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**HYDRAULIC FRACTURING IN NEVADA  
UPDATE AND WATER USE**

**BACKGROUND**

- Nevada has a 60 year history of oil production, primarily from several oil fields in eastern Nevada. 316,326 barrels of oil were produced in 2014. Nevada is not a commercial producer of natural gas.
- Hydraulic fracturing has been used in oil extraction since 1947. Its use has become more common with the development of horizontal drilling. Together, these technologies have allowed oil and gas production from previously unexploited hydrocarbon-bearing shale formations.
- The successful use of hydraulic fracturing for oil exploration and production has generated new interest in geologic targets in eastern Nevada.
- The Nevada Division of Minerals lists all approved oil and gas drilling permits on the Division web site at [www.minerals.nv.gov](http://www.minerals.nv.gov)
- Chemical disclosures and water use for hydraulically fractured wells in Nevada can be found at [www.fracfocus.org](http://www.fracfocus.org)

**WATER USE**

- Noble Energy drilled four wells in Elko County in 2014. Three of these wells were hydraulically fractured. One existing well in the Blackburn field in Eureka County was hydraulically fractured in 2014. Water use for these four wells are shown below:

<u>Well name</u>	<u>Date</u>	<u>Depth-ft</u>	<u>Water-gallons</u>	<u>Water acre-ft</u>
Noble M2C-M2-21B	3/17/14	11,637	250,057	0.76
Noble M10C-M10-11B	6/04/14	9,100	343,919 *	1.05
Blackburn #16	6/05/14	7,208	209,600	0.64
Noble K1L-1V	12/5/14	9,692	300,537 *	0.92

\* approximately 1/4 of the water used was recycled from a previous well.

- A water right for water to drill an oil well is required by the Nevada Division of Water Resources.
- For comparison, a domestic well serving a single-family residence in Nevada can draft 2.0 acre-feet per year. A typical irrigation pivot uses 504 acre-feet per year.
- If Nevada experienced a boom in oil drilling, defined as enough wells to maintain a 50,000 barrel per day production rate, it would require the drilling of 100 to 120 wells per year. If these wells had a horizontal or lateral component, water use may increase to 5 acre-feet per well, a use rate typical of hydraulically fractured wells in other states. This would require 500 to 600 acre feet of water per year, about the same amount as one irrigation pivot uses to grow a crop of alfalfa in Nevada.

