



PenOx

PenOx is Commander SWT's chlorine dioxide, generated in a vacuum-driven system.

Well Treatment with PenOx & Acid

- ▶ Return production OR injection to pre-damage levels, or better
- ▶ Dissolves carbonate-based scale, removes FeS (oil & water wet), reduces H₂S, eradicates bacteria
- ▶ Can open non-productive clusters, remove polymer and/or FR damage, mobilize heavy hydrocarbons
- ▶ Tailored solutions may include customized acidizing package with proprietary chemical blends

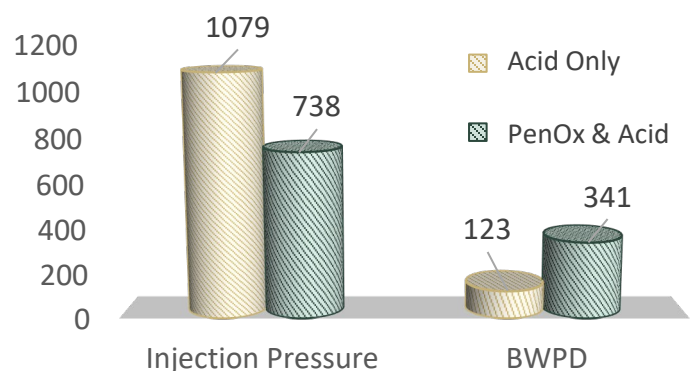
Damage	HCl	PenOx
Iron Carbonate	✓	
Calcium Carbonate	✓	
Iron Sulfide	✓	✓
Iron Oxide	✓	✓
Biomass & Bacteria		✓
H ₂ S		✓
Polymers/Polyacrylamide		✓
Heavy Hydrocarbons		✓

Candidate Selection

- ▶ Underperforming wells with negative slope change, decreased injectivity or frac hit
- ▶ Frequent artificial lift failures
- ▶ High H₂S
- ▶ High bacteria counts
- ▶ Visual damage - FeS/scale buildup
- ▶ Flowlines/facilities with similar issues

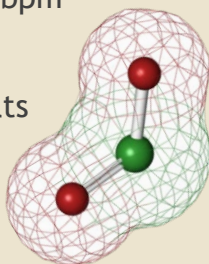
Permian Basin Field Study

- ▶ 9 injection wells treated with 15% acid package with surfactant and iron control
- ▶ 9 injection well with same volume of PenOx and acid program
- ▶ After 2 years, PenOx wells injected 275% more fluid at 30% less pressure



Water Treatment

- ▶ Can treat any water source: produced, surface, pits, flowback
- ▶ Treatment capacity up to 150 bpm
- ▶ Immediate disinfection
- ▶ 7, 14, 28 day testing and results reported



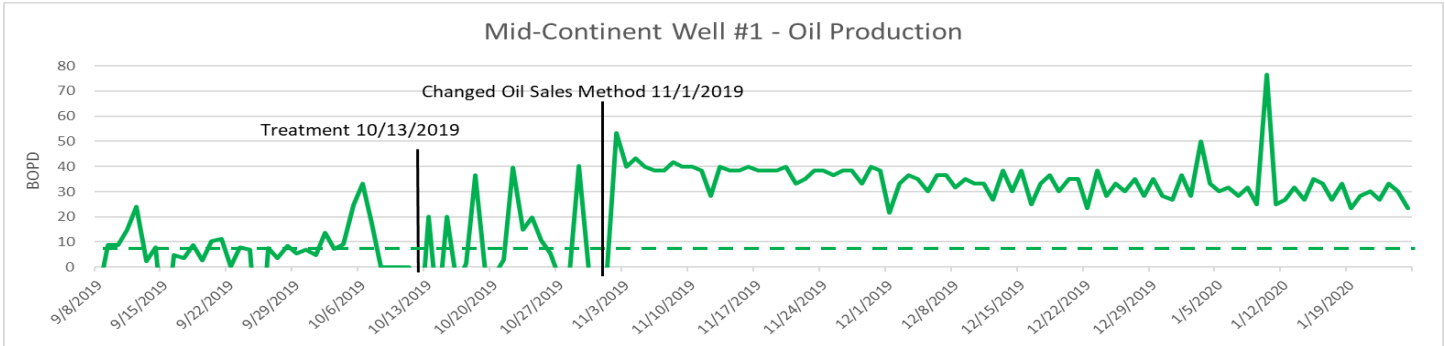
PenOx Case Studies



Mid-Continent Horizontal Results

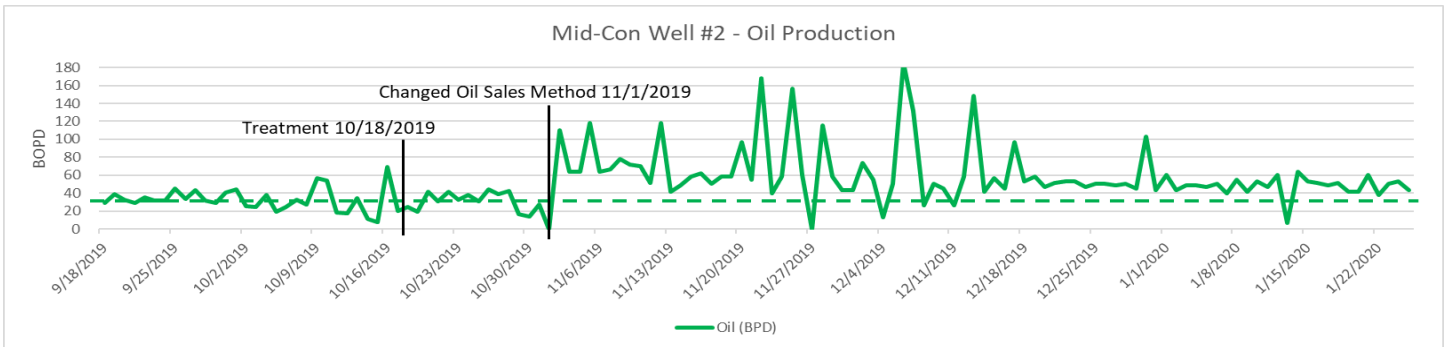
875 bbls 1,500 ppm PenOx & minimal additives

- ▶ 30 BPM rate w/RS diversion
- ▶ 30-day pre-treatment baseline - 6.2 BOPD
- ▶ 85-day post-treatment average - 34.4 BOPD
- ▶ 2,444 BO incremental uplift
- ▶ \$122,412 additional revenue @ \$50/BO
- ▶ 23.4 days to payout treatment
- ▶ \$1.0 - \$1.4 MM incremental wellbore value

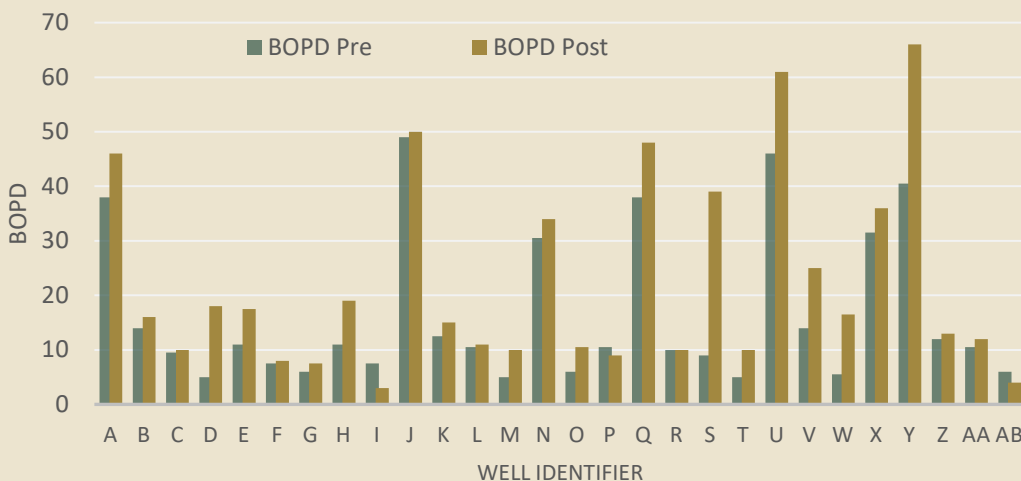


400 bbls 3,000 ppm PenOx & designed additives

- ▶ 5 BPM rate w/RS diversion
- ▶ 30 day pretreatment baseline - 32.5 BOPD
- ▶ 85 day post-treatment average - 61.2 BOPD
- ▶ 2,389 BO incremental oil uplift
- ▶ \$122,412 additional revenue @ \$50/BO
- ▶ 18.3 days to payout treatment
- ▶ \$1.0 - \$1.4 MM incremental wellbore value



Permian Basin Producing Wells



- ▶ Pre-stimulation:
 - ▶ 462 BOPD
- ▶ Post-stimulation:
 - ▶ 625 BOPD
 - ▶ 163 BOPD increase
- ▶ At \$85 WTI:
 - ▶ 1 Day = \$13,855
 - ▶ 3 month = \$1,246,950
 - ▶ 6 month = \$2,493,900