## **Geological Report**

Baker #SCZ-42 NW-NW-SE-NW, Sec. 26, T18S, R22E 1485' FNL & 1485' FWL Miami County, KS API #15-121-30515-00-00

**Operator:** SCZ Resources LLC, Jorge Ranz, 8614 Cedarspur Drive, Houston, TX,

77055

**Drilling Contractor:** JTC Oil Inc.

Well Site Geologist: Mark Brecheisen

**Date Drilled:** August 12<sup>th</sup>, 2014

**Size of Hole:** 6"

**Total Depth:** 420'

**Elevation:** 962' (estimated)

**Drilling Fluid:** Compressed air with fresh water injection

**Surface casing:** 20' of 7" casing cemented with 3 sacks of cement to surface

**Formation Tops:** Formation tops have not been correlated to electric logs

Field Name: Paola-Rantoul

Status: Oil Well

**Oil Shows:** Hepler Sandstone @ 300'-305'

Peru Sandstone @ 331'-353'

Water Encountered: No appreciable water encountered while drilling.

On Location: August 12<sup>th</sup>, 2014, 10:56 AM. Drilling depth of 280'; left location @ TD

420' @ approximately 11:31 AM.

**Notes:** Well cuttings were examined at rig and discarded. Samples of zones of

interest were saved and examined with binocular microscope and UV light.

## Top of the Hepler Sandstone @ 300'

300'-305'

Sandstone; light gray to dark brown. Mottled. Very fine-grained. Very well-sorted with angular to subrounded grains. Very micaceous. Very argillaceous. Laminated in part. Calcareous in part. Fairly hard. Friability overall fair to good. Traces of vugular porosity on few sample surfaces. Mottled to laminar to even, medium-dark brown oil staining on sample surfaces. Saturation overall fair to good. Sample had a very strong petroliferous odor. Very strong free oil show to sample surfaces and to pit. 30-35% mottled, variegated yellow hydrocarbon fluorescence. Fairly fast, streaming to even, fair milky blue cut; no residual oil show to tray after cut

## Top of the Peru Sandstone @ 331'

331'-336'

Sandstone; light brown. "Sugar sand" section. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Slightly micaceous. Glauconitic. Fairly clean; poorly-cemented grainstone. Friability overall very good to excellent, with abundant vugular porosity on sample surfaces. Even, light to medium brown oil staining on sample surfaces. Saturation overall poor to fair. Visible evidence of water passing through this footage from previous water flooding attempts. Sample had a faint petroliferous odor. No free oil show to sample surfaces; slight free oil show to pit. No hydrocarbon fluorescence. Slow, bleeding to blooming, fair milky blue cut; very faint residual oil show to tray after cut

336'-338'

Sandstone; light to dark brown. "Sugar sand" section. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Slightly micaceous. Glauconitic. Traces of interbedded shale present. Very clean; very poorly-cemented grainstone. Friability overall excellent, with abundant vugular porosity on sample surfaces. Even, light to medium to dark brown oil staining on sample surfaces. Saturation overall for entire sample interval good to very good. Oil percentage increased dramatically in this footage. The presence of "washed out" samples indicate that about half of this sample has had water pass through it. Therefore, no perforations should be above 337' in this well. Sample had a very strong petroliferous odor. Very strong free oil show to sample surfaces; strong free oil show to pit. 65% even, variegated yellow hydrocarbon fluorescence. Fast, even, very strong milky blue cut; strong residual oil show tot ray after cut

338'-343'

Sandstone; medium to dark brown. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Slightly micaceous. Glauconitic. Calcareous in part, with traces of non-porous, interbedded limestone present in sample. Traces of interbedded shale present. Friability overall very good with abundant vugular porosity on sample surfaces. Mottled to

laminar to even, medium to dark brown oil staining on sample surfaces. Saturation overall very good. Sample had an excellent petroliferous odor. Excellent free oil show to sample surfaces with lots of gas-driven oil popping out of rocks; very strong oil show to the pit. 60% even, variegated yellow hydrocarbon fluorescence. Fairly fast, streaming to blooming, strong milky blue cut; fair residual oil show to tray after cut

343'-348'

Sandstone; dark brown. Mottled. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Slightly micaceous. Glauconitic. Abundant non-porous limestone present in sample. Interbedded shale present. Overall, sandstone fairly hard; calcareous, with overall friability fair to good. Vugular porosity observed on some sample surfaces. Very mottled to even, medium-dark brown oil staining on some sample surfaces. Saturation overall fair. Sample had a strong petroliferous odor. Fair to good free oil show to sample surfaces and to pit. 25-30% mottled to even, variegated yellow hydrocarbon fluorescence. Fairly slow, streaming to blooming, good milky blue cut; faint residual oil show to tray after cut

348'-353'

Sandstone; dark brown. Mottled. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Slightly micaceous. Glauconitic. Very argillaceous. Very calcareous. Hard. Friability overall poor, with traces of vugular porosity on very few sample surfaces. Overall sample very laminated, with interbedded shale and limestone present. Mottled, dark brown oil staining on sample surfaces. Saturation overall poor. Sample had a good petroliferous odor. Fair free oil show to sample surfaces and to pit. 20% mottled, variegated yellow hydrocarbon fluorescence. Slow, streaming, poor milky blue cut; no residual oil show to tray after cut

TD 420' @ approximately 11:31 AM, August 11th, 2014

Mark Brelish Sr.