

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 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) (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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Form	ACO1 - Well Completion
Operator	Cobalt Energy LLC
Well Name	BINNS "B" 1-32
Doc ID	1424739

Tops

Name	Top	Datum
ANHY	2351	631
HEEB	3871	-889
LNSG	3914	-932
STARK	4185	-1203
HUSH	4226	-1244
MARM	4297	-1315
PAWNEE	4396	-1414
MYRICK STA.	4429	-1447
FT SCOTT	4448	-1466
CHER SHL	4476	-1494
JOHNSON	4520	-1538
MORROW	4589	-1607
MISS	4644	-1662





QES  
PRESSURE PUMPING LLC  
PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

11166  
11075

TICKET NUMBER 55197  
LOCATION Oakley, KS  
FOREMAN Miles Shaw

FIELD TICKET & TREATMENT REPORT  
CEMENT

Invoice # **813708**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
7-20-18	2190	Binnis B 1-32	32	15 S	33 W	Logan KS
CUSTOMER Cobalt Energy			Price Hs East of Chanute			
MAILING ADDRESS P.O. BOX 8037			4 1/2 W to Bison Rd New S into			
CITY Wichita	STATE KS	ZIP CODE 67208	TRUCK #	DRIVER	TRUCK #	DRIVER
			753	Corey W		
			566	Billy R		
			703	Miles S		

JOB TYPE Surface HOLE SIZE 12.25" HOLE DEPTH 224 CASING SIZE & WEIGHT 8 5/8" 23#  
 CASING DEPTH 224 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14.8 SLURRY VOL 1.36 WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 20'  
 DISPLACEMENT 12.5 bls DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting and Rig up on Martin drilling Rig #21 Circulate casing  
mix 1655x Surface blend # Class Cement w/ 3% calcium 2% gel displace 12.5 bls  
Water shut in Cement did Circulate Cellar only

Thanks Miles & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0971	1	PUMP CHARGE	1150. <sup>00</sup>	1150. <sup>00</sup>
CE0002	35	MILEAGE	7.15	250.25
CE0711	7.76 Tons	Ton mileage delivery	660. <sup>00</sup>	660. <sup>00</sup>
CE5871	1655x	Surface blend #	24. <sup>00</sup>	3960. <sup>00</sup>
			Subtotal	6020.25
			less 30% discount	1806.07
			Subtotal	4214.18
			SALES TAX	221.76
			ESTIMATED TOTAL	4435.94

Ravin 3737

AUTHORIZATION [Signature] TITLE \_\_\_\_\_ DATE \_\_\_\_\_

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form



CHARGE TO: Colbalt Energy

ADDRESS

CITY, STATE, ZIP CODE

TICKET 031670

PAGE 1 OF 2

1. SERVICE LOCATIONS <u>Ness City KS</u>	WELL/PROJECT NO. <u>#1-32</u>	LEASE <u>Binns "B"</u>	COUNTY/PARISH <u>Logan</u>	STATE <u>KS</u>	CITY <u>Pence</u>	DATE <u>7-30-18</u>	OWNER <u>Same</u>
2. TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <u>Murfin Drilling</u>		RIG NAME/NO. <u>#21</u>	SHIPPED VIA <u>CT</u>	DELIVERED TO <u>Location</u>	ORDER NO.	
3. WELL TYPE <u>Oil</u>	WELL CATEGORY <u>Development</u>	JOB PURPOSE <u>Cement 5 1/2" Longstring Two-Stage</u>	WELL PERMIT NO.		WELL LOCATION <u>Pence-4E, 4W, 1/2W, Sinko</u>		
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY. U/M		UNIT PRICE		AMOUNT
		LOC	ACCT	DF		QTY.	U/M	QTY.	U/M	
575		1			MILEAGE		80	mi	5 <sup>00</sup>	400 <sup>00</sup>
579		1			Pump Charge - Two-Stage		1	job	1800 <sup>00</sup>	1800 <sup>00</sup>
409		1			Turbolizer		12	ca	85 <sup>00</sup>	1020 <sup>00</sup>
403		1			Cement Basket		2	ca	275 <sup>00</sup>	550 <sup>00</sup>
407		1			Insert Float Shoe w/ Auto Fill		1	ca	325 <sup>00</sup>	325 <sup>00</sup>
408		1			D.U. Tool + Plug Set		1	ca	3375 <sup>00</sup>	3375 <sup>00</sup>
417		1			D.U. Latch Down Plug + Baffle		1	ca	200 <sup>00</sup>	200 <sup>00</sup>

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

[Signature]

DATE SIGNED 7-31-18 TIME SIGNED 0030  A.M.  P.M.

**REMIT PAYMENT TO:**

**SWIFT SERVICES, INC.**  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UNDECIDED	DISAGREE	PAGE TOTAL #1	7670 <sup>00</sup>
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				PAGE TOTAL #2	11825 <sup>38</sup>
WE UNDERSTOOD AND MET YOUR NEEDS?				<u>Logan</u>	19495 <sup>38</sup>
OUR SERVICE WAS PERFORMED WITHOUT DELAY?				TAX	1193 <sup>60</sup>
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				8.0%	
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES <input type="checkbox"/> NO			TOTAL	20688 <sup>98</sup>
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					

**CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES** The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR David Kudin

APPROVAL

Thank You!



PO Box 466  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. #31670

CUSTOMER Colbalt Energy WELL Binns 'B' #1-32 DATE 7-30-18 PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL		UNIT PRICE		AMOUNT			
		LOC	ACCT	DF			QTY	U/M	QTY	U/M				
325		1				Standard Cement (EA-2)			205	sls	13	00	2665	00
284		1				Cal Seal	5	%	10	sls	35	00	350	00
283		1				Salt	10	%	1000	lbs	00	20	200	00
292		1				Halad 322	1/2	%	100	lbs	8	00	800	00
276		1				Floccle	1/4	lb	125	lbs	2	50	312	50
330		1				SMD			250	sls	16	25	4062	50
281		1				Mud Flush			500	gal	1	50	750	00
221		1				Liquid HCL			4	gal	25	00	100	00
290		1				D-Air			5	gal	42	00	210	00
S81		1				SERVICE CHARGE								
S83		1				MILEAGE CHARGE								
						TOTAL WEIGHT	CUBIC FEET		455		1	75	796	25
						LOADED MILES	TON MILES		80		1857	8	00	85
						46445							1579	13

CONTINUATION TOTAL 11825.38

JOB LOG

SWIFT Services, Inc.

DATE 7-30-18 PAGE NO. 1

CUSTOMER Cobalt Energy WELL NO. #132 LEASE Binns "B" JOB TYPE Two-Stage TICKET NO. 31670

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1600							on location 5 1/2" 15.5" RTD-4729' LTD-4728' TP-4726' SJ #1 42.44' DU-#56 2387' out #69 #76 #109 Turbo-#12 #3 #4 #5 #6 #7 #8 #9 #18 #19 #57 Basket - #55 #56
	1800							Start 5 1/2" 15.5" casing in well
	2055							Drop Ball Circulate
	2200	6 1/2	12				350	Pump 500 gal Mud Flush
		6 1/2	20				350	Pump 20 HD KCL Flush
			7-5					Plug RH-MH (30-20)
	2215	4 1/2	38				250	mix 155 sks FA-2 @ 15.5 ppg wash out Pump + Lines / Release Latch Down P
	2235	6 1/2	∅				100	Start Displacement w/ water
		6 1/2	54 1/2				100	Displace w/ mud
		6 1/2	92				300	lift Pressure
		6 1/2	110				750	max lift Pressure
	2255	6 1/2	111.5				1700	Land Latch Down Plug Release Pressure * Plug Hold *
	2300							Drop Bomb
	2310	∅	∅				1000	Open D.V. Tool - circulating
	2312	6 1/2	20				150	Pump 20 HD KCL flush
	2315	6 1/2	139				100	mix 250 sks SMD @ 11.2 ppg wash out Pump + Lines / Release Top Plug
	2350	6 1/2	∅				100	Start Displacement
		6 1/2	20				200	lift Pressure
		6 1/2	50				400	circulate Cement to surface * 15 sks *
		6 1/2	55				600	max lift Pressure
7-31-18	0000	6 1/2	56.8				2000	Land Top Plug / Close D.V. Tool Release Pressure * Plug Hold * wash up truck
	0030							Job Complete

Thank You  
Dave Preston Isaac





## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Larry Nicholson

**Binns B #1-32**

**32-15-33 Logan,KS**

Start Date: 2018.07.24 @ 11:23:20

End Date: 2018.07.24 @ 17:04:50

Job Ticket #: 63900                      DST #: 1

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

Printed: 2018.07.30 @ 14:48:13



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63900

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2018.07.24 @ 11:23:20

## GENERAL INFORMATION:

Formation: **LKC C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:16:20

Time Test Ended: 17:04:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

**Interval: 3950.00 ft (KB) To 3975.00 ft (KB) (TVD)**

Reference Elevations: 2981.00 ft (KB)

Total Depth: 3975.00 ft (KB) (TVD)

2971.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166**

**Outside**

Press@RunDepth: 52.03 psig @ 3951.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.24

End Date:

2018.07.24

Last Calib.:

2018.07.24

Start Time: 11:23:25

End Time:

17:04:49

Time On Btm:

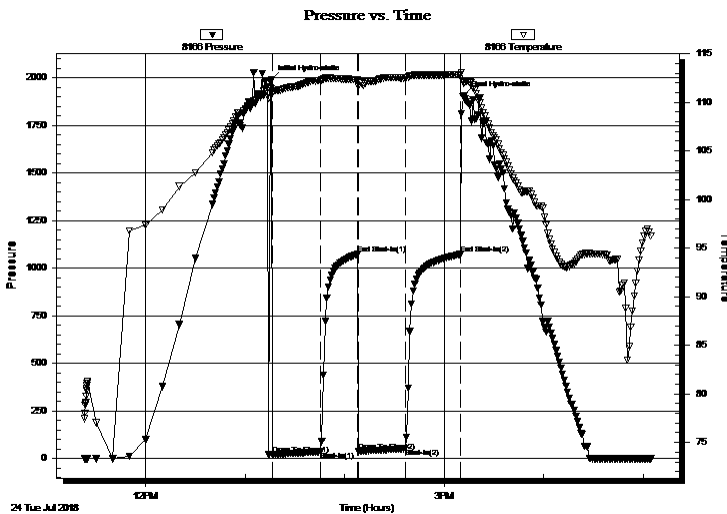
2018.07.24 @ 13:15:50

Time Off Btm:

2018.07.24 @ 15:11:50

**TEST COMMENT:** IF: 1/4" blow built to 1"  
IS: No return.  
FF: Surface blow built to 1/2."  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1988.67	111.43	Initial Hydro-static
1	21.56	110.94	Open To Flow (1)
30	35.52	112.23	Shut-In(1)
52	1072.06	112.35	End Shut-In(1)
53	39.09	111.64	Open To Flow (2)
81	52.03	112.48	Shut-In(2)
114	1072.04	112.84	End Shut-In(2)
116	1904.08	111.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	ocm 2%o 98%o	0.30
1.00	free oil 100%o	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63900

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2018.07.24 @ 11:23:20

## Tool Information

Drill Pipe:	Length: 3676.00 ft	Diameter: 3.80 inches	Volume: 51.56 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: 30000.00 lb
Drill Collar:	Length: 274.00 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 52.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3950.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	55.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			3921.00	
Shut In Tool	5.00			3926.00	
Hydraulic tool	5.00			3931.00	
Jars	5.00			3936.00	
EM Tool	3.00			3939.00	
Safety Joint	2.00			3941.00	
Packer	5.00			3946.00	30.00 Bottom Of Top Packer
Packer	4.00			3950.00	
Stubb	1.00			3951.00	
Recorder	0.00	6651	Inside	3951.00	
Recorder	0.00	8166	Outside	3951.00	
Perforations	19.00			3970.00	
Bullnose	5.00			3975.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 55.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Cobalt Energy LLC

**32-15-33 Logan,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63900

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2018.07.24 @ 11:23:20

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
62.00	ocm 2%o 98%m	0.305
1.00	free oil 100%o	0.005

Total Length: 63.00 ft      Total Volume: 0.310 bbf

Num Fluid Samples: 0

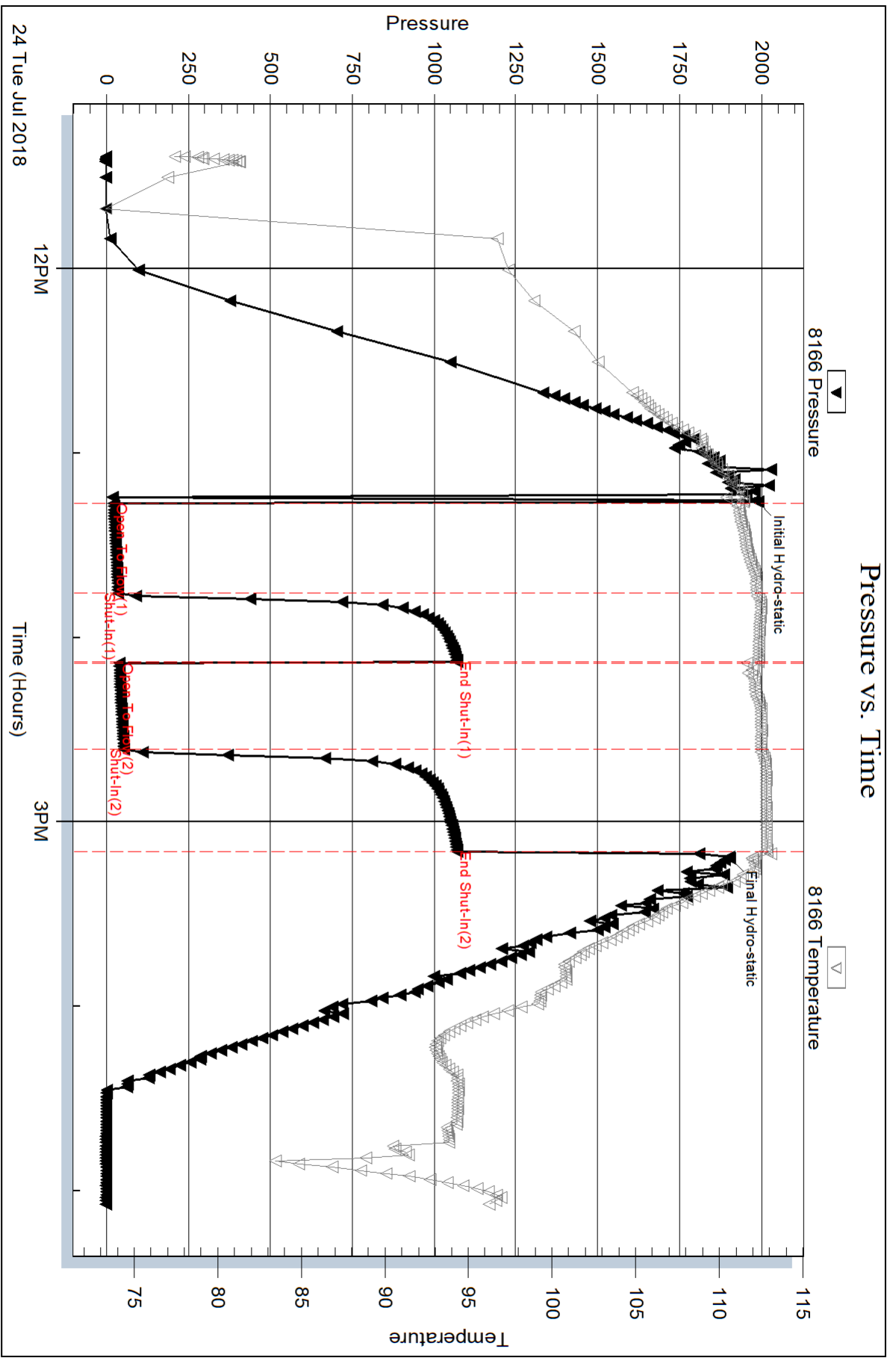
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



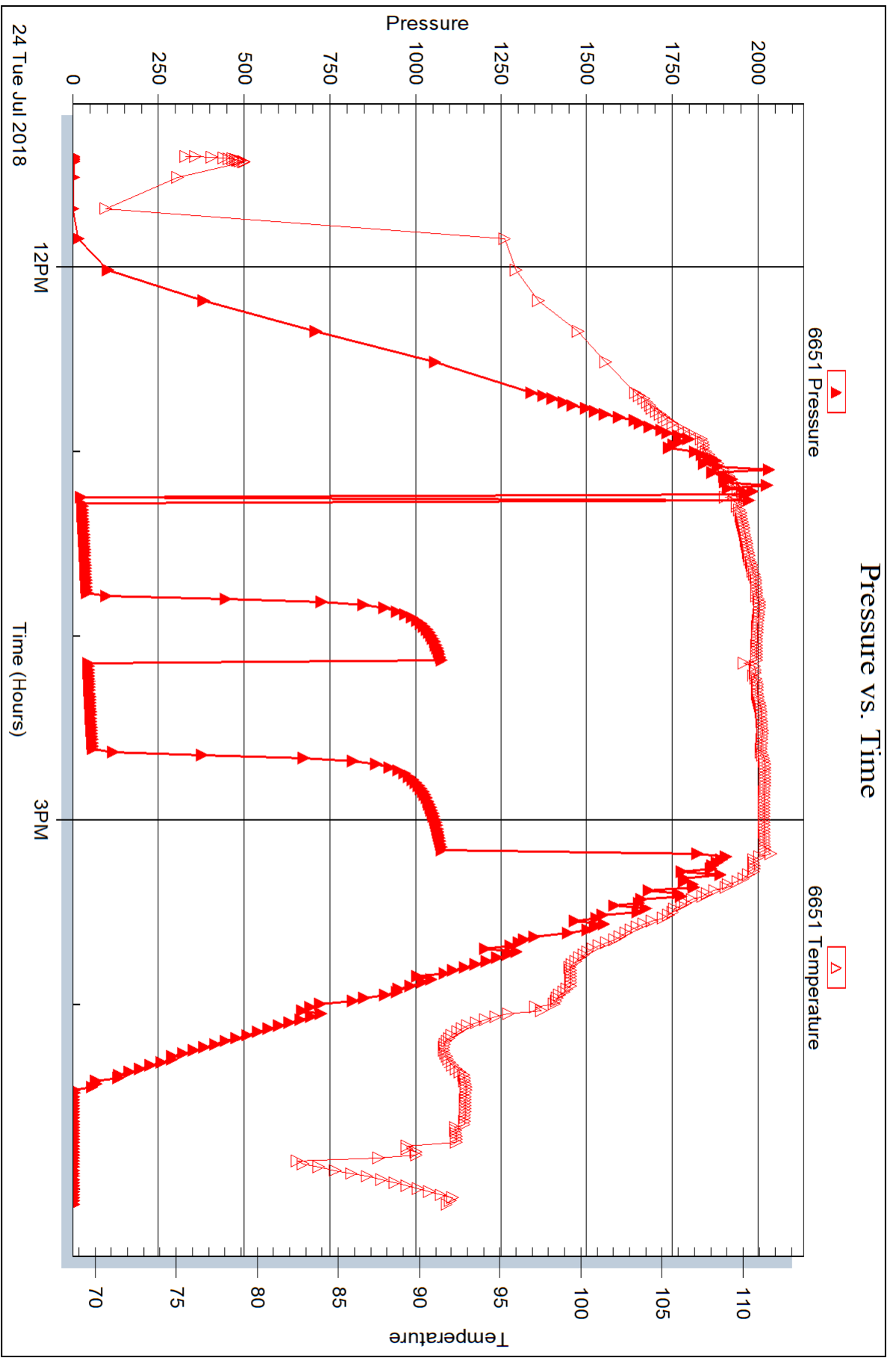
Serial #: 6651

Inside

Cobalt Energy LLC

Bins B#1-32

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Larry Nicholson

**Binns B #1-32**

**32-15-33 Logan,KS**

Start Date: 2018.07.25 @ 12:28:25

End Date: 2018.07.25 @ 17:53:55

Job Ticket #: 63901                      DST #: 2

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

Printed: 2018.07.30 @ 14:47:51





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**32-15-33 Logan,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63901

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2018.07.25 @ 12:28:25

## GENERAL INFORMATION:

Formation: **LKC I-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:07:25

Time Test Ended: 17:53:55

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4131.00 ft (KB) To 4184.00 ft (KB) (TVD)**

Reference Elevations: 2981.00 ft (KB)

Total Depth: 4184.00 ft (KB) (TVD)

2971.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 332.18 psig @ 4132.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.25

End Date:

2018.07.25

Last Calib.:

2018.07.25

Start Time:

12:28:30

End Time:

17:53:54

Time On Btm:

2018.07.25 @ 14:05:55

Time Off Btm:

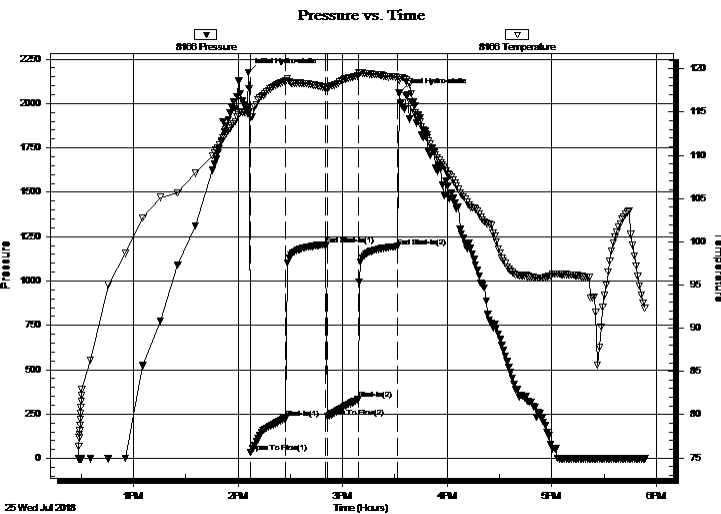
2018.07.25 @ 15:32:25

TEST COMMENT: IF: BOB in 7 min. 28 1/2"

IS: No return.

FF: BOB in 12 min. 24"

FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2175.01	114.92	Initial Hydro-static
2	35.56	114.42	Open To Flow (1)
22	229.44	118.57	Shut-In(1)
45	1204.85	117.81	End Shut-In(1)
46	234.90	117.65	Open To Flow (2)
63	332.18	119.20	Shut-In(2)
86	1194.42	118.96	End Shut-In(2)
87	2058.94	118.67	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	mcw 90%w 10%m	1.24
189.00	mcw oil spots 70%w 30%m	2.45
189.00	ocw m 2%o 48%w 50%m	2.65
73.00	ocm 5%o 95%m	1.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63901

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2018.07.25 @ 12:28:25

## Tool Information

Drill Pipe:	Length: 3837.00 ft	Diameter: 3.80 inches	Volume: 53.82 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: 30000.00 lb
Drill Collar:	Length: 274.00 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 55.17 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4131.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	55.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4102.00	
Shut In Tool	5.00			4107.00	
Hydraulic tool	5.00			4112.00	
Jars	5.00			4117.00	
EM Tool	3.00			4120.00	
Safety Joint	2.00			4122.00	
Packer	5.00			4127.00	30.00 Bottom Of Top Packer
Packer	4.00			4131.00	
Stubb	1.00			4132.00	
Recorder	0.00	6651	Inside	4132.00	
Recorder	0.00	8166	Outside	4132.00	
Perforations	19.00			4151.00	
Bullnose	5.00			4156.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 55.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**32-15-33 Logan,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63901

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2018.07.25 @ 12:28:25

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
252.00	mcw 90%w 10%m	1.239
189.00	mcw oil spots 70%w 30%m	2.451
189.00	ocw m 2%o 48%w 50%m	2.651
73.00	ocm 5%o 95%m	1.024

Total Length: 703.00 ft

Total Volume: 7.365 bbl

Num Fluid Samples: 0

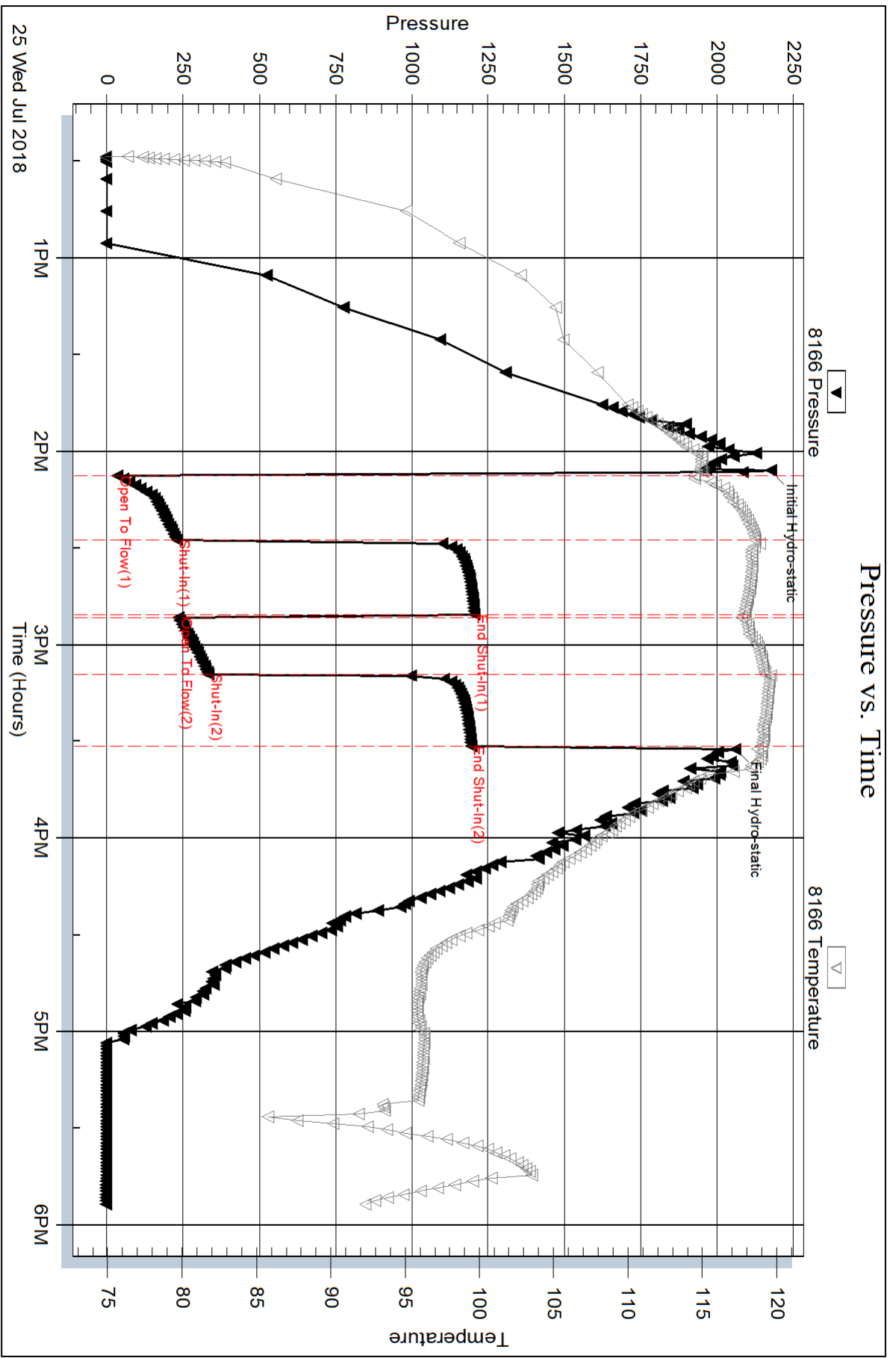
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .18@102=25000



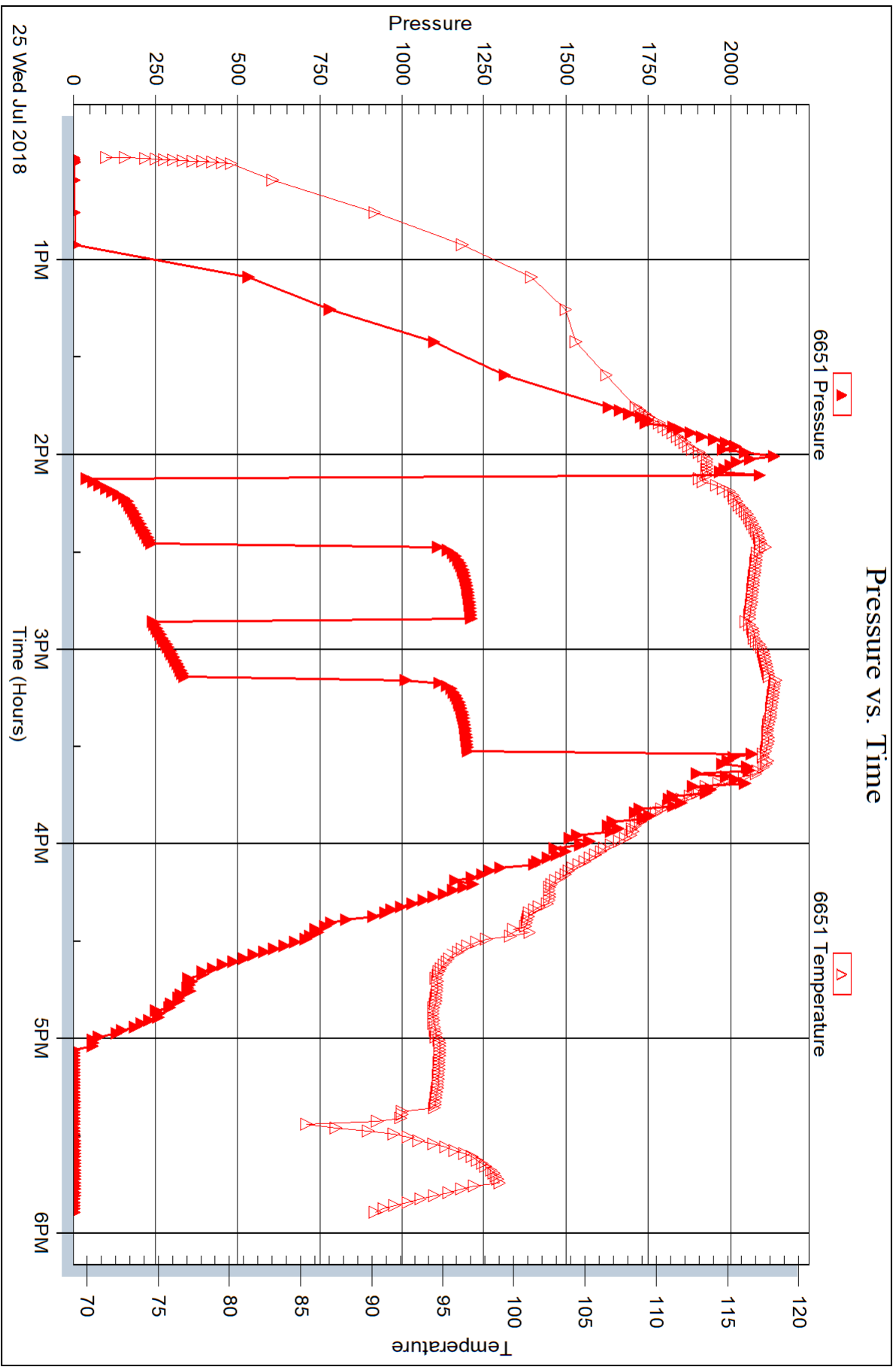
Serial #: 6651

Inside

Cobalt Energy LLC

Bins B#1-32

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Larry Nicholson

**Binns B #1-32**

**32-15-33 Logan,KS**

Start Date: 2018.07.26 @ 03:50:29

End Date: 2018.07.26 @ 09:32:59

Job Ticket #: 63902                      DST #: 3

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

Printed: 2018.07.30 @ 14:47:14



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63902

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2018.07.26 @ 03:50:29

## GENERAL INFORMATION:

Formation: **LKC L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:04:59

Time Test Ended: 09:32:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4233.00 ft (KB) To 4242.00 ft (KB) (TVD)**

Reference Elevations: 2981.00 ft (KB)

Total Depth: 4242.00 ft (KB) (TVD)

2971.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166**

**Outside**

Press@RunDepth: 22.86 psig @ 4234.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.26

End Date:

2018.07.26

Last Calib.:

2018.07.26

Start Time: 03:50:34

End Time:

09:32:58

Time On Btm:

2018.07.26 @ 06:03:59

Time Off Btm:

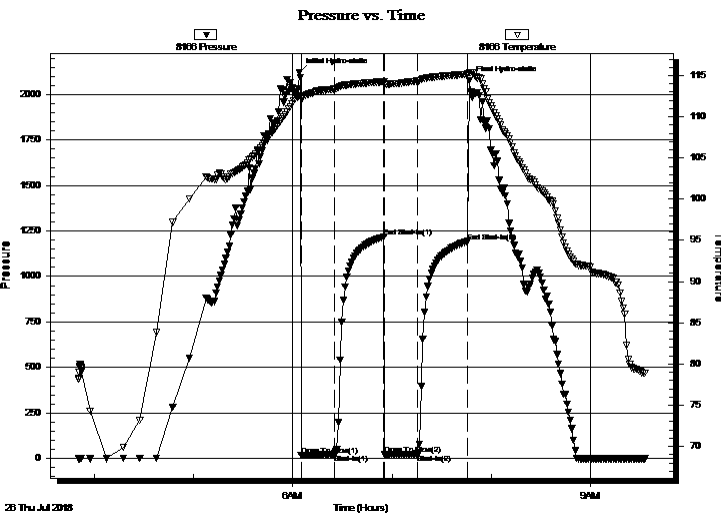
2018.07.26 @ 07:46:29

TEST COMMENT: IF: Surface blow built to 3/4"

IS: No return.

FF: No blow.

FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2121.18	112.56	Initial Hydro-static
1	17.05	112.18	Open To Flow (1)
21	20.14	113.38	Shut-In(1)
51	1218.50	114.27	End Shut-In(1)
52	20.49	113.89	Open To Flow (2)
71	22.86	114.34	Shut-In(2)
102	1191.88	115.17	End Shut-In(2)
103	2075.73	115.39	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud oil spots 100%m	0.02

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**32-15-33 Logan,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63902

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2018.07.26 @ 03:50:29

## Tool Information

Drill Pipe:	Length: 3934.00 ft	Diameter: 3.80 inches	Volume: 55.18 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: 30000.00 lb
Drill Collar:	Length: 274.00 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 56.53 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4233.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	9.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4204.00	
Shut In Tool	5.00			4209.00	
Hydraulic tool	5.00			4214.00	
Jars	5.00			4219.00	
EM Tool	3.00			4222.00	
Safety Joint	2.00			4224.00	
Packer	5.00			4229.00	30.00 Bottom Of Top Packer
Packer	4.00			4233.00	
Stubb	1.00			4234.00	
Recorder	0.00	6651	Inside	4234.00	
Recorder	0.00	8166	Outside	4234.00	
Perforations	3.00			4237.00	
Bullnose	5.00			4242.00	9.00 Bottom Packers & Anchor

**Total Tool Length: 39.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**32-15-33 Logan,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63902

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2018.07.26 @ 03:50:29

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8600.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud oil spots 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

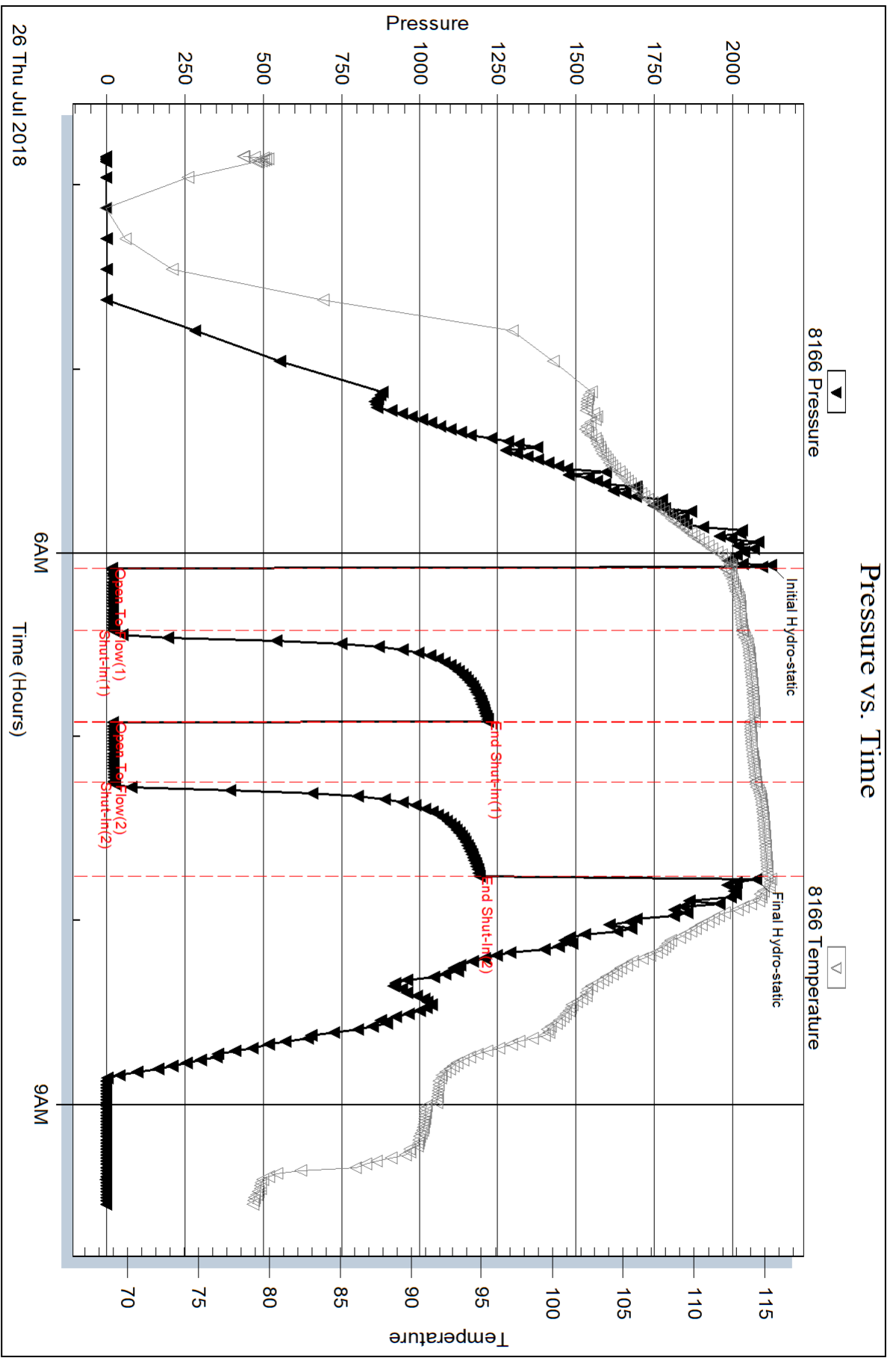
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



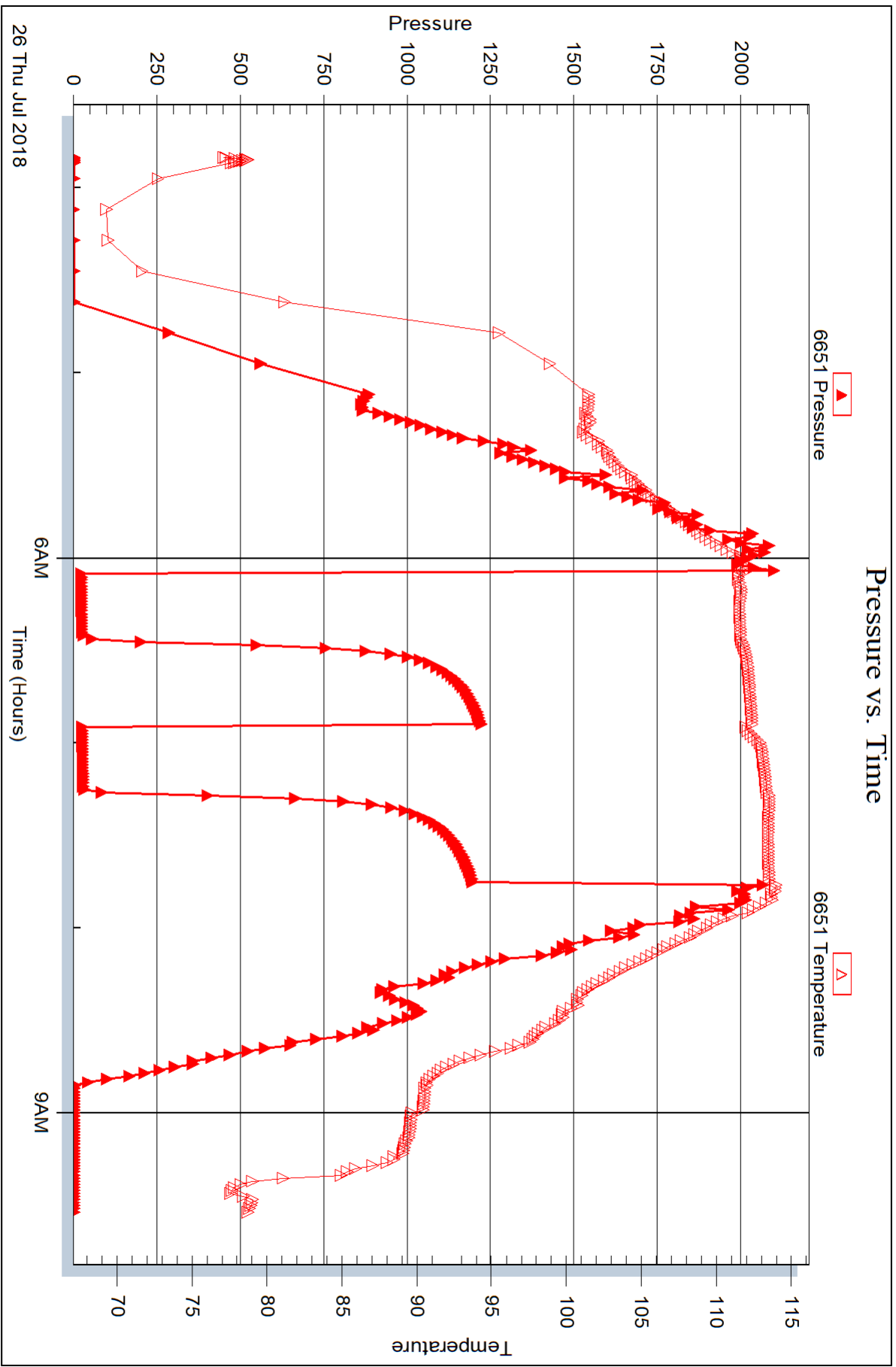
Serial #: 6651

Inside

Cobalt Energy LLC

Bins B#1-32

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Larry Nicholson

**Binns B #1-32**

**32-15-33 Logan,KS**

Start Date: 2018.07.26 @ 17:41:21

End Date: 2018.07.26 @ 23:24:21

Job Ticket #: 63903                      DST #: 4

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

Printed: 2018.07.30 @ 14:46:49



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**32-15-33 Logan,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63903

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2018.07.26 @ 17:41:21

## GENERAL INFORMATION:

Formation: **Pleasanton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:59:51

Time Test Ended: 23:24:21

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4268.00 ft (KB) To 4278.00 ft (KB) (TVD)**

Reference Elevations: 2981.00 ft (KB)

Total Depth: 4278.00 ft (KB) (TVD)

2971.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 25.54 psig @ 4269.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.26

End Date:

2018.07.26

Last Calib.:

2018.07.26

Start Time: 17:41:26

End Time:

23:24:20

Time On Btm:

2018.07.26 @ 19:59:21

Time Off Btm:

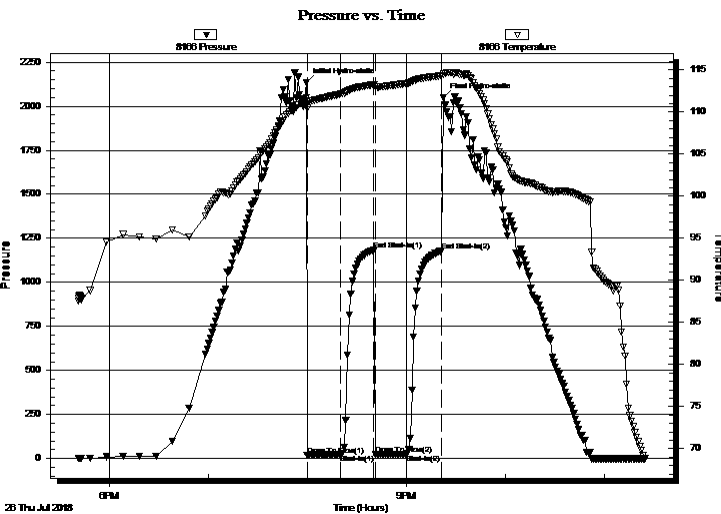
2018.07.26 @ 21:22:21

TEST COMMENT: IF: Surface blow died in 10 min.

IS: No return.

FF: No blow.

FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2135.61	111.70	Initial Hydro-static
1	17.40	110.45	Open To Flow (1)
21	21.31	112.16	Shut-In(1)
41	1184.03	113.27	End Shut-In(1)
42	22.62	112.99	Open To Flow (2)
61	25.54	113.41	Shut-In(2)
82	1178.81	114.32	End Shut-In(2)
83	2047.15	114.52	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	w cm 40%w 60%m	0.02

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63903

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2018.07.26 @ 17:41:21

## Tool Information

Drill Pipe:	Length: 3994.00 ft	Diameter: 3.80 inches	Volume: 56.03 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: 30000.00 lb
Drill Collar:	Length: 274.00 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 57.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4268.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	40.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4239.00	
Shut In Tool	5.00			4244.00	
Hydraulic tool	5.00			4249.00	
Jars	5.00			4254.00	
EM Tool	3.00			4257.00	
Safety Joint	2.00			4259.00	
Packer	5.00			4264.00	30.00 Bottom Of Top Packer
Packer	4.00			4268.00	
Stubb	1.00			4269.00	
Recorder	0.00	6651	Inside	4269.00	
Recorder	0.00	8166	Outside	4269.00	
Perforations	4.00			4273.00	
Bullnose	5.00			4278.00	10.00 Bottom Packers & Anchor

**Total Tool Length: 40.00**



**TRILOBITE**  
**TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Cobalt Energy LLC

**32-15-33 Logan,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63903

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2018.07.26 @ 17:41:21

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

17000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8400.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	w cm 40%w 60%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

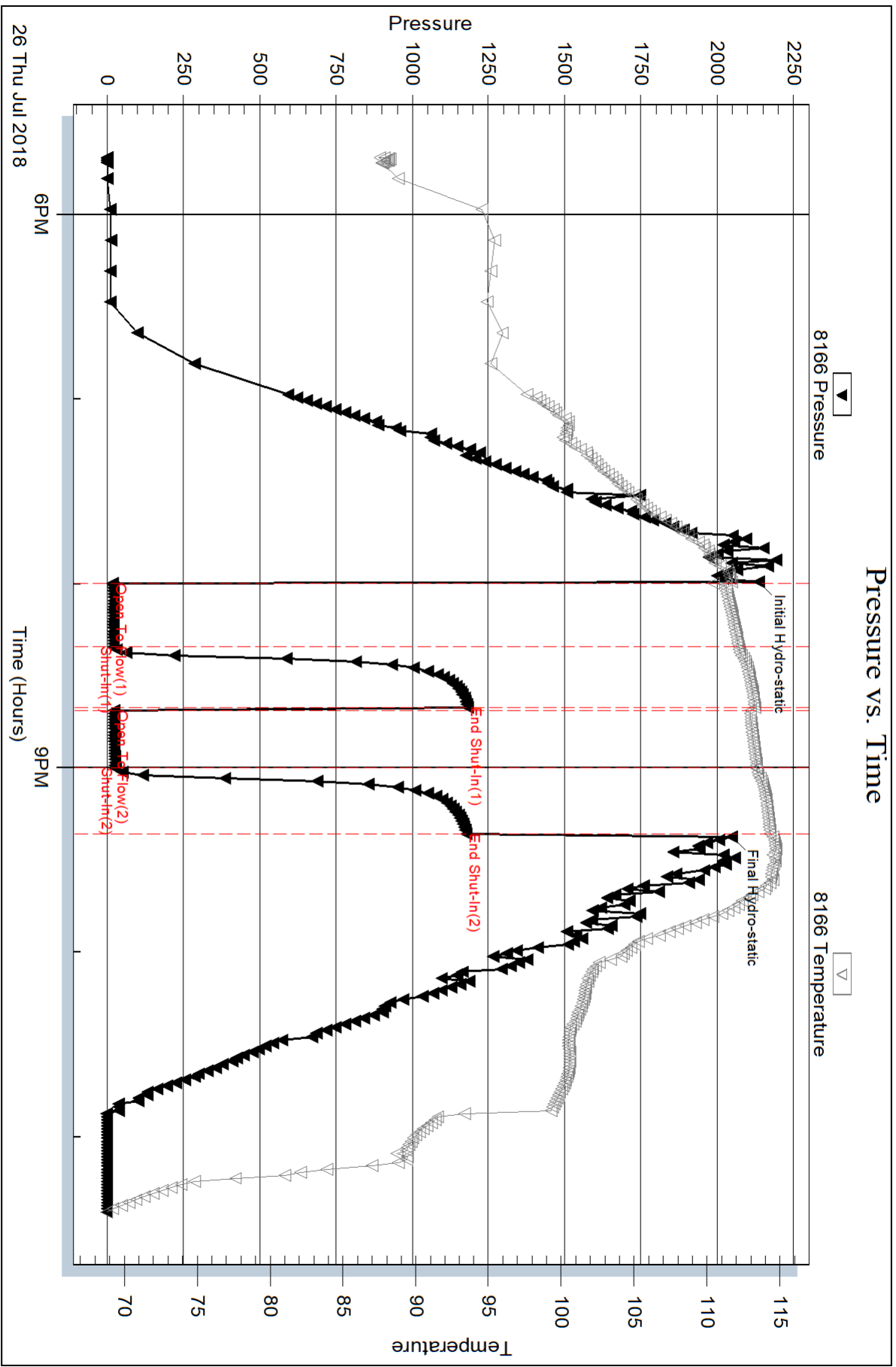
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .40@68=17000



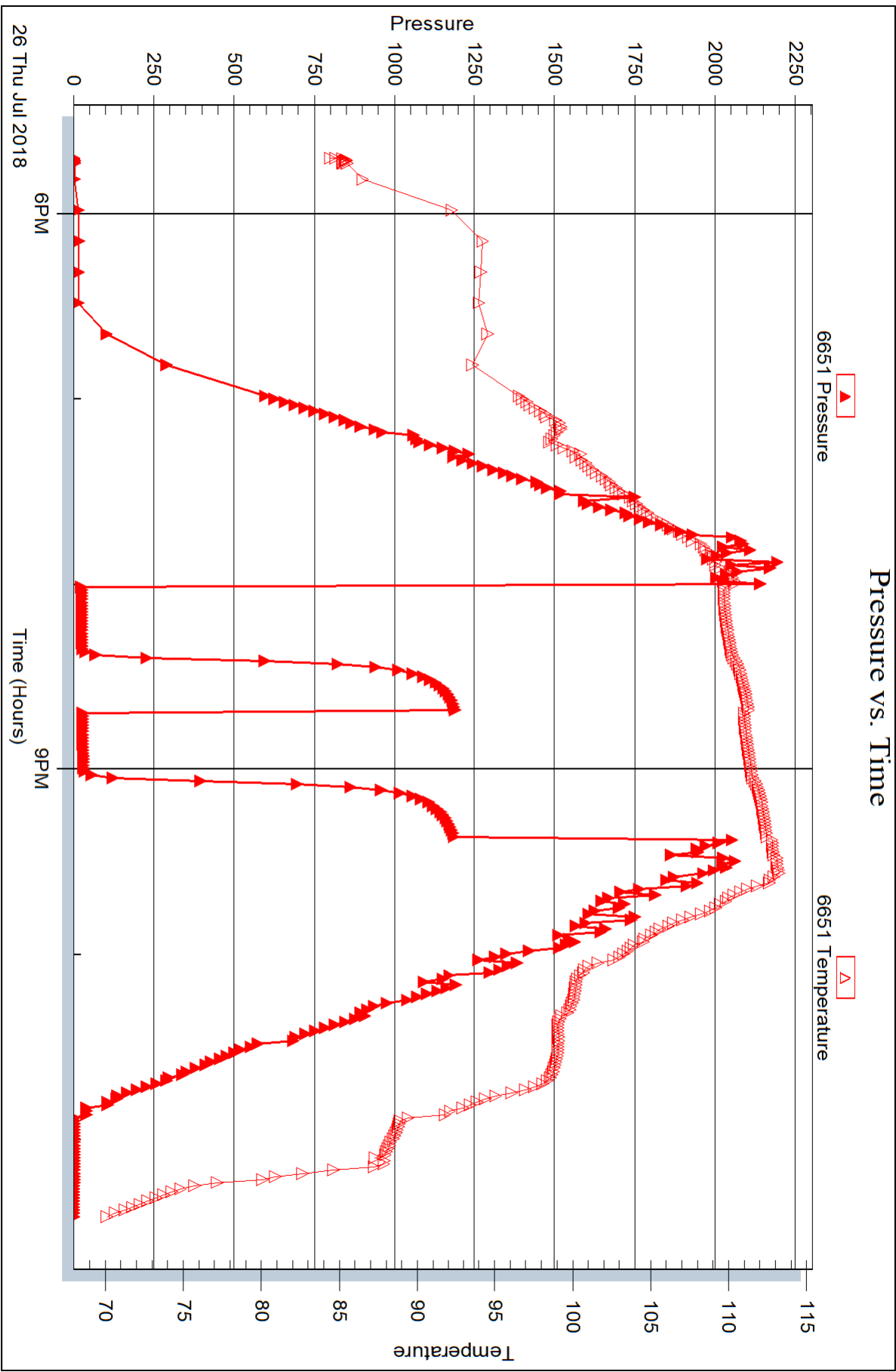
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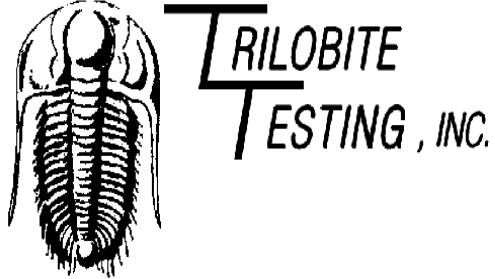
Inside

Cobalt Energy LLC

Binns B#1-32

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Larry Nicholson

**Binns B #1-32**

**32-15-33 Logan,KS**

Start Date: 2018.07.27 @ 07:27:14

End Date: 2018.07.27 @ 12:34:44

Job Ticket #: 63904                      DST #: 5

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

Printed: 2018.07.30 @ 14:44:25



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63904

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2018.07.27 @ 07:27:14

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:02:44

Time Test Ended: 12:34:44

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4306.00 ft (KB) To 4316.00 ft (KB) (TVD)**

Reference Elevations: 2981.00 ft (KB)

Total Depth: 4316.00 ft (KB) (TVD)

2971.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 30.70 psig @ 4307.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.27 End Date: 2018.07.27

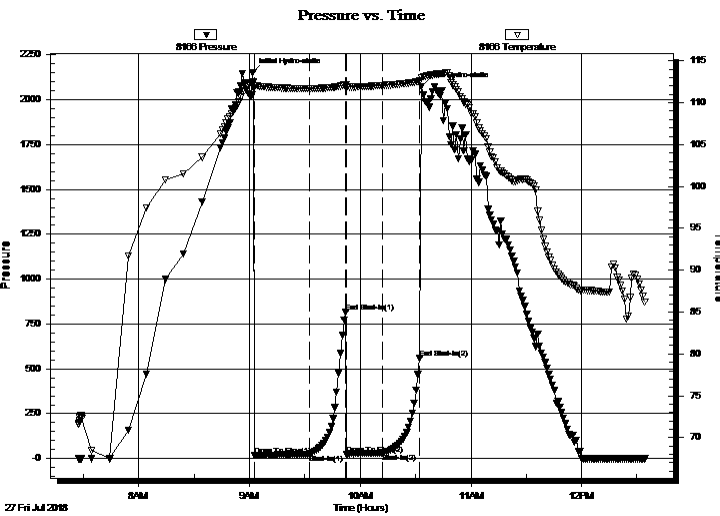
Last Calib.: 2018.07.27

Start Time: 07:27:19 End Time: 12:34:43

Time On Btm: 2018.07.27 @ 09:01:44

Time Off Btm: 2018.07.27 @ 10:33:14

**TEST COMMENT:** IF: 1/4" blow built to 1 1/4"  
IS: No return.  
FF: Surface blow built to 1/2"  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2152.30	112.33	Initial Hydro-static
1	19.57	112.06	Open To Flow (1)
31	25.68	111.69	Shut-In(1)
51	817.24	112.12	End Shut-In(1)
51	25.51	111.89	Open To Flow (2)
71	30.70	112.06	Shut-In(2)
91	558.31	112.59	End Shut-In(2)
92	2072.76	113.02	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	ocm 30%o 70%m	0.10

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63904

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2018.07.27 @ 07:27:14

## Tool Information

Drill Pipe:	Length: 4026.00 ft	Diameter: 3.80 inches	Volume: 56.47 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: 30000.00 lb
Drill Collar:	Length: 274.00 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 57.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4306.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	40.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4277.00	
Shut In Tool	5.00			4282.00	
Hydraulic tool	5.00			4287.00	
Jars	5.00			4292.00	
EM Tool	3.00			4295.00	
Safety Joint	2.00			4297.00	
Packer	5.00			4302.00	30.00 Bottom Of Top Packer
Packer	4.00			4306.00	
Stubb	1.00			4307.00	
Recorder	0.00	6651	Inside	4307.00	
Recorder	0.00	8166	Outside	4307.00	
Perforations	4.00			4311.00	
Bullnose	5.00			4316.00	10.00 Bottom Packers & Anchor

**Total Tool Length: 40.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**32-15-33 Logan,KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63904

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2018.07.27 @ 07:27:14

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbl

Water Loss: 10.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8400.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	ocm 30%o 70%m	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

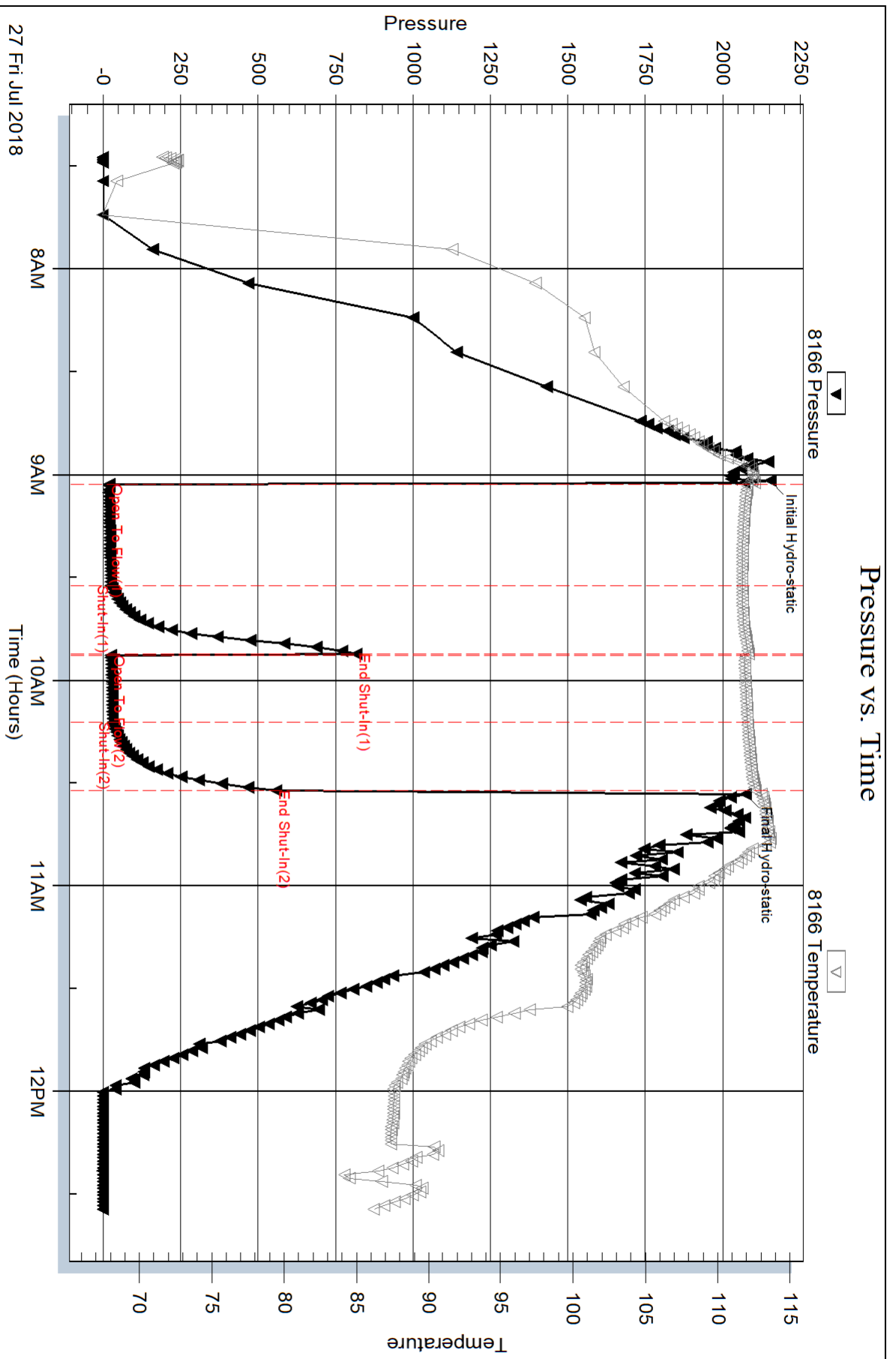
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



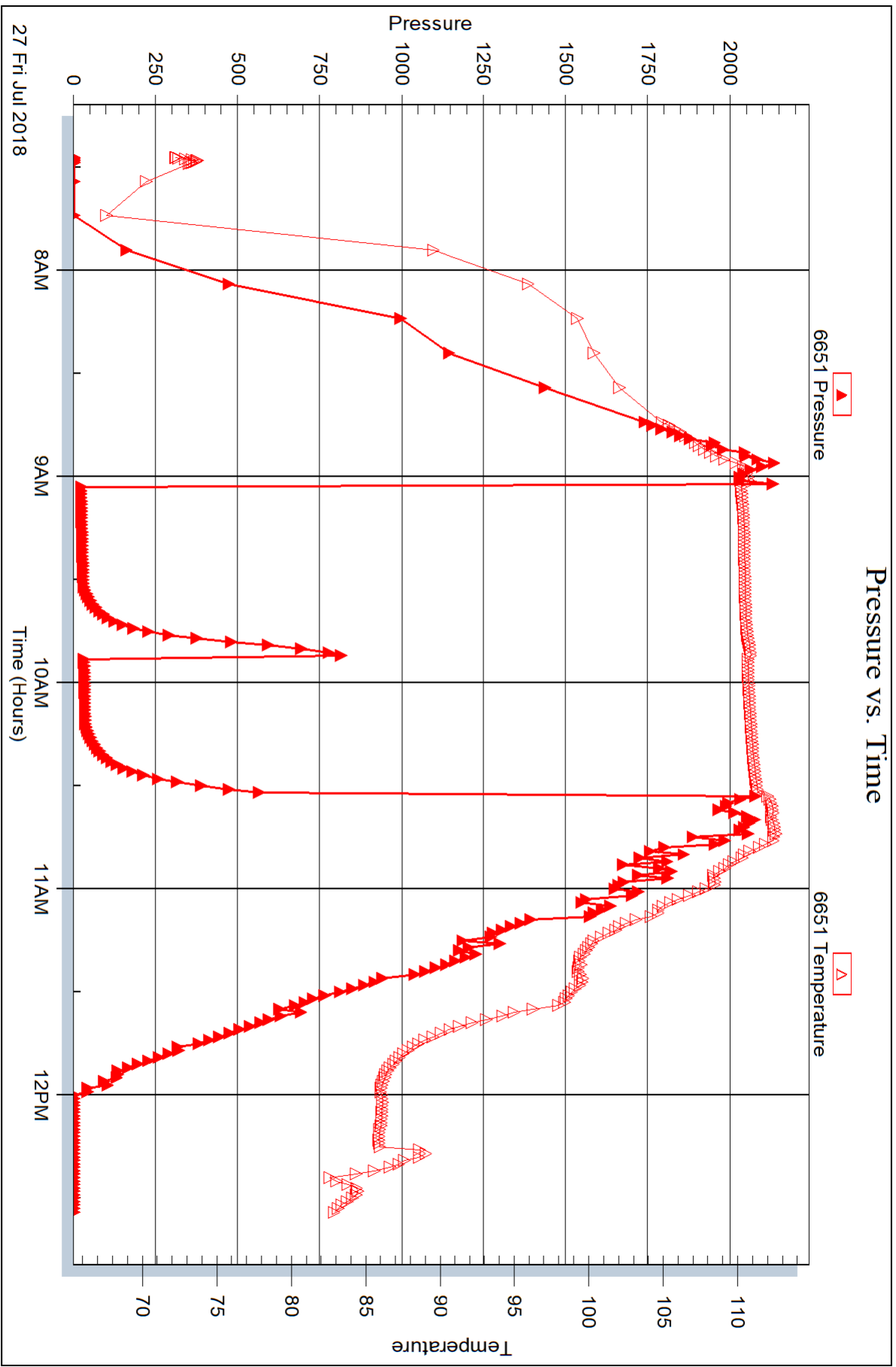
Serial #: 6651

Inside

Cobalt Energy LLC

Binns B#1-32

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 63904

Printed: 2018.07.30 @ 14:44:27



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

115 S. Belmont #12  
Wichita, KS 67208

ATTN: Larry Nicholson

**Binns B #1-32**

**32-15-33 Logan,KS**

Start Date: 2018.07.28 @ 01:39:05

End Date: 2018.07.28 @ 07:22:05

Job Ticket #: 63905                      DST #: 6

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

Printed: 2018.07.30 @ 14:43:45



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63905

**DST#: 6**

ATTN: Larry Nicholson

Test Start: 2018.07.28 @ 01:39:05

## GENERAL INFORMATION:

Formation: **Lower Marmaton**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:40:35  
 Time Test Ended: 07:22:05  
 Interval: **4342.00 ft (KB) To 4390.00 ft (KB) (TVD)**  
 Total Depth: 4390.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 79  
 Reference Elevations: 2981.00 ft (KB)  
 2971.00 ft (CF)  
 KB to GR/CF: 10.00 ft

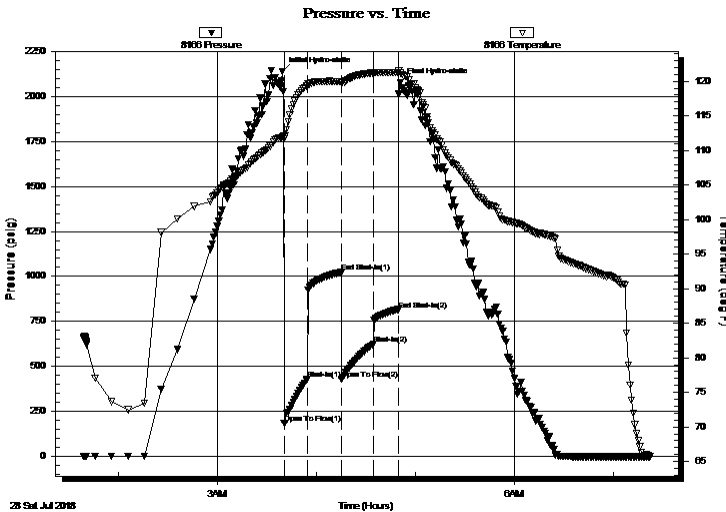
## Serial #: 8166

Outside

Press@RunDepth: 622.66 psig @ 4343.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.07.28 End Date: 2018.07.28 Last Calib.: 2018.07.28  
 Start Time: 01:39:10 End Time: 07:22:04 Time On Btm: 2018.07.28 @ 03:39:35  
 Time Off Btm: 2018.07.28 @ 04:51:05

TEST COMMENT: IF: BOB in 2 min. 65"  
 IS: Surface blow built to 1 1/2"  
 FF: BOB in 3 min. 52"  
 FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2139.31	111.96	Initial Hydro-static
1	183.42	111.74	Open To Flow (1)
15	427.71	119.38	Shut-In(1)
36	1022.65	119.97	End Shut-In(1)
36	430.87	119.81	Open To Flow (2)
55	622.66	121.21	Shut-In(2)
70	815.64	121.24	End Shut-In(2)
72	2078.58	121.20	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
882.00	water 100%w	9.88
252.00	mcw 95%w 5%m	3.53
267.00	mw 50%w 50%m	3.75

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**32-15-33 Logan, KS**

115 S. Belmont #12  
Wichita, KS 67208

**Binns B #1-32**

Job Ticket: 63905

**DST#: 6**

ATTN: Larry Nicholson

Test Start: 2018.07.28 @ 01:39:05

## Tool Information

Drill Pipe:	Length: 4057.00 ft	Diameter: 3.80 inches	Volume: 56.91 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: 30000.00 lb
Drill Collar:	Length: 274.00 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 58.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4342.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4313.00	
Shut In Tool	5.00			4318.00	
Hydraulic tool	5.00			4323.00	
Jars	5.00			4328.00	
EM Tool	3.00			4331.00	
Safety Joint	2.00			4333.00	
Packer	5.00			4338.00	30.00 Bottom Of Top Packer
Packer	4.00			4342.00	
Stubb	1.00			4343.00	
Recorder	0.00	6651	Inside	4343.00	
Recorder	0.00	8166	Outside	4343.00	
Perforations	8.00			4351.00	
Change Over Sub	1.00			4352.00	
Drill Pipe	32.00			4384.00	
Change Over Sub	1.00			4385.00	
Bullnose	5.00			4390.00	48.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>78.00</b>				



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**Binns B #1-32**

Job Ticket: 63905

**DST#: 6**

ATTN: Larry Nicholson

Test Start: 2018.07.28 @ 01:39:05

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

41000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 12.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9400.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
882.00	water 100%w	9.876
252.00	mcw 95%w 5%m	3.535
267.00	mw 50%w 50%m	3.745

Total Length: 1401.00 ft      Total Volume: 17.156 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

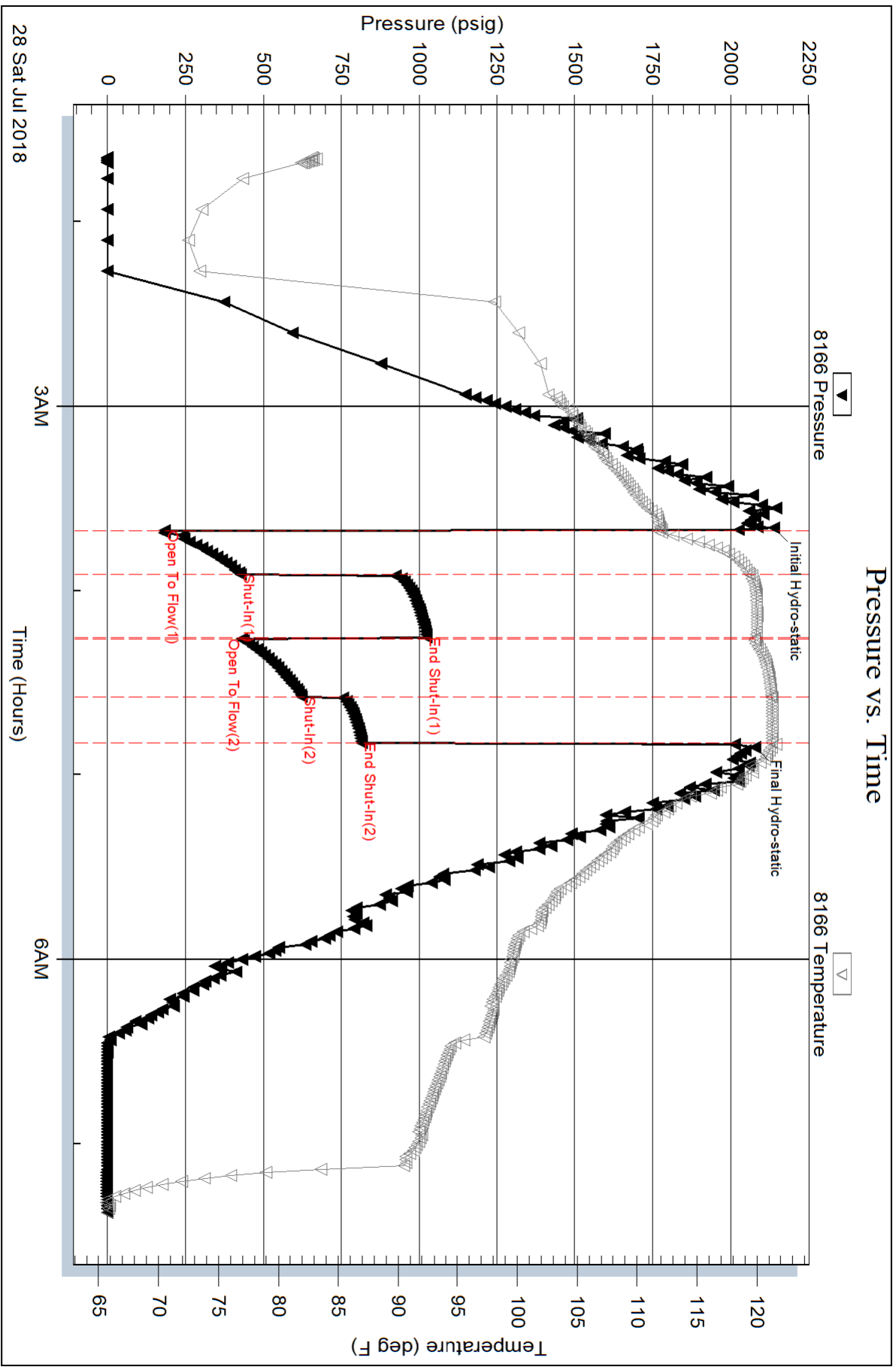
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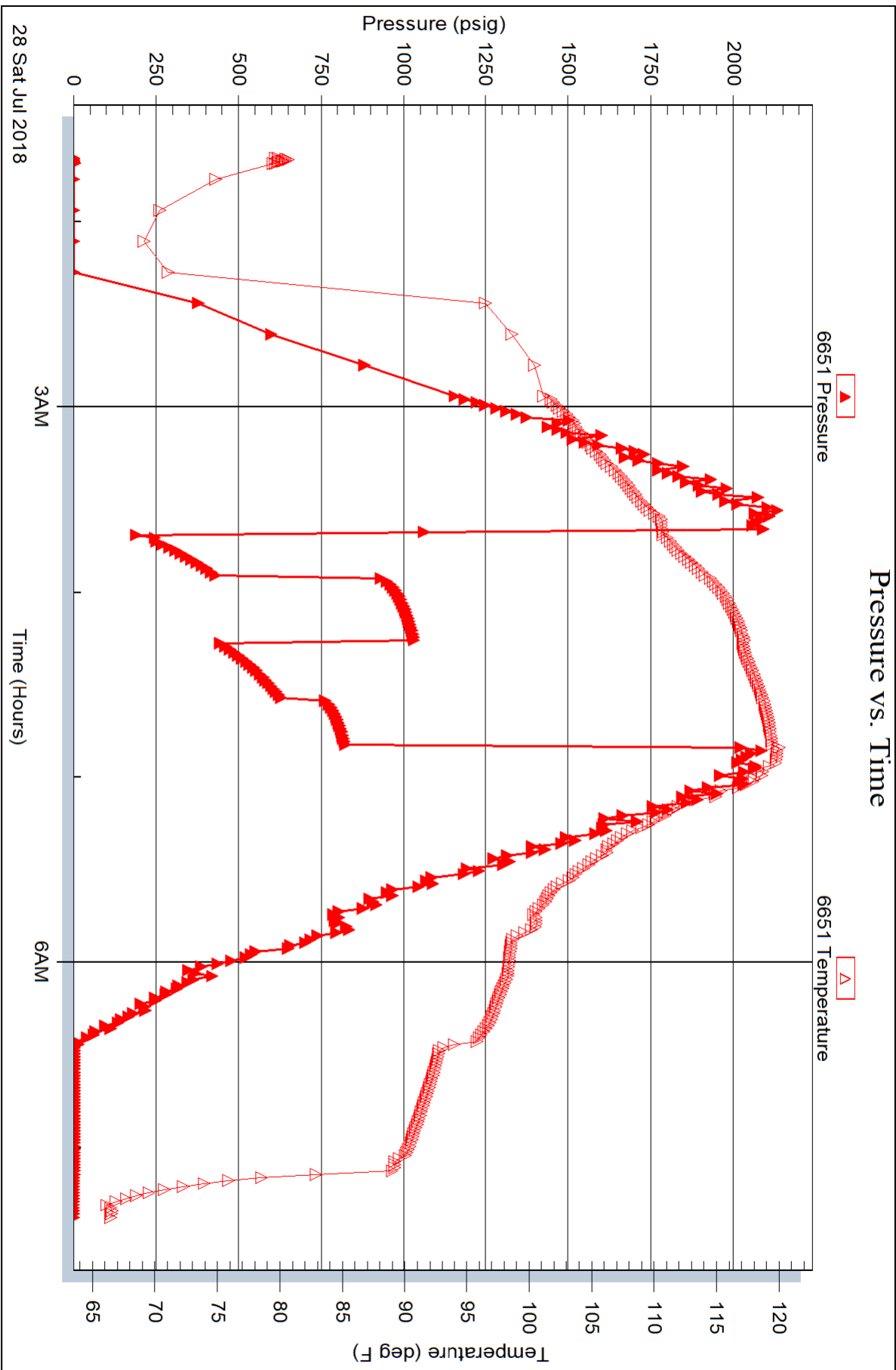
Laboratory Name:

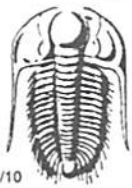
Laboratory Location:

Recovery Comments: .20@63=41000









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **63900**

Well Name & No. Binns B 1-32 Test No. 1 Date 7-24-18  
 Company Cobalt Energy LLC Elevation 2981 KB 2971 GL  
 Address 115 S. Belmont #12 Wichita, KS 67208  
 Co. Rep / Geo. Larry Nicholson Rig Martin 21  
 Location: Sec. 32 Twp. 15 Rge. 33 Co. Logan State KS

Interval Tested 3950 3975 Zone Tested L&C - C  
 Anchor Length 25 Drill Pipe Run 3676 Mud Wt. 8.8  
 Top Packer Depth 3945 Drill Collars Run 274 Vis 67  
 Bottom Packer Depth 3950 Wt. Pipe Run --- WL 7.2  
 Total Depth 3975 Chlorides 3500 ppm System LCM 2  
 Blow Description IF: 1/4 blow built to 1"  
IS: No return.  
FF: Surface blow built to 1/2.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free oil</u>	<u>100</u>			
<u>62</u>	<u>OCM</u>	<u>2</u>		<u>98</u>	

Rec Total 63 BHT 112 Gravity --- API RW --- @ --- °F Chlorides --- ppm

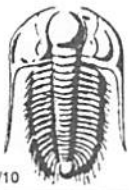
(A) Initial Hydrostatic 1988  Test 1050 T-On Location 9:46  
 (B) First Initial Flow 21  Jars 250 T-Started 11:23  
 (C) First Final Flow 35  Safety Joint 75 T-Open 13:16  
 (D) Initial Shut-In 1072  Circ Sub NIL T-Pulled 15:06  
 (E) Second Initial Flow 39  Hourly Standby --- T-Out 17:06  
 (F) Second Final Flow 52  Mileage 50 50 Comments EM 4001  
 (G) Final Shut-In 1072  Sampler ---  
 (H) Final Hydrostatic 1904  Straddle ---  
 Shale Packer ---  
 Extra Packer ---  
 Extra Recorder ---  
 Day Standby ---  
 Accessibility ---  
 Sub Total 1425

Initial Open 30  
 Initial Shut-In ~~20~~ 20  
 Final Flow 30  
 Final Shut-In 30

Sub Total 0  
 Total 1425  
 MP/DST Disc't ---

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **63901**

Well Name & No. Binns B 1-32 Test No. 2 Date 7-25-18  
 Company Cobalt Energy LLC Elevation 2981 KB 2971 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21  
 Location: Sec. 32 Twp. 15 Rge. 33 Co. Logan State KS

Interval Tested 4131 4184 Zone Tested LKC I-J  
 Anchor Length 53 Drill Pipe Run 3837 Mud Wt. 9.4  
 Top Packer Depth 4126 Drill Collars Run 274 Vis 5"  
 Bottom Packer Depth 4131 Wt. Pipe Run \_\_\_\_\_ WL ~~12.00~~  
 Total Depth 4184 Chlorides 8600 ppm System LCM 2  
 Blow Description IF! BoB in 7 min. 28 1/2"  
IS! No return.  
FF! BoB in 12 min. 24"  
FS! No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>73</u>	<u>ocm</u>	<u>5</u>		<u>95</u>	
<u>189</u>	<u>ocwm</u>	<u>2</u>	<u>48</u>	<u>50</u>	
<u>189</u>	<u>MCW oil spots</u>		<u>70</u>	<u>30</u>	
<u>252</u>	<u>MCW</u>		<u>90</u>	<u>10</u>	

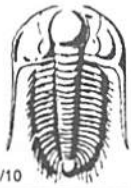
Rec Total 703 BHT 119 Gravity \_\_\_\_\_ API RW 118 @ 102° F Chlorides 25000 ppm  
 (A) Initial Hydrostatic 2175  Test 1150 T-On Location 11:45  
 (B) First Initial Flow 35  Jars 250 T-Started 12:28  
 (C) First Final Flow 229  Safety Joint 75 T-Open 14:07  
 (D) Initial Shut-In 1204  Circ Sub NIC T-Pulled 15:27  
 (E) Second Initial Flow 234  Hourly Standby \_\_\_\_\_ T-Out 17:55  
 (F) Second Final Flow 332  Mileage 50 - 50 Comments EM Tool 350  
 (G) Final Shut-In 1194  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2058  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1525

Initial Open 20  
 Initial Shut-In 20  
 Final Flow 20  
 Final Shut-In 20

Sub Total 0  
 Total 1875  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **63902**

4/10

Well Name & No. Binns B 1-32 Test No. 3 Date 7-26-18  
 Company Cobalt Energy LLC Elevation 2981 KB 2971 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21  
 Location: Sec. 32 Twp. 15 Rge. 33 Co. L0984 State KS

Interval Tested 4233 4242 Zone Tested LKC - L  
 Anchor Length 9 Drill Pipe Run 3934 Mud Wt. 9.4  
 Top Packer Depth 4228 Drill Collars Run 274 Vis 57  
 Bottom Packer Depth 4233 Wt. Pipe Run — WL 12.0  
 Total Depth 4242 Chlorides 8600 ppm System LCM 2

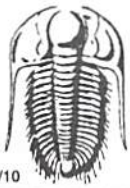
Blow Description IF: surface blow built to 3/4.  
IS: No return.  
EF: No blow.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud oil spots</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 5 BHT \_\_\_\_\_ Gravity 0 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2121</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>3:20</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>3:50</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>6:04</u>
(D) Initial Shut-In <u>1218</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>7:44</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>9:34</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>50</u> 50	Comments <u>EM Tool</u>
(G) Final Shut-In <u>1191</u>	<input type="checkbox"/> Sampler _____	<u>350</u>
(H) Final Hydrostatic <u>2075</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>20</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>26</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Total <u>1875</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1525</u>	

Approved By [Signature] Our Representative [Signature]  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **63903**

Well Name & No. Binns B 1-32 Test No. 4 Date 7-26-18  
 Company Cobalt Energy LLC Elevation 2981 KB 2971 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21  
 Location: Sec. 32 Twp. 15 Rge. 33 Co. Logan State Ks

Interval Tested 4268 4278 Zone Tested ~~4268~~ Pleasanton  
 Anchor Length 10 Drill Pipe Run 3994 Mud Wt. 9.2  
 Top Packer Depth 4263 Drill Collars Run 274 Vis 60  
 Bottom Packer Depth 4268 Wt. Pipe Run — WL 10.8  
 Total Depth 4278 Chlorides 8400 ppm System LCM 1

Blow Description #F: surface blow died in 10 min.  
#S: No return.  
FK: No blow.  
FS: No return.

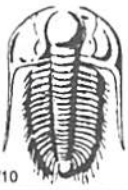
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>wcm</u>		<u>40</u>	<u>60</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 114 Gravity — API RW .40 @ 68 °F Chlorides 17,000 ppm  
 (A) Initial Hydrostatic 2135  Test 1150 T-On Location 17:00  
 (B) First Initial Flow 17  Jars 250 T-Started 17:41  
 (C) First Final Flow 21  Safety Joint 75 T-Open 20:00  
 (D) Initial Shut-In 1184  Circ Sub NIC T-Pulled 21:20  
 (E) Second Initial Flow 22  Hourly Standby \_\_\_\_\_ T-Out 23:26  
 (F) Second Final Flow 25  Mileage 50- 50 Comments EM Tool 350  
 (G) Final Shut-In 1178  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2047  Straddle \_\_\_\_\_

Initial Open 20  Shale Packer \_\_\_\_\_  
 Initial Shut-In 20  Shale Packer \_\_\_\_\_  
 Final Flow \_\_\_\_\_  Extra Packer \_\_\_\_\_  
 Final Shut-In \_\_\_\_\_  Extra Recorder \_\_\_\_\_  
 \_\_\_\_\_  Day Standby \_\_\_\_\_  
 \_\_\_\_\_  Accessibility \_\_\_\_\_  
 Sub Total 1525 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **63904**

Well Name & No. Binns B 1-32 Test No. 5 Date 7-27-18  
 Company Cobalt Energy LLC Elevation 2981 KB 2971 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21  
 Location: Sec. 32 Twp. 15 Rge. 33 Co. Logan State K5

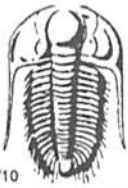
Interval Tested 4306 4316 Zone Tested Morrison  
 Anchor Length 10 Drill Pipe Run 4026 Mud Wt. 9.2  
 Top Packer Depth 4301 Drill Collars Run 274 Vis 60  
 Bottom Packer Depth 4306 Wt. Pipe Run \_\_\_\_\_ WL 10.8  
 Total Depth 4316 Chlorides 8400 ppm System LCM 1  
 Blow Description IF: 1/4 blow built to 1 1/4.  
FS: No return.  
FF: surface blow built to 1/2.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>ocm</u>	<u>30</u>		<u>70</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 112 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2152</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>7:00</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>7:27</u>
(C) First Final Flow <u>25</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>9:02</u>
(D) Initial Shut-In <u>817</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>10:32</u>
(E) Second Initial Flow <u>25</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>12:36</u>
(F) Second Final Flow <u>30</u>	<input checked="" type="checkbox"/> Mileage <u>50</u> - 50	Comments <u>EM Tool</u>
(G) Final Shut-In <u>558</u>	<input type="checkbox"/> Sampler _____	<u>350</u>
(H) Final Hydrostatic <u>2072</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>20</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>20</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>20</u>	<input type="checkbox"/> Day Standby _____	Total <u>1875</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1525</u>	

Approved By [Signature] Our Representative [Signature]  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **63905**

4/10

Well Name & No. Binns B 1-32 Test No. 6 Date 7-28-18  
 Company Cobalt Energy LLC Elevation 2981 KB 2971 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21  
 Location: Sec. 32 Twp. 15 Rge. 33 Co. Logan State KS

Interval Tested 4342 4390 Zone Tested Lower Marmaton  
 Anchor Length 48 Drill Pipe Run 4057 Mud Wt. 9.2  
 Top Packer Depth 4337 Drill Collars Run 274 Vis 62  
 Bottom Packer Depth 4342 Wt. Pipe Run — WL 12.8  
 Total Depth 4390 Chlorides 9400 ppm System LCM 2  
 Blow Description IF! BoB in ~~2~~ 2 min. 65"  
IS! Surface blow built to 1 1/2.  
EF! BoB in 3 min. 52"  
KS! No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>267</u>	<u>MW</u>		<u>50</u>	<u>50</u>	
<u>252</u>	<u>MCW</u>		<u>95</u>	<u>5</u>	
<u>882</u>	<u>water</u>		<u>100</u>		
_____	_____				
_____	_____				

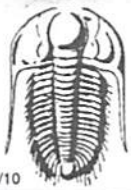
Rec Total 1401 BHT 121 Gravity — API RW .20 @ 63 °F Chlorides 41,000 ppm

(A) Initial Hydrostatic <u>2139</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1:15</u>
(B) First Initial Flow <u>183</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1:39</u>
(C) First Final Flow <u>427</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:40</u>
(D) Initial Shut-In <u>1022</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>4:50</u>
(E) Second Initial Flow <u>430</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>7:25</u>
(F) Second Final Flow <u>622</u>	<input checked="" type="checkbox"/> Mileage <u>50-50</u>	Comments _____
(G) Final Shut-In <u>815</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2078</u>	<input type="checkbox"/> Straddle	_____
Initial Open <u>15</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>20</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>20</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>15</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1525</u>
	Sub Total <u>1525</u>	MP/DST Disc't _____

Approved By L. H. Hill 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. **63906**

Well Name & No. Binns B 1-32 Test No. 7 Date 7-29-18  
 Company Cobalt Energy LLC Elevation 2981 KB 2971 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Larry Nicholson Rig Martin 21  
 Location: Sec. 32 Twp. 15 Rge. 33 Co. Logan State KS

Interval Tested 4475 4580 Zone Tested Cherokee Johnson  
 Anchor Length \_\_\_\_\_ 105 Drill Pipe Run 4184 Mud Wt. 9.0  
 Top Packer Depth \_\_\_\_\_ 4470 Drill Collars Run 274 Vis 65  
 Bottom Packer Depth \_\_\_\_\_ 4475 Wt. Pipe Run \_\_\_\_\_ WL 10.0  
 Total Depth \_\_\_\_\_ 4580 Chlorides 9600 ppm System LCM 1

Blow Description IF: BoB in 15 min. 22 1/2.  
IS! Surface blow built to 4,  
FF: BoB in 12 min. 28 1/2"  
FS! BoB in 12 min. 16"

Rec	Feet of	%gas	%oil	%water	%mud
<u>178</u>	<u>90</u>	<u>40</u>	<u>60</u>		
<u>189</u>	<u>MC90</u>	<u>30</u>	<u>30</u>		<u>40</u>
<u>63</u>	<u>MC90</u>	<u>20</u>	<u>40</u>		<u>40</u>
Rec _____	Feet of <u>832 GAP</u>	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 428 BHT 120 Gravity 27 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2318  Test 1150 T-On Location 5:15  
 (B) First Initial Flow 26  Jars 250 T-Started 5:50  
 (C) First Final Flow 134  Safety Joint 75 T-Open 7:51  
 (D) Initial Shut-In 1214  Circ Sub NIC T-Pulled 10:21  
 (E) Second Initial Flow 148  Hourly Standby \_\_\_\_\_ T-Out 12:47  
 (F) Second Final Flow 175  Mileage 50-X2 50+50 Comments EM Tool  
 (G) Final Shut-In 1214  Sampler \_\_\_\_\_ 350  
 (H) Final Hydrostatic 2208  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1575

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

Approved By [Signature] Our Representative [Signature]

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# GEOLOGICAL REPORT

FINAL

## Larry A. Nicholson

NAD 83  
38.78947423  
-101.00917157

COMPANY & WELL: Cobalt Energy LLC Binn "B" #1-32  
LOCATION: 1856 FNL 2013 FEL SE NW SW NE  
SEC 32 TWP 15S RGE 33W  
COUNTY Logan STATE Ks

COMPANY: Cobalt Energy LLC  
API #: 15-109-21553 FIELD: NA  
LEASE: Binn "B"  
LOCATION: 1856 FNL 2013 FEL  
SURVEY: 1856 FNL 2013 FEL  
SECTION: 32 TWP 15S RGE 33W  
COUNTY: Logan STATE: Kansas

CONTRACTOR: Murfin Drilling TP, Tinoco Rigs # 21  
SPUD: 07-20-18 6:00 pm COMPLETION: 07-20-18 4:27 PM  
RTD: 4730 01:05am 07-30-18 LTD: 4727  
MUD UP AT: 3500  
MUD TYPE: Chemical MudCo Reid Atkins

ELEVATIONS  
K.B.: 2982  
D.F.:  
G.L.: 2971

All measurements from K.B., 2982

CASING RECORD  
Surface: 223' of 8" 5/8" x 165' 5/8"  
Production: 0' of 8" 5/8" x 165' 5/8"

### FORMATION TOPS & STRUCTURAL POSITION

FORMATION	SAMPLE TOPS	SURFACE DATUM	ELEC LOG TOPS	SURFACE DATUM	REFERENCE WELL	B				
Anhydrite			2350	+632	2415	-638	-4	2301	+629	+3
Base Anhydrite			2359	+613	2433	-618	-5	2320	+610	+3
Heubner			3871	-889	-884	-5	3811	-881	-8	
Lansing			3914	-932	3971	-920	-12	3853	-923	-9
Stark			4184	-1202	4246	-1195	-7	4117	-1187	-15
Marm			4297	-1315	4362	-1311	-4	4238	-1308	-7
Cherokee Sh			4476	-1494	4542	-1491	-3	4413	-1483	-11
Morrow Sh			4579	-1597	4652	-1601	-4	4520	-1590	-7
Mississippian			4643	-1661	4700	-1649	-12	4600	-1700	+9
RTD			4730	-1748	4750	-1699		4680	-1750	
LTD			4727	-1745	4749	-1698		4681	-1751	

REFERENCE WELLS  
A: Cobalt Binn A #1-32 1067 FSL 1032 FWL 32-115S-R33W KB 2931  
B: Cobalt Radnor A #1-30 1218' FSL 1878' FWL 30-115S-R33W KB 2950.

DRILLSTEM TEST SUMMARY:  
LHM 702, Modified 505, 115, 412, 418 1inch=25.4mm 8.5 x 9.5 216 mm x 2480 mm

REMARKS & RECOMMENDATIONS:  
The csg is run based on DST results and sample shows, and logs.  
ROP is 2 ft deep to Logs  
(a sub was not in pipe)

Dat #1 9860-3975 (LKC C) 30 20 20 30 IF: 19-25 FF: 29-52 SI: 1073-1072  
Total Rec: 170' OCW (20) IF: 1/4 blow built 1" NR FF Blow built 1/2" NR

Dat #2 4131-3184 (LKC C) 30 20 20 30 IF: 35-229 FF: 234-332 SI: 1204-1194  
Total Rec: 703' OCW (50) 159' OCW (20 48W 50M)  
189' MCW (20 48W 50M) BOB 7min 28" NR, BOB 12m 24"

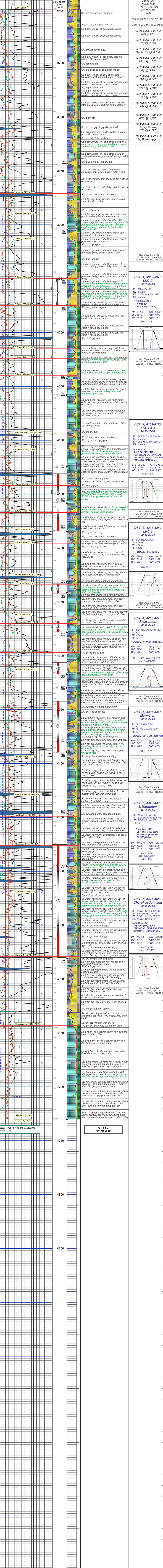
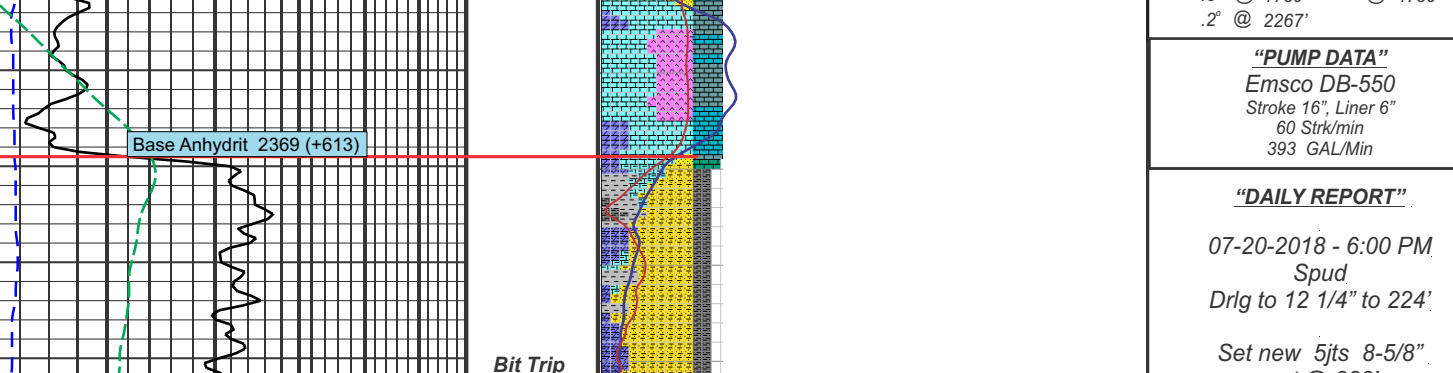
Dat #3 4233-4242 (LKC C) 30 20 20 30 IF: 17-21 FF: 20-22 SI: 1218-1191  
Total Rec: 3M Opts IF: Surf to 34" FF n blow

Dat #4 4268-4278 (Pleasant) 20 20 20 30 IF: 17-21 FF: 22-25 SI: 1184-1178  
Total Rec: 3M Opts IF: Surf to 10m NR, FF n blow, NR

Dat #5 4306-4316 (Marm) 30 20 20 30 IF: 19-25 FF: 25-30 SI: 1175-158  
Total Rec: 27' OCW (300 70M) IF: Surf to 114" NR, FF Surf to 127" NR

Dat #6 4342-4350 (LKC C) 30 30 30 60 IF: 26-134 FF: 17-15 SI: 1214-1214  
Total Rec: 190' OCW (20 48W 50M) 189' MCW (20 48W 50M)  
IF: BOB 15 min 22" BOB 12m 16" FF BOB 12 min 28, BOB 12 min 16"

### LEGEND



COMPANY: Cobalt Energy LLC  
LEASE: Binn "B" #1-32 SE NW SW NE  
LOCATION: 1856 FNL 2013 FEL sec. 32 TWP 15S RGE 33W  
COUNTY: Logan STATE: Ks

ELEVATIONS  
K.B.: 2982  
D.F.:  
G.L.: 2971

All measurements from K.B., 2982