

CASE STUDY



Haulage trucks are incredibly vital to the oil and gas industry. They can haul efficiently on highways, but most importantly, they can access the thousands of miles of rough roads encountered close to many production sites.

Problem

This 100-barrel production water truck in Grand Junction, Colorado, had been protected with a conventional epoxy coating. The harsh driving conditions imposed on the truck had caused the original coating to fail. Conventional epoxies generally have limited or no retained flexibility so vibrations and torquing can rapidly lead to microcracking which allows corrosive chemicals contained in the production water to directly attack the tank's interior. One of the serious corrosive chemicals is sulfuric acid produced from the sulfur content.



Particularly with internal coating projects, there is a serious concern about hazardous vapors, so the demand is for zero Volatile Organic Compounds (VOCs). Solvents are an additional concern. Not only are they hazardous to health, but they are also very expensive to dispose of under the regulations governing them.

The winter cold temperatures did not present a problem in this case because Castagra's SG1 has exceptional low temperature application ability.



Solution

Aside from Castagra's SG1 having been used in hundreds of oil tanks, it has an extensive antecedent history of use on large passenger ferry decks where steel decking flexes, contracts, and expands. Not only has it been proven to retain its adhesion under the harshest conditions, but it is also totally resistant to salt and a very wide array of chemicals found in production from fracking.

Castagra's SG1 does not have any solvents in content, application, nor are they required for clean-up. In this case, the coating was sprayed onto a clean, dry surface to a depth of 30 mils. With no VOCs, the sprayer only required standard protective clothing and equipment. This was after an inspection to confirm there was adequate fresh air flow.

Castagra's SG1 is made from vegetable oil and naturally occurring gypsum, and is a non-toxic coating rated for use in contact with potable water. It has a very mild odor that is often described as quite pleasant, so other workers can carry on in the same building but must stay well clear of any spraying as airborne particles can adhere to human tissue.

Application Results

As can be seen from the photos, the quality of the spray finish was excellent. Using pressure spraying allows the coating to penetrate into the tiniest anomalies such as cracks and gaps in welds and behind bolt heads. Full cure was achieved within 24 hours at which time the truck was released for full usage. The client reported complete satisfaction with the results