# Case Study: 8" Full Metal Jacket Utility Pig  in an RGP Pipeline

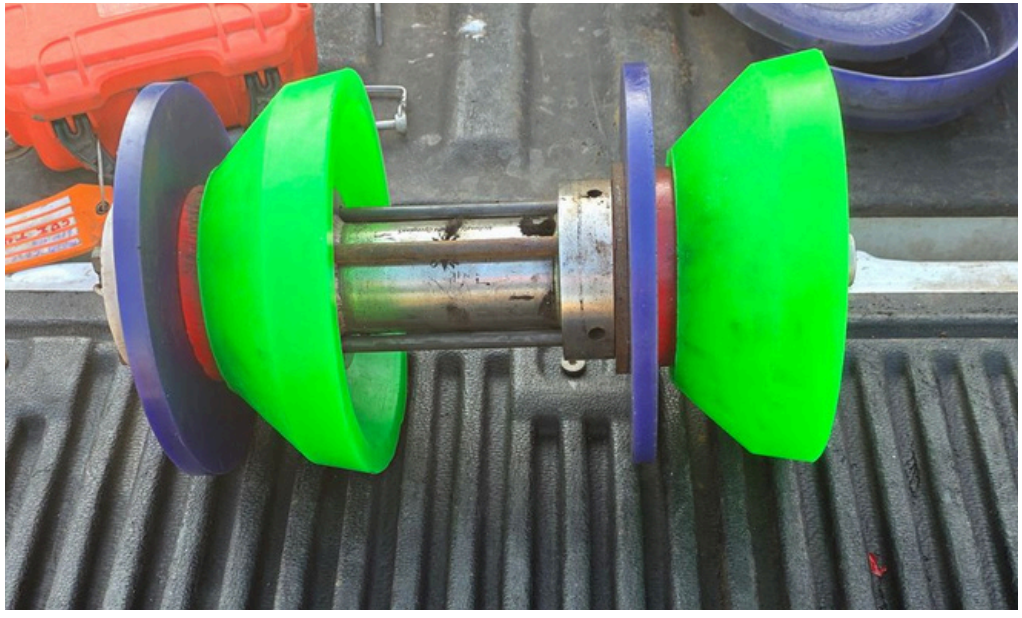
**Overview**: The original ILI run using a high-res MFL tool failed to deliver usable data.

Post-run analysis of the tool's sensors and recovered debris showed heavy ferrous contamination (mill scale, black powder, and welding debris) that saturated the MFL sensors and caused sensor arms to lose contact with the pipe wall.

A conventional cleaning program had been attempted earlier but proved inadequate, leaving significant debris in the line and rerun of the MFL tool was required, but only after the line could be proven acceptably clean.

**Operation Details**

- **Project: ILI cleaning ahead of a high-resolution MFL rerun**
- **Pipeline: 8-inch Refinery Grade Propylene, 1.97 miles**
- **Built with an onboard 22Hz transmitter for tracking**
- **Location: Onshore USA**
- **Date: Q4 2025**



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**Full Metal Jacket Utility Pig Configuration**

- 2 identical 8-inch FMJ pigging strings
  - Dual-module design with bypass control
  - Equipped with spiral-mounted stainless steel pit cleaning brushes (FMJ Spiral Pit Cleaning Brushes – first commercial deployment)
  - Fitted with seal discs, conical cups and bypass discs for maximum support and debris transport

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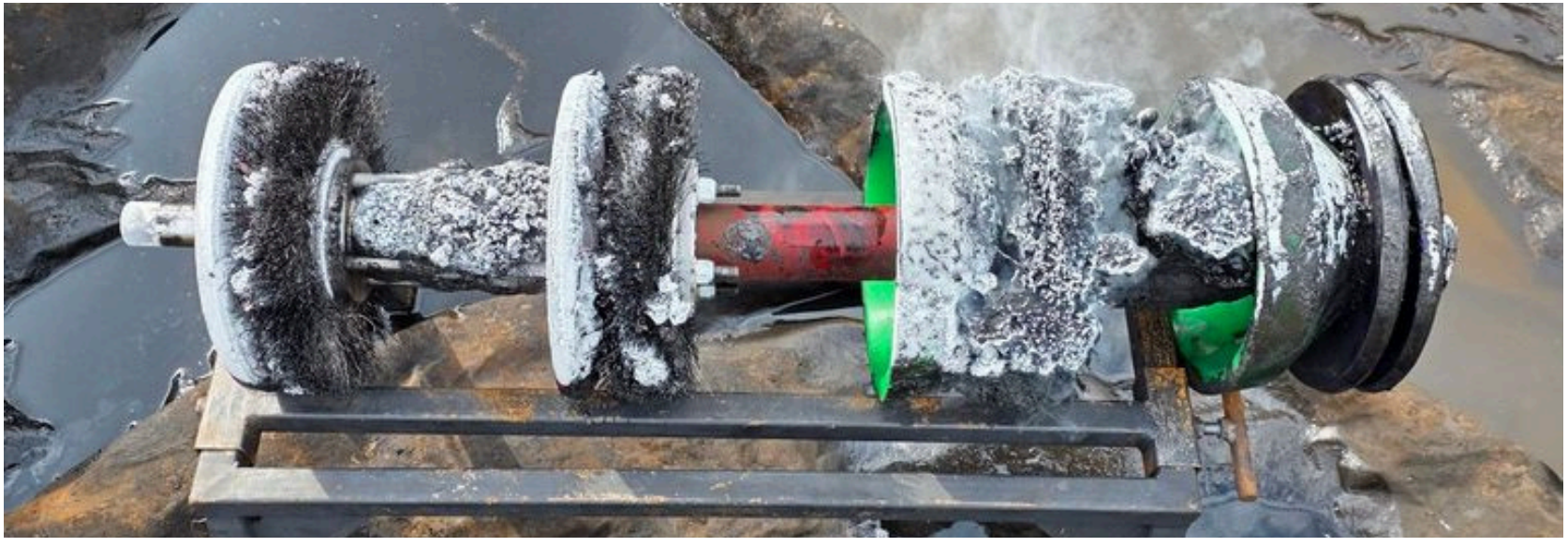
Over five controlled 0.50 mph runs covering the full 1.97-mile, 8-inch Refinery Grade Propylene Pipeline, the two FMJ pigging strings delivered outstanding progressive cleaning .

This FMJ-only program completely eliminated the contamination that had blinded the original MFL tool. Immediately following the fifth FMJ pass, the MFL tool was relaunched and achieved 100 % data acquisition on the first re run attempt, with zero sensor interference confirming the FMJ restored the pipeline to an exceptionally clean condition in just five runs.



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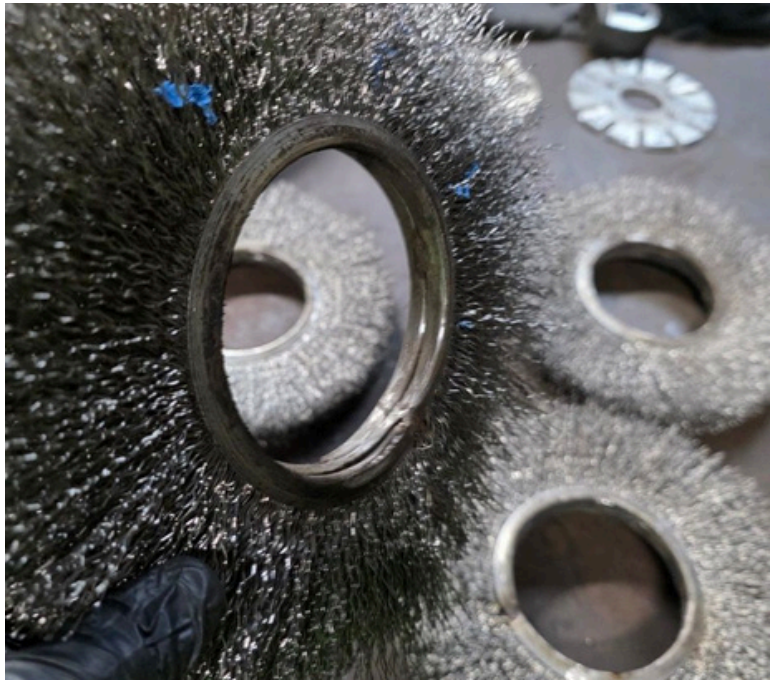

The **FMJ Spiral Pit Cleaning Brushes** feature a proprietary coiled-wire design that combines high-density carbon steel or stainless bristles with a helical coil geometry, enabling the bristles to remain perpendicular to the pipe wall even during tight bends and providing continuous 360° scraping contact.

So instead of the flat wire riding over the pits, these brushes will penetrate the pits in the line removing the debris.

This unique coil construction delivers significantly higher debris removal rates than traditional straight-wire brushes while maintaining flexibility and dramatically extending brush life in abrasive environments.

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For more information contact

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