

TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Bruce Oil Company, LLC.**

1704 Limestone Rd
McPherson KS 67460+6500

ATTN: Bob Petersen

McReynolds #1

16-8S-14W Osborne,KS

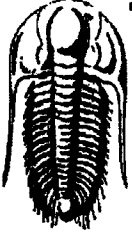
Start Date: 2018.06.08 @ 14:44:00

End Date: 2018.06.08 @ 21:28:00

Job Ticket #: 63910 DST #: 1

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

Printed: 2018.06.11 @ 10:29:47



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Bruce Oil Company, LLC.
1704 Limestone Rd
McPherson KS 67460+6500
ATTN: Bob Petersen

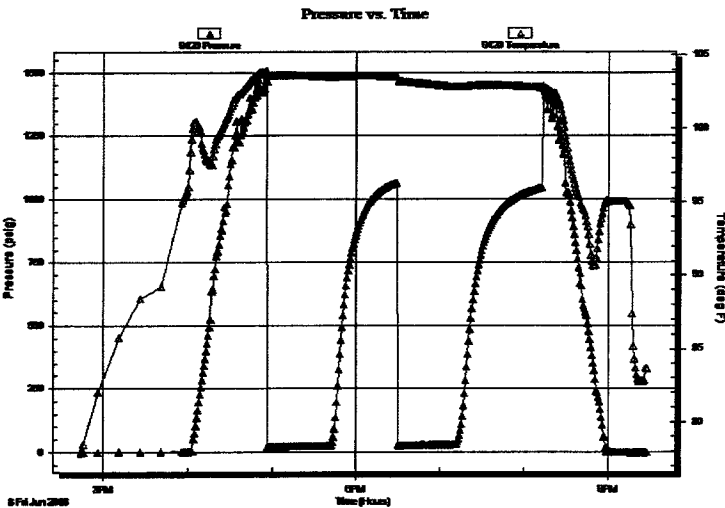
16-8S-14W Osborne,KS
McReynolds #1
Job Ticket: 63910 **DST#: 1**
Test Start: 2018.06.08 @ 14:44:00

GENERAL INFORMATION:

Formation: LKC 'B-D'			Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)			Tester: Spencer J. Staab
Time Tool Opened: 16:56:45			Unit No: 84
Time Test Ended: 21:28:00			
Interval: 2916.00 ft (KB) To 3000.00 ft (KB) (TVD)		Reference Elevations: 1719.00 ft (KB)	
Total Depth: 3000.00 ft (KB) (TVD)		1712.00 ft (CF)	
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF: 7.00 ft	

Serial #: 9120	Outside				Capacity: 8000.00 psig
Press@RunDepth: psig @ 2919.00 ft (KB)					Last Calib.: 2018.06.08
Start Date: 2018.06.08	End Date: 2018.06.08				Time On Btm:
Start Time: 14:44:15	End Time: 21:28:00				Time Off Btm:

TEST COMMENT: 45-IF-Weak Blow ; Built to 3/4"
45-IS-No Return
45-FF-Weak Surface Blow ; Built to 1/4"
60-FSI-No Return



PRESSURE SUMMARY

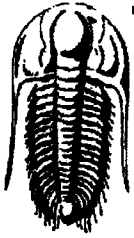
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
30.00	SOCM 5%O 95%M	0.43

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bruce Oil Company, LLC.

16-8S-14W Osborne, KS

1704 Limestone Rd
McPherson KS 67460+6500

McReynolds #1

Job Ticket: 63910

DST#: 1

ATTN: Bob Petersen

Test Start: 2018.06.08 @ 14:44:00

GENERAL INFORMATION:

Formation: **LKC 'B-D'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:56:45

Time Test Ended: 21:28:00

Interval: **2916.00 ft (KB) To 3000.00 ft (KB) (TVD)**

Total Depth: 3000.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

Reference Elevations: 1719.00 ft (KB)

1712.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8368

Inside

Press@RunDepth: 29.27 psig @ 2919.00 ft (KB)

Start Date: 2018.06.08

End Date: 2018.06.08

Start Time: 14:44:15

End Time: 21:28:00

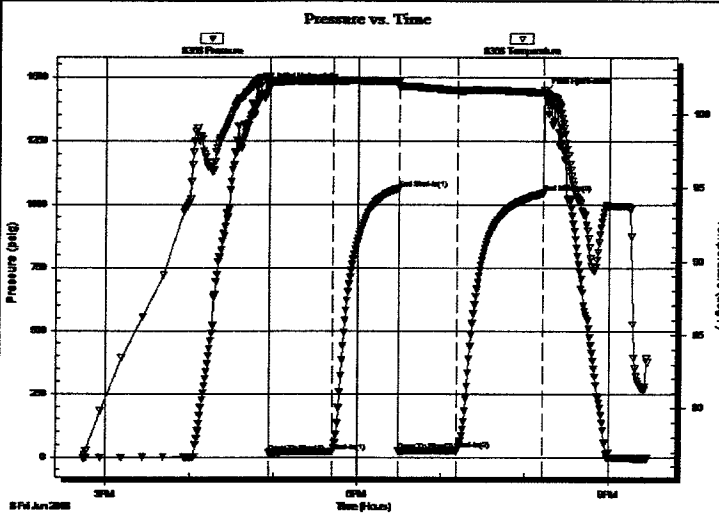
Capacity: 8000.00 psig

Last Calib.: 2018.06.08

Time On Btm: 2018.06.08 @ 16:56:30

Time Off Btm: 2018.06.08 @ 20:13:00

TEST COMMENT: 45-IF-Weak Blow ; Built to 3/4"
45-ISI-No Return
45-FF-Weak Surface Blow ; Built to 1/4"
60-FSI-No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1459.53	102.53	Initial Hydro-static
1	19.31	101.91	Open To Flow (1)
46	23.52	102.20	Shut-In(1)
93	1063.09	102.18	End Shut-In(1)
93	25.83	101.78	Open To Flow (2)
135	29.27	101.60	Shut-In(2)
196	1044.33	101.46	End Shut-In(2)
197	1441.12	101.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	SOCM 5%O 95%M	0.43

Gas Rates

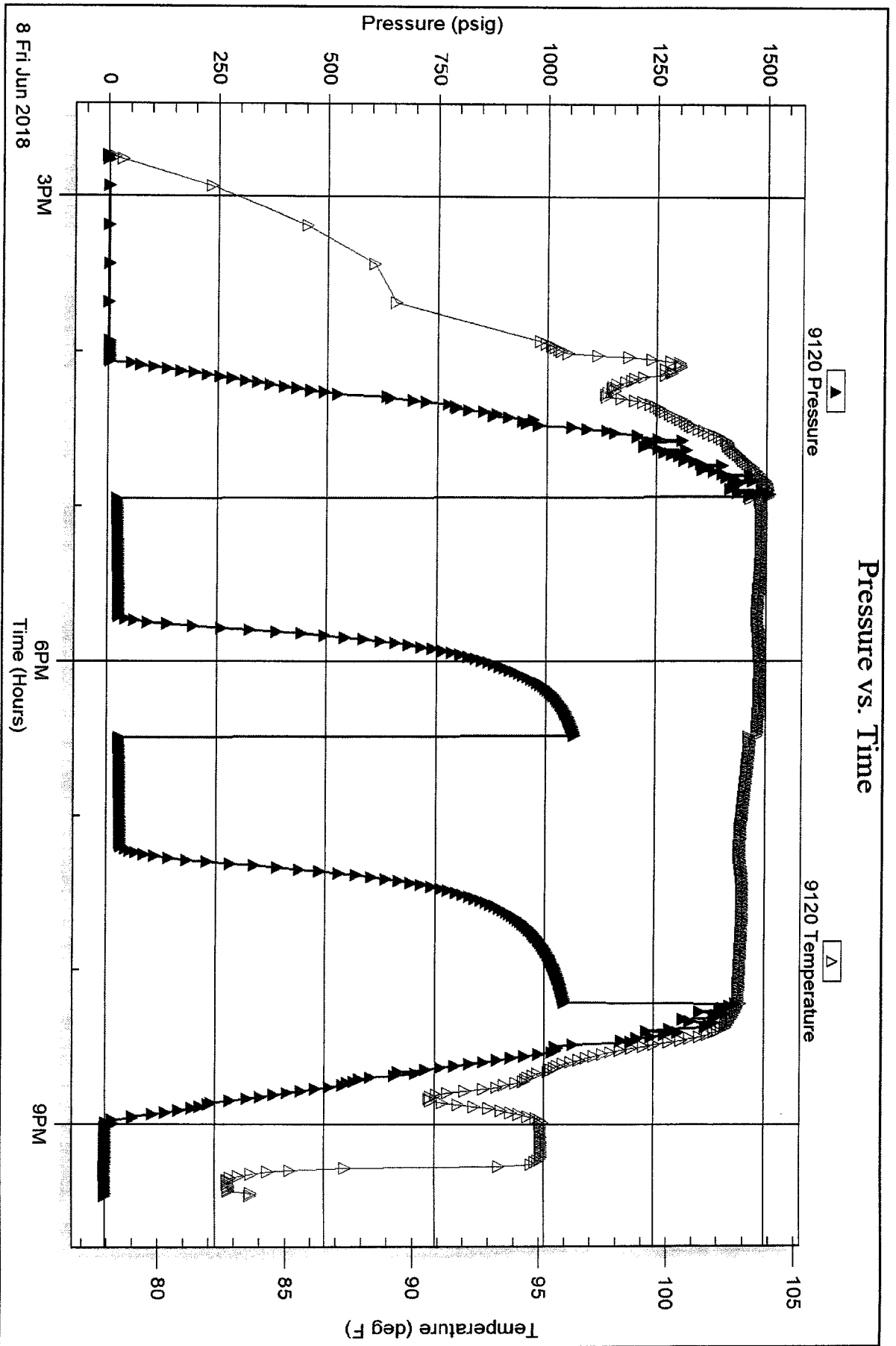
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Serial #: 9120

Outside Bruce Oil Company, LLC

McReynolds #1

DST Test Number: 1



Serial #: 8368

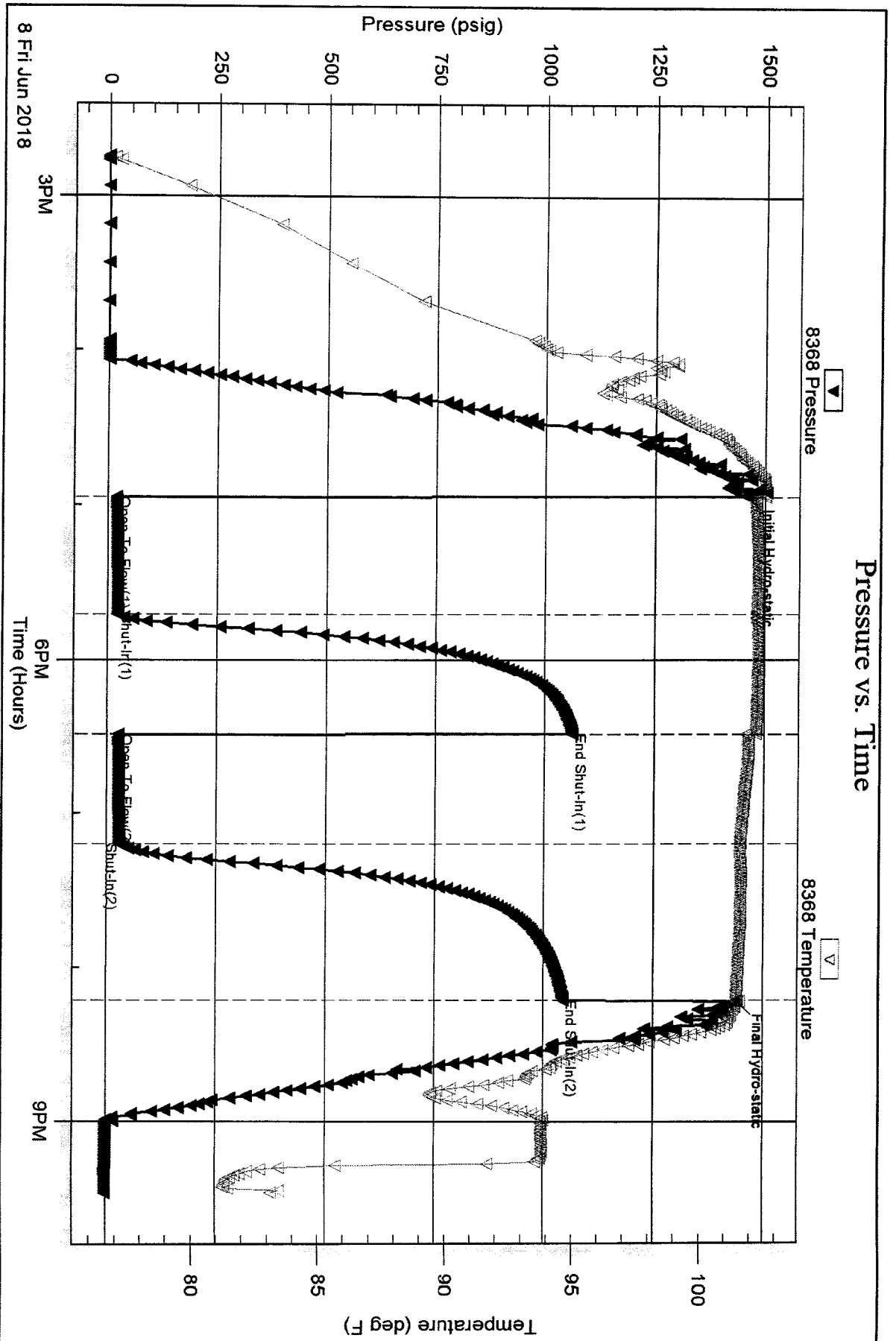
Inside

Bruce Oil Company, LLC.

McReynolds #1

DST Test Number: 1

Pressure vs. Time





**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Bruce Oil Company, LLC.

16-8S-14W Osborne,KS

1704 Limestone Rd
McPherson KS 67460+6500

McReynolds #1

Job Ticket: 63910

DST#: 1

ATTN: Bob Petersen

Test Start: 2018.06.08 @ 14:44:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.99 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4400.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

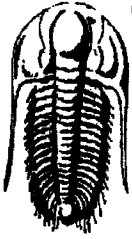
Length ft	Description	Volume bbl
30.00	SOCM 5%O 95%M	0.425

Total Length: 30.00 ft Total Volume: 0.425 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: 2#LCM



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bruce Oil Company, LLC.

16-8S-14W Osborne, KS

1704 Limestone Rd
McPherson KS 67460+6500

McReynolds #1

Job Ticket: 63910

DST#: 1

ATTN: Bob Petersen

Test Start: 2018.06.08 @ 14:44:00

Tool Information

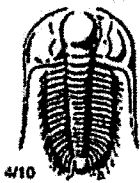
Drill Pipe:	Length: 2915.00 ft	Diameter: 3.82 inches	Volume: 41.32 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 41.32 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	2916.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	112.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Change Over Sub	1.00			2889.00	
Shut In Tool	5.00			2894.00	
Hydraulic tool	5.00			2899.00	
Jars	5.00			2904.00	
Safety Joint	3.00			2907.00	
Packer	5.00			2912.00	28.00 Bottom Of Top Packer
Packer	4.00			2916.00	
Stubb	1.00			2917.00	
Perforations	1.00			2918.00	
Change Over Sub	1.00			2919.00	
Recorder	0.00	8368	Inside	2919.00	
Recorder	0.00	9120	Outside	2919.00	
Drill Pipe	63.00			2982.00	
Change Over Sub	1.00			2983.00	
Perforations	14.00			2997.00	
Bullnose	3.00			3000.00	84.00 Bottom Packers & Anchor
Total Tool Length:	112.00				



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63910

Well Name & No. Mc Reynolds #1 Test No. 1 Date 06/08/2018
 Company Bruce Oil Company, LLC Elevation 1719 KB 1712 GL
 Address 1704 Limestone Rd McPherson Ks 67460+6500
 Co. Rep / Geo. BOB Petersen Rig Royal #1
 Location: Sec. 16 Twp 8S Rge. 14W Co. Osborne State Ks

Interval Tested 2916 - 3000 Zone Tested LKC 'B-D'
 Anchor Length 84' Drill Pipe Run 2915' Mud Wt. 9.2
 Top Packer Depth 2911' Drill Collars Run — Vis 59
 Bottom Packer Depth 2916' Wt. Pipe Run — WL 6.0
 Total Depth 3000' Chlorides 4400 ppm System LCM 2#

Blow Description 17- Weak Blow; Built to 3/4"
1st - No Return
47- Weak Surface Blow; Built to 1/4"
75 - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>SOCM</u>	<u>5</u>		<u>95</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 30 BHT 101° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1459</u>	<input checked="" type="checkbox"/> Test 1050	T-On Location <u>14:15</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>14:44</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>16:55</u>
(D) Initial Shut-In <u>1063</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>20:10</u>
(E) Second Initial Flow <u>25</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>21:27</u>
(F) Second Final Flow <u>29</u>	<input checked="" type="checkbox"/> Mileage <u>126 27</u> 126	Comments <u>Graded after test</u>
(G) Final Shut-In <u>1044</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1441</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1501</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1501</u>	

Approved By _____

Our Representative Spencer J. Gual-Thorpe

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785-709-1111