

## Corrosion Protection for an In-Service Crude Oil Storage Tank on Concrete Foundation by Chime Ring Dry IDS

### Project Specifics

#### Installation Dates

December 31, 201

#### Location

Angola, Africa

#### Environmental Conditions

80% humidity, mostly sunny with occasional rain.

#### Details

Storage Product: Crude Oil

Diameter: 104-ft.

Vessel Construction: In-Service, 34 Anchor Bolt(s), No Liner, No Active Cathodic Protection (CP) System, Concrete Ring Wall

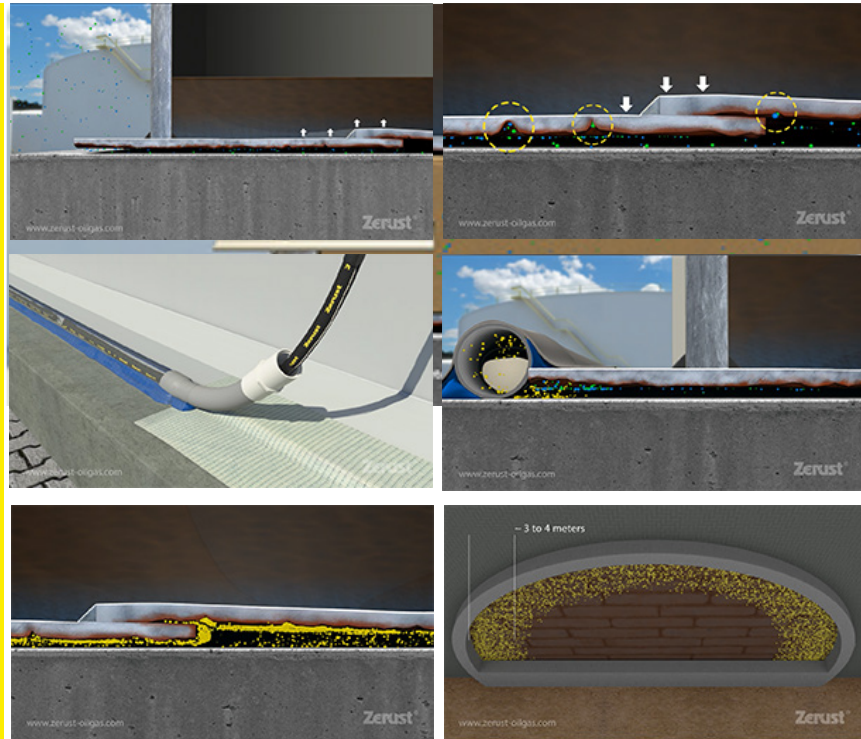
Foundation Details: Concrete

#### Inhibitor Delivery System (IDS)

Chime Ring Dry IDS with Corrosion Monitoring Coupons Assemblies (4)

#### Zerust Product(s) Used

Zerion® FVS-S15 Corrosion Inhibitor Sleeve Assembly



PICTURES SHOWN ABOVE ARE FROM ZERUST® ANIMATIONS. NOT FROM PROJECT REFERENCED IN DOCUMENT.

### IDS Installation Notes

Paint thinner was used in place of acetone or isopropyl alcohol for the ring wall prep. work. The day prior to the installation of the sealant tape, the site had a significant amount of rain. The following day was dedicated to drying and recleaning the surfaces for installation of the Chime Ring IDS. There were many anchor bolts, and sections were placed in-between these bolts. There was a connection assembly built to go between each anchor bolt. The sealant tape and top coat were added before more rain hit the site. The sealant tape was inspected after the rain and found to be in good condition. Adhesion tests were done approximately every 1-meter and were successful. Approximately three (3) to four (4) coats of top coat were applied. With the exception of those used for the coupon tracks, all of the trenches were plugged and sealed with sealant paste.

Previously installed corrosion monitoring coupon assemblies were removed and the coupons extracted and replaced before being sealed back in place. These coupons will be analyzed by Zerust Oil & Gas and the results provided in a separate report for this tank.

### Conclusions and Recommendations

The Chime Ring IDS with corrosion monitoring coupons and IDS sealant system was installed successfully. Due to the high number of anchor bolts around this tank, it is suggested that flexible PVC pipe be used for the Chime Ring IDS in the future for similar tanks.

### Project Specifics

The client wanted corrosion protection for an in-service aboveground storage tank holding crude oil on concrete foundation.

### Zerust Solution

The engineers at Zerust® Oil & Gas developed a custom solution for this client using their Chime Ring Dry IDS. 34 Chime Ring IDS PVC Pipe Segments with Zerion® FVS-S15 Corrosion Inhibitor were installed in addition to (4) corrosion monitoring coupon assemblies.

### Vessel Assessment

The tank was inspected for the condition of the chime, the condition of previously installed coupons and suitability for the installation of a Chime Ring IDS. It was noted that the vegetation previously existing around the tank perimeter had been removed. No significant issues were noted during the vessel assessment.