Case Study: 12" Full Metal Jacket Pipeline Utility Pig in NGL Pipeline

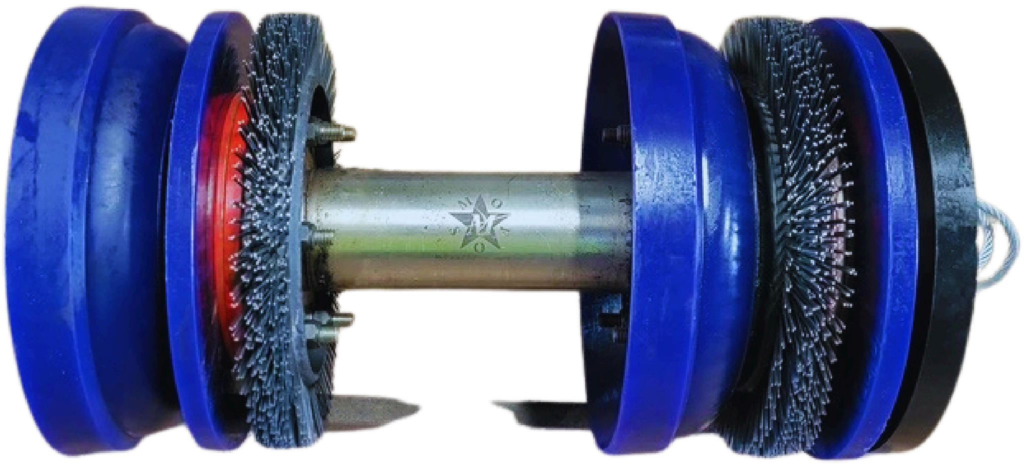
Overview: A 42-mile natural gas liquids (NGL) pipeline required cleaning prior to their ILI activities. This case study compares the results of two FMJ Utility Pig runs against the cleaning efficiency of a standard cleaning pig. The goal is to evalute the FMJ pig's debris removal, durability, and progressive cleaning capability.

Operation Details:

Pipeline Length: 42 miles
Product: Natural Gas Liquids (NGL)
Pig Type: 2 each, 12" FMJ Utility Pigs
Run Duration: Approximately 3 days
Speed: Less than 1 mph

McDonald OilField OperationS

Made in Texas



Performance of Standard Cleaning Pig in 42-Mile NGL Pipeline

In a prior cleaning operation on the same 42-mile natural gas liquids (NGL) pipeline, a standard cleaning pig was deployed under similar conditions: a three-day run at less than 1 mph.

The picture on the left shows the standard cleaning pig used for baseline comparison. The pig struggled to dislodge debris buildup due to its limited brushing action and lighter weight construction.

Post-run analysis revealed incomplete debris removal.

The standard pig's performance was inadequate for the pipeline's demanding conditions, thus prompting the client to reach out and order two FMJ utility pigs built to their specifications.

Performance of FMJ Utility Pig in 42-Mile NGL Pipeline

The FMJ pigs were launched into the 42-mile NGL pipeline, traveling at a controlled speed of less than 1mph to maximize cleaning efficiency. The pig's durable metal construction and aggressive cleaning features effectively removed built-up debris and other contaminants over the three-day run.

The slow speed ensured thorough contact with the pipeline's inner walls, addressing potential blockages without compromising pipeline integrity.

Results: The pig successfully completed the 42-mile run, emerging with minimal wear and collecting significant debris.

Post-run inspections confirmed FMJ #1, pictured to the left, loosened debris in the line allowing FMJ #2, pictured on page 4, to pick up and carry the debris to the trap validating the FMJ pig's effectiveness for long-distance NGL pipeline cleaning. The operation demonstrated the pig's reliability in low-speed, extended-duration applications.

12" Full Metal Jacket Utility Cleaning Pig

Conclusion: The 12" Full Metal Jacket utility pigs removed far more compacted and ferrous (FeS) debris than the standard cleaning pig. Progressive runs clearly reduced the debris load, proving the FMJ utility pigs achieved deeper pipeline cleaning. Despite the heavy loads, FMJ utility pigs maintained structural integrity and brushing performance. The FMJs significantly outperformed standard cleaning pigs in debris recovery and overall cleaning effectiveness.

For more information contact:

Kelly McDonald

979-553-1253

kelly@mcdonaldoilfieldoperations.com