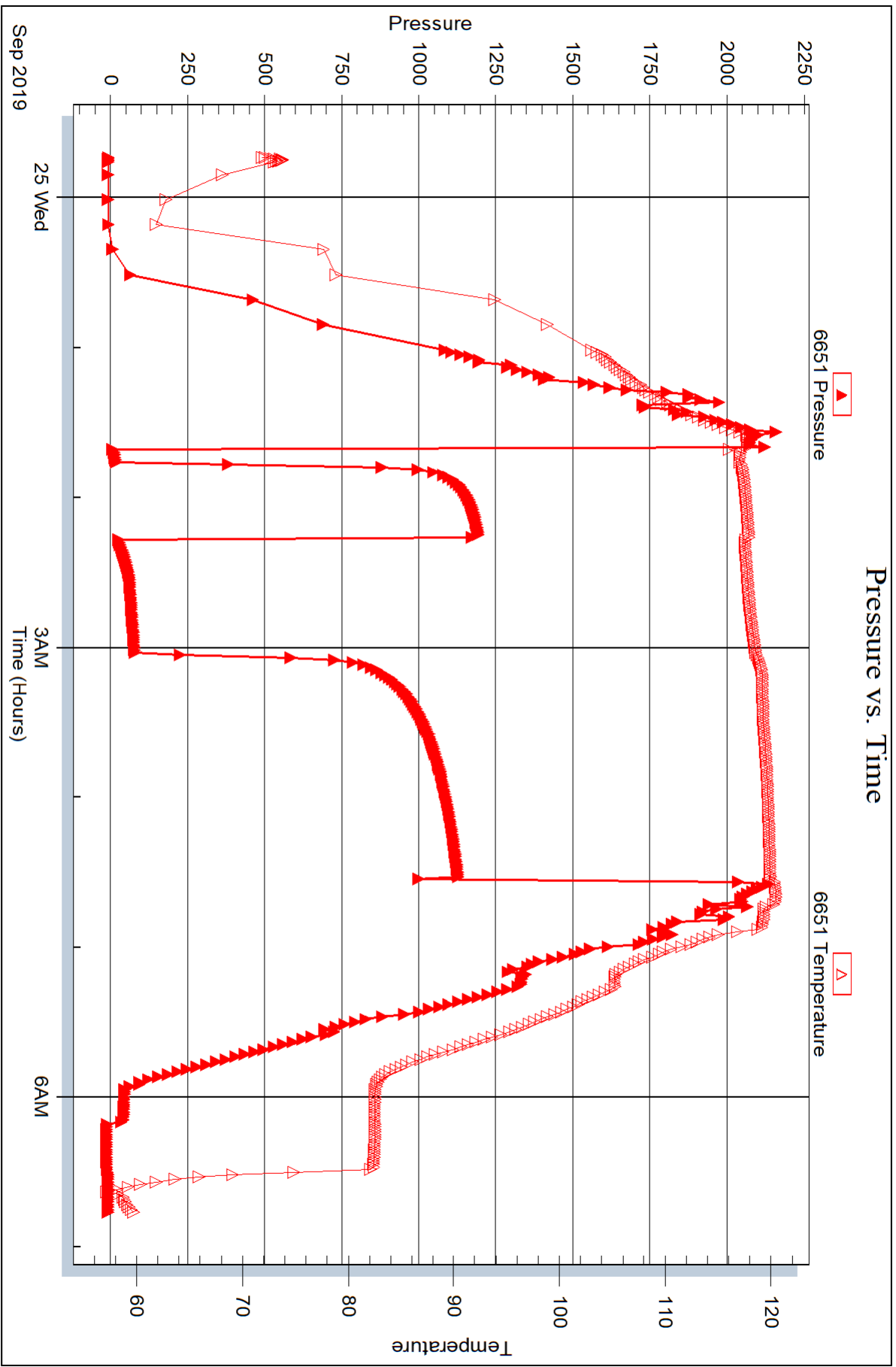
Serial #: 6651

Inside

Norstar Petroleum Inc

4-D Farms #1-14

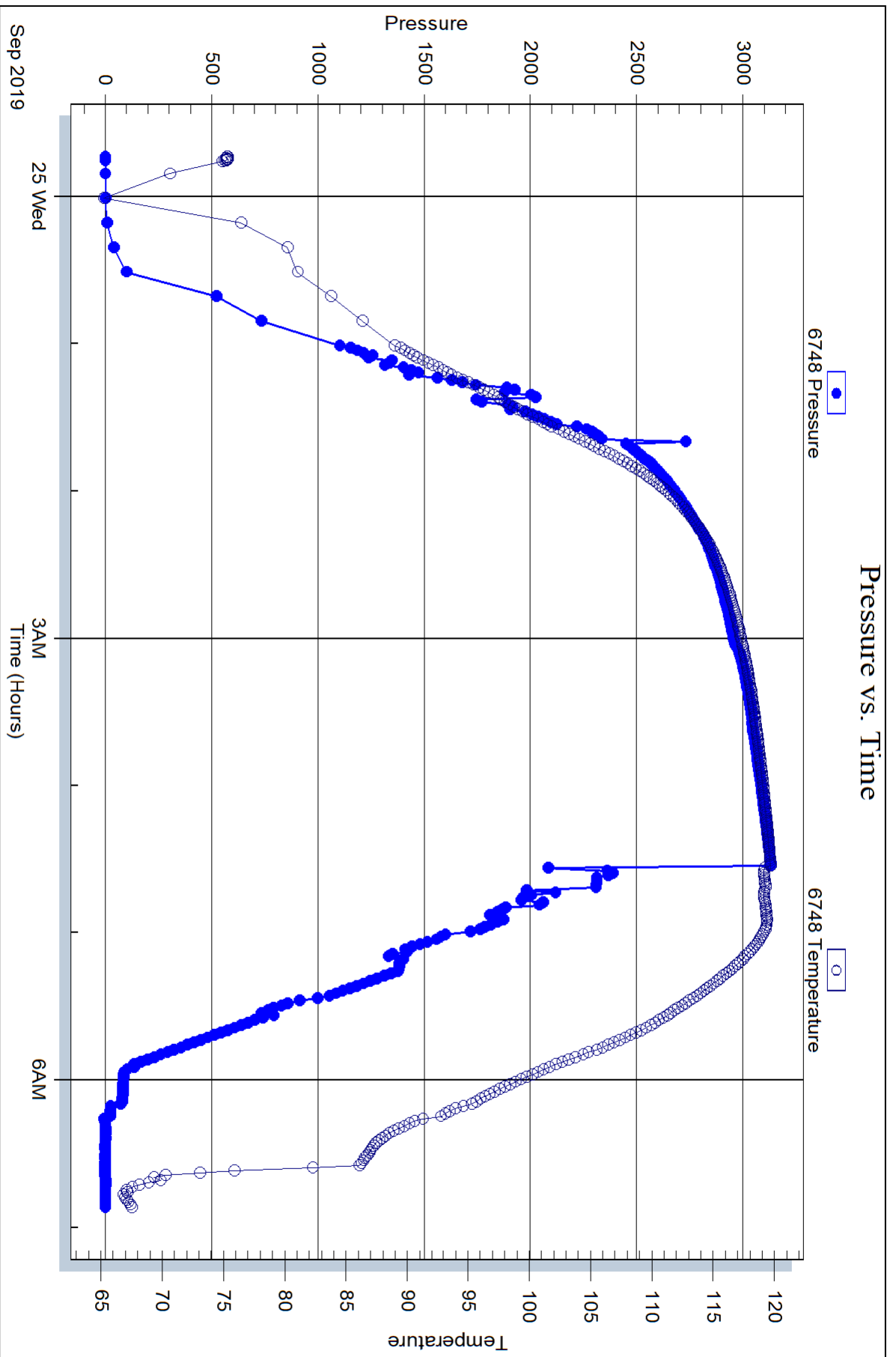
DST Test Number: 4



Triobite Testing, Inc

Ref. No: 66056

Printed: 2019.09.26 @ 08:19:55





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66053

NO.

Well Name & No. 4D Farms 1-14 Test No. 1 Date 9-21-19
 Company Norstar Petroleum Inc Elevation 2918 KB 2911 GL
 Address 88 Inverness Cir E, unit F104 Englewood, CO 80112
 Co. Rep / Geo. Ryan Davis Rig STP #1
 Location: Sec. 14 Twp 6 Rge. 31 Co. Thomas State KS

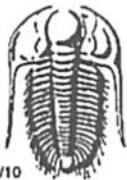
Interval Tested 3892 3933 Zone Tested Toronto
 Anchor Length 41 Drill Pipe Run 3759 Mud Wt. 9.0
 Top Packer Depth 3887 Drill Collars Run 122 Vis 56
 Bottom Packer Depth 3892 Wt. Pipe Run — WL 7.2
 Total Depth 3933 Chlorides 2000 ppm System LCM 1
 Blow Description IF: 1.3" blow built to 1.44.
IS: No return.
FF: No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 111 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1877</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>11:15</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:46</u>
(C) First Final Flow <u>29</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:03</u>
(D) Initial Shut-In <u>749</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>14:38</u>
(E) Second Initial Flow <u>30</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>16:25</u>
(F) Second Final Flow <u>30</u>	<input checked="" type="checkbox"/> Mileage <u>164-</u> 164	Comments <u>out of town</u>
(G) Final Shut-In <u>499</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1845</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1689</u>
	Sub Total <u>1689</u>	MP/DST Disc't

Approved By [Signature] Our Representative [Signature]
 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 of 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 66054

NO.

Well Name & No. 4D Farms 1-14 Test No. 2 Date 9-22-19
 Company Norstar Petroleum Elevation 2918 KB 2911 GL
 Address _____
 Co. Rep / Geo. Ryan Davis Rig STP #1
 Location: Sec. 14 Twp 6 Rge. 31 Co. Thomas State KS

Interval Tested 3946 3978 Zone Tested Lossing B & C
 Anchor Length _____ Drill Pipe Run 3822 Mud Wt. 9.0
 Top Packer Depth _____ Drill Collars Run 122 Vis 56
 Bottom Packer Depth 3946 Wt. Pipe Run _____ WL 7.2
 Total Depth 3978 Chlorides 2000 ppm System LCM 1

Blow Description IF: Surface blow.
IS: No return.
FF: Surface blow built to 1/4.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

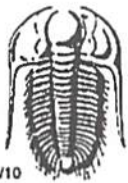
Rec Total 10 BHT 112 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1943 Test 1200 T-On Location 00:15
 (B) First Initial Flow 15 Jars 250 T-Started 1:02
 (C) First Final Flow 16 Safety Joint 75 T-Open 3:18
 (D) Initial Shut-In 1321 Circ Sub NIL T-Pulled 4:53
 (E) Second Initial Flow 17 Hourly Standby T-Out 6:45
 (F) Second Final Flow 25 Mileage 164 - 164 Comments out of town
 (G) Final Shut-In 1308 Sampler _____
 (H) Final Hydrostatic 1915 Straddle _____

Initial Open 5 Shale Packer _____
 Initial Shut-In 30 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 30 Day Standby _____
 Sub Total 1689 Accessibility _____
 Sub Total 1689 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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 66055

NO.

Well Name & No. 4-D Farms 1-14 Test No. 3 Date 9-22-19
 Company Norstar Petroleum Elevation 2918 KB 2911 GL
 Address _____
 Co. Rep / Geo. Rym Davis Rig STP #1
 Location: Sec. 14 Twp 6 Rge. 31 Co. Thomas State KS

Interval Tested 4069 4123 Zone Tested Lensing I-J
 Anchor Length _____ 54 Drill Pipe Run 3948 Mud Wt. 9.1
 Top Packer Depth _____ 4064 Drill Collars Run 122 Vis 56
 Bottom Packer Depth _____ 4069 Wt. Pipe Run _____ WL 7.2
 Total Depth _____ 4123 Chlorides 2300 ppm System LCM 1
 Blow Description IF: 1/2 blow built to 1".
IS: No return.
FF: Surface blow built to 1/2.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free oil</u>	<u>100</u>			
<u>15</u>	<u>ocm</u>	<u>20</u>		<u>80</u>	
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____

Rec Total 16 BHT 113 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2038 Test 1300 T-On Location 21:15
 (B) First Initial Flow 16 Jars 250 T-Started 21:53
 (C) First Final Flow 19 Safety Joint 75 T-Open 00:08
 (D) Initial Shut-In 723 Circ Sub NIL T-Pulled 2:13
 (E) Second Initial Flow 21 Hourly Standby _____ T-Out 4:06
 (F) Second Final Flow 22 Mileage 164-164 Comments out of town
 (G) Final Shut-In 53 Sampler _____
 (H) Final Hydrostatic 1992 Straddle _____
 Shale Packer _____ EM Tool _____
 Extra Packer _____ Ruined Shale Packer _____
 Extra Recorder _____ Ruined Packer 320
 Day Standby _____ Extra Copies _____
 Accessibility _____ Sub Total 320
 Sub Total 1789 Total 2109 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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 66056

NO.

Well Name & No. 4-D Farms 1-14 Test No. 4 Date 9-24-19
 Company Norstar Petroleum Elevation 2918 KB 2911 GL
 Address _____
 Co. Rep / Geo. Ryan Davis Rig STP #1
 Location: Sec. 14 Twp 6 Rge. 31 Co. Thomas State KS

Interval Tested 4255 4318 Zone Tested Pawnee
 Anchor Length 63 Drill Pipe Run 4136 Mud Wt. 9.0
 Top Packer Depth 4250 Drill Collars Run 122 Vis 56
 Bottom Packer Depth 4318 Wt. Pipe Run — WL 7.2
 Total Depth 4572 Chlorides 2000 ppm System LCM 3000/
 Blow Description ±F: 1/4 blow built to 1 1/2.
IS: No return.
FF: surface blow built to 6.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>111</u>	<u>wcm</u>		<u>30</u>	<u>70</u>	
<u>61</u>	<u>mcw</u>		<u>80</u>	<u>20</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 172 BHT 121 Gravity — API RW .54 @ 56 °F Chlorides 18.000 ppm

(A) Initial Hydrostatic <u>2139</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>22:15</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:43</u>
(C) First Final Flow <u>34</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1:43</u>
(D) Initial Shut-In <u>1211</u>	<input checked="" type="checkbox"/> Circ Sub <u>NCL</u>	T-Pulled <u>4:33</u>
(E) Second Initial Flow <u>39</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>6:52</u>
(F) Second Final Flow <u>93</u>	<input checked="" type="checkbox"/> Mileage <u>164-</u> 164	Comments <u>out of town</u>
(G) Final Shut-In <u>1147</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2221</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input type="checkbox"/> EM Tool
Initial Open <u>5</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>90</u>	<input checked="" type="checkbox"/> Day Standby <u>1.5d 6.25h</u>	Sub Total <u>208.33</u>
	<input type="checkbox"/> Accessibility	Total <u>2847.33</u>
	Sub Total <u>2639</u>	MP/DST Disc't

Approved By _____ Our Representative [Signature]

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