

Project:

Apply K5™ Polyurea Coating on a Gas Pipeline, to be installed underneath a riverbed.

Location:

The Balonne River in the Surat Basin, Queensland, Australia

Client:

Origin Energy

Applicator:

Vulcan Coatings

System:

K5™ Polyurea

Total Area:

180 Meters (590.6 ft.) of 100nb HDD
Mild Steel Pipe
15 Pipes - 12 Meters (39.37 ft.)
Welded end to end

Completion Date:

April 2009

PROBLEM:

Origin Energy needed a durable coating to protect a gas pipeline being installed under a large river bed. The coating had to be able to withstand the heavy abrasion associated with pulling the pipe through a curved Horizontal Directional Drill (HDD) hole underneath the river. The coating must also protect the pipe against corrosion, including exposure to soil with high sulfate levels.

SOLUTION:

The project manager considered several options, including ‘taping or wrapping’ coatings, epoxies, polyurethanes and hybrid polyurea coatings. All of these options were eliminated due to their inability to withstand severe abrasion conditions from being driven through the river bed. These conditions were especially problematic for taping or wrapping

systems due to multiple seams (weak points). The project manager decided to use SPI’s ultra-high strength K5™ polyurea due to its superior abrasion resistance and good elongation properties. In addition, the K5™ coating system creates a seamless, monolithic membrane that provides a durable barrier against corrosion and sulfate rich soil. The contractor abrasive blasted the gas pipeline to clean the surface and achieve a minimum 5 mil anchor profile for adhesion purposes. Next, 80 mils of K5™ polyurea was spray applied to the gas pipeline.

RESULTS:

The gas pipeline was dragged through the 180m hole underneath the river. Inspections showed there were no signs of damage. The project manager said, “I would recommend K5™ for any similar coating application.”

