

Wharf Line Inspection Using InVista™ In-Line Inspection

The customizable LifeQuest™ Pipeline viewer provides the operator with actionable information, enabling timely and confident decisions. Whether by location, dimensions, or type, the graphical and cataloged database gives every user a simple interface and is easily exported to spreadsheets with a single click.

Overview

Wharf lines are a growing concern for operators because a leak in these lines can be highly consequential. This concern is compounded by the fact that wharf lines generally have limited accessibility and/or operational constraints, making inspection difficult. Thus wharf line operators have historically faced limited and complicated inspection options.

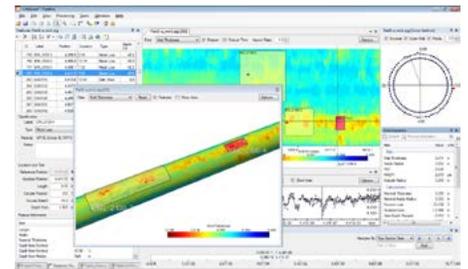
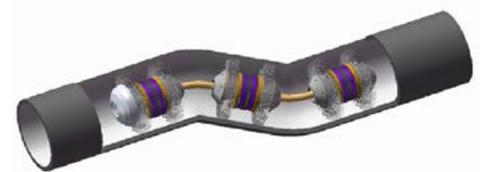
Quest Integrity Group offers a solution for these historically difficult or “unpiggable” pipelines, and recently inspected a 6” wharf line using its InVista™ inline inspection tool.

The InVista tool offered the operator several advantages:

- + Modifications to the piping system were not required.
- + Significantly reduced line pressure was sufficient for inspection.
- + Bi-directional and low flow/low pressure capabilities.
- + Launching & receiving by hand directly into nominal pipe.
- + Superior UT flaw detection, sizing capabilities, and confidence levels relative to MFL.

Inspection resolution and coverage is not affected or diminished by pipe supports or any other metal-to-metal contact; InVista fully inspects a pipeline, even where the pipeline is supported on the wharf.

The complete InVista data set was analyzed for general wall thinning in addition to other anomalies including generalized and localized corrosion, denting and ovality. Part of the integrated pipeline solution set from Quest Integrity, the LifeQuest™ Pipeline software provided actionable information such as the Remaining Strength Factor (RSF) and Reduced Maximum Allowable Operating Pressure (MAOPr).



Results

- + All internal and external metal-loss areas were identified and individually sized. No immediately actionable anomalies were revealed; therefore, the final report was issued to the operator within the standard 30 days.
- + Geometry deformations and dents ≥ 1.0 % were assessed and reported. No dents with metal loss were detected.
- + 3Industry standard Modified B31G calculations were applied using 100% of the collected inspection data. In addition, a comprehensive API 579-1 / ASME FFS -1 Part 5 Level 2 Fitness-for-Service assessment was performed to determine the safe MAOPr of the pipeline in its current condition indexed by individual pipe joint.

Benefits of the InVista™ Technology

Overcomes challenges associated with traditionally difficult to inspect or “unpiggable” pipelines.

- + Realized cost savings to the operator because no modifications to the infrastructure were required; geometry and metal-loss data provided from a single run.
- + Reduced safety concerns and increased operational capabilities in loading and unloading the handheld InVista tool into a single launch point; launched with significantly reduced pressure requirements.
- + Superior navigational capabilities including short-radius 1.0D bends, unbarred off-takes, and pipe schedule changes including heavy-wall.
- + Bi-directional, low flow/low pressure and industry leading minimized tool passage requirements.
- + Innovative ultrasonics application results in less signal distortion, providing powerful 2D and 3D user interfaces.
- + Fully integrated, API 579 Compliant Level II Fitness-for-Service (FFS) asset evaluation included.



Valve removal prior to launching InVista™



InVista™ being retrieved after flange disassembly. Time to remove InVista from pipe = 15 minutes

Quest Integrity, a TEAM company, is a global leader in the development and delivery of asset integrity and reliability management services. The company's integrated solutions consist of technology-enabled, advanced inspection and engineering assessment services and products that help organizations improve operational planning, increase profitability, and reduce operational and safety risks. Quest Integrity is built on a foundation of leading edge science and technology that has innovated and influenced industry best practices since 1971.