

# In-service Gas Pipeline Requires Cleaning & Integrity Assessment

A midstream operator sought flow assurance and integrity services for a gas pipeline with blockage concerns. The unknown location and makeup of the pipeline restriction prevented the operator from performing routine pigging operations. In order to remain compliant with current regulatory standards, a sound remediation method that targeted the blockage area was required in order to successfully plan and execute a hydrostatic pressure test.

## PLAN OF EXECUTION

1. **Project Pre-planning**
  - a. Stakeholder planning meetings.
  - b. Analysis of asset flow assurance and pigging data. Design of progressive pigging plan that aimed to explore and remove existing blockage and minimized the potential to create additional solid accumulation.
  - c. Creation of technical procedures.
2. **Pipeline Cleaning**
  - a. Utilized surfactant chemistry and mechanical pigs.
  - b. Fluids handling plan accounted for solids drop-out in order to minimize schedule impact and streamline waste characterization and disposal.
3. **Pipeline Flooding and Hydrostatic Pressure Testing**
  - a. Utilization of appropriate back pressure to mitigate the risk of "air lock."
  - b. 24-hour stabilization period.
  - c. 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. Utilized frac tanks to drop high level of solids prior to filtration.
  - b. Controlled release to maintain back pressure to prevent air lock.
5. **Pipeline Drying**
  - a. Developed progressive pigging program.
  - b. Achieved customer approved -60 degree dew point and 1/4" penetration requirement.

## TECHNICAL ACHIEVEMENTS & BENEFITS

- Multiple integrity tests with no ruptures. Successfully removed pipeline blockage estimated at 12+ ton volume capacity. Successful integration with end user and general contractor management, consultants, and field personnel.
- Provided in-house, integrated services for cold cutting, hydraulic bolting, and sparkless tooling that minimized project schedule and budget impact. Provided integrated management and project controls. Project completed with zero incidents and no environmental impact.

## LOCATION

Texas (US)

## SPECIFICATIONS

Diameter: 24 inch

Length: 26 miles

## SCOPE OF WORK

**Determine a flow assurance strategy to mechanically and chemically remediate a pipeline blockage. Perform a hydrostatic pressure test to confirm asset integrity.**

## CHALLENGE

- **Unknown location of pipeline blockage.**
- **High economic impact for an extended outage.**
- **SIMOPS with construction contractor and operations personnel.**
- **Working near energized pipelines & facilities.**