

Berexco, LLC
Michael # 9-22
N2N2 SENW Section 22 1S-36W
Rawlins County, Kansas

GEOLOGIST
William B. Bynog

RESUME

OPERATOR: Berexco, LLC

WELL NAME & NUMBER: Michael # 9-22

LOCATION: N2N2 SENW Section 22 1S-36W

COUNTY: Rawlins

STATE: Kansas

SPUD DATE: 12-19-2014

COMPLETION DATE: 1-3-2014

ELEVATIONS: GL: 3103 KB: 3114

CONTRACTOR: Beredco Drilling Rig 10

LOGS: PIONEER TYPES: Rag, Micro log

WELLSITE ENGINEER: NONE

MUD COMPANY: Morgan Mud

MUD TYPE & ENGINEER: Fresh Chemical

GEOLOGIST: William B. Bynog

HOLE SIZE: 7 7/8

MUD LOGGING BY: NONE

DRILL STEM TEST COMPANY: Trilobite

DRILL STEM TEST: DST#1 3870-3975, DST#2 3980-4080,
DST#3 4060-4140, DST#4 4120-4185,
DST#5 4182-4275

WELL STATUS: Ran 4 ½ Production Casing

DISCUSSION

Michael #9-22 1S-36W was drilled a total depth of 4400 feet testing the Lansing Kansas City formation in Rawlins County, Kansas. This well was drilled with the help of seismic data and well control.

Structurally, Michael #9-22 1S-36W came in only two feet low to the prognosis and Michael #4-22 1S-36W.

Michael #9-22 was spud on 12-19-2014 drilling to the Foraker and Topeka zones encountering poor sample shows with poor porosity development, none worthy of a drill stem test. The first good sample show with fair porosity development was the Deer Creek sand zone formation at 3904 feet, encountering live oil shows with fair porosity development. This zone was tested on drill stem test #1 recovering 1076 feet of muddy water or watery mud, no oil shows. Drilling continued to the Lansing A zone at 4046 feet encountering a porous grainstone associated with a very good drilling break and good live oil shows. The A zone was tested on drill stem test #2 recovering 6 feet of free oil and 249 feet of oil cut mud with good pressures. Drilling continued to the B zone encountering a fair sample show in another porous grainstone. Drill stem test #3 on the B zone recovered 248 feet of watery mud with oil spots. The C zone had poor sample shows with poor porosity development and was tested on drill stem test #4 recovering only 6 feet of oil spotted mud with low pressures indicating depletion. The D and E zones had poor sample shows and poor porosity development. Drill stem test #5 recovered 73 feet of oil spotted mud with fair pressure data.

Logs agreed with sample evaluation recording fair porosity development and high resistivity in the upper Lansing Kansas City zones. The lower Lansing Kansas City zones were tight, testing small amounts of mud with oil spots.

A decision was made to run 4 ½ production casing based on the favorable drill stem test on the Lansing A zone.

MICHAEL #9-22 SAMPLE DESCRIPTIONS
BEREDCO DRILLING, RIG 10 DRILLING 7 7/8 HOLE

3550-3613 SHALE red,firm,argillaceous,slightly silty in part

FORAKER

3613-20 GRAINSTONE white,firm,chalky,poor intergranular porosity,spotty live brown stain,good cut,fair show free oil

3620-30 LIMESTONE buff,slightly hard,slightly fossils,poor porosity,blocky,dense,no shows

3630-40 SHALE green green,firm,waxy,abundant pyrite

3640-52 LIMESTONE white,firm,very sandy,very fine grained,chalky,poor vis porosity,no shows

3652-74 SANDSTONE pale red, friable,very fine grained,wsrtd,clay filled,poor vis porosity,no shows with thin SHALE as above

3674- 96SHALE gray green,some red,firm,waxy

3696-3710 LIMESTONE buff,very hard,dense,no shows

3710-40 SHALE red,soft,very argillaceous

MICHAEL #9-22 SAMPLE DESCRIPTIONS

3740-3808 SHALE as above with thin LIMESTONE buff,hard,chalky in part,trace black dead stain,no free oil

3808-3838 SHALE as above with very thin LIMESTONE as above,no shows

TOPEKA

3838-70 LIMESTONE buff,hard,dense,blocky,no shows with thin SHALE as above

3870-88 LIMESTONE white,firm,microcrystalline,shchky,poor vis porosity,no shows

3888-3914 SHALE red,very soft,very argillaceous

DEER CREEK SAND

3914-34 SANDSTONE translucent,slightly hard,fine to m grained,wsrtd,sbrnd, silicious cement,fair intergranular porosity,spotty live thick stain,very good cut,fair show free oil

3934-54 SHALE red,green,firm,waxy

OREAD

3954-66 LIMESTONE buff,very hard,blocky,very dense,no shows

3966-72 LIMESTONE buff,firm,microcrystalline,chalky in part,poor vis porosity,no shows

3972-96 LIMESTONE pale tan,very hard,dense,blocky,crptoxln,no shows

MICHAEL #9-22 SAMPLE DESCRIPTIONS

3996-4010 SHALE dark gray,gray black,firm,abundant pyrite

4010-50 SHALE red,very soft,very argillaceous with thin LIMESTONE pale gray,hard,dense,no shows

LANSING A

4050-56 GRAINSTONE white,firm,very oolitic,fair to good oomoldic porosity,spotty to even live black stain,very good milky cut,good show free oil

4056-74 LIMESTONE pale gray,hard,dense,blocky,no shows with thin SHALE aaa

4074-80 SANDSTONE white,firm,vgr,wsrtd,dense calcareous cement,poor porosity,no shows

4080-4103 SHALE red,soft,very argillaceous

B ZONE

4103-4106 GRAINSTONE white,firm,very oolitic,chalky in part,fair intergranular porosity,spotty live brown stain,gd cut,poor show free oil

4106-30 LIMESTONE buff.pale gray,very hard,dense,very chalky in part,no shows with thin SHALE green,firm,waxy

4130-68 SHALE green,red,soft,argillaceous

C

MICHAEL #9-22 SAMPLE DESCRIPTIONS

4168-81 PACKSTONE white,firm, oolitic,slightly chalky,fair intergranular and oomoldic porosity,spotty live brown stain,very good cut,good show free oil

4181-4213 to SHALE green,red,firm,argillaceous,chnky

D

4213-24 LIMESTONE buff,hard,slightly fossils,chalky in part,poor pinpoint vuggy porosity,very spotty live brown stain,good cut,poor show free oil

4224-32 LIMESTONE white,buff,hard,chalky,poor vis porosity,no shows with thin SHALE as above

4232-45 SHALE as above

4245-56 SANDSTONE pale yell,green,firm,very fine grained,caly filled,poor porosity,no shows with thin SHALE as above

E

4256-65 LIMESTONE white,firm,very chalky,slightly fossils,poor pinpoint vuggy porosity,very spotty live brown stain,fair cut,no free oil

4265-91 SHALE green,red,firm,chnky,argillaceous

F

4291-4300 LIMESTONE white,firm,chalky,slightly oolitic,poor porosity,no shows

MICHAEL #9-22 SAMPLE DESCRIPTIONS

4300-08 SHALE green,red,firm,waxy

4308-40 LIMESTONE buff,pale gray,very hard,dense,blocky,crprtoxn,no shows with interbedded SHALE as above

4340-60 SHALE as above some sandy

4360-4400 SHALE and LIMESTONE as above,no shows

RTD 4400'

LTD 3996'