

# Seven Borealis

Pipelay /  
Heavy Lift

subsea 7



The *Seven Borealis* is a pipelay and heavy lift vessel capable of operating in the world's harshest environments.

- Length 182m x breadth 46m
- 600t tension S-lay up to 46-inch pipe diameter
- 937t top tension J-lay system up to 24-inch pipe diameter
- 2,800t onboard pipe storage
- Mast crane: capacity main hoist 5,000t; 1,200t heave compensated aux hoist
- Accommodation for 399 persons
- 2 x work-class 3,000m rated ROVs

## General Information

Type	Pipelay / Heavy Lift
DNVGL Class Notation	+1A1 Crane Vessel HELDK-SH OPP-F E0 DYNPOS-AUTRO NAUT-AW CLEAN DESIGN
Call Sign	DK BIS
Flag	C6YG8
Built	Bahamas 2012

## Principal Dimensions

Length Overall (m)	182.2m
Breadth (m)	46.2m
Depth Main Deck (m)	16.1m
Operating Draft (m)	8.5m to 11.35m
Transit Speed (knots)	Approximately 11 knots
Endurance (days)	45 days in transit with 220 persons 45 days on DP with 399 persons

## DP System

DP Classification	K-POS DP Class III
Reference Systems	3 x Gyros, 3 x MRU, 4 x wind sensors, 3 x DGPS, 2 x HIPAP, 1 x Radius, 1 x Taut Wire + interfaces for extra Taut Wire, 1 x Fanbeam, 2 x Seapath 320 1 x SpotTrack

## Power and Propulsion

Main Engines/Generators	
Number	6
Type	Rolls-Royce B32:40 V12A 720 rpm diesel engines
Power (kW)	5,760kW each
Emergency/Harbour Generator	
Number	1
Type	MTU, V12 4000 Series
Power (kW)	1,600kW
Thrusters for Propulsion and DP	
Number	2 x azimuth thrusters
Type	Rolls-Royce UUC 455 FP, underwater demountable
Power (kW)	5,500kW each
Location	Stern
Thrusters for DP	
Number	4 x azimuth thrusters, vertically retractable
Type	Rolls-Royce UL 305 FP
Power (kW)	3,200kW
Location	3 at bow, 1 at stern
Number	1 x tunnel thruster
Type	Rolls-Royce TT 3,000 CP
Power (kW)	2,500kW
Location	Bow

## Main Deck

Clear Deck Area (m <sup>2</sup> )	730m <sup>2</sup>
Deck Strength (t/m <sup>2</sup> )	10t/m <sup>2</sup>
Pipe Deck Storage Capacity	2,800t

## Capacities

Fuel Oil HFO (m <sup>3</sup> )	3370m <sup>3</sup>
MDO (m <sup>3</sup> )	2980m <sup>3</sup>
Lubricating Oil (m <sup>3</sup> )	92m <sup>3</sup>
Fresh Water (m <sup>3</sup> )	26,24m <sup>3</sup>
Ballast Water (m <sup>3</sup> )	41,076m <sup>3</sup>
Technical Water (m <sup>3</sup> )	750m <sup>3</sup>

## Accommodation

Berths (No.)	231 in single or double cabins or 405 in single / double / 4 x man cabins
Cabins (No.)	127

## Helideck

Type	Aluminium - Max D 22.2m, Max T.O.W. 12.8t NMD compliant
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## Cranes

Main Crane Capacity (mt)	5,000t (stability permitting)
Location	Main deck centreline aft
Manufacturer	Huisman Equipment BV
Dual Main Hoist, Revolving	4,000t at 40m radius 1,500t at 78m radius
Auxiliary Hoist (Subsea Hook)	1,200t at 70m radius, 4 falls 600t at 103m radius, 2 falls
Operating Water Depth (m)	6,000m - single fall
Active Heave Compensation	Auxiliary hoist only
Whip Line	Single fall: 55t at all radii Double fall: 110t at all radii
Main Crane Tugger Winches	4 x 45t pull. Constant tension up to 22t each
Main Crane Comments	Two main blocks/hooks to allow jacket upending Three point lifts can be achieved using the two main blocks and the auxiliary block
Auxiliary Cranes Capacity and Location	40t Dreggen knuckle boom on starboard side 40t Dreggen knuckle boom on port side Aft 36t Huisman PMOC on port side Fwd

## Pipelaying Systems

<b>Rigid S-lay:</b>	
Max Tension (t)	600t dynamic
Tensioners (No. and type)	3 x Huisman horizontal two track tensioners Variable speed electric drive motors
Pipe Range (inches)	4.5 - 46 inches with coating
Storage Capacity of Pipe (t)	2,100t Port Side/1,050t starboard side
Work Stations (No.)	11 single joint stations or 6 double joint stations
Stinger (m)	3 section stinger Stinger length 92.5m, radius 70 to 300m
Operating Water Depth (m)	20m - 3,000m
A&R Capacity (t)	600t traction winch, 200t CT drum winch
S-lay Comments	Steep S-lay system, up to 90 deg departure
<b>Rigid J-lay:</b>	
Max Tension (t)	937t dynamic
Pipe Range (inches)	4-inch minimum, 24-inch maximum with coating (Friction Clamp), 36-inch with coating (Collar), 72-inch clearance for passing through inline tees, etc
Work Stations (No.)	2 work stations WS1 for welding/NDT, WS2 for NDT/coating
Joint Type	Double joint nominal length 24.6m, range 19.0m to 26.0m, 40t maximum weight
Operating Water Depth (m)	3,000m
A&R Capacity (t)	600t dynamic outside J-lay tower 360t dynamic inside J-lay tower
PLET Handling capacity	100t
J-lay Comments	Active gimbaling mode - gimbals max angle 15°. Tower can handle pipe catenary using either friction clamps or collar clamps
Outriggers	Portside provision for 1,000t hangoff Starboard side provision for 1,225t hangoff
<b>Double Joint Module:</b>	Provision to fabricate double joints onboard

## ROV System

ROVs (No. and type)	2 x work-class ROVs, ACV type by Schilling
Operating Depth Rating (m)	3,000m with 1,500m long tether
ROV Comments	LARS: Tekmar HF 135 using an electric Active Heave Compensation winch Umbilical winch: MacArtney MASH 34.4-3400