

Maersk Endeavour

Cantilever jack-up drilling barge

The three-legged cantilever jack-up drilling barge 'Maersk Endeavour' was delivered in 1982 to Brigantine Transport Corp., a fully owned subsidiary of Maersk Contractors, Denmark.

GustoMSC developed the design to meet the operator's specific requirements. These include such features as 125 percent pre-loading capacity and active pre-loading in case of a sudden, unequal leg penetration.

Construction of the rig took place at Rotterdam Dockyard Company, The Netherlands.

The platform was built under the special survey of Lloyd's Register of Shipping, London, to obtain the Class Notation:

✘ OU-100-A I - Mobile Drilling Platform, self-elevating P.C.

The design also fulfils the rules and regulations of British D.O.E./D.O.T. and of Danish Authorities.

GustoMSC designed the jacking units on the rig. These jacking units are of the electro hydraulically driven rack and pinion type.

The Maersk Endeavour has been operating in the North Sea since September 1982.

At present the Maersk Endeavour is owned by Northern Offshore and renamed Energy Endeavour.

Hull particulars

Length	68.92 m
Breadth	79.00 m
Depth at centre line	8.57 m
Draught incl. spudcans	6.57 m
Fuel	551 m ³
Drill water	802 m ³
Potable water	229 m ³
Bulk tanks	256 m ³
Preload tanks	9,610 m ³
Sack storages	5,000 sacks
Mud pits	260 m ³



Tubular storage:

• cantilever deck	200 t
• main deck	455 t

B.O.P. system 10,000 psi

Maximum payload 3,150 t

Cranes:

- diesel hydraulic	70 t
- diesel hydraulic	50 t

Leg particulars

Length overall	108.00 m
Type	triangular lattice
Centre chord to centre chord	9.15 m
Number of legs	3
Spudcan	180 m ²
Maximum soil pressure	441 kPa

Design conditions

Operating

Water depth (incl. tide)	74.00 m
Wave height (trough to crest)	14.00 m
Wave period	12 s
Wind speed (1 min sustained)	26.20 m/s
Current at surface	0.90 m/s
Current 16 m above bottom	0.30 m/s
Current 7 m above bottom	0.25 m/s
Airgap under pontoon	27.88 m
Maximum payload	3.150 t
Cantilever position	acc. drilling pattern

Tow conditions

Ocean tow with full leg length raised.
Field tow with full leg length raised and subsequent jacking up with maximum payload on board.

Survival

Water depth (incl. tide)	74.00
Wave height (trough to crest)	14.00 m
Wave period	12 s
Wind speed (1 min sustained)	26.20 m/s
Current at surface	0.90 m/s
Current 16 m above bottom	0.30 m/s
Current 7 m above bottom	0.25 m/s
Airgap under pontoon	27.88 m
Maximum payload	2,700 t
Cantilever position	fully extended

Accommodation

All air-conditioned, designed to accommodate 76 persons

Jacking system

GustoMSC patented electro-hydraulically driven rack and pinion system:

Jacking speed pontoon	21.3 m/hr
Jacking speed leg	33.5 m/hr
Holding capacity per leg	7,400 t

Load on drill floor

Setback	272 t
Rotary	408 t
Hook	454 t

However, combination of loads may not exceed the maximum loads as indicated on cantilever load scheme.

