Oregon Department of Geology and Mineral Industries

Senate Committee on Environment and Natural Resources
May 22, 2017 Public Hearing on HB 2711
Oregon Department of Geology and Mineral Industries (DOGAMI) testimony

Thank you for allowing DOGAMI to comment on HB 2711. DOGAMI remains neutral on this bill, but we would like to provide information about previous use of hydraulic fracturing technology in drilling, potential for future hydraulic fracturing in Oregon, and the current framework for regulating and permitting operations that propose hydraulic fracturing.

To date, hydraulic fracturing in Oregon has only occurred in efforts to develop coalbed methane gas resources. Approximately five coalbed methane wells were hydraulically fractured between 2005 and 2006 at a site in Coos County. The fracturing fluid was nitrogen gas with silica sand, both chemically inert materials. DOGAMI required the company to sample the background water quality of the formation water, adjacent domestic water supply wells, waters from adjacent drainages, and waters from naturally occurring seeps and springs. To date, DOGAMI has not received notice of any impacts to adjacent domestic water supply wells or other waters of the State. The wells were subsequently found to be uneconomical for gas production, and were plugged with cement. Approximately six additional wells remain cased and sealed, with their permits suspended until the operator continues development, or plugs the wells and reclaims the well pad.

Oregon's only producing gas field, near the town of Mist in northwest Oregon, has been producing gas from a sandstone reservoir since 1980. The reservoir is so permeable that hydraulic fracturing has never been necessary to economically produce or store gas.

The US Geological Survey recently published a national assessment of unconventional oil and gas potential, which are the type of resources for which hydraulic fracturing is typically used. In Oregon, the study only found potential for coalbed methane. Hydraulic fracturing may be required to develop those resources. The attached map, created with USGS data, shows areas where coalbed methane gas reserves potentially exist. There is currently no active exploration for coalbed methane in Oregon.

Around 2010, drilling companies discovered economic quantities of gas from the Snake River Basin in western Idaho, adjacent to Ontario, Oregon. Presently, six wells are producing gas in Idaho, without the use of hydraulic fracturing. Since 2012, exploration companies active in Idaho have conducted seismic exploration in Oregon between Vale, Ontario, and Nyssa. The Snake River Basin is believed to be a conventional gas resource, where the gas is contained in sandstone that can probably be developed without hydraulic fracturing. To date, DOGAMI has not received any applications to drill a well in the Snake River Basin. This area was not identified in the USGS study of the potential for unconventional oil and gas potential.

For drilling operations that propose hydraulic fracturing, DOGAMI, the Department of Environmental Quality, and other natural resource agencies work together to ensure that resources are being developed in compliance with state law and that each agency's regulatory responsibilities are met. A fact sheet that outlines regulation and permitting of hydraulic fracturing in Oregon is attached.

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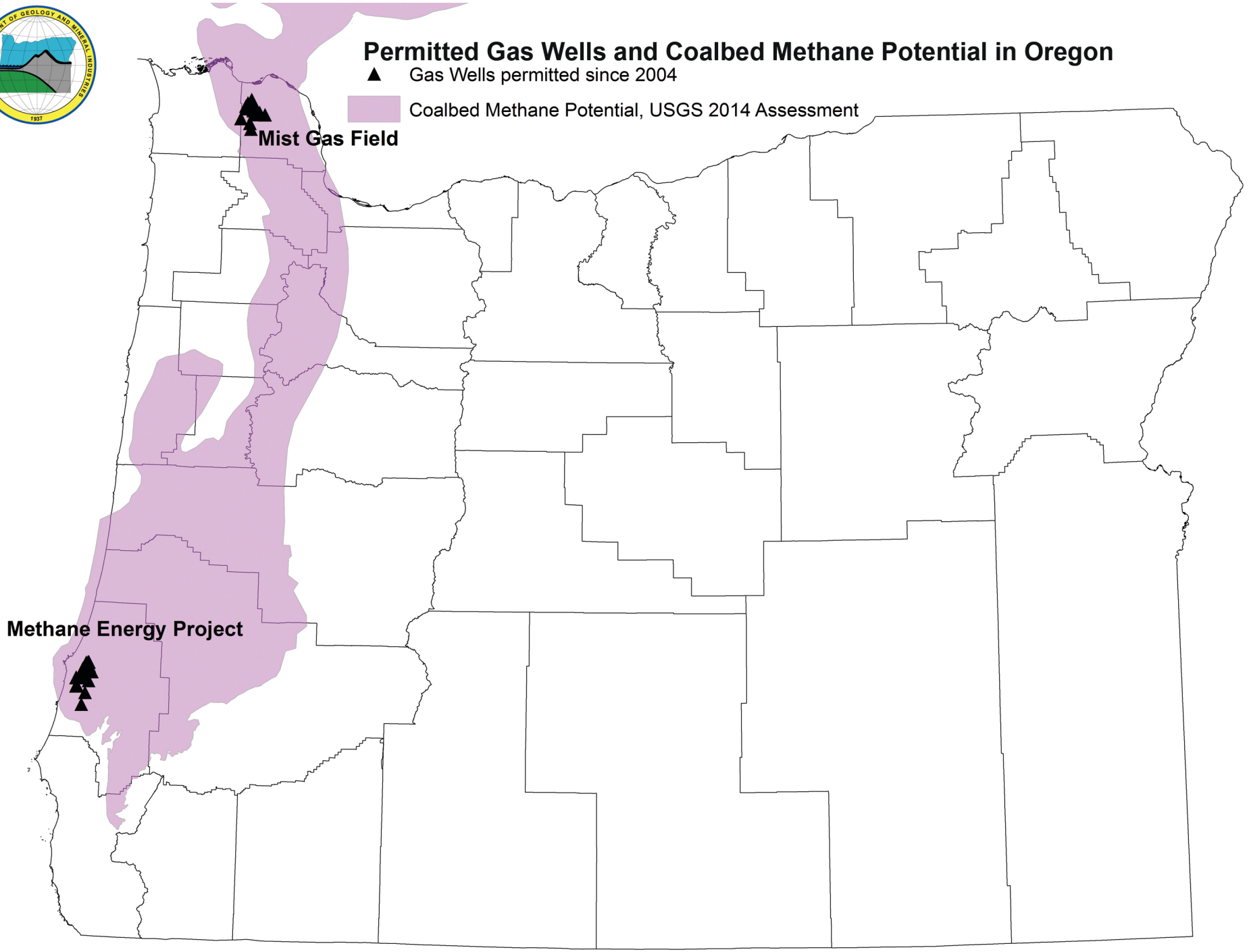

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DOGAMI Fact Sheet Hydraulic Fracturing in Oregon

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Oregon's Department of Geology and Mineral Industries, Department of Environmental Quality, and Water Resources Department regulate and issue permits for the drilling and operation of oil or gas wells, including wells drilled using hydraulic fracturing technology, commonly known as fracking.

What is Hydraulic Fracturing?

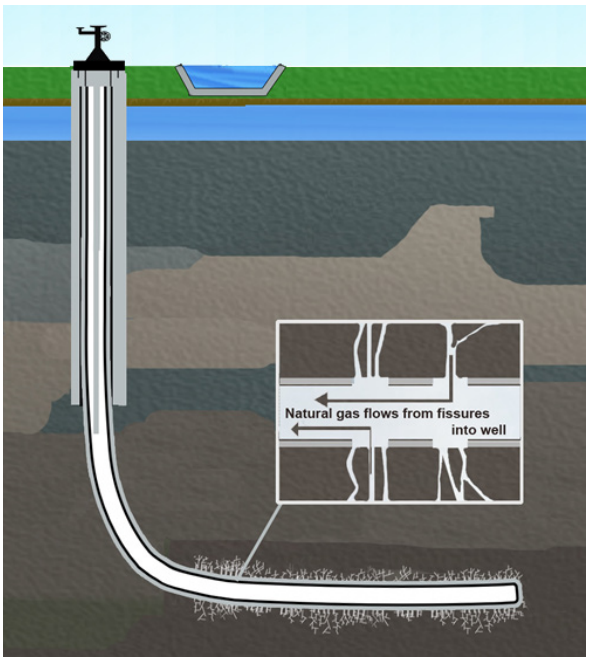

Image modified from US EPA

Hydraulic fracturing typically involves injecting water, sand, and chemicals under high pressure into a bedrock formation via a well. This process creates new fractures in the rock and increases the size and connectivity of existing fractures. Many rock formations have low permeability, which means that the gas, oil or hot water they contain will not flow economically through the rock into the well. The hydraulic fracturing technique is commonly used to increase the permeability of a rock formation, and increase flow into a well. In recent years, technological advances in horizontal drilling and hydraulic fracturing have resulted in dramatically increased oil and gas production in many parts of the US.

Regulating & Permitting of Hydraulic Fracturing

For drilling operations that propose hydraulic fracturing, DOGAMI, DEQ, and other natural resource agencies work together to ensure that resources are being developed in compliance with state law, that each agency's regulatory responsibilities are met, and that the environment is protected.

DOGAMI Regulatory Authority

- Down-hole activities
- The well pad
- Off-site impacts

DEQ Regulatory Authority

- EPA-delegated authority to regulate compliance with the Safe Drinking Water Act and Clean Water Act
- Reviews proposed fracturing fluid composition
- Regulates waste disposal of fracturing fluids
- May require an Underground Injection Control (UIC) Permit prior to injection of fluids

Once an application for a permit to drill an oil or gas well is received, the application is circulated to other natural resource agencies for comment. DOGAMI then issues a permit with conditions designed to address and mitigate concerns identified by other agencies. Depending on the proposed drilling process or site-specific issues, additional information may be required from the applicant.

The Energy Policy Act passed by Congress in 2005 amended the Safe Drinking Water Act to exclude hydraulic fracturing fluids (except diesel fuel) related to energy production from regulation under the UIC program. However, as allowed under federal UIC rules, DEQ's UIC program regulates injection of all types of hydraulic fracturing fluids.

Agency Coordination & Collaboration Efforts

In 2003, DOGAMI formed a coalbed methane coalition to strengthen and streamline agency permitting collaboration on gas wells drilled in Coos County. Each Agency provided technical and regulatory staff to develop a clear outline of the permitting process. Future drilling applications that might include hydraulic fracturing and involve multiple agencies' regulatory authority will follow a similar permit streamlining process.

State of Oregon Department of Environmental Quality