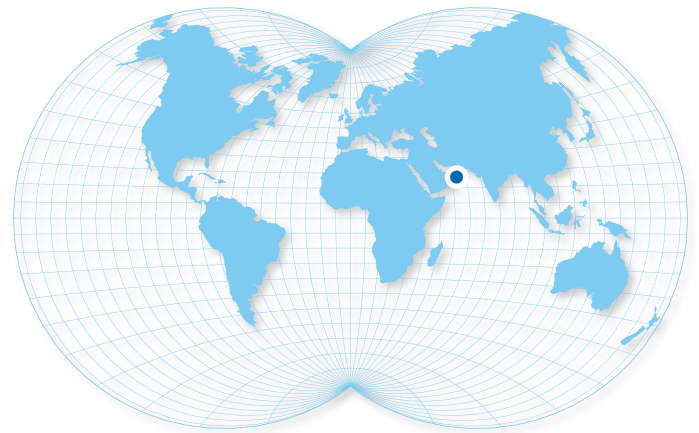


JEBEL DHANNA, UNITED ARAB EMIRATES: Jebel Dhanna #1 CALM



Scope of Work

SOFEC designed, constructed, and installed a CALM Buoy system to accommodate up to 450,000 dwt tankers.

General Description

Client Name:	Abu Dhabi Company for Onshore Oil Operations (ADCO)
Contract Award:	March 1995
Installation Date:	December 1995
Application:	Crude Oil Export

Project Specifications

Water Depth:	20.7m (68ft)
Tanker Size:	450,000 dwt
Dimension:	11mØ x 4.5m
Floating Hose:	2 x 20-in.
Underbuoy Hose:	2 x 20-in. Chinese Lantern
Hawser System:	14-in. Single grommet
Anchor Leg System:	6 x 3-in. ORQ
Anchor System:	13mt Drag anchors

Design Environmental Criteria

Operational	
Significant Wave Height:	1.3m (4.3ft)
Wind Velocity:	14m/s (27.2 knots)
Surface Current:	0.3m/s (0.58 knot)

Survival	
Significant Wave Height:	2.2m (7.2ft)
Wind Velocity:	22.3m/s (43.3 knots)
Surface Current:	0.3m/s (0.58 knot)

Comments

This SOFEC designed export CALM system was installed in 21m water depth. This included an extension of the existing 42-in. sealine and removal of the existing CBM. This was the third project in which SOFEC was involved in the replacement of a CBM system with a more efficient SPM system.