

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1320831
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: _____

1320831

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

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> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Carrie Exploration & Development, LLC
Well Name	BOB THOMAS C-2
Doc ID	1320831

Tops

Name	Top	Datum
ANHYDRITE	503	+1278
HEEBNER SHALE	2875	-1097
TORONTO	2892	-1114
DOUGLAS SHALE	2905	-1127
BROWN LIME	2998	-1220
LKC	3018	-1240
BKC	3274	-1496
ARBUCKLE	3284	-1506

OPERATOR

Company: CARRIE EXPLORATION AND DEVELOPMENT, LLC
 Address: 1611 COPPER CREEK COURT
 HAYS, KANSAS 67601-2667

Contact Geologist: RON HEROLD
 Contact Phone Nbr: 785-625-9318
 Well Name: BOB THOMAS # C-2
 Location: NE SE NW SW SEC.T19S-R11W
 API: 15-009-26,154-00-00
 Pool: INFIELD
 State: KANSAS
 Field: CHASE-SILICA
 Country: USA

Scale 1:240 Imperial

Well Name: BOB THOMAS # C-2
 Surface Location: NE SE NW SW SEC.T19S-R11W
 Bottom Location:
 API: 15-009-26,154-00-00
 License Number: 6768
 Spud Date: 10/20/2016 Time: 12:17 PM
 Region: BARTON COUNTY
 Drilling Completed: 10/26/2016 Time: 12:00 AM
 Surface Coordinates: 1813' FSL & 1149' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 1770.00ft
 K.B. Elevation: 1778.00ft
 Logged Interval: 2200.00ft To: 3370.00ft
 Total Depth: 3370.00ft
 Formation: ARBUCKLE
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -98.5126677
 Latitude: 38.3521914
 N/S Co-ord: 1813' FSL
 E/W Co-ord: 1149' FWL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC.
 Address: 108 W 35TH
 HAYS, KS 67601

Phone Nbr: (785) 639-1337
 Logged By: GEOLOGIST Name: HERB DEINES

CONTRACTOR

Contractor: SOUTHWIND DRILLING, INC.
 Rig #: 3
 Rig Type: MUD ROTARY
 Spud Date: 10/20/2016 Time: 12:17 PM
 TD Date: 10/26/2016 Time: 12:00 AM
 Rig Release: 10/27/2016 Time: 6:30 AM

ELEVATIONS

K.B. Elevation: 1778.00ft Ground Elevation: 1770.00ft
 K.B. to Ground: 8.00ft

NOTES

PRODUCTION CASING RAN BASED ON RESULTS OF DST # 3 AND LOG ANALYSIS.

BOB THOMAS C-2	BOB THOMAS C-1	THOMAS #7
NE SE NW SW	NE SE SW SW	W2 W2 SW
SEC.35-19S-11W	SEC.35-19-11W	SEC.35-19-11W
1770'GL 1778'KB	KB 1775'	KB 1775'

<u>FORMATION</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	503 +1275	+1278	+1277
B-Anhydrite	526 +1252	+1256	
Heebner Sh.	2875-1097	-1103	-1112
Toronto	2892-1114	-1120	-1129
Brown Lime	2998-1220	-1227	-1237
LKC	3018-1240	-1249	-1258
BKC	3274-1496	-1502	-1496
Arbuckle	3284-1506	-1509	-1521
RTD	3370-1592	-1647	-1536

SUMMARY OF DAILY ACTIVITY

- 10-20-16** Spud 4:15 PM, set 8 5/8" surface casing to 277' w/225sxs 60/40 Pos 2%Gel 3%CC, plug down 12:00AM
- 10-21-16** 234', WOC
- 10-22-16** 1590', drilling
- 10-23-16** 2630', drilling, displaced 2599-2630', CFS 3004', short trip, CFS 3033'
- 10-24-16** 3050', CFS 3050', DST # 1 3006'-3050' "A" to "B" LKC, TIWB, CFS 3075' DST # 2 3052' to 3075' "D" LKC, TIWB, CFS 3098', TOWB
- 10-25-16** 3098', DST # 3 3076' to 3098' "F" LKC, TIWB, CFS 3118', DST #4 3102' to 3118' "G" LKC, TIWB
- 10-26-16** 3298', CFS 3288', CFS 3298', DST # 5 3270' to 3298' Arbuckle, TIWB, RTD 3370' @ 1:50PM, CCH, TOWB, Logs, TIWB, start LDDP
- 10-27-16** 3370, finish LDDP and run production casing, cement bottom stage



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC
 1611 COPPER CREEK C-2
 HAYS, KANSAS 67601-2667
 ATTN: HERB DEINES

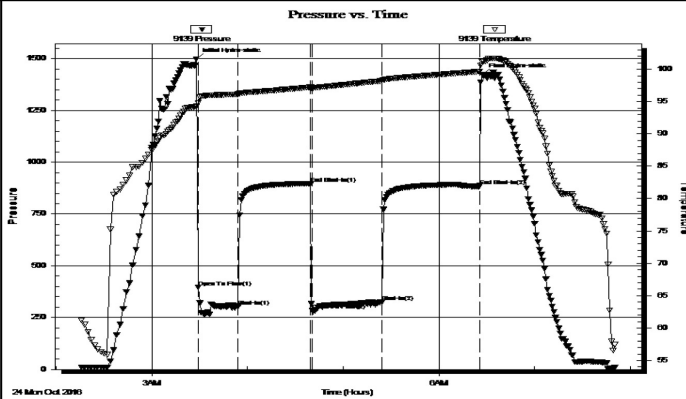
35-19S-11W BARTON
BOB THOMAS C-2
 Job Ticket: 01135 **DST#: 1**
 Test Start: 2016.10.24 @ 02:15:00

GENERAL INFORMATION:

Formation: **KANSAS CITY A-B-C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:39:00
 Time Test Ended: 00:00:00
 Interval: **3006.00 ft (KB) To 3050.00 ft (KB) (TVD)**
 Total Depth: 3050.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: GENE BUDIG 30
 Unit No: 1
 Reference Elevations: 1778.00 ft (KB)
 1770.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 9139 Inside
 Press@RunDepth: 886.88 psia @ 3044.76 ft (KB) Capacity: psia
 Start Date: 2016.10.24 End Date: 2016.10.24 Last Calib.: 1899.12.30
 Start Time: 02:16:00 End Time: 07:50:30 Time On Btm: 2016.10.24 @ 03:28:00
 Time Off Btm: 2016.10.24 @ 06:27:00

TEST COMMENT: 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 2 MINUTES
 1ST SHUT-IN 45 MINUTES NO BLOW BACK
 2ND OPENING 30 MINUTES STRONG BLOW SEE GAS FLOW REPORT
 2ND SHUT-IN 60 MINUTES WEAK BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1497.92	94.26	Initial Hydro-static
1	395.99	94.77	Open To Flow (1)
27	304.18	96.14	Shut-In(1)
72	896.94	97.23	End Shut-In(1)
73	283.99	97.08	Open To Flow (2)
116	323.82	98.20	Shut-In(2)
178	886.88	99.66	End Shut-In(2)
179	1423.60	101.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	THICK HEAVY MUD	1.12
60.00	MUDDY WATER 30 MUD 70 WATER	0.84
60.00	MUDDY WATER 15 MUD 85 WATER	0.84
0.00	CHLORIDES 88000	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	33.10	951.59
Last Gas Rate	1.00	34.60	994.71
Max. Gas Rate	1.00	34.60	994.71

Eagle Testers

Ref. No: 01135

Printed: 2016.10.26 @ 07:33:09



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC
 1611 COPPER CREEK C-2
 HAYS, KANSAS 67601-2667
 ATTN: HERB DEINES

35-19S-11W BARTON
BOB THOMAS C-2
 Job Ticket: 01136 **DST#: 2**
 Test Start: 2016.10.24 @ 14:15:00

GENERAL INFORMATION:

Formation: **KANSAS CITY D**

Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:31:00
 Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)
 Tester: GENE BUDIG
 Unit No: 1-30

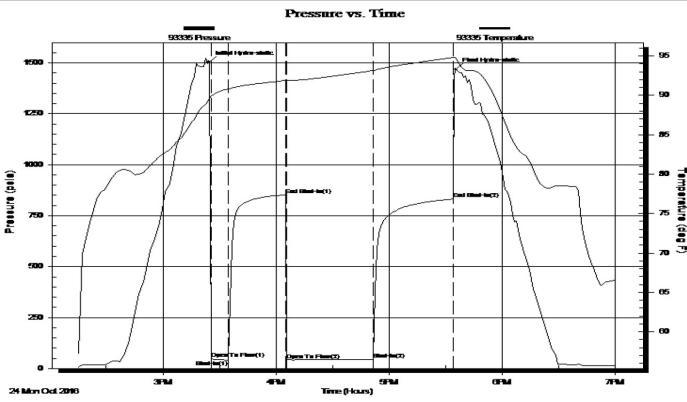
Interval: 3052.00 ft (KB) To 3075.00 ft (KB) (TVD)
 Total Depth: 3075.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1778.00 ft (KB)
 1770.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 93335

Press@RunDepth: 831.47 psia @ ft (KB) Capacity: psia
 Start Date: 2016.10.24 End Date: 2016.10.24 Last Calib.: 1899.12.30
 Start Time: 14:15:00 End Time: 19:01:00 Time On Btm: 2016.10.24 @ 15:24:30
 Time Off Btm: 2016.10.24 @ 17:35:30

TEST COMMENT: 1ST OPENING 10 MINUTES STRONG BLOW GAS TO SURFACE IN 8 MINUTES
 1ST SHUT-IN 30 MINUTES-NO BLOW BACK
 2ND OPENING 45 MINUTES STRONG BLOW SEE GAS FLOW REPORT
 2ND SHUT-IN 45 MINUTES-NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1503.93	89.61	Initial Hydro-static
1	46.92	89.89	Open To Flow (1)
10	42.20	90.78	Shut-In(1)
41	851.88	91.89	End Shut-In(1)
41	42.09	91.90	Open To Flow (2)
87	45.33	93.14	Shut-In(2)
130	831.47	94.80	End Shut-In(2)
131	1468.84	94.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	MUD	0.21
0.00	THERE WAS A SLIGHT SHOW OF OIL BE0.00EN	
0.00	THE SHUT-IN AND HYDRAULIC TOOS	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	7.75	222.80
Last Gas Rate	1.00	7.50	215.62
Max. Gas Rate	1.00	7.75	222.80

Eagle Testers

Ref. No: 01136

Printed: 2016.10.24 @ 19:24:09



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC
 1611 COPPER CREEK C-2
 HAYS, KANSAS 67601-2667
 ATTN: HERB DEINES

35-19S-11W BARTON
BOB THOMAS C-2
 Job Ticket: 01137 DST#: 3
 Test Start: 2016.10.25 @ 12:15:00

GENERAL INFORMATION:

Formation: KANSAS CITY F
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:26:00
 Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)
 Tester: GENE BUDIG
 Unit No: 1

Interval: 3076.00 ft (KB) To 3098.00 ft (KB) (TVD)
 Total Depth: 3098.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1778.00 ft (KB)
 1770.00 ft (CF)
 KB to GR/CF: 8.00 ft

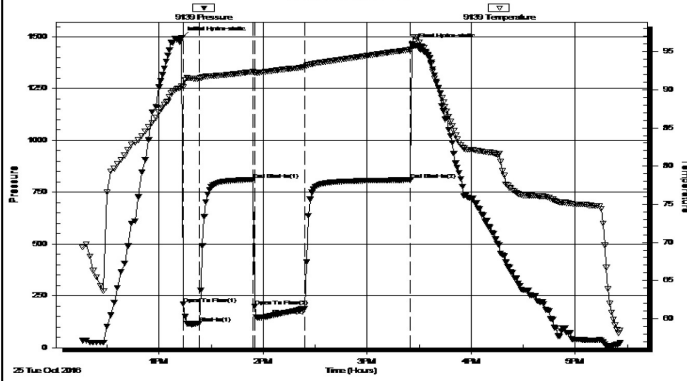
Serial #: 9139

Inside

Press@RunDepth: 809.69 psia @ 3093.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2016.10.25 End Date: 2016.10.25 Last Calib.: 2016.10.25
 Start Time: 12:16:00 End Time: 17:26:30 Time On Btm: 2016.10.25 @ 13:13:00
 Time Off Btm: 2016.10.25 @ 15:26:00

TEST COMMENT: 1ST OPENING 10 MINUTES STRONG BLOW GAS TO SURFACE IN 6 MINUTES
 1ST SHUT-IN 30 MINUTES -STRONG BLOW BACK
 2ND OPENING 30 MINUTES STRONG BLOW SEE GAS FLOW REPORT
 2ND SHUT-IN 60 MINUTES STRONG BLOW BACK

PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1497.35	90.44	Initial Hydro-static
1	209.33	90.33	Open To Flow (1)
10	118.96	91.46	Shut-In(1)
42	811.12	92.36	End Shut-In(1)
42	198.25	92.21	Open To Flow (2)
71	188.90	93.02	Shut-In(2)
132	809.69	95.27	End Shut-In(2)
133	1461.50	96.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
425.00	CLEAN GASSY OIL 50 GAS 50 OIL	5.96
0.00	GRAVITY 43 CORRECTED	0.00
60.00	HEAVY OIL AND GAS CUT MUD	0.84
0.00	35 GAS 30 OIL 35 MUD	0.00
30.00	HEAVY OIL AND GAS CUT MUD	0.42
0.00	50 GAS 20 OIL 30 MUD	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	4.25	122.18
Last Gas Rate	1.00	5.45	156.68
Max. Gas Rate	1.00	5.70	163.87

Eagle Testers

Ref. No: 01137

Printed: 2016.10.26 @ 07:34:22



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC
 1611 COPPER CREEK C-2
 HAYS, KANSAS 67601-2667
 ATTN: HERB DEINES

35-19S-11W BARTON
BOB THOMAS C-2
 Job Ticket: 01138 **DST#: 4**
 Test Start: 2016.10.25 @ 10:30:00

GENERAL INFORMATION:

Formation: **KANSAS CITY G**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:33:00
 Time Test Ended: 00:00:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: GENE BUDIG
 Unit No: 1-30

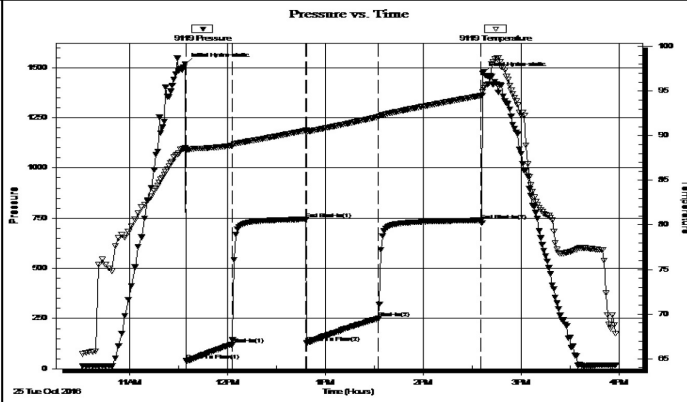
Interval: 3102.00 ft (KB) To 3118.00 ft (KB) (TVD)
 Total Depth: 3118.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Reference Elevations: 1778.00 ft (KB)
 1770.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 9119

Inside

Press@RunDepth: 739.08 psia @ 3113.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2016.10.25 End Date: 2016.10.25 Last Calib.: 2016.10.25
 Start Time: 10:31:00 End Time: 15:58:00 Time On Btm: 2016.10.25 @ 11:34:00
 Time Off Btm: 2016.10.25 @ 14:36:30

TEST COMMENT: 1ST OPENING 30 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF A 5 GALLON BUCKET IN 6 MINUTES
 1ST SHUT-IN 45 MINUTES NO BLOW BACK
 2ND OPENING 45 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF 5 GALLON BUCKET IN 12 MINUTES
 2ND SHUT-IN 60 MINUTES NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1518.94	88.61	Initial Hydro-static
1	40.54	88.31	Open To Flow (1)
29	120.11	88.88	Shut-In(1)
74	744.50	90.58	End Shut-In(1)
75	128.99	90.29	Open To Flow (2)
119	249.82	92.10	Shut-In(2)
182	739.08	94.48	End Shut-In(2)
183	1470.53	94.94	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
425.00	water chlorides 82000	5.96

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

Eagle Testers

Ref. No: 01138

Printed: 2016.10.26 @ 07:35:23



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC
 1611 COPPER CREEK C-2
 HAYS, KANSAS 67601-2667
 ATTN: HERB DEINES

35-19S-11W BARTON
BOB THOMAS C-2
 Job Ticket: 01139 **DST#: 5**
 Test Start: 2016.10.26 @ 05:52:00

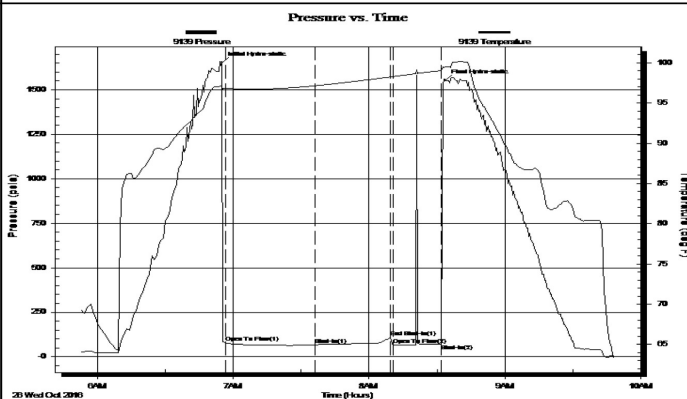
GENERAL INFORMATION:

Formation: **ARBUCKLE**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:56:30
 Time Test Ended: 09:48:30
 Interval: **3270.00 ft (KB) To 3298.00 ft (KB) (TVD)**
 Total Depth: 3270.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: GENE BUDIG
 Unit No: 1
 Reference Elevations: 1778.00 ft (KB)
 1770.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 9139

Press@RunDepth: 67.90 psia @ ft (KB)
 Start Date: 2016.10.26 End Date: 2016.10.26 Capacity: psia
 Last Calib.: 1899.12.30
 Start Time: 05:52:00 End Time: 09:48:30
 Time On Btm: 2016.10.26 @ 06:55:00
 Time Off Btm: 2016.10.26 @ 08:33:30

TEST COMMENT: 1st OPENING 30 MINUTES VERY WEAK SURFACE BLOW FOR 12 MINUTES AND DIED
 1ST SHUT-IN 45 MINUTES-NO BLOW BACK
 2ND OPENING 20 MINUTES NO BLOW FLUSHED TOOL GOOD SURGE NO HELP
 2ND SHUT-IN NONE TAKEN



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1652.66	97.13	Initial Hydro-static
2	77.73	96.82	Open To Flow (1)
41	67.90	97.14	Shut-In(1)
75	108.17	98.26	End Shut-In(1)
76	65.67	98.28	Open To Flow (2)
97	70.30	99.05	Shut-In(2)
99	1552.99	99.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OIL SPOTTED MUD	0.14

Gas Rates

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

Eagle Testers

Ref. No: 01139

Printed: 2016.10.26 @ 10:01:57

ROCK TYPES

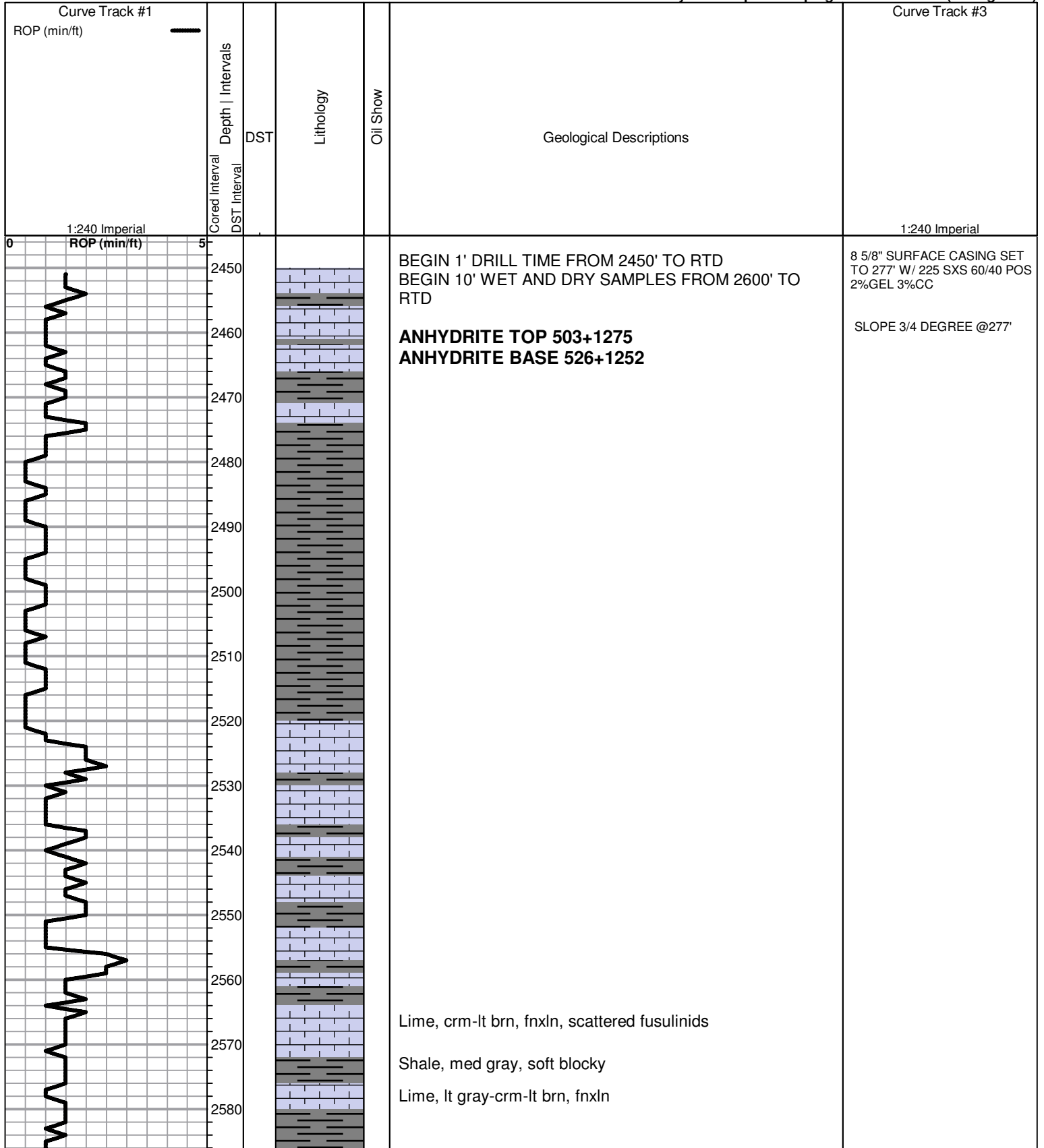
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 Lmst fw<7	 Lscong	 shale, gry	 shale, red

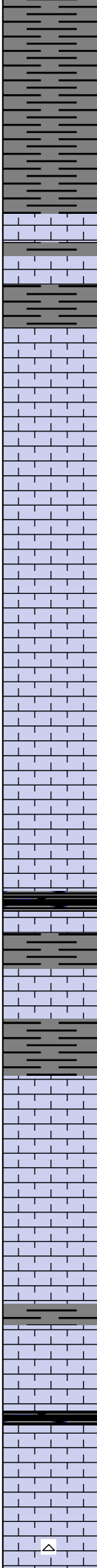
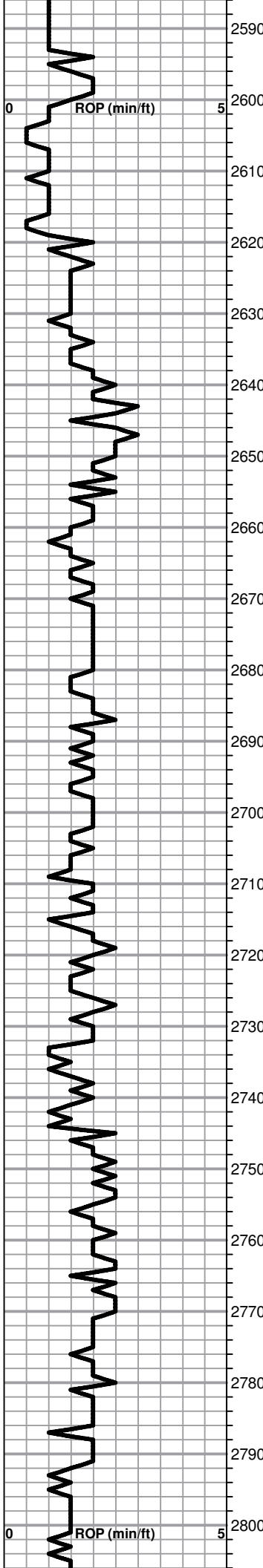
ACCESSORIES

MINERAL
 △ Chert White

FOSSIL
 ○ Oolite
 ⊕ Oomoldic

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





Shale, lt-med gray, soft blocky, few chips with micaceous flakes

Shale, lt-med gray, soft blocky

Lime, white-crm, fnxln, some gray mottling in part

Lime, crm-lt brn-lt grayish brn, fnxln with scattered fusulinids

Lime, lt brn, fn-vfxln

Lime, crm-lt brn, fnxln

Lime, lt-med brn, fnxln with scattered granular chips, NS

Lime, lt brn, fnxln, chalky in a chalk matrix

Lime, lt-med brn, fnxln

Lime, lt-med brn, fnxln

Lime, lt-med brn, fnxln with scattered granular in part

Shale, gray to black carbonaceous, blocky

Lime, lt-med brn, fn-vfxln, slightly fossiliferous

Lime, crm-lt brn, fnxln
Shale, med gray, firm, calcareous in part

Lime, crm-lt brn, fnxln

Lime, lt-med brn-lt grayish brn, fn-vfxln, slightly fossiliferous

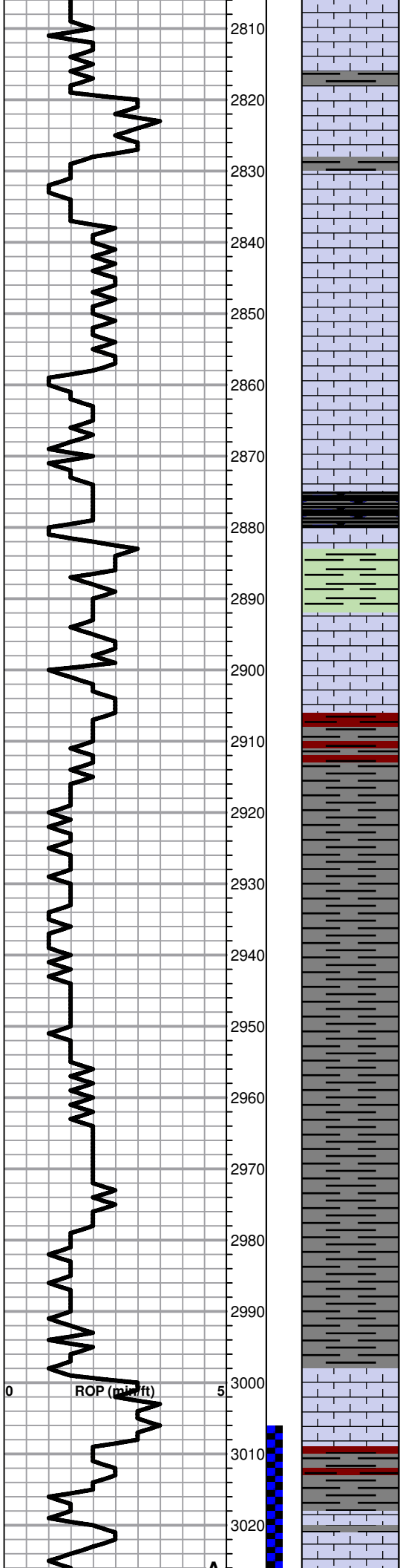
Lime, crm-lt brn, fnxln

Lime, crm-lt brn, fnxln

Lime, crm-lt brn, fnxln
Shale, black carbonaceous, fissile, blocky

Lime, crm, fnxln

Lime, crm-lt brn, fn-vfxln
Chert, white, fresh, sharp



Chert, white, fresh, sharp

Lime, lt brn-lt gray, fn-vfxln, hard on crush

Lime, lt brn-lt gray, fn-vfxln, slightly fossiliferous

Lime, crm-lt brn, fn-vfxln

Lime, lt brn, fn-vfxln

Lime, lt-med brn, fn-vfxln

Lime, lt-med brn, fnxln

Lime, crm-lt brn, fnxln

HEEBNER SHALE 2875-1097

Shale, black carbonaceous, fissile, blocky

Lime, lt grayish brn, vfxln

Shale, lime green to dove gray, soft sticky clumps

TORONTO 2892-1114

○ Lime, white, fnxln, spotty dark stain, fossil casts, NFO

DOUGLAS SHALE 2905-1127

Shale, red-lt gray, soft blocky

Shale, lt-med gray, soft-firm blocky

Shale, lt-med gray, soft blocky

Sandstone, fine gritty, poorly sorted, scattered lt stain

Lime, lt gray, soft blocky

Shale, lt gray, soft blocky with fine gritty sandstone chips

Shale, lt gray, soft blocky

Shale, lt gray, soft sticky clumping to soft blocky

Shale, lt gray, soft mud to soft blocky

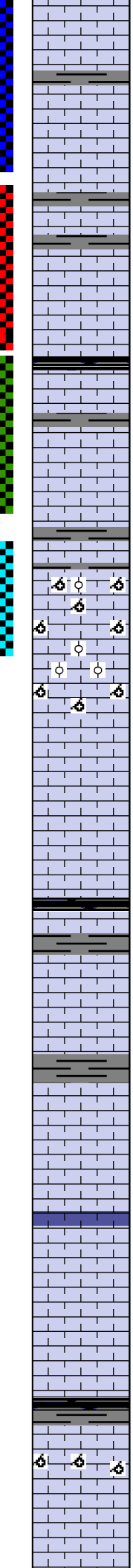
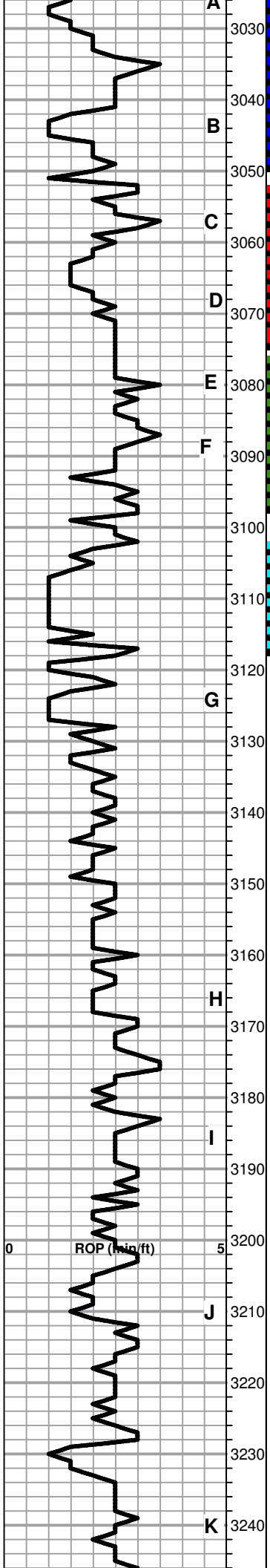
BROWN LIME 2998-1220

Lime, med brn, fn-vfxln, slightly fossiliferous

Shale, red to lt gray, soft sticky clumping

LKC 3018-1240

Lime, lt-med brn, fn-vfxln, NS, No Odor



Lime, lt-med brn, fn-vfxln

○ Lime, white-crm, oomoldic/oolitic, dark , staining, lt odor, NFO

Lime, lt brn-lt grayish brn, fn-vfxln, hard on crush, slightly fossiliferous

○ Shale, med gray-green, soft blocky
Lime, crm-lt brn, thin fossiliferous with scattered pinpoint vuggy porosity, lt stain, NFO, very lt odor

Lime, lt brn-lt grayish brn, fn-vfxln

Lime, med brn-med grayish brn, fn-vfxln with chips of fine fossil and oolitic contact with scattered to sat stain, NFO

Lime, med brn, fn-vfxln

○ Lime lt brn, fnxln with white chalky wash grading into cemented oolitic zone grading into oomoldic zone. Scattered dark staining, NFO, questionable odor

Lime, lt-med brn, fnxln

Lime, lt brn, oolitic/oomoldic, NFO, No odor, lot of barren chips

Lime, crm, fnxln with bedded chalk

Lime, lt brn, fnxln

Shale, black carbonaceous, blocky
Lime, lt brn-lt grayish brn, fnxln
Shale, lt gray, firm, blocky with some sticky clumps in part

Lime, lt brn, fnxln, bedded chalk, NS

Lime, crm-lt brn, fnxln with scattered barron oomoldic chips

Lime, crm-lt brn, fn-vfxln

Lime, crm-lt brn, fnxln with few oolitic chips with trace of lt staining, NFO, no odor, not well developed in appearance

Lime, lt brn, fn-vfxln, NS

Lime, crm-lt brn, fnxln with white chalky wash from bedded chalk

Shale, med gray-black carbonaceous, soft blocky

Lime, crm-lt brn, fnxln with scattered oomoldic chips, NS

Lime, crm-lt brn, fn-vfxln

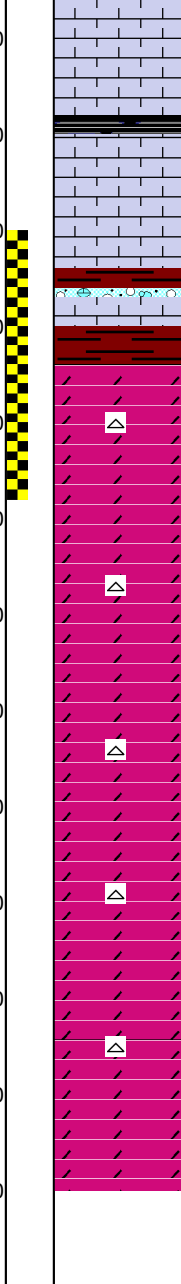
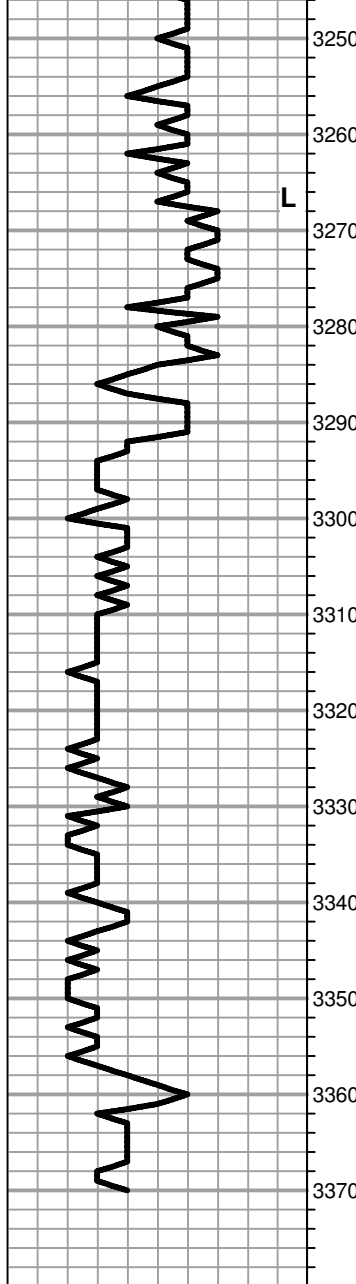
CFS 3033'

SLOPE 1 3/4 DEGREE @3050'

DST # 2 3052' TO 3075' SEE HEADER FOR TEST SUMMARY

DST # 3 3076' TO 3098' SEE HEADER FOR TEST SUMMARY

DST # 4 3102' TO 3118' SEE HEADER FOR TEST SUMMARY



Lime, crm-lt brn, fn-vfxln

Shale, med gray-black carbonaceous, blocky

Lime, lt brn, fn-vfxln, slight bedded chalk

BKC 3274-1496

Shale, red, soft-firm blocky

ARBUCKLE 3284-1506

Dolomite, fnxln, lt odor increasing with depth, some granular, fn grained with spotty lt staining, show lt gassy oil on crush

Dolomite, crm-lt brn, fnxln-granular, fine grained, strong odor with lt even staining in part
 Chert, white, fresh, sharp, oolitic in part

Dolomite, lt-med brn, fnxln-granular with scattered oomoldic chips, decreasing odor intensity

Dolomite, ivory-lt brn, fnxln-granular, fine grained with some fine-medium granular material

Dolomite, ivory-lt brn, fnxln-granular, decreasing lt odor

Dolomite, lt brn, fnxln-granular

Dolomite, crm-lt brn, fnxln-granular

Dolomite, crm-lt brn, fnxln-granular

RTD 3370-1592 LTD 3369-1591

DST # 5 3270' TO 3298' SEE HEADER FOR TEST SUMMARY

SET 5 1/2" USED PRODUCTION CASING TO 3368' W/ 155 SXS AA-2

SLOPE 1 3/4 DEGREE @3370'



DRILL STEM TEST REPORT

Prepared For: **CARRIE EXPLOATION LLC**

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

ATTN: HERB DEINES

BOB THOMAS C-2

35-19S-11W BARTON

Start Date: 2016.10.24 @ 02:15:00

End Date: 2016.10.24 @ 00:00:00

Job Ticket #: 01135 DST #: 1

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2016.10.26 @ 07:33:09



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01135

DST#: 1

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 02:15:00

GENERAL INFORMATION:

Formation: **KANSAS CITY A-B-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:39:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG 30

Unit No: 1

Interval: **3006.00 ft (KB) To 3050.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3050.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139

Inside

Press@RunDepth: 886.88 psia @ 3044.76 ft (KB)

Capacity: psia

Start Date: 2016.10.24

End Date:

2016.10.24

Last Calib.:

1899.12.30

Start Time: 02:16:00

End Time:

07:50:30

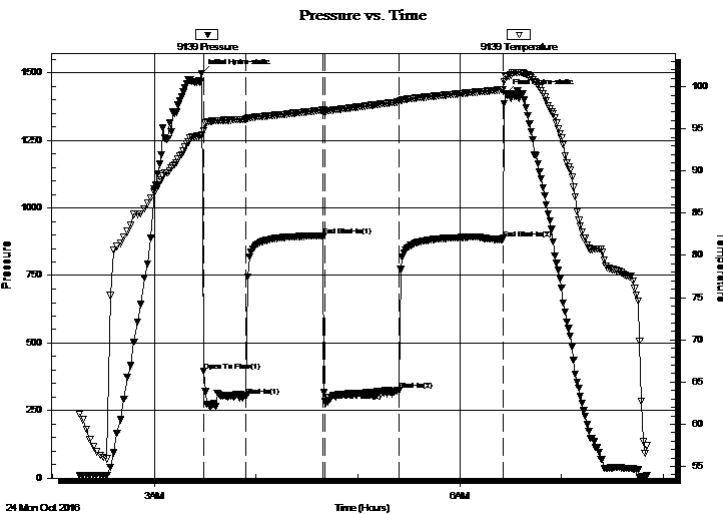
Time On Btm:

2016.10.24 @ 03:28:00

Time Off Btm:

2016.10.24 @ 06:27:00

TEST COMMENT: 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 2 MINUTES
1ST SHUT-IN 45 MINUTES NO BLOW BACK
2ND OPENING 30 MINUTES STRONG BLOW SEE GAS FLOW REPORT
2ND SHUT-IN 60 MINUTES WEAK BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1497.92	94.26	Initial Hydro-static
1	395.99	94.77	Open To Flow (1)
27	304.18	96.14	Shut-In(1)
72	896.94	97.23	End Shut-In(1)
73	283.99	97.08	Open To Flow (2)
116	323.82	98.20	Shut-In(2)
178	886.88	99.66	End Shut-In(2)
179	1423.60	101.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	THICK HEAVY MUD	1.12
60.00	MUDDY WATER 30 MUD 70 WATER	0.84
60.00	MUDDY WATER 15 MUD 85 WATER	0.84
0.00	CHLORIDES 88000	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	33.10	951.59
Last Gas Rate	1.00	34.60	994.71
Max. Gas Rate	1.00	34.60	994.71



DRILL STEM TEST REPORT

TOOL DIAGRAM

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01135

DST#: 1

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 02:15:00

Tool Information

Drill Pipe:	Length: 3016.00 ft	Diameter: 3.80 inches	Volume: 42.31 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.76 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.80 inches	Volume: 0.00 bbl	Weight to Pull Loose: 54000.00 lb
			Total Volume: 42.31 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3006.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.76 ft			
Tool Length:	63.76 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			2991.00	
Hydraulic tool	5.00			2996.00	
Top Packer	5.00			3001.00	
Packer	5.00			3006.00	20.00 Bottom Of Top Packer
Anchor	1.00			3007.00	
Change Over Sub	0.75			3007.75	
Drill Pipe	31.26			3039.01	
Change Over Sub	0.75			3039.76	
Anchor	5.00			3044.76	
Recorder	0.00	9139	Inside	3044.76	
Recorder	0.00	91719	Outside	3044.76	
Bullnose	5.00			3049.76	43.76 Anchor Tool

Total Tool Length: 63.76



DRILL STEM TEST REPORT

FLUID SUMMARY

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01135

DST#: 1

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 02:15:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 48.00 sec/qt
Water Loss: in³
Resistivity: ohm.m
Salinity: ppm
Filter Cake: inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psia

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	THICK HEAVY MUD	1.122
60.00	MUDDY WATER 30 MUD 70 WATER	0.842
60.00	MUDDY WATER 15 MUD 85 WATER	0.842
0.00	CHLORIDES 88000	0.000

Total Length: 200.00 ft Total Volume: 2.806 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:



DRILL STEM TEST REPORT

GAS RATES

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01135

DST#: 1

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 02:15:00

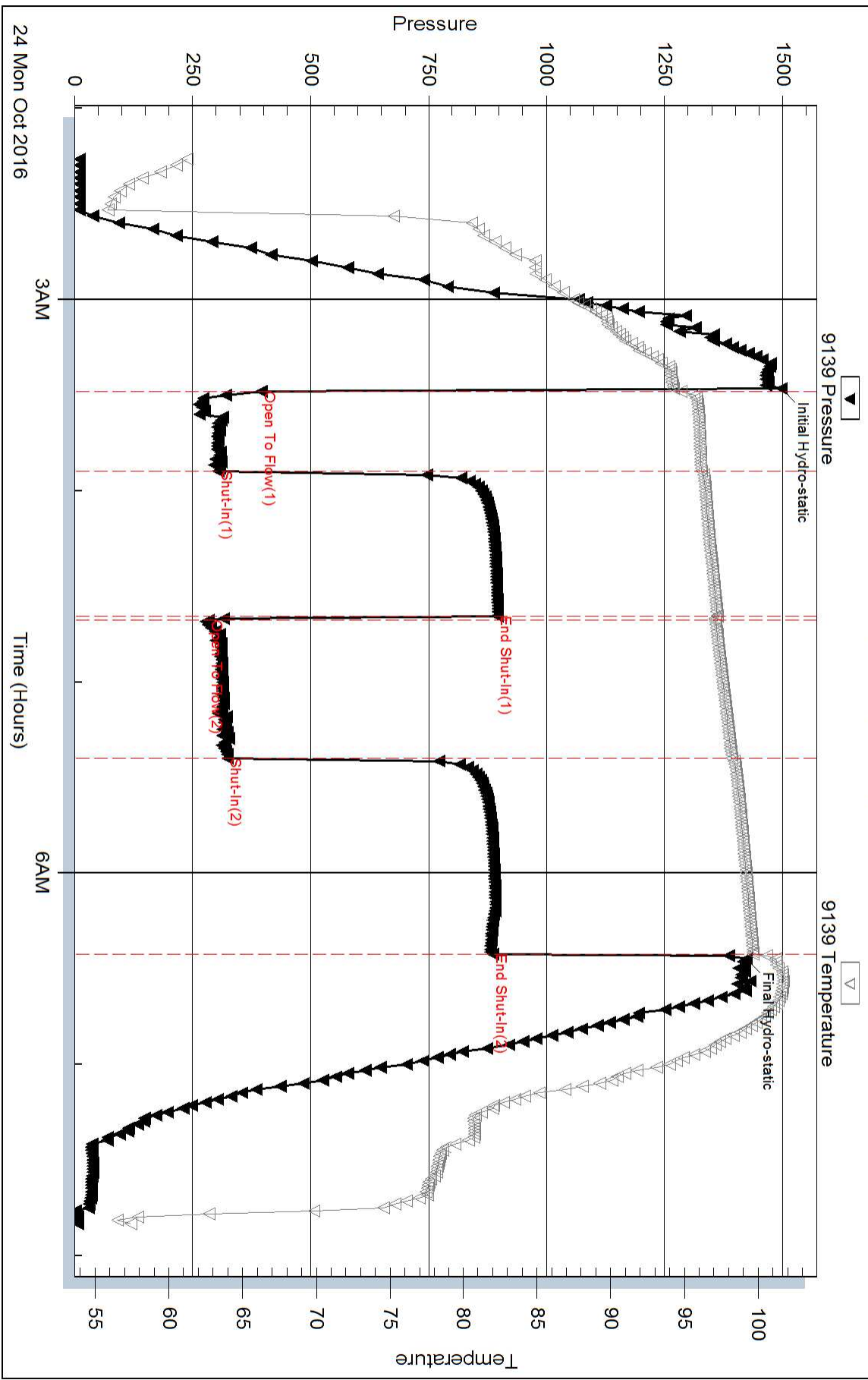
Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
1	10	1.00	33.10	951.59
2	10	1.00	34.60	994.71
2	20	1.00	34.60	994.71
2	30	1.00	34.60	994.71
2	40	1.00	34.60	994.71
2	45	1.00	34.60	994.71

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **CARRIE EXPLOATION LLC**

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

ATTN: HERB DEINES

BOB THOMAS C-2

35-19S-11W BARTON

Start Date: 2016.10.24 @ 14:15:00

End Date: 2016.10.24 @ 00:00:00

Job Ticket #: 01136 DST #: 2

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2016.10.24 @ 19:24:08



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01136

DST#: 2

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 14:15:00

GENERAL INFORMATION:

Formation: **KANSAS CITY D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:31:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1-30

Interval: **3052.00 ft (KB) To 3075.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3075.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139

Press@RunDepth: 832.62 psia @ ft (KB)

Capacity: psia

Start Date: 2016.10.24

End Date: 2016.10.24

Last Calib.: 1899.12.30

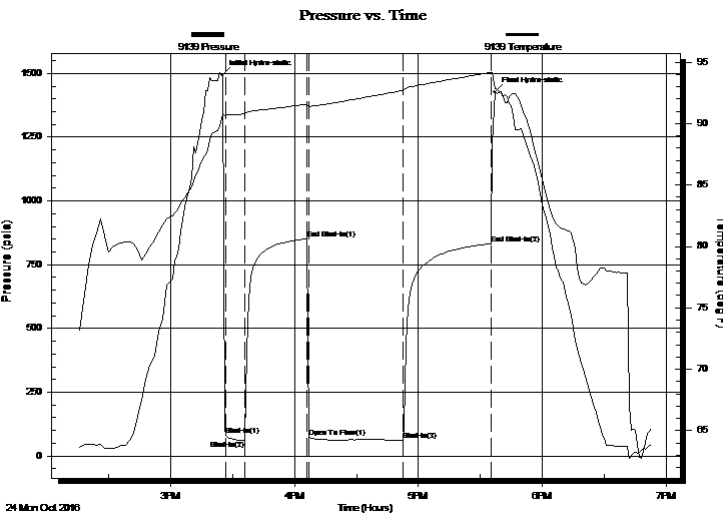
Start Time: 14:15:00

End Time: 18:53:00

Time On Btm: 2016.10.24 @ 15:25:00

Time Off Btm: 2016.10.24 @ 17:37:00

TEST COMMENT: 1ST OPENING 10 MINUTES STRONG BLOW GAS TO SURFACE IN 8 MINUTES
1ST SHUT-IN 30 MINUTES-NO BLOW BACK
2ND OPENING 45 MINUTES STRONG BLOW SEE GAS FLOW REPORT
2ND SHUT-IN 45 MINUTES-NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1494.56	90.74	Initial Hydro-static
2	80.45	90.74	Shut-In(1)
11	60.63	90.79	Shut-In(2)
42	850.98	91.58	End Shut-In(1)
42	74.23	91.41	Open To Flow (1)
88	63.01	92.69	Shut-In(3)
131	832.62	94.17	End Shut-In(2)
132	1427.05	92.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	MUD	0.21
0.00	THERE WAS A SLIGHT SHOW OF OIL BE0.00EN	0.00
0.00	THE SHUT-IN AND HYDRAULIC TOOS	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	7.75	222.80
Last Gas Rate	1.00	7.50	215.62
Max. Gas Rate	1.00	7.75	222.80



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01136

DST#: 2

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 14:15:00

GENERAL INFORMATION:

Formation: **KANSAS CITY D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:31:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1-30

Interval: **3052.00 ft (KB) To 3075.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3075.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 93335

Press@RunDepth: 831.47 psia @ ft (KB)

Capacity: psia

Start Date: 2016.10.24

End Date:

2016.10.24

Last Calib.:

1899.12.30

Start Time: 14:15:00

End Time:

19:01:00

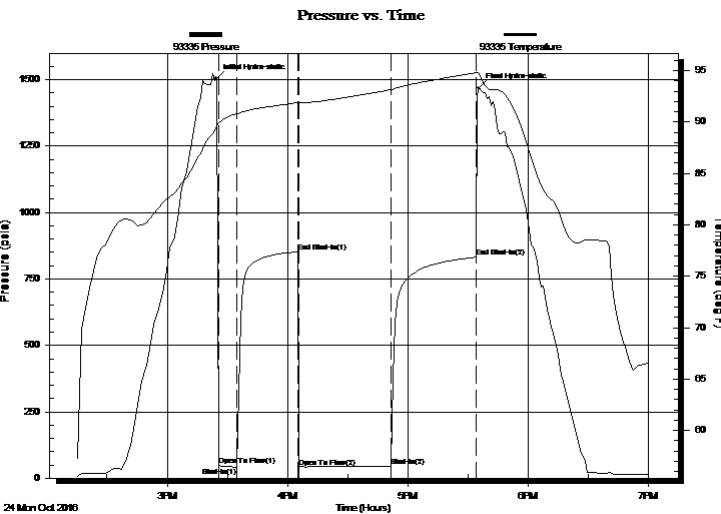
Time On Btm:

2016.10.24 @ 15:24:30

Time Off Btm:

2016.10.24 @ 17:35:30

TEST COMMENT: 1ST OPENING 10 MINUTES STRONG BLOW GAS TO SURFACE IN 8 MINUTES
1ST SHUT-IN 30 MINUTES-NO BLOW BACK
2ND OPENING 45 MINUTES STRONG BLOW SEE GAS FLOW REPORT
2ND SHUT-IN 45 MINUTES-NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1503.93	89.61	Initial Hydro-static
1	46.92	89.89	Open To Flow (1)
10	42.20	90.78	Shut-In(1)
41	851.88	91.89	End Shut-In(1)
41	42.09	91.90	Open To Flow (2)
87	45.33	93.14	Shut-In(2)
130	831.47	94.80	End Shut-In(2)
131	1468.84	94.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	MUD	0.21
0.00	THERE WAS A SLIGHT SHOW OF OIL BE	0.00EN
0.00	THE SHUT-IN AND HYDRAULIC TOOS	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	7.75	222.80
Last Gas Rate	1.00	7.50	215.62
Max. Gas Rate	1.00	7.75	222.80



DRILL STEM TEST REPORT

TOOL DIAGRAM

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01136

DST#: 2

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 14:15:00

Tool Information

Drill Pipe:	Length: 3048.00 ft	Diameter: 3.80 inches	Volume: 42.76 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.86 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 630090.0 lb
			<u>Total Volume: 42.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3052.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	43.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3037.00	
Hydraulic tool	5.00			3042.00	
Top Packer	5.00			3047.00	
Packer	5.00			3052.00	20.00 Bottom Of Top Packer
Anchor	18.00			3070.00	
Recorder	0.00	9139	Inside	3070.00	
Recorder	0.00	91716	Outside	3070.00	
Bullnose	5.00			3075.00	23.00 Anchor Tool

Total Tool Length: 43.00



DRILL STEM TEST REPORT

FLUID SUMMARY

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01136

DST#: 2

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 14:15:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 43.00 sec/qt

Water Loss: in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psia

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	MUD	0.210
0.00	THERE WAS A SLIGHT SHOW OF OIL BETWE	0.000
0.00	THE SHUT-IN AND HYDRAULIC TOOS	0.000

Total Length: 15.00 ft Total Volume: 0.210 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



DRILL STEM TEST REPORT

GAS RATES

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01136

DST#: 2

ATTN: HERB DEINES

Test Start: 2016.10.24 @ 14:15:00

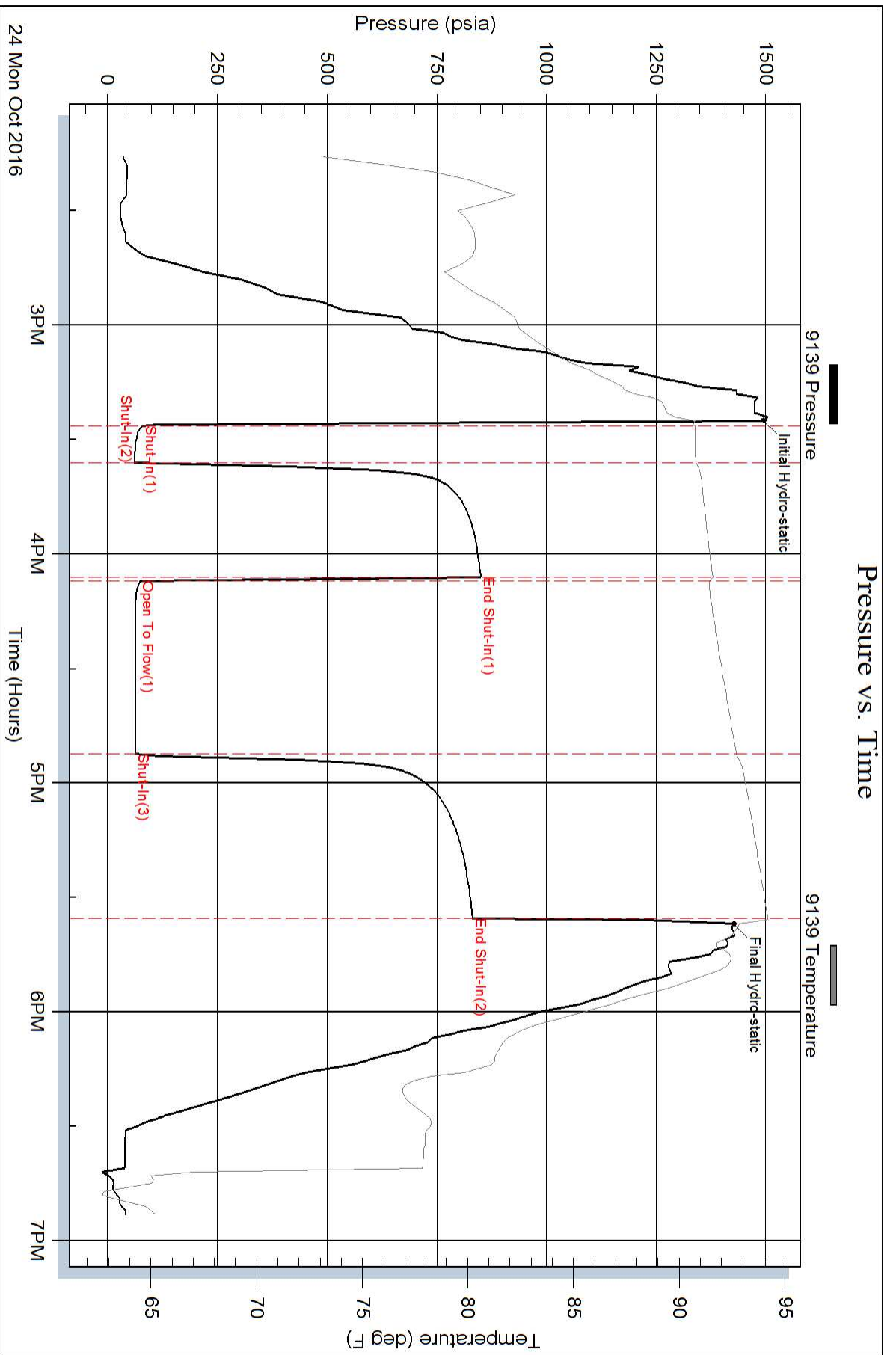
Gas Rates Information

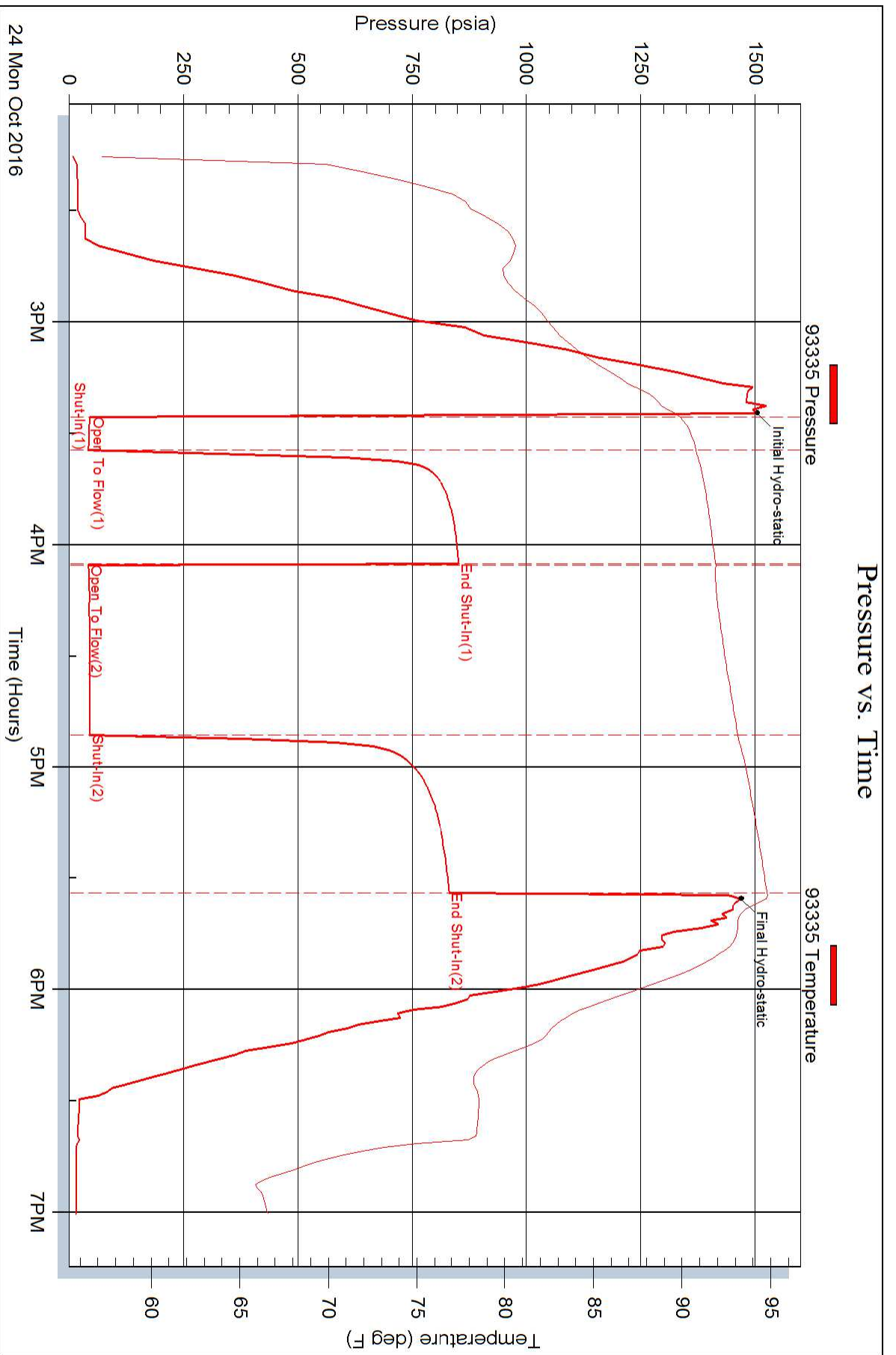
Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
2	10	1.00	7.75	222.80
2	20	1.00	7.50	215.62
2	30	1.00	7.50	215.62
2	40	1.00	7.50	215.62
2	45	1.00	7.50	215.62

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **CARRIE EXPLOATION LLC**

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

ATTN: HERB DEINES

BOB THOMAS C-2

35-19S-11W BARTON

Start Date: 2016.10.25 @ 12:15:00

End Date:

Job Ticket #: 01137

DST #: 3

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2016.10.26 @ 07:34:21

CARRIE EXPLOATION LLC

35-19S-11W BARTON

BOB THOMAS C-2

DST # 3

KANSAS CITY F

2016.10.25



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01137

DST#: 3

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 12:15:00

GENERAL INFORMATION:

Formation: **KANSAS CITY F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:26:00

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3076.00 ft (KB) To 3098.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3098.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139

Inside

Press@RunDepth: 809.69 psia @ 3093.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.25

End Date:

2016.10.25

Last Calib.:

2016.10.25

Start Time: 12:16:00

End Time:

17:26:30

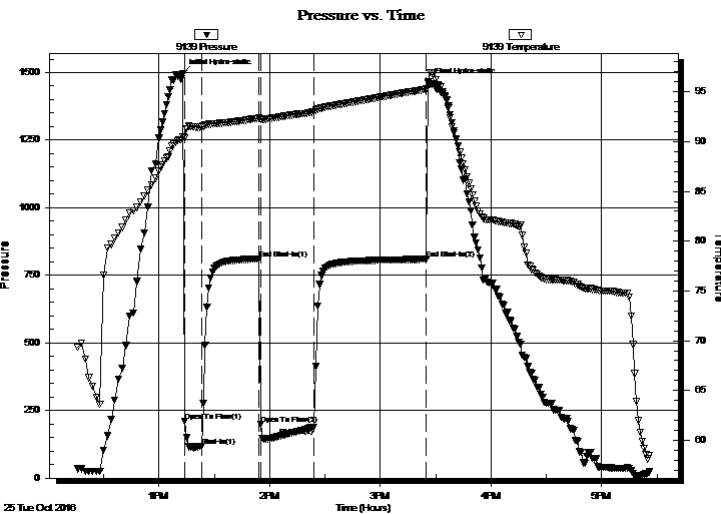
Time On Btm:

2016.10.25 @ 13:13:00

Time Off Btm:

2016.10.25 @ 15:26:00

TEST COMMENT: 1ST OPENING 10 MINUTES STRONG BLOW GAS TO SURFACE IN 6 MINUTES
1ST SHUT-IN 30 MINUTES -STRONG BLOW BACK
2ND OPENING 30 MINUTES STRONG BLOW SEE GAS FLOW REPORT
2ND SHUT-IN 60 MINUTES STRONG BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1497.35	90.44	Initial Hydro-static
1	209.33	90.33	Open To Flow (1)
10	118.96	91.46	Shut-In(1)
42	811.12	92.36	End Shut-In(1)
42	198.25	92.21	Open To Flow (2)
71	188.90	93.02	Shut-In(2)
132	809.69	95.27	End Shut-In(2)
133	1461.50	96.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
425.00	CLEAN GASSY OIL 50 GAS 50 OIL	5.96
0.00	GRAVITY 43 CORRECTED	0.00
60.00	HEAVY OIL AND GAS CUT MUD	0.84
0.00	35 GAS 30 OIL 35 MUD	0.00
30.00	HEAVY OIL AND GAS CUT MUD	0.42
0.00	50 GAS 20 OIL 30 MUD	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	4.25	122.18
Last Gas Rate	1.00	5.45	156.68
Max. Gas Rate	1.00	5.70	163.87



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01137

DST#: 3

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 12:15:00

GENERAL INFORMATION:

Formation: **KANSAS CITY F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:26:00

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3076.00 ft (KB) To 3098.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3098.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: **91716** Outside

Press@RunDepth: 798.18 psia @ 3093.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.25

End Date: 2016.10.25

Last Calib.: 2016.10.25

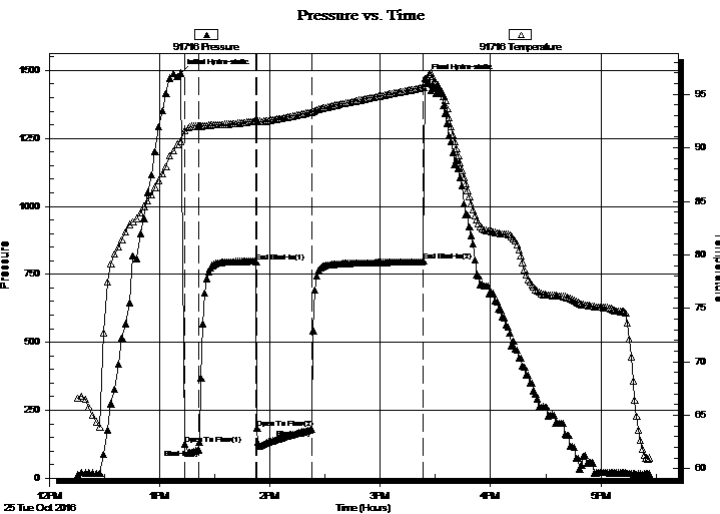
Start Time: 12:15:30

End Time: 17:27:00

Time On Btm: 2016.10.25 @ 13:11:30

Time Off Btm: 2016.10.25 @ 15:24:30

TEST COMMENT: 1ST OPENING 10 MINUTES STRONG BLOW GAS TO SURFACE IN 6 MINUTES
1ST SHUT-IN 30 MINUTES -STRONG BLOW BACK
2ND OPENING 30 MINUTES STRONG BLOW SEE GAS FLOW REPORT
2ND SHUT-IN 60 MINUTES STRONG BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1490.05	90.64	Initial Hydro-static
2	126.13	91.66	Open To Flow (1)
10	104.17	92.03	Shut-In(1)
41	796.62	92.52	End Shut-In(1)
42	184.17	92.51	Open To Flow (2)
71	179.45	93.33	Shut-In(2)
132	798.18	95.66	End Shut-In(2)
133	1469.02	96.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
425.00	CLEAN GASSY OIL 50 GAS 50 OIL	5.96
0.00	GRAVITY 43 CORRECTED	0.00
60.00	HEAVY OIL AND GAS CUT MUD	0.84
0.00	35 GAS 30 OIL 35 MUD	0.00
30.00	HEAVY OIL AND GAS CUT MUD	0.42
0.00	50 GAS 20 OIL 30 MUD	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	4.25	122.18
Last Gas Rate	1.00	5.45	156.68
Max. Gas Rate	1.00	5.70	163.87



DRILL STEM TEST REPORT

TOOL DIAGRAM

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01137

DST#: 3

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 12:15:00

Tool Information

Drill Pipe:	Length: 3079.00 ft	Diameter: 3.80 inches	Volume: 43.19 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.76 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 63000.00 lb
			<u>Total Volume: 43.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3076.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	42.00 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			3061.00	
Hydraulic tool	5.00			3066.00	
Top Packer	5.00			3071.00	
Packer	5.00			3076.00	20.00 Bottom Of Top Packer
Anchor	17.00			3093.00	
Recorder	0.00	9139	Inside	3093.00	
Recorder	0.00	91716	Outside	3093.00	
Bullnose	5.00			3098.00	22.00 Anchor Tool

Total Tool Length: 42.00



DRILL STEM TEST REPORT

FLUID SUMMARY

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01137

DST#: 3

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 12:15:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 41.00 sec/qt

Water Loss: in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psia

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
425.00	CLEAN GASSY OIL 50 GAS 50 OIL	5.962
0.00	GRAVITY 43 CORRECTED	0.000
60.00	HEAVY OIL AND GAS CUT MUD	0.842
0.00	35 GAS 30 OIL 35 MUD	0.000
30.00	HEAVY OIL AND GAS CUT MUD	0.421
0.00	50 GAS 20 OIL 30 MUD	0.000

Total Length: 515.00 ft Total Volume: 7.225 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



DRILL STEM TEST REPORT

GAS RATES

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01137

DST#: 3

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 12:15:00

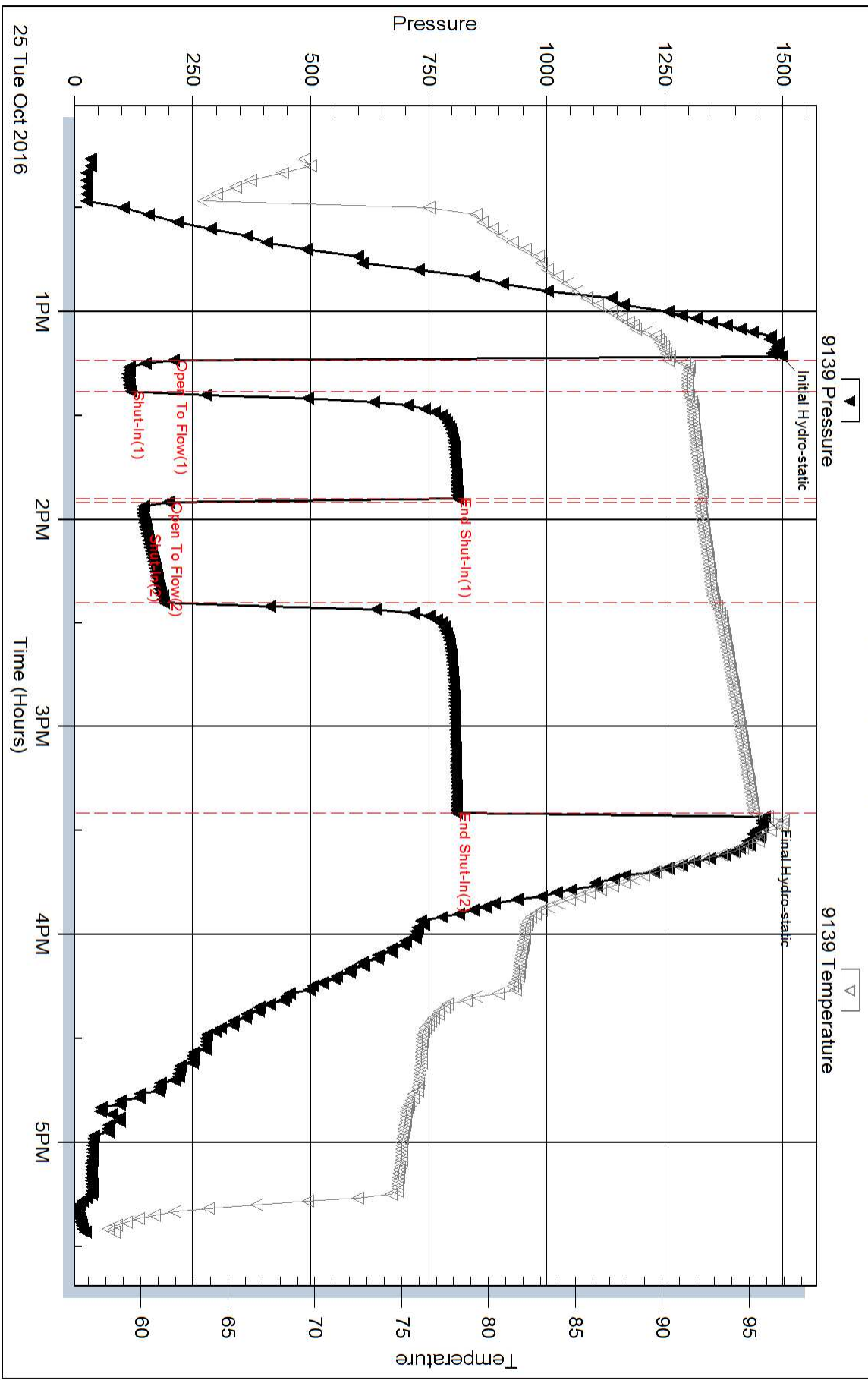
Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

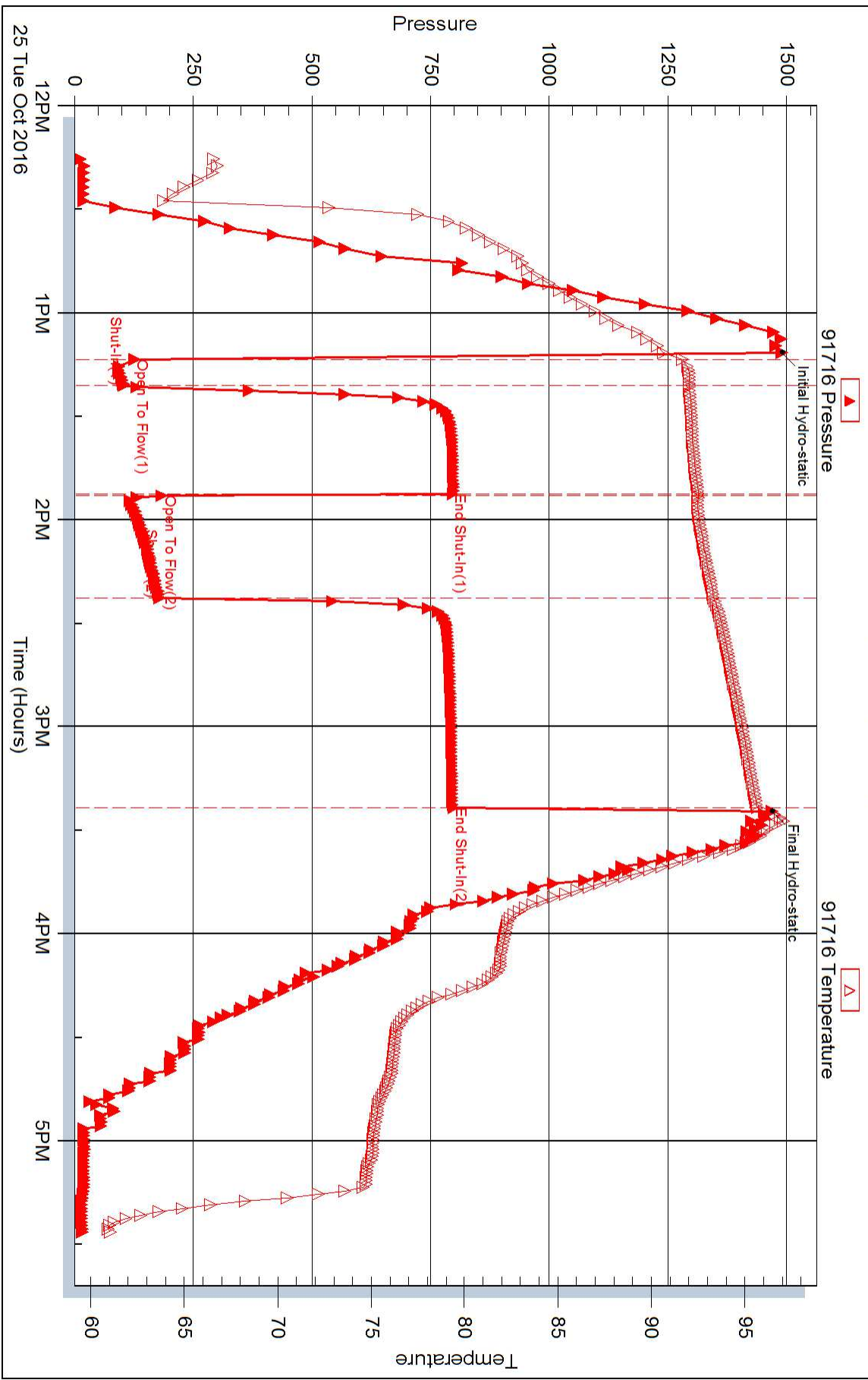
Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
2	5	1.00	4.25	122.18
2	15	1.00	5.70	163.87
2	25	1.00	5.45	156.68

Pressure vs. Time



Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **CARRIE EXPLOATION LLC**

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

ATTN: HERB DEINES

BOB THOMAS C-2

35-19S-11W BARTON

Start Date: 2016.10.25 @ 10:30:00

End Date: 2016.10.25 @ 00:00:00

Job Ticket #: 01138 DST #: 4

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2016.10.26 @ 07:35:22



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01138

DST#: 4

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 10:30:00

GENERAL INFORMATION:

Formation: **KANSAS CITY G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:33:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1-30

Interval: **3102.00 ft (KB) To 3118.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3118.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9119

Inside

Press@RunDepth: 739.08 psia @ 3113.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.25

End Date:

2016.10.25

Last Calib.:

2016.10.25

Start Time: 10:31:00

End Time:

15:58:00

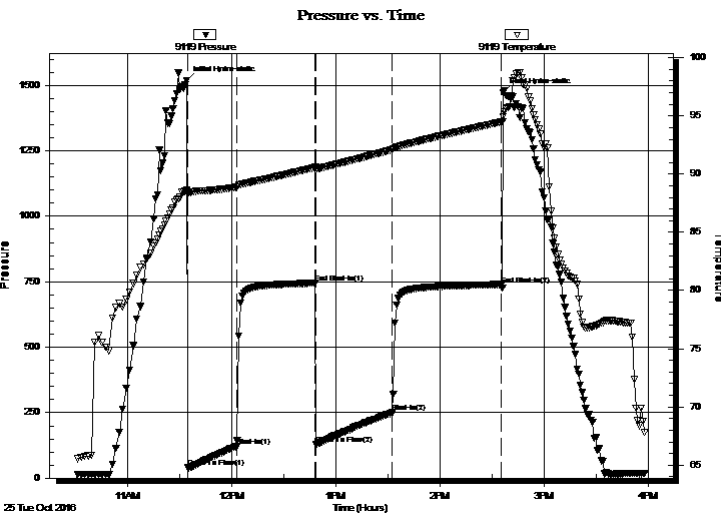
Time On Btm:

2016.10.25 @ 11:34:00

Time Off Btm:

2016.10.25 @ 14:36:30

TEST COMMENT: 1ST OPENING 30 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF A 5 GALLON BUCKET IN 6 MINUTES
1ST SHUT-IN 45 MINUTES NO BLOW BACK
2ND OPENING 45 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF 5 GALLON BUCKET IN 12 MINUTES
2ND SHUT-IN 60 MINUTES NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1518.94	88.61	Initial Hydro-static
1	40.54	88.31	Open To Flow (1)
29	120.11	88.88	Shut-In(1)
74	744.50	90.58	End Shut-In(1)
75	128.99	90.29	Open To Flow (2)
119	249.82	92.10	Shut-In(2)
182	739.08	94.48	End Shut-In(2)
183	1470.53	94.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
425.00	water chlorides 82000	5.96

Gas Rates

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



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01138

DST#: 4

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 10:30:00

GENERAL INFORMATION:

Formation: **KANSAS CITY G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:33:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1-30

Interval: **3102.00 ft (KB) To 3118.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3118.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139

Outside

Press@RunDepth: 752.02 psia @ 3113.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.25

End Date:

2016.10.25

Last Calib.:

2016.10.25

Start Time: 10:31:00

End Time:

15:58:00

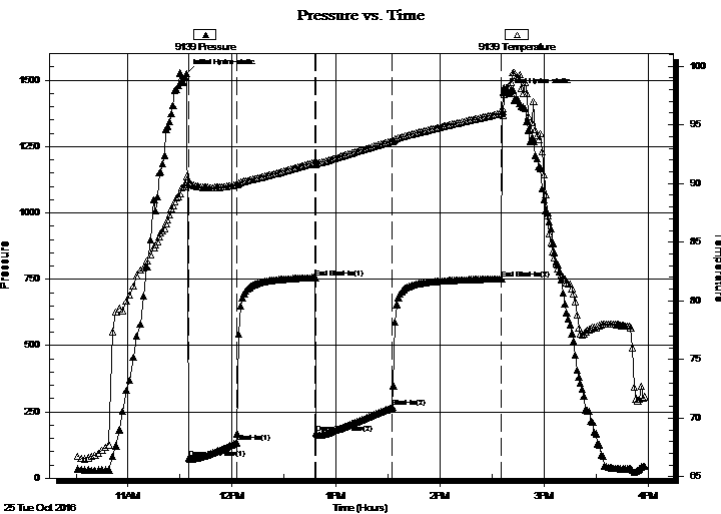
Time On Btm:

2016.10.25 @ 11:34:00

Time Off Btm:

2016.10.25 @ 14:36:30

TEST COMMENT: 1ST OPENING 30 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF A 5 GALLON BUCKET IN 6 MINUTES
1ST SHUT-IN 45 MINUTES NO BLOW BACK
2ND OPENING 45 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF 5 GALLON BUCKET IN 12 MINUTES
2ND SHUT-IN 60 MINUTES NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1525.53	90.61	Initial Hydro-static
1	73.93	90.09	Open To Flow (1)
29	133.61	89.88	Shut-In(1)
74	756.34	91.82	End Shut-In(1)
75	168.87	91.64	Open To Flow (2)
119	266.33	93.61	Shut-In(2)
182	752.02	95.97	End Shut-In(2)
183	1452.98	95.82	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
425.00	water chlorides 82000	5.96

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01138

DST#: 4

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 10:30:00

Tool Information

Drill Pipe:	Length: 3110.00 ft	Diameter: 3.80 inches	Volume: 43.63 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.78 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 43.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3102.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	36.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3087.00	
Hydraulic tool	5.00			3092.00	
Top Packer	5.00			3097.00	
Packer	5.00			3102.00	20.00 Bottom Of Top Packer
Anchor	11.00			3113.00	
Recorder	0.00	9119	Inside	3113.00	
Recorder	0.00	9139	Outside	3113.00	
Bullnose	5.00			3118.00	16.00 Anchor Tool

Total Tool Length: 36.00



DRILL STEM TEST REPORT

FLUID SUMMARY

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01138

DST#: 4

ATTN: HERB DEINES

Test Start: 2016.10.25 @ 10:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 43.00 sec/qt

Water Loss: in³

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psia

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
425.00	w ater chlorides 82000	5.962

Total Length: 425.00 ft Total Volume: 5.962 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

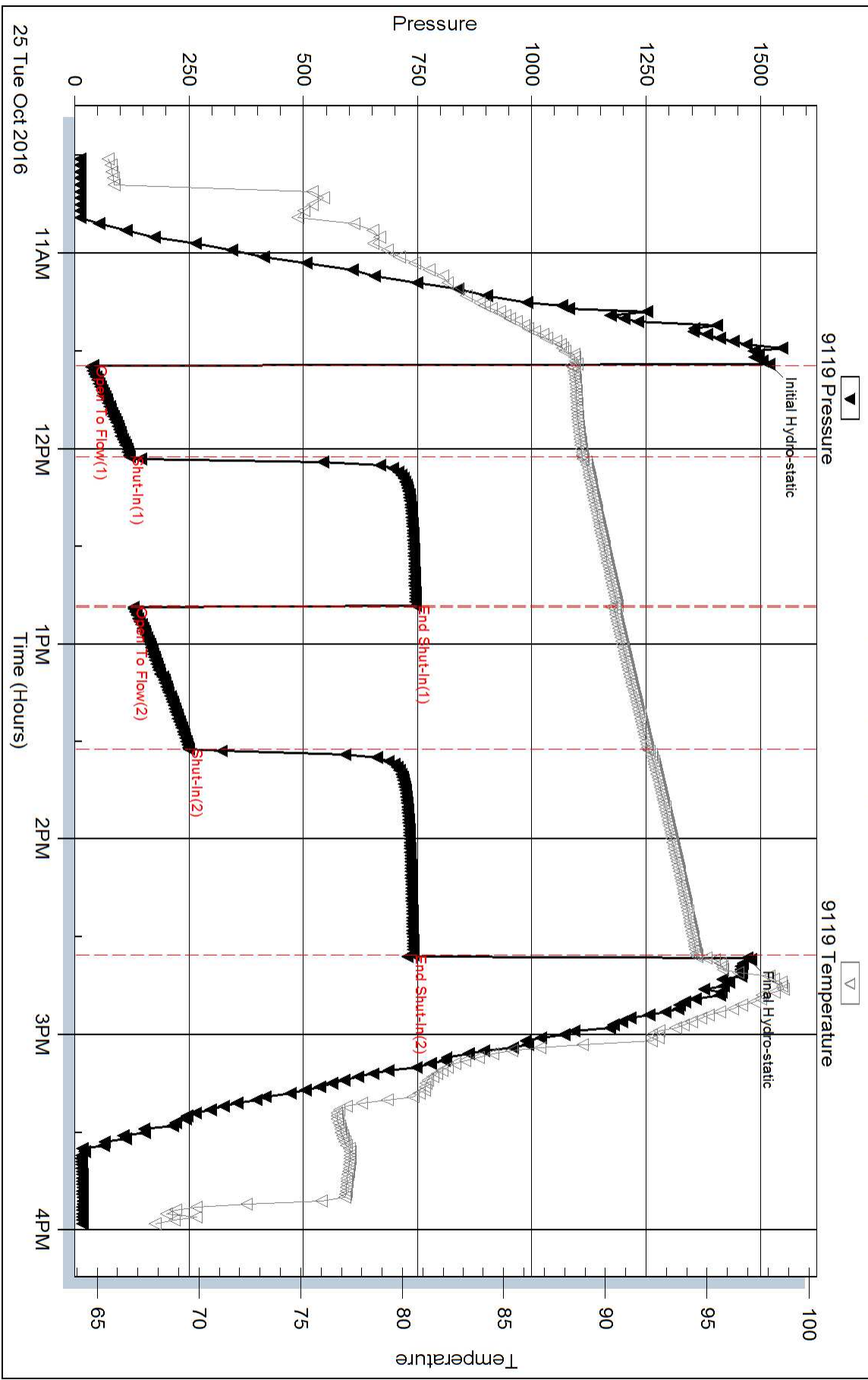
Serial #:

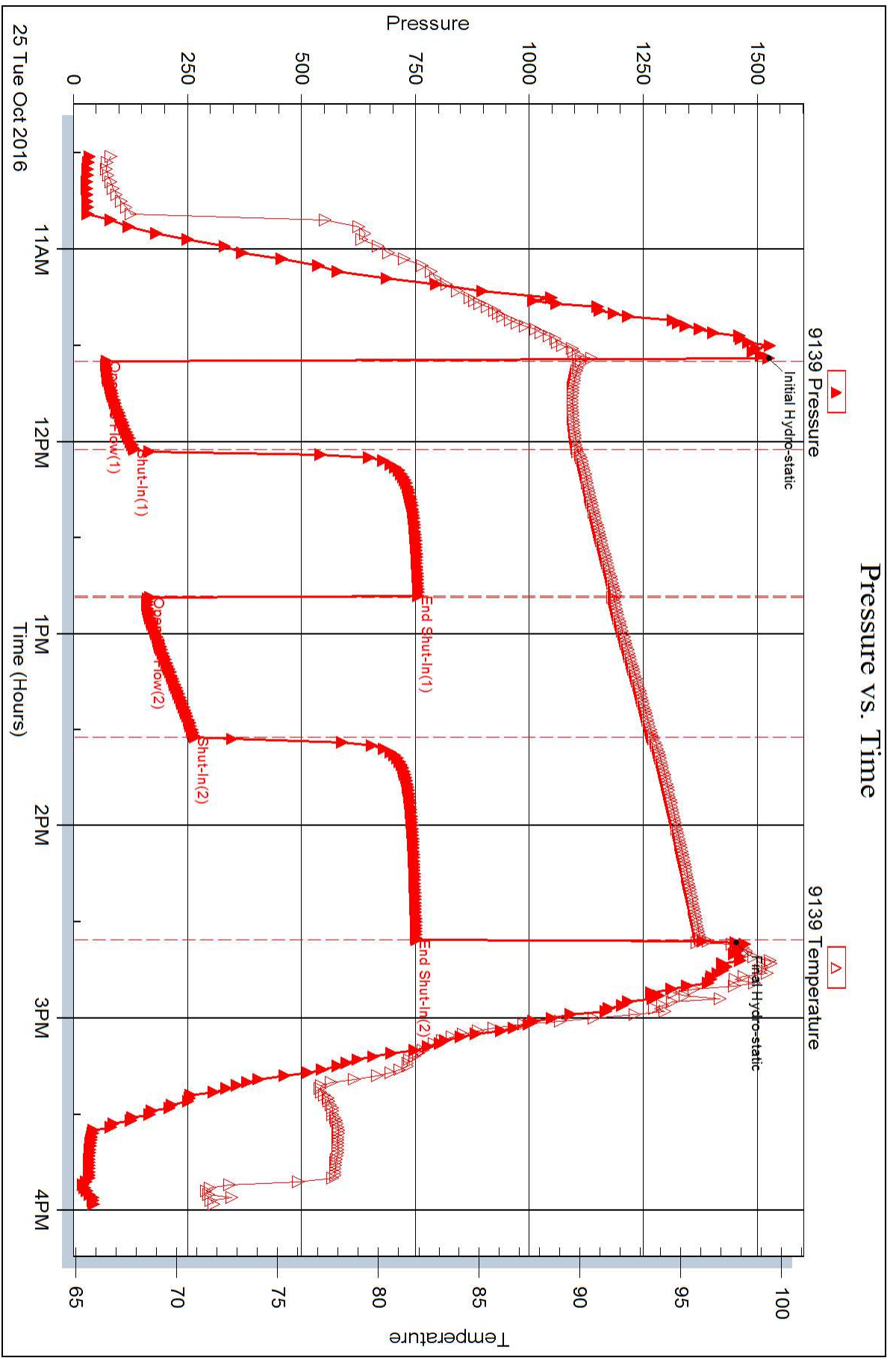
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **CARRIE EXPLOATION LLC**

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

ATTN: HERB DEINES

BOB THOMAS C-2

35-19S-11W BARTON

Start Date: 2016.10.26 @ 05:52:00

End Date: 2016.10.26 @ 09:48:30

Job Ticket #: 01139 DST #: 5

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2016.10.26 @ 10:01:56



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01139

DST#: 5

ATTN: HERB DEINES

Test Start: 2016.10.26 @ 05:52:00

GENERAL INFORMATION:

Formation: **ARBUCKLE**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:56:30

Time Test Ended: 09:48:30

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3270.00 ft (KB) To 3298.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3270.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139

Press@RunDepth: 67.90 psia @ ft (KB)

Capacity: psia

Start Date: 2016.10.26

End Date:

2016.10.26

Last Calib.:

1899.12.30

Start Time: 05:52:00

End Time:

09:48:30

Time On Btm:

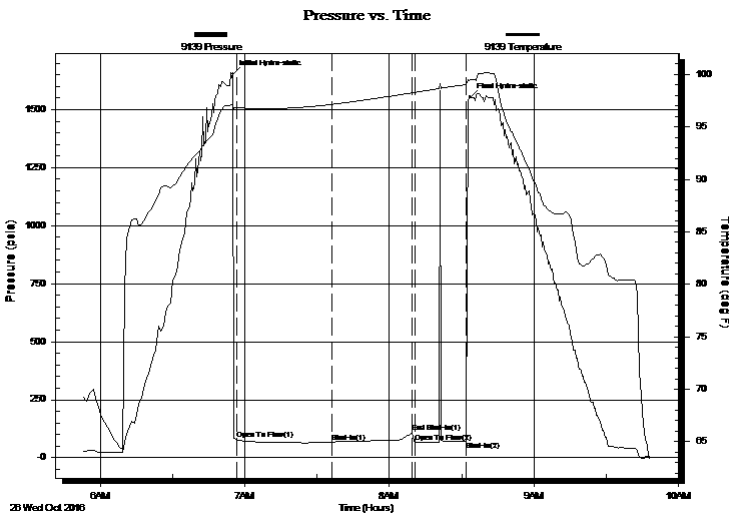
2016.10.26 @ 06:55:00

Time Off Btm:

2016.10.26 @ 08:33:30

TEST COMMENT: 1st OPENING 30 MINUTES VERY WEAK SURFACE BLOW FOR 12 MINUTES AND DIED
1ST SHUT-IN 45 MINUTES-NO BLOW BACK
2ND OPENING 20 MINUTES NO BLOW FLUSHED TOOL GOOD SURGE NO HELP
2ND SHUT-IN NONE TAKEN

PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1652.66	97.13	Initial Hydro-static
2	77.73	96.82	Open To Flow (1)
41	67.90	97.14	Shut-In(1)
75	108.17	98.26	End Shut-In(1)
76	65.67	98.28	Open To Flow (2)
97	70.30	99.05	Shut-In(2)
99	1552.99	99.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OIL SPOTTED MUD	0.14

Gas Rates

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



DRILL STEM TEST REPORT

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01139

DST#: 5

ATTN: HERB DEINES

Test Start: 2016.10.26 @ 05:52:00

GENERAL INFORMATION:

Formation: **ARBUCKLE**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:56:30

Time Test Ended: 09:48:30

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3270.00 ft (KB) To 3298.00 ft (KB) (TVD)**

Reference Elevations: 1778.00 ft (KB)

Total Depth: 3270.00 ft (KB) (TVD)

1770.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9119

Press@RunDepth: 107.09 psia @ ft (KB)

Capacity: psia

Start Date: 2016.10.26

End Date:

2016.10.26

Last Calib.:

1899.12.30

Start Time: 05:52:00

End Time:

09:48:30

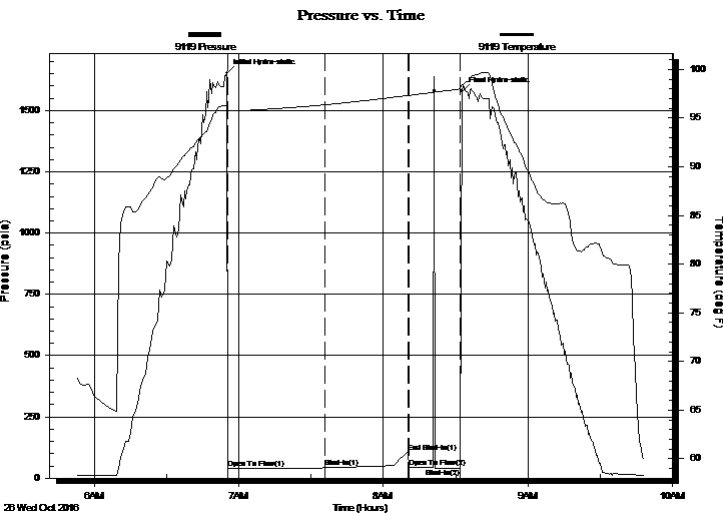
Time On Btm:

2016.10.26 @ 06:55:00

Time Off Btm:

2016.10.26 @ 08:32:30

TEST COMMENT: 1st OPENING 30 MINUTES VERY WEAK SURFACE BLOW FOR 12 MINUTES AND DIED
1ST SHUT-IN 45 MINUTES-NO BLOW BACK
2ND OPENING 20 MINUTES NO BLOW FLUSHED TOOL GOOD SURGE NO HELP
2ND SHUT-IN NONE TAKEN



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1652.34	96.21	Initial Hydro-static
1	38.26	95.78	Open To Flow (1)
41	42.27	96.38	Shut-In(1)
75	107.09	97.35	End Shut-In(1)
76	44.83	97.34	Open To Flow (2)
97	40.42	98.01	Shut-In(2)
98	1577.68	98.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OIL SPOTTED MUD	0.14

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01139

DST#: 5

ATTN: HERB DEINES

Test Start: 2016.10.26 @ 05:52:00

Tool Information

Drill Pipe:	Length: 3262.00 ft	Diameter: 3.80 inches	Volume: 45.76 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 45.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3270.00 ft			Final 36000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	48.00 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			3255.00	
Hydraulic tool	5.00			3260.00	
Top Packer	5.00			3265.00	
Packer	5.00			3270.00	20.00 Bottom Of Top Packer
Anchor	23.00			3293.00	
Recorder	0.00		Inside	3293.00	
Recorder	0.00		Outside	3293.00	
Bullnose	5.00			3298.00	28.00 Anchor Tool

Total Tool Length: 48.00



DRILL STEM TEST REPORT

FLUID SUMMARY

CARRIE EXPLOATION LLC

35-19S-11W BARTON

1611 COPPER CREEK C-2
HAYS, KANSAS 67601-2667

BOB THOMAS C-2

Job Ticket: 01139

DST#: 5

ATTN: HERB DEINES

Test Start: 2016.10.26 @ 05:52:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 48.00 sec/qt
Water Loss: 10.20 in³
Resistivity: ohm.m
Salinity: 6000.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psia

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OIL SPOTTED MUD	0.140

Total Length: 10.00 ft Total Volume: 0.140 bbl

Num Fluid Samples: 0

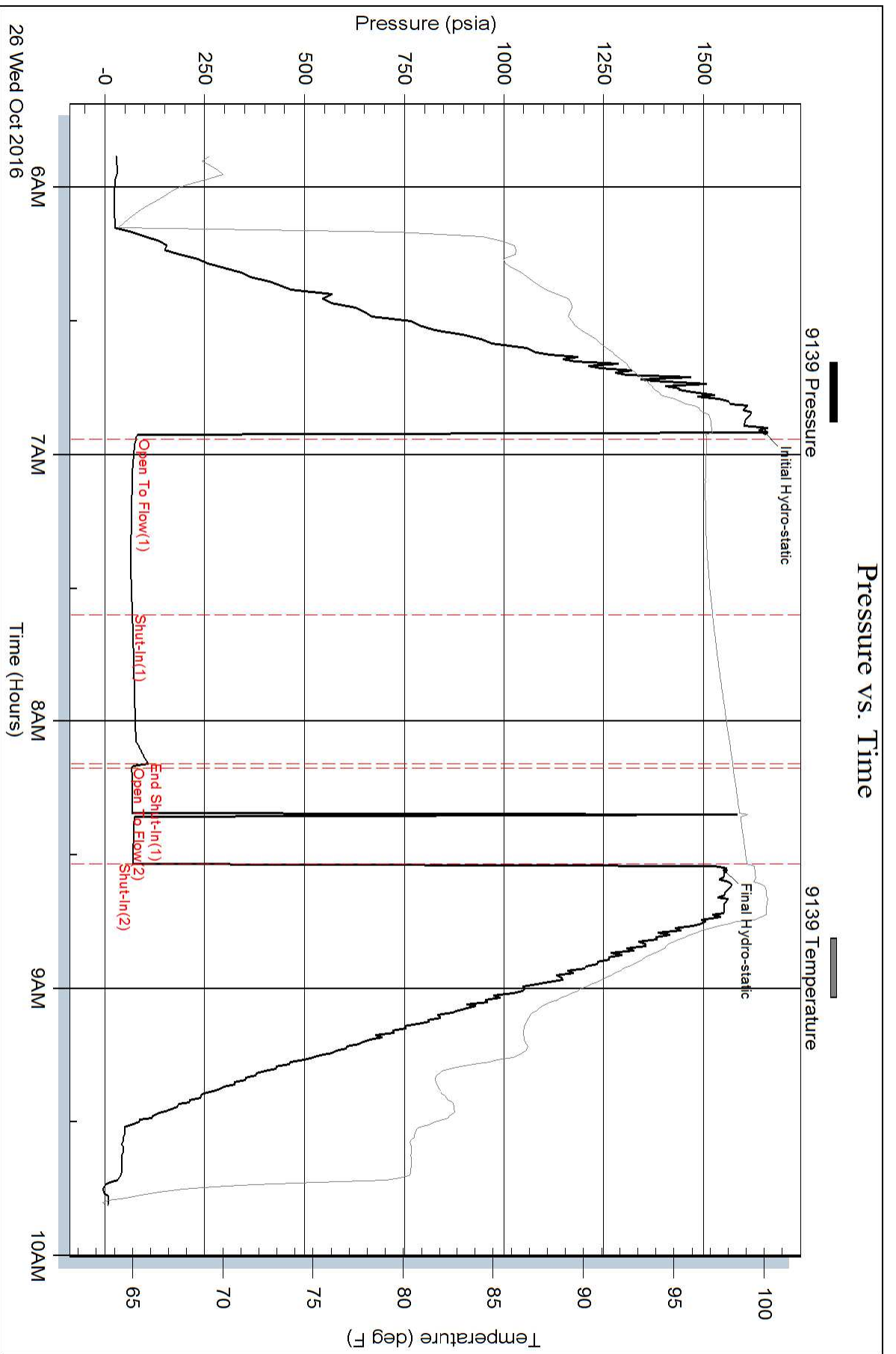
Num Gas Bombs: 0

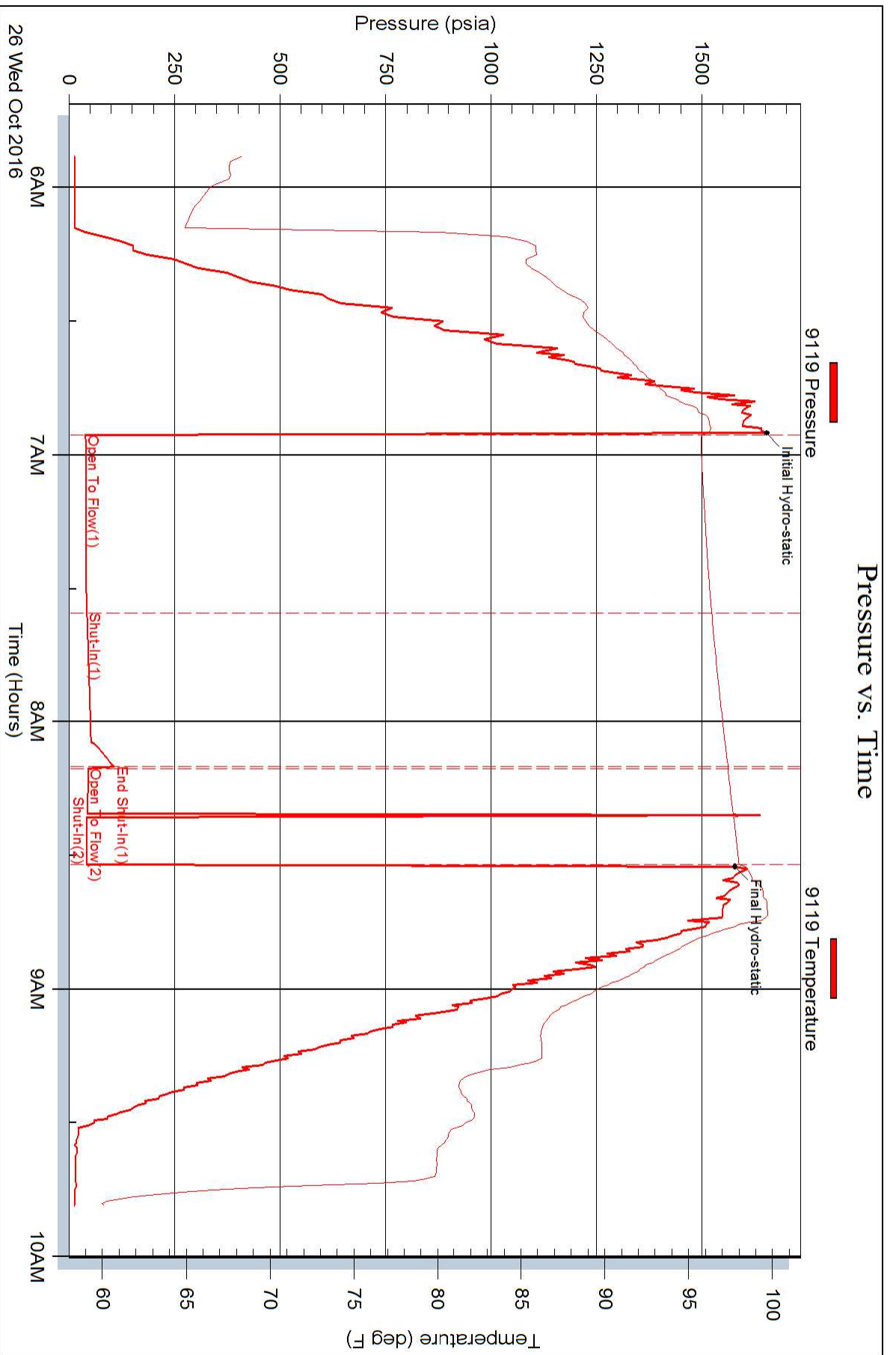
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







PAGE	CUST NO	YARD #	INVOICE DATE
1 of 1	1005952	1718	11/01/2016
INVOICE NUMBER			
92266244			

Pratt (620) 672-1201
 B CARRIE EXPLORATION & DEVELOPMENT LLC
 I 210 W 22ND ST
 L HAYS
 L KS US 67601
 T
 O ATTN: HEROLD

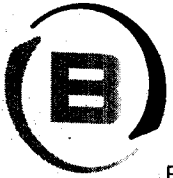
J LEASE NAME Bob Thomas C-2
 O LOCATION
 B COUNTY Barton
 S STATE KS
 I JOB DESCRIPTION Cement-New Well Casing/Pi
 T JOB CONTACT
 E

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40976884	19843		Net - 30 days	12/01/2016

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
For Service Dates: 10/26/2016 to 10/26/2016				
0040976884				
171814680A Cement-New Well Casing/Pi 10/26/2016 Cement 5 1/2" Longstring				
AA2 Cement	125.00	EA	8.40	1,049.75 T
60/40 POZ	30.00	EA	5.93	177.84 T
C-41P	30.00	EA	1.98	59.28 T
Salt	607.00	EA	0.25	149.93 T
Cement Friction Reducer	36.00	EA	2.96	106.70 T
Mag Chem 10CR	354.00	EA	1.33	472.17 T
FLA-322	36.00	EA	3.71	133.38 T
Gilsonite	625.00	EA	0.33	206.86 T
Cement Gel	52.00	EA	0.12	6.42 T
Mud Flush	500.00	EA	0.74	370.50 T
"Guide Shoe - Regular. 5 1/2" (Blue)"	1.00	EA	123.50	123.50
Flapper Type Insrt Float Valve 5 1/2(Blu	1.00	EA	106.21	106.21
"5 1/2" Basket (Blue)"	1.00	EA	143.26	143.26
"Turbolizer, 5 1/2" (Blue)"	6.00	EA	54.34	326.04
"Top Rubber Cmt Plug, 5 1/2" "	1.00	EA	51.87	51.87
"Unit Mileage Chg (PU, cars one way)"	55.00	MI	2.22	122.26
Heavy Equipment Mileage	110.00	MI	3.71	407.55
"Proppant & Bulk Del. Chgs., per ton mil	396.00	EA	1.24	489.06
Blending & Mixing Service Charge	155.00	BAG	0.69	107.20
Plug Container Util. Chg.	1.00	EA	123.50	123.50
Depth Charge; 3001-4000'	1.00	EA	1,067.04	1,067.04
"Service Supervisor, first 8 hrs on loc.	1.00	EA	86.23	86.23

Cement 5 1/2" eqg

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	5,886.55
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	204.96
PO BOX 841903	801 CHERRY ST, STE 2100	INVOICE TOTAL	6,091.51
DALLAS, TX 75284-1903	FORT WORTH, TX 76102		



BASIC
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 14680 A

DATE OF JOB: _____ DISTRICT: _____ DATE: _____ TICKET NO.: _____

CUSTOMER: _____ NEW WELL OLD WELL PROD INJ WDW CUSTOMER ORDER NO.: _____

ADDRESS: _____ LEASE: _____ WELL NO.: _____

CITY: _____ STATE: _____ COUNTY: _____ STATE: _____

AUTHORIZED BY: _____ SERVICE CREW: _____

JOB TYPE: _____

EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
100	1									
110	0.5									
						ARRIVED AT JOB				
						START OPERATION				
						FINISH OPERATION				
						RELEASED				
						MILES FROM STATION TO WELL				

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: _____
(WELL OWNER, OPERATOR, CONTRACTOR, OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CC 1	...				2,125.00
CC 2	...				360.00
CC 3	...				120.00
CC 4	...				303.50
CC 5	...				216.00
CC 6	...				955.80
CC 7	...				270.00
CC 8	...				418.75
CC 9	...				13.00
CC 10	...				250.00
CC 11	...				215.00
CC 12	...				290.00
CC 13	...				660.00
CC 14	...				105.00
CC 15	...				750.00

CHEMICAL / ACID DATA:			

SUB TOTAL		
SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		66

SERVICE REPRESENTATIVE: _____ THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: _____



BASIC
ENERGY SERVICES
PRESSURE PUMPING & WIRELIN

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 14601 A

DATE _____ TICKET NO. _____

DATE OF JOB / 7/12 DISTRICT 1		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER		LEASE		WELL NO.					
ADDRESS		COUNTY		STATE					
CITY		STATE		SERVICE CREW					
AUTHORIZED BY		JOB TYPE:							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM PM	TIME
						ARRIVED AT JOB		AM PM	
						START OPERATION		AM PM	
						FINISH OPERATION		AM PM	
						RELEASED		AM PM	
						MILES FROM STATION TO WELL			

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: _____
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
610	Pressure Pump		1		247.50
611	Hydraulic Oil		1		825.00
612	Pressure Pump		1		990.00
613	Pressure Pump		1		2,160.00
614	Pressure Pump		1		217.00
615	Pressure Pump		1		175.00
616	Pressure Pump		1		250.00

SUB TOTAL 11,916.55

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$

TOTAL 11,916.55

SERVICE REPRESENTATIVE	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY:
------------------------	---

FIELD SERVICE ORDER NO. _____ (WELL OWNER OPERATOR CONTRACTOR OR AGENT)

Customer Carnegie Energy Services + Oil	Lease No. 10-27-16	Date 10-27-16
Lease B-3-14-16	Well # 10-27-16	
Field Order # 1468	Station 11011	Casing 5 7/8
		Depth 3400
Type Job 4-2-16	Formation 11011	County Missouri
		State MO
		Legal Description 11011

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
5 7/8		From	To	Pre Pad	Max		5 Min.	
Depth 3400	Depth	From	To	Pad	Min		10 Min.	
Volume 774	Volume	From	To	Frac	Avg		15 Min.	
Max Press 1300	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth 11011	Packer Depth	From	To					

Customer Representative John Harold	Station Manager V. J. G...	Treater ...
--	-------------------------------	----------------

Service Units 7	849	19	10959	19862				
Driver Names	McGraw					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
11:00					on location / ...
2:45					... 2, 3, 4, 8, 9, 10
4:30					Basin ...
4:40					... 400 ...
5:35					... 400 ...
5:39			3	3	... 400 ...
5:41			2	5	... 400 ...
5:49			1		... 400 ...
6:00	30		6		... 400 ...
6:03	10		7	3	slow ...
6:07	8		8	-	plug ...
6:18			7		plug ...

COPELAND

Acid & Cement

BURRTON, KS ♦ GREAT BEND, KS
 (620) 463-5161 (620) 793-3366
 FAX (620) 463-2104 FAX (620)

POST OFFICE BOX 438
 HAYSVILLE, KS 67060
 (316) 524-1225
 (316) 524-1027 FAX

Invoice

INVOICE NUMBER:
C44364-IN

BILL TO:
CARRIE EXPLORATION
& DEVELOPMENT, LLC
1611 COPPER CREEK CT.
HAYS, KS 67601

C

LEASE: BOB THOMAS C-2

DATE	ORDER	SALESMAN	ORDER DATE	PURCHASE ORDER	SPECIAL INSTRUCTIONS	
10/31/2016	C44364		10/20/2016		NET 30	
QUANTITY	U/M	ITEM NO./DESCRIPTION		D/C	PRICE	EXTENSION
20.00	MI	MILEAGE CEMENT PUMP TRUCK		20.00	4.00	64.00
20.00	MI	MILEAGE PICKUP TRUCK		20.00	2.00	32.00
1.00	EA	CEMENT PUMP CHARGE - SURFACE		20.00	1,100.00	880.00
225.00	SK	60/40 POZ 2% GEL MIX		20.00	10.75	1,935.00
12.00	SK	CALCIUM CHLORIDE		20.00	30.00	288.00
237.00	EA	BULK CHARGE		20.00	1.25	237.00
204.00	MI	BULK TRUCK - TON MILES		20.00	1.10	179.52
REMIT TO: P.O. BOX 438 HAYSVILLE, KS 67060		COP		Net Invoice:		3,615.52
RECEIVED BY _____		NET 30 DAYS		BATCO Sales Tax:		66.00
				Invoice Total:		<u><u>3,681.52</u></u>

There will be a charge of 1.5% "per month" (18% annual rate) on all accounts over 30 days pas



FIELD ORDER N° C 44364

BOX 438 • HAYSVILLE, KANSAS 67060
316-524-1225

DATE 10/00/16 20__

IS AUTHORIZED BY: Carrie Exploration (NAME OF CUSTOMER)

Address _____ City _____ State _____

To Treat Well _____ Well No. C-2 Customer Order No. _____
As Follows: Lease Bob Trance

Sec. Twp. _____ County Benton State KS
Range _____

CONDITIONS: As a part of the consideration hereof it is agreed that Copeland Acid Service is to service or treat at owners risk, the hereinbefore mentioned well and is not to be held liable for any damage that may accrue in connection with said service or treatment. Copeland Acid Service has made no representation, expressed or implied, and no representations have been relied on, as to what may be the results or effect of the servicing or treating said well. The consideration of said service or treatment is payable. There will be no discount allowed subsequent to such date. 6% interest will be charged after 60 days. Total charges are subject to correction by our invoicing department in accordance with latest published price schedules.

The undersigned represents himself to be duly authorized to sign this order for well owner or operator.

THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED _____ By _____ Agent
Well Owner or Operator

CODE	QUANTITY	DESCRIPTION	UNIT COST	AMOUNT
2	20	nibesc pump truck	4. ⁰⁰	80. ⁰⁰
2	20	nibesc pickup	2. ⁰⁰	40. ⁰⁰
2	1	Pump Charge - Surface		1,100. ⁰⁰
2	225	60/40 psi 2% sol.	10. ⁷⁵	2,418. ⁷⁵
2	12	Calcium Chloride	30. ⁰⁰	360. ⁰⁰
2	237	Bulk Charge	1. ²⁵	296. ²⁵
2		Bulk Truck Miles 10.20 T x 20 = 204 Tm x 1. ¹⁰	1. ¹⁰	224. ⁴⁰
		Process License Fee on _____ Gallons		4,519.40
		TOTAL BILLING	20%	903.88

I certify that the above material has been accepted and used; that the above service was performed in a good and workmanlike manner under the direction, supervision and control of the owner, operator or his agent, whose signature appears below.

Copeland Representative Nether W.

Station G.A.

~~3615.52~~
3615.52
Ron H.
Well Owner, Operator or Agent

Remarks _____

NET 30 DAYS

