

BEREXCO LLC

DEYLE 1-10

NE SW NE NE SEC 10 T1S R37W

CHEYENNE COUNTY, KANSAS

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SUMMARY

The Berexco LLC Deyle 1-10 in Cheyenne County, Kansas spud September 18, 2014 and reached a total depth of 4600' on September 25, 2014. Wellsite geological supervision commenced at 3000'. The primary objectives were the Pawnee in the Marmaton Group and the Pennsylvanian Missourian Lansing-Kansas City limestones which produce in the Jones Canyon Southeast field. Secondary zones of interests were the Permian Foraker and Virgilian Oread limestones. The Deyle 1-10 was drilled using seismic and nearby well control.

On-site evaluation was by drill stem testing after sample analysis and consideration of structural position. Four DSTs were run.

Foraker, Wabaunsee, and Oread

The Foraker samples were fossiliferous packstone and mudstone with no visible porosity, occasional scattered oil specks, and poor fluorescence and cuts. The Foraker appears nonproductive at this location.

The Virgilian Wabaunsee had fair oil shows but lacked porosity.

The Oread samples were fossiliferous mudstone and wackestone with no visible porosity, scattered black asphaltic stain, and weak cuts. The poor shows did not merit testing as the Oread is nonproductive in the area.

Lansing-Kansas City and Pawnee

The Lansing-Kansas City A exhibited no visible porosity or oil shows.

DST 1 in the Lansing-Kansas City B recovered 10 ft of mud with very poor pressures. Samples were grainstone with poor interparticle and vuggy porosity, abundant spotty live black oil, and good fluorescence and cuts.

DST 2 in the Lansing-Kansas City C recovered 90 ft of oil spotted mud. Samples were grainstone to wackestone with occasional fossil fragments and poor to fair porosity. Spotty to even brownish black oil stain and good cuts were observed.

The Lansing-Kansas City D was mudstone with only a trace of black asphaltic staining and no visible porosity.

DST 3 in the Lansing-Kansas City E recovered 5 ft of mud with oil spots and low pressures. The E was grainstone in the top few feet and chalky mudstone at the base. The uppermost limestone had a trace of spotty oil stain with good fluorescence and cuts. Porosity was limited to scattered vugs.

The Lansing-Kansas City F was nonporous chalky limestone with no sample show.

DST 4 in the Pawnee recovered 30 ft of clean gassy oil and 90 ft of gassy oil cut mud. Samples were porous grainstone occasionally occluded with lime mud. Scattered oil shows with good fluorescence and cuts were limited to the upper 4 ft in poor interparticle and vuggy porosity. The reservoir appears depleted.

Oil Well Completion

5 ½" production casing was run to complete the Deyle 1-10 as an oil producer.

Peter J. Vollmer
Consulting Wellsite Geologist, WPG #3369
September 2014

Berexco LLC
Deyle 1-10

WELL DATA

OPERATOR: Berexco LLC
2020 North Bramblewood Drive
Wichita, Kansas 67206

WELL NAME: Deyle 1-10

SURFACE LOCATION: 900' FNL & 900' FEL
NE SW NE NE Sec 10, T1S, R37W
Cheyenne County, Kansas

LATITUDE & LONGITUDE: 39.9856663, -101.4513922 (From State, calculated from footages)

BOTTOM HOLE LOCATION: Vertical hole

ELEVATIONS: 3110' GL 3123' KB

API NUMBER: 15-023-21412

BASIN: Mid-Continental Arch

FIELD: Jones Canyon Southeast

HOLE SIZE: 12 ¼" to 310'; 7 7/8" to 4600'

CASING: 8 5/8" J-55 24# STC set to 310' KB

SPUD DATE: September 18, 2014

TD DATE: September 25, 2014

TOTAL DEPTH: 4600' Rig TD 4600' Log TD

LAST FORMATION: Pennsylvanian Cherokee

WELL STATUS: Ran 5 1/2" production casing

OPERATOR
REPRESENTATIVE: Dana Wreath - Vice President

WELLSITE GEOLOGIST: Peter J. Vollmer

FORMATION TOPS

Formation	Sample Top	Log Top	Log TVD	Log Datum
KB				3123
Pierre Sh	Cased	Cased	N/A	N/A
Niobrara Fm	N/A	1050	1050	+2073
Fort Hays Ls Mbr	N/A	1570	1570	+1553
Carlile Sh	N/A	1599	1599	+1524
Dakota	N/A	1980	1980	+1143
Cheyenne	N/A	2626	2626	+497
Blaine	N/A	2920	2920	+203
Stone Corral Anhydrite	3065	3064	3064	+59
Base Anhydrite	3098	3098	3098	+25
Chase Limestone	3266	3264	3264	-141
Neva	3521	3521	3521	-398
Red Eagle	3592	3590	3590	-467
Foraker	3634	3633	3633	-510
Wabaunsee	3784	3790	3790	-667
Topeka	3852	3854	3854	-731
Deer Creek Lime	3927	3924	3924	-801
Oread	3993	3989	3989	-866
Heebner Sh	4025	4019	4019	-896
Leavenworth Lime	4033	4027	4027	-904
Lansing-Kansas City				
"A"	4073	4070	4070	-947
"B"	4133	4128	4128	-1005
"C"	4183	4180	4180	-1057
"D"	4225	4224	4224	-1101
"E"	4269	4270	4270	-1147
"F"	4313	4313	4313	-1190
Pawnee	4464	4462	4462	-1339
Cherokee	4532	4523	4523	-1400
TD Driller	4600			
TD Logger		4600	4600	-1477

LITHOLOGY AND SHOWS

The following descriptions are interpretive. Rig crew members collected unlagged samples from 3500' to 4600' TD. Depths are rig depths except where noted as wireline.

3510' - 3521' SANDSTONE: very light gray to gray, friable to firm, very fine grained, sub rounded to rounded, well sorted, calcareous cement, occasional clay filled, no visible porosity, no shows.

NEVA SAMPLE TOP: 3521' LOG TOP: 3521' SUBSEA: -398'

3521' - 3531' LIMESTONE: white, with occasional reddish brown mottled and stain, firm to hard, mudstone, occasional fossil, slightly chalky, occasional black Algal stain, reddish brown to gray green Shale partings, tight, no show.

3531' - 3542' SILTY SANDSTONE: reddish brown to white, soft to very friable, very fine grained grading to silt, rounded to subround, moderately to fair sorted, non to slightly calcareous, argillaceous to clay matrix, no visible porosity, no show.

3542' - 3576' SHALE: light reddish brown to reddish orange, firm to soft, fissile to blocky, occasional very silty, sandy in part, non to slightly calcareous.

3576' - 3592' SANDSTONE: light gray to gray, friable to firm, very fine grained, sub rounded to rounded, well sorted, calcareous cement, occasional clay filled, silty, predominant loose grains, no visible porosity, no shows.

RED EAGLE SAMPLE TOP: 3592' LOG TOP: 3590' SUBSEA: -467'

3592' - 3606' LIMESTONE: light gray to white to grayish brown, with reddish brown stain and mottled, hard, mudstone, occasional slightly argillaceous, trace fossil fragments, occasional Sand grains, occasional reddish brown SHALE, tight, no shows.

3606' - 3634' SHALE: reddish brown, firm to hard, fissile to blocky, very silty, sandy in part, non to slightly calcareous, trace light gray Limestone.

LITHOLOGY AND SHOWS

FORAKER	SAMPLE TOP: 3634'	LOG TOP: 3633'	SUBSEA: -510'
3634' - 3646'	LIMESTONE: light gray to white to very light brown, firm to hard, mudstone to grainstone, occasional microgranular texture, occasional interclasts, occasional fossil fragments, black oil specks predominant in micro-vugs, trace pin-point vuggy porosity, patchy bright yellowish white fluorescence, occasional immediate fair yellowish white cuts, no free oil and very poor porosity, trace show.		
3646' - 3654'	SHALE: gray to gray green to reddish brown, firm, fissile to blocky, slightly calcareous, fossil fragments.		
3654' - 3665'	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragments, algal stain (dead oil), gray to greenish gray Shale stringers, tight to trace intercrystalline porosity, occasional very poor show.		
3665' - 3670'	SHALE: gray to dark gray, firm, blocky, non calcareous.		
3670' - 3688'	LIMESTONE: white to light gray to dark gray, firm to hard, mudstone to packstone, scattered fossil fragments, algal stain, tight to trace porosity, no shows.		
3688' - 3691'	SANDSTONE: white, friable, very fine grained, subangular to subrounded, well sorted, calcareous cement, clay fill, black specks, abundant loose grains, tight to trace porosity, no shows.		
3691' - 3716'	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional moderately to very silty, occasional light gray Limestone stringers.		
3716' - 3724'	LIMESTONE: white, firm to soft, mudstone, chalky, fossil fragments, tight, no shows.		
3724' - 3752'	SANDY SILTSTONE: reddish brown to light gray, mottled, firm to friable, very fine grained grading to silt, clay matrix, light reddish brown Shale partings, tight, no show.		
3752' - 3760'	SANDSTONE: very light gray to white, friable, very fine grained, sbang to sbrnd, well sorted, calcareous cement, clay fill, black specs, abundant loose grains, tight to trace porosity, no shows.		
3760' - 3784'	SHALE: pale reddish brown, soft to firm, sub blocky, n calcareous, occasional silty, clayey.		
WABAUNSEE	SAMPLE TOP: 3784'	LOG TOP: 3790'	SUBSEA: -667'
3784' - 3804'	LIMESTONE: white to light gray, with light reddish brown mottled, soft to firm, wackestone to grainstone, occasional microgranular texture, abundant fossil fragments, reddish brown shale partings, slightly sandy in part, even to spotty black		

LITHOLOGY AND SHOWS

heavy oil material, no visible porosity, very tight, pale yellow grain fluorescence, diffuse pale yellow white cut, no free oil, fair show decrease with depth.

3804' - 3826' Limestone: white to light gray, occasional reddish brown mottled, firm to hard, mudstone to grainstone, fossil fragment, peloids reddish Shale partings, trace black asphalt material, tight, no show.

3826' - 3852' SHALE: reddish brown, maroon, gray, mottled in part, soft to firm, blocky, non calcareous, moderately to very silty in part, Limestone stringers.

TOPEKA SAMPLE TOP: 3852' LOG TOP: 3854' SUBSEA: -731'

3852' - 3870' Limestone: light gray to white, hard to firm, mudstone, fossil fragment (Fusulinids, Brachiopod), sparry calcareous, very to moderately chalky, tight, no shows.

3870' - 3894' Limestone: light gray to white, hard to firm, mudstone, fossil fragments, dark gray Shale stringers, trace light orange chert, tight, no shows.

3894' - 3927' SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasional silty, clayey, gummy to sticky, white chalky Limestone stringers.

DEER CREEK LIME SAMPLE TOP: 3927' LOG TOP: 3924' SUBSEA: -801'

3927' - 3940' Limestone: white, soft to firm, cryptocrystalline, very chalky, brownish red partings and inclusions, tight, no shows.

3940' - 3978' SHALE: reddish brown, brownish maroon, soft to firm, sub blocky, occasional slightly calcareous, non to slightly silty in part, occasional thin Limestone stringers, occasional clayey, gummy to sticky.

3978' - 3993' SHALE: reddish brown, brownish maroon, occasional dark gray, soft to firm, sub blocky, occasional slightly calcareous, occasional thin Limestone stringers, gummy to sticky.

OREAD SAMPLE TOP: 3993' LOG TOP: 3989' SUBSEA: -866'

3993' - 4012' Limestone: white, soft to firm, mudstone to wackestone, very chalky texture, patchy black asphalt material, occasional black heavy oil, no visible porosity,

LITHOLOGY AND SHOWS

predominant no show, occasional bright yellowish white fluorescence, with slow streaming yellowish white cuts, poor show.

4012' - 4025'

LIMESTONE: cream to white, firm to hard, mudstone to wackestone, occasional fossil fragments, clean, no visible porosity, no shows.

HEEBNER SH

SAMPLE TOP: 4025' LOG TOP: 4019' SUBSEA: -896'

4025' - 4033'

SHALE: black to dark gray, firm, blocky, carbonaceous.

LEAVENWORTH LIME SAMPLE TOP: 4033' LOG TOP: 4027' SUBSEA: -904'

4033' - 4041'

LIMESTONE: light gray to light brown, hard, mudstone, slightly argillaceous, tight, no show.

4041' - 4073'

SHALE: gray to reddish brown to maroon to greenish gray, firm, blocky, non to slightly calcareous, occasional silty.

LANSING-
KANSAS CITY "A"

SAMPLE TOP: 4073' LOG TOP: 4070' SUBSEA: -947'

4073' - 4098'

LIMESTONE: white to very light gray, hard to brittle, mudstone, rare fossil, occasional chalky, very tight, no show.

4098' - 4105'

SANDSTONE: white to light gray, firm to friable, very fine grained, well rounded, well sorted, calcareous cement, clay filled, black dead oil specks, no visible porosity, no show.

4105' - 4133'

SHALE: gray to reddish brown, soft to firm, subblocky, non to slightly calcareous, clayey, occasional argillaceous Siltstone and Limestone stringers.

LITHOLOGY AND SHOWS

LANSING- KANSAS CITY "B"

SAMPLE TOP: 4133' LOG TOP: 4128' SUBSEA: -1005'

4133' - 4145'

LIMESTONE: white to very light gray, firm to hard, grainstone to packstone, occasional fossil fragments (Fusulinids), peloids, pyrite, occasional free live black oil, predominant tight with trace interparticle porosity and poor vuggy porosity, bright yellowish white fluorescence, instant blooming bright yellowish white cuts, good show.

4145' - 4150'

SHALE: gray to dark gray to black, firm, sub blocky, non to slightly calcareous, fossil fragment (Brachiopod).

4150' - 4154'

LIMESTONE: white to light gray, occasional reddish brown mottled, hard, mudstone, chalky, tight, no show.

4154' - 4183'

SHALE: dark reddish brown, very soft to firm, sub blocky to lumpy, non calcareous, moderately to very silty stringers, sticky to gummy, clayey.

LANSING- KANSAS CITY "C"

SAMPLE TOP: 4183' LOG TOP: 4180' SUBSEA: -1057'

4183' - 4197'

LIMESTONE: light gray to white, firm, grainstone to wackestone, occasional fossil fragment, trace pyrite, spotty to even brownish black oil stain, free oil in vuggy porosity, poor to fair vugular porosity, bright yellowish white fluorescence, instant blooming bright yellowish white cuts, faint oil odor, fair show.

4197' - 4204'

SHALE: gray to dark gray, firm, sub blocky, non to slightly calcareous.

4204' - 4225'

SHALE: gray to reddish brown, mottled in part, soft to firm, subblocky, non to slightly calcareous, clayey, sticky, Limestone stringers.

LANSING- KANSAS CITY "D"

SAMPLE TOP: 4225' LOG TOP: 4224' SUBSEA: -1101'

4225' - 4238'

LIMESTONE: light gray to white, firm, mudstone to wackestone, fossil fragments, very chalky texture, very tight, no shows.

4238' - 4269'

SHALE: light reddish brown maroon, soft to firm, subblocky, non to slightly calcareous, white chalky Limestone stringers, clayey, sticky.

LITHOLOGY AND SHOWS

LANSING- KANSAS CITY "E"

SAMPLE TOP: 4269' LOG TOP: 4270' SUBSEA: -1147'

- 4269' - 4289' LIMESTONE: light gray to white, firm to hard, mudstone to grainstone, slightly chalky in part, fossil fragment, scattered occasional patchy black to dark brown oil stain, live oil, trace vuggy porosity, bright yellowish white fluorescence, immediate blooming yellowish white cuts, good oil show with questionable porosity, no shows at base.
- 4289' - 4297' SHALE: gray to dark gray, firm, blocky, calcareous, fossil (Brachiopod), slightly carbonaceous in part.
- 4297' - 4313' SHALE: greenish gray to dark reddish brown to reddish brown, firm to soft, blocky to platy, non calcareous, moderately to very silty, SILTSTONE stringers.

LANSING- KANSAS CITY "F"

SAMPLE TOP: 4313' LOG TOP: 4313' SUBSEA: -1190'

- 4313' - 4324' LIMESTONE: cream to white to light gray, firm to hard, mudstone, very chalky texture, occasional fossil fragment, trace black asphalt stain, very tight, no shows.
- 4324' - 4333' SHALE: light reddish brown, very soft, lumpy, sticky to gummy, Limestone fragments.
- 4333' - 4340' LIMESTONE: white to cream, hard to firm, mudstone, chalky in part, fossil fragments, tight, no shows.
- 4340' - 4368' SHALE: brownish red, firm, blocky, non calcareous, with LIMESTONE stringers.
- 4368' - 4395' LIMESTONE: light gray to white, firm, mudstone to wackestone, fossil fragments, chalky texture, reddish brown Shale partings, tight, no show.
- 4395' - 4410' SHALE: dark to light reddish brown, brownish maroon, light gray, mottled, variegated, firm, blocky, occasional slightly calcareous, non to slightly silty in part, occasional thin white to light gray Limestone stringers.
- 4410' - 4422' SHALE: gray to dark gray reddish brown, firm, sub fissile, non calcareous, pyrite.
- 4422' - 4436' LIMESTONE: light gray to gray, hard, mudstone, fossil fragments, slightly chalky, interbedded irregular dark gray to greenish gray Shale partings, tight, no shows.
- 4436' - 4464' SHALE: gray to dark gray grain, hard to firm, sub blocky to fissile, non calcareous, trace gray argillaceous Limestone stringers.

LITHOLOGY AND SHOWS

PAWNEE	SAMPLE TOP: 4464'	LOG TOP: 4462'	SUBSEA: -1339'
4464' - 4476'	LIMESTONE: white to cream to very light gray, firm to hard, grainstone to mudstone, microgranular texture, rare ooliths and peloids, occasional fossil fragments, trace black oil stain, tight to trace vuggy porosity, occasional trace interparticle porosity, bright yellowish white fluorescence, instant blooming yellowish white cuts, fair show at top.		
4476' - 4488'	LIMESTONE: white to very light gray, hard, mudstone, slightly chalky, fossil fragment, trace orange chert, tight, no shows.		
4488' - 4500'	SHALE: black to dark gray to gray, firm, blocky to fissile, occasional carbonaceous, fossil fragment (Brachiopod).		
4500' - 4532'	LIMESTONE: white to cream to light gray, firm to hard, mudstone, chalky, trace chert, rare fossil, tight, no shows.		
CHEROKEE	SAMPLE TOP: 4532'	LOG TOP: 4523'	SUBSEA: -1400'
4532' - 4546'	SHALE: black to dark gray to gray, firm, blocky to fissile, occasional very carbonaceous, trace pyrite, plant remains, thin flakey black Coal stringers and partings.		
4546' - 4558'	LIMESTONE: white to light gray to gray, firm to hard, mudstone to wackestone, rare fossil fragment, tight, occasional light brown Sandstone stringers, no shows.		
4558' - 4596'	LIMESTONE: gray to light gray, firm to hard, mudstone to wackestone, slightly sandy in part, slightly argillaceous in part, opaque chert, tight, no shows.		
4596' - 4600' TD	SHALE: black to dark gray to gray, firm, blocky to fissile, occasional carbonaceous, fossil fragment (Brachiopod).		

Berexco LLC
Deyle 1-10

SERVICES

CONTRACTOR:	Beredco Drilling Inc., Rig 2	
Toolpusher:	Milo Salinas	
DRILLING FLUIDS:	Morgan Mud, Inc.	McCook, ND
Mud Type:	Freshwater Chemical	308-340-5946
Engineer:	Dave Korte	
MUD LOGGING:	None	
WELLSITE GEOLOGY:	T. M. McCoy & Co., Inc.	Wilson, WY
	Peter J. Vollmer	307-733-4332
DRILL STEM TESTING:	Trilobite Testing, Inc.	Hays, KS
	Robert Zadrow	785- 625-4778
	DST 1: 4090' - 4150' LKC "B"	
	DST 2: 4144' - 4198' LKC "C"	
	DST 3: 4234' - 4296' LKC "E"	
	DST 4: 4434' - 4476' Pawnee	
DIRECTIONAL DRILLING:	None	
WIRELINE LOGS:	Pioneer Wireline Services	Hays, KS
	RAG: Surface casing - TD	785-625-3858
	Micro: 3500' - TD	
	Robert Barnhart	