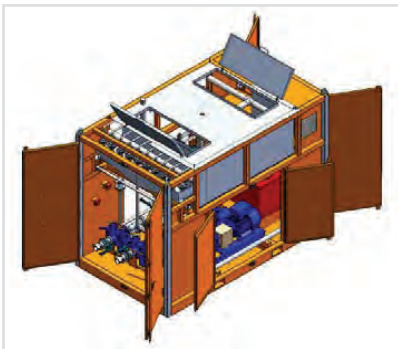


# AUTOMATIC TANK CLEANING Solves QHSE Concerns and Waste Disposal Concerns in Malaysia

The AUTOMATIC TANK CLEANING\* (ATC\*) system has saved Murphy tank entry man hours, and all of the associated HSE issues. The estimated boat days saved to date is about 70. This has proven to be an effective and safe method to manage both LMP (Liquid Mud Plant) and vessel tank cleaning.

Dan Stokes, Murphy Oil^ Fluids and Solids Control Advisor



## THE PROBLEM

Rising safety concerns of confined space entries, waste disposal issues, as well as economic issues with steadily increasing supply vessel day rates and supply vessel NPTs due to time consuming manual tank cleaning operations.

## THE SITUATION

7-8 supply vessels needed to be cleaned regularly to enable them to supply the rigs with uncontaminated fluids. Existing methods required extensive manpower, confined space man entry and time spent on manual tank cleaning per vessel.

## THE SOLUTION

An ATC unit was permanently installed with TCMs for all vessel tanks proposed and operational. All M-I SWACO and third party engineers were fully trained in ATC and QHSE specialized courses.

## The Situation

An operator contracted 7-8 vessels to supply their rigs with different types of fluids, such as DKD, SBM / OBM, base oil, Warp\* Advanced Fluids Technology and completion brines. The vessel tanks needed to be cleaned regularly prior to changing/taking on different fluids for different applications. The method of cleaning the vessel tanks was manual labor with extensive confined space entry and exposure to fluids and vapors. Murphy Oil's advances in applying their QHSE policies regarding tank entry required a different method to reduce confined space man entry and exposure to fluids and vapors.

## The Solution

The AUTOMATIC TANK CLEANING process was presented to Murphy Oil management as an alternative and safer way of cleaning the vessel tanks, greatly reducing confined space entry, waste to be disposed and enhancing boat turnaround times. To absolutely minimize tank entry, a 100% permanent installation of TCM's (Tank cleaning machines) in all vessel tanks was proposed employing a "plug and play" approach. The TCM installations/ placements were based and proposed on a detailed survey of all tanks in all vessels. The ATC unit was brought into the M-I SWACO Labuan base and a 24 hr ATC crew was on standby to ensure quick mobilization and demobilization of the portable ATC unit from base to port quayside.



Before

After

## THE RESULTS

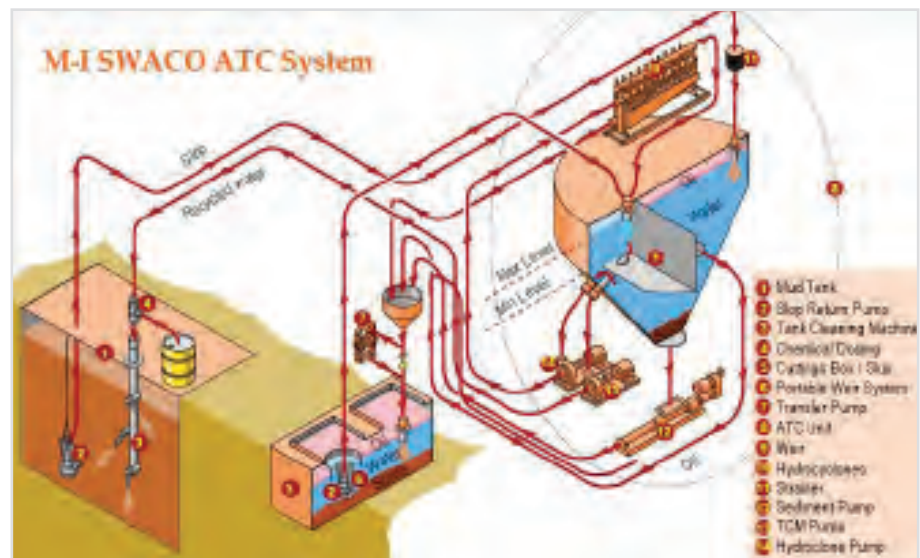
- Greatly reduced manpower and confined space man entry
- Significant reduced waste disposal.
- Reduced clean-up time for tanks by 50%.
- Increased turnaround time for supply vessels, decreased NPT.
- Overall QHSE improvement.

## The Results

- Greatly reduced manpower and confined space man entry
- Greatly reduced waste disposal. Reclaimed barite, oil and water (filtered through 10 micron absolute cartridges) sent back to LMP for further usage / mixing new mud. Only small fraction from tank cleaning to be disposed of.
- Reduced clean-up time for tanks by at least 50%.
- Improved turnaround time for supply vessels, decreased NPT (non productive time).
- Overall QHSE improvement – All M-I SWACO and 3<sup>rd</sup> Party personnel were specially trained in ATC operations and ATC related special safety courses (Confined space entry, H<sub>2</sub>S, Working at Heights, Mercury awareness, lock out/tag out)
- This project was presented as a success story by Murphy Oil to their top management in Canada

## Summary

The ATC unit provided an ideal solution for the clients rising safety concerns of confined space entries, as well as for their economic issues caused by steadily increasing supply vessel day rates and supply vessel NPTs due to time consuming manual tank cleaning operations.



## Questions? We'll be glad to answer them.

If you'd like to know more about the AUTOMATIC TANK CLEANING system and how it's performing for our other customers, please call the M-I SWACO office nearest you.



P.O. Box 42842  
Houston, Texas 77242-2842  
www.miswaco.slb.com  
Email: questions@miswaco.slb.com

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