

GEOLOGICAL REPORT
BOCK 1-29
SW/4 SECTION 29-T28S-R8W
KINGMAN COUNTY, KANSAS

SUMMARY

The above noted well was drilled to a depth of 4,564 feet on October 27, 2017. A logging unit was on location at 430', with logging beginning at 3,000 feet. At T.D., Weatherford electric logs were run that consisted of Dual Induction, Compensated Neutron-Density, and Micro-log. Drill stem tests were run in the Hertha Limestone and the Mississippian aged chert that yielded negative results. From the data collected while drilling and analyzing, no economic accumulations of hydrocarbons were present, so the decision was made to plug and abandon the well.

Hertha Limestone

The top of the Hertha Limestone was encountered at 3,835 (-2,198) feet. The samples were described as buff, cream, and light gray in color with textures noted as medium and very oomoldic while being hard and brittle. Cuttings were dolomitic in part and displayed excellent pin-point and vugular porosities with some inter-crystalline porosity. Abundant gold fluorescence was noted with a trace of a faint odor. No visible stain was seen and no the rocks did not cut. Electric logs indicated a zone of 15 feet with an average cross-plotted porosity of 18% and as high as 27% with cross-over on the micro-log. A drill stem test was performed to further evaluate the zone with the results below.

DST #1: (3,818'-3,845') 30-60-60-120 I.H.- 1,767#
I.F.- weak blow building to 7", 58-73#
F.F.- weak blow building to 8", 94-133#
I.S.I.P.- 1,440# F.S.I.P.- 1,454# F.H.- 1,806#
B.H.T. – 118°F Chlorides- 66,000 ppm
Recovery - 150' heavy mud-cut water (72% water, 28% mud)

Mississippian

The top of the Mississippian was cut at 4,113 (-2,476) feet. The samples were described as white, off white, yellow, with some buff and milky colors. Textures were noted as fresh and tripolitic with a lesser percentage being weathered. Cuttings were hard with some brittle slightly chalky and limy in part with some spicules being noted. Good pin-point, fracture, and inter-granular porosities were noted with some dull mineral fluorescence. No stain, gas bubbles, or cut were noted as well as no gas kick recorded on the gas chromatograph. Electric logs indicated 39 feet of porosity that averaged 26% and as high as 30% with cross-over on the micro-log. A drill stem test was run with the results below.

DST #2: (4,110'-4,174') 30-60-60-120 I.H.-1,973#
I.F.- weak blow increasing to 2", 63-63#
F.F.- weak blow increasing to 2", 76-82#
I.S.I.P.- 1,241# F.S.I.P.-1,223# F.H.- 1,935#
B.H.T.-120°F Chlorides-25,000 ppm
Recovery – 75' water-cut mud (82% mud, 18% salt water)

VIOLA DOLOMITE

The Viola Dolomite was cut at 4,411 (-2,774) feet. The samples were described as off-white and buff in color while having a medium and coarse texture. Cuttings were friable and firm with some being hard. Buff chert was present and porosities were noted as excellent pin-point and inter-crystalline. Dull yellow fluorescence was noted with a very slow ring cut though no stain or odor was present. Electric logs indicated 21 feet of neutron porosity that averaged 19% and as high as 21% accompanied by cross-over in the micro-log.

SIMPSON SAND

The Simpson Sand was cut at 4,476 (-2,839) feet. The samples were described as a sand that was translucent and frosted in appearance. Grain size was noted as fine to medium while being sub-angular to sub-round. Grains were moderately well sorted while some were consolidated and some were unconsolidated. The upper sand had dolomitic cement while the lower two-thirds of the sand had dolomitic and silica cement. A reddish-brown clay material was also noted in the matrix in part throughout the total sand package. Excellent pin-point and inter-granular porosity was seen though no fluorescence, stain, cut, or odor was noted in the top. Electric logs indicate the top to be more of a dolomite than noted in the sample descriptions with an average neutron porosity of 17% and as high as 20% accompanied by cross-over on the micro-log in the top 6 feet.

ELECTRIC LOG TOPS

	POLLOK ENERGY BOCK 1-29 SW NW SW 29-T28S-R8W	UTICA SOUTHERN BOCH 1 NW NE 29-T28S-R8W	AURORA GASOLINE HIBBS 1 SE SW NW 32-T28S-R8W
BS/HEEBNER (SUBSEA)	3,221' (-1,584')	3,167' (-1,578')	3,208' (-1,596')
T/LANSING (SUBSEA)	3,447' (-1,810')	3,375' (-1,786')	3,441' (-1,829')
BS/HUSHPUCKNEY (SUBSEA)	3,830' (-2,193')	3,766' (-2,177')	3,818' (-2,206')
T/CHEROKEE (SUBSEA)	4,028' (-2,391')	3,961' (-2,372')	4,009' (-2,397')
T/MISSISSIPPIAN (SUBSEA)	4,113' (-2,476')	4,041' (-2,452')	4,080' (-2,468')
T/VIOLA (SUBSEA)	4,411' (-2,774')	4,353' (-2,764')	4,406' (-2,794')
T/SIMPSON (SUBSEA)	4,476' (-2,839')	4,408' (-2,819')	4,457' (-2,845')

Conclusion

The Bock 1-29 was drilled for potential hydrocarbons in the Hertha Limestone, Mississippian aged chert, and Simpson sands. After drilling and analyzing and the negative drill stem test results, the decision was made to plug and abandon the Bock 1-29.