

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1246134  
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: \_\_\_\_\_

1246134

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  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				

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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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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Form	ACO1 - Well Completion
Operator	Russell Oil, Inc.
Well Name	Rumback B 21-1
Doc ID	1246134

All Electric Logs Run

COMPUTER PROCESSED INTERP
DUAL INDUCTION
DUAL COMPENSATED POROSITY
SONIC BOND
MICRORESISTIVITY

Form	ACO1 - Well Completion
Operator	Russell Oil, Inc.
Well Name	Rumback B 21-1
Doc ID	1246134

Tops

Name	Top	Datum
ANHYDRITE	572	+485
BASE ANHYDRITE	2598	+459
HEEBNER	4026	-969
TORONTO	4050	-993
LANSING	4064	-1007
MUNCIE CREEK	4202	-1145
STARK SHALE	4282	-1225
HUSH SHALE	4318	-1261
BASE KC	4350	-1293
MARMATON	4378	-1321
PAWNEE	4476	-1419
FT SCOTT	4534	-1477
CHEROKEE SHALE	4563	-1506
JOHNSON	4604	-1547
MORROW SHALE	4628	-1571
MISSISSIPPI	4654	-1597
LTD	4710	-1653
RTD	4710	-1653





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Russell Oil, Inc

**21 11s 32w Logan, Ks**

PO Box 8050  
Edmond, OK

**Rumback B 21-1**

ATTN: Kitt Noah

Job Ticket: 59551

**DST#: 1**

Test Start: 2014.12.10 @ 14:03:00

## GENERAL INFORMATION:

Formation: **LKC - H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:11:45

Time Test Ended: 22:21:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 69

**Interval: 4198.00 ft (KB) To 4230.00 ft (KB) (TVD)**

Reference Elevations: 3057.00 ft (KB)

Total Depth: 4230.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8365**

**Inside**

Press@RunDepth: 280.82 psig @ 4199.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.10

End Date:

2014.12.10

Last Calib.: 2014.12.10

Start Time: 14:03:05

End Time:

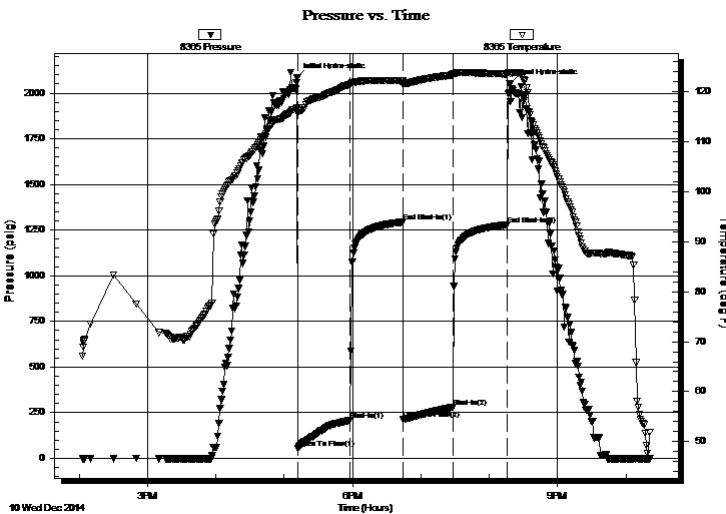
22:21:14

Time On Btm: 2014.12.10 @ 17:11:30

Time Off Btm: 2014.12.10 @ 20:18:00

TEST COMMENT: IF: 7" blow.  
IS: No return.  
FF: 7" blow.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2083.89	116.75	Initial Hydro-static
1	54.47	115.78	Open To Flow (1)
47	208.33	121.51	Shut-In(1)
93	1293.98	122.20	End Shut-In(1)
93	212.87	121.54	Open To Flow (2)
137	280.82	123.40	Shut-In(2)
185	1279.22	123.58	End Shut-In(2)
187	2049.94	123.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
699.00	mcw 15m 85w (oil spots throughout)	6.47
1.00	oil 100o	0.01

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Russell Oil, Inc

**21 11s 32w Logan, Ks**

PO Box 8050  
Edmond, OK

**Rumback B 21-1**

Job Ticket: 59551

**DST#: 1**

ATTN: Kitt Noah

Test Start: 2014.12.10 @ 14:03:00

### 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:

0 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
699.00	mcw 15m 85w (oil spots throughout)	6.471
1.00	oil 100o	0.014

Total Length: 700.00 ft      Total Volume: 6.485 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .190 @ 49F = 57000ppm

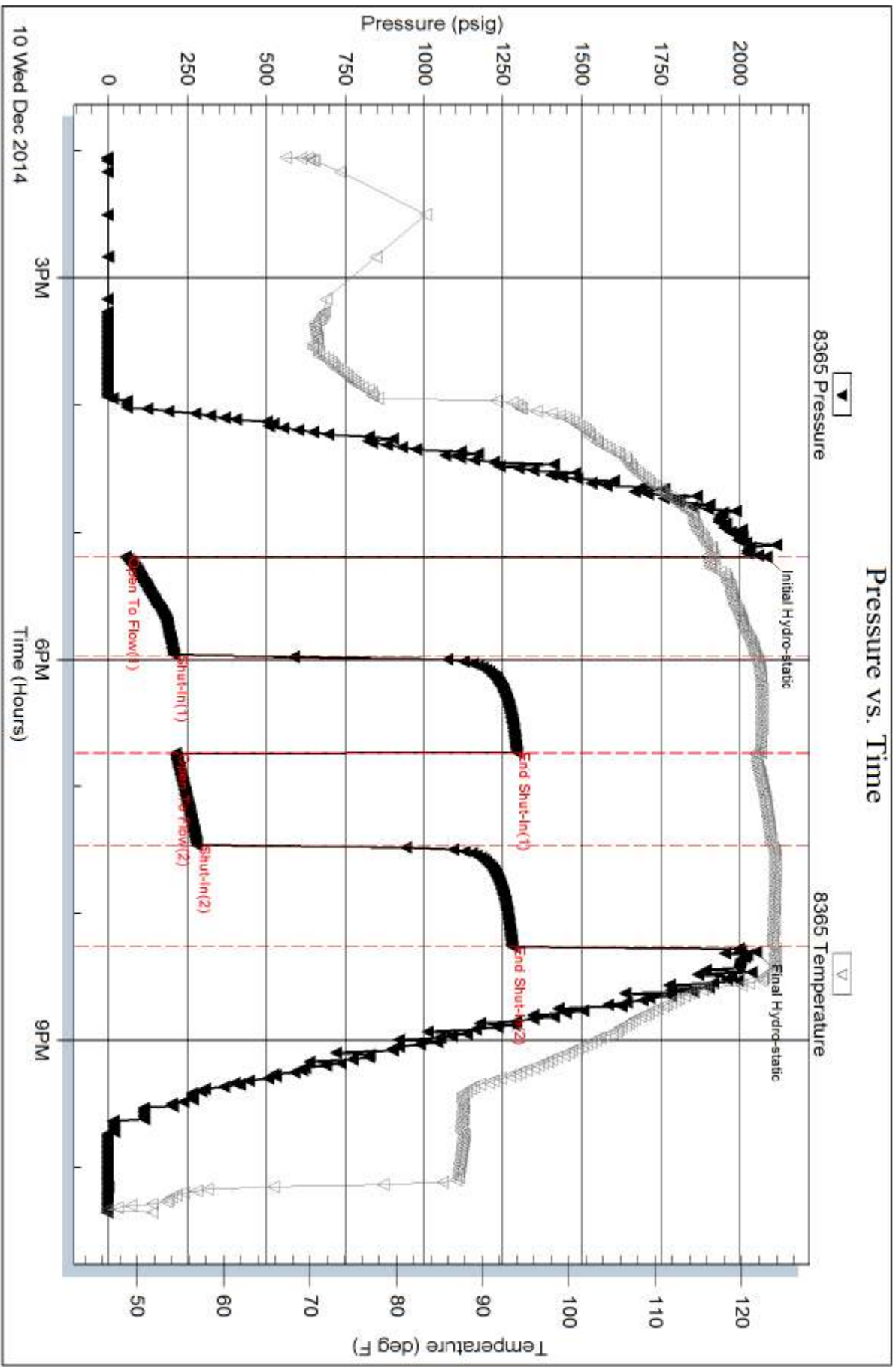
Serial #: 8365

Inside

Russell Oil, Inc

Runback B 21-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 59551

Printed: 2014, 12, 11 @ 08:10:42





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Russell Oil, Inc

**21 11s 32w Logan, Ks**

PO Box 8050  
Edmond, OK

**Rumback B 21-1**

ATTN: Kitt Noah

Job Ticket: 59552

**DST#: 2**

Test Start: 2014.12.11 @ 07:52:00

## GENERAL INFORMATION:

Formation: **LKC - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:14:30

Time Test Ended: 15:14:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 4249.00 ft (KB) To 4290.00 ft (KB) (TVD)**

Reference Elevations: 3057.00 ft (KB)

Total Depth: 4290.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8365**

**Inside**

Press@RunDepth: 268.00 psig @ 4250.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.11

End Date:

2014.12.11

Last Calib.:

2014.12.11

Start Time: 07:53:05

End Time:

15:15:29

Time On Btm:

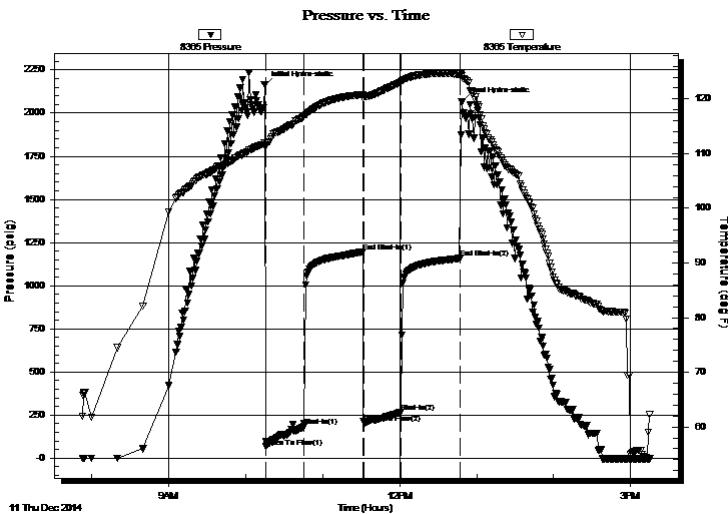
2014.12.11 @ 10:15:00

Time Off Btm:

2014.12.11 @ 12:48:15

**TEST COMMENT:** IF: BOB @ 3 min.  
IS: 1/2" return, receded to a surface blow.  
FF: 4" blow.  
FS: Surface blow.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2161.84	111.92	Initial Hydro-static
1	66.20	111.32	Open To Flow (1)
31	183.05	116.77	Shut-In(1)
77	1197.62	120.80	End Shut-In(1)
77	204.75	120.51	Open To Flow (2)
107	268.00	123.09	Shut-In(2)
152	1158.08	124.53	End Shut-In(2)
154	2067.96	124.79	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
110.00	gmco 30g 25m 45o	0.54
260.00	gmco 30g 15m 55o	1.32
350.00	gsmco 35g 5m 60o	4.91
0.00	1280' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Russell Oil, Inc

**21 11s 32w Logan, Ks**

PO Box 8050  
Edmond, OK

**Rumback B 21-1**

Job Ticket: 59552

**DST#: 2**

ATTN: Kitt Noah

Test Start: 2014.12.11 @ 07:52:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

40 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbf

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
110.00	gmco 30g 25m 45o	0.541
260.00	gmco 30g 15m 55o	1.315
350.00	gsmco 35g 5m 60o	4.910
0.00	1280' GIP	0.000

Total Length: 720.00 ft

Total Volume: 6.766 bbf

Num Fluid Samples: 0

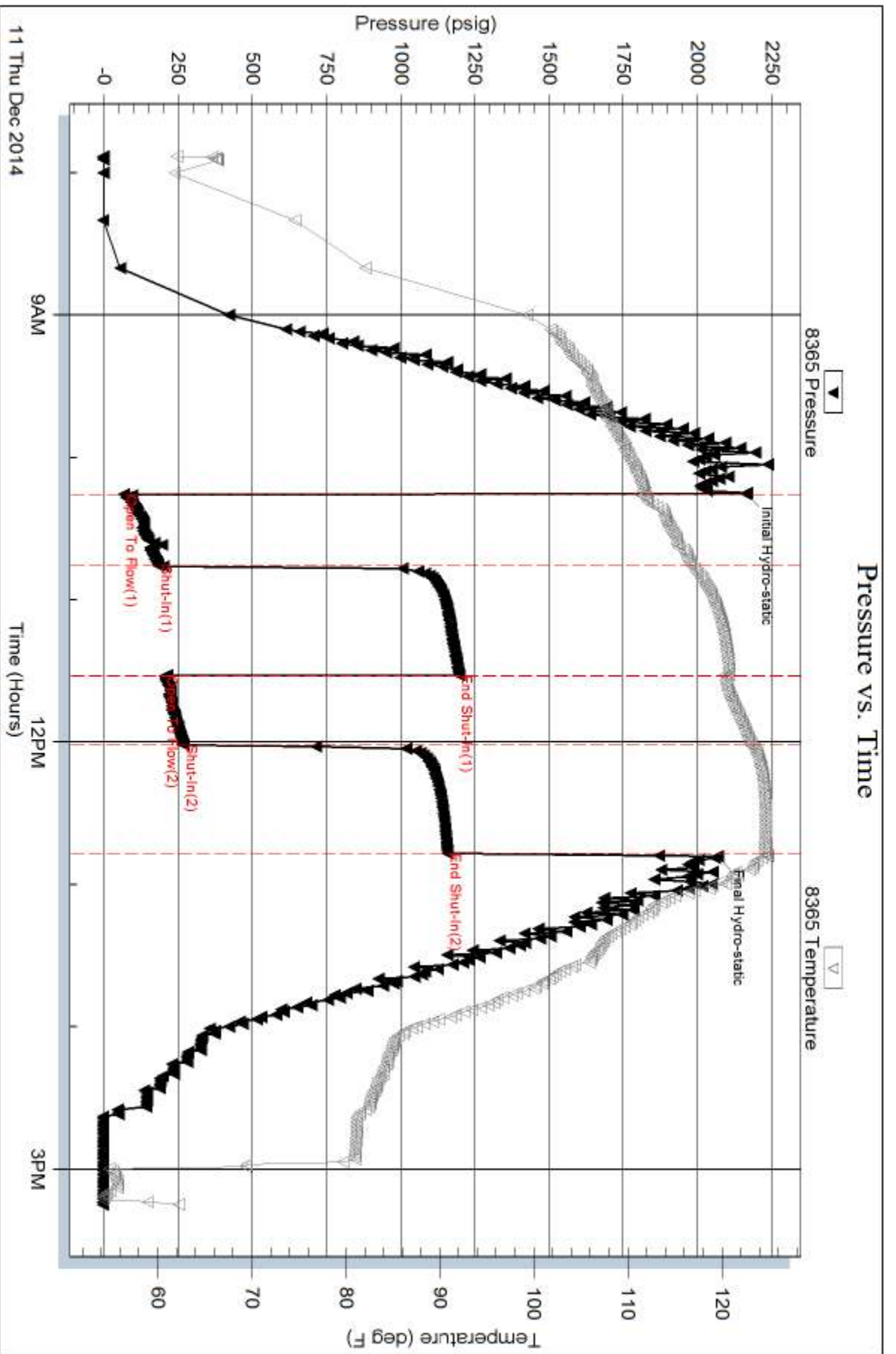
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Russell Oil, Inc

**21 11s 32w Logan, Ks**

PO Box 8050  
Edmond, OK

**Rumback B 21-1**

ATTN: Kitt Noah

Job Ticket: 59553

**DST#: 3**

Test Start: 2014.12.11 @ 22:58:00

## GENERAL INFORMATION:

Formation: **LKC - K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:57:00

Time Test Ended: 05:47:43

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 4278.00 ft (KB) To 4320.00 ft (KB) (TVD)**

Reference Elevations: 3057.00 ft (KB)

Total Depth: 3320.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8365**

**Inside**

Press @ Run Depth: 86.05 psig @ 4279.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.11

End Date:

2014.12.12

Last Calib.:

2014.12.12

Start Time: 22:58:05

End Time:

05:47:43

Time On Btm:

2014.12.12 @ 00:56:45

Time Off Btm:

2014.12.12 @ 03:29:45

## TEST COMMENT:

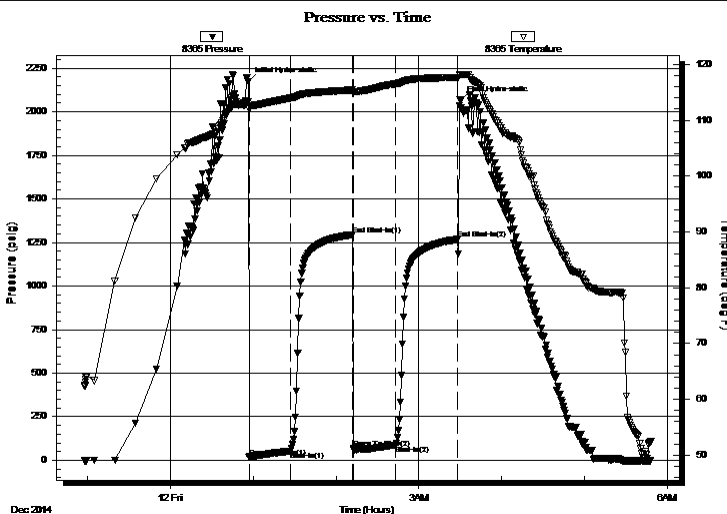
IF: 8" blow.

IS: No return.

FF: BOB @ 25 min.

FS: Surface return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2174.23	113.37	Initial Hydro-static
1	18.47	111.99	Open To Flow (1)
30	52.88	113.96	Shut-In(1)
76	1295.43	115.44	End Shut-In(1)
76	67.14	115.11	Open To Flow (2)
106	86.05	116.51	Shut-In(2)
151	1268.14	117.68	End Shut-In(2)
153	2066.60	118.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
105.00	gocm 20g 25o 55m	0.52
65.00	go 35g 65o	0.32
0.00	490' GIP	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Russell Oil, Inc

**21 11s 32w Logan, Ks**

PO Box 8050  
Edmond, OK

**Rumback B 21-1**

Job Ticket: 59553

**DST#: 3**

ATTN: Kitt Noah

Test Start: 2014.12.11 @ 22:58:00

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbbl
105.00	gocm 20g 25o 55m	0.516
65.00	go 35g 65o	0.320
0.00	490' GIP	0.000

Total Length: 170.00 ft      Total Volume: 0.836 bbl

Num Fluid Samples: 0

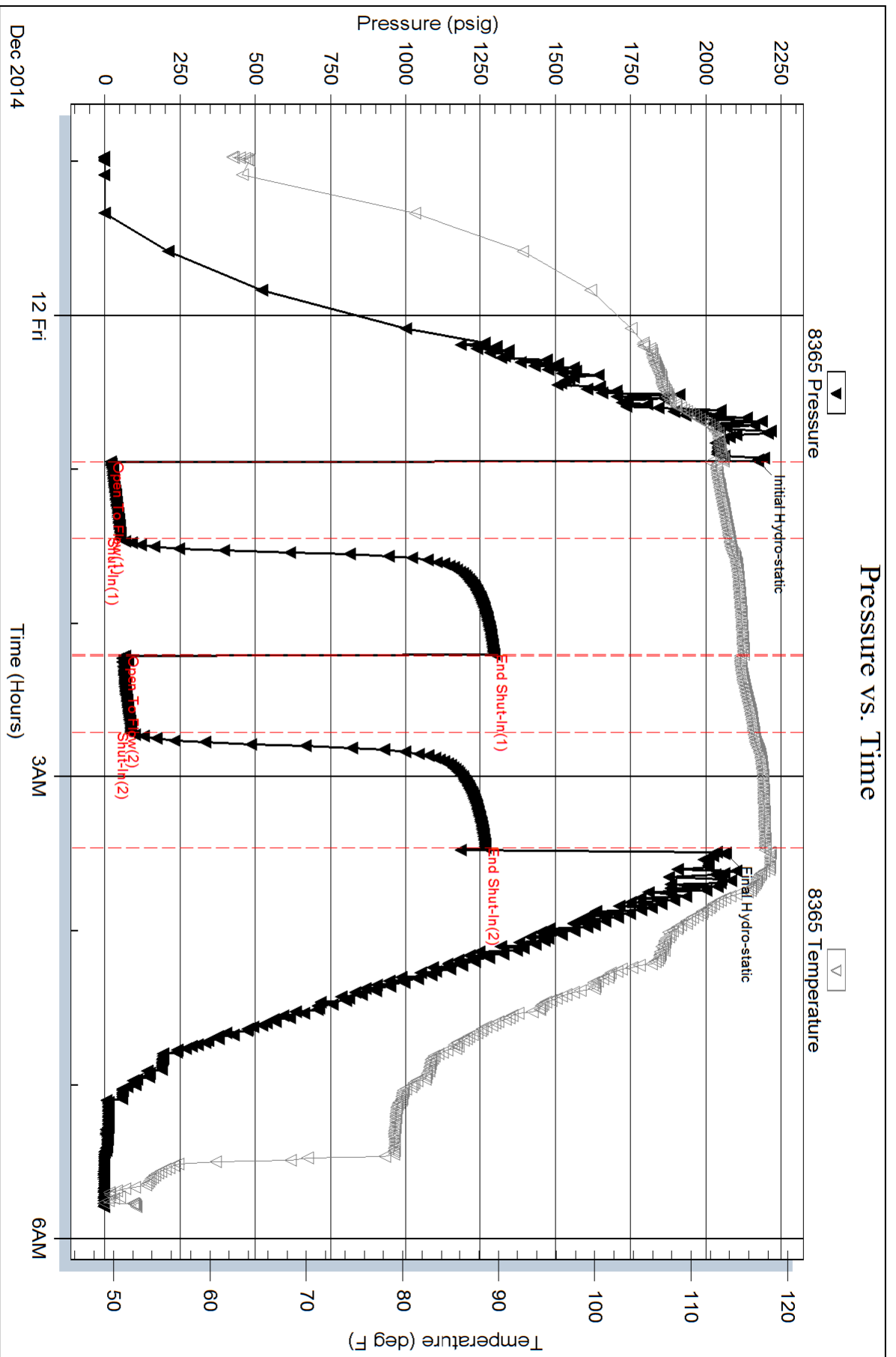
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Russell Oil, Inc

21 11s 32w Logan, Ks

PO Box 8050  
Edmond, OK

Rumback B 21-1

ATTN: Kitt Noah

Job Ticket: 59554

DST#: 4

Test Start: 2014.12.13 @ 09:11:00

## GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:06:15

Time Test Ended: 16:38:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4582.00 ft (KB) To 4630.00 ft (KB) (TVD)**

Reference Elevations: 3057.00 ft (KB)

Total Depth: 4230.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: **8522** Outside

Press @ RunDepth: 499.95 psig @ 4583.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.13

End Date:

2014.12.13

Last Calib.:

2014.12.13

Start Time: 09:11:05

End Time:

16:38:14

Time On Btm:

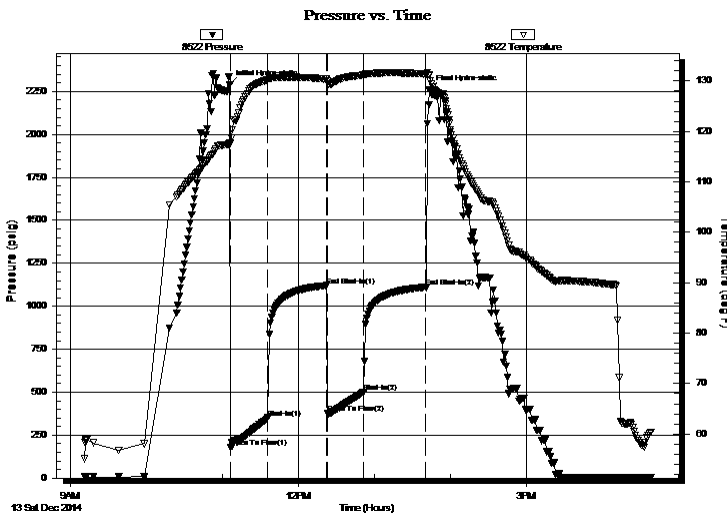
2014.12.13 @ 11:05:45

Time Off Btm:

2014.12.13 @ 13:43:00

TEST COMMENT: IF: BOB @ 3 min.  
ISI BOB @ 30 min. Gassy oder - w ouldnt burn  
FF: BOB @ 1 1/2 min.  
FSI: BOB @ 40 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2290.21	117.65	Initial Hydro-static
1	177.21	117.66	Open To Flow (1)
30	347.10	130.19	Shut-In(1)
77	1120.86	130.34	End Shut-In(1)
77	379.34	129.97	Open To Flow (2)
106	499.95	131.15	Shut-In(2)
155	1111.02	131.37	End Shut-In(2)
158	2260.99	131.05	Final Hydro-static

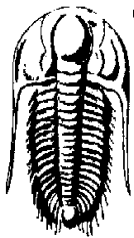
## Recovery

Length (ft)	Description	Volume (bbl)
360.00	gmco 20g 20m 60o	1.77
90.00	gocm 25g 25o 50m	1.21
870.00	gsmco 30g 5m 65o	12.20
0.00	Gas to surface	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Russell Oil, Inc

**21 11s 32w Logan, Ks**

PO Box 8050  
Edmond, OK

**Rumback B 21-1**

Job Ticket: 59554

**DST#: 4**

ATTN: Kitt Noah

Test Start: 2014.12.13 @ 09:11:00

## GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:06:15

Time Test Ended: 16:38:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4582.00 ft (KB) To 4630.00 ft (KB) (TVD)**

Reference Elevations: 3057.00 ft (KB)

Total Depth: 4230.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8365**

**Inside**

Press @ Run Depth: psig @ 4583.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.13

End Date: 2014.12.13

Last Calib.: 2014.12.13

Start Time: 09:11:05

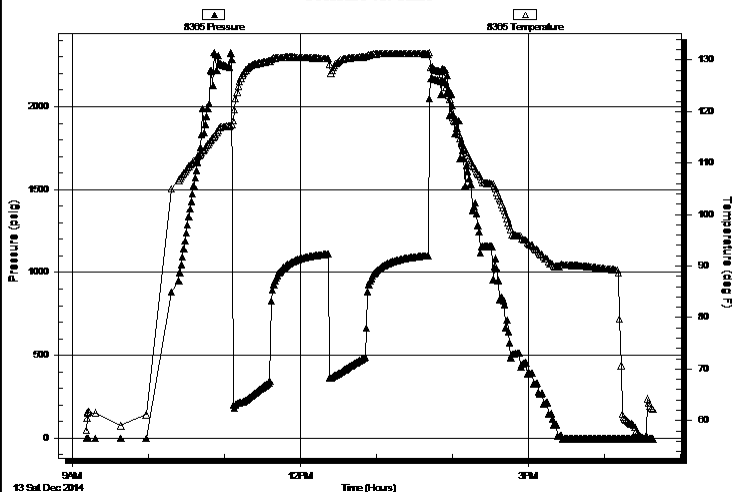
End Time: 16:38:14

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB @ 3 min.  
ISI BOB @ 30 min. Gassy oder - w ouldnt burn  
FF: BOB @ 1 1/2 min.  
FSI: BOB @ 40 min.

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
360.00	gmco 20g 20m 60o	1.77
90.00	gocm 25g 25o 50m	1.21
870.00	gsmco 30g 5m 65o	12.20
0.00	Gas to surface	0.00

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Russell Oil, Inc

**21 11s 32w Logan, Ks**

PO Box 8050  
Edmond, OK

**Rumback B 21-1**

Job Ticket: 59554

**DST#: 4**

ATTN: Kitt Noah

Test Start: 2014.12.13 @ 09:11:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24 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: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
360.00	gmco 20g 20m 60o	1.770
90.00	gocm 25g 25o 50m	1.208
870.00	gsmco 30g 5m 65o	12.204
0.00	Gas to surface	0.000

Total Length: 1320.00 ft

Total Volume: 15.182 bbl

Num Fluid Samples: 0

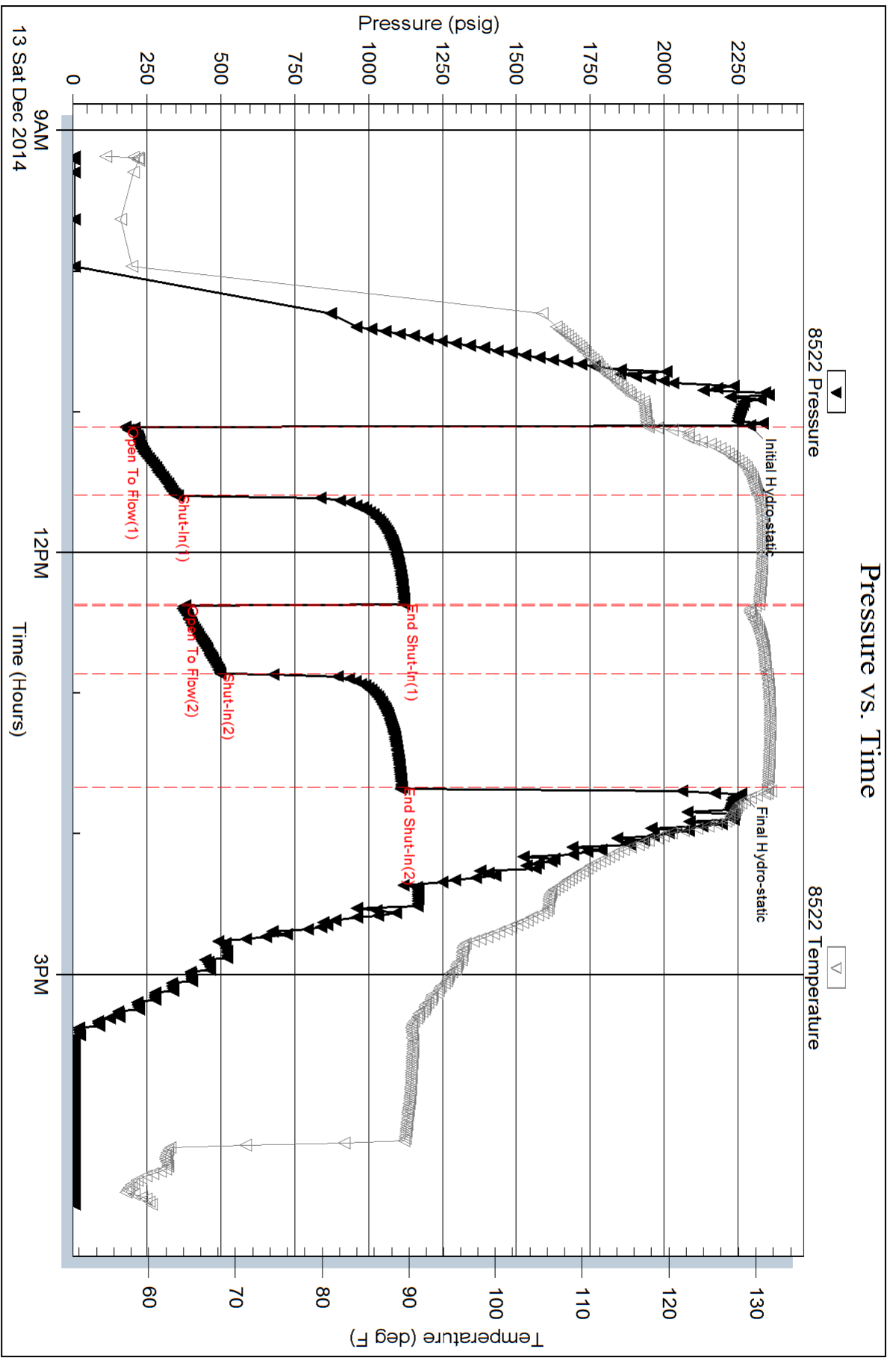
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



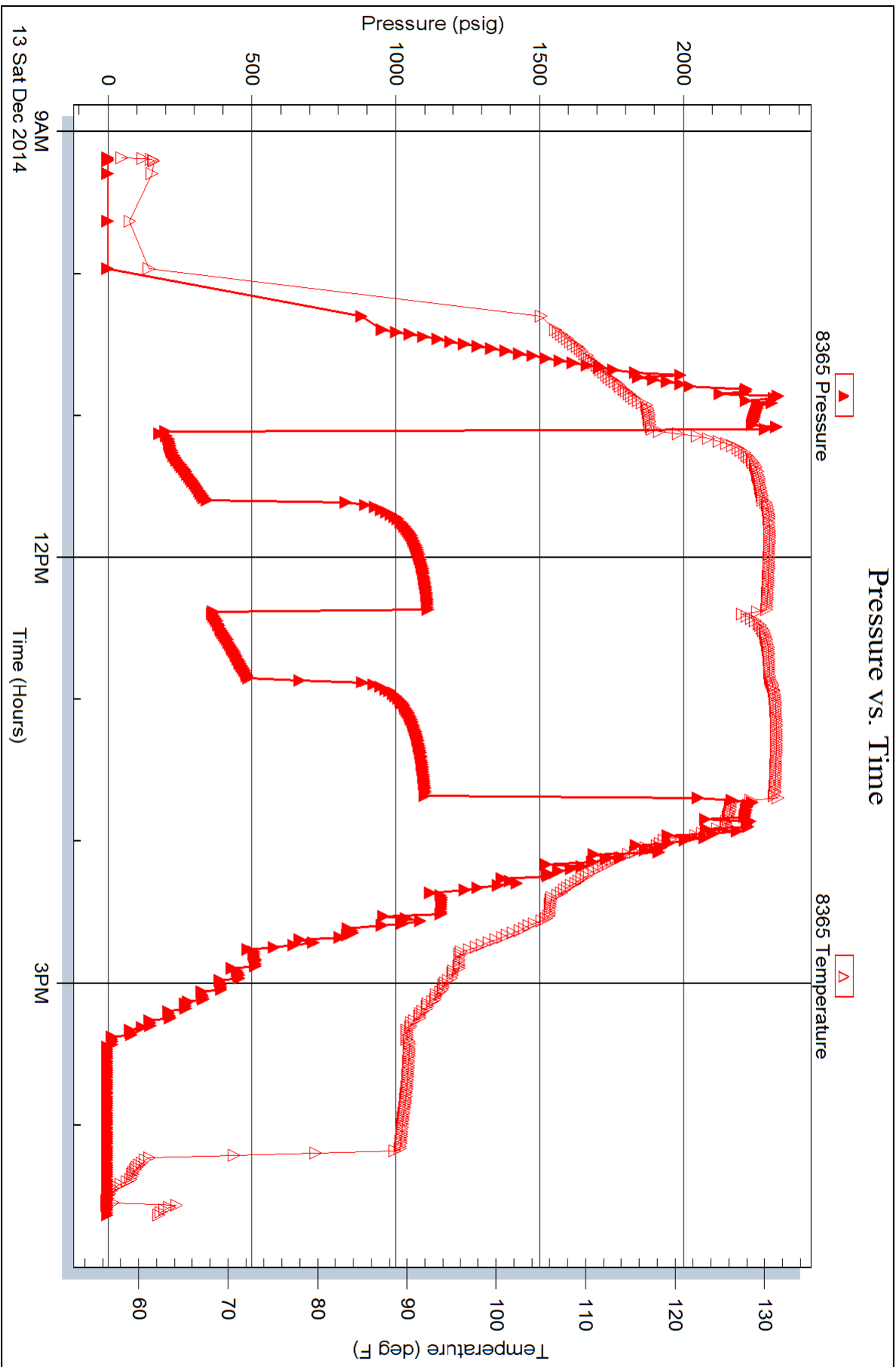
Serial #: 8365

Inside

Russell Oil, Inc

Runback B 21-1

DST Test Number: 4



KITT NOAH

PETROLEUM GEOLOGIST
Kansas License #229



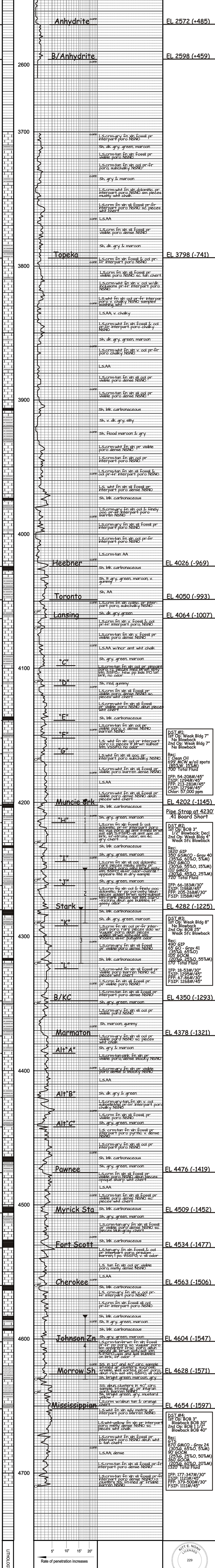
FORMATION LOG table with columns: FORMATION, LOG, TOP, BOTTOM. Includes entries like Anhydrite, B/Anhydrite, Heebner, Lansing, Stark, B/KC, Marmaton, Pawnee, Myrick Sta, Fort Scott, Cherokee, Johnson Zn, Morrow Sh, Mississippi.

OPERATOR: Russell Oil, Inc.
LEASE: Rumbach "B"
LOCATION: 1190'FN & 2065'FE
SEC: 21 TWP: 11S RNG: 32W
COUNTY: Logan STATE: Kansas

ELEVATION: KB 3057
GL: 3046
MEASURED FROM: KB
#15-109-21-373

LEGEND

Legend table with columns: Lithology, LITHOLOGY. Patterns for Limestone, Cool Lime, Dolomite, Sandstone, Shale, Carb Shale, Chert, Anhydrite.



DEPTH: 2600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700

ELEVATION: KB 3057
DST #1: 1st Op: Weak Bldg 7", No Blowback...
DST #2: 1st Op: BOB 3", 1/2" Blowback...
DST #3: 1st Op: Weak Bldg 8", No Blowback...
DST #4: 1st Op: BOB 3", Blowback BOB 30", 2nd Op: BOB 1 1/2", Blowback BOB 40"

# ALLIED OIL & GAS SERVICES, LLC 064367

Federal Tax I.D. # 20-8851475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
Oakley, TX

DATE <u>12-6-14</u>	SEC. <u>21</u>	TWR. <u>11</u>	RANGE <u>32</u>	CALLED OUT	ON LOCATION <u>7:00 pm</u>	JOB START <u>7:30 pm</u>	JOB FINISH <u>8:00 pm</u>
LEASE <u>Rimbark</u>		WELL # <u>21-1</u>		LOCATION <u>Oakley Golf Course</u>		COUNTY <u>Logan</u>	STATE <u>KS</u>
OLD OR NEW (Circle one)				<u>1 3/4 S, W 1/4</u>			

CONTRACTOR H2 Rig 1  
 TYPE OF JOB Seal base  
 HOLE SIZE 12 1/4 T.D. 3121  
 CASING SIZE 8 7/8 DEPTH 311.04  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. 15'  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT \_\_\_\_\_

OWNER same  
 CEMENT AMOUNT ORDERED 185 sfs con 3% ce  
290 gal

EQUIPMENT

PUMP TRUCK # <u>423251</u>	CEMENTER <u>Kelone Ewert</u>
BULK TRUCK # <u>818/287</u>	HELPER <u>Wayne McGlough</u>
BULK TRUCK # _____	DRIVER <u>Wayne Masotte</u>
BULK TRUCK # _____	DRIVER <u>William Crawford</u>

COMMON 185 sfs @ 12.90 2311.50  
 POZMIX \_\_\_\_\_  
 OEL 398 # @ .50 199.00  
 CHLORIDE 522 # @ 1.10 574.20  
 ASC \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 HANDLING 200.05 sfs @ 2.98 596.12  
 MILEAGE 9.15 @ 85 x 2.25 125.34

REMARKS:  
Mix 185 sfs cement  
Displace with water  
Cement did circulate  
For 0.21 hours only  
Thank you!

CHARGE TO: Russell Opi  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

TOTAL \_\_\_\_\_  
 SERVICE  
 DEPTH OF JOB 311.04  
 PUMP TRUCK CHARGE \_\_\_\_\_ 1512.23  
 EXTRA FOOTAGE \_\_\_\_\_  
 MILEAGE MFLD 3 @ 7.70 231.00  
 MANIFOLD \_\_\_\_\_  
MFLD 3 @ 4.40 132.00  
691.43 / 28%  
 TOTAL 2465.41

To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PLUG & FLOAT EQUIPMENT  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 TOTAL \_\_\_\_\_

PRINTED NAME [Signature]  
 SIGNATURE \_\_\_\_\_

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES 6529.11  
 DISCOUNT 1,828.15 / 28% IF PAID IN 30 DAYS  
4700.95 Net

# BASIC

energy services, L.P.

54950 #1

## TREATMENT REPORT

Customer Russell Oil Inc	Lease No.	Date 12-15-2014
Lease Pumbick B	Well # 21-1	
Field Order # 11658	Station Prc 44. K	Casing 5 1/2
	Depth 4704	County Losee
Type Job CNU 2 Stage 5 1/2 LBS	Formation TD-4700	State KS
		Legal Description 21-11-32

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size 5 1/2	Tubing Size	Shots/Ft		Acid		RATE	PRESS	ISIP
Depth 4704	Depth	From	To	Pre Pad	Max			5 Min.
Volume 112	Volume	From	To	Pad	Min			10 Min.
Max Press	Max Press	From	To	Frac	Avg			15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used			Annulus Pressure
Plug Depth 4687	Packer Depth	From	To	Flush	Gas Volume			Total Load

Customer Representative Todd	Station Manager Kevin Gordon	Treater Darin Franklin
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Service Units 27263	84951	15843	15885	15862	15555	73768			
Driver Names LITTON	ETS	FELIX	COBB						

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
5:00pm					ON location / Safety Meeting 12/14
					112 Jts 5 1/2 casing Sept 4704
					DV TOOL - 2550'
					Turbol. 2015 - 2, 5, 9, 13, 16, 19, 52
					BSSK - 10.50
					175SK AA2 Cement - 15.3 vol. 1.36 vol. 2
					5.46 water
	300		24		Pump 24 bbls Super Flush 11
	300		5		5 bbls water
	300		42		mix 175SK cement
			0		Shut down
	100		3	3	Wash pump & lines
			0		Drop Plus
	150		0	6	Stage displacement
	500		80	6	kill pressure
	1100		100	3	slow rate
	1500		111 1/2		Bump plus
					Release
					DIOD opening Dscr
	100		7	3	Plus Rec + pressure
	100		5	3	Plus mouse

# BASIC

energy services, L.P.

## TREATMENT REPORT

ST 95# #2

Customer Russell Oil Inc	Lease No.	Date 12-15-2014
Lease Pumbocic B	Well # 21-1	
Field Order # 11658116rc	Station Pratt, KS	Casing 5 1/2
Type Job CNU/25050 5 1/2 lossion	Depth 4704	County Luska
	Formation TD 4710	State KS
		Legal Description 21-11-32

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
Depth	Depth	From	To	Pre Pad	Max		5 Min.	
Volume	Volume	From	To	Pad	Min		10 Min.	
Max Press	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth	Packer Depth	From	To	Flush	Gas Volume		Total Load	

Customer Representative	Station Manager	Treater
Service Units		
Driver Names		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
					3255K A-Con Blend Common, 3% cc 1/4 # Cellulose; 11.6 PPG, 2.77 vol. d 16.75 water
	800				Open Tool & establish circulation
	500		160	5	mix 3255K cement Shut down Wash Pump Lines
					Drop Plug
	500			6	Start displacement
	500			3	slow back
	1500				Bitum plug & close Tool Close tool joint 30 min (convert to 1/2) Release
					Job complete / Decom & crew Thank you!!!