

## GERALD D. HONAS

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## **Geological Report**

At the operator's request, only an abbreviated summary of a geological report was prepared on the Klaassen No 10.

Noble Petroleum, Inc. Klaassen No. 10 3922' FSL & 1659' FEL Section 27-T24S-R4E Butler County, Kansas API #15-015-23,897

Contractor:

**C&G Drilling Company** 

Spud Date:

June 6, 2011 June 12, 2011

Completed: Elevation:

1379 GL and 1385 KB

Surface Casing:

8 5/8" at 213' with 125 sacks & 1" 35 sack on back side.

Production Casing: 5 ½" at 2651' with 125 sacks of cement.

This hole was drilled to a total depth of 2654 feet. At this point a suite of Superior open hole logs were run.

Log Tops:

200 x opo.					
Iatan	1744	-359	Marmaton	2356	-971
Lansing	1840	-455	Cherokee Shale	2494	-1109
Kansas City	2130	-745	Mississippian	2552	-1167
Base Kansas City	2285	-900	LTD	2656	-1271

Geological supervision on this test was limited to 2483 to 2654, 10 dry samples were saved from 1600 to RTD and were deposited at the Kansas Geological Survey.

Mississippian sample description:

2552 to 2557 Chert white to cream, 90% of sample weathered with fair to very good weathered, tripolitic and solution vug porosity. Fair show of very light amber free oil, light even saturation, good fluorescence in 40% of sample, good odor.

2557 to 2764 Chert as above, but strong increase in fresh gray semi-translucent chert, 55% weathered with fair tripolitic and vuggy porosity, 45% fresh gray chert with no visible porosity & no shows, 30% of sample with fluorescence and show of oil. Chert become increasingly dark gray and fresh toward base of this interval. Sample carries good odor but poor reservoir rock with depth.

2764 to 2778 Chert 80% fresh, gray and sharp. Color becomes mottled light and dark gray with depth. Chert 20% white weathered with fair tripolitic porosity, odor decreases from above, 8% with patchy fluorescence & very light spotty stain, slight show free oil.

2778 to 2791 Chert 70% fresh, cream to gray mottled. Slight increase in white Chert 30% weathered with poor to fair tripolitic porosity, 25% of sample with fair even to patchy fluorescence. Fair odor and show of oil. Overall, moderate increase in porosity, shows, fluorescence and odor from above.

2791 to 2601 Chert mostly white, 75% fresh with no visible porosity and no shows. Chert, 25% weathered with poor to scattered fair tripolitic porosity, 15% of sample carries fair patchy fluorescence, odor decreasing to poor, slight show of free oil.

2601 to 2605 Chert 40% white, cream, gray & abundant clear frosted translucent with no visible porosity and no shows. Chert 60% white and weathered with poor to some fair tripolitic porosity. Shows strongly decrease to 5-8% of sample with poor spotty fluorescence and poor to fair odor. Still traces of free oil in pieces with fluorescence.

2605 to 2615 Chert 80% white, cream and gray. Fresh with no visible porosity and no shows. Chert 20% white, weathered with mostly poor tripolitic porosity, still poor to fair odor, 5% with patchy fluorescence, slight show of inactive. Shows decreasing with depth.

2615 to 2630 Chert 85% gray and some white, fresh with no porosity and no shows. Chert 15% partly weathered with very poor tripolitic porosity, 2% with spotty fluorescence, no show oil, no odor.

2630 to 2636 (last sample caught 2635 to 2640) Chert 80% white, very clean, fresh, no visible porosity, no shows. Chert 20% weathered with poor porosity, no fluorescence, no shows, no odor. Note this last sample contained on lime or shale.

No cores or drill stem tests were run. Superior well service ran open hole logs on this hole. Based on the good samples shows, structural position and positive log calculations, it was recommended that  $5 \frac{1}{2}$ " production casing be set. It is my recommendation that the interval from 2553 to 2557 be perforated and treated.

Respectfully submitted,

Jerry/Honas Geologist