

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

**Keystone No. 1-5**

**Section 5, T33S, R29W**

Meade County, Kansas

January, 2015

**Well Summary**

The O'Brien Energy Resources, Keystone No. 1-5 was drilled to a total depth of 6364' in the Mississippian Spergen Formation. It offset the Crooked Creek No. 4-8 by 3770' to the North. Formation tops ran high relative to this offset. The Heebner, Toronto and Lansing came in 33' high. The Marmaton, Cherokee and Atoka ran 52' and 53' and 58' high respectively. The Morrow came in 58' high and the Morrow "C" Sandstone, 65' high. The Chester and Ste. Genevieve came in 91' high and the St. Louis 72' high.

An excellent but subtle show in samples occurred in the Morrow "C" Sandstone(5716'-5728') and consists of a Sandstone in 4% of the sample: Medium to light brown to gray, hard to very friable in part, fine upper to fine lower, well sorted subround to subangular grains, siliceous cement, slightly calcareous, tight to good intergranular porosity – some clay infill, trace vuggy porosity, dull mottled gold green hydrocarbon fluorescence, slow streaming to bleeding cut, gas bubbles and slight oil sheen when crushed, trace oil stain, show dissipates. A 950 Unit gas kicked was documented.

An additional show was documented in the Upper St. Louis and with an associated 175 Unit gas increase(6094'-6104'): Limestone, Medium mottled brown, dolomitic and sucrosic, very siliceous in part, medium brown matrix oil stain with mottled gold brown hydrocarbon fluorescence in 2% of the samples with good streaming cut, trace live oil in vugs.

4 1/2" production casing was run on the Keystone No. 1-5 on 1/16/15 for Morrow "C" gas production.

Respectfully Submitted,

Peter Debenham

## WELL DATA

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

Prospect Geologist: David Ward, Ed Schuett, Denver

Well: Keystone No. 1-5

API: 15-119-21385

Location: 760' FSL & 341' FEL, Section 5, T33S, R29W, Meade County, Kansas – Southeast of Plains.

Elevation: Ground Level 2620', Kelly Bushing 2632'

Contractor: Duke Drilling Rig No. 9, Type: Double jackknife, double stand, Toolpusher  
Emidgio Rojas, Drillers: Victor Martinez, Alejandro V., Feraindo Juroeb

Company Man: Roger Pearson – Liberal, Kansas

Spud Date: 1/10/15

Total Depth: 1/16/15, Driller 6400', Logger 6364', Spergen Formation

Casing Program: 35 joints of 8 5/8", J-55, 24Lbs/ft, set at 1484' with 300 sacks Comm A Blend(3% cc, ¼ lb Floseal) and 150 sacks tail. Plug down 6:30 pm 1/11/15.

Mud Program: Winter Mud, engineer Kris McCume, displaced 2800', Chem. gel/LCM.

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

Samples: 30' to 5700', 20' to TD.

Electric Logs: Weatherford, engineer Ben Weldin , Array Induction, Compensated Neutron/Density, Microlog, Hi Res.

Status: 4 ½" production casing run 1/16/2015.

### WELL CHRONOLOGY

<u>6 AM</u>	<u>DATE</u>	<u>DEPTH</u>	<u>FOOTAGE</u>	<u>RIG ACTIVITY</u>
	1/10	300	300'	Move to and rig up rotary tools. Spud in 12 ¼" to 300'.
	1/11	1490'	1190'	Surface hole to 1490' and circulate and clean hole. Drop survey(1 deg.) and trip out and run and cement 35 joints of 8 5/8", 24 lbs/ft, J55 set at 1484' with 300 sacks A Comm Blend(3%cc, 1/4 # Floseal) and 150 sacks tail. Plug down 6:30 pm. Wait on cement.
	1/12	2400'	910'	Wait on cement and nipple up BOP. Trip in and pressure test BOP. Drill plug and cement.
	1/13	4350'	950'	Surveys(1/2 – 1 ¼ deg.).
	1/14	5590'	1240'	Survey(1 ¼ deg.). To 5021' and wiper 40 stands(2 ¾ hrs). To 5590'.
	1/15	6400'td	810'	To TD and circulat. Short trip 60 stands and circulate.
	1/16	TD		Circulate and trip out for logs. Rig up loggers and run ELogs. Loggers TD 6364' – pipe tally off, 34' uphole correction. Trip in and circulate. Trip out laying down and run and cement 4 ½" production casing to TD.

### BIT RECORD

<u>NO.</u>	<u>MAKE</u>	<u>TYPE</u>	<u>SIZE</u>	<u>OUT</u>	<u>FOOTAGE</u>	<u>HOURS</u>
1	STC	PH516	12 ¼"	1490'	1490'	12 ¾
2	HTC	PLT616	7 7/8"	6400'	4910'	65 1/4
Total Rotating Hours:						78
Average:						82.0 Ft/hr

### DEVIATION RECORD - degree

788' 1, 1490' 1 ¼, 2526' 1, 4579' 1 ¼, 6400' 1

**MUD PROPERTIES**

<b><u>DATE</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-LBS/BBL</u></b>
1/11	926'	10.3	37	14	11	8.5	100	1900	6
1/12	1589'	8.9	30	7	6	7.5	100	2200	0
1/13	3220'	8.6	45	15	11	10	10	4600	2
1/14	5021'	9.4	56	25	20	10	9.5	4900	4
1/15	6114'	9.5	52	22	18	10.5	8.6	4500	4

**ELECTRIC LOG FORMATION TOPS- KB Elev. 2632'**

<b><u>FORMATION</u></b>	<b><u>DEPTH</u></b>	<b><u>DATUM</u></b>	<b><u>*Crooked Creek No. 4-8</u></b>	
			<b><u>DATUM</u></b>	<b><u>POSITION</u></b>
Casing	1486'			
Heebner	4386'	-1754'	-1786'	+32'
Toronto	4410'	-1778'	-1810'	+32'
Lansing	4528'	-1896'	-1930'	+34'
Marmaton	5172'	-2540'	-2592'	+52'
Cherokee	5345'	-1713'	-2766'	+53'
Atoka	5598'	-2966'	-3025'	+59'
Morrow	5656'	-3024'	-3082'	+58'
"C" SS	5716'	-3084'	-3149'	+65'
Mississippi Chester	5763'	-3131'	-3222'	+91'
Basal Chester	5958'	-3326'	-3414'	+88'
Ste. Genevieve	5995'	-3363'	-3454'	+91'
St. Louis	6094'	-3462'	-3534'	+72'
Spergen	6290'	-3658'		
TD	66364'			

\*O'Brien Energy Resources, Crooked Creek Offset No. 4-8, 2271'FSL & 526'FEL, Sec. 8 – app. 3770' to the South, K.B. Elev. 2656'.