

VULCAN

Valve and Seat Performance Case Studies

Run Vulcan and run up to 40 percent longer.

Do Vulcan valves and seats really give you more runtime and value?

There's only one way to find out: check the data for yourself. Inside you'll find four different success stories documenting the details of how Vulcan high-performance valves and seats deliver more in the field. For additional information regarding testing methodologies and other details, contact your Vulcan representative.



Performance Case Study 1

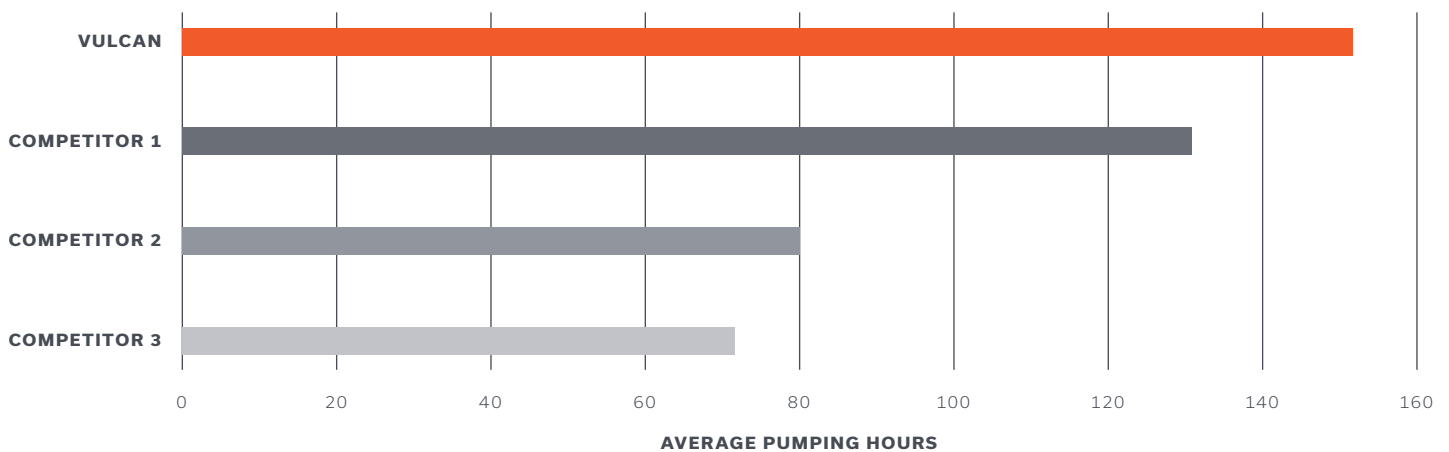
Up to 40% Longer Run Life

Date	January 2019
Location	Permian Basin, TX
Treating Pressure	10,500 PSI
Proppant and Fluid	100 mesh, 2 PPG slick water, 85 Bbl/min
Valve and Seat Tested	VULCAN (P5)



High sand concentration, long laterals and high pressures put every component to the test. In this head-to-head showdown, we tested four competing valve and seat providers (multiple sets) in identical conditions to determine real-world service life. Products were installed in alternating bores of various pump fluid ends for a true head-to-head performance comparison. In the end? Vulcan outran them all.

Field Test Results



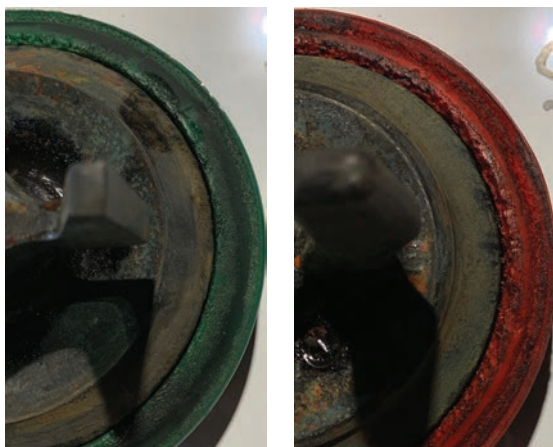
Performance Case Study 2

Delivering More in New Mexico

Date	August 2019
Location	Permian Basin, NM
Treating Pressure	10,200 PSI
Proppant and Fluid	100 mesh, 2 PPG slickwater, 80 Bbl/min
Valve and Seat Tested	VULCAN (P5)

This test was a real-world shootout worthy of New Mexico’s Old West heritage. In this field trial, both Vulcan and competitor valves and seats were run on the same frac site at the same time, and on alternating bores of various pump fluid ends. Products were pulled and inspected at 80 and 105 hours for inspection, though only the Vulcan unit lived to see the 105 mark.

80 Hours Inspection Point



Vulcan (Left) vs. Competitor (Right) at 80 Hours Inspection Point

105 Hours Inspection Point



Vulcan Valve at 105 Hours Inspection Point (Competitor valves failed and removed from service before 105 Hours Inspection Point)



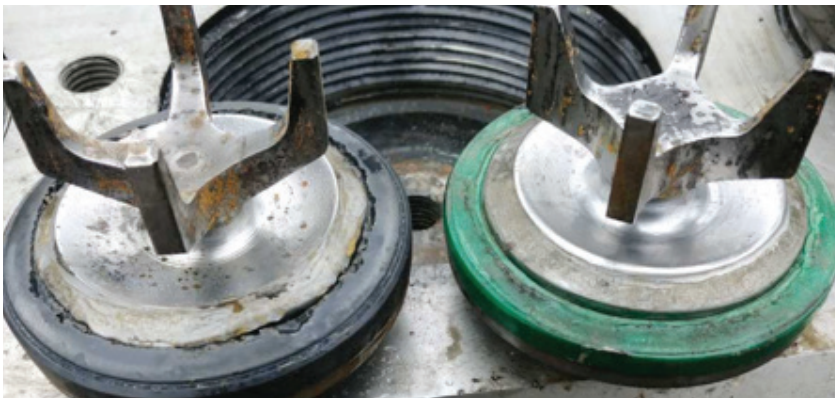
Performance Case Study 3

Running Strong in the Eagle Ford

Date	November 2018
Location	Eagle Ford, TX
Treating Pressure	11,500 PSI
Proppant and Fluid	100 mesh, 2 PPG slickwater, 105 Bbl/min
Valve and Seat Tested	VULCAN (P4)

Eagle Ford frac providers need longer service life out of their pump consumables. In this test, we ran Vulcan and competitor valves on the same site at the same time—deploying the products in alternating bores of various pump fluid ends. When we pulled them for inspection at 70 hours of service, only the Vulcan parts were truly ready for more.

70 Hours Inspection Point



Competitor Valve (Left) vs. Vulcan Valve (Right) at 70 Hours Inspection Point (Competitor valve urethane beginning to fail)

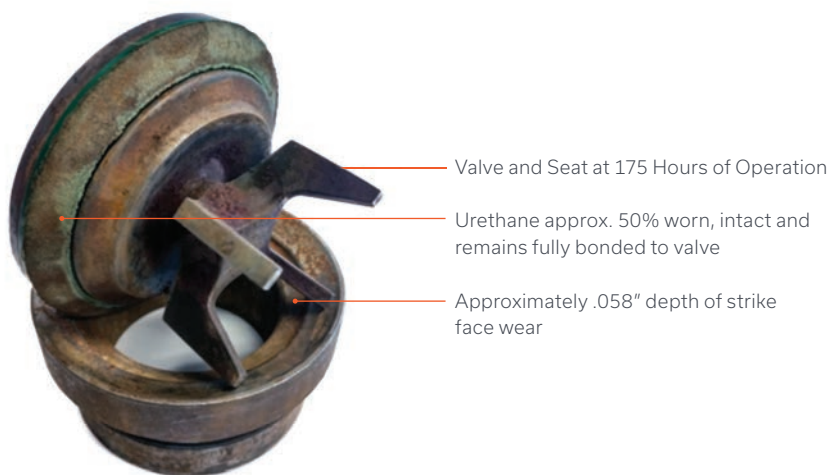


Performance Case Study 4

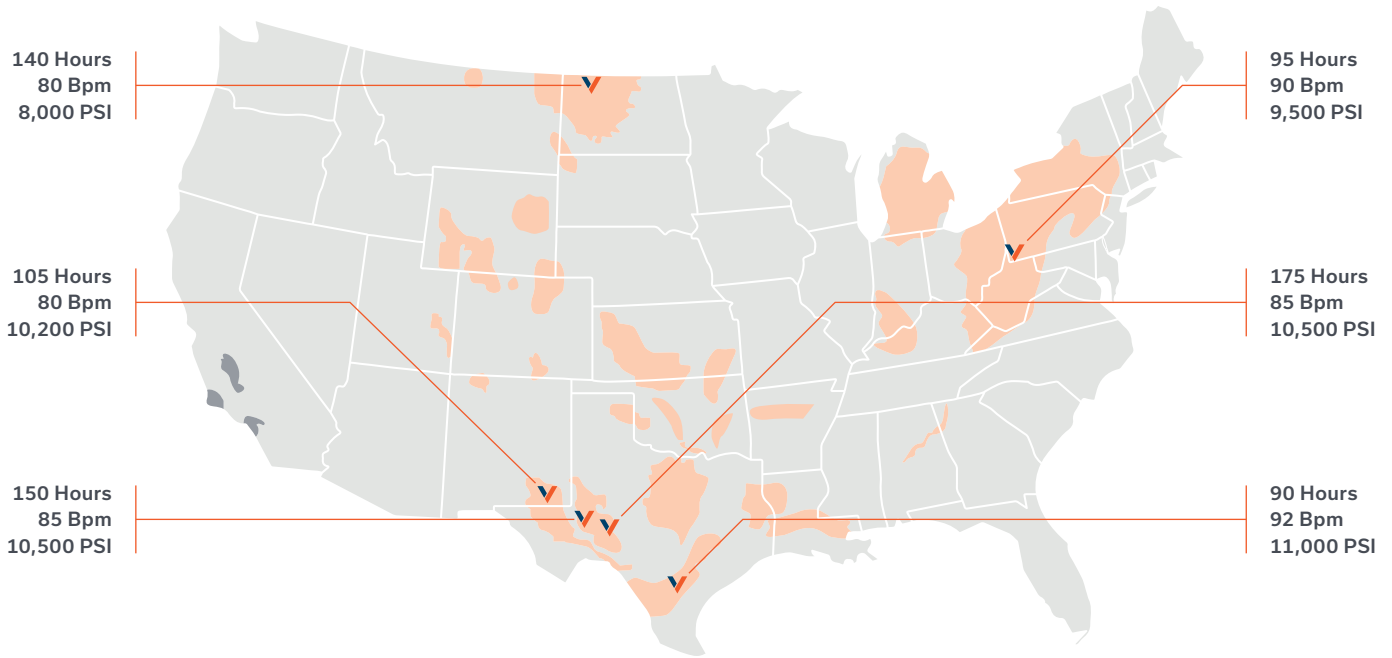
Pushing Limits in the Permian

Date	February 2019
Location	Permian Basin, TX
Treating Pressure	10,500 PSI
Proppant and Fluid	100 mesh, 2 PPG slickwater, 80 Bbl/min
Valve and Seat Tested	VULCAN (P5)

How long do Vulcan valves and seats last? Our goal here was to find out—running them until estimated failure in search of the absolute limit of service life. At 175 hours of operation, the products were pulled and inspected. Despite running at 50 percent urethane wear and 0.058" worth of strike face wear, Vulcan valves and seats proved they could endure this torture test. In all of these tests, we proved to be our toughest competitor.



North American Testing



Permian Basin Case Study Highlight

Traditional Valve & Seat



32
Stages

64
Hours
of Life

VS.

Vulcan Valve & Seat



45
Stages

90
Hours
of Life

The Results

Customer converted all active fleets in the region to Vulcan valves and seats.

40% Extension in valve & seat maintenance intervals

30% Reduction or more in valve & seat spend in region

\$4M ANNUAL SAVINGS IN THE REGION



Ready to get more from
your valves and seats?

Reach out today.

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