



Fortaleza, Brazil  
August, 2001

NAUTILUS CONTRIBUTION: Project Manager and Designer (May to August, 2001)

OBJECTIVE:

Adapt an existing modular platform rig to fit on one of the smallest load bearing platforms in the world.

PROJECT:

Nautilus principal engineer created the idea of cost effectively accessing small deepwater platforms off the coast of Fortaleza, Brazil for Petrobras. The platforms needed one or two workovers and or sidetracks, but the cost to mobilize a deepwater jack-up was not cost effective. The platform top deck measured 20 ft x 30 ft. Using an existing 1,000 hp platform rig from the GoM and the substructure from a larger 2,000 hp rig, a successful working unit was developed with less than \$30,000 in modifications. The existing substructure provided space for pumps and engines. Rig strongback beams and the substructure provided piperack space and storage for MWD, mud and cement tanks. The existing platform crane was removed with the rig crane to provide more space. The project was planned step by step and successfully implemented on four platforms.

DELIVERABLES:

- ④ **Phase I: Define the Scope of Work (Appraise & Select).**
  - Identify solutions and associated rig cost comparisons.
  - Select the most cost effective solution.
  - Categorize and determine an inventory of required equipment.
- ④ **Phase II: Design Rig Modifications and Analyze Platform Structure Capacity**
  - Design any modifications required. Update rig drawings.
  - Determine total weights, load paths and center of gravities.
  - Analyze and model platform structure with rig loads.
- ④ **Phase III: Fabricate/update modifications and Assemble Rig.**
  - Build adaptors and add any modifications to rig equipment.
  - Assemble and test equipment fit and function.
- ④ **Phase IV: Develop Rig-up Plan & Implement**

RESULTS:

Cost effective method of revitalizing several Petrobras offshore platforms was designed, assembled and implemented. The modular rig provided millions of dollars savings in mobilization and dayrate costs to Petrobras.

CONTACT REFERENCE:

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PETROBRAS PLATFORM  
4 PILE  
20 ft x 30 ft



SIDE TRACK  
DRILLING