

CASE HISTORY 18

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: **June – July 2019**
- Drilling duration: **47 days**
- Total footage drilled: **7,540ft**
- Total estimated saving: **\$151,425**
- Estimated SBM savings: **809 barrels**

OUTLINE

An existing client, a US-based independent exploration and production company, contracted TEMS International to support drilling operations onboard a rig in the Gulf of Mexico. The 47-day drilling project commenced in June 2019 and involved approximately 7,500ft of drilling which 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

Optimising the performance of drilling operations during the 47-day drilling campaign produced a number of economic and environmental benefits for the client. A reduction in synthetic-based mud consumption was achieved on all three well sections drilled. Overall, this resulted in more than 800 fewer barrels of mud being required to drill the well, saving over \$150,000 on mud costs.

The US Environmental Protection Agency (EPA) has set a permitted retention on cuttings (ROC) discharge value for synthetic-based muds of 6.9% for drilling in the Gulf of Mexico. With the input of TEMS International's engineers, an overall ROC rate of 3.91% was realised for the drilling campaign. This is significantly 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.

A waste fluid tracking log was established by the TEMS International engineers to detail information on wastes generated during the drilling campaign. Documenting these volumes can provide more accurate information for future well planning, particularly where zero discharge is a requirement.

While onboard the drilling asset, TEMS International engineers produced daily compliance reports for the client. These contained critical data on the fluid and regulatory objectives of the drilling operations, which is legally required to be recorded and submitted to relevant authorities. A series of other compliance analyses were also carried out, including static sheen and reverse phase extraction tests.

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

800+

Fewer barrels of mud used

\$151,425

Saved on mud costs

3.91%

Average ROC rate achieved

Spill drills

Introduced to train rig personnel

Carbon Footprint

Of drilling asset was reduced

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