

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1358204  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
August 2013

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  SIOW
- Gas  D&A  ENHR  SIGW
- OG  GSW  Temp. Abd.
- 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 ENHR  Conv. to SWD
- Plug Back  Conv. to GSW  Conv. to Producer
- Commingled Permit #: \_\_\_\_\_
- Dual Completion Permit #: \_\_\_\_\_
- SWD Permit #: \_\_\_\_\_
- ENHR Permit #: \_\_\_\_\_
- GSW Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

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
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1358204



Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

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				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

No. 111

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

Date	3-6-17
Sec.	31
Twp.	19
Range	2C
County	Ness
State	KS
On Location	4/15
Finish	

Lease **Kings Truss**  
Contractor **WU #14**  
Type Job **Surface**  
Hole Size **12.14**  
Csg. **8 5/8**  
Depth **270**  
T.D. **247**  
Charge **To Schaden 0.1**  
City **Schaden**  
State **KS**

To Quality Oilwell Cementing, Inc.  
You are hereby requested to rent cementing equipment and furnish  
center and helper to assist owner or contractor to do work as listed.

Owner **Schaden**  
Well No. **1-31**

Owner **Schaden**  
Location **Bozine #282 55**

The above was done to satisfaction and supervision of owner agent or contractor.  
Cement Amount Ordered **170** ~~170~~ **80/20 3-1/2 2-1/2**  
Shoe Joint **10**  
Displace **16 1/2 BBL**  
Meas Line

**EQUIPMENT**

No. Cementer	18	Helper	Brett
No. Driver		Driver	Brett
No. Bulktrk	14	Driver	Mark
No. Bulktrk		Driver	

Common **136**  
Poz. Mix **34**  
Gel. **3**  
Calcium **7**

### JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

DV or Port Collar

Sand

Handling **180**

Mileage **180**

**FLOAT EQUIPMENT**

Guide Shoe **8 5/8 Swage**

Centralizer

Baskets

AFU Inserts

Float Shoe

Latch Down

Mileage **16**

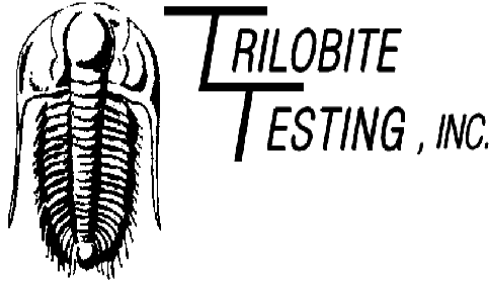
Pumptrk Charge **Surface**

Tax

Discount

Total Charge

Signature **Mark Hoover**



## DRILL STEM TEST REPORT

Prepared For: **Schaben Oil LLC**

2704 Ash  
Hays, KS 67601

ATTN: Andrew Stenzel

**31-19-21w Ness,KS**

**Ken & Travis Schaben #1-31**

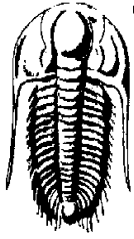
Start Date: 2017.03.12 @ 14:01:15

End Date: 2017.03.12 @ 20:45:00

Job Ticket #: 61344                      DST #: 1

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

Printed: 2017.03.14 @ 15:03:30



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61344

**DST#: 1**

ATTN: Andrew Stenzel

Test Start: 2017.03.12 @ 14:01:15

## GENERAL INFORMATION:

Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:22:15  
 Time Test Ended: 20:45:00  
 Interval: **4367.00 ft (KB) To 4451.00 ft (KB) (TVD)**  
 Total Depth: 4451.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Mike Roberts  
 Unit No: 81  
 Reference Elevations: 2306.00 ft (KB)  
 2295.00 ft (CF)  
 KB to GR/CF: 11.00 ft

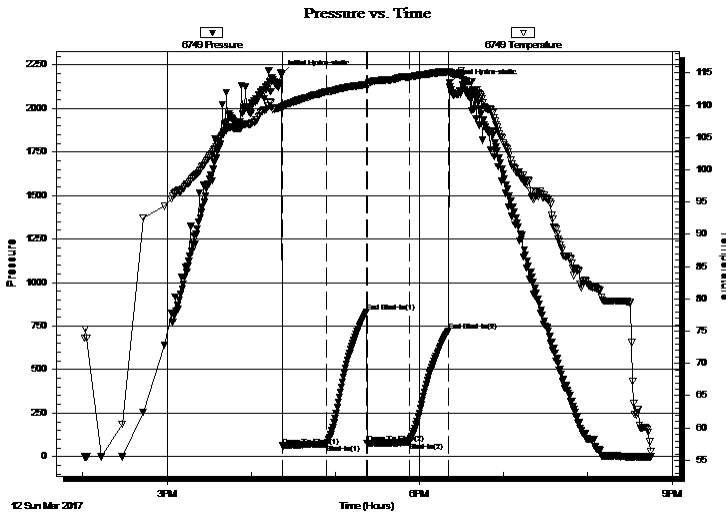
## Serial #: 6749

**Outside**

Press@RunDepth: 80.71 psig @ 4436.00 ft (KB)  
 Start Date: 2017.03.12 End Date: 2017.03.12  
 Start Time: 14:01:15 End Time: 20:45:00  
 Capacity: 8000.00 psig  
 Last Calib.: 2017.03.12  
 Time On Btm: 2017.03.12 @ 16:21:45  
 Time Off Btm: 2017.03.12 @ 18:21:15

TEST COMMENT: IF: Built to 1" blow  
 IS: No return blow  
 FF: Built to 1/8" blow  
 FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2197.25	109.71	Initial Hydro-static
1	61.51	109.47	Open To Flow (1)
33	72.22	112.12	Shut-In(1)
61	830.44	113.22	End Shut-In(1)
61	76.49	112.86	Open To Flow (2)
91	80.71	114.36	Shut-In(2)
119	722.50	115.18	End Shut-In(2)
120	2145.06	115.25	Final Hydro-static

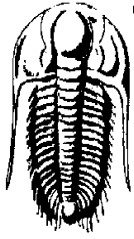
## Recovery

Length (ft)	Description	Volume (bbl)
10.00	ocm 30%o 70%m	0.05
59.00	ocm 5%o 95%m	0.29

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61344

**DST#: 1**

ATTN: Andrew Stenzel

Test Start: 2017.03.12 @ 14:01:15

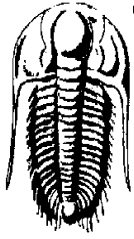
## Tool Information

Drill Pipe:	Length: 4249.00 ft	Diameter: 3.80 inches	Volume: 59.60 bbl	Tool Weight: 1500.00 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: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.18 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4367.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	112.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4340.00	
Shut In Tool	5.00			4345.00	
Hydraulic tool	5.00			4350.00	
Jars	5.00			4355.00	
Safety Joint	3.00			4358.00	
Packer	5.00			4363.00	28.00 Bottom Of Top Packer
Packer	4.00			4367.00	
Stubb	1.00			4368.00	
Perforations	2.00			4370.00	
Change Over Sub	1.00			4371.00	
Drill Pipe	64.00			4435.00	
Change Over Sub	1.00			4436.00	
Recorder	0.00	8672	Inside	4436.00	
Recorder	0.00	6749	Outside	4436.00	
Perforations	10.00			4446.00	
Bullnose	5.00			4451.00	84.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>112.00</b>				



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61344

**DST#: 1**

ATTN: Andrew Stenzel

Test Start: 2017.03.12 @ 14:01:15

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbbl
10.00	ocm 30%o 70%m	0.049
59.00	ocm 5%o 95%m	0.290

Total Length: 69.00 ft      Total Volume: 0.339 bbl

Num Fluid Samples: 0

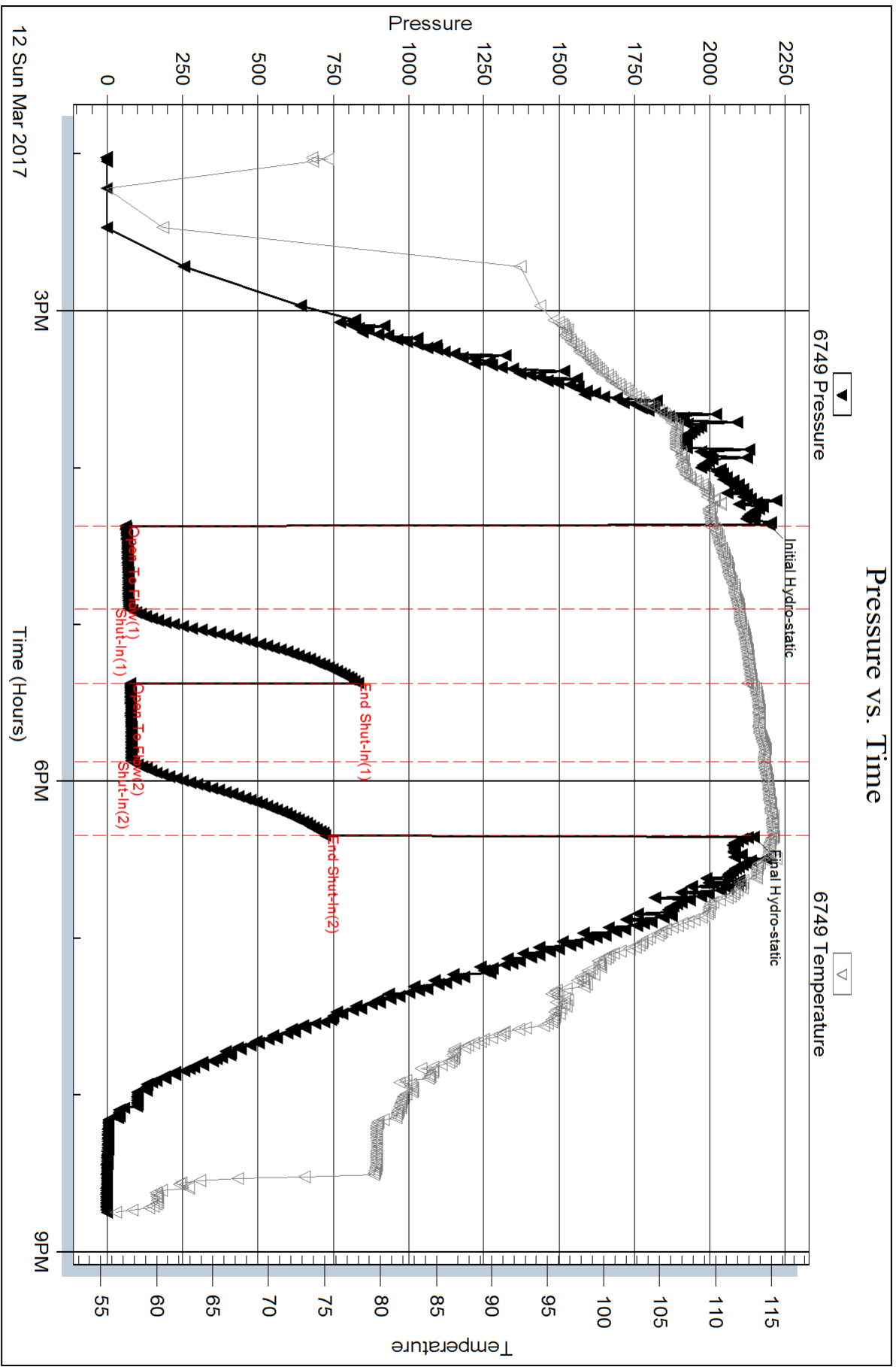
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



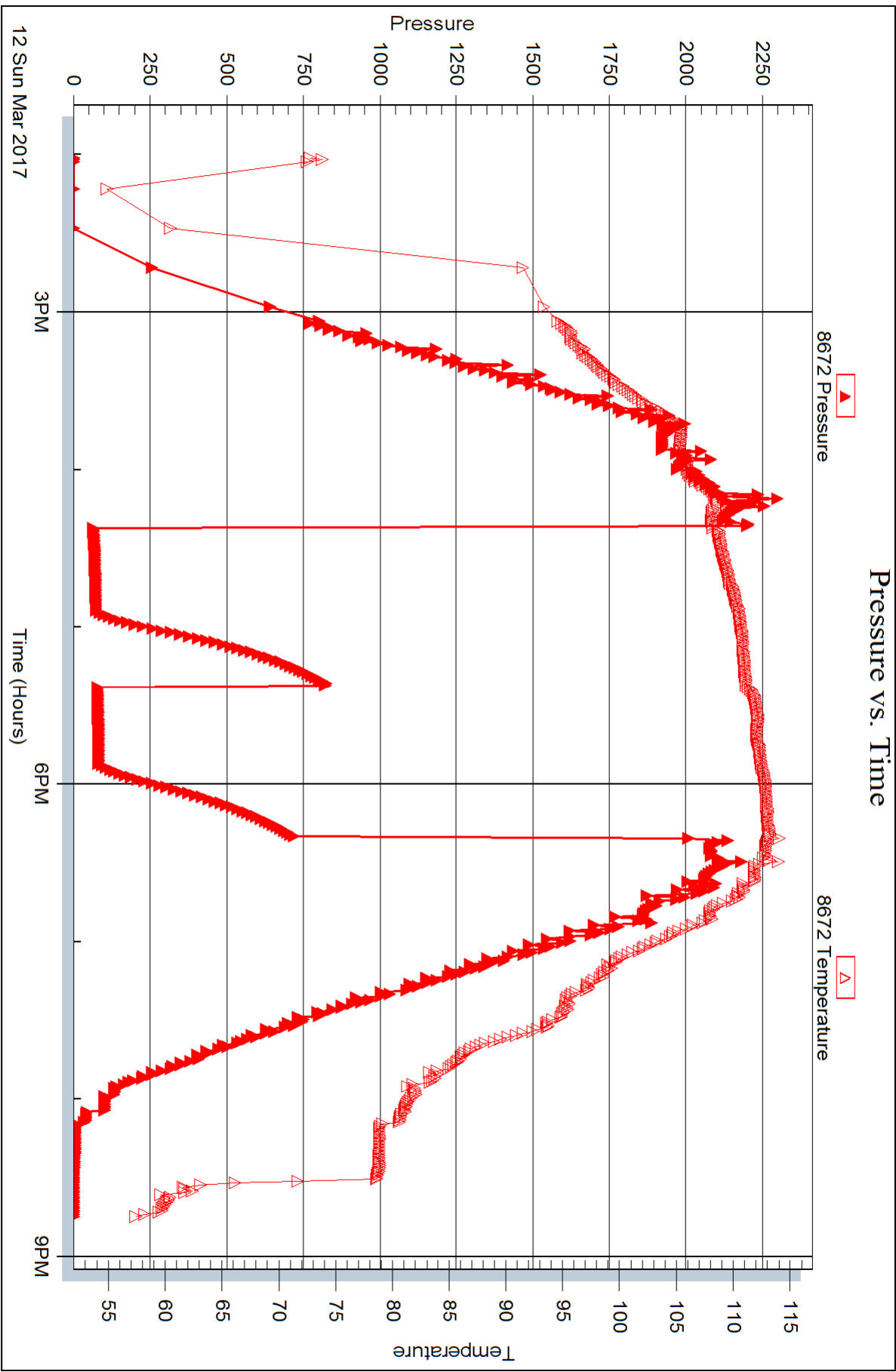
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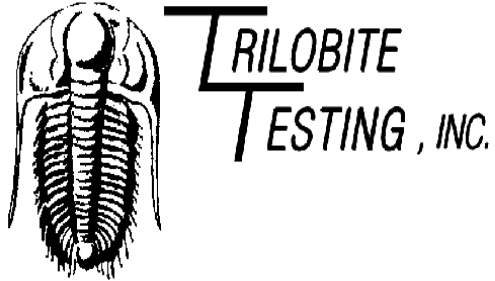
Inside

Schaben Oil LLC

31-19-21w Ness, KS

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Schaben Oil LLC**

2704 Ash  
Hays, KS 67601

ATTN: Andrew Stenzel

**31-19-21w Ness,KS**

**Ken & Travis Schaben #1-31**

Start Date: 2017.03.13 @ 04:07:15

End Date: 2017.03.13 @ 10:00:30

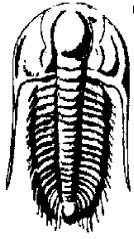
Job Ticket #: 61345                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.03.14 @ 15:03:04



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Schaben Oil LLC

2704 Ash  
Hays, KS 67601

ATTN: Andrew Stenzel

**Ken & Travis Schaben #1-31**

**31-19-21w Ness,KS**

Job Ticket: 61345

**DST#: 2**

Test Start: 2017.03.13 @ 04:07:15

## GENERAL INFORMATION:

Formation: **Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:04:30

Time Test Ended: 10:00:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 4447.00 ft (KB) To 4458.00 ft (KB) (TVD)**

Reference Elevations: 2306.00 ft (KB)

Total Depth: 4458.00 ft (KB) (TVD)

2295.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6749 Outside**

Press@RunDepth: 79.69 psig @ 4448.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.03.13

End Date:

2017.03.13

Last Calib.: 2017.03.13

Start Time: 04:07:15

End Time:

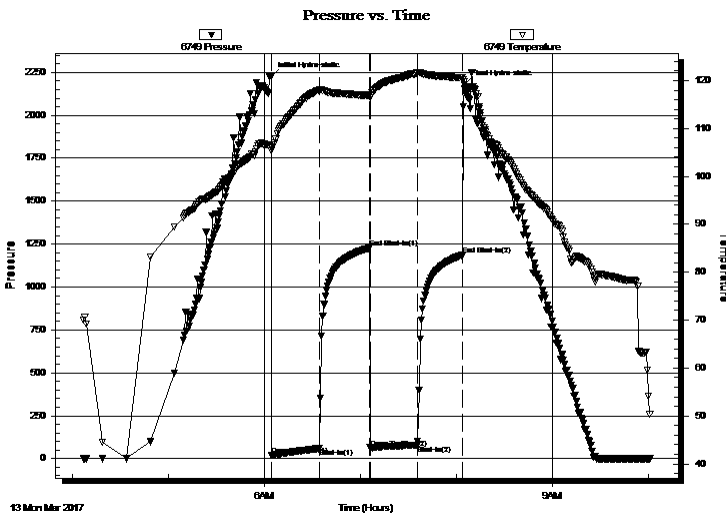
10:00:30

Time On Btm: 2017.03.13 @ 06:04:15

Time Off Btm: 2017.03.13 @ 08:04:45

**TEST COMMENT:** IF: Built to 4" blow  
IS: No return blow  
FF: Built to 3 1/2" blow  
FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2226.88	105.90	Initial Hydro-static
1	20.79	105.37	Open To Flow (1)
30	59.23	118.06	Shut-In(1)
62	1226.26	116.88	End Shut-In(1)
62	62.83	116.42	Open To Flow (2)
92	79.69	121.43	Shut-In(2)
120	1184.22	120.55	End Shut-In(2)
121	2177.35	119.80	Final Hydro-static

## Recovery

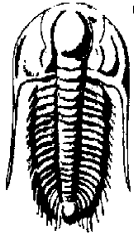
Length (ft)	Description	Volume (bbl)
59.00	w cm 2%w 98%m (collar)	0.29
59.00	w com 2%w 3%o 95%m (collar)	0.29
62.00	w cm 2%w 98% m with 3" free oil on top	0.87

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61345

**DST#: 2**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 04:07:15

## Tool Information

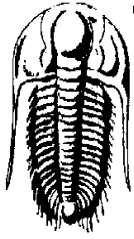
Drill Pipe:	Length: 4313.00 ft	Diameter: 3.80 inches	Volume: 60.50 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 61.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4447.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4420.00	
Shut In Tool	5.00			4425.00	
Hydraulic tool	5.00			4430.00	
Jars	5.00			4435.00	
Safety Joint	3.00			4438.00	
Packer	5.00			4443.00	28.00 Bottom Of Top Packer
Packer	4.00			4447.00	
Stubb	1.00			4448.00	
Recorder	0.00	8672	Inside	4448.00	
Recorder	0.00	6749	Outside	4448.00	
Perforations	5.00			4453.00	
Bullnose	5.00			4458.00	11.00 Bottom Packers & Anchor

**Total Tool Length: 39.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61345

**DST#: 2**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 04:07:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
59.00	w cm 2%w 98%m (collar)	0.290
59.00	w com 2%w 3%o 95%m (collar)	0.290
62.00	w cm 2%w 98%m with 3" free oil on top	0.870

Total Length: 180.00 ft

Total Volume: 1.450 bbl

Num Fluid Samples: 0

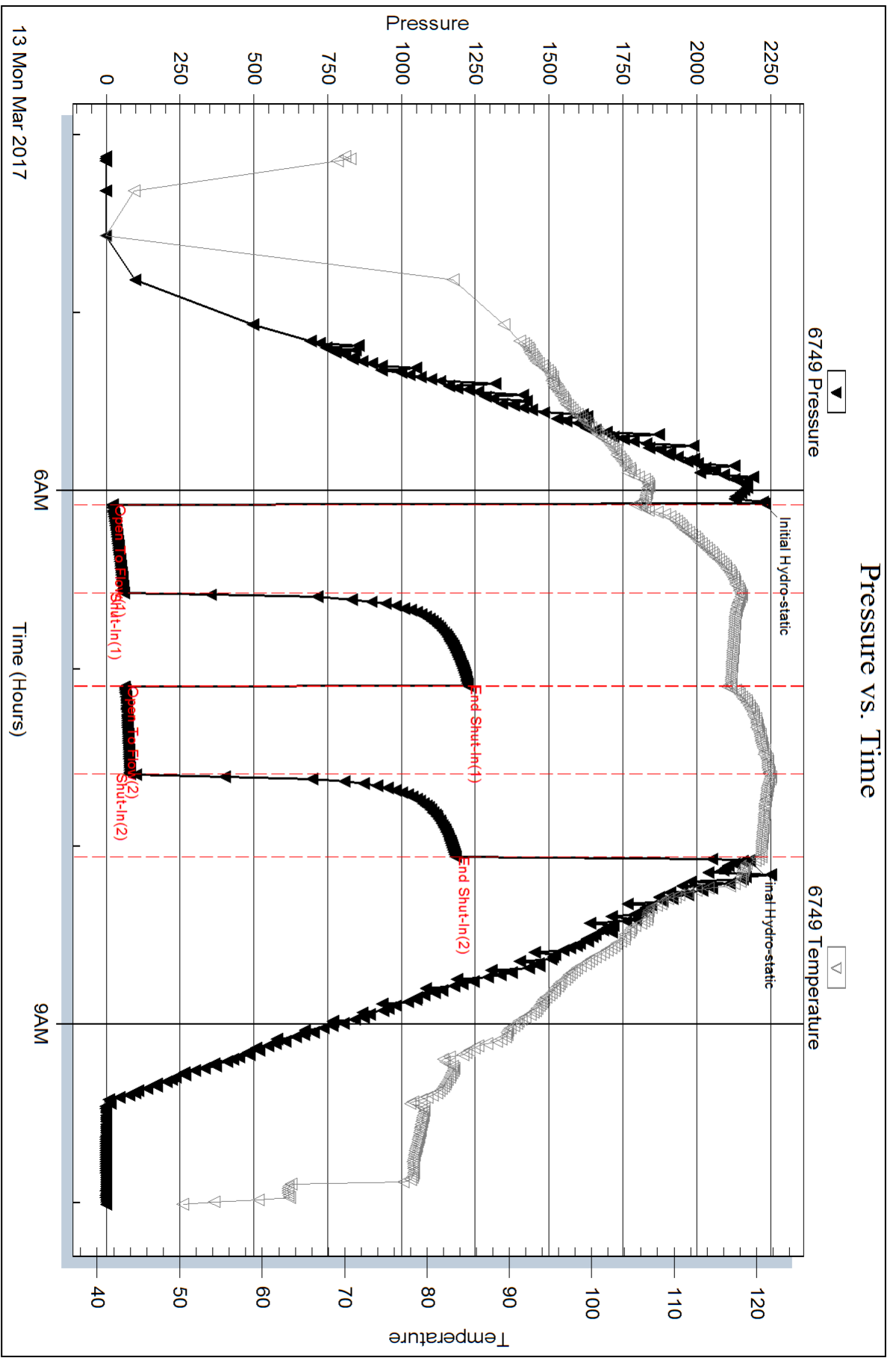
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



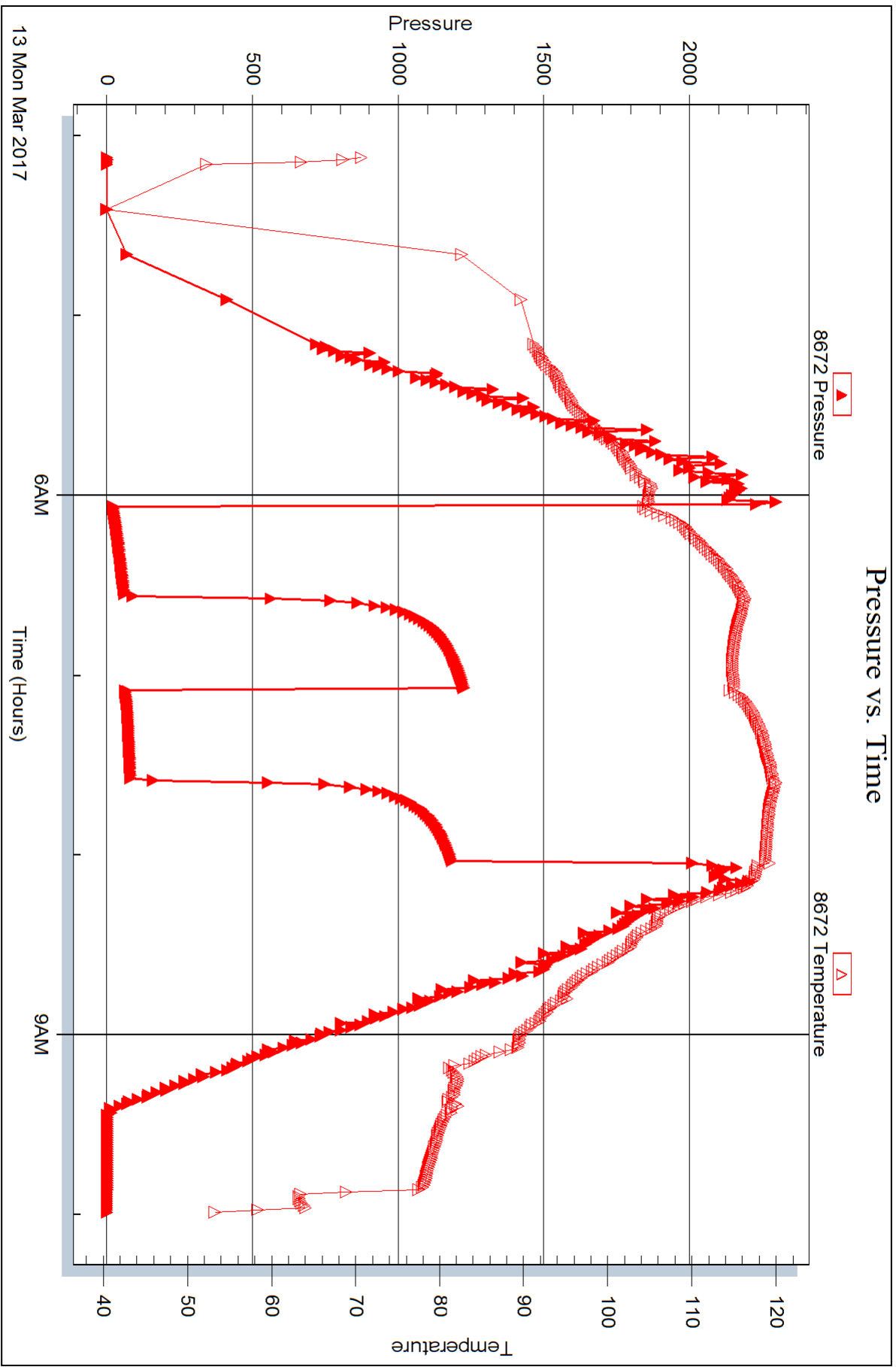
Serial #: 8672

Inside

Schaben Oil LLC

31-19-21w Ness, KS

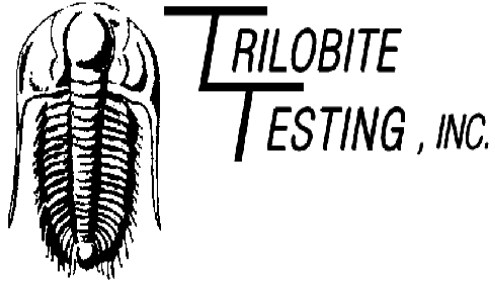
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 61345

Printed: 2017.03.14 @ 15:03:04



## DRILL STEM TEST REPORT

Prepared For: **Schaben Oil LLC**

2704 Ash  
Hays, KS 67601

ATTN: Andrew Stenzel

**31-19-21w Ness,KS**

**Ken & Travis Schaben #1-31**

Start Date: 2017.03.13 @ 16:24:00

End Date: 2017.03.14 @ 00:20:30

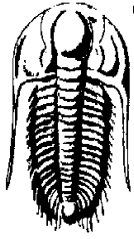
Job Ticket #: 61346                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.03.14 @ 15:02:28



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61346

**DST#: 3**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 16:24:00

## GENERAL INFORMATION:

Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:49:15  
 Time Test Ended: 00:20:30  
 Interval: **4452.00 ft (KB) To 4468.00 ft (KB) (TVD)**  
 Total Depth: 4468.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 81  
 Reference Elevations: 2306.00 ft (KB)  
 2295.00 ft (CF)  
 KB to GR/CF: 11.00 ft

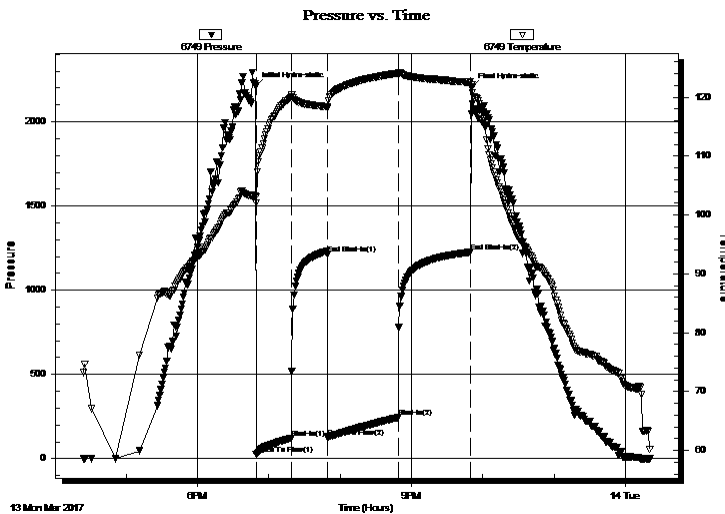
## Serial #: 6749

**Outside**

Press@RunDepth: 244.44 psig @ 4453.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.03.13 End Date: 2017.03.14 Last Calib.: 2017.03.14  
 Start Time: 16:24:15 End Time: 00:20:30 Time On Btm: 2017.03.13 @ 18:49:00  
 Time Off Btm: 2017.03.13 @ 21:50:45

TEST COMMENT: IF:BOB in 26 min.  
 IS:No return blow  
 FF:Built to 8" blow  
 FS:No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2211.10	103.11	Initial Hydro-static
1	24.72	102.10	Open To Flow (1)
30	121.97	120.11	Shut-In(1)
61	1213.09	118.39	End Shut-In(1)
61	127.44	118.14	Open To Flow (2)
120	244.44	124.07	Shut-In(2)
181	1225.45	122.59	End Shut-In(2)
182	2204.40	122.07	Final Hydro-static

## Recovery

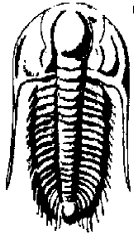
Length (ft)	Description	Volume (bbl)
118.00	mcw 10% m 90% w (collars)	0.58
186.00	w cm 50% w 50% m	2.61
186.00	ocm 2% o 98% m	2.61
0.00	3" free oil	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61346

**DST#: 3**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 16:24:00

## Tool Information

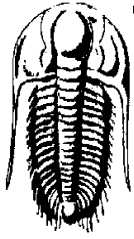
Drill Pipe:	Length: 4313.00 ft	Diameter: 3.80 inches	Volume: 60.50 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 61.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4452.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4425.00	
Shut In Tool	5.00			4430.00	
Hydraulic tool	5.00			4435.00	
Jars	5.00			4440.00	
Safety Joint	3.00			4443.00	
Packer	5.00			4448.00	28.00 Bottom Of Top Packer
Packer	4.00			4452.00	
Stubb	1.00			4453.00	
Recorder	0.00	8672	Inside	4453.00	
Recorder	0.00	6749	Outside	4453.00	
Perforations	10.00			4463.00	
Bullnose	5.00			4468.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61346

**DST#: 3**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 16:24:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

31000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
118.00	mcw 10%m 90%w (collars)	0.580
186.00	w cm 50%w 50%m	2.609
186.00	ocm 2%o 98%m	2.609
0.00	3" free oil	0.000

Total Length: 490.00 ft      Total Volume: 5.798 bbl

Num Fluid Samples: 0

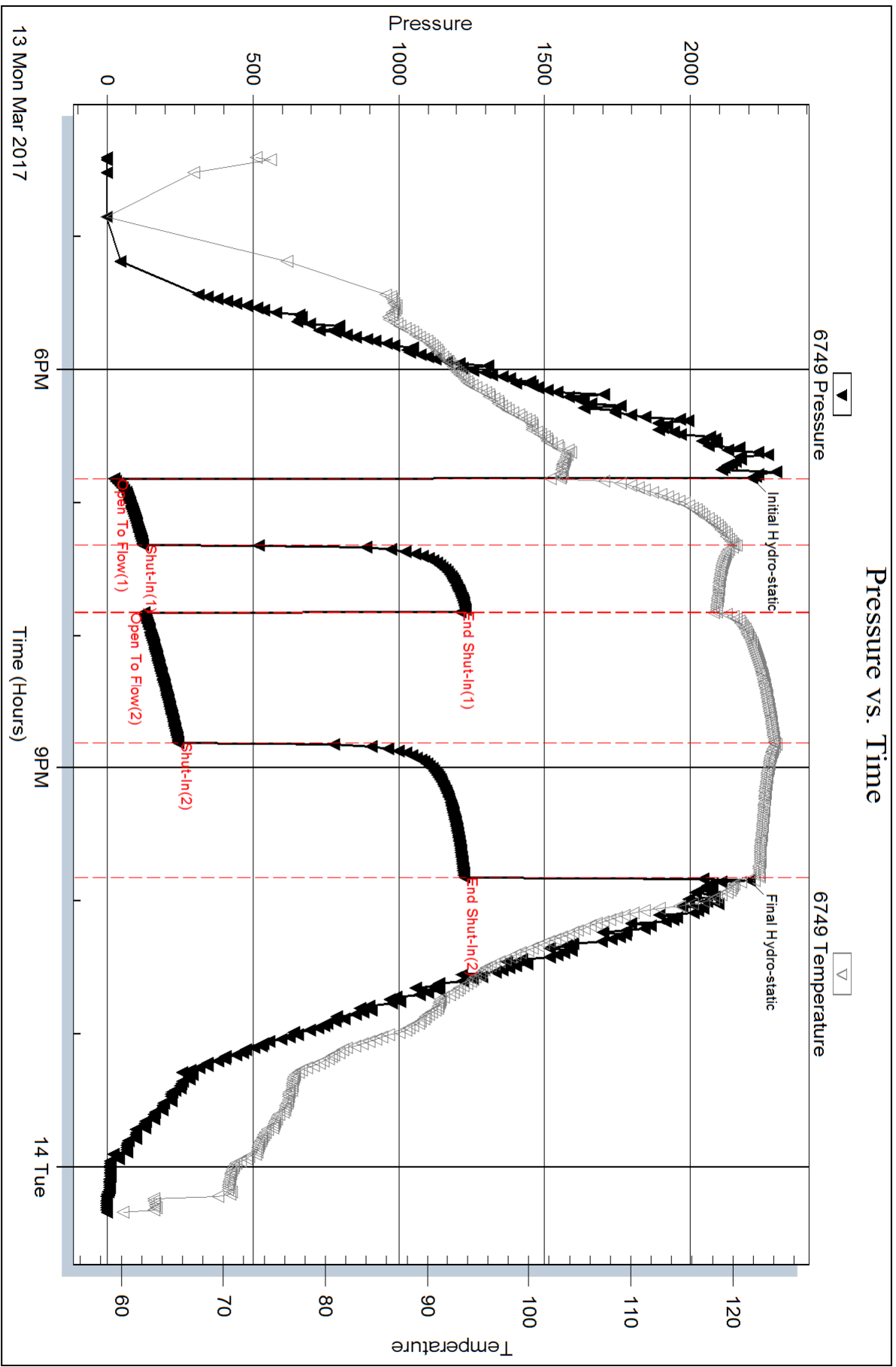
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .536@34.7\*= 31,000 ppm



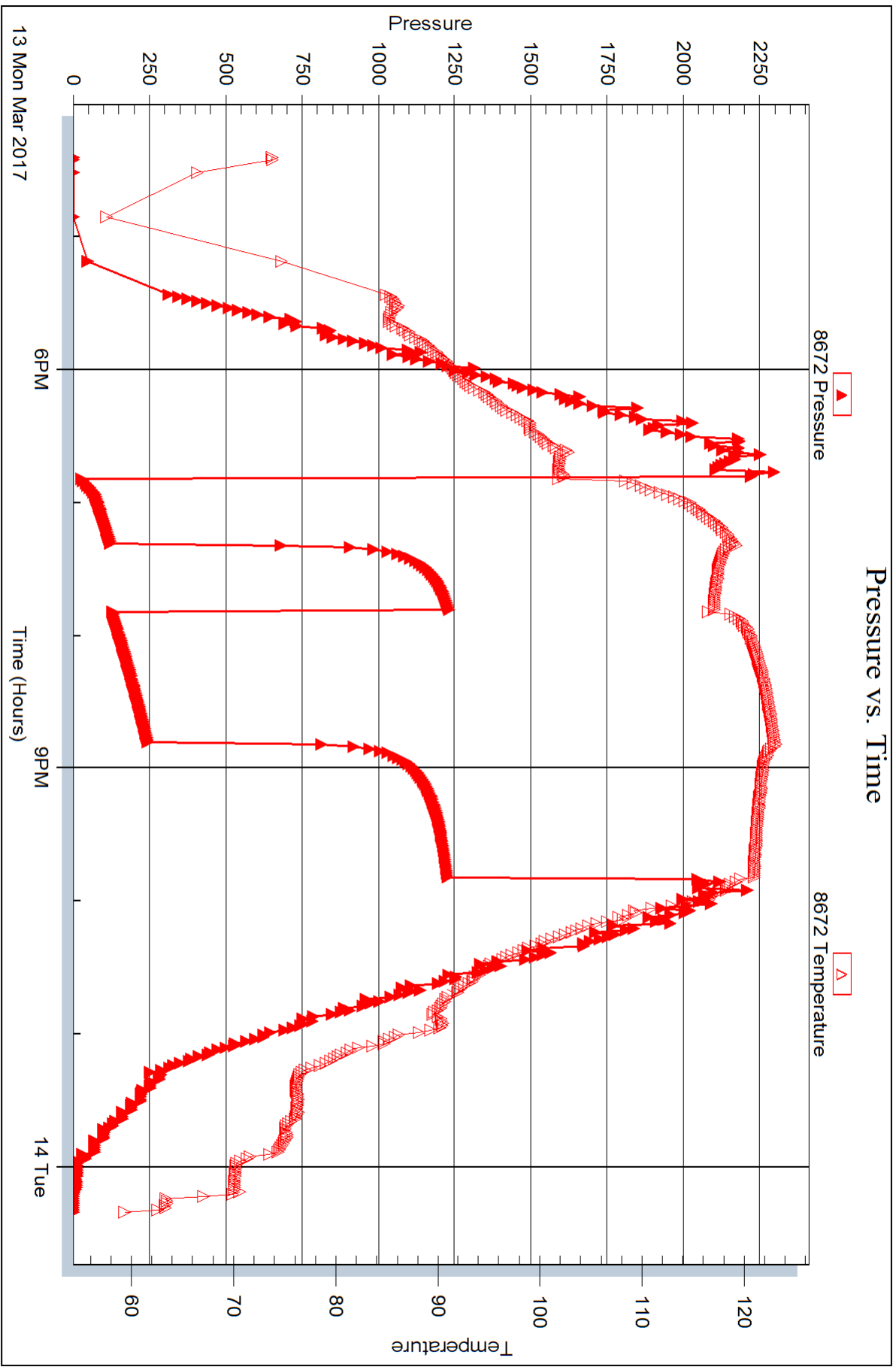
Serial #: 8672

Inside

Schaben Oil LLC

31-19-21w Ness, KS

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61344

Well Name & No. Ken & Travis Schaben 1-31 Test No. 1 Date 3-12-17  
 Company Schaben Oil LLC Elevation 2306 KB 2295 GL  
 Address 2704 Ash Hays KS 67601  
 Co. Rep / Geo. Andrew Stenzel Rig WW14  
 Location: Sec. 31 Twp. 19 Rge. 21w Co. Ness State KS

Interval Tested 4367-4451 Zone Tested MISS  
 Anchor Length 84 Drill Pipe Run 4249 Mud Wt. 9.3  
 Top Packer Depth 4362 Drill Collars Run 118 Vis 57  
 Bottom Packer Depth 4367 Wt. Pipe Run Ø WL 6.8  
 Total Depth 4451 Chlorides 4000 ppm System LCM 2

Blow Description IF: Built to 1" Blow  
IS: No Return Blow  
FF: Built to 1/8" Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OCM &gt; COLLARS</u>	<u>30</u>		<u>70</u>	
<u>59</u>	<u>OCM &gt;</u>	<u>5</u>		<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 69 BHT 115 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic	<u>2197</u>	<input checked="" type="checkbox"/> Test	<u>\$1150.00/-</u>	T-On Location	<u>13:20</u>
(B) First Initial Flow	<u>61</u>	<input checked="" type="checkbox"/> Jars	<u>\$250.00/-</u>	T-Started	<u>14:01</u>
(C) First Final Flow	<u>72</u>	<input checked="" type="checkbox"/> Safety Joint	<u>\$75.00/-</u>	T-Open	<u>16:22</u>
(D) Initial Shut-In	<u>830</u>	<input checked="" type="checkbox"/> Circ Sub		T-Pulled	<u>18:22</u>
(E) Second Initial Flow	<u>76</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>20:45</u>
(F) Second Final Flow	<u>80</u>	<input checked="" type="checkbox"/> Mileage <u>146 RT = \$109.50/-</u>		Comments	
(G) Final Shut-In	<u>722</u>	<input type="checkbox"/> Sampler	<u>104rt 78</u>		
(H) Final Hydrostatic	<u>2145</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

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

Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility 1553  
 Sub Total \$1584.50/-

Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1553  
 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Mike Roberts

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61345

Well Name & No. Ken & Travis Schaben 1-31 Test No. 2 Date 3-13-17  
 Company Schaben Oil LLC Elevation 2306 KB 2295 GL  
 Address 2704 Ash Hays KS 67601  
 Co. Rep / Geo. Andrew Stenzel Rig WW14  
 Location: Sec. 31 Twp. 19 Rge. 2W Co. NESS State KS

Interval Tested 4447-4458 Zone Tested MISS  
 Anchor Length 11 Drill Pipe Run 4313 Mud Wt. 9.3  
 Top Packer Depth 4442 Drill Collars Run 118 Vis 57  
 Bottom Packer Depth 4447 Wt. Pipe Run φ WL 6.8  
 Total Depth 4458 Chlorides 4000 ppm System LCM 2  
 Blow Description IF: Built to 4" Blow  
IS: No Return Blow  
FF: Built to 3 1/2" Blow  
FS: No Return Blow

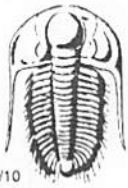
Rec	Feet of	%gas	%oil	%water	%mud
<del>0</del>	Free Oil 3"	100			
62	WCM		2	98	
59	WCOM	3	2	95	
59	WCM		2	98	

Rec Total 180 BHT 120 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2226</u>	<input checked="" type="checkbox"/> Test <u>\$1150.00/-</u>	T-On Location <u>03:30</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>\$250.00/-</u>	T-Started <u>04:07</u>
(C) First Final Flow <u>59</u>	<input checked="" type="checkbox"/> Safety Joint <u>\$75.00/-</u>	T-Open <u>06:05</u>
(D) Initial Shut-In <u>1226</u>	<input checked="" type="checkbox"/> Circ Sub <u>NO</u>	T-Pulled <u>08:05</u>
(E) Second Initial Flow <u>62</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:00</u>
(F) Second Final Flow <u>79</u>	<input checked="" type="checkbox"/> Mileage <u>146 RT = \$109.50/-</u>	Comments
(G) Final Shut-In <u>1184</u>	<input type="checkbox"/> Sampler <u>78</u>	
(H) Final Hydrostatic <u>2177</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1553</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility <u>1553</u>	MP/DST Disc't
	Sub Total <u>\$1584.50/-</u>	

Approved By \_\_\_\_\_ Our Representative Mike Roberts

TriLOBITE Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61346

Well Name & No. Ken + Travis Schaben 1-31 Test No. 3 Date 3-13-17  
 Company Schaben Oil LLC Elevation 2306 KB 2295 GL  
 Address 2704 Ash Hays KS 67601  
 Co. Rep / Geo. Andrew Stenzel Rig JWW 14  
 Location: Sec. 31 Twp. 19 Rge. 2W Co. Ness State KS

Interval Tested 4452-4468 Zone Tested Miss  
 Anchor Length 16 Drill Pipe Run 4313 Mud Wt. 9.3  
 Top Packer Depth 4447 Drill Collars Run 118 Vis 57  
 Bottom Packer Depth 4452 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4468 Chlorides 3800 ppm System LCM 2  
 Blow Description IF: BOB in 26 Min  
IS: No Return Blow  
FF: Built to 8" Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>—</u>	<u>3" Free oil</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>186</u>	<u>OCM</u>	<u>2</u>	<u>0</u>	<u>98</u>	<u>0</u>
<u>186</u>	<u>WCM</u>	<u>0</u>	<u>50</u>	<u>50</u>	<u>0</u>
<u>118</u>	<u>MCW</u>	<u>0</u>	<u>90</u>	<u>10</u>	<u>0</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

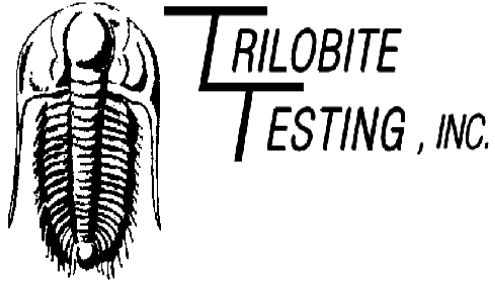
Rec Total 490 BHT \_\_\_\_\_ Gravity — API RW 1536 @ 34.7° F Chlorides 31000 ppm

(A) Initial Hydrostatic <u>2210</u>	<input checked="" type="checkbox"/> Test <u>\$1150.00/-</u>	T-On Location <u>15:30</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars <u>\$250.00/-</u>	T-Started <u>16:24</u>
(C) First Final Flow <u>121</u>	<input checked="" type="checkbox"/> Safety Joint <u>\$75.00/-</u>	T-Open <u>18:50</u>
(D) Initial Shut-In <u>1213</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>21:50</u>
(E) Second Initial Flow <u>127</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>00:20</u>
(F) Second Final Flow <u>244</u>	<input checked="" type="checkbox"/> Mileage <u>146 RT = \$109.50/-</u>	Comments <u>3-14-17 at noon</u>
(G) Final Shut-In <u>1225</u>	<input type="checkbox"/> Sampler <u>X2 load tools</u>	
(H) Final Hydrostatic <u>2204</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1631</u>
	<input type="checkbox"/> Accessibility <u>1631</u>	MP/DST Disc't _____
	Sub Total <u>\$1584.50/-</u>	

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

Our Representative Mark Roberts

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## DRILL STEM TEST REPORT

Prepared For: **Schaben Oil LLC**

2704 Ash  
Hays, KS 67601

ATTN: Andrew Stenzel

**31-19-21w Ness,KS**

**Ken & Travis Schaben #1-31**

Start Date: 2017.03.12 @ 14:01:15

End Date: 2017.03.12 @ 20:45:00

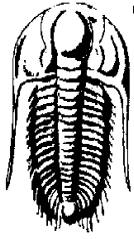
Job Ticket #: 61344                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.03.14 @ 15:03:30



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61344

**DST#: 1**

ATTN: Andrew Stenzel

Test Start: 2017.03.12 @ 14:01:15

## GENERAL INFORMATION:

Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:22:15  
 Time Test Ended: 20:45:00  
 Interval: **4367.00 ft (KB) To 4451.00 ft (KB) (TVD)**  
 Total Depth: 4451.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Mike Roberts  
 Unit No: 81  
 Reference Elevations: 2306.00 ft (KB)  
 2295.00 ft (CF)  
 KB to GR/CF: 11.00 ft

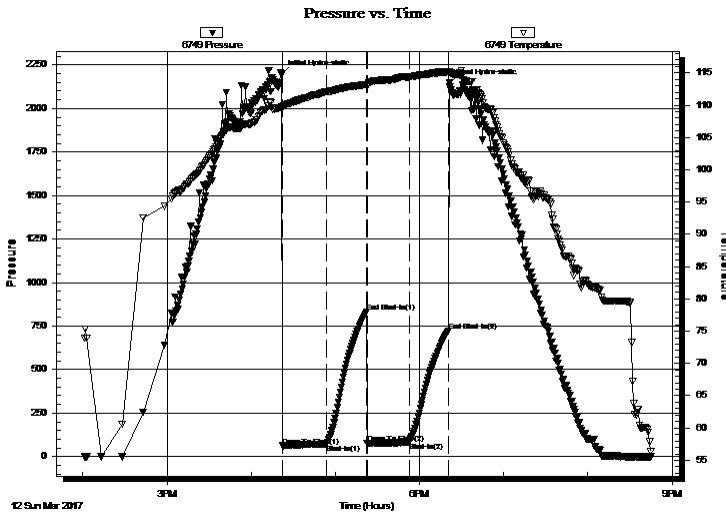
## Serial #: 6749

**Outside**

Press@RunDepth: 80.71 psig @ 4436.00 ft (KB)  
 Start Date: 2017.03.12 End Date: 2017.03.12  
 Start Time: 14:01:15 End Time: 20:45:00  
 Capacity: 8000.00 psig  
 Last Calib.: 2017.03.12  
 Time On Btm: 2017.03.12 @ 16:21:45  
 Time Off Btm: 2017.03.12 @ 18:21:15

TEST COMMENT: IF: Built to 1" blow  
 IS: No return blow  
 FF: Built to 1/8" blow  
 FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2197.25	109.71	Initial Hydro-static
1	61.51	109.47	Open To Flow (1)
33	72.22	112.12	Shut-In(1)
61	830.44	113.22	End Shut-In(1)
61	76.49	112.86	Open To Flow (2)
91	80.71	114.36	Shut-In(2)
119	722.50	115.18	End Shut-In(2)
120	2145.06	115.25	Final Hydro-static

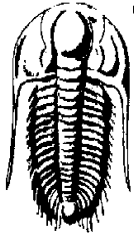
## Recovery

Length (ft)	Description	Volume (bbl)
10.00	ocm 30%o 70%m	0.05
59.00	ocm 5%o 95%m	0.29

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61344

**DST#: 1**

ATTN: Andrew Stenzel

Test Start: 2017.03.12 @ 14:01:15

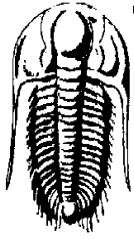
## Tool Information

Drill Pipe:	Length: 4249.00 ft	Diameter: 3.80 inches	Volume: 59.60 bbl	Tool Weight: 1500.00 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: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.18 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4367.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	112.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4340.00	
Shut In Tool	5.00			4345.00	
Hydraulic tool	5.00			4350.00	
Jars	5.00			4355.00	
Safety Joint	3.00			4358.00	
Packer	5.00			4363.00	28.00 Bottom Of Top Packer
Packer	4.00			4367.00	
Stubb	1.00			4368.00	
Perforations	2.00			4370.00	
Change Over Sub	1.00			4371.00	
Drill Pipe	64.00			4435.00	
Change Over Sub	1.00			4436.00	
Recorder	0.00	8672	Inside	4436.00	
Recorder	0.00	6749	Outside	4436.00	
Perforations	10.00			4446.00	
Bullnose	5.00			4451.00	84.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>112.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61344

**DST#: 1**

ATTN: Andrew Stenzel

Test Start: 2017.03.12 @ 14:01:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
10.00	ocm 30%o 70%m	0.049
59.00	ocm 5%o 95%m	0.290

Total Length: 69.00 ft      Total Volume: 0.339 bbl

Num Fluid Samples: 0

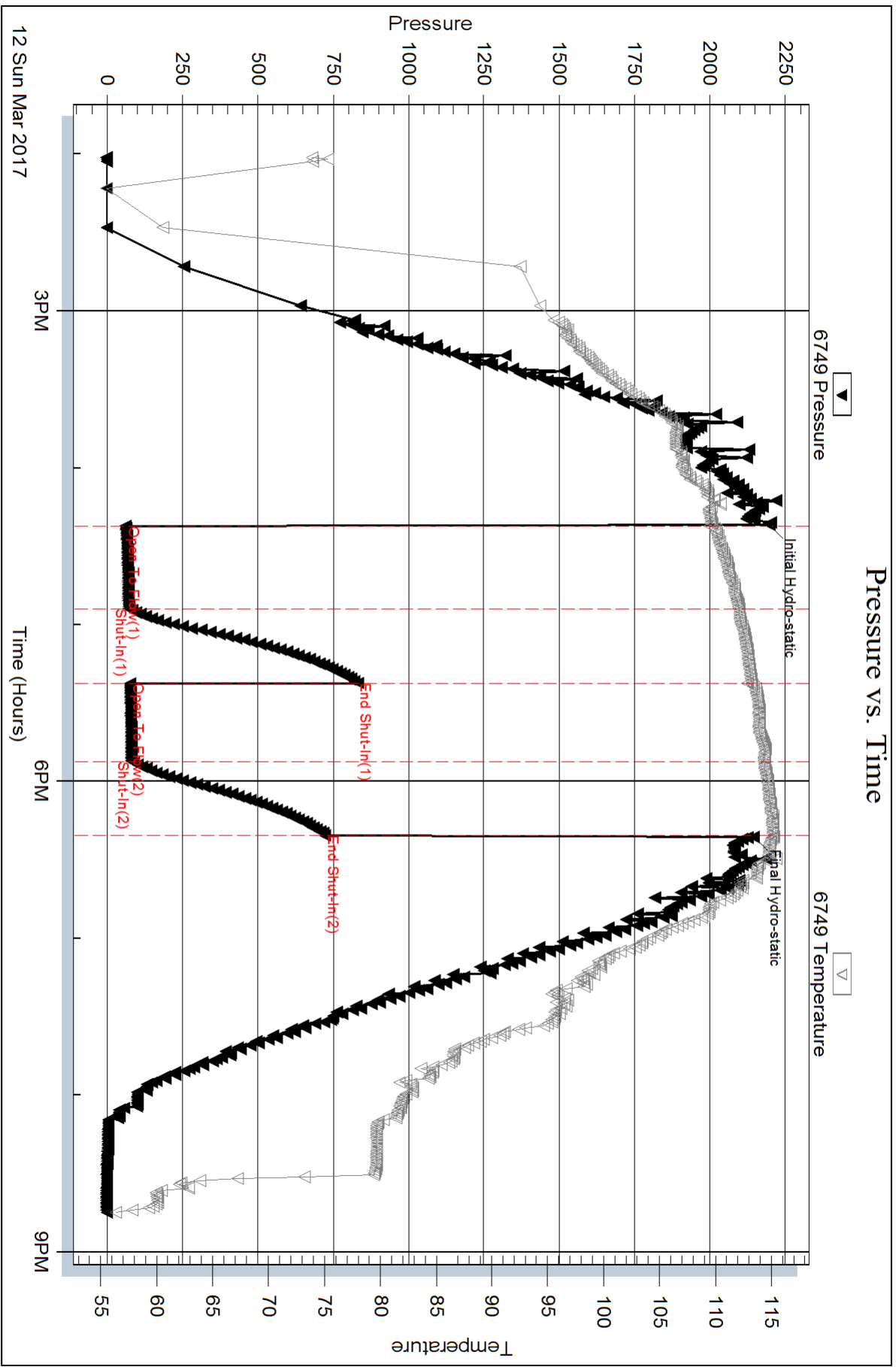
Num Gas Bombs: 0

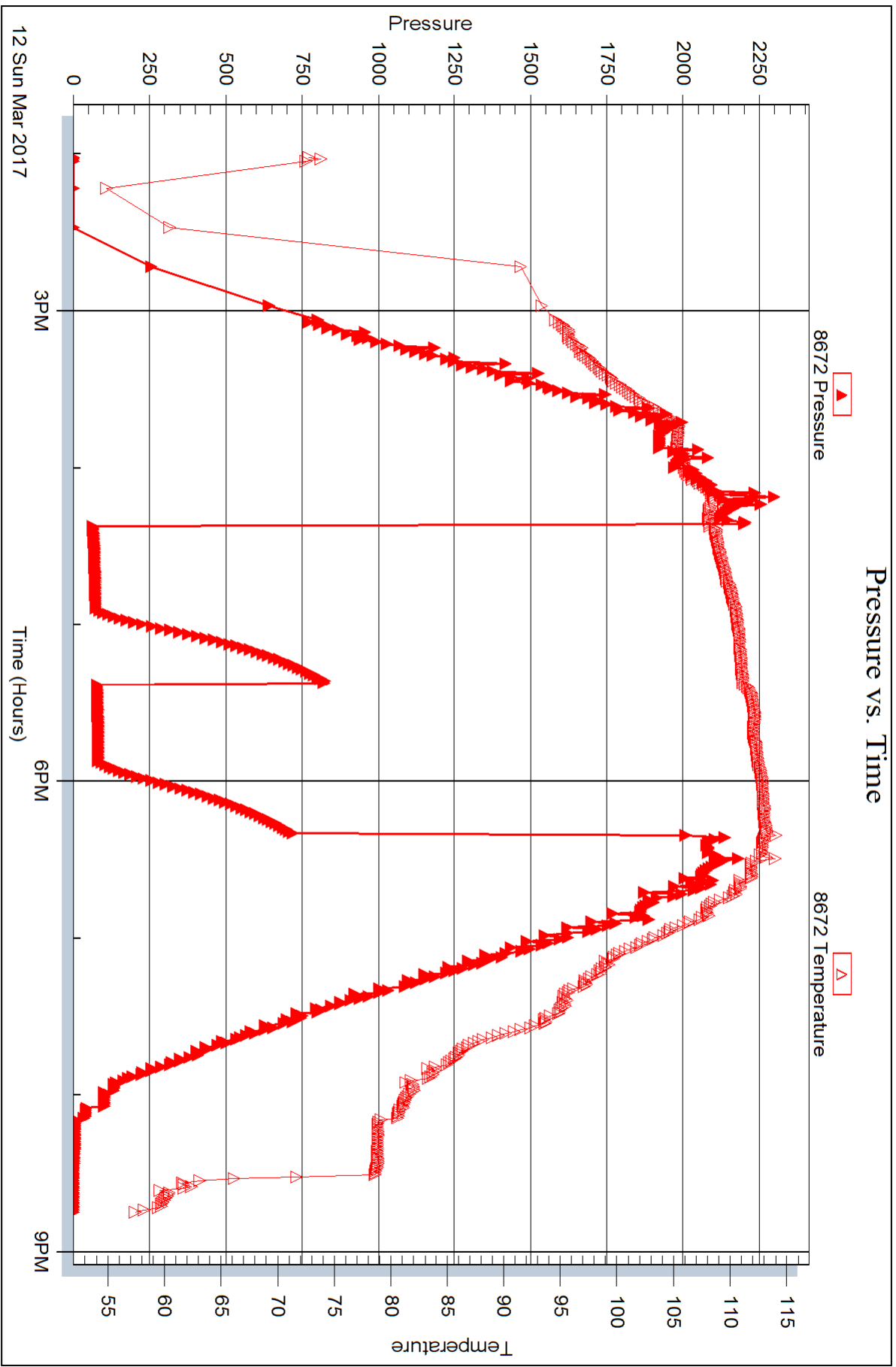
Serial #:

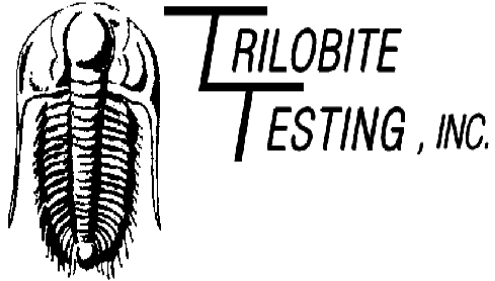
Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Schaben Oil LLC**

2704 Ash  
Hays, KS 67601

ATTN: Andrew Stenzel

**31-19-21w Ness,KS**

**Ken & Travis Schaben #1-31**

Start Date: 2017.03.13 @ 04:07:15

End Date: 2017.03.13 @ 10:00:30

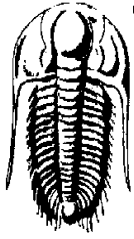
Job Ticket #: 61345                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.03.14 @ 15:03:04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61345

**DST#: 2**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 04:07:15

## GENERAL INFORMATION:

Formation: **Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:04:30

Time Test Ended: 10:00:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 4447.00 ft (KB) To 4458.00 ft (KB) (TVD)**

Reference Elevations: 2306.00 ft (KB)

Total Depth: 4458.00 ft (KB) (TVD)

2295.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6749 Outside**

Press@RunDepth: 79.69 psig @ 4448.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.03.13

End Date: 2017.03.13

Last Calib.: 2017.03.13

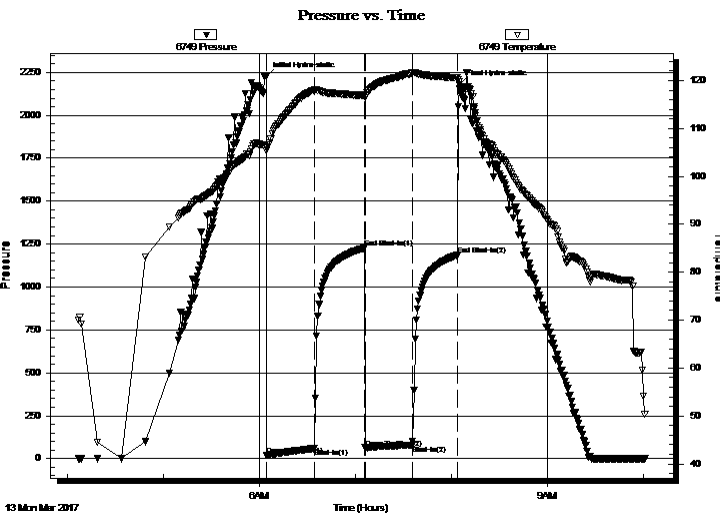
Start Time: 04:07:15

End Time: 10:00:30

Time On Btm: 2017.03.13 @ 06:04:15

Time Off Btm: 2017.03.13 @ 08:04:45

**TEST COMMENT:** IF: Built to 4" blow  
IS: No return blow  
FF: Built to 3 1/2" blow  
FS: No return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2226.88	105.90	Initial Hydro-static
1	20.79	105.37	Open To Flow (1)
30	59.23	118.06	Shut-In(1)
62	1226.26	116.88	End Shut-In(1)
62	62.83	116.42	Open To Flow (2)
92	79.69	121.43	Shut-In(2)
120	1184.22	120.55	End Shut-In(2)
121	2177.35	119.80	Final Hydro-static

## Recovery

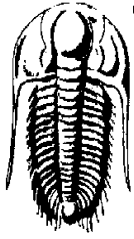
Length (ft)	Description	Volume (bbl)
59.00	w cm 2%w 98%m (collar)	0.29
59.00	w com 2%w 3%o 95%m (collar)	0.29
62.00	w cm 2%w 98% m with 3" free oil on top	0.87

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61345

**DST#: 2**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 04:07:15

## Tool Information

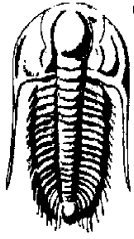
Drill Pipe:	Length: 4313.00 ft	Diameter: 3.80 inches	Volume: 60.50 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 61.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4447.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4420.00	
Shut In Tool	5.00			4425.00	
Hydraulic tool	5.00			4430.00	
Jars	5.00			4435.00	
Safety Joint	3.00			4438.00	
Packer	5.00			4443.00	28.00 Bottom Of Top Packer
Packer	4.00			4447.00	
Stubb	1.00			4448.00	
Recorder	0.00	8672	Inside	4448.00	
Recorder	0.00	6749	Outside	4448.00	
Perforations	5.00			4453.00	
Bullnose	5.00			4458.00	11.00 Bottom Packers & Anchor

**Total Tool Length: 39.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61345

**DST#: 2**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 04:07:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
59.00	w cm 2%w 98%m (collar)	0.290
59.00	w com 2%w 3%o 95%m (collar)	0.290
62.00	w cm 2%w 98%m with 3" free oil on top	0.870

Total Length: 180.00 ft

Total Volume: 1.450 bbl

Num Fluid Samples: 0

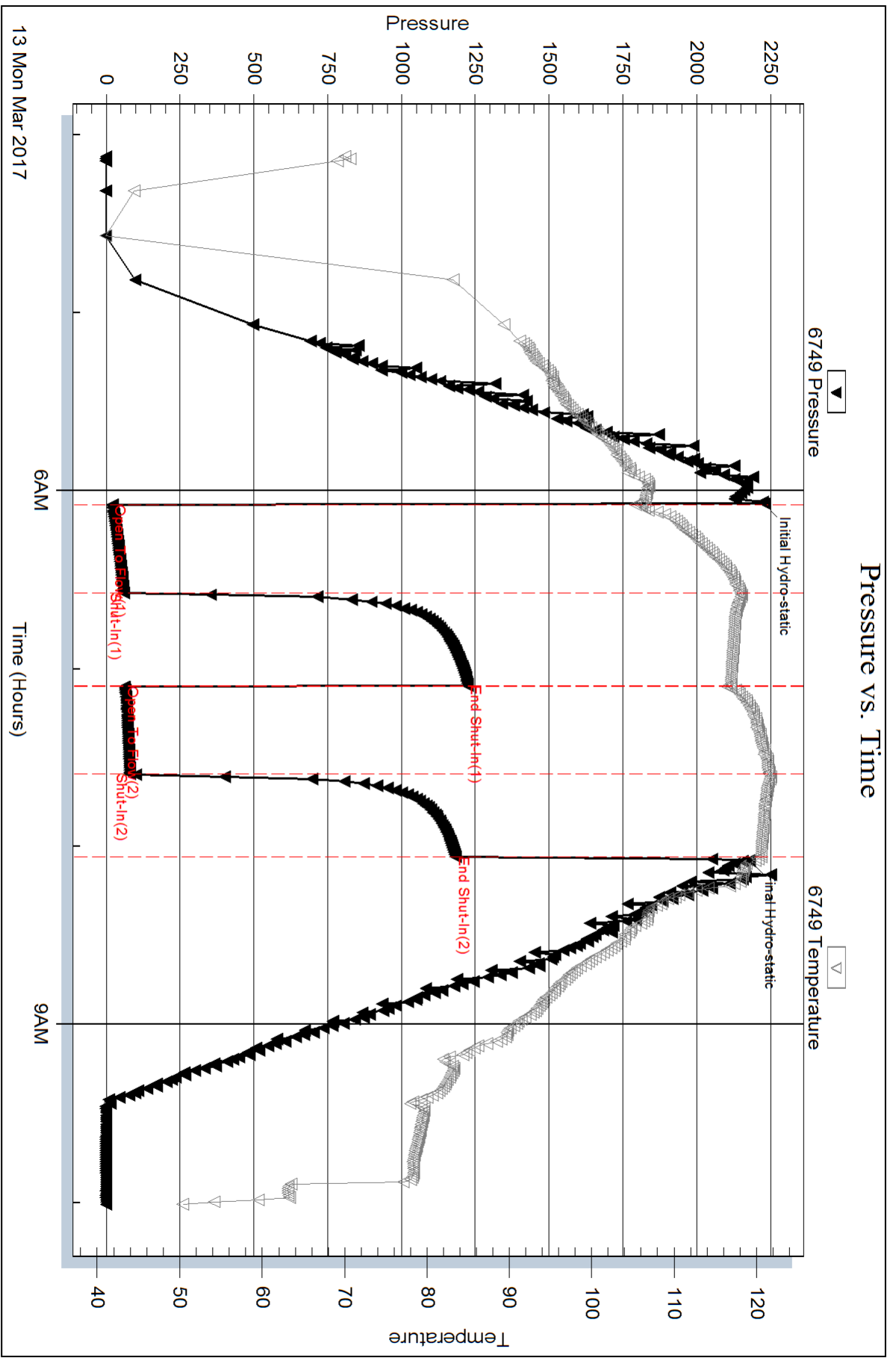
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



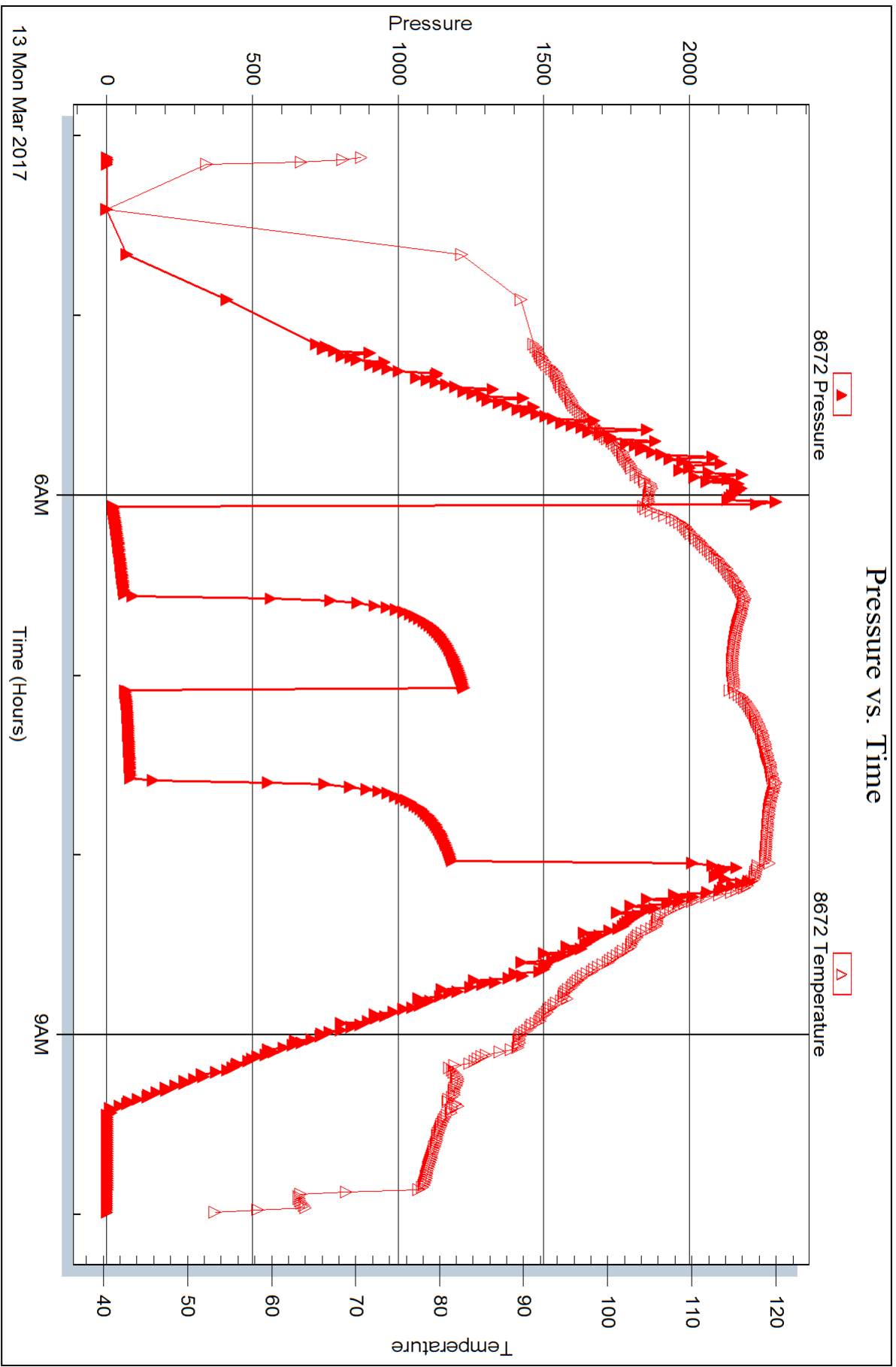
Serial #: 8672

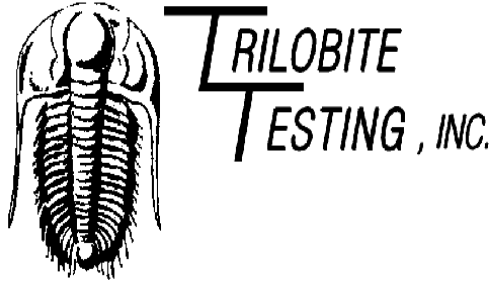
Inside

Schaben Oil LLC

31-19-21w Ness, KS

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Schaben Oil LLC**

2704 Ash  
Hays, KS 67601

ATTN: Andrew Stenzel

**31-19-21w Ness,KS**

**Ken & Travis Schaben #1-31**

Start Date: 2017.03.13 @ 16:24:00

End Date: 2017.03.14 @ 00:20:30

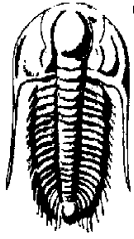
Job Ticket #: 61346                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.03.14 @ 15:02:28



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61346

**DST#: 3**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 16:24:00

## GENERAL INFORMATION:

Formation: **Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:49:15

Time Test Ended: 00:20:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 4452.00 ft (KB) To 4468.00 ft (KB) (TVD)**

Reference Elevations: 2306.00 ft (KB)

Total Depth: 4468.00 ft (KB) (TVD)

2295.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6749 Outside**

Press@RunDepth: 244.44 psig @ 4453.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.03.13

End Date:

2017.03.14

Last Calib.: 2017.03.14

Start Time: 16:24:15

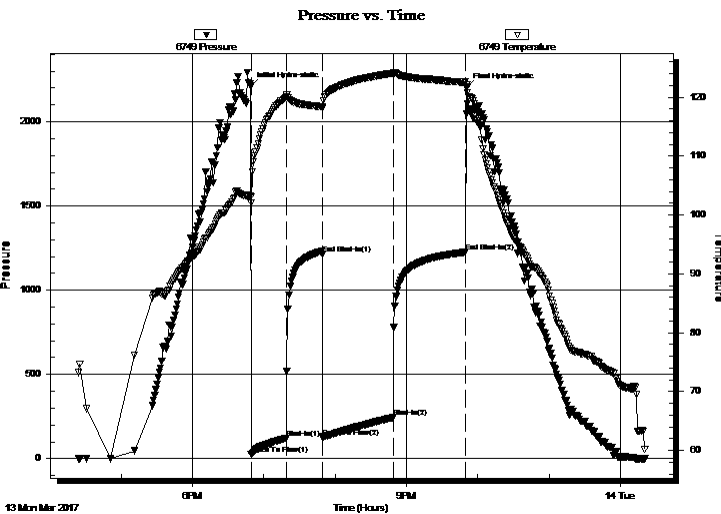
End Time:

00:20:30

Time On Btm: 2017.03.13 @ 18:49:00

Time Off Btm: 2017.03.13 @ 21:50:45

TEST COMMENT: IF:BOB in 26 min.  
IS:No return blow  
FF:Built to 8" blow  
FS:No return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2211.10	103.11	Initial Hydro-static
1	24.72	102.10	Open To Flow (1)
30	121.97	120.11	Shut-In(1)
61	1213.09	118.39	End Shut-In(1)
61	127.44	118.14	Open To Flow (2)
120	244.44	124.07	Shut-In(2)
181	1225.45	122.59	End Shut-In(2)
182	2204.40	122.07	Final Hydro-static

## Recovery

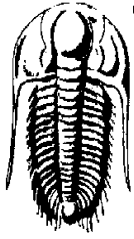
Length (ft)	Description	Volume (bbl)
118.00	mcw 10% m 90% w (collars)	0.58
186.00	w cm 50% w 50% m	2.61
186.00	ocm 2% o 98% m	2.61
0.00	3" free oil	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61346

**DST#: 3**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 16:24:00

## Tool Information

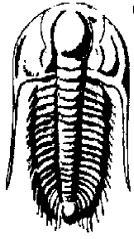
Drill Pipe:	Length: 4313.00 ft	Diameter: 3.80 inches	Volume: 60.50 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 61.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4452.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4425.00	
Shut In Tool	5.00			4430.00	
Hydraulic tool	5.00			4435.00	
Jars	5.00			4440.00	
Safety Joint	3.00			4443.00	
Packer	5.00			4448.00	28.00 Bottom Of Top Packer
Packer	4.00			4452.00	
Stubb	1.00			4453.00	
Recorder	0.00	8672	Inside	4453.00	
Recorder	0.00	6749	Outside	4453.00	
Perforations	10.00			4463.00	
Bullnose	5.00			4468.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Schaben Oil LLC

**Ken & Travis Schaben #1-31**

2704 Ash  
Hays, KS 67601

**31-19-21w Ness,KS**

Job Ticket: 61346

**DST#: 3**

ATTN: Andrew Stenzel

Test Start: 2017.03.13 @ 16:24:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

31000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
118.00	mcw 10%m 90%w (collars)	0.580
186.00	w cm 50%w 50%m	2.609
186.00	ocm 2%o 98%m	2.609
0.00	3" free oil	0.000

Total Length: 490.00 ft      Total Volume: 5.798 bbl

Num Fluid Samples: 0

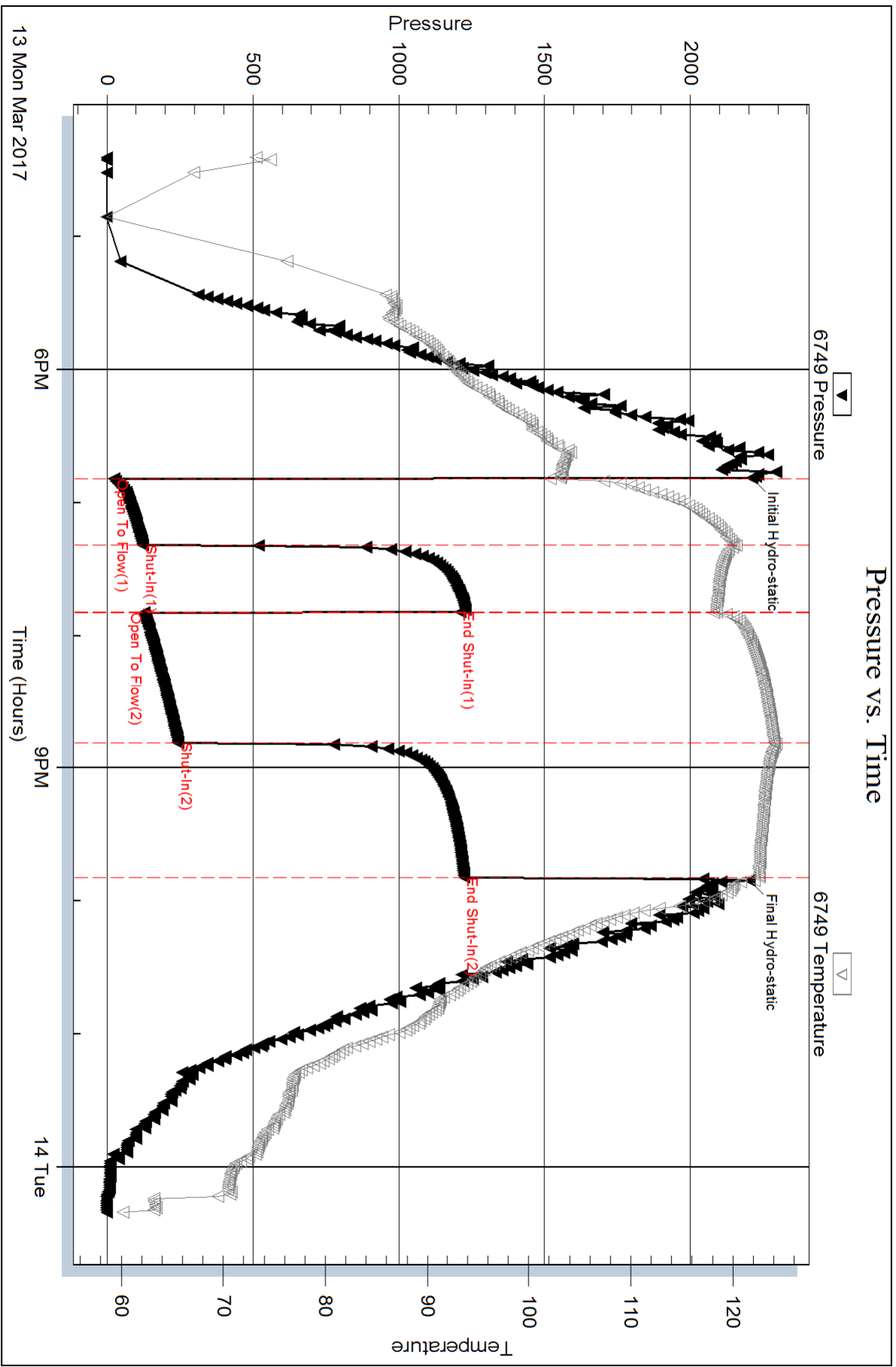
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .536@34.7\*= 31,000 ppm



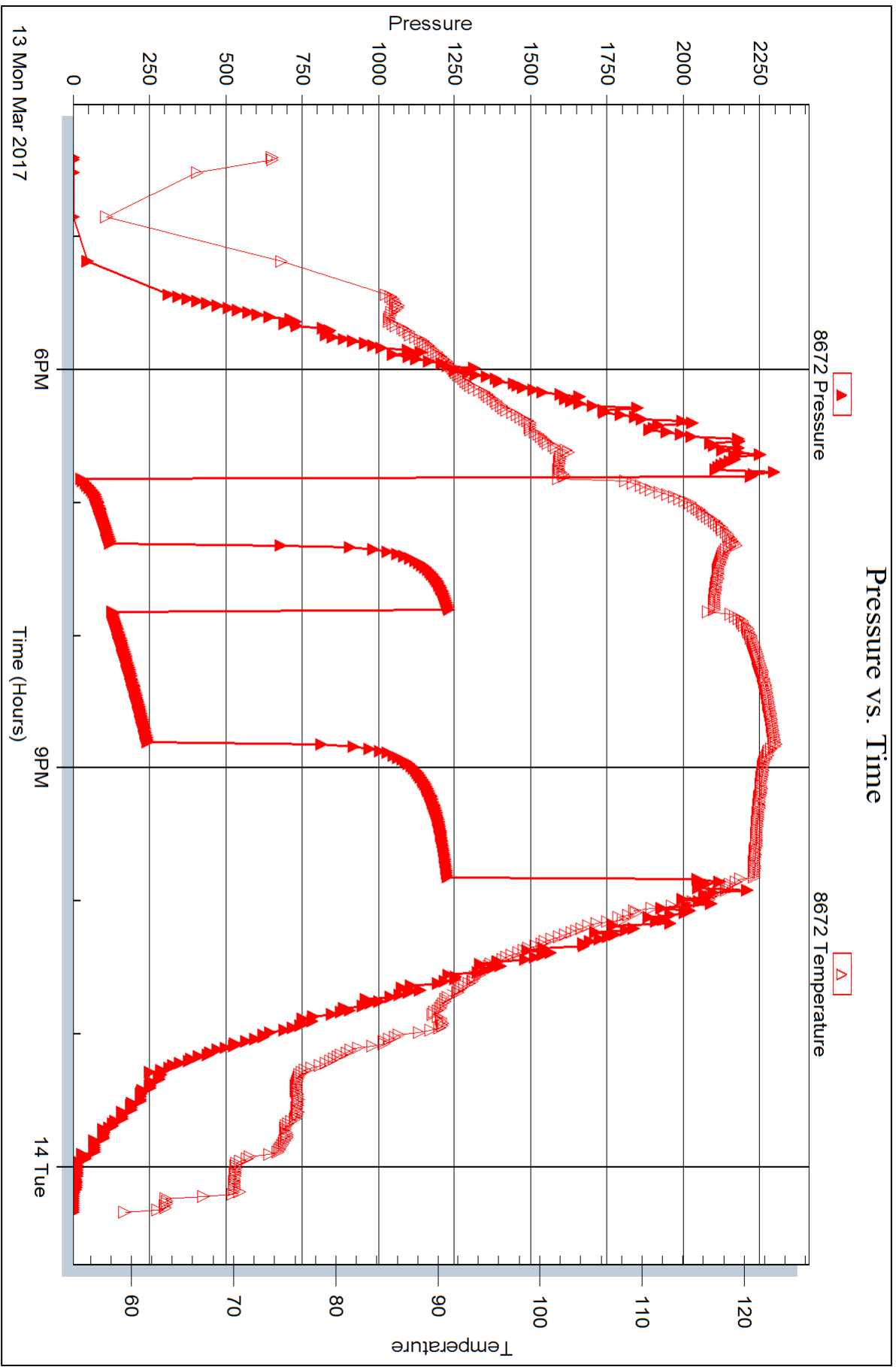
Serial #: 8672

Inside

Schaben Oil LLC

31-19-21w Ness, KS

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 61346

Printed: 2017.03.14 @ 15:02:28



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61344

Well Name & No. Ken & Travis Schaben 1-31 Test No. 1 Date 3-12-17  
 Company Schaben Oil LLC Elevation 2306 KB 2295 GL  
 Address 2704 Ash Hays KS 67601  
 Co. Rep / Geo. Andrew Stenzel Rig WW14  
 Location: Sec. 31 Twp. 19 Rge. 21w Co. Ness State KS

Interval Tested 4367-4451 Zone Tested MISS  
 Anchor Length 84 Drill Pipe Run 4249 Mud Wt. 9.3  
 Top Packer Depth 4362 Drill Collars Run 118 Vis 57  
 Bottom Packer Depth 4367 Wt. Pipe Run Ø WL 6.8  
 Total Depth 4451 Chlorides 4000 ppm System LCM 2

Blow Description IF: Built to 1" Blow  
IS: No Return Blow  
FF: Built to 1/8" Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OCM &gt; COLLARS</u>	<u>30</u>		<u>70</u>	
<u>59</u>	<u>OCM &gt;</u>	<u>5</u>		<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 69 BHT 115 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic	<u>2197</u>	<input checked="" type="checkbox"/> Test	<u>\$1150.00/-</u>	T-On Location	<u>13:20</u>
(B) First Initial Flow	<u>61</u>	<input checked="" type="checkbox"/> Jars	<u>\$250.00/-</u>	T-Started	<u>14:01</u>
(C) First Final Flow	<u>72</u>	<input checked="" type="checkbox"/> Safety Joint	<u>\$75.00/-</u>	T-Open	<u>16:22</u>
(D) Initial Shut-In	<u>830</u>	<input checked="" type="checkbox"/> Circ Sub		T-Pulled	<u>18:22</u>
(E) Second Initial Flow	<u>76</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>20:45</u>
(F) Second Final Flow	<u>80</u>	<input checked="" type="checkbox"/> Mileage <u>146 RT = \$109.50/-</u>		Comments	
(G) Final Shut-In	<u>722</u>	<input type="checkbox"/> Sampler	<u>104rt 78</u>		
(H) Final Hydrostatic	<u>2145</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

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

Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility 1553  
 Sub Total \$1584.50/-

Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1553  
 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Mike Roberts

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61345

Well Name & No. Ken & Travis Schaben 1-31 Test No. 2 Date 3-13-17  
 Company Schaben Oil LLC Elevation 2306 KB 2295 GL  
 Address 2704 Ash Hays KS 67601  
 Co. Rep / Geo. Andrew Stenzel Rig WW14  
 Location: Sec. 31 Twp. 19 Rge. 2W Co. NESS State KS

Interval Tested 4447-4458 Zone Tested MISS  
 Anchor Length 11 Drill Pipe Run 4313 Mud Wt. 9.3  
 Top Packer Depth 4442 Drill Collars Run 118 Vis 57  
 Bottom Packer Depth 4447 Wt. Pipe Run φ WL 6.8  
 Total Depth 4458 Chlorides 4000 ppm System LCM 2  
 Blow Description IF: Built to 4" Blow  
IS: No Return Blow  
FF: Built to 3 1/2" Blow  
FS: No Return Blow

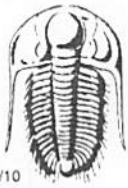
Rec	Feet of	%gas	%oil	%water	%mud
<del>0</del>	Free Oil 3"	100			
62	WCM		2	98	
59	WCOM	3	2	95	
59	WCM		2	98	

Rec Total 180 BHT 120 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2226</u>	<input checked="" type="checkbox"/> Test <u>\$1150.00/-</u>	T-On Location <u>03:30</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>\$250.00/-</u>	T-Started <u>04:07</u>
(C) First Final Flow <u>59</u>	<input checked="" type="checkbox"/> Safety Joint <u>\$75.00/-</u>	T-Open <u>06:05</u>
(D) Initial Shut-In <u>1226</u>	<input checked="" type="checkbox"/> Circ Sub <u>NO</u>	T-Pulled <u>08:05</u>
(E) Second Initial Flow <u>62</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:00</u>
(F) Second Final Flow <u>79</u>	<input checked="" type="checkbox"/> Mileage <u>146 RT = \$109.50/-</u>	Comments
(G) Final Shut-In <u>1184</u>	<input type="checkbox"/> Sampler <u>78</u>	
(H) Final Hydrostatic <u>2177</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1553</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility <u>1553</u>	MP/DST Disc't
	Sub Total <u>\$1584.50/-</u>	

Approved By \_\_\_\_\_ Our Representative Mike Roberts

TriLOBITE Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61346

Well Name & No. Ken + Travis Schaben 1-31 Test No. 3 Date 3-13-17  
 Company Schaben Oil LLC Elevation 2306 KB 2295 GL  
 Address 2704 Ash Hays KS 67601  
 Co. Rep / Geo. Andrew Stenzel Rig JWW 14  
 Location: Sec. 31 Twp. 19 Rge. 2W Co. Ness State KS

Interval Tested 4452-4468 Zone Tested Miss  
 Anchor Length 16 Drill Pipe Run 4313 Mud Wt. 9.3  
 Top Packer Depth 4447 Drill Collars Run 118 Vis 57  
 Bottom Packer Depth 4452 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4468 Chlorides 3800 ppm System LCM 2  
 Blow Description IF: BOB in 26 Min  
IS: No Return Blow  
FF: Built to 8" Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>—</u>	<u>3" Free oil</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>186</u>	<u>OCM</u>	<u>2</u>	<u>0</u>	<u>98</u>	<u>0</u>
<u>186</u>	<u>WCM</u>	<u>0</u>	<u>50</u>	<u>50</u>	<u>0</u>
<u>118</u>	<u>MCW</u>	<u>0</u>	<u>90</u>	<u>10</u>	<u>0</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 490 BHT \_\_\_\_\_ Gravity — API RW 1536 @ 34.7° F Chlorides 31000 ppm

(A) Initial Hydrostatic <u>2210</u>	<input checked="" type="checkbox"/> Test <u>\$1150.00/-</u>	T-On Location <u>15:30</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars <u>\$250.00/-</u>	T-Started <u>16:24</u>
(C) First Final Flow <u>121</u>	<input checked="" type="checkbox"/> Safety Joint <u>\$75.00/-</u>	T-Open <u>18:50</u>
(D) Initial Shut-In <u>1213</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>21:50</u>
(E) Second Initial Flow <u>127</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>00:20</u>
(F) Second Final Flow <u>244</u>	<input checked="" type="checkbox"/> Mileage <u>146 RT = \$109.50/-</u>	Comments <u>3-14-17 at noon</u>
(G) Final Shut-In <u>1225</u>	<input type="checkbox"/> Sampler <u>X2 load Tools</u>	
(H) Final Hydrostatic <u>2204</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1631</u>
	<input type="checkbox"/> Accessibility <u>1631</u>	MP/DST Disc't _____
	Sub Total <u>\$1584.50/-</u>	

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

Our Representative Mark Roberts

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