

## GEOLOGICAL REPORT

**Campbell South #4**  
4455' FSL, 4785' FEL  
Sec. 1 T28S R16E  
NE SW NW NW  
Wilson County, Kansas

**Date:** 4/3/12

**Operator:** Viva International, Inc., 8357 Melrose Dr., Lenexa, Kansas 66214

**Dates Drilled:** March 2012

**Total Depth:** N/A **Elevation:** 1051' (Est.)

**Status:** OIL WELL

**Notes:** Select samples of zones of interest were saved by driller brought in to be examined in the laboratory with a binocular microscope and black light. Sample depths noted were indicated on the sample bags.

**Comments:** The Mississippi had a good oil show from 1241-1249'.

### FIELD and LABORATORY SAMPLE EXAMINATION

0-1232' Samples not examined

Top of the Mississippi at 1232' (-181') / Logged Top of Mississippi at 1235' (-184')

1232-1234' Shale (95%), grayish-black; Chert (5%), white, tripolitic (weathered), scattered pyrite, few pieces exhibiting pinpoint vugular porosity as high as 15-20%, no fluorescence

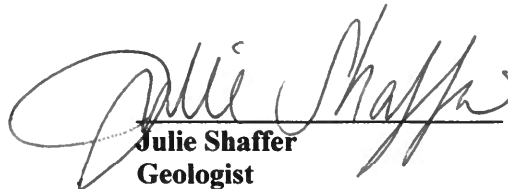
1234-1237' Shale (35%), grayish-black, dark gray; Chert (65%), white, tripolitic, scattered pyrite, minor amount of cuttings exhibit mottled dark brown oil staining and good vugular porosity (~20%), <5% of chips have a mottled bright yellow hydrocarbon fluorescence. Samples exhibited an uneven, fast, fair, bluish-white ring cut in tray when examined under black light, no residual oil show in white light.

1237-1239' Chert, white, mostly siliceous and chalky, some flinty chips, tripolitic, fossils, scattered pyrite, scattered dark brown oil staining with few pieces fully saturated, 30-40% of chips display good pinpoint vugular porosity with fewer chips exhibiting intergranular porosity, 15-20% of chips have a heavily mottled to uniformly saturated bright yellow hydrocarbon fluorescence. Samples exhibited an even, very fast, excellent, bright blue cut

when examined under black light, faint residual oil show to tray in white light. Few scattered medium to medium-light gray shale laminae present.

- 1239-1241' Shale (60%), medium gray to grayish-black; Chert (40%), white, mostly chalky with fewer flinty chips, some tripolitic chert, light brown oil staining, overall minimal vugular porosity, few individual chips display intergranular porosity and good chalky porosity, 20% heavily mottled to uniform bright yellow hydrocarbon fluorescence. Samples exhibited a slightly uneven, fairly fast, good, milky blue cut when examined under a black light, no residual oil show in white light.
- 1241-1245' Chert (60%), off-white/light tan, siliceous and chalky, tripolitic, ~50% of chips show a uniform dark brown heavy oil staining, good, even saturation, friable, many samples have good intergranular porosity as well as visible pinpoint vugular porosity (20+%), free oil on water when washed, strong petroliferous odor, 40-50% heavily mottled to uniform bright yellow hydrocarbon fluorescence. Samples exhibited an even, fast, excellent, bright yellowish-blue cut when examined under a black light, fair residual oil show in white light. Shale (40%), medium gray
- 1245-1249' Chert (30%), white, siliceous and chalky, tripolitic, good chalky and vugular porosity; Shale (20%), medium gray; Limestone (50%), light gray, fine grained, good intergranular and vugular porosity, free oil on water when washed, strong petroliferous odor, 40-50% of lime and chert samples exhibit mottled to uniform medium to dark brown heavy oil staining, saturation was mostly mottled throughout porous samples, 40-50% heavily mottled bright yellow hydrocarbon fluorescence. Samples exhibited an even, fairly fast, good bright bluish-white cut when examined under a black light, fair residual oil show in white light. Highly saturated samples had an even, very fast, excellent bright yellow cut (up to 4 rings) with fair to good residual oil show in white light.

**T.D. Casing to 1249'**

  
**Julie Shaffer**  
**Geologist**