

# SPM® EdgeX™ Valve and Carbide Seat

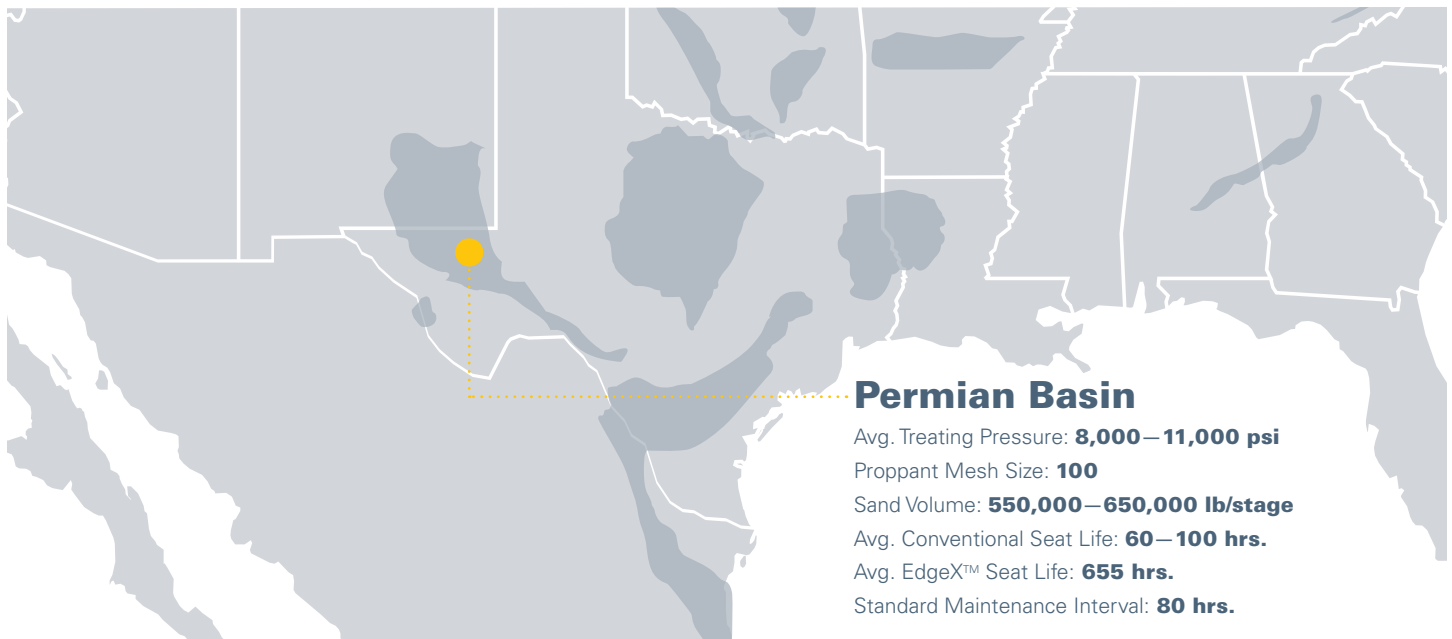
760 Hours of Seat Life in the Permian

**SPM™ Oil & Gas**

*A Caterpillar Company*

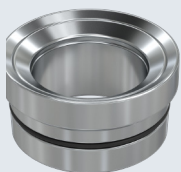
## Case Study

A Permian operator wanted to optimize the maintenance—and associated costs—of its frac equipment and consumables. SPM Oil & Gas proposed a field trial with SPM® EdgeX™ Carbide Seats across three sites. The operator ran the engineered carbide seats an average of 655 hours—more than 8X longer than previous seats. One seat lasted 760 hours, setting a record for the longest life of an EdgeX™ Carbide Seat in North America.



### AT A GLANCE

- Eliminated field replacements
- Reinforced the key wear area with tungsten carbide
- Enabled compatibility with any tapered fluid end
- Resisted shattering
- Reduced safety risks and unplanned downtime



### THE FACTS



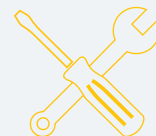
**ONE**  
EdgeX™ seat



**760 HOURS**  
of seat life

**8X**

**LONGER**  
seat life



**ZERO**  
on-site seat  
maintenance

# PERMIAN BASIN CASE STUDY

## THE CHALLENGE

The resource-rich Permian Basin is one of the most active plays in North America. Unlike other shale plays, the Permian has greater geologic complexity, which can put increased pressure on equipment and increase consumables costs.

An oilfield services provider operating pumps in the Permian wanted to improve operational efficiencies on its multiwell pads by reducing maintenance expenses and nonproductive time (NPT). When pumping 550,000 to 650,000 pounds of 100-mesh sand per stage at 8,000 to 11,000 psi, standard steel seats were only lasting 60 to 100 hours. The company was replacing seats every 80 hours, resulting in high materials and labor costs. To maximize operational efficiency and improve worksite safety, it was looking for a way to stop pulling seats on the field.

## THE APPROACH

SPM Oil & Gas' team recommended using SPM® EdgeX™ Carbide Seats, which offer greater resistance to wear, cracking, and washout—even with large particles. Extensive lab and field testing showed an average of six times longer life than conventional steel seats. The carbide-reinforced seats were designed to protect high-wear areas while fitting with the customer's standard taper fluid ends and eliminating sensitivity to installation errors.

## THE RESULTS

The SPM® EdgeX™ Carbide Seat produced substantial results for the oilfield services provider. Not only did the SPM® EdgeX™ Carbide Seats last eight times longer than the previous seats, the SPM® EdgeX™ Carbide Seats eliminated shattering risk and on-site seat replacements, unlike competitors' seats. SPM® EdgeX™ Carbide Seat reduced the total amount of time spent pulling seats by approximately 16 hours.

The operator ran the SPM® EdgeX™ Carbide Seats an average of 655 hours—delivering approximately 720% longer life than steel seats that last an average of just 80 hours. One seat ran 760 hours—setting a record for the longest-lasting EdgeX™ Seat in North America. Based on the longevity and reduced maintenance time, the operator plans to outfit an entire fleet with SPM® EdgeX™ Carbide Seats.

## THE SOLUTION

SPM Oil & Gas' patented SPM® EdgeX™ Valve and Carbide Seat sets a new industry standard by increasing seat life an average of six times compared to conventional steel seats and doubling valve life. It is a timely solution for operators focused on pump utilization and reducing downtime for pump maintenance. Engineered with the nuances of the entire frac site in mind, the SPM® EdgeX™ Valve and Carbide Seat enables operators to push their frac fleets harder while significantly reducing maintenance costs for valves and seats. This dramatic increase in longevity enables operators to eliminate field changeouts and reduce expenses for a costly consumable.