CASE STUDY

BrightShield Enables Safe, Effective Tank Cleaning at Critical Oil and Gas Facility

CHALLENGES

A critical oil and gas processing facility in Alberta needed to clean one of their hydrocarbon storage tanks during shutdown. The tank contained large volumes of sludge with an unknown composition, hydrocarbons, H2S, iron sulphides, mercaptans, LEL vapours and benzene. Estimated total of 1,000 m3 of fluid and 700 m3 of sludge required treatment.

SOLUTIONS

Through the BrightShield™ Process, Guardian developed a chemical cleaning program using:

- Detrax: to break down sludge, disperse solids, and suppress vapours.
- Ferrosol: to control iron sulphides (FeS).
- Sourguard: as needed to neutralize H_2S.

On-site monitoring ensured safe vapour levels. All fluids were flushed and removed for compliant disposal.

RESULTS

Safely Cleaned Vessel

- Removed and dispersed over 700 m^3 of tank sludge
- Eliminated H_2S and reduced mercaptans by 77%
- Maintained safe work environment with continuous monitoring of LEL, benzene, and other vapours

Successful Disposal

Treated fluids and solids remained suspended during transfer, enabling safe, efficient, and regionally compliant disposal.

AT A GLANCE

A hydrocarbon processing facility needed to clean a storage tank containing sludge, hydrocarbons, and hazardous gases. Using the BrightShield process, Guardian designed a custom chemical cleaning program that eliminated sludge, reduced toxic vapours, and enabled safe, compliant disposal.

KEY METRICS

SAFELY
ELIMINATED & CONTROLLED H2S, LEL, BENZENE, FES, AND MERCAPTANS

COMPLIANT
AND SAFE DISPOSAL OF ALL SLUDGE AND FLUIDS

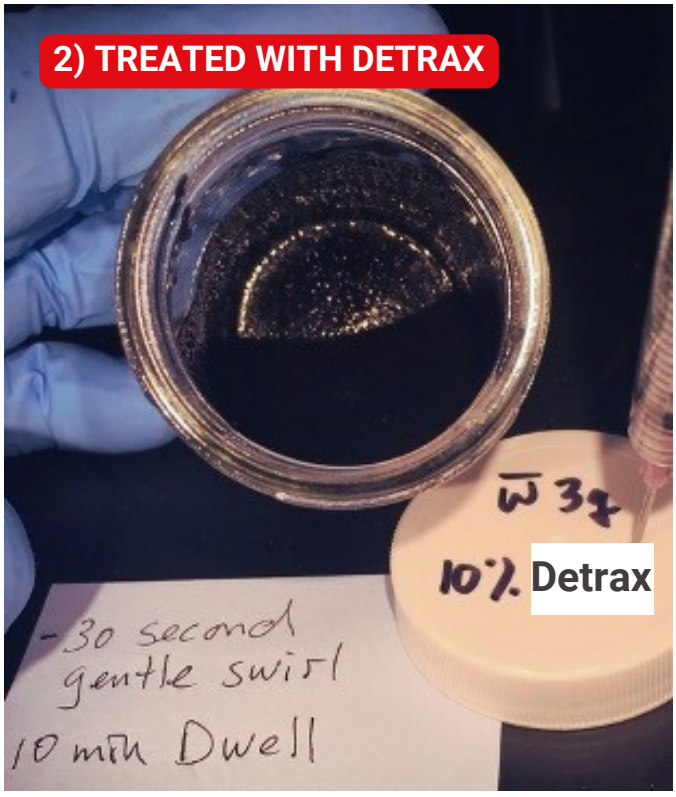
77% DROP
IN MERCAPTAN LEVELS

CASE STUDY

GUARDIAN CHEMICALS INC.

BrightShield Enables Safe, Effective Tank Cleaning at Critical Oil and Gas Facility

DATA



(1) Untreated sludge deposit.

(2) 3 grams of sludge deposit treated with 10% Detrax (water-based degreaser for tank cleaning). Note how deposit is fully dispersed in the fluid.

(3) Treated high solids water left to settle for 24 hours. Note how the solids remain suspended in the tube treated with Detrax while the Blank has stratified and solids settled to the bottom as shown by the red line. The ability to keep solids suspended prevented solids from settling during waste transport, ensuring easy offloading of waste.