Protecting 622 Stacked HDD Pipe Segments with ZERUST® ActivPak®(LS)-35

ZERUST® ActivPak®(LS)-35 Corrosion Inhibitor Lead Assemblies with Corrosion Monitoring Coupons

1. PROJECT OVERVIEW

Client	Major North American pipeline operator		
Industry	Midstream / Pipelines	**Application Type**	Mothballing and Lay-up
Year	2022	**Location**	Wisconsin, United States

Project Summary

A major North American pipeline operator needed corrosion protection for 622 horizontal directional drill (HDD) pipe segments stacked in a storage yard in lay-up, with some end caps missing or damaged. The operator contacted ZERUST Integrity Solutions® for a custom corrosion mitigation solution. A ZERUST® ActivPak®(LS)-35 corrosion inhibitor lead assembly was installed inside every segment, and corrosion monitoring coupons were added to about 10% of them. All 622 segments were treated in under two weeks, about 40 end caps were replaced along the way, and the coupons are set for a six-month exposure period before analysis.

Project Photos



Stacked pipe segments with end caps patched and sealed after treatment



Lead assembly staged with the push pipe



Crew installing lead assemblies



Monitoring coupon inside a pipe segment

2. ASSET AND SITE DETAILS

General

Asset type	HDD pipe segments (622), stacked in lay-up
Length	55–80 ft per segment
End caps	Fitted at both ends; some missing or damaged at project start
Weather / environment	Late fall; low-30s to mid-60s °F, light to high wind, with rain and sleet on one day

3. SOLUTION IMPLEMENTED

ZERUST® Products Used

- ZERUST® ActivPak®(LS)-35 custom corrosion inhibitor lead assemblies – 622 – one per pipe segment, inserted along the length of the segment

Monitoring Equipment

- Custom corrosion monitoring coupon assemblies – 62 (about 10% of segments) – magnet-mounted at the inner end of selected segments – one 6-month exposure, then removal and analysis

Implementation Details

- **Preparation / inspection:** Each segment's length and overall condition, including its end caps, was recorded before work began. A rectangular cutout was then made in one end cap of each segment to provide access to the interior.
- **Installation method:** Each lead assembly was fed into its segment with a jointed PVC push pipe, which was then withdrawn. Coupon assemblies were magnet-mounted at the inner end of the selected segments. Each cutout was then patched and sealed with UV-resistant heavy-duty duct tape, and missing or damaged end caps were replaced as work progressed.
- **Crew and time required:** One day of inspection and preparation, followed by five installation days within a 10-day window.

- **Challenges and solutions:** Materials arrived in three shipments, so installation paused whenever on-hand lead assemblies ran out and resumed on delivery. Cold, wind, rain and sleet on one day interfered with the sealant tape, so installation was held until conditions improved. Shorter daylight moved start times to about 8:00 AM.

4. OUTCOME SUMMARY

Results

- All 622 pipe segments received a ZERUST® ActivPak®(LS)-35 corrosion inhibitor lead assembly.
- Corrosion monitoring coupon assemblies were installed in 62 segments, about 10% of the total.
- About 40 missing or damaged end caps were replaced during installation.

Next Steps

- Leave the coupons in place for six months, then remove them and send them to ZERUST Integrity Solutions® for analysis. To remove a coupon, reopen the end seal at the patch location, extract the entire coupon assembly (coupon with magnet) and reseal the patch.