

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

**WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Recompletion Date \_\_\_\_\_ Date Reached TD \_\_\_\_\_ Completion Date or Recompletion Date \_\_\_\_\_

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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New Well

FIELD ORDER N<sup>o</sup> C 46302

BOX 438 • HAYSVILLE, KANSAS 67060  
316-524-1225

DATE 9/20/15 20

IS AUTHORIZED BY: Cohalt Energy (NAME OF CUSTOMER)

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

To Treat Well \_\_\_\_\_ Well No. A 1-5 Customer Order No. \_\_\_\_\_  
As Follows: Lease Hersch

Sec. Twp. \_\_\_\_\_ Range \_\_\_\_\_ County Sumner State ks

CONDITIONS: As a part of the consideration hereof it is agreed that Copeland Acid Service is to service or treat at owners risk, the hereinbefore mentioned well and is not to be held liable for any damage that may accrue in connection with said service or treatment. Copeland Acid Service has made no representation, expressed or implied, and no representations have been relied on, as to what may be the results or effect of the servicing or treating said well. The consideration of said service or treatment is payable. There will be no discount allowed subsequent to such date. 6% interest will be charged after 60 days. Total charges are subject to correction by our invoicing department in accordance with latest published price schedules.

The undersigned represents himself to be duly authorized to sign this order for well owner or operator.

THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED \_\_\_\_\_ By \_\_\_\_\_ Agent  
Well Owner or Operator

CODE	QUANTITY	DESCRIPTION	UNIT COST	AMOUNT
2	40	milrose pump truck	4. <sup>00/</sup>	160.00
2	40	milrose pickup	2. <sup>00/</sup>	80.00
2	1	Pump Chose - Surface		1,100.00
2	225	60/40 per. 2% sol.	10. <sup>75/</sup>	2,418.75
2	10	Calcium Chloride	30. <sup>00/</sup>	300.00
2	235	Bulk Charge	1. <sup>75/</sup>	293.75
2		Bulk Truck Miles <u>10.15 T x 40m = 406 Tm x 1.<sup>10/</sup></u>	1. <sup>10/</sup>	446.60
		Process License Fee on _____ Gallons		4,799.10
<b>TOTAL BILLING</b>				

I certify that the above material has been accepted and used; that the above service was performed in a good and workmanlike manner under the direction, supervision and control of the owner, operator or his agent, whose signature appears below.

Copeland Representative Notre W.

Price as agreed 3598.16

Station G-13

CIG Drilling  
Well Owner, Operator or Agent

Remarks \_\_\_\_\_

**NET 30 DAYS**





## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy, LLC**

P.O. Box 8037  
Wichita, KS  
67208-0037

ATTN: Nicholas Hess/Corey

### **Horsch A #1-5**

#### **5/32S/1E Sumner KS**

Start Date: 2018.09.24 @ 10:07:01

End Date: 2018.09.24 @ 16:21:00

Job Ticket #: 64463                      DST #: 1

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

Printed: 2018.09.27 @ 15:18:08



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy, LLC

**5/32S/1E Sumner KS**

P.O. Box 8037  
Wichita, KS  
67208-0037  
ATTN: Nicholas Hess/Corey

**Horsch A #1-5**

Job Ticket: 64463

**DST#: 1**

Test Start: 2018.09.24 @ 10:07:01

## GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:52:50

Time Test Ended: 16:21:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jimmy Ricketts

Unit No: 65

**Interval: 3574.00 ft (KB) To 3620.00 ft (KB) (TVD)**

Reference Elevations: 1304.00 ft (KB)

Total Depth: 3620.00 ft (KB) (TVD)

1295.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: 30.10 psig @ 3575.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.24 End Date: 2018.09.24

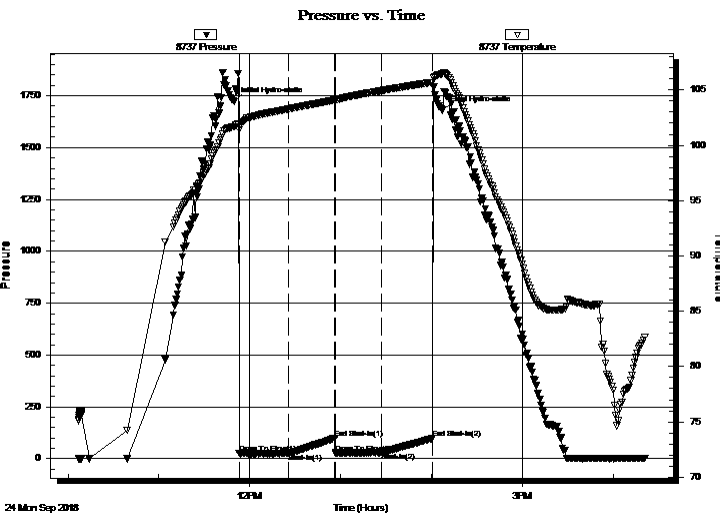
Last Calib.: 2018.09.24

Start Time: 10:07:01 End Time: 16:21:00

Time On Btm: 2018.09.24 @ 11:49:50

Time Off Btm: 2018.09.24 @ 14:07:20

TEST COMMENT: IF - Weak blow building to 4"  
FF - Weak blow building to 4"



## PRESSURE SUMMARY

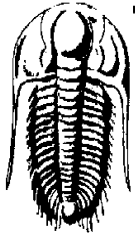
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1722.39	101.70	Initial Hydro-static
3	25.56	101.38	Open To Flow (1)
36	27.53	103.28	Shut-In(1)
67	99.39	104.08	End Shut-In(1)
67	26.32	104.06	Open To Flow (2)
97	30.10	104.93	Shut-In(2)
131	98.10	105.69	End Shut-In(2)
138	1678.99	106.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Oil specked drilling mud 100% M	0.10

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Cobalt Energy, LLC

**5/32S/1E Sumner KS**

P.O. Box 8037  
 Wichita, KS  
 67208-0037  
 ATTN: Nicholas Hess/Corey

**Horsch A #1-5**

Job Ticket: 64463

**DST#: 1**

Test Start: 2018.09.24 @ 10:07:01

### GENERAL INFORMATION:

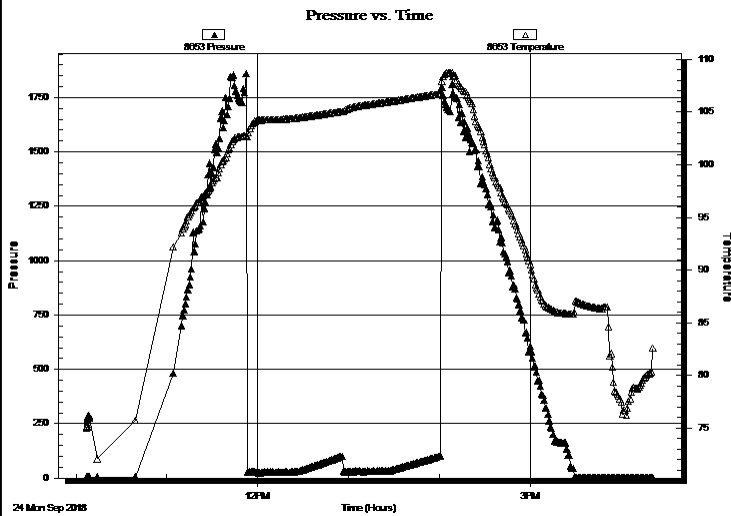
Formation: **Mississippian**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:52:50  
 Time Test Ended: 16:21:00  
 Interval: **3574.00 ft (KB) To 3620.00 ft (KB) (TVD)**  
 Total Depth: 3620.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jimmy Ricketts  
 Unit No: 65  
 Reference Elevations: 1304.00 ft (KB)  
 1295.00 ft (CF)  
 KB to GR/CF: 9.00 ft

### Serial #: 8653

**Inside**

Press@RunDepth: psig @ 3575.00 ft (KB)  
 Start Date: 2018.09.24 End Date: 2018.09.24  
 Start Time: 10:07:01 End Time: 16:21:00  
 Capacity: 8000.00 psig  
 Last Calib.: 1899.12.30  
 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF - Weak blow building to 4"  
 FF - Weak blow building to 4"



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
20.00	Oil specked drilling mud 100% M	0.10

### Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy, LLC

**5/32S/1E Sumner KS**

P.O. Box 8037  
Wichita, KS  
67208-0037

**Horsch A #1-5**

Job Ticket: 64463

**DST#: 1**

ATTN: Nicholas Hess/Corey

Test Start: 2018.09.24 @ 10:07:01

## Tool Information

Drill Pipe:	Length: 3268.00 ft	Diameter: 3.80 inches	Volume: 45.84 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 21000.00 lb
Drill Collar:	Length: 306.00 ft	Diameter: 2.25 inches	Volume: 1.50 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 47.34 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3574.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	77.00 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			3544.00	
Shut In Tool	5.00			3549.00	
Hydraulic tool	5.00			3554.00	
Jars	5.00			3559.00	
EM Tool	3.00			3562.00	
Safety Joint	3.00			3565.00	
Packer	5.00			3570.00	31.00 Bottom Of Top Packer
Packer	4.00			3574.00	
Stubb	1.00			3575.00	
Recorder	0.00	8653	Inside	3575.00	
Recorder	0.00	8737	Outside	3575.00	
Perforations	6.00			3581.00	
Change Over Sub	1.00			3582.00	
Blank Spacing	32.00			3614.00	
Change Over Sub	1.00			3615.00	
Perforations	2.00			3617.00	
Bullnose	3.00			3620.00	46.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>77.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy, LLC

**5/32S/1E Sumner KS**

P.O. Box 8037  
Wichita, KS  
67208-0037

**Horsch A #1-5**

Job Ticket: 64463

**DST#: 1**

ATTN: Nicholas Hess/Corey

Test Start: 2018.09.24 @ 10:07:01

## 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: 54.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Oil specked drilling mud 100% M	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

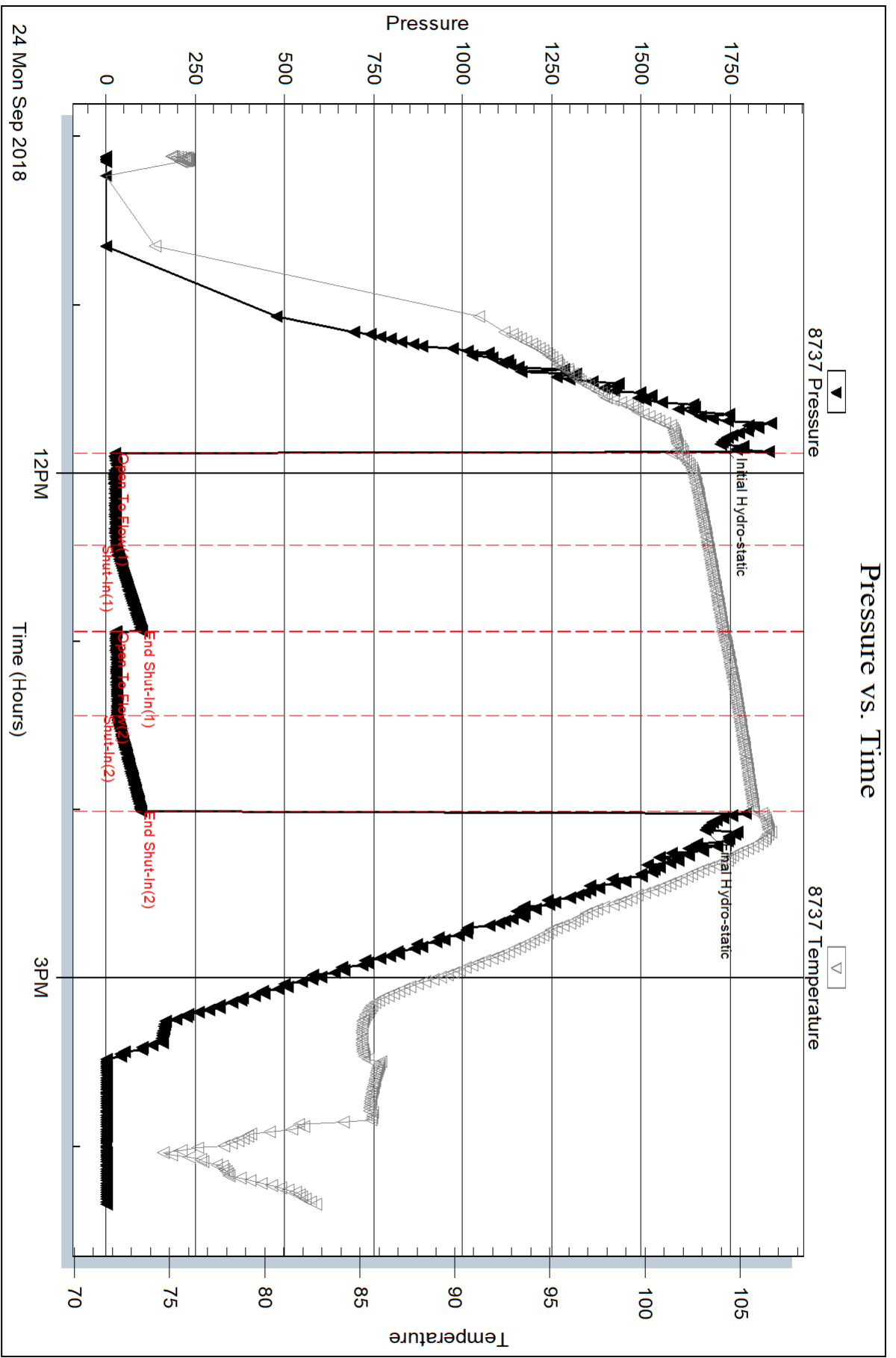
Num Gas Bombs: 0

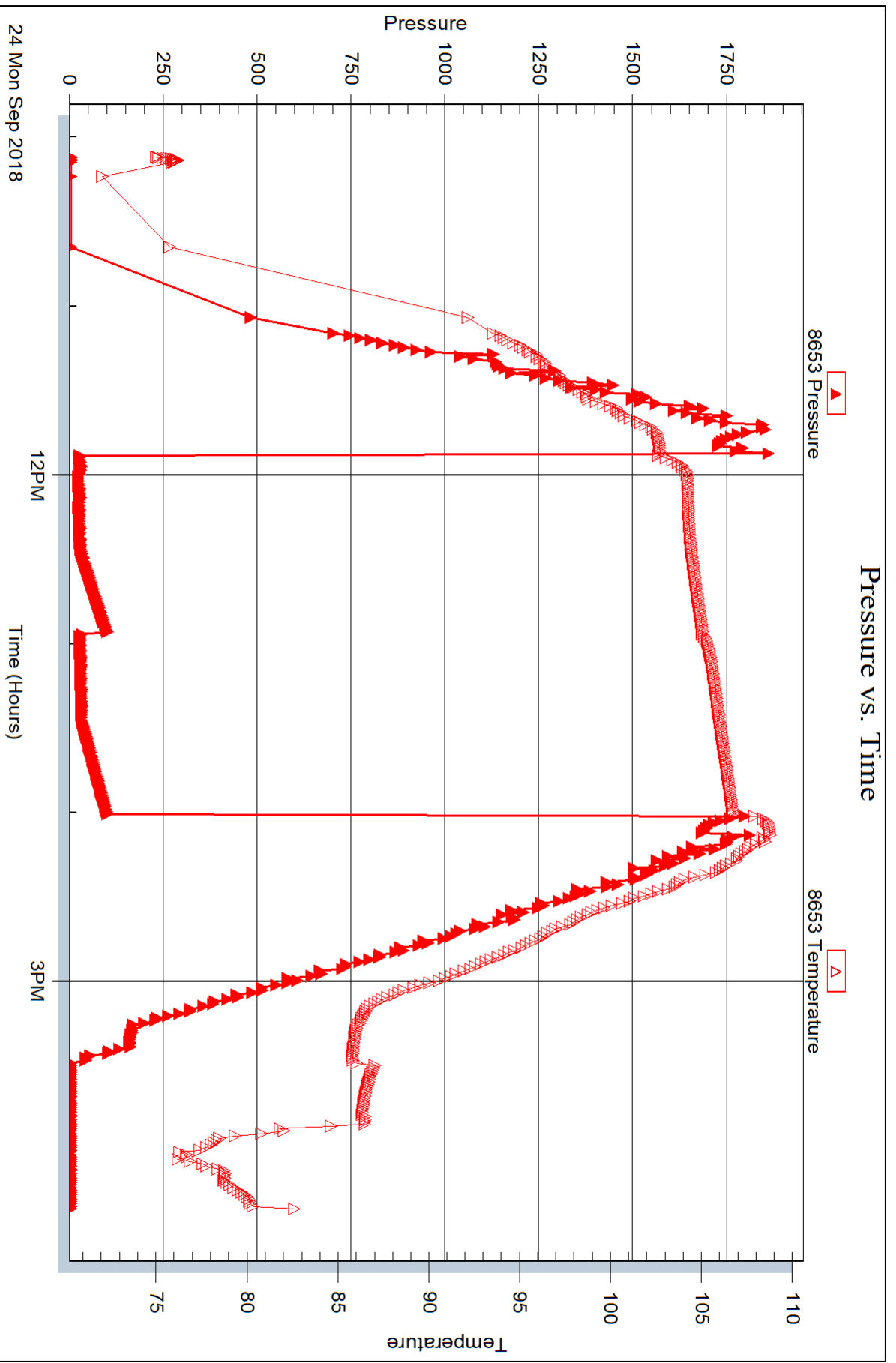
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy, LLC**

P.O. Box 8037  
Wichita, KS  
67208-0037

ATTN: Nicholas Hess/Corey

### **Horsch A #1-5**

#### **5/32S/1E Sumner KS**

Start Date: 2018.09.27 @ 04:59:01

End Date: 2018.09.27 @ 12:49:00

Job Ticket #: 64464                      DST #: 2

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

Printed: 2018.09.27 @ 15:17:48



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy, LLC

**5/32S/1E Sumner KS**

P.O. Box 8037  
Wichita, KS  
67208-0037  
ATTN: Nicholas Hess/Corey

**Horsch A #1-5**

Job Ticket: 64464

**DST#: 2**

Test Start: 2018.09.27 @ 04:59:01

## GENERAL INFORMATION:

Formation: **Simpson Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:05:20

Time Test Ended: 12:49:00

Test Type: Conventional Straddle (Initial)

Tester: Jimmy Ricketts

Unit No: 65

**Interval: 4040.00 ft (KB) To 4064.00 ft (KB) (TVD)**

Reference Elevations: 1304.00 ft (KB)

Total Depth: 4090.00 ft (KB) (TVD)

1295.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: 36.87 psig @ 4051.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.27 End Date: 2018.09.27

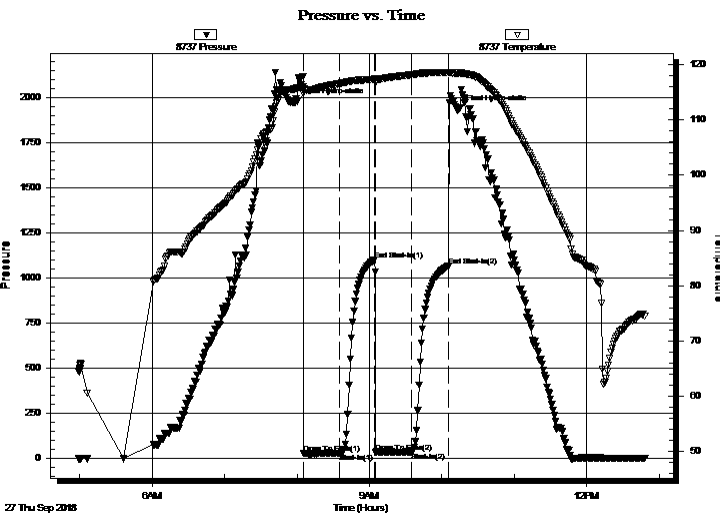
Last Calib.: 2018.09.27

Start Time: 04:59:01 End Time: 12:49:00

Time On Btm: 2018.09.27 @ 07:58:30

Time Off Btm: 2018.09.27 @ 10:14:20

TEST COMMENT: IF - Weak blow building to 1/4"  
FF - No blow .



## PRESSURE SUMMARY

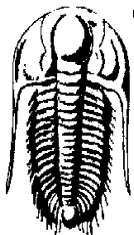
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1975.56	115.58	Initial Hydro-static
7	29.06	114.71	Open To Flow (1)
37	30.02	116.60	Shut-In(1)
66	1101.20	117.36	End Shut-In(1)
67	35.84	116.74	Open To Flow (2)
97	36.87	118.17	Shut-In(2)
127	1067.24	118.57	End Shut-In(2)
136	1935.96	118.46	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling mud 100% M	0.05

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy, LLC  
 P.O. Box 8037  
 Wichita, KS  
 67208-0037  
 ATTN: Nicholas Hess/Corey

**5/32S/1E Sumner KS**  
**Horsch A #1-5**  
 Job Ticket: 64464 **DST#: 2**  
 Test Start: 2018.09.27 @ 04:59:01

## GENERAL INFORMATION:

Formation: <b>Simpson Sand</b>			
Deviated: No Whipstock:	ft (KB)	Test Type:	Conventional Straddle (Initial)
Time Tool Opened: 08:05:20		Tester:	Jimmy Ricketts
Time Test Ended: 12:49:00		Unit No:	65
<b>Interval: 4040.00 ft (KB) To 4064.00 ft (KB) (TVD)</b>		Reference Elevations:	1304.00 ft (KB)
Total Depth: 4090.00 ft (KB) (TVD)			1295.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF:	9.00 ft

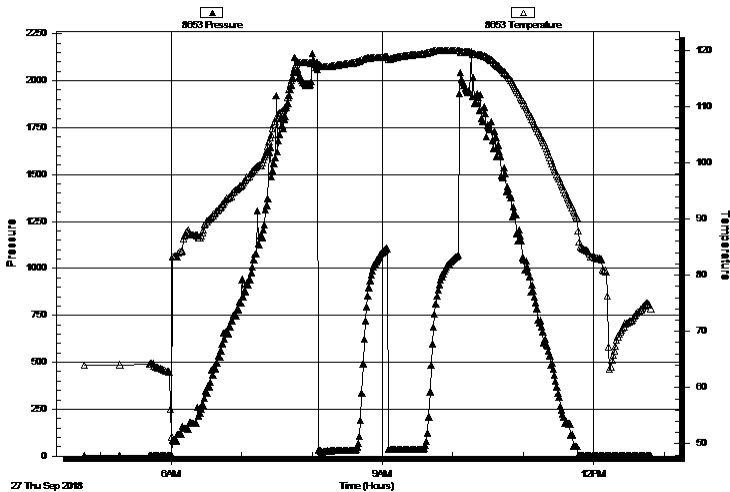
## Serial #: 8653

Inside

Press@RunDepth:	psig @	4051.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2018.09.27	End Date:	2018.09.27	Last Calib.:	2018.09.27
Start Time:	04:46:23	End Time:	12:48:53	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF - Weak blow building to 1/4"  
 FF - No blow .

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling mud 100% M	0.05

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy, LLC

**5/32S/1E Sumner KS**

P.O. Box 8037  
Wichita, KS  
67208-0037  
ATTN: Nicholas Hess/Corey

**Horsch A #1-5**

Job Ticket: 64464

**DST#: 2**

Test Start: 2018.09.27 @ 04:59:01

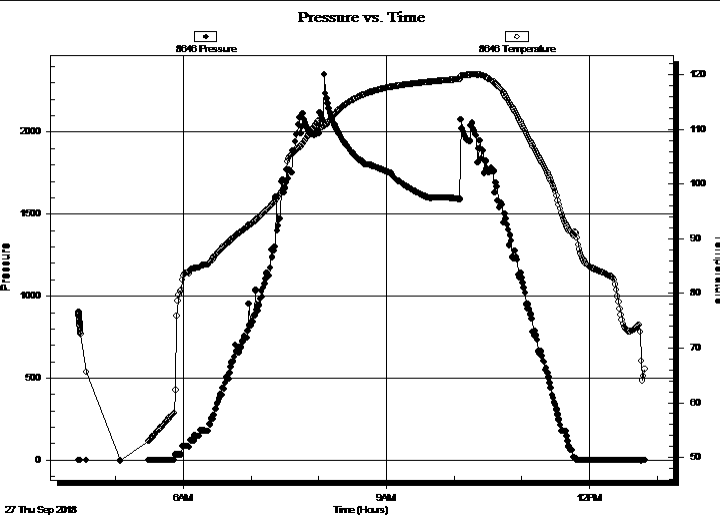
## GENERAL INFORMATION:

Formation: **Simpson Sand**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 08:05:20  
 Time Test Ended: 12:49:00  
 Interval: **4040.00 ft (KB) To 4064.00 ft (KB) (TVD)**  
 Total Depth: 4090.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Straddle (Initial)  
 Tester: Jimmy Ricketts  
 Unit No: 65  
 Reference Elevations: 1304.00 ft (KB)  
 1295.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 8646 Below (Straddle)**

Press@RunDepth: psig @ 4065.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2018.09.27 End Date: 2018.09.27	Last Calib.: 1899.12.30
Start Time: 04:27:01 End Time: 12:49:30	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF - Weak blow building to 1/4"  
FF - No blow .



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling mud 100% M	0.05

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy, LLC

**5/32S/1E Sumner KS**

P.O. Box 8037  
Wichita, KS  
67208-0037

**Horsch A #1-5**

Job Ticket: 64464

**DST#: 2**

ATTN: Nicholas Hess/Corey

Test Start: 2018.09.27 @ 04:59:01

## Tool Information

Drill Pipe:	Length: 3707.00 ft	Diameter: 3.80 inches	Volume: 52.00 bbl	Tool Weight: 3100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 306.00 ft	Diameter: 2.25 inches	Volume: 1.50 bbl	Weight to Pull Loose: 63000.00 lb
			<u>Total Volume: 53.50 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4040.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	4064.00 ft			
Interval between Packers:	24.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4010.00	
Shut In Tool	5.00			4015.00	
Hydraulic tool	5.00			4020.00	
Jars	5.00			4025.00	
EM Tool	3.00			4028.00	
Safety Joint	3.00			4031.00	
Packer	5.00			4036.00	31.00 Bottom Of Top Packer
Packer	4.00			4040.00	
Stubb	1.00			4041.00	
Perforations	10.00			4051.00	
Recorder	0.00	8653	Inside	4051.00	
Recorder	0.00	8737	Outside	4051.00	
Perforations	8.00			4059.00	
Blank Off Sub	5.00			4064.00	24.00 Tool Interval
Packer	0.00			4064.00	
Stubb	1.00			4065.00	
Recorder	0.00	8646	Below	4065.00	
Perforations	22.00			4087.00	
Bullnose	3.00			4090.00	26.00 Bottom Packers & Anchor

**Total Tool Length: 81.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy, LLC

**5/32S/1E Sumner KS**

P.O. Box 8037  
Wichita, KS  
67208-0037

**Horsch A #1-5**

Job Ticket: 64464

**DST#: 2**

ATTN: Nicholas Hess/Corey

Test Start: 2018.09.27 @ 04:59:01

## 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: 56.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Drilling mud 100% M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

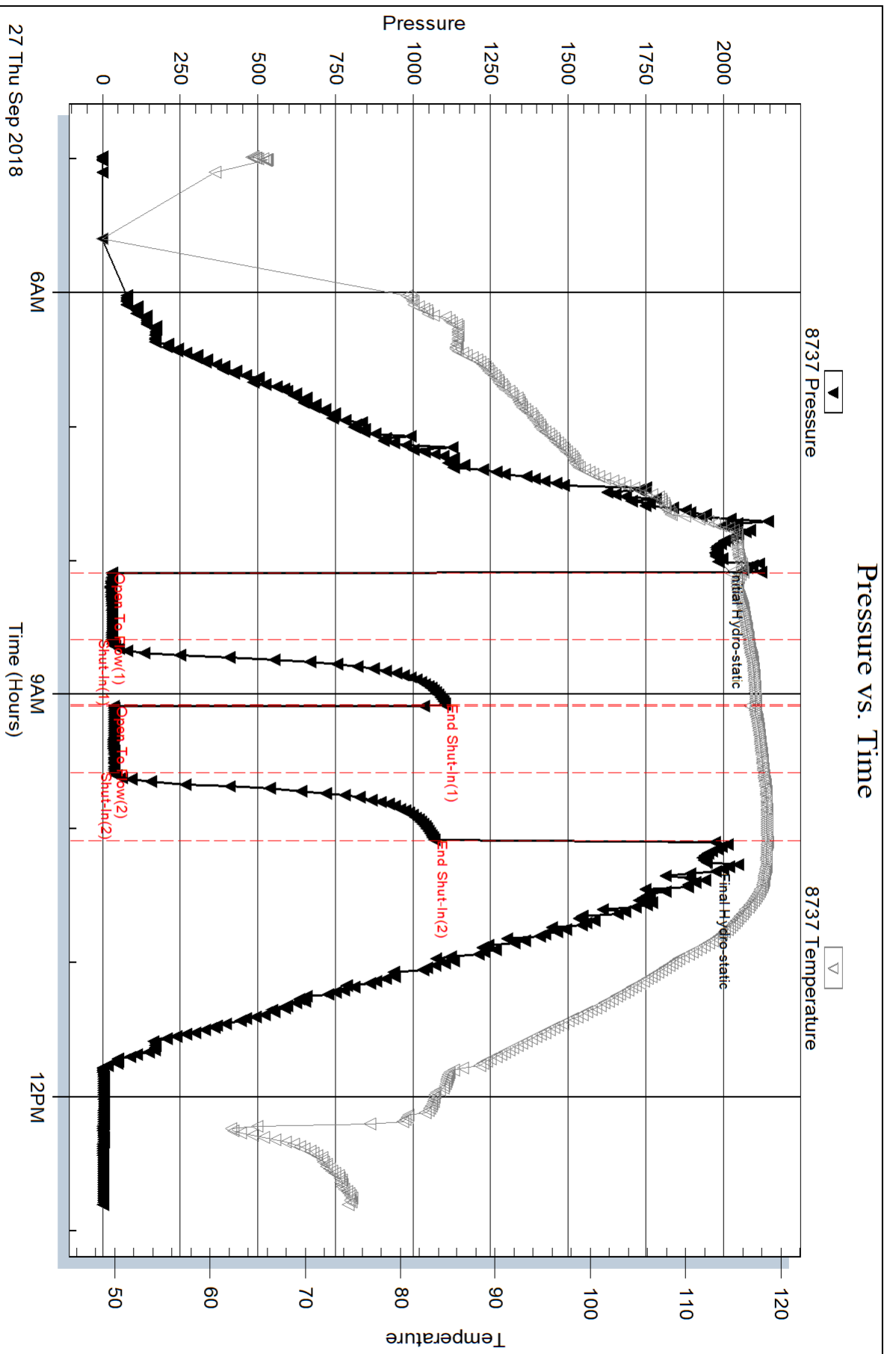
Num Gas Bombs: 0

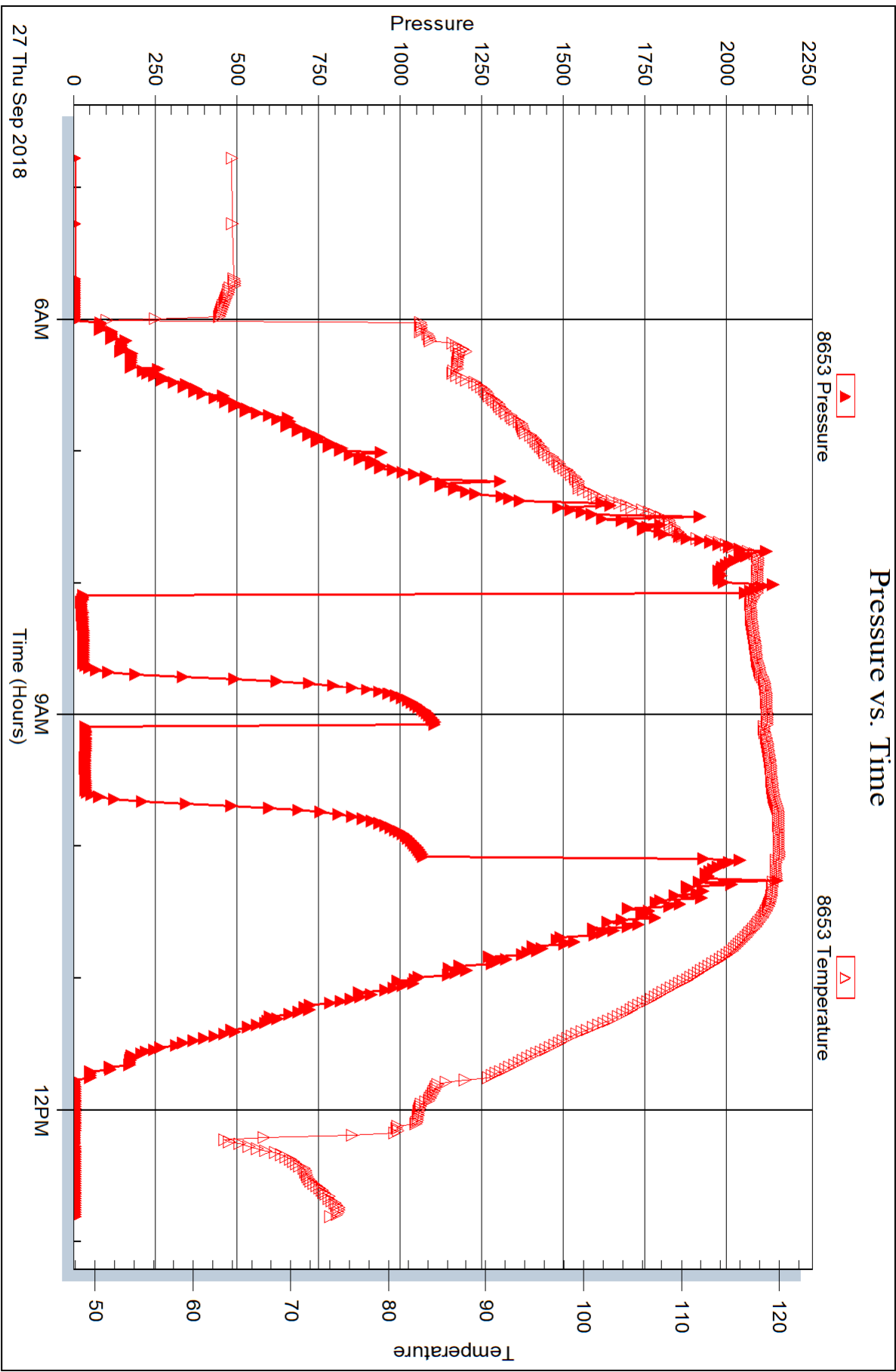
Serial #:

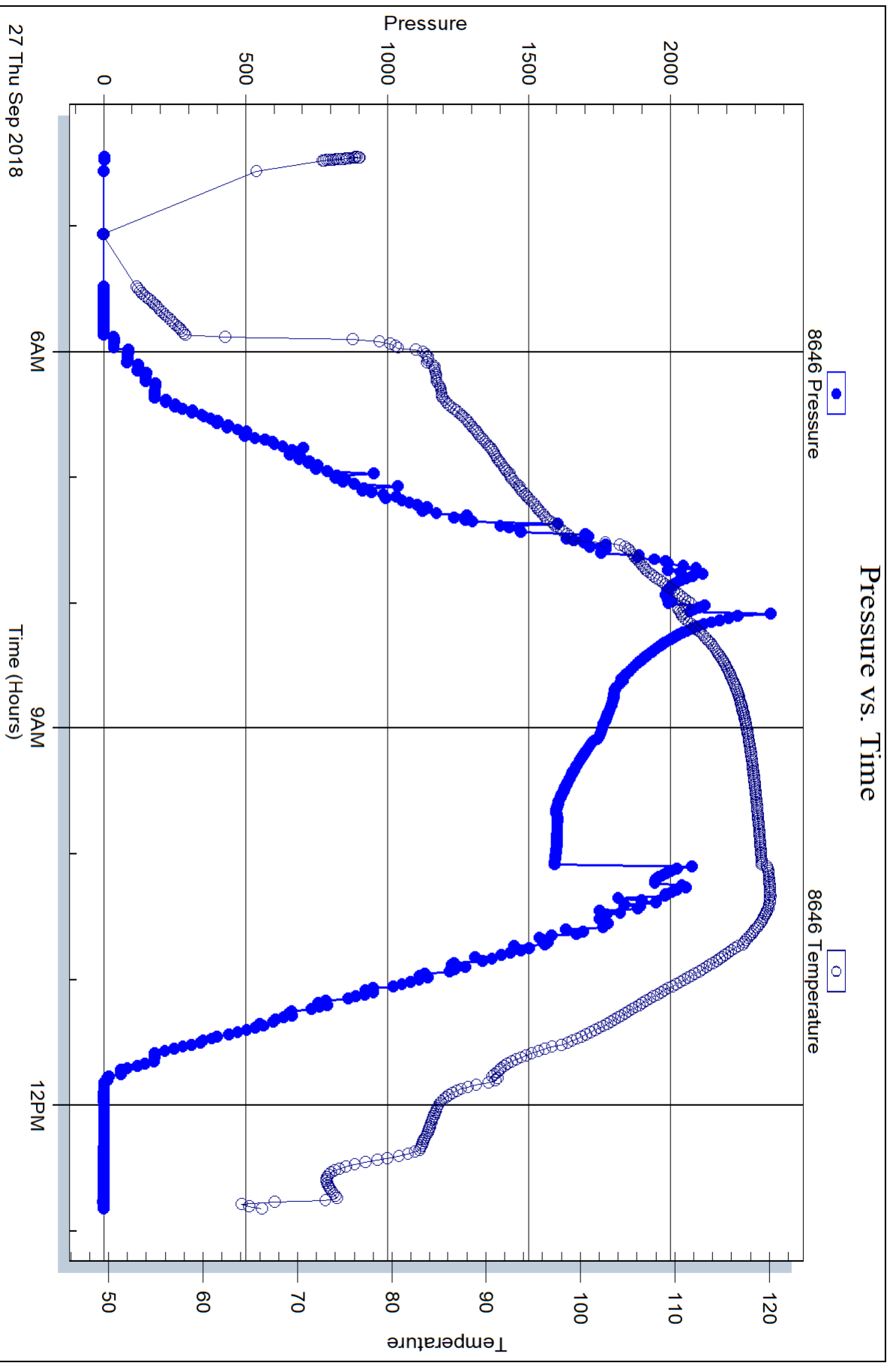
Laboratory Name:

Laboratory Location:

Recovery Comments:









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64463

Well Name & No. Horsch "A" #1-5 Test No. 1 Date 9-24-18  
 Company Cobalt Energy LLC Elevation 1304 KB 1295 GL  
 Address 115 South Belmont #12 P.O. Box 8037 Wichita, KS. 67208-0037  
 Co. Rep / Geo. Nicholas Hess / Corey Baker Rig C+G Drilling #2  
 Location: Sec. 5 Twp 32 S Rge. 1 E Co. Sumner State KS

Interval Tested 3574 - 3620 Zone Tested Mississippian  
 Anchor Length 46' Drill Pipe Run 3268 Mud Wt. 9.4  
 Top Packer Depth 3569 Drill Collars Run 306 Vis 54  
 Bottom Packer Depth 3574 Wt. Pipe Run 0 WL  
 Total Depth 3620 Chlorides 1800 ppm System LCM  
 Blow Description IF-weak blow building to 4 inches EFP  
FF-weak blow building to 4 inches FFP

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>0.1 Spacked 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	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 106 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1722  Test 1050 T-On Location 0810  
 (B) First Initial Flow 26  Jars 250 T-Started 1607  
 (C) First Final Flow 28  Safety Joint 75 T-Open 1153  
 (D) Initial Shut-In 99  Circ Sub \_\_\_\_\_ T-Pulled 1400  
 (E) Second Initial Flow 26  Hourly Standby \_\_\_\_\_ T-Out 1615  
 (F) Second Final Flow 30  Mileage RT 61 Comments \_\_\_\_\_  
 (G) Final Shut-In 98  Sampler ME Tool 350  
 (H) Final Hydrostatic 1679  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 350  
 Day Standby \_\_\_\_\_ Total 1786  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1436

Approved By \_\_\_\_\_ Our Representative Jimmy Nichols

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. 64464

Well Name & No. Horsch "A" # 1-S Test No. 2 Date 9-27-18  
 Company Cobalt Energy, LLC Elevation 1304 KB 1295 GL  
 Address P.O. Box 8037 Wichita, KS 67208-0037  
 Co. Rep / Geo. Nicholas Hess / Corey Baker Rig C+G Drilling #2  
 Location: Sec. 5 Twp 32 S Rge. 1 E Co. Sumner State KS.

Interval Tested 4040-4064 Zone Tested Simpson Sand  
 Anchor Length 24' Drill Pipe Run 3769 Mud Wt. 9.4  
 Top Packer Depth 4035 Drill Collars Run 306 Vis 56  
 Bottom Packer Depth 4040 Wt. Pipe Run 0 WL \_\_\_\_\_  
 Total Depth 4064 Chlorides 3000 ppm System LCM \_\_\_\_\_  
 Blow Description IF - Weak blow building to 1/4 inch IFP  
FF - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Drilling 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	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 119 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1976</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0100</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0459</u>
(C) First Final Flow <u>30</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0805</u>
(D) Initial Shut-In <u>1101</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>1005</u>
(E) Second Initial Flow <u>36</u>	<input type="checkbox"/> Hourly Standby _____	T-Out _____
(F) Second Final Flow <u>37</u>	<input checked="" type="checkbox"/> Mileage <u>208rt</u>	Comments _____
(G) Final Shut-In <u>1067</u>	<input checked="" type="checkbox"/> Sampler <u>ME Tool 350</u>	_____
(H) Final Hydrostatic <u>1936</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	_____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>2283</u>
	Sub Total <u>2283</u>	MP/DST Disc't _____

Approved By \_\_\_\_\_

Our Representative Jimmy Ribbels

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.



COBALT ENERGY LLC

GEOLGISTS REPORT  
DRILL TIME &  
SAMPLE LOG

COMPANY: COBALT ENERGY LLC  
LEASE: HORSCH 'A' #1-5  
FIELD: Wildcat

LOCATION: 1259' FNL & 434' FEL  
SEC. 5 TWP. 32S. RGE. 1E  
COUNTY: Sumner STATE: KS

CONTRACTOR: C&D Drilling Inc. Rig #2  
SPUD: 09/20/18 COMP: 09/2/18  
RTD: 4100' LTD: 4090'  
MUD UP: 2600' TYPE MUD: Chemical

SAMPLES SAVED FROM: 2800' TO RTD  
DRILLING TIME KEPT FROM: 2600' TO RTD  
SAMPLERS EXAMINED FROM: 2800' TO RTD  
GEOLOGICAL SUPERVISION FROM: 2900' TO RTD

GEOLGIST ON WELL: Corey N. Baker  
FORMATION TOPS: ELECTRIC LOG  
KANSAS CITY: 2962 (-1658)  
HUSHPUCKNEY: 3136 (-1832)  
BKC: 3205 (-1901)  
CHEROKEE: 3444 (-2140)  
KINDERHOOK: 4007 (-2703)  
SIMPSON SAND: 4052 (-2748)  
LTD/RTD: 4090 (-2786)

CONDUCTOR: NA  
SURFACE: 8' @ 250'  
PRODUCTION: None  
ELECTRIC LOGS: None  
DATE LOGGING: None

DF: \_\_\_\_\_  
GL: 1295'  
Measurements Are All From: KB  
CASING: \_\_\_\_\_  
Casing: \_\_\_\_\_  
Surface: 8' @ 250'  
Production: None  
Electrical Logs: None  
Date Logging: None

API #15-191-22805-00-00



REMARKS The Horsch 'A' #1-5 did not encounter reservoir quality zones of interest and was therefore plugged and abandoned as a dry hole.

Respectfully Submitted,  
Corey Baker  
Vice President - Exploration  
Cobalt Energy, LLC

LEGEND



Main log table with columns: LITHOLOGY, DEPTH, DRILLING TIME IN MINUTES PER FOOT, OIL SHOWS, SAMPLE DESCRIPTION, REMARKS. Includes detailed sample descriptions and depth markers.

9/18/18 - MIRT  
9/19/18 - Repairs to Rig  
9/20/18 - Spud, set 8 5/8" @ 256'  
9/21/18 - 7:00 AM Drig @ 275'  
9/22/18 - 7:00 AM Drig @ 2610'  
9/23/18 - 7:00 AM Drig @ 3300'  
9/24/18 - 7:00 AM Short trip @ 3620'  
9/25/18 - 7:00 AM Drig @ 3800'  
9/26/18 - 7:00 AM CFS @ 4040'  
9/27/18 - 7:00 AM Straddle testing @ RTD: 4100'

Call Point 2800'  
10:00 AM 9/22/18  
Geologists on location @ 2900'  
4:30 PM 9/22/18

TOOH for button bit @ 2853'

Kansas City  
2962 (-1658)

Hushpuckney  
3136 (-1832)

BKC  
3205 (-1901)

Cherokee  
3444 (-2140)

Mississippian  
3597 (-2293)

Kinderhook  
4007 (-2703)

Simpson Sand  
4052 (-2748)

LTD  
4090 (-2786)  
RTD reached @ 4000'  
on 9/26/18  
RTD  
4100 (-2796)

DST #1 (Mississippian)  
Open 33" Shut-in 30" Open 31" Shut-in 33"  
1st Open: Weak blow, built to 4"  
IS: No return blow.  
2nd Open: Weak blow, built to 4"  
FSI: No return blow.  
Rec: 20" Mud w/oil specks  
FFP: 26-28F  
FFP: 26-30F  
SIP: 99-98F

DST #2 (Simpson Sand)  
Open 30" Shut-in 30" Open 30" Shut-in 30"  
1st Open: Weak blow, built to 1/4"  
IS: No Return Blow  
2nd Open: No Blow  
FSI: No Return Blow  
Rec: 10" Mud  
FFP: 29-30F  
FFP: 36-37F  
SIP: 1103-1067H (both still bldg)

Company: COBALT ENERGY, LLC  
Lease: Horsch 'A' #1-5  
Location: 1259' FNL & 434' FEL SEC. 5 TWP. 32S. RGE. 1E  
County: Sumner State: Kansas  
Elevation: 1304' KB





FIELD ORDER N° C 46307

BOX 438 • HAYSVILLE, KANSAS 67060  
316-524-1225

DATE 9/27/12 2012

IS AUTHORIZED BY: Cobalt Energy (NAME OF CUSTOMER)

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

To Treat Well As Follows: Lease Horsch Well No. A-1-5 Customer Order No. \_\_\_\_\_

Sec. Twp. \_\_\_\_\_ Range \_\_\_\_\_ County Sumner State ks

CONDITIONS: As a part of the consideration hereof it is agreed that Copeland Acid Service is to service or treat at owners risk, the hereinbefore mentioned well and is not to be held liable for any damage that may accrue in connection with said service or treatment. Copeland Acid Service has made no representation, expressed or implied, and no representations have been relied on, as to what may be the results or effect of the servicing or treating said well. The consideration of said service or treatment is payable. There will be no discount allowed subsequent to such date. 6% interest will be charged after 60 days. Total charges are subject to correction by our invoicing department in accordance with latest published price schedules.

The undersigned represents himself to be duly authorized to sign this order for well owner or operator.

THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED \_\_\_\_\_ By \_\_\_\_\_ Agent

Well Owner or Operator

Agent

CODE	QUANTITY	DESCRIPTION	UNIT COST	AMOUNT
2	40	mileese pump truck	4.00	160.00
2	40	mileese pickup	2.00	80.00
2	1	Pump Chace - Rotary Plus		1,100.00
2	100	50/40 per. 2% sol.	10.75	1,075.00
2	2	2% additional sol.	22.00	44.00
2	102	Bulk Charge	min.	150.00
2		Bulk Truck Miles $4.5 T \times 40m = 180 TM \times 1.10$	1.10	198.00
		Process License Fee on _____ Gallons	10%	2,807.00
		TOTAL BILLING		- 280.70

I certify that the above material has been accepted and used; that the above service was performed in a good and workmanlike manner under the direction, supervision and control of the owner, operator or his agent, whose signature appears below.

Copeland Representative Netha W.

Station G.D

C & G Drilling  
Well Owner, Operator or Agent

Remarks \_\_\_\_\_

NET 30 DAYS

2526.30

