

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)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom

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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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 784

Date	6-5-18	Sec.	16	Twp.	08	Range	14	County	Osborne	State	Ks	On Location		Finish	2:00 AM						
Lease	Mc Reynolds		Well No.	1		Location 281 + 18 Jct 3W to 182 Rd, 11 N, 2E, 2N															
Contractor	Royal 1		Owner		1/8 W 3 1/2 N, 1/4 W, 5 N, 3 W, 1/4 S, E 1/2																
Type Job	Surface		To Quality Oilwell Cementing, Inc.		You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.																
Hole Size	12 1/4"		T.D.	728'		Charge To	Bruce Oil Company														
Csg.	8 5/8"		Depth	728'		Street															
Tbg. Size			Depth			City	State														
Tool			Depth			The above was done to satisfaction and supervision of owner agent or contractor.															
Cement Left in Csg.			Shoe Joint			Cement Amount Ordered	350 6/40 4% CC 2% Gel														
Meas Line			Displace	45 1/4 BBS																	
<b>EQUIPMENT</b>						Common	210														
Pumptrk	17	No.	Cement Helper	Doug		Poz. Mix	140														
Bulktrk	13	No.	Driver	Jack		Gel.	7														
Bulktrk	p.u.	No.	Driver	Rick		Calcium	15														
<b>JOB SERVICES &amp; REMARKS</b>						Hulls															
Remarks:	Cement did Circulate					Salt															
Rat Hole						Flowseal															
Mouse Hole						Kol-Seal															
Centralizers						Mud CLR 48															
Baskets						CFL-117 or CD110 CAF 38															
DV or Port Collar						Sand															
<div style="font-size: 4em; opacity: 0.5;">Thanks</div>						Handling	372														
						Mileage															
						<b>FLOAT EQUIPMENT</b>						Guide Shoe	Rubber plug								
						Centralizer															
Baskets																					
AFU Inserts																					
Float Shoe																					
Latch Down																					
Pumptrk Charge	Lang Surface																				
Mileage	36																				
						Tax															
						Discount															
						Total Charge															
X Signature	Doug Budig																				

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

No. 489

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

Date 6-9-18	Sec. 16	Twp. 8	Range 14	County Osborne	State KS	On Location	Finish 6:00 PM
				Location Natoma 14N 4E 1/4 S E1/4			

Lease <u>Mc Reynolds</u>	Well No. #1	Owner
Contractor <u>Royal</u>		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Type Job <u>Production String</u>	3,030	Charge To <u>Bruce Oil</u>
Hole Size <u>7 7/8</u>	T.D. <u>3,030</u>	Street
Csg. <u>5 1/2</u>	Depth <del>3,030</del> <u>3,028</u>	City
Tbg. Size	Depth	State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. <u>10'</u>	Shoe Joint <u>10'</u>	Cement Amount Ordered <u>200 6 3/4 10 3/16 Salt 2 1/6 Gal 5 3/16 G. Isomire</u>
Meas Line	Displace <u>78 bbl</u>	

**EQUIPMENT**

Pumptrk 18	No.	Cementor	Common	120
		Helper <u>Bret</u>	Poz. Mix	80
Bulktrk	No.	Driver	Gal.	4
		Driver <u>Jordan</u>	Calcium	
Bulktrk 15	No.	Driver	Hulls	
		Driver <u>Doug</u>	Salt	17

**JOB SERVICES & REMARKS**

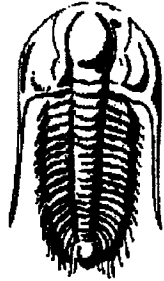
Remarks:	Flowseal
Rat Hole - 30 <sup>sq</sup>	Kol-Seal <u>1000#</u>
Mouse Hole - 15 <sup>sq</sup>	Mud CLR 48 - 500 Gal
Centralizers - 1, 7, 13, 19, 25	CFL-117 or CD110 CAF 38
Baskets - 4, 10, 16, 22	Sand
D/V or Port Collar	Handling <u>227</u>
Ran 3,285' 5 1/2 casing + Est cir	Mileage <u>5 1/2</u>
Plug Bar + Mouse	<b>FLOAT EQUIPMENT</b>
Mix 165 <sup>sq</sup> down 5 1/2	Guide Shoe
Displaced 78 bbl H <sub>2</sub> O	Centralizer - 5
Lift pressure @ 600lb <sub>s</sub>	Baskets - 4
Landed @ 1300	AFU Inserts
	Float Shoe - 1
	Latch Down - 1

Thanks

Pumptrk Charge <u>prod string</u>	Tax
Mileage <u>36</u>	Discount
	Total Charge

Signature Len King

1577 40 48



**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.

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

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

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

Reference Elevations: 1719.00 ft (KB)

1712.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **9120**

Outside

Press@RunDepth: psig @ 2919.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.08

End Date: 2018.06.08

Last Calib.: 2018.06.08

Start Time: 14:44:15

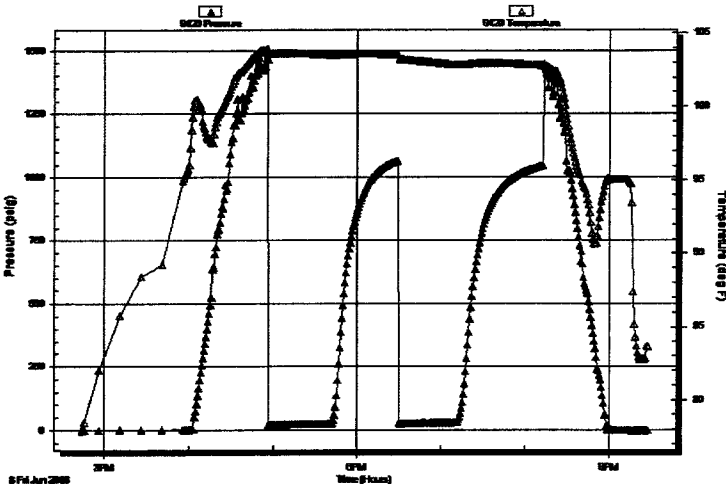
End Time: 21:28:00

Time On Btm:

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 vs. Time



### PRESSURE SUMMARY

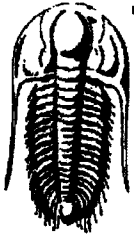
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### 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

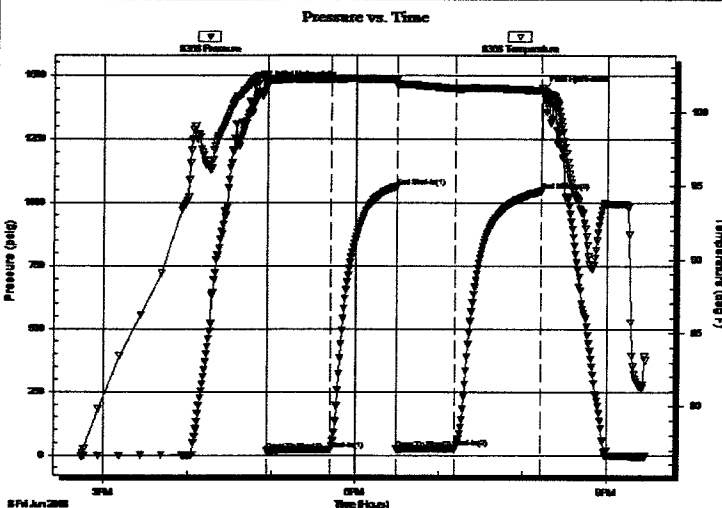
Capacity: 8000.00 psig

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)

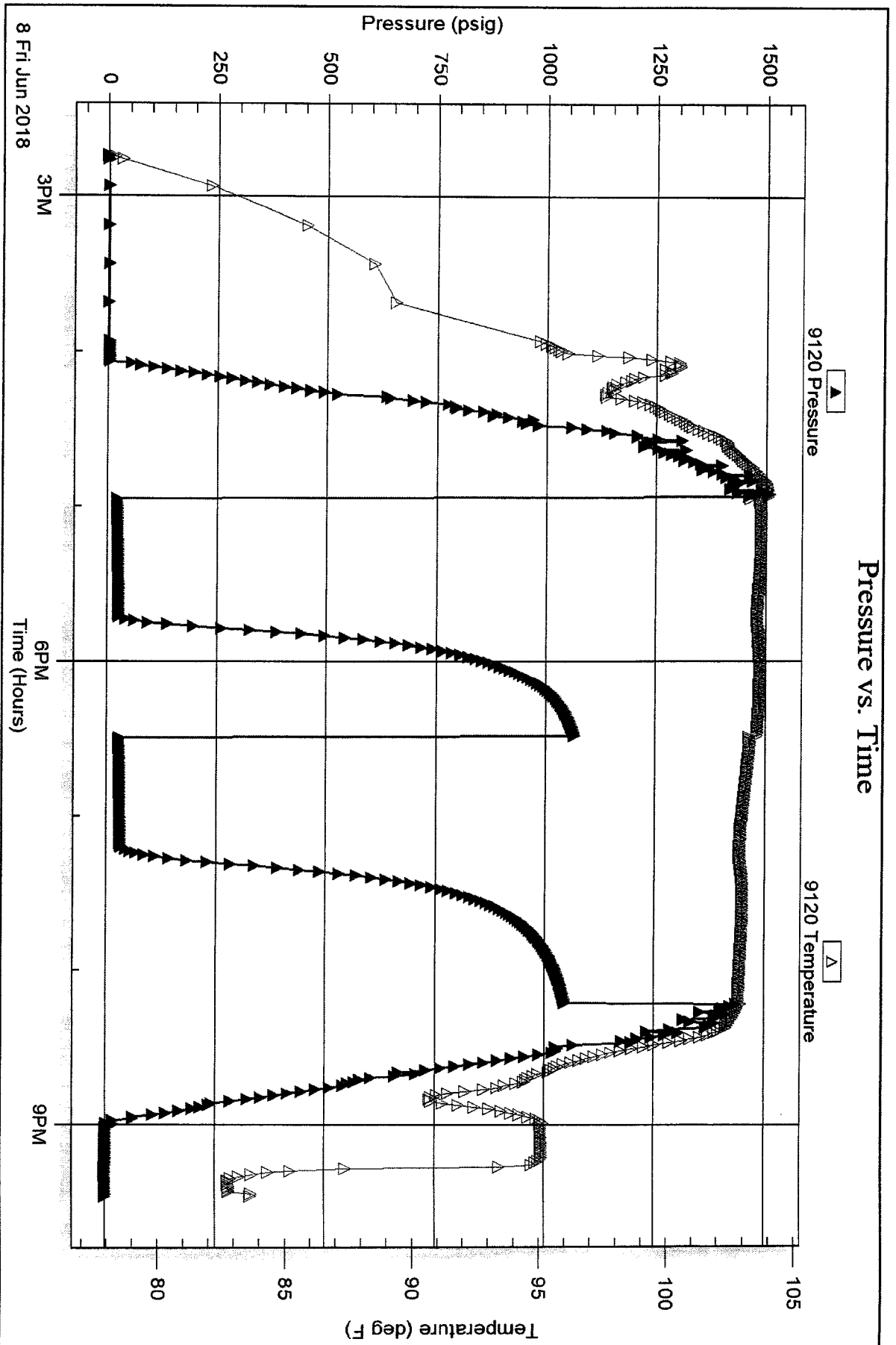


Serial #: 9120

Outside Bruce Oil Company, LLC

McReynolds #1

DST Test Number: 1



Serial #: 8368

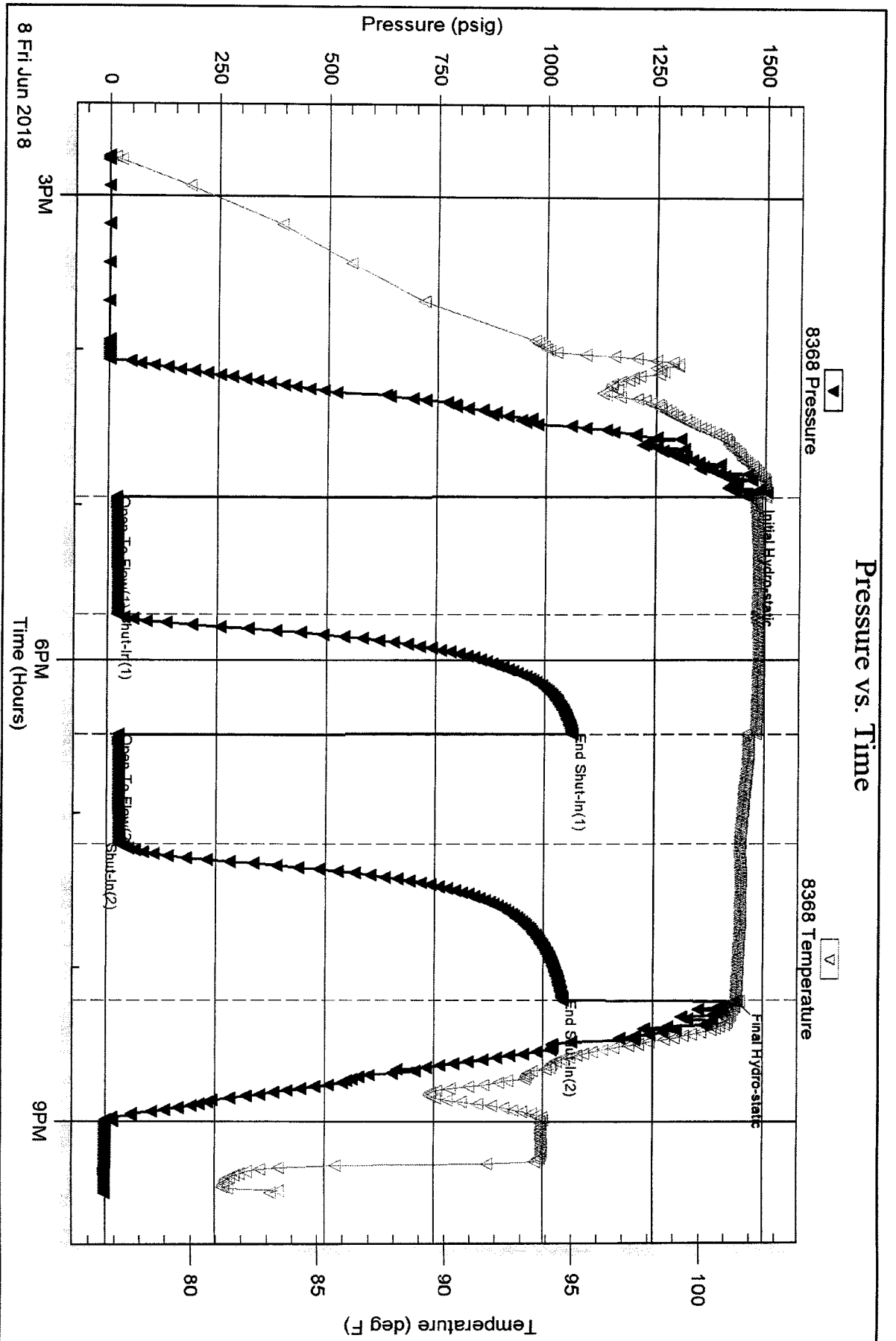
Inside

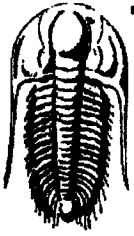
Bruce Oil Company, LLC.

McReynolds #1

DST Test Number: 1

### Pressure vs. Time





**TRILOBITE  
TESTING, INC.**

# 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 <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4400.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

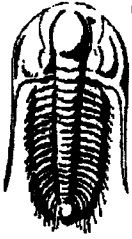
Length ft	Description	Volume bbl
30.00	SOCM 5%O 95%M	0.425

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**

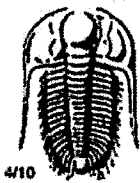
Drill Pipe:	Length: 2915.00 ft	Diameter: 3.82 inches	Volume: 41.32 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 64000.00 lb
			<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
<b>Total Tool Length:</b>	<b>112.00</b>				



# 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 Total 30 BHT 101° Gravity — API RW — @ — °F Chlorides — ppm

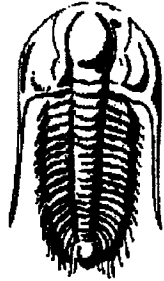
(A) Initial Hydrostatic <u>1459</u>	<input checked="" type="checkbox"/> Test 1050	T-On Location <u>14:15</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>14:44</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <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

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.

785-709-1111



**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**

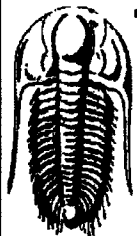
Start Date: 2018.06.08 @ 14:44:00

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.

**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

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

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

Reference Elevations: 1719.00 ft (KB)

1712.00 ft (CF)

KB to GR/CF: 7.00 ft

**Serial #: 9120**

**Outside**

Press@RunDepth: 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:

Time Off Btm:

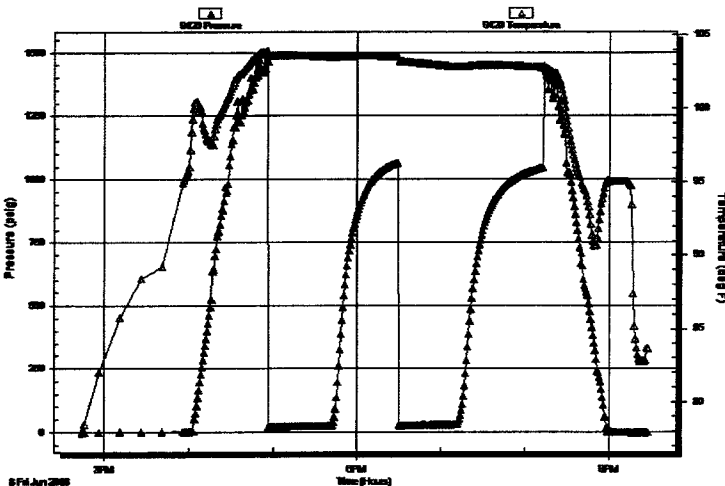
TEST COMMENT: 45-IF-Weak Blow ; Built to 3/4"

45-IS-No Return

45-FF-Weak Surface Blow ; Built to 1/4"

60-FS-No Return

Pressure vs. Time



### PRESSURE SUMMARY

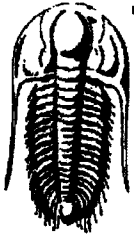
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### 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

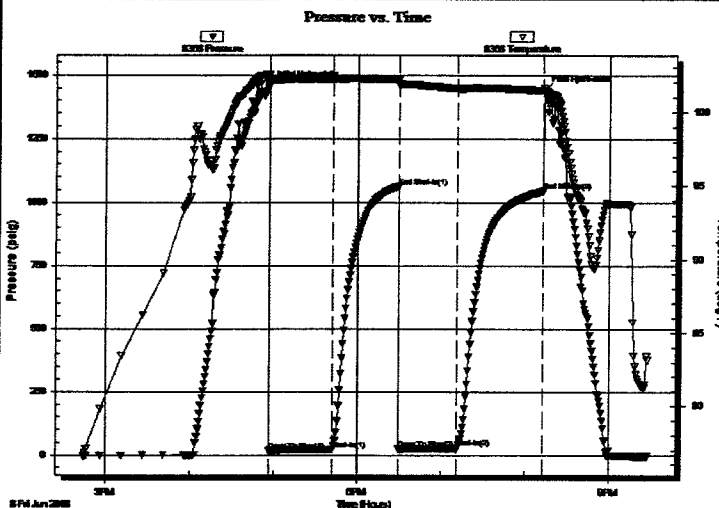
Time Off Btm: 2018.06.08 @ 20:13:00

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)

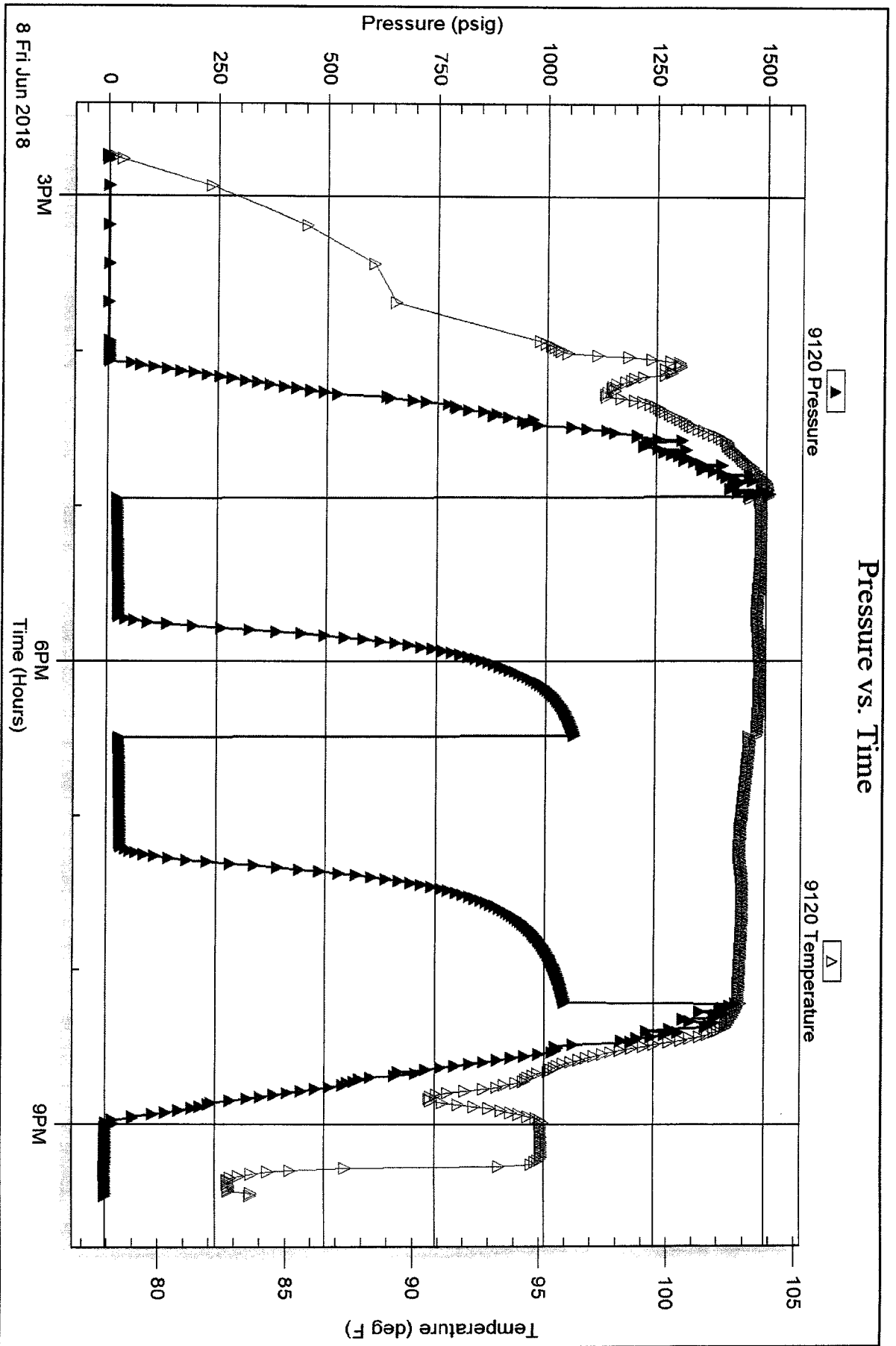


Serial #: 9120

Outside Bruce Oil Company, LLC

McReynolds #1

DST Test Number: 1



Serial #: 8368

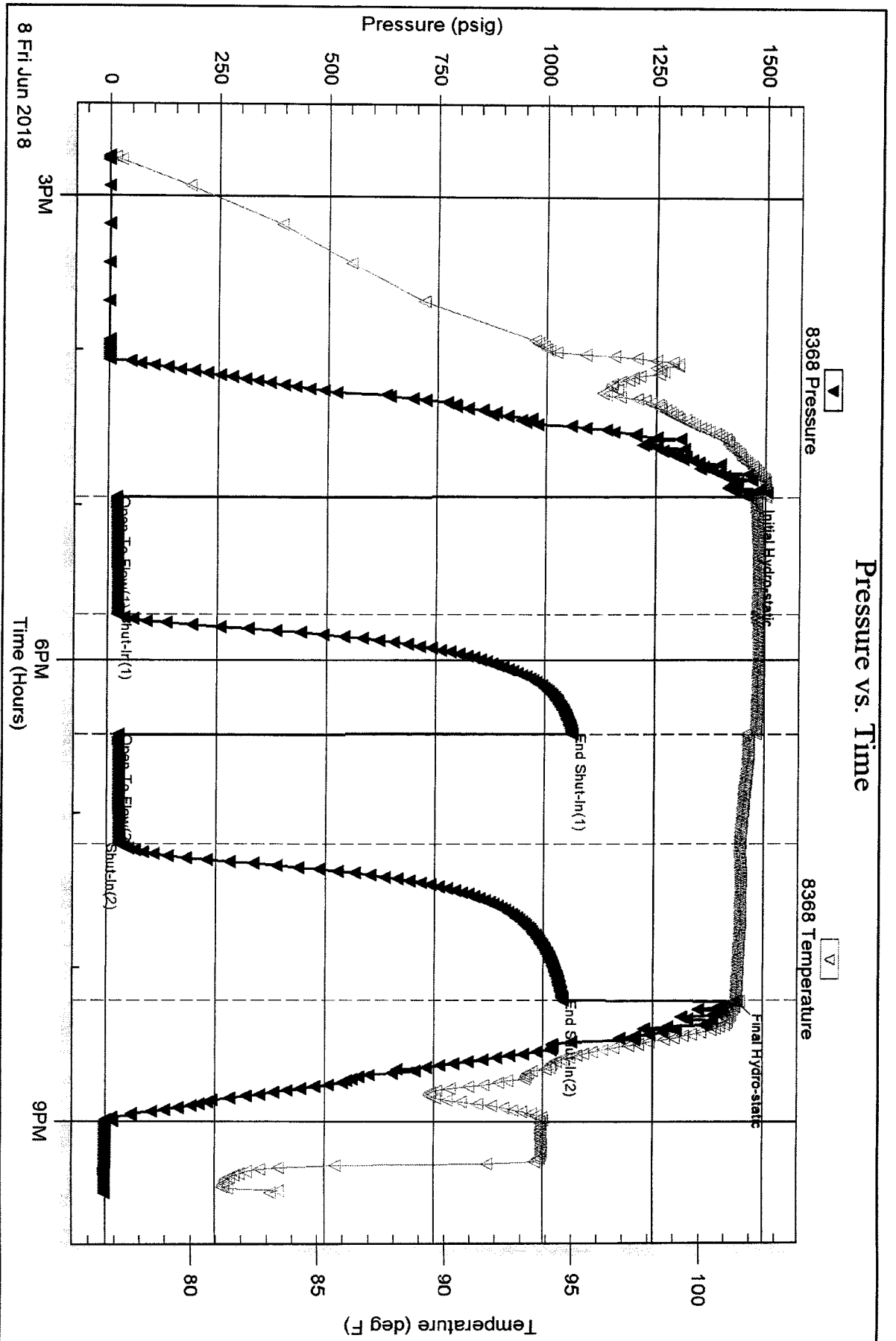
Inside

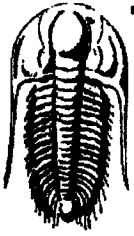
Bruce Oil Company, LLC.

McReynolds #1

DST Test Number: 1

### Pressure vs. Time





**TRILOBITE  
TESTING, INC.**

# 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 <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4400.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

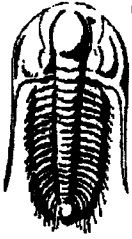
Length ft	Description	Volume bbl
30.00	SOCM 5%O 95%M	0.425

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**

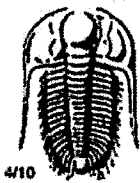
Drill Pipe:	Length: 2915.00 ft	Diameter: 3.82 inches	Volume: 41.32 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 64000.00 lb
			<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
<b>Total Tool Length:</b>	<b>112.00</b>				



# 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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785-209-1111