

101 Mile Pipeline Integrity Assessment & Cleaning

A major midstream gas transmission company required stress corrosion cracking (SCC) integrity assessment services by hydrotesting to remain compliant with regulatory specifications. The project consisted of a single 101.9 mile pipeline with both 24 inch and 26 inch diameter pipe. Significant environmental hazards were encountered from pipeline contaminants. Additionally, unknown to the pipeline operator, the pipeline contained a significant amount of debris.

PLAN OF EXECUTION

1. **Project Pre-planning**
 - a. Multiple site surveys
 - b. Stakeholder planning meetings
 - c. Creation of technical procedures
2. **Pipeline Filling**
 - a. Utilized water already in the pipe to ensure proper water column integrity.
 - b. Utilization of appropriate back pressure to mitigate the risk of "air lock".
3. **Hydrostatic Pressure Testing**
 - a. 24-hour stabilization period.
 - b. Pre-planned controlled pressurization and depressurization process.
 - c. Multiple data points to monitor pressure and temperature along each test section.
4. **Pipeline Dewatering**
 - a. Utilization of carbon and particulate filtration to remove mercury and arsenic.
 - b. Utilized frac tanks to drop high level of solids prior to filtration.
 - c. Controlled release to maintain back pressure to prevent air lock.
5. **Pipeline Cleaning**
 - a. Developed progressive pigging program.
 - b. Utilized surfactant chemistry and mechanical pigs.
6. **Caliper**
 - a. Ran a caliper tool on selected sections to determine pipeline geometry.
7. **Pipeline Drying**
 - a. Achieved customer approved dew point and penetration.

TECHNICAL ACHIEVEMENTS & BENEFITS

- Multiple integrity tests with no ruptures.
- Developed procedures to address mercury and arsenic contamination.
- Successful caliper tool run.
- Successful integration with end user and general contractor management, consultants, and field personnel. Frequent communication, multiple planning sessions, and highly competent field personnel were key to executing this project.
- Project completed with zero incidents and no environmental impact.

LOCATION

Texas (US)

SPECIFICATIONS

Diameter: 24 inch & 26 inch
Length: 101.9 miles broken into 11 segments with the longest being 12.47 miles

SCOPE OF WORK

Complete pressure test and dewatering of pipeline containing contaminants and debris.

CHALLENGE

- **High economic impact for an extended outage**
- **SIMOPS**
- **Working near energized pipelines and facilities**
- **Mercury elements required competent decontamination and cleaning procedure**
- **Debris in the line created pig movement challenges**