

### WHY

Maximized and consistent weight-on-bit (WOB) for increased ROP during lateral drilling.

### RESULT

Placement of Wenzel Shaker Tool in the drillstring resulted in higher and more consistent weight transfer to the bit, reducing the number of pipe trips and total rig time to TD the well bore.

The reduction in frictional forces resulted in a more efficient and effective drilling operation.

The Shaker is a robust anti-friction drilling tool which reduces the drag between the drillstring and formation.

### LOCATION

Canada  
Western Canadian  
Sedimentary Basin,  
Duvernay & Fox Creek

### EFFECTIVELY CONTROL WEIGHT-ON-BIT DRILLING

An operator decided to add the Wenzel Shaker Tool to the drillstring at 3300 metres in the Duvernay field, resulting in optimized control for weight-on-bit drilling. Prior to the addition of the Shaker in the drillstring, the operator was encountering difficulty in reaching desired force on the bit.

### OPERATIONAL RESULTS OF SHAKER

With the addition of the Shaker's anti-friction lateral movement, the operator was able to fully utilize the desired WOB. This resulted in consistent performance to drill the last leg of the lateral quicker and saved at least one pipe trip and 2-3 days of rig time.

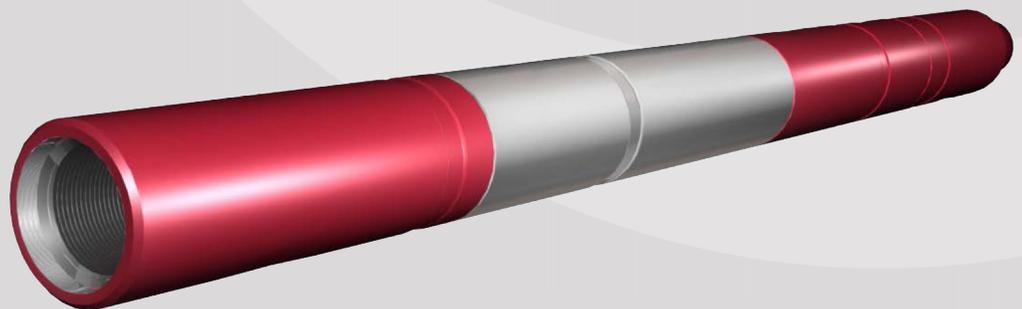
A thorough post-run teardown analysis revealed that the Shaker's internal components proved to be durable in the presence of a simultaneous high flow/abrasive environment.

### OUTCOME

Building from the success of their previous Shaker run in the Duvernay, the same operator then incorporated two Shakers into their Fox Creek program to drill the lateral hole section.

The double Shaker system enabled a seamless WOB transfer from the start of the lateral right through to reaching total depth. Drilling the 2500m lateral in a single run shaved five days of rig time off a well which normally takes three weeks to drill.

This success shown by the Wenzel Shaker Tool in drilling programs displays its contribution to smooth drilling operations, efficient time savings, and decrease to overall rig costs.



### Notable Run Q1 2015

*Wenzel Shaker • Single Shaker placement within drillstring*

Location	Canada (Western Canadian Sedimentary Basin - Duvernay)
Well Depth	5000m
Lateral Length	2500m
Hole Size	156 mm
Drillstring	4-1/2" DS 40 Drillpipe
Drilling Fluid System	Potassium Formate (Brine)
Mud Weight	1260 kg/m <sup>3</sup>
Flow Rate	1100 l/m
Shaker Size	4-3/4"
Number of Shakers	1
Shaker Placement	600m behind bit

### Notable Run Q2 2015

*Wenzel Shaker • Double Shaker placement within drillstring*

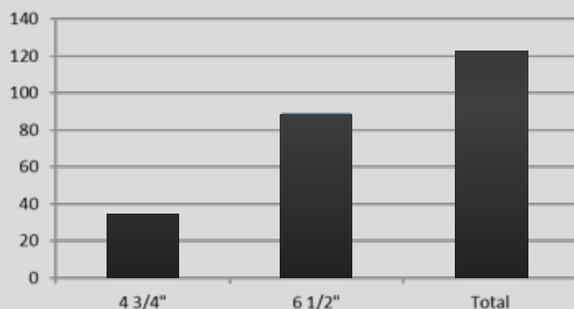
Location	Canada (Western Canadian Sedimentary Basin - Fox Creek)
Well Depth	5000m
Lateral Length	2500m
Hole Size	156 mm
Drillstring	4-1/2" DS 40 Drillpipe
Drilling Fluid System	Potassium Formate (Brine)
Mud Weight	1280 kg/m <sup>3</sup>
Flow Rate	1200 l/m
Shaker Size	4-3/4"
Number of Shakers	2
Shaker Placement	600m behind bit (1); 700m behind first Shaker (2)

### Tried and Tested

Within the past twelve months, the Wenzel Shaker Tool has already logged over 120 runs with nearly 700 rental days used in North America alone.

### Wenzel Shaker Tool Cumulative Run Data

**Number of Runs (North America)**



**Total Days Used (North America)**

