

Bear Petroleum LLC.  
GL Schmidt 'B' #1  
NE-NE-SW-NW (1550' FNL & 1250' FWL)  
Section 26-21s-8w  
Rice County, Kansas

Page 1

**5 1/2" Production Casing Set**

**Contractor:** EC Services LLC (rig #106)

**Commenced:** April 7, 2016

**Completed:** April 14, 2016

**Elevation:** 1639' K.B., 1637' D.F., 1629' G.L.

**Casing program:** Surface; 8 5/8" @ 273'  
Production, 5 1/2" @ 3773' (log measurements)

**Sample:** Samples saved and examined 2700' to the Rotary Total Depth.

**Drilling time:** One (1) foot drilling time recorded and kept 2700' ft. to the Rotary Total Depth.

**Measurements:** All depths measured from the Kelly Bushing.

**Drill Stem Tests:** There was one (1) Drill Stem Tests ran by Trilobite Testing Co.

**Electric Log:** By Pioneer; Dual Induction, Dual Compensated Porosity Log and Microresistivity

	<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Heebner		2772	-1133
Toronto		2790	-1151
Douglas		2798	-1159
Brown Lime		2920	-1281
Lansing		2953	-1314
Base Kansas City		3282	-1643
Mississippian		3359	-1720
Kinderhook		3401	-1762
Kinderhook Lime		3511	-1872
Maquoketa		3614	-1975
Viola		3647	-2008
Upper Simpson Sand		3691	-2052
Lower Simpson Sand		3746	-2107
Arbuckle		3761	-2122
Rotary Total Depth		3773	-2134
Log Total Depth		3774	-2135

All tops and zones corrected to Electric Log Measurements

**SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.**

**TOPEKA/TORONTO SECTIONS**

2700-2798' No shows of oil and/or gas was noted. See attached geologist report/sample log.

**LANSING SECTION**

2953-2970' Limestone, white, finely crystalline, few fossiliferous, plus white, fossiliferous chert.

2984-2990' Limestone, as above, few oolitic, dense.

3001-3004' Limestone, gray,/white, slightly fossiliferous in part, poor porosity, no shows.

3008-3020' Limestone, gray/tan, fossiliferous, chalky, poor developed porosity, no shows.

3028-3040' Limestone, gray, chalky few with poorly developed vuggy type porosity, no shows.

3061-3075 Limestone, tan, gray, highly fossiliferous, slightly cherty, dense, no shows.

3080-3100' Limestone, gray/tan, highly oolitic, poor porosity, no shows, plus white/gray, boney chert.

3123-3130' Limestone, white, cream, sub-oomoldic, chalky, poorly developed porosity, no shows.

3148-3166' Limestone, as above, oolitic, sub-oomoldic, scattered porosity, no shows.

3166-3182' Limestone, as above, no shows.

3196-3210' Limestone, gray, white, oolitic/fossiliferous, poor visible porosity, no shows.

3232-3250' Limestone, cream, sub-oomoldic, chalky, no shows.

3260-3266' Limestone, gray, white, finely crystalline, few fossiliferous, chalky, no shows.

**MARMATON SECTION**

3291-3300' Limestone, white, cream, maroon tinted, chalky, poor porosity, no shows.

3309-3319' Limestone, white, gray, maroon/red tinted; chalky increasingly cherty, no shows.

**MISSISSIPPIAN SECTION**

3359-3367'

Chert; white, yellow, orange, fresh; plus chert; white, yellow, few weathered; semi-tripolitic, spotty brown/dark brown stain, trace of free oil and questionable odor, show of gas bubbles.

**Drill Stem Test #1** 3330-3367

**Times:** 45-30-45-45

**Blow:** Strong, gas to surface in 8 mins.

**IFP** Gas gauged as follows:

10 mins	9,133	cfgpd
20 mins	16,992	cfgpd
30 mins	49,813	cfgpd
40 mins	48,227	cfgpd

**FFP**

10 mins	9,133	cfgpd
20 mins	9,881	cfgpd
30 mins	9,507	cfgpd
40 mins	9,507	cfgpd

**Recovery:** 95' mud with show of oil  
378' heavily oil and gas cut watery mud  
(10% gas; 60% oil; 20% water; 10% mud)  
945' gas cut muddy water with show of oil

**Pressures:** ISIP 764 psi  
FSIP 759 psi  
IFP 190-476 psi  
FFP 479-671 psi  
HSH 1704-1644 psi

3367-3380' Chert, as above, trace stain, show of free oil and questionable odor.

3380-3401' Chert, as above, black stain, trace of free oil and no odor.

**KINDERHOOK SECTION**

3401-3612' No sand development in Kinderhook Section (see attached Geologist report/Sample Log)

**VIOLA SECTION**

3647-3689' Limestone, white, gray, medium to coarse crystalline, chalky, scattered trace white boney chert, no shows.

**SIMPSON SECTION**

**"UPPER"**

3691-3706' Sand, white/gray, tan, very fine grained; sub-rounded, sub-angular, fair sorting, friable in part, few calcareous, few dolomitic, black shale inclusions, no shows.

Bear Petroleum LLC.  
GL Schmidt 'B' #1  
NE-NE-SW-NW (1550' FNL & 1250' FWL)  
Section 26-21s-8w  
Rice County, Kansas

Page 4

**SIMPSON SECTION**

**"LOWER"**

3746-3754' Sand, white, gray, clear, fine to medium grained, sub-rounded, glauconitic, trace mica, few friable, no shows.

**ARBUCKLE SECTION**

3761-3766 Dolomite, white/cream, medium crystalline, scattered inter-crystalline porosity, plus tan, finely crystalline dolomite, no shows.

3766-3774' Dolomite, as above, plus pink, finely crystalline, dolomite, no shows.

**Rotary Total Depth**      **3773**  
**Log Total Depth**        **3774**

**Recommendations:**

The 5 1/2' production casing was set and cemented on the Bear Petroleum, LLC., GL Schmidt 'B' #1.

Respectfully yours,

James C. Musgrove  
Petroleum Geologist