

HORIZONTAL DRILLING TECHNOLOGY APPLIED IN NEW YORK—LESSONS APPLICABLE TO THE KNOX?

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ABSTRACT

The Bass Island trend in western New York is a series of fields that produce oil and gas from fractured carbonate reservoirs. Resource America, Inc. with financial assistance from the New York State Energy Research and Development Authority (NYSERDA), drilled the first horizontal well in the trend. The method used was the re-entry of an existing well bore and the drilling of a short radius horizontal leg into the pay zone using slim-hole equipment (smaller than 4 1/2" OD), 2-3/8" drill pipe, adjustable down-hole motors, and down-hole steering tools. This method has been proven in other basins and works perfectly for the Bass Island. The well was drilled without problems. The

horizontal leg extended approximately 323 feet from the kick off point in the vertical well bore. Eighty-five feet of fractured and faulted reservoir rock was penetrated. The well was completed and is currently producing 6 BOPD and 15 BWPD. Initial pressures indicated some depletion was present and the production is indicative of a completion very close to the oil/water contact.

Short and medium radius drilling techniques similar to this one (used in New York) could be applied to Knox reservoirs in Ohio. Targets with surface limitations, truncated formations, vertical karst features or near-misses are possible candidates for horizontal drilling.