



*FoundOcean spread*



*Lab and grout cube bath*



*Hose winch*

## GOOD TO KNOW

### 100% back up onboard

FoundOcean mobilises 100% back up of all mixer technology components to ensure uninterrupted grouting operations

FoundOcean's involvement in structural grouting dates from the Umm Shaif and Zakum oil fields in the 1960s.

FoundOcean developed their unique Continuous Recirculating Jet Mixers (RJM). These mixers are custom designed for producing very high strength grouts without the use of costly additives. Over the years, FoundOcean's grout mixers have been so consistent in their production of high strength grouts that platform designers have been able to reduce the length of the pile-sleeve connection. This has resulted in substantial savings in fabrication costs.

Unlike standard grout mixers, which operate by mixing in batches, FoundOcean's mixers produce grout in a continuous process. This is achieved by recirculating the grout around a loop through a mixing pump, jet and tank. Cement and water are added at a controlled rate and finished grout is continuously removed to a holding tank from which it is pumped to the structure. The quality of the grout is constantly monitored with a density control system.

The grout mixer is just one component in the offshore grouting process. Successful and efficient offshore operations result from a wide range of skills and equipment including:

- **Detailed quality assurance and control procedures**
- **Skilled and experienced** engineers and technicians
- Well equipped offshore **testing laboratories**
- **High capacity grout pumps** to deliver grout to the structure
- **Hose winches** capable of deploying grout hose to the deepest structures
- **A high capacity cement silo fleet**
- ROV operated subsea grout connection systems
- ROV deployed **grout density monitoring**

FoundOcean takes responsibility for the entire grouting operation including inflation of grout seals, cement transfer activities, supervision of grout hose deployment and participation in offshore planning meetings.

Successful structural grouting relies on both experience and preparation. FoundOcean develops specific procedures for every project. These describe every detail of the grouting operation and provide contingency procedures to address all possible events. On completion of a project, detailed reports are provided covering all offshore operations and materials testing results.