

# **O'Brien Energy Resources, Inc.**

**Mohler No. 1-34**

**Section 34, T33S, R29W**

Meade County, Kansas

August, 2014

## **Well Summary**

The O'Brien Energy Resources, Mohler No. 1-34 was drilled to a total depth of 6453' in the St. Louis Formation with no problems and in a record rotating time of 74 <sup>3</sup>/<sub>4</sub> hours for an average of 86.3' per hour. Appreciation to Duke Rig 9 hands.

Formation tops ran 2' low to 5' high from the Heebner to Morrow relative to the Getty Oil, Mohler No. 4, approximately 1320' to the Northeast. The Chester came in 8' low. The Marmaton "C" Zone came in 9' high.

Several quality hydrocarbon shows were documented during the drilling of the test. One of the primary objectives was the Marmaton "C" Zone(5254'-5262') and consists of a very fossiliferous Limestone: Light brown to buff, white, moderate to coarsely crystalline in part, brittle, clean, subchalky, fossiliferous and oolitic with excellent interparticle and occasional moldic porosity, trace intercrystalline and vuggy porosity, bright light yellow hydrocarbon fluorescence in 5% of the samples, good streaming cut, gas bubbles when crushed, trace light brown oil stain, excellent oil odor. A 180 Unit gas kick was documented.

This interval was drilled stem tested and recovered gas to surface in 24 minutes, 366' of muddy water, 169' of gassy mud and water cut emulsion. The sample chamber contained 680 PSI, 32 cubic feet of gas and 100 ml of condensate. No water was recovered, and with shut in pressures of 819 PSI.

An Upper Morrow Sandstone was documented(5740'-5745'): Clear to white, speckled green, white, friable, very fine upper, well sorted subround grains, siliceous cement, clean, good intergranular porosity, light gold hydrocarbon fluorescence, good streaming cut, oil stain and trace live oil. A 120 Unit gas increase occurred.

The Morrow "B" Sandstone(5752'-5774') contained shows as documented on the mudlog.

The Upper Chester(5829'-5846') consists of a Limestone: Medium to light mottled brown, buff, microsucrosic in part, subchalky, fossiliferous, trace intercrystalline and fine vuggy porosity, light speckled blue hydrocarbon fluorescence in 15% of the samples, slow streaming cut, light brown oil stain. Gas increases of up to 300 Units were documented.

An 80 Unit gas increase and sample show occurred from a Lower Chester Sandstone(6069'-6075'): Medium brown with oil stain, slightly friable, fine well sorted grains, trace intergranular porosity, even dull gold brown hydrocarbon fluorescence and excellent streaming cut, brown matrix oil stain and live oil.

The Basal Chester interval(6085'-6132') contained its characteristic hydrocarbon shows with gas increases of up to 640 Units.

A interesting show occurred in the St. Louis(3625'-6332') and consists of a Limestone: Mottled brown buff, biomicrite, brittle, clean, very fossiliferous with interpartical and trace intecrystalline and vuggy porosity, light yellow to orange hydrocarbon fluorescence and excellent streaming cut, brown oil stain and live oil, slight oil odor. A 80 Unit gas increase was noted.

Additional minor shows were documented(attached mudlog).

4 1/2" production casing was run on the Mohler No. 1-34 to further evaluate the above mentioned shows.

Respectfully Submitted,

Peter Debenham

## WELL DATA

Operator: O'Brien Energy Resources, Inc., John Forma – Portsmouth, NH  
Geologist: Paul Wiemann – Denver, CO

Prospect Geologist: Ed Schuett, David Ward

Well: Mohler No. 1-34, Mohler Field

API: 15-119-21371

Location: 660' FSL & 900' FEL, Section 34, T33S, R29W, Meade County, Kansas – South of Meade.

Elevation: Ground Level 2493', Kelly Bushing 2506'

Contractor: Duke Drilling Rig No. 9, Type: Double jackknife, double stand, ToolpusherEmidgio Rojas, Drillers: Omar Garcia, Alejandro V., Fernando Jurado

Company Man: Roger Pearson – Liberal, Kansas

Spud Date: 8/20/14

Total Depth: 8/26/14, Driller 6453', Logger 6453', St. Louis Fm.

Casing Program: 35 joints of new 8 5/8", J55, 24Lbs/ft, set at 1495', 4 1/2" production casing set to TD.

Mud Program: Mud Co./Service Mud Inc., Engineer Justin Whiting, mud up 4000'.

DST: Trilobite Testing engineer Chuck Smith, (5248'-5265'), Marmaton "C"

Wellsite Consultant: Peter Debenham with mudlogging trailer, Call depth 3000', Box 350, Drake, CO 80515, 720/220-4860.

Samples: 30' to 4600', 20' to 5800', 10' to TD. Dry cut sent to KGS sample log library.

Electric Logs: Weatherford, engineer Ben Weldin, 1) Array Induction, 2) Neutron Density, 3) Microlog, 4) Sonic – Hi Res. repeat.

Status: 4 1/2" production casing set to TD on 8/27/14.

**WELL CHRONOLOGY**

**6 AM**  
**DATE DEPTH**

**FOOTAGE**

**RIG ACTIVITY**

8/20 490' 490' Rig down and move to location and rig up rotary tools. Pump water and mix spud mud. Drill rat hole and mouse hole and spud in 12 1/4" surface hole to 490'.

8/21 1495' 1005' Survey(1 1/4 deg.). To 1495' and circulate and clean hole. Trip out and run and cement 35 joints of new 8 5/8" J-55 surface casing set at 1492' with 325 sacks A Con Blend and tail with 150 Premium Plus with centralizers on joints 1, 3, 5 and 7. Plug down 3PM. Wait on cement and nipple up BOP.

8/22 3230' 1735' Trip in and pressure test BOP to 300 PSI for 15 minutes. Drill plug and cement and 7 7/8" hole to 1820'.

8/23 4790' 1560' Survey(1 1/4 deg.) and service rig and clean suction.

8/24 5067' 277' To 5004' and wiper trip 40 stands. Circulate for samples at 5224' and 5265' and circulate and condition mud. Short trip 6 stands and circulate. Drop survey(1 deg.) and trip for DST No. 1(5248'-5265') and run test – gas to surface in 24 minutes.

8/25 6050' 983' Run test and pull and lay down test tool. Trip in and break circulation at 2631' and circulate on bottom and drill to 6050'. Circulate for samples at 5732' and 5744'. To 6050'.

8/26 6453'TD 403' To 6453'TD and circulate and condition hole. Wiper trip 40 stands and circulate. Drop survey(1 deg.) and trip out and run Elogs.

8/27 TD Trip in and circulate and wait on orders. Trip out laying down and run and cement production casing to TD. Rig down.

**BIT RECORD**

<b><u>NO.</u></b>	<b><u>MAKE</u></b>	<b><u>TYPE</u></b>	<b><u>SIZE</u></b>	<b><u>OUT</u></b>	<b><u>FOOTAGE</u></b>	<b><u>HOURS</u></b>
1		V273	12 1/4"	1495'	1495'	11 3/4
2		228RS	7 7/8"	1820'	325'	1 1/4
3		VLT 616	7 7/8"	6453'	4633'	61 3/4
Total Rotating Hours:						74 3/4
Average:						86.3 FT

### MUD PROPERTIES

<u>DATE</u>	<u>DEPTH</u>	<u>WT</u>	<u>VIS</u>	<u>PV</u>	<u>YP</u>	<u>pH</u>	<u>WL</u>	<u>CL</u>	<u>LCM-LBS/BBL</u>
8/19	Make up water								
8/21	1496'								
8/22	2350'		9.6	33	--	--	7.0	n/c	77K 0
8/23	3972'		9.1	44	10	14	9.5	12.0	9K 2
8/24	5265'		9.4	48	16	18	9.5	9.2	4.8K 1
8/25	5502'		9.4	48	14	16	8.5	9.2	5K 2
8/26	6453'TD		9.35	50	17	17	10.0	9.2	3K 6

### DEVIATION RECORD - degree

734' ½, 1592 1 ¼, 2599' 1, 3580' 1, 4656' 1 ¼, 5265' 1, 6453' 1

### BIT RECORD

<u>NO.</u>	<u>MAKE</u>	<u>TYPE</u>	<u>SIZE</u>	<u>OUT</u>	<u>FOOTAGE</u>	<u>HOURS</u>
1		V273	12 ¼"	1495'	1495'	11 ¾
2		228RS	7 7/8"	1820'	325'	1 ¼
3		VLT 616	7 7/8"	6453'	4633'	61 ¾
Total Rotating Hours:						74 ¾
Average:						86.3 Ft/hr

### DRILL STEM DATA

DST NO.1: (5248' – 5265'), Marmaton, times 30-60-30-120

Type: Conventional Bottom Hole Test

<u>PERIOD</u>	<u>TIME</u>	<u>PSI</u>
IH		2580
IF	30	189 - 143
ISI	60	817
FF	30	188 - 258
FSI	120	819
FH		2521

BHT 123 deg. F.

BLOWS: IF – Bottom of bucket in 45 seconds, gas to surface in 24 minutes, estimated rate 70 mcf/d. ISI – 11" blowback. FF – Bottom of bucket in 1 ¾ minutes. FSI – Blowback to bottom of bucket in 3 minutes.

RECOVERY: 366' muddy water(5% mud), 124 gassy mud and water cut emulsion(10% gas, 15% mud, 35% water and 40% emulsion, 45' gassy mud and water cut emulsion(30% gas, 15% mud, 20% water and 35% emulsion) and 4703' of gas in the pipe. Water Rw .08 at 68 deg. F., 100,000 ppm cl.

Sample Chamber: 680 PSI, 100 ml condensate, 32 cf gas, no water.

**ELECTRIC LOG FORMATION TOPS- KB Elev. 2553'**

<b><u>FORMATION</u></b>	<b><u>DEPTH</u></b>	<b><u>DATUM</u></b>	<b><u>*Getty Oil Mohler No. 4 DATUM</u></b>	<b><u>POSITION</u></b>
Surface Casing	1490'			
Heebner	4381'	-1875'	-1873'	-2'
Toronto	4412'	-1906'	-1901'	-5'
Lansing	4482'	-1976'	-1971'	-5'
Marmaton	5190'	-2684'	-2889'	+5'
Marmaton "C"	5254'	-2748'	-2757'	+9'
Cherokee	5386'	-2880'	-2884'	+4'
Atoka	5584'	-3078'	-3081'	+3'
Morrow	5713'	-3207'	-3211'	+4'
Morrow "B" SS	5752'	-3246'	-3247'	+1'
Mississippi Chester	5815'	-3309'	-3301'	-8'
Ste. Genevieve	6148'	-3642'	NDE	
St. Louis	6251'	-3745'	NDE	
TD	6453'	-3579'		

\*Getty Oil, Mohler No. 4, 1650' FSL & 330' FEL, Sec. 34 – approximately 1320' to the NE, K.B. Elev. 2485' – oil productive from the Marmaton "C" Zone.