



# MODEL CRITERIA FOR GROUNDWATER MONITORING IN AREAS OF OIL AND GAS WELL STIMULATION

STATE WATER RESOURCES CONTROL BOARD • DIVISION OF WATER QUALITY  
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## MODEL CRITERIA DEVELOPMENT TIMELINE

### AUGUST – DECEMBER 2014

- Public Stakeholder Meetings

### APRIL 2015

- Proposed draft of Model Criteria released for 30-day public comment (4/29)

### MAY 2015

- State Water Board Workshop (5/19)
- Public comment period on proposed draft concludes (5/29)

### JUNE 2015

- Final recommendations from LLNL
- Final draft Model Criteria 7-day public comment (6/23 - 6/30)

### JULY 2015

- State Water Board Meeting to Adopt Model Criteria (7/7)

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## WHAT IS OIL AND GAS WELL STIMULATION TREATMENT?

California has been producing oil and natural gas (gas) for over 100 years and currently is the third largest producer in the United States. The majority of oil production in the state is concentrated in the Southern San Joaquin Valley but also occurs in the Los Angeles and Central Coast areas.

The volume of oil and gas that is produced from an oil or gas well may be enhanced by using well stimulation treatment. Well stimulation treatments include processes such as hydraulic fracturing, acid fracturing, and acid matrix stimulation. Hydraulic fracturing consists pumping a mixture of liquid, chemicals, and sand down an oil or gas well under high pressure to cause the geologic rock formation to crack. This process forms passages where oil and gas can more easily flow toward the well.

## HOW IS WELL STIMULATION TREATMENT REGULATED?

Signed by Governor Brown in 2013, Senate Bill 4 amended the public resources and water codes\* relating to oil and gas well stimulation activities. This legislation sets in place requirements for oil and gas operators, the Division of Oil, Gas, and Geothermal Resources (DOGGR), the State Water Resources Control Board (State Water Board), Regional Water Quality Control Boards (Regional Water Boards), and other agencies to implement when performing or permitting well stimulation treatments.

## WHAT IS THE ROLE OF THE STATE WATER BOARD?

State Water Board is required to develop model criteria for groundwater monitoring (Model Criteria) related to well stimulation activities. The Model Criteria will set the standards for developing groundwater monitoring plans, which allow us to assess the potential effects of well stimulation activities on California's water resources. Access to safe drinking water is a major issue for California, especially to its disadvantaged communities. The Model Criteria is critical in meeting the state law requiring that every human being have the right to safe, clean, affordable, and accessible water.

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## **ABOUT THE MODEL CRITERIA FOR GROUNDWATER MONITORING**

The Model Criteria describes how groundwater will be sampled and tested for monitoring conducted by operators and for regional monitoring to be conducted by the State Water Board. Operators will need to submit groundwater monitoring plans to the State Water Board in coordination with the appropriate Regional Water Board for approval prior to well stimulation activities. The regional monitoring program, overseen by the State Water Board, will assess any potential negative effects that well stimulation and related activities may have on groundwater quality.

## **WHAT IS THE TIMELINE AND PROCESS FOR ESTABLISHING MODEL CRITERIA?**

The State Water Board is developing the Model Criteria in consultation with DOGGR, Regional Water Boards, public stakeholders, and technical experts. Several stakeholder meetings have been held. Lawrence Livermore National Laboratory (LLNL) has been developing recommendations for the State Water Board to consider in drafting the Model Criteria. The final recommendations from LLNL are due to the State Water Board in late June 2015. State Water Board will consider adoption of the Final Draft Model Criteria at their July 7, 2015 meeting.

## **ADDITIONAL INFORMATION**

[http://www.waterboards.ca.gov/water\\_issues/programs/groundwater/sb4/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/groundwater/sb4/index.shtml)

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