



JORDAN VALLEY WATER
CONSERVANCY DISTRICT

CYPRESS In-Line Inspection

Challenge:

- Assess and locate anomalies with the potential to reduce operating pressures within asset lifecycle criteria
- Inspect a 600 foot long portion of the pipeline on an approximate slope of 85%

Solution:

- Run a 74" **EcoVision™** XHR MFL In-Line Inspection (ILI) tools capable of detecting anomalies in the pipe wall

Result:

- Successful in-line inspection of Jordan Valley Conservancy District Reach 3 pipeline for a total of 3.1 miles and the accurate location of anomalies



Cypress In-Line Inspection Precise Defect Localization & Identification

Ultra-High Resolution MFL In-Line Inspection of Reach 3 of the Jordan Valley Conservancy District raw water pipeline system

Background

Cypress ILI worked with Jordan Valley Water Conservancy District to inspect part of their water distribution system, specifically Reach 3 of their raw water pipeline system. Jordan Valley's lines include the one inspected by CILI. This line was built in the early 1970s in farm lands south of Salt Lake City and north of Provo. During the past 50 years these two cities and numerous towns between the two have substantially grown so that civilization has encroached on the line and it is now located very near residential housing. Because the pipeline is now located near housing Jordan Valley wanted to determine the integrity of the line so they could know if any remediation actions needed to be taken. Jordan Valley is also interested in providing consistent and uninterrupted service to customers in the southern end of Salt Lake County. Jordan Valley also wants to prevent an unplanned shut down of the line should there be a large amount of corrosion in the line compromising the integrity of the steel wall.

With this goal in mind, Jordan Valley wanted to complete an assessment of the pipe wall along the full length of the pipeline. Jordan Valley and Cypress ILI worked together to plan and execute the inspection. Jordan Valley already had a program in place to clean the pipeline with a foam cleaning pig. While this helped to keep the line clear of any accumulating material that could aid in corrosion occurring in the line.

Jordan Valley began searching for a technology that would assess the condition of the pipelines. Jordan Valley was introduced to Cypress In-Line Inspection as a company with technology capable of inspecting the steel pipe and giving Jordan Valley knowledge of the condition of their asset.

The Project

Reach 3 was built in the mid-1970 time frame. The only condition assessment performed on the line has been visual inspection either 1) by physically entering the line or 2) by digging up a portion of the line and identifying defects in the exposed area. Jordan Valley has used a foam pig to clean the line during its lifetime. The internal lining of the pipeline was in good condition for the inspection.



The project began with a site visit by Cypress personnel. The purpose of the site visit was to obtain additional information which was not included in the “as built” lay sheets. The site visit included a walk through of the pipeline to inspect the liner prior to inspecting. If damage to the liner was found during the walk through the liner could be repaired before the inspection was performed.



After the site visit the Cypress personnel prepared the MFL tool for use in the 74” pipe. This preparation included calibrating the sensors for the diameter of the line, the thickness of the mortar lining and the thickness of the steel pipe wall. The MFL tool was assembled in Cypress’ shop and then transported to the job site on the day of the inspection. The tool and ETVs were inserted into the pipeline using a pull out spool of pipe that was already in the line.

Cypress inspected approximately 3.1 linear miles of pipeline. This included a section of pipe at the end that was on a 85-degree slope. Jordan Valley was concerned about this section mainly because of the slope of the pipe and where the section is located in the valley. Cypress was able to inspect this section successfully because of advanced planning with Jordan Valley’s help.



At the end of each day’s inspection the data was downloaded from the tool to a laptop. With Cypress’ offices just down the road from the inspection site, the data was delivered directly to the office instead of being uploaded to Cypress’ secure server in Salt Lake City. The next day Cypress’ data analysts would begin the process of reviewing the data. The MFL tool successfully completed the inspections and high quality data was obtained. The data was analyzed and all defects were identified.

Project Conclusions

Because Jordan Valley Water and Cypress cooperated in the planning phases of the project and during the execution of the inspection, the inspection collected all of the data that is needed to properly evaluate any anomalies in the pipeline. One of the most important benefits of the cooperation between the parties during all phases of the project was that Cypress was able to complete the entire inspection phase in just two days, allowing Jordan Valley Water to return the line to service on time.

