

Offshore Brazil: Compact AUTOMATIC TANK CLEANING LITE system improves QHSE, reduces waste volumes, water consumption and tank cleaning time

“The Logic behind placing the ATC LITE[†] system on the rig was to deal with the excess slops that have been experienced in the past on other drilling operations. Another factor was the need to reduce the time required to clean the tanks so that it did not fall into the critical path of operations. With the specifically placed wash heads, all tanks were cleaned in a timely fashion and resulted in a minimum amount of confined space man-hours. The ending results were very impressive.”

Ivan Dujmovic, M-I SWACO

“Our two main goals were reached: Reduced confine space entry and elimination of large amounts of wash water”

Repsol Sinopec Brazil

Well Information

Well Location	Offshore Brazil
Fluid Volume	RHELIANT [†] drilling fluid system
Tanks Cleaned	28
Time Period.....	16 days
Water Usage	80 bbls
Waste Removed.....	1,360 bbls
Cleaning Time	119 hrs
CSE.....	6 hrs
Tank Cleaning Product.....	520 liters

The Situation

In order to deal with excess slops and reduce the time required to clean tanks, Repsol Sinopec Brazil requested that M-I SWACO, a Schlumberger company, provide its ATC LITE system to Ocean Rig for deployment on Ocean Rig Mylos. Traditional cleaning method involved manual labor with extensive confined space entry and exposure to fluids and vapors. Additionally, high volumes of water usage generated additional waste and increased the costs of transportation and final disposal. Traditional cleaning methods raises many QHSE concerns about exposure time in confined spaces and in addition is very time consuming which results in costly delays.

The Solution

ATC LITE technology provided a solution to reduce CSE, tank cleaning time, and waste generated from tank cleaning operations. M-I SWACO provided an automatic tank cleaning system composed of one ATC LITE system with strategically placed tank cleaning machines inside each tank and two slop pumps to return the wash water to the ATC LITE system for recycling and continuous use. The new technology is an improvement on the slow, labor-intensive, dirty and potentially dangerous tank cleaning task. ATC LITE technology is completely automated and designed to reduce cleaning time and waste generation, and minimize waste generation, and to reduce or eliminate entry into confined spaces.

The Results

Upon deployment, the ATC LITE System:

- Reduced confined space entry to 6 hrs while TCM's were placed
- Enhanced the QHSE profile
- Minimized waste volumes
- Reduced overall waste management costs
- Decreased environmental impact
- Greatly reduced cleaning time compared with traditional tank cleaning
- Lowered non-productive time (NPT)
- Improved overall waste management economics

Results compared to traditional method		
	Traditional Method	ATC LITE
CSE [hr.]	280 (est.)	6
Waste volume removed [bbl]	1,360	1,360
Cleaning time [h]	140 (est.)	119
Water used [bbl]	22,420	80

The Details

The tight hole drilling operation utilized the RHELIANT drilling fluid system. A total of 28 tanks were cleaned over a 16-day period using 80 bbls of water removing 1,360 bbls of solids and slop. TCM's were permanently installed in each of the tanks; the tanks were sequentially cleaned and the total cleaning time was 119 hrs with only 6 hrs of CSE. Tank cleaning product usage was 520 liters. Each TCM circulates approximately 62.8 bbls/hr. Water usage and waste generation without ATC LITE technology would have been around 22,420 bbls of water with same amount of sludge/solids removed.

Summary

Previous cleaning of some of the mud tanks was done successfully, but this marked the first time the ATC LITE system was employed to clean all tanks after the completion of the SBM phase of the drilling campaign. M-I SWACO was able successfully to address QHSE issues concerning employee safety and Brazil's environmental regulations. Through the use of this technology, tank cleaning required little water and resulted in minimal amounts of wash fluids for disposal, thus having a positive impact on the client's economics. This first operation utilizing the ATC LITE system will serve as a benchmark for similar operations in the future.



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

This information is supplied solely for informational purposes and M-I SWACO makes no guarantees or warranties, either expressed or implied, with respect to the accuracy and use of this data. All product warranties and guarantees shall be governed by the Standard Terms of Sale. Nothing in this document is legal advice or is a substitute for competent legal advice.