

## **Groundwater Governance for Oil and Gas Development in Colorado: The case of rule 609**

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**Abstract.** The potential and contested risks of ground and surface water contamination from oil and gas development have led to public concern on the Front Range of Colorado. The increased pace and scale of hydrocarbon development has caught citizens and policy makers alike scrambling to make informed decisions that address community concerns about water contamination while at the same time provide sustainable access to energy and ecosystem services. Cities along the Front Range, such as Lafayette, Longmont, Fort Collins, Broomfield, and Boulder developed local ordinances, bans, and moratoriums with the aim of mitigating potential harmful air and water quality risks. Local community groups perceive that city governments are not doing enough to address the potential health and environmental impacts related to oil and gas development, exacerbating tensions between the state, local governments and citizens. The Colorado Oil and Gas Conservation Commission (COGCC) designed Rule 609 to address public concern and protect Colorado's groundwater resources, detect potential contamination, and inform all stakeholders of groundwater quality both before and after oil and gas development. The rule requires oil and gas operators to gather baseline water quality data prior to oil and gas development and to gather additional data after drilling and completion operations. This paper will analyze the multiple stakeholders and design process of Rule 609 in order to shed light on larger issues related to groundwater governance of oil and gas development in Colorado.