Geological Report

Fisher Family Trust #31-1
NE, SE, NE Sec. 31, T31S, R8E
990' FNL, 4520' FWL
Cowley County, KS
API #15-035-24390-00-00

Operator: B-C Steel, LLC., C/O Bert Carlson, 209 North Fry, Yates Center, KS, 66783.

Drilling Contractor: Landmark Drilling, Rig #2

Wellsite Geologist: Mark Brecheisen.

Dates Drilled: February 20th, 2011 to February 23rd, 2011.

Size Hole: 8 1/4"

Total Depth: 2985'

Elevation: 1380'

Drilling Fluid: Freshwater bentonite and additives.

Surface Casing: 450' of 8-5/8" casing cemented with 160 sx of cement to surface.

Formation Tops: Formation tops were picked from the electric logs.

Field Name: Radcliff.

Status: Oil/gas well.

Oil Shows: Layton "B" Sandstone @ 1980'-1990', Swope Limestone @ 2162'-2171', Hertha Limestone @ 2191'-2200', Pawnee Limestone @ 2427'-2432', Higginsville Limestone @ 2465'-2471'.

Gas Shows: Layton "B" Sandstone @ 1980'-1990', Swope Limestone @ 2162'-2171', Hertha Limestone @ 2196', 2206' and 2210'-2220', Pawnee Limestone @ 2427'-2432', Higginsville Limestone @ 2465'-2471', Summit Shale @ 2480'-2484', Mulky Shale and Coal @ 2491'-2496'.

Water Encountered: No appreciable water encountered upon drilling.

On Location: February 20th, 2011, 12:45pm. Drilling Depth of 1581'; left location at TD 2485'. TD'd at 4:20am, left location 8:06am February 23rd, 2011.

Notes: Well cuttings were examined at rig and discarded. Samples of "zones of interest" were saved and examined with a binocular microscope and black light.

0'-1500': Samples not examined.

1500'-1528'': Shale, medium-dark to dark gray and red, soft, greasy. Traces of limestone present. Off-white to yellowish-gray, fine crystalline, fairly friable. 10% even, medium-bright yellow mineral fluorescence. No petroliferous odor or show. Samples very finely ground – details hard to see.

Top of Iatan Limestone @1528'(-148'), top of the Pedee Group

1528'-1534': Limestone, off-white to yellowish-gray, fine crystalline. Fair friability, slightly sucrosic, poor inter-crystalline porosity. 3-5% even, variegated yellow mineral fluorescence. No petroliferous odor or show.

1534'-1618': Shale, medium-dark gray with interspersed red and black shale. Soft, silty to sandy in part, pyritic and carbonaceous in part. Traces of sandstone present, bluish-white to very light gray. Very fine to fine-grained, well-sorted with sub-angular to sub-rounded grains. Very friable, glauconitic, micaceous in part, good inter-granular porosity, no visible staining present. Trace limestone. Overall, approximately 3% even, dull, yellow mineral fluorescence. No petroliferous odor or show.

1618'-1628': Stalnaker Sandstone, bluish-white to very light gray. Very fine to coarse grained. Fair sorting with sub-angular to well-rounded grains. Sample has a fairly high percent of uncemented grains. Extremely friable, micaceous in part, traces of black bitumen on few samples. No cut. Trace, even, medium bright yellow mineral fluorescence. No petroliferous odor or show. Should be noted that the hot wire was non-functioning until 1795', so no gas indication, if any, could be seen.

1628'-1662': Shale, medium-dark to dark gray with some red shale present. Soft, greasy, silty in part. Traces of sandstone present. Bluish-very light gray, fine to coarse-grained, fair sorting, sub-angular to well-rounded grains. Traces of oil stain on very few samples. No cut, no saturation. Limestone trace, tan to olive-gray. Fine crystalline, fairly friable, fair inter-crystalline porosity. Overall, less than 3% mottled to even variegated bluish-yellow mineral fluorescence. No petroliferous odor/show.

1662'-1710': Shale, medium to dark gray, soft, greasy, some mudstone present. Calcareous in part silty in part. Traces of carbonaceous black and red shales present. Trace, even, medium, bright yellow mineral fluorescence. No petroliferous odor or show.

Top of Lansing Group @1710'(-330')

1710'-1750': Limestone, pale yellow-brown to olive-gray, mottled in part, fine crystalline. Hard to fairly friable, slightly sucrosic, poor inter-crystalline porosity, fossiliferous in part (Conodont found in one sample). Medium-dark gray shale partings present, soft, micritic in part, trace sandstone present, no oil staining present on any samples. Overall, 25% mottled to even, variegated mineral fluorescence. No petroliferous odor or show.

1750'-1786': Shale, medium-dark to dark gray, silty, micritic in part, fairly hard overall. Fissile in part. Few limestone partings present. Yellow-brown to olive-gray, fine crystalline, hard, fossiliferous in part. Traces of sandstone present, slight flash odor in 1770'-1780' when ground in hand and smelled. No visible staining observed on any samples. Trace of even, bright mineral fluorescence. No real petroliferous odor or show.

1786'-1790': Shale, dark gray to black. Slightly gritty, carbonaceous in part, friable, traces of vitrain coal present in sample. Observed a 65-unit gas kick in this formation.

1790'-1798': Shale, medium-dark gray to black, silty in part, slightly carbonaceous in part. No fluorescence, no petroliferous odor or show.

1798-1803': Limestone, olive-gray, mottled, fine crystalline, fairly friable. Fossiliferous, some visible inter-crystalline porosity, slight trace of light brown oil stain on few samples. No cut. Less than 3% even, dull yellow mineral fluorescence. No petroliferous odor/show.

1803'-1840': Shale, medium to medium-dark gray with traces of red and black shale present. Soft, greasy, silty in part, micaceous in part. Few interspersed limestone partings, no fluorescence, no petroliferous odor or show.

1840'-1848': Limestone, olive-gray, fine to medium crystalline, very hard, dense, mottled, slightly sucrosic. Fossiliferous, no oil stain present, no fluorescence. No petroliferous odor or show.

Base of Lansing Group @1848'(-468')

1848'-1943': Shale, medium to medium-dark gray, soft, slightly silty, traces of fossilized crinoids stems with shale. Scattered limestone partings present, no fluorescence, no petroliferous odor or show.

Top of Iola Limestone @1943'(-563')

1943'-1946': Limestone, tan to olive-gray, mottled, fine to coarse crystalline, hard, dense, slightly sucrosic, fossiliferous, few traces of inter-crystalline porosity, no visible staining, no fluorescence, no petroliferous odor or show.

1946'-1978': Layton "A" Sandstone, off-white to medium-light gray. Very fine-grained to fine-grained. Well-sorted with sub-angular to well-rounded grains. Varying friability from excellent to poor. Micaceous, argillaceous in part. Glauconitic. Fair, inter-granular porosity. Fair flash odor in samples ground in hand, no visible oil stain present. Medium to medium-dark gray shale partings present, trace limestone present. Overall, 5% mottled to even variegated yellow hydrocarbon fluorescence, no cut, no petroliferous odor or show.

1978'-2021': Layton "B" Sandstone, medium-gray, very fine to fine grained, well sorted with sub-angular to sub-rounded grains. Glauconitic, micaceous in part, section from 1980'-1990' exhibited a 9 unit gas kick when drilled, upon examination of those samples, a slight oil stain was visible on some samples with no cut observed. Good

to excellent friability in these samples, few traces of black bitumen on few samples. No real oil saturation observed in freshly broken samples. This footage had an overall 60% mottled to even, bright to very bright, yellow hydrocarbon fluorescence. Strong petroliferous odor, no real show present. Interval from 1990'-2021' was harder with no visible oil stain present. Percentage of shale increased overall. This section had a 7% mottled to even bright to very bright, yellow, hydrocarbon fluorescence. Faint to fair petroliferous odor, no show, no cut.

2021'-2025': Shale, medium-dark to dark gray, micaceous in part, silty in part.

Top of Kansas City Limestone @2025'(-645')

2025'-2060': Limestone, light to medium olive-gray, fine crystalline, fossiliferous and mottled in part, hard, dense, traces of inter-crystalline porosity present, no stain, medium-dark gray shale partings present, trace limestone present. Overall, 5% mottled to even, variegated yellow mineral fluorescence. No petroleum odor or show.

2060'-2127': Shale, medium to medium-dark gray with red shale interspersed throughout. Soft, fissile in part. Limestone partings present, olive-gray, mottled, fine crystalline with traces of fair, inter-crystalline porosity. Trace of sandstone scattered throughout, no staining, no cut, no fluorescence, no petroliferous odor or show.

2127'-2137': Limestone, tan to olive-gray, fine crystalline, hard, dense, slightly sucrosic, no visible porosity, 70% even, dull, yellow mineral fluorescence. No petroliferous odor or show.

2137'-2140': Stark Shale. Dark gray to black, fairly friable, slightly carbonaceous. No fluorescence, no petroliferous odor or show.

2140'-2148': Limestone, tan to olive-gray, fine crystalline, hard, no visible inter-crystalline porosity. 10% even, dull yellow mineral fluorescence. No petroliferous odor or show.

2148'-2155': Shale, medium-dark gray to black, calcareous in part, carbonaceous in part, no fluorescence.

2155'-2174': Limestone, tan to olive-gray, fine to coarse crystalline, mottled in part, poor to excellent friability. A drilling break was encountered at 2162'-2171'. Some samples showing good pinpoint and vugular porosity. These samples exhibited good surface oil stain and saturation. However, they represent but few for the entire sample examined. Fair to good, uneven, fast, milky blue cut. Faint residual oil show to tray after cut. Overall, 7-10% even to mottled, variegated, yellow hydrocarbon fluorescence. Good to strong petroliferous odor in the 2162'-2171' interval. Overall, poor to fair petroleum show. A 26-unit gas kick was shown when aforementioned interval was drilled.

2174'-2181': Shale, dark gray, fairly soft, greasy.

2181'-2185': Hushpuckney Shale. Black, gritty appearance. Fairly friable, carbonaceous.

2185'-2251': Hertha Limestone, pale yellowish-brown to olive-gray, fine to coarse crystalline. Fossiliferous in part, nodular in part, traces of dark gray to black shale scattered throughout interval. 2191'-2200' showed oil staining on select few samples, saturation fair, poor, slow, fairly even milky blue cut. No residual oil show to tray after cut. 30% mottled to even, variegated, yellow mineral and hydrocarbon fluorescence. Good petroliferous odor, very slight show. 2196' showed a 51-unit gas kick, 2206' showed a 29-unit gas kick, the 2210'-2220' interval showed traces of light brown oil stain on a few samples. Poor saturation, poor inter-crystalline porosity, 5% pinpoint to even, bright yellow mineral in hydrocarbon fluorescence. Very slow, poor, uneven milky blue cut, no residual oil show to tray after cut, fair to good petroliferous odor, very poor show. This interval showed a 14-unit gas kick when drilled.

2251'-2260': Shale, medium-dark gray, gritty, fairly friable, calcareous in part, no odor or show.

2260'-2262': Shale, dark gray to black, slightly carbonaceous.

2262'-2268': Limestone, dark yellowish-brown, fine to medium crystalline, fairly hard, poor inter-crystalline porosity, fossiliferous in part, no fluorescence, no petroliferous odor or show.

2268'-2271': Shale, dark gray to black, fairly fissile, carbonaceous. Traces of vitrain coal, thinly banded, many conchoidal fractures. Less than 10% flat cleat faces present, pyrite inclusions present in some coal samples. 26-unit gas kick was observed when this interval was drilled.

Top of Lenepah Limestone @2271'(-891')

2271'-2286': Limestone, dark yellowish-brown, mottled in part, fine crystalline. Hard, dense, massive, no visible inter-crystalline porosity, no fluorescence, no petroleum odor or show.

2286'-2342': Shale, light gray to dark gray, silty/sandy in part, micaceous, very friable, gritty to greasy texture, few scattered sandstone laminae present. Medium-light gray, very friable, well-sorted, with sub-angular to sub-rounded grains. Glauconitic, micaceous in part. Few traces of limestone, dark yellowish-brown, mottled in part, fine crystalline, hard, dense, no visible inter-crystalline porosity. Overall, trace of even, dull, mineral fluorescence. No petroliferous odor or show.

Top of Altamont Limestone @2342'(-962')

2342'-2363': Limestone, pale yellowish-brown, fine crystalline, fair to good friability, fair inter-crystalline porosity, sucrosic. Shale, 2351'-2354', dark gray to black, fissile in part, carbonaceous laminae in few samples. Less than 3% even, very dull yellow mineral fluorescence. No petroliferous odor or show.

2363'-2376': Weiser (Peru) Sandstone, medium-light gray, very fine grained, well sorted, with sub-angular to sub-rounded grains, fair to good friability, laminated in part, slightly micaceous, glauconitic, argillaceous in part, no fluorescence, no petroliferous odor or show.

2388'-2420': Shale, medium-gray to black, silty/sandy in part, carbonaceous in part. Trace coal present, 12-unit gas kick from the Mulberry Coal overlying the Pawnee Limestone, no fluorescence, no petroliferous odor or show.

Top of Pawnee Limestone @2420'(-1040')

2420'-2448': Limestone, grayish-red to pale red. Fine crystalline, traces of dark gray to black shale present, calcareous and carbonaceous in part. At 2427'-2432', a drilling break was encountered – description of samples are as follows:

- Pale red limestone samples are very soft like shale and have good pinpoint and vugular porosity. Very powdery when crushed. Light brown oil stain on surface of many samples, saturation fair. Grayish red samples are hard, dense, sucrosic with poor inter-crystalline porosity. Overall, 15% even, bright yellow hydrocarbon and mineral fluorescence. Medium-fast, uneven-even milky blue cut. Good residual oil show to tray after hydrochloric acid cut. Strong petroliferous odor, fair overall show. A 25-unit gas kick was observed after drilling this interval. Some samples would cut with reagent added, others were slow or had no cut, but when HCL was added, and the original sample dissolved, oil was liberated in varying amounts depending on original cuts. Many samples that did not cut on reagent left very visible amounts of oil in tray after acid cut.

2448'-2451': Lexington Shale and Coal, black, carbonaceous, traces of thinly banded vitrain coal. A 41-unit gas kick was observed after drilling this interval.

Top of Fort Scott Limestone @2451'(-1071')

2451'-2480': Limestone, grayish-red to pale red, fine crystalline, from 2465'-2471' a drilling break was encountered – description of samples are as follows:

- Pale red limestone samples chalky with good pinpoint and vugular porosity scattered throughout individual rock samples. Light brown oil stain on many samples, saturation fair. 10% mottled to even bright yellow hydrocarbon fluorescence. Medium-fast, fairly strong, even milky blue cut. Fair residual show to tray after cut, fair to good petroliferous odor, fair overall show, a 71-unit gas kick was observed after drilling this interval.

2480'-2484': Summit Shale, black, carbonaceous, 35-unit gas kick was observed after drilling this interval.

2484'-2491': Limestone, grayish-red to pale red. Fine crystalline, no visible oil stain present, 15% even, dull yellow mineral fluorescence. No petroliferous odor or show.

2491'-2496': Mulky Shale and Coal. Black, carbonaceous, traces of thinly banded vitrain coal present, many conchoidal fractures, less than 5% flat cleat faces. A 24-unit gas kick was observed after drilling this interval.

2496'-2500': Limestone, grayish-red to pale red, fine crystalline, trace pinpoint and vugular porosity on few samples, no staining, no fluorescence, no petroliferous odor or show.

Top of Cherokee Group @2500'(-1120')

2500'-2514': Shale, medium-dark to dark gray, soft, fissile in part, slightly carbonaceous in part, traces of underclay present, trace pyrite, no fluorescence. No show.

2514'-2552': Shale, medium to medium-dark gray, silty/sandy in part, few limestone and sandstone partings present. Overall, trace even, medium bright yellow mineral fluorescence. No show.

2552'-2553': Bevier Coal, vitreous, thinly banded, conchoidal fractures present.

2553'-2564': Shale, medium-dark gray, silty, calcareous in part.

Top of Ardmore (Verdigris) Limestone @2564'(-1184')

2564'-2566': Limestone, dark yellowish-brown, fine crystalline, hard, dense, sucrosic, fossiliferous, no visible inter-crystalline porosity, trace mineral fluorescence, no show.

2566'-2570': Croweburg Shale, black, carbonaceous.

2570'-2600': Shale, medium-gray to black, soft, greasy to sandy texture, carbonaceous in part. Few sandstone and limestone partings scattered throughout section, Fleming Coal at 2581'-2583'. Overall, less than 2% mottled to even variegated yellow mineral fluorescence. No petroliferous odor or show.

2600'-2604': Tebo Black Shale and Coal, black, carbonaceous, a 25-unit gas kick was observed on the hot wire after this interval was drilled.

2604'-2648': Shale, medium to medium-dark gray, silty/sandy, micaceous, micritic in part, few traces of black, pyritic shale present. Few footages of Cattleman Sandstone scattered throughout section. Description of sands are as follows:

- Medium-light gray, very fine grained, well sorted with sub-rounded to well-rounded grains. Good friability, argillaceous in part, few scattered limestone partings.

Sample exhibited trace of even, bright yellow mineral fluorescence. No cut, no petroliferous odor or show.

2648'-2652': Weir Shale and Coal, black, carbonaceous, no gas kick observed.

2652'-2688': Shale, medium to medium dark gray, silty/sandy, fairly friable, micaceous in part. Bartlesville sandstone laminae present. Medium-light gray, fine grained, well

sorted and rounded, extremely friable, micaceous in part, glauconitic in part. Overall, no visible staining present. Trace, even bright mineral fluorescence. No odor or show.

2688'-2760': Shale, medium-dark gray to dark gray. Soft, silty in part, red shale present, few scattered limestone partings present. Trace sandstone scattered throughout. Upper Riverton Coal at 2732'-2736', no gas kick observed from this interval.

2760'-2770': Riverton Coal, fusain coal, dirty appearance, no vitrinite present. Black shale present, carbonaceous. A 29-unit gas kick was observed after drilling this interval.

2770'-2780': Shale, medium-dark to dark gray, slightly silty.

Top of Mississippian @2780'(-1400')

2780'-2790': Chert (50%), white to very light gray, very hard, dense, massive, amorphous, no porosity, conchoidal fracturing on many surfaces, no visible oil staining, trace, black bitumen on few samples. Shale (35%), dark gray to black, carbonaceous and pyritic in part. Limestone (15%), white to grayish-yellow, fine crystalline, fairly hard, fossiliferous, some inter-crystalline porosity observed, no staining observed, no tripolitic chert ("cotton rock") present. Overall, trace of dull yellow mineral fluorescence. No petroliferous odor or show.

2790'-2794': Shale, medium-dark gray to dark gray. Soft, gritty to greasy, carbonaceous and pyritic in part.

2794'-2830': Limestone (75%), pale yellowish-brown to olive-gray, fine to medium crystalline, friable to very friable, good pinpoint porosity on surfaces of many samples, good to excellent inter-crystalline porosity observed on freshly broken surfaces. Sucrosic in part, no staining observed on any samples. Shale (25%), medium-dark to dark gray, soft, gritty to greasy, carbonaceous and pyritic in part, no fluorescence, no petroliferous odor or show.

2830'-2888': Limestone (75%) pale yellowish-brown to olive-gray. Fine to medium crystalline, hard, dense, sucrosic, no visible inter-crystalline porosity. Shale (20%), greenish gray, soft, greasy. Chert (5%), white to very light gray, banded, amorphous, extremely hard, overall 7% mottled to even variegated yellow mineral fluorescence. Note the 2870'-2880' sample had a very slight show of light brown oil in the limestone. Show described as follows: 3% even, bright yellow hydrocarbon and mineral fluorescence. Very slow, extremely weak milky blue cut. No residual oil show to tray after cut. No petroliferous odor, very poor show.

2888'-2922': Limestone (60%), pale yellowish-brown, fine to medium crystalline, hard, dense. Shale (40%), medium-dark to dark gray, slightly silty, trace of even, bright yellow mineral fluorescence. No cut, no petroliferous odor or show.

2922'-2985': Limestone (30%), pale yellowish-brown, fine to medium crystalline, hard, dense. Shale (30%), medium dark to dark gray. Sandstone (30%), light gray, very fine grained, very clean, good inter-granular porosity, well sorted with sub-angular to sub-rounded grains. Chert & tripolitic chert (10%), off-white to very light gray,

banded, amorphous to vugular, no staining present. Overall, no fluorescence, no petroliferous odor or show.

TD 2985' @ 4:20am, February 23rd, 2011.

(Mark D. Brecheisen)