

Pipe Casing Injection for Corrosion Protection of 6 Mechanically Shorted Casings

Project Specifics

Installation Dates
November 9-11, 2020

Location
Texas, USA

Environmental Conditions
Sunny with clouds, 60% humidity, and avg. temp. 75°F.

Pipe Casing Construction Details
Casing Diameter (all 6): 20"
Pipeline Diameter (all 6): 16"
Lengths: 1 (50'), 2 (106'), 3 (287'), 4 (55'), 5 (87'), 6 (250')
All Mechanically Shorted

Zerust Product(s) Used
Zerion[®] FVS Corrosion Inhibitor Powder
Zerion[®] PGH-300 Corrosion Inhibitor Gel
Zerion[®] PGH-400 Corrosion Inhibitor Gel



Vessel Assessment

Both vent pipes were installed on the top of each of the six casings. It should be noted that according to client's note, prior to the injection, the end seals on each casing were refitted and 5 psi pressure test was completed.

Conclusion & Recommendations

Casing 1: 20x16x50
VCI/Gel injection completed as estimated at 90% fill with no issues on November 9.

Casing 2: 20x16x106
VCI/Gel injection completed as estimated at 90% fill with no issues on November 10.

Casing 3: 20x16x150
VCI/Gel injection was postponed on November 10 due to corrections in the pipe length. The length of the casing estimated at 150 feet but inspected on site at 287 feet. Additional VCI/Gel materials picked up from Houston office and transferred on site by a contractor crew. The return trip on November 11 was necessary to proceed with corrected material install on location. VCI/Gel injection completed per new estimate at 90% fill with no issues on November 11. Adjusted amount of VCI slurry introduced inside the casing; approximately 10 gallons of ground water discharged from the casing during injection.

Casing 4: 20x16x55

VCI/Gel injection completed on November 10 at about 75% fill due to some issues. During injection, a noticeable leakage observed near the monitoring vent pipe and eductor pump was idled. Possibly, the vent pipe or end seal damage caused by new house construction activities in the area. The crew used about ¼ pail of the 300 gel for sealing the leak by spreading the dry gel powder through the vent pipe. After gel has expanded and sealed the leak, additional material introduced manually inside the casing. Approximately 20 gallons of slurry was lost due to the leaking pipe.

Casing 5: 20x16x87

VCI/Gel injection completed on November 10 at about 80% fill due to some issue. During injection, a noticeable leakage observed through the cracking on the top of the casing pipe. The eductor pump was idled until gel expanded and bridged the crack. Additional material injected with no leakage observed.

Casing 6: 20x16x55

VCI/Gel injection was canceled on November 11 due to the wax fill inside the casing.

The RMU and ER probes monitoring stations scheduled for installation on November 30 and with activation the following week upon Mobiltext material and Enardo pressure relieve valves arrival on site.