Improving Production Through Reservoir-Centric Fluid Systems
Custom Chemistry Through All Phases Of The Lifecycle
When you choose FLOTEK, our partnership includes the technical support of our Global Research & Innovation Center - scientists, chemists, geologists, and reservoir, petroleum & geomechanical engineers – who design your customized fluid system, optimized for the reservoir.

Building upon our knowledge of the reservoir, our technical team evaluates client-contributed oil & gas data to prescribe a full fluid system optimized to the reservoir characteristics.

We begin with an understanding of the reservoir - stratigraphy, structure & natural fracture, petroleum systems, in-situ matrix and fluid chemistry and reservoir quality and continuity.

We evaluate well performance throughout our partnership to ensure chemistry is continuously optimized.
CnF® technology, “surface active solvents,” delivers the solvent at the interface where needed for hydrocarbon mobilization.

Nano-droplet “form” enables delivery of surface active components and solvents to a much larger surface area in a more finely dispersed form.

Nano-droplets enable “surface active solvent” delivery to be targeted toward the interfaces within the reservoir system that contribute to capillary pressure.
Flotek recommends custom chemistry across North America and basins around the world.

FLOTEK U.S. AND CANADIAN PORTFOLIO

- Active Basins

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011
In 2017 and 2018, Flotek has provided more than 95 prescriptions, including remediation and stimulation fluid design in multiple reservoirs within the Oklahoma basins.
PRESCRIPTIVE CHEMISTRY MANAGEMENT

Performance in the Woodford – Completions Canadian & Kingfisher Counties

**AVERAGE PRODUCTION CURVES: CNF® VS WELLS WITHOUT CNF®**

- Constant set of wells
  - 2 CNF® wells
  - 13 wells without CNF®

**MONTHLY GAS OIL RATIO**

**CNF® ENABLED INCREMENTAL CUMULATIVE BOE. NOT NORMALIZED VOLUMES**

- At 3 months: 15,310 BOE
- At 6 months: 74,195 BOE
- At 12 months: 160,791 BOE

<table>
<thead>
<tr>
<th>Wells Completions Parameters</th>
<th>AVG</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNF® Proppant Intensity [lbs/ft]</td>
<td>1,105</td>
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<tr>
<td>Lateral Length [ft]</td>
<td>9,921</td>
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<tr>
<td>W/o CNF® Proppant Intensity [lbs/ft]</td>
<td>1,108</td>
</tr>
<tr>
<td>Lateral Length [ft]</td>
<td>9,088</td>
</tr>
</tbody>
</table>

Wells with first prod. date of 09/2013 - 09/2015

Source: RS Energy Group

Normalized BOE per proppant intensity [lb./ft.]

**CnF® treated wells exhibited significantly higher peak rates, sustained production and lower GOR**
The four well program has positive economic results. Remediation in all cases provided increased production and additional recovery for each well. Remediation restored production to pre-frac hit rates in one well. Remediation in one under-performing well led to 4 fold increase in pre-remediation rates and surpassed expectations.

URTEC-2902400 • Post-Frac Hit Mitigation and Well Remediation of Woodford Horizontal Wells Using a Solvent/Surfactant Chemistry Blend • C. Swanson, et al.
PRESCRIPTIVE CHEMISTRY MANAGEMENT

Performance in the Cleveland Sand – Completion
Lipscomb, Hemphill, Ochiltree, and Roberts counties

AVERAGE PRODUCTION CURVES: CNF® VS WELLS WITHOUT CNF®

Initial Well Count:
53 CNF® wells
24 Wells without CNF®

- CNF® Technology
- Without CNF®

WELL COMPLETION PARAMETERS

<table>
<thead>
<tr>
<th></th>
<th>CNF®</th>
<th>AVG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proppant Intensity [lbs/ft]</td>
<td>345</td>
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</tr>
<tr>
<td>Lateral Length [ft]</td>
<td>3,664</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>W/o CNF®</th>
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<tr>
<td>Proppant Intensity [lbs/ft]</td>
<td>487</td>
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<tr>
<td>Lateral Length [ft]</td>
<td>4,108</td>
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Wells with first prod. date of 1/2014 – 1/2016

Source: RS Energy Group
Flotek recommends custom chemistry across North America and basins around the world.

**FLOTEK U.S. AND CANADIAN PORTFOLIO**

★ Active Basins

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011
In 2017 & 2018, Flotek completed more than 190 Prescriptions in the Midland and Delaware Basins
Performance in the Midland Basin – Completions
Midland, Martin & Upton Counties: Wolfcamp A

PRESCRIPTIVE CHEMISTRY MANAGEMENT

AVERAGE PRODUCTION CURVES: CNF® VS WELLS WITHOUT CNF®

Initial Well Count: 110 CnF® wells
200 Wells without CnF®

GAS OIL RATIO: CNF® VS WELLS WITHOUT CNF®

WELL COMPLETION PARAMETERS AVG

<table>
<thead>
<tr>
<th>CNF®</th>
<th>Without CnF®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proppant Intensity [lbs/ft]</td>
<td>1,598</td>
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<tr>
<td>Lateral Length [ft]</td>
<td>8,625</td>
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</table>

Wells with completion date between 1/2016 – 12/2017

Data Source: RS Energy Group
PRESCRIPTIVE CHEMISTRY MANAGEMENT

Performance in the Midland Basin – Completions
Midland, Martin & Upton Counties: Wolfcamp B

**AVERAGE PRODUCTION CURVES:**
CNF® VS WELLS WITHOUT CNF®

Initial Well Count:
195 CNF® wells
358 Wells without CNF®

**WELL COMPLETION PARAMETERS AVG**

<table>
<thead>
<tr>
<th>CNF®</th>
<th>W/o CNF®</th>
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</thead>
<tbody>
<tr>
<td>Proppant Intensity [lbs/ft]</td>
<td>1,720</td>
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<tr>
<td>Lateral Length [ft]</td>
<td>9,136</td>
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</table>

Wells with completion date between 1/2016 – 12/2017

Normalized BOE per proppant intensity [lb./ft.]

Data Source: RS Energy Group
CnF® treated wells exhibited higher peak rates and overall higher normalized monthly rates
Flotek recommends custom chemistry across North America and basins around the world.

**FLOTEK U.S. AND CANADIAN PORTFOLIO**

★ Active Basins

*NORTH AMERICAN BASINS WITH UNCONVENTIONAL RESERVOIRS*

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011
PRESCRIPTIVE CHEMISTRY MANAGEMENT

Flotek Experience in the Gulf Coast Basin
Eagle Ford, Eaglebine, Austin Chalk and Olmos Reservoirs

In 2017 and 2018, Flotek completed more than 75 prescriptions in multiple reservoirs within the Gulf Coast Basin.
Higher peak rate and sustained production for the CnF® population with initial lower GOR
Performance in the Eagle Ford – Completions
Karnes County (Volatile Oil)

CnF® Wells
Higher production with nearly equivalent proppant

Source: RS Energy Group
CnF® treated wells exhibited higher peak rate and sustained production through the first 34 months.

**PRESCRIPTIVE CHEMISTRY MANAGEMENT**

**Performance in the Olmos – Completions**

**Webb County (Dry Gas)**

**AVERAGE PRODUCTION CURVES: CNF® VS WELLS WITHOUT CNF®**

- **Initial set of wells:**
  - 3 CnF® wells
  - 16 Wells without CnF®

**WELLS COMPLETIONS PARAMETERS**

<table>
<thead>
<tr>
<th></th>
<th>CnF®</th>
<th>W/o CnF®</th>
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<tr>
<td>Proppant Intensity [lbs/ft]</td>
<td>837</td>
<td>831</td>
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<td>Lateral Length [ft]</td>
<td>5,358</td>
<td>4,608</td>
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</table>

- **Total months on production:**
  - Wells with first prod. date of 01/2015 – 01/2017

Data Source: RS Energy Group
Flotek recommends custom chemistry across North America and basins around the world.

**NORTH AMERICAN BASINS WITH UNCONVENTIONAL RESERVOIRS**

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011
In 2018, Flotek completed 11 Prescriptions in multiple reservoirs within the East Texas Basin.
Performance in the Cotton Valley – Completions Rusk County

CnF® treated wells exhibited higher peak rate and sustained production for the first 15 months.

Normalized BOE per proppant intensity [lb./ft.]

GAS OIL RATIO: CnF® VS WELLS WITHOUT CnF®

CnF® Technology
Without CnF®

WELLS COMPLETIONS PARAMETERS AVG

<table>
<thead>
<tr>
<th>CnF®</th>
<th>Proppant Intensity [lbs/ft]</th>
<th>1,471</th>
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<td></td>
<td>Lateral Length [ft]</td>
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<tr>
<td>W/o CnF~</td>
<td>Proppant Intensity [lbs/ft]</td>
<td>1,379</td>
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<tr>
<td></td>
<td>Lateral Length [ft]</td>
<td>5,550</td>
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Wells with first prod. date of 01/2014 - 01/2016

Source: RS Energy Group
Flotek recommends custom chemistry across North America and basins around the world.

**FLOTEK U.S. AND CANADIAN PORTFOLIO**

- **Active Basins**

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011
In 2018, Flotek completed 10 prescriptions in multiple reservoirs within the DJ Basin.
CnF® treated wells exhibited higher peak rate with no significant differences in GOR trends.
**CnF® treated wells exhibited higher peak rate and lower GOR**

**PRESCRIPTIVE CHEMISTRY MANAGEMENT**

Performance in Niobrara B – Completions
Weld County (Volatile Oil)

**AVERAGE PRODUCTION CURVES: CNF® VS WELLS WITHOUT CNF®**

Initial set of wells:
- **7 CnF® wells**
- **55 wells without CnF®**

**GAS OIL RATIO: CNF® VS WELLS WITHOUT CNF®**

**WELLS COMPLETIONS PARAMETERS**

<table>
<thead>
<tr>
<th></th>
<th>CnF®</th>
<th>W/o CnF®</th>
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</thead>
<tbody>
<tr>
<td>Proppant Intensity [lbs/ft]</td>
<td>720</td>
<td>1,007</td>
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<tr>
<td>Lateral Length [ft]</td>
<td>4,987</td>
<td>5,391</td>
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</table>

Wells with first prod. date of 01/2015 - 01/2017

Source: RS Energy Group

Normalized BOE per proppant intensity [lb./ft.]

Source: RS Energy Group
Flotek recommends custom chemistry across North America and basins around the world.

FLOTEK U.S. AND CANADIAN PORTFOLIO

Active Basins

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011
In 2018, Flotek has provided 11 prescriptions in multiple reservoirs within the Powder River Basin.
Niobrara, Turner and Mowry reservoirs vary from quartz sandstones and siltstones to carbonate marls and chalk benches. Non-source rocks increase in texture to the west. Porosity varies from 7 to 12% (averages) across reservoirs.

Reservoir Considerations
Clay content, hydrocarbon maturity and chemistry in source rock reservoirs.

Permeability: Turner .01md, Muddy .1md, Niobrara / Mowry .00001md.
Flotek recommends custom chemistry across North America and basins around the world.

**FLOTEK U.S. AND CANADIAN PORTFOLIO**

★ Active Basins

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011
In 2018, Flotek completed 5 prescriptions in multiple reservoirs within the Williston Basin.

Source: PacWest

Project Areas
Performance in the Canadian Williston Basin – Enhanced Waterflooding

Lower Shaunavon

72,000 bbl incremental over 5 years [28,000 to date]
Flotek recommends custom chemistry across North America and basins around the world.

**FLOTEK U.S. AND CANADIAN PORTFOLIO**

★ Active Basins

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI. Updated: May 9, 2011
In 2018, Flotek completed 23 prescriptions in multiple reservoirs within the Triassic Basin.
CnF® treated wells exhibited higher peak rates and overall higher monthly rates for at least 24 months.
**PRESCRIPTIVE CHEMISTRY MANAGEMENT**

Performance in Ellerslie - Completions

Edson Core Area

CnF® treated wells exhibited higher peak rates and overall higher monthly rates

**AVERAGE PRODUCTION CURVES: CNF® VS WELLS WITHOUT CNF®**

- **Initial Well Count:** 14 CnF®, 3 wells without CnF®

**CnF® Enabled Incremental Cumulative BOE. Not Normalized Volumes**

- At 3 months: 13,692 BOE
- At 6 months: 16,826 BOE
- At 12 months: 19,367 BOE

**WELLS COMPLETIONS PARAMETERS AVG**

<table>
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<tr>
<td><strong>CnF®</strong></td>
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<tr>
<td>Proppant Intensity [lbs/ft]</td>
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<td>Lateral Length [ft]</td>
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<td><strong>W/o CnF®</strong></td>
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<tr>
<td>Proppant Intensity [lbs/ft]</td>
<td>344</td>
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<tr>
<td>Lateral Length [ft]</td>
<td>3,826</td>
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Wells with first prod. date of 01/2016 - 01/2018

Source: RS Energy Group

Normalized BOE per proppant intensity [lb./ft.]

**CnF®** treated wells exhibited higher peak rates and overall higher monthly rates
Performance-Enhancing Chemistry at Every Price Point

Delivering Value to Your Assets & Bottom Lines

Driven by Research & Innovation

Prescriptive Chemistry Technology for the Reservoir

Rooted in Trusted Partnerships
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