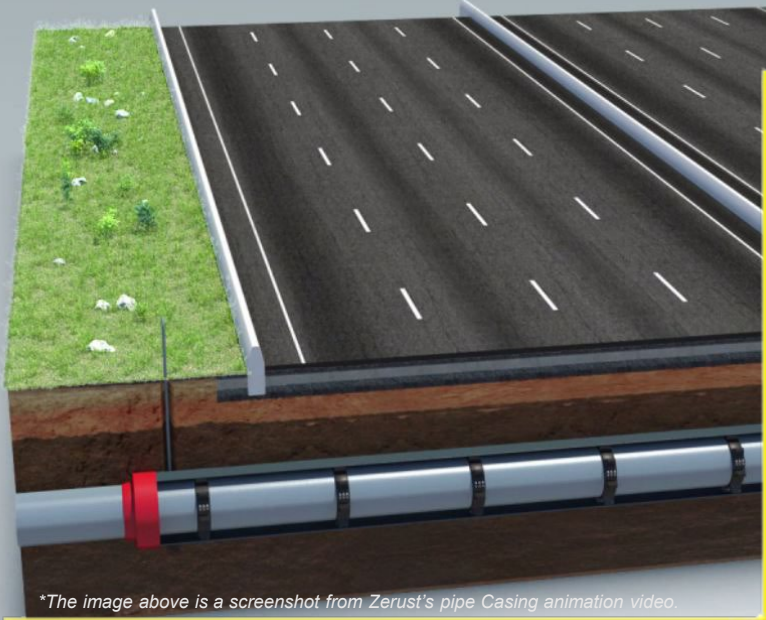


Zerust's Pipe Casing Corrosion Inhibitor Injection

Zerust® OIL & GAS
WORLDWIDE CORROSION SOLUTIONS



*The image above is a screenshot from Zerust's pipe Casing animation video.

CLIENT APPLICATION Pipe Casing Protection | July 2018

Project Summary:

- Zerust Oil & Gas was awarded a project encompassing the introduction of a corrosion inhibiting solution in the annulus of two (2) 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 during stage 1 of this project.
- During stage 2, dry corrosion inhibitor was added to the annulus of one of the pipe casings and a gel type corrosion inhibitor was added to the annulus of the second casing.

Goals and Objectives:

- Installation of corrosion inhibitor in the annulus of two pipe casings via dry corrosion inhibitor for one casing and gel corrosion inhibitor for the second casing.

Product(s) Used:

- Zerion® FVS-B15 Corrosion Inhibitor Powder
- Zerion FVS-S15 Corrosion Inhibitor Sleeve Assembly
- Zerion PGH-300 Corrosion Inhibitor Gel
- Zerion PGH-400 Corrosion Inhibitor Gel

Procedures:

- Two systems were utilized for the introduction the corrosion inhibitor compound into the annulus of each pipe casing. Dry corrosion inhibitor was used for the first pipe casing. Corrosion inhibitor gel was used for the second pipe casing.
- The dry corrosion inhibitor was provided in mesh sleeves that are connected by a string for a length of the casings.
- The mesh sleeve assembly was connected to a pre-existing rope that was positioned inside the casing. The pre-existing rope was pulled by hand as the sleeves were fed into the casing annulus.
- The remaining sleeves were placed inside the casing at this short end to make sure corrosion protection was acceptable.
- The gel corrosion inhibitor was injected into the casing via an eductor system. The dry corrosion inhibitor was mixed with water in a tote, and pumped into the casing with a pump.
- The gel was added inline via the eductor system with PGH-400 Gel added into the hopper and PGH-300 Gel added to the mixing tank during the pumping process.
- This system took approximately 2.5 minutes to pump the ~270 gallons of corrosion inhibitor gel solution into the casing.

Conclusions/Solution:

- The proper amount of corrosion inhibitor was applied appropriately to both casings for this project.
- No spills or product loss was observed, and the project was completed ahead of schedule.
- Dry corrosion inhibitor sleeves were applied to the annulus space of the first casing, and gel corrosion inhibitor was applied to the annulus of the second casing.