



Canadian petroleum refinery saves 72 hours of outage time in turnaround by simultaneously degassing and decontamination multiple units utilizing FQE® chemicals

CHALLENGE

A petroleum refinery located in Eastern Canada used FQE® Solvent-H+, FQE LEL-Vapor, FQE LEL-Surface, FQE H₂S Scavenger, and FQE Pyrophoric to decontaminate and degas their crude unit.

SOLUTION

- FQE Solvent-H+ 6-hour vapor-phase injection for heavy oils & sludge
- FQE H₂S Scavenger, FQE LEL-Vapor, and FQE LEL-Surface vapor-injection LEL degassing treatment
- FQE Pyrophoric treatment to neutralize iron sulfide scales

RESULTS

- 24 hour cleaning vs. 48 hour typical cleaning process
- Multi-unit simultaneous cleaning process
- Faster entry time with no delays

TIME SAVINGS

This was the first vapor-phase application where the entire unit was to be degassed and decontaminated simultaneously. Previously, the client had broken down the unit into individual critical path vessels with each degassing operation taking place over 48-hours. The entire crude unit would typically take a total of 4 days. Using our process, it took a total of 24-hours to fully degas the entire crude unit.

APPLICATION

FQE Solvent-H+ was vapor-phase injected into the Crude Column, Vacuum Heater, and Vacuum Column for 6-hours as part of the preliminary decontamination process to target the heavy oils and sludges.

Following the preliminary injection, all equipment was cleaned by vapor-phase steam injection with our FQE H₂S Scavenger, FQE LEL-Vapor, and FQE LEL-Surface products. During the final hours of the degassing step, the system was then treated with FQE Pyrophoric to deactivate the iron sulfide scale.

LEL AND IRON SULFIDE REDUCTION

After a total of 24-hours of chemical injection, all critical path equipment was successfully degassed with no LEL's arising from light end hydrocarbons or hydrogen sulfide present on analysis. Furthermore, upon breaking containment there was no iron sulfide scale combustion encountered.

FASTER ENTRY

Manpower designated for vessel entry entered without any delays, minimum PPE, and no additional expenses were required for supplied air operations.

The crude unit scope consisted of the following major equipment and all interconnecting piping:

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The crude unit scope consisted of the following major equipment and all interconnecting piping:

Crude Column
Crude Heater
Crude Column
Kerosene Stripper
Diesel Stripper
Crude Overhead Receiver

Vacuum Column
Vacuum Heater
Vacuum Column
Ejector Vapor
Knock-out Drum

Debutanizer & Splitter
Debutanizer Column
Debutanizer Overhead Receiver
Splitter Column
Splitter Overhead Receiver
Crude Overhead Receiver

Others
Kerosene Water
Settling Drum
Desalter Water Drum
Debutanizer Charge Drum
Compressor Suction Drum
Skimmed Naphtha Drum

PRODUCTS

FQE[®] Solvent-H⁺ PATENTED

FQE[®] LEL-Vapor

FQE[®] LEL-Surface PATENTED

FQE[®] H₂S Scavenger

FQE[®] Pyrophoric



VISIT WEBSITE

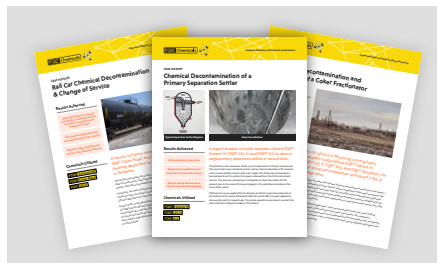


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