



DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co. Inc.**

PO Box 124
Kiowa, KS 67070-1912

ATTN: David Barker / Ron M

Big Chief #4

6-35s-11w Barber,KS

Start Date: 2012.09.22 @ 03:09:16

End Date: 2012.09.22 @ 12:48:46

Job Ticket #: 49547 DST #: 1

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

Printed: 2012.09.27 @ 10:35:47



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Chieftain Oil Co. Inc.

6-35s-11w Barber,KS

PO Box 124
Kiowa, KS 67070-1912

Big Chief #4

Job Ticket: 49547

DST#: 1

ATTN: David Barker / Ron M

Test Start: 2012.09.22 @ 03:09:16

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:32:16

Time Test Ended: 12:48:46

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Reynolds

Unit No: 48

Interval: 4795.00 ft (KB) To 4823.00 ft (KB) (TVD)

Reference Elevations: 1395.00 ft (KB)

Total Depth: 4823.00 ft (KB) (TVD)

1383.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

Serial #: 8790

Inside

Press @ Run Depth: 53.17 psig @ 4796.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.22

End Date: 2012.09.22

Last Calib.: 2012.09.22

Start Time: 03:09:21

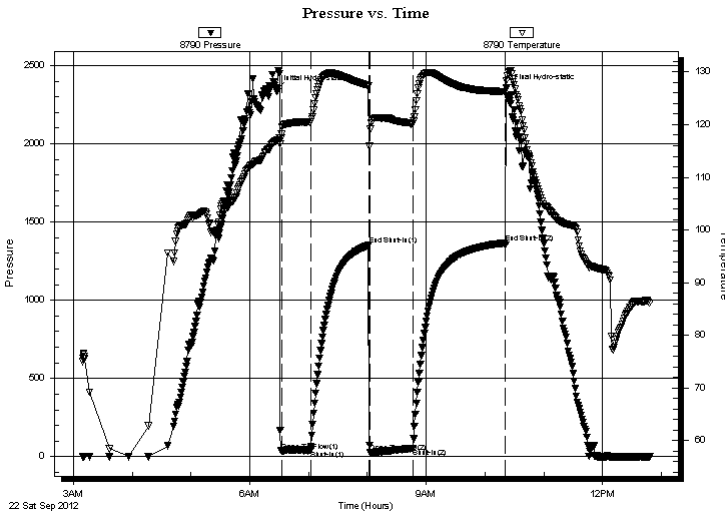
End Time: 12:48:46

Time On Btm: 2012.09.22 @ 06:27:01

Time Off Btm: 2012.09.22 @ 10:22:01

TEST COMMENT: IF: Strong blow . BOB 30 sec. No GTS
IS: No blow
FF: Strong blow . BOB immed. GTS @ 4 min. Gauged gas
FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2343.51	116.95	Initial Hydro-static
6	37.42	118.17	Open To Flow (1)
35	43.92	120.45	Shut-In(1)
95	1350.75	127.37	End Shut-In(1)
96	30.19	119.14	Open To Flow (2)
140	53.17	120.14	Shut-In(2)
234	1366.65	126.28	End Shut-In(2)
235	2355.03	128.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	w ater 100%w ater	0.00
40.00	GMWO 20%gas, 20%w ater, 20%mud,	40.20il
80.00	WGOCM 5%w ater, 10%gas, 20%oil, 65%	90.39l
15.00	GOCM 5%gas, 15%oil, 80%mud	0.07

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	6.50	7.82
Last Gas Rate	0.13	16.00	11.38
Max. Gas Rate	0.13	16.00	11.38



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Chieftain Oil Co. Inc.

6-35s-11w Barber,KS

PO Box 124
Kiowa, KS 67070-1912

Big Chief #4

Job Ticket: 49547

DST#: 1

ATTN: David Barker / Ron M

Test Start: 2012.09.22 @ 03:09:16

Tool Information

Drill Pipe:	Length: 4628.00 ft	Diameter: 3.80 inches	Volume: 64.92 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 153.00 ft	Diameter: 2.25 inches	Volume: 0.75 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 65.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4795.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.50 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4774.00	
Hydraulic tool	5.00			4779.00	
Jars	5.00			4784.00	
Safety Joint	2.00			4786.00	
Packer	5.00			4791.00	26.00 Bottom Of Top Packer
Packer	4.00			4795.00	
Stubb	1.00			4796.00	
Recorder	0.00	8790	Inside	4796.00	
Recorder	0.00	8792	Outside	4796.00	
Perforations	24.00			4820.00	
Bullnose	3.00			4823.00	28.00 Bottom Packers & Anchor

Total Tool Length: 54.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Chieftain Oil Co. Inc.

6-35s-11w Barber,KS

PO Box 124
Kiowa, KS 67070-1912

Big Chief #4

Job Ticket: 49547

DST#: 1

ATTN: David Barker / Ron M

Test Start: 2012.09.22 @ 03:09:16

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 56.00 sec/qt
Water Loss: 7.79 in³
Resistivity: ohm.m
Salinity: 5000.00 ppm
Filter Cake: 0.02 inches

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

Oil API: deg API
Water Salinity: 66000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	water 100%w ater	0.005
40.00	GMWO 20%gas, 20%w ater, 20%mud, 40%c	0.197
80.00	WGOCM 5%w ater, 10%gas, 20%oil, 65%mu	0.393
15.00	GOCM 5%gas, 15%oil, 80%mud	0.074

Total Length: 136.00 ft Total Volume: 0.669 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: none

Laboratory Name: Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Chieftain Oil Co. Inc.

6-35s-11w Barber,KS

PO Box 124
Kiowa, KS 67070-1912

Big Chief #4

Job Ticket: 49547

DST#: 1

ATTN: David Barker / Ron M

Test Start: 2012.09.22 @ 03:09:16

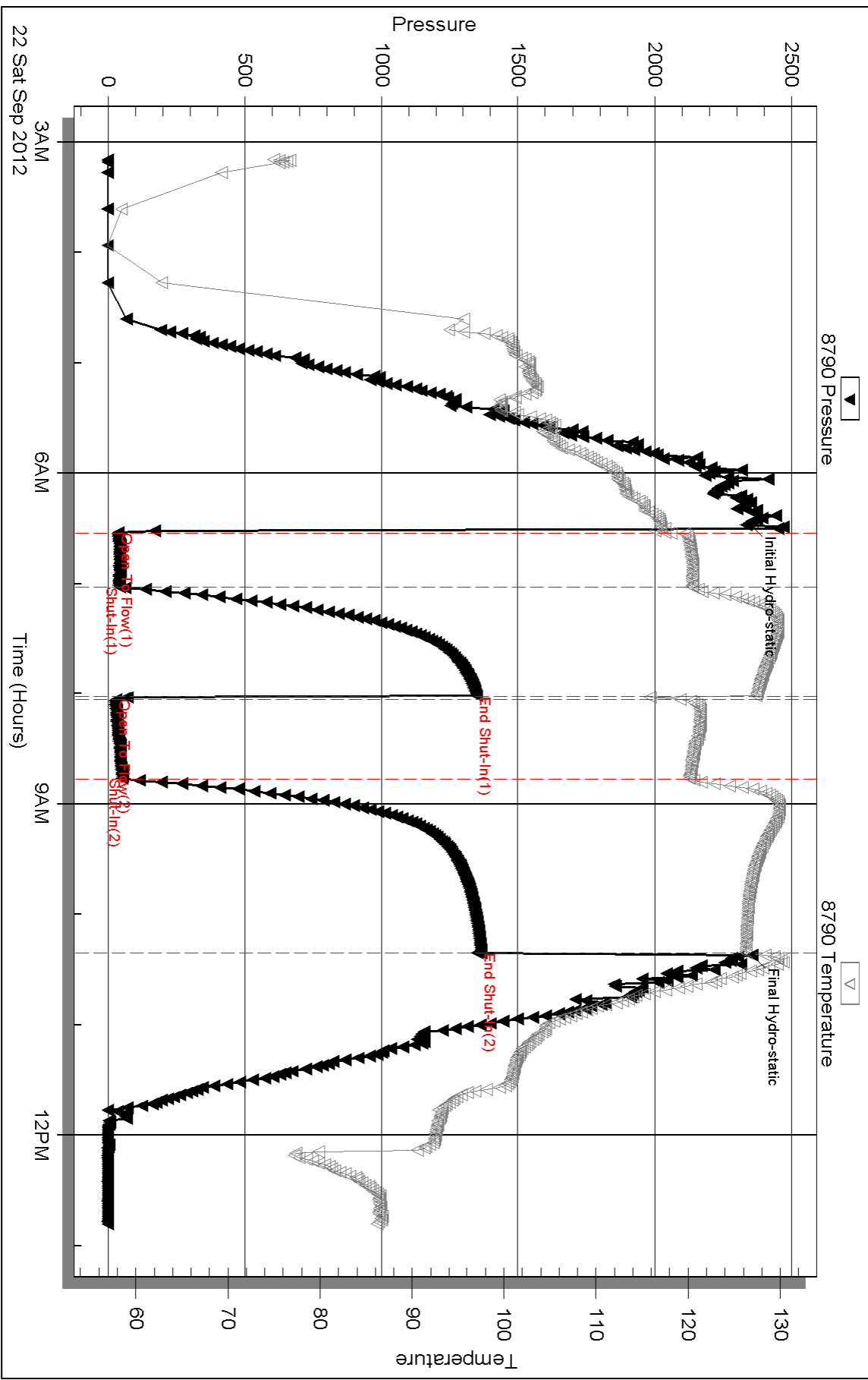
Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	10	0.13	6.50	7.82
2	10	0.13	6.50	7.82
2	20	0.13	9.00	8.76
2	30	0.13	11.00	9.51
2	40	0.13	16.00	11.38

Pressure vs. Time

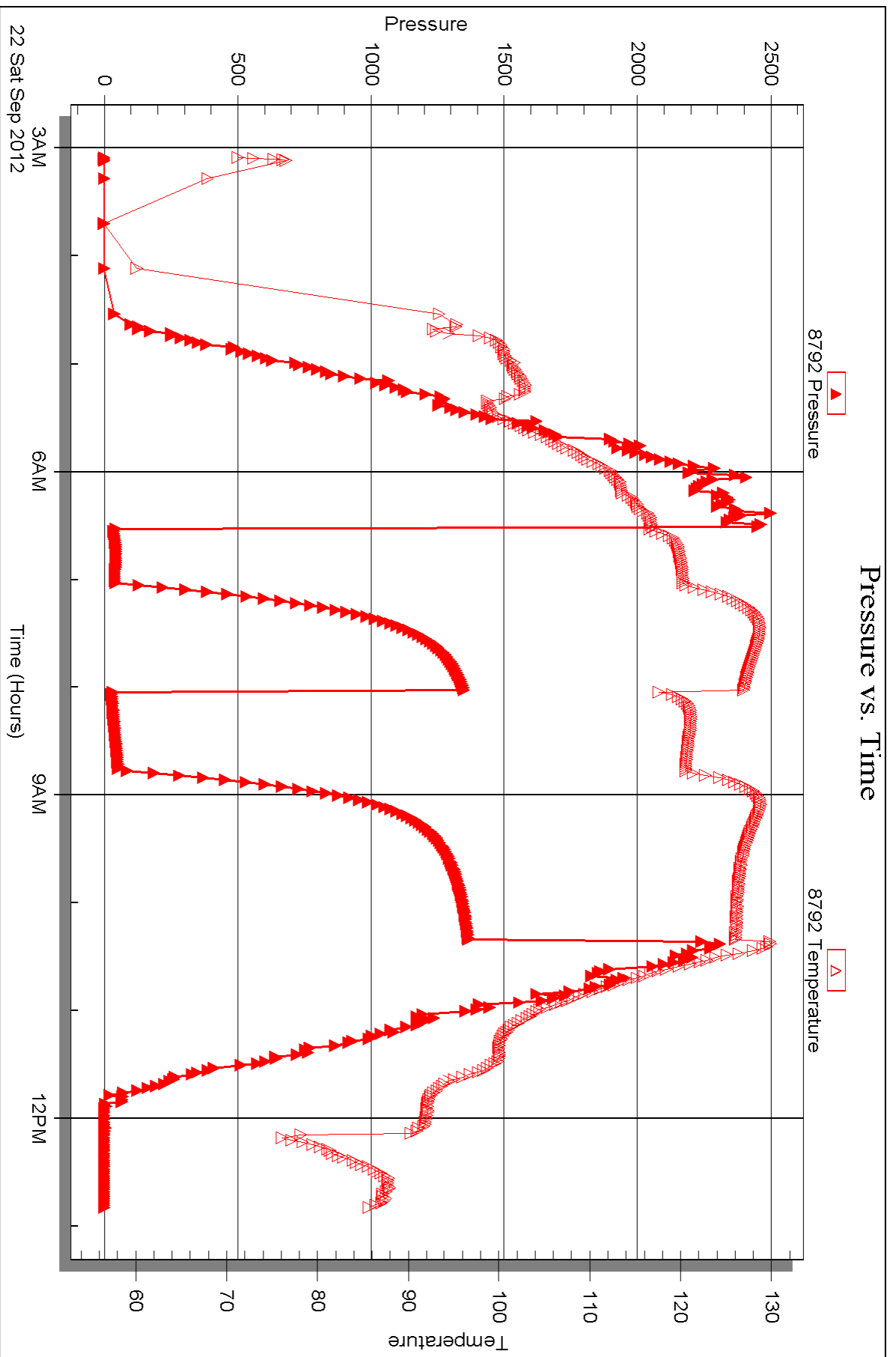


Serial #: 8792

Outside Chieftain Oil Co. Inc.

Big Chief #4

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 49547

Printed: 2012.09.27 @ 10:35:52



DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co. Inc.**

PO Box 124
Kiowa, KS 67070-1912

ATTN: David Barker / Ron M

Big Chief #4

6-35s-11w Barber,KS

Start Date: 2012.09.22 @ 19:42:34

End Date: 2012.09.23 @ 04:43:34

Job Ticket #: 49548 DST #: 2

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

Printed: 2012.09.27 @ 10:24:25



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Chieftain Oil Co. Inc.

6-35s-11w Barber,KS

PO Box 124
Kiowa, KS 67070-1912

Big Chief #4

Job Ticket: 49548

DST#: 2

ATTN: David Barker / Ron M

Test Start: 2012.09.22 @ 19:42:34

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:23:34

Time Test Ended: 04:43:34

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Reynolds

Unit No: 48

Interval: 4822.00 ft (KB) To 4860.00 ft (KB) (TVD)

Reference Elevations: 1395.00 ft (KB)

Total Depth: 4860.00 ft (KB) (TVD)

1383.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

Serial #: 8790

Inside

Press @ Run Depth: 49.27 psig @ 4823.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.22

End Date:

2012.09.23

Last Calib.:

2012.09.23

Start Time:

19:42:39

End Time:

04:43:34

Time On Btm:

2012.09.22 @ 22:17:04

Time Off Btm:

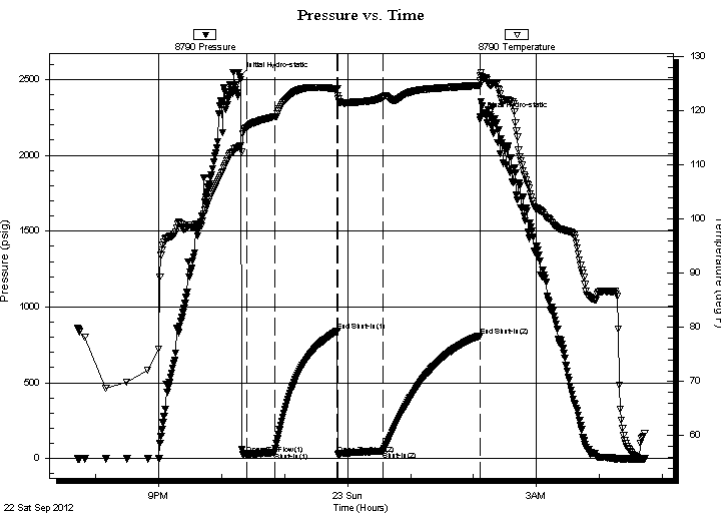
2012.09.23 @ 02:06:19

TEST COMMENT: IF: Strong blow . BOB 2 1/2 min. No GTS

IS: No blow

FF: Strong blow . BOB immed. No GTS

FS: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2517.09	113.42	Initial Hydro-static
7	26.55	116.89	Open To Flow (1)
33	39.89	118.87	Shut-In(1)
93	841.00	124.02	End Shut-In(1)
94	28.14	122.71	Open To Flow (2)
137	49.27	122.45	Shut-In(2)
229	809.58	124.63	End Shut-In(2)
230	2255.97	126.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
35.00	OGCWM 7%oil, 13%gas, 20%w ater, 60%0.17d	
40.00	SLI GOCM 1%gas, 2%oil, 97% mud	0.20
0.00	1175' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Chieftain Oil Co. Inc.

6-35s-11w Barber,KS

PO Box 124
Kiowa, KS 67070-1912

Big Chief #4

Job Ticket: 49548

DST#: 2

ATTN: David Barker / Ron M

Test Start: 2012.09.22 @ 19:42:34

Tool Information

Drill Pipe:	Length: 4659.00 ft	Diameter: 3.80 inches	Volume: 65.35 bbl	Tool Weight: 2400.00 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: 153.00 ft	Diameter: 2.25 inches	Volume: 0.75 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 66.10 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4822.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.50 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4801.00	
Hydraulic tool	5.00			4806.00	
Jars	5.00			4811.00	
Safety Joint	2.00			4813.00	
Packer	5.00			4818.00	26.00 Bottom Of Top Packer
Packer	4.00			4822.00	
Stubb	1.00			4823.00	
Recorder	0.00	8790	Inside	4823.00	
Recorder	0.00	8792	Outside	4823.00	
Perforations	34.00			4857.00	
Bullnose	3.00			4860.00	38.00 Bottom Packers & Anchor

Total Tool Length: 64.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Chieftain Oil Co. Inc.

6-35s-11w Barber,KS

PO Box 124
Kiowa, KS 67070-1912

Big Chief #4

Job Ticket: 49548

DST#: 2

ATTN: David Barker / Ron M

Test Start: 2012.09.22 @ 19:42:34

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:

69000 ppm

Viscosity: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6800.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	OGCWM 7%oil, 13%gas, 20%water, 60%mu	0.172
40.00	SLI GOCM 1%gas, 2%oil, 97%mud	0.197
0.00	1175' GIP	0.000

Total Length: 75.00 ft Total Volume: 0.369 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8790

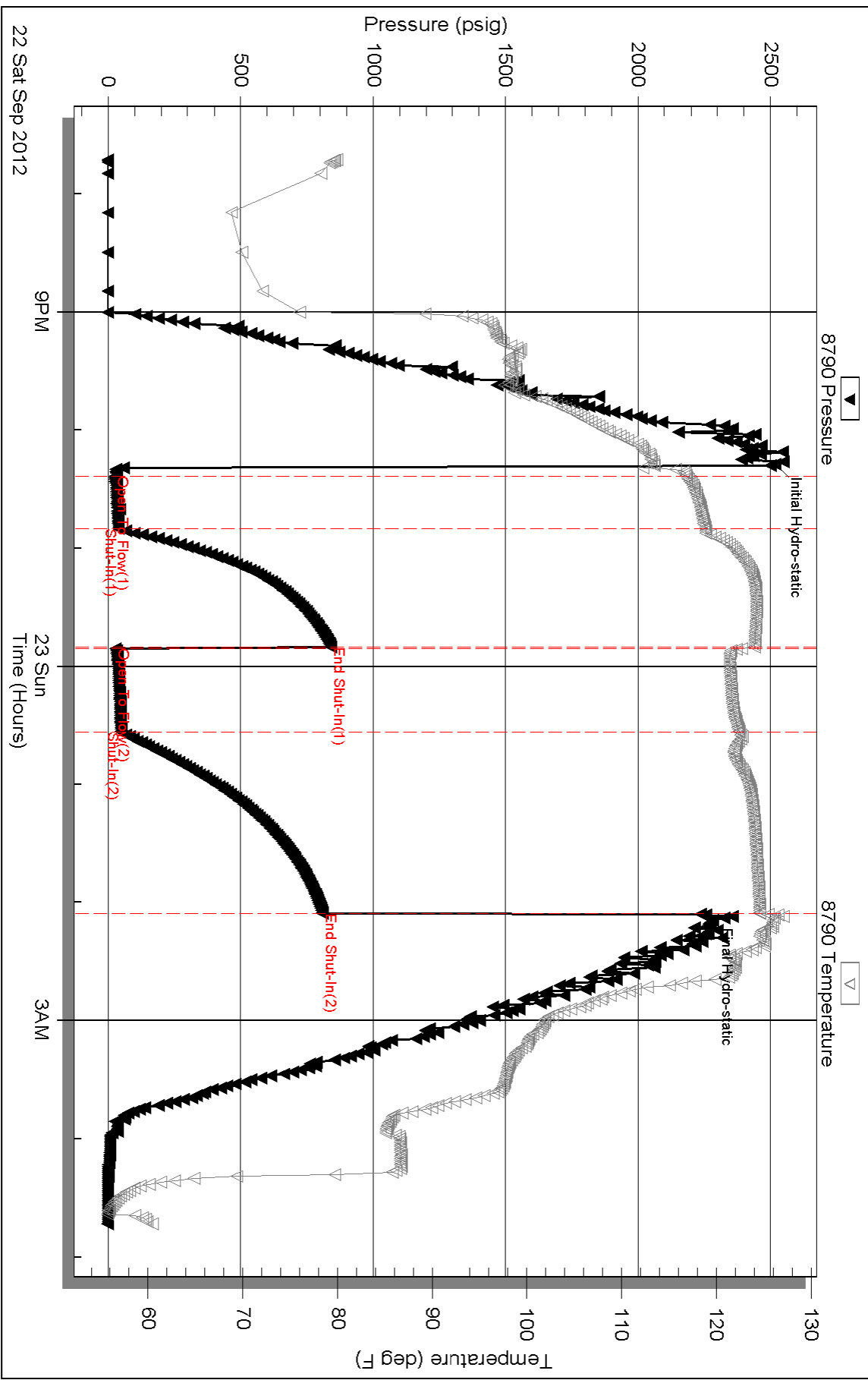
Inside

Chieftain Oil Co. Inc.

Big Chief #4

DST Test Number: 2

Pressure vs. Time

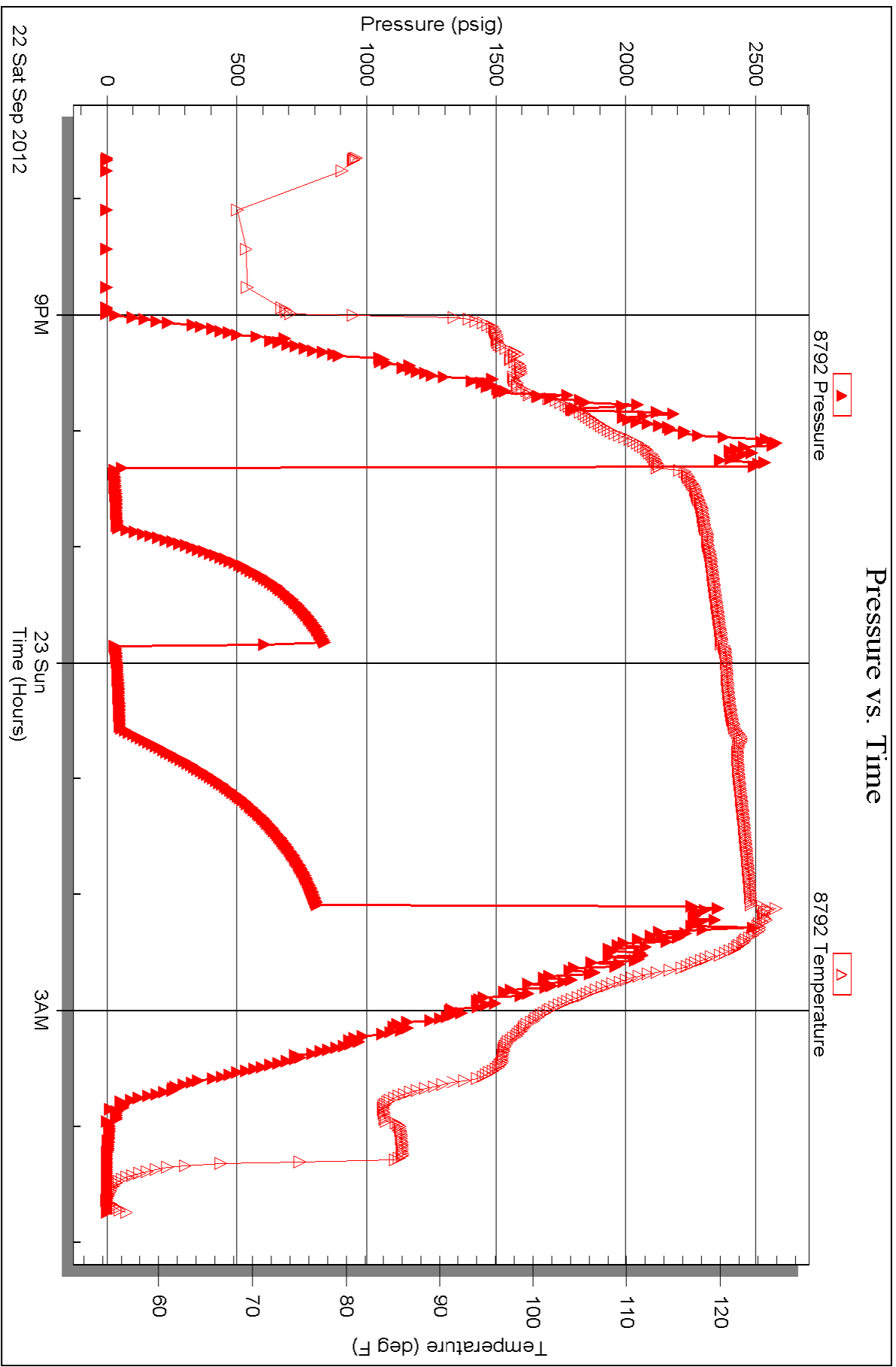


Serial #: 8792

Outside Chieftain Oil Co. Inc.

Big Chief #4

DST Test Number: 2





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49547

4/10

Well Name & No. Big Chief #4 Test No. 1 Date 9-22-12
 Company Chieftan Oil Co., Inc. Elevation 1395 KB 1383 GL
 Address 101 S. 5th St. / P.O. Box 124 Kiowa, KS 67070-1912
 Co. Rep / Geo. David Barker / Ron Molz Rig Fossil #3
 Location: Sec. 6 Twp. 35s. Rge. 11w. Co. Barber State KS

Interval Tested 4795-4823 Zone Tested Miss.
 Anchor Length 28 Drill Pipe Run 4628 Mud Wt. 9.1
 Top Packer Depth 4790 Drill Collars Run 153 Vis 56
 Bottom Packer Depth 4795 Wt. Pipe Run Ø WL 7.8
 Total Depth 4823 Chlorides 5000 ppm System LCM Ø
 Blow Description IF: Strong blow. BOB 30 sec. No GTS ISI: No blow

FF: Strong blow. BOB immed. GTS @ 4 min. Guaged gas
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>GoCM</u>	<u>5</u>	<u>15</u>	<u>80</u>	<u>0</u>
<u>80</u>	<u>WGOCM</u>	<u>10</u>	<u>20</u>	<u>5</u>	<u>65</u>
<u>48</u>	<u>GMWO</u>	<u>20</u>	<u>40</u>	<u>20</u>	<u>20</u>
<u>1</u>	<u>Water</u>	<u>0</u>	<u>0</u>	<u>100</u>	<u>0</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Rec Total 136 BHT 2344 Gravity API RW -11 @ 75 ° F Chlorides 66000 ppm
 (A) Initial Hydrostatic 2344 Test 1250 T-On Location 0200
 (B) First Initial Flow 37 Jars 250 T-Started 0309
 (C) First Final Flow 44 Safety Joint 75 T-Open 0632
 (D) Initial Shut-In 1351 Circ Sub T-Pulled 1010
 (E) Second Initial Flow 30 Hourly Standby T-Out 1249
 (F) Second Final Flow 53 Mileage 120 186 Comments _____
 (G) Final Shut-In 1367 Sampler _____
 (H) Final Hydrostatic 2355 Straddle _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Shale Packer _____
 Final Flow 45 Extra Packer _____
 Final Shut-In 90 Extra Recorder _____
 Sub Total 1761 Day Standby _____
 Accessibility _____ Total 1761
 Sub Total 1761 MP/DST Disc't _____

Approved By [Signature] Our Representative Ryan Reynolds
 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

Test Ticket

NO. 49548

4/10

Well Name & No. Big Chief #4 Test No. 2 Date 9-22-12
 Company Chiefstan Oil Co. Inc. Elevation 1395 KB 1383 GL
 Address 101 S. 5th St. / P.O. Box 124 Kiowa, KS 67070-1912
 Co. Rep / Geo. David Barker / Ron Molz Rig Fossil #3
 Location: Sec. 6 Twp. 35s Rge. 11w. Co. Barber State KS

Interval Tested 4822-4860 Zone Tested Miss.
 Anchor Length 38 Drill Pipe Run 4659 Mud Wt. 9.3
 Top Packer Depth 4817 Drill Collars Run 153 Vis 56
 Bottom Packer Depth 4822 Wt. Pipe Run Ø WL 8.0
 Total Depth 4860 Chlorides 6800 ppm System LCM 1#
 Blow Description IF: Strong blow, BOB 2 1/2 min, No GTS ISI: No blow

FF: Strong blow, BOB immed. No GTS
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1175</u>	<u>GIP</u>	<u>100</u>			
<u>40</u>	<u>SLIGCM</u>	<u>1</u>	<u>2</u>	<u>97</u>	
<u>35</u>	<u>OGLWM</u>	<u>13</u>	<u>7</u>	<u>20</u>	<u>60</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1250 BHT 126 Gravity N/C API RW 12 @ 65 ° F Chlorides 69000 ppm

(A) Initial Hydrostatic 2517 Test 1250 T-On Location 1930
 (B) First Initial Flow 27 Jars 250 T-Started 1943
 (C) First Final Flow 40 Safety Joint 75 T-Open 2224
 (D) Initial Shut-In 841 Circ Sub _____ T-Pulled 0204
 (E) Second Initial Flow 28 Hourly Standby Test Pick ↑ tools T-Out 0449
 (F) Second Final Flow 49 Mileage 372 120 + 120 Comments _____
 (G) Final Shut-In 810 Sampler _____
 (H) Final Hydrostatic 2256 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby 1 Day Total 1947
 Final Flow 45 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1947

Approved By [Signature] Our Representative Ryan Reynolds

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.