

**OPERATOR**

Company: Murfin Drilling Company  
 Address: 250 N. Water  
 Suite 300  
 Wichita, KS 67202  
 Contact Geologist: Shauna Gunzelman  
 Contact Phone Nbr: 316-267-3241  
 Well Name: Ken #1-17  
 Location: Sec. 17 - T1S - R35W  
 API: 15-153-21025-0000  
 Pool: \_\_\_\_\_ Field: Wildcat  
 State: Kansas Country: USA



Scale 1:240 Imperial

Well Name: Ken #1-17  
 Surface Location: Sec. 17 - T1S - R35W  
 Bottom Location:  
 API: 15-153-21025-0000  
 License Number: 30606  
 Spud Date: 6/6/2013 Time: 4:30 PM  
 Region: Rawlins County  
 Drilling Completed: 6/14/2014 Time: 3:50 PM  
 Surface Coordinates: 1270' FNL & 990' FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 3180.00ft  
 K.B. Elevation: 3185.00ft  
 Logged Interval: 3800.00ft To: 4505.00ft  
 Total Depth: 4505.00ft  
 Formation: Pawnee  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude:  
 Latitude:  
 N/S Co-ord: 1270' FNL  
 E/W Co-ord: 990' FWL

**LOGGED BY**



Company: Keith Reavis, Inc.  
 Address: 3420 22nd Street  
 Great Bend, KS 67530  
 Phone Nbr: 620-617-4091  
 Logged By: Keith Reavis and Logan Walker Name:

**CONTRACTOR**

Contractor: Murfin Drilling Company  
 Rig #: 7  
 Rig Type: mud rotary  
 Spud Date: 6/6/2013 Time: 4:30 PM  
 TD Date: 6/14/2014 Time: 3:50 PM  
 Rig Release: \_\_\_\_\_ Time:

**ELEVATIONS**

K.B. Elevation: 3185.00ft Ground Elevation: 3180.00ft  
 K.B. to Ground: 5.00ft

**NOTES**

Due to favorable results of DST #3 and DST #4, it was determined that 5 1/2" production casing be set and cemented, and the Ken #1-17 be further tested through perforations and stimulation.

The samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,

Keith Reavis

**Image Header 01**

**Murfin Drilling Company  
 daily drilling report**

DATE	7:00 AM DEPTH	REMARKS
06/08/2014		Geologist Keith Reavis and Logan Walker on location @ 2000 hrs, 3452 ft. drilling ahead
06/09/2014	3720	heavy rains, drilling ahead, Neva, Foraker, Stotler, Tarkio, Topeka, shows in near Stotler and Tarkio warrant test, short trip, ctch, TOH
06/10/2014	3928	finish TOH w/bit, TIH with tools, conducting and complete DST #1, successful test, TIH w/bit, resume drilling, Lecompton, Oread
06/11/2014	4182	drilling Toronto, Lansing, shows in Toronto, Lansing A thru D warrant test, short trip, TOH w/bit, conducting and complete DST #2, successful test TOH w/tools in w/bit, resume drilling
06/12/2014	4240	resume drilling, show in G zone warrants test, TOH w/bit, conducting DST #3 drawworks motor broke down a couple of hrs, fixed, run tools in hole complete DST #3, successful test, TIH W/bit, resume drilling
06/13/2014	4316	drill H and J, shows warrant test, TOH W/bit, conducting DST #4 completed DST #4, successful test, TIH W/bit, resume drilling
06/14/2014	4394	drilling to TD @ 4505, short trip, TOH for logs, short shut down for hail and lightning and wind storm, conduct logging operations
06/15/2014	4505	complete logging operations, off location 0500 hrs

**Murfin Drilling Company  
 well comparison sheet**

DRILLING WELL					COMPARISON WELL				
Murfin - Ken #1-17					McCoy - Wilkinson A #1-17				
1270' FNL & 990' FWL					SE SE SW				
Sec. 17-T1S-R35W					Sec. 17-T1S-R35W				
3185 KB					3149 KB			Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	
base Anhy	3108	77	3109	76	3060	89	-12	-13	
Foraker	3689	-504	3681	-496	3640	-491	-13	-5	
Stotler	3824	-639	3826	-641	3792	-643	4	2	
Topeka	3904	-719	3892	-707	3852	-703	-16	-4	
Oread	4020	-835	4002	-817	3968	-819	-16	2	
Heebner	4057	-872	4057	-872	4015	-866	-6	-6	
Lansing	4116	-931	4110	-925	4076	-927	-4	2	
Lansing D	4171	-986	4166	-981	4132	-983	-3	2	
Lansing G	4218	-1033	4217	-1032	4185	-1036	3	4	
Lansing H	4264	-1079	4265	-1080	4232	-1083	4	3	
Stark	4323	-1138	4324	-1139	4290	-1141	3	2	
Base KC	4381	-1196	4375	-1190	4341	-1192	-4	2	
Total Depth	4505	-1320	4506	-1321	4373	-1224	-96	-97	

**Image Header 02**

**DRILL STEM TEST REPORT**

Murfin Drilling Co. **17 1s 35w Rawlins Ks.**

250 N. Water Ste. 300  
 Wichita Ks. 67202  
 ATTN: Keith Reavis

**Ken #1-17**  
 Job Ticket: 58192 **DST#: 1**  
 Test Start: 2014.06.10 @ 02:10:00

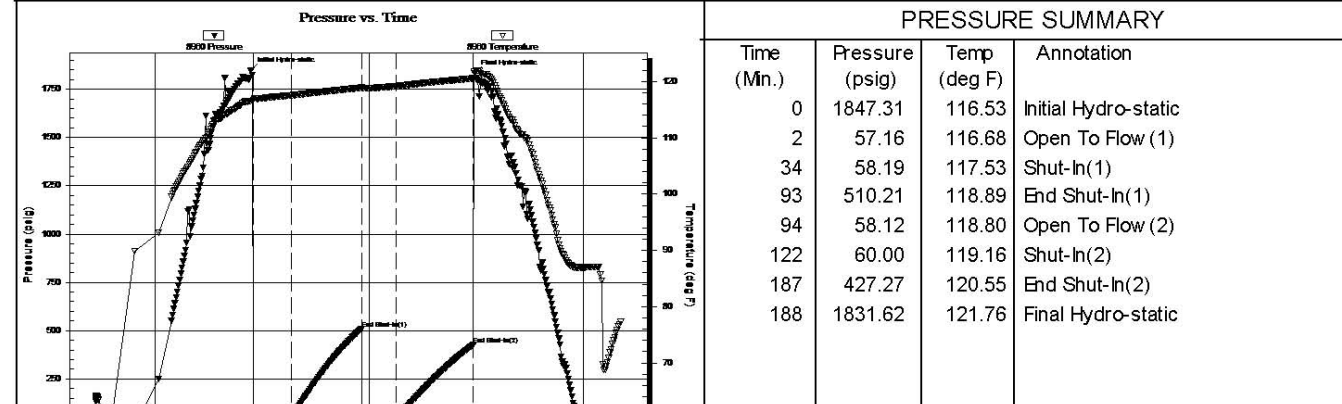
**GENERAL INFORMATION:**

Formation: \_\_\_\_\_  
 Deviated: No Whipstock: \_\_\_\_\_ ft (KB)  
 Time Tool Opened: 04:22:30  
 Time Test Ended: 09:32:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Chuck Kreutzer Jr.  
 Unit No: 61  
 Interval: 3810.00 ft (KB) To 3928.00 ft (KB) (TVD)  
 Total Depth: 3928.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good  
 Reference Elevations: 3179.00 ft (KB)  
 3174.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8960 Inside**


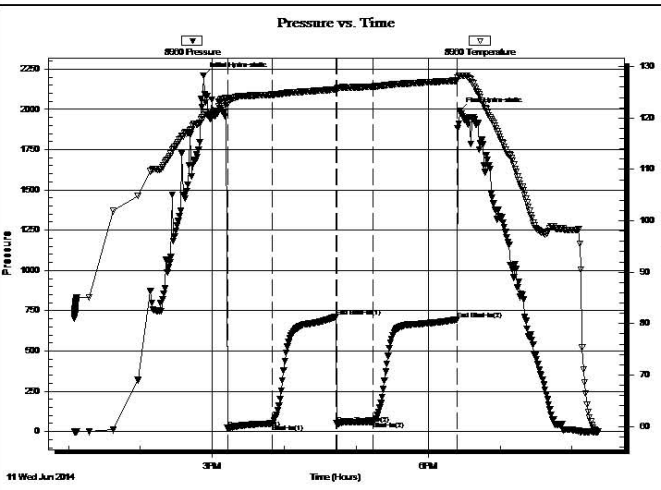
Press@RunDepth: 60.00 psig @ 3811.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.06.10 End Date: 2014.06.10 Last Calib.: 2014.06.10 @ 04:20:30  
 Start Time: 02:10:01 End Time: 09:32:00 Time On Btm: 2014.06.10 @ 04:20:30  
 Time Off Btm: 2014.06.10 @ 07:28:30

**TEST COMMENT:** IF: Weak Surface blow. Died in 15 mins. { Sled 10 ft. tool opened on slid bled off blow }  
 IS: No blow back  
 FF: No blow  
 FS: No blow back


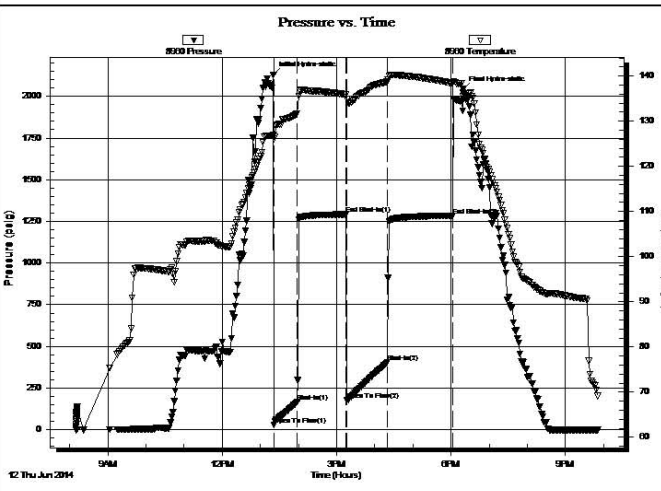


Recovery			Gas Rates		
Length (ft)	Description	Volume (bbl)	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
90.00	mud with oil specs	0.70			


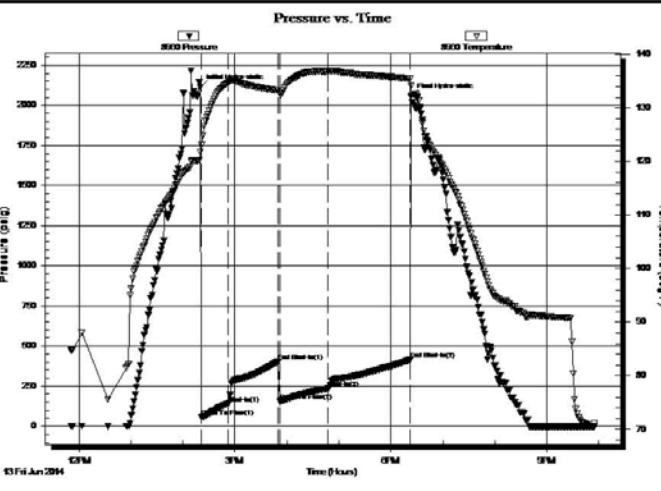
### Image Header 03

TRILOBITE TESTING, INC		DRILL STEM TEST REPORT																																					
		Murfin Drilling Co. <b>17-1s-35w Rawlins,KS</b> 250 N. Water Ste. 300 Wichita KS 67202 <b>Ken #1-17</b> Job Ticket: 58193 DST#: 2 Test Start: 2014.06.11 @ 13:05:00																																					
<b>GENERAL INFORMATION:</b> Formation: <b>Toronto - LKC D</b> Deviated: No Whipstock: ft (KB) Time Tool Opened: 15:12:30 Time Test Ended: 20:22:00 Test Type: Conventional Bottom Hole (Reset) Tester: Chuck Kreutzer Jr. Unit No: 61 Interval: <b>4050.00 ft (KB) To 4190.00 ft (KB) (TVD)</b> Total Depth: 4190.00 ft (KB) (TVD) Reference Elevations: 3179.00 ft (KB) Hole Diameter: 7.88 inchesHole Condition: Good KB to GR/CF: 5.00 ft																																							
<b>Serial #: 8960 Inside</b> Press@RunDepth: 61.24 psig @ 4051.00 ft (KB) Start Date: 2014.06.11 End Date: 2014.06.11 Start Time: 13:05:01 End Time: 20:22:00 Capacity: 8000.00 psig Last Calib.: 2014.06.11 Time On Btm: 2014.06.11 @ 14:52:30 Time Off Btm: 2014.06.11 @ 18:26:30																																							
<b>TEST COMMENT:</b> IF: Weak blow , Weak surface over 30 mins. ISl: No blow back FF: Weak surface blow , Died in 10 mins FSl: No blow back																																							
<b>Pressure vs. Time</b> 		<b>PRESSURE SUMMARY</b> <table border="1"> <thead> <tr> <th>Time (Mn.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2210.52</td><td>120.10</td><td>Initial Hydro-static</td></tr> <tr><td>20</td><td>20.70</td><td>123.14</td><td>Open To Flow (1)</td></tr> <tr><td>57</td><td>49.06</td><td>124.53</td><td>Shut-In(1)</td></tr> <tr><td>111</td><td>713.28</td><td>125.56</td><td>End Shut-In(1)</td></tr> <tr><td>112</td><td>45.08</td><td>125.71</td><td>Open To Flow (2)</td></tr> <tr><td>142</td><td>61.24</td><td>126.11</td><td>Shut-In(2)</td></tr> <tr><td>212</td><td>695.51</td><td>127.27</td><td>End Shut-In(2)</td></tr> <tr><td>214</td><td>1989.08</td><td>128.26</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation	0	2210.52	120.10	Initial Hydro-static	20	20.70	123.14	Open To Flow (1)	57	49.06	124.53	Shut-In(1)	111	713.28	125.56	End Shut-In(1)	112	45.08	125.71	Open To Flow (2)	142	61.24	126.11	Shut-In(2)	212	695.51	127.27	End Shut-In(2)	214	1989.08	128.26	Final Hydro-static
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation																																				
0	2210.52	120.10	Initial Hydro-static																																				
20	20.70	123.14	Open To Flow (1)																																				
57	49.06	124.53	Shut-In(1)																																				
111	713.28	125.56	End Shut-In(1)																																				
112	45.08	125.71	Open To Flow (2)																																				
142	61.24	126.11	Shut-In(2)																																				
212	695.51	127.27	End Shut-In(2)																																				
214	1989.08	128.26	Final Hydro-static																																				
<b>Recovery</b> <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Description</th> <th>Volume (bbl)</th> </tr> </thead> <tbody> <tr> <td>62.00</td> <td>Vsocrm-8%o92%</td> <td>0.30</td> </tr> <tr> <td>38.00</td> <td>ocrm-30%o70%o</td> <td>0.53</td> </tr> </tbody> </table>		Length (ft)	Description	Volume (bbl)	62.00	Vsocrm-8%o92%	0.30	38.00	ocrm-30%o70%o	0.53	<b>Gas Rates</b> <table border="1"> <thead> <tr> <th>Choke (inches)</th> <th>Pressure (psig)</th> <th>Gas Rate (Mcf/d)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)																								
Length (ft)	Description	Volume (bbl)																																					
62.00	Vsocrm-8%o92%	0.30																																					
38.00	ocrm-30%o70%o	0.53																																					
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)																																					
<small>* Recovery from multiple tests</small>																																							

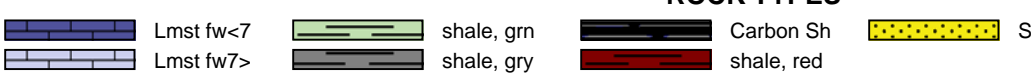
### Image Header 04

TRILOBITE TESTING, INC		DRILL STEM TEST REPORT																																					
		Murfin Drilling Co. <b>17-1s-35w Rawlins,KS</b> 250 N. Water Ste. 300 Wichita KS 67202 <b>Ken #1-17</b> Job Ticket: 58194 DST#: 3 Test Start: 2014.06.12 @ 08:10:00																																					
<b>GENERAL INFORMATION:</b> Formation: <b>LKC G</b> Deviated: No Whipstock: ft (KB) Time Tool Opened: 13:21:30 Time Test Ended: 21:51:30 Test Type: Conventional Bottom Hole (Reset) Tester: Chuck Kreutzer Jr. Unit No: 61 Interval: <b>4178.00 ft (KB) To 4240.00 ft (KB) (TVD)</b> Total Depth: 4240.00 ft (KB) (TVD) Reference Elevations: 3179.00 ft (KB) Hole Diameter: 7.88 inchesHole Condition: Good KB to GR/CF: 5.00 ft																																							
<b>Serial #: 8960 Inside</b> Press@RunDepth: 403.11 psig @ 4179.00 ft (KB) Start Date: 2014.06.12 End Date: 2014.06.12 Start Time: 08:10:01 End Time: 21:51:30 Capacity: 8000.00 psig Last Calib.: 2014.06.12 Time On Btm: 2014.06.12 @ 13:20:30 Time Off Btm: 2014.06.12 @ 18:19:00																																							
<b>TEST COMMENT:</b> IF: Strong blow , Built to B.O.B in 5 mins ISl: Blow back after 2 mins. Built to 4 in. over 75 mins. FF: Strong blow , Built to B.O.B in 6 mins. FSl: Blow back, Built to B.O.B in 30 mins. Started to die. Died to surface over 100 mins.																																							
<b>Pressure vs. Time</b> 		<b>PRESSURE SUMMARY</b> <table border="1"> <thead> <tr> <th>Time (Mn.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2129.54</td><td>126.88</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>30.09</td><td>126.03</td><td>Open To Flow (1)</td></tr> <tr><td>38</td><td>165.69</td><td>131.70</td><td>Shut-In(1)</td></tr> <tr><td>114</td><td>1291.88</td><td>135.85</td><td>End Shut-In(1)</td></tr> <tr><td>116</td><td>176.66</td><td>134.89</td><td>Open To Flow (2)</td></tr> <tr><td>180</td><td>403.11</td><td>138.80</td><td>Shut-In(2)</td></tr> <tr><td>282</td><td>1284.93</td><td>138.36</td><td>End Shut-In(2)</td></tr> <tr><td>299</td><td>2042.36</td><td>135.44</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation	0	2129.54	126.88	Initial Hydro-static	1	30.09	126.03	Open To Flow (1)	38	165.69	131.70	Shut-In(1)	114	1291.88	135.85	End Shut-In(1)	116	176.66	134.89	Open To Flow (2)	180	403.11	138.80	Shut-In(2)	282	1284.93	138.36	End Shut-In(2)	299	2042.36	135.44	Final Hydro-static
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation																																				
0	2129.54	126.88	Initial Hydro-static																																				
1	30.09	126.03	Open To Flow (1)																																				
38	165.69	131.70	Shut-In(1)																																				
114	1291.88	135.85	End Shut-In(1)																																				
116	176.66	134.89	Open To Flow (2)																																				
180	403.11	138.80	Shut-In(2)																																				
282	1284.93	138.36	End Shut-In(2)																																				
299	2042.36	135.44	Final Hydro-static																																				
<b>Recovery</b> <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Description</th> <th>Volume (bbl)</th> </tr> </thead> <tbody> <tr> <td>189.00</td> <td>sgocrm-5%g20%o75%o</td> <td>2.09</td> </tr> <tr> <td>189.00</td> <td>go-70%g30%o</td> <td>2.65</td> </tr> <tr> <td>189.00</td> <td>go-50%g50%o</td> <td>2.65</td> </tr> <tr> <td>504.00</td> <td>go-30%g70%o</td> <td>7.07</td> </tr> <tr> <td>0.00</td> <td>2000 ft. of gas</td> <td>0.00</td> </tr> </tbody> </table>		Length (ft)	Description	Volume (bbl)	189.00	sgocrm-5%g20%o75%o	2.09	189.00	go-70%g30%o	2.65	189.00	go-50%g50%o	2.65	504.00	go-30%g70%o	7.07	0.00	2000 ft. of gas	0.00	<b>Gas Rates</b> <table border="1"> <thead> <tr> <th>Choke (inches)</th> <th>Pressure (psig)</th> <th>Gas Rate (Mcf/d)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)															
Length (ft)	Description	Volume (bbl)																																					
189.00	sgocrm-5%g20%o75%o	2.09																																					
189.00	go-70%g30%o	2.65																																					
189.00	go-50%g50%o	2.65																																					
504.00	go-30%g70%o	7.07																																					
0.00	2000 ft. of gas	0.00																																					
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)																																					
<small>* Recovery from multiple tests</small>																																							

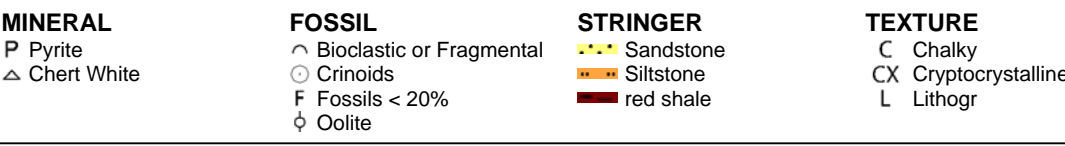
### Image Header 05

TRILOBITE TESTING, INC		DRILL STEM TEST REPORT																																					
		Murfin Drilling Co. <b>17 1s 35w Rawlins Ks.</b> 250 N. Water Ste. 300 Wichita Ks. 67202 <b>Ken #1-17</b> Job Ticket: 58147 DST#: 4 Test Start: 2014.06.13 @ 11:51:00																																					
<b>GENERAL INFORMATION:</b> Formation: <b>LKC "HJ"</b> Deviated: No Whipstock: ft (KB) Time Tool Opened: 14:21:30 Time Test Ended: 21:55:00 Test Type: Conventional Bottom Hole (Initial) Tester: Brandon Quintana Unit No: 61 Interval: <b>4234.00 ft (KB) To 4330.00 ft (KB) (TVD)</b> Total Depth: 4330.00 ft (KB) (TVD) Reference Elevations: 3179.00 ft (KB) Hole Diameter: 7.80 inchesHole Condition: Fair KB to GR/CF: 5.00 ft																																							
<b>Serial #: 8960 Inside</b> Press@RunDepth: 234.66 psig @ 4235.00 ft (KB) Start Date: 2014.06.13 End Date: 2014.06.13 Start Time: 11:51:01 End Time: 21:55:00 Capacity: 8000.00 psig Last Calib.: 2014.06.13 Time On Btm: 2014.06.13 @ 14:20:00 Time Off Btm: 2014.06.13 @ 18:23:00																																							
<b>TEST COMMENT:</b> 30 - IF - Opened w/ surface blow , built to B.o.B in 5 min. 60 - ISl - Return built to 2 1/2", died back to no return 60 - FF - Opened w/ surface blow , built to 1 3/4" died back to 1" 90 - FSl- Return built to B.o.B in 70 min.																																							
<b>Pressure vs. Time</b> 		<b>PRESSURE SUMMARY</b> <table border="1"> <thead> <tr> <th>Time (Mn.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>2110.54</td><td>121.82</td><td>Initial Hydro-static</td></tr> <tr><td>2</td><td>57.74</td><td>123.20</td><td>Open To Flow (1)</td></tr> <tr><td>32</td><td>140.50</td><td>134.74</td><td>Shut-In(1)</td></tr> <tr><td>90</td><td>404.98</td><td>133.24</td><td>End Shut-In(1)</td></tr> <tr><td>92</td><td>153.80</td><td>132.82</td><td>Open To Flow (2)</td></tr> <tr><td>147</td><td>234.66</td><td>136.85</td><td>Shut-In(2)</td></tr> <tr><td>242</td><td>412.58</td><td>135.49</td><td>End Shut-In(2)</td></tr> <tr><td>243</td><td>2053.07</td><td>134.09</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation	0	2110.54	121.82	Initial Hydro-static	2	57.74	123.20	Open To Flow (1)	32	140.50	134.74	Shut-In(1)	90	404.98	133.24	End Shut-In(1)	92	153.80	132.82	Open To Flow (2)	147	234.66	136.85	Shut-In(2)	242	412.58	135.49	End Shut-In(2)	243	2053.07	134.09	Final Hydro-static
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation																																				
0	2110.54	121.82	Initial Hydro-static																																				
2	57.74	123.20	Open To Flow (1)																																				
32	140.50	134.74	Shut-In(1)																																				
90	404.98	133.24	End Shut-In(1)																																				
92	153.80	132.82	Open To Flow (2)																																				
147	234.66	136.85	Shut-In(2)																																				
242	412.58	135.49	End Shut-In(2)																																				
243	2053.07	134.09	Final Hydro-static																																				
<b>Recovery</b> <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Description</th> <th>Volume (bbl)</th> </tr> </thead> <tbody> <tr> <td>125.00</td> <td>GOCM 15%g, 40%o, 45%o</td> <td>1.19</td> </tr> <tr> <td>315.00</td> <td>GO 22%g, 78%o</td> <td>4.42</td> </tr> <tr> <td>146.00</td> <td>Oil 100%o</td> <td>2.05</td> </tr> </tbody> </table>		Length (ft)	Description	Volume (bbl)	125.00	GOCM 15%g, 40%o, 45%o	1.19	315.00	GO 22%g, 78%o	4.42	146.00	Oil 100%o	2.05	<b>Gas Rates</b> <table border="1"> <thead> <tr> <th>Choke (inches)</th> <th>Pressure (psig)</th> <th>Gas Rate (Mcf/d)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)																					
Length (ft)	Description	Volume (bbl)																																					
125.00	GOCM 15%g, 40%o, 45%o	1.19																																					
315.00	GO 22%g, 78%o	4.42																																					
146.00	Oil 100%o	2.05																																					
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)																																					
<small>* Recovery from multiple tests</small>																																							

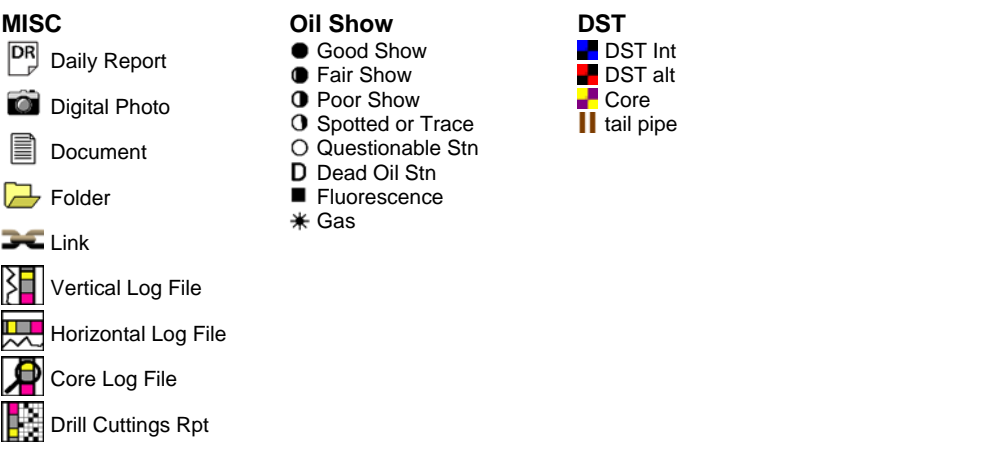
**ROCK TYPES**



**ACCESSORIES**



**OTHER SYMBOLS**



Printed by GEOstrip VC Striplog version 4.0.8.9 (www.grsi.ca)

