CASE STUDY

Zerust® ER Probe Monitoring with Remote Monitoring Units for Pipe Casing

Project Specifics

Installation Dates
June 4-5, 2018

Approximate Location
California, USA

Environmental Conditions
Partly cloudy, dry, no rain.

Vessel Construction
Pipe Project "1"
8" & 16" diameter, 192' length, Exposed over highway

Pipe Project "2"
8" & 30" diameter, 133' length, Exposed over canal

Pipe Project "3"
16" & 22" diameter, 169' length, Exposed over canal

Pipe Project "4"
18" & 22" diameter, 100' length, Exposed over highway

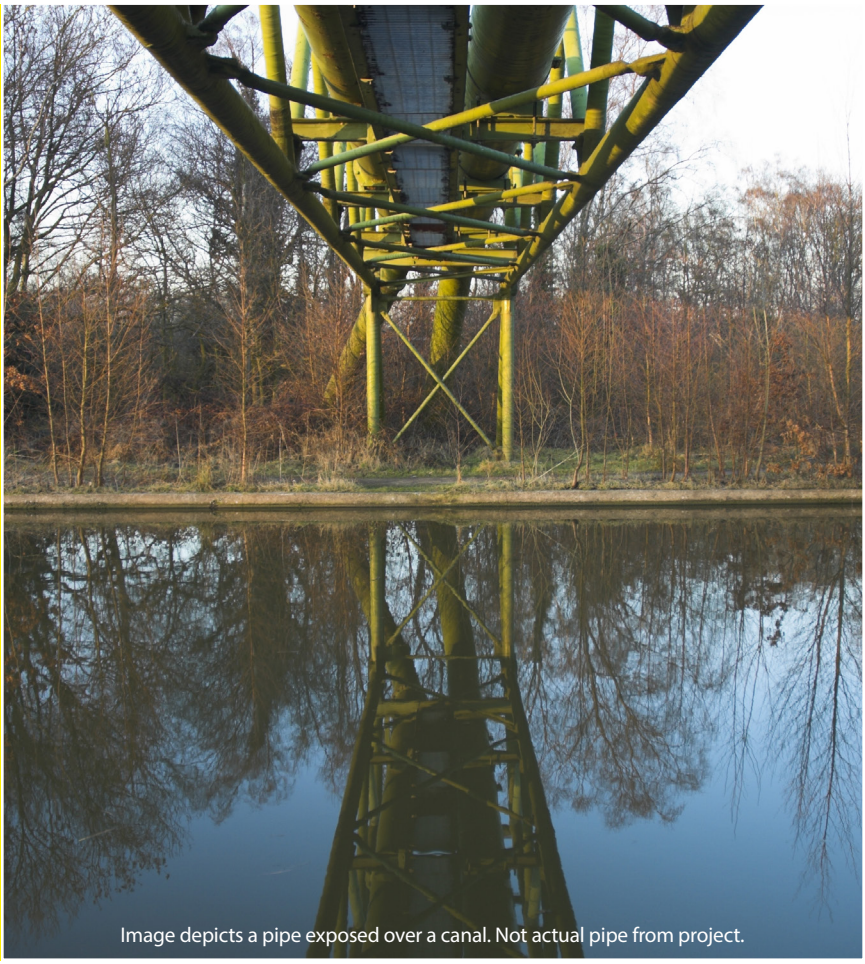

Image depicts a pipe exposed over a canal. Not actual pipe from project.

Project Overview

Zerust Oil & Gas, in collaboration with a contractor, was awarded a project encompassing the injection of a corrosion inhibiting solution in the annulus of four (4) pipe casings.

In addition to the corrosion inhibitor installation, corrosion rate monitoring devices were installed to determine the corrosiveness of the interstitial space between the carrier pipe and the pipe casing.

The installation of "Electrical Resistance" (ER) probes for monitoring the inhibitor replenishment timeline and if applicable, the effectiveness. Remote monitoring capabilities via satellite communication were applied with daily probe readings.

At this time, only the ER probes have been installed to determine the level of corrosion found inside the casing.

The injection of corrosion inhibitor gel will take place at a later date determined by the client.

Procedures

Four pipe casings are planned for corrosion inhibitor injection pending the data received from the ER probes on the corrosiveness of the environment between the carrier pipe and the casing. Probe readings will be taken daily via satellite RMUs at each location. Corresponding corrosion rates will be determined using linear regression and/or point to point slope analysis.

Each ER probe was situated inside the interstitial space between the carrier pipe and pipe casing to determine the corrosiveness through a 2" metal pipe threaded onto the casing OD near the end of the casing. The cable was then fed into a 3" PVC pipe where the RMU was mounted and secured using metal clamps.

Conclusions

All ER probes and corresponding RMU have been installed, besides one location as the cable was not long enough to reach the interstitial space. An extension cable was ordered and installed end of June 2018.

At this time, it is recommended that readings be recorded from the installed ER probe daily.