

Hydraulic Fracturing in California and Proposed Regulations

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Division Mandates

...supervisor shall so supervise the drilling, operation, maintenance, and abandonment of wells and the operation, maintenance, and removal or abandonment of tanks and facilities...

Division Mandates

...so as to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil and gas deposits from infiltrating water ... prevent damage...and waste...to underground and surface waters

Division Mandates

...supervisor shall also supervise...to permit the owners...to utilize all methods...and practices known to the industry for the purpose of increasing the ultimate recovery.

Division Mandates

To best meet oil and gas needs in this state, the supervisor shall administer this division so as to encourage the wise development of oil and gas resources.

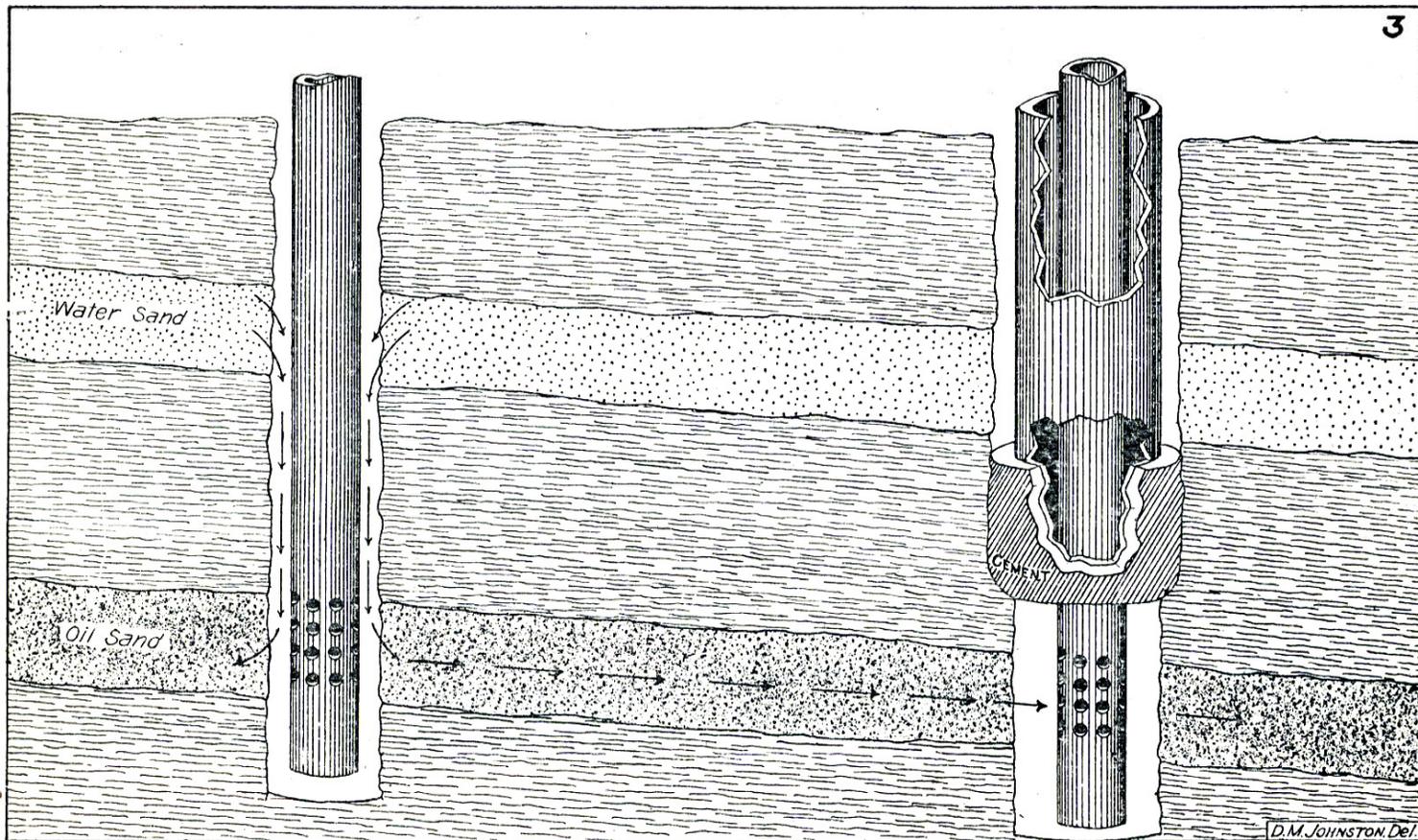
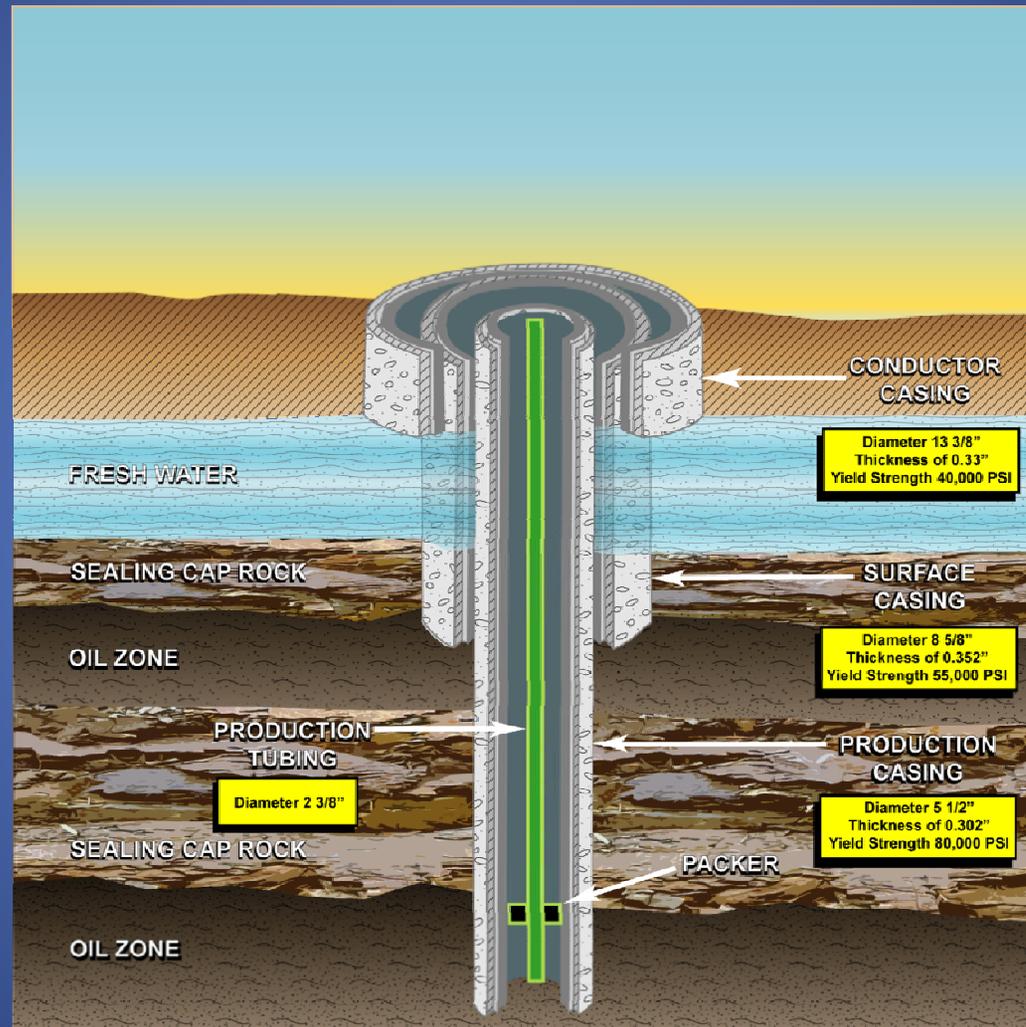
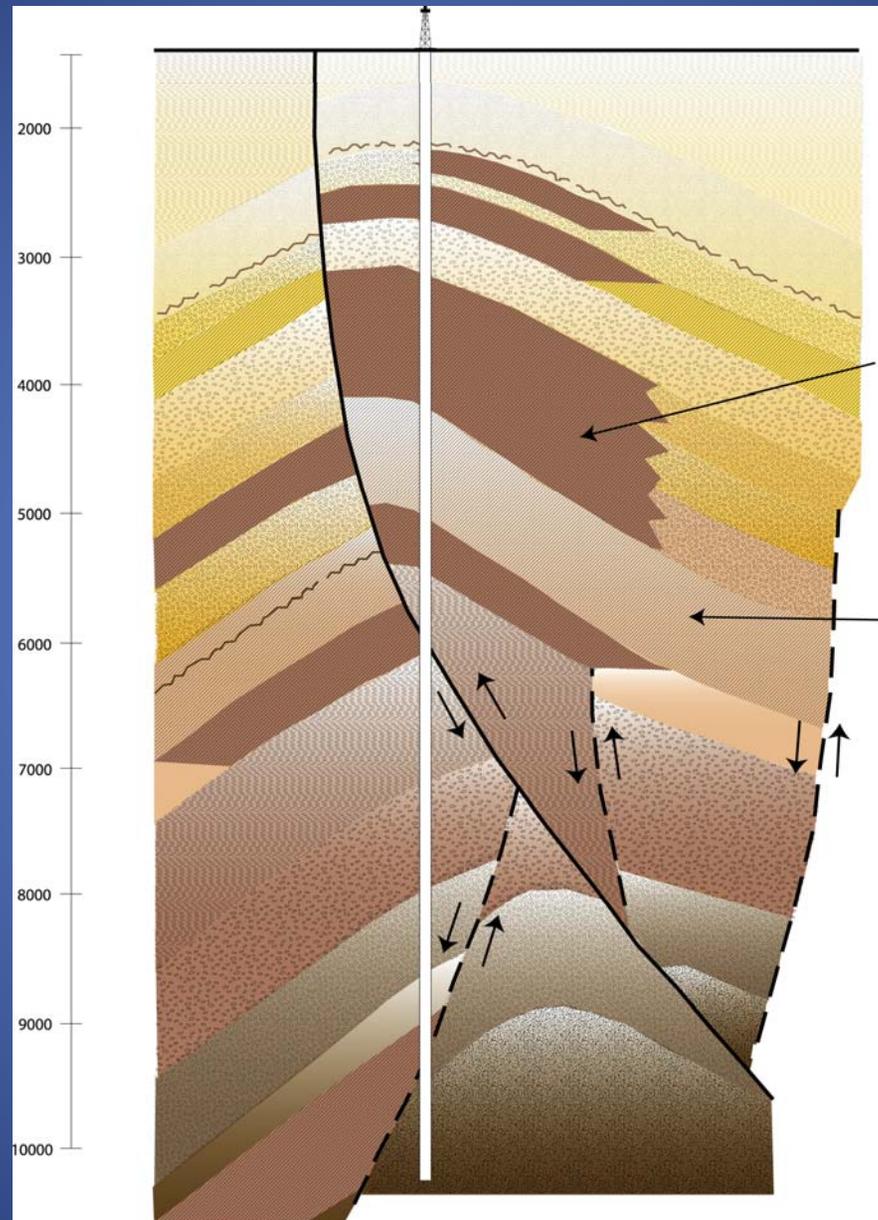


Fig. 3. Sketch showing entrance of water into oil sand and its migration to a properly drilled well. Due to use of only one string of casing in first well,

Well Construction



Oil Field Cross Section

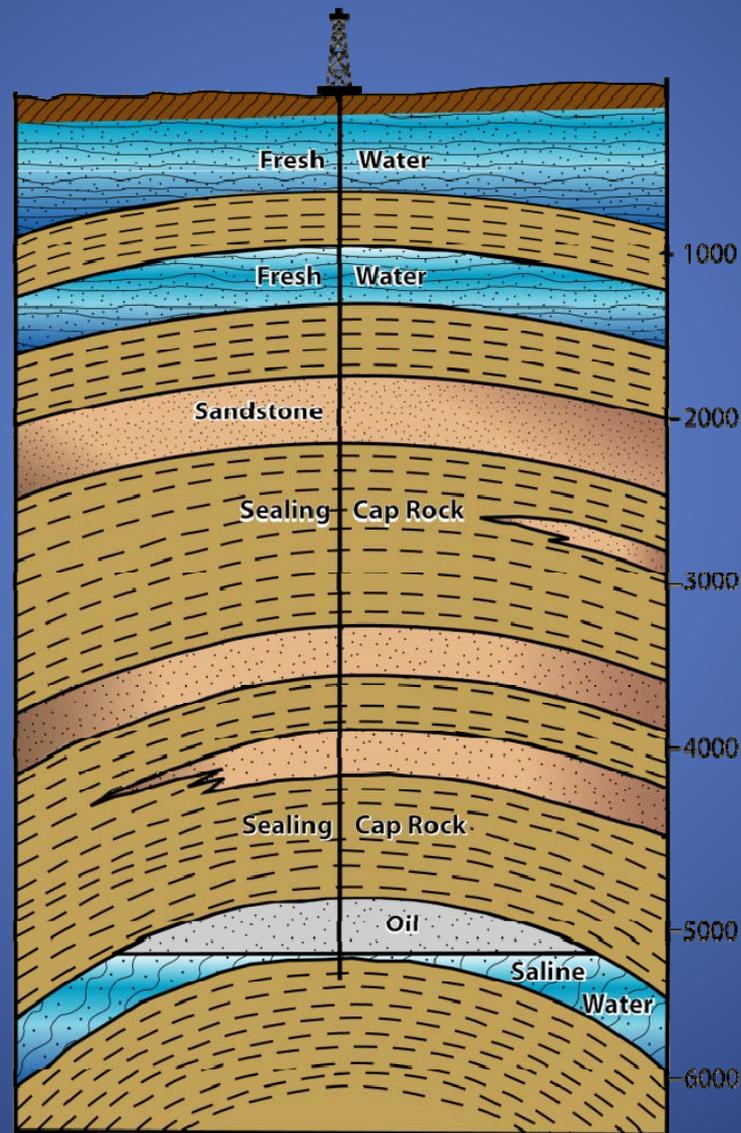


Production
Sandstone
Formation

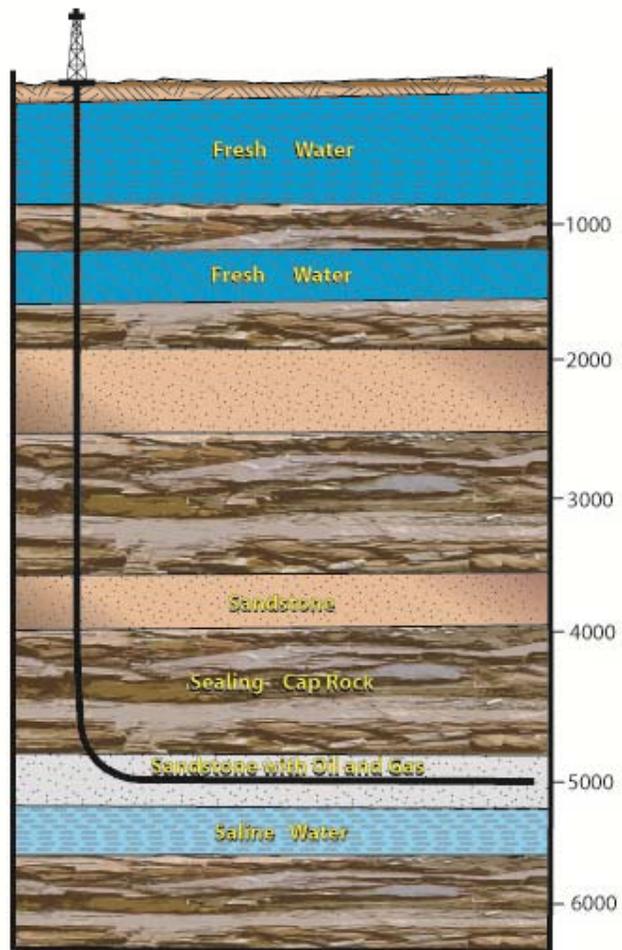
Non-Productive
Formation

Faults

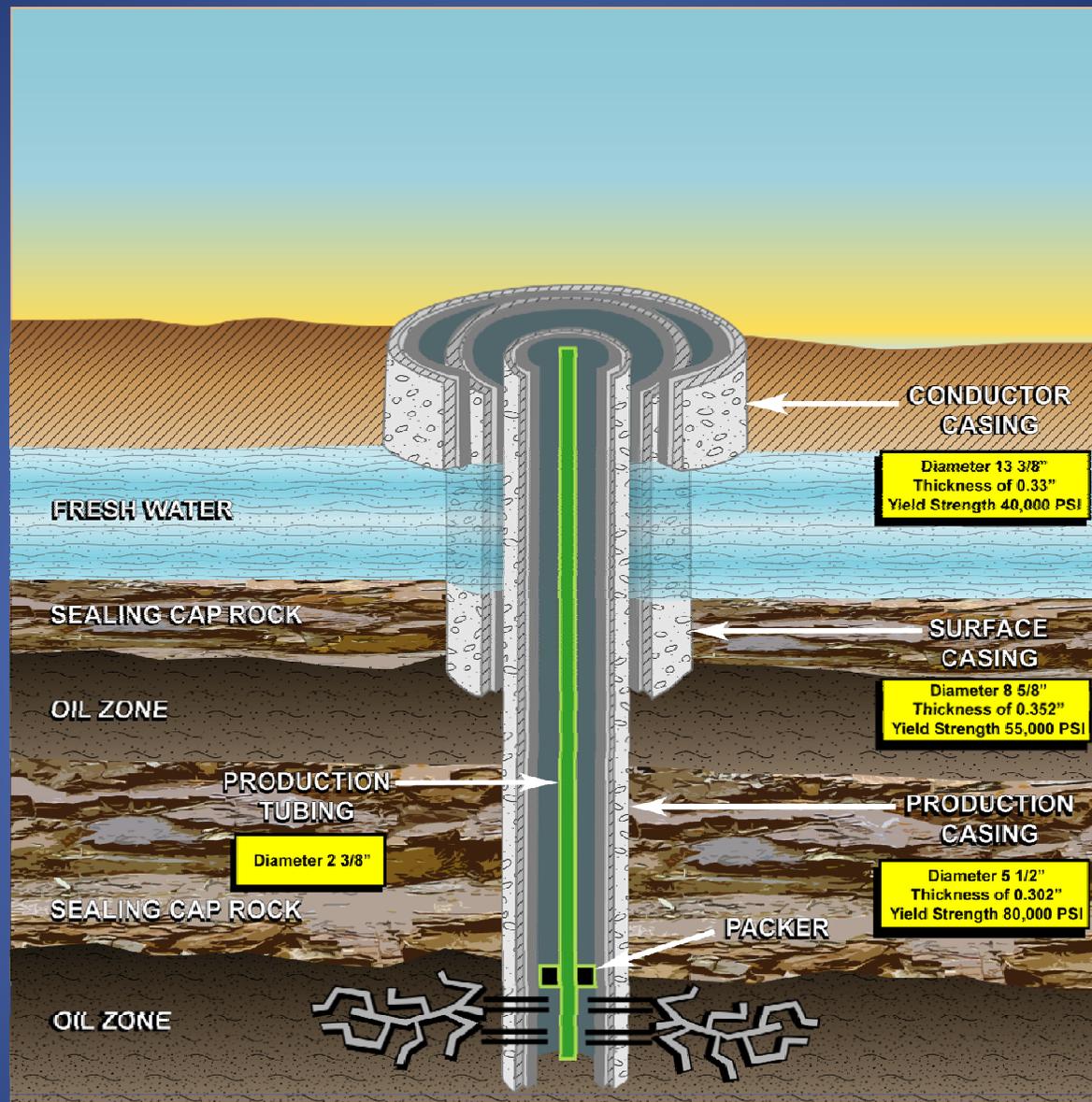
Simplified Geology of Conventional Oil and Gas



Horizontal Well Completion



Typical
Well Casing
with Packer and
Fracking
(not to scale)



Section I: Pre-Fracturing Well Testing

- Fracture radius analysis
- Cement evaluation logs
- Well pressure testing
- Surface equipment testing

Section II: Advance Notification

- 10-day+ Notice to DOGGR and RWQCB
- DOGGR posting no more than 7-days after receiving HF-1
- 24-hour notice of fracturing ops to allow observation of HF

Section III: Monitoring During & After Fracturing Operations

- Continuous monitoring
- Stop operations due to pressure spike/drop, fluid volume return outside expectation, any reason to suspect casing breach
- Daily monitoring x 30 days after HF
- Monthly monitoring x 5 years after HF

Section IV: Disclosure of Materials Used in Fracturing Fluid

- Disclosure details – operator, well, depth, fluid content, tracers?, volume
- Apply to all HF operations
- Use FracFocus

Section V: Trade Secrets

- California Uniform Trade Secrets Act applies
- Trade secret law prevents public disclosure of trade secrets but it does not prevent regulatory agencies from obtaining the information as needed
- Two goals for regulations:
 - Establish procedure for asserting trade secret claim
 - Specify when trade secret information must be provided to DOGGR or others

Section V: Trade Secrets

- Must disclose if spill/release, medical treatment need, investigation
- Trade secret information disclosed to DOGGR or other entity must be maintained as confidential

Section VI: Storage and Handling of Hydraulic Fracturing Fluids

- Storage of HF fluids in compliance with existing facilities regulations
- Spill Contingency Plan inclusion
- No unlined sump storage
- Spill clean-up and reporting

