

Case Study



Reinjection Well Pressure Monitoring

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Challenge



Several California-based oil and gas companies have approached us looking for a solution to satisfy a new regulation requiring continuous pressure monitoring on oil field injection wells.

What is the requirement?

A new mandate set forth by the California Department of Conservation requires that all onshore oil well operators who utilize injection wells in their process must ensure that injection pressures are continuously recorded at a minimum of 1 sample per minute using a device with 1% accuracy or better:

Well-specific injection pressure shall be continuously recorded that a well is approved for injection by the Division, regardless of whether injecting is actually occurring. An operator may satisfy this requirement by recording injection pressure from a header or manifold if approved by the Division. This is based on showing that the operator can calculate well-specific injection pressures from the recorded data. An operator may suspend continuous injection pressure recording for a well while the well is disconnected from all injection lines.

What is the purpose of an injection well?

Injection wells can perform several functions. In aging wells or wells with diminishing production, injection wells can provide pressurized assistance by “pushing” any remaining oil into the well area for extraction. Additionally, there are always additional undesirable constituents within the crude oil extracted during any oil drilling operation, including; water, brine, hazardous gases, or other carbon-heavy waste. Injection wells use pressurized water or brine (which has been separated from the extracted oil) to reinject these constituents back into the ground for permanent carbon or hazardous material sequestration or to replace water that has been removed from the local geology. Pressure monitoring helps to ensure well casing integrity and prevent contamination of drinking water aquifers. Figure 1 (on the next page) shows the water reinjection process.

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HOW WATER IS PUMPED UP WITH OIL AND RETURNED TO THE GROUND

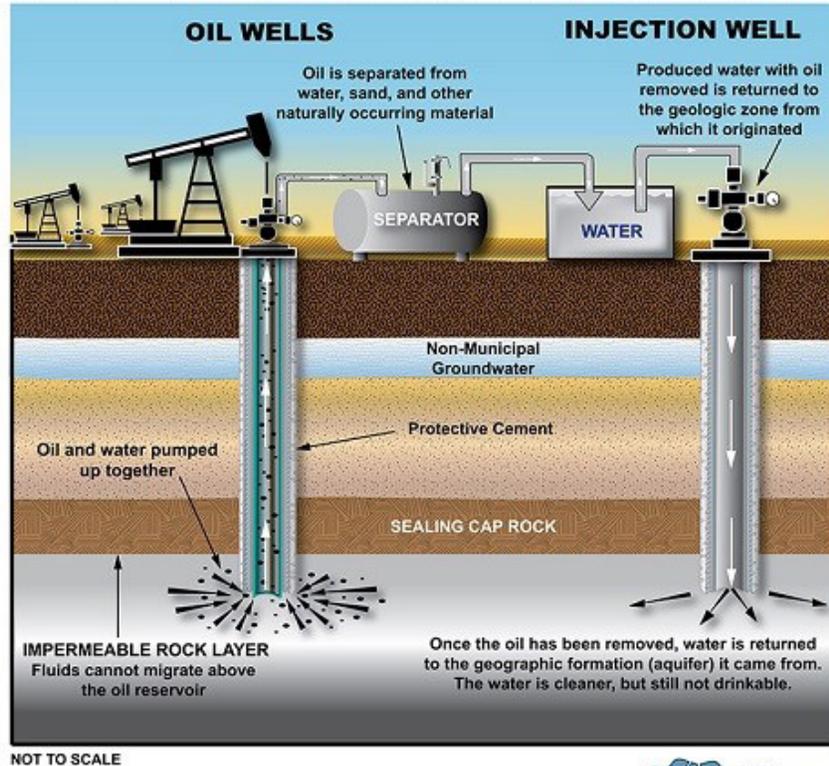


Figure 1

Solution

Monarch Instrument supplied both versions of our Track-It pressure loggers to multiple oil and gas companies to provide the data required by the State of California. Track-It pressure loggers are industrial-grade battery-powered devices with 0.25% accuracy and are available in a wide variety of pressure ranges. If you're required to log pressure for regulatory purposes or simply need a pressure logger that you can count on, Monarch's Track-It pressure loggers are ready to perform. Contact us for assistance in selecting a model and range best suited for your application.



Sources

California Code of Regulations, Division 2 - Department of Conservation, Chapter 4 – Development, Regulation and Conservation of Oil and Gas Resources, Subchapter 1- onshore Well Regulations, Article 4 - Underground Injection Control, [§1724.10.4 – Continuous Pressure Monitoring](#), [§1724.10.1 – Mechanical Integrity Testing Part One – Casing Integrity](#)