

# TANK OILY SLUDGE ACCUMULATION RECOVERY: RESUSPENSION



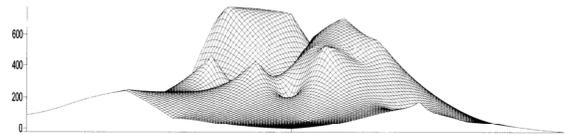
Robust, practical and effective system for crude oil tank sludge recovery through bottom manway access, using Transmas Units and Mastir Cannons. Work using this system has received awards in UK.

Resuspension method reduces tank outage and man-entry times, by recovering 70-90% of waxy sedimentation— exact amount depends on factors such as tank bottom pipe configuration, diameter of tank etc.

Remaining poor quality tank bottom residues can be accumulated and later treated by SEPS if required.

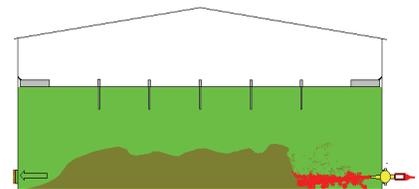
## Advantages comparing with top down methods:

- ◆ Simple and robust components
- ◆ No roof interference
- ◆ No nitrogen blanketing required
- ◆ No additives - only fresh crude oil to carry the recovered oil
- ◆ Reliable working method, proven to be practical
- ◆ Long lasting with simple maintenance and common spares
- ◆ Can handle even the most deep old hard accumulations
- ◆ High oil recovery rate
- ◆ Independent operation
- ◆ Mobile
- ◆ Energy efficient
- ◆ Safe



## Sludge accumulation profiling

Mechanical dip profile method to reliably measure sludge accumulations and portray in 3 dimensions, not only to measure quantities, but also to adjust resuspension approach plan.

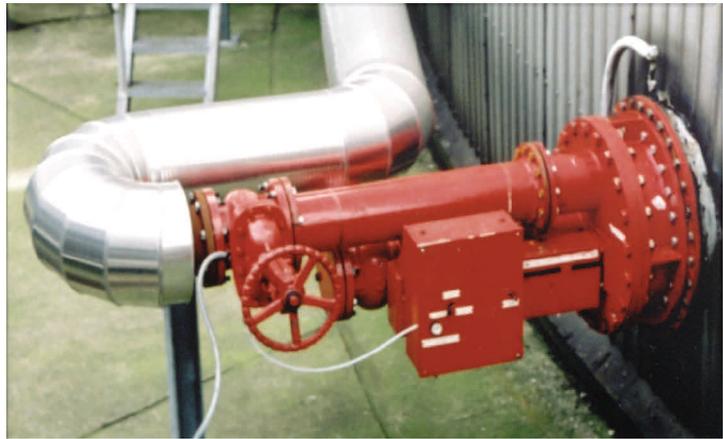


Bottom access method is proven and effective. Resuspension method recovers crude oil by re-absorption of waxy oil into fresh crude oil.

# Components

## Mastir Cannon:

Re-suspension cannon hydraulic or pneumatic drive, 120 degree arc. Powerful with high conversion of pump energy.



## Live Mastir Cannon:

For use where sludge accumulations are very high, often in conjunction with Manway Recovery Unit.



## Manway Recovery Unit

Able to remove manways when tank is full—allowing roof to still float - in order to install Live Mastir Cannons



## Heated Resuspension

Rarely in the case of the most stubborn deep and hard accumulations, heat can be applied to the process.

