

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](mailto: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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Form	ACO1 - Well Completion
Operator	Bird Dog Oil, LLC
Well Name	CURTIS-GATES 1-16
Doc ID	1670038

All Electric Logs Run

DIL
CDNL
Micro
Sonic







## DRILL STEM TEST REPORT

Prepared For: **Bird Dog Oil LLC**

1801 Broadway, STE 200  
Denver, CO 80202

ATTN: Jeff Lawler

### **Curtis-Gates #1-16**

#### **16-22s-13w Stafford,KS**

Start Date: 2022.06.04 @ 17:36:00

End Date: 2022.06.05 @ 01:24:02

Job Ticket #: 68518                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.15 @ 11:18:16



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford, KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68518      **DST#: 1**  
Test Start: 2022.06.04 @ 17:36:00

## GENERAL INFORMATION:

Formation: **LKC C-F**  
Deviated: No Whipstock: 1904.00 ft (KB)  
Time Tool Opened: 20:06:32  
Time Test Ended: 01:24:02  
Interval: **3422.00 ft (KB) To 3485.00 ft (KB) (TVD)**  
Total Depth: 3485.00 ft (KB) (TVD)  
Hole Diameter: 7.80 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Chris Hagman  
Unit No: 69  
Reference Elevations: 1904.00 ft (KB)  
1894.00 ft (CF)  
KB to GR/CF: 10.00 ft

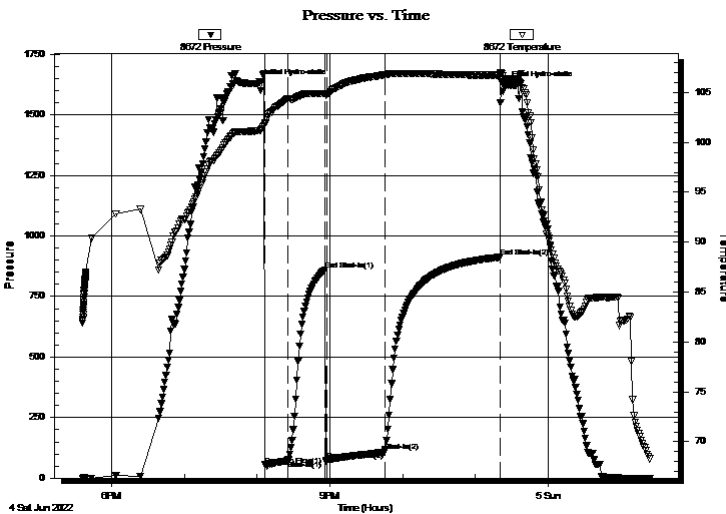
## Serial #: 8672

Inside

Press@RunDepth: 111.67 psig @ 3425.00 ft (KB) Capacity:      psig  
Start Date: 2022.06.04 End Date: 2022.06.05 Last Calib.: 2022.06.04  
Start Time: 17:36:01 End Time: 01:24:02 Time On Btm: 2022.06.04 @ 20:00:32  
Time Off Btm: 2022.06.04 @ 23:24:32

TEST COMMENT: IF: 15 min., BOB 13 min., strong building blow , 12 inches  
IS: 30 min., no blow back  
FF: 45 min., BOB 9 min., strong building blow , 31 inches  
FS: 90 min., no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1627.47	101.17	Initial Hydro-static
7	54.97	101.85	Open To Flow (1)
26	73.72	104.39	Shut-In(1)
56	860.60	104.87	End Shut-In(1)
57	73.46	104.74	Open To Flow (2)
105	111.67	106.79	Shut-In(2)
200	912.34	106.75	End Shut-In(2)
204	1621.81	106.36	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	oil spotted muddy w ater 1%O, 40%M	591.49
63.00	oil spotted mud 1%O, 99%M	0.88

## Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bird Dog Oil LLC
1801 Broadway, STE 200
Denver, CO 80202
ATTN: Jeff Lawler

16-22s-13w Stafford,KS
Curtis-Gates #1-16
Job Ticket: 68518 DST#: 1
Test Start: 2022.06.04 @ 17:36:00

GENERAL INFORMATION:

Formation: LKC C-F
Deviated: No Whipstock: 1904.00 ft (KB)
Time Tool Opened: 20:06:32
Time Test Ended: 01:24:02
Interval: 3422.00 ft (KB) To 3485.00 ft (KB) (TVD)
Total Depth: 3485.00 ft (KB) (TVD)
Hole Diameter: 7.80 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Chris Hagman
Unit No: 69
Reference Elevations: 1904.00 ft (KB) 1894.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6751 Outside
Press@RunDepth: psig @ 3425.00 ft (KB) Capacity: psig
Start Date: 2022.06.04 End Date: 2022.06.05 Last Calib.: 1899.12.30
Start Time: 17:36:01 End Time: 01:24:02 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 15 min., BOB 13 min., strong building blow , 12 inches
IS: 30 min., no blow back
FF: 45 min., BOB 9 min., strong building blow , 31 inches
FS: 90 min., no blow back

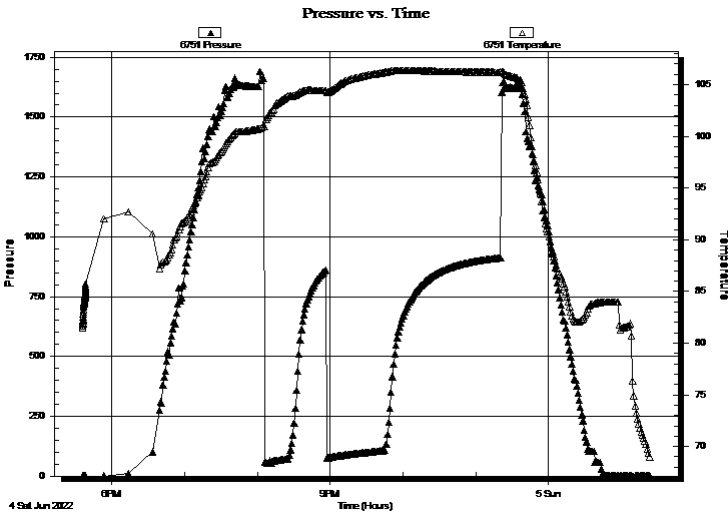


Table with columns: Time (Min.), Pressure (psig), Temp (deg F), Annotation. Contains pressure summary data.

Table with columns: Length (ft), Description, Volume (bbl). Contains recovery data.

Table with columns: Choke (inches), Pressure (psig), Gas Rate (Mcf/d). Contains gas rates data.



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68518      **DST#: 1**  
Test Start: 2022.06.04 @ 17:36:00

**Tool Information**

Drill Pipe:	Length: 3381.00 ft	Diameter: 3.80 inches	Volume: 47.43 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: 20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 47.58 bbl</u>	Tool Chased 15.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3422.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	93.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

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

Shut In Tool	5.00			3397.00	
Hydraulic tool	5.00			3402.00	
Isolator Sub	3.00			3405.00	
Jars	5.00			3410.00	
Safety Joint	3.00			3413.00	
Packer	5.00			3418.00	30.00      Bottom Of Top Packer
Packer	4.00			3422.00	
Stubb	1.00			3423.00	
Perforations	2.00			3425.00	
Recorder	0.00	8672	Inside	3425.00	
Recorder	0.00	6751	Outside	3425.00	
Pickup sub perf	5.00			3430.00	
Perforations	18.00			3448.00	
Change Over Sub	1.00			3449.00	
Drill Pipe	32.00			3481.00	
Change Over Sub	1.00			3482.00	
Bullnose	3.00			3485.00	63.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>93.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68518      **DST#: 1**  
Test Start: 2022.06.04 @ 17:36:00

## 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:	45000 ppm
Viscosity: 45.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.76 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	oil spotted muddy water 1%O, 40%M, 59%W	1.494
63.00	oil spotted mud 1%O, 99%M	0.884

Total Length: 189.00 ft      Total Volume: 2.378 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW=.163@71F=45,000ppm

Serial #: 8672

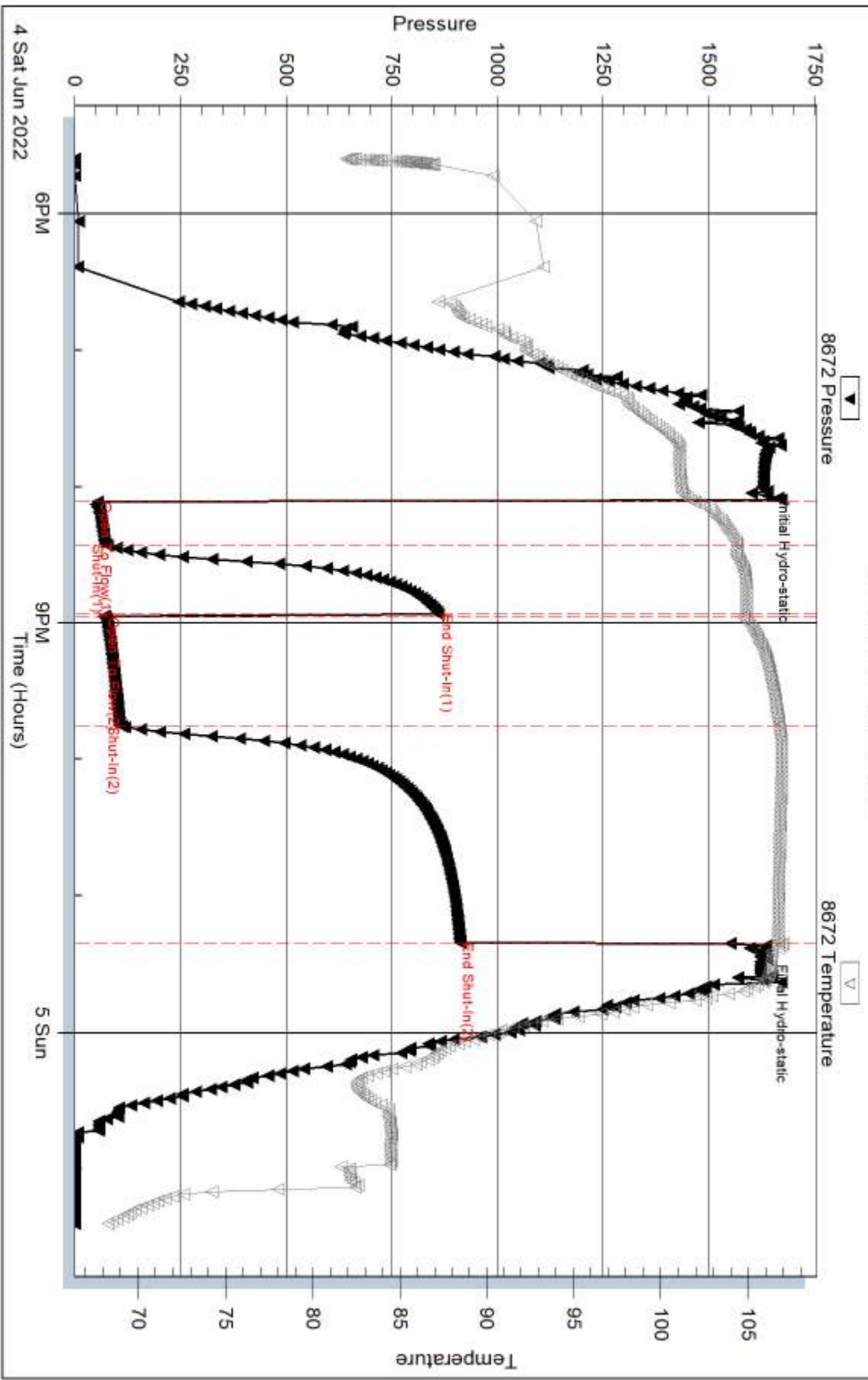
Inside

Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 1

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 69518

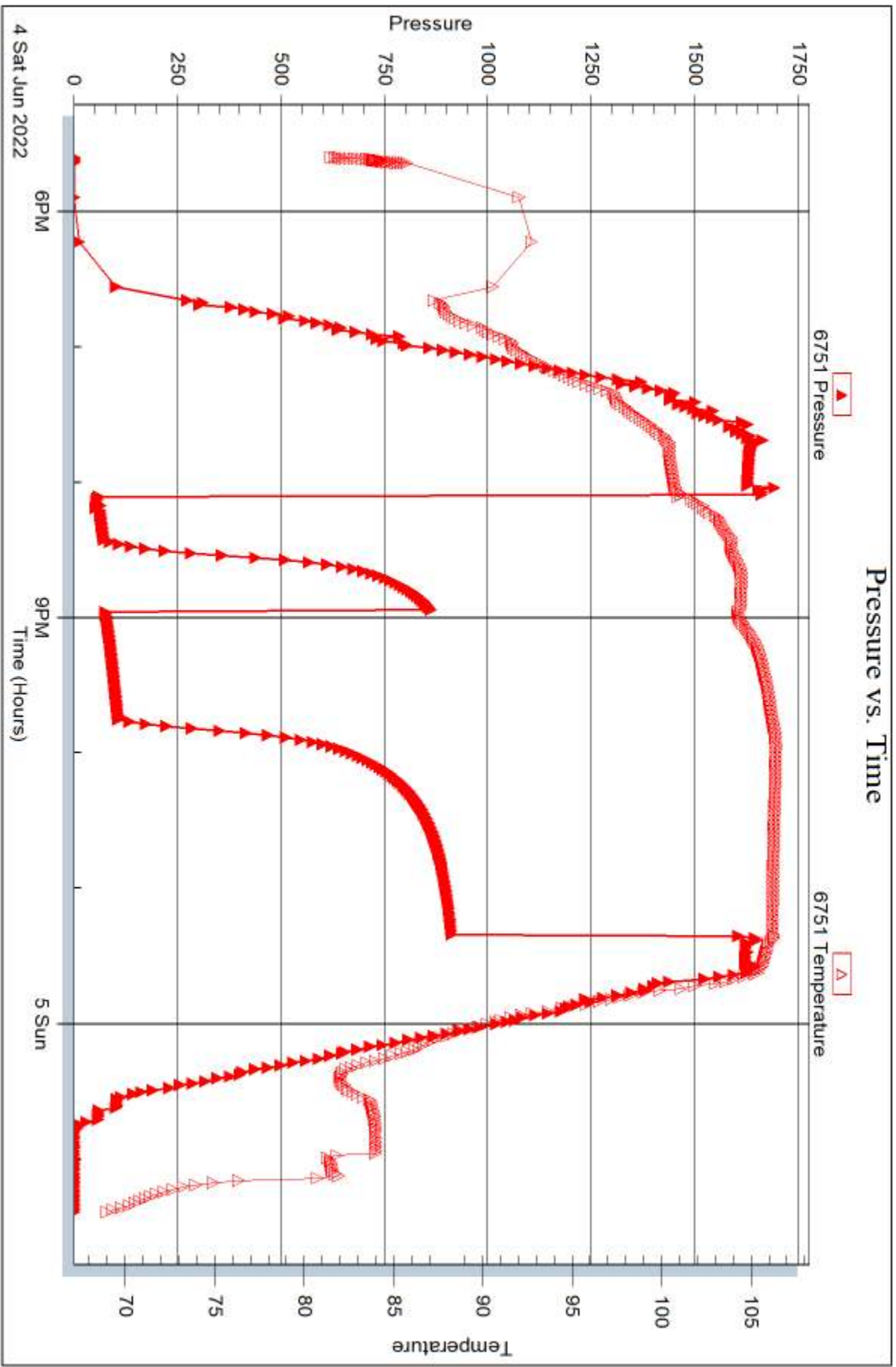
Printed: 2022.06.15 @ 11:18:17

Serial #: 6751

Outside Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Bird Dog Oil LLC**

1801 Broadway, STE 200  
Denver, CO 80202

ATTN: Jeff Lawler

### **Curtis-Gates #1-16**

#### **16-22s-13w Stafford,KS**

Start Date: 2022.06.05 @ 17:15:00

End Date: 2022.06.06 @ 01:43:02

Job Ticket #: 68519                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.15 @ 11:17:42





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
 1801 Broadway, STE 200  
 Denver, CO 80202  
 ATTN: Jeff Lawler

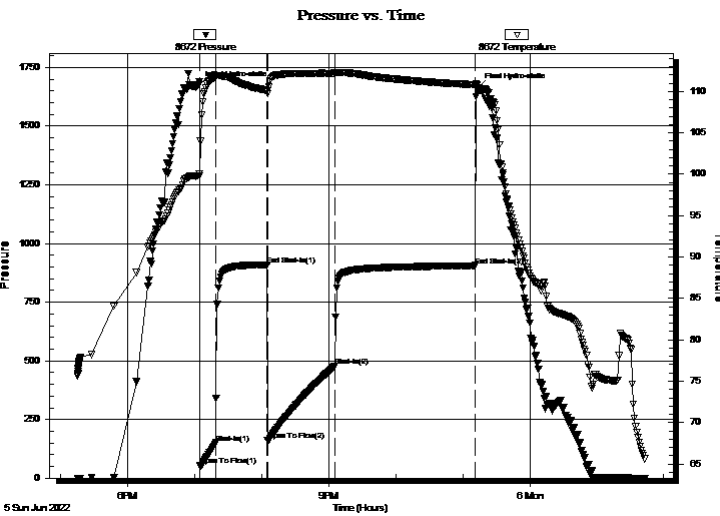
**16-22s-13w Stafford, KS**  
**Curtis-Gates #1-16**  
 Job Ticket: 68519 **DST#: 2**  
 Test Start: 2022.06.05 @ 17:15:00

## GENERAL INFORMATION:

Formation: **LKC I**  
 Deviated: No Whipstock: 1904.00 ft (KB)  
 Time Tool Opened: 19:04:17  
 Time Test Ended: 01:43:02  
 Interval: **3547.00 ft (KB) To 3568.00 ft (KB) (TVD)**  
 Total Depth: 3568.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Hagman  
 Unit No: 69  
 Reference Elevations: 1904.00 ft (KB)  
 1894.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8672 Inside**  
 Press@RunDepth: 476.82 psig @ 3550.00 ft (KB) Capacity: psig  
 Start Date: 2022.06.05 End Date: 2022.06.06 Last Calib.: 2022.06.05  
 Start Time: 17:15:01 End Time: 01:43:02 Time On Btm: 2022.06.05 @ 19:03:02  
 Time Off Btm: 2022.06.05 @ 23:14:02

**TEST COMMENT:** IF: 15 min., BOB 4 min., strong building blow, 40 inches  
 IS: 45 min., blow back 2 min., 1.6 inches  
 FF: 60 min., BOB 5 min., strong building blow, 161 inches  
 FS: 120 min., blow back 1 min., 1.5 inches



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1671.61	99.78	Initial Hydro-static
2	53.01	99.77	Open To Flow (1)
16	150.03	111.69	Shut-In(1)
62	909.90	110.11	End Shut-In(1)
62	162.05	109.74	Open To Flow (2)
123	476.82	112.21	Shut-In(2)
248	905.74	110.80	End Shut-In(2)
252	1662.73	110.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1060.00	100%W	14.60
10.00	100%O	0.14
0.00	315' GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68519      **DST#: 2**  
Test Start: 2022.06.05 @ 17:15:00

**Tool Information**

Drill Pipe:	Length: 3507.00 ft	Diameter: 3.80 inches	Volume: 49.19 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: 20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 49.34 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3547.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3522.00	
Hydraulic tool	5.00			3527.00	
Isolator Sub	3.00			3530.00	
Jars	5.00			3535.00	
Safety Joint	3.00			3538.00	
Packer	5.00			3543.00	30.00      Bottom Of Top Packer
Packer	4.00			3547.00	
Stubb	1.00			3548.00	
Perforations	2.00			3550.00	
Recorder	0.00	8672	Inside	3550.00	
Recorder	0.00	6751	Outside	3550.00	
Pickup sub perf	5.00			3555.00	
Perforations	10.00			3565.00	
Bullnose	3.00			3568.00	21.00      Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68519      **DST#: 2**  
Test Start: 2022.06.05 @ 17:15:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 28 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 36000 ppm
Viscosity: 39.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.76 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4000.00 ppm		
Filter Cake: inches		

## Recovery Information

Recovery Table

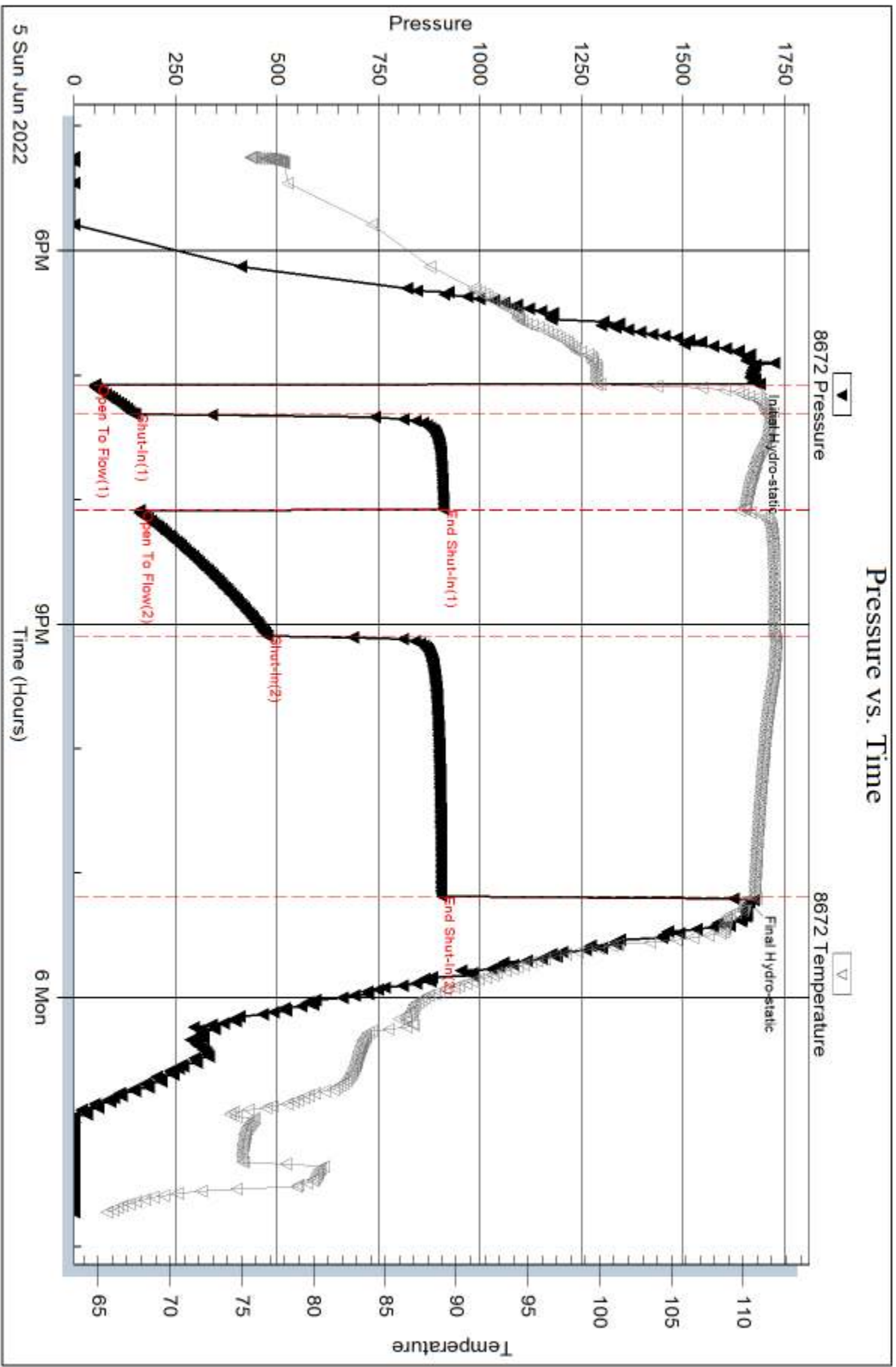
Length ft	Description	Volume bbl
1060.00	100%W	14.596
10.00	100%O	0.140
0.00	315' GIP	0.000

Total Length: 1070.00 ft      Total Volume: 14.736 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: RW= .202 @ 72F = 36,000ppm  
API= 29@70F=28

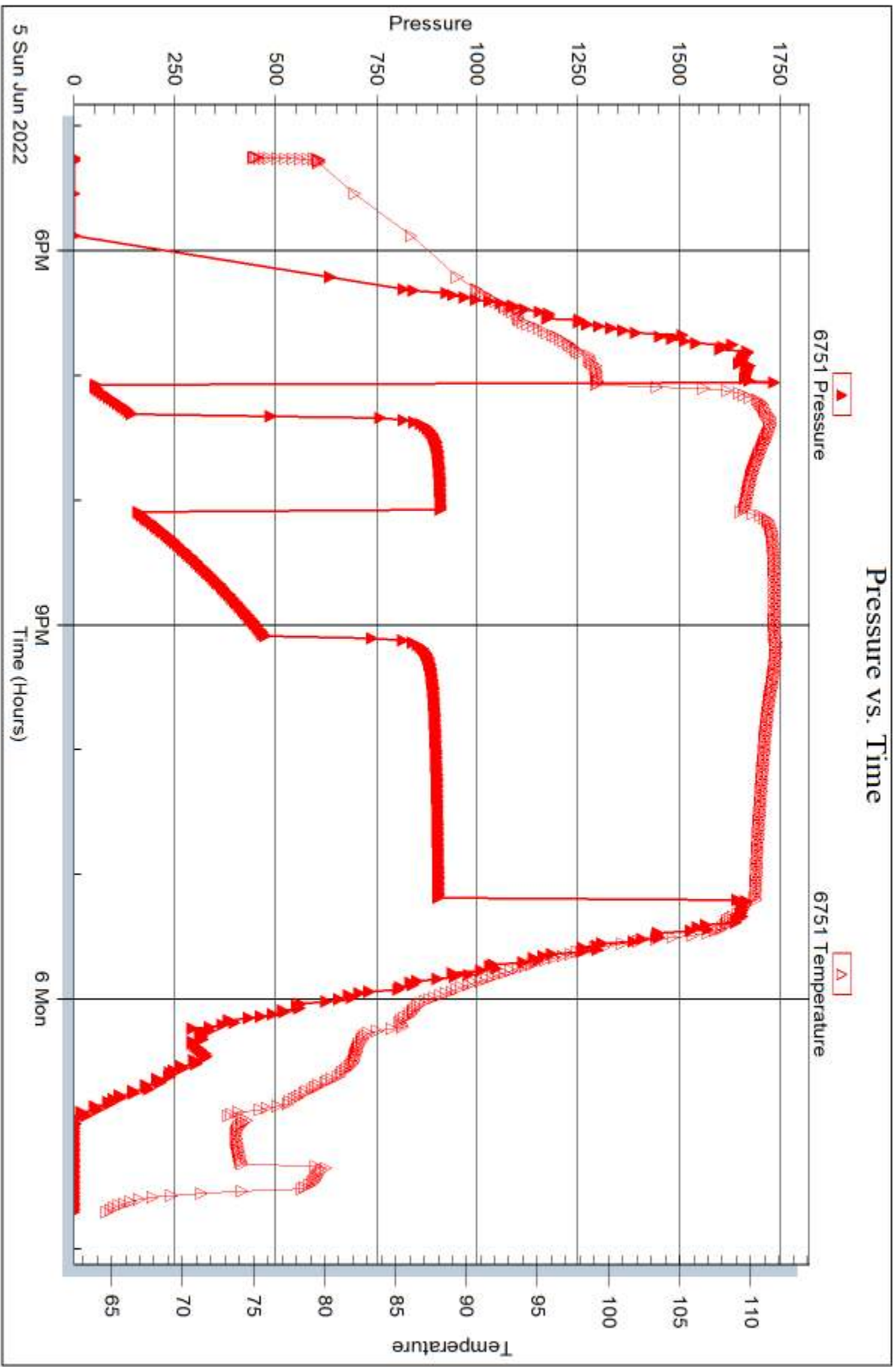


Serial #: 6751

Outside Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 68519

Printed: 2022.06.15 @ 11:17:43



## DRILL STEM TEST REPORT

Prepared For: **Bird Dog Oil LLC**

1801 Broadway, STE 200  
Denver, CO 80202

ATTN: Jeff Lawler

### **Curtis-Gates #1-16**

#### **16-22s-13w Stafford,KS**

Start Date: 2022.06.06 @ 11:18:00

End Date: 2022.06.06 @ 18:22:02

Job Ticket #: 68520                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.15 @ 11:15:52



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
 1801 Broadway, STE 200  
 Denver, CO 80202  
 ATTN: Jeff Lawler

**16-22s-13w Stafford, KS**  
**Curtis-Gates #1-16**  
 Job Ticket: 68520 **DST#: 3**  
 Test Start: 2022.06.06 @ 11:18:00

## GENERAL INFORMATION:

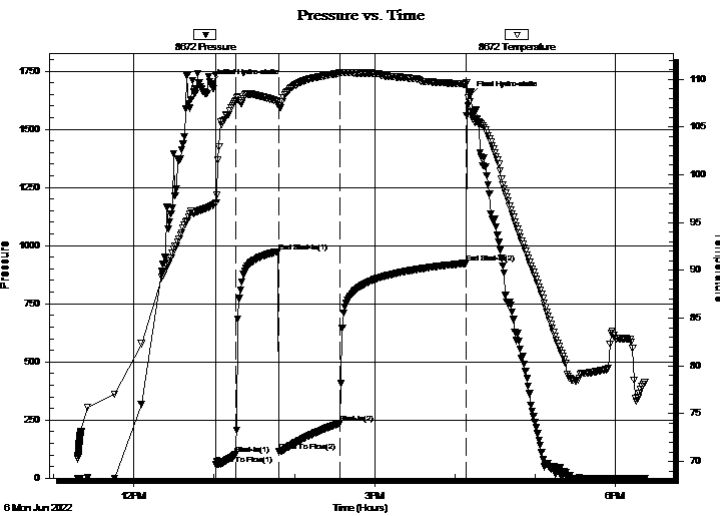
Formation: **LKC J - K**  
 Deviated: No Whipstock: 1904.00 ft (KB)  
 Time Tool Opened: 13:01:32  
 Time Test Ended: 18:22:02  
 Interval: **3566.00 ft (KB) To 3614.00 ft (KB) (TVD)**  
 Total Depth: 3614.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Hagman  
 Unit No: 68  
 Reference Elevations: 1904.00 ft (KB)  
 1894.00 ft (CF)  
 KB to GR/CF: 10.00 ft

## Serial #: 8672

Inside

Press@RunDepth: 236.65 psig @ 3567.00 ft (KB) Capacity: psig  
 Start Date: 2022.06.06 End Date: 2022.06.06 Last Calib.: 2022.06.06  
 Start Time: 11:18:01 End Time: 18:22:02 Time On Btm: 2022.06.06 @ 12:57:32  
 Time Off Btm: 2022.06.06 @ 16:11:32

TEST COMMENT: IF: 15 min., BOB 3 min., strong building blow, 51 inches  
 IS: 30 min., blow back 1 min., 2.5 inches  
 FF: 45 min., BOB 3 min., strong building blow, 79 inches  
 FS: 90 min., blow back 30 sec., 22 inches



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1694.53	96.71	Initial Hydro-static
4	57.75	97.08	Open To Flow (1)
19	101.81	107.69	Shut-In(1)
51	973.57	107.67	End Shut-In(1)
51	113.48	107.23	Open To Flow (2)
97	236.65	110.64	Shut-In(2)
191	924.04	109.41	End Shut-In(2)
195	1646.48	106.59	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
315.00	muddy water 5%M, 95%W	4.15
189.00	gassy, muddy, watery, oil 45%G, 40%O,	02.655%
0.00	1070' GIP	0.00

## Gas Rates

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





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
 1801 Broadway, STE 200  
 Denver, CO 80202  
 ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
 Job Ticket: 68520 **DST#: 3**  
 Test Start: 2022.06.06 @ 11:18:00

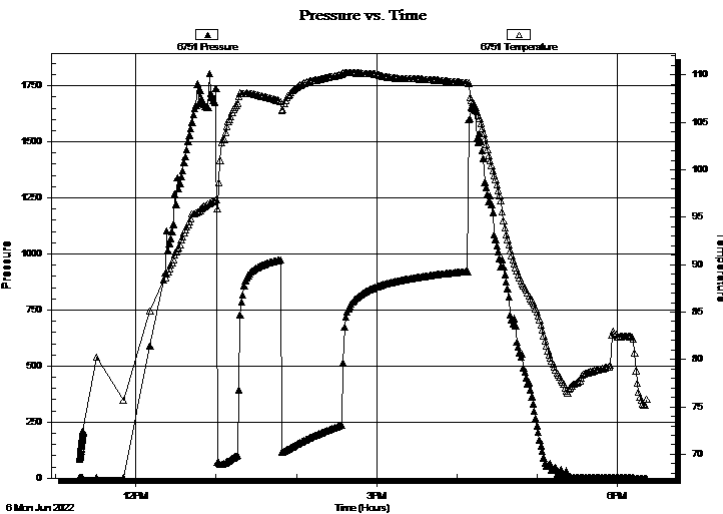
**GENERAL INFORMATION:**

Formation: **LKC J - K**  
 Deviated: No Whipstock: 1904.00 ft (KB)  
 Time Tool Opened: 13:01:32  
 Time Test Ended: 18:22:02  
 Interval: **3566.00 ft (KB) To 3614.00 ft (KB) (TVD)**  
 Total Depth: 3614.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Hagman  
 Unit No: 68  
 Reference Elevations: 1904.00 ft (KB)  
 1894.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 6751 Outside**

Press@RunDepth: psig @ 3567.00 ft (KB) Capacity: psig  
 Start Date: 2022.06.06 End Date: 2022.06.06 Last Calib.: 1899.12.30  
 Start Time: 11:18:01 End Time: 18:22:02 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: 15 min., BOB 3 min., strong building blow, 51 inches  
 IS: 30 min., blow back 1 min., 2.5 inches  
 FF: 45 min., BOB 3 min., strong building blow, 79 inches  
 FS: 90 min., blow back 30 sec., 22 inches



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
315.00	muddy water 5%M, 95%W	4.15
189.00	gassy, muddy, w atery, oil 45%G, 40%O,	02.655%
0.00	1070' GIP	0.00

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68520 **DST#: 3**  
Test Start: 2022.06.06 @ 11:18:00

## Tool Information

Drill Pipe:	Length: 3509.00 ft	Diameter: 3.80 inches	Volume: 49.22 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: 20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 49.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3566.00 ft			Final 45000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3541.00	
Hydraulic tool	5.00			3546.00	
Isolator Sub	3.00			3549.00	
Jars	5.00			3554.00	
Safety Joint	3.00			3557.00	
Packer	5.00			3562.00	30.00 Bottom Of Top Packer
Packer	4.00			3566.00	
Stubb	1.00			3567.00	
Recorder	0.00	8672	Inside	3567.00	
Recorder	0.00	6751	Outside	3567.00	
Pickup sub perf	5.00			3572.00	
Perforations	5.00			3577.00	
Change Over Sub	1.00			3578.00	
Drill Pipe	32.00			3610.00	
Change Over Sub	1.00			3611.00	
Bullnose	3.00			3614.00	48.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>78.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68520      **DST#: 3**  
Test Start: 2022.06.06 @ 11:18:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 8.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 44.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.56 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 9000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	muddy water 5%M, 95%W	4.145
189.00	gassy, muddy, watery, oil 45%G, 40%O, 10%W	2.651
0.00	1070' GIP	0.000

Total Length: 504.00 ft      Total Volume: 6.796 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW=.125@85=49,000ppm

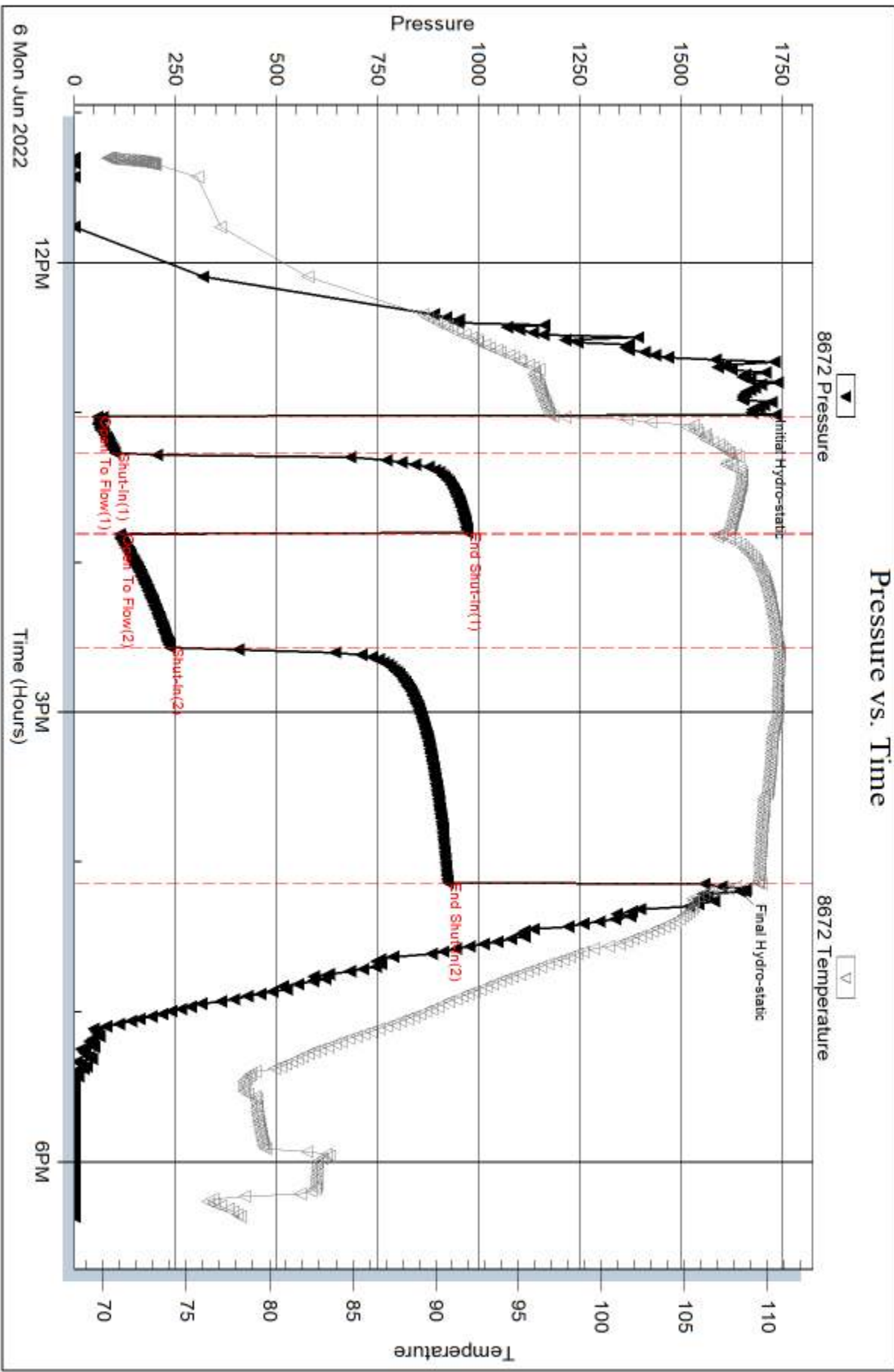
Serial #: 8672

Inside

Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68520

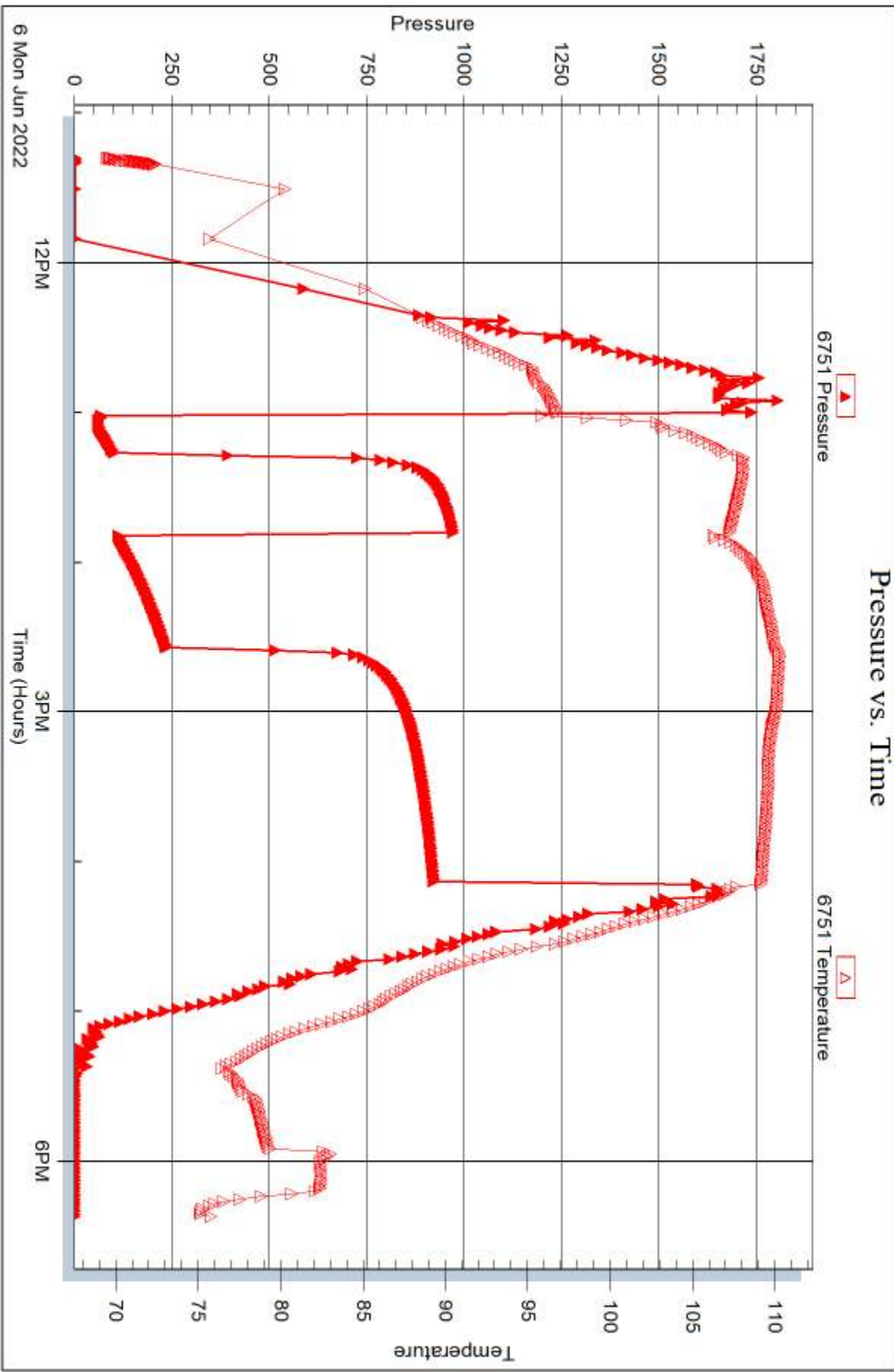
Printed: 2022.06.15 @ 11:15:53

Serial #: 6751

Outside Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 68520

Printed: 2022.06.15 @ 11:15:53



## DRILL STEM TEST REPORT

Prepared For: **Bird Dog Oil LLC**

1801 Broadway, STE 200  
Denver, CO 80202

ATTN: Jeff Lawler

### **Curtis-Gates #1-16**

#### **16-22s-13w Stafford,KS**

Start Date: 2022.06.07 @ 10:14:00

End Date: 2022.06.07 @ 17:18:02

Job Ticket #: 68521                      DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.15 @ 11:15:22

Bird Dog Oil LLC  
16-22s-13w Stafford,KS  
Curtis-Gates #1-16  
DST # 4  
Cong,Viola  
2022.06.07



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

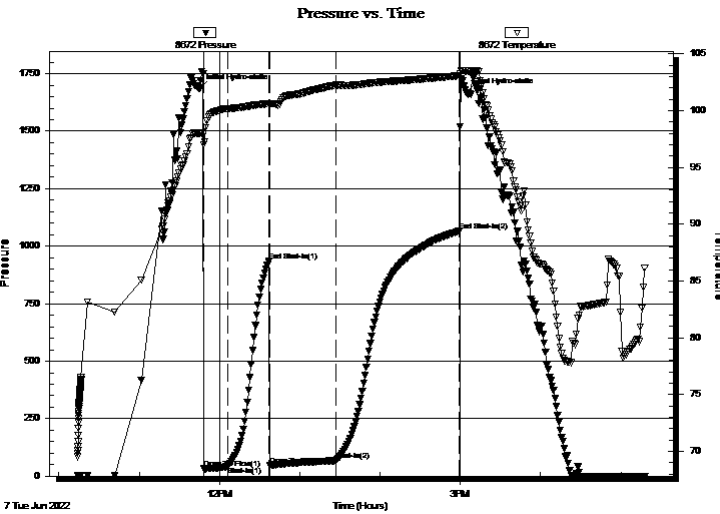
**16-22s-13w Stafford, KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68521      **DST#: 4**  
Test Start: 2022.06.07 @ 10:14:00

## GENERAL INFORMATION:

Formation: **Cong./Viola**  
Deviated: No Whipstock: 1904.00 ft (KB)  
Time Tool Opened: 11:48:02  
Time Test Ended: 17:18:02  
Interval: **3639.00 ft (KB) To 3755.00 ft (KB) (TVD)**  
Total Depth: 3755.00 ft (KB) (TVD)  
Hole Diameter: 7.80 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Chris Hagman  
Unit No: 69  
Reference Elevations: 1904.00 ft (KB)  
1894.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8672      Inside**  
Press@RunDepth: 68.45 psig @ 3640.00 ft (KB)      Capacity:      psig  
Start Date: 2022.06.07      End Date: 2022.06.07      Last Calib.: 2022.06.07  
Start Time: 10:14:01      End Time: 17:18:02      Time On Btm: 2022.06.07 @ 11:45:32  
Time Off Btm: 2022.06.07 @ 15:04:32

**TEST COMMENT:** IF: 15 min., fair building blow, 7 inches  
IS: 30 min., no blow back  
FF: 45 min., BOB 40 min., strong building blow, 13 inches  
FS: 90 min., no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1686.88	98.02	Initial Hydro-static
3	33.33	97.03	Open To Flow (1)
21	44.36	100.18	Shut-In(1)
52	934.89	100.59	End Shut-In(1)
52	45.72	100.45	Open To Flow (2)
102	68.45	102.27	Shut-In(2)
194	1065.11	103.11	End Shut-In(2)
199	1668.57	103.50	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
100.00	oily gassy mud 10%G, 5%O, 85%M	1.13
0.00	315' GIP	0.00

## Gas Rates

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



TRILOBITE TESTING, INC

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

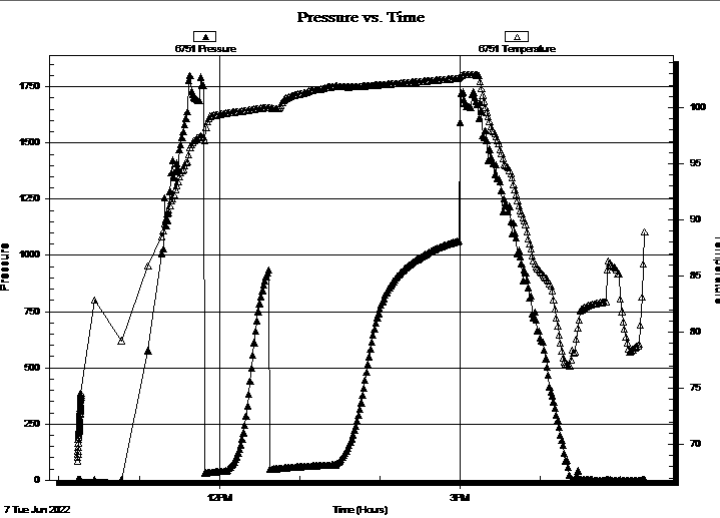
**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68521 **DST#: 4**  
Test Start: 2022.06.07 @ 10:14:00

### GENERAL INFORMATION:

Formation: <b>Cong./Viola</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: 1904.00 ft (KB)	Tester: Chris Hagman
Time Tool Opened: 11:48:02	Unit No: 69
Time Test Ended: 17:18:02	Reference Elevations: 1904.00 ft (KB)
<b>Interval: 3639.00 ft (KB) To 3755.00 ft (KB) (TVD)</b>	1894.00 ft (CF)
Total Depth: 3755.00 ft (KB) (TVD)	KB to GR/CF: 10.00 ft
Hole Diameter: 7.80 inches	Hole Condition: Good

<b>Serial #: 6751</b>	<b>Outside</b>	Capacity:	psig
Press@RunDepth: psig @ 3640.00 ft (KB)	Start Date: 2022.06.07	End Date: 2022.06.07	Last Calib.: 1899.12.30
Start Time: 10:14:01	End Time: 17:18:02	Time On Btm:	Time Off Btm:

TEST COMMENT: IF: 15 min., fair building blow, 7 inches  
IS: 30 min., no blow back  
FF: 45 min., BOB 40 min., strong building blow, 13 inches  
FS: 90 min., no blow back



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

Recovery		
Length (ft)	Description	Volume (bbl)
100.00	oily gassy mud 10%G, 5%O, 85%M	1.13
0.00	315' GIP	0.00

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68521      **DST#: 4**  
Test Start: 2022.06.07 @ 10:14:00

**Tool Information**

Drill Pipe:	Length: 3602.00 ft	Diameter: 3.80 inches	Volume: 50.53 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: 20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 50.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3639.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	116.00 ft			
Tool Length:	146.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3614.00	
Hydraulic tool	5.00			3619.00	
Isolator Sub	3.00			3622.00	
Jars	5.00			3627.00	
Safety Joint	3.00			3630.00	
Packer	5.00			3635.00	30.00      Bottom Of Top Packer
Packer	4.00			3639.00	
Stubb	1.00			3640.00	
Recorder	0.00	8672	Inside	3640.00	
Recorder	0.00	6751	Outside	3640.00	
Pickup sub perf	5.00			3645.00	
Perforations	10.00			3655.00	
Change Over Sub	1.00			3656.00	
Drill Pipe	95.00			3751.00	
Change Over Sub	1.00			3752.00	
Bullnose	3.00			3755.00	116.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>146.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68521      **DST#: 4**  
Test Start: 2022.06.07 @ 10:14:00

## 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: 46.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.77 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 9500.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

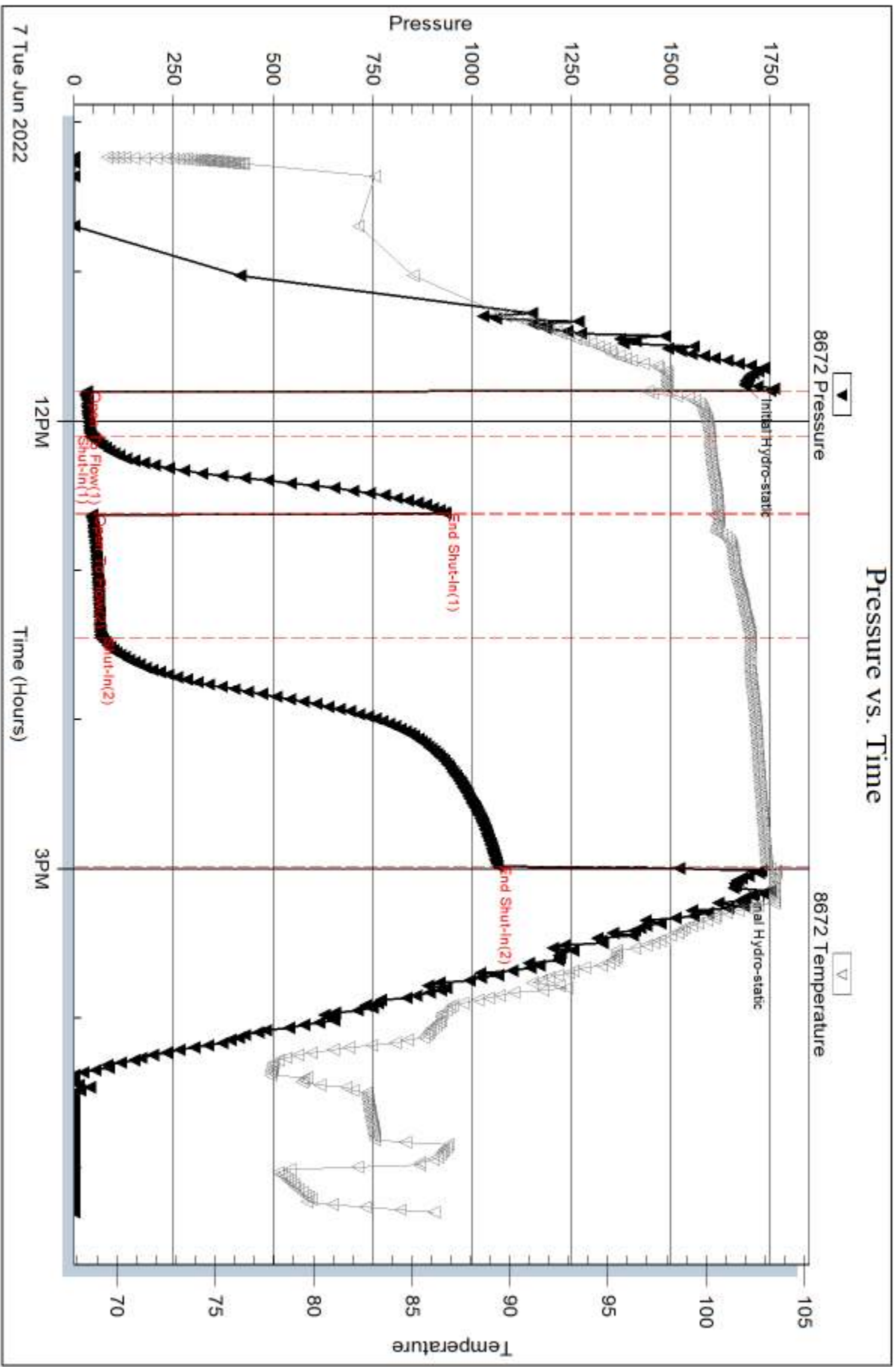
Length ft	Description	Volume bbl
100.00	oily gassy mud 10%G, 5%O, 85%M	1.129
0.00	315' GIP	0.000

Total Length: 100.00 ft      Total Volume: 1.129 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

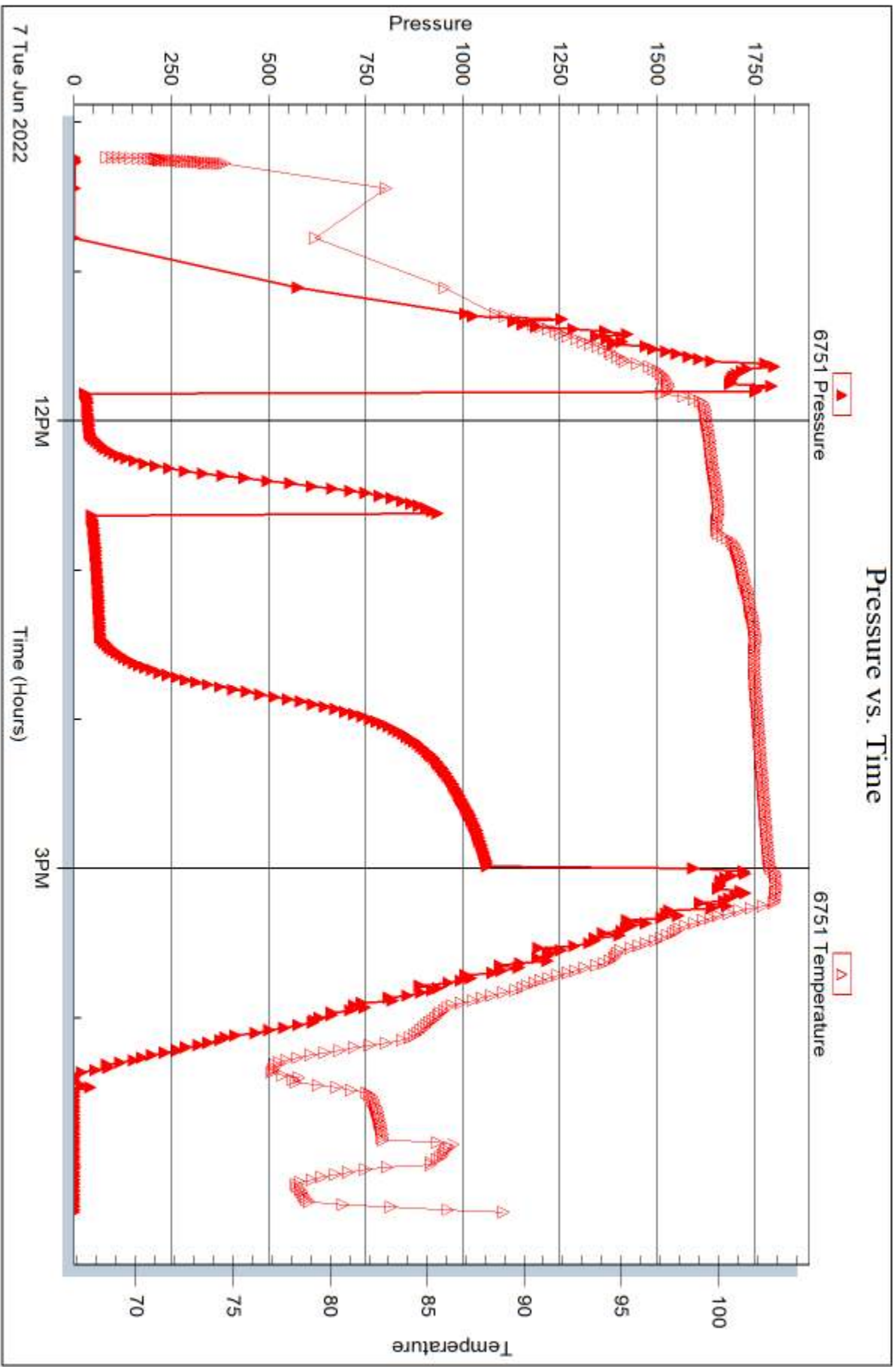


Serial #: 6751

Outside Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 68521

Printed: 2022.06.15 @ 11:15:23



## DRILL STEM TEST REPORT

Prepared For: **Bird Dog Oil LLC**

1801 Broadway, STE 200  
Denver, CO 80202

ATTN: Jeff Lawler

### **Curtis-Gates #1-16**

#### **16-22s-13w Stafford,KS**

Start Date: 2022.06.08 @ 06:14:00

End Date: 2022.06.08 @ 14:08:02

Job Ticket #: 68522                      DST #: 5

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.15 @ 11:14:37



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
 1801 Broadway, STE 200  
 Denver, CO 80202  
 ATTN: Jeff Lawler

**16-22s-13w Stafford, KS**  
**Curtis-Gates #1-16**  
 Job Ticket: 68522 **DST#: 5**  
 Test Start: 2022.06.08 @ 06:14:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: 1904.00 ft (KB)  
 Time Tool Opened: 08:13:17  
 Time Test Ended: 14:08:02  
 Interval: **3752.00 ft (KB) To 3828.00 ft (KB) (TVD)**  
 Total Depth: 3828.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Hagman  
 Unit No: 69  
 Reference Elevations: 1904.00 ft (KB)  
 1894.00 ft (CF)  
 KB to GR/CF: 10.00 ft

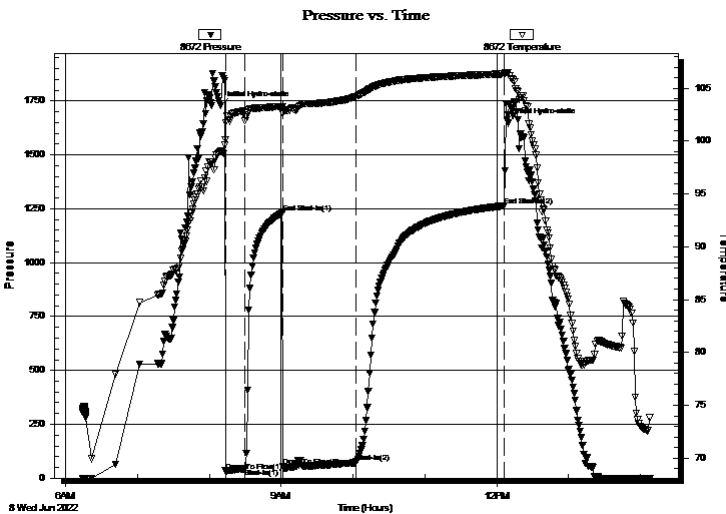
## Serial #: 8672

Inside

Press@RunDepth: 75.34 psig @ 3753.00 ft (KB) Capacity: psig  
 Start Date: 2022.06.08 End Date: 2022.06.08 Last Calib.: 2022.06.08  
 Start Time: 06:14:01 End Time: 14:08:02 Time On Btm: 2022.06.08 @ 08:09:32  
 Time Off Btm: 2022.06.08 @ 12:09:32

TEST COMMENT: IF: 15 min., fair building blow, 4 inches  
 IS: 30 min., no blow back  
 FF: 60 min., strong building blow, 11.6 inches  
 FS: 120 min., no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1728.05	99.03	Initial Hydro-static
4	33.79	100.13	Open To Flow (1)
21	44.76	101.92	Shut-In(1)
52	1230.34	103.28	End Shut-In(1)
52	53.09	102.64	Open To Flow (2)
113	75.34	104.24	Shut-In(2)
237	1263.39	106.39	End Shut-In(2)
241	1647.13	106.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
135.00	watery gassy oily mud 5%G,15%O,10%11.62%M	
10.00	oil 10%O	0.14

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68522      **DST#: 5**  
Test Start: 2022.06.08 @ 06:14:00

**Tool Information**

Drill Pipe:	Length: 3697.00 ft	Diameter: 3.80 inches	Volume: 51.86 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: 20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume: 52.01 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3752.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	106.00 ft			
Number of Packers:	2	Diameter: 675.00 inches		

Tool Comments:

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

Shut In Tool	5.00			3727.00	
Hydraulic tool	5.00			3732.00	
Isolator Sub	3.00			3735.00	
Jars	5.00			3740.00	
Safety Joint	3.00			3743.00	
Packer	5.00			3748.00	30.00      Bottom Of Top Packer
Packer	4.00			3752.00	
Stubb	1.00			3753.00	
Recorder	0.00	8672	Inside	3753.00	
Recorder	0.00	6751	Outside	3753.00	
Pickup sub perf	5.00			3758.00	
Perforations	2.00			3760.00	
Change Over Sub	1.00			3761.00	
Drill Pipe	63.00			3824.00	
Change Over Sub	1.00			3825.00	
Bullnose	3.00			3828.00	76.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>106.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68522      **DST#: 5**  
Test Start: 2022.06.08 @ 06:14:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 29 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 46.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.78 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 9500.00 ppm		
Filter Cake: inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
135.00	watery gassy oily mud 5%G,15%O,10%W,7C	1.620
10.00	oil 10%O	0.140

Total Length: 145.00 ft      Total Volume: 1.760 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: API=26@90F=29 api

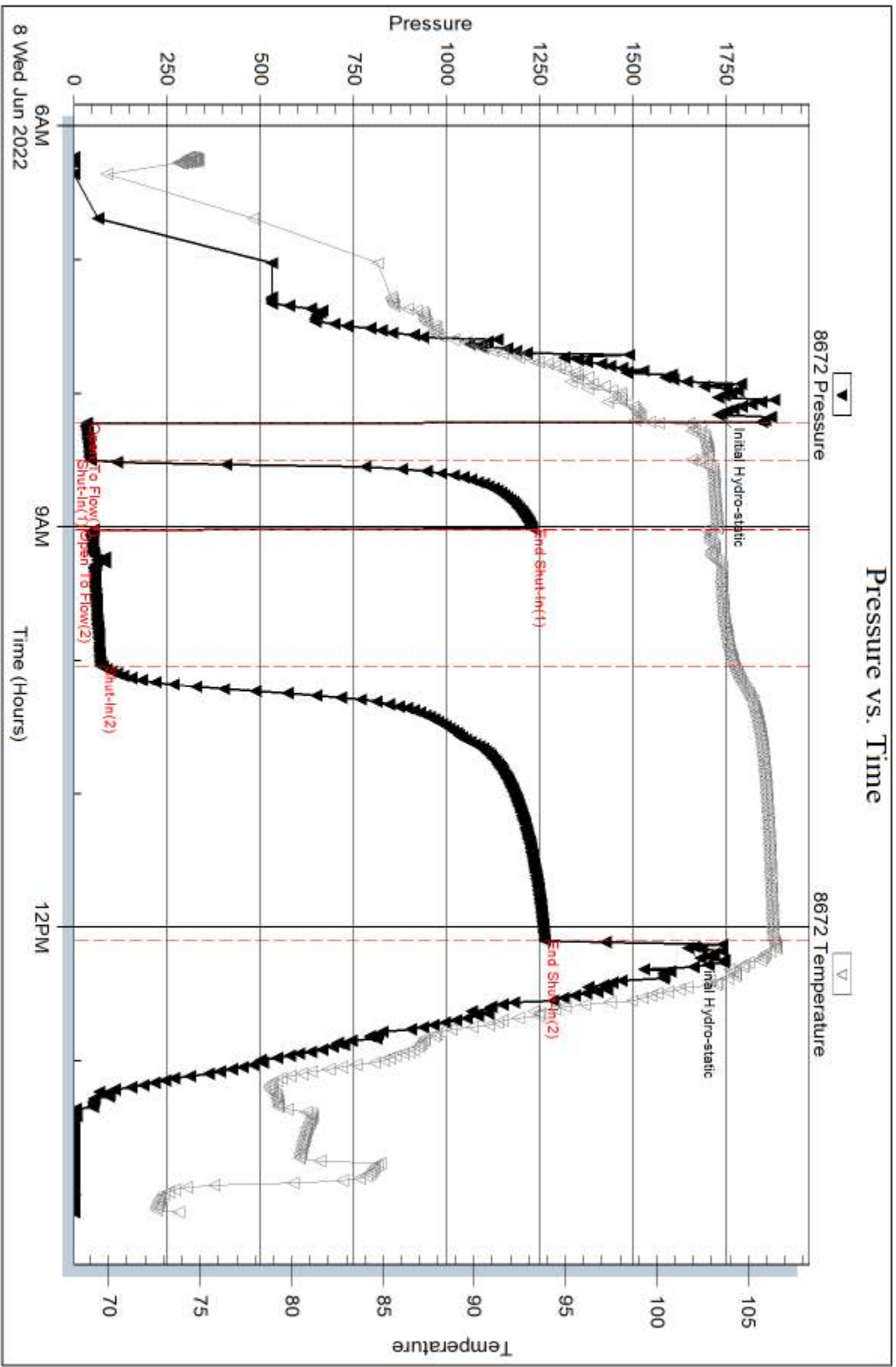
Serial #: 8672

Inside

Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 68522

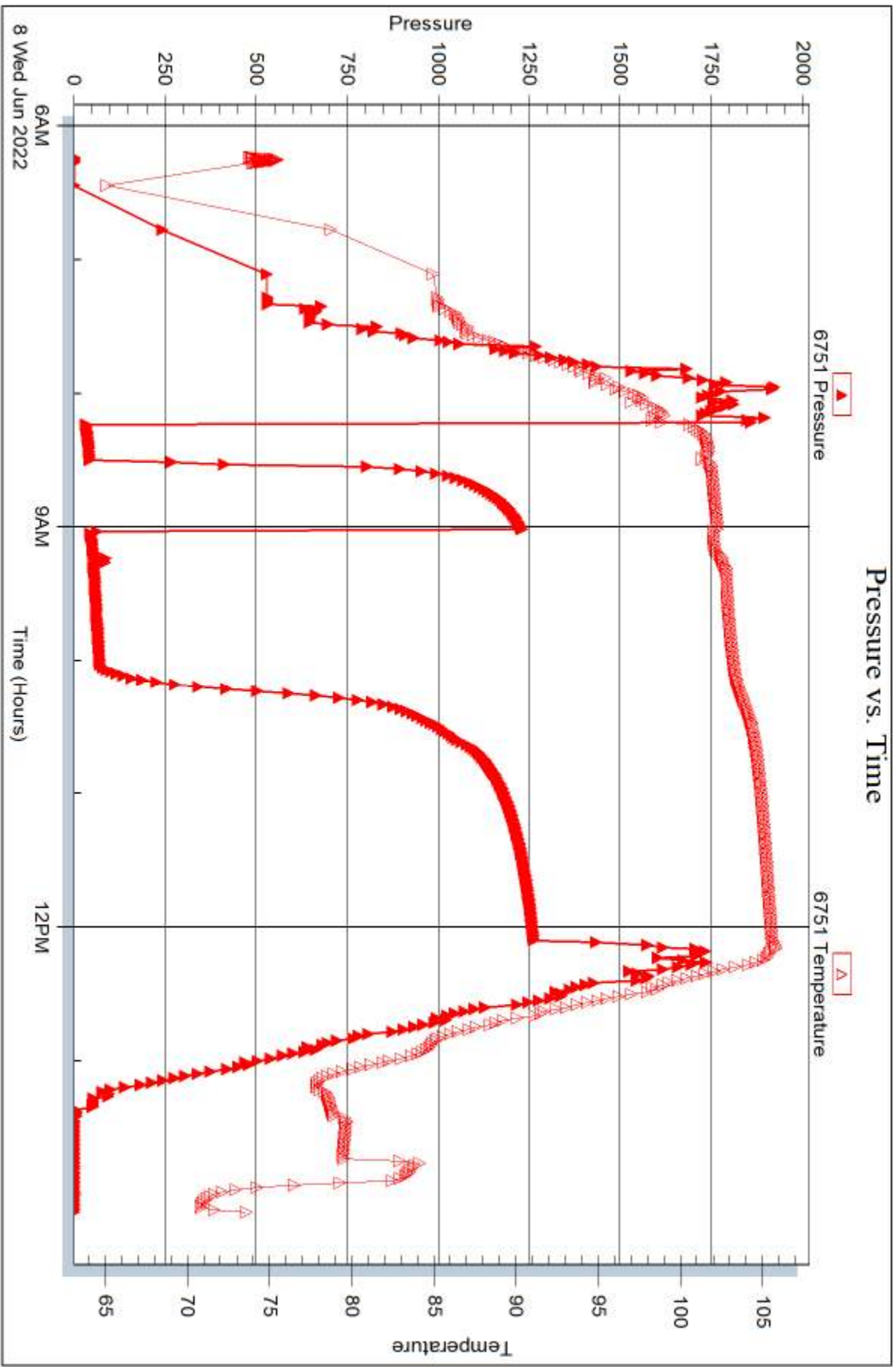
Printed: 2022.06.15 @ 11:14:50

Serial #: 6751

Outside Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 68522

Printed: 2022.06.15 @ 11:14:51



## DRILL STEM TEST REPORT

Prepared For: **Bird Dog Oil LLC**

1801 Broadway, STE 200  
Denver, CO 80202

ATTN: Jeff Lawler

### **Curtis-Gates #1-16**

#### **16-22s-13w Stafford,KS**

Start Date: 2022.06.08 @ 21:34:00

End Date: 2022.06.09 @ 06:27:47

Job Ticket #: 68523                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.15 @ 11:00:14



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
 1801 Broadway, STE 200  
 Denver, CO 80202  
 ATTN: Jeff Lawler

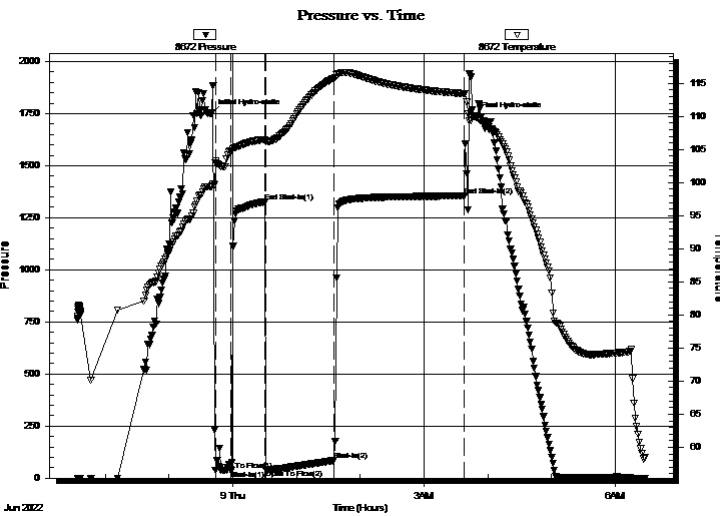
**16-22s-13w Stafford, KS**  
**Curtis-Gates #1-16**  
 Job Ticket: 68523 **DST#: 6**  
 Test Start: 2022.06.08 @ 21:34:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: 1904.00 ft (KB)  
 Time Tool Opened: 23:43:32  
 Time Test Ended: 06:27:47  
 Interval: **3824.00 ft (KB) To 3833.00 ft (KB) (TVD)**  
 Total Depth: 3833.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Hagman  
 Unit No: 69  
 Reference Elevations: 1904.00 ft (KB)  
 1894.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8672 Inside**  
 Press@RunDepth: 85.09 psig @ 3825.00 ft (KB) Capacity: psig  
 Start Date: 2022.06.08 End Date: 2022.06.09 Last Calib.: 1899.12.30  
 Start Time: 21:34:01 End Time: 06:27:47 Time On Btm: 2022.06.08 @ 23:40:32  
 Time Off Btm: 2022.06.09 @ 03:47:17

**TEST COMMENT:** IF: 15 min., weak building blow, 3.3 inches  
 IS: 30 min., no blow back  
 FF: 60 min., BOB 53 min., strong building blow, 13.5 inches  
 FS: 120 min., no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1751.60	99.44	Initial Hydro-static
3	37.28	103.00	Open To Flow (1)
18	39.18	104.85	Shut-In(1)
50	1326.95	106.47	End Shut-In(1)
51	40.75	106.19	Open To Flow (2)
115	85.09	115.77	Shut-In(2)
238	1354.55	113.44	End Shut-In(2)
247	1735.19	109.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	oily muddy water 2%O,58%W,40%M	1.49
30.00	gasy watery muddy oil 5%G,45%O,20%0.42%M	
63.00	100%G	0.88

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68523      **DST#: 6**  
Test Start: 2022.06.08 @ 21:34:00

**Tool Information**

Drill Pipe:	Length: 3794.00 ft	Diameter: 3.80 inches	Volume: 53.22 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: 20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 53.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3824.00 ft			Final 44000.00 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:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			3799.00	
Hydraulic tool	5.00			3804.00	
Isolator Sub	3.00			3807.00	
Jars	5.00			3812.00	
Safety Joint	3.00			3815.00	
Packer	5.00			3820.00	30.00      Bottom Of Top Packer
Packer	4.00			3824.00	
Stubb	1.00			3825.00	
Recorder	0.00	8672	Inside	3825.00	
Recorder	0.00	6751	Outside	3825.00	
Pickup sub perf	5.00			3830.00	
Bullnose	3.00			3833.00	9.00      Bottom Packers & Anchor

**Total Tool Length: 39.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68523      **DST#: 6**  
Test Start: 2022.06.08 @ 21:34:00

## 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:	27000 ppm
Viscosity: 37.00 sec/qt	Cushion Volume: bbl		
Water Loss: 15.17 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 10000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	oily muddy water 2%O,58%W,40%M	1.494
30.00	gasy watery muddy oil 5%G,45%O,20%W,30%	0.421
63.00	100%G	0.884

Total Length: 219.00 ft      Total Volume: 2.799 bbl

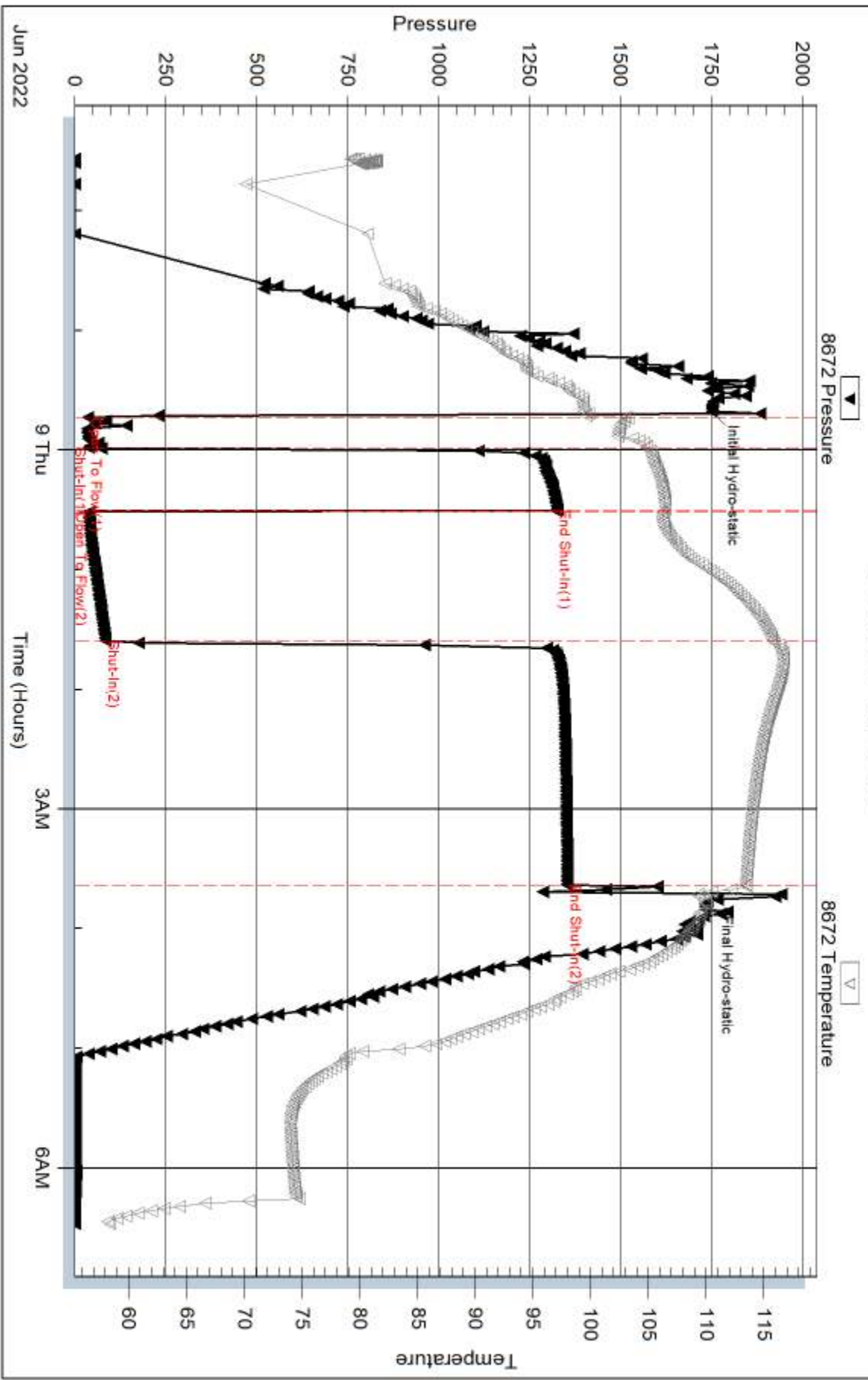
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: RW=.305@62F=27,000 ppm



### Pressure vs. Time

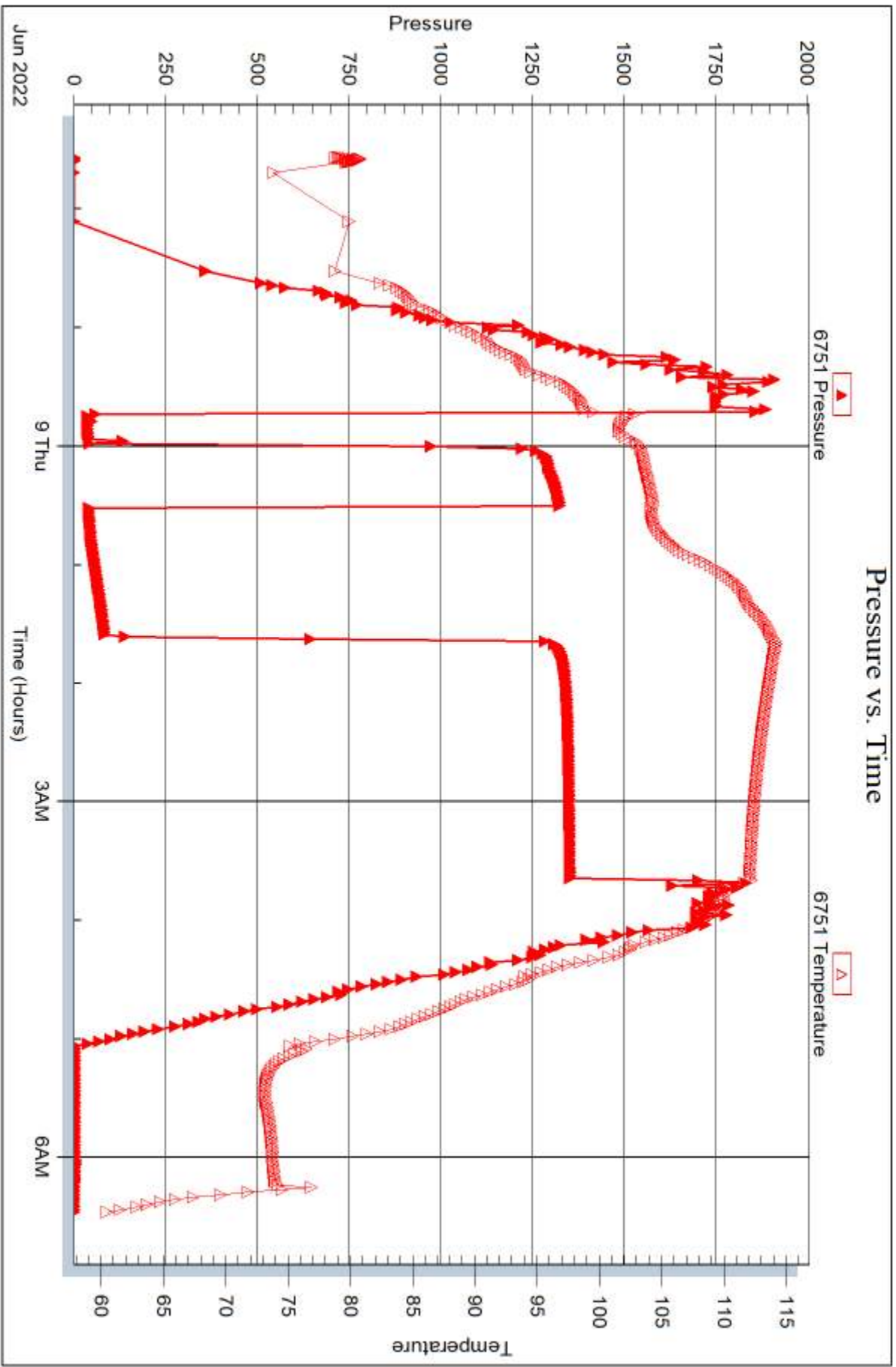


Serial #: 6751

Outside Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 6





## DRILL STEM TEST REPORT

Prepared For: **Bird Dog Oil LLC**

1801 Broadway, STE 200  
Denver, CO 80202

ATTN: Jeff Lawler

### **Curtis-Gates #1-16**

#### **16-22s-13w Stafford,KS**

Start Date: 2022.06.09 @ 13:45:00

End Date: 2022.06.09 @ 20:47:02

Job Ticket #: 68524                      DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.15 @ 10:58:06



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

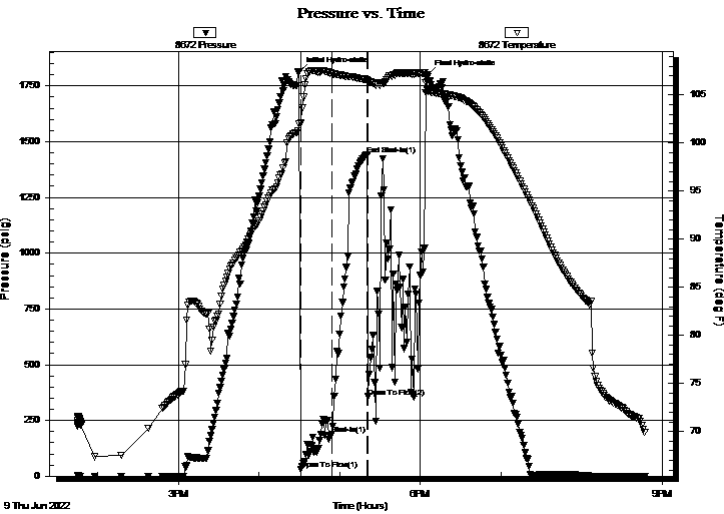
**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68524      **DST#: 7**  
Test Start: 2022.06.09 @ 13:45:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No    Whipstock: 1904.00 ft (KB)  
Time Tool Opened: 16:31:02  
Time Test Ended: 20:47:02  
Interval: **3833.00 ft (KB) To 3840.00 ft (KB) (TVD)**  
Total Depth: 3840.00 ft (KB) (TVD)  
Hole Diameter: 7.80 inches    Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Chris Hagman  
Unit No: 69  
Reference Elevations: 1904.00 ft (KB)  
1894.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8672    Inside**  
Press@RunDepth: 187.13 psig @ 3837.00 ft (KB)      Capacity:      psig  
Start Date: 2022.06.09    End Date: 2022.06.09      Last Calib.: 1899.12.30  
Start Time: 13:45:01    End Time: 20:47:02      Time On Btm: 2022.06.09 @ 16:30:02  
Time Off Btm: 2022.06.09 @ 18:05:32

**TEST COMMENT:** IF: 15 min., weak surface blow, 1.1 inches  
IS: 30 min., no blow back  
FF: tool plugged, flushed (no change) pulled tool



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1815.42	102.05	Initial Hydro-static
1	29.23	102.09	Open To Flow (1)
24	187.13	107.23	Shut-In(1)
51	1441.98	106.54	End Shut-In(1)
51	355.97	106.36	Open To Flow (2)
96	1802.55	105.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	oil spotted mud	0.07

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bird Dog Oil LLC  
1801 Broadway, STE 200  
Denver, CO 80202  
ATTN: Jeff Lawler

**16-22s-13w Stafford,KS**  
**Curtis-Gates #1-16**  
Job Ticket: 68524      **DST#: 7**  
Test Start: 2022.06.09 @ 13:45:00

**Tool Information**

Drill Pipe:	Length: 3790.00 ft	Diameter: 2.25 inches	Volume: 18.64 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: 20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 3.80 inches	Volume: 0.42 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume: 19.06 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3833.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	7.00 ft			
Tool Length:	37.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: tool plugged in FF, flushed, no good, pulled

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

Shut In Tool	5.00			3808.00	
Hydraulic tool	5.00			3813.00	
Isolator Sub	3.00			3816.00	
Jars	5.00			3821.00	
Safety Joint	3.00			3824.00	
Packer	5.00			3829.00	30.00      Bottom Of Top Packer
Packer	4.00			3833.00	
Stubb	1.00			3834.00	
Perforations	3.00			3837.00	
Recorder	0.00	8672	Inside	3837.00	
Recorder	0.00	6751	Outside	3837.00	
Bullnose	3.00			3840.00	7.00      Bottom Packers & Anchor

**Total Tool Length: 37.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bird Dog Oil LLC

**16-22s-13w Stafford,KS**

1801 Broadway, STE 200  
Denver, CO 80202

**Curtis-Gates #1-16**

Job Ticket: 68524

**DST#: 7**

ATTN: Jeff Lawler

Test Start: 2022.06.09 @ 13:45:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	oil spotted mud	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

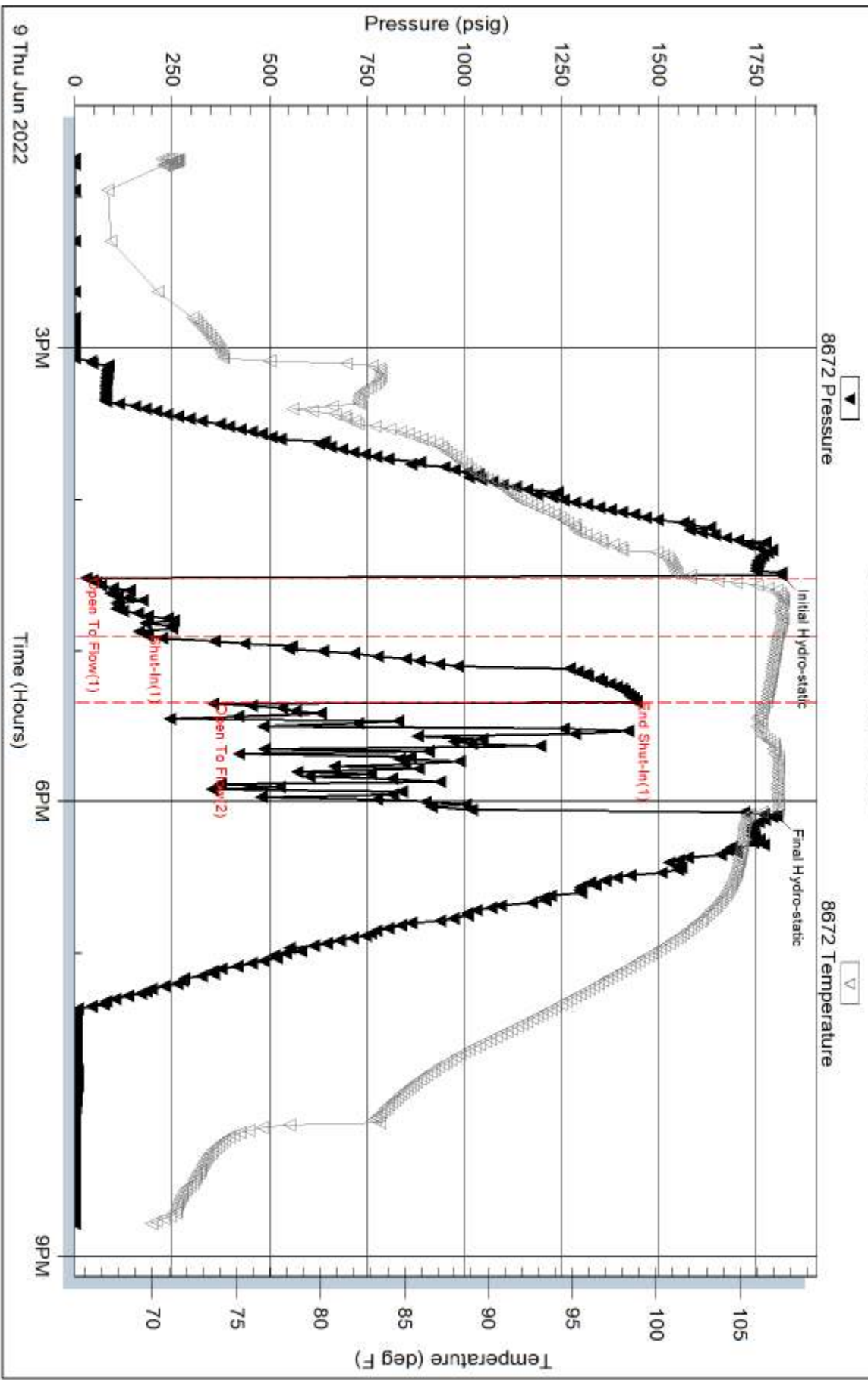
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



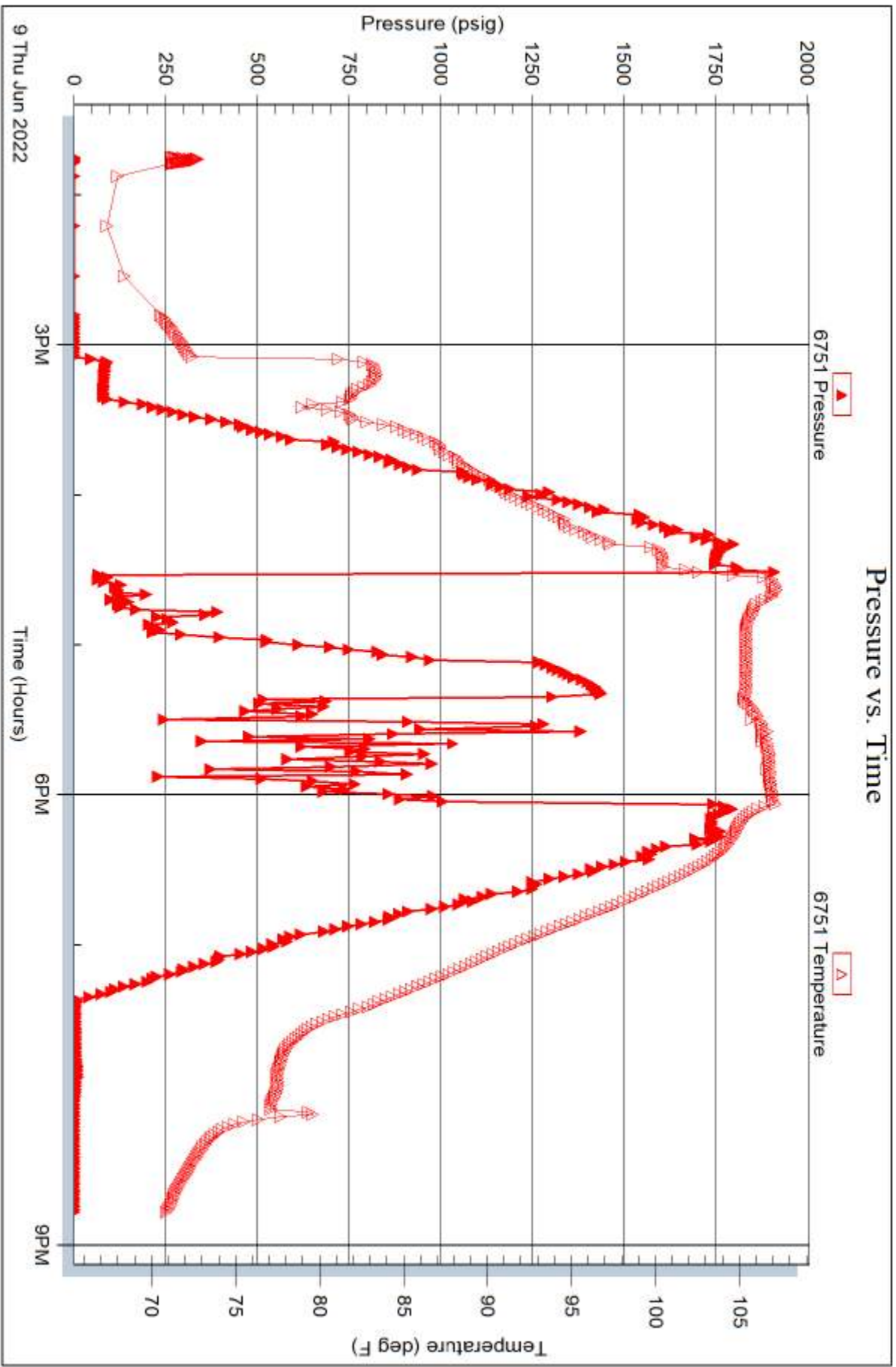


Serial #: 6751

Outside Bird Dog Oil LLC

Curtis-Gates #1-16

DST Test Number: 7





# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **68518**

Well Name & No. Curtis-Gates 1-16 Test No. 1 Date 6-4-22  
 Company Bird Dog Oil, LLC Elevation 1904 KB 1894 GL  
 Address 1801 Broadway, STE #200 Denver, CO 80202  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #2  
 Location: Sec. 16 Twp 22 Rge. 13 Co. Stafford State KS

Interval Tested 3422-3485 Zone Tested LKC C-F  
 Anchor Length 63' Drill Pipe Run 3381 Mud Wt. 8.9  
 Top Packer Depth 3417 Drill Collars Run 30 Vls 45  
 Bottom Packer Depth 3422 Wt. Pipe Run N.A. WL 8.8  
 Total Depth 3485 Chlorides 5000 ppm System LCM 1.5<sup>th</sup>  
 Blow Description IF: 15 min., BOB 13 min., strong building blow, 12 inches  
ISL: 30 min., no blow back  
FF: 45 min., BOB 9 min., strong building blow, 31 inches  
EST: 90 min., no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>126</u>	<u>muddy water oil spotted</u>		<u>1</u>	<u>59</u>	<u>40</u>
<u>63</u>	<u>oil spotted mud</u>		<u>1</u>		<u>99</u>

Rec Total 189 BHT 107 Gravity API RW 163 @ 71 °F Chlorides 45,000 ppm  
 (A) Initial Hydrostatic 1627  Test CONV. 1800 T-On Location 1600  
 (B) First Initial Flow 55  Jars 300 T-Started 1745  
 (C) First Final Flow 74  Safety Joint \_\_\_\_\_ T-Open 2010  
 (D) Initial Shut-In 861  Circ Sub \_\_\_\_\_ T-Pulled 2310  
 (E) Second Initial Flow 73  Hourly Standby \_\_\_\_\_ T-Out 0130  
 (F) Second Final Flow 112  Mileage 70rt 105 Comments bats on @ 1736  
 (G) Final Shut-In 912  Sampler \_\_\_\_\_ EM @ 1738  
 (H) Final Hydrostatic 1622  Straddle \_\_\_\_\_  EM Tool good  
 Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 2205  
 Accessibility \_\_\_\_\_ Sub Total 2205 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Chris Hegman  
 Tribolite Testing Inc. shall not be liable for damaged or 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.





**TRIBOTITE TESTING INC.**  
 1515 Commerce Parkway • Hays, Kansas 67601

**Test Ticket**

NO. **68519**

Well Name & No. Curtis-Gates 1-16 Test No. 2 Date 6-5-22  
 Company Bird Dog Oil, LLC Elevation 1904 KB 1894 GL  
 Address 1801 Broadway STE #200 Denver, CO 80202  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #2  
 Location: Sec. 16 Twp 22 Rge. 13 Co. Stafford State KS

Interval Tested 3547-3568 Zone Tested LKC I  
 Anchor Length 21' Drill Pipe Run 3507 Mud Wt. 8.8  
 Top Packer Depth 3542 Drill Collars Run 30 Vis 39  
 Bottom Packer Depth 3547 Wt. Pipe Run N.A WL 8.8  
 Total Depth 3568 Chlorides 4000 ppm System LCM 1<sup>st</sup>

Blow Description IF: 15 min, BOB 4 min, strong building blow, 40 inches  
ISB: 45 min, blow back 2 min, 1.6 inches  
FF: 60 min, BOB 5 min, strong building blow, 116 inches  
EST: 120 min, blow back 1 min, 1.5 inches

Rec	Feet of	%gas	%oil	%water	%mud
<u>1060</u>	<u>water</u>			<u>100</u>	
<u>10</u>	<u>oil</u>		<u>100</u>		
	<u>315' GBP</u>				

Rec Total 1070 BHT 111 Gravity 28 API RW .202 @ 72 °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 1672  Test conv. 1800 T-On Location 1700  
 (B) First Initial Flow 53  Jars 300 T-Started 1730  
 (C) First Final Flow 150  Safety Joint \_\_\_\_\_ T-Open 1905  
 (D) Initial Shut-In 910  Circ Sub \_\_\_\_\_ T-Pulled 2305  
 (E) Second Initial Flow 162  Hourly Standby \_\_\_\_\_ T-Out 0130  
 (F) Second Final Flow 477  Mileage 70 105 Comments lets once @ 1715  
 (G) Final Shut-In 906  Sampler \_\_\_\_\_ EM @ 1717  
 (H) Final Hydrostatic 1663  Straddle \_\_\_\_\_  EM Tool good  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 15  Day Standby \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Accessibility \_\_\_\_\_ Total 2205  
 Final Flow 60 Sub Total 2205 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 120

Approved By \_\_\_\_\_ Our Representative Chris Heger  
 Tribotite 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.



# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **68520**

Well Name & No. Curtis-Gates 1-16 Test No. 3 Date 6-6-22  
 Company Bird Dog Oil, LLC Elevation 1904 KB 1894 GL  
 Address 1801 Broadway STE #200 Denver, CO 80202  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #2  
 Location: Sec. 16 Twp 22 Rge. 13 Co. Stafford State KS

Interval Tested 3566-3614 Zone Tested LLC JOK  
 Anchor Length 48' Drill Pipe Run 3509 Mud Wt. 8.5  
 Top Packer Depth 3561 Drill Collars Run 30 Vis 44  
 Bottom Packer Depth 3566 Wt. Pipe Run N.A. WL 9.6  
 Total Depth 3614 Chlorides 9000 ppm System LCM 1#

Blow Description IF: 15 min., BOB 3 min., strong building blow 51 inches  
ISF: 30 min., blow back 1 min., 2.5 inches  
FF: 45 min., BOB 3 min., strong building blow, 179 inches  
FSL: 90 min., blow back 30 sec., 22 inches

Rec	Feet of	%gas	%oil	%water	%mud
<del>315</del> 315	muddy water			95	5
189	gassy, watery, muddy oil	45	40	10	5
	1070' GIP				

Rec Total ~~504~~ 504 BHT 110 Gravity API RW .125 @ 85 °F Chlorides 49,000 ppm  
 (A) Initial Hydrostatic 1695  Test CONV. 1800 T-On Location 1115  
 (B) First Initial Flow 58  Jars 300 T-Started ~~1130~~  
 (C) First Final Flow 102  Safety Joint \_\_\_\_\_ T-Open 1305  
 (D) Initial Shut-In 974  Circ Sub \_\_\_\_\_ T-Pulled 1605  
 (E) Second Initial Flow 113  Hourly Standby \_\_\_\_\_ T-Out 1830  
 (F) Second Final Flow 237  Mileage X 70 105 Comments lets on e 1118  
 (G) Final Shut-In 924  Sampler \_\_\_\_\_ EME 1120  
 (H) Final Hydrostatic 1646  Straddle \_\_\_\_\_  EM Tool -350  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total -350  
 Accessibility \_\_\_\_\_ Total 1855  
 Sub Total 2205 MP/DST Disc't \_\_\_\_\_

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 45  
 Final Shut-In 90

Approved By \_\_\_\_\_ Our Representative Chris Heyman  
 Tribolite 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. **68521**

Well Name & No. Curtis-Gates 1-16 Test No. 4 Date 6-7-22  
 Company Bird Dog Oil, LLC Elevation 1904 KB 1894 GL  
 Address 1801 Broadway STE #200 Denver, CO 80202  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #2  
 Location: Sec. 16 Twp 22 Rge. 13 Co. Stafford State KS

Interval Tested 3639-3755 Zone Tested Cony/Viola  
 Anchor Length 116' Drill Pipe Run 3602 Mud Wt. 8.6  
 Top Packer Depth ~~3634~~ 3634 Drill Collars Run 30 Vls 46  
 Bottom Packer Depth 3639 Wt. Pipe Run N.A. WL 8.8  
 Total Depth 3755 Chlorides 9500 ppm System LCM 2<sup>#</sup>

Blow Description IF: 15 min., fair building blow, 7 inches  
IS: 30 min., NO blow back  
FF: 45 min., BOB 40 min., strong building blow, 13 inches  
FS: 90 min., NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>100'</u>	<u>oily gassy mud</u>	<u>10</u>	<u>5</u>	<u>85</u>	<u>85</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>315' GIP</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 100' BHT 103 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1687  Test conv. 1800 T-On Location 1015  
 (B) First Initial Flow 33  Jars 300 T-Started 1030  
 (C) First Final Flow 44  Safety Joint \_\_\_\_\_ T-Open 1150  
 (D) Initial Shut-In 935  Circ Sub \_\_\_\_\_ T-Pulled 1450  
 (E) Second Initial Flow 46  Hourly Standby \_\_\_\_\_ T-Out 1730  
 (F) Second Final Flow 68  Mileage x 70 105 Comments bits @ 1014  
 (G) Final Shut-In 1065  Sampler \_\_\_\_\_ en @ 1015  
 (H) Final Hydrostatic 1669  Straddle \_\_\_\_\_  EM Tool good  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 2205  
 Sub Total 2205 MP/DST Disc't \_\_\_\_\_

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

Our Representative Chris Hagan

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.



# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **68522**

Well Name & No. Curtis-Gates 1-16 Test No. 5 Date 6-8-72  
 Company Bird Dog Oil LLC Elevation 1904 KB 1894 GL  
 Address 1801 Broadway STE #200 Denver, CO 80202  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #2  
 Location: Sec. 16 Twp 22 Rge. 13 Co. Stafford State KS

Interval Tested 3752-3828 Zone Tested Arbuckle  
 Anchor Length 76' Drill Pipe Run 3697 Mud Wt. 8.6  
 Top Packer Depth 3747 Drill Collars Run 30 Vis 46  
 Bottom Packer Depth 3752 Wt. Pipe Run N.A. WL 8.8  
 Total Depth 3828 Chlorides 9500 ppm System LCM 2<sup>nd</sup>

Blow Description IF: 15 min., fair building blow, 4 inches  
ISB: 30 min., no blow back  
FP: 60 min., strong building blow, 11.6 inches  
FSP: 120 min., no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>135</u>	<u>watery gassy oily mud</u>	<u>5</u>	<u>15</u>	<u>10</u>	<u>70</u>
<u>10</u>	<u>gassy oil</u>	<u>5</u>	<u>95</u>		
	<u>63' GTP</u>				

Rec Total 145 BHT 106 Gravity 29 API ~~SP~~ 26 @ 90 °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1728  Test CONV. 1800 T-On Location 0530  
 (B) First Initial Flow 34  Jars 300 T-Started 0630  
 (C) First Final Flow 45  Safety Joint \_\_\_\_\_ T-Open 0815  
 (D) Initial Shut-In 1230  Circ Sub \_\_\_\_\_ T-Pulled 1200  
 (E) Second Initial Flow 53  Hourly Standby \_\_\_\_\_ T-Out 1430  
 (F) Second Final Flow 75  Mileage x 70 105 Comments batson 0614  
 (G) Final Shut-In 1263  Sampler \_\_\_\_\_ 070615  
 (H) Final Hydrostatic 1647  Straddle \_\_\_\_\_

Initial Open 15  EM Tool good  
 Initial Shut-In 30  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 60  Ruined Packer \_\_\_\_\_  
 Final Shut-In 120  Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 2205 Sub Total 0  
 Total 2205 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Chris Hugner  
 Tribolite 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.





# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **68523**

Well Name & No. Curtis-Gates 1-16 Test No. 6 Date 06-8-22  
 Company Bird Dog Oil, LLC Elevation 1904 KB 1894 GL  
 Address 1801 Broadway STE #200 Denver, CO 80202  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #2  
 Location: Sec. 16 Twp 22 Rge. 13 Co. Stafford State KS

Interval Tested 3824-3833 Zone Tested Arbuckle  
 Anchor Length 9' Drill Pipe Run 3794 Mud Wt. 8.7  
 Top Packer Depth 3819 Drill Collars Run 30 Vis 37  
 Bottom Packer Depth 3824 Wt. Pipe Run N.A. WL 15.2  
 Total Depth 3833 Chlorides 10,000 ppm System LCM 1/2 #

Blow Description IF: 15 min., weak building blow, 3.3 inches  
ISD: 30 min., no blow back  
FP: 60 min., BOB 53 min., strong building blow, 13.5 inches  
PSB: 120 min., no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>126'</u>	<u>Feet of oily muddy water</u>		<u>2%</u>	<u>58%</u>	<u>40%</u>
<u>30</u>	<u>Feet of gassy <del>oily</del> watery muddy oil</u>	<u>5%</u>	<u>45%</u>	<u>20%</u>	<u>30%</u>
<u>        </u>	<u>Feet of</u>				
<u>        </u>	<u>Feet of 63' CBP</u>				
<u>        </u>	<u>Feet of</u>				

Rec Total 156' BHT 114 Gravity          API RW 305 @ 62 °F Chlorides 22,000 ppm  
 (A) Initial Hydrostatic 1752  Test COUV. 1800 T-On Location 2115  
 (B) First Initial Flow 37  Jars 300 T-Started 2145  
 (C) First Final Flow 39  Safety Joint          T-Open 2345  
 (D) Initial Shut-In 1327  Circ Sub          T-Pulled 0330  
 (E) Second Initial Flow 41  Hourly Standby          T-Out           
 (F) Second Final Flow 85  Mileage x 70 105 Comments bars on @ 2134  
 (G) Final Shut-In 1355  Sampler          EM @ 2135  
 (H) Final Hydrostatic 1735  Straddle           EM Tool good  
 Shale Packer           Ruined Shale Packer           
 Extra Packer           Ruined Packer           
 Extra Recorder           Extra Copies           
 Day Standby          Sub Total 0  
 Accessibility          Total 2205  
 Sub Total 2205 MP/DST Disc't         

Approved By          Our Representative Jeff Lawler  
 Tribolite 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.



# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68524

Well Name & No. Curtis-Gates 1-16 Test No. 7 Date 6-9-22  
 Company Bird Dog Oil, LLC Elevation 1904 KB 1894 GL  
 Address 1801 Broadway STE #200 Denver, CO 80202  
 Co. Rep / Geo. Jeff Lawler Rig Discovery #2  
 Location: Sec. 16 Twp 22 Rge. 13 Co. Stafford State KS

Interval Tested 3833-3840 Zone Tested Arbuckle  
 Anchor Length 7 Drill Pipe Run \_\_\_\_\_ Mud Wt. 8.5  
 Top Packer Depth 3828 Drill Collars Run 30 Vis 59  
 Bottom Packer Depth 3833 Wt. Pipe Run N.A. WL 10.4  
 Total Depth 3840 Chlorides 10,000 ppm System LCM 1.5<sup>#</sup>

Blow Description IF: 15 min, weak surface blow 1.1 inches  
EST: 30 min, no blow back  
FF: Tool Plugged, flushed, no change... pulled test  
set down on 9 to 10 feet of fill, slid thru 2-3 feet and tool set

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud oil spotted</u>		<u>1</u>		<u>99</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 107 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1815  Test conv. 1800 T-On Location 1330  
 (B) First Initial Flow 29  Jars 300 T-Started 1400  
 (C) First Final Flow 187  Safety Joint \_\_\_\_\_ T-Open 1635  
 (D) Initial Shut-In 1442  Circ Sub \_\_\_\_\_ T-Pulled ~~1720~~  
 (E) Second Initial Flow 356  Hourly Standby \_\_\_\_\_ T-Out 2100  
 (F) Second Final Flow 3  Mileage x 75 105 Comments bats on @ 1345  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_ EM @ 1345  
 (H) Final Hydrostatic 1803  Straddle \_\_\_\_\_  EM Tool good  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 15  Day Standby \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Accessibility \_\_\_\_\_ Total 2205  
 Final Flow pulled tool  Sub Total 2205 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Chris Heger

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Company: BIG CREEK CONSULTING, INC  
 Address: 3504 DUNCAN ST  
 ST. JOE, MO 64507

Phone Nbr: (785) 259-3737  
 Logged By: Geologist

Name: JEFF LAWLER

**CONTRACTOR**

Contractor: DISCOVERY DRILLING  
 Rig #: 2  
 Rig Type: MUD ROTARY  
 Spud Date: 5/31/2022  
 TD Date: 6/10/2022  
 Rig Release: 6/11/2022  
 Time: 5:30 PM  
 Time: 5:30 AM  
 Time: 4:00 AM

**ELEVATIONS**

K.B. Elevation: 1902.00ft  
 K.B. to Ground: 8.00ft  
 Ground Elevation: 1894.00ft

**NOTES**

AFTER LOG ANALYSIS DECISION WAS MADE TO RUN 5 1/2" PRODUCTION CASING AND FURTHER EVALUATE ZONES OF INEREST UPON CLOMPLTION.

RESPECTFULLY SUBMITTED,  
 JEFF LAWLER

**WELL COMPARISON SHEET**

FORMATION	CURTIS-GATES #1-16				SE SW NE 16-22-13				N2 NE NE 16-22-13				N2 SW NE 16-22-13				NE NW SW 15-22-13											
	KB 1902		GL 1894		KB 1899		KB 1895		KB 1898		KB 1894		KB 1894		KB 1894		KB 1894											
	LOG TOPS		SAMPLE TOPS		LOGS		LOG		SMPL.		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.							
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.				
ANHYDRITE TOP	756	1146	759	1143	748	1151	-	5	-	8	755	1140	+	6	+	3	750	1148	-	2	-	5	760	1134	+	12	+	9
BASE	772	1130	781	1121	773	1126	+	4	-	5	778	1117	+	13	+	4	775	1123	+	7	-	2	780	1114	+	16	+	7
TOPEKA	2963	-1061	2964	-1062	2960	-1061	+	0	-	1	2965	-1070	+	9	+	8												
HEEBNER SHALE	3263	-1361	3269	-1367	3258	-1359	-	2	-	8	3264	-1369	+	8	+	2	3264	-1366	+	5	-	1	3262	-1368	+	7	+	1
TORONTO	3283	-1381	3284	-1382	3278	-1379	-	2	-	3	3285	-1390	+	9	+	8	3284	-1386	+	5	+	4						
DOUGLAS SHALE	3298	-1396	3300	-1398	3292	-1393	-	3	-	5	3300	-1405	+	9	+	7	3300	-1402	+	6	+	4						
BROWN LIME	3391	-1489	3391	-1489	3387	-1488	-	1	-	1	3394	-1499	+	10	+	10	3394	-1496	+	7	+	7	3387	-1493	+	4	+	4
LKC	3410	-1508	3412	-1510	3406	-1507	-	1	-	3	3414	-1519	+	11	+	9	3414	-1516	+	8	+	6	3411	-1517	+	9	+	7
STARK	3588	-1686	3595	-1693							3590	-1695	+	9	+	2												
BKC	3629	-1727	3621	-1719	3616	-1717	-	10	-	2	3620	-1725	-	2	+	6	3624	-1726	-	1	+	7						
VIOLA	3710	-1808	3712	-1810	3712	-1813	+	5	+	3	3721	-1826	+	18	+	16	3717	-1819	+	11	+	9	3721	-1827	+	19	+	17
SIMPSON SHALE	3752	-1850	3754	-1852	3756	-1857	+	7	+	5	3754	-1859	+	9	+	7	3760	-1862	+	12	+	10	3771	-1877	+	27	+	25
SIMPSON SAND	3783	-1881			3780	-1881	+	0	+		3774	-1879	-	2			3780	-1882	+	1								
ARBUCKLE	3813	-1911	3816	-1914	3812	-1913	+	2	-	1	3806	-1911	+	0	-	3	3814	-1916	+	5	+	2	3823	-1929	+	18	+	15
TOTAL DEPTH	3940	-2038	3940	-2038	3835	-1936	-	102	-	102	3940	-2045	+	7	+	7	3836	-1938	-	100	-	100	3854	-1960	-	78	-	78

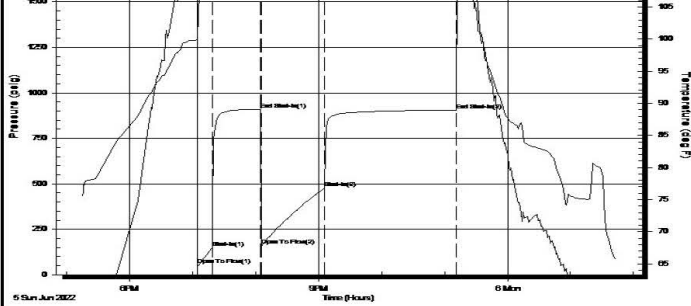
**DST #1 LKC C - F 3422' - 3485'**

	<b>DRILL STEM TEST REPORT</b>	
	Bird Dog Oil LLC	<b>16/22/13</b>
	1801 Broadway, STE 200 Denver, CO 80202	<b>Curtis-Gates 1-16</b>
ATTN: Jeff Lawler	Job Ticket: 68518	<b>DST#: 1</b>
	Test Start: 2022.06.04 @ 17:36:00	

**GENERAL INFORMATION:**

Formation: **LKC C-F**  
 Deviated: No Whipstock: 1904.00 ft (KB)  
 Time Tool Opened: 20:06:32  
 Time Test Ended: 01:24:02  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Hagman  
 Unit No: 69  
 Interval: **3422.00 ft (KB) To 3485.00 ft (KB) (TVD)**  
 Total Depth: 3485.00 ft (KB) (TVD)  
 Reference Elevations: 1904.00 ft (KB)  
 1894.00 ft (CF)  
 Hole Diameter: 7.80 inches Hole Condition: Good  
 KB to GR/CF: 10.00 ft





2	53.01	99.77	Open To Flow (1)
16	150.03	111.69	Shut-In(1)
62	909.90	110.11	End Shut-In(1)
62	162.05	109.74	Open To Flow (2)
123	476.82	112.21	Shut-In(2)
248	905.74	110.80	End Shut-In(2)
252	1662.73	110.13	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
1060.00	100%W	14.60
10.00	100%O	0.14
315.00	100%G	4.42

**Gas Rates**

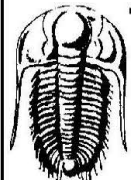
Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)
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Trilobite Testing, Inc

Ref. No: 68519

Printed: 2022.06.06 @ 02:25:03

**DST #3 LKC J - K 3566' - 3614'**

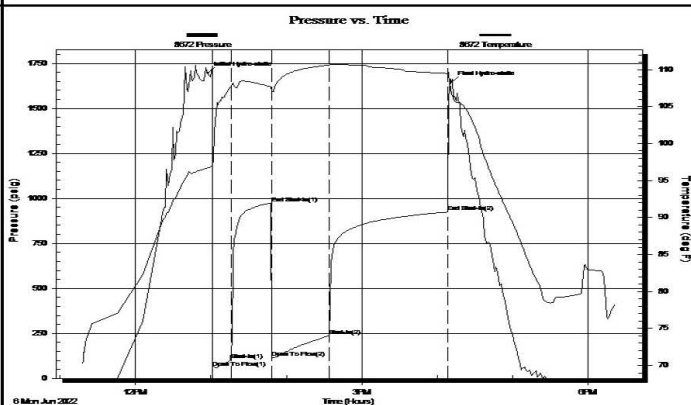
 <p><b>TRILOBITE TESTING, INC.</b></p>	<b>DRILL STEM TEST REPORT</b>	
	Bird Dog Oil LLC 1801 Broadway, STE 200 Denver, CO 80202 ATTN: Jeff Lawler	<b>16/22/13</b> <b>Curtis-Gates 1-16</b> Job Ticket: 68520 <b>DST#: 3</b> Test Start: 2022.06.06 @ 11:18:00

**GENERAL INFORMATION:**

Formation: **LKC J-K**  
 Deviated: No Whipstock: 1904.00 ft (KB)  
 Time Tool Opened: 13:01:32  
 Time Test Ended: 18:22:02  
**Interval: 3566.00 ft (KB) To 3614.00 ft (KB) (TVD)**  
 Total Depth: 3614.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Hagman  
 Unit No: 68  
 Reference Elevations: 1904.00 ft (KB)  
 1894.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8672      Inside**  
 Press@RunDepth: 236.65 psig @ 3567.00 ft (KB)      Capacity:      psig  
 Start Date: 2022.06.06      End Date: 2022.06.06      Last Calib.: 1899.12.30  
 Start Time: 11:18:00      End Time: 18:22:02      Time On Btm: 2022.06.06 @ 12:57:32  
 Time Off Btm: 2022.06.06 @ 16:11:32

**TEST COMMENT:** IF: 15 min., BOB 3 min., strong building blow, 51 inches  
 IS: 30 min., blow back 1 min., 2.5 inches  
 FF: 45 min., BOB 3 min., strong building blow, 79 inches  
 FSI: 90 min., blow back 30 sec., 22 inches



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1694.53	96.71	Initial Hydro-static
4	57.75	97.08	Open To Flow (1)
19	101.81	107.69	Shut-In(1)
51	973.57	107.67	End Shut-In(1)
51	113.48	107.23	Open To Flow (2)
97	236.65	110.64	Shut-In(2)
191	924.04	109.41	End Shut-In(2)
195	1646.48	106.59	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
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**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)
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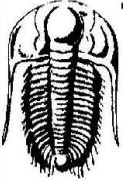
315.00	muddy water 5%M, 95%W	4.15
189.00	gassy, muddy, watery, oil 45%G, 40%O	102.655%
1070.00	100%G	15.01

Trilobite Testing, Inc

Ref. No: 68520

Printed: 2022.06.06 @ 19:18:25

**DST #4 CONGLOMERATE - VIOLA 3639' - 3755'**

 <b>TRILOBITE TESTING, INC.</b>	<b>DRILL STEM TEST REPORT</b>	
	Bird Dog Oil LLC 1801 Broadway, STE 200 Denver, CO 80202 ATTN: Jeff Lawler	<b>16/22/13</b> <b>Curtis-Gates 1-16</b> Job Ticket: 68521 <b>DST#: 4</b> Test Start: 2022.06.07 @ 10:14:00

**GENERAL INFORMATION:**

Formation: **Cong. Viola**  
 Deviated: No Whipstock: 1904.00 ft (KB)  
 Time Tool Opened: 11:48:02  
 Time Test Ended: 17:18:02

**Interval: 3639.00 ft (KB) To 3755.00 ft (KB) (TVD)**  
 Total Depth: 3755.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chris Hagman  
 Unit No: 69

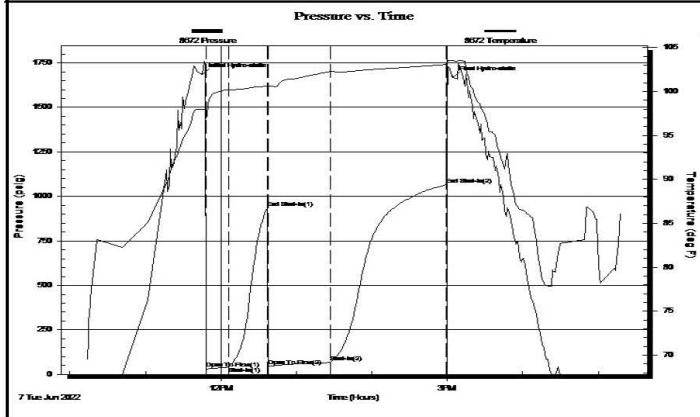
Reference Elevations: 1904.00 ft (KB)  
 1894.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8672      Inside**

Press@RunDepth: 68.45 psig @ 3640.00 ft (KB)  
 Start Date: 2022.06.07      End Date: 2022.06.07  
 Start Time: 10:14:00      End Time: 17:18:02

Capacity: \_\_\_\_\_ psig  
 Last Calib.: 1899.12.30  
 Time On Btm: 2022.06.07 @ 11:45:32  
 Time Off Btm: 2022.06.07 @ 15:04:32

**TEST COMMENT:** IF: 15 min., fair building blow, 7 inches  
 IS: 30 min., no blow back  
 FF: 45 min., BOB 40 min., strong building blow, 13 inches  
 FS: 90 min., no blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1686.88	98.02	Initial Hydro-static
3	33.33	97.03	Open To Flow (1)
21	44.36	100.18	Shut-In(1)
52	934.89	100.59	End Shut-In(1)
52	45.72	100.45	Open To Flow (2)
102	68.45	102.27	Shut-In(2)
194	1065.11	103.11	End Shut-In(2)
199	1668.57	103.50	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
100.00	oily gassy mud 10%G, 5%O, 85%M	1.13
315.00	Gas 100%G	4.42

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mc/d)

Trilobite Testing, Inc

Ref. No: 68521

Printed: 2022.06.07 @ 17:48:47

### ROCK TYPES

	Cht		Dolsec		shale, gry		Shcol
	Chtcong		Lmst fw7>		Carbon Sh		Ss
	Dolprim		shale, grn		shale, red		

### OTHER SYMBOLS

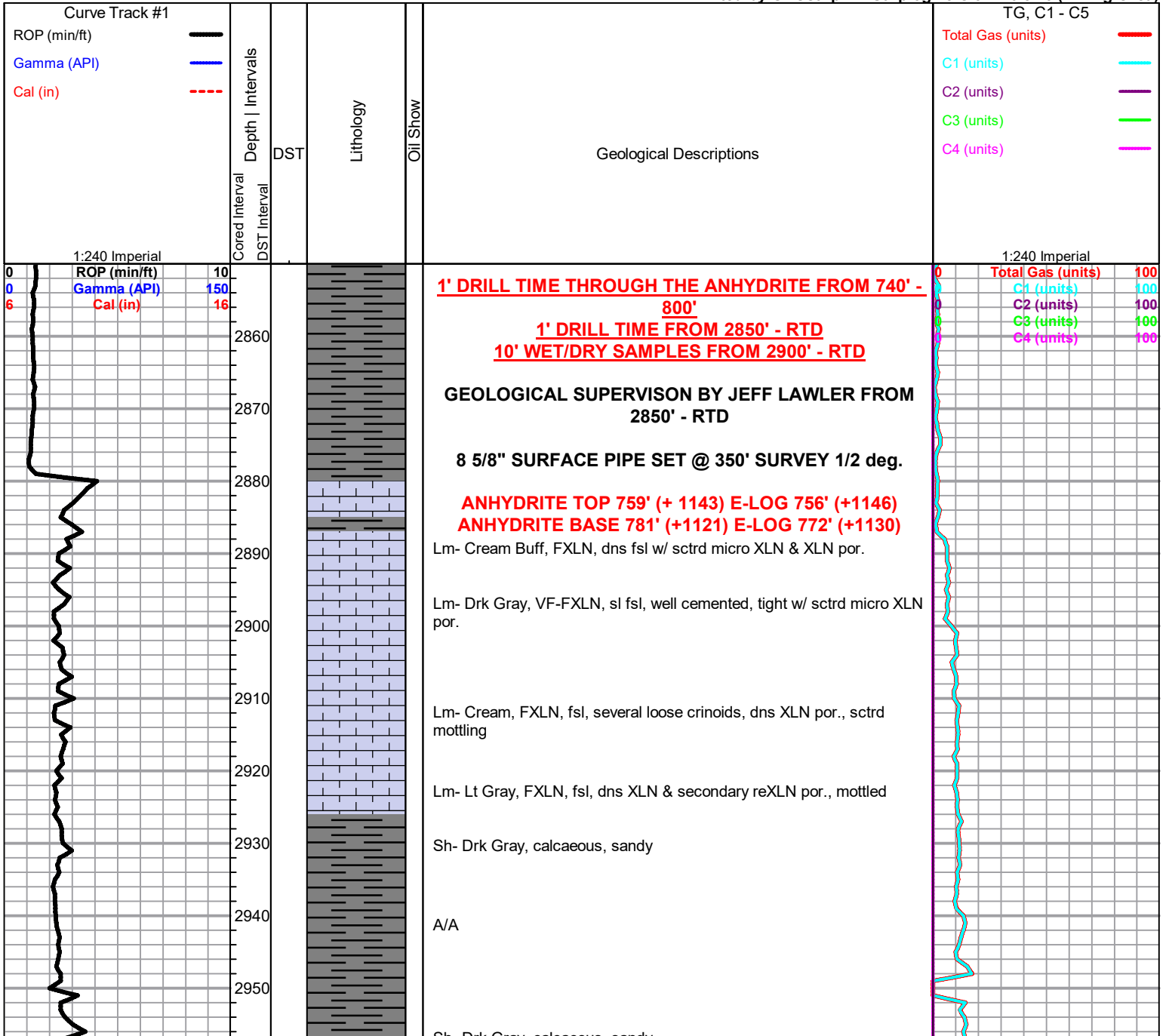
#### MISC

- Daily Report
- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

#### DST

- DST Int
- DST alt
- Core

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)



Sh- Drk Gray, calcareous, sandy

**TOPEKA 2964' (-1062) E-LOG 2963' (-1061)**

2960  
2970  
2980  
2990  
3000  
3010  
3020  
3030  
3040  
3050  
3060  
3070  
3080  
3090  
3100  
3110  
3120  
3130  
3140  
3150  
3160  
3170

ROP (min/ft) 10  
Gamma (API) 150  
Cal (in) 16

Lm- Cream Tan, FXLN, some massive, all fsl w/ sctrd-dns XLN por, sctrd mottling

Sh- Black, fissile

Lm- Buff Lt Gray, VF-FXLN, dns fsl cherty Ls w/ sctrd micro XLN & XLN por

Lm- Cream Buff, VF-FXLN, tight dolomitic Ls w/ sctrd micro XLN & XLN por., some sl chalky in part, barren

Lm- Cream Off White, FXLN, hvy fsl, sl oolitic, dns XLN & secondary reXLN por, some cherty Ls, barren

A/A w/ gray white fsl bedded chert & dolomitic chert

Lm- Tan, FXLN, mottled rip-up clasts w/ fsl fragments, dns primary & secondary XLN por

Lm- Tan, FXLN, well cemented, sl fsl, dns micro XLN por, sctrd mottling

Lm- Cream, FXLN, massive, oolitic/sl oomoldic, dns XLN & secondary reXLN w/ sctrd small vuggy por, barren

Lm- Buff, FXLN, fsl w/ fusulinids, dns XLN por, well cemented, hvy mottling

Lm- Cream, FXLN, massive, fsl & sl oolitic, dns XLN por, sctrd reXLN veins, hvy mottled

Sh- Black Gray Maroon, fissile & carbonaceous, calcareous, earthy

Lm- Tan Buff, VFXLN, dns well cemented cherty Ls w/ min. vis. por.

Dol/Chert- Cream, VF-FXLN, well dev. dolo w/ consistent XLN por, Chert- Lt Gray, CryptoXLN, sl fsl, fresh bedded

A/A w/ much soft white chalk & limey dolo, barren

Lm- Lt Gray Cream, FXLN, fsl & oolitic, massive, dns XLN & secondary reXLN & sctrd fn ppt, barren, much soft white chalk

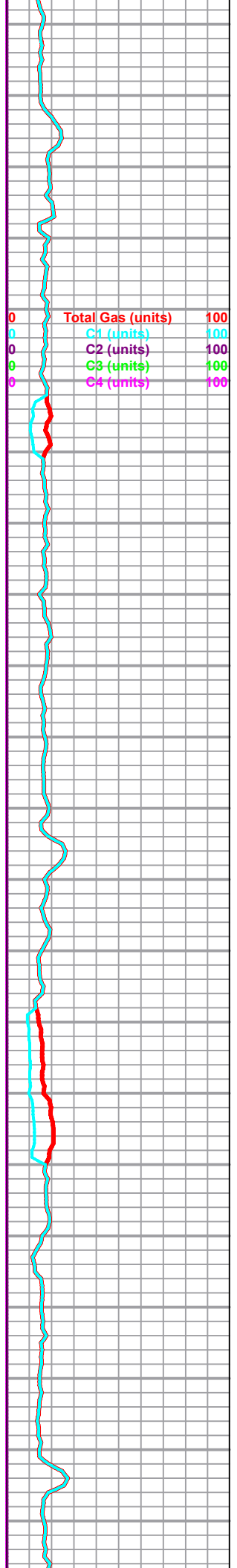
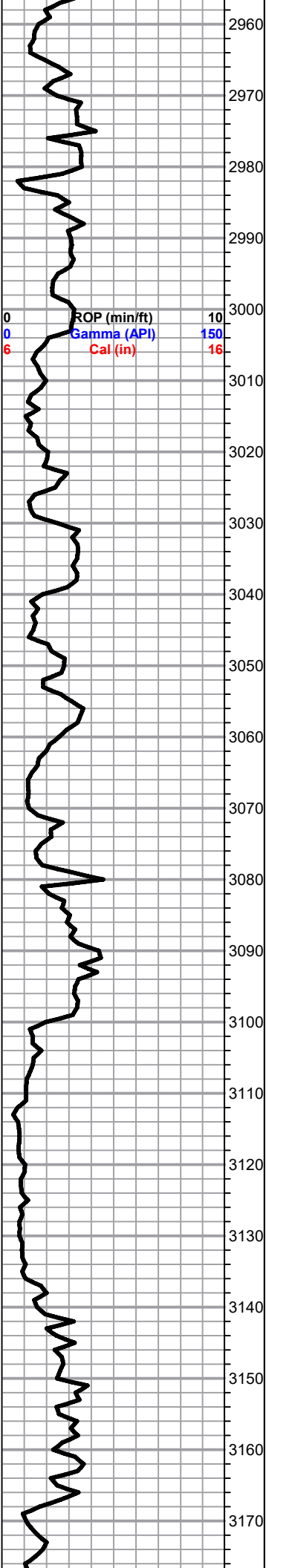
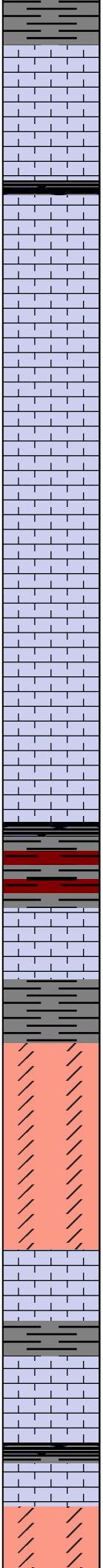
Sh- Lt/Drk Gray, calcareous, semi-waxy

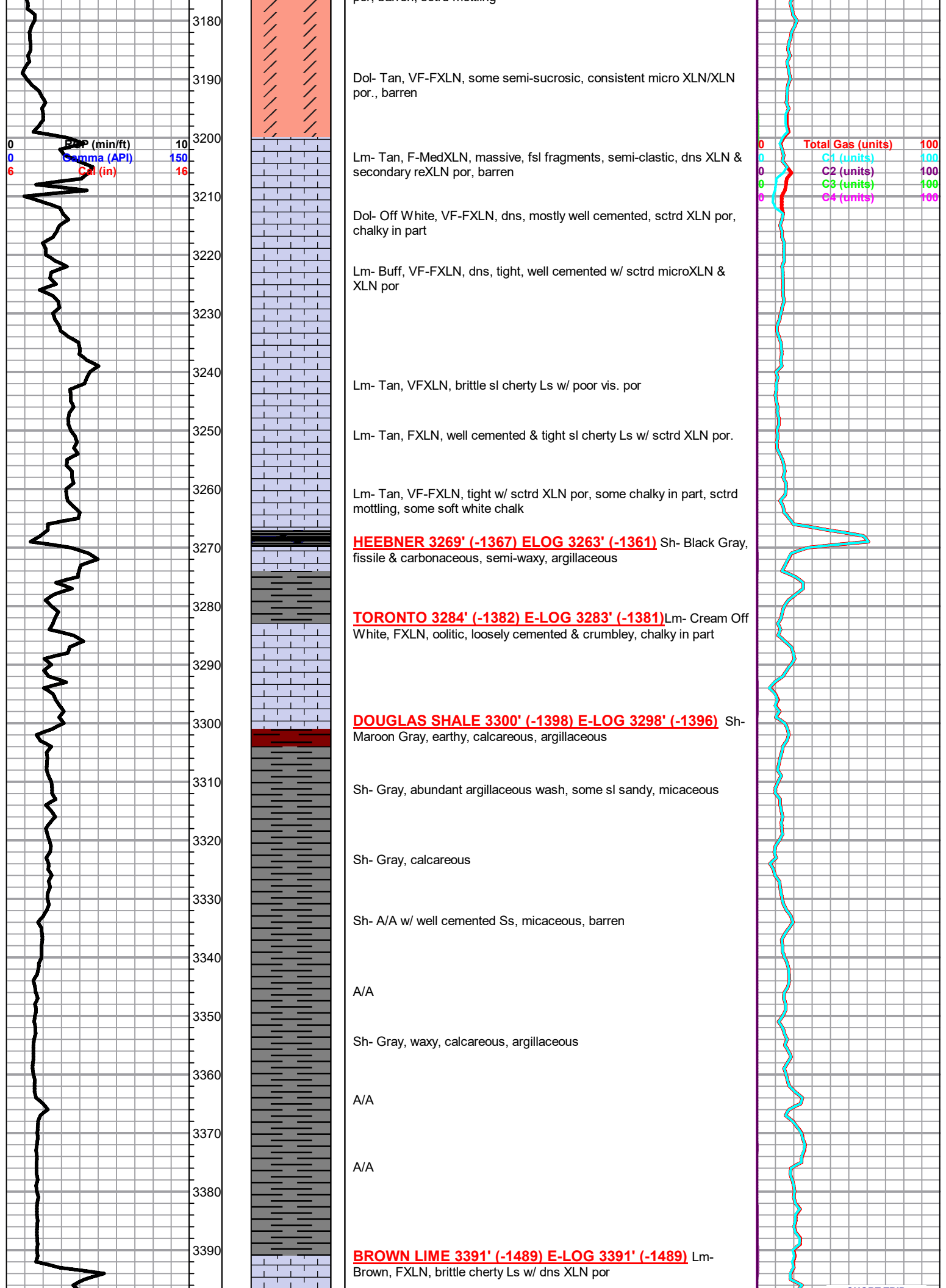
Lm- Lt Gray, FXLN, massive, fsl, dns XLN por throughout, sctrd reXLN por. barren, some soft white chalk

Sh- Black Gray Maroon Green, fissile & carbonaceous, calcareous, earthy

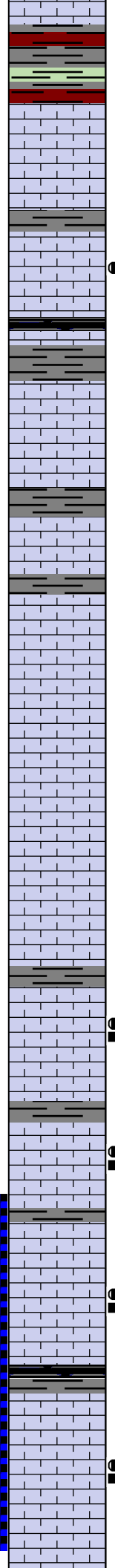
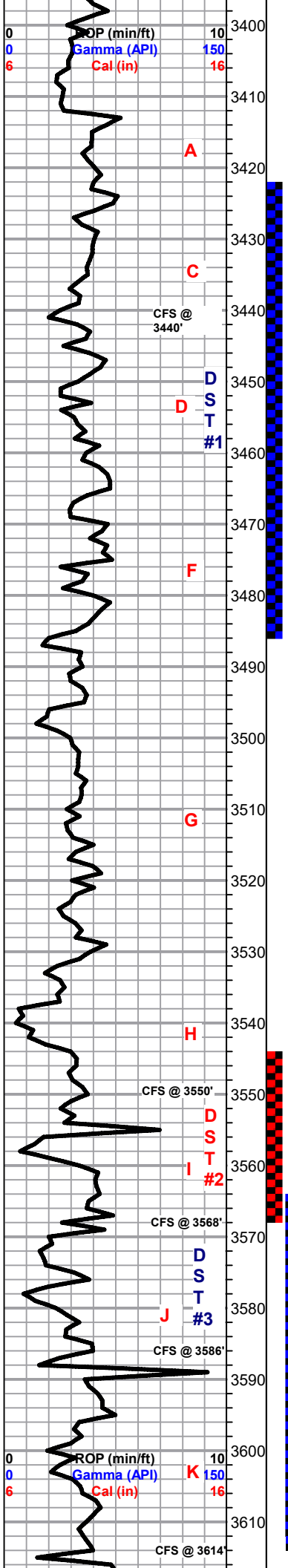
Dol- Brown Buff, F-MXLN, well dev., semi-sucrosic, consistent XLN por. barren, sctrd mottling

Total Gas (units) 100  
C1 (units) 100  
C2 (units) 100  
C3 (units) 100  
C4 (units) 100









Sh- Maroon Gray Green, earthy, argillaceous

**LKC 3412' (-1510) E-LOG 3410' (-1508)** Lm- Cream Off White, VF-FXLN, mix of tight cherty Ls & sl fsl w/ sctrd XLN por, clean & barren

Sh- Gray Maroon, soft & calcareous

Lm- Cream Off White, VF-FXLN, fsl & sl oolitic mix, some tight cherty Ls w/ sctrd micro XLN & mod. dev. w/ dns XLN & dns ppt por, SCTRDRD LT STN, NSFO, GD ODR

Sh- Black, fissile & carbonaceous

Lm- Tan Gray, FXLN, turbulent & trashy w/ fsl fragments, dns XLN por

Sh- Gray, soft, caclareous

Lm- Brown, FXLN, turbulent & trashy w/ fsl fragments, dns XLN por

Lm- Cream Off White, VF-FXLN, mix of tight cherty Ls w/ min. vis. por & hvy fsl & oolitic, sctrd to hvy XLN & secondary reXLN por., barren, some chalky in part

Lm- Buff, VF-FXLN, tight, all well cemented, sctrd XLN por,

A/A, chalky in part

Lm- Tan, VFXLN, brittle sl cherty Ls w/ sctrd XLN por, barren

Sh- Gray, soft & calcareous

Lm- Cream, FXLN, oolitic/oomoldic, sctrd-dns XLN & sctrd vuggy por, LT SCTRDRD STN, NSFO, WK ODR, LT YLW FLOR.

Sh- Gray, soft & caclareous

Lm- Cream Off White, VF-FXLN, mix of tight siltstone w/o vis. matrix & sctrd vry fn ppt por, SCTRDRD DRK STN, NSFO, & mod. dev. oolitic w/ dns XLN & sctrd ppt por., SCTRDRD DRK STN, TR FO, FR ODR, INST. YLW & WK YLW FLOR.

Lm/Chert- Cream White, VF-FXLN, dns tight mix of Ls w/ sctrd XLN por & fresh bedded chert w/ sctrd XLN por, all barren

Lm- Off White, FXLN, dns small oolites/sctrd oolitic, dns XLN & fn ppt por., SCTRDRD DRK STN, NSFO, FR ODR, BRT YLW FLOR.

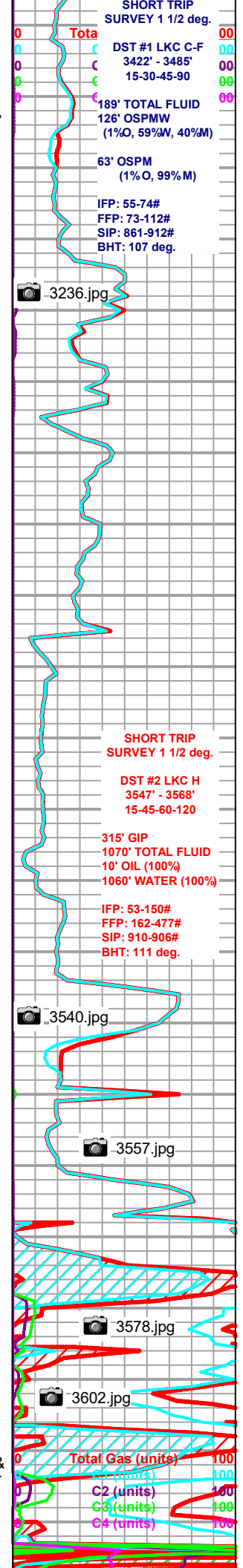
Lm- Off White, VF-FXLN, sl fsl & oolitic, sctrd micro XLN & XLN por, barren, several pcs of sl vitreous fresh bedded chert

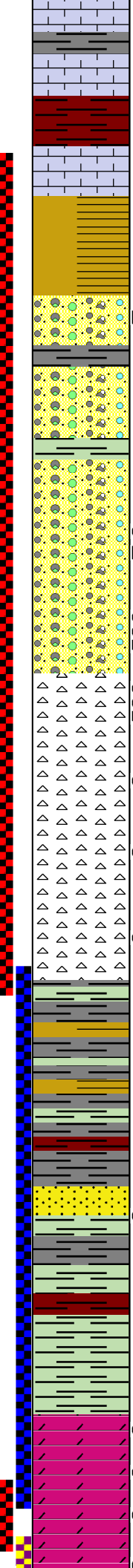
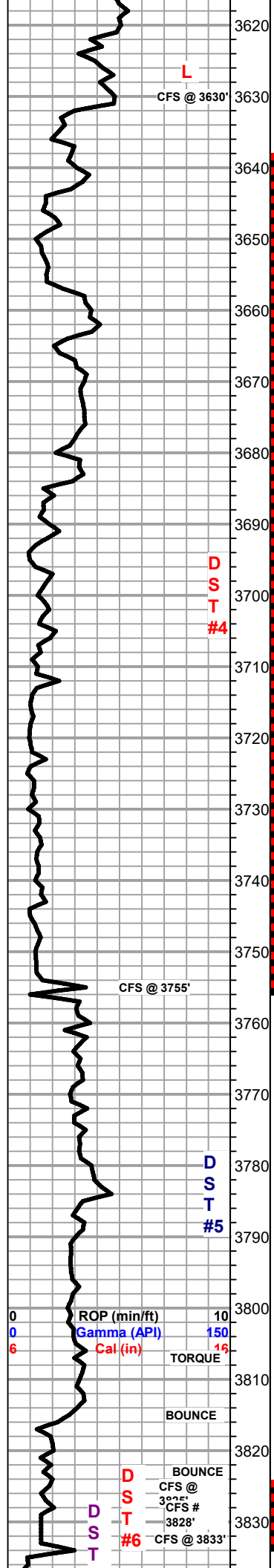
**STARK 3595' (-1693) E-LOG 3588' (-1686)** Sh- Gray Green, waxy, calcareous

Lm- Buff Cream, F-MedXLN, fsl & oolitic, dns XLN & sctrd-dns fn ppt & ppt por., SCTRDRD TO SUB-SAT DRK STN, TR FO, GD SL PUNGENT ODR, SLW STRM FLOR. BRT YLW FLOR.

Lm- Tan, CryptoXLN cherty Ls

Lm- Cream Off White, VF-FXLN, mostly dns, semi-brittle oolitic w/





sctrd-dns XLN por, some sl chalky in part, barren

Lm- Buff, VF-FXLN, sl fsl, mostly tight w/ sctrd XLN por

**BKC 3621' (-1719) E-LOG 3629' (-1727)** Sh- Maroon Gray Green, earthy, waxy

Lm- Cream Tan, VF-FXLN, sl fsl & oolitic, sctrd-dnse XLN por, sctrd chlorite inclusions

Sh- Purple Gray Green Maroon, waxy conglomerate, some w/ pebble inclusions

Cherty Conglomerate- Mint Green Purple, gritty, sl dolomitic chert w/ sctrd-dns microXLN por, FEW PC W/ TR BLK DO STN, NSFO, NO ODR

A/A w/ few pcs of Salmon fresh bedded & detrital chert

Sh- Green Purple, waxy & dns

● Cherty Conglomerate- mix of salmon & other opaque fresh bedded & massive, w/ sctrd-dns fn ppt to ppt por, SAT BLK DO STN, SOME GILSONITE, NSFO, FR ODR, TR WK YLW FLOR.

● Chert- influx of fresh bedded vitreous chert, several w/ dns microXLN por, SCTRDR TO SUB-SAT DRK STN, NSFO, FR ODR, WK YLW FLOR

**VIOLA 3712' (-1810) E-LOG 3710' (-1808)** Chert- Bone White Lt Yellow, mix of vitreous fresh bedded & sl dolomitic chert w/ mostly consistent microXLN por, SCTRDR TO SAT DRK STN, NSFO, FR ODR, BRT STRM FLOR.

● A/A, sl decrease in SAT STN & INFLUX OF SCTRDR STN

● A/A, sl decrease in shows

● A/A, sl increase in SAT STN, NSFO, FR ODR, LT YLW FLOR.

**SIMPSON SHALE 3754' (-1852) E-LOG 3752' (-1850)** Sh- Gray Green, waxy & dense Ss- Frosted, Fn Grn, consolidated, poorly sorted, sub-rounded, mature, well cemented, barren

Sh- A/A

**SIMPSON SAND E-LOG 3783' (-1881)**

● Sh- A/A Ss- Brown Frosted, Fn Grn, lightly cemented, mostly consolidated, mod. sorting, sub-rounded, SCTRDR DRK STN, NSFO, NO ODR

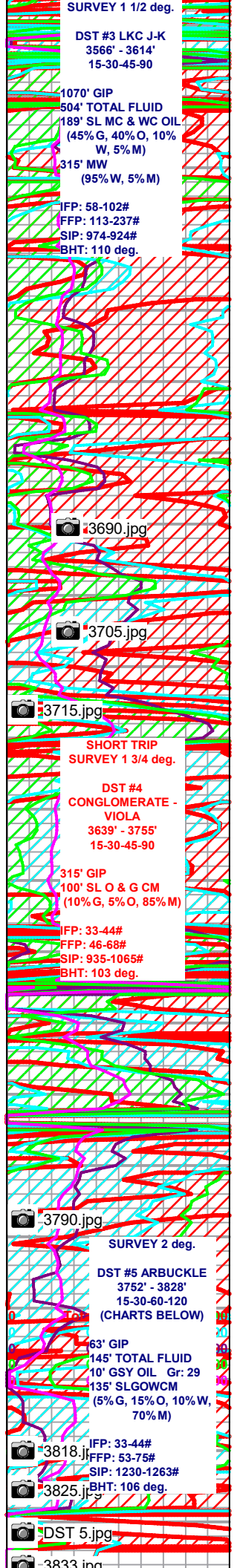
Sh- Gray Green Maroon, dns & waxy Ss- sl influx A/A

Sh- influx of blocky & waxy mint green shale

● **ARBUCKLE 3816' (-1914) E-LOG 3813' (-1911)** Dol- Cream, VF-FXLN mix of semi-friable, sucrosic w/ consistent XLN por, & well cemented w/ consistent microXLN & some sctrd fn ppt por, SCTRDR DRK STN, FR SHW FO, GD ODR

● **3825'**- Dol- Cream, FXLN, sucrosic, semi-friable, consistent vry fn ppt por throughout, SAT DRK STN, FEW W/ BLEEDING FO, GD/STRNG ODR

● **3828'**- Dol/Chert, VFXLN, consistent microXLN por throughout, &

















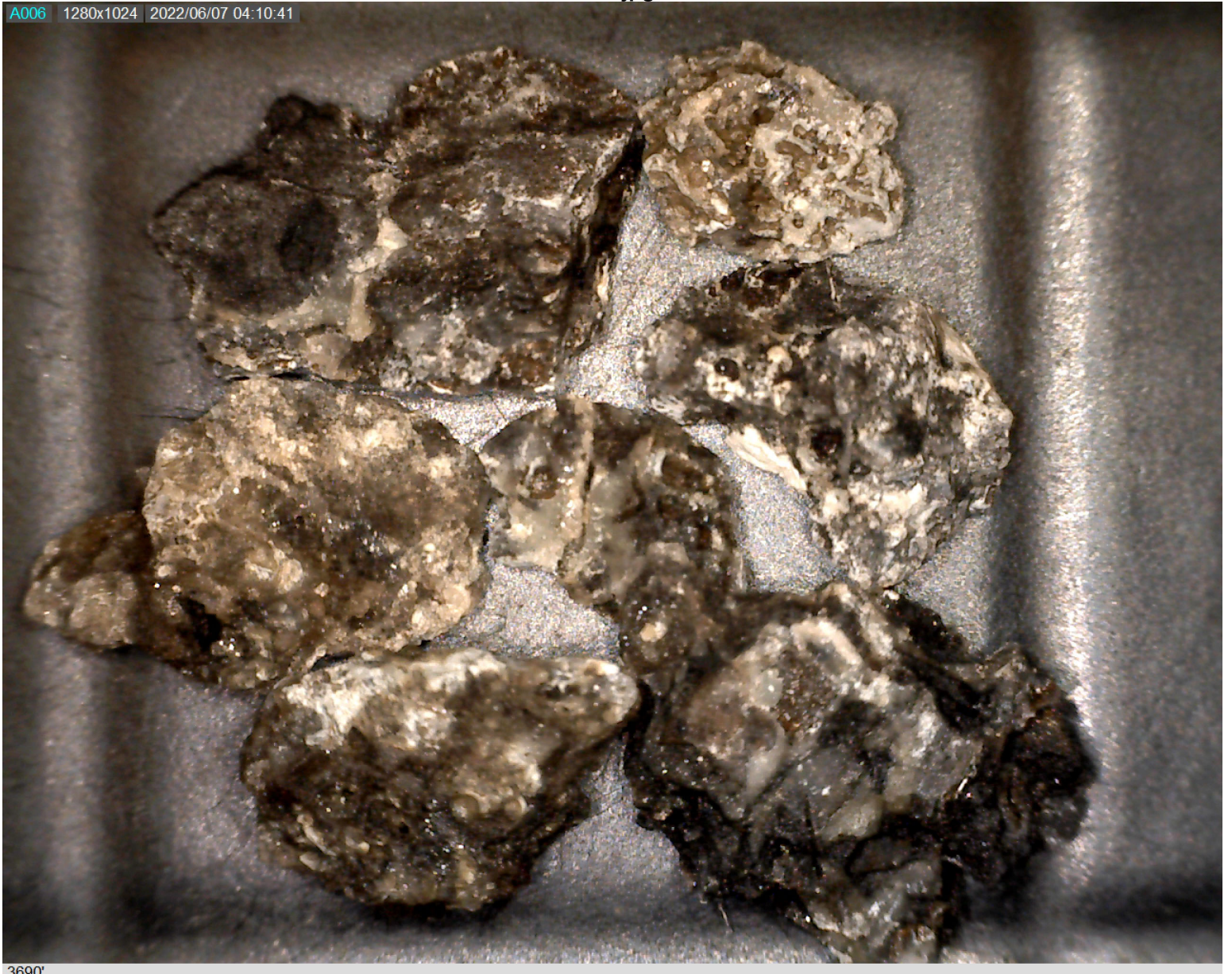





















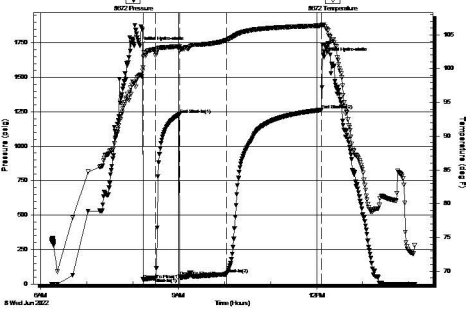







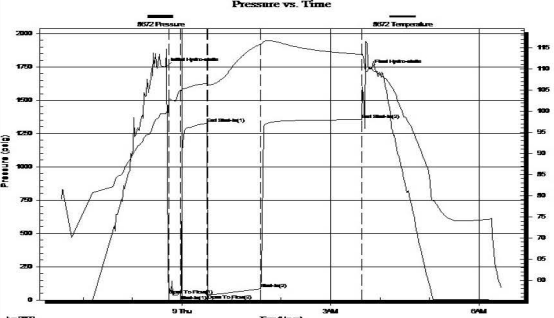


3818'

 <b>TRILOBITE TESTING, INC.</b>	<b>DRILL STEM TEST REPORT</b>																																						
Bird Dog Oil LLC 1801 Broadway, STE 200 Denver, CO 80202 ATTN: Jeff Lawler	<b>16/22/13</b>  <b>Curtis-Gates 1-16</b> Job Ticket: 68522 <b>DST#: 5</b> Test Start: 2022.06.08 @ 06:14:00																																						
<b>GENERAL INFORMATION:</b> Formation: <b>Arbuckle</b> Deviated: No      Whipstock: 1904.00 ft (KB) Time Tool Opened: 08:13:17 Time Test Ended: 14:08:02 Test Type: Conventional Bottom Hole (Initial) Tester: Chris Hagman Unit No: 69 Interval: <b>3752.00 ft (KB) To 3828.00 ft (KB) (TVD)</b> Total Depth: 3828.00 ft (KB) (TVD) Reference Elevations: 1904.00 ft (KB) 1894.00 ft (CF) Hole Diameter: 7.80 inches      Hole Condition: Good KB to GR/CF: 10.00 ft																																							
<b>Serial #: 8672      Inside</b> Press@RunDepth: 75.34 psig @ 3753.00 ft (KB)      Capacity:      psig Start Date: 2022.06.08      End Date: 2022.06.08      Last Calib.: 1899.12.30 Start Time: 06:14:01      End Time: 14:08:02      Time On Btm: 2022.06.08 @ 08:09:32 Time Off Btm: 2022.06.08 @ 12:09:32																																							
<b>TEST COMMENT:</b> IF: 15 min., fair building blow, 4 inches IST: 30 min., no blow back FF: 60 min., strong building blow, 11.6 inches FST: 120 min., no blow back																																							
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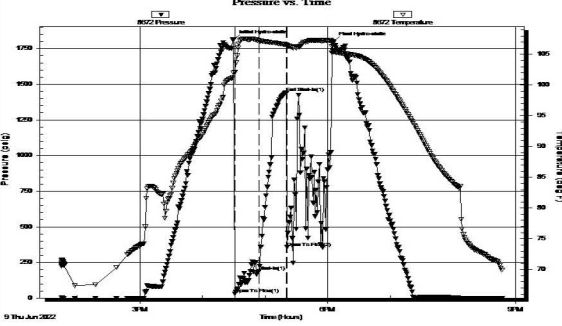
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	Bird Dog Oil LLC 1801 Broadway, STE200 Denver, CO 80202  ATTN: Jeff Lawler	<b>16/22/13</b>  <b>Curtis-Gates 1-16</b> Job Ticket: 68523 <b>DST#: 6</b> Test Start: 2022.06.08 @ 21:34:00																																					
<b>GENERAL INFORMATION:</b> Formation: <b>Arbuckle</b> Deviated: No Whipstock: 1904.00 ft (KB) Time Tool Opened: 23:43:32 Time Test Ended: 06:27:47  Interval: <b>3824.00 ft (KB) To 3833.00 ft (KB) (TVD)</b> Total Depth: 3833.00 ft (KB) (TVD) Hole Diameter: 7.80 inches Hole Condition: Good  Test Type: Conventional Bottom Hole (Initial) Tester: Chris Hagman Unit No: 69  Reference Elevations: 1904.00 ft (KB) 1894.00 ft (CF) KB to GR/CF: 10.00 ft																																							
<b>Serial #: 8672 Inside</b> Press@RunDepth: 85.09 psig @ 3825.00 ft (KB) Capacity: psig Start Date: 2022.06.08 End Date: 2022.06.09 Last Calib.: 1899.12.30 Start Time: 21:34:00 End Time: 06:27:47 Time On Btm: 2022.06.08 @ 23:40:32 Time Off Btm: 2022.06.09 @ 03:47:17																																							
<b>TEST COMMENT:</b> IF: 15 min., weak building blow, 3.3 inches IS: 30 min., no blow back FF: 60 min., BOB 53 min., strong building blow, 13.5 inches FS: 120 min., no blow back																																							
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	<h2 style="margin:0;">DRILL STEM TEST REPORT</h2>																																					
Bird Dog Oil LLC 1801 Broadway, STE200 Denver, CO 80202 ATTN: Jeff Lawler	<b>16/22/13</b> <b>Curtis-Gates 1-16</b> Job Ticket: 68524 <b>DST#: 7</b> Test Start: 2022.06.09 @ 13:45:00																																					
<b>GENERAL INFORMATION:</b> Formation: <b>Arbuckle</b> Deviated: No      Whipstock: 1904.00 ft (KB) Time Tool Opened: 16:31:02 Time Test Ended: 20:47:02 Test Type: Conventional Bottom Hole (Initial) Tester: Chris Hagman Unit No: 69 Interval: <b>3833.00 ft (KB) To 3840.00 ft (KB) (TVD)</b> Total Depth: 3840.00 ft (KB) (TVD) Reference Elevations: 1904.00 ft (KB) Hole Diameter: 7.80 inches      Hole Condition: Good KB to GR/CF: 10.00 ft																																						
<b>Serial #: 8672      Inside</b> Press@RunDepth: 187.13 psig @ 3837.00 ft (KB)      Capacity:      psig Start Date: 2022.06.09      End Date: 2022.06.09      Last Calib.: 1899.12.30 Start Time: 13:45:01      End Time: 20:47:02      Time On Btm: 2022.06.09 @ 16:30:02 Time Off Btm: 2022.06.09 @ 18:05:32																																						
<b>TEST COMMENT:</b> IF: 15 min., weak surface blow, 1.1 inches IS: 30 min., no blow back FF: tool plugged, flushed (no change) pulled tool																																						
	<table border="1" style="width:100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th colspan="4" style="text-align: center;">PRESSURE SUMMARY</th> </tr> <tr> <th style="width:10%;">Time (Min.)</th> <th style="width:15%;">Pressure (psig)</th> <th style="width:15%;">Temp (deg F)</th> <th style="width:60%;">Annotation</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1815.42</td> <td>102.05</td> <td>Initial Hydro-static</td> </tr> <tr> <td>1</td> <td>29.23</td> <td>102.09</td> <td>Open To Flow (1)</td> </tr> <tr> <td>24</td> <td>187.13</td> <td>107.23</td> <td>Shut-In(1)</td> </tr> <tr> <td>51</td> <td>1441.98</td> <td>106.54</td> <td>End Shut-In(1)</td> </tr> <tr> <td>51</td> <td>355.97</td> <td>106.36</td> <td>Open To Flow (2)</td> </tr> <tr> <td>96</td> <td>1802.55</td> <td>105.45</td> <td>Final Hydro-static</td> </tr> </tbody> </table>	PRESSURE SUMMARY				Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	1815.42	102.05	Initial Hydro-static	1	29.23	102.09	Open To Flow (1)	24	187.13	107.23	Shut-In(1)	51	1441.98	106.54	End Shut-In(1)	51	355.97	106.36	Open To Flow (2)	96	1802.55	105.45	Final Hydro-static					
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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071  
Cell 785-324-1041

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

No. 2480

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-1-22	16	22	13	Steford	Kansas		31/2 am

Location *Great Bend 15 1/2 S W 10*

Lease	Well No.	Owner	
<i>Curtis - Gates</i>	<i>1-16</i>	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	Type Job	Charge To	
<i>Discover Drilling Rig 2</i>		<i>Bird Dog</i>	
Hole Size	T.D.	Street	
<i>12 1/2</i>	<i>350'</i>		
Csg.	Depth	City	
<i>8 5/8</i>	<i>350'</i>	State	
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
Tool	Depth	Cement Amount Ordered <i>450 lbs 30' 30' 20' 20' 20' 20'</i>	
Cement Left in Csg.	Shoe Joint		
<i>30'</i>	<i>30'</i>		
Meas Line	Displace		
	<i>20-352</i>		

**EQUIPMENT**

Pumptrk	No.	Cementer	Helper	Common
<i>16</i>			<i>Jordan</i>	Poz. Mix
Bulktrk	No.	Driver	Driver	Gel.
<i>19</i>			<i>Tim</i>	Calcium
Bulktrk	No.	Driver	Driver	
<i>14</i>			<i>David</i>	

**JOB SERVICES & REMARKS**

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
DV or Port Collar	CFL-117 or CD110 CAF 38
	Sand
	Handling
<i>Ran 8 5/8 and est. circulation</i>	Mileage
<i>Cemented with 450 lbs</i>	

**FLOAT EQUIPMENT**

	Guide Shoe
	Centralizer
	Baskets
<i>Cement did circulate</i>	AFU Inserts
	Float Shoe
	Latch Down

	Pumptrk Charge	Tax
	Mileage	Discount
		Total Charge
X Signature		