



Monitoring and Protecting Groundwater During Oil and Gas Development: Survey of State Sampling and Monitoring Rules

**Natural Resources Law Center
Intermountain Oil and Gas BMP Project
Colorado Water and Energy Research Center**

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State Regulations Require Sampling

State	Groundwater Sampling?	Agency	Summary of Groundwater Rules	Citation
SAMPLING REQUIRED				
New York	Yes, in proposed revised draft SGEIS (The public comment period concluded on January 11, 2012)	New York State Department of Environmental Conservation (DEC)	<p>Operators required (as a permit condition) to sample all water wells within 1,000 feet of the pad, subject to permission from property owner, or within 2,000 feet of pad if no wells are available for sampling within 1,000 feet either because there are none of record or because the property owner denies permission.</p> <p>Schedule:</p> <ul style="list-style-type: none"> . Initial sampling and analysis prior to site disturbance at the first well on the pad, and prior to drilling commencement at additional wells on multi-well pads; . Sampling and analysis three months after reaching total measured depth (TMD) at any well on the pad if there is a hiatus of longer than three months between reaching TMD and any other milestone on the well pad that would require sampling and analysis; and . Sampling and analysis three months, six months and one year after hydraulic fracturing operations at each well on the pad. 	http://www.dec.ny.gov/docs/materials_minerals_pdf/rdsgeisch70911.pdf
Ohio	Yes. SB 315	Ohio Department of Natural Resources	SB 315 expands pre-drilling water sampling requirements to 1,500 feet and applies this standard to both urban and rural areas. Previously, water wells were tested within 300 feet of oil and gas wells in urban areas. Water wells in rural areas were not tested previously. Does not appear to require any post-completion sampling.	http://www.legislature.state.oh.us/bills.cfm?ID=129_SB_315

State Regulations Create Rebuttable Presumption

State	Groundwater Sampling?	Agency	Summary of Groundwater Rules	Citation
REBUTTABLE PRESUMPTION				
Pennsylvania	Rebuttable "zone of presumption" for water pollution.	Pennsylvania Department of Environmental Protection, Office of Oil and Gas Management	<ul style="list-style-type: none"> . A well operator who affects a public or private water supply by pollution or diminution must restore or replace the affected water supply with an alternate source of water adequate in quality and quantity for the purposes served by the supply. This replaced or restored water supply must meet to the greater of pre-existing water quality standards or water quality standards established by the Pennsylvania Safe Drinking Water Act. . Act 13 increased the presumption of liability for water supply contamination for unconventional wells. Unless rebutted, the Act presumes that an operator is responsible for pollution of a water supply if the affected water supply is 2,500 feet from an unconventional well and that pollution occurred within 12 months of the later of completion, drilling, stimulation or alteration of the unconventional well. . Operators found to have impacted water supplies within the time and distance provisions of the presumption of liability must provide temporary potable water until the supplies are restored or replaced. . Unconventional well operators must provide written notice to landowners or water purveyors that the rebuttable presumption may be void if the landowner or water purveyor refuses the operator access to conduct a pre-drilling or pre-alteration survey. 	http://files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/OilGasReports/2012/act13.pdf
West Virginia	Rebuttable presumption of operator liability if water is contaminated	WV Dep't of Environmental Protection	<p>§22-6A-18: there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply within 1500 feet.</p> <p>Defenses (operator has burden of proving by preponderance of evidence):</p> <ol style="list-style-type: none"> (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. 	http://www.legis.state.wv.us/Bill_Status/bills_text.cfm?billdoc=hb401%20enr.htm&yr=2011&sessstype=4X&i=401



State May Require Sampling

State	Groundwater Sampling?	Agency	Summary of Groundwater Rules	Citation
MAY REQUIRE SAMPLING				
Alaska	No. But statutory and regulatory authorization of groundwater sampling is strong.	Alaska Oil and Gas Conservation Commission	20 AAC 25.534. Tests, surveys, and inspections (a) As the commission considers necessary or advisable to carry out the purposes of AS 31.05 (Alaska Oil and Gas Conservation Act) and this chapter, the commission will require that tests or surveys be made to determine the ... (4) risk of fluid movement into freshwater. (b) The commission will, in its discretion, exercise its statutory power to enter and conduct on-site investigations and inspections at reasonable times of facilities, equipment, practices, records, or operations for the purpose of ensuring compliance with the requirements of this chapter.	Alaska Oil and Conservation Act Title 31 Oil and Gas: http://www.legis.state.ak.us/basis/folioiproxy.asp?url=http://www.jnu01.legis.state.ak.us/cgi-bin/folioisa.dll/statbx07/query=31!2E05!2E030/doc/{t13554}
California	No. "May require" language.	State of California Department of Conservation, Division of Oil, Gas, & Geothermal Resources	3106(c): The supervisor may require an operator to implement a monitoring program, designed to detect releases to the soil and water, including both groundwater and surface water, for aboveground oil production tanks and facilities.	CALIFORNIA LAWS FOR CONSERVATION OF PETROLEUM & GAS: ftp://ftp.consrv.ca.gov/pub/oil/laws/PRC01.pdf



State Regulations – Other Options

State	Groundwater Sampling?	Agency	Summary of Groundwater Rules	Citation
OTHER OR NONE				
North Dakota	Not required	North Dakota Industrial Commission, Department of Mineral Resources, Oil and Gas Division	38-11.1-06. Landowners within one-half mile of a gas well who can prove that their water quality or quantity has been affected can recover the cost of making such repairs, alterations, or construction that will ensure the delivery to the surface owner of that quality and quantity of water available to the surface owner prior to the commencement of drilling operations. Prima facie evidence of injury under this section may be established by a showing that the mineral developer's drilling operations penetrated or disrupted an aquifer in such a manner as to cause a diminution in water quality or quantity within the distance limits imposed by this section	https://www.dmr.nd.gov/oilgas/rules/rulebook.pdf
Alabama	No. Vague "special precautions" provision.	State Oil and Gas Board of Alabama	400-2-4-.02. Protection of Freshwater Resources. An operator shall conduct all oil and gas operations in a manner so as to prevent the pollution of all freshwater resources. All fresh waters and waters of present or probable future value for domestic, municipal, commercial, stock, or agricultural purposes shall be confined to their respective strata and shall be adequately protected. Special precautions shall be taken to guard against any loss of artesian water from the strata in which it occurs, and the contamination of fresh water by objectionable water, oil, condensate, gas, or other deleterious substance to such fresh water.	http://www.gsa.state.al.us/documents/misc_ogb/goldbook.pdf
Arkansas	No	Arkansas Oil and Gas Commission		General Rules and Regulations: http://www.aogc.state.ar.us/OnlineData/Forms/Rules%20and%20Regulations.pdf
Texas	None found	Railroad Commission of Texas		
Louisiana	None found	Louisiana Department of Natural Resources		
Oklahoma	None found	Oklahoma Corporation Commission		



Intermountain Oil & Gas BMP Project

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Welcome to the Intermountain Oil and Gas BMP Project Website

HOME SEARCH BIBLIOGRAPHY RESOURCES LAW & POLICY TRAINING & WORKSHOPS FORUM ABOUT US

BEST MANAGEMENT PRACTICES

The Natural Resources Law Center and its partners welcome you to this free-access website of Best Management Practices (BMPs) for oil and gas development in the Intermountain West. BMPs are mitigation measures applied to areas being developed for oil and gas to promote energy development in an environmentally sensitive manner.

The focus of this website is a searchable database addressing surface resources affected by oil and gas development. The database includes both mandatory and voluntary Best Management Practices currently in use or recommended for responsible resource management in the states of Colorado, Montana, New Mexico, Utah, and Wyoming.

The BMP database is not intended to represent a consensus on what the best practices are for specific applications nor to advise users on the current legal requirements for specific locations. Rather, the database describes each practice and documents the source of the practice (who requires or recommends it in what specific applications). The database provides a link to the source of the BMP and, where possible, it provides supplemental information, including construction specifications, illustrations, pictures, maps, monitoring reports, and evaluations of the potential of the practice for mitigating impacts of development. Because practices change over time, database users should check with appropriate authorities to verify the latest requirements and recommendations for your area.

BMP CATEGORIES

The database includes BMPs to address a variety of resources and issues.

- Air Quality and Emissions
- Aquatic and Riparian Values
- Community
- Cultural/Historic
- Grazing and Agriculture
- Human Health and Safety
- Land Surface Disturbance
- Noise
- Other
- Soils (Conservation, Pollution, Reclamation)
- Vegetation
- Visual Aesthetics
- Water Quality and Pollution
- Water Quantity and Rights
- Wildlife

[Browse all](#)

WHAT'S NEW

Tribal governments have begun to regulate oil and gas development through tribal codes, ordinances, and constitutions, and, in some cases, through specific BMPs. Check out our new [Tribal Law](#) section for more information.

New Resources sections: [Hydraulic Fracturing](#) and [Economics of BMPs](#).

The Intermountain BMP Project is a work in progress. Currently, the database includes BMPs for a variety of resources (see the BMP Categories section) from a range of source documents (see the Bibliography), including project Environmental Impact Statements, Resource Management Plans, state wildlife agency guidelines, and industry and conservation group reports and websites.

BMP SEARCH

What management practices are recommended or required for oil and gas development? To find out, use the drop down menus of the Keywords. For a more refined search, click "Advanced Search" or use the [BMP SEARCH](#) button.

Keywords:

Category:

Location:

[Advanced Search...](#)

SEARCH THE BIBLIOGRAPHY

Our searchable bibliography includes over 400 publications, including environmental impact statements, agency guidelines, and many technical reports, websites, and

TRAINING AND WORKSHOPS

[Best Management Practices—What? How? and Why?](#) Thank you to everyone who participated in

PARTNERS

The structure and content of this website is being developed in conjunction with project partners and advisors from government, industry, the conservation community, academia and

This and other documents discussed during the workshop can be found on the BMP Project website

www.oilandgasbmps.org/workshops/COGCCgroundwater/index.php

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