



SAFER, FASTER, SMARTER

Tank Cleaning

From Months to Days

From Risk to Safety

From Waste to Recovery

Renewal Through Chemistry™

FQE® Chemicals



fqechemicals.com



DESIGNED AND
MANUFACTURED
IN THE USA



DESIGNED AND
MANUFACTURED
IN TEXAS



OUR ADVANTAGE

Your Technical Solutions Partner

More Than Chemicals—Complete Solutions for Critical Path Cleaning

At FQE Chemicals, we don't just supply specialty chemicals—we solve your toughest operational challenges. Our team of engineers, chemists, and turnaround (TAR) specialists partner with your operations to cut downtime, reduce risk, and recover valuable hydrocarbons—fast.

We tailor every tank cleaning solution using real data, proven methodology, and patented chemistry. Whether you're facing sludge buildup, H₂S risks, or volatile BTEX vapor, we bring decades of cross-functional experience to deliver predictable, safe, and profitable outcomes.

What You Get:

- **A partner, not a vendor**
- **Customized chemistry strategies based on your tank history and residue**
- **Faster return to service—cutting months to days**
- **Fewer man-hours, safer operations, and less waste**

Let's solve your next challenge—together.



TIME

Accelerate Your Return to Operation

Every day a tank remains offline represents lost production capacity and revenue. Traditional tank entry-cleaning methods involve significant uncertainty, often dragging on for weeks or months. The degassing step alone can consume substantial time, while tank entry and confined space cleaning add further delays.

FQE Chemicals delivers measurable time savings through advanced chemistry and proven methodology. Our chemical cleaning method significantly reduces total cleaning time compared to mechanical extraction. We have demonstrated this efficiency repeatedly: refineries utilizing our decontamination and degassing processes have saved days of critical turnaround time, while others have seen heat exchanger cleaning timelines reduced from days to hours. Our process uses significantly less solvent and requires less time compared to traditional methods, and we are capable of operating 24 hours a day to meet even the tightest deadlines.

Proven Time Savings:

- ✓ Tanks cleaned faster than conventional mechanical methods
- ✓ Degassing completed in days versus weeks
- ✓ Significant reduction in overall cleaning time
- ✓ 24/7 operation capability for critical timelines





SAFETY

Protecting Your Most Valuable Asset—Your People

Traditional tank cleaning methods expose workers to significant hazards. Confined space entry requires personnel to work inside tanks filled with toxic vapors, sludge, and unpredictable conditions—a scenario that carries inherent risks. Manual cleaning is often considered the most dangerous method, requiring people to be inside the tank during the process.

FQE Chemicals' approach fundamentally changes this risk profile. Our process eliminates or drastically reduces the need for in-tank man-hours, removing personnel from hazardous environments. By utilizing our patented FQE Solvent-H chemistry with non-entry methods, we minimize confined space entry requirements while our vapor scrubbing technology significantly reduces the time required to degas vessels. The result is total emission control with no hydrocarbon vapor releases to the environment, protecting both your workforce and the surrounding community.

Key Safety Advantages:

- ✓ **Reduced or eliminated confined space entry**
- ✓ **Minimized worker exposure to toxic vapors and hazardous materials**
- ✓ **Hydraulically operated equipment reduces hands-on risk**
- ✓ **Total emission control protects workers and the environment**

COSTS

Substantial Cost Reduction Across Multiple Dimensions

The financial impact of tank cleaning extends far beyond the initial service cost. Traditional methods carry hidden expenses: high-pressure hydroblasting, extensive PPE, roll-off boxes, vac trucks, frac tanks, continuous safety watch requirements, and substantial hazardous waste disposal fees. When factoring in disposal and auxiliary equipment, these expenses accumulate rapidly.

FQE Chemicals' approach delivers cost savings across every phase of the project. Our chemistry is highly efficient, reducing or eliminating external wastewater disposal costs, while our waste minimization strategy typically leaves only non-hazardous solids for disposal. We recover a vast majority of available hydrocarbons, which can offset project costs significantly. The time savings translate directly to reduced tank downtime and fewer man-hours.

In documented cases, our process has achieved months of time savings compared to alternative contractors, resulting in millions in total savings when factoring in recovered oil, reduced cutter stock, and eliminated disposal costs.

Comprehensive Cost Benefits:

- ✓ **Greatly reduced or eliminated hazardous waste disposal costs**
- ✓ **High recovery of hydrocarbons for reprocessing**
- ✓ **Reduced equipment rental and operational expenses**
- ✓ **Minimized tank downtime and lost production**



Types of Tanks We Clean

BTEX

Naphtha

Resid

Pitch

Sour

Water

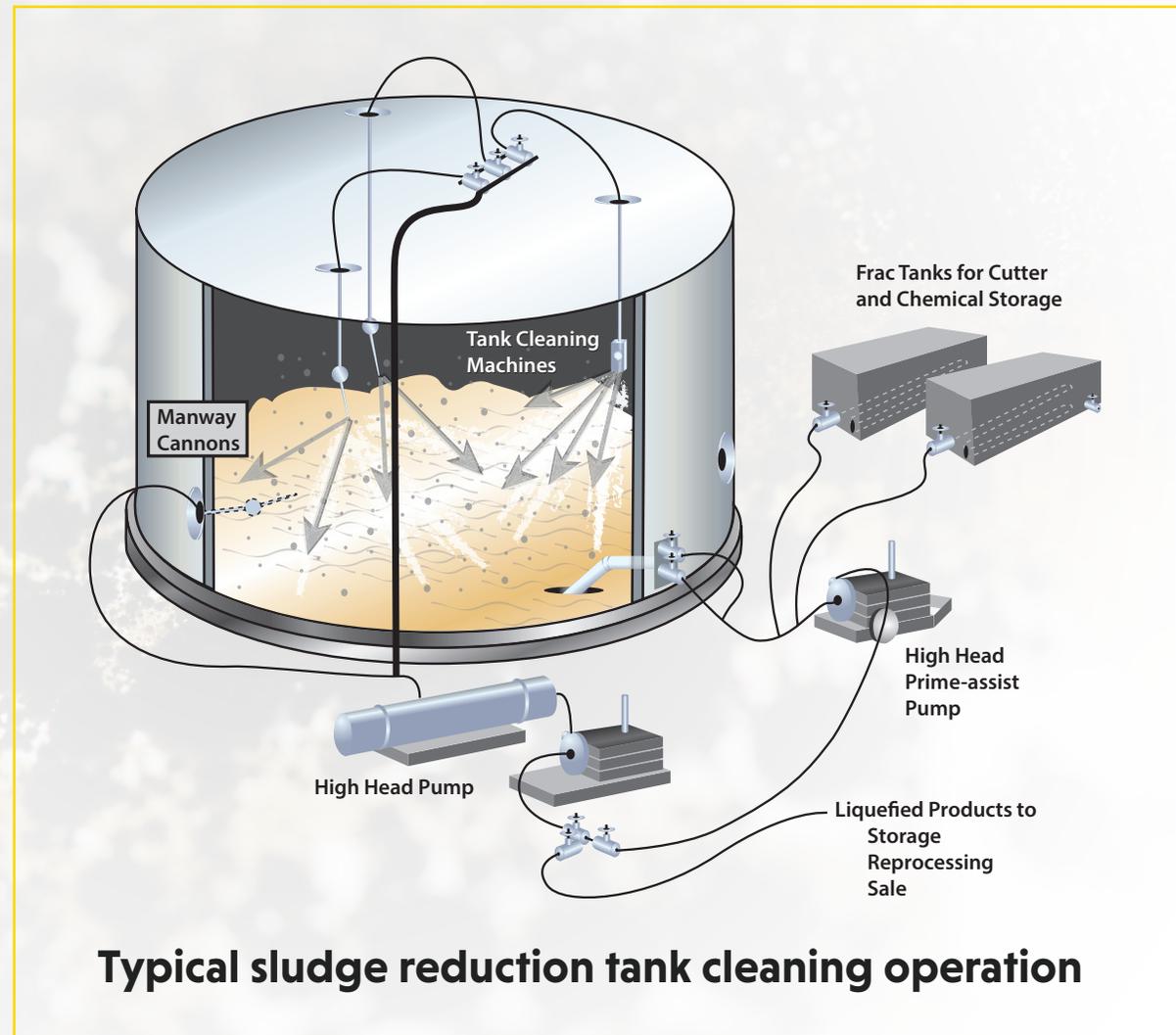
Gasoline

Crude oil

Caustic

Slop

Diesel



Crude Oil Tank Cleaning

Maximize Recovery, Minimize Waste, Accelerate Turnaround

Crude oil storage tanks accumulate complex mixtures of heavy hydrocarbons, waxes, asphaltenes, water, and inorganic solids that create challenging cleaning scenarios. The composition varies dramatically based on crude slate, requiring customized approaches for effective cleaning. Understanding the history of crudes stored in the tank is essential to developing the right cleaning strategy.

FQE Chemicals' approach to crude tank cleaning focuses on three critical objectives:

- **Maximizing hydrocarbon recovery to offset project costs**
- **Minimizing waste generation to reduce disposal expenses**
- **Accelerating timelines to return assets to service faster**

Our process begins with proper sampling to capture the true nature of deposits across the entire tank bottom. This detailed analysis allows us to select the optimal cutter solvent and treatment approach for your specific crude characteristics.

Our FQE Solvent-H chemistry dissolves and mobilizes heavy asphaltenes and waxy compounds at ambient temperatures—significantly faster than diesel while using far less cutter stock. The process involves introducing a measured amount of Solvent-H with a selected cutter diluent into the tank, where it solvates and disperses high molecular weight compounds. We use a combination of cutter stock and Solvent-H to reduce and remove the heel, minimizing waste and cleaning time.

Key Benefits for Crude Oil Tank Cleaning:

- ✓ Customized chemistry selection based on your specific crude slate
- ✓ High recovery of hydrocarbons for reprocessing or sale
- ✓ Dissolves heavy hydrocarbons at ambient temperature
- ✓ Requires significantly less cutter stock than traditional methods
- ✓ Reduced or eliminated confined space entry
- ✓ Minimal hazardous waste generation

FQE[®] Solvent-H

BTEX Tank Cleaning

Specialized Solutions for High-Volatility Aromatic Storage

BTEX tanks—storing benzene, toluene, ethylbenzene, and xylene—present unique challenges due to their high volatility, flammability, and toxicity. These aromatic compounds create hazardous vapor environments that make traditional cleaning methods particularly dangerous and time-consuming.

FQE Chemicals has developed proven methodologies specifically designed for BTEX tank environments. Our FQE LEL-Vapor technology dramatically accelerates the degassing process by exponentially increasing the solubility of aromatic compounds in water. This allows for rapid reduction of concentrations to safe levels while using a fraction of the water required by traditional methods. This means less wastewater generation and faster achievement of safe entry conditions.

Our approach focuses on three critical elements:

- **Rapid vapor phase cleaning to reduce flammable atmospheres**
- **Elimination or minimization of confined space entry to protect personnel**
- **Customized application methods tailored to your specific tank configuration**

Key Benefits for BTEX Tank Cleaning:

- ✓ Rapid degassing for quicker turnover
- ✓ Drastic reduction in cleaning time versus traditional methods
- ✓ Significant increase in aromatic solubility for faster vapor reduction
- ✓ Reduced or eliminated confined space entry requirements
- ✓ Minimal wastewater generation
- ✓ Total emission control during the cleaning process

FQE® LEL-Vapor

Sour Water Tank Cleaning

Safe, Efficient Remediation of H₂S and Pyrophoric Hazards

Sour water tanks contain some of the most hazardous materials in refinery operations—high concentrations of hydrogen sulfide (H₂S) and pyrophoric iron sulfide. Traditional cleaning methods for these tanks expose workers to extreme toxicity risks and require extensive degassing periods.

FQE Chemicals has revolutionized sour water tank cleaning with chemistry specifically designed to neutralize and remediate H₂S and pyrophoric iron sulfide in-situ—while the material is still inside the tank. Our approach eliminates the need for external batch treatments, making the process safer and significantly faster. We use FQE H₂S Scavenger to neutralize hydrogen sulfide and FQE Pyrophoric to passivate iron sulfide, addressing both hazards simultaneously.

Our process focuses on cleaning in situ for faster, safer results. By neutralizing hazards before tank entry, we dramatically reduce worker exposure and eliminate the lengthy degassing periods associated with traditional methods.

Key Benefits for Sour Water Tank Cleaning:

- ✓ In-situ neutralization of H₂S and pyrophoric materials
- ✓ Decontamination to safe levels in hours, not weeks
- ✓ Eliminates need for thermal oxidizers in many applications
- ✓ Minimal or zero solid waste generation
- ✓ Safer process that avoids external batch treatments

FQE[®] H₂S Scavenger⁺

FQE[®] Pyrophoric

Case History

Resid Tank Heel Reprocessed, saved \$150,000 & 1-month

4.5 feet heel removed in situ as DIY

CHALLENGE

A tank with over 10 years of service required cleaning despite cathodic disbondment issues (corrosion). It was a fixed roof tank with no access, holding high-temperature product with limited mixing capabilities. The heel contained significant solids, corrosion products, and high molecular weight asphaltenic materials.

SOLUTION

Plant personnel, guided by FQE, utilized a targeted Solvent-H injection combined with circulation. In-house refinery lab capabilities were used to monitor application progress, ensuring optimal chemical usage.

RESULTS

- Circulation completed rapidly
- All circulation materials were recovered and sent to the slop tank to be rerun
- Minimal waste generated
- Upon entry, the tank required only minimal touchup in low-flow spots



FQE® Solvent-H

CUSTOMER TESTIMONIAL

"It is the best it has ever looked in all the decades of cleaning this tank"

"Never seen a tank better prepared for entry."

"They were pleasantly shocked and exceedingly impressed."

Our Process: A Systematic Approach to Tank Cleaning Success

At FQE Chemicals, every tank and residue presents unique challenges requiring tailored solutions. Our four-step process addresses your needs precisely:

- 1. Initial Consultation:** We gather essential details about your tank, history, and goals.
- 2. Sample Analysis:** Direct tank heel samples are analyzed to choose the best treatment strategy.
- 3. Laboratory Testing:** We determine solubility and optimal ratios to ensure effective results.
- 4. Customized Proposal:** We deliver a detailed roadmap of the scope, schedule, and expected results.

The Result: A data-driven, customized solution backed by technical expertise. No assumptions. No surprises. Just results you can count on.





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