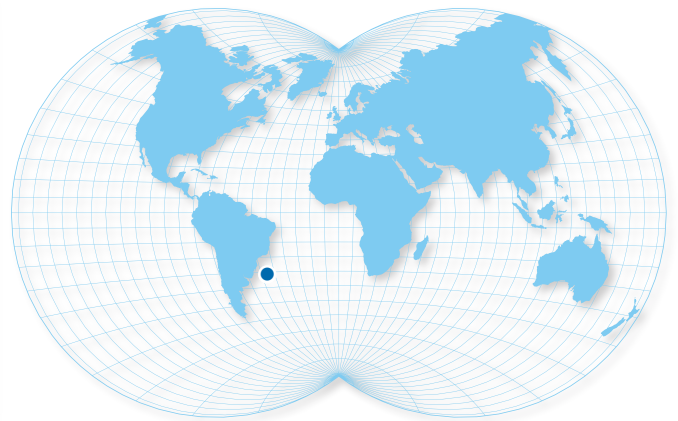


TUPI FIELD, BRAZIL:

FPSO Cidade de Angra dos Reis MV22 Spread Mooring



Scope of Work

SOFEC designed and procured a spread mooring system for the FPSO Cidade de Angra dos Reis MV22 in the giant Tuپی area in Brazil's vast pre-salt reserves of the Santos Basin.

The FPSO is capable of processing 100,000 barrels of oil per day or 150,000 barrels of total fluids per day, 177 MMscf/d of gas, and has a storage capacity of 1,600,000 barrels of oil. The FPSO is able to inject 100,000 barrels of water per day. The FPSO will initially gather production from 5 subsea wells with the capability to handle 4 additional production wells in the future.

The SOFEC spread mooring system is ABS classed.

General Description

Client Name:	Petroleo Brasileiro S.A.(Petrobras)
Contract Award:	August 2008
Installation Date:	July 2010
First Oil:	October 2010
Vessel Size:	340,000 dwt
Storage Capacity:	1,600,000 bbls
Water Depth:	2,140m (7,037ft)

Design Environmental Criteria [100-year storm]

Sig. Wave Height:	11.11m [36.5ft]
Wind Velocity:	34m/s [66 kts]
Current:	1.72m/s [3.34 kts]

Mooring System

Mooring Type:	Spread Mooring
Mooring Arrangement:	24 Chain-polyester mooring lines in a 4x6 arrangement

Riser System

- 43 Flexible Risers and Umbilicals installed on portside riser balcony.
- Flexible lines and umbilicals supplied by PETROBRAS