



Tank Services

In-Service Sludge Profiler, Sludge Removal & Inspection

Storage Tank Sludge Management

Crude oil transported and stored as the raw material for refinery processing has a propensity to separate into its heavier and lighter hydrocarbon components.

In vast above ground storage tanks (greater than 120m diameter) the heavier hydrocarbon components can create significant accumulations on the tank floor. These accumulations referred to as “Sludge” create several problems for storage tank operators:

- Reduces storage tank capacity
- Accelerates corrosion
- Disrupts maintenance operations
- Roof damage during landing

The sludge deposits consist of >90% recoverable hydrocarbons that are a valuable commodity that should be accounted for.

SA International Tank Services is now using a method of accurately measuring these tank sludge deposits and can offer a range of services from ad hoc surveys to complete sludge management.



Sludge Measurement

During a planned shutdown and maintenance cycle the tank roof legs have to be landed on the floor of the tank before manual cleaning or inspection can begin. Accurate knowledge of the sludge distribution and topology is important to ensure safe landing of the roof. A sludge survey prior to commencing any maintenance work ensures that the correct costs and budgets are applied to the work.

Online

A sludge survey can be completed with the tank online. The only requirement is to have the roof in a high position and any mixers switched off. This minimizes any disruption to plant operations.

When side entry mixers are installed in storage tanks then the resulting flow has an effect on the sludge distribution that can lead to significant accumulations. Online sludge profiling allows these mixer sludge patterns to be monitored

How it works:

The tank sludge profiler survey system is based on a precision acoustic sensor, capable of accurately scanning large sections of the tank floor. The received acoustic data is processed to calculate the sludge volume and generate 3D views of the sludge distribution.

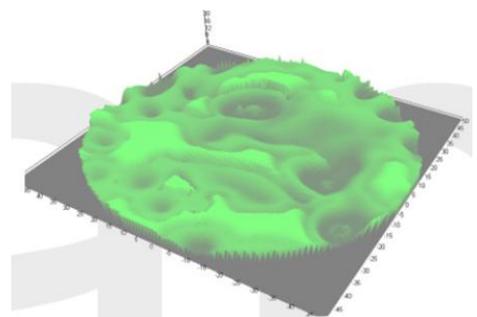
The acoustic sensor is an ATEX rated tool that is inserted into the stored oil through a suitable opening (.90mm) in the tank roof. It can be easily mobilized by a small team and a tank survey can be completed in very short time.

A sludge survey can be completed with the tank online. The only requirement is to have the roof in a high position and any mixers switched off.



Benefits:

- Speed
- Safety
 - no need to expose workers unnecessarily to inhalation risks
- Exact knowledge of sludge distribution
- Reduced errors
 - accurately mapping the sludge level and distribution means less chance of unknown build up points that could come into contact with roof supports that could cause roof failures
- Reduce unforeseen delays during shutdown
- Sludge management for effective tank operation
- Support cleaning operations
 - Quantify sludge level prior to contracting
 - Sludge topography known prior to positioning non-man entry jet cannons





Inspection & Engineering Services

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