

## **Geological Report**

Baker #SCZ-46  
NE-SW-NE-NW, Sec. 26, T18S, R22E  
1485' FNL & 1815' FWL  
Miami County, KS  
API #15---00-00

**Operator:** SCZ Resources LLC, Jorge Ranz, 8614 Cedarspur Drive, Houston, TX,  
77055

**Drilling Contractor:** Evans Energy Development

**Well Site Geologist:** Mark Brecheisen

**Date Drilled:** July 23<sup>rd</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 @ 296'-306'

Peru Sandstone @ 327'-348'

**Water Encountered:** No appreciable water encountered while drilling.

**On Location:** July 23<sup>rd</sup>, 2014, 8:22 AM. Drilling depth of 153'; left location @ TD 420'  
@ approximately 9:45 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 @ 296'**

- 296'-298' Sandstone; light gray to medium brown. Mottled. Very fine-grained. Well-sorted with angular to subrounded grains. Very shaley. Traces of interbedded limestone present. Calcareous in part. Friability overall fair to good. Pinpoint to mottled, Light to medium brown oil staining on some sample surfaces. Saturation overall very poor. 10-15% mottled, dull yellow hydrocarbon fluorescence. Fairly fast, streaming, poor milky blue cut; no residual oil show to tray after cut
- 298'-300' Sandstone; medium-dark brown. Mottled in part. Very fine-grained. Well-sorted with angular to subrounded grains. Argillaceous in part. Poorly-cemented. Friability overall good to very good. Traces of vugular porosity on few sample surfaces. Pinpoint to mottled to even, medium-dark brown oil staining on sample surfaces. Overall oil saturation fair to good. 40-45% mottled to even, variegated yellow hydrocarbon fluorescence. Fast, streaming to blooming, good milky blue cut; very faint residual oil show to tray after cut
- 300'-302' Sandstone; medium-dark to dark brown. Very fine-grained. Well-sorted with angular to subrounded grains. Very shaley. Very micaceous. Friability overall good to very good. Vugular porosity observed on many sample surfaces. Mottled to even, medium-dark to dark brown oil staining on sample surfaces. Saturation overall good. 25-30% mottled to even, variegated yellow hydrocarbon fluorescence. Fast, streaming to blooming, good milky blue cut; faint to fair residual oil show to tray after cut
- 302'-304' Sandstone; light gray to dark brown. Very fine-grained. Well-sorted with angular to subrounded grains. Micaceous; argillaceous. Very laminated in part. Poorly-cemented. Friability overall very good. Traces of interbedded limestone present in sample. Mostly mottled to even, dark brown oil staining on sample surfaces. Saturation overall fair to good. 10-15% mottled, variegated yellow hydrocarbon fluorescence. Very fast, even, very strong milky blue cut; fair residual oil show to tray after cut
- 304'-306' Sandstone; sample 90% shale, 10% sandstone. Sandstone is light gray to dark brown. Mottled in part. Very fine-grained. Well-sorted with angular to subrounded grains. Very micaceous; very shaley. Sandstone has poor cementation. Pinpoint to even, dark brown staining on some sample surfaces. Saturation overall poor to fair. 7-10% mottled, variegated yellow hydrocarbon fluorescence. Slow, bleeding, very poor milky blue cut; no residual oil show to tray after cut

Note: Overall free oil show to the pit for the Hepler Sandstone is good

### **Top of the Peru Sandstone @ 327'**

- 327'-328' Sandstone; light gray to light brown. Mottled in part. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Slightly micaceous. Poorly-cemented. Friability overall very good to excellent. Abundant vugular porosity on many sample surfaces. Mottled to even, light brown oil staining on sample surfaces. Saturation overall fair. Sample has the appearance of being "washed-out". Fair petroliferous odor to sample. Fair free oil show to sample surfaces and to pit. 70% mostly mottled to even, medium-bright yellow hydrocarbon fluorescence. Fast, blooming, fair milky blue cut; no residual oil show to tray after cut
- 328'-330' Sandstone; medium to medium-dark brown. Mottled in part. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Poorly-cemented. Friability overall excellent. Abundant vugular porosity observed on many sample surfaces. Mottled to mostly even, medium to medium-dark brown oil staining on sample surfaces. Saturation overall good to very good. Sample had a good petroliferous odor. Good free oil show to sample surfaces and to pit. 85% slightly mottled to mostly even, medium-bright yellow hydrocarbon fluorescence. Very fast, streaming to even, good milky blue cut; faint residual oil show to tray after cut
- 330'-332' Sandstone; 95% shale, 5% sandstone. Traces of interbedded limestone in sample. Sandstone is light gray to medium-dark brown. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Slightly micaceous. Calcareous in part. Laminated in part. Mottled to mostly even, medium brown oil staining on sample surfaces. Saturation overall poor to fair. Very faint petroliferous odor to sample. No free oil show to sample surfaces; slight free oil show to pit. Less than 3% mottled to even, medium-bright yellow hydrocarbon fluorescence. Fairly fast, bleeding to streaming, poor milky blue cut; no residual oil show to tray after cut
- 332'-334' Shale; 98% shale, 2% sandstone. Sandstone is light gray to medium brown. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Micaceous. Argillaceous in part. Traces of interbedded limestone present in sample. Friability overall fair to good. No real vugular porosity observed on sandstone sample surfaces. Mottled to even, medium-dark brown oil staining on few sample surfaces. Saturation overall poor. Sample had a faint to fair petroliferous odor. Fair, pinpoint to laminar to mottled free oil show to sample surfaces; fair free oil show to pit. 3-5% mostly mottled to even, medium-bright yellow hydrocarbon fluorescence. Very slow, slightly bleeding, very poor milky blue cut; no residual oil show to tray after cut
- 334'-336' Sandstone; light gray to dark brown. Mottled in part. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Micaceous and calcareous in part. Traces of interbedded limestone present in sample.

Friability overall fair to very good. Abundant vugular porosity observed 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 good free oil show to sample surfaces; very strong free oil show to pit. 15%, mostly even, medium-bright yellow hydrocarbon fluorescence. Fairly fast, streaming, fair milky blue cut; very faint residual oil show to tray after cut

336'-338'

Sandstone; medium-dark to dark brown. Mottled in part. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Micaceous. Few traces of interbedded limestone present. Poorly-cemented. Friability overall excellent. Mottled to even, medium-dark to dark brown oil staining on sample surfaces. Abundant vugular porosity observed on many sample surfaces. Saturation overall very good. Sample had an excellent petroliferous odor. Very strong, even, free oil show to sample surfaces; very strong to excellent free oil show to pit. 75% even, variegated yellow hydrocarbon fluorescence. Fast, even, strong milky blue cut; fair residual oil show to tray after cut

338'-340'

Sandstone; light gray to medium-dark brown. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Sample very shaley and laminated. Micaceous in part. Traces of interbedded limestone present. Fairly well-cemented. Friability overall fair to good. Traces of vugular porosity on few sample surfaces. Mostly mottled to even, medium-dark brown oil staining on some sample surfaces. Saturation overall fair. Sample had a good petroliferous odor. Fair to good free oil show to sample surfaces; fair free oil show to pit. 15-20% mottled to mostly even, medium yellow hydrocarbon fluorescence. Fairly fast, mostly even, good milky blue cut; faint residual oil show to tray after cut

340'-342'

Sandstone; light gray to medium-dark brown. Mottled. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Sample very shaley overall, and laminated in part. Poorly-cemented. Friability overall good to very good. Vugular porosity observed on many sample surfaces. Mottled to laminar to even, medium-dark brown staining on sample surfaces. Saturation overall fair to good. Excellent petroliferous odor to sample. Excellent free oil show to sample surfaces and to pit. 10% slightly mottled to mostly even, medium yellow hydrocarbon fluorescence. Slow, bleeding, fair milky blue cut; no residual oil show to tray after cut

342'-344'

Sandstone; light gray to dark brown. Mottled in part. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Calcareous in part. Fairly well-cemented. Friability overall is fair. Vugular porosity observed on many sample surfaces. Mottled to even, dark brown oil staining on many sample surfaces. Saturation overall very good to

excellent. Sample had an excellent petroliferous odor. Very good to excellent free oil show to sample surfaces; good to very good free oil show to pit. 85% slightly mottled to even, variegated yellow hydrocarbon fluorescence. Instantaneous, even, excellent milky blue cut; very strong residual oil show to tray after cut

344'-346'

Sandstone; 50% limestone, 50% sandstone. Sandstone sample is light gray to dark brown. Mottled. Very fine to fine-grained. Well-sorted with angular to subrounded grains. Micaceous in part. Calcareous in part. Well-cemented. Friability overall fair. Traces of vugular porosity on few sample surfaces. Mostly mottled to even, medium to dark brown oil staining on sample surfaces. Saturation overall poor to fair. Sample had a very good petroliferous odor. Very good free oil show to sample surfaces and to pit. 60-65% mottled to even, variegated yellow hydrocarbon fluorescence. Instantaneous, even, very strong milky blue cut; good residual oil show to tray after cut

Note:

Overall free oil show to the pit for the entire Peru section was very good to excellent

**TD 420' @ approximately 9:45 AM, July 23<sup>rd</sup>, 2014**

A handwritten signature in cursive script, reading "Mark D. Brachisen Sr.", written in black ink on a light-colored background.