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Geological Report

Operator: TR Crude, LLC
501 South Park Blvd.
Independence, Kansas 67301

Date: April 16, 2013

Reference Well: Johnson #20-1 **API #:** 15-035-24,496-00-00

Spot Location: NW SW SE Section 20 – Township 34 South – Range 7 East
(990' FSL, 2310' FEL)
Cowley County, Kansas
Donelson West Oil & Gas Field

Drilling Commenced: March 25, 2013

Drilling Finished: April 13, 2013

Ground Elevation: 1,292' (estimated)

Topography/Vegetation: Flat/Pasture

Drilling Contractor: McPherson Drilling Company KCC License # 5495
15256 112th Road
Winfield, Kansas 67156

Hole/Casing Data: 300' of 8.625" Surface Casing installed/cemented by
Consolidated Oil Well Services.
6.25" Borehole drilled to 2,647'. for production purposes.
4.5" Production Casing installed/cemented with additives by
Consolidated Oil Well Services.

Total Depth: 2,647'

Electric Log Program: Open Hole (Tucker Wireline) – Compensated Neutron/Density
Phased Induction/Shallow Focus
MICRO Log

This geological report concludes wellsite supervision and sample examination on the above referenced test well. The well was drilled to a total depth (TD) of 2,647' to allow for hydrocarbon analysis through the Altamont Limestone formation. The drilling samples exhibited a good to excellent oil show for this formation. Based on this show it was recommended to install/cement production casing to allow for further testing.

Significant geologic marker zones and hydrocarbon shows are described in the following lithology report. The estimated ground elevation is 1,292' from which all measurements were made. This report has been correlated with the open hole suite of electric logs provide by Tucker Wireline Services of Tulsa, Oklahoma

DEPTH (feet)

LITHOLOGY

000 – 1,470	No samples observed.
1,887 – 1,972	Layton Sandstone (Upper or Little Salt Sandstone) – No shows observed.
2,153 – 2,261	Layton Sandstone (Lower or Big Salt Sandstone) – No shows observed.
2,370 – 2,376	Drum Limestone – Cream to buff, fine crystalline, poor porosity, no shows observed.
2,380 – 2,389	Redd Sandstone - Clear to frosted, very fine grained, clean, fair porosity, no shows observed.
2,449 – 2,452	Holdenville Shale - Grayish to black.
2,462 – 2,483	Lenapah Limestone – Cream to grayish, fine crystalline, interbedded with shale. No shows observed.
2,483 – 2,544	Wayside Sandstone (Interval) – Grayish shale, silty, no sandstone observed.
2,544 – 2,574	Altamont Limestone – Cream to buff, fine crystalline, dense, poor porosity, no shows observed from 2,544 – 2,551'. Gray shale interval from 2,551 – 2,554'. Limestone as before, broken, good porosity, good to excellent fluorescence, good to strong odor, good “cut” with acid, probable commercial oil zone from 2,554 – 2,561'. Limestone as before, dense, poor to tight porosity, no hydrocarbon shows observed balance of formation.

2,574 – 2,647 Shale - Grayish

2,647' **Drillers' Total Depth**

Formation Top Comparison

	<u>Johnson #20-1</u>	<u>Gammon Fossil #20-3**</u>
<i>Formation</i>	<i>Depth(Sub-Sea)</i>	<i>Depth (Sub-Sea)</i>
Drum Limestone	2,370' (-1,078)	2,350' (-1,078)
Lenapah Limestone	2,462' (-1,170)	2,444' (-1,172)
Altamont Limestone	2,544' (-1,252)	2,526' (-1,254)

** The B-C Steel, LLC **Gammon Fossil #20-3** well is located 990' FSL, 2,970' FEL of Section 20 – Township 34 South – Range 7 East, Cowley County, Kansas. Estimated elevation is 1,272'.

Please feel free to contact my office if you have any questions concerning this report.

Sincerely,



Thomas H. Oast
Geological Consultant