

BEREXCO LLC

SCHWERDT 1-2

NW SE NE SE SEC 2 T1S R36W

RAWLINS COUNTY, KANSAS

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SUMMARY

The Berexco LLC Schwerdt 1-2 in Rawlins County, Kansas spud January 7, 2014 and reached a total depth of 4625' on January 19, 2014. The test drilled into the Pennsylvanian Cherokee for logging. Wellsite geological supervision commenced at 3000'. The primary objective was the Pennsylvanian Missourian Lansing-Kansas City carbonate benches, which produce in the Scoda field. Secondary zones of interest were the Foraker, Oread, and Pawnee Limestones. The Schwerdt 1-2 was drilled using seismic and nearby well control.

Evaluation of the primary zones of interest was by drill stem testing after sample analysis. Nine DSTs were run.

Foraker, Oread, Lansing-Kansas City, and Pawnee

Samples of the Foraker were circulated out but sample examination revealed clean, nonporous limestone that did not warrant testing.

DST 1 in the Oread recovered 800 ft of muddy water. Samples were fossiliferous packstone with poor interparticle porosity, scattered oil stain, and good cuts.

DST 2 in the Lansing A recovered 1200 ft of watery mud and water. Samples showed poor interparticle porosity with spotty black oil stain.

DST 3 in the Lansing B recovered 152 ft of watery mud with oil spots. Poor flow pressures indicated a nonporous zone, confirmed by wireline logs.

DSTs 4 and 5 in the Lansing C were based on good sample shows of cut and fluorescence in a grainstone with fair to poor interparticle porosity. Spotty live black and dark brown oil stain were evident. DST 4 was a misrun due to packer failure after a minute open. The packers may have been set in a carbonaceous shale. The test interval was adjusted lower and DST 5 recovered 5 ft of mud with poor flow pressures.

DSTs 6 and 7 were misruns. The Lansing D was mudstone with black asphaltic staining that alone did not warrant a test. The decision was made to drill through the Lansing E and test the D and E zones together. The Lansing E exhibited a very poor show; only three cuttings had spotty oil stain with trace pin-point porosity. Successive packer failures and mud lost to the hole on the two DSTs resulted in drill stem testing efforts being terminated in the D & E zones.

The Lansing F was nonporous limestone with no sample shows.

DST 8 in the Pawnee recovered 1 ft of mud with very poor pressures. The test result was consistent with samples that had revealed very few scattered oil shows with fair cuts and fluorescence in nonporous limestone.

DST 9 was run after wireline log analysis indicated a possible 2-ft productive zone in the upper Lansing-Kansas City E zone. DST packers were set based on wireline logs at 4252' with anchor pipe run to TD. Recovery from the D and E interval was 470 ft of gassy oil and oil cut mud. The large volume of mud recovered was likely due to the long anchor. Most of the recovery was heavily emulsified.

Oil Well Completion

4 ½" production casing was run to complete the Schwerdt 1-2 as an oil producer.

Berexco LLC
Schwerdt 1-2

WELL DATA

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

WELL NAME: Schwerdt 1-2

SURFACE LOCATION: 1840' FSL & 380' FEL
NW SE NE SE Sec 2, T1S, R36W
Rawlins County, Kansas

LATITUDE & LONGITUDE: 39.9928638, - 101.3191997 (From State, calculated from footages)

BOTTOM HOLE LOCATION: Vertical Hole

ELEVATIONS: 3169' GL 3182' KB

API NUMBER: 15-153-20976

BASIN: Mid-Continental Arch

FIELD: Scoda

HOLE SIZE: 12 ¼" to 310'; 7 7/8" to 4525'

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

SPUD DATE: January 7, 2014

TD DATE: January 19, 2014

TOTAL DEPTH: 4625' Rig TD 4620' Log TD

LAST FORMATION: Pennsylvanian Cherokee

WELL STATUS: Ran 4 ½" production casing for oil well completion

OPERATOR REPRESENTATIVE: Dana Wreath - Vice President

WELLSITE GEOLOGIST: Peter J. Vollmer

FORMATION TOPS

Formation	Sample Top	Log Top	Log TVD	Log Datum
KB				3182
Pierre Sh	Cased	Cased	N/A	N/A
Niobrara Fm	N/A	1162	1162	+2020
Fort Hays Ls Mbr	N/A	1622	1622	+1560
Carlile Sh	N/A	1666	1666	+1516
Dakota	N/A	2054	2054	+1128
Cheyenne	N/A	2602	2602	+580
Blaine	N/A	2952	2952	+230
Stone Corral Anhydrite	3113	3108	3108	+74
Base Anhydrite	3149	3148	3148	+34
Neva	3588	3592	3592	-410
Foraker	3704	3704	3704	-522
Wabaunsee	3860	3868	3868	-686
Topeka	3916	3916	3916	-734
Deer Creek Sand	3956	3952	3952	-770
Oread	4025	4025	4025	-843
Heebner Sh	4104	4098	4098	-916
Lansing-Kansas City				
"A"	4136	4132	4132	-950
"B"	4178	4186	4186	-1004
"C"	4221	4240	4240	-1058
"D"	4282	4290	4290	-1108
"E"	4327	4328	4328	-1146
"F"	4365	4378	4378	-1196
Pawnee	4529	4543	4543	-1361
Cherokee	4569	4578	4578	-1396
TD Driller	4625			
TD Logger		4620	4620	-1438

LITHOLOGY AND SHOWS

The following descriptions are interpretive. Rig crew members collected unlagged samples from 3500' to 4625' TD. Depths are rig depths except where noted as wireline.

3500' - 3588'	SHALE: reddish brown, firm to soft, fissile to blocky, very silty, sandy in part, non to slightly calcareous, trace light gray Limestone.
NEVA	SAMPLE TOP: 3588' LOG TOP: 3592' SUBSEA: -410'
3588' - 3598'	LIMESTONE: white to light gray, firm to hard, chalky, fossil fragment, tight, no shows.
3598' - 3648'	SHALE: reddish brown, soft to firm, sub blocky, n calcareous, occasional silty, well/interbedded LIMESTONE: white to light gray, firm to hard, cryptocrystalline, tight, no shows.
3648' - 3660'	LIMESTONE: white to light gray, firm to hard, mudstone, chalky, slightly argillaceous, tight, no shows.
3660' - 3704'	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasionally silty.
FORAKER	SAMPLE TOP: 3704' LOG TOP: 3704' SUBSEA: -522'
3704' - 3714'	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragments, thin dark gray Shale partings, trace black algal stain, no visible porosity, no shows.
3714' - 3722'	SHALE: dark gray to gray to grayish green, firm, blocky, n to slightly calcareous, fossil fragments.
3722' - 3746'	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, rare fossil fragment, abundant black algal stain (dead oil), tight, no fluorescence, no cut.
3746' - 3760'	SANDSTONE: white, friable, very fine grained, subangular, well sorted, calcareous cement, clay fill, tight to trace porosity, no shows.
3760' - 3804'	SHALE: reddish brown, soft to firm, sub blocky, non calcareous, occasionally silty.
3804' - 3824'	SHALE: reddish brown to red, soft to firm, blocky, slightly to moderately calcareous, interbedded with LIMESTONE: white to light gray, with occasional light reddish brown mottling and partings, firm to hard, cryptocrystalline, fossil fragments (Fusulinids), chalky, occasional black algal material, tight, no shows.

LITHOLOGY AND SHOWS

3824' - 3856'	SHALE: dark gray to gray, firm, fissile to blocky, non calcareous, fossil fragment (Brachiopod).
WABAUNSEE	SAMPLE TOP: 3860' LOG TOP: 3868' SUBSEA: -686'
3856' - 3916'	SHALE: reddish brown, soft to firm, blocky, n to slightly calcareous, with interbedded LIMESTONE: white to light gray, occasional light reddish brown mottled, hard to firm, cryptocrystalline, fossil fragments, tight, no shows.
TOPEKA	SAMPLE TOP: 3916' LOG TOP: 3916' SUBSEA: -734'
3916' - 3930'	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragment, sparry calcite, tight, no shows.
3930' - 3936'	SHALE: gray, firm, platy, non to slightly calcareous, dull.
3936' - 3950'	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragments, clear calcareous fill in vugs, opaque chert, tight, no shows.
3950' - 3956'	SHALE: gray, firm, platy, non to slightly calcareous, subwaxy, plant remains.
DEER CREEK SAND	SAMPLE TOP: 3956' LOG TOP: 3952' SUBSEA: -770'
3956' - 3976'	SANDSTONE: light gray to grayish brown, friable to soft, very fine grained, well rounded, well sorted, calcareous, clay filled, plant remains, predominantly loose grains, no visible porosity, no show.
3976' - 4025'	SHALE: reddish brown, brownish maroon, gray, mottled in part, firm, blocky, non to slightly calcareous, slightly to moderately silty in part.
OREAD	SAMPLE TOP: 4025' LOG TOP: 4025' SUBSEA: -843'
4025' - 4050'	LIMESTONE: cream to white, firm to hard, packstone, occasional oolites, fossil fragments, slightly chalky, fair to trace interparticle porosity, scattered to patchy live

LITHOLOGY AND SHOWS

	dark brown to black oil stain, bright yellish white fluorescence, blooming yellowish white cuts, good show.
4050' - 4056'	SHALE: grayish black to dark gray, firm, sub fissile, carbonaceous, non to very slightly calcareous.
4056' - 4066'	SHALE: gray, firm, platy, non to slightly calcareous, fossil fragments.
4066' - 4098'	LIMESTONE: very light gray to gray, firm to hard, mudstone, argillaceous in part, gray to dark gray Shale partings, trace Siltstone, tight.
4098' - 4104'	SHALE: gray, firm, platy, non to slightly calcareous, fossil fragments.
HEEBNER SH	SAMPLE TOP: 4104' LOG TOP: 4098' SUBSEA: -916'
4104' - 4112'	SHALE: dark gray to black, firm, subfissile, slightly carbonaceous, non calcareous.
4112' - 4136'	SHALE: reddish brown, gray, firm, blocky, non to slightly calcareous, silty.
LANSING- KANSAS CITY "A"	SAMPLE TOP: 4136' LOG TOP: 4132' SUBSEA: -950'
4136' - 4152'	LIMESTONE: white to cream, firm to hard, mudstone to packstone, fossil fragments, spotty black heavy oil stain, occasional free dark brown oil in vugs, trace to fair vuggy and intercrystalline porosity, dull yellowish white fluorescence, instant blooming yellowish white cuts, good show.
4152' - 4158'	SANDSTONE: white to very light gray, very friable, very fine grained, well rounded, well sorted, calcareous cement, clean, no visible porosity, no show.
4158' - 4178'	SHALE: gray to maroon to reddish brown, mottled, firm, blocky, non to slightly calcareous.
LANSING- KANSAS CITY "B"	SAMPLE TOP: 4178' LOG TOP: 4186' SUBSEA: -1004'
4178' - 4188'	LIMESTONE: white, firm, packstone, fossils(Crinoid, Fusulinid), spotty black oil stain, trace intergranular and poor to trace vuggy porosity, bright yellowish white fluorescence, good diffuse yellowish white cut, poor show.

LITHOLOGY AND SHOWS

4188' - 4202'	SHALE: gray to dark gray to reddish brown, firm, blocky, non to slightly calcareous.
4202' - 4210'	LIMESTONE: white to light gray, firm, cryptocrystalline, dark gray Shale partings, fossil fragments (Brachiopod, Crinoid), slightly argillaceous, tight, no show.
4210' - 4221'	SHALE: gray to reddish brown, mottled, firm to soft, blocky, non to slightly calcareous.
LANSING- KANSAS CITY "C"	SAMPLE TOP: 4221' LOG TOP: 4240' SUBSEA: -1058'
4221' - 4235'	LIMESTONE: white to cream, firm, bioclastic grainstone, very fossiliferous, poor to fair intergranular porosity, free oil, spotty live dark brown to black heavy oil, bright yellowish white fluorescence, instant blooming yellowish white cuts, good show.
4235' - 4243'	SHALE: gray to dark gray to black, firm, blocky, non to slightly calcareous, occasional carbonaceous.
4243' - 4254'	SHALE: dark reddish brown to maroon, firm, blocky, non calcareous, silty, with interbedded LIMESTONE: white, firm chalky, rounded brown shale partings, tight, no shows.
4254' - 4264'	LIMESTONE: white to light gray, firm to hard, wackestone, abundant smooth shell fragments, tight, no shows.
4264' - 4282'	SHALE: brownish red, firm, blocky, non calcareous.
LANSING- KANSAS CITY "D"	SAMPLE TOP: 4282' LOG TOP: 4290' SUBSEA: -1108'
4282' - 4306'	LIMESTONE: white to cream, hard, mudstone, chalky, trace black asphaltic (Algal) material, predominant tight, no shows.
4306' - 4327'	SHALE: brownish red, firm, blocky, non calcareous, trace Limestone stringers.

LITHOLOGY AND SHOWS

LANSING- KANSAS CITY "E"

SAMPLE TOP: 4327' LOG TOP: 4328' SUBSEA: -1146'

- 4327' - 4342' LIMESTONE white to cream, hard, packstone to mudstone, locally abundant fossil, chalky, occasional very patchy black oil stain, trace poor vuggy porosity, dull yellow fluorescence, weak diffuse cut, very poor show.
- 4342' - 4358' SHALE: gray to dark gray to black, soft to firm, blocky, non to slightly calcareous, occasionally very carbonaceous, plant remains, pyrite.
- 4358' - 4365' SHALE: brownish red, firm, blocky, non calcareous, with interbedded Limestone stringers.

LANSING- KANSAS CITY "F"

SAMPLE TOP: 4365' LOG TOP: 4378' SUBSEA: -1196'

- 4365' - 4373' LIMESTONE: white, hard, mudstone, dense, tight, no show.
- 4373' - 4404' SHALE: brownish red, firm, blocky, non calcareous, with interbedded Limestone stringers.
- 4404' - 4422' LIMESTONE: white to cream, mudstone, occasional red SHALE partings, trace dark gray SHALE, occasional embedded medium grained white to black Sand grains, tight, no shows.
- 4422' - 4454' SHALE: brownish red, firm, blocky, non calcareous, occasionally silty.
- 4454' - 4474' SHALE: light gray, firm, platy, non to slightly calcareous.
- 4474' - 4490' LIMESTONE: white to light gray, firm to hard, mudstone, occasional argillaceous, occasional dark gray to black SHALE, occasionally sandy, tight, no shows.
- 4490' - 4496' SHALE: brownish red, soft to firm, sub blocky, non calcareous, occasionally clayey.
- 4496' - 4520' LIMESTONE: white to cream, soft to firm, mudstone, chalky, occasional sandy, tight, no shows.
- 4520' - 4529' SHALE: brownish red, soft to firm, sub blocky, non calcareous, occasional clayey and gummy.

LITHOLOGY AND SHOWS

PAWNEE	SAMPLE TOP: 4529' LOG TOP: 4543' SUBSEA: -1361'
4529' - 4540'	LIMESTONE: white to cream, hard, cryptocrystalline, fossil fragments, rare black oil stain, trace vuggy porosity, occasional oil in vugs, dull yellowish white fluorescence, instant diffuse milky yellowish white cuts.
4540' - 4569'	LIMESTONE: white to very light gray, hard, predominantly mudstone, occasional wackestone, dense, locally abundant fossils, occasionally sandy, occasional black rounded Phosphatic concretions, tight, no shows.
CHEROKEE	SAMPLE TOP: 4569' LOG TOP: 4578' SUBSEA: -1396'
4569' - 4578'	SHALE: black to dark gray to gray, firm, blocky to fissile, occasionally carbonaceous, trace pyrite.
4578' - 4586'	LIMESTONE: white to light gray, firm to hard, mudstone, occasional fossil fragment, sandy in part, argillaceous, tight, no shows.
4586' - 4592'	SHALE: black to dark gray, firm, blocky to fissile, occasionally carbonaceous, plant remains.
4592' - 4602'	LIMESTONE: white to light gray, firm to hard, mudstone to wackestone, occasional fossil fragments, sandy in part, argillaceous, occasional bright orange chert, tight, no shows.
4602' - 4625' TD	LIMESTONE: light gray to gray, firm to hard, mudstone, argillaceous, sandy in part, occasional dark gray carbonaceous SHALE partings, tight, no shows.

Berexco LLC
Schwerdt 1-2

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 Lines, Chris Van Pelt	
MUD LOGGING:	None	
WELLSITE GEOLOGY:	T. M. McCoy & Co., Inc. Peter J. Vollmer	Wilson, WY 307-733-4332
DRILL STEM TESTING:	Trilobite Testing, Inc. James Winder & Bob Hamel DST 1: 3990' - 4044' Oread DST 2: 4090' - 4170' LKC "A" DST 3: 4150' - 4210' LKC "B" DST 4: 4188' - 4250' LKC "C" DST 5: 4200' - 4250' LKC "C" DST 6: 4230' - 4360' LKC "D & E" DST 7: 4240' - 4360' LKC "D & E" DST 8: 4514' - 4550' Pawnee DST 9: 4252' - 4620' LKC "D" to TD	Hays, KS
DIRECTIONAL DRILLING:	None	
WIRELINE LOGS:	Pioneer Wireline Services RAG: Surface casing - TD Micro: 3100' to TD Engineer: Don	Hays, KS 785-625-3858