

The “PACIFIC KHAM SIN” is an upgraded Dual Load Path Samsung 12,000 design dynamically-positioned Dual Gradient capable drillship able to operate in moderate environments and water depths up to 3,657 m (12,000 ft) using 18¾” BOP and 21” OD marine drilling riser, adapted for single and dual gradient drilling. In areas where dual activity patent is valid, drillship will operate in single activity only.



## PACIFIC KHAM SIN UDW Drillship

### GENERAL

<b>Flag:</b>	Liberia
<b>Owner:</b>	Pacific Drilling V Ltd.
<b>Manager:</b>	Pacific Drilling Services, Inc.
<b>Year built:</b>	2013
<b>Design:</b>	Samsung 12000 Double Hull
<b>Builder:</b>	Samsung Heavy Industries, South Korea
<b>Classification:</b>	DNV Classed: 1A1, Ship-shaped Drilling Unit, BIS, E0, DYNPOS-AUTRO, CRANE, HELDK-S, F-AM, COMF-V(2)

### OPERATING PARAMETERS

<b>Maximum transit speed:</b>	11.5 knots	
<b>Operating conditions:</b>	Wave: 19 ft	Wind: 50 knots
<b>Station-keeping conditions:</b>	Wave: 28 ft	Wind: 60 knots
<b>Storm conditions:</b>	Wave: 47 ft	Wind: 100 knots
<b>Water depth:</b>	Equipped: 10,000 ft (3,048 m)	Maximum: 12,000 ft (3,657 m)
<b>Drilling depth:</b>	Equipped: 35,000 ft (10,668 m)	Maximum: 40,000 ft (12,186 m)

### MAIN DIMENSIONS / CAPACITIES

<b>Length:</b>	748 ft	228 m
<b>Breadth:</b>	137 ft	42 m
<b>Depth:</b>	62 ft	19 m
<b>Transit draft:</b>	28 ft	8.5 m
<b>Operating draft:</b>	39 ft	12 m
<b>Maximum load displacement:</b>	105,800 ST	96,000 MT
<b>Variable deck load – Operating:</b>	24,250 ST	22,000 MT
<b>Variable deck load – Transit:</b>	18,740 ST	17,000 MT
<b>Variable deck load – Survival:</b>	24,250 ST	22,000 MT
<b>Brine / sea water:</b>	4,000 bbls	640 m <sup>3</sup>
<b>Brine:</b>	15,700 bbls	2,500 m <sup>3</sup>
<b>Base oil:</b>	6,200 bbls	1,000 m <sup>3</sup>
<b>Active mud:</b>	6,600 bbls	1,065 m <sup>3</sup>
<b>Reserve mud:</b>	12,400 bbls	2,000 m <sup>3</sup>
<b>Reserve / riser fluid mud:</b>	6,200 bbls	1,000 m <sup>3</sup>
<b>Waste mud:</b>	3,100 bbls	500 m <sup>3</sup>
<b>Sacks:</b>	10,000 sacks	-
<b>Drill water:</b>	15,700 bbls	2,500 m <sup>3</sup>
<b>Potable water:</b>	8,100 bbls	1,300 m <sup>3</sup>
<b>Diesel:</b>	46,500 bbls	7,400 m <sup>3</sup>
<b>Pipe racks:</b>	Storage for 3,000 MT of drill pipe and casing	
<b>Riser storage:</b>	Storage for 131 joints of 90 ft length, 21” outside diameter riser with 54” buoyancy	
<b>Well test area:</b>	Storage area aft designed for up to 2,500 MT of well test equipment	
<b>Helideck:</b>	22.2 x 22.2 octagonal, rated for Sikorsky S61N or S92	
<b>ROV:</b>	ROV deployed over side, space for one port and one starboard full spreads	
<b>Moonpool:</b>	84 ft x 41 ft (25.6 m x 12.5 m)	
<b>Accommodation:</b>	200 berths, 20 x 1 person and 90 x 2 persons rooms	
<b>Burner boom:</b>	1 Each 80 ft Swan neck burner boom installed on aft ship, ship will weather vane	

# PACIFIC KHAM SIN

## UDW Drillship



### MACHINERY

<b>Main power:</b>	HIMSEN engines 6 x 8,000 KW at 720 RPM, Tier 2 compliant, each driving 1 x 7,760 kW 11kV ABB generators
<b>Power distribution:</b>	11 kV, 440 V, 60 Hz, 3-Phase Drilling Drive System
<b>Emergency power:</b>	6 Main engines are equipped for emergency duties
<b>Cranage:</b>	4 x 85 MT electro-hydraulic knuckle-boom cranes at 18 m (59 ft) radius 1 x 9 MT electro-hydraulic tubular handler at 22.3 m (73 ft) radius on forward pipe deck

### STATION-KEEPING

<b>Positioning:</b>	Kongsberg DYNPOS AUTRO System for DP-3 Operations
<b>Propulsion:</b>	6 x 4,500 kW variable speed AC drives
<b>Thrusters:</b>	6 x Rolls Royce Aquamaster fixed pitch Azimuthing in water removable thrusters
<b>Reference system:</b>	Dual redundant DGPS or equivalent; Dual HiPAP hydro acoustic position reference system

### DRILLING EQUIPMENT

<b>Derrick:</b>	Dual load path main 1,250 ST auxiliary 1,000 ST, maximum combined load 1,750 ST 210 ft x 60 ft x 80 ft derrick to handle 135 ft-tubular. Crown block with 9 each 72" sheaves Racking board capable of racking 3 1/2" DP up to 20" casing.
<b>Draw-works:</b>	2 x NOV Active Heave Drawwork, 2,500 kips single speed gear driven by 6 x 1150 HP AC motors with 2 1/8" line
<b>Rotary:</b>	1 x NOV RST 755 (75-1/2") hydraulic (Main); 1 x NOV RST 605 (60-1/2") hydraulic (Auxiliary)
<b>Top drive:</b>	2 x NOV TDX-1250, 1,250 ST hoisting, 1,200 ST rotating, torque 90,740 ft.lbs
<b>Travelling block:</b>	2 x NOV 2,500 kips, 8 x 72" sheaves
<b>Mud pumps:</b>	4 x NOV 14-P-220, 7,500 psi
<b>HP brine - DGD pumps:</b>	3 x NOV 14-P-220, 7,500 psi
<b>Cementing unit:</b>	Third Party Services – Schlumberger CPS-977, remote control, LAS
<b>Shale shakers:</b>	7 each NOV Multi size Triple Deck shale shaker
<b>Degasser:</b>	2 x Brandt DG-12 vacuum degasser
<b>Centrifuges:</b>	Space available for 2 x Brandt HS 2172 centrifuges
<b>Drill-pipe:</b>	10,000 ft 6.5/8" Casing landing string with 6.5/8" FH-45° taper connections, V-150, 78 lbs/ft 25,000 ft 5.7/8" Drill string with 585 Turbotorque connections, S-135, 26.30 lbs/ft 10,000 ft 5" Drill string with GPDS50 connections, S-135, 19.50 lbs/ft
<b>Drill-collars / HWDP:</b>	12 x 9 1/2", 30 x 8 1/4", 30 x 6 3/4" / 40 x 5 7/8" HWDP, 40 x 5" HWDP
<b>Pipe handling:</b>	Outfitted to facilitate offline tubular handling with system consisting of: 2 x Hydra-Racker System HR-IV (for 3.1/2" to 20" tubulars) 2 x Hydratong MPT-200 (for 3.1/2" to 9.3/4" tool-joints)

### SUBSEA SYSTEMS

<b>Note:</b>	<b>2 each complete BOPs installed.</b>
<b>BOP – 2 each:</b>	6 Ram cavities: 2 x NOV-Shaffer NXT 18 3/4" 15k triple; GE-Vetco SHD H4 18 3/4" 15k wellhead connector
<b>LMRP – 2 each:</b>	2 x NOV-Shaffer 18 3/4" 10k annular; GE-Vetco ExF H4 18 3/4" 15k High Angle Release LMRP connector
<b>BOP / Xmas tree handling:</b>	1 x BOP trolley with skid rated 540 tons; 2 x 240 Ton BOP gantry crane with dual lifting hoists 2 x X-mas tree skids rated 120 tons Rails for 1 x multi purpose hang off cart rated 1,000 tons, with 13 m clearance for Xmas trees
<b>Control system:</b>	NOV-Shaffer 6 <sup>th</sup> Gen. Multiplex Control System suitable for 12,000 ft
<b>Riser details:</b>	NOV-Shaffer 21" OD, 90 ft Class H 3 1/2 M lbs couplings & 15k 4.1/2" ID C&K lines – 10,000 ft; 54" buoyancy
<b>Riser gantry crane:</b>	One riser gantry crane with 2 x 27.5 MT hoist
<b>Choke &amp; kill:</b>	3.1/16" x 15k C&K Manifold H2S Service
<b>Diverter:</b>	NOV-Shaffer 21 1/4", 500 psi CSO for 75.1/2" rotary table
<b>Riser tensioner:</b>	8 x Dual Wireline 225 kips with 50 ft stroke