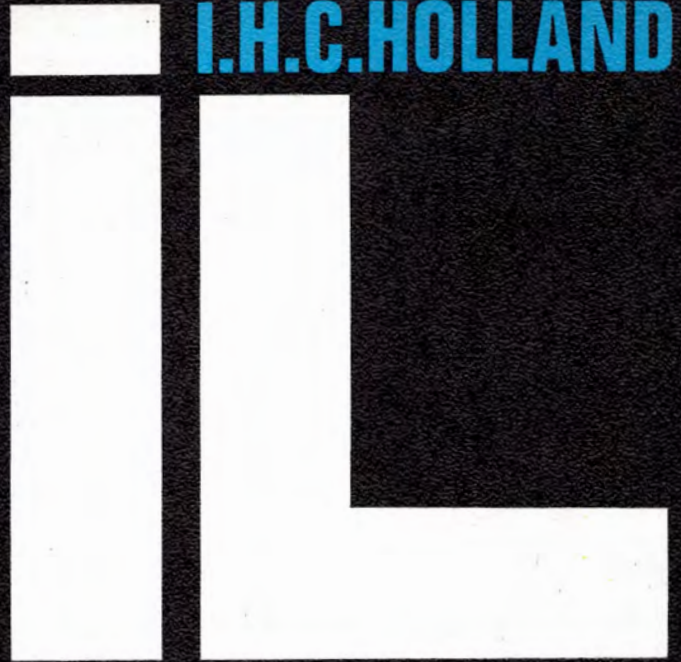
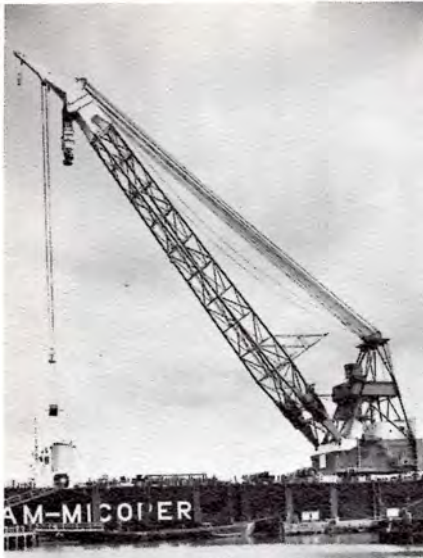


**I.H.C.HOLLAND**

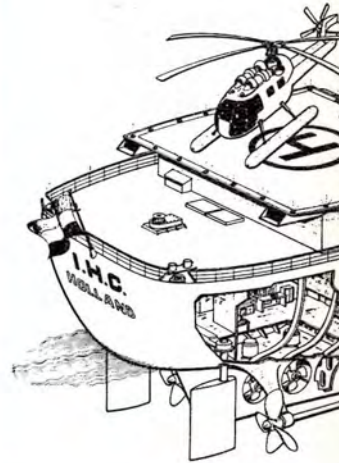


**OFFSHORE  
DIVISION**

**DRILLSHIP  
FOR  
SOMASER**



Jack-up rig *Sedneth II*  
 1000-tons derrick crane *P.M. 24*  
 Single Buoy Mooring system  
 Production platform



# I.H.C. HOLLAND DESIGNED DRILLSHIP

Among the vessels now under construction in the I.H.C. Holland yards is a drillsip destined for the French-based contractor SOMASER. The vessel will be the most advanced of its type afloat.

Its salient features are:

- worldwide operating capability, including Arctic regions
- self-sufficiency: the vessel can remain independent of shore bases for up to three months
- completely automatic positioning system
- roll stabilization system
- detuning tank stabilization system
- storage for approximately 8,000 tons of materials

- completely automatic racking system
- undersea BOP system incorporating ultrasonic remote control
- integrated deep-diving equipment
- accommodation for 80 men.

The drilling installation, which provides for the sinking of two wells up to 20,000 ft, incorporates automatic pipe handling equipment, an automatic system for the preparation and maintenance of the drilling fluid, and a modern drilling control console.

#### Principal particulars

Length o.a.	149.00 m (490')
Length	137.00 m (450')
Beam, molded	21.35 m (70')

Depth, molded	12.50 m (41')
Design draft	7.32 m (24')
Displacement approx.	15,500 tons
Maximum speed	13 knots

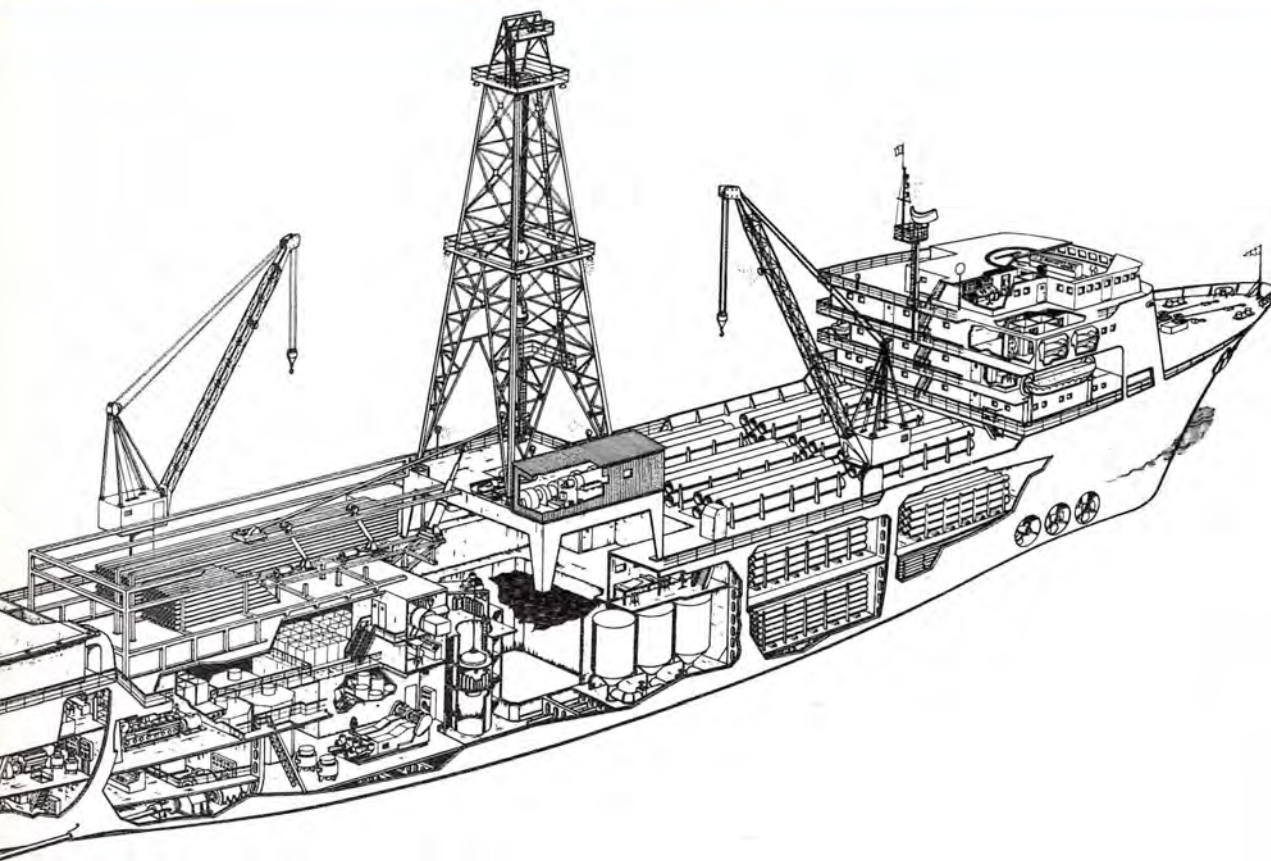
#### Stabilization

The vessel has been designed to adopt the most favourable meta-centric height for each condition by means of the detuning tanks. Varying the level of the fluid in the detuning tanks situated high in the hull serves to shift the G.M. between 1 - 5 feet, due to raising or lowering the centre of gravity.

#### Dynamic positioning

Preliminary model tests were conducted in order to determine the coefficients for a computer simulation, with the aid of which the feasibility of the dynamic positioning system was proven. These tests and calculations showed that:

- dynamic positioning of the projected hull was feasible
- dynamic positioning can be



employed successfully in water depths greater than 150 feet

- the design held out much promise for future deep-water exploration.

The dynamic positioning system, which is computer-controlled, utilizes seven variable-pitch propellers: the two main propellers normally used for propulsion, and five tunnel-mounted units placed transversely in the hull. The axis of the drilling well serves as the datum points for positional control.

#### **Drilling control console**

The drill operator's position combines ease of control with full supervision. The sophisticated console houses controls for the drawworks and rotary table, pumps, and safety and well testing equipment; a panel on which the movements of the ship (and thus the drilling equipment) are constantly registered; communications equipment; and data recorders.

#### **Drilling equipment**

The drilling installation comprises:

- 147 ft, 1,400,000-pound (nominal) derrick
- derrick floor with independent 37½" diameter rotary table and 10,000-pound winches
- 3,200-pound (nominal) drawworks
- automatic pipe handling system
- well head handling and serving system
- mud fabrication, transportation and storage system
- BOP stack with re-entry device.

#### **Automatic pipe handling system**

This system can handle:

- 90 ft triple drill strings
- single 30 ft and 42 ft drill collars
- casing up to 18⅝" diameter, either as 3 singles or in 90 ft lengths and also enables
- addition of single strings during drilling
- breaking of strings after drilling.

Fully automatic and semi-automatic control are provided, the latter from the console by means of predetermined sequences.

#### **Electrical installations**

Three separate installations are employed, viz.

- 5,500 volt, 60 cycle, 3-phase system providing power for A.C. circuits, main propulsion motors and transverse thrusters;
- 440 volt, 60 cycle, 3-phase system serving general circuits;
- thyristor-controlled D.C. system supplying cement and mud pumps and drawworks motors.

#### **Machinery**

The main power for propulsion, thrusters and for drilling is provided by 5 dieselgenerator plants of 3,400 hp each at 1200 rev/min. The alternator which supplies current for the general circuits, and the stand-by generator are each powered by a diesel engine of similar specification.

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## PRODUCTION PROGRAMME I.H.C. HOLLAND

### Offshore Oil Equipment

Mobile offshore drilling units  
Single buoy mooring systems  
Floating unit movers  
Heavy lift equipment  
Oil drilling tenders  
Jackets  
Special ships  
Winches

### Dredging equipment

Trailing dredgers  
Cutter suction dredgers  
Bucket dredgers, etc.  
Standard- and Custom-built

### Marine Mining- and Bulk Handling Equipment

Dredgers for alluvial mining,  
Jigs, Pneumatic elevators.

### Diesel Engines

Two stroke, crosshead  
Smit-Bolnes, up to 5000 hp.



**I.H.C. HOLLAND**