

Lithology	Carbonate
Average temperature	302 degF [150 degC]
Average pressure	7,000 psi [48.3 MPa]
Average water cut	85%

Background

Wells in a field in southern Mexico are prone to high-salinity water encroachment—reaching up to 90% water cut in some cases.

Technologies

- OilSEEKER* high-water-cut acidizing diverter
- CLEAN SWEEP* solvent systems for damage removal
- Organic acid blend for high-temperature wells

Operator Produces 3 Million bbl Oil from High-Water-Cut Carbonate Reservoir

OilSEEKER diverter selectively plugs water-saturated zones, reducing water cut from 90% to just 10%

Post-Treatment Production Results

Well	Oil Production, bbl/d	Days with <10% Water Cut	Cumulative Production, bbl	Revenue, USD Millions
Well A	1,630	281	458,030	50
Well B	1,424	140	199,360	23
Well C	1,441	708	1,020,228	110
Well D	1,097	161	176,617	19
Well E	1,602	368	589,536	63
Well F	1,593	349	555,957	53

To enhance production of oil and reduce water cut, the operator and Schlumberger applied OilSEEKER high-water-cut acidizing diverter prior to matrix acidizing treatments. The selective diverter breaks when it comes in contact with oil, but remains viscous in contact with water. This allowed the operator to stimulate the oil producing zones while directing treating fluids away from water-producing zones.

After the treatment with OilSEEKER diverter, oil production rose an average of 400% while reducing water cut to less than 10%. Over a 2-year period, the operator treated six wells in this field with OilSEEKER diverter, contributing to approximately 3 million bbl in cumulative oil production and USD 300 million.