CASE HISTORY

Refinery saves $140,000 in maintenance costs and gains $1 million in production revenue when using FQE® Solvent-H to decontaminate heat exchanger bundles

A large petroleum refinery in Texas used FQE Solvent-H to decontaminate and clean the heat exchangers in the deasphalter unit.

The heat exchangers were typically cleaned of their asphaltene build-up by removing the bundle and performing high pressure water blasting, taking up to 21 days per exchanger bank. Chemical cleaning had been tried repeatedly with no previous success.

The exchangers were cleaned using a 20% solution of FQE Solvent-H in a cutter stock, which was circulated on-line for 36 hours at 93°C (200°F). This process took a total of 5 days.

Upon completion of the chemical clean, the exchangers were brought back on-line at full rates with better temperature differentials than previously seem post high pressure water blasting. This successful chemical clean saved the refinery over $140,000 in maintenance costs and an additional 16 days in production time resulting in over $1,000,000 in additional revenue.
CASE HISTORY
Rail Car Chemical Decontamination

Results Achieved
Cleaning efficiency increased

Chemicals Utilized
2S

A service company utilized FQE® Solvent-ME, FQE® Clean Road, and FQE® LEL-V for a rail car cleaning application at a petroleum refinery located in Delaware.

The refiner was looking to conduct a change of service on their rail cars to eliminate any possibility of cross contamination to eliminate. Previously, the client had been cleaning their rail cars from any possibility of cross contamination for lack of fluid left over after chemical cleaning. As part of the initial decontamination process to remove the bulk of the crude oil, FQE Solvent-ME was vapour-phased injected with steam into the rail cars at a controlled rate until the effluent coming out of the bottoms drain was oil-free.

To ensure that all the cars were truly de-oiled down to the porous cavities in the steel surface, FQE Clean Road was subsequently injected into the rail cars as part of a final polish.

Primary Separation Settler Chemical Decontamination of a Typical Separation Settler Diagram

CASE HISTORY
Degassing of a Coker Fractionator

Results Achieved
Significantly reduced mechanical outage time; manpower entry delays reduced

Chemicals Utilized
LEL-V, H2S

A large Canadian oil sands operator utilized FQE® Solvent-H, FQE® LEL-V, and FQE® H2S to clean a three stripper towers, a coker fractionator, and a primary separation settler. This resulted in the removal of LEL and H2S respectively. The whole operation was done in record time with no delays over a scheduled 12-hour period. Upon completion of the injection period, the product in the vessel was made up of mostly solvent (C5/C6), and bitumen. A large primary separation settler in record time.

Process saved 12-24 hours of outage time; manpower entry delays reduced. Prior to chemical application, it was confirmed that there was a lack of fluid levels that required additional steaming and this would end up delaying manpower entry an additional 12-24 hours. Due to the solvent that was trapped in the asphaltene buildup in the mixture. The previous attempt by a competitor to clean the settler left LEL and a conical bottom section with a 60° angle.

The vessel had a top cylindrical section with an internal diameter of 15.2 meters, a service company utilizing the FQE’s series of products to clean their rail cars from any possibility of cross contamination. The product in the vessel was made up of mostly solvent (C5/C6), and bitumen. A large primary separation settler in record time.

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