

CASE HISTORY 15

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: **Offshore Trinidad**
- Project date: **March – July 2019**
- Drilling duration: **107 days**
- Total footage drilled: **4,883ft**
- Total estimated saving: **\$79,059**
- Estimated SBM savings: **252 barrels**
- Shaker screens repaired: **13**

OUTLINE

An independent global exploration and production company contracted TEMS International to support exploratory drilling of a well in offshore Trinidad in 2019. The deepwater project concluded in July 2019 after more than 100 days, during which time nearly 4,900ft 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:

- Adhere to governmental discharge policies
- 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.

OUTCOME

By working closely with rig personnel over the course of the 107-day drilling campaign TEMS International engineers delivered a reduction in synthetic-based mud consumption. The engineers also ensured environmental compliance with local regulations was maintained and produced daily compliance reports that documented this. They also aided a reduction in the overall drilling costs of the asset and in lowering its carbon footprint.

In excess of 250 fewer barrels of mud were used to drill the well, generating savings of over \$75,000 on mud costs. Savings of nearly \$3,500 were made on shaker screen costs as a result of TEMS International engineers repairing 13 screens – permitting their reuse – during drilling operations.

The Government of the Republic of Trinidad and Tobago has set a permitted oil on wet cuttings (OOWC) discharge value for synthetic-based muds of 5% in its waters. An average OOWC rate of 4.22% was achieved by TEMS International during the SBM phase of drilling, comfortably within permitted guidelines. Close monitoring and optimisation of solids control equipment helped enable this.

TEMS International engineers assisted the client in achieving its environmental aims during drilling operations in offshore Trinidad. Those focused on spill containment and prevention via the identification, and continual inspection, of potential sources of spillage.

In addition, TEMS International engineers made several recommendations that will further improve the environmental performance of the asset during drilling operations, including changing the flight of the auger.

252

**Fewer barrels
of mud used**

\$75,000

**Saved on
mud costs**

13

**Shaker screens
repaired**

\$3,300

**Saved by repairing
screens**

4.22%

**Average OOWC value
achieved**

**Carbon
Footprint**

**Of drilling asset was
reduced**

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TRINIDAD