# **COLT ENERGY, INC.**

# **CORE REPORTS for the Squirrel and Bartlesville Sand Zones**

2/ 17 & 22 /2016

Well: Steinforth "B" #B-7

3132 FSL, 2415 FEL Section 13-T26S-R14E Woodson Co., KS API #15-207-29323

Elevation: 961 (est. from Topo Map)

#### **Core #1: Squirrel Sand Zone, 1047-1074 (2/17/2016)**

#### Core time, min. / ft.:

	Min.	Sec.		Min.	Sec.	Min. Sec.
1047			1057		24	1066 33
1048		35	1058		30	1067 34
1049		23	1059		25	1068 35
1050		22	1060		23	1069 32
1051		<u>25</u>	1061		24	1070 32
1052		26	1062		25	1071 31
1053		29	1063		29	1072 32
1054		28	1064		30	1073 31
1055		24	1065		31	1074 31
1056		22				

# The following is a brief description of the subject core, (depths are based on the Driller's measurements):

1047.00-1047.90 Shale, light gray to medium gray-green, silty, few lamina, no show of free oil or "bleed". {.90}

1047.90-1050.10 Shale, medium gray, abundant featheredge lamina, no show. {2.20}

<u>1050.10-1050.40</u> Sandstone, silty to shaley, weak to fair with trace good bleed prior to rinse, weak to fair after rinse, few scattered gas bubbles. {.40}

<u>1050.40-1050.70</u> Shale, laminated, carbonaceous, few gas bubbles and light bleed from some of the sandier lamina. {.30}

 $\underline{1050.70-1051.20}$  Sandstone, top 1 ½" light to weak bleed, few scattered gas bubbles, then light gray, dense sand with no bleed, bottom 2" same show as top, but the base lays at about a 45+/-degree angle on shale.  $\{.50\}$ 

#### Core #1 continued:

**1051.20-1051.65** Shale, medium gray, silty, no show. {.45}

<u>1051.65-1055.15</u> Sandstone, fair to somewhat good bleed, gassy, prior to rinse, weak to fair bleed grading to no bleed bottom 8" and exhibited few scattered gas bubbles toward top after rinse. {3.50}

<u>1055.15-1055.50</u> Shale, scattered lamina, some of the sandier lamina had a light bleed, but no bleed after rinse. {.35}

1055.50-1056.00 Sandstone, weak to fair bleed, with a few scattered gas bubbles prior to rinse, no bleed after rinse except top ½" and bottom 1", few bubbles at noted top and bottom. {.50}

<u>1056.00-1057.30</u> Shale, gray to medium gray, silty to very sandy, 3 thin sand lenses with very-very weak bleed and gas bubbles. {1.30}

<u>1057.30-1058.20</u> Sandstone, top 4.5" displayed fair to good bleed and was gassy prior to rinse, and fair trace good after rinse, rest had weak to no bleed prior and no bleed after rinse – consisted of mostly dead to somewhat "tacky" (in part) "heavy" black oil. {.90}

1058.20-1058.60 Shale, with very-very light gray, convoluted, silt/sandstone, featheredge to ½" lamina, no show. {.40}

<u>1058.60-1059.60</u> Sandstone, fair to good bleed, scattered gas bubbles, no bleed, but increased to fair bleed bottom 4" after rinse. {1.00}

**1059.60-1059.80** Shale, gray to medium gray, silty. {.20}

1059.80-1061.35 Sandstone, fair to somewhat good bleed prior to rinse, very weak bleed of "tacky" "heavy" black oil after rinse, except the bottom 4.5" which had no bleed, only a strong oily sheen. {1.55}

<u>1061.35-1074.00</u>: Mostly or highest percentage of sandstone from 1061.35-1068.80 that exhibited weak bleed with a few gas bubbles before and very-very weak to no bleed after rinse except where the few scattered gas bubbles were still escaping. Could not see an apparent boundary between the sand and shale, was a uniform grading (with depth) from sand <u>to</u> silty-shaley-sand <u>to</u> very silty to somewhat sandy shale <u>to</u> very silty shale <u>to</u> slightly silty shale. Oil content was the same way (which was 70-80 percent hydrocarbon reside or "dead" oil. {12.65 feet, of which 3+/- feet could be considered sandstone or a slightly silty to shaley sandstone}

#### Core #1 continued:

#### **Summary:**

The subject core contained approximately 8.35 feet of sandstone with "live" oil bleed, 1060.9+/could be considered a "cut off" or boundary between "live" oil and "dead" oil and/or a possible oil/water contact.

Core #2: Bartlesville Sand Zone, 1278-1308 (2/18/2016)

#### Core time, min. / ft.:

N	Iin. Sec.	Min.	Sec.	Min.	Sec.
1278		1289	20	1299	21
1279 no	o time	1290	<u> 25</u>	1300	22
1280 no	<u>o time</u>	1291	21	1301	21
1281 no	o time	1292	23	1302	22
1282 no	<u>o time</u>	1293	21	1303	21
1283	21	1294	23	1304	22
1284	21	1295	22	1305	22
1285	20	1296	21	1306	21
1286	20	1297	22	1307	22
1287	20	1298	21	1308	22
1288	21				

Note: No core time for first 4 feet, was making depth correction and did not realize was coring.

<u>1278.00-1284.15</u> Sandstone, very shaley scattered silty-shale and shaley-sandstone lamina, 2 vertical fractures laying at approximately 40+/- degree angle, one at 1278.4-1279 and the other at 1279.6-1280.4, and a large elongated ping-ball size clay/mudstone nodule at 1282.5. Weak shows of free oil – "bleed" prior to rinse and very weak bleed after rinse, few scattered gas bubbles. {4.15}

<u>1284.15-1285.20</u> Shale with intermittent light to very dark gray silty-shaley lamina, and light to very light gray, wedge shaped, sandstone lamina, lamina varied from featheredge up to <sup>3</sup>/<sub>4</sub> inch thick, scattered gas bubbles and bleed from the sandier lamina and along the contact planes of the carbonaceous material found within this footage. {1.05}

<u>1285.20-1288.50</u> Sandstone, weak to fair bleed before rinse and weak bleed after rinse, scattered gas bubbles. {3.30}

#### Core #2 continued:

<u>1288.50-1289.00</u> Sandstone, very dark gray to black, fair bleed before and after rinse, looked to have a fair amount of hydrocarbon residue or "dead" oil, gassy. {.50}

1289.00-1289.40 Shale, gray to medium, silty in part (small shale break between sand). {.40}

<u>1289.40-1293.45</u> Sandstone, small 2" shale break at 1290.6, good to somewhat very good bleed, prior to rinse, mostly good bleed after rinse, but with time increased too good to very good bleed, gassy. {4.40}

<u>1293.45-1293.95</u> Sandstone, dark to very dark gray-black, good bleed before and after rinse, gassy, is carrying a large percent of hydrocarbon residue or "dead" oil. {.50}

**Note:** The free or bleeding oil found from 1278-1294 was/is a medium brown to somewhat dark brown compared to the very dark brown to black oils found at Colt's "Big Sandy" leases — lighter gravity.

<u>1293.95-1296.10</u> Shale, abundant featheredge to ½ inch silt/sandstone, silty and sandy shaley lamina, mostly wavy bedded, there is a 2 inch sandstone lens at 1295.9 that exhibited a few gas bubbles, but no bleed except around the gas bubbles. {2.15}

<u>1296.10-1297.65</u> Sandstone, silty to shaley, scattered carbonaceous material, fair to somewhat good bleed before rinse, very weak to mostly no bleed after rinse. {1.55}

**1297.60-1299.**50 Intermittent 1 ½" layers of sandstone lying at approximately 40 degree angles, few elongated, marble size clay/mudstone nodules at base, contained "dead" oil, no bleed, looked "watery". {1.90}

<u>1299.50-1303.50</u> Sandstone, very carbonaceous lamina from 1302.8 to 1303.1, no bleed, only displayed an oily sheen prior to rinse and no sheen after rinse - "dead" oil. {4.00}

**1303.50-1303.70** Thin lens of light brown, tan, silty, sandstone, no show. {.20}

1303.70-1304.55 Sandstone, medium gray, no bleed – "dead" oil. {.85}

**1304.55-1304.75** Shale, silty to sandy, no show. {.20}

1304.75-1307.55 Sandstone, medium gray, mostly no bleed before rinse except for a few scattered patches, same after rinse except from 1306.35 to 1306.55 which displayed very-very weak bleed and a few gas bubbles. {2.80}

1307.55-1308.00 Not recovered or miss measured .45 feet.

# Core #2 continued:

# **Summary:**

The subject core reviled a minimum of 6 probable feet of productive sand and possibly up to 10 feet if one takes in account the thin 6 +/-4 inch sand lenses that exhibited "bleeding" oil and gas.

**End Report** 

Rex R. Ashlock

For: Colt Energy, Inc.