

Mobile Pipe Chosen by California Oil & Gas Producer to Apply Enviroline® 405HT-LV for High Temperature Produced Water

Production in the Lost Hills Oil Field has been steadily increasing since 2006. It was once considered California's second fastest growing oil field. The Lost Hills Oil Field is home to one of five production sites for one of the largest oil and gas producers in California. Production includes crude oil, as well as natural gas. During the drilling process, steel casing pipe serves as the well wall to protect the drill pipe and to provide support to the well wall for oil extraction. In some cases, high temperature produced-water is pumped out of the well and transported to a wastewater processing plant. High temperatures are correlated with higher corrosion rates because high temperature liquids have increased diffusion rates that affect ions in the concentrated electrolyte, allowing them to more easily pass through surface films.

Pipeline Details and Project Summary

Project: Lost Hills Oil Field
Location: Bakersfield, CA
Lining: 15-23 mils of Enviroline®
405HT-LV
Coating: Dual Layer Fusion Bond Epoxy
Substrate: 27,829 LF of 12.75" OD STD
Steel
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12-inch pipe blasted and ready for the Enviroline® 405HT-LV lining. Pipe was blasted per SSPC SP-5/NACE #1 white metal standard.

In 2012, the oil and gas producer turned to Mobile Pipe for a solution to an unfortunate problem: Almost 28,000 LF of 12-inch pipe that had been lined and coated by an out-of-state applicator was unusable and in need of repair in order to withstand the demanding high temperature of the produced-water that it would transport. The internal epoxy lining was found to have blistered and needed to be removed and re-applied. Rather than sending the pipe out of state for repair, the producer asked Mobile Pipe to complete the job in accordance with strict quality requirements. The job included blasting out the defective lining and relining the pipe with 15-23 mils of Enviroline® 405HT-LV epoxy.

The project had several challenges. First, Mobile Pipe needed to repair and protect the Fusion Bonded Epoxy (FBE) coating that was already applied to the pipe exterior. Second, Mobile Pipe needed to use a special blend of copper slag to quickly remove the defective lining and achieve the proper blast profile. As with all lining or coating applications, proper surface preparation is critical to achieving superior coating adhesion. Finally, Mobile Pipe needed to adhere to a strict tolerance for lining thickness in order to enable insertion of internal sleeves at both ends of the pipe for welding. For Mobile Pipe, automated lining

equipment and strict quality control would be necessary to provide a reliable product that could deliver and maintain corrosion control.

Mobile Pipe completed the project three weeks earlier than expected, which minimized costly customer downtime and allowed the oil and gas producer to continue operations with a minimum of schedule delays resulting from the initial lining failure.



Finished product ready for NACE certified third-party inspection.



Pipe ready for holiday testing per NACE SPO188-06. In total, 627 joints were tested. Mobile also repaired coating damage to the dual layer FBE to protect the abrasion resistant overlay.



Mobile Pipe stripped and relined over 28,000 LF of steel pipe.