

FluidControl Engineers Challenging CRI Installation in Environmentally Sensitive Area Offshore Bahrain

Challenges

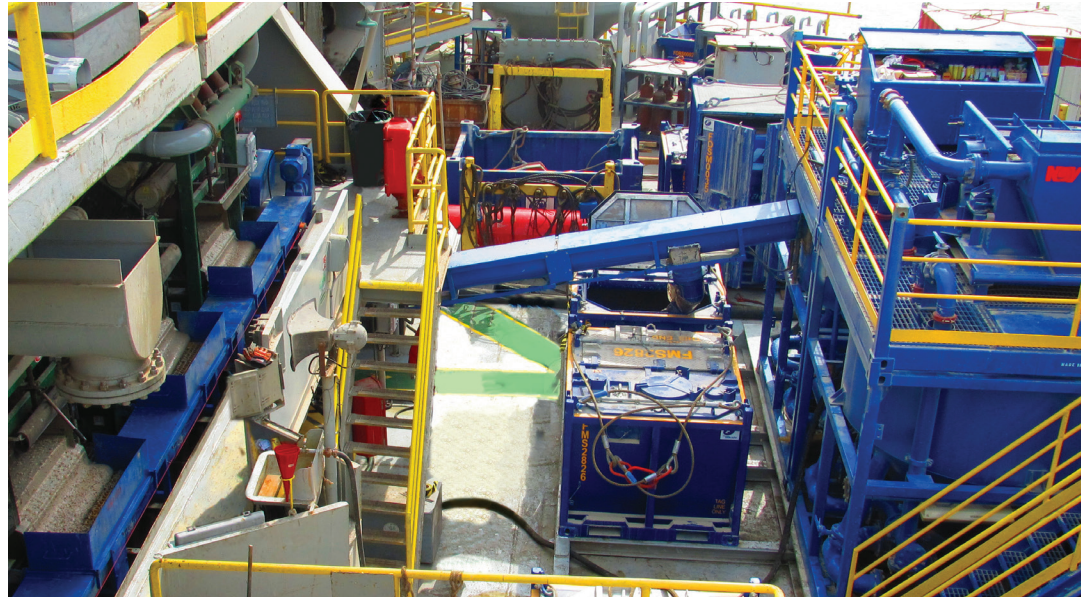
- Drilling in shallow water, environmentally sensitive area (Dugong feeding ground).
- Small rig that could position itself in shallow water and avoid damaging marine life was required, which meant limited deck space.
- Because of space restrictions, CRI unit could not be pre installed in the yard.
- Short term contract requiring precise execution.

Well Information

- Shallow water (<30ft)
- Location: Offshore Bahrain

Solution & Results

- NOV FluidControl engineered a cuttings containment system and a cuttings re-injection package for a short term injection program. Space restraints on the small rig required that NOV welders create custom-made load bearing frames and other custom parts for the containment and re-injection system.
- Equipment quickly mobilized between contract award and installation.
- Cuttings re-injection completed successfully with no environmental impact.
- Installation and removal of CRI unit completed with no interruption to drilling schedule.



Because of rig space constraints, an operator drilling in shallow water offshore Bahrain required a cuttings containment system and cuttings re-injection package that could be installed temporarily on the rig and safely removed after use. The project required a service provider with the experience to preplan, engineer and install the equipment without disrupting a tight drilling schedule. NOV FluidControl engineers surveyed the rig and engineered a unit that was compatible with the rig's compact footprint. The initial operation required the rig to conduct a skip and ship operation to collect cuttings from top hole drilling until the injection zone was reached.

Upon reaching casing point the rig conducted offline activities that allowed FluidControl a 96 hour window to install the cuttings re-injection package in order to drill the remainder of the well. It was important that the operation could switch between skip & ship (for collecting drilled out shoe and cement) and CRI with no interruption to drilling. This also provided a contingency back up in the case of

any unscheduled maintenance to the CRI package. Over the course of the project, the cuttings slurry was re-injected without environmental incident. Rig down of the CRI and skip & ship equipment was completed in one day, and the well was successfully drilled within the operator's specified time parameters. A total of approximately of 7000 bbl. was injected in a short time period.

The equipment package consisted of:

- 1 x 12mtr, 12" screw conveyor (length of shale shakers)
- 1 x 6mtr, 12" screw conveyor from primary auger to skip & ship and CRI package
- 1 x CRI slurrification unit, consisting of a course and a fines tank.
- 1 x Twin low pressure injection pump

Contact a NOV FluidControl representative to learn more about Cuttings Re-injection and other waste transfer and containment needs.

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