CASE HISTORY

Gas Station Fuel Tank Sump Restoration

DATE
August 2017

CORTEC® REPRESENTATIVE
Jay Zhang

DISTRIBUTOR
Integrated Packaging Systems, Inc.

CUSTOMER
Jones Covey Group, Inc.

LOCATION
Los Angeles, CA

PRODUCTS
VpCI®-423
VpCI®-418 LM
VpCI®-391
VpCI®-308 Pouches

PROBLEM
A chain of gas stations faced corrosion on fuel sump equipment used to pump fuel into and out of its underground fuel storage tanks. This is a common problem for gas stations because acetic acid and other contaminants in gasoline vapors cause significant corrosion inside sump housings. The gas station chain had heard positive reports about Cortec's corrosion solutions and requested the development and trial of a restoration and preservation procedure on twelve sumps at two of its gas stations. Each station had three underground fuel storage tanks with two sumps on each tank: one for tanker trucks to pump fuel into the storage tank and one to pump fuel out of the storage tank. The procedure needed to remove existing rust and preserve the sumps against future corrosion. It was also critical that the work could be performed without interrupting normal fueling activities at the stations.

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APPLICATION

Cortec's Technical Service department developed a detailed procedure for restoring and preserving the sumps, and then guided the trial application at the two stations. The first step was to prepare the surface by power washing dirt, flaky rust, and other loose debris off the sumps. The customer then applied VpCI®-423 to areas needing rust removal and left the product on for about half an hour. The organic rust remover was then power washed off using VpCI®-418 LM in water to neutralize the rust remover and prevent flash rust. After the rust was satisfactorily removed, the water was suctioned out and the area dried. The customer hand-applied a VpCI®-391 clear coat to components needing protection and left it to dry for 30 minutes to an hour. VpCI®-308 pouches were placed inside the sump housing to saturate the area with vapor phase corrosion inhibitors for additional protection of any areas missed by the coating. The sump housings were then closed and sealed. The sumps will be checked in one year and any additional corrosion maintenance work performed as needed.

CONCLUSION

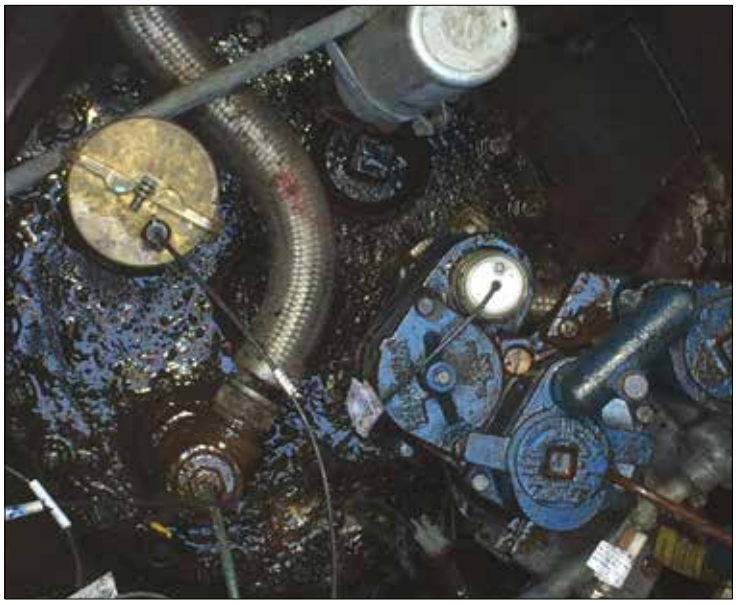
The rust was removed and the sumps were preserved without shutting down the gas station. Tankers were still able to deliver fuel, and customers were still able to refuel their vehicles while the work proceeded. Upon inspection, the gas station representative was pleased with the work that had been done. Due to the successful completion of the trial, the same VpCI® system will be applied to sumps at hundreds of other gas stations in the same chain.

Rusty sump at first station before treatment.

VpCI®-423 soaking on rusted parts.

Cleaned, coated, and VpCI® treated sump at first station.

Rusty sump at second station after initial power wash



VpCI®-423 soaking on metal parts for rust removal.

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Coating components with VpCI®-391.

A cleaned sump coated with VpCI®-391.

A cleaned and coated sump with a VpCI®-308 pouch tied in to saturate the space with vapor phase corrosion inhibitors for extra protection.