



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

PO Box 8037  
Wichita, KS 67208

ATTN: Tim Lauer

### **Herrman Unit A #1-36**

### **36-25S-21W Ford,KS**

Start Date: 2017.03.05 @ 04:55:00

End Date: 2017.03.05 @ 13:39:30

Job Ticket #: 64802                      DST #: 1

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

Printed: 2017.03.07 @ 14:52:54





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC  
 PO Box 8037  
 Wichita, KS 67208  
 ATTN: Tim Lauer

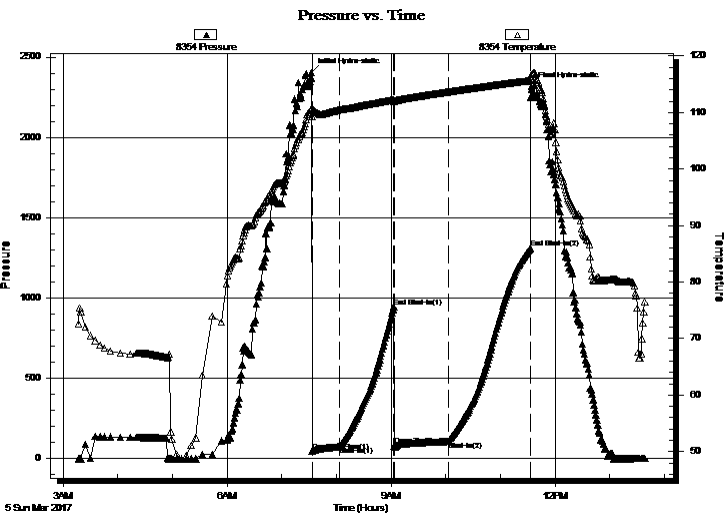
**36-25S-21W Ford, KS**  
**Herrman Unit A #1-36**  
 Job Ticket: 64802 **DST#: 1**  
 Test Start: 2017.03.05 @ 04:55:00

## GENERAL INFORMATION:

Formation: **Cherokee Lime & Miss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:33:30  
 Time Test Ended: 13:39:30  
 Interval: **4644.00 ft (KB) To 4715.00 ft (KB) (TVD)**  
 Total Depth: 4715.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 72  
 Reference Elevations: 2249.00 ft (KB)  
 2244.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8354 Outside**  
 Press@RunDepth: 1310.38 psig @ 4711.71 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.03.05 End Date: 2017.03.05 Last Calib.: 2017.03.05  
 Start Time: 03:17:01 End Time: 13:38:36 Time On Btm: 2017.03.05 @ 07:32:50  
 Time Off Btm: 2017.03.05 @ 11:34:08

**TEST COMMENT:** IFP 30 Minutes BOB in 10 minutes  
 ISI 60 Minutes Surface blow back for 15 minutes  
 FFP 60 Minutes BOB in 30 seconds then died back after 10 minutes  
 FSi 90 Minutes Blow back built to 1/2" then died after 25 minutes



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2402.85	110.63	Initial Hydro-static
1	45.52	109.26	Open To Flow (1)
31	73.96	110.48	Shut-In(1)
91	941.37	112.28	End Shut-In(1)
91	79.73	112.00	Open To Flow (2)
151	107.99	113.66	Shut-In(2)
241	1310.38	115.65	End Shut-In(2)
242	2315.28	116.37	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	GMCO Mud 20% Gas 30% Oil 50%	0.89
1.00	Clean Oil	0.00
0.00	1008' GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**36-25S-21W Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Herrman Unit A #1-36**

Job Ticket: 64802

**DST#: 1**

ATTN: Tim Lauer

Test Start: 2017.03.05 @ 04:55:00

## Tool Information

Drill Pipe:	Length: 4372.00 ft	Diameter: 3.80 inches	Volume: 61.33 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 267.00 ft	Diameter: 2.25 inches	Volume: 1.31 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 62.64 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4644.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.71 ft			
Tool Length:	90.71 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			4629.00	
Hydraulic tool	5.00			4634.00	
Top Packer	5.00			4639.00	
Packer	5.00			4644.00	20.00 Bottom Of Top Packer
Anchor	5.00			4649.00	
Change Over Sub	1.00			4650.00	
Drill Pipe	31.71			4681.71	
Change Over Sub	1.00			4682.71	
Anchor	27.00			4709.71	
Recorder	1.00	8648	Inside	4710.71	
Recorder	1.00	8354	Outside	4711.71	
Bullnose	3.00			4714.71	70.71 Anchor Tool

**Total Tool Length: 90.71**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**36-25S-21W Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Herrman Unit A #1-36**

Job Ticket: 64802

**DST#: 1**

ATTN: Tim Lauer

Test Start: 2017.03.05 @ 04:55:00

## 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:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4300.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	GMCO Mud 20% Gas 30% Oil 50%	0.885
1.00	Clean Oil	0.005
0.00	1008' GIP	0.000

Total Length: 181.00 ft      Total Volume: 0.890 bbl

Num Fluid Samples: 0

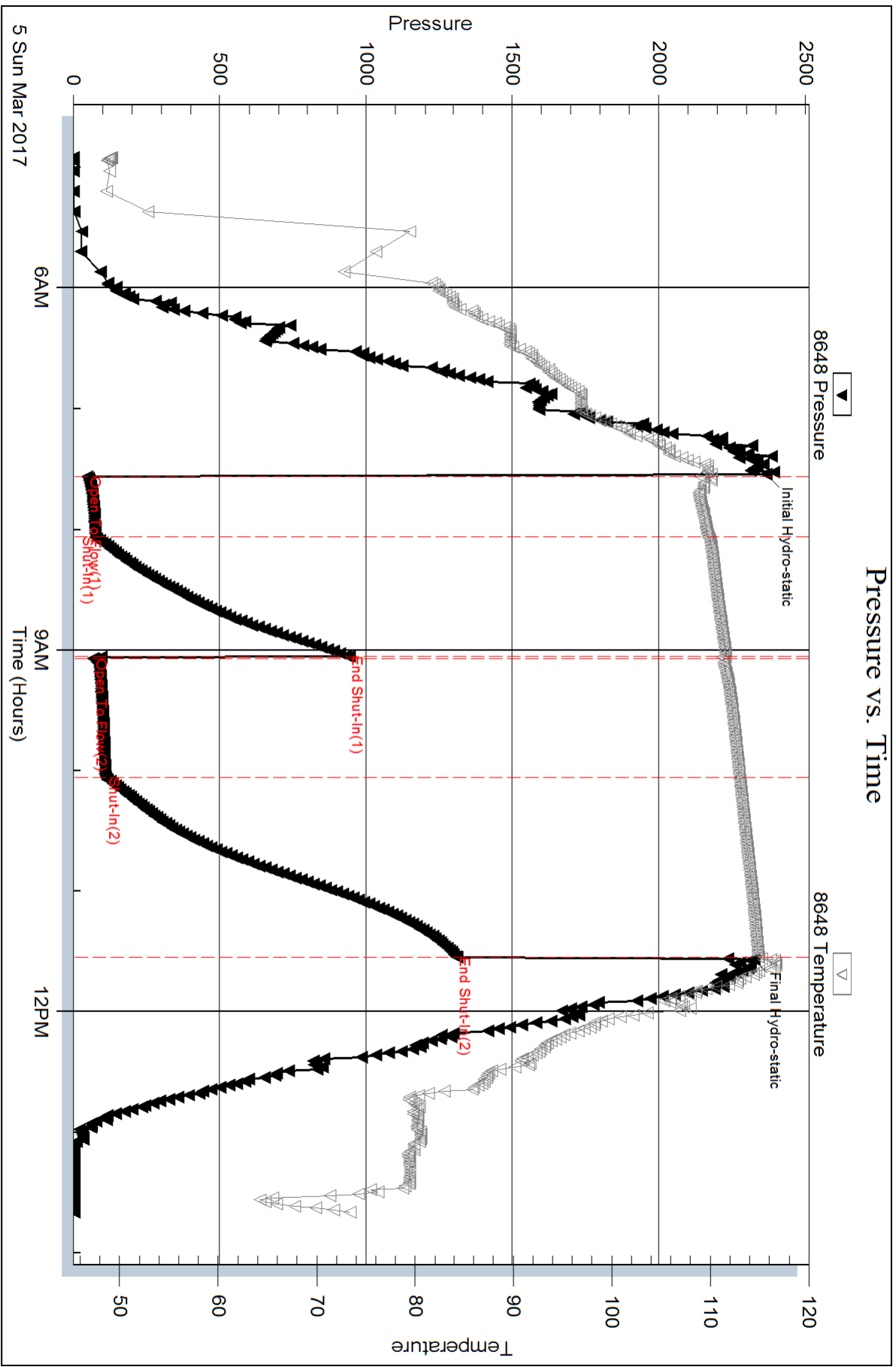
Num Gas Bombs: 0

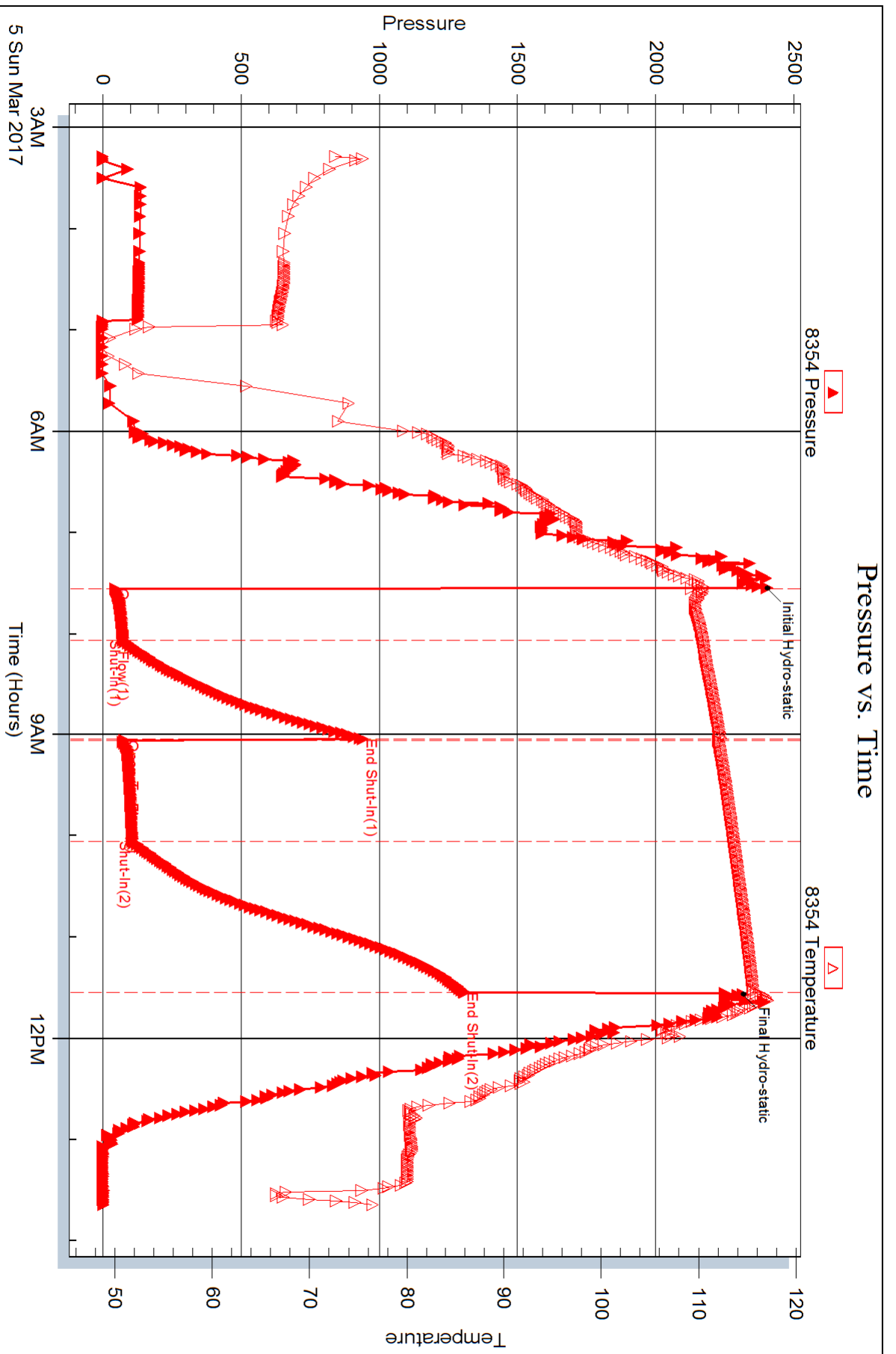
Serial #:

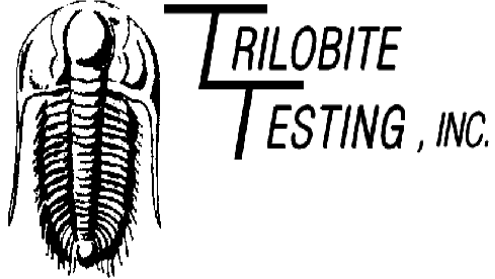
Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

PO Box 8037  
Wichita, KS 67208

ATTN: Tim Lauer

### **Herrman Unit A #1-36**

### **36-25S-21W Ford,KS**

Start Date: 2017.03.05 @ 19:55:00

End Date: 2017.03.06 @ 03:49:00

Job Ticket #: 64803                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.03.07 @ 14:52:24





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC  
 PO Box 8037  
 Wichita, KS 67208  
 ATTN: Tim Lauer

**36-25S-21W Ford, KS**  
**Herrman Unit A #1-36**  
 Job Ticket: 64803 **DST#: 2**  
 Test Start: 2017.03.05 @ 19:55:00

## GENERAL INFORMATION:

Formation: **Mississippi Dolomite**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:41:30  
 Time Test Ended: 03:49:00  
 Interval: **4715.00 ft (KB) To 4725.00 ft (KB) (TVD)**  
 Total Depth: 4725.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 72  
 Reference Elevations: 2249.00 ft (KB)  
 2244.00 ft (CF)  
 KB to GR/CF: 5.00 ft

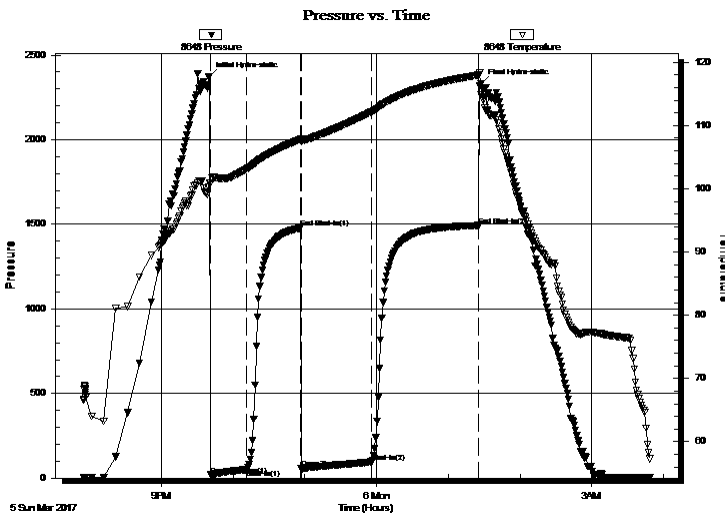
## Serial #: 8648

Inside

Press@RunDepth: 95.60 psig @ 4721.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.03.05 End Date: 2017.03.06 Last Calib.: 2017.03.06  
 Start Time: 19:55:05 End Time: 03:48:59 Time On Btm: 2017.03.05 @ 21:40:30  
 Time Off Btm: 2017.03.06 @ 01:27:30

TEST COMMENT: IFP 30 Minutes Blow built to 3"  
 ISI 45 Minutes No blow back  
 FFP 60 Minutes Blow built to 9"  
 FSI 90 Minutes No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2373.57	100.96	Initial Hydro-static
1	19.62	100.88	Open To Flow (1)
31	50.87	103.12	Shut-In(1)
76	1478.65	107.84	End Shut-In(1)
77	55.78	107.53	Open To Flow (2)
136	95.60	112.16	Shut-In(2)
225	1493.70	117.96	End Shut-In(2)
227	2331.94	114.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	SWMCO Water 20% Mud 30% Oil 50%	0.44
90.00	Clean Oil 100%	0.44
0.00	240' GIP	0.00

## Gas Rates

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



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**36-25S-21W Ford, KS**  
**Herrman Unit A #1-36**  
 Job Ticket: 64803 **DST#: 2**  
 Test Start: 2017.03.05 @ 19:55:00

## GENERAL INFORMATION:

Formation: **Mississippi Dolomite**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:41:30  
 Time Test Ended: 03:49:00  
 Interval: **4715.00 ft (KB) To 4725.00 ft (KB) (TVD)**  
 Total Depth: 4725.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 72  
 Reference Elevations: 2249.00 ft (KB)  
 2244.00 ft (CF)  
 KB to GR/CF: 5.00 ft

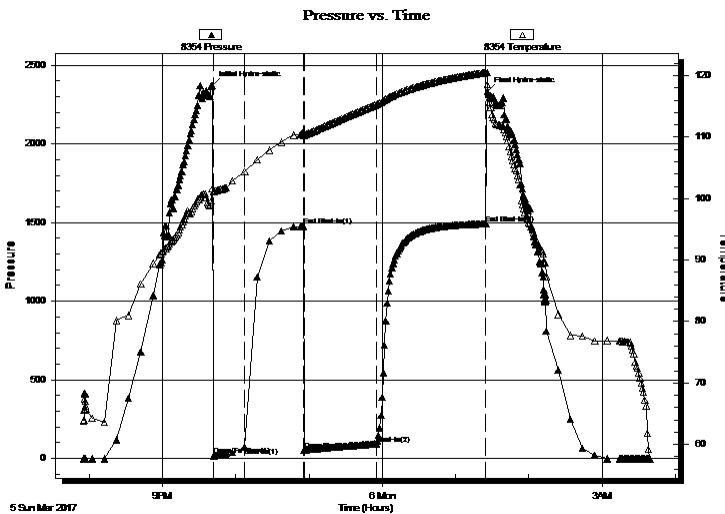
## Serial #: 8354

**Outside**

Press@RunDepth: 1491.55 psig @ 4722.00 ft (KB)  
 Start Date: 2017.03.05 End Date: 2017.03.06  
 Start Time: 19:55:05 End Time: 03:39:36  
 Capacity: 8000.00 psig  
 Last Calib.: 2017.03.06  
 Time On Btm: 2017.03.05 @ 21:40:30  
 Time Off Btm: 2017.03.06 @ 01:26:18

TEST COMMENT: IFP 30 Minutes Blow built to 3"  
 ISI 45 Minutes No blow back  
 FFP 60 Minutes Blow built to 9"  
 FSI 90 Minutes No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2371.83	101.54	Initial Hydro-static
1	17.53	101.08	Open To Flow (1)
27	70.34	104.39	Shut-In(1)
75	1476.52	110.68	End Shut-In(1)
76	54.89	110.32	Open To Flow (2)
135	93.29	115.29	Shut-In(2)
225	1491.55	120.49	End Shut-In(2)
226	2330.54	118.51	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	SWMCO Water 20% Mud 30% Oil 50%	0.44
90.00	Clean Oil 100%	0.44
0.00	240' GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**36-25S-21W Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Herrman Unit A #1-36**

Job Ticket: 64803

**DST#: 2**

ATTN: Tim Lauer

Test Start: 2017.03.05 @ 19:55:00

## Tool Information

Drill Pipe:	Length: 4402.00 ft	Diameter: 3.80 inches	Volume: 61.75 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 297.00 ft	Diameter: 2.25 inches	Volume: 1.46 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 63.21 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4715.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	10.00 ft				
Tool Length:	30.00 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			4700.00	
Hydraulic tool	5.00			4705.00	
Top Packer	5.00			4710.00	
Packer	5.00			4715.00	20.00 Bottom Of Top Packer
Anchor	5.00			4720.00	
Recorder	1.00	8648	Inside	4721.00	
Recorder	1.00	8354	Outside	4722.00	
Bullnose	3.00			4725.00	10.00 Anchor Tool

**Total Tool Length: 30.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**36-25S-21W Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Herrman Unit A #1-36**

Job Ticket: 64803

**DST#: 2**

ATTN: Tim Lauer

Test Start: 2017.03.05 @ 19:55:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
90.00	SWMCO Water 20% Mud 30% Oil 50%	0.443
90.00	Clean Oil 100%	0.443
0.00	240' GIP	0.000

Total Length: 180.00 ft      Total Volume: 0.886 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

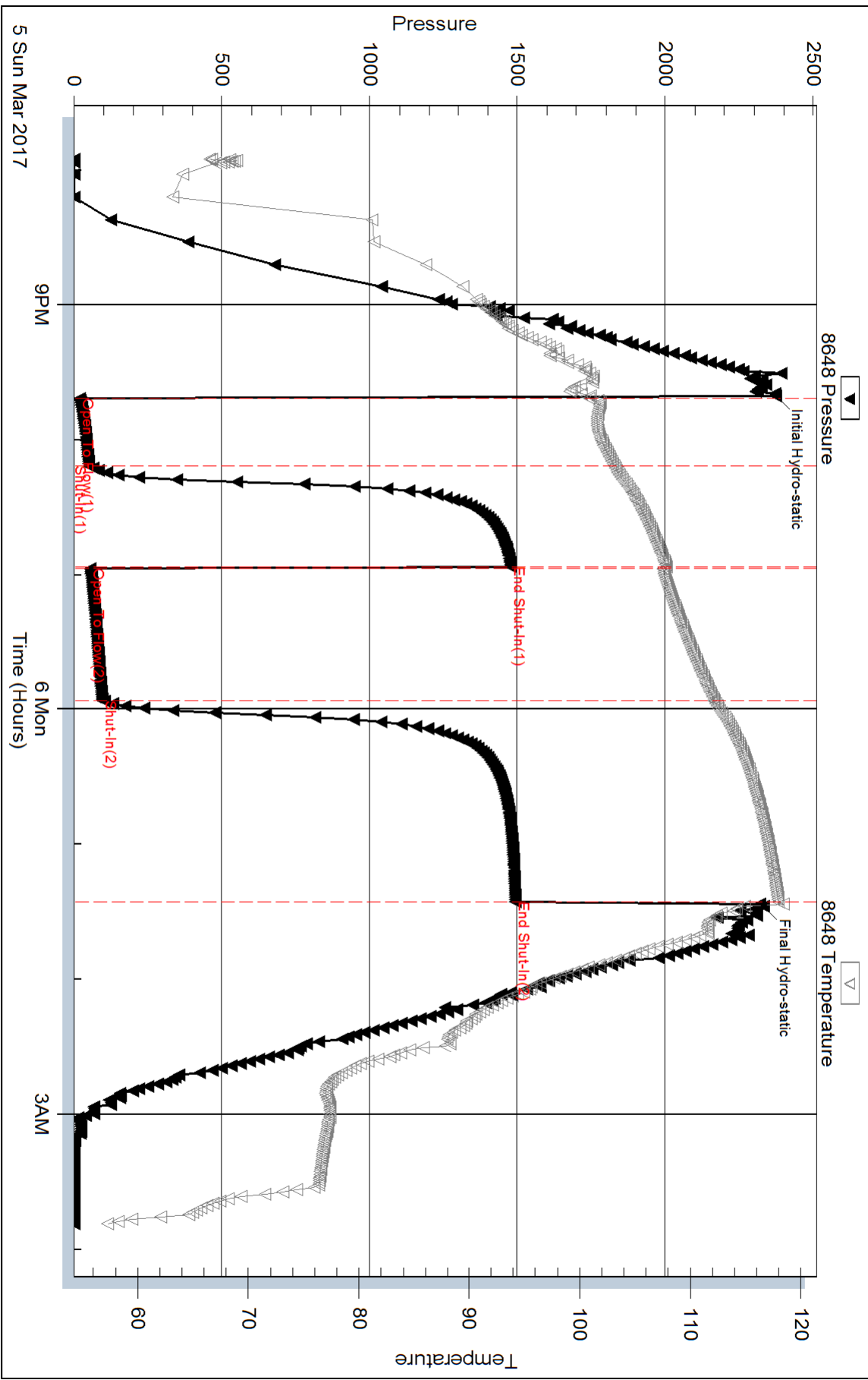
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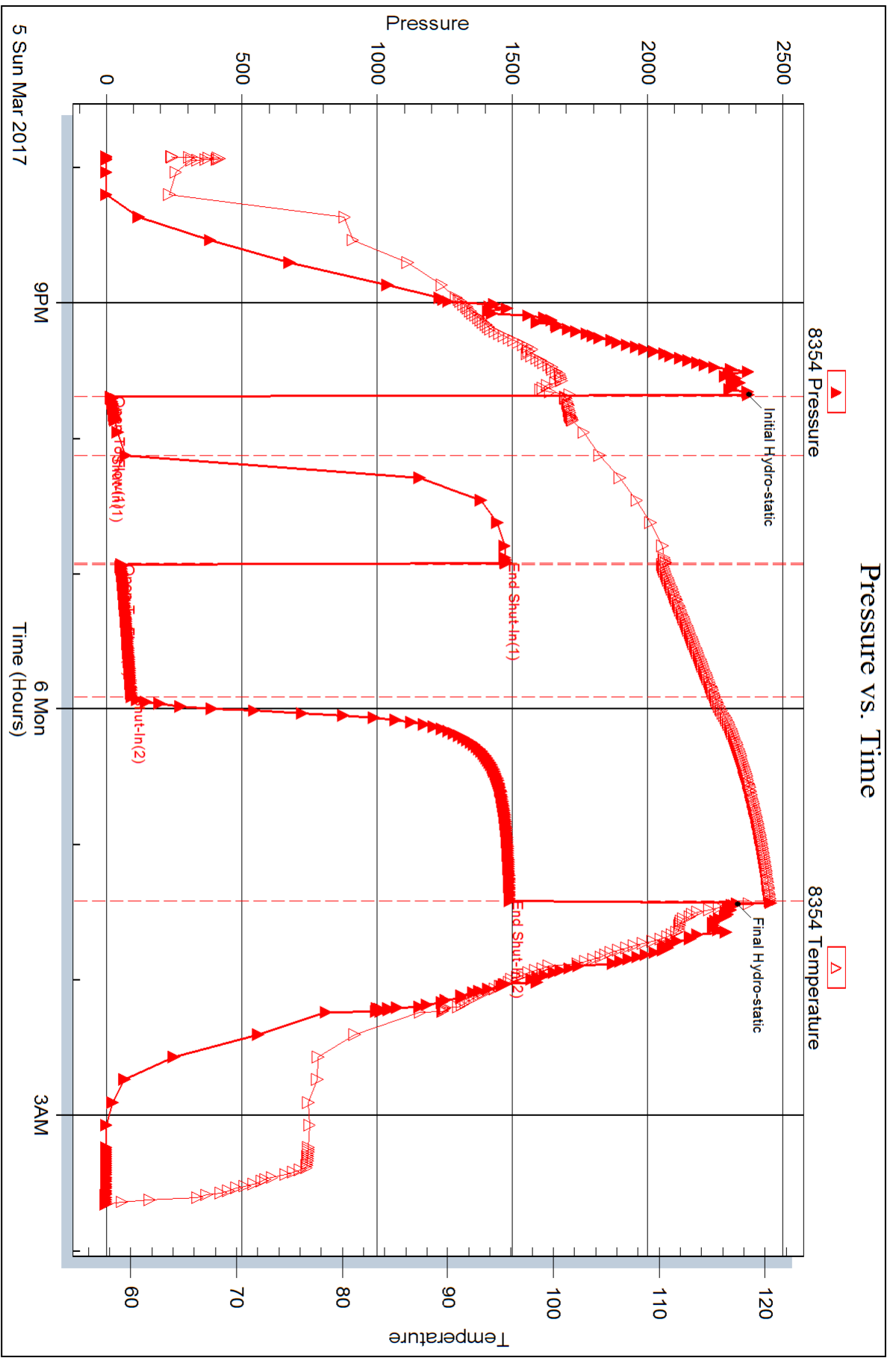
Laboratory Name:

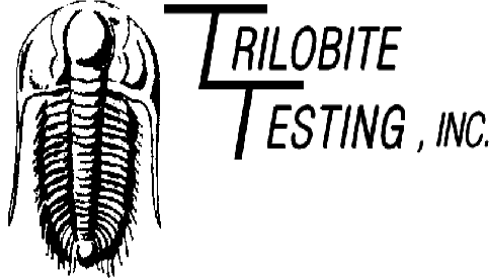
Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

PO Box 8037  
Wichita, KS 67208

ATTN: Tim Lauer

### **Herrman Unit A #1-36**

### **36-25S-21W Ford,KS**

Start Date: 2017.03.06 @ 09:52:00

End Date: 2017.03.06 @ 18:13:00

Job Ticket #: 64804                      DST #: 3

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

Printed: 2017.03.07 @ 14:51:44



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC  
 PO Box 8037  
 Wichita, KS 67208  
 ATTN: Tim Lauer

**36-25S-21W Ford, KS**  
**Herrman Unit A #1-36**  
 Job Ticket: 64804 **DST#: 3**  
 Test Start: 2017.03.06 @ 09:52:00

## GENERAL INFORMATION:

Formation: **Mississippi Dolomite**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:40:30  
 Time Test Ended: 18:13:00  
 Interval: **4725.00 ft (KB) To 4735.00 ft (KB) (TVD)**  
 Total Depth: 4735.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 72  
 Reference Elevations: 2249.00 ft (KB)  
 2244.00 ft (CF)  
 KB to GR/CF: 5.00 ft

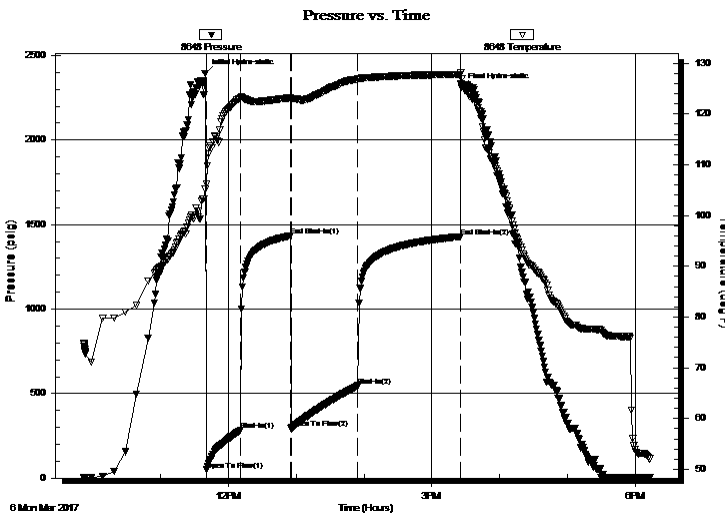
## Serial #: 8648

Inside

Press@RunDepth: 546.78 psig @ 4731.00 ft (KB)  
 Start Date: 2017.03.06 End Date: 2017.03.06  
 Start Time: 09:52:05 End Time: 18:12:59  
 Capacity: 8000.00 psig  
 Last Calib.: 2017.03.06  
 Time On Btm: 2017.03.06 @ 11:39:30  
 Time Off Btm: 2017.03.06 @ 15:26:30

TEST COMMENT: IFP 30 Minutes BOB in 8 1/2 minutes  
 ISI 45 Minutes Light surface blow back  
 FFP 60 Minutes BOB in 13 1/2 minutes  
 FSI 90 Minutes No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2395.08	105.14	Initial Hydro-static
1	49.36	106.17	Open To Flow (1)
31	282.71	123.23	Shut-In(1)
76	1433.59	123.19	End Shut-In(1)
76	292.43	122.82	Open To Flow (2)
135	546.78	126.86	Shut-In(2)
226	1428.90	127.81	End Shut-In(2)
227	2308.70	127.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1134.00	MW w / Skim of oil Mud 5% Water 95%	13.20
5.00	Clean Oil	0.07

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC  
 PO Box 8037  
 Wichita, KS 67208  
 ATTN: Tim Lauer

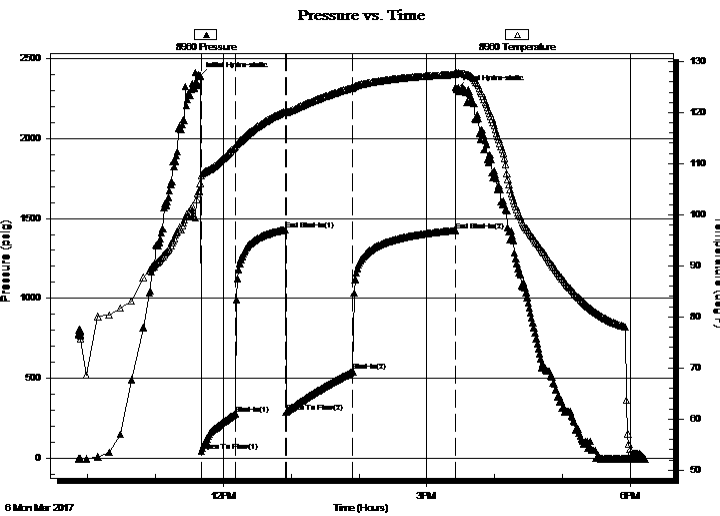
**36-25S-21W Ford, KS**  
**Herrman Unit A #1-36**  
 Job Ticket: 64804 **DST#: 3**  
 Test Start: 2017.03.06 @ 09:52:00

## GENERAL INFORMATION:

Formation: **Mississippi Dolomite**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:40:30  
 Time Test Ended: 18:13:00  
 Interval: **4725.00 ft (KB) To 4735.00 ft (KB) (TVD)**  
 Total Depth: 4735.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 72  
 Reference Elevations: 2249.00 ft (KB)  
 2244.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8960 Outside**  
 Press@RunDepth: 1425.24 psig @ 4732.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.03.06 End Date: 2017.03.06 Last Calib.: 2017.03.06  
 Start Time: 09:52:05 End Time: 18:12:59 Time On Btm: 2017.03.06 @ 11:39:00  
 Time Off Btm: 2017.03.06 @ 15:26:30

**TEST COMMENT:** IFP 30 Minutes BOB in 8 1/2 minutes  
 ISI 45 Minutes Light surface blow back  
 FFP 60 Minutes BOB in 13 1/2 minutes  
 FSI 90 Minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2389.42	104.68	Initial Hydro-static
2	45.72	107.64	Open To Flow (1)
32	279.15	113.29	Shut-In(1)
76	1430.70	120.25	End Shut-In(1)
77	289.27	119.93	Open To Flow (2)
136	543.28	124.88	Shut-In(2)
226	1425.24	127.46	End Shut-In(2)
228	2305.79	127.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1134.00	MW w / Skim of oil Mud 5% Water 95%	13.20
5.00	Clean Oil	0.07

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**36-25S-21W Ford,KS**

PO Box 8037  
Wichita, KS 67208

**Herrman Unit A #1-36**

Job Ticket: 64804

**DST#: 3**

ATTN: Tim Lauer

Test Start: 2017.03.06 @ 09:52:00

## Tool Information

Drill Pipe:	Length: 4434.00 ft	Diameter: 3.80 inches	Volume: 62.20 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 297.00 ft	Diameter: 2.25 inches	Volume: 1.46 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 63.66 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4725.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	30.00 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			4710.00	
Hydraulic tool	5.00			4715.00	
Top Packer	5.00			4720.00	
Packer	5.00			4725.00	20.00 Bottom Of Top Packer
Anchor	5.00			4730.00	
Recorder	1.00	8648	Inside	4731.00	
Recorder	1.00	8960	Outside	4732.00	
Bullnose	3.00			4735.00	10.00 Anchor Tool

**Total Tool Length: 30.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Cobalt Energy LLC  
PO Box 8037  
Wichita, KS 67208  
ATTN: Tim Lauer

**36-25S-21W Ford,KS**  
**Herrman Unit A #1-36**  
Job Ticket: 64804      **DST#: 3**  
Test Start: 2017.03.06 @ 09:52:00

**Mud and Cushion Information**

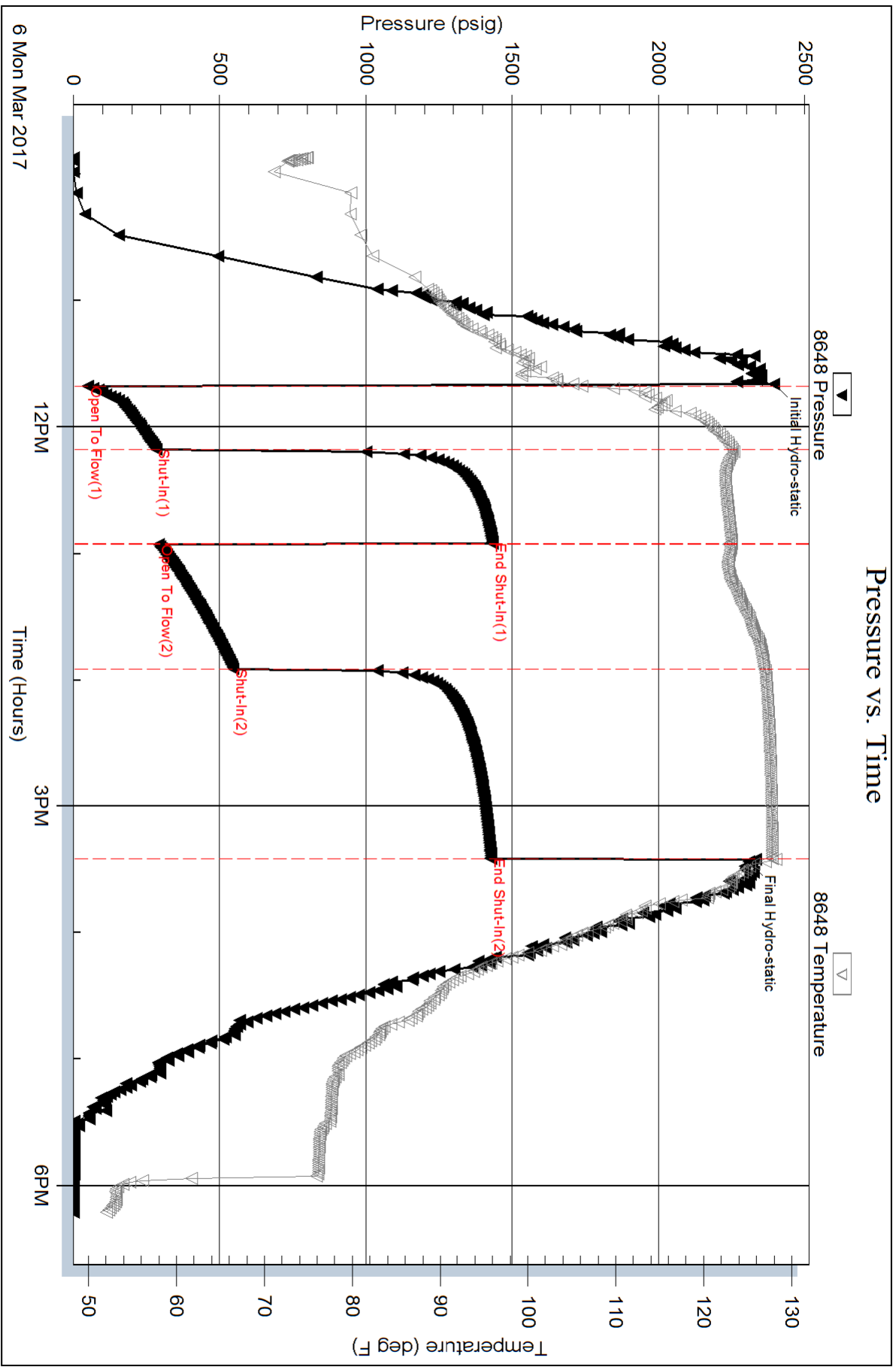
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	34000 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.18 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6400.00 ppm			
Filter Cake: 1.00 inches			

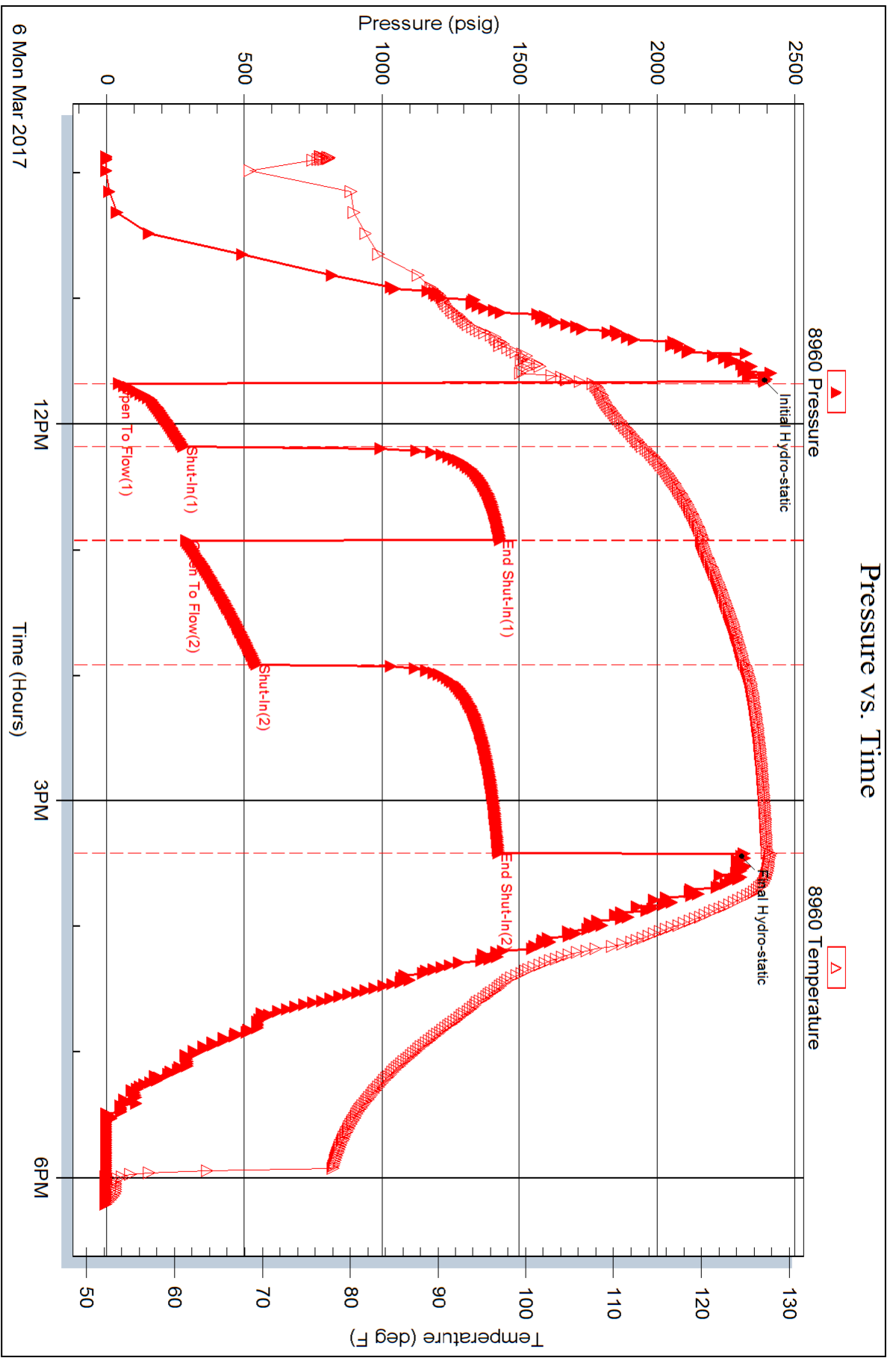
**Recovery Information**

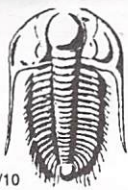
Recovery Table

Length ft	Description	Volume bbl
1134.00	MW w / Skim of oil Mud 5% Water 95%	13.202
5.00	Clean Oil	0.070

Total Length: 1139.00 ft      Total Volume: 13.272 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: Recovery Resistivity .23 ohms @ 60 deg.







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64802**

Well Name & No. Herrman Unit A #1-36 Test No. 2 Date 5 MAR 17  
 Company Cobalt Energy LLC Elevation 2249 KB 2244 GL  
 Address 115 S Belmont #12 PO Box 8037 Wichita, Kansas 67208  
 Co. Rep / Geo. Tim Lauer Rig WW Rig 16  
 Location: Sec. 36 Twp. 25S Rge. 21W Co. Ford State KS

Interval Tested 4644 - 4715 Zone Tested Cherokee Lime + Mississippian  
 Anchor Length 71 Drill Pipe Run 4372 Mud Wt. 9.25  
 Top Packer Depth 4639 Drill Collars Run 267.46 Vis 55  
 Bottom Packer Depth 4644 Wt. Pipe Run — WL 8.0  
 Total Depth 4715 Chlorides 4300 ppm System LCM 1#

Blow Description I.F. Blow built to B.O.B. in 10 minutes  
F.S.I. Light surface blowback for 15 minutes  
F.F. Blow built to B.O.B. in 30 seconds  
F.S.I. Blowback built to 1/2 inch then died after 25 minutes

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Clean O.I.</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>180</u>	<u>Muddy Gassy O.I.</u>	<u>30</u>	<u>50</u>	<u>0</u>	<u>20</u>
<u>1008</u>	<u>Gas in pipe</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>

Rec Total      BHT      Gravity      API RW      @      °F Chlorides      ppm

(A) Initial Hydrostatic 2365  Test 1150 T-On Location 3:45 am  
 (B) First Initial Flow 48  Jars      T-Started 4:55 am  
 (C) First Final Flow 76  Safety Joint      T-Open 7:34 am  
 (D) Initial Shut-In 941  Circ Sub      T-Pulled 11:34 am  
 (E) Second Initial Flow 67  Hourly Standby      T-Out 1:40 pm  
 (F) Second Final Flow 110  Mileage 94 70.50 Comments       
 (G) Final Shut-In 1311  Sampler       
 (H) Final Hydrostatic 2324  Straddle       Ruined Shale Packer       
 Shale Packer       Ruined Packer       
 Extra Packer       Extra Copies       
 Extra Recorder      Sub Total 0  
 Day Standby      Total 1220.50  
 Accessibility      MP/DST Disc't       
 Sub Total 1220.50

Approved By Tim J. Lauer Our Representative     

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. **64803**

Well Name & No. Herrman Unit A #1-36 Test No. 2 Date 5 MAR 17  
 Company Cobalt Energy LLC Elevation 2249 KB 2244 GL  
 Address 115 S Belmont #12 PO Box 8037 Wichita, Kansas 67208  
 Co. Rep / Geo. Tim Lauer Rig WW Rig 16  
 Location: Sec. 36 Twp. 25S Rge. 21W Co. Ford State KS

Interval Tested 4715-4725 Zone Tested Mississippi Dolomite  
 Anchor Length 10 Drill Pipe Run 4402 Mud Wt. 9.45  
 Top Packer Depth 4710 Drill Collars Run 297.49 Vis 58  
 Bottom Packer Depth 4715 Wt. Pipe Run — WL 8.8  
 Total Depth 4725 Chlorides 4200 ppm System LCM 1#

Blow Description I.F. Blow built to 3 inches  
I.S.I No blow back  
F.F. Blow built to 9 inches  
F.S.I No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>Watery Muddy Oil</u>	<u>50</u>	<u>20</u>	<u>30</u>	<u>—</u>
<u>90</u>	<u>Clean Oil</u>	<u>100</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>240</u>	<u>Gas in pipe</u>	<u>100</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total — BHT 117 Gravity 34 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2373  Test 1150 T-On Location 7:20 pm  
 (B) First Initial Flow 19  Jars — T-Started 7:55 pm  
 (C) First Final Flow 50  Safety Joint — T-Open 9:41 pm  
 (D) Initial Shut-In 1478  Circ Sub — T-Pulled 1:26 am  
 (E) Second Initial Flow 55  Hourly Standby — T-Out 3:48 am  
 (F) Second Final Flow 95  Mileage 94 70.50 Comments —  
 (G) Final Shut-In 1493  Sampler —  
 (H) Final Hydrostatic 2331  Straddle —  Ruined Shale Packer —  
 Shale Packer —  Ruined Packer —

Initial Open 30  Extra Packer —  Extra Copies —  
 Initial Shut-In 45  Extra Recorder — Sub Total 0  
 Final Flow 60  Day Standby — Total 1220.50  
 Final Shut-In 90  Accessibility — MP/DST Disc't —  
 Sub Total 1220.50

Approved By Tim J. Lauer Our Representative [Signature]

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. **64804**

Well Name & No. Herrman Unit A #1-36 Test No. 3 Date 6 MAR 17  
 Company Cobalt Energy LLC Elevation 2249 KB 2244 GL  
 Address 115 S Belmont #12 PO Box 9037 Wichita Kansas 67208  
 Co. Rep / Geo. Tim Lauer Rig Murphy Rig 16  
 Location: Sec. 36 Twp. 25S Rge. 21W Co. Ford State KS

Interval Tested 4725-4735 Zone Tested Mississippi Dolomite  
 Anchor Length 10 Drill Pipe Run 4434 Mud Wt. 9.4  
 Top Packer Depth 4720 Drill Collars Run 297.49 Vis 60  
 Bottom Packer Depth 4725 Wt. Pipe Run — WL 9.2  
 Total Depth 4735 Chlorides 6400 ppm System LCM 1

Blow Description I.F. Blow built to bottom of bucket in 8 1/2 minutes  
I.S.I. Light surface blow back

F.F. Blow built to bottom of bucket in 13 1/2 minutes

F.S.I. No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>0.1</u>	<u>100</u>			
<u>1134</u>	<u>Muddy water w/skin of oil</u>			<u>95</u>	<u>5</u>

Rec Total 1139 BHT 127 Gravity \_\_\_\_\_ API RW .23 @ 60 °F Chlorides 34000 ppm

(A) Initial Hydrostatic <u>239.5</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>9:30 am</u>
(B) First Initial Flow <u>49</u>	<input type="checkbox"/> Jars _____	T-Started <u>9:52 am</u>
(C) First Final Flow <u>282</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>11:40 am</u>
(D) Initial Shut-In <u>1433</u> <del>1433</del>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>3:25 pm</u>
(E) Second Initial Flow <u>292</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>6:14 pm</u>
(F) Second Final Flow <u>546</u>	<input checked="" type="checkbox"/> Mileage <u>94</u> 70.50	Comments _____
(G) Final Shut-In <u>1428</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2308</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	Total <u>1220.50</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1220.50</u>	

Approved By Tim Lauer Our Representative [Signature]

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