



DRILL STEM TEST REPORT

Prepared For: **Tengasco , Inc**

1327 Moose Rd
Hays KS 67601-9744

ATTN: Dan Jacobs, Mike Bai

Howard A #1

17-15s-25w Trego,KS

Start Date: 2014.07.22 @ 15:20:27

End Date: 2014.07.22 @ 23:39:21

Job Ticket #: 58832 DST #: 1

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

Printed: 2014.07.25 @ 09:06:33



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Tengasco, Inc
 1327 Noose Rd
 Hays KS 67601-9744
 ATTN: Dan Jacobs, Mike Bai

17-15s-25w Trego, KS
Howard A #1
 Job Ticket: 58832 **DST#: 1**
 Test Start: 2014.07.22 @ 15:20:27

GENERAL INFORMATION:

Formation: **LKC J-K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:54:52
 Time Test Ended: 23:39:21
 Interval: **3887.00 ft (KB) To 3940.00 ft (KB) (TVD)**
 Total Depth: 3940.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 70
 Reference Elevations: 2367.00 ft (KB)
 2360.00 ft (CF)
 KB to GR/CF: 7.00 ft

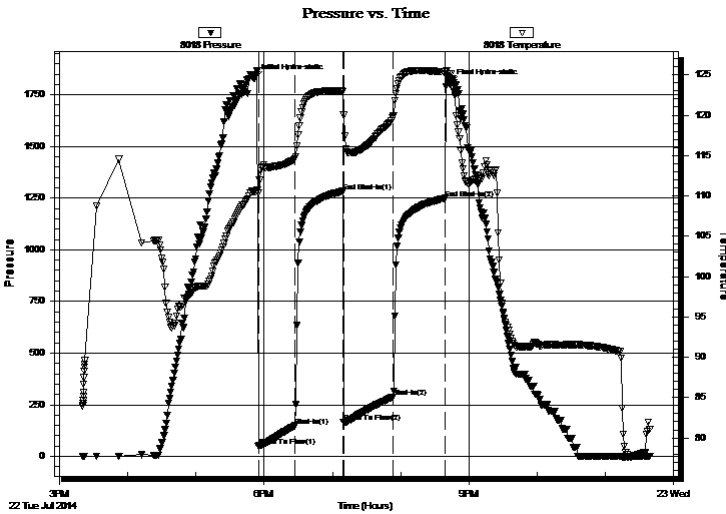
Serial #: 8018

Inside

Press@RunDepth: 288.05 psig @ 3889.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.07.22 End Date: 2014.07.22 Last Calib.: 2014.07.22
 Start Time: 15:20:27 End Time: 23:39:21 Time On Btm: 2014.07.22 @ 17:51:22
 Time Off Btm: 2014.07.22 @ 20:43:21

TEST COMMENT: 30-IFP-strg bl in 4 min
 45-ISIP-strg bl in 20 min
 45-FFP-strg bl thru-out
 45-FSIP-4 1/2" bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.72	110.57	Initial Hydro-static
4	48.33	110.40	Open To Flow (1)
36	147.69	114.59	Shut-In(1)
78	1282.59	122.96	End Shut-In(1)
79	165.53	120.02	Open To Flow (2)
122	288.05	119.77	Shut-In(2)
168	1249.35	125.35	End Shut-In(2)
172	1802.53	125.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2140' GIP	0.00
124.00	MGO 10%G40%M50%O	1.47
775.00	CO	10.87

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Tengasco , Inc
1327 Noose Rd
Hays KS 67601-9744
ATTN: Dan Jacobs, Mike Bai

17-15s-25w Trego,KS
Howard A #1
Job Ticket: 58832 **DST#: 1**
Test Start: 2014.07.22 @ 15:20:27

Tool Information

Drill Pipe:	Length: 3848.00 ft	Diameter: 3.80 inches	Volume: 53.98 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 54.13 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3887.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	82.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3859.00	
Shut In Tool	5.00			3864.00	
Hydraulic tool	5.00			3869.00	
Jars	5.00			3874.00	
Safety Joint	3.00			3877.00	
Packer	5.00			3882.00	29.00 Bottom Of Top Packer
Packer	5.00			3887.00	
Stubb	1.00			3888.00	
Perforations	1.00			3889.00	
Recorder	0.00	8018	Inside	3889.00	
Recorder	0.00	8678	Outside	3889.00	
Blank Spacing	33.00			3922.00	
Perforations	15.00			3937.00	
Bullnose	3.00			3940.00	53.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Tengasco , Inc

17-15s-25w Trego,KS

1327 Moose Rd
Hays KS 67601-9744

Howard A #1

Job Ticket: 58832

DST#: 1

ATTN: Dan Jacobs, Mike Bai

Test Start: 2014.07.22 @ 15:20:27

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.90 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	2140' GIP	0.000
124.00	MGO 10%G40%M50%O	1.466
775.00	CO	10.871

Total Length: 899.00 ft Total Volume: 12.337 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

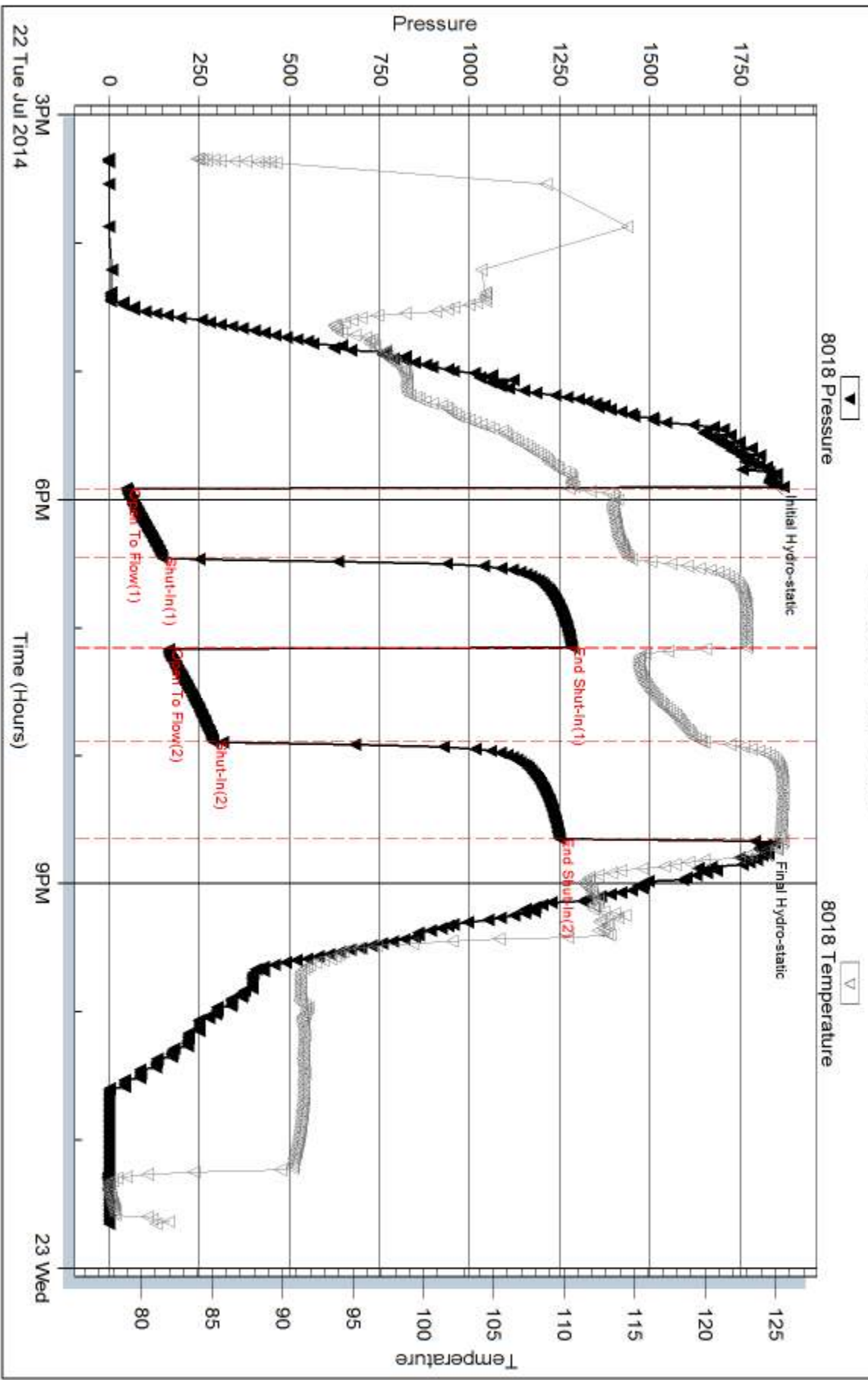
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

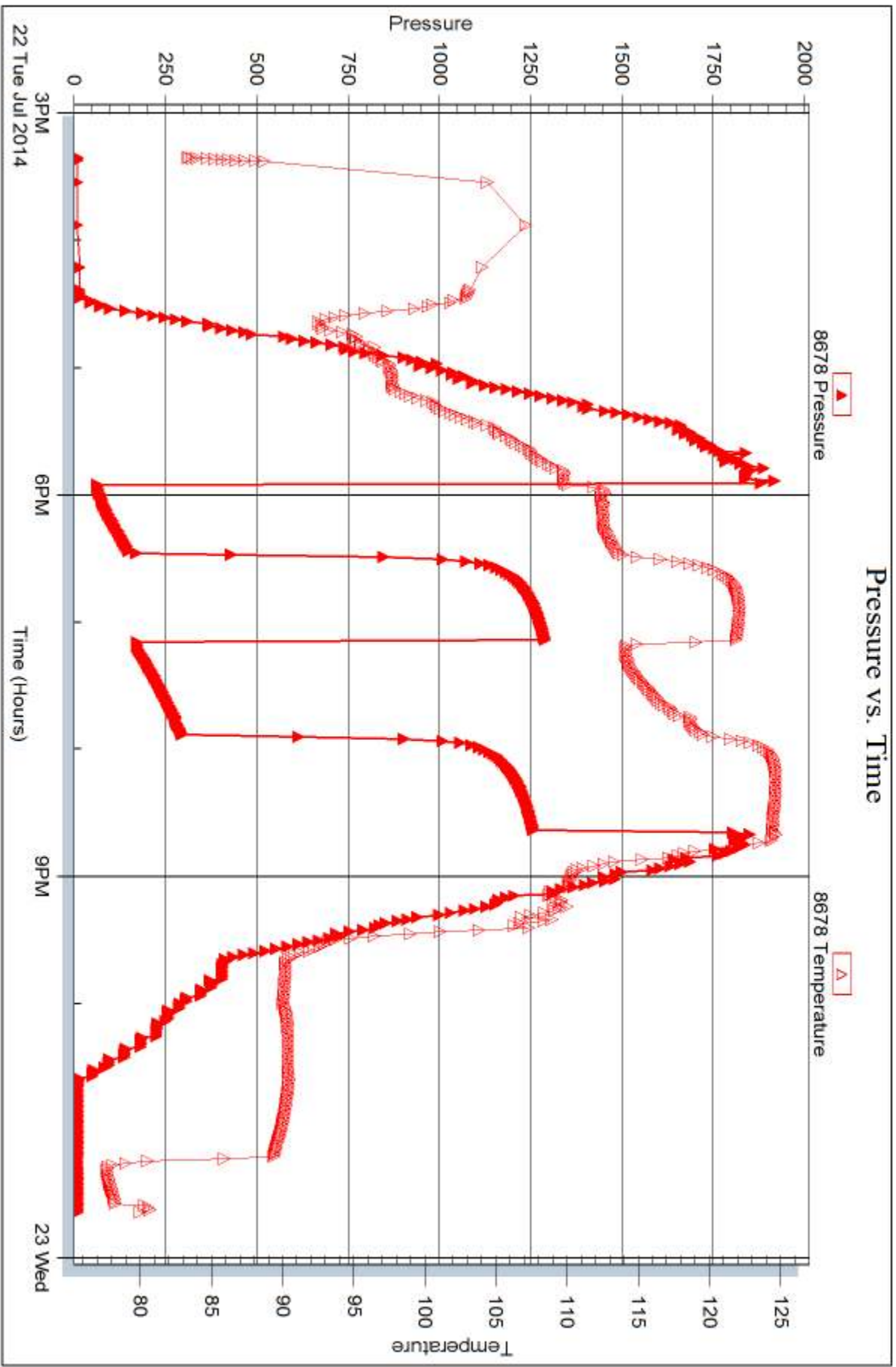


Serial #: 8678

Outside Tengasco, Inc

Howard A #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58832

Printed: 2014.07.25 @ 09:06:34



DRILL STEM TEST REPORT

Prepared For: **Tengasco , Inc**

1327 Noose Rd
Hays KS 67601-9744

ATTN: Dan Jacobs, Mike Bai

Howard A #1

17-15s-25w Trego,KS

Start Date: 2014.07.24 @ 12:15:47

End Date: 2014.07.24 @ 19:43:41

Job Ticket #: 58833 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

Tengasco, Inc
 1327 Noose Rd
 Hays KS 67601-9744
 ATTN: Dan Jacobs, Mike Bai

17-15s-25w Trego,KS
Howard A #1
 Job Ticket: 58833 **DST#: 2**
 Test Start: 2014.07.24 @ 12:15:47

GENERAL INFORMATION:

Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:31:42
 Time Test Ended: 19:43:41
 Interval: **4280.00 ft (KB) To 4298.00 ft (KB) (TVD)**
 Total Depth: 4298.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 70
 Reference Elevations: 2367.00 ft (KB)
 2360.00 ft (CF)
 KB to GR/CF: 7.00 ft

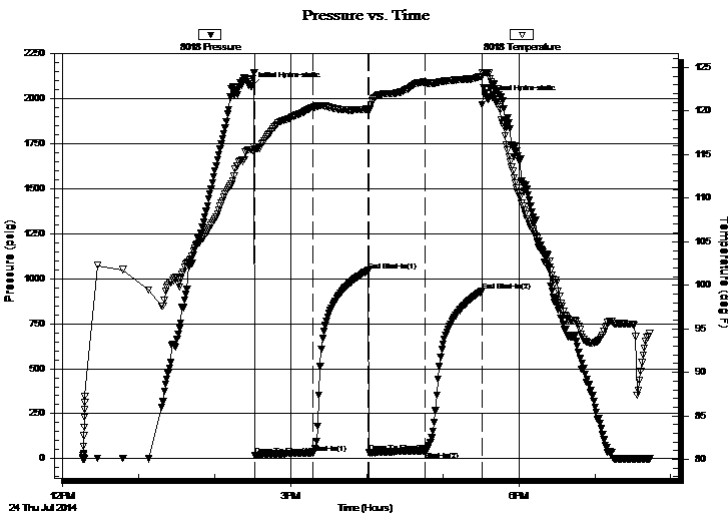
Serial #: 8018

Inside

Press@RunDepth: 43.90 psig @ 4281.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.07.24 End Date: 2014.07.24 Last Calib.: 2014.07.24
 Start Time: 12:15:47 End Time: 19:43:41 Time On Btm: 2014.07.24 @ 14:29:12
 Time Off Btm: 2014.07.24 @ 17:35:41

TEST COMMENT: 45-IFP-w k bl thru-out surface to 2" bl
 45-ISIP-no bl bk
 45-FFP-w k bl thru-out, surface to 1/2" bl
 45-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2066.83	115.56	Initial Hydro-static
3	17.91	115.42	Open To Flow (1)
49	32.35	120.42	Shut-In(1)
92	1045.69	120.24	End Shut-In(1)
93	34.62	120.06	Open To Flow (2)
137	43.90	123.27	Shut-In(2)
182	930.70	123.97	End Shut-In(2)
187	1995.42	124.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	90'GIP	0.00
30.00	O&GCM 10%G10%O80%M	0.15
60.00	CO	0.84

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Tengasco , Inc

17-15s-25w Trego,KS

1327 Noose Rd
Hays KS 67601-9744

Howard A #1

Job Ticket: 58833

DST#: 2

ATTN: Dan Jacobs, Mike Bai

Test Start: 2014.07.24 @ 12:15:47

Tool Information

Drill Pipe:	Length: 4242.00 ft	Diameter: 3.80 inches	Volume: 59.50 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 59.65 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	59000.00 lb
Depth to Top Packer:	4280.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	18.00 ft				
Tool Length:	47.00 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			4252.00	
Shut In Tool	5.00			4257.00	
Hydraulic tool	5.00			4262.00	
Jars	5.00			4267.00	
Safety Joint	3.00			4270.00	
Packer	5.00			4275.00	29.00 Bottom Of Top Packer
Packer	5.00			4280.00	
Stubb	1.00			4281.00	
Recorder	0.00	8018	Inside	4281.00	
Recorder	0.00	8678	Outside	4281.00	
Perforations	14.00			4295.00	
Bullnose	3.00			4298.00	18.00 Bottom Packers & Anchor

Total Tool Length: 47.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Tengasco , Inc

17-15s-25w Trego,KS

1327 Moose Rd
Hays KS 67601-9744

Howard A #1

Job Ticket: 58833

DST#: 2

ATTN: Dan Jacobs, Mike Bai

Test Start: 2014.07.24 @ 12:15:47

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 58.00 sec/qt
Water Loss: 9.38 in³
Resistivity: ohm.m
Salinity: 2400.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 41 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	90'GIP	0.000
30.00	O&GCM 10%G10%O80%M	0.148
60.00	CO	0.842

Total Length: 90.00 ft Total Volume: 0.990 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

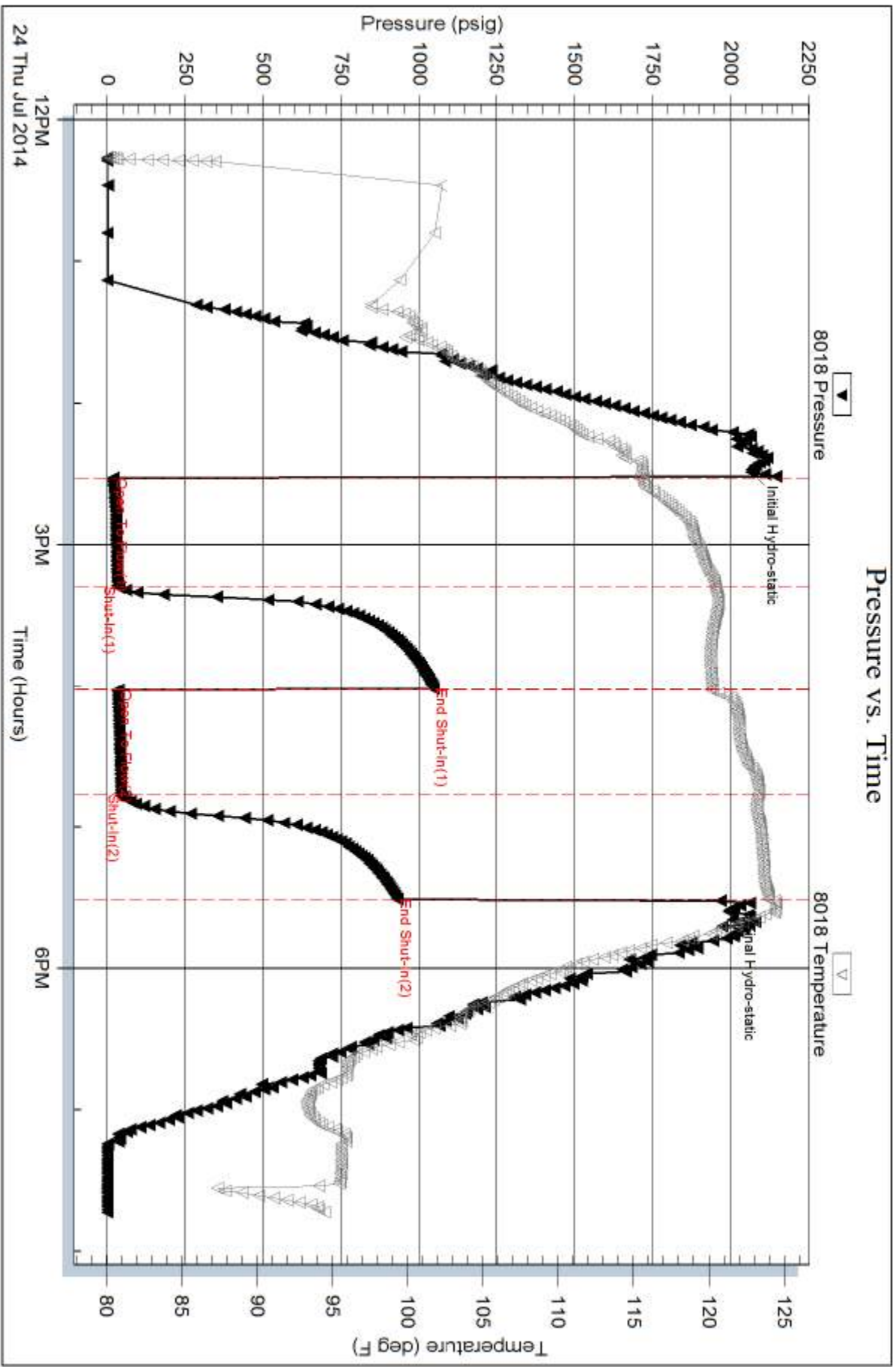
Serial #: 8018

Inside

Tengasco, Inc

Howard A #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58833

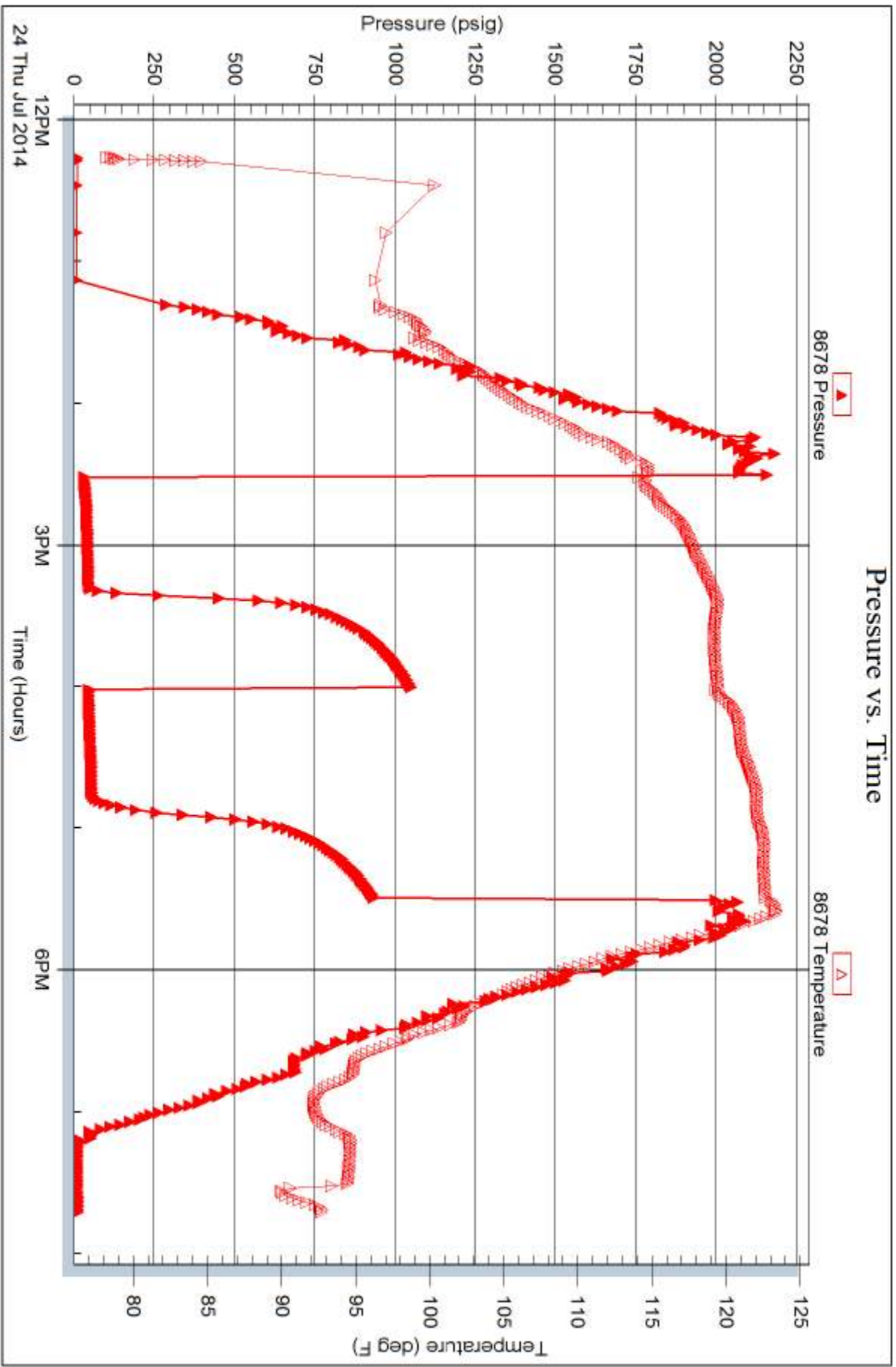
Printed: 2014.07.25 @ 09:06:00

Serial #: 8678

Outside Tengasco, Inc

Howard A #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58833

Printed: 2014.07.25 @ 09:06:00



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58832

Well Name & No. Howard A #1 Test No. 1 Date 7-22-14
 Company Tengasco Inc Elevation 2367 KB 2360 GL
 Address 1327 Noose Rd. Hays, Ks 67601-9744
 Co. Rep / Geo. Mike BAIR Rig Am Eagle 1193
 Location: Sec. 17 Twp. 15^s Rge. 25^w Co. Trego State Ks

Interval Tested 3887-3940 Zone Tested LKC J-K
 Anchor Length 53 Drill Pipe Run 3848 Mud Wt. 8.8
 Top Packer Depth 3882 Drill Collars Run 30 Vis 58
 Bottom Packer Depth 3887 Wt. Pipe Run - WL 8
 Total Depth 3940 Chlorides 2000 ppm System LCM 2#

Blow Description IFP - WEAK TO A STRONG BLOW IN 4 MIN
TSIP - STRONG BLOW BACK IN 20 MIN
FFP - STRONG BLOW THRU-OUT
FSIP - 4 1/2" BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>MGO</u>	<u>10</u>	<u>50</u>	<u>40</u>	
<u>775</u>	<u>Co</u>				
<u>2140</u>	<u>GTP</u>				

Rec Total 899 BHT 125 Gravity 32 API RW - @ - ° F Chlorides - ppm
 (A) Initial Hydrostatic 1829 Test 1150 T-On Location 1330
 (B) First Initial Flow 48 Jars 250 T-Started 1520
 (C) First Final Flow 147 Safety Joint 75 T-Open 1755
 (D) Initial Shut-In 1282 Circ Sub _____ T-Pulled 2040
 (E) Second Initial Flow 165 Hourly Standby 1 100 T-Out 2339
 (F) Second Final Flow 288 Mileage 136RT 210.80 Comments _____
 (G) Final Shut-In 1249 Sampler _____
 (H) Final Hydrostatic 1802 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 30
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Sub Total 0
 Total 1785.80
 MP/DST Disc't _____
 Sub Total 1785.80

Approved By _____ Our Representative Ray Schwager Thank you

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. 58833

Well Name & No. Howard A#1 Test No. 2 Date 7-24-14
 Company Tengasco, Inc Elevation 2367 KB 2360 GL
 Address 1327 Moose Rd. Hays, Ks 67601-9744
 Co. Rep / Geo. Mike Bair Rig Am Eagle rig 3
 Location: Sec. 17 Twp. 15^s Rge. 25^w Co. Trego State Ks

Interval Tested 4280-4298 Zone Tested MISS
 Anchor Length 18 Drill Pipe Run 4242 Mud Wt. 9.2
 Top Packer Depth 4275 Drill Collars Run 30 Vis 58
 Bottom Packer Depth 4280 Wt. Pipe Run - WL 9.4
 Total Depth 4298 Chlorides 2400 ppm System LCM 2#

Blow Description IFF - Weak Blow thru-out, surface to 2" Blow
TSIP - NO Blow
FFP - Weak Blow thru-out, surface to 1/2" Blow
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>GAS IN PIPE</u>				
<u>60</u>	<u>CO</u>				
<u>30</u>	<u>DTGCM</u>	<u>10</u>	<u>10</u>		<u>80</u>

Rec Total 90 BHT 124 Gravity 41 API RW - @ - °F Chlorides - ppm
 (A) Initial Hydrostatic 2066 Test 1250 T-On Location 1130
 (B) First Initial Flow 17 Jars 250 T-Started 1215
 (C) First Final Flow 32 Safety Joint 75 T-Open 1435
 (D) Initial Shut-In 1042 Circ Sub _____ T-Pulled 1735
 (E) Second Initial Flow 34 Hourly Standby _____ T-Out 1943
 (F) Second Final Flow 43 Mileage 136RT 210.80 Comments _____
 (G) Final Shut-In 930 Sampler _____
 (H) Final Hydrostatic 1995 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Sub Total 1785.80
 Total 2177.47
 MP/DST Disc't _____

Approved By _____ Our Representative RAY Schwager Thank you
 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.