

Here Today & Fracked Tomorrow: A Rollercoaster Year for SB 4 Implementation

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Oil & Gas, Mining and
Pipelines Group



Wednesday, Dec. 17, 2014 • Sacramento



Hydraulic Fracturing: A Brief History

- 1875: State's first commercially viable oil field (Los Angeles)
- 1916: Oil & gas exceeds the value of gold in California
- 1965: 1st well fracked in California, Kern County
- 2003: California becomes 4th largest oil producer in U.S.
- 2013: California is 3rd largest oil producer in U.S.
- September 2013: SB 4 Enacted

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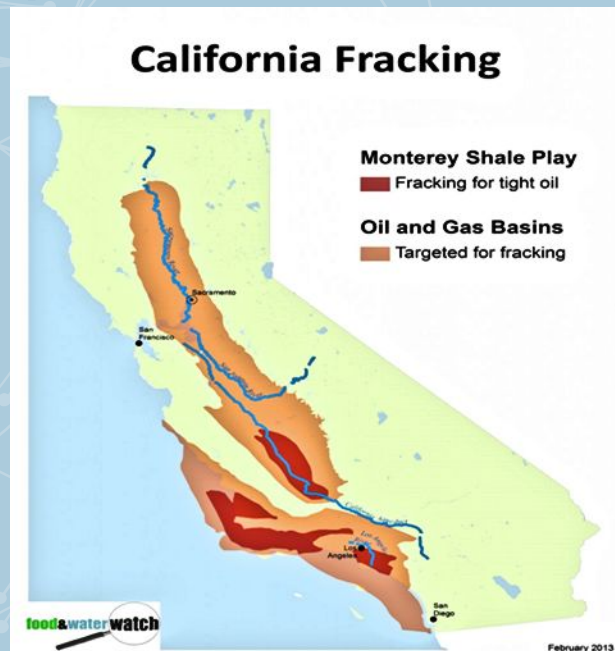
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The Year in Review: Statistics

- 100-150 wells per month fracked in Cal.
- 2,900 wells per month fracked in U.S.



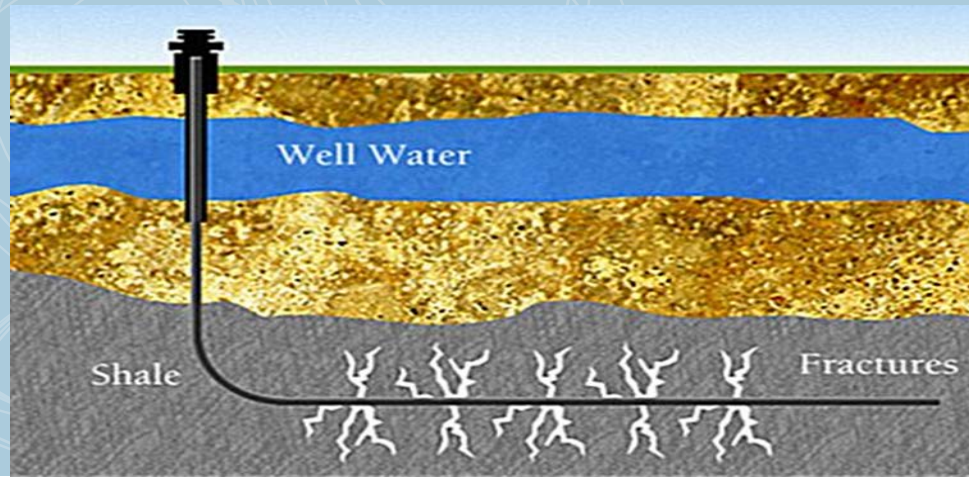
California Oil & Gas Production

CALIFORNIA OIL & GAS PRODUCTION



U.S. Statistics

- 2012: U.S. became leading natural gas producer, overtaking Russia
- 2013: U.S. became leading oil producer, beating out Saudi Arabia



Fracking is Occurring in these Regions



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The Year in Review: Water Data

California: fracking operations require
130,000 - 210,000 gallons of water per
well

Texas: ~ 4 million gallons per well

Pennsylvania: 4.5 million gallons per well





The Year in Review: Water Data

As of August 2014, there have been no publicly reported instances of potable water contamination from subsurface hydraulic fracturing operations in California

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Fracking Fluid


90% water + 0.5% chemicals +
9.5% sand



SB 4: Regulatory Scheme Overview

- Robust permitting system
- Disclosure requirements
- Broad landowner notification requirements
- Groundwater monitoring plans
- Well integrity testing before & after fracturing

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SB 4: Regulatory Scheme Overview (cont.)


- Independent scientific study
- Environmental Impact Report (EIR)
 - Statewide EIR
 - Draft EIR should be released by end of 2014 - ???



Regulatory Actions: Timeline

**Jan. 1: SB 4
Interim
Regulations
Finalized**

**June 13: 1st
Revision of
Proposed
Regulations**



**June 3: Steven
Bohlen appointed
Oil & Gas
Supervisor of
DOGGR**

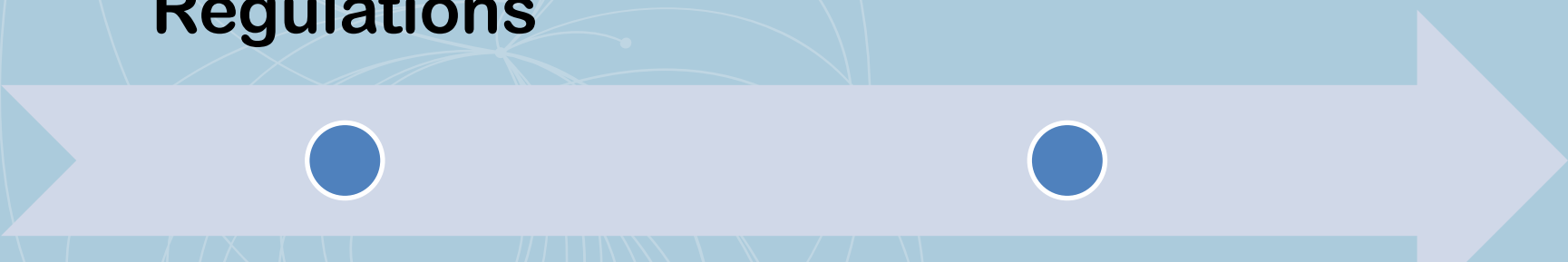
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Regulatory Actions: Timeline

**June 27:
Readopted SB 4
Interim
Regulations**



**Oct. 9: Second
Revision of
Proposed Final
Regulations**

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SB 4 Interim Regulations Finalized – January 1, 2014

- January 1, 2014 - July 1, 2015
- No “permit” required yet, if operators comply with specified provisions



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Revised Proposed Permanent Regulations – June 13

- Regulations now govern well stimulation treatments onshore and offshore
- Inter-agency information sharing
- More detailed water testing requirements
- Public disclosures of water use & testing

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SB 4 Interim Well Regulations – Readopted June 27

- Water testing requirements added:
- “If a notified property owner makes a timely, written request for water sampling and testing, the well stimulation will not commence until requested baseline water testing is complete.”



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Senate Bill 1281 – Sept. 2014

- Operators must report to DOGGR the volume, source, and use of all water and wastewater.
- DOGGR must post this information publicly.

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Second Revision: Proposed Permanent Regulations – Oct. 9

Major Changes:

- Well stimulation treatment not permitted until written approval from the Water Board
- Water testing must be monitored by the Regional Water Board
- Testing to determine whether a well failure has occurred after stimulation treatment

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Groundwater Monitoring

- SB 4: State Water Resources Control Board (Water Board) must develop groundwater monitoring model criteria
- Interim Regulations: provide model criteria
- Permanent Regulations: wells subject to regional groundwater monitoring program

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DOGGR

- Division of Oil, Gas, and Geothermal Resources (“DOGGR”): the main regulatory agency
- Within the Department of Conservation (“DOC”)
- Oil & Gas Supervisor: Steven Bohlen
- Staff has grown by over 50% since 2008



Department of
Conservation

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New Agencies Involved in Regulation

- State & Regional Water Boards
- Department of Toxic Substances Control
- Air Resources Board & Air Quality Management Districts
- And any other local agencies with jurisdiction over the well

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Role of Water Board

- Greatly expanded regulatory role
- Designate third-party water testing contractors
- Audit & review sampling & testing conducted by the third-party contractors
- Enter formal agreement with DOGGR re: responsibilities of regulation under SB 4



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Role of Water Board (cont.)

- Approve operators' groundwater monitoring plans
- Develop model groundwater monitoring criteria by July 1, 2015
- Implementation of regional groundwater monitoring program begins: January 1, 2016
- New Staff Position: Oil & Gas Specialist

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Future Regulatory Action: July 1, 2015



Final Regulations in Effect



Final EIR Certified



Water Board: Model Groundwater
Monitoring Criteria

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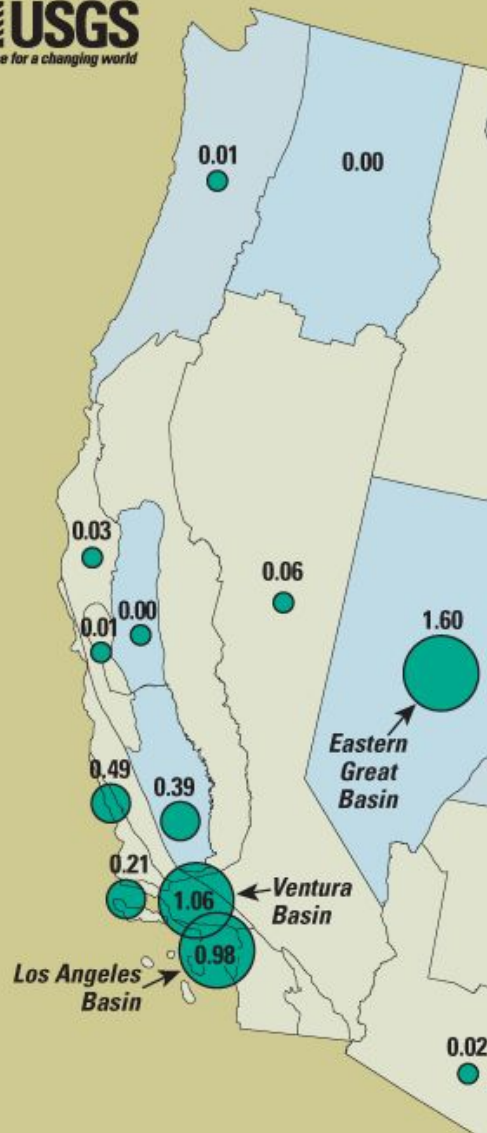
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Future Projections: Production

- Expanded production primarily in & near existing oil fields in the San Joaquin Basin
- 600 million barrels of oil can be extracted from Monterey Shale



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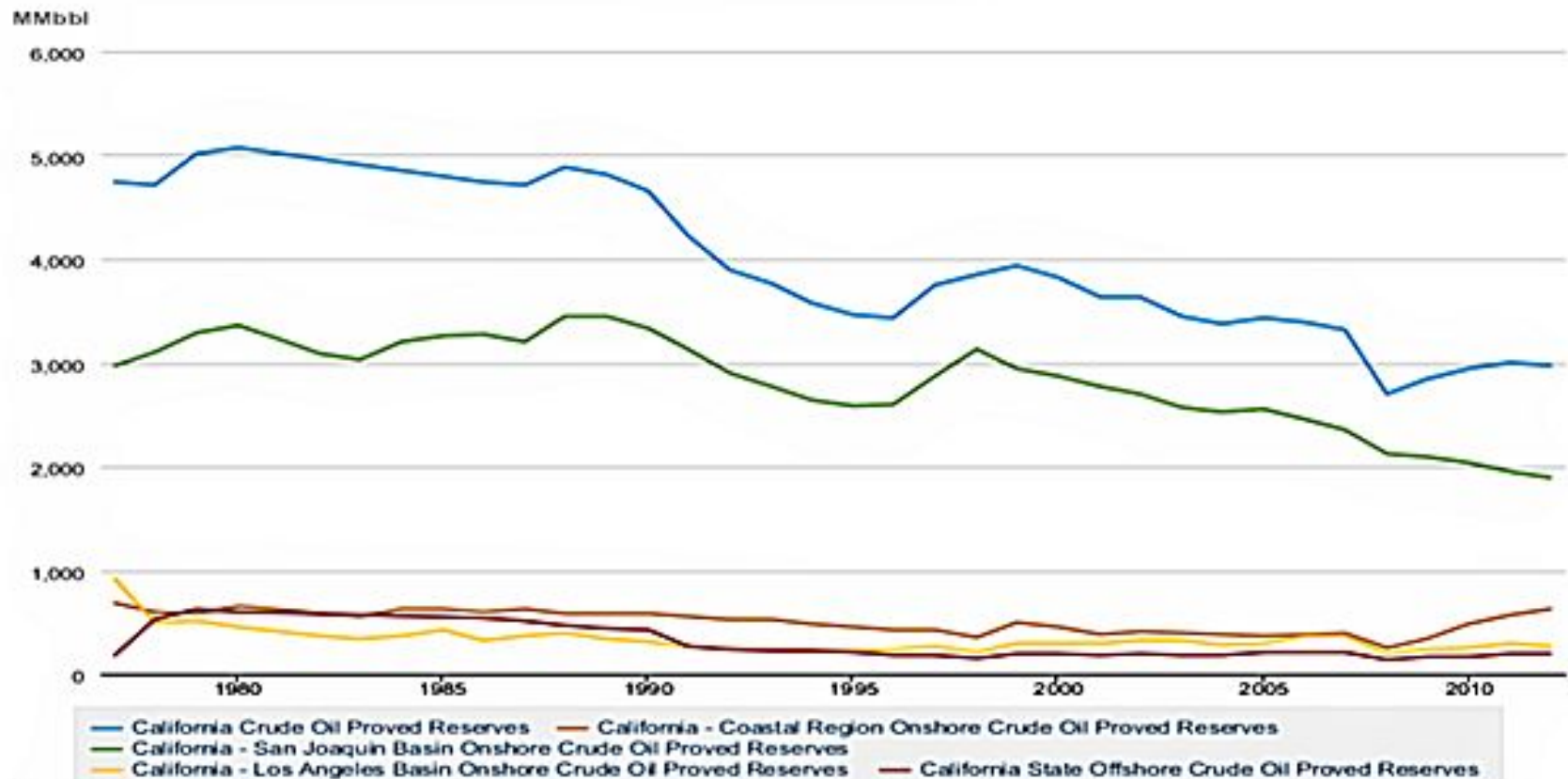


Undiscovered Oil: Billion Barrels of Oil

About 3.1 billion
barrels of
undiscovered oil
in California

Oil Reserves in California

Crude Oil Proved Reserves, Reserves Changes, and Production



Source: U.S. Energy Information Administration

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Fracking Bans

Successful:

- Mendocino County (Nov. 2014)
- San Benito County (Nov. 2014)
- Beverly Hills (May 2014)

Failed:

- Santa Barbara (Nov. 2014)
- Los Angeles (proposed - 2014)

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Recent Legal Challenges

Offshore fracking in Santa Barbara:

- Dec. 3: Environmental Defense Center filed a lawsuit against the Bureau of Safety and Environmental Enforcement
- Dec. 4: Center for Biological Diversity filed a notice of intent to sue the U.S. Department of the Interior

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Questions?

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