# Colt Energy, Inc. Geological Report

Well: **Steinforth "B" #B-7** Draft: 2/22/2016

3132 FSL, 2415 FEL (loc. was 3135 FSL, 2475 FEL, moved due to very soft wet ground)

Section 13-T26S-R14E Woodson Co., KS

API #: 15-207-29323

Elevation: 961 GL (est. from Topo Map)

Drilling Contractor: Andrew King (Op. Lic. #34953), dba BAR Drilling, LLC

Spud: 2/15/2016

Surface Casing: 11.75" bore hole, 8 5/8" set at 40.95', cmtd w/ 14 sx of Portland

Under Surface: 2/16/16

Drilling fluid: Water "native mud" and a little polymer

Production bore hole: 6 3/4"

Rotary Total Depth (RTD): 1398' (2/18/16)

Geophysical E-Log(s): CDL and IES by Osage Wireline (2/18/16) Production Casing: None, P & A as non-commercial (2/19/16)

Plugged by: Consolidated Oil Well Services (2/19/16), used 110 sx of cement

Formation/Member	Field Tops	Log Tops (Rdd off)	Datum (961)
Lansing Ls	No call	194	767
Base Lansing	No call	455	506
Kansas City Ls	No call	529	432
Stark Sh	No call	616	345
Hushpuckney Sh	No call	658	303
Base Ks City	No call	680	281
"Old Drillers Log" B. KC	No call	696	265
South Mound Sh	808 (Drlg time)	808	153
"Weiser" Ss	891	888	73
Mulberry Coal	946	945	16
Myrick Station Ls	970	971	-10
Anna (Lexington Coal Zone) Sh	975 (Spl top)	975	-14
Ft. Scott ("Oswego") Ls	997	1000	-39
Little Osage (Summit Coal Zone) Sh	1018	1019	-58
Excello Sh	1031	1033	-72
Mulky Coal		350000	
Squirrel Sand	1050 (Core top)	1053	-92
Base Squirrel Sand	1069	1068	-107
Bevier Coal	1101 (Drlg time)	1101	-140
Verdigris (Ardmore) Ls	1115	1113	-152
"V" (Croweburg) Sh	1117	1115	-154
Croweburg Coal	No call	****	(
Fleming Coal	1156	1155	-194
Mineral Coal	1168	1171	-210
Scammon Coal Zone	1181 (Spl top)	1183	-222

Formation/Member	Field Tops	Log Tops (Rdd off)	<b>Datum</b> (961)
"Lower" Cattleman Zone	1185 (Spl top)	1185	-224
Un-named Carb. Zone	1213	1213	-252
Un-Named Coal (Tebo?)	1215	1215	-254
Bartlesville Ss	1278	1278	-317
Base Bartlesville Ss	1338	1340	-379
Un-Named Coal	1344	1346	-385
Riverton Coal	1364	1365	-404
Mississippian ("Cgl.")	*1396		*-435
Rotary Total Depth	*1398		*-437
E-log TD	Parket III	1393	-432

The following report is based on microscopic examination of rotary drill cuttings collected on location while drilling, a core taken from the Squirrel Sand Zone, a core taken from the Bartlesville Sand Zone, and a series of open hole logs; depths have been corrected back to the open hole log measurements unless noted.

**Note:** Drill cuttings were collected, "bagged", and microscopically examined from 1000 to 1047 and again from 1210 to the RTD of 1398.

## Major Zones of Interest:

<u>"Weiser" Sandstone, 888-945.</u> Log shows well developed sand with good to excellent porosity, could make a good source for water, if needed at a later date, for flooding

Mulberry Coal, 945-947. Log displays about 1.75-2 feet of coal, lowest bulk density is 1.73.

Anna Shale (Lexington Coal Zone), 975-978. Shale, black, mostly angular cuttings, pyritic, no shows of gas, no coal present, and log verifies same, lowest bulk density is 2.30

<u>Little Osage Shale (Summit Coal Zone)</u>, 1019-1022. Shale, black, very dark grays, trace medium green-gray, pyritic, no shows of gas, no coal in sample, and log indicates no coal present, lowest bulk density 2.30, same as the Anna Shale.

Excello Shale and Mulky Coal Zone, 1033-1037. Shale, black, blocky to angular cuttings, pyritic in part, trace questionable "coaly-shale", no coal found in the drill cuttings collected and examined, no shows of free gas, there is a large "wash-out" from 1037.5-1041.5 which has affected the bulk density readings, lowest is questionable at 1.94.

**Squirrel Sand Zone.** Stopped and circulated at 1047 (Driller's depth), circulated up; pale green to light green-gray, silty, laminated shale, trace light to medium tan silt/sandstone clusters with light oily odor, very-very dull fluorescence, and had very weak shows of free oil and hydrocarbon residue – "dead" oil.

<u>Note:</u> Cored the Squirrel Sand Zone from 1047-1078 (Driller's depths), please see the Core Report for more detail.

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## Major Zones of Interest continued:

Bevier Coal, 1101-1102. Log shows less than a foot of coal, lowest bulk density is 2.16.

"V" Shale and Croweburg Coal Zone, 1115-1118.5+/-. Log shows black shale with possible coal at base, if so only a few inches thick, lowest bulk density through footage is 2.08.

<u>Fleming Coal, 1155 -1156+.</u> Log shows a little over 1.5+/- feet of coal, possible closer to around a foot, lowest bulk density is 2.03.

Mineral Coal, 1171-1172+. Log indicates close to 1.75 +/- feet of coal, possible closer to around 1-1.25+/-, lowest bulk density is 1.88.

**Scammon Coal Zone, 1183-1185.** Log reveals that the Scammon Coal is not well developed in the subject well, drill cutting collected and examined from this area contained only a trace of coal and "coaly-shale", both were fairly pyritic and no visible shows of free gas were seen, believe the coal to be only a few inches thick at best, lowest bulk density is 2.45.

"Lower" Cattleman Sand, 1185-1109. Shale, medium gray, very silty to sandy, few gray-brown, tan, and medium tan, silt size to very fine grain sand clusters that were shaley and carbonaceous, very poorly sorted, poor to very poor porosity, no odor, light hydrocarbon staining, no show of free oil, few scattered specks of "dead" oil residue.

<u>Un-named Carbonaceous Zone (Tebo?), 1213-1246.</u> Shale, black, fair amount of coal in sample, 5-10% were "floaters", all pyritic, no apparent shows of free gas, area where the black shale lays on top of the coal, lowest bulk density is 2.25.

### **Bartlesville Sand Zone:**

<u>1258-1265.</u> Shale, medium gray, very-very silty to very sandy –to a – very shaley silt/sandstone, scattered light hydrocarbon staining, very weak to questionable odor, no shows of free oil or gas, few scattered specks of hydrocarbon residue – "dead" oil.

#### 1265-1278.

Shale, medium gray, scattered disseminated micro carbonaceous and micaceous fragments, very silty with intermittent lamina and thin lenses of siltstone, silt/sandstone, and very fine to fine grain sandstone varying in color from light tans to black (due oil staining and hydrocarbon residue – "dead" oil), weak to fair oily odor, sheen shows of free oil – all increasing with depth.

<u>Note:</u> Cored the Bartlesville Sand Zone from 1278-1308 (Driller's depths) please see the Core Report for more detail.

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## **Bartlesville Sand Zone Drill Cuttings continued:**

<u>1308-1318.</u> Sandstone, unconsolidated, clear, semi-translucent, frosted, mostly fine grains, subrounded to very angular, poor to moderately sorted, few very fine, very friable clusters, very good to excellent inter-granular porosity, weak to fair "pungent" hydrocarbon odor, fair show of free oil, fair fluorescence (for the area), no shows of free gas, did circulate a fair to good show of free oil to the drilling pits when drilling through this footage, log indicates same to be "watery".

<u>1318-1330.</u> Sandstone, as above, with ample or a significant amount of gray-green, green-gray, dark gray, shale platelets and silty to shaley, silt size to very fine grain clusters of sandstone, scattered beige clay/mudstone fragments, light odor, very-very weak to no shows of free oil, trace shows of hydrocarbon residue, sand is "watery".

1330-1340. Sandstone, 90% plus is unconsolidated, fine to medium with trace coarse grain, subrounded to very angular, poorly sorted, some of the sand grains are coated with a light to medium yellow-orange-tan mineral – looks a little like rust, abundant clay/mudstone fragments (possible part of footage above), fair "pungent" hydrocarbon odor, no fluorescence, what few sand clusters found contained weak to fair show of tarry and "dead" oil residue, sample bag had very good oil stain, no shows of free oil or gas, sand is watery.

<u>Un-named Coal (one of the Neutrals / "AW" or "BW"), 1346-1348+.</u> Coal and trace "coalyshale", pyritic, no shows of free gas, log designates a not very well developed coal, lowest bulk density is 2.26.

<u>Un-named Coal (possible Riverton), 1365-1368+.</u> Coal, trace "floaters" (less than 3%), fairly pyritic, questionable secondary fracturing, no visible gypsum of calcium crystallization along fracture planes, no perceptible shows of free gas, looks to be a little over 2 feet thick and lowest bulk density reading is 1.48.

<u>Mississippi(an) (not logged), 1396-1398 (RTD).</u> Conglomerate; weathered cherts, off white, cream, mostly tripolitic, "re-worked" limestone fragments, sandstone grains in a sort of silicon clay matrix which also contains carbonaceous and pyritic material, trace aqua marine shale, no shows.

## **Summary:**

It is the authors belief that the B-7 could of made a 1 to 2 barrel/day well if both the Squirrel and Bartlesville Sands were open for production (after any "flush"), but due to the economics of the petroleum industry (as of report date), the decision was made to plug and abandon the subject well as non-commercial.

End Report Rex R. Ashlock For: Colt Energy, Inc.