



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Tim Lauer

### **Joy Estate #1-11**

### **11-12s-19w Ellis,KS**

Start Date: 2012.01.31 @ 02:38:30

End Date: 2012.01.31 @ 10:51:00

Job Ticket #: 46375                      DST #: 1

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

Printed: 2012.02.06 @ 15:12:02



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

ATTN: Tim Lauer

Job Ticket: 46375

**DST#: 1**

Test Start: 2012.01.31 @ 02:38:30

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:13:00

Time Test Ended: 10:51:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3334.00 ft (KB) To 3362.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3362.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 107.48 psig @ 3336.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.31

End Date:

2012.01.31

Last Calib.: 2012.01.31

Start Time: 02:48:30

End Time:

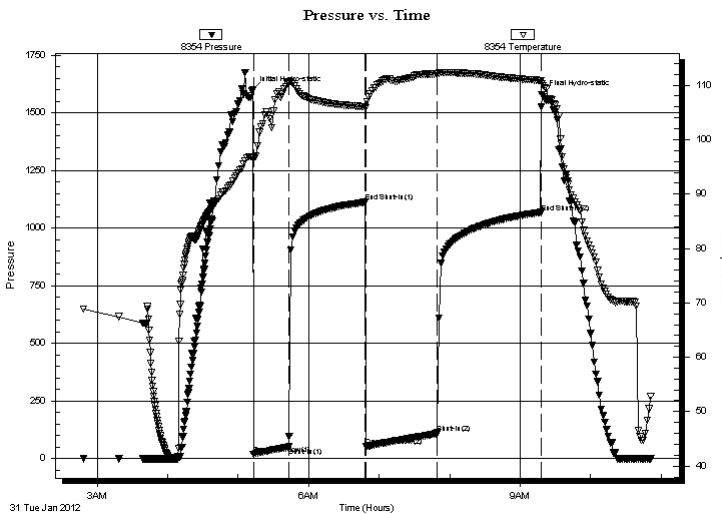
10:51:00

Time On Btm: 2012.01.31 @ 05:12:30

Time Off Btm: 2012.01.31 @ 09:18:30

**TEST COMMENT:** IF-Weak blow . Built to 3/4 inch. Died to 1/4 inch.  
IS-No Return.  
FF-Weak building blow . Built to 6 inches.  
FS-Slight surface return for 1 minute.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1599.17	96.80	Initial Hydro-static
1	18.17	96.54	Open To Flow (1)
31	50.18	110.49	Shut-In (1)
96	1112.23	106.05	End Shut-In (1)
96	51.31	105.90	Open To Flow (2)
157	107.48	112.10	Shut-In (2)
245	1068.24	110.85	End Shut-In (2)
246	1579.51	110.24	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	70%Water/30%Mud	1.68
65.00	90%Water/10%Mud	0.91

## Gas Rates

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



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Cobalt Energy LLC

**11-12s-19w Ellis,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46375

**DST#: 1**

ATTN: Tim Lauer

Test Start: 2012.01.31 @ 02:38:30

### GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:13:00

Time Test Ended: 10:51:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3334.00 ft (KB) To 3362.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3362.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**

Press @ Run Depth: psig @ 3336.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.31 End Date: 2012.01.31

Last Calib.: 2012.01.31

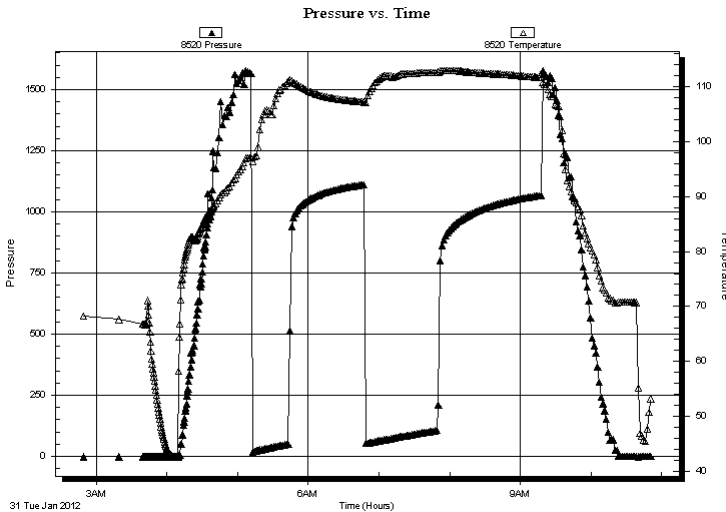
Start Time: 02:49:30 End Time: 10:51:00

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF-Weak blow . Built to 3/4 inch. Died to 1/4 inch.  
IS-No Return.  
FF-Weak building blow . Built to 6 inches.  
FS-Slight surface return for 1 minute.

### PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

### Gas Rates

Length (ft)	Description	Volume (bbl)
120.00	70%Water/30%Mud	1.68
65.00	90%Water/10%Mud	0.91

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46375

**DST#: 1**

ATTN: Tim Lauer

Test Start: 2012.01.31 @ 02:38:30

## Tool Information

Drill Pipe:	Length: 3328.00 ft	Diameter: 3.80 inches	Volume: 46.68 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: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 20000.00 lb
			<u>Total Volume: 46.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3334.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	51.00 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			3312.00	
Shut In Tool	5.00			3317.00	
Hydraulic tool	5.00			3322.00	
Safety Joint	3.00			3325.00	
Packer	5.00			3330.00	23.00 Bottom Of Top Packer
Packer	4.00			3334.00	
Stubb	1.00			3335.00	
Perforations	1.00			3336.00	
Recorder	0.00	8354	Inside	3336.00	
Recorder	0.00	8520	Outside	3336.00	
Perforations	23.00			3359.00	
Bullnose	3.00			3362.00	28.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**11-12s-19w Ellis,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46375

**DST#: 1**

ATTN: Tim Lauer

Test Start: 2012.01.31 @ 02:38:30

## 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:

52000 ppm

Viscosity: 29.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.15 ohm.m

Gas Cushion Pressure:

psig

Salinity: 74000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	70%Water/30%Mud	1.683
65.00	90%Water/10%Mud	0.912

Total Length: 185.00 ft

Total Volume: 2.595 bbl

Num Fluid Samples: 0

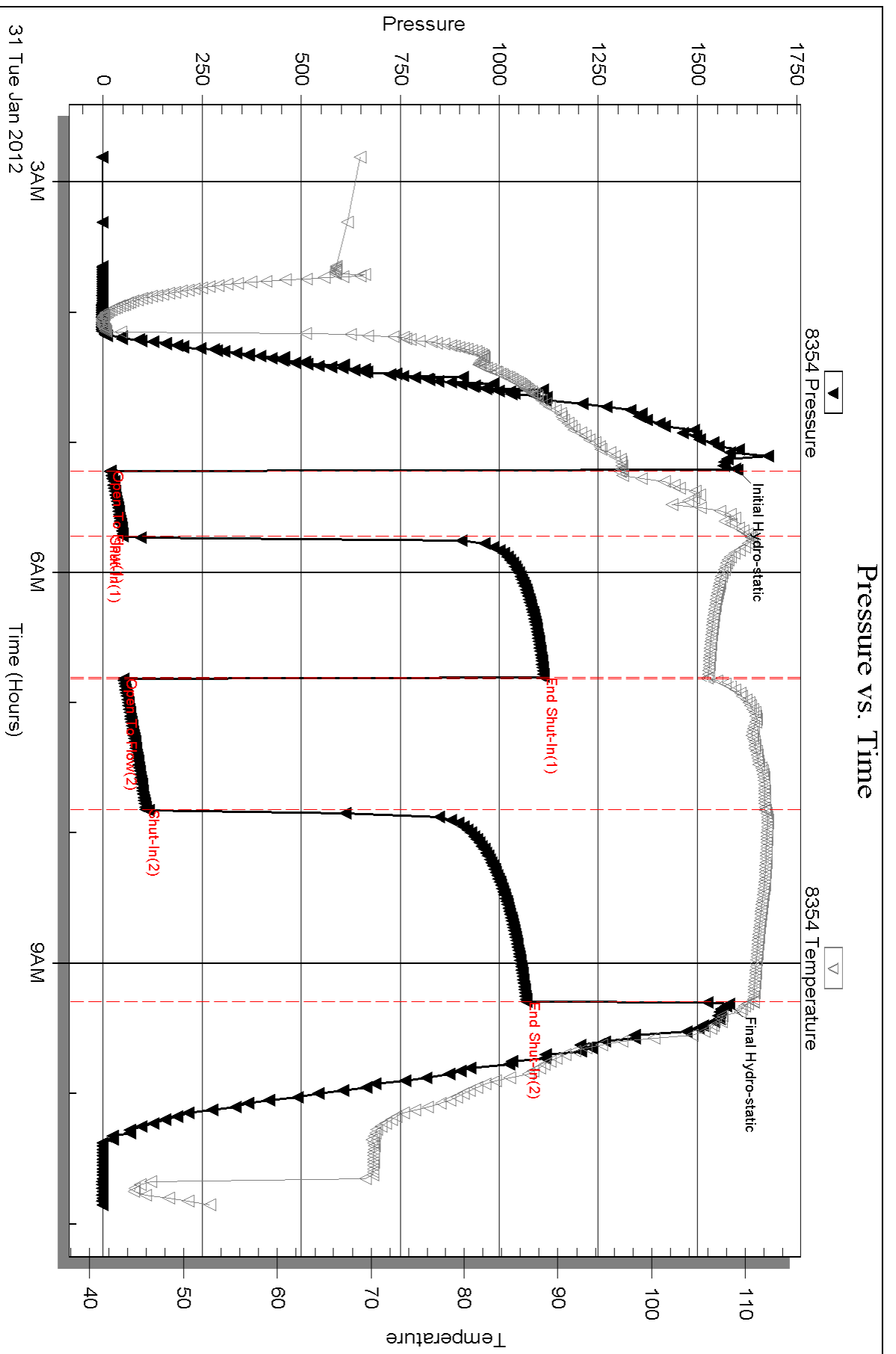
Num Gas Bombs: 0

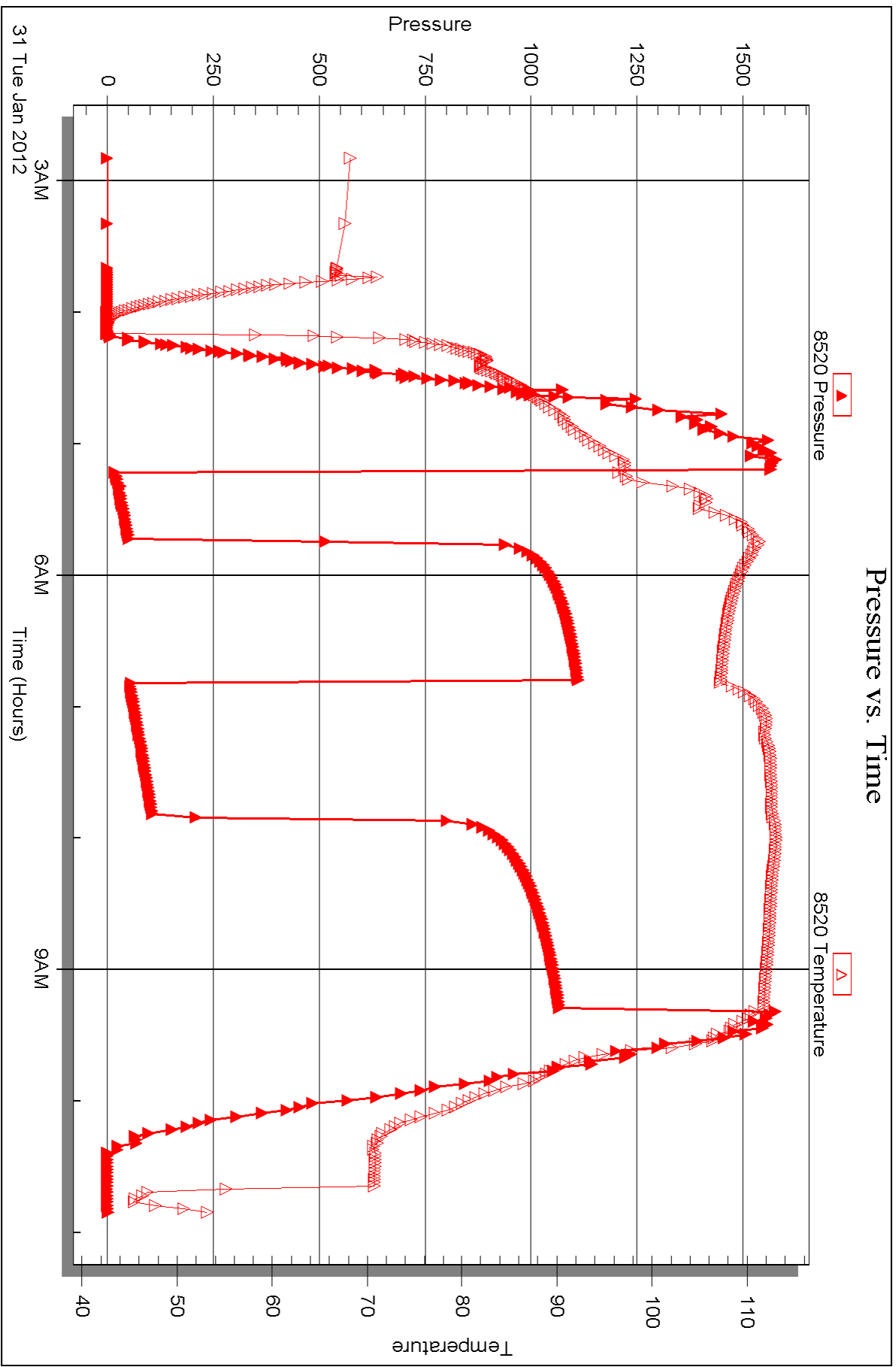
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Tim Lauer

### **Joy Estate #1-11**

### **11-12s-19w Ellis,KS**

Start Date: 2012.01.31 @ 19:49:30

End Date: 2012.02.01 @ 03:47:30

Job Ticket #: 46901                      DST #: 2

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

Printed: 2012.02.06 @ 15:10:32





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

11-12s-19w Ellis, KS

115 S. Belmont #12  
Wichita, KS 67208

Joy Estate #1-11

ATTN: Tim Lauer

Job Ticket: 46901

DST#: 2

Test Start: 2012.01.31 @ 19:49:30

## GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:22:40

Time Test Ended: 03:47:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: **3403.00 ft (KB) To 3442.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3442.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 84.23 psig @ 3405.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.31

End Date: 2012.02.01

Last Calib.: 2012.02.01

Start Time: 19:59:30

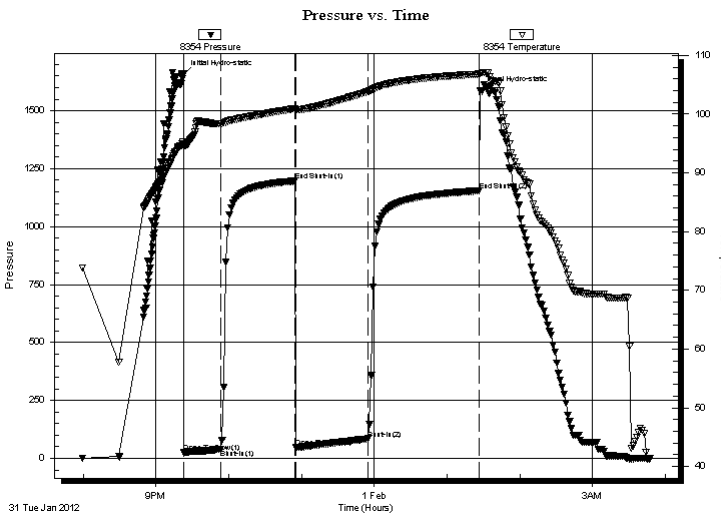
End Time: 03:47:30

Time On Btm: 2012.01.31 @ 21:22:30

Time Off Btm: 2012.02.01 @ 01:27:30

**TEST COMMENT:** IF-Fair building blow . Built to 7 inches.  
IS-No Return.  
FF-Weak blow . Built to 3 inches. Died to steady 1/2 inch blow .  
FS-No Return.

## PRESSURE SUMMARY



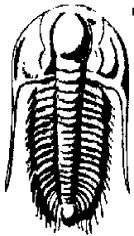
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1657.82	95.17	Initial Hydro-static
1	25.00	94.56	Open To Flow (1)
31	40.48	98.38	Shut-In(1)
92	1196.98	100.94	End Shut-In(1)
93	46.68	100.74	Open To Flow (2)
152	84.23	103.82	Shut-In(2)
244	1154.58	106.80	End Shut-In(2)
245	1587.29	106.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	70%Water/30%Mud	1.68
70.00	15%Gas/85%Oil	0.98
0.00	120' G.I.P.	0.00

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46901

**DST#: 2**

ATTN: Tim Lauer

Test Start: 2012.01.31 @ 19:49:30

**GENERAL INFORMATION:**

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:22:40

Time Test Ended: 03:47:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: **3403.00 ft (KB) To 3442.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3442.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**

Press @ Run Depth: psig @ 3405.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.31

End Date: 2012.02.01

Last Calib.: 2012.02.01

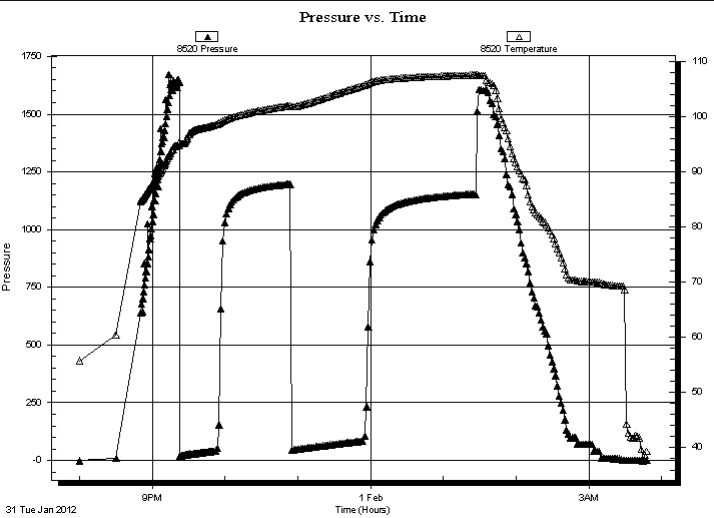
Start Time: 20:00:00

End Time: 03:47:30

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF-Fair building blow . Built to 7 inches.  
IS-No Return.  
FF-Weak blow . Built to 3 inches. Died to steady 1/2 inch blow .  
FS-No Return.



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
120.00	70%Water/30%Mud	1.68
70.00	15%Gas/85%Oil	0.98
0.00	120' G.I.P.	0.00

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46901

**DST#: 2**

ATTN: Tim Lauer

Test Start: 2012.01.31 @ 19:49:30

## Tool Information

Drill Pipe:	Length: 3389.00 ft	Diameter: 3.80 inches	Volume: 47.54 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: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 10000.00 lb
			Total Volume: 47.54 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3403.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	62.00 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			3381.00	
Shut In Tool	5.00			3386.00	
Hydraulic tool	5.00			3391.00	
Safety Joint	3.00			3394.00	
Packer	5.00			3399.00	23.00 Bottom Of Top Packer
Packer	4.00			3403.00	
Stubb	1.00			3404.00	
Perforations	1.00			3405.00	
Recorder	0.00	8354	Inside	3405.00	
Recorder	0.00	8520	Outside	3405.00	
Perforations	34.00			3439.00	
Bullnose	3.00			3442.00	39.00 Bottom Packers & Anchor

**Total Tool Length: 62.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**11-12s-19w Ellis,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46901

**DST#: 2**

ATTN: Tim Lauer

Test Start: 2012.01.31 @ 19:49:30

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

82000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.23 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3700.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	70%Water/30%Mud	1.683
70.00	15%Gas/85%Oil	0.982
0.00	120' G.I.P.	0.000

Total Length: 190.00 ft

Total Volume: 2.665 bbl

Num Fluid Samples: 0

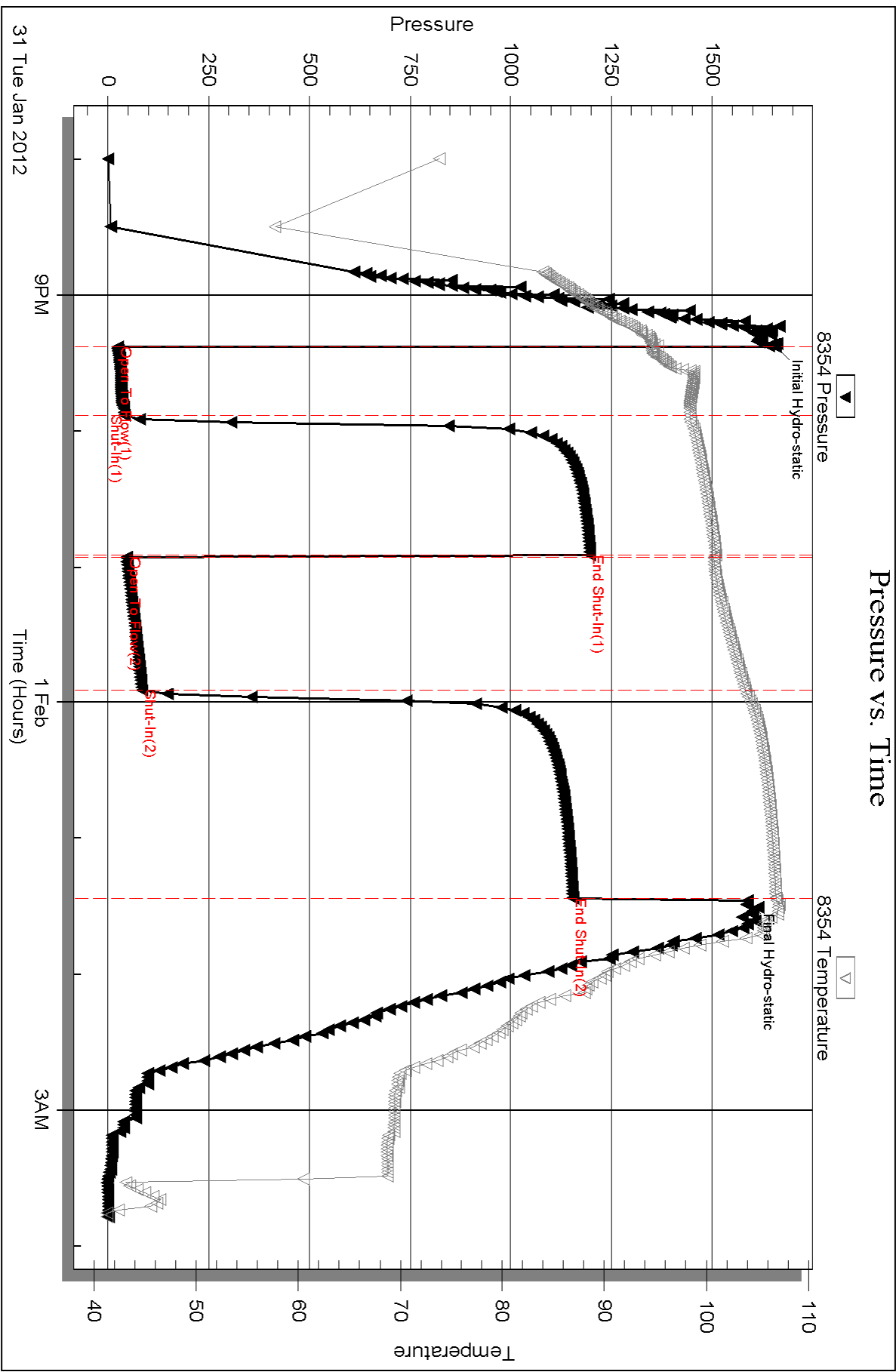
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

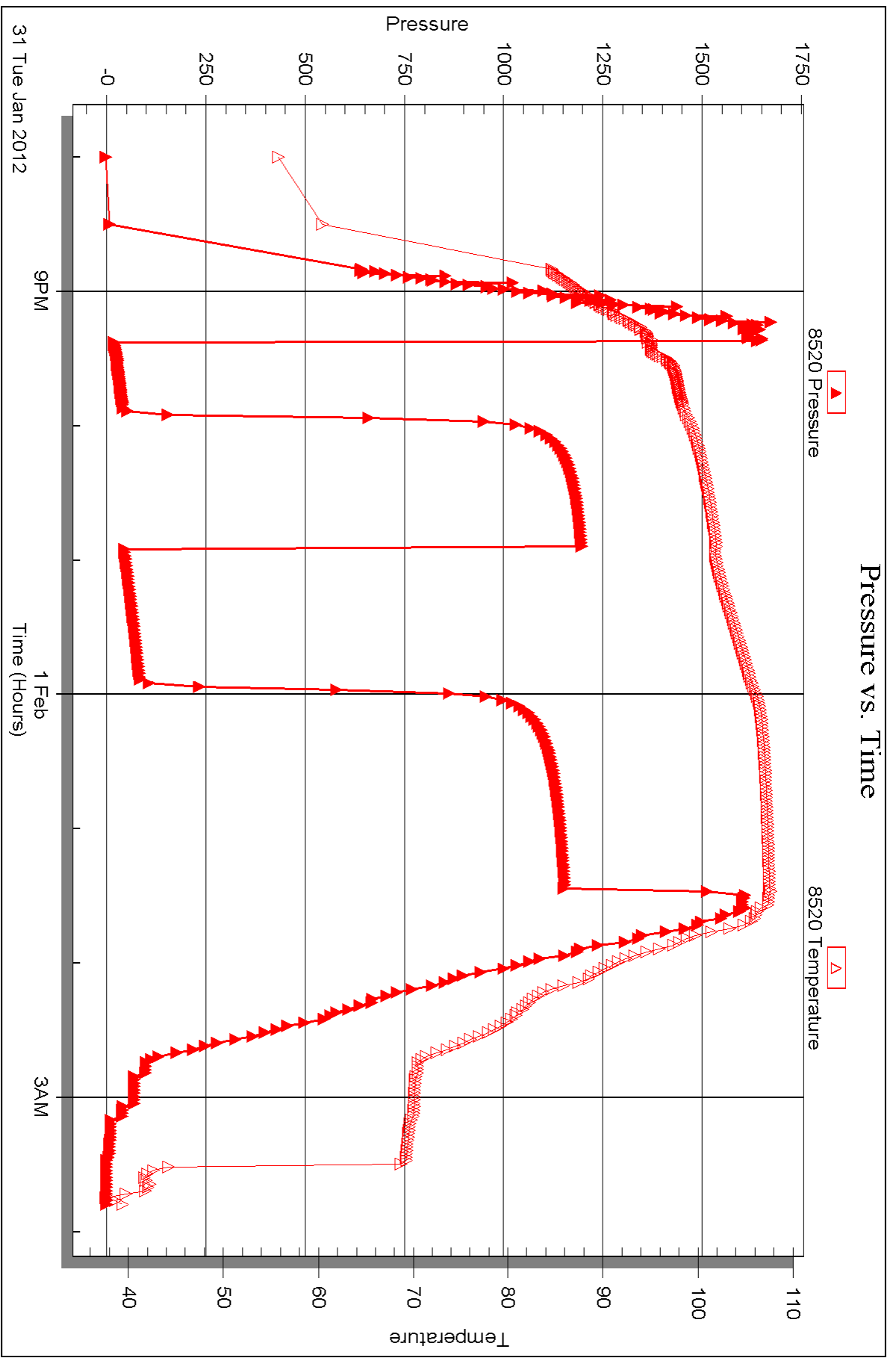


Serial #: 8520

Outside Cobalt Energy LLC

Joy Estate #1-11

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 46901

Printed: 2012.02.06 @ 15:10:35



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Tim Lauer

### **Joy Estate #1-11**

### **11-12s-19w Ellis,KS**

Start Date: 2012.02.01 @ 16:56:15

End Date: 2012.02.02 @ 00:23:15

Job Ticket #: 46902                      DST #: 3

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

Printed: 2012.02.06 @ 15:09:50

Cobalt Energy LLC  
11-12s-19w Ellis,KS  
Joy Estate #1-11  
DST # 3  
LKC "B-D"  
2012.02.01



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

ATTN: Tim Lauer

Job Ticket: 46902

**DST#: 3**

Test Start: 2012.02.01 @ 16:56:15

## GENERAL INFORMATION:

Formation: **LKC "B-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:25:55

Time Test Ended: 00:23:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3467.00 ft (KB) To 3517.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3517.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 396.97 psig @ 3506.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.01

End Date:

2012.02.02

Last Calib.:

2012.02.02

Start Time: 17:06:15

End Time:

00:23:15

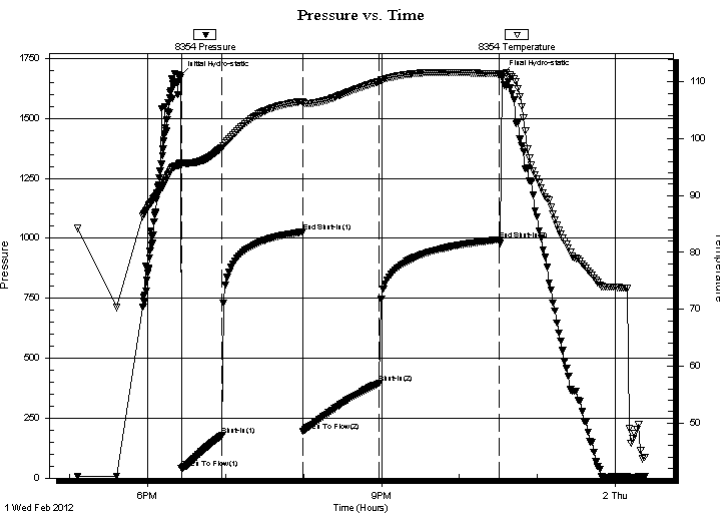
Time On Btm:

2012.02.01 @ 18:25:35

Time Off Btm:

2012.02.01 @ 22:32:45

**TEST COMMENT:** IF-Strong building blow . BOB in 5 minutes.  
 IS-No Return.  
 FF-Strong building blow . BOB in 9 minutes 30 seconds.  
 FS-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.79	95.83	Initial Hydro-static
1	41.06	95.41	Open To Flow (1)
32	177.90	98.46	Shut-In(1)
94	1026.63	106.57	End Shut-In(1)
95	196.03	106.32	Open To Flow (2)
153	396.97	110.09	Shut-In(2)
246	994.35	111.40	End Shut-In(2)
248	1683.20	110.66	Final Hydro-static

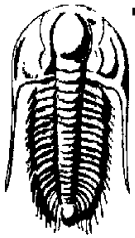
## Recovery

Length (ft)	Description	Volume (bbl)
760.00	90%Water/10%Mud	10.66

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46902

**DST#: 3**

ATTN: Tim Lauer

Test Start: 2012.02.01 @ 16:56:15

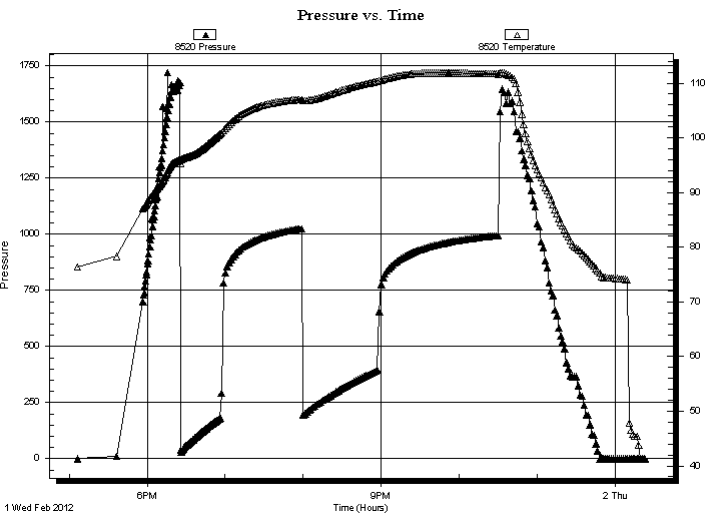
**GENERAL INFORMATION:**

Formation: <b>LKC "B-D"</b>	
Deviated: No Whipstock:	ft (KB)
Time Tool Opened: 18:25:55	Test Type: Conventional Bottom Hole (Initial)
Time Test Ended: 00:23:15	Tester: Dustin Rash
	Unit No: 38
<b>Interval: 3467.00 ft (KB) To 3517.00 ft (KB) (TVD)</b>	Reference Elevations: 2142.00 ft (KB)
Total Depth: 3517.00 ft (KB) (TVD)	2131.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair	KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**

Press @ Run Depth:	psig @ 3506.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2012.02.01 End Date: 2012.02.02	Last Calib.:	2012.02.02
Start Time:	17:06:35 End Time: 00:23:05	Time On Btm:	
		Time Off Btm:	

**TEST COMMENT:** IF-Strong building blow . BOB in 5 minutes.  
 IS-No Return.  
 FF-Strong building blow . BOB in 9 minutes 30 seconds.  
 FS-No Return.



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
760.00	90%Water/10%Mud	10.66

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46902

**DST#: 3**

ATTN: Tim Lauer

Test Start: 2012.02.01 @ 16:56:15

## Tool Information

Drill Pipe:	Length: 3454.00 ft	Diameter: 3.80 inches	Volume: 48.45 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: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 48.45 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3467.00 ft			Final 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			3445.00	
Shut In Tool	5.00			3450.00	
Hydraulic tool	5.00			3455.00	
Safety Joint	3.00			3458.00	
Packer	5.00			3463.00	23.00 Bottom Of Top Packer
Packer	4.00			3467.00	
Stubb	1.00			3468.00	
Perforations	5.00			3473.00	
Change Over Sub	1.00			3474.00	
Drill Pipe	31.00			3505.00	
Change Over Sub	1.00			3506.00	
Recorder	0.00	8354	Inside	3506.00	
Recorder	0.00	8520	Outside	3506.00	
Perforations	8.00			3514.00	
Bullnose	3.00			3517.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 73.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**11-12s-19w Ellis,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46902

**DST#: 3**

ATTN: Tim Lauer

Test Start: 2012.02.01 @ 16:56:15

## 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: 112000 ppm	
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.18 ohm.m	Gas Cushion Pressure: psig		
Salinity: 3500.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
760.00	90%Water/10%Mud	10.661

Total Length: 760.00 ft      Total Volume: 10.661 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

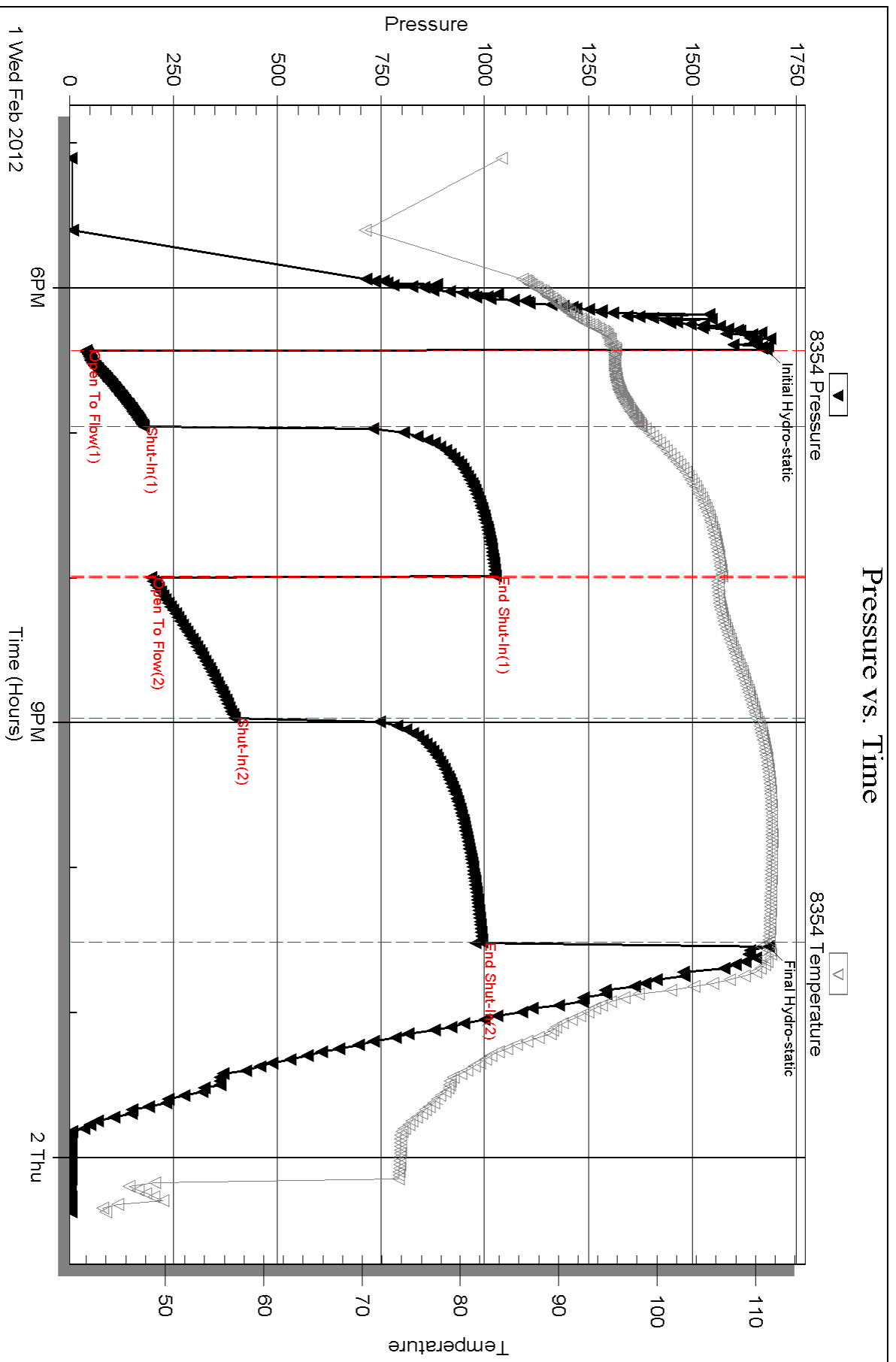
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



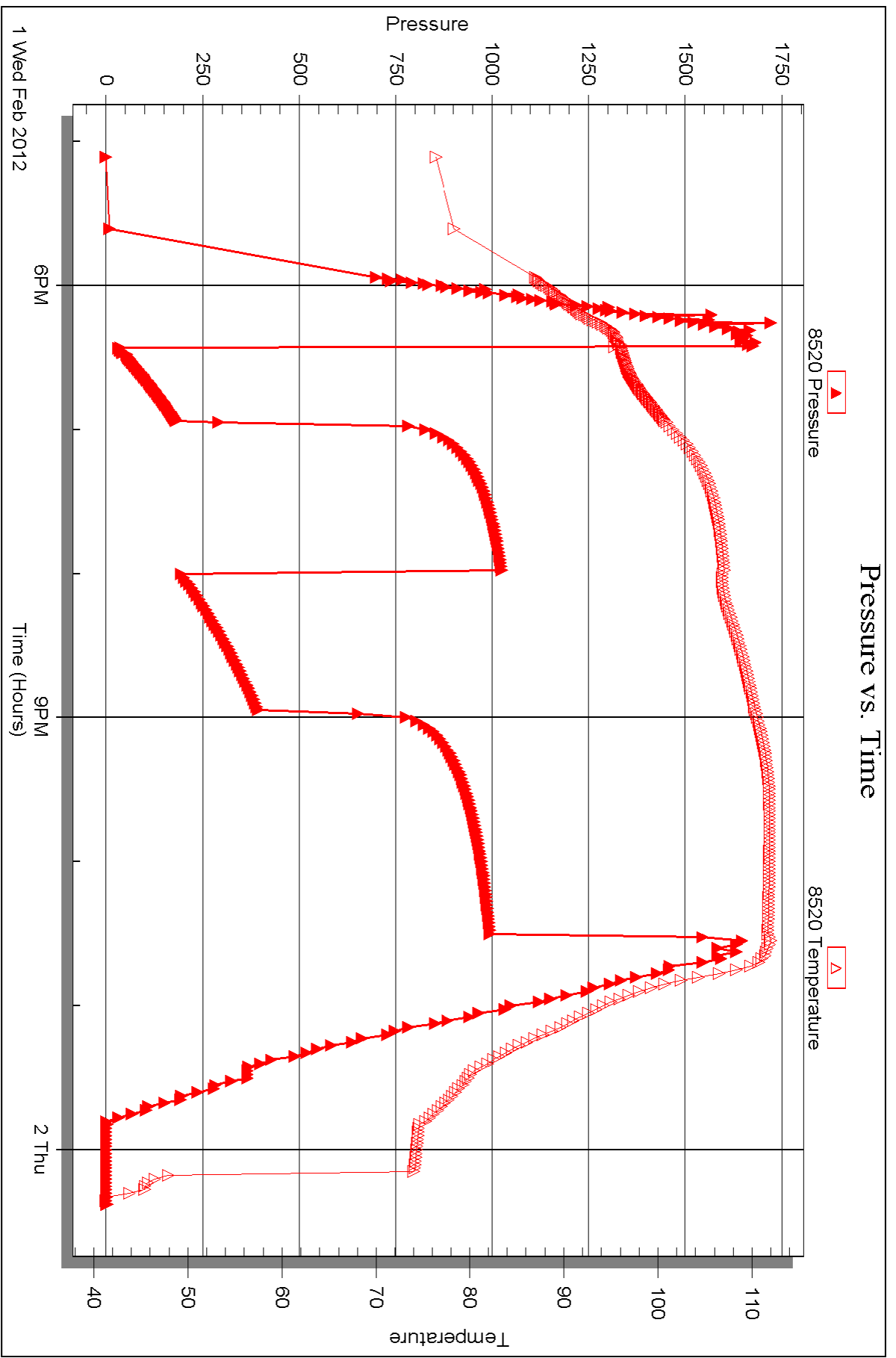
Serial #: 8520

Outside

Cobalt Energy LLC

Joy Estate #1-11

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 46902

Printed: 2012.02.06 @ 15:09:53



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Tim Lauer

### **Joy Estate #1-11**

### **11-12s-19w Ellis,KS**

Start Date: 2012.02.02 @ 07:14:00

End Date: 2012.02.02 @ 14:39:00

Job Ticket #: 46903                      DST #: 4

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

Printed: 2012.02.06 @ 15:09:12

Cobalt Energy LLC  
11-12s-19w Ellis,KS  
Joy Estate #1-11  
DST # 4  
LKC "E-F"  
2012.02.02



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

ATTN: Tim Lauer

Job Ticket: 46903

**DST#: 4**

Test Start: 2012.02.02 @ 07:14:00

## GENERAL INFORMATION:

Formation: **LKC "E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:39:00

Time Test Ended: 14:39:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3516.00 ft (KB) To 3541.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3541.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 31.29 psig @ 3518.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.02

End Date:

2012.02.02

Last Calib.:

2012.02.02

Start Time: 07:24:00

End Time:

14:39:00

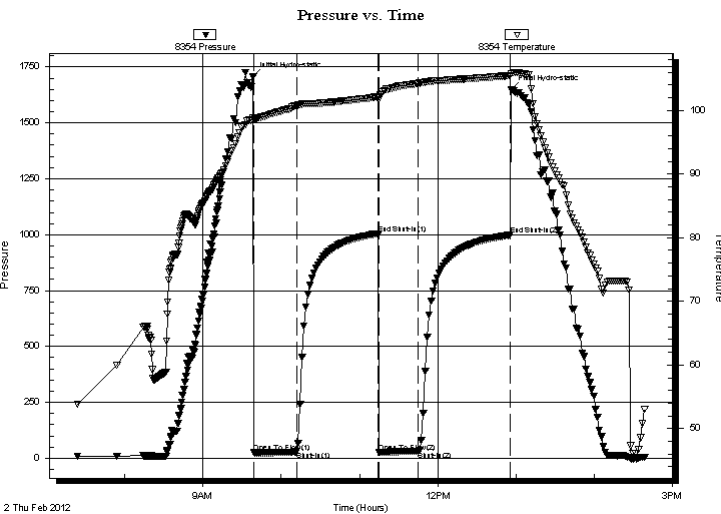
Time On Btm:

2012.02.02 @ 09:38:30

Time Off Btm:

2012.02.02 @ 12:56:30

**TEST COMMENT:** IF-Very weak surging 1/4 inch blow.  
IS-No Return.  
FF-No Blow.  
FSI-No Return.



## PRESSURE SUMMARY

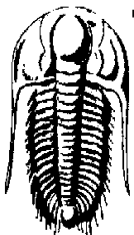
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1705.91	98.83	Initial Hydro-static
1	26.18	98.59	Open To Flow (1)
34	29.27	100.78	Shut-In(1)
96	1004.85	102.12	End Shut-In(1)
97	27.74	101.68	Open To Flow (2)
127	31.29	104.26	Shut-In(2)
197	998.16	105.46	End Shut-In(2)
198	1648.99	105.83	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	50%Water/50%Mud	0.28

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

115 S. Belmont #12  
Wichita, KS 67208

ATTN: TimLauer

11-12s-19w Ellis, KS

Joy Estate #1-11

Job Ticket: 46903

**DST#: 4**

Test Start: 2012.02.02 @ 07:14:00

## GENERAL INFORMATION:

Formation: **LKC "E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:39:00

Time Test Ended: 14:39:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: **3516.00 ft (KB) To 3541.00 ft (KB) (TVD)**

Total Depth: 3541.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2142.00 ft (KB)

2131.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: **8520** Outside

Press @ RunDepth: psig @ 3518.00 ft (KB)

Start Date: 2012.02.02

End Date:

2012.02.02

Start Time: 07:25:00

End Time:

14:39:00

Capacity: 8000.00 psig

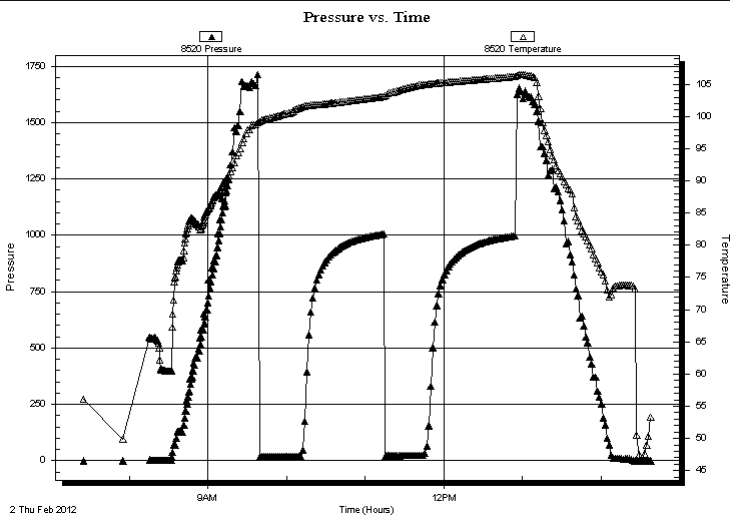
Last Calib.:

2012.02.02

Time On Btm

Time Off Btm

**TEST COMMENT:** IF-Very weak surging 1/4 inch blow .  
 IS-No Return.  
 FF-No Blow .  
 FS-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	50%Water/50%Mud	0.28

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46903

**DST#: 4**

ATTN: Tim Lauer

Test Start: 2012.02.02 @ 07:14:00

## Tool Information

Drill Pipe:	Length: 3513.00 ft	Diameter: 3.80 inches	Volume: 49.28 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: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 49.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3516.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3494.00	
Shut In Tool	5.00			3499.00	
Hydraulic tool	5.00			3504.00	
Safety Joint	3.00			3507.00	
Packer	5.00			3512.00	23.00 Bottom Of Top Packer
Packer	4.00			3516.00	
Stubb	1.00			3517.00	
Perforations	1.00			3518.00	
Recorder	0.00	8354	Inside	3518.00	
Recorder	0.00	8520	Outside	3518.00	
Perforations	20.00			3538.00	
Bullnose	3.00			3541.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 48.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**11-12s-19w Ellis,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46903

**DST#: 4**

ATTN: Tim Lauer

Test Start: 2012.02.02 @ 07:14:00

## 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:

22000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.36 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4100.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	50%Water/50%Mud	0.281

Total Length: 20.00 ft      Total Volume: 0.281 bbl

Num Fluid Samples: 0

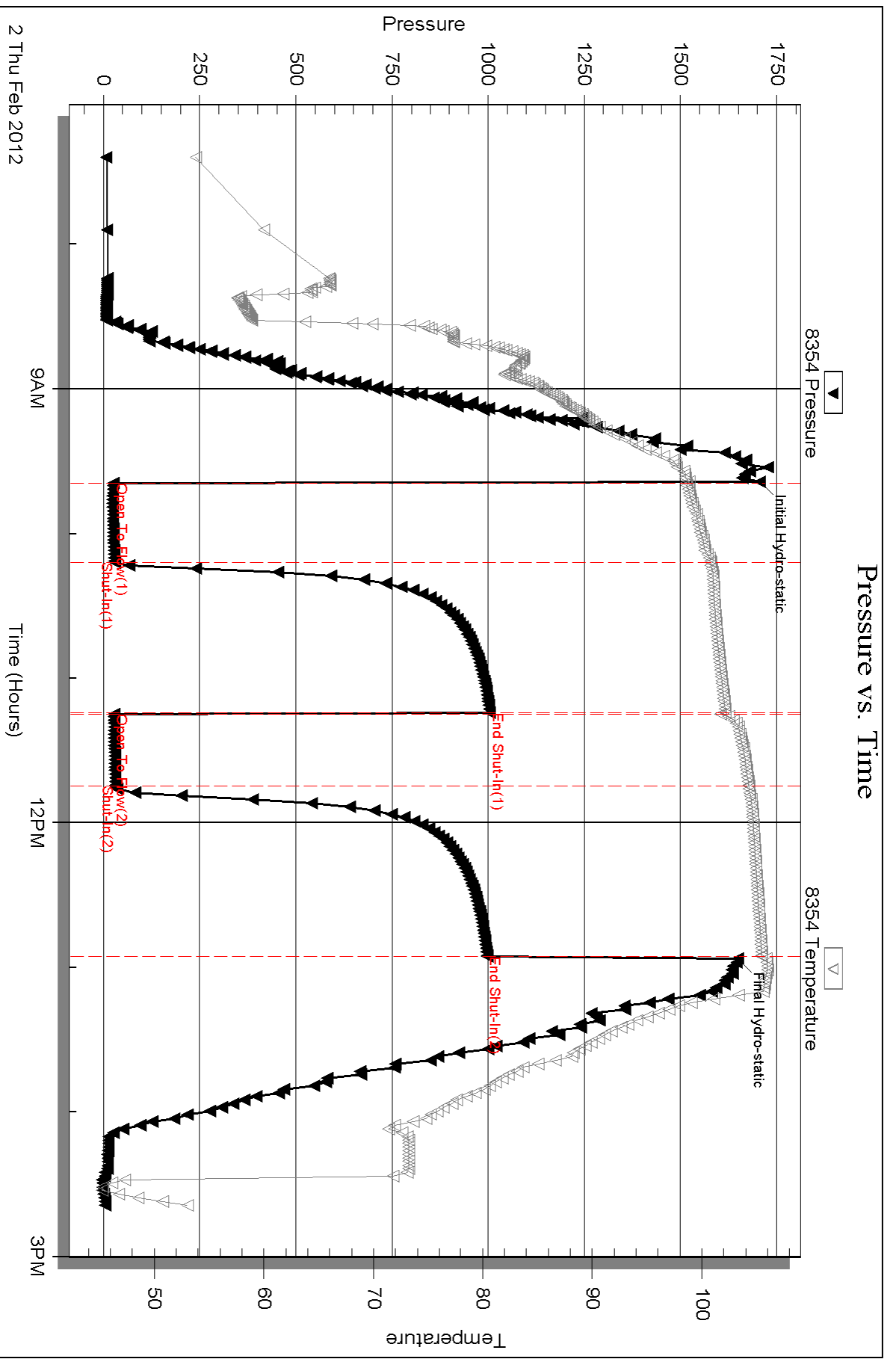
Num Gas Bombs: 0

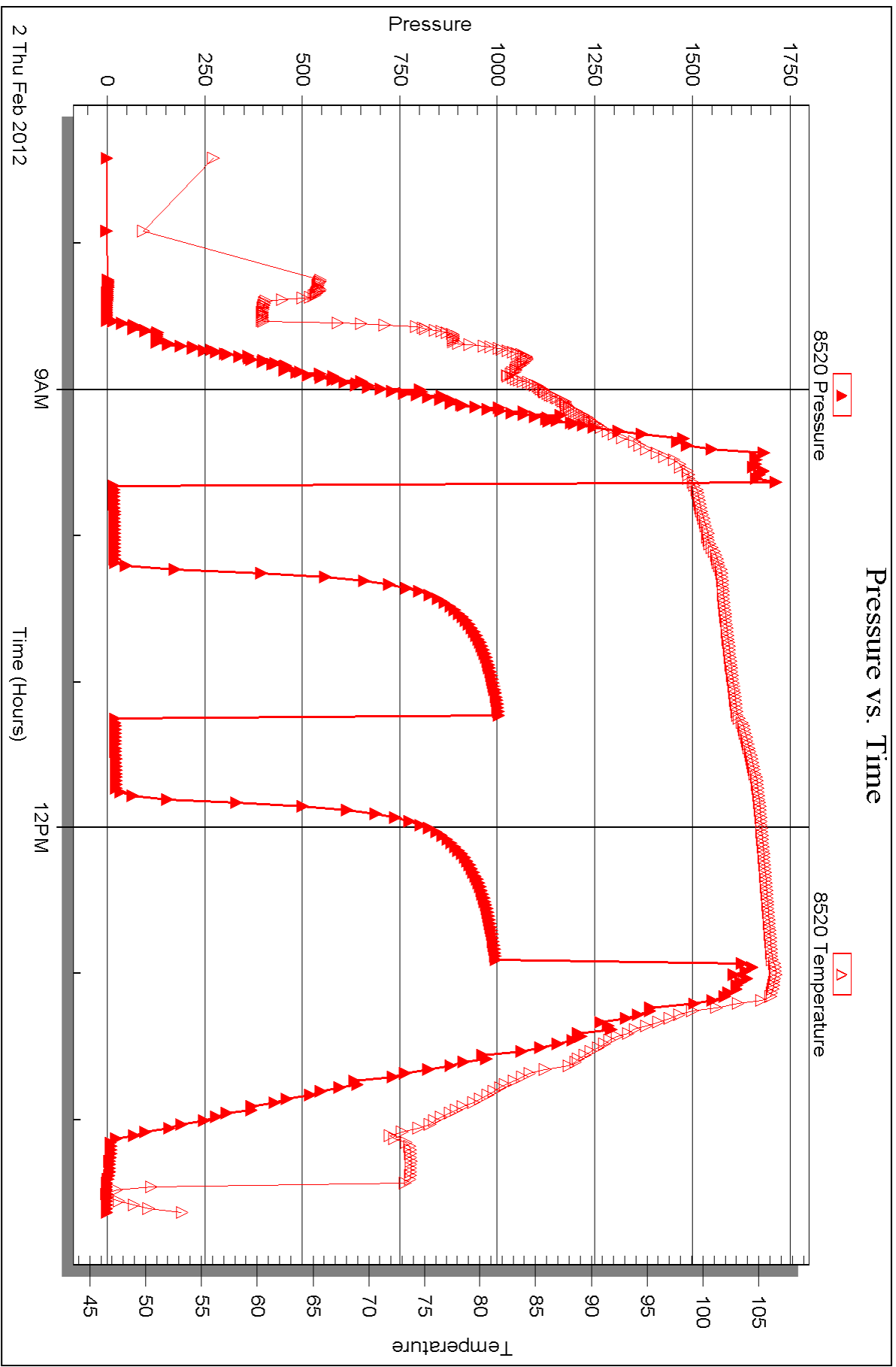
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Tim Lauer

### **Joy Estate #1-11**

### **11-12s-19w Ellis,KS**

Start Date: 2012.02.03 @ 03:33:15

End Date: 2012.02.03 @ 11:16:15

Job Ticket #: 46904                      DST #: 5

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

Printed: 2012.02.06 @ 15:07:11



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

11-12s-19w Ellis, KS

115 S. Belmont #12  
Wichita, KS 67208

Joy Estate #1-11

Job Ticket: 46904

DST#: 5

ATTN: Tim Lauer

Test Start: 2012.02.03 @ 03:33:15

## GENERAL INFORMATION:

Formation: **LKC "G-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:56:05

Time Test Ended: 11:16:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: **3555.00 ft (KB) To 3635.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3635.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: **8354**

Inside

Press @ Run Depth: 119.41 psig @ 3625.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.03

End Date:

2012.02.03

Last Calib.:

2012.02.03

Start Time: 03:43:15

End Time:

11:16:15

Time On Btm:

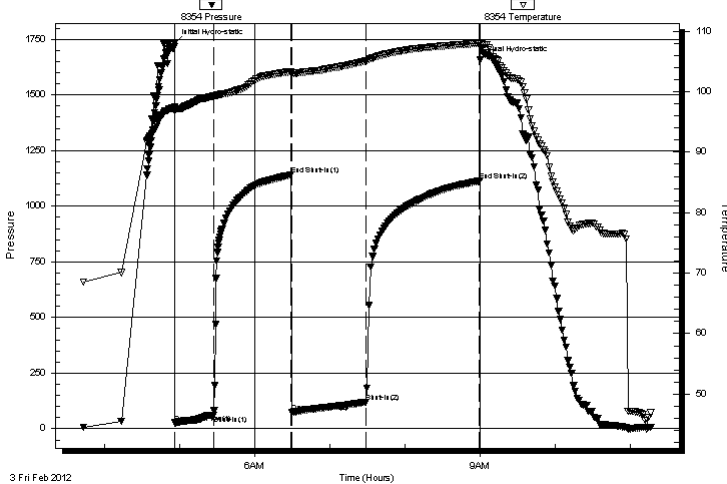
2012.02.03 @ 04:55:55

Time Off Btm:

2012.02.03 @ 08:59:45

TEST COMMENT: IF-Weak building blow . Built to 10 inches.  
IS-No Return.  
FF-Weak building blow . Built to 12 inches.  
FS-No Return.

Pressure vs. Time



## PRESSURE SUMMARY

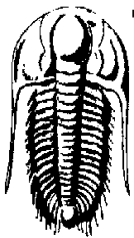
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1732.12	97.47	Initial Hydro-static
1	26.28	96.76	Open To Flow (1)
32	59.90	99.26	Shut-In(1)
93	1139.89	103.30	End Shut-In(1)
94	72.01	103.11	Open To Flow (2)
153	119.41	105.09	Shut-In(2)
244	1113.11	107.97	End Shut-In(2)
244	1656.44	108.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
122.00	85%Water/15%Mud	1.71
102.00	5%Oil/95%Mud	1.43

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

11-12s-19w Ellis, KS

115 S. Belmont #12  
Wichita, KS 67208

Joy Estate #1-11

Job Ticket: 46904 **DST#: 5**

ATTN: Tim Lauer

Test Start: 2012.02.03 @ 03:33:15

**GENERAL INFORMATION:**

Formation: **LKC "G-J"**

Deviated: **No Whipstock:** ft (KB)

Time Tool Opened: 04:56:05

Time Test Ended: 11:16:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: **3555.00 ft (KB) To 3635.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3635.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**

Press @RunDepth: psig @ 3625.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.03

End Date: 2012.02.03

Last Calib.: 2012.02.03

Start Time: 03:43:30

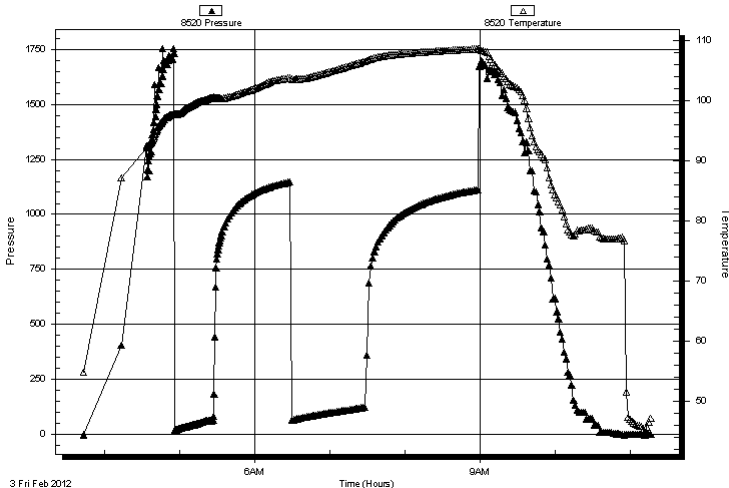
End Time: 11:16:00

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF-Weak building blow . Built to 10 inches.  
 IS-No Return.  
 FF-Weak building blow . Built to 12 inches.  
 FS-No Return.

Pressure vs. Time



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
122.00	85%Water/15%Mud	1.71
102.00	5%Oil/95%Mud	1.43

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46904

**DST#: 5**

ATTN: Tim Lauer

Test Start: 2012.02.03 @ 03:33:15

## Tool Information

Drill Pipe:	Length: 3547.00 ft	Diameter: 3.80 inches	Volume: 49.76 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 49.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3555.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 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			3533.00	
Shut In Tool	5.00			3538.00	
Hydraulic tool	5.00			3543.00	
Safety Joint	3.00			3546.00	
Packer	5.00			3551.00	23.00 Bottom Of Top Packer
Packer	4.00			3555.00	
Stubb	1.00			3556.00	
Perforations	5.00			3561.00	
Change Over Sub	1.00			3562.00	
Drill Pipe	62.00			3624.00	
Change Over Sub	1.00			3625.00	
Recorder	0.00	8354	Inside	3625.00	
Recorder	0.00	8520	Outside	3625.00	
Perforations	7.00			3632.00	
Bullnose	3.00			3635.00	80.00 Bottom Packers & Anchor

**Total Tool Length: 103.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**11-12s-19w Ellis,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46904

**DST#: 5**

ATTN: Tim Lauer

Test Start: 2012.02.03 @ 03:33:15

## 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: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.23 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4400.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
122.00	85%Water/15%Mud	1.711
102.00	5%Oil/95%Mud	1.431

Total Length: 224.00 ft      Total Volume: 3.142 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

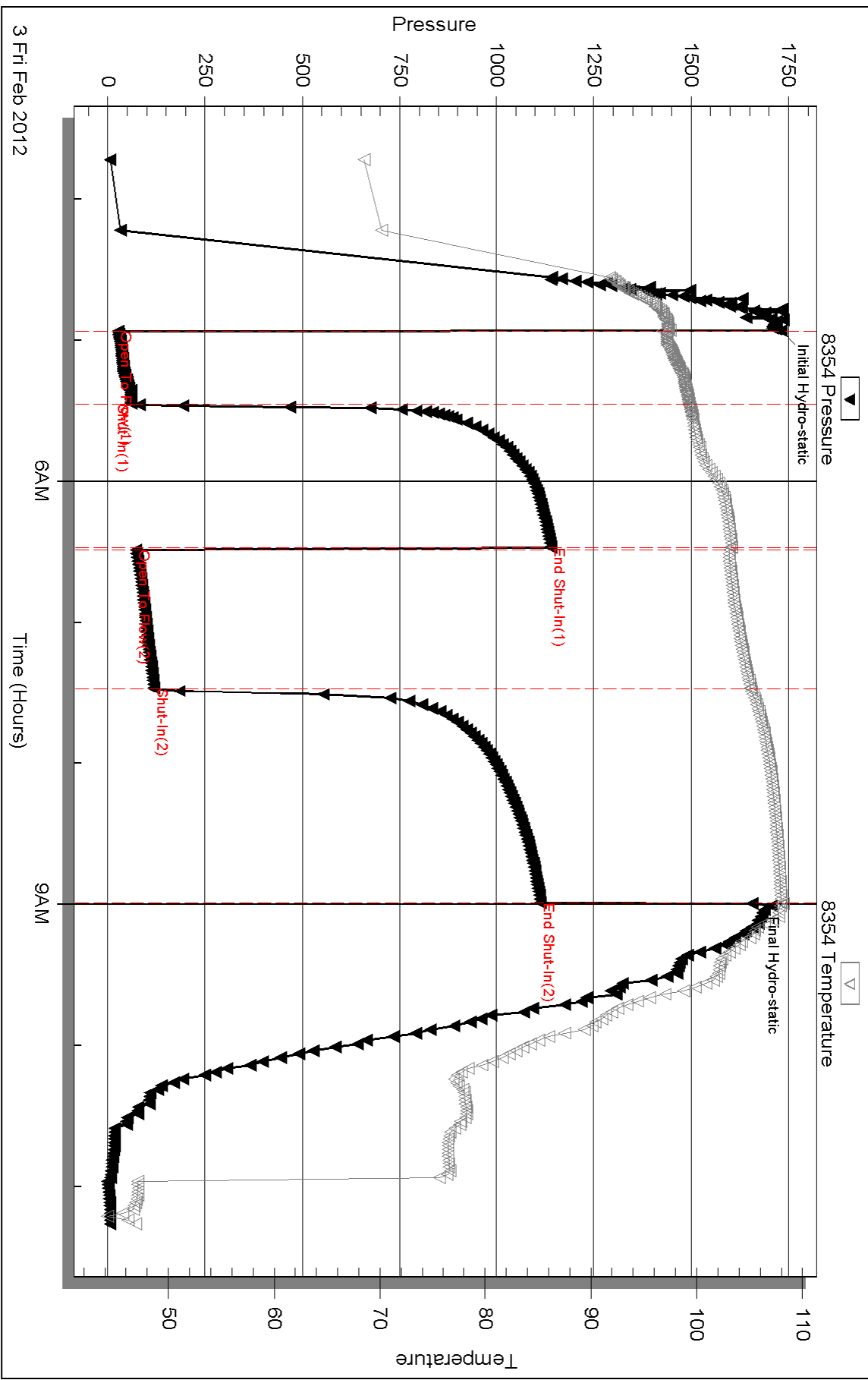
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

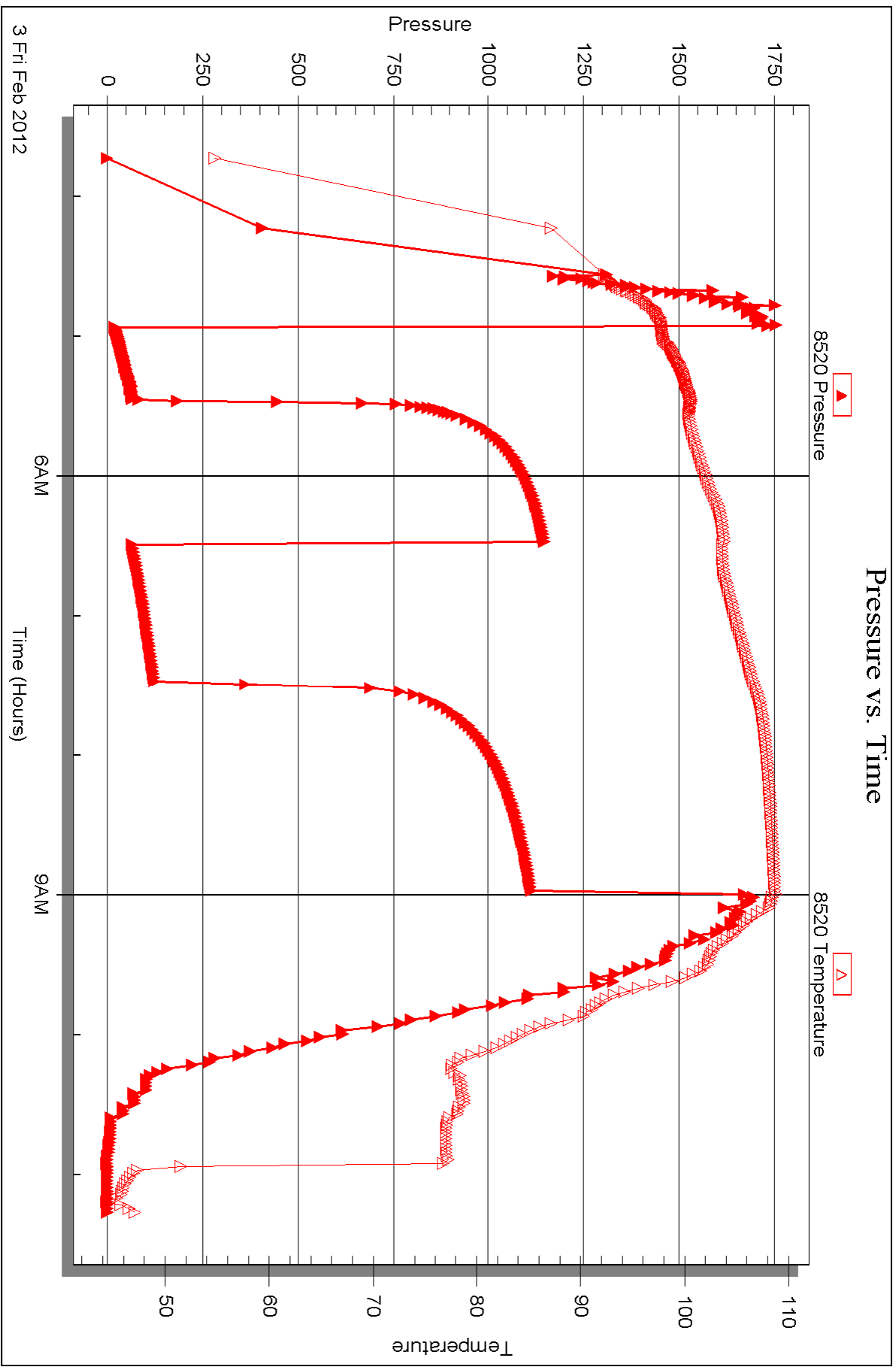


Serial #: 8520

Outside Cobalt Energy LLC

Joy Estate #1-11

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 46904

Printed: 2012.02.06 @ 15:07:13



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Tim Lauer

### **Joy Estate #1-11**

### **11-12s-19w Ellis,KS**

Start Date: 2012.02.03 @ 01:40:30

End Date: 2012.02.03 @ 08:26:00

Job Ticket #: 46905                      DST #: 6

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

Printed: 2012.02.06 @ 15:06:19



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46905

**DST#: 6**

ATTN: Tim Lauer

Test Start: 2012.02.03 @ 01:40:30

## GENERAL INFORMATION:

Formation: **LKC "K-L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:16:30

Time Test Ended: 08:26:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3636.00 ft (KB) To 3687.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3687.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 25.70 psig @ 3676.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.03

End Date: 2012.02.03

Last Calib.: 2012.02.04

Start Time: 01:50:30

End Time: 08:26:00

Time On Btm: 2012.02.03 @ 03:16:20

Time Off Btm: 2012.02.03 @ 06:21:00

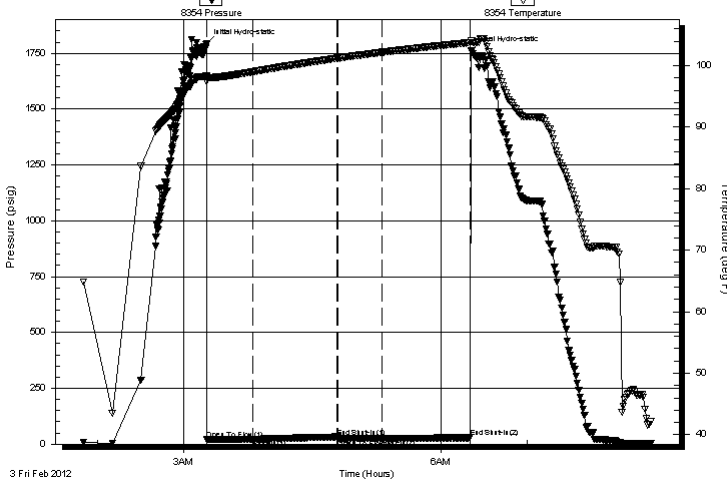
**TEST COMMENT:** IF-Very weak surface blow. Died @ 6 minutes 30 seconds.

ISI-No Return.

FF-No Blow.

FSI-No Return.

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1791.29	98.35	Initial Hydro-static
1	22.42	97.40	Open To Flow (1)
33	21.51	99.01	Shut-In(1)
92	32.20	101.22	End Shut-In(1)
92	22.99	101.23	Open To Flow (2)
123	25.70	102.18	Shut-In(2)
184	28.91	103.77	End Shut-In(2)
185	1763.13	103.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	100%Mud	0.04

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46905

**DST#: 6**

ATTN: Tim Lauer

Test Start: 2012.02.03 @ 01:40:30

## GENERAL INFORMATION:

Formation: **LKC "K-L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:16:30

Time Test Ended: 08:26:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3636.00 ft (KB) To 3687.00 ft (KB) (TVD)**

Reference Elevations: 2142.00 ft (KB)

Total Depth: 3687.00 ft (KB) (TVD)

2131.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8520 Outside**

Press @ Run Depth: psig @ 3676.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.03

End Date: 2012.02.03

Last Calib.: 2012.02.04

Start Time: 01:51:10

End Time: 08:25:40

Time On Btm:

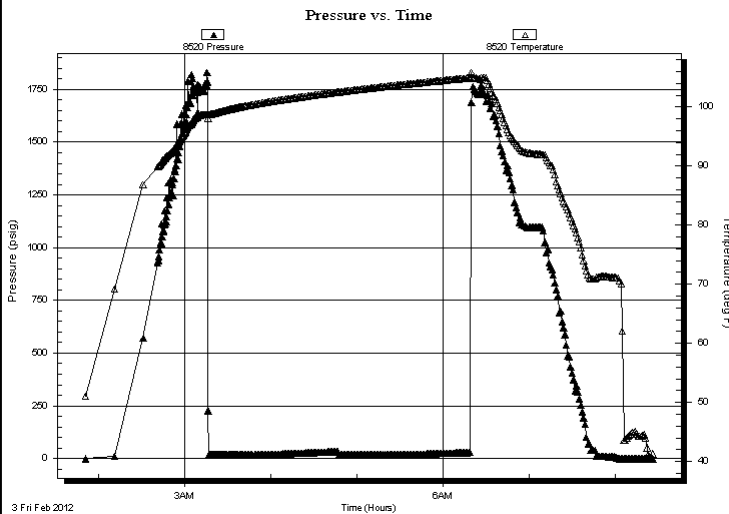
Time Off Btm:

**TEST COMMENT:** IF-Very weak surface blow. Died @ 6 minutes 30 seconds.

ISI-No Return.

FF-No Blow.

FSI-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

## Gas Rates

Length (ft)	Description	Volume (bbl)
3.00	100%Mud	0.04

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46905

**DST#: 6**

ATTN: Tim Lauer

Test Start: 2012.02.03 @ 01:40:30

## Tool Information

Drill Pipe:	Length: 3642.00 ft	Diameter: 3.80 inches	Volume: 51.09 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 15000.00 lb
			<u>Total Volume: 51.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3636.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3614.00	
Shut In Tool	5.00			3619.00	
Hydraulic tool	5.00			3624.00	
Safety Joint	3.00			3627.00	
Packer	5.00			3632.00	23.00 Bottom Of Top Packer
Packer	4.00			3636.00	
Stubb	1.00			3637.00	
Perforations	5.00			3642.00	
Change Over Sub	1.00			3643.00	
Drill Pipe	32.00			3675.00	
Change Over Sub	1.00			3676.00	
Recorder	0.00	8354	Inside	3676.00	
Recorder	0.00	8520	Outside	3676.00	
Perforations	8.00			3684.00	
Bullnose	3.00			3687.00	51.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**11-12s-19w Ellis, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Joy Estate #1-11**

Job Ticket: 46905

**DST#: 6**

ATTN: Tim Lauer

Test Start: 2012.02.03 @ 01:40:30

## 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: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	100%Mud	0.042

Total Length: 3.00 ft      Total Volume: 0.042 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

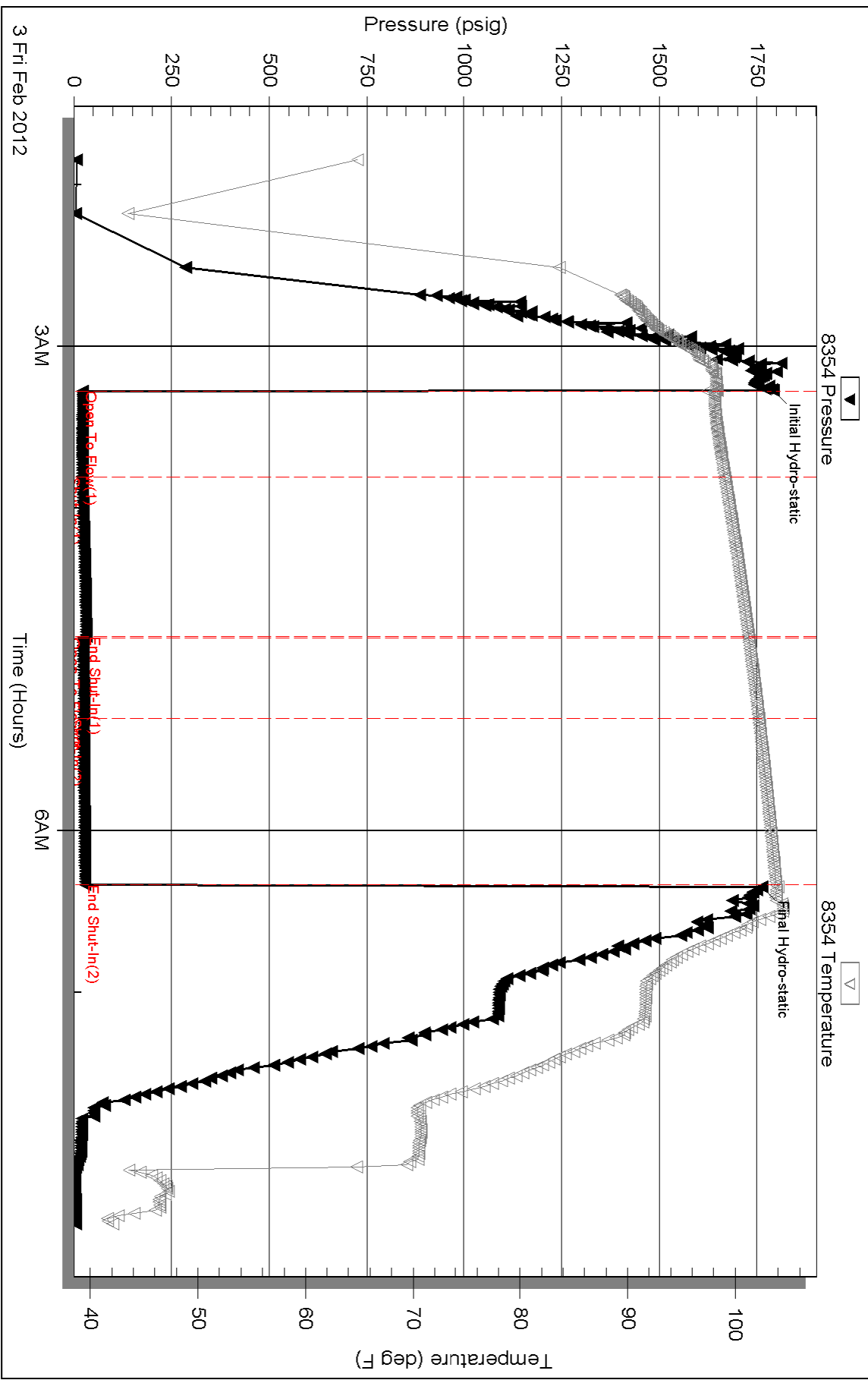
Laboratory Name:

Laboratory Location:

Recovery Comments:



### Pressure vs. Time

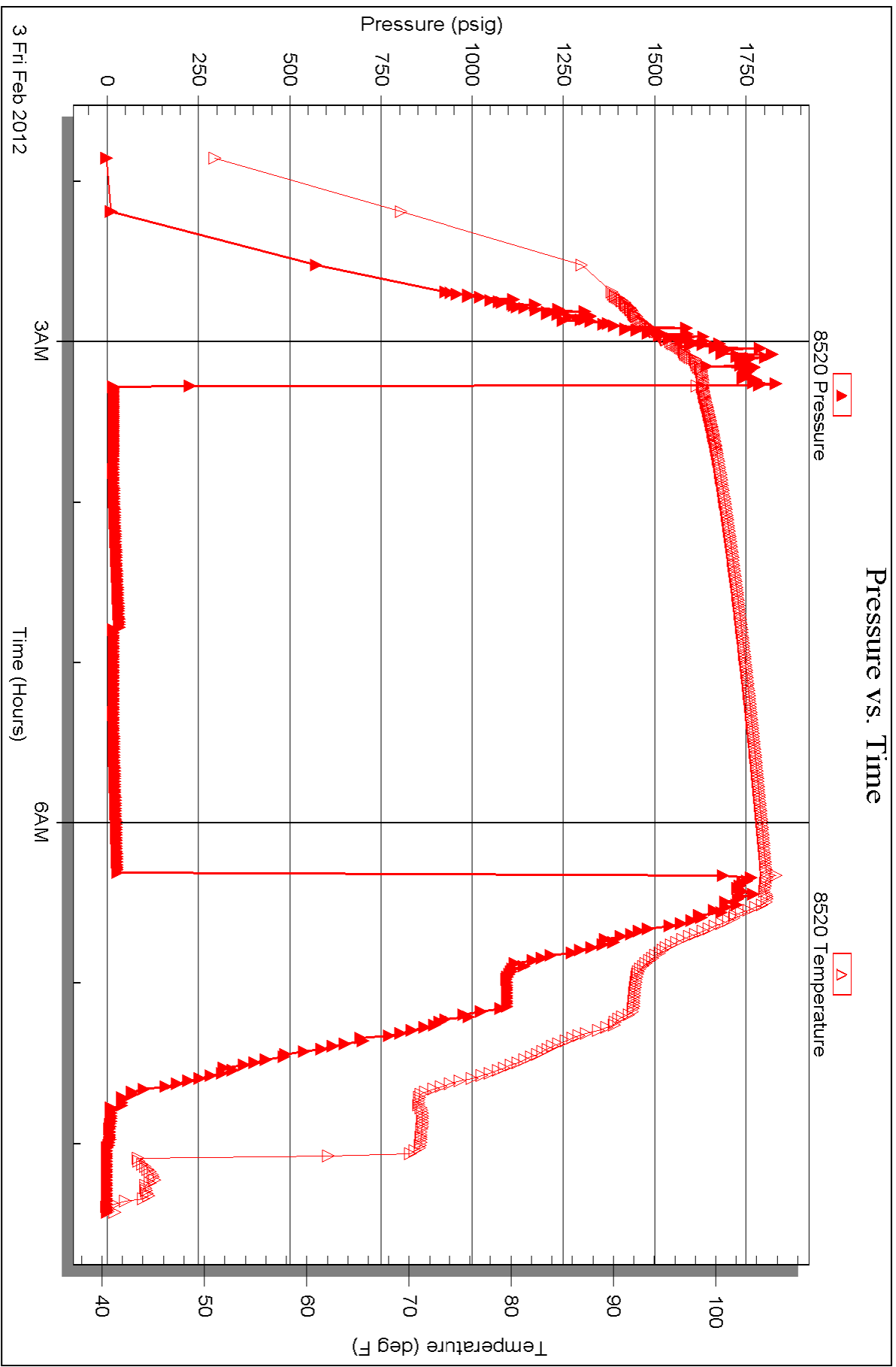


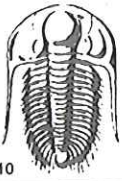
Serial #: 8520

Outside Cobalt Energy LLC

Joy Estate #1-11

DST Test Number: 6





# TRILOBITE TESTING INC.

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FEB 03 2012

## Test Ticket

NO. 46375

Well Name & No. Joy Estate #1-11 Test No. 1 Date 1-31-12  
 Company Cobalt Energy LLC Elevation 2142 KB 2131 GL  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Tim Lauer Rig Southwind 1  
 Location: Sec. 11 Twp. 12S Rge. 19W Co. Ellis State KS

Interval Tested 3334-3362 Zone Tested Topeka  
 Anchor Length 28' Drill Pipe Run 3328 Mud Wt. 9.4  
 Top Packer Depth 3329 Drill Collars Run 0 Vis 29  
 Bottom Packer Depth 3334 Wt. Pipe Run 0 WL NC  
 Total Depth 3362 Chlorides 74000 ppm System LCM N:1

Blow Description IF-Weak blow, Built to 3/4 inch, Died off to 1/4 inch.  
FST- No Return,

FF- Weak building blow, Built to 6 inches,

FST- Slight surface return for 1 minute,

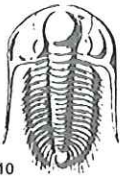
Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>Muddy Water</u>		<u>90</u>	<u>10</u>	
<u>120</u>	<u>Muddy Water</u>		<u>70</u>	<u>30</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 185 BHT 112 Gravity 1125 API RW 1152 @ 59 ° F Chlorides 52000 ppm  
 (A) Initial Hydrostatic 1599  Test  
 (B) First Initial Flow 18  Jars  
 (C) First Final Flow 50  Safety Joint 75  
 (D) Initial Shut-In 1112  Circ Sub  
 (E) Second Initial Flow 51  Hourly Standby  
 (F) Second Final Flow 107  Mileage 13X2 26RT 36.40  
 (G) Final Shut-In 1068  Sampler  
 (H) Final Hydrostatic 1580  Straddle

Initial Open 30  Ruined Shale Packer  
 Initial Shut-In 60  Ruined Packer  
 Final Flow 60  Extra Packer  
 Final Shut-In 90  Extra Recorder  
 Sub Total 0  
 Total 1236.40  
 MP/DST Disc't 0  
 Sub Total 1236.40

Approved By \_\_\_\_\_ Our Representative [Signature]

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FEB 03 2012

## Test Ticket

NO. 46901

Well Name & No. Joy Estate #1-11 Test No. 2 Date 1-31-12  
 Company Cobalt Energy LLC Elevation 2142 KB 2131 GL  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Tim Lauer Rig Southward 1  
 Location: Sec. 11 Twp. 12S Rge. 19W Co. Ellis State KS

Interval Tested 3403-3442 Zone Tested TOLANTO  
 Anchor Length 39' Drill Pipe Run 3389 Mud Wt. 8.8  
 Top Packer Depth 3398 Drill Collars Run 0 Vis 54  
 Bottom Packer Depth 3403 Wt. Pipe Run 0 WL 6.8  
 Total Depth 3442 Chlorides 3700 ppm System LCM 2#

Blow Description IF - Fair building blow, Built to 7 inches,  
ISI - No Return,  
FF - Weak blow, Built to 3 inches, Died to steady 1/2 inch blow,  
FBI - No Return,

Rec	Feet of	%gas	%oil	%water	%mud
<u>70</u>	<u>Gassy Oil</u>	<u>15</u>	<u>85</u>		
<u>120</u>	<u>Muddy Water</u>			<u>70</u>	<u>30</u>
	<u>120' G.I.P.</u>				

Rec Total 190 BHT 107 Gravity 25 API RW 232 @ 27 °F Chlorides 82,000 ppm

(A) Initial Hydrostatic 1658  Test 1125- T-On Location 1915  
 (B) First Initial Flow 25  Jars        T-Started 2015  
 (C) First Final Flow 40  Safety Joint 76- T-Open 2122  
 (D) Initial Shut-In 1197  Circ Sub        T-Pulled 0125  
 (E) Second Initial Flow 47  Hourly Standby        T-Out 0345  
 (F) Second Final Flow 84  Mileage 13X2 36.40 Comments Part-1949  
 (G) Final Shut-In 1155  Sampler         
 (H) Final Hydrostatic 1587  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 1236.40  
 Final Shut-In 90  Accessibility        MP/DST Disc't         
 Sub Total 1236.40

Approved By \_\_\_\_\_ Our Representative D. Rosh

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BY: \_\_\_\_\_

## Test Ticket

NO. 46902

Well Name & No. Joy Estate #1-11 Test No. 3 Date 2-1-12  
 Company Cobalt Energy LLC Elevation 2142 KB 2131 GL  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Tim Lauer Rig Sawtooth 2  
 Location: Sec. 11 Twp. 12S Rge. 19W Co. Ellis State KS

Interval Tested 3467-3517 Zone Tested LKC "B-C/D"  
 Anchor Length 50' Drill Pipe Run 3454 Mud Wt. 9.1  
 Top Packer Depth 3462 Drill Collars Run 0 Vis 60  
 Bottom Packer Depth 3467 Wt. Pipe Run 0 WL 6.8  
 Total Depth 3517 Chlorides 3500 ppm System LCM 2#

Blow Description IF - Strong building blow, BOB in 5 minutes,  
JST - No Return,  
FF - Strong building blow, BOB in 9 minutes, 30 seconds,  
FST - No Return,

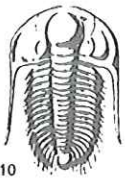
Rec	Feet of	%gas	%oil	%water	%mud
<u>760</u>	<u>Muddy water</u>			<u>90</u>	<u>10</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 760 BHT 111 Gravity 1.125 API RW 183 @ 25 °F Chlorides 112,000 ppm  
 (A) Initial Hydrostatic 1678  Test 1125 T-On Location 1630  
 (B) First Initial Flow 41  Jars T-Started 1715  
 (C) First Final Flow 178  Safety Joint 75 T-Open 1826  
 (D) Initial Shut-In 1027  Circ Sub T-Pulled 2230  
 (E) Second Initial Flow 196  Hourly Standby T-Out 0015  
 (F) Second Final Flow 397  Mileage 13X2 36.40 Comments Part-1656  
 (G) Final Shut-In 994  Sampler  
 (H) Final Hydrostatic 1683  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies

Initial Open 30  Extra Recorder  
 Initial Shut-In 60  Day Standby  
 Final Flow 60  Accessibility  
 Final Shut-In 90 Sub Total 1236.40  
 Sub Total 1236.40 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative D. Rosh

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## Test Ticket

NO. 46903

Well Name & No. Joy Estarett #11 Test No. 4 Date 2-2-12  
 Company Cobalt Energy LLC Elevation 2142 KB 2131 GL  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Tim Lauer Rig Southwind 1  
 Location: Sec. 11 Twp. 12S Rge. 19W Co. Ellis State KS

Interval Tested 3516-3541 Zone Tested LKC "E-F"  
 Anchor Length 25' Drill Pipe Run 3513 Mud Wt. 9.0  
 Top Packer Depth 3511 Drill Collars Run 0 Vis 49  
 Bottom Packer Depth 3516 Wt. Pipe Run 0 WL 7.4  
 Total Depth 3541 Chlorides 4100 ppm System LCM 2#

Blow Description VF - Very weak surging 1/4 inch blow,  
IST - No Return,  
FF - No Blow,  
FST - No Return.

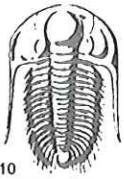
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Muddy Water</u>			<u>50</u>	<u>50</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 106 Gravity 1125 API RW 356 @ 62 °F Chlorides 28000 ppm  
 (A) Initial Hydrostatic 1706  Test 1125 T-On Location 0645  
 (B) First Initial Flow 26  Jars T-Started 0800  
 (C) First Final Flow 29  Safety Joint 75 T-Open 0940  
 (D) Initial Shut-In 1005  Circ Sub T-Pulled 1245  
 (E) Second Initial Flow 28  Hourly Standby T-Out 1445  
 (F) Second Final Flow 31  Mileage 13XZ 36.40 Comments Best-0714  
 (G) Final Shut-In 998  Sampler  
 (H) Final Hydrostatic 1649  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60  
 Sub Total 0  
 Total 1236.40  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1236.40

Approved By \_\_\_\_\_ Our Representative D. Rash

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## Test Ticket

NO. 46904

Well Name & No. Joy Estate # 1-11 BY: \_\_\_\_\_ Test No. 5 Date 2-3-12  
 Company Cobalt Energy LLC Elevation 2142 KB 2131 GL \_\_\_\_\_  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Tim Lauer Rig Southwind 1  
 Location: Sec. 11 Twp. 12S Rge. 19W Co. Ellis State KS

Interval Tested 3555-3635 Zone Tested LKC "G-J"  
 Anchor Length 80' Drill Pipe Run 3547 Mud Wt. 9.0  
 Top Packer Depth 3550 Drill Collars Run 0 Vis 49  
 Bottom Packer Depth 3555 Wt. Pipe Run 0 WL 7.4  
 Total Depth 3635 Chlorides 4400 ppm System LCM 2#

Blow Description IF - Weak building blow, Built to 10 inches,  
IST - No Return,  
FF - Weak building blow, Built to 12 inches,  
FSD - No Return,

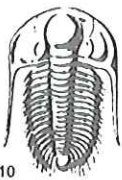
Rec	Feet of	%gas	%oil	%water	%mud
<u>102</u>	<u>SOCM</u>	<u>5</u>		<u>95</u>	
<u>122</u>	<u>Muddy Water</u>			<u>85</u>	<u>15</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 224 BHT 108 Gravity \_\_\_\_\_ API RW .226 @ 42 °F Chlorides 55000 ppm  
 (A) Initial Hydrostatic 1732  Test 1125 T-On Location 0230  
 (B) First Initial Flow 26  Jars \_\_\_\_\_ T-Started 0345  
 (C) First Final Flow 60  Safety Joint 75 T-Open 0457  
 (D) Initial Shut-In 1140  Circ Sub \_\_\_\_\_ T-Pulled 0900  
 (E) Second Initial Flow 72  Hourly Standby \_\_\_\_\_ T-Out 1115  
 (F) Second Final Flow 119  Mileage 1382 36<sup>40</sup> Comments Batt-0333  
 (G) Final Shut-In 1113  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1656  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1236<sup>40</sup>  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 1236<sup>40</sup>

Approved By \_\_\_\_\_ Our Representative D. Rash

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# TRILOBITE TESTING INC.

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RECEIVED  
FEB 06 2012

## Test Ticket

NO. 46905

Well Name & No. Joy Estate # 1-11 Test No. 6 Date 2-3-12  
 Company Cobalt Energy LLC Elevation 2142 KB 2131 GL  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Tim Lauer Rig Southwind I  
 Location: Sec. 11 Twp. 12S Rge. 19W Co. Ellis State KS

Interval Tested 3636-3687 Zone Tested LKC "K-L"  
 Anchor Length 51' Drill Pipe Run 3642 Mud Wt. 9.2  
 Top Packer Depth 3631 Drill Collars Run 0 Vis 45  
 Bottom Packer Depth 3636 Wt. Pipe Run 0 WL 6.4  
 Total Depth 3687 Chlorides 5500 ppm System LCM 2#

Blow Description IF - Very weak surface blow. Died @ 6 minutes 30 seconds.  
TEST - No Return.  
FF - No Blow.  
FST - No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Mud</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 Total 3 BHT 104 Gravity 1125 API RW 36<sup>40</sup> @ 125 °F Chlorides 5500 ppm

(A) Initial Hydrostatic 1791  Test 1125 T-On Location 2345  
 (B) First Initial Flow 22  Jars 75 T-Started 0745  
 (C) First Final Flow 22  Safety Joint 75 T-Open 0317  
 (D) Initial Shut-In 32  Circ Sub 0620 T-Pulled 0620  
 (E) Second Initial Flow 23  Hourly Standby 0830 T-Out 0830  
 (F) Second Final Flow 26  Mileage 13X2 36<sup>40</sup> Comments BHT-0140  
 (G) Final Shut-In 29  Sampler  
 (H) Final Hydrostatic 1763  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies  
 Extra Recorder  
 Day Standby  
 Accessibility  
 Sub Total 1236<sup>40</sup> Total 1236<sup>40</sup>

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60

Approved By \_\_\_\_\_ Our Representative [Signature]

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