

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
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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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# 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. 1257

Date	4-3-19	Sec.	1	Twp.	16	Range	14	County	Barton	State	Ks	On Location		Finish	8:30 AM
Lease								Location							
Batt								Russell + Barton County Line, 15							
Well No.				1-1				Owner				1/2 E, N 1/4 to			
Contractor				Southwind #3				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				Surface				Charge To				Larson Engineering			
Hole Size				2 1/4"				T.D.				431'			
Csg.				8 5/8"				Depth				431'			
Tbg. Size								Depth							
Tool								Depth							
Cement Left in Csg.				20'				Shoe Joint				20'			
Meas Line				Displace				26 1/4 BLS				1/4# Flw-seal			
<b>EQUIPMENT</b>								Common							
Pumptrk				16 No.				Cement				Rick			
Bulktrk				15 No.				Driver				Tony Lo			
Bulktrk				p.u. No.				Driver				Michael			
<b>JOB SERVICES &amp; REMARKS</b>								Hulls							
Remarks:								Cement did Circulate							
Rat Hole								Flowseal 50#							
Mouse Hole								Kol-Seal							
Centralizers								Mud CLR 48							
Baskets								CFL-117 or CD110 CAF 38							
D/V or Port Collar								Sand							
								Handling 238							
								Mileage							
<b>FLOAT EQUIPMENT</b>															
								Guide Shoe							
								Centralizer							
								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge							
								Surface							
								Mileage							
								15							
								Tax							
								Discount							
								Total Charge							
Signature								Joy							

# 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. 1260

Date	4-8-19	Sec.	1	Twp.	16	Range	14	County	Barton	State	Ks	On Location		Finish	5:45 PM
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Lease **Batt** Well No. **1-1** Owner **M. L. Linto**  
Location **Barton + Russell County Line, 15, 1/2 E,**

Contractor **Southwind** #3 To Quality Oilwell Cementing, Inc.  
Type Job **Long string** You are hereby requested to rent cementing equipment and furnish  
Hole Size **7 7/8"** T.D. **3430'** Charge To **Larson Engineering**  
Csg. **3 1/2" New** Depth **3431.87'** Street

Tbg. Size Depth City State  
Tool **Port Collar** Depth **1715.62'** The above was done to satisfaction and supervision of owner agent or contractor.  
Cement Left in Csg. **40.40'** Shoe Joint **40.40'** Cement Amount Ordered **165 Q Pro-C 10% Salt 5% Gilsomite**

Meas Line Displace **80 3/4** **3/4% CFL-110 3/4% CD-31 1/4% CAF-38 1000 gal mud clear 48**  
EQUIPMENT  
Pumptrk **16** No. Cementer **David** Helper **David** Common **165 Q pro-c**  
Bulktrk **14** No. Driver **Tony** **M. L. Linto** Poz. Mix  
Bulktrk **PKU** No. Driver **Rick** Gel.  
JOB SERVICES & REMARKS Calcium

Remarks: Hulls  
Rat Hole **30 SX** Salt **15**  
Mouse Hole Flowseal  
Centralizers Kol-Seal **750#**  
Baskets Mud CLR 48 **1000 gal**  
D/V or Port Collar **1715.62'** **CFL-117 or CD110 CAF 38 25#**  
Sand **100# 100#**  
Handling **187**  
Mileage

pipe on bottom break Circulation  
Pump 1000 gal mud clear 48, plug Rathole  
w/ 30 SX. Hook to 5 1/2" casing + mix  
135 SX Cement. Shut down  
wash pump + lines Released plug  
+ Displaced w/ 80 3/4 Bls H2O.  
Released + hold.  
Lift pressure **700 #**  
Land plug to 1500 #  
Thanks

FLOAT EQUIPMENT  
Guide Shoe **Supplied by Customer**  
Centralizer  
Baskets  
AFU Inserts  
Float Shoe  
Latch Down

Pumptrk Charge  
Mileage **15 prod string**

X Signature **Jay Linto** Tax  
Discount  
Total Charge

# 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. 1264

Date	4-12-19	Sec.	1	Twp.	16	Range	14	County	Barton	State	Ks	On Location		Finish	11:00 AM
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Location Barton + Russell County Line

Lease	Batt	Well No.	1-1	Owner	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.
Contractor	Express Well Service				
Type Job	Port Collar				
Hole Size		T.D.		Charge To	Larson Engineering
Csg.	5 1/2"	Depth		Street	
Tbg. Size	2"	Depth	1715'	City	State
Tool	Port Collar	Depth	1715'	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.		Shoe Joint		Cement Amount Ordered <u>275 80% QMDC 1/4# Flb-seal</u>	
Meas Line		Displace	5 1/2 BUS	<u>60 3x 60/40 4% 1/4# Flb-seal 5 3x gel</u>	

**EQUIPMENT**

Pumptrk	17	No.	Cementer	David	Common	35
			Helper		Poz. Mix	25
Bulktrk	15	No.	Driver	Craig	Gel.	8.7
			Driver	Nate		
Bulktrk	P.U.	No.	Driver	Rick	Calcium	275 80% QMDC
			Driver			

**JOB SERVICES & REMARKS**

Remarks:	test tool to 1000# + hold	Hulls	<del>200#</del>
Rat Hole	mix 3x 64 down to tool	Salt	
Mouse Hole	open tool + mix 2x Gel	Flowseal	75#
Centralizers	mix 275% QMDC, 60 3x	Kol-Seal	
Baskets	60/40 4% gel Displaced w/5 1/2	Mud CLR 48	
D/V or Port Collar	BUS, Closed tool + pressure to 1000# + hold. Run 5 5+5 + wash clean.	CFL-117 or CD110 CAF 38	
		Sand	
		Handling	390 342
		Mileage	

**FLOAT EQUIPMENT**

Cement did circulate	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Pumptrk Charge port collar Job  
Mileage 15

Tax  
Discount  
Total Charge

X  
Signature



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W. State Rd 4  
Olmitz KS 67564+8561

ATTN: Vern Schrag

### **Batt #1-1**

#### **1-16s-14w Barton,KS**

Start Date: 2019.04.07 @ 09:31:00

End Date: 2019.04.07 @ 16:15:20

Job Ticket #: 65776                      DST #: 1

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

Printed: 2019.04.10 @ 09:19:54



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering Inc  
 562 W. State Rd 4  
 Olmitz KS 67564+8561  
 ATTN: Vern Schrag

**1-16s-14w Barton,KS**

**Batt #1-1**

Job Ticket: 65776

**DST#: 1**

Test Start: 2019.04.07 @ 09:31:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:36:40  
 Time Test Ended: 16:15:20  
 Interval: **3298.00 ft (KB) To 3334.00 ft (KB) (TVD)**  
 Total Depth: 3334.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Benny Mulligan  
 Unit No: 66  
 Reference Elevations: 1919.00 ft (KB)  
 1900.00 ft (CF)  
 KB to GR/CF: 19.00 ft

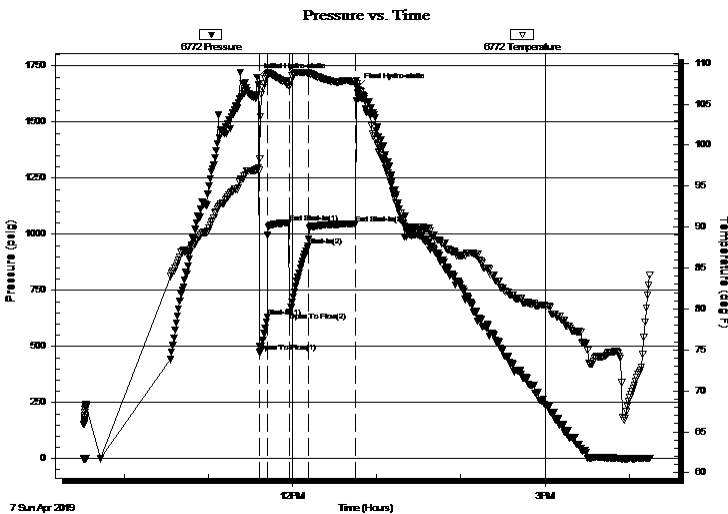
## Serial #: 6772

Inside

Press@RunDepth: 948.75 psig @ 3299.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.04.07 End Date: 2019.04.07 Last Calib.: 2019.04.07  
 Start Time: 09:31:01 End Time: 16:15:20 Time On Btm: 2019.04.07 @ 11:34:40  
 Time Off Btm: 2019.04.07 @ 12:46:00

TEST COMMENT: I.F.-5-BOB 30 seconds total build of 148"  
 I.S.I.-15- no blow back  
 F.F.-15-BOB 12 seconds total build of 324"  
 F.S.I.-30- no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1698.82	97.05	Initial Hydro-static
2	476.39	98.34	Open To Flow (1)
8	631.52	108.44	Shut-In(1)
23	1050.70	107.30	End Shut-In(1)
24	652.01	107.12	Open To Flow (2)
37	948.75	108.78	Shut-In(2)
71	1046.53	107.70	End Shut-In(2)
72	1652.88	107.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	GSOCMW 10%g 10%o 40%m 40%w	0.21
248.00	GVSOMW 8%g 2%o 40%m 50%w	3.48
496.00	GMW 5%g 10%m 85%w	6.96
992.00	GW 5%g 95%w	13.92
496.00	W 100%w	6.96

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering Inc  
 562 W. State Rd 4  
 Olmitz KS 67564+8561  
 ATTN: Vern Schrag

**1-16s-14w Barton,KS**

**Batt #1-1**

Job Ticket: 65776

**DST#: 1**

Test Start: 2019.04.07 @ 09:31:00

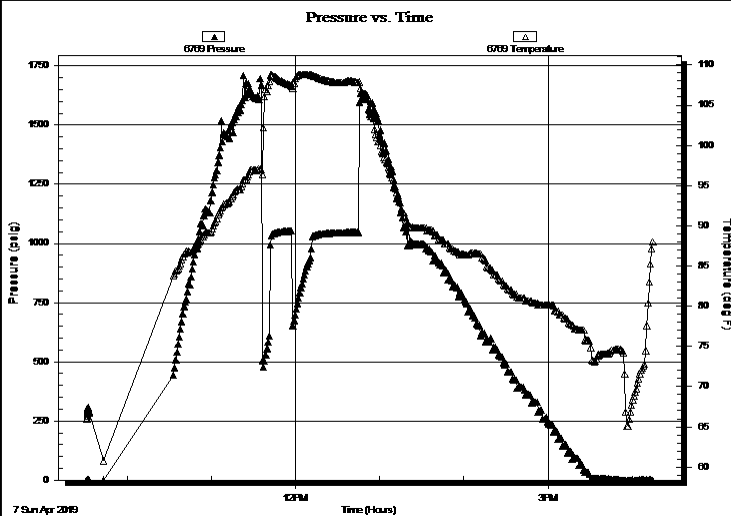
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:36:40  
 Time Test Ended: 16:15:20  
 Interval: **3298.00 ft (KB) To 3334.00 ft (KB) (TVD)**  
 Total Depth: 3334.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Benny Mulligan  
 Unit No: 66  
 Reference Elevations: 1919.00 ft (KB)  
 1900.00 ft (CF)  
 KB to GR/CF: 19.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: psig @ 3299.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.04.07 End Date: 2019.04.07 Last Calib.: 2019.04.07  
 Start Time: 09:31:01 End Time: 16:15:20 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** I.F.-5-BOB 30 seconds total build of 148"  
 I.S.I.-15- no blow back  
 F.F.-15-BOB 12 seconds total build of 324"  
 F.S.I.-30- no blow back



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	GSOCMW 10%g 10%o 40%m 40%w	0.21
248.00	GVSOMW 8%g 2%o 40%m 50%w	3.48
496.00	GMW 5%g 10%m 85%w	6.96
992.00	GW 5%g 95%w	13.92
496.00	W 100%w	6.96

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc

**1-16s-14w Barton,KS**

562 W. State Rd 4  
Olmitz KS 67564+8561

**Batt #1-1**

Job Ticket: 65776

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2019.04.07 @ 09:31:00

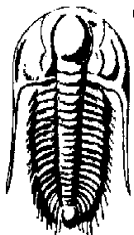
## Tool Information

Drill Pipe:	Length: 3307.00 ft	Diameter: 3.80 inches	Volume: 46.39 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 44000.00 lb
			<u>Total Volume: 46.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 33000.00 lb
Depth to Top Packer:	3298.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	56.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3279.00	
Shut In Tool	5.00			3284.00	
Hydraulic tool	5.00			3289.00	
Packer	5.00			3294.00	20.00 Bottom Of Top Packer
Packer	4.00			3298.00	
Stubb	1.00			3299.00	
Recorder	0.00	6772	Inside	3299.00	
Recorder	0.00	6769	Outside	3299.00	
Perforations	32.00			3331.00	
Bullnose	3.00			3334.00	36.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>56.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc

**1-16s-14w Barton,KS**

562 W. State Rd 4  
Olmitz KS 67564+8561

**Batt #1-1**

Job Ticket: 65776

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2019.04.07 @ 09:31:00

## 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:

17000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	GSOCMW 10%g 10%o 40%m 40%w	0.210
248.00	GVSOMW 8%g 2%o 40%m 50%w	3.479
496.00	GMW 5%g 10%m 85%w	6.958
992.00	GW 5%g 95%w	13.915
496.00	W 100%w	6.958

Total Length: 2247.00 ft      Total Volume: 31.520 bbl

Num Fluid Samples: 0

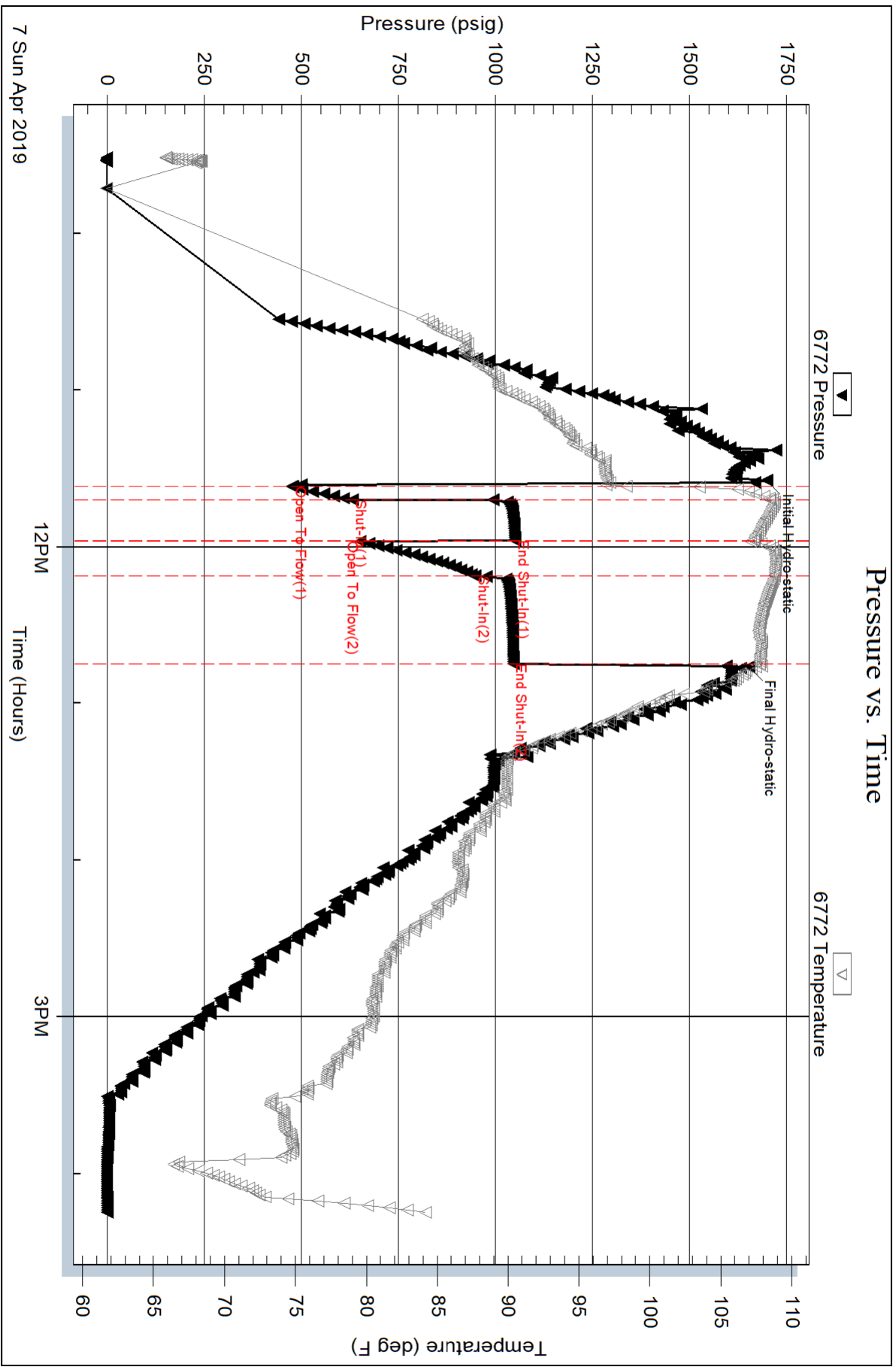
Num Gas Bombs: 0

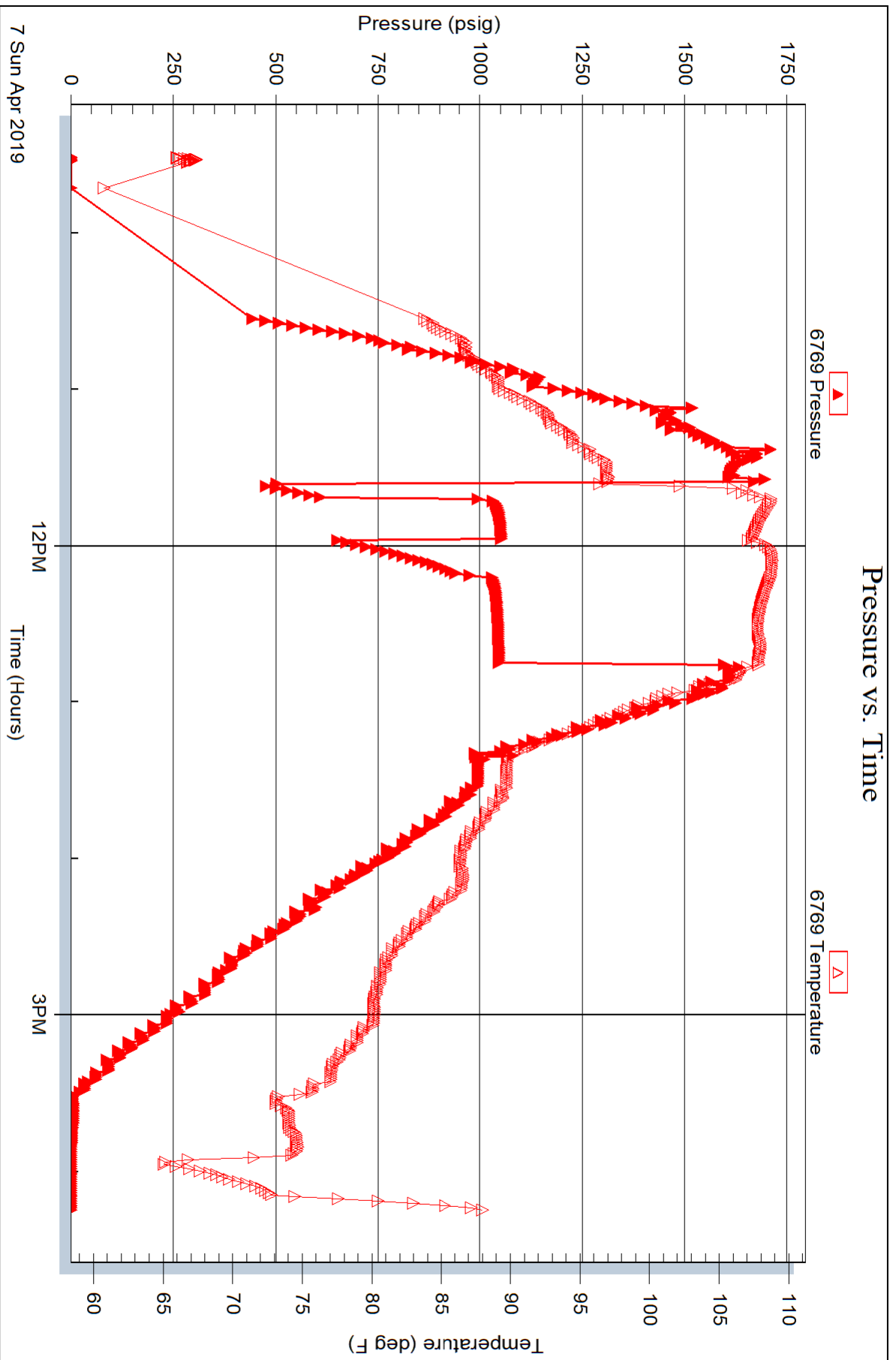
Serial #:

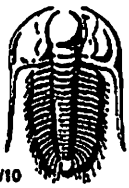
Laboratory Name:

Laboratory Location:

Recovery Comments: 0.166@82.4







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 65776

NO.

Well Name & No. Batt 1-1 Test No. 1 Date 4-7-2019  
 Company Larson Engineering Inc Elevation 1919 KB 1910 GL  
 Address 562 W. State RD 4 Olmitz KS 67564 + 8561  
 Co. Rep / Geo. Vern Schrag Rig Southwind Rig 3  
 Location: Sec. 1 Twp 16s Rge. 14w Co. Barton State KS

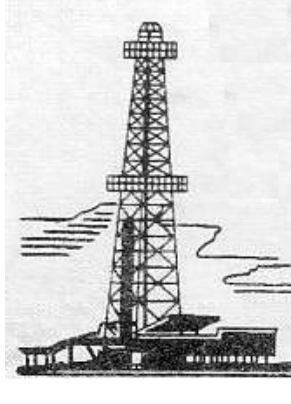
Interval Tested 3298-3334 Zone Tested Arbuckle  
 Anchor Length 36' Drill Pipe Run 3307 Mud Wt. 9.55  
 Top Packer Depth 3293 Drill Collars Run --- Vis 63  
 Bottom Packer Depth 3298 Wt. Pipe Run --- WL 10.4  
 Total Depth 3334 Chlorides 7200 ppm System LCM 0

Blow Description IF - BOB 30 seconds total build of 148"  
ISI - no blow back  
FF - BOB 12 seconds total build of 324"  
FBI - no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>15'</u>	<u>G.O.C.M.W.</u>	<u>10</u>	<u>10</u>	<u>40</u>	<u>40</u>
<u>248'</u>	<u>G.V.S.O.M.W.</u>	<u>8</u>	<u>2</u>	<u>50</u>	<u>40</u>
<u>496'</u>	<u>G.M.W.</u>	<u>5</u>	<u>---</u>	<u>85</u>	<u>10</u>
<u>992'</u>	<u>G.W.</u>	<u>5</u>	<u>---</u>	<u>95</u>	<u>---</u>
<u>496'</u>	<u>W.</u>	<u>---</u>	<u>---</u>	<u>100</u>	<u>---</u>

Rec Total 2247' BHT 107 Gravity API RW 0.166 @ 82.4 °F Chlorides 17000 ppm  
 Test 1200 T-On Location 7:10 AM  
 Jars \_\_\_\_\_ T-Started 9:31  
 Safety Joint \_\_\_\_\_ T-Open 11:37  
 Circ Sub \_\_\_\_\_ T-Pulled 12:45  
 Hourly Standby \_\_\_\_\_ T-Out 4:16  
 Mileage RT 58 mi <sup>58</sup> Comments Loaded tool after test  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1258  
 Sub Total 1258 MP/DST Disc't \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 15  
 Final Shut-In 30  
 Approved By [Signature] Our Representative Benny Mulligan  
 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.



# WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG  
CONSULTANT GEOLOGIST



Scale 1:240 (5"=100') Imperial

Well Name: **BATT #1-1**  
Location: **E2 SW SW SE SEC 01-16S-14W**  
Licence Number: **API: 15-009-26256**  
Spud Date: **April 02, 2019**  
Surface Coordinates: **330' FSL & 2227' FEL**

Region: **Barton Co., KS**  
Drilling Completed: **April 08, 2019**

Bottom Hole Coordinates:  
Ground Elevation (ft): **1910'** K.B. Elevation (ft): **1919'**  
Logged Interval (ft): **2700'** To: **RTD** Total Depth (ft): **3430'**  
Formation: **Arbuckle**  
Type of Drilling Fluid: **Chemical Premix (Displaced)**

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### OPERATOR:

Company: **Larson Engineering Inc.**  
Address: **562 West State Road 4**  
**Olmitz, KS 67564-8561**

### DRILLING CONTRACTOR:

**Southwind Drilling Co., Rig #3**

**DP 4.5" XH (16.6#); DC 6-1/4" x 2-3/8" x 433.93, Kelly 40.00', Tool Joint 5.5" ; Bit: Varel HE29, standard jets 14-14-14; rpm 80, WOB 35k; Kelly Bushing 9' above ground level; Jay Krier (tool pusher).**

### CASING:

**10 jts new 8-5/8" 20# R3 STC 8rd csg. Tallied 420.52', set @ 431' KB.**

**83 jts new MWPW M-50 5-1/2" 15.5# R-3 LTC 8rd csg. Tallied 3432.87, set @ 3428' KB.**

### CIRCULATION SYSTEM:

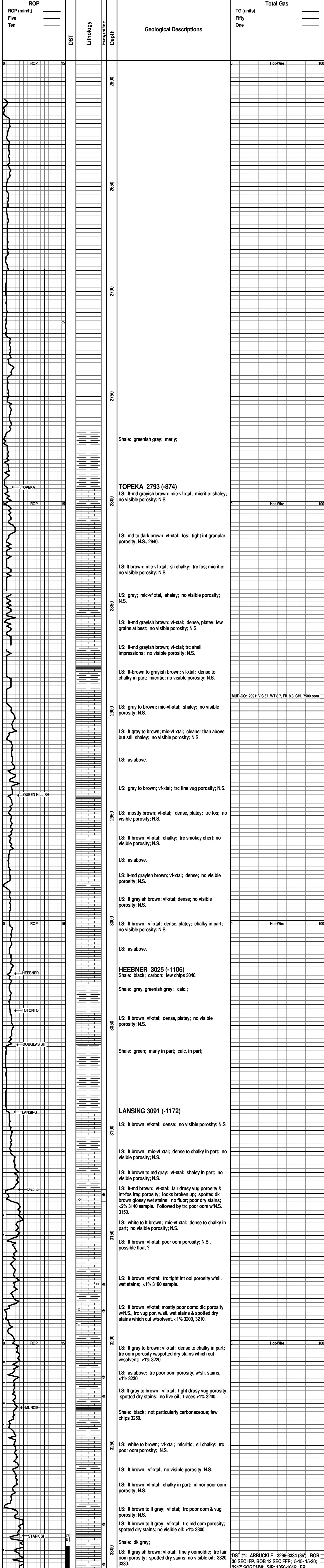
**Continental EMSCO D-375, duplex, 6 x 14, Chemical, premix, earth pits, MudCo/Service Mud, Inc., Jason Whiting**

### OPEN HOLE LOGS:

**DN, DI (SP), ML (stacked); No Sonic; due to tool problems made 2nd run for ML; 5" detail LTD-2700; 2" DI to surface casing; Pioneer Wireline Services, Hays, KS, J. Hendrickson, Log total depth (3429') was one foot short to rotary total depth (3430').**

### DRILL STEM TEST #1:

**Arbuckle Dolomite: Interval: 3298 - 3334' (36' anchor); BOB 30 sec. IFP, no RB, BOB 12 sec. FFP, no RB; Times: 5-15-15-30; Recovery 2247' total fluid: 15' SGOCMW (10%G,10%O,40%W,40%M), 248' SGOCMW (8%G,2%O,50%W,40%M), 1488' GW (5%G,95%W) & 496' W; Pressures: HP: 1698-1652, SIP: 1050-1046, FP: 476-631, 652-948; BHT: 107 F; Tribolite Testing, Inc., Hays, KS, Benny Mulligan.**



DST #1: ARBUCKLE: 3298-3334 (36'), BOB 30 SEC IFP, BOB 12 SEC FFP; 5-15-15-30; 2247' SOGCMW; SIP: 1050-1046; FP: 476-631, 652-948.

