

**Ritchie Exploration, Inc.
Evans 30B No. 1
1320' FNL and 1335' FWL
15'E of C NW
Sec 30 T13S R28W
Gove County, Kansas**

**Geological Report
by**

**Macklin M. Armstrong, P.G.
License Number 743**

Scale 1:240 Imperial

Well Name: Evans 30B No. 1
Surface Location: Sec 30 T13S R28W
Bottom Location: 1320' FNL and 1335' FWL
API: 15-063-22191
License Number: 4767
Spud Date: 3/17/2014 Time: 4:30 PM
Region: Gove County, Kansas
Drilling Completed: 3/25/2014 Time: 6:51 PM
Surface Coordinates:
Bottom Hole Coordinates:
Ground Elevation: 2745.00ft
K.B. Elevation: 2750.00ft
Logged Interval: 3400.00ft To: 4630.00ft
Total Depth: 4630.00ft
Formation: Mississippi
Drilling Fluid Type: Chemical/Fresh Water Gel

OPERATOR

Company: Ritchie Exploration, Inc.
Address: 800 East 22nd Street North, Building 700
Wichita, Kansas 67226
Contact Geologist: Mike Engelbrecht
Contact Phone Nbr: 316-601-9500
Well Name: Evans 30B No. 1
Location: Sec 30 T13S R28W API: 15-063-22191
Pool: Oil Field: Wildcat
State: Kansas Country: USA

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: 100° 28' 41.211" Latitude: 38° 53' 52.400"
N/S Co-ord:
EW Co-ord:

CONTRACTOR

Contractor: W Drilling, LLC
Rig #: 8
Rig Type: mud rotary
Spud Date: 3/17/2014 Time: 4:30 PM
TD Date: 3/25/2014 Time: 6:51 PM
Rig Release: 2/26/2014 Time: 10:30 AM

ELEVATIONS

K.B. Elevation: 2750.00ft Ground Elevation: 2745.00ft
K.B. to Ground: 5.00ft

NOTES

Date Depth at 7 am Activity
3-17-14 MIRT Spud at 4:30 pm
3-18-14 405 Drilling
3-19-14 2325 Drilling
3-20-14 3289 Drilling
3-21-14 3880 CFS
3-22-14 4090 TIH for DST No. 1
3-23-14 4270 Drilling
3-24-14 4380 Drilling
3-25-14 4480 CTH after DST No. 3
3-26-14 4630 P & A

Surface Casing: 8 5/8" 23# at 218'
Production Casing: None set

Deviation: 218' - 1/2°
4090' - 1°
4630' - 1°

Bit Record: Make Size Type Depth In Depth Out Hours
JZ 12 1 1/4" R2 218 218 2 1/2
SM 7 7/8" F271Y 4630 4630 112

Drill Stem Tests:
DST No. 1 4026 to 4090 Lansing H and I Zones
30-45-45-60
Recovery: 15' SOCM (2%O, 98%M)
60' OSM
IHP 2012 FHP 1984
IFP 27-41 FHP 44-63
ISIP 1094 FSIP 995
Temp 117°

DST No. 2 4228 to 4280 Altamont
30-45-45-60
Recovery: 90' Mud with oil specks
IHP 2106 FHP 1984
IFP 40-52 FHP 44-63
ISIP 537 FSIP 363
Temp 120°

DST No. 3 4348 to 4480 Formation: Fort Scott, Cherokee Lime, Johnson Zone
30-45-45-60
Recovery: 61' OGCM (30%G, 10%O, 60%M)
9' G&OCM (5%G, 10%O, 85%M)
IHP 2172 FHP 2160
IFP 24-41 FHP 50-56
ISIP 352 FSIP 165
Temp 120°

Formation	Sample	E-Log	Datum	Well 1	Well 2	Well 3
Anhydrite	2205	2204	+546	-2	+12	+4
B/Anhydrite	2240	2239	+511	-2	+12	+6
Stotter	3478	3476	-726	+1	+14	+3
Hebner	3849	3846	-1086	0	+16	+2
Toronto	3870	3868	-1118	-4	+15	+2
Lansing	3886	3884	-1134	-2	+14	+2
Muncie Creek	4025	4023	-1134	+9	+19	+14
Stark	4117	4114	-1364	+7	+23	+9
Hushpuckney	4147	4144	-1394	+6	+24	+10
B/Kansas City	4176	4173	-1423	+5	+21	+10
Pleasanton	4184	4182	-1432	+4	+20	+11
Marmaton	4202	4200	-1450	+7	+26	+16
Altamont	4220	4218	-1468	+5	+27	+30
Pawnee	4280	4279	-1529	+9	+26	+11
Myric Station	4342	4340	-1590	+10	+23	+9
Fort Scott	4371	4371	-1621	+11	+23	+10
Cherokee Shale	4400	4400	-1650	+8	+24	+8
Johnson Zone	4445	4443	-1693	+11	+25	+9
Mississippi	4493	4492	-1742	-5	+11	-13
Total Depth	4630	4630	-1880			

Well 1: Ritchie Exploration, Inc. Selensky 30CD No. 1 2293' FSL and 1650' FEL Sec 30 T13S R28W
Well 2: Ritchie Exploration, Inc. Evans 2 No. 1 NW NW NW Sec 30 T13S R28W
Well 3: Ritchie Exploration, Inc. Goetz 1 No. 1 C S2 NW Sec 25 T13S R29W

Due to the results of the Drill Stem Tests and the electric log calculations, it was decided to plug this test well.

Respectfully submitted,
Macklin M. Armstrong

ROCK TYPES

Lmst fw-7
 shale, grn
 shale, grey
 shale, red
 Shcol
 Ss
 Carbon Sh

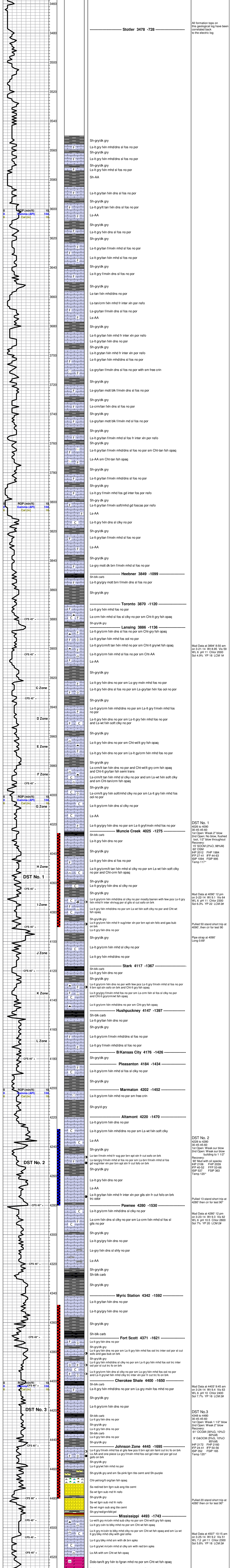
ACCESSORIES

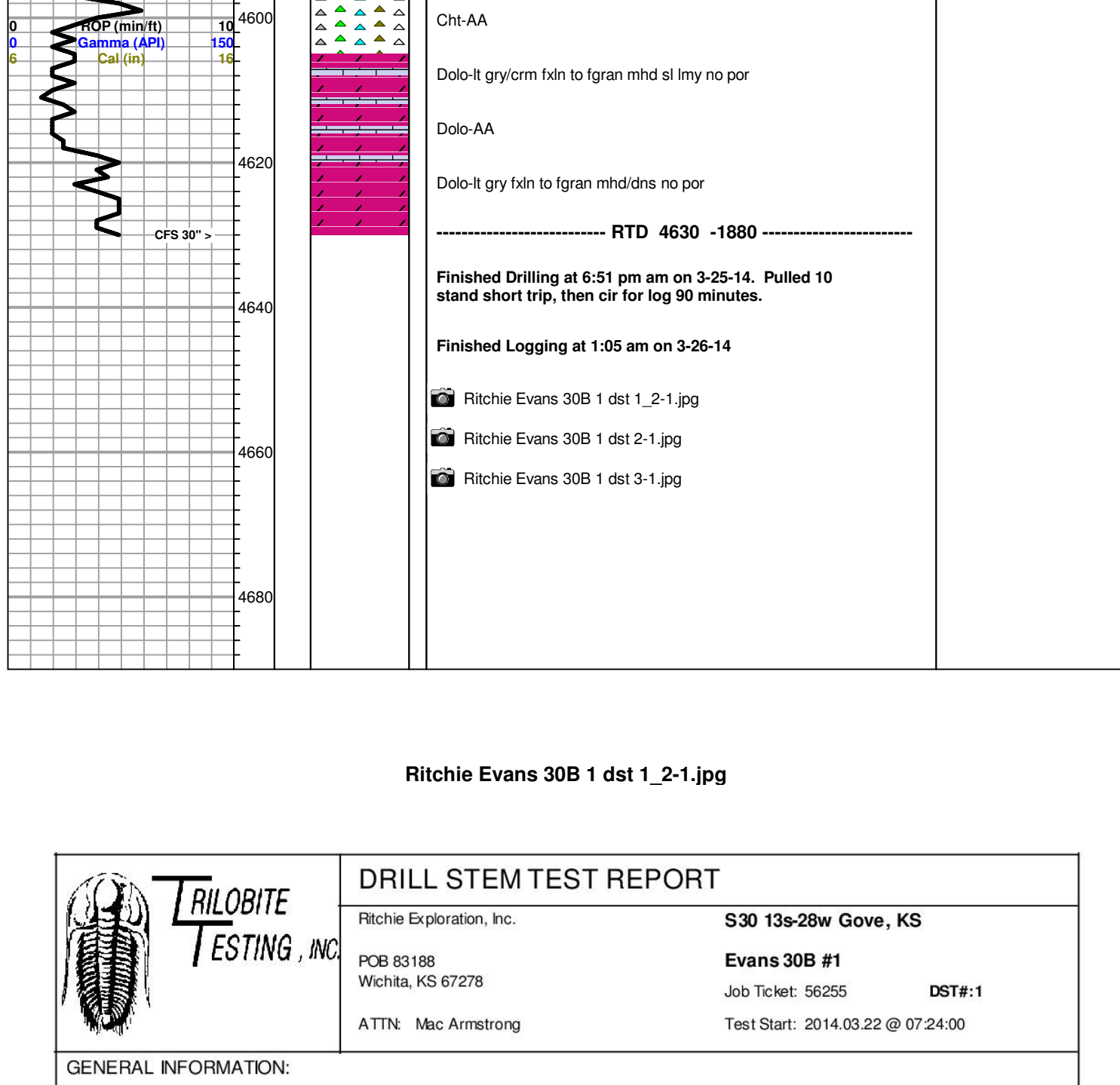
MINERAL
▲ Chert, dark
▲ Varicolored chert
▲ Chert White
FOSSIL
○ Crinoids
○ Fossils < 20%
○ Oolite
○ Oomoldic
STRINGER
▲ Sandstone
▲ Shale
TEXTURE
▲ Chalky

OTHER SYMBOLS

MISC
■ Daily Report
■ Digital Photo
■ Document
■ Folder
■ Link
■ Vertical Log File
■ Horizontal Log File
■ Core Log File
■ Drill Cuttings Rpt
DST
■ DST Int
■ DST alt
■ Core

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.arsl.com)





Chf-AA
 Dolo-It gry/crm 1x1n to fgran mhd sl lmy no por
 Dolo-AA
 Dolo-It gry 1x1n to fgran mhd/dns no por

----- RTD 4630 - 1880 -----

Finished Drilling at 6:51 pm am on 3-25-14. Pulled 10 stand short trip, then cir for log 90 minutes.
 Finished Logging at 1:05 am on 3-26-14

- Ritchie Evans 30B 1 dst 1_2-1.jpg
- Ritchie Evans 30B 1 dst 2-1.jpg
- Ritchie Evans 30B 1 dst 3-1.jpg

Ritchie Evans 30B 1 dst 1_2-1.jpg

	DRILL STEM TEST REPORT Ritchie Exploration, Inc. POB 83188 Wichita, KS 67278 ATTN: Mic Armstrong		S30 13s-28w Gove, KS Evans 30B #1 Job Ticket: 56255 DST#1 Test Start: 2014.03.22 @ 07:24:00																																				
	GENERAL INFORMATION: Formation: LKC 'H & F Deviated: No Whipstock: ft (KB) Time Tool Opened: 09:34:24 Time Test Ended: 14:29:00 Interval: 4026.00 ft (KB) To 4090.00 ft (KB) (TVD) Total Depth: 4090.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good																																						
Serial #: 8357 Inside Press@RunDepth: 62.80 psig @ 4030.00 ft (KB) Start Date: 2014.03.22 End Date: 2014.03.22 Start Time: 07:24:05 End Time: 14:28:59		Capacity: 8000.00 psig Last Calc.: 2014.03.22 Time On Btm: 2014.03.22 @ 09:33:06 Time Off Btm: 2014.03.22 @ 12:38:24																																					
TEST COMMENT: 30- 2" Blow - Tool sid 3" 45- No return. 60- No return.																																							
		PRESSURE SUMMARY <table border="1"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2012.01</td><td>110.69</td><td>Initial Hydro-static</td></tr> <tr><td>2</td><td>27.39</td><td>109.92</td><td>Open To Flow (1)</td></tr> <tr><td>31</td><td>40.52</td><td>111.75</td><td>Shut-In(1)</td></tr> <tr><td>77</td><td>1033.49</td><td>113.98</td><td>End Shut-In(1)</td></tr> <tr><td>77</td><td>44.34</td><td>113.62</td><td>Open To Flow (2)</td></tr> <tr><td>122</td><td>62.80</td><td>115.73</td><td>Shut-In(2)</td></tr> <tr><td>183</td><td>994.74</td><td>117.44</td><td>End Shut-In(2)</td></tr> <tr><td>186</td><td>1983.93</td><td>117.81</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	2012.01	110.69	Initial Hydro-static	2	27.39	109.92	Open To Flow (1)	31	40.52	111.75	Shut-In(1)	77	1033.49	113.98	End Shut-In(1)	77	44.34	113.62	Open To Flow (2)	122	62.80	115.73	Shut-In(2)	183	994.74	117.44	End Shut-In(2)	186	1983.93	117.81	Final Hydro-static
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation																																				
0	2012.01	110.69	Initial Hydro-static																																				
2	27.39	109.92	Open To Flow (1)																																				
31	40.52	111.75	Shut-In(1)																																				
77	1033.49	113.98	End Shut-In(1)																																				
77	44.34	113.62	Open To Flow (2)																																				
122	62.80	115.73	Shut-In(2)																																				
183	994.74	117.44	End Shut-In(2)																																				
186	1983.93	117.81	Final Hydro-static																																				
Recovery <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Description</th> <th>Volume (BB)</th> </tr> </thead> <tbody> <tr><td>60.00</td><td>OSM 100m</td><td>0.30</td></tr> <tr><td>15.00</td><td>SOCM 20 98m</td><td>0.07</td></tr> </tbody> </table>		Length (ft)	Description	Volume (BB)	60.00	OSM 100m	0.30	15.00	SOCM 20 98m	0.07	Gas Rates <table border="1"> <thead> <tr> <th>Choke (inches)</th> <th>Pressure (psig)</th> <th>Gas Rate (Mcfd)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)																								
Length (ft)	Description	Volume (BB)																																					
60.00	OSM 100m	0.30																																					
15.00	SOCM 20 98m	0.07																																					
Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)																																					
Ritchie Testing, Inc.		Ref. No: 56255																																					
Printed: 2014.03.22 @ 22:44:15																																							

Ritchie Evans 30B 1 dst 2-1.jpg

	DRILL STEM TEST REPORT Ritchie Exploration, Inc. POB 83188 Wichita, KS 67278 ATTN: Mic Armstrong		S30 13s-28w Gove, KS Evans 30B #1 Job Ticket: 56504 DST#2 Test Start: 2014.03.23 @ 12:42:00																																				
	GENERAL INFORMATION: Formation: Altamont Deviated: No Whipstock: ft (KB) Time Tool Opened: 15:09:48 Time Test Ended: 20:01:17 Interval: 4228.00 ft (KB) To 4280.00 ft (KB) (TVD) Total Depth: 4280.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good																																						
Serial #: 8645 Outside Press@RunDepth: 66.39 psig @ 4229.00 ft (KB) Start Date: 2014.03.23 End Date: 2014.03.23 Start Time: 12:42:05 End Time: 20:01:18		Capacity: 8000.00 psig Last Calc.: 2014.03.23 Time On Btm: 2014.03.23 @ 15:09:36 Time Off Btm: 2014.03.23 @ 18:10:06																																					
TEST COMMENT: IF: Weak surface blow - Built to 3 in. of Blow IS: Bed off in 1 min. - Weak surface blow back off & on throughout shut-in FF: Weak surface blow - Built to 1 1/2 in. of Blow FSI: Bed off in 1 min. - No return																																							
		PRESSURE SUMMARY <table border="1"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2106.42</td><td>110.04</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>40.19</td><td>108.98</td><td>Open To Flow (1)</td></tr> <tr><td>31</td><td>52.16</td><td>113.71</td><td>Shut-In(1)</td></tr> <tr><td>75</td><td>537.15</td><td>115.80</td><td>End Shut-In(1)</td></tr> <tr><td>75</td><td>53.27</td><td>115.44</td><td>Open To Flow (2)</td></tr> <tr><td>121</td><td>66.39</td><td>117.91</td><td>Shut-In(2)</td></tr> <tr><td>180</td><td>362.49</td><td>119.41</td><td>End Shut-In(2)</td></tr> <tr><td>181</td><td>2039.30</td><td>120.05</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	2106.42	110.04	Initial Hydro-static	1	40.19	108.98	Open To Flow (1)	31	52.16	113.71	Shut-In(1)	75	537.15	115.80	End Shut-In(1)	75	53.27	115.44	Open To Flow (2)	121	66.39	117.91	Shut-In(2)	180	362.49	119.41	End Shut-In(2)	181	2039.30	120.05	Final Hydro-static
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation																																				
0	2106.42	110.04	Initial Hydro-static																																				
1	40.19	108.98	Open To Flow (1)																																				
31	52.16	113.71	Shut-In(1)																																				
75	537.15	115.80	End Shut-In(1)																																				
75	53.27	115.44	Open To Flow (2)																																				
121	66.39	117.91	Shut-In(2)																																				
180	362.49	119.41	End Shut-In(2)																																				
181	2039.30	120.05	Final Hydro-static																																				
Recovery <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Description</th> <th>Volume (BB)</th> </tr> </thead> <tbody> <tr><td>90.00</td><td>Mud 100m w/ oil specs</td><td>0.44</td></tr> </tbody> </table>		Length (ft)	Description	Volume (BB)	90.00	Mud 100m w/ oil specs	0.44	Gas Rates <table border="1"> <thead> <tr> <th>Choke (inches)</th> <th>Pressure (psig)</th> <th>Gas Rate (Mcfd)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)																											
Length (ft)	Description	Volume (BB)																																					
90.00	Mud 100m w/ oil specs	0.44																																					
Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)																																					
Ritchie Testing, Inc.		Ref. No: 56504																																					
Printed: 2014.03.23 @ 23:10:35																																							

Ritchie Evans 30B 1 dst 3-1.jpg

	DRILL STEM TEST REPORT Ritchie Exploration, Inc. P.O. Box 83188 Wichita, KS 67278 ATTN: Mic Armstrong		S30 13s-28w Gove, KS Evans 30B #1 Job Ticket: 56505 DST#3 Test Start: 2014.03.24 @ 20:44:00																																				
	GENERAL INFORMATION: Formation: Ft. Scott-Cherokee-L Deviated: No Whipstock: ft (KB) Time Tool Opened: 22:39:42 Time Test Ended: 03:58:24 Interval: 4348.00 ft (KB) To 4480.00 ft (KB) (TVD) Total Depth: 4480.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair																																						
Serial #: 8645 Outside Press@RunDepth: 55.76 psig @ 4351.00 ft (KB) Start Date: 2014.03.24 End Date: 2014.03.25 Start Time: 20:44:05 End Time: 03:58:23		Capacity: 8000.00 psig Last Calc.: 2014.03.25 Time On Btm: 2014.03.24 @ 22:39:36 Time Off Btm: 2014.03.25 @ 01:40:06																																					
TEST COMMENT: IF: 1 1/2 in. blow - Died back to 1 1/4 Blow IS: Bed off - No return FF: 2 in. blow FSI: Bed off - No return																																							
		PRESSURE SUMMARY <table border="1"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2172.28</td><td>112.48</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>24.33</td><td>110.89</td><td>Open To Flow (1)</td></tr> <tr><td>31</td><td>40.90</td><td>113.45</td><td>Shut-In(1)</td></tr> <tr><td>78</td><td>352.05</td><td>116.12</td><td>End Shut-In(1)</td></tr> <tr><td>78</td><td>50.53</td><td>116.06</td><td>Open To Flow (2)</td></tr> <tr><td>121</td><td>55.76</td><td>117.71</td><td>Shut-In(2)</td></tr> <tr><td>180</td><td>165.24</td><td>119.53</td><td>End Shut-In(2)</td></tr> <tr><td>181</td><td>2159.78</td><td>120.37</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	2172.28	112.48	Initial Hydro-static	1	24.33	110.89	Open To Flow (1)	31	40.90	113.45	Shut-In(1)	78	352.05	116.12	End Shut-In(1)	78	50.53	116.06	Open To Flow (2)	121	55.76	117.71	Shut-In(2)	180	165.24	119.53	End Shut-In(2)	181	2159.78	120.37	Final Hydro-static
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation																																				
0	2172.28	112.48	Initial Hydro-static																																				
1	24.33	110.89	Open To Flow (1)																																				
31	40.90	113.45	Shut-In(1)																																				
78	352.05	116.12	End Shut-In(1)																																				
78	50.53	116.06	Open To Flow (2)																																				
121	55.76	117.71	Shut-In(2)																																				
180	165.24	119.53	End Shut-In(2)																																				
181	2159.78	120.37	Final Hydro-static																																				
Recovery <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Description</th> <th>Volume (BB)</th> </tr> </thead> <tbody> <tr><td>61.00</td><td>Ocm 10s 30g 60m</td><td>0.30</td></tr> <tr><td>9.00</td><td>G & Ocm 5g 10s 85m</td><td>0.04</td></tr> </tbody> </table>		Length (ft)	Description	Volume (BB)	61.00	Ocm 10s 30g 60m	0.30	9.00	G & Ocm 5g 10s 85m	0.04	Gas Rates <table border="1"> <thead> <tr> <th>Choke (inches)</th> <th>Pressure (psig)</th> <th>Gas Rate (Mcfd)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)																								
Length (ft)	Description	Volume (BB)																																					
61.00	Ocm 10s 30g 60m	0.30																																					
9.00	G & Ocm 5g 10s 85m	0.04																																					
Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)																																					
Ritchie Testing, Inc.		Ref. No: 56505																																					
Printed: 2014.03.25 @ 06:45:36																																							