

# CASE HISTORY 8

## 2019

**TEMS**  
INTERNATIONAL

**TEMS International** is an independent provider of environmental management and compliance services to the global oil and gas industry. Our services are focused on managing and optimising drilling performance and drilling waste in real time, while ensuring an asset remains in environmental compliance. Ultimately, our experienced team aim to reduce drilling costs and ensure legislative compliance targets are met or exceeded.

- Location: **Gulf of Mexico**
- Project date: **May 2019**
- Drilling duration: **20 days**
- Total footage drilled: **3,883ft**
- Total estimated saving: **\$58,089**
- Estimated SBM savings: **310 barrels**

### OUTLINE

TEMS International was approached by an independent exploration and production company to support its drilling operations in the Gulf of Mexico. The drilling project commenced in May 2019 and lasted for 20 days. During the project, around 3,800ft of drilling was overseen by TEMS International engineers.

TEMS International provided its drilling performance management and optimisation, and continuous environmental compliance legislation services during the project. Prior to the project commencing, TEMS International engineers conducted an extensive audit to identify potential issues regarding the containment of drilling fluids, diesel fuel and other hydrocarbons used in the daily operations onboard the rig. These observations were either resolved prior to and during drilling operations, depending on their seriousness, or recommendations made to implement improvements.

The overall aims of the project were to:

- Achieve governmental oil on wet cuttings (OOWC) limitations in line with EPA reporting
- Optimise solids control equipment to deliver maximum solids removal with minimum liquid retention
- Reduce synthetic based mud surface consumption
- Reduce shaker screen consumption
- Minimise environmental impact

### SERVICES DELIVERED

#### **Drilling performance management and optimisation**

A process approach to drilling performance management that adds value to the entire drilling process. The service aims to ensure more effective and efficient drilling – reducing drilling days – through optimised fluid management, effective solids control management with the overriding proviso of safety and environmental protection.

#### **Continuous environmental compliance legislation**

Leading guidance on environmental compliance, prior to and for the duration of a drilling campaign. The comprehensive technical services and environmental consultancy enable well planners to ensure permits are in place, and that drilling operations keep pace with, or exceed, the evolving compliance regulations of drilling locations.

GULF OF MEXICO

## OUTCOME

The work carried out by TEMS International's engineers to optimise the performance of drilling operations over the course of the 20-day drilling campaign resulted in a reduction in anticipated synthetic-based mud consumption. Over 300 fewer barrels of mud were used to drill the well, saving \$58,00 on mud costs.

During the drilling campaign, shaker screens were run for 764 hours. During this time, 33 new screens were installed, with only one being discarded beyond economical repair.

In the Gulf of Mexico, a permitted retention on cuttings (ROC) discharge value for synthetic-based muds of 6.9% has been set by the US Environmental Protection Agency (EPA). Over the course of the drilling campaign, TEMS International engineers' involvement resulted in an overall ROC rate of 4.75% for the well, comfortably within the EPA rate.

TEMS International engineers assisted the client in achieving its environmental aims while carrying out drilling operations in the Gulf of Mexico. Those focused on spill containment and prevention via the identification, and continual inspection, of potential sources of spillage and rig site procedural improvements.

To ensure personnel onboard the rig were efficient and knowledgeable when responding to spills, TEMS International engineers led weekly spill drills to train and educate the crew.

A series of additional recommendations were also made which will ensure containment and further improve the environmental performance of the asset during drilling operations.

**310**

**Fewer barrels  
of mud used**

**\$58,089**

**Saved on  
mud costs**

**4.75%**

**Average ROC rate  
achieved**

**Spill drills**

**Introduced to train  
rig personnel**

To learn more contact TEMS International:

T: +44 (0) 1224 047462

E : [info@tems-international.com](mailto:info@tems-international.com)

W : [www.tems-international.com](http://www.tems-international.com)

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