

BEREXCO LLC

MICHAEL 7-22

SE SE NE SEC 22 T1S R36W

RAWLINS COUNTY, KANSAS

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SUMMARY

The Berexco LLC Michael 7-22 in Rawlins County, Kansas spud December 26, 2013 and reached a total depth of 4450' on December 30, 2013. The test drilled rathole below the Lansing-Kansas City F zone but did not penetrate the Pennsylvanian Pawnee. Wellsite geological supervision commenced at 3000'. The primary objective was the Pennsylvanian Missourian Lansing-Kansas City carbonate benches, which produce in the East Fork field. A secondary zone of interest was the Virgilian Oread Limestone. The Michael 7-22 was drilled using seismic and nearby well control.

Because the Michael 7-22 was drilled as a 10-acre infill well, no DSTs were run. A PDC bit was run from surface casing to total depth. No lost circulation was encountered. A second "wiper trip" was made after wireline logs only reached 2218' on the first logging run. Several tight zones were encountered on the second attempt but logs went to bottom.

Evaluation of the primary zones of interest was by sample analysis. Drill rate was not always a good indicator of formation changes and sample correlation was difficult at times.

Oread Limestone and Lansing-Kansas City

The Oread samples were fossiliferous packstone with fair interparticle porosity, scattered oil staining, and good cuts.

The Lansing A exhibited fair moldic and interparticle porosity with spotty black oil, good sample cuts and fluorescence. Wireline logs showed good porosity. The Lansing B was fossiliferous packstone and mudstone with poor to trace vuggy porosity, live black oil staining, and fair cuts. Wireline logs revealed tight to poor limestone porosity. The Lansing C samples exhibited good cut and fluorescence in grainstone with fair moldic porosity. Spotty live black oil staining was evident. The Lansing D limestone exhibited good fluorescence and cuts but poor porosity. The Lansing E was packstone with black heavy oil staining and fair intergranular and poor vuggy porosity. The Lansing F was nonporous limestone with no sample shows.

Oil Well Completion

5 ½" production casing was run to complete the Michael 7-22 as an oil producer.

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

Berexco LLC
Michael 7-22

WELL DATA

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

WELL NAME: Michael 7-22

SURFACE LOCATION: 2310' FNL & 330' FEL
SE SE NE Sec 22, T1S, R36W
Rawlins County, Kansas

LATITUDE & LONGITUDE: 39.9527397, -101.3369867

BOTTOM HOLE LOCATION: Vertical Hole

ELEVATIONS: 3175' GL 3188' KB

API NUMBER: 15-153-20969

BASIN: Mid-Continental Arch

FIELD: East Fork

HOLE SIZE: 12 ¼" to 310'; 7 7/8" to 4450'

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

SPUD DATE: December 26, 2013

TD DATE: December 30, 2013

TOTAL DEPTH: 4450' Rig TD 4454' Log TD

LAST FORMATION: Pennsylvanian Lansing-Kansas City

WELL STATUS: Ran 5 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				3188
Pierre Sh	Cased	Cased	N/A	N/A
Niobrara Fm	N/A	1092	1092	+2096
Fort Hays Ls Mbr	N/A	1626	1626	+1562
Carlile Sh	N/A	1666	1666	+1522
Dakota	N/A	2223	2223	+965
Cheyenne	N/A	2600	2600	+588
Blaine	N/A	2930	2930	+258
Stone Corral Anhydrite	3089	3089	3089	+99
Base Anhydrite	3121	3120	3120	+68
Neva	3565	3571	3571	-383
Foraker	3675	3678	3678	-490
Topeka	3903	3894	3894	-706
Deer Creek Sand	3934	3932	3932	-744
Oread	4012	4004	4004	-816
Heebner Sh	4045	4045	4045	-857
Lansing-Kansas City				
"A"	4106	4106	4106	-918
"B"	4163	4166	4166	-978
"C"	4228	4228	4228	-1040
"D"	4271	4264	4264	-1076
"E"	4310	4316	4316	-1128
"F"	4354	4354	4354	-1166
TD Driller	4450			
TD Logger		4454	4454	-1266

LITHOLOGY AND SHOWS

The following descriptions are interpretive. Rig crew members collected unlagged samples from 3500' to 4540' TD. Depths are rig depths except where noted as wireline.

3500' - 3526'	SHALE: red, firm to hard, subfissile to blocky, very silty, sandy in part, non to slightly calcareous, trace tan LIMESTONE.
3526' - 3544'	LIMESTONE: white to light gray, firm to hard, chalky, fossil fragment, tight, no shows.
3544' - 3565'	SHALE: red, firm to hard, subfissile to blocky, very silty, sandy in part, non to slightly calcareous.
NEVA	SAMPLE TOP: 3565' LOG TOP: 3571' SUBSEA: -383'
3565' - 3576'	LIMESTONE: gray to dark gray, firm to hard, cryptocrystalline, black algal stain, chalky, tight, no shows.
3576' - 3614'	SHALE: red brown, soft to firm, blocky, n to slightly calcareous, occasional silty, with interbedded LIMESTONE: white to light gray, firm to hard, cryptocrystalline, tight, no shows.
3614' - 3656'	SHALE: red brown to grayish green, firm, blocky, silty, Limestone stringers.
3656' - 3675'	SHALE: red brown, soft to firm, sub blocky, n calcareous, occasional silty.
FORAKER	SAMPLE TOP: 3675' LOG TOP: 3678' SUBSEA: -490'
3675' - 3690'	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chlky, fossil fragment, trace black oil stain, dull yellowish white fluorescence, slow streaming yellowish white cuts from tight Limestone, no visible porosity, poor show.
3690' - 3696'	SHALE: gray to grayish green, firm, blocky, non to slightly calcareous, fossil fragments.
3696' - 3712'	LIMESTONE: white to light gray, firm to hard, cryptocrystalline, chalky, fossil fragment, algal stain, slightly sandy at base, tight, no shows.
3712' - 3718'	SANDSTONE: white, friable, very fine grained, subangular, well sorted, calcareous cement, clay fill, tight to trace porosity, no shows.

LITHOLOGY AND SHOWS

3718' - 3756'	LIMESTONE: white, firm, chalky, tight, with SHALE: gray to grayish green, firm, blocky, non to slightly calcareous, fossil fragments.
3756' - 3806'	SHALE: reddish brown, soft to firm, subblocky, non calcareous, occasional silty.
3806' - 3834'	SHALE: dark gray to black, firm, fissile to blocky, non calcareous, carbonaceous in part, fossil fragments (Brachiopods).
3834' - 3868'	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragment, gray Shale stringers, tight, no shows.
3868' - 3903'	SHALE: brownish red, soft to firm, blocky, non to slightly calcareous, occasional LIMESTONE: white to light gray, hard, cryptocrystalline, fossil fragments, tight, no shows.
TOPEKA	SAMPLE TOP: 3903' LOG TOP: 3894' SUBSEA: -706'
3903' - 3912'	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragments, sparry calcareous fill, trace black oil stain, tight, bright yellowish white fluorescence, good streaming yellowish white cuts, fair show.
3912' - 3920'	SHALE: gray, firm, platy, non to slightly calcareous, subwaxy, plant remains.
3920' - 3934'	LIMESTONE: light gray to white, hard to firm, cryptocrystalline, fossil fragments, trace opaque chert, tight, no shows.
DEER CREEK SAND	SAMPLE TOP: 3934' LOG TOP: 3932' SUBSEA: -744'
3934' - 3952'	SANDSTONE: light gray to light brown, friable to soft, very fine grained, well rounded, well sorted, calcareous, predominant clay filled, plant remains, abundant loose grains, no visible porosity, no show.
3952' - 4012'	SHALE: reddish brown, maroon, light gray, mottled in part, soft to firm, blocky, non calcareous, occasionally moderately to very silty in part.
OREAD	SAMPLE TOP: 4012' LOG TOP: 4004' SUBSEA: -816'
4012' - 4030'	LIMESTONE: cream to white, firm to hard, wackestone to packstone, chalky in part, fossil fragment, occasional peloids, tight to fair interparticle and vuggy

LITHOLOGY AND SHOWS

porosity, scattered black to dark brown live oil stain, bright yellowish white fluorescence, immediate blooming milky yellowish white cuts, good show.

4030' - 4045' LIMESTONE: white to light gray, very hard, cryptocrystalline, slightly siliceous, fossil fragments, tight, no shows.

HEEBNER SH. SAMPLE TOP: 4045' LOG TOP: 4045' SUBSEA: -857'

4045' - 4054' SHALE: grayish black to dark gray, firm, sub fissile, carbonaceous, non to very slightly calcareous.

4054' - 4106' SHALE: gray, firm, platy, non to slightly calcareous, fossil fragments.

LANSING-
KANSAS CITY "A" SAMPLE TOP: 4106' LOG TOP: 4106' SUBSEA: -918'

4106' - 4120' LIMESTONE: white to cream to very light gray, firm to hard, mudstone to grainstone, peloids, fossil fragments, trace black heavy oil stain, trace to fair interparticle porosity, bright yellowish white fluorescence, fair show.

4120' - 4126' SHALE: gray to dark gray, firm, blocky, non to slightly calcareous.

4126' - 4134' SANDSTONE: white to light brown, hard to friable, very fine grained, well rounded, well sorted, calcareous cement, clay filled, occasional black heavy oil specks, predominantly tight, bright yellowish white fluorescence, slow diffuse yellowish white cut, poor show.

4134' - 4163' SHALE: gray to light gray, firm, blocky, non to slightly calcareous.

LANSING-
KANSAS CITY "B" SAMPLE TOP: 4163' LOG TOP: 4166' SUBSEA: -978'

4163' - 4180' LIMESTONE: white, firm, packstone, fossil(Crinoids, Fusulinids), poor intergranular and vuggy porosity, spotty heavy black oil, bright yellowish white fluorescence, good diffuse yellowish white cut, good show.

4180' - 4190' SHALE: dark gray, firm, platy, slightly calcareous in part, carbonaceous material.

LITHOLOGY AND SHOWS

4190' - 4228' LIMESTONE: white to light gray, firm, cryptocrystalline, gray Shale partings, fossil fragments (Brachiopods), tight, no show.

LANSING- KANSAS CITY "C"

SAMPLE TOP: 4228' LOG TOP: 4228' SUBSEA: -1040'

4228' - 4242' LIMESTONE: white, firm, grainstone, very fossil, fair intergranular and vuggy porosity, spotty live black heavy oil, free oil in vugs, dull yellowish white fluorescence, blooming yellowish white cuts, good show.

4242' - 4248' SHALE: dark gray, firm, blocky, slightly calcareous.

4248' - 4254' LIMESTONE: white to dark gray, mottled in part, hard to firm, grainstone, fossils, trace intergranular porosity, occasional live black oil, patchy yellowish white fluorescence, fair milky yellowish white cut, fair show.

4254' - 4271' SHALE: dark gray to black, firm, blocky, calcareous, carbonaceous in part.

LANSING- KANSAS CITY "D"

SAMPLE TOP: 4271' LOG TOP: 4264' SUBSEA: -1076'

4271' - 4294' LIMESTONE: white, firm to hard, packstone to mudstone, fossil fragments, poor to trace intergranular porosity, rare spotty black oil, bright yellowish white fluorescence, blooming yellowish white cuts, fair show.

4294' - 4310' SHALE: dark gray, firm, blocky, occasional white chalky Limestone partings.

LANSING- KANSAS CITY "E"

SAMPLE TOP: 4310' LOG TOP: 4316' SUBSEA: -1128'

4310' - 4326' LIMESTONE: white, firm, mudstone to packstone, fossil fragments, secondary clear calcareous crystals in vugs, poor intergranular and occasional vuggy porosity, scattered black heavy oil stain, bright yellowish white fluorescence, dull yellowish white diffuse cut, good show.

4326' - 4332' SHALE: dark gray, firm, sub fissile, non calcareous, slightly carbonaceous.

4332' - 4354' SHALE: gray, firm, platy, non to slightly calcareous, trace fossil, dull luster.

LITHOLOGY AND SHOWS

LANSING-
KANSAS CITY "F"

SAMPLE TOP: 4354' LOG TOP: 4354' SUBSEA: -1166'

4354' - 4370'

LIMESTONE: cream to white, firm to hard, mudstone to wackestone, scattered fossil fragments, trace black dead oil, very tight, no shows.

4370' - 4402'

SHALE: dark gray, firm, blocky, slightly to non calcareous, fossil fragments, with
LIMESTONE: gray to white, firm to hard, mudstone, occasional fossil fragments, calcite crystals, tight, no show.

4402' - 4450' TD

SHALE: dark gray, firm, platy, non to very slightly calcareous, fossil fragments, interbedded white chalky Limestone.

Berexco LLC
Michael 7-22

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	
MUD LOGGING:	None	
WELLSITE GEOLOGY:	T. M. McCoy & Co., Inc.	Wilson, WY
	Peter J. Vollmer	307-733-4332
DRILL STEM TESTING:	None	
DIRECTIONAL DRILLING:	None	
WIRELINE LOGS:	Pioneer Wireline Services	Hays, KS
	RAG: Surface casing - TD	785-625-3858
	Micro: 3500' to TD	
	Engineer: Chris Desaire	