

## Geological Report

**Hammond E. #22-18**  
1810' FNL; 830' FEL  
Sec. 8, T24S, R16E  
Woodson County, Kansas  
7/4/2018

**Operator:** Petroleum Resource Management Company  
733 Highgrove Park  
Houston, Texas 77024

**Drilling Contractor:** Leis Oil Services, Matt Leis, driller

**Well-site Geologist:** Julie Shaffer  
480 Fox Rd  
Toronto, Kansas 66777

**Dates Drilled:** June 26, 2018

**Size Hole:** 5 7/8"

**Total Depth:** 1120'

**Elevation:** 1067' (est.)

**Drilling Fluid:** Mud

**Surface Casing:** 42' of 7"

**Electric Logs Run:** CDL-CNL-DIL-TEMP.

**Formation Tops:** Formation tops were picked in the field

**Rock Color Desc.:** GSA rock color chart (dry cuttings)

**Status:** **OIL WELL**

**Gas Shows:** N/A

**Oil Shows:**

Upper Squirrel Sandstone	1006-1008'	Good
Upper Squirrel Sandstone	1008-1015'	Very Good
Upper Squirrel Sandstone	1020-1022	Trace to Poor
Lower Squirrel Sandstone	1054-1058'	Very Good
Lower Squirrel Sandstone	1058-1062'	Poor

**Notes:** Well cuttings were collected and bagged at the drill rig by the drillers. Samples of the select zones of interest were saved and reviewed in the laboratory under the black light and microscope.

0-1004' Samples not examined

**Top of the Upper Squirrel Sandstone @ 1004' (+63')**

- 1004-1006' Sandstone, light gray, very fine grain, sub-rounded to round grains, abundant siltstone, well cemented, minor mica, minor mottled very pale yellowish-brown oil staining, <10% mottled to uniform medium-bright pale-yellow hydrocarbon fluorescence
- 1006-1008' Sandstone, moderate yellowish-brown oil stained cuttings, fair to good mottled saturation, very fine grain, sub-rounded to round grains, well sorted, hi sphericity quartz, abundant siltstone, minor mica, 14-16% porosity, friable, strong petroliferous odor, uniform brownish-yellow hydrocarbon fluorescence, no acid reaction
- 1008-1015' Sandstone, dark yellowish-brown oil stained cuttings, excellent saturation, very fine to fine grain, sub-rounded to rounded grains, moderately-well sorted, hi sphericity quartz, minor siltstone, minor mica, 18-20% porosity, highly friable, strong petroliferous odor, uniform bright brownish-yellow hydrocarbon fluorescence, very weak acid reaction; 1011-1015' has cuttings with minor water washed appearance
- 1015-1017' Sandstone (60%), mottled dark yellowish-brown oil stained cuttings, fair to good saturation, very fine to fine grain, sub-rounded to rounded grains, moderately well sorted, hi sphericity quartz, minor siltstone, abundant mica, 16+% porosity, friable, strong petroliferous odor, bright brownish-yellow with bright speckled yellow hydrocarbon fluorescence, weak acid reaction; Shale (40%), medium-light gray, silty to sandy, micaceous, minor loose chips of limestone
- 1017-1020' Sandstone, light gray, abundant siltstone, shaley, well cemented, abundant mica, no odor, no oil show, no fluorescence
- 1020-1022' Sandstone, mottled dark yellowish-brown oil stained cuttings, fair to good saturation, very fine to fine grain, sub-rounded to rounded grains, moderately well sorted, hi sphericity quartz, minor siltstone, abundant mica, 16+% porosity, friable, strong petroliferous odor, bright brownish-yellow with bright speckled yellow hydrocarbon fluorescence, no acid reaction
- 1022-1029' Sandstone, light gray, very fine grain, sub-rounded to round grains, siltstone, well cemented, shaley, micaceous, minor mottled very pale yellowish-brown and lightly speckled black oil staining, <25% speckled to mottled moderately-bright yellow hydrocarbon fluorescence
- 1029-1054' Samples not examined

**Top of the Lower Squirrel Sandstone @ 1054' (+13')**

- 1054-1058' Sandstone, very dark yellowish-brown to black oil stained cuttings, excellent saturation, fine grain, sub-angular to sub-rounded grains, well sorted, hi sphericity quartz, minor silt, micaceous, 18-20% porosity, highly friable, strong petroliferous odor, uniform dark yellowish-brown with speckled bright yellowish-white hydrocarbon fluorescence, no acid reaction

- 1058-1062' Sandstone, light gray, very fine grain, sub-rounded to round grains, siltstone, friable, moderate petroliferous odor, shaley, micaceous, minor mottled moderate grayish-brown and lightly speckled black oil staining, <25% speckled to mottled moderately-bright yellowish-white hydrocarbon fluorescence, weak to fair acid reaction (minor calcitic cementation)
- 1062-1071' Siltstone, light to medium gray, shaley, minor very fine grain sandstone grains, micaceous, very well cemented, no hydrocarbon odor, no oil show, minor speckled yellow fluorescence
- 1071-1120' Samples not examined

**T.D. = 1120'**

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**Julie Shaffer**  
**Geologist**