



DRILL STEM TEST REPORT

Prepared For: **Prater Oil & Gas Operations**

1303 N. Main
Pratt, KS 67124

ATTN: Scott Alberg

Culley A #2

28-8s-25w Graham,KS

Start Date: 2013.08.06 @ 19:40:00

End Date: 2013.08.07 @ 02:21:30

Job Ticket #: 50820 DST #: 1

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

Printed: 2013.08.08 @ 11:11:32



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prater Oil & Gas Operations

28-8s-25w Graham,KS

1303 N. Main
Pratt, KS 67124

Culley A #2

Job Ticket: 50820

DST#: 1

ATTN: Scott Alberg

Test Start: 2013.08.06 @ 19:40:00

GENERAL INFORMATION:

Formation: **H-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:11:00
 Time Test Ended: 02:21:30
 Interval: **3885.00 ft (KB) To 3960.00 ft (KB) (TVD)**
 Total Depth: 3960.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brannan L
 Unit No: 67
 Reference Elevations: 2490.00 ft (KB)
 ft (CF)
 KB to GR/CF: ft

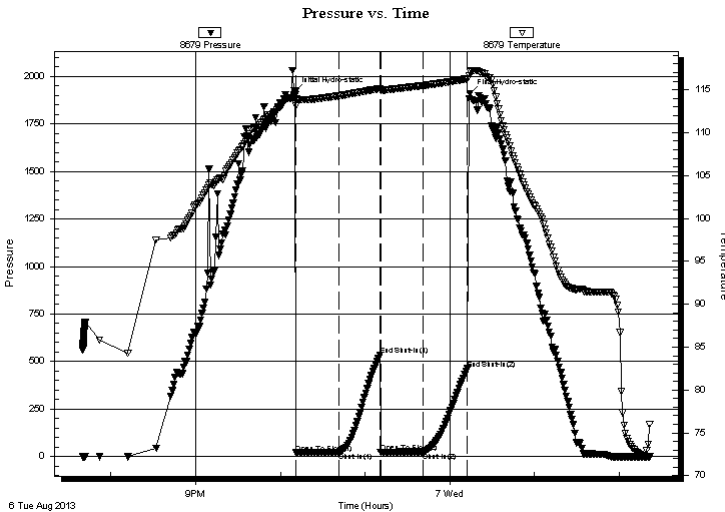
Serial #: 8679

Inside

Press @ Run Depth: 24.95 psig @ 3955.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.08.06 End Date: 2013.08.07 Last Calib.: 2013.08.07
 Start Time: 19:40:01 End Time: 02:21:30 Time On Btm: 2013.08.06 @ 22:10:00
 Time Off Btm: 2013.08.07 @ 00:14:30

TEST COMMENT: 30- IF- Surface blow that died
 30- ISI- No blow
 30- FF- No blow
 30- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1922.41	114.28	Initial Hydro-static
1	20.17	113.08	Open To Flow (1)
32	23.18	114.29	Shut-In(1)
61	534.43	115.13	End Shut-In(1)
61	23.58	114.91	Open To Flow (2)
91	24.95	115.47	Shut-In(2)
123	462.72	116.27	End Shut-In(2)
125	1908.25	117.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M, 100%M	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Prater Oil & Gas Operations

28-8s-25w Graham,KS

1303 N. Main
Pratt, KS 67124

Culley A #2

Job Ticket: 50820

DST#: 1

ATTN: Scott Alberg

Test Start: 2013.08.06 @ 19:40:00

Tool Information

Drill Pipe:	Length: 3873.00 ft	Diameter: 3.80 inches	Volume: 54.33 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 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:	70000.00 lb
			<u>Total Volume: 54.33 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3885.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	75.00 ft				
Tool Length:	103.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3858.00	
Shut In Tool	5.00			3863.00	
Hydraulic tool	5.00			3868.00	
Jars	5.00			3873.00	
Safety Joint	2.00			3875.00	
Packer	5.00			3880.00	28.00 Bottom Of Top Packer
Packer	5.00			3885.00	
Stubb	1.00			3886.00	
Perforations	5.00			3891.00	
Change Over Sub	1.00			3892.00	
Drill Pipe	63.00			3955.00	
Recorder	0.00	6625	Outside	3955.00	
Recorder	0.00	8679	Inside	3955.00	
Change Over Sub	1.00			3956.00	
Perforations	1.00			3957.00	
Bullnose	3.00			3960.00	75.00 Bottom Packers & Anchor
Total Tool Length:	103.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Prater Oil & Gas Operations

28-8s-25w Graham,KS

1303 N. Main
Pratt, KS 67124

Culley A #2

Job Ticket: 50820

DST#: 1

ATTN: Scott Alberg

Test Start: 2013.08.06 @ 19:40:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M, 100%M	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8679

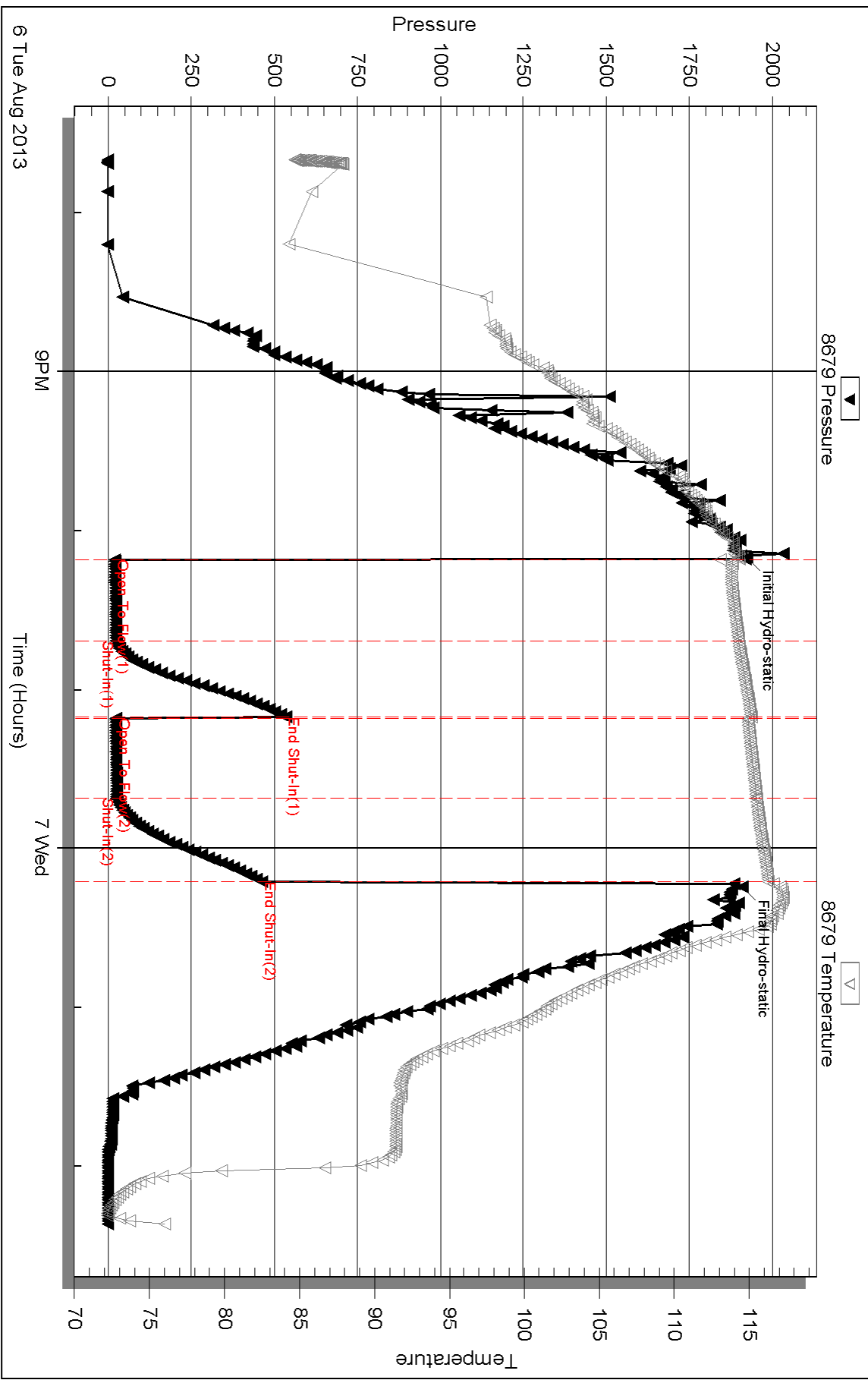
Inside

Prater Oil & Gas Operators

Calley A #2

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50820

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DRILL STEM TEST REPORT

Prepared For: **Prater Oil & Gas Operations**

1303 N. Main
Pratt, KS 67124

ATTN: Scott Alberg

Culley A #2

28-8s-25w Graham,KS

Start Date: 2013.08.07 @ 12:12:00

End Date: 2013.08.07 @ 18:31:30

Job Ticket #: 50821 DST #: 2

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

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TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prater Oil & Gas Operations

28-8s-25w Graham, KS

1303 N. Main
Pratt, KS 67124

Culley A #2

Job Ticket: 50821

DST#: 2

ATTN: Scott Alberg

Test Start: 2013.08.07 @ 12:12:00

GENERAL INFORMATION:

Formation: **K&L**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:35:00
 Time Test Ended: 18:31:30
 Interval: **3957.00 ft (KB) To 4003.00 ft (KB) (TVD)**
 Total Depth: 4003.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan L
 Unit No: 67
 Reference Elevations: 2490.00 ft (KB)
 ft (CF)
 KB to GR/CF: ft

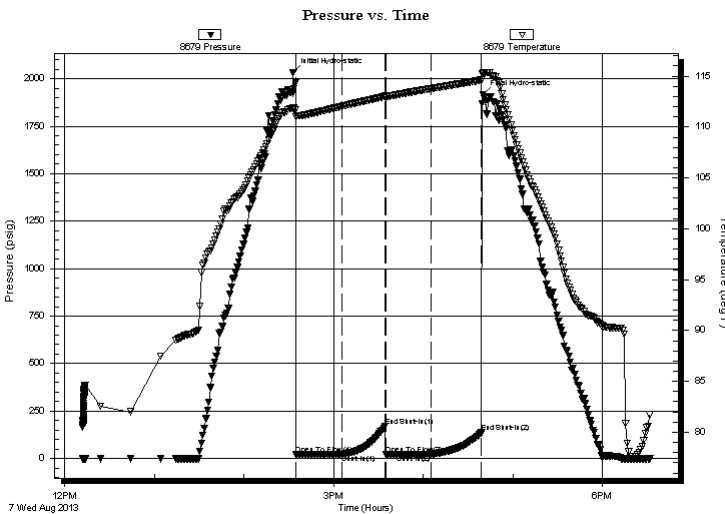
Serial #: 8679

Inside

Press @ Run Depth: 23.15 psig @ 3998.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.08.07 End Date: 2013.08.07 Last Calib.: 2013.08.07
 Start Time: 12:12:01 End Time: 18:31:30 Time On Btm: 2013.08.07 @ 14:33:00
 Time Off Btm: 2013.08.07 @ 16:40:00

TEST COMMENT: 30- IF- Surface blow that died
 30- IS- No blow
 30- FF- No blow
 30- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2032.96	111.85	Initial Hydro-static
2	21.53	111.00	Open To Flow (1)
33	22.75	112.03	Shut-In(1)
62	172.17	113.03	End Shut-In(1)
62	23.45	112.96	Open To Flow (2)
92	23.15	113.76	Shut-In(2)
126	136.53	114.62	End Shut-In(2)
127	1915.65	115.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM, 2%O 98%M	0.07

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Prater Oil & Gas Operations

28-8s-25w Graham,KS

1303 N. Main
Pratt, KS 67124

Culley A #2

Job Ticket: 50821

DST#: 2

ATTN: Scott Alberg

Test Start: 2013.08.07 @ 12:12:00

Tool Information

Drill Pipe:	Length: 3936.00 ft	Diameter: 3.80 inches	Volume: 55.21 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 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:	60000.00 lb
			<u>Total Volume: 55.21 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3957.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 ft				
Tool Length:	74.00 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			3930.00	
Shut In Tool	5.00			3935.00	
Hydraulic tool	5.00			3940.00	
Jars	5.00			3945.00	
Safety Joint	2.00			3947.00	
Packer	5.00			3952.00	28.00 Bottom Of Top Packer
Packer	5.00			3957.00	
Stubb	1.00			3958.00	
Perforations	8.00			3966.00	
Change Over Sub	1.00			3967.00	
Drill Pipe	31.00			3998.00	
Recorder	0.00	6625	Outside	3998.00	
Recorder	0.00	8679	Inside	3998.00	
Change Over Sub	1.00			3999.00	
Perforations	1.00			4000.00	
Bullnose	3.00			4003.00	46.00 Bottom Packers & Anchor
Total Tool Length:	74.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Prater Oil & Gas Operations

28-8s-25w Graham,KS

1303 N. Main
Pratt, KS 67124

Culley A #2

Job Ticket: 50821

DST#: 2

ATTN: Scott Alberg

Test Start: 2013.08.07 @ 12:12:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OCM, 2%O 98%M	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8679

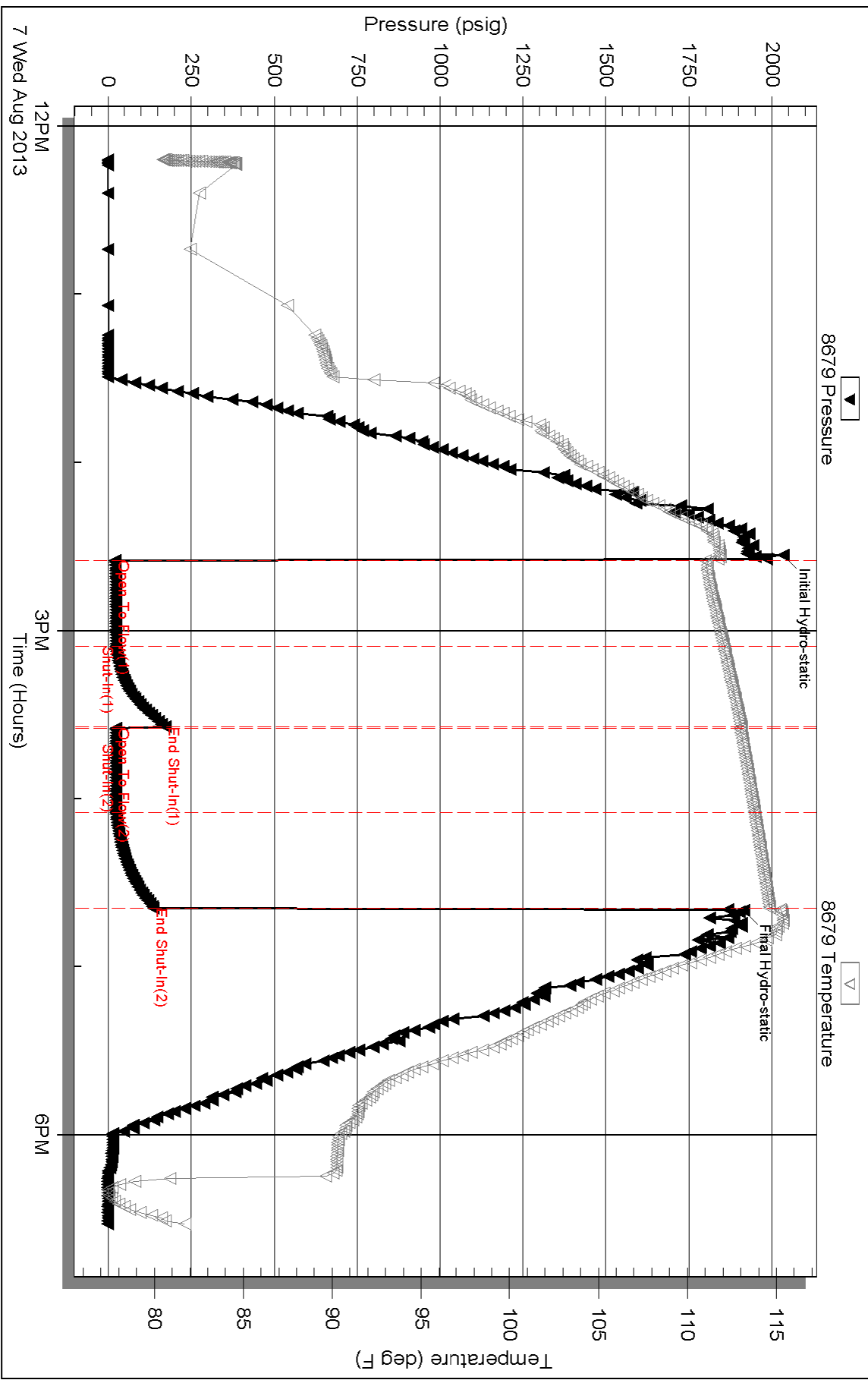
Inside

Prater Oil & Gas Operators

Calley A #2

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50821

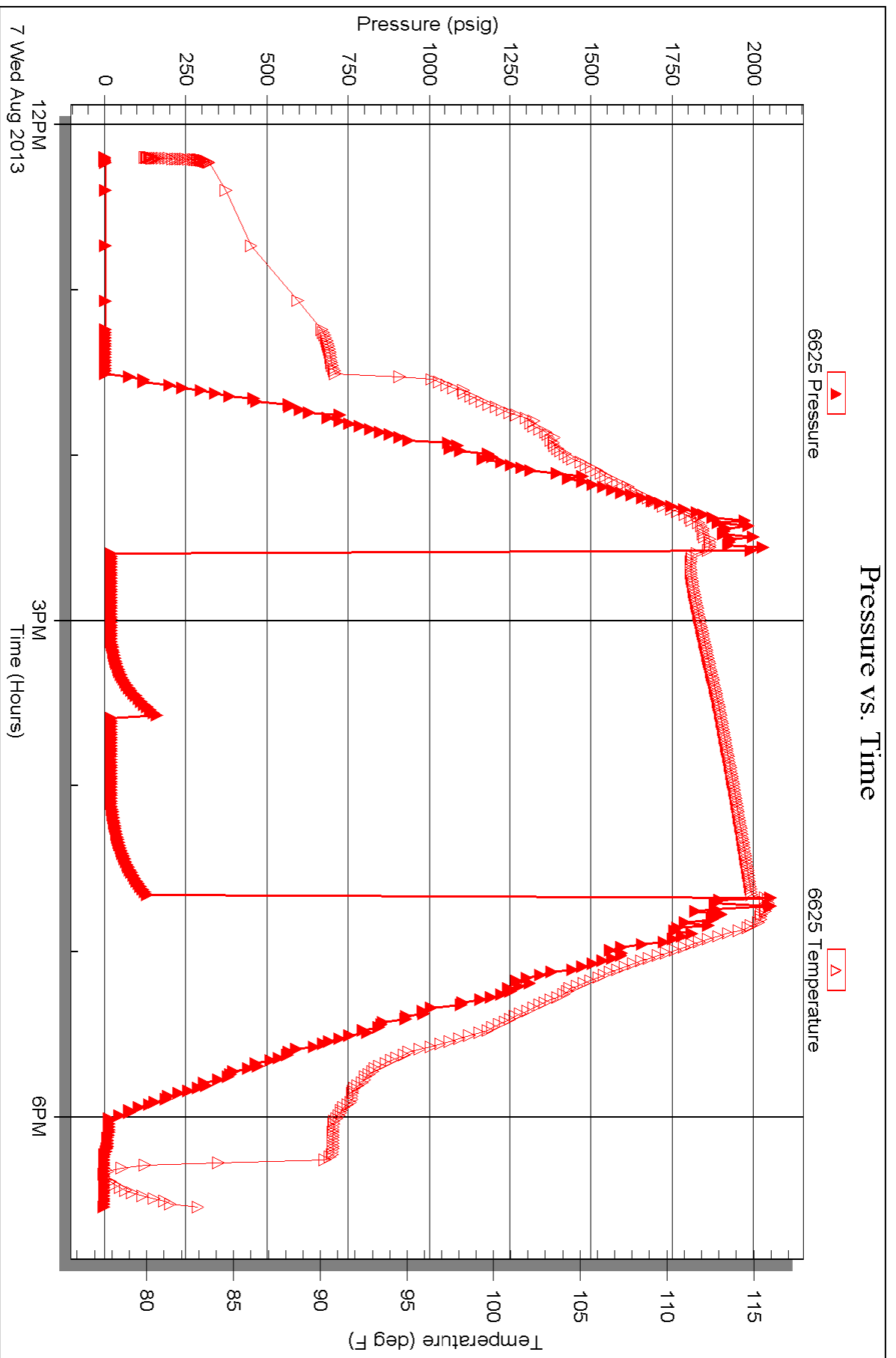
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Serial #: 6625

Outside Prater Oil & Gas Operators

Calley A#2

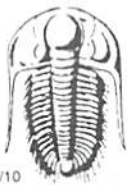
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 50821

Printed: 2013.08.08 @ 11:10:57



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50820

Well Name & No. Culley A#2 Test No. 1 Date 8/6/13
 Company Prater Oil & Gas Operations Elevation 2490 KB _____ GL _____
 Address 1303 N. Main Pratt, KS 67124
 Co. Rep / Geo. Scott Alberg Rig Maverick #108
 Location: Sec. 28 Twp. 8 Rge. 25 Co. Graham State KS

Interval Tested 3885 - 3960 Zone Tested H-J
 Anchor Length 75' Drill Pipe Run 3873 Mud Wt. 9.0
 Top Packer Depth 3880 Drill Collars Run _____ Vis 53
 Bottom Packer Depth 3885 Wt. Pipe Run _____ WL 5.8
 Total Depth 3960 Chlorides 1200 ppm System LCM 3#

Blow Description IF - Surface blow that dried
ISI - No blow
FF - No blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>M</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

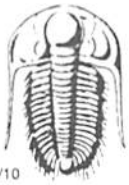
Rec Total 5' BHT 116° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1922 Test 1150 T-On Location 1800
 (B) First Initial Flow 20 Jars 250 T-Started 1940
 (C) First Final Flow 23 Safety Joint 75 T-Open 2211
 (D) Initial Shut-In 534 Circ Sub _____ T-Pulled 0011
 (E) Second Initial Flow 24 Hourly Standby _____ T-Out 0222
 (F) Second Final Flow 25 Mileage 166 RT 124rt 192.20 Comments _____
 (G) Final Shut-In 463 Sampler _____
 (H) Final Hydrostatic 1908 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1667.20
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1667.20

Approved By _____ Our Representative Brannan L.

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50821

Well Name & No. Calley A#2 Test No. 2 Date 8/7/13
 Company Peter Oil + Gas Operations Elevation 2490 KB _____ GL _____
 Address 1303 N. Main Pratt, KS 67124
 Co. Rep / Geo. Scott Alberg Rig Maverick 108
 Location: Sec. 28 Twp. 8 Rge. 25 Co. Graham State KS

Interval Tested 3957-4003 Zone Tested K+L
 Anchor Length 46' Drill Pipe Run 3936 Mud Wt. 9.1
 Top Packer Depth 3952 Drill Collars Run _____ Vis 56
 Bottom Packer Depth 3957 Wt. Pipe Run _____ WL 6.2
 Total Depth 4003 Chlorides 1200 ppm System LCM 2#

Blow Description IF - Surface Blow
ISI - No blow
PF - No blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OCM</u>		<u>2</u>		<u>98</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 115° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2033 Test 1250 T-On Location 1130
 (B) First Initial Flow 22 Jars 250 T-Started 1212
 (C) First Final Flow 23 Safety Joint 75 T-Open 1435
 (D) Initial Shut-In 172 Circ Sub _____ T-Pulled 1635
 (E) Second Initial Flow 23 Hourly Standby _____ T-Out 1833
 (F) Second Final Flow 23 Mileage 166 RT 192.20 Comments _____
 (G) Final Shut-In 137 Sampler _____
 (H) Final Hydrostatic 1916 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 30 Ruined Packer _____
 Final Flow 30 Extra Copies _____
 Final Shut-In 30 Sub Total 0
 Total 1667.20
 MP/DST Disc't _____
 Sub Total 1667.20

Approved By _____ Our Representative Brannon L

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.