



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy, LLC.**

PO Box 8037  
Wichita, KS 67208

ATTN: Wes Hanson

**Ackerman 'A' #1-9**

**9-26s-21w Ford,KS**

Start Date: 2015.05.07 @ 10:22:09

End Date: 2015.05.07 @ 18:20:54

Job Ticket #: 59971                      DST #: 1

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

Printed: 2015.05.11 @ 13:47:40



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Cobalt Energy, LLC.

**9-26s-21w Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Ackerman 'A' #1-9**

ATTN: Wes Hanson

Job Ticket: 59971

**DST#: 1**

Test Start: 2015.05.07 @ 10:22:09

## GENERAL INFORMATION:

Formation: **Miss. Dolo.**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 12:28:54

Time Test Ended: 18:20:54

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Reynolds

Unit No: 68

**Interval: 4724.00 ft (KB) To 4800.00 ft (KB) (TVD)**

Reference Elevations: 2308.00 ft (KB)

Total Depth: 4800.00 ft (KB) (TVD)

2306.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 2.00 ft

**Serial #: 8790**

**Inside**

Press@RunDepth: 204.25 psig @ 4725.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.05.07

End Date:

2015.05.07

Last Calib.:

2015.05.07

Start Time: 10:22:14

End Time:

18:20:53

Time On Btm:

2015.05.07 @ 12:28:24

Time Off Btm:

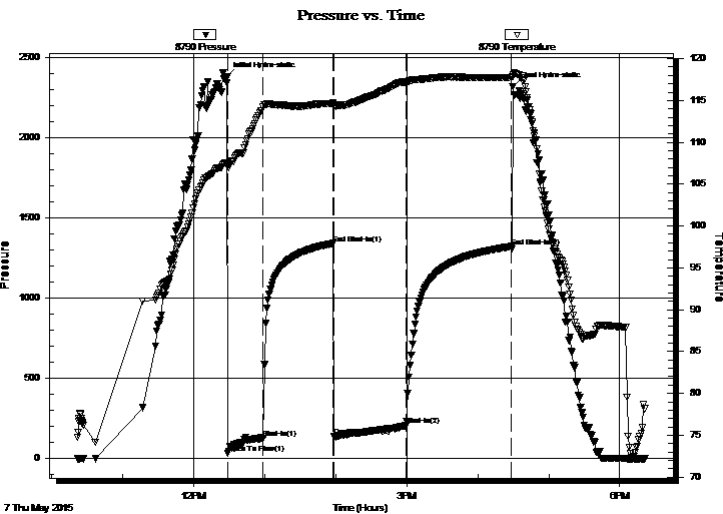
2015.05.07 @ 16:29:39

TEST COMMENT: IF: Good blow . 1" - 11"

IS: No blow .

FF: Strong blow . Surf. - BOB @ 51mins.

FS: No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2383.40	107.58	Initial Hydro-static
1	33.28	107.14	Open To Flow (1)
31	125.05	114.29	Shut-In(1)
90	1341.64	114.67	End Shut-In(1)
91	139.24	114.18	Open To Flow (2)
152	204.25	117.18	Shut-In(2)
241	1322.26	117.78	End Shut-In(2)
242	2322.22	117.86	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
95.00	GOMCW 20%g, 5%o, 23%m, 52%w	0.47
120.00	GOMCW 30%g, 5%o, 28%m, 37%w	1.16
190.00	GOCM 10%g, 3%o, 87%m	2.67

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy, LLC.

**9-26s-21w Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Ackerman 'A' #1-9**

Job Ticket: 59971

**DST#: 1**

ATTN: Wes Hanson

Test Start: 2015.05.07 @ 10:22:09

## Tool Information

Drill Pipe:	Length: 4558.00 ft	Diameter: 3.80 inches	Volume: 63.94 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 152.00 ft	Diameter: 2.25 inches	Volume: 0.75 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 64.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4724.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	102.00 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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Shut In Tool	5.00			4703.00	
Hydraulic tool	5.00			4708.00	
Jars	5.00			4713.00	
Safety Joint	2.00		Inside	4715.00	
Packer	5.00			4720.00	26.00 Bottom Of Top Packer
Packer	4.00			4724.00	
Stubb	1.00			4725.00	
Recorder	0.00	8790	Inside	4725.00	
Recorder	0.00	8792	Outside	4725.00	
Perforations	2.00			4727.00	
Change Over Sub	0.50			4727.50	
Drill Pipe	63.50			4791.00	
Change Over Sub	1.00			4792.00	
Perforations	5.00			4797.00	
Bullnose	3.00			4800.00	76.00 Bottom Packers & Anchor

**Total Tool Length: 102.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Cobalt Energy, LLC.

**9-26s-21w Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Ackerman 'A' #1-9**

Job Ticket: 59971

**DST#: 1**

ATTN: Wes Hanson

Test Start: 2015.05.07 @ 10:22:09

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 77.00 sec/qt  
Water Loss: 7.58 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 3800.00 ppm  
Filter Cake: 0.08 inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
95.00	GOMCW 20%g, 5%o, 23%m, 52%w	0.467
120.00	GOMCW 30%g, 5%o, 28%m, 37%w	1.164
190.00	GOCM 10%g, 3%o, 87%m	2.665

Total Length: 405.00 ft      Total Volume: 4.296 bbl

Num Fluid Samples: 0

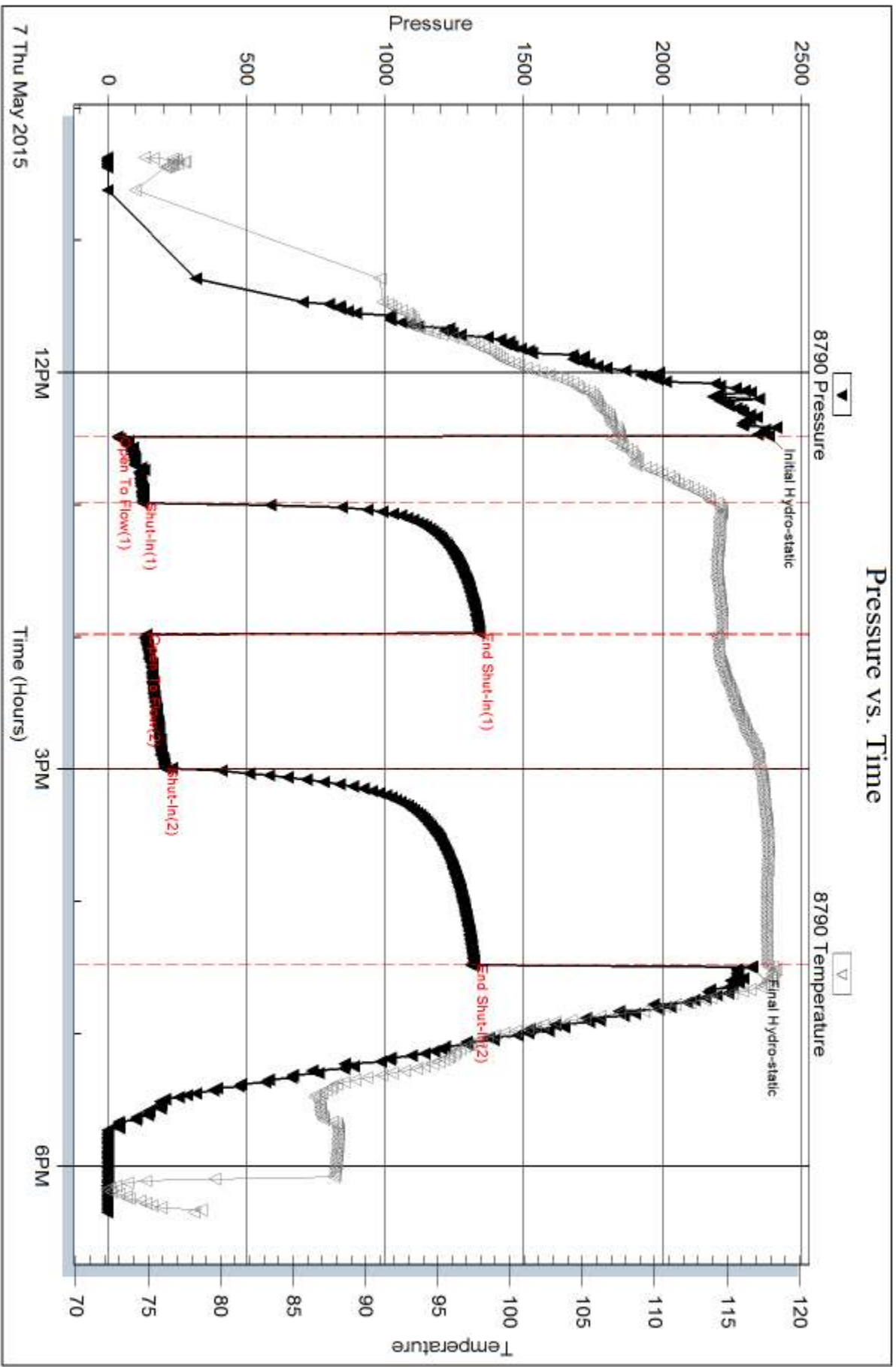
Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

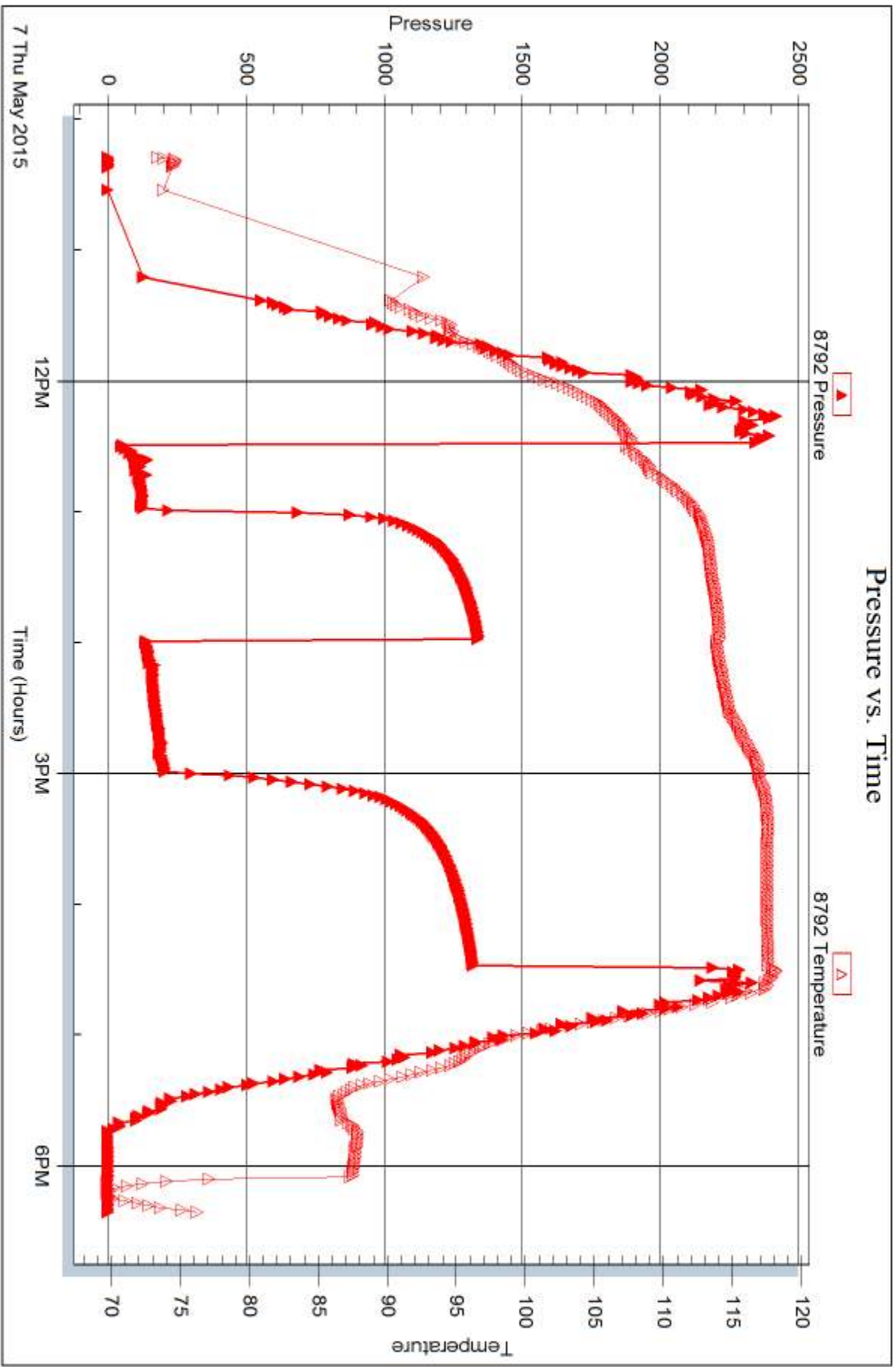


Serial #: 8792

Outside Cobalt Energy, LLC

Ackerman A' #1-9

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 59971

Printed: 2015.05.11 @ 13:47:42



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy, LLC.**

PO Box 8037  
Wichita, KS 67208

ATTN: Wes Hanson

### **Ackerman 'A' 1-9**

### **9-26s-21w Ford,KS**

Start Date: 2015.05.08 @ 03:10:45

End Date: 2015.05.08 @ 11:07:45

Job Ticket #: 59972                      DST #: 2

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

Printed: 2015.05.11 @ 13:46:40





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy, LLC.

**9-26s-21w Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Ackerman 'A' 1-9**

ATTN: Wes Hanson

Job Ticket: 59972

**DST#: 2**

Test Start: 2015.05.08 @ 03:10:45

## GENERAL INFORMATION:

Formation: **Miss.**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 05:04:30

Time Test Ended: 11:07:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Reynolds

Unit No: 68

**Interval: 4801.00 ft (KB) To 4815.00 ft (KB) (TVD)**

Reference Elevations: 2308.00 ft (KB)

Total Depth: 4815.00 ft (KB) (TVD)

2306.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 2.00 ft

**Serial #: 8790**

**Inside**

Press@RunDepth: 330.69 psig @ 4802.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.05.08

End Date:

2015.05.08

Last Calib.:

2015.05.08

Start Time: 03:10:50

End Time:

11:07:44

Time On Btm:

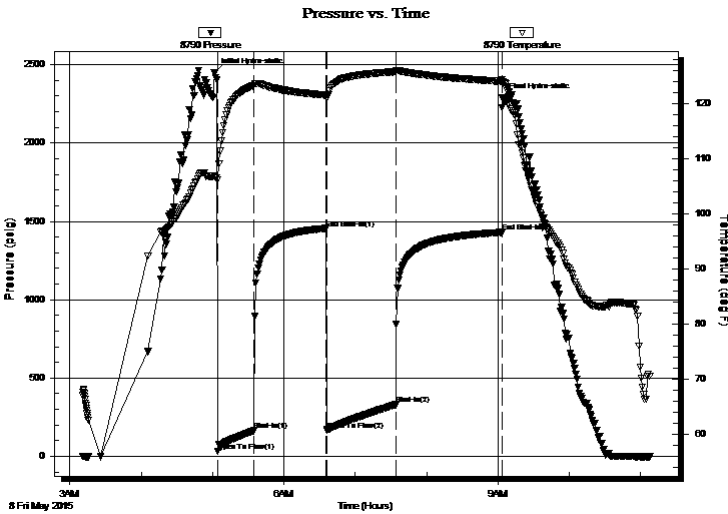
2015.05.08 @ 05:01:30

Time Off Btm:

2015.05.08 @ 09:03:45

**TEST COMMENT:** IF: Strong blow . 1" - BOB @ 19 min.  
IS: No blow .  
FF: Strong blow . surf. - BOB @ 25 min.  
FS: No blow .

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2447.81	106.89	Initial Hydro-static
3	31.56	106.26	Open To Flow (1)
34	164.16	123.38	Shut-In(1)
94	1455.35	121.58	End Shut-In(1)
95	168.48	121.16	Open To Flow (2)
153	330.69	125.85	Shut-In(2)
242	1430.66	124.13	End Shut-In(2)
243	2291.46	124.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
510.00	VSLI OCMW trc%o, 5%m, 95%w	5.77
130.00	GOCMW 5%g, 3%o, 30%m, 62%w	1.82

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy, LLC.

**9-26s-21w Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Ackerman 'A' 1-9**

Job Ticket: 59972

**DST#: 2**

ATTN: Wes Hanson

Test Start: 2015.05.08 @ 03:10:45

## Tool Information

Drill Pipe:	Length: 4630.00 ft	Diameter: 3.80 inches	Volume: 64.95 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 21000.00 lb
Drill Collar:	Length: 152.00 ft	Diameter: 2.25 inches	Volume: 0.75 bbl	Weight to Pull Loose: 81000.00 lb
			<u>Total Volume: 65.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4801.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	40.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4780.00	
Hydraulic tool	5.00			4785.00	
Jars	5.00			4790.00	
Safety Joint	2.00		Inside	4792.00	
Packer	5.00			4797.00	26.00 Bottom Of Top Packer
Packer	4.00			4801.00	
Stubb	1.00			4802.00	
Recorder	0.00	8790	Inside	4802.00	
Recorder	0.00	8792	Outside	4802.00	
Perforations	10.00			4812.00	
Bullnose	3.00			4815.00	14.00 Bottom Packers & Anchor

**Total Tool Length: 40.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy, LLC.

**9-26s-21w Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Ackerman 'A' 1-9**

Job Ticket: 59972

**DST#: 2**

ATTN: Wes Hanson

Test Start: 2015.05.08 @ 03:10:45

## 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:

55000 ppm

Viscosity: 77.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 0.08 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
510.00	VSLI OCMW trc%o, 5%m, 95%w	5.769
130.00	GOCMW 5%g, 3%o, 30%m, 62%w	1.824

Total Length: 640.00 ft

Total Volume: 7.593 bbl

Num Fluid Samples: 0

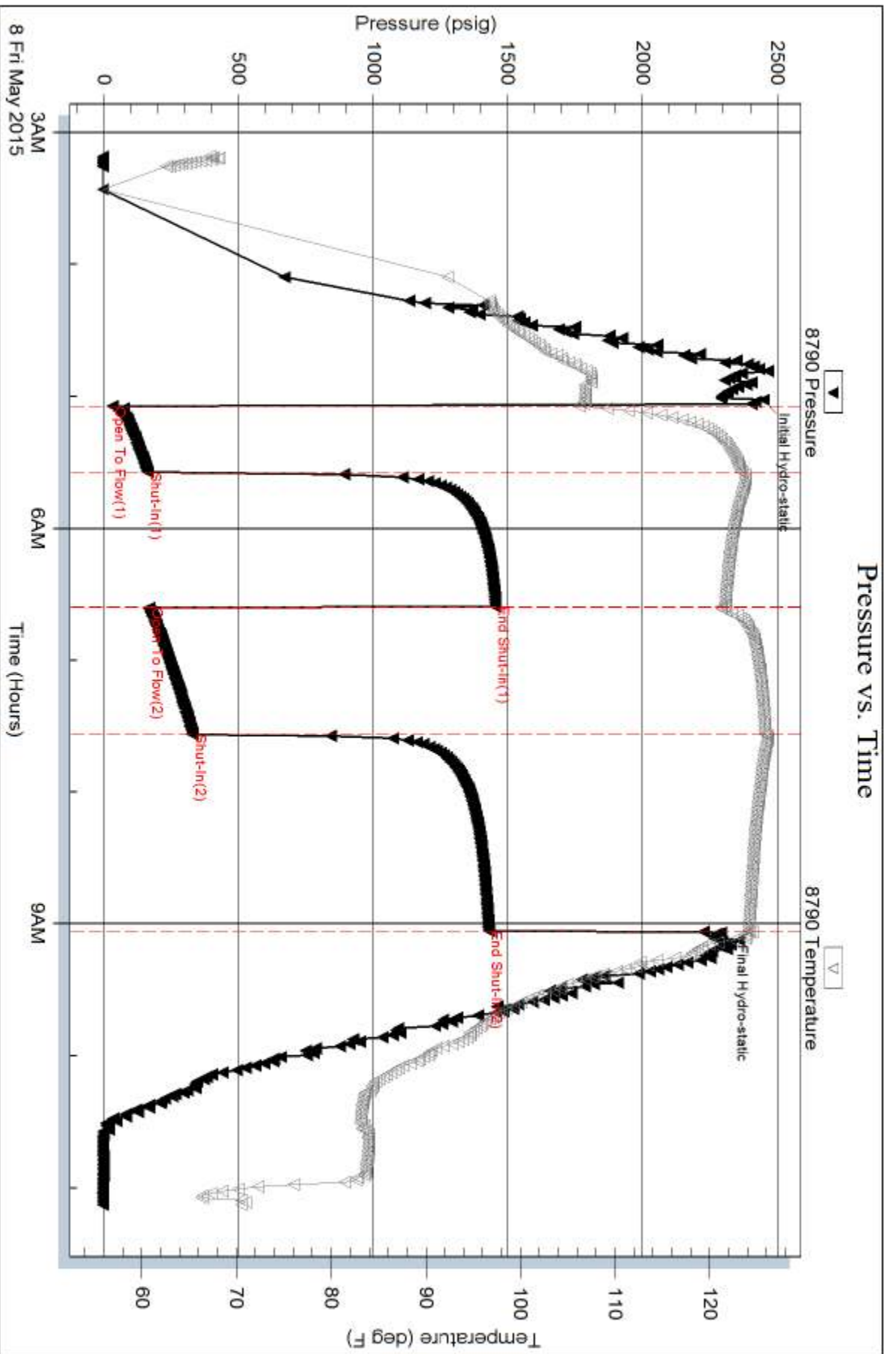
Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

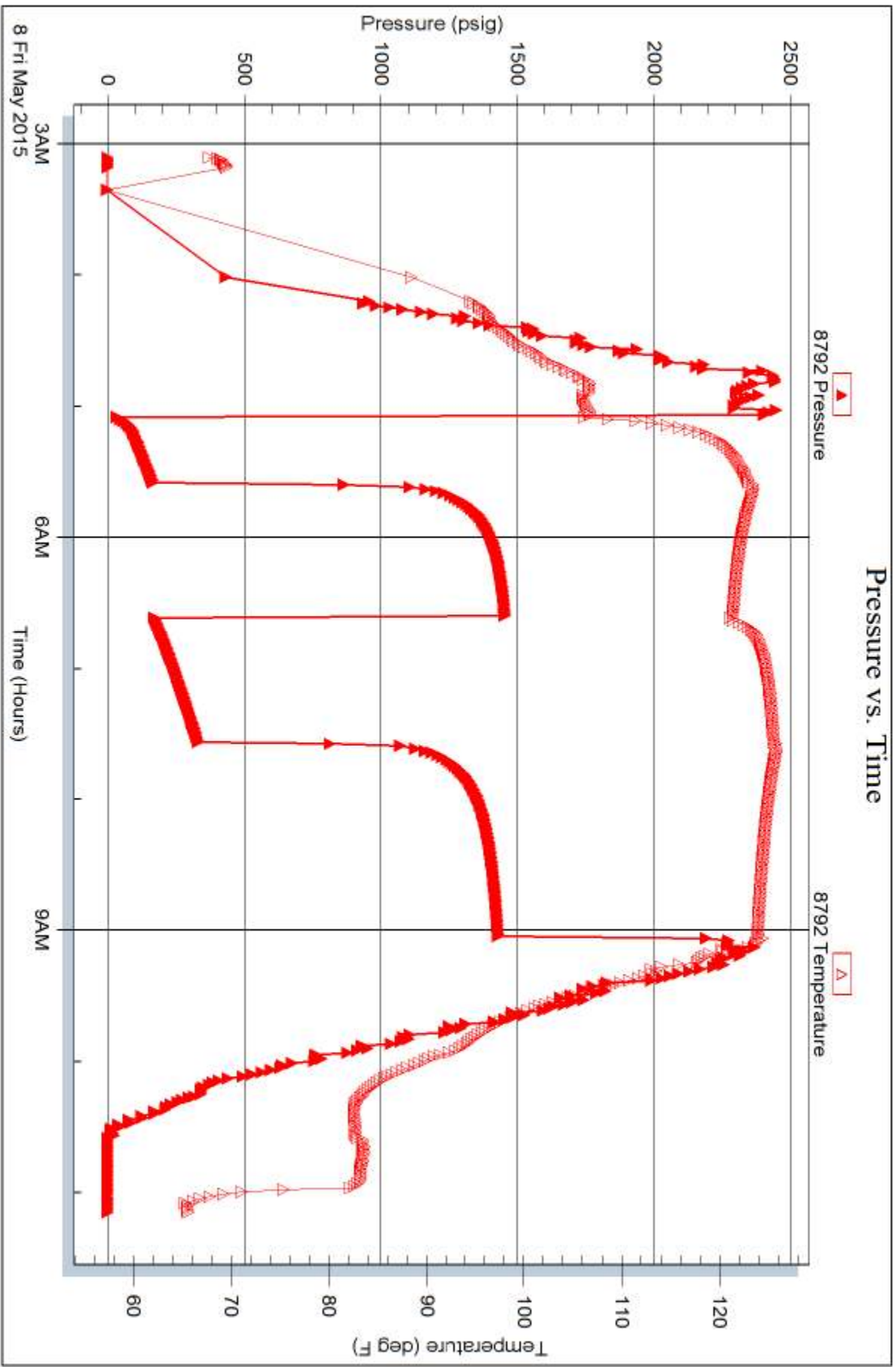


Serial #: 8792

Outside Cobalt Energy, LLC

Ackerman A'1-9

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59971

Well Name & No. Ackerman 'A' 1-9 Test No. 1 Date 5-7-15  
 Company Cobalt Energy, LLC. Elevation 2308 KB 2306 GL  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Wes Hanson Rig Murfin # 16  
 Location: Sec. 9 Twp. 26s Rge. 21w Co. Ford State KS

Interval Tested 4724-4800 Zone Tested Miss. Dolo.  
 Anchor Length 76 Drill Pipe Run 4558 Mud Wt. 9.3  
 Top Packer Depth 4719 Drill Collars Run 152 Vis 77  
 Bottom Packer Depth 4724 Wt. Pipe Run Ø WL 7.6  
 Total Depth 4800 Chlorides 3800 ppm System LCM 1/2 #  
 Blow Description IF: Good blow. 1"-11" ISI: No blow.  
FF: Strong blow. surf. - BOB @ 51 mins.  
FSTI: No blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>190</u>	<u>GOCM</u>	<u>10</u>	<u>3</u>	<u>87</u>	
<u>120</u>	<u>GOMCW</u>	<u>30</u>	<u>5</u>	<u>37</u>	<u>28</u>
<u>95</u>	<u>GOMCW</u>	<u>20</u>	<u>5</u>	<u>52</u>	<u>23</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 405 BHT 117 Gravity N/C API RW 013 @ 73 °F Chlorides 56000 ppm  
 Test 1150 T-On Location 0845  
 Jars 250 T-Started 1022  
 Safety Joint 75 T-Open 1230  
 Circ Sub T-Pulled 1630  
 Hourly Standby T-Out 1821  
 Mileage 146 146 Comments \_\_\_\_\_  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1621 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1621  
 MP/DST Disc't \_\_\_\_\_

Approved By Wesley Hanson 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.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59972

Well Name & No. Ackerman 'A' 1-9 Test No. 2 Date 5-8-15  
 Company Cobalt Energy, LLC. Elevation 2308 KB 2346 GL  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Wes Hanson Rig Murfin #110  
 Location: Sec. 9 Twp. 26s Rge. 21w Co. Ford State KS

Interval Tested 4801-4815 Zone Tested MISS.  
 Anchor Length 14 Drill Pipe Run 4630 Mud Wt. 9.3  
 Top Packer Depth 4796 Drill Collars Run 152 Vis 77  
 Bottom Packer Depth 4801 Wt. Pipe Run Ø WL 7.6  
 Total Depth 4815 Chlorides 3800 ppm System LCM 1/2#  
 Blow Description IF: Strong blow. 1" - BOB @ 19 min. IST: No blow.  
FF: Strong blow surf. - BOB @ 25 min. FST: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>130</u>	<u>GOCMW</u>	<u>5</u>	<u>3</u>	<u>62</u>	<u>30</u>
<u>510</u>	<u>VSLI OCMW</u>	<u>Trc</u>	<u>95</u>	<u>5</u>	<u>5</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 640 BHT 126 Gravity N/C API RW .14 @ 69 °F Chlorides 55000 ppm  
 (A) Initial Hydrostatic 2448  Test 1150 T-On Location 0300  
 (B) First Initial Flow 32  Jars 250 T-Started 0311  
 (C) First Final Flow 164  Safety Joint 75 T-Open 0504  
 (D) Initial Shut-In 1455  Circ Sub \_\_\_\_\_ T-Pulled 0904  
 (E) Second Initial Flow 168  Hourly Standby \_\_\_\_\_ T-Out 1108  
 (F) Second Final Flow 331  Mileage 146 146 Comments \_\_\_\_\_  
 (G) Final Shut-In 1431  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2291  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1621

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 1621 Total 1621 MP/DST Disc't \_\_\_\_\_  
 Approved By Wesley Hanson 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.