

## TD Notice

August 5, 2013

### **Kathleen 2231 1-36 36-22S-31W, Finney County, Kansas**

API#: 15055222280000

SL: 2350' FNL & 1100' FWL of NW/4 of 36-22S-31W

SPUD: 7/29/2013

TD: 8/4/2013; TMD Driller @ 5,223' MD

Logs run by Halliburton; received 8/5/2013. TD Logger 5,218'.

Casing to be set from surface to TMD @ 5,223' for potential completion in the Chase, Marmaton, Morrow, and Miss.

Datum 2,892' KB	E-LOG TOPS Halliburton	
	MD	SUBSEA
FORMATION		
Heebner	3988'	-1096'
Lansing	4032'	-1140'
Marmaton	4512'	-1620'
Pawnee	4585'	-1693'
Cherokee	4624'	-1732'
Morrow	4738'	-1846'
Mississippian	4769'	-1877'

The Kathleen 2231 1-36 is a grass-root vertical well designed to test multiple zones from the Chase to the Miss. The well was drilled to 5,223', approximately 155' into the Spergen, so the entire St. Louis section could be logged and evaluated. Based on the log data, there are multiple zones in the well that appear productive, including the Miss, Morrow, and Marmaton. The St. Louis in the Miss contains 14' of potential pay with porosities of 5% - 10%, range of resistivity of 9 – 30 ohms, and a gas show of 184 units. This zone was encountered in the lateral of the Isaac Farms 1-36H and is currently producing 45 – 50 BOPD. The Morrow produces from numerous wells in the Stewart Field to the south of this location. The Kathleen 2231 1-36 has a 2' zone in the Morrow with 8% porosity, 40 ohms, and a 173 unit gas show. There is also an 8' zone in the Morrow that appears tight, with only 4% - 5% porosity, but also has a gas increase of over 80 units. The Marmaton has 5% - 8% porosity and 15 – 40 ohms. Below you will find logs over these zones.

