

Performance Report: LMP High Pressure Testing of Dual Shear Gun

Summary of Over One Year of Field Testing and Operational Feedback

Introduction

This report summarizes the performance of the Dual Shear Gun as tested by Client in Canada LMP site during high-pressure operations over the course of more than one year. The purpose is to evaluate the tool's durability, operational efficiency, and initial indications of fluid property improvements as observed by the client.

Background

Client integrated the Dual Shear Gun into their high-pressure fluid shearing regime, primarily focusing on improved performance and effects on fluid stability and rheology.

Operational Overview

- Primary Flow Regime: 1000 L/min at 170 Bar using #10 Nozzles
- Alternate Flow Regime (due to pump issues): 700 L/min at 175 Bar using #8 Nozzles
- Duration: Over one year field trial. Commercially accepted and now used regularly.

Performance Results and Observations

Client has expressed strong satisfaction with the Dual Shear Gun's performance. The tool demonstrated exceptional durability, with no noticeable signs of wear even after extended use. The only reported minor issue was a small amount of chipping on one nozzle, attributed to a removal tool slipping rather than operational wear.

At the standard operating conditions of 1000 L/min at 170 Bar with #10 Nozzles, the Dual Shear Gun delivered excellent results. Even when forced to operate at a lower flowrate of 700 L/min at 175 Bar with #8 Nozzles due to pump issues, the tool continued to maintain comparable performance levels, although the reduced flowrate was acknowledged as less than ideal for these operations.

Fluid Stability and Rheology

Client reported promising indications of improved fluid stability and rheology when using the Dual Shear Gun. While these improvements have not yet been quantitatively measured, the preliminary results are positive and suggest that the tool may contribute to enhanced fluid management in high-pressure applications.

Tool Integrity and Maintenance

Feedback from Client indicates that the Dual Shear Gun's nozzles and hard faced internals remain in excellent condition, with minimal mechanical wear observed. The only notable incident involved minor chipping on a nozzle caused by an external tool during removal,

not by the operation itself. This underscores the robustness of the tool's construction and its suitability for long-term, high-pressure use.

Conclusion

Based on more than a year of high-pressure field testing, Client is very satisfied with the Dual Shear Gun's performance. The tool has proven durable, reliable, and effective under demanding operational regimes. Early indications point to improvements in fluid stability and rheology, though further data collection and analysis are needed to quantify these benefits. Client continues to monitor performance and will provide additional data as it becomes available.

Recommendations

- collecting quantitative data on fluid stability and rheology improvements.
- Collect m3 volume of fluid gone true Dual Shear Gun in total from start to now.
- Maintain regular inspection of tool components to ensure ongoing integrity.
- Investigate the tool's performance at varying flow regimes to optimize operational efficiency.

This report reflects the current status as of October 2025, based on the latest available feedback from SLB Canada's operational team.