



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Rocky Milford

**Craig "A" #1-27**

**27-18s-24w Ness,KS**

Start Date: 2013.03.05 @ 12:26:59

End Date: 2013.03.05 @ 19:37:44

Job Ticket #: 50543                      DST #: 1

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

Printed: 2013.03.13 @ 09:46:18



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy

**27-18s-24w Ness, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Craig "A" #1-27**

Job Ticket: 50543

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2013.03.05 @ 12:26:59

## GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:01:14

Time Test Ended: 19:37:44

Test Type: Conventional Bottom Hole (Initial)

Tester: Jason McLemore

Unit No: 54

**Interval: 4184.00 ft (KB) To 4234.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 4234.00 ft (KB) (TVD)

2283.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8789 Inside**

Press @ Run Depth: 83.33 psig @ 4221.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.05

End Date:

2013.03.05

Last Calib.:

2013.03.05

Start Time: 12:27:01

End Time:

19:37:44

Time On Btm:

2013.03.05 @ 14:00:44

Time Off Btm:

2013.03.05 @ 17:35:59

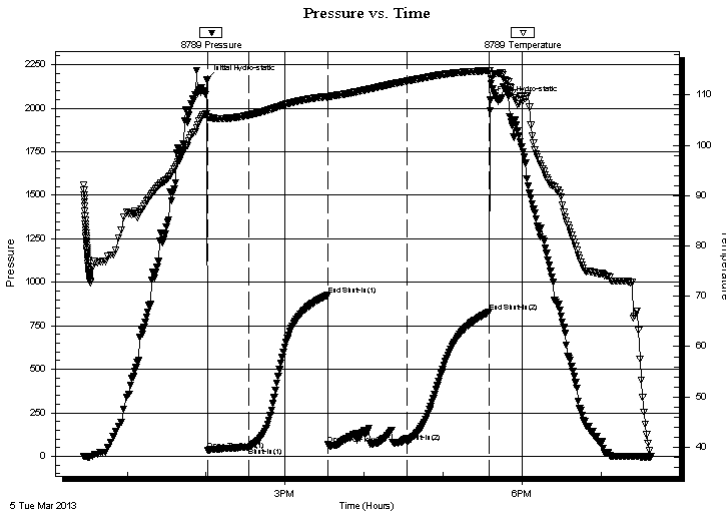
TEST COMMENT: IFP-Weak Blow , Built to 2 1/8"

ISI-Dead

FFP-Weak, Built to 1" Died in 30 Min. Came back as Intermittant Surface Blow

FSI-Dead

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2161.88	106.20	Initial Hydro-static
1	33.06	105.49	Open To Flow (1)
32	52.85	105.94	Shut-In(1)
92	926.13	109.70	End Shut-In(1)
92	69.90	109.28	Open To Flow (2)
152	83.33	112.72	Shut-In(2)
215	828.78	114.81	End Shut-In(2)
216	2046.46	114.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
80.00	Mud W/Oil Scum	0.39

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy

**27-18s-24w Ness, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Craig "A" #1-27**

Job Ticket: 50543

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2013.03.05 @ 12:26:59

## Tool Information

Drill Pipe:	Length: 3868.00 ft	Diameter: 3.80 inches	Volume: 54.26 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 326.00 ft	Diameter: 2.25 inches	Volume: 1.60 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 55.86 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4184.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	73.00 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			4162.00	
Shut In Tool	5.00			4167.00	
Hydraulic tool	5.00			4172.00	
Safety Joint	2.00			4174.00	
Packer	5.00			4179.00	23.00 Bottom Of Top Packer
Packer	5.00			4184.00	
Stubb	1.00			4185.00	
Perforations	3.00			4188.00	
Change Over Sub	1.00			4189.00	
Blank Spacing	31.00			4220.00	
Change Over Sub	1.00			4221.00	
Recorder	0.00	8789	Inside	4221.00	
Recorder	0.00	8289	Outside	4221.00	
Perforations	10.00			4231.00	
Bullnose	3.00			4234.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 73.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy

**27-18s-24w Ness, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Craig "A" #1-27**

Job Ticket: 50543

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2013.03.05 @ 12:26:59

## 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	Mud W/Oil Scum	0.393

Total Length: 80.00 ft      Total Volume: 0.393 bbl

Num Fluid Samples: 0

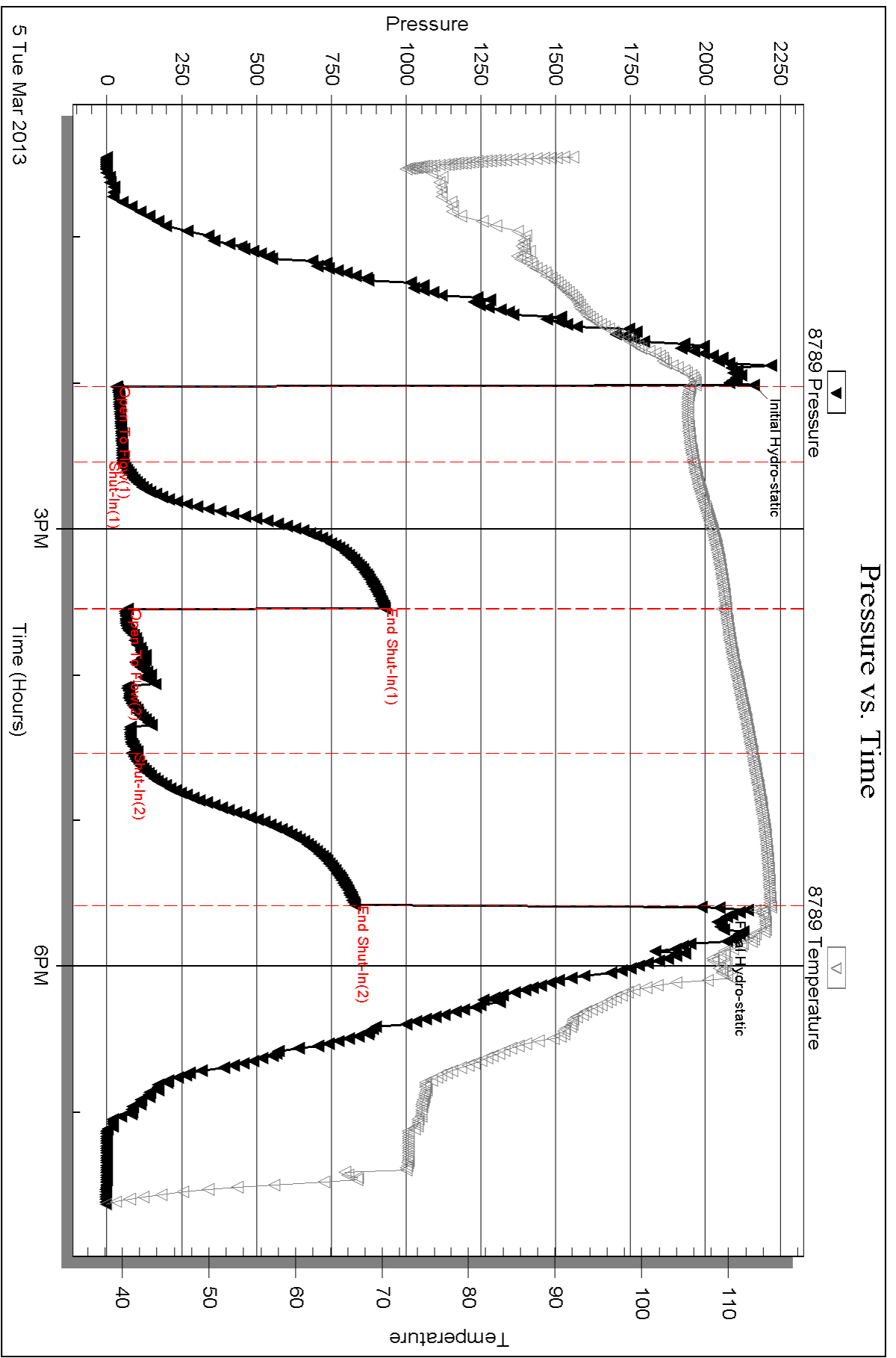
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

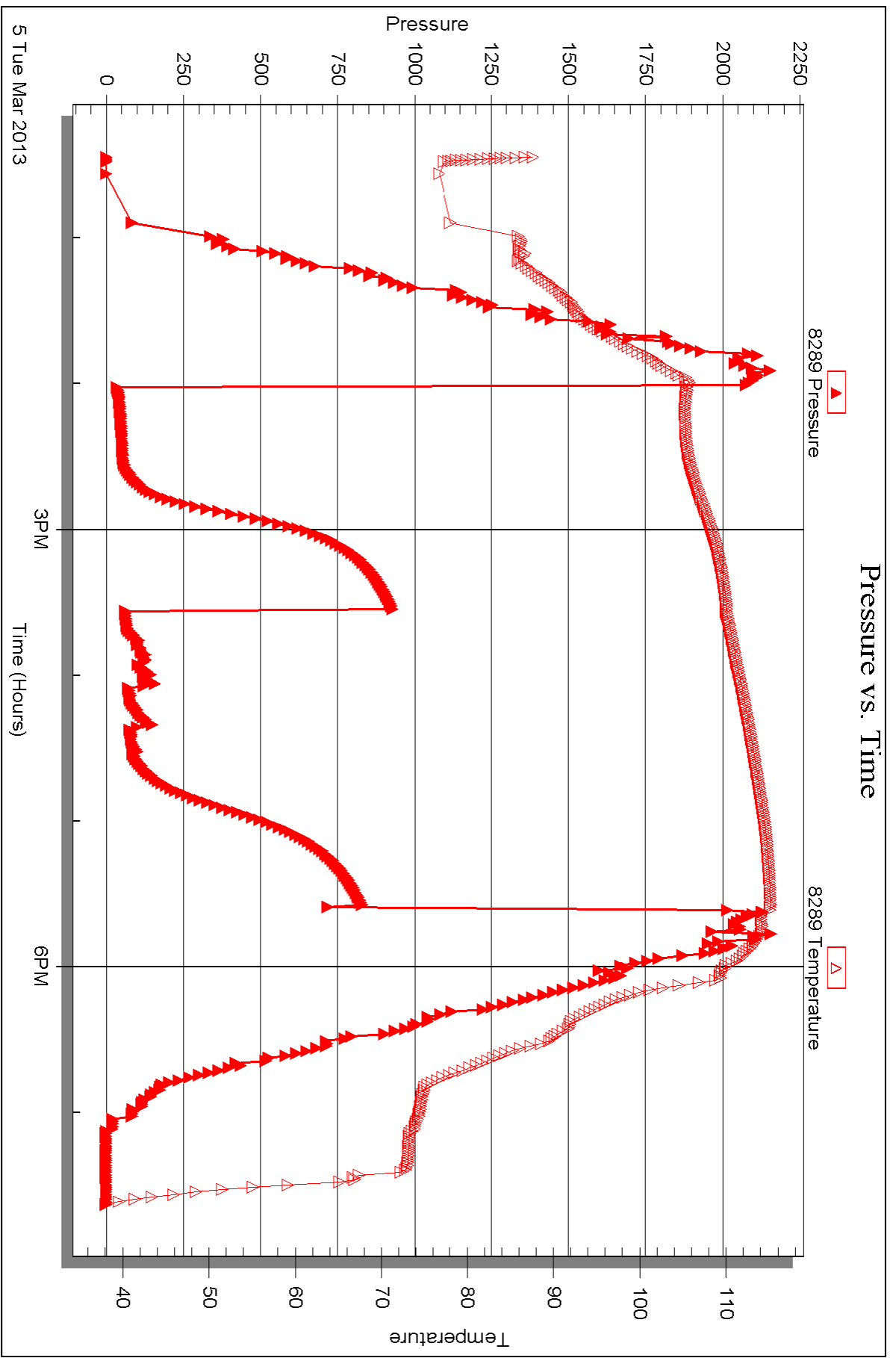


Serial #: 8289

Outside Cobalt Energy

Craig "A" #1-27

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Rocky Milford

**Craig "A" #1-27**

**27-18s-24w Ness,KS**

Start Date: 2013.03.06 @ 06:26:50

End Date: 2013.03.06 @ 15:20:50

Job Ticket #: 50544                      DST #: 2

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

Printed: 2013.03.13 @ 09:45:40





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy

**27-18s-24w Ness, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Craig "A" #1-27**

Job Ticket: 50544

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2013.03.06 @ 06:26:50

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:25:50

Time Test Ended: 15:20:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Jason McLemore

Unit No: 54

**Interval: 4256.00 ft (KB) To 4315.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 4315.00 ft (KB) (TVD)

2283.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8789 Inside**

Press @ Run Depth: psig @ 4293.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.06

End Date:

2013.03.06

Last Calib.:

2013.03.06

Start Time: 06:26:52

End Time:

15:20:50

Time On Btm:

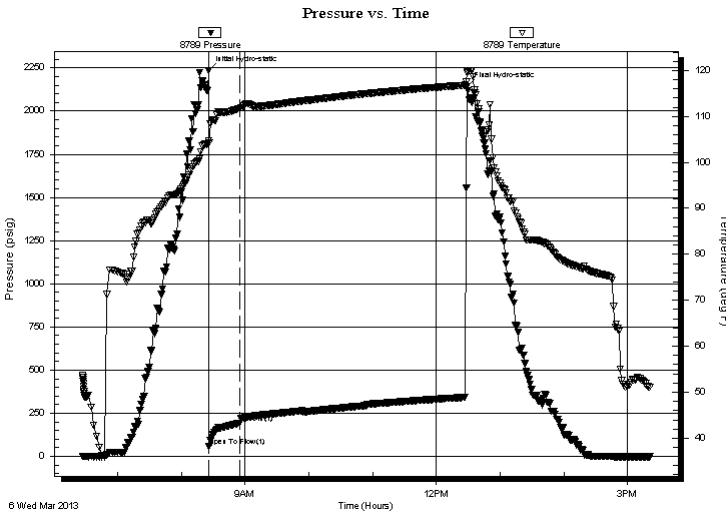
2013.03.06 @ 08:25:20

Time Off Btm:

2013.03.06 @ 12:29:05

**TEST COMMENT:** IFP-BOB in 5 min  
ISI-BOB in 25 min  
FFP-Blow built to 4"  
FSI-Blow back built to 2"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2236.11	104.66	Initial Hydro-static
1	58.40	104.28	Open To Flow (1)
30	191.63	111.71	Shut-In(1)
244	2143.36	119.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
210.00	GSOCM-15%G-10%O-75%M	1.03
570.00	Gassy Oil	6.94
0.00	360' Gas In Pipe	0.00

## Gas Rates

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

\* Recovery from multiple tests



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# DRILL STEM TEST REPORT

Cobalt Energy

**27-18s-24w Ness, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Craig "A" #1-27**

Job Ticket: 50544

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2013.03.06 @ 06:26:50

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:25:50

Time Test Ended: 15:20:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Jason McLemore

Unit No: 54

**Interval: 4256.00 ft (KB) To 4315.00 ft (KB) (TVD)**

Reference Elevations: 2288.00 ft (KB)

Total Depth: 4315.00 ft (KB) (TVD)

2283.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8289 Outside**

Press @ Run Depth: psig @ 4293.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.06

End Date:

2013.03.06

Last Calib.:

2013.03.06

Start Time: 06:26:22

End Time:

15:21:05

Time On Btm:

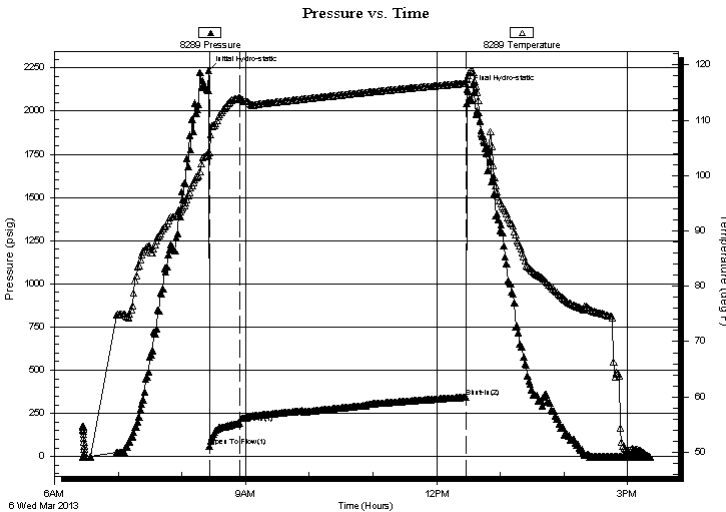
2013.03.06 @ 08:25:20

Time Off Btm:

2013.03.06 @ 12:28:50

**TEST COMMENT:** IFP-BOB in 5 min  
ISI-BOB in 25 min  
FFP-Blow built to 4"  
FSI-Blow back built to 2"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2235.54	104.40	Initial Hydro-static
1	60.55	104.09	Open To Flow (1)
30	191.83	114.02	Shut-In(1)
243	343.79	116.68	Shut-In(2)
244	2127.20	117.53	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
210.00	GSOCM-15%G-10%O-75%M	1.03
570.00	Gassy Oil	6.94
0.00	360' Gas In Pipe	0.00

\* Recovery from multiple tests

## Gas Rates

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



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TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy

**27-18s-24w Ness, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Craig "A" #1-27**

Job Ticket: 50544

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2013.03.06 @ 06:26:50

## Tool Information

Drill Pipe:	Length: 3930.00 ft	Diameter: 3.80 inches	Volume: 55.13 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 326.00 ft	Diameter: 2.25 inches	Volume: 1.60 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 56.73 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4256.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	59.00 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			4234.00	
Shut In Tool	5.00			4239.00	
Hydraulic tool	5.00			4244.00	
Safety Joint	2.00			4246.00	
Packer	5.00			4251.00	23.00 Bottom Of Top Packer
Packer	5.00			4256.00	
Stubb	1.00			4257.00	
Perforations	3.00			4260.00	
Change Over Sub	1.00			4261.00	
Blank Spacing	31.00			4292.00	
Change Over Sub	1.00			4293.00	
Recorder	0.00	8789	Inside	4293.00	
Recorder	0.00	8289	Outside	4293.00	
Perforations	19.00			4312.00	
Bullnose	3.00			4315.00	59.00 Bottom Packers & Anchor

**Total Tool Length: 82.00**



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# DRILL STEM TEST REPORT

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**27-18s-24w Ness,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Craig "A" #1-27**

Job Ticket: 50544

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2013.03.06 @ 06:26:50

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
210.00	GSOCM-15%G-10%O-75%M	1.033
570.00	Gassy Oil	6.939
0.00	360' Gas In Pipe	0.000

Total Length: 780.00 ft

Total Volume: 7.972 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

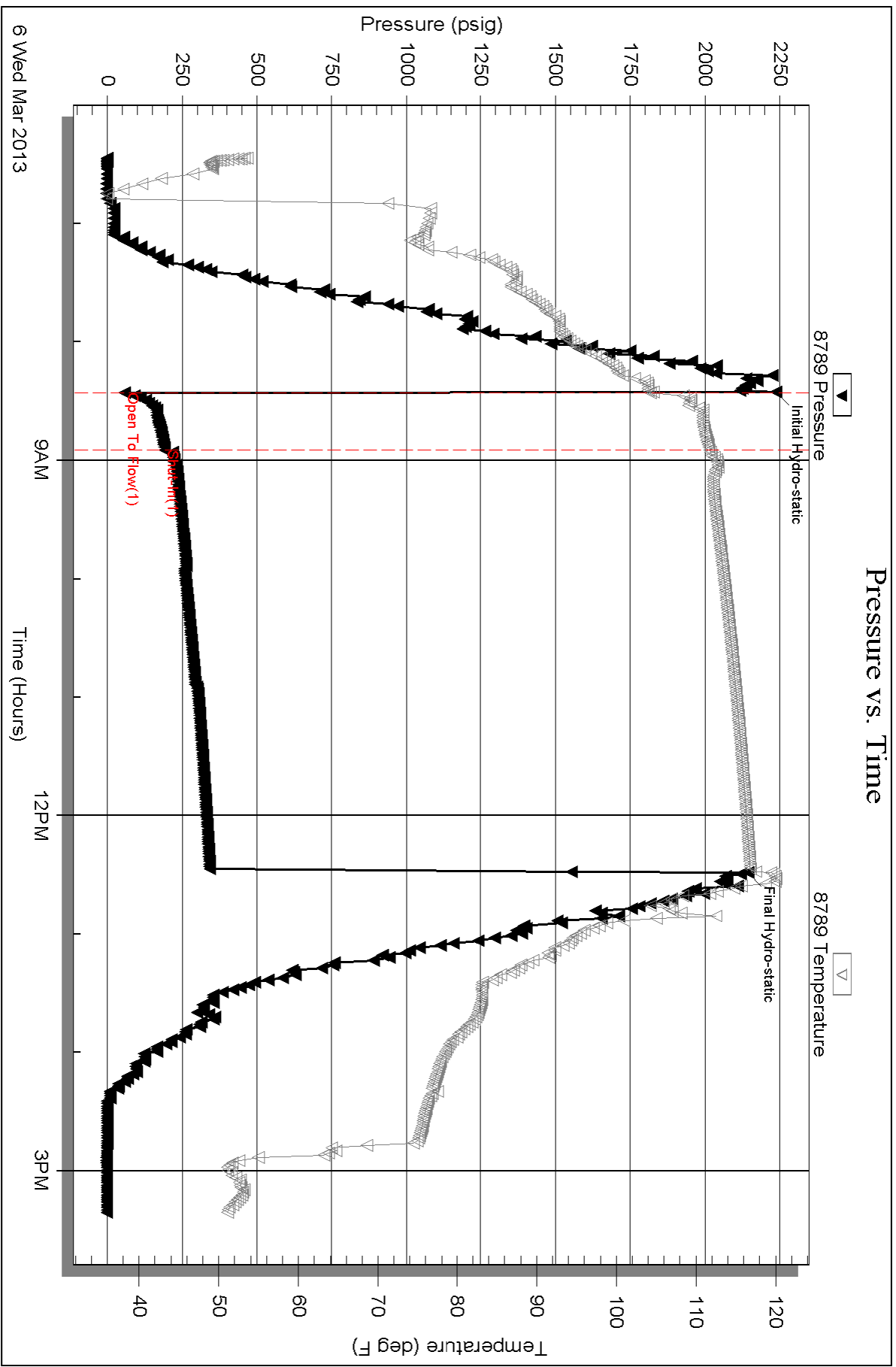
Serial #: 8789

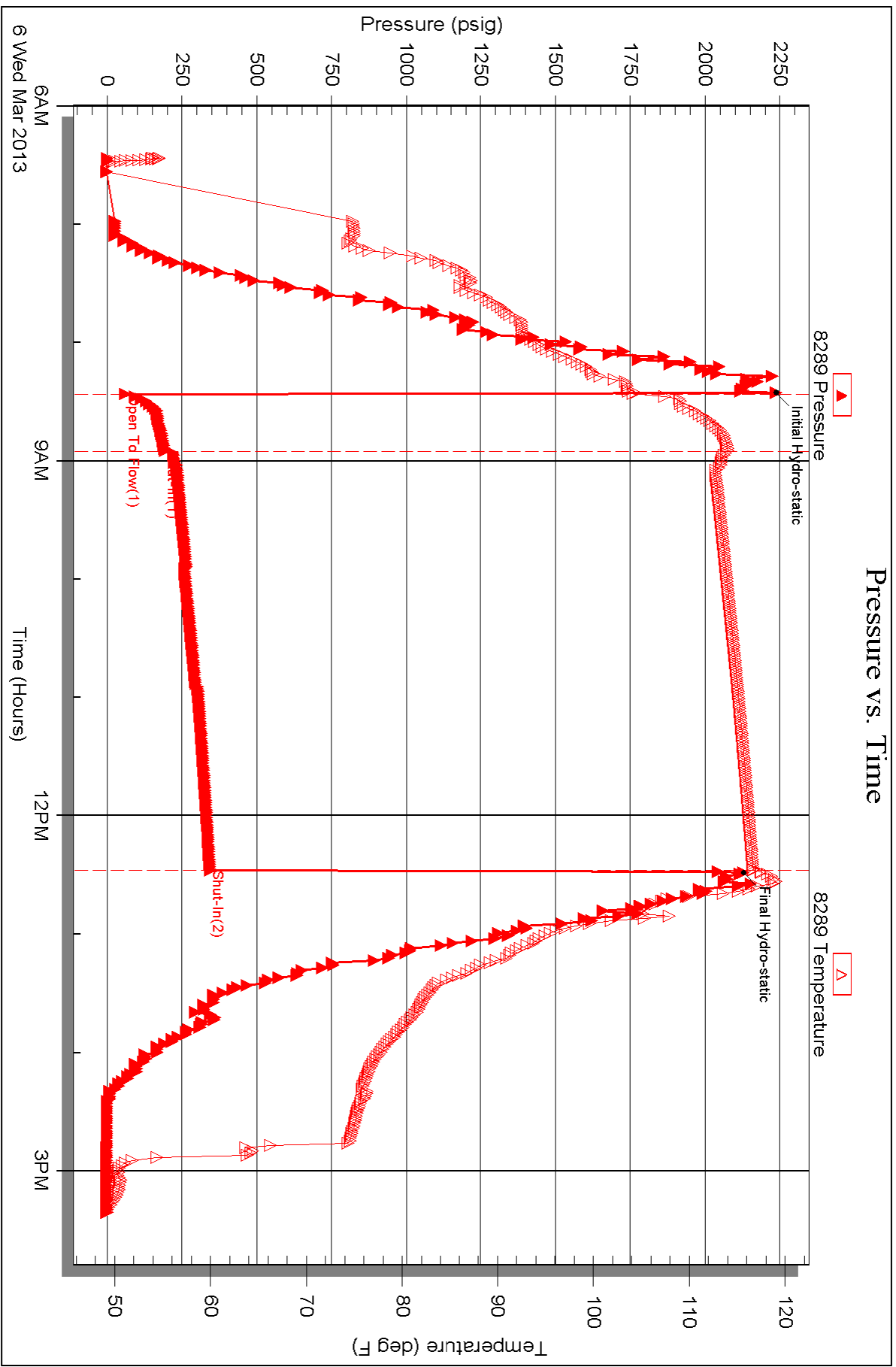
Inside

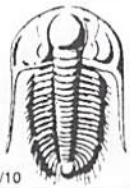
Cobalt Energy

Craig "A" #1-27

DST Test Number: 2







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50543

Well Name & No. Craig 'A' #1-27 Test No. 1 Date 3-5-13  
 Company Cobalt Energy Elevation 2288 KB 2283 GL  
 Address 115 S. Belmont, #12, Wichita, Ks. 67208  
 Co. Rep / Geo. Rocky Milford Rig Murfin #16  
 Location: Sec. 27 Twp. 18s Rge. 24w Co. Ness State Ks

Interval Tested 4184-4234 Zone Tested Ft Scott  
 Anchor Length 50 Drill Pipe Run 3868 Mud Wt. 9.4  
 Top Packer Depth 4179 Drill Collars Run 326 Vis 51  
 Bottom Packer Depth 4184 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4234 Chlorides 4800 ppm System LCM 3 #

Blow Description IFP - Weak Blow, Built to 2 1/8"  
ISI - Dead

FFP - Weak Blow, Built to 1", Died in 30 min, Came back to Ints  
Surface Blow, FSI - Dead

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>Mud w/oil scum</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 80 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2162  Test 1250 T-On Location 11:53  
 (B) First Initial Flow 33  Jars \_\_\_\_\_ T-Started 12:24  
 (C) First Final Flow 53  Safety Joint 75 T-Open 14:00  
 (D) Initial Shut-In 926  Circ Sub \_\_\_\_\_ T-Pulled 17:30  
 (E) Second Initial Flow 70  Hourly Standby \_\_\_\_\_ T-Out 19:33  
 (F) Second Final Flow 83  Mileage 130rt 201.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 829  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2046  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1526.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 60  
 Sub Total 1526.50

Approved By \_\_\_\_\_ Our Representative Jason McLanor *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. 50544

Well Name & No. Craig 'A' #1-27 Test No. 2 Date 3-6-13  
 Company Cobalt Energy Elevation 2288 KB 2283 GL  
 Address 115 S. Belmont, #12, Wichita, KS. 67208  
 Co. Rep / Geo. Rocky Milford Rig Murfin #16  
 Location: Sec. 27 Twp. 18s Rge. 24w Co. \_\_\_\_\_ State KS

Interval Tested 4256 - 4315 Zone Tested Mississippi  
 Anchor Length 59' Drill Pipe Run 3930 Mud Wt. 9.4  
 Top Packer Depth 4251 Drill Collars Run 326 Vis 51  
 Bottom Packer Depth 4256 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4315 Chlorides 4800 ppm System LCM 3"

Blow Description IFP - Strong, BOB in 5 min.  
ISI - Blowback BOB in 25 min  
FFP - Blow Built to 4", some plugging action  
FSI - Blowback Built to 2", died off after 30 min

Rec	Feet of	%gas	%oil	%water	%mud
<u>570</u>	<u>Cassy Oil</u>	<u>30</u>	<u>70</u>		
<u>210</u>	<u>Cassy Oil Cut Mud</u>	<u>15</u>	<u>10</u>		<u>75</u>
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of <u>360' GIP</u>	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 780 BHT \_\_\_\_\_ Gravity 37 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2236  Test 1250 T-On Location 5:45  
 (B) First Initial Flow 58  Jars \_\_\_\_\_ T-Started 6:24  
 (C) First Final Flow 192  Safety Joint 75 T-Open 8:27  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub \_\_\_\_\_ T-Pulled 12:27  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_ T-Out 15:20  
 (F) Second Final Flow \_\_\_\_\_  Mileage 201.50 Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2143  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 60  Day Standby \_\_\_\_\_ Total 1526.50  
 Final Shut-In 90  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1526.50

Approved By \_\_\_\_\_ Our Representative Jawon Mc Lamon

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.