



## ControlSEAL for shutting off water flows

Solve the Issue and Get Your Well Back Online

### Challenges

Some of the challenges in our industry include declining production, aging wells, damaged wells and excessive water production.

### Facts

- > Worldwide average- 3 bbl water produced per 1 bbl oil
- > U.S average- 7 bbl of water per 1 bbl of oil
- > Over 30,000 old wells with plugged gravel packs

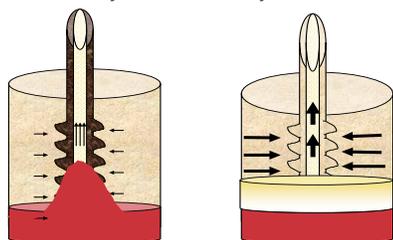
### Solution

Revitalize the well to:

- > Increase hydrocarbon production
- > Reduce water production

### Added Value with ControlSEAL

- > Engineered analysis of production of excess water
- > Procedures, methods and chemicals to control water
- > Applied with field expertise correctly and efficiently



Resin Perf Plug Before

Resin Perf Plug After

### ControlSEAL is an award winning epoxy sealant

- > Two component system with set control additives and diluents
- > Solids free sealant that will penetrate sand, formation, channels and casing leaks
- > High tensile strength, compressive strength and hydraulic bond strength
- > Materials are pre-measured for each job and delivered to job site in totes/buckets
- > Temperature range of 40°F to 300°F and density range of 7 ppg to 19 ppg

### ControlSEAL placed in well to control water without affecting production in gravel packed and non-gravel packed wells

- > Production Tubulars
- > Coiled Tubing
- > Coiled Tubing Dump system
- > Dump Bailers

### ControlSEAL Case Histories

#### Land Job, Cameron, LA

- > Water shut-off through leaking plug-back
- > 5-1/2" Casing
- > 500 BWPD
- > 5 gal resin @165° F with Dump Bailers
- > 270 BWPD

#### Land Job, South Texas

- > Water shut-off through leaking plug-back
- > 5" Casing
- > 300 BWPD
- > 5' resin @295° F with Dump Bailers
- > 50 BWPD

#### Inland Waters Barge, GOM

- > Perfed into lower water sand
- > Total Perforations 25', 5' in water
- > 500 BWPD with no crude
- > 5' resin @200° F with Dump Bailers
- > 200 BWPD and 250 bbls crude oil

#### Offshore, GOM

- > 3 wells
- > 12,000 ft, 225° F
- > 10-15 ft sands, Perfs were bottom 8-10 ft
- > 50% of production water (220 BWPD)
- > 1-1/4" CT
- > Hesitation squeeze technique
- > Re-Perforated top of sand
- > Water free for several years