

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

## **Larrabee No. 4-4**

### **Section 4, T34S, R29W**

Meade County, Kansas

May, 2014

### **Well Summary**

The O'Brien Energy Resources, Corporation, Larrabee No. 4-4 was drilled to a total depth of 6415' in the Mississippian St. Louis. One of the closest offsets is the Larrabee No. 1-4 – approximately 1200' to the NW. The Heebner and Toronto came in 6' low relative to this offset. The Lansing ran 1' low. Thinning occurred as the Marmaton, Cherokee, Atoka and Morrow ran 10', 11', 13' and 19' high respectively. The Chester and Ste. Genevieve came in 22' low and 15' low.

Excellent hydrocarbon shows were documented in several Morrow Sandstones(5770'-5790') and consists of Sandstone in 30% of the samples – Speckled green, white to light brown, buff, friable, fine upper to very fine lower, well sorted subround grains, calcite cement, clean to slightly argillaceous, very glauconitic, carbonaceous inclusions, pyritic in part, good intergranular and occasional vuggy porosity, dull goldbrown to pale yellow hydrocarbon fluorescence in most the sandstone with a weak to excellent streaming cut, occasional good brown matrix oil staining and speckled black solid oil residue, traces of live oil and gas bubbles when crushed and with an interbedded Shale: Black, firm, fissile, carbonaceous, and with traces of a Sandstone as above and with no show documented. A 220 Unit gas increase was documented from the upper Sand and 160 Units from the lower.

A lower Morrow Sandstone(5798'-5812') consists of a sandstone in 40% of the samples – Medium to light brown, salt and pepper, speckled green with glauconite, firm to friable. very fine well sorted subround to round grains, calcareous cement, good to excellent visible intergranular porosity, dull to bright gold hydrocarbon fluorescence and brown matrix oil stain with live oil and gas bubbles when crushed, black speckled gilsonite inclusions. 140 to 160 Units of gas were recorded.

An excellent show was noted in the Rickers Ranch sand equivalent - Sandstone(5977'-5982'), Medium to dark brown, gray, graygreen, hard to friable, very fine upper, well sorted subround grains, calcite cement, good intergranular porosity, medium orange to pale blue hydrocarbon fluorescence(15% spl), excellent streaming cut, dark brown oil stain and trace live black oil and gas bubbles. A 320 Unit gas kick occurred on the hotwire.

Additional shows occurred in the lower Basal Chester(6103-6150') and with associated 640 to 340 Unit gas increases: Limestone-Mottled brown to redbrown, dark speckled brown, graygreen, mottled brown with oil staining, microsucrosic to sucrosic, brittle, argillaceous to marly in part, sandy, very fine isolated vugs and oomoldic porosity and with abundant live oil, stain and excellent cut, dull goldbrown hydrocarbon fluorescence.

Additional shows were documented in the Marmaton(5320'-5344') attached mudlog and in several Chester Limestones.

4 ½" production casing was set to TD on 5/26/14.

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: Larrabee No. 4-4, Mohler Field

Location: 1220' FNL & 335' FEL, Section 4, T34S, R29W, Meade County, Kansas  
– South of Meade.

Elevation: Ground Level 2530', Kelly Bushing 2541'

Contractor: Duke Drilling Rig No. 6, Type: Double jackknife, triple stand, T.P. Allen  
Cain, Drillers Richard TaFaya, Saul Garcia, Darryl LaRoche,

Company Man: Roger Pearson – Liberal, Kansas

Spud Date: 5/19/14

Total Depth: 5/26/14, Driller 6415', Logger 6408', St. Louis

Casing Program: 35 joints of 8 5/8", J55, 24Lbs/ft, set at 1479'. 4 1/2" production casing to  
TD.

Mud Program: Winter Mud, engineer Nate Agee, Type WBM, displaced 2614'.

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

Samples: 30' to 4700', 20' to 6000' and 10' to TD. Dry sample cut sent to KGS  
Sample log library, Wichita.

Electric Logs: Weatherford, engineer Derek Carter, 1)High Resolution Repeat, 2) Photo  
Density/Neutron, 3) Array Induction, 4) Microlog

Status: 4 1/2 " production casing to TD on 5/27/14.



Average: 47.5  
Ft/hr

**DEVIATION RECORD – deg.**

522' ¼, 1206' ¼, 1494' 2, 1707' 1 ¼, 2614' 1, 4274' 1, 4997' 1, 5591' 1, TD 1

**MUD PROPERTIES**

<b><u>DATE</u></b> <b><u>LBS/BBL</u></b>	<b><u>DEPTH</u></b>	<b><u>WT</u></b>	<b><u>VIS</u></b>	<b><u>PV</u></b>	<b><u>YP</u></b>	<b><u>pH</u></b>	<b><u>WL</u></b>	<b><u>CL</u></b>	<b><u>LCM-</u></b>
5/19	120'	9.3	46	15	10	nc	7.0	1500	12
5/20	1401'	9.7	30	5	7	nc	7.0	29K	6
5/21	1745'	8.7	30	4	2	nc	7.0	29K	0
5/22	3117'	8.9	54	20	11	11.2	10.0	3.7K	4
5/23	4274'	9.2	48	15	10	12.0	11.0	3.2K	6
5/24	5005'	9.4	40	15	5	6.0	10.0	3.0K	4
5/25	5961'	9.3	57	22	16	8.4	11.0	6.0K	6
5/26	6414'	9.4	60	30	22	8.0	9.0	2.0K	14

**ELECTRIC LOG FORMATION TOPS- KB Elev. 2550'**

<b><u>FORMATION</u></b>	<b><u>DEPTH</u></b>	<b><u>DATUM</u></b>	<b><u>*Larrabee No. 1-4</u></b>	
			<b><u>DATUM</u></b>	<b><u>POSITION</u></b>
Casing	1492'			
Heebner	4430'	-1889'	-1882'	-7'
Toronto	4455'	-1914'	-1908'	-7'
Lansing	4592'	-2051'	-2050'	-1
Marmaton	5216'	-2675'	-2682'	+10'
Cherokee	5422'	-2881'	-2892'	+11'
Atoka	5613'	-3072'	-3085'	+13'
Morrow	5742'	-3201'	-3220'	+13'
Mississippi Chester	5855'	-3314'	-3219'	-22'
Ste. Genevieve	6178'	-3637'	-3622'	-15'
St. Louis	6266'	-3725'		
TD	6415			

\*O'Brien Energy, Larrabee No. 1-4, 330'FNL & 1320'FEL, Sec. 4 – Approximately 1200' the SE, K.B. Elevation 2550'.