



CASE STUDY – SLUDGE REMOVAL (STATIC) – PARALAX®

THIS were asked to clean and decontaminate a 7,000-liter vertical surge tank which contained approx. 14% b.v. of solidified sludge in the base. The sludge comprised of 900-1000 liters of hydrocarbon-contaminated sand which had become almost cement-like and was proving to be more difficult than usual to remove. With very limited access to reach this sludge in order to break it up, it was decided to try a slightly different approach.

Before treatment pictures:



THIS has a suite of specialist chemicals to apply in situations such as this however, our usual choices weren't penetrating the sludge matrix as well as hoped, possibly due to the high level of viscosity and lack of circulation usually employed to increase surface contact reactivity.

The decision was made to try a chemical product that was not primarily marketed for sludge removal but is a highly effective downhole (EOR) wax remover and prevention product called **PARALAX®**. Typically, this product shows no reaction with wax or sludge in benchtop tests since it relies on the interaction with a hydrocarbon matrix, under downhole conditions, in order for its catalytic properties to work its magic.

To initiate the chemical's key properties, we pre-mixed a 10-liter solution of **PARALAX®** with 100 liters of diesel. This was allowed to sit for one hour before being pumped in through the manway of the tank. The mixture was left to soak into the sludge for approx. 5 hours. After soaking, the sludge had become less viscous, enough for the pump to be turned on to allow for an additional hour of circulation to be performed. After one hour, the spigot on the tank was opened and what came out was not sludge, but a black liquid. Once drainage had been completed a borescope camera was used to check the inside of the tank.

All that was left was sand... clean sand... **WITHOUT** any hydrocarbon sludge!.



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The sand was vacuumed out and the tank was given a final rinse and inspection. What the we ended up with was:

- 600 liters of reclaimed oil
- 400 liters of sand
- 100 liters of water slurry
- A clean Surge Tank

The whole process took just under 8 hours. **PARALAX®** has no effect on the oil that was in the sludge so all that oil is reclaimable. Our conclusion is we can accelerate the process of cleaning sludge from tanks, where we have little, or no, initial circulation and highly viscous hydrocarbon sludge.

After treatment pictures:



The majority of hydrocarbons should be reclaimable, which means that overall costs will be lower:

- ✓ You reclaim all oil
- ✓ You only have to dispose of inert sand
- ✓ Your time to remove sludge is much faster than standard mechanical methods as well as some other chemical methods



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