



Saipem

GROUP

Drilling

Scarabeo 7

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Scarabeo 7

BRIEF DESCRIPTION

Born of the Friede & Goldman enhanced Pacesetter GVA design flotel Safe Supporter in 1999, advanced fourth generation semisubmersible drilling rig Scarabeo 7 is outfitted for operations in water depths down to 1,500 m.

With main deck dimensions of 77.5 m x 61.3 m, variable load in drilling mode equal to 4,000 tons (m) and moon pool dimensions of 6.3 m x 24.6 m, Scarabeo 7 is a highly versatile drilling unit. In keeping with the highest environmental regulations, the Scarabeo 7 is 'zero pollution' and 'zero discharge'.

The unit is classified as DnV+A1-CSDU, HELDK, CRANE, -EO, -POSMOOR-ATA, DRILL/NMD.

POWER PLANT

Propulsion and station-keeping on this 19,000 tons (m) unit is controlled by four 2,400 kW Kamewa computer assisted azimuth thrusters with 40 tons (m) of thrust each and a combination chain/wireline mooring system, deployed via BLM winches with 250 tons (m) rated bollard pull and dressed with eight 15,000 kg Vryhof Stevpris anchors.

Power to the unit is supplied by five Nebb 2,880 kva and two ABB HSK900 each driven by five Nohab F212v, 2,560 hp and two Caterpillar 3612v, 4,820 hp.

DRILLING EQUIPMENT

The Scarabeo 7's drilling equipment is designed to reach a vertical depth of 25,000 ft and is outfitted with a 2 million lbs static load derrick (1.5 million lbs dynamic hook load) and a 650 tons (m) Hydralift top drive. Vessel motion is compensated by a Hydralift 600-25 crown mounted heave compensator rated for 750 tons (m).

At the heart of the Scarabeo 7's drilling equipment is a Wirth GH 3000 EG drawworks driven by 3,000 hp electric motors and fitted with a state-of-the-art regenerative disc braking system, combined with a Baylor braking system.





In converting the Scarabeo 7's working environment, great importance has been placed on using the latest generation equipment. Among the features designed to improve both the quality of the service and safety standards onboard are: a highly automated electronic controlled drilling cabin, computerised data acquisition system, automatic elevators integrated with the pipe handling system and automatic roughnecks.

The unit has a 18.75 in 15 k blow out preventers controlled by the latest multiplex system for improved safety and reliability.

SYSTEM

Experience has led to the development of a system for the converted Scarabeo 7 that has a high degree of redundancy.

The unit's system can draw on power supplies from redundant subsystems or may be controlled from alternative control stations, greatly reducing the possibility of total blackout and improving operability in an emergency.

ACCOMMODATION

The accommodation module has been made in accordance with the fire protection rules provided for units involved in oil production. It is designed to accommodate 120 people with a high level of comfort: 2 Tv rooms, cinema, coffee shop and gymnasium.

Platform data & service equipment

UNIT TYPE

8 Column, thruster assisted 8 leg mooring semisubmersible drilling rig completely outfitted for operations in water depths down to 1,500 m.

UNIT FLAG

Bahamas

UNIT CLASSIFICATION

DnV+A1-CSDU, HELDK, CRANE, -EO, -POSMOOR-ATA, DRILL/NMD

UNIT DESIGN

F & G Enhanced Pacesetter-GVA conversion design.

YEAR OF UNIT CONSTRUCTION

Converted during 1998-99 at Tuzla yard in Turkey.

UNIT POSITIONING SYSTEM

Automatic thruster assisted 8 leg mooring system.

MAIN DIMENSIONS:

Light ship weight: 19,325 tons (m)

Main deck width: 64.6 m

Main deck length: 122.7 m

Main deck depth: 4.5 m

Drilling draft: 18.29 m

Moon pool dimension: 6.3 m x 24.6 m





Equipment

STORAGE CAPACITIES:

Fuel: 3,299 cu.m
Drilling water: 1,916 cu.m
Potable water: 864 cu.m
Mud (active & reserve): 500 cu.m
Brine: 426 cu.m
Oil base mud: 347/426 cu.m
Bulk betonite/barite: 70/210 cu.m
Bulk cement: 340 cu.m
Sack storage: 2,500 sacks

OPERATIONAL CAPABILITIES:

Water depth capability: 1,500 m
Drilling depth w/5" DP: 25,000 ft

Variable load in transit mode
On main deck 2,500 tons (m) Into columns: 100 tons (m)
Total: 2,600 tons (m)

Variable load in drilling mode
On main deck: 4,000 tons (m)
Into columns: 500 tons (m)
Total: 4,500 tons (m)
Variable load in survival mode
On main deck: 4,000 tons (m)
Into columns: 500 tons (m)
Total: 4,500 tons (m)





Platform data & service equipment

UNIT ENVIRONMENTAL LIMITS

Drilling	Survival		
Air gap (below main deck)	11.04 m	15.61 m	
Max. wave height	8.3 m	14.9 m	
Related wave period	7.7 sec.	12.0 sec.	
Max. wind velocity	21.2 m/s	37.2 m/s	
Max. current velocity	1.25 m/s	1.61 m/s	
Max. unit heave (dual amplitude)	5.2 m	17.6 m	
Max. unit pitch (dual amplitude)	5.8 deg	17.6 deg	
Max. unit roll (dual amplitude)	6.0 deg	17.6 deg	
Max. unit offset % of water depth	8%	N/A%	
	Heave	Roll	Pitch
During drilling and tripping	5.2	7.0	7.0
During running riser & BOP	2.0	4.0	4.0
During running casing	2.0	4.0	4.0

MOORING SYSTEM

8 x combined chain (76 mm) and wireline (90 mm)
on BLM winches 250 tons (m) rated pull, dressed with
Wryhof anchors type Stevpris Mk5 15,000 kg

CRANES

1 Link Belt THC-2600 (Rated capacity 80 tons (m) at 30 ft
radius)
1 Liebherr BOS 50/1900 (Rated capacity 50 tons (m)
at 30 ft radius)

PIPE RACK OVERHEAD CRANE

1 Hydralift Knuckle boom crane
+ Catwalk machine (Rated capacity 10 tons (m))

RISER RACK OVERHEAD CRANE

1 Hydralift Gantry crane
+ Catwalk machine (Rated capacity 2 x 15 tons (m))

BOP HANDLING SYSTEM

1 Hydralift Gantry crane + BOP Trolley
(Rated capacity 2 x 140 tons (m) + 2 x 30 tons (m)
Gantry crane)

ACCOMMODATION

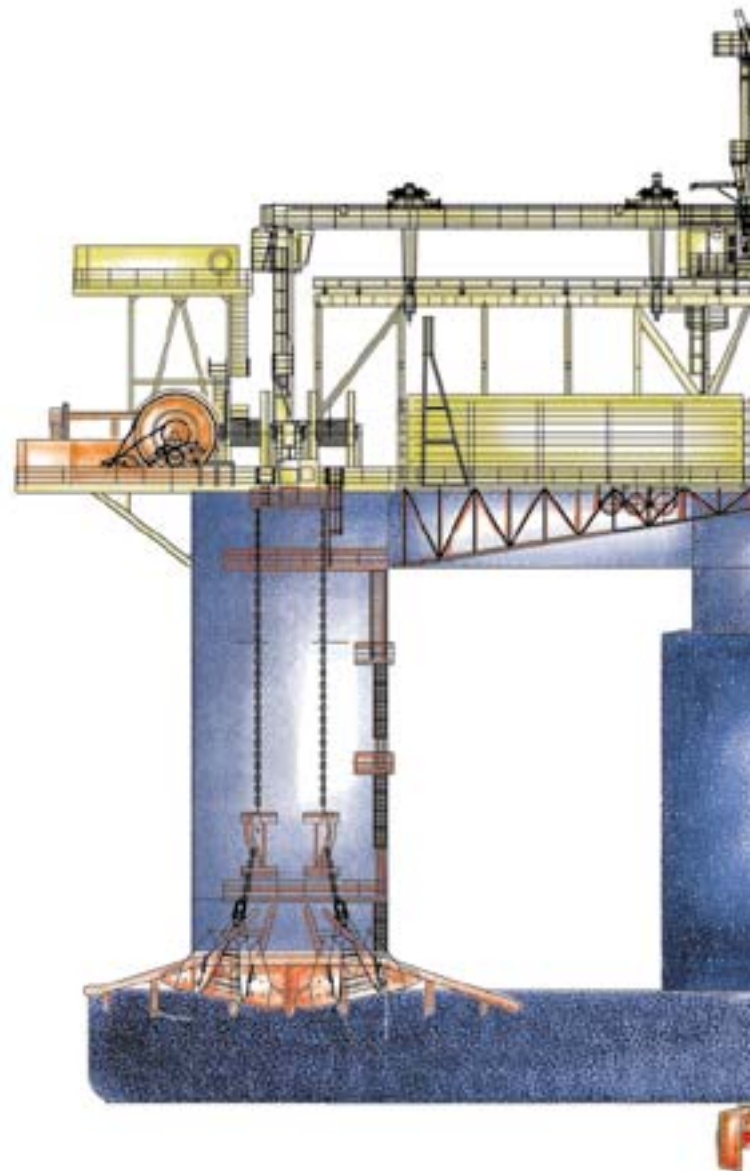
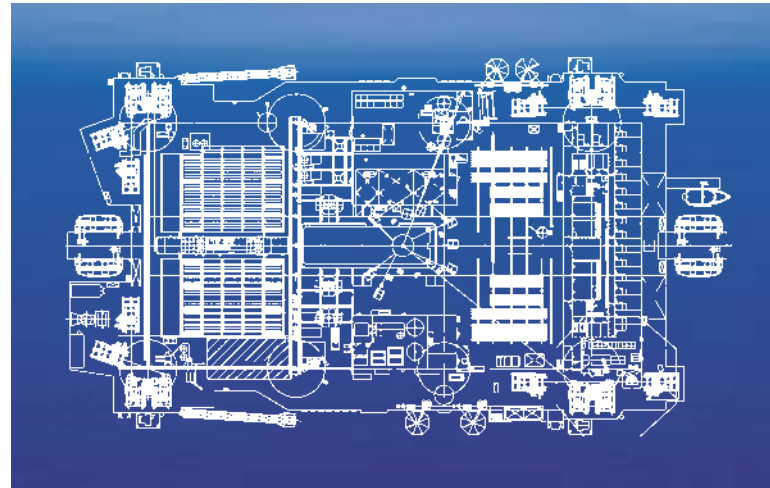
120 people; 2 TV rooms; cinema; coffee shop; gymnasium

POLLUTION PREVENTION SYSTEM

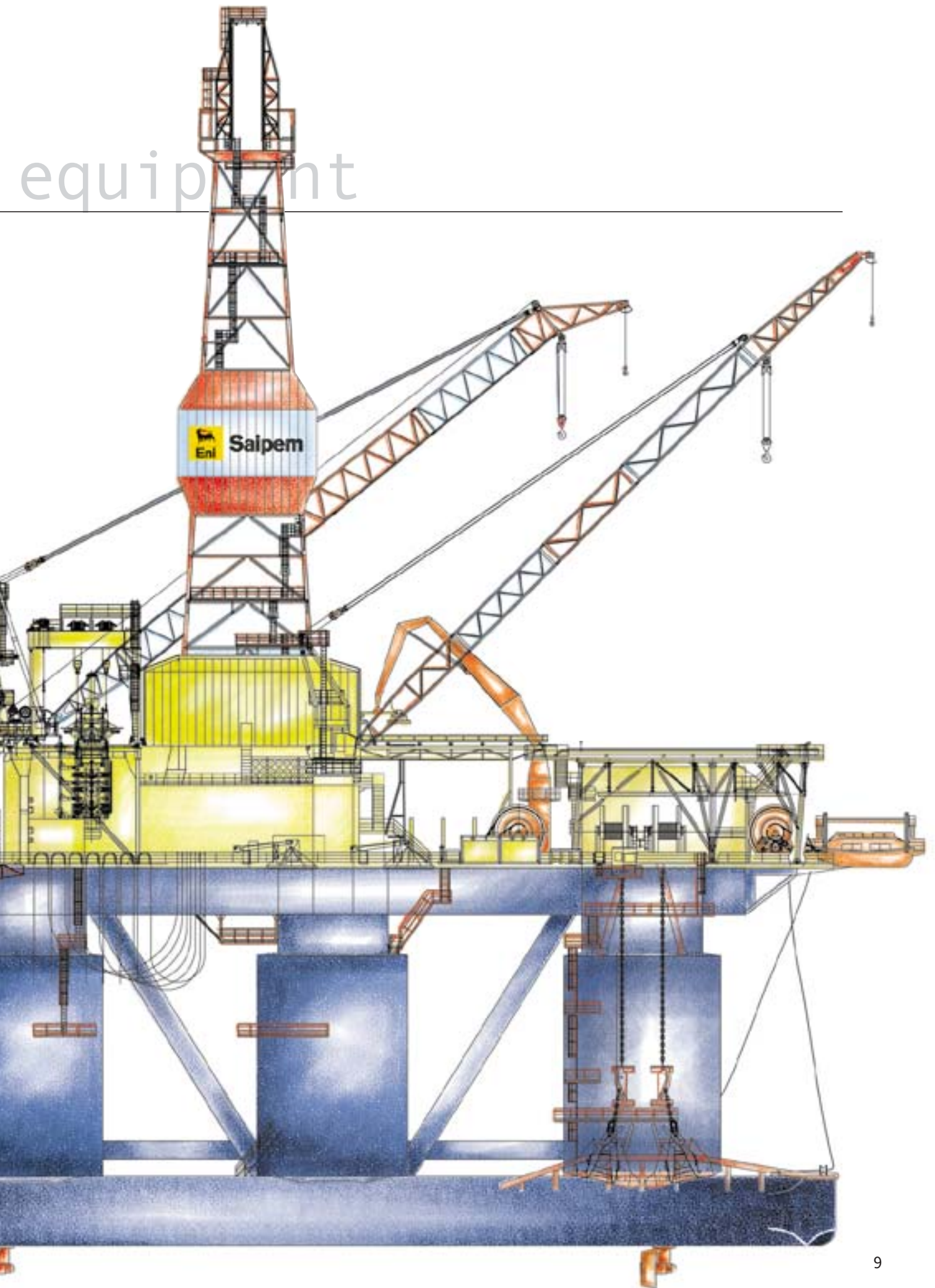
The unit is 'zero pollution' and 'zero discharge' fitted

POWER PLANT

5 Nohab F212v 2,560 hp each and 2 Caterpillar 3612v



equipment



Drilling rig specifications

<u>DERRICK</u>	Hydralift/Bailey	Dynamic	base 40 x 40 ft top 18 x 18 ft height 170 ft
<u>DYNAMIC HOOK LOAD</u>	1,500,000 lbs		
<u>SUBSTRUCTURE/RIG FLOOR</u>	Simultaneous setback and hook load capacity 980 tons (m)		
<u>RACKING PLATFORM</u>	Hydralift remote controlled capacity of 5" D.P. 25,000 ft		
<u>AUTOMATIC DRILL PIPE RACKING SYSTEM</u>	Hydralift semiautomatic with rig floor racking arm and lower racking arm operated from rig floor		
<u>CASING STABBING BOARD</u>	Hydralift hydraulic basket adjustable from rig floor up to 52 ft		
<u>DERRICKMAN PLTF-TV</u>	Elsag Bailey located on fingerboard with monitors located in the driller's house and TV net.		
<u>CAMERA SYSTEM</u>	Capable to zoom, pan and tilt.		
<u>DRAWWORKS</u>	Wirth GH 3000 EG 3,000 hp, Re-generative braking + Baylor 7838 + single disk brake. Powered with 3 GE 752 RB2 1,130 hp each		
<u>CROWN BLOCK</u>	Hydralift	Rated capacity Sheaves	750 tons (m) 8 x 1 3/4" drilling line
<u>TRAVELLING BLOCK</u>	Ideco TB-750	Rated capacity Sheaves	750 tons (m) 7 x 1 3/4" drilling line
<u>HOOK BLOCK</u>	BJ-750	Rated capacity	750 tons (m)
<u>MOTION COMPENSATOR</u>	Hydralift Crown 600-25	Crown mounted Rated capacity compensated Rated capacity locked Stroke	270 tons (m) 750 tons (m) 25 ft
<u>ROTARY TABLE</u>	National C-495	Maximum opening Rated capacity Driven by	49 1/2" 726 tons (m) 1 x GE 752
<u>TOP DRIVE</u>	Hydralift HPS 650 E	Rated capacity Driven by	650 tons (m) GE 752
<u>MUD PUMPS</u>	Wirth TPK 2000 Emsco F 1000	3 triplex pumps, 2,000 hp each with 7,500 psi fluid end 1 triplex pump 1,000 hp with 5,000 psi fluid end riser booster	
<u>CEMENTING UNIT</u>	BJ Services	35.8 - 5.92 TA Driven by	2 x 8v 92 TA Detroit Diesel
<u>SHALE SHAKER</u>	Brandt VSM 300	5 double deck	
<u>DESANDER</u>	Gann Mekaniske	1 installed	GM 3 x 10"
<u>DESILTER</u>	Gann Mekaniske	1 installed	GM 16 x 4"
<u>MUD CLEANER</u>	Gann Mekaniske	1 installed	
<u>MUD GAS SEPARATOR</u>	Drillmec	1 installed	Model 1000
<u>DEGASSER</u>	Burgess	1 installed	Mariner mud degasser
<u>BOP STACK</u>	Shaffer	18 3/4" - 15,000 guideline and guidelineless with Vetco extended H4-HD Bop Connector	
<u>RISER</u>	Cameron RF	21 x 0.688" wall thickness x 19.2 m long	
<u>DIVERTER</u>	Abb Vetco Gray	KFDS Type CSO	
<u>RISER TENSIONERS</u>	Hydralift	16 x 120,000 lbs type 50' line travel	
<u>BOP CONTROL SYSTEM</u>	Shaffer	Multiplex with 5,000 psi accumulator unit	



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Saipem

People, ideas, energy.

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