



ORIGINAL PUBLICATION *SPRING 2013*  
WRITTEN BY *SCOTT REDEPENNING*

*As the global recession of the late 2000s dragged on, shipyards began offering newbuild contracts at drastically reduced prices. With characteristic financial sagacity, Diamond Offshore moved to take advantage of the opportunity. This article introduces the seven new rigs that were ordered—highlighting four high-*

*spec dynamically positioned drillships that rank at the top of the world's most advanced ultra-deep-water drilling units. The ships began securing contracts long before construction was complete. The Ocean BlackHawk and Ocean Onyx have now begun working, and all of these units have secured term contracts.*



# SETTING SAIL

**WITHIN THE NEXT TWO YEARS, DIAMOND OFFSHORE WILL LAUNCH THREE ULTRA-DEEPWATER DRILLSHIPS, A DEEPWATER SEMISUBMERSIBLE, AND AN ULTRA-DEEPWATER HARSH ENVIRONMENT SEMISUBMERSIBLE. ALL OF THE RIGS ALREADY HAVE CONTRACTS AND WILL HEAD DIRECTLY TO WORK.**

## ULTRA-DEEPWATER DRILLSHIPS

- OCEAN BLACKHAWK** (DELIVERED)
- OCEAN BLACKHORNET**
- OCEAN BLACKRHINO**
- OCEAN BLACKLION**



<b>GENERAL</b>	Design:	Gusto P10,000 DW
	Classification:	ABS, A1 Drillship
<b>DRILLING</b>	Dimensions:	754 ft long x 118 ft wide x 59 ft deep
	Draft:	36 ft operating / 29 ft transit
	Displacement:	70,000mT operating
	Variable Deck:	22,045T operating
	Transit Speed:	up to 12.5 knots
	Water Depths:	12,000 ft designed / 10,000 ft outfitted
	Drilling Depth:	40,000 ft
	Derrick:	NOV Dual Bottleneck, 210 ft high with 80 ft x 60 ft base, combined hook load capacity of 4,000 kips
	Drawworks:	(Main): NOV / AHD 1250, six AC electric motors, 9,000hp total, 1,250T with sixteen 2 1/8" drilling lines (Aux): NOV / AHD 750, five AC electric motors, 5,750hp total, 750T with fourteen 1 3/4" drilling lines
	Compensator:	Active Heave Compensating Drawworks
<b>POWER</b>	Rotary Table:	(Main): NOV RST 75 1/2" hydraulic, 1,375T static (Aux): NOV RST 60 1/2" hydraulic, 1,000T static
	Top Drive:	(Main): NOV TDX-1250, 1,250T with 7,500 psi (Aux): NOV TDS-8SA, 750T with 7,500 psi
<b>STORAGE</b>	Tubular handling:	2 x NOV MPT 'Hydraulic Roughneck' for tubular range 3 1/2" to 9 3/4" + 2 x NOV HR IV-ER
	Mud Pumps:	5 x NOV 14-P-220, 2,200hp, 7,500 psi
<b>CRANES</b>	Main Power:	6 x Himsen diesel engines rated 4,500kW, each driving 5,375 kVA AC generators 2 x Himsen V-type diesel engines rated 9,000kW, each driving 10,875 kVA AC generators
	Emergency Power:	V-type Cummins diesel engine rated 1,900kw driving 1x STX engine rated 1,550kW AC generator
<b>SUBSEA</b>	Liquid Mud:	15,204 bbls
	Base Oil:	7,209 bbls
<b>OTHER</b>	Brine:	13,175 bbls
	Drill Water:	18,593 bbls
<b>CRANES</b>	Potable Water:	8,834 bbls
	Bulk Material:	16,315 ft <sup>3</sup> (barite + bentonite) + 15,891 ft <sup>3</sup> (cement)
<b>SUBSEA</b>	Sack Storage:	6,000 sacks
	Knuckle-boom:	1 x 100 ton + 2 x 85 ton knuckle-boom
<b>OTHER</b>	AHC Subsea:	165 ton Active Heave Compensation knuckle-boom
	Diverter:	Vetco CSO 21 1/4" 500 psi diverter with 1 x 20" flow line + 2 x 16" overboard diverter lines
<b>OTHER</b>	BOP Stacks (2):	Hydril 18 3/4" 15,000 psi seven-ram preventer 2 x Hydril 18 3/4" 10,000 psi annular preventers
	C&K Manifold:	3 1/16", 15,000 psi
<b>OTHER</b>	Marine Riser:	Vetco HMF Class H 21", 75 ft long per joint
	Tensioners:	16 x 225 kips NOV wireline riser tensioners. Total capacity 3,600 kips with 50 ft of wire travel
<b>OTHER</b>	Moonpool:	73 ft x 42 ft
	Thrusters:	6 x Thrustmaster, 5,000kW azimuth thrusters with fixed pitch variable speed propellers
<b>OTHER</b>	DP System:	Kongsberg K-POS
	Dual Activity:	Yes
<b>OTHER</b>	Accommodation:	210 people
	Helideck:	Sikorsky S-61 & S-92

## MILESTONES TO COMPLETION

SHIPYARD DELIVERY DATES

2014

**OCEAN BLACKHAWK**

CONTRACT  
ANADARKO

**OCEAN ONYX**

CONTRACT  
APACHE

**OCEAN APEX**  
**OCEAN BLACKRHINO**  
**OCEAN BLACKHORNET**

# SEMISUBMERSIBLES

## OCEAN ONYX (DELIVERED)

### OCEAN APEX

<b>GENERAL</b>	Design:	Enhanced Victory Class/Crucifix Form
	Classification:	ABS Column Stabilized Drilling Unit
<b>DRILLING</b>	Dimensions:	361 ft long x 320 ft wide x 128 ft high
	Draft:	76 ft operating / 28 ft transit
	Displacement:	49,855LT operating
	Variable Deck:	7,000LT operating
	Transit Speed:	up to 3.8 knots
	Water Depths:	6,000 ft designed / 5,000 ft outfitted
	Drilling Depth:	30,000 ft
	Derrick:	NOV, 185 ft high with 40 ft x 40 ft base, load capacity of 2,000 kips
Drawworks:	NOV UDBEL 2040, four DC electric motors, 1,000hp each, with 2" drilling line	
Compensator:	NOV drill string motion compensator, 800 kips capacity with 25 ft stroke	
Rotary Table:	NOV RST, 49 1/2"	
Top Drive:	NOV TDX-1000, 1,000T with pipe handler	
Tubular handling:	NOV ST-120 Iron Roughneck for tubular range 3 1/2" to 10" + NOV BR-10-SD-D bridge racker	
Mud Pumps:	4 x NOV 14-P 220, 2,200hp, 7,500 psi	
<b>POWER</b>	Main Power:	5 x Caterpillar C175 Tier II diesel engines rated 2,400hp each with 4,160 VAC generators
	Emergency Power:	1 x Caterpillar C32 engine rated 720 kW
<b>STORAGE</b>	Liquid Mud:	10,798 bbls
	Base Oil:	3,315 bbls
	Brine:	2,000 bbls
	Drill Water:	15,456 bbls
	Potable Water:	1,002 bbls
	Bulk Material:	27,010 cu ft (mud + cement)
Sack Storage:	5,000 sacks	
<b>CRANES</b>	1 x 56 ton SeaTrax 6032 with 150 ft boom	
	1 x 56 ton SeaTrax 7224 with 160 ft boom	
	1 x 68 ton SeaTrax 9040 with 160 ft boom	
	1 x 34.4mT NOV knuckle-boom crane for riser and tubular handling	
<b>SUBSEA</b>	Diverter:	Vetco 24" (ID) 500 psi with 16" flow line
	BOP Stack:	Shaffer 18 3/4" 15,000 psi five-ram preventer Shaffer dual 18 3/4" 10,000 psi annular preventers
	C&K Manifold:	3 1/16", 15,000 psi
	Marine Riser:	Shaffer FT-E, 75 ft long per joint
	Tensioners:	8 x 200 kips Dual Rucker wireline riser tensioners. Total capacity 1,600 kips with 50 ft of wire travel
	Moonpool:	22 ft x 81 ft
<b>OTHER</b>	Mooring System:	(8) 3 1/4" x 4,200 ft RQ5 chains, (8) 3 3/4" x 8,800 ft wires, (8) 15T Stevpris MK6 anchors
	Accommodation:	140 people; NR-30 compliant
	Helideck:	Sikorsky S-92; CAP 437 compliant

### OCEAN GREATWHITE

<b>GENERAL</b>	Design:	Moss CS60E Design 6th Generation, Harsh Environment
	Classification:	DNV +1A1 Column Stabilized Drilling Unit
<b>DRILLING</b>	Dimensions:	402 ft long x 255 ft wide
	Draft:	77 ft operating
	Displacement:	67,400T operating
	Variable Deck:	7,500T operating
	Transit Speed:	up to 8 knots
	Water Depth:	10,000 ft
	Drilling Depth:	35,000 ft
	Derrick:	NOV, 210 ft high with 49 ft x 52.5 ft base, load capacity of 2,500kip, capable of 900T setback
Drawworks:	NOV SSGD, five AC electric motors, 1,150hp each, 2,000kip capacity, fourteen 2" drilling line	
Compensator:	NOV 1,000t static, 500t dynamic capacity, 25 ft stroke with Active Heave Compensation	
Rotary Table:	NOV, 60 1/2", 1,250t	
Top Drive:	NOV TDX-1000, 1,000t	
Tubular handling:	2 x NOV ARN-270 Iron Roughneck with full offline standbuilding + 2 x NOV Vertical Hydrarackers-IV-ER	
Mud Pumps:	4 x NOV 12 P-220, 2,200hp each, 7,500 psi	
<b>POWER</b>	Main Power:	8 x HH1 HiMSEN 12H32 Tier II diesel engines rated approx 6,120 kVA AC generators
	Emergency Power:	1 x Caterpillar C32 engine rated 720 kW
<b>STORAGE</b>	Liquid Mud:	13,332 bbls
	Base Oil:	3,962 bbls
	Brine:	3,962 bbls
	Drill Water:	12,326 bbls
	Potable Water:	5,220 bbls
	Bulk Material:	30,366 cu ft (mud + cement)
Sack Storage:	5,000 sacks	
<b>CRANES</b>	2 x 100t SeaTrax 10832 with 200 ft boom	
	1 NOV gantry crane for riser handling	
	1 x 12T NOV knuckle boom crane for tubular handling	
<b>SUBSEA</b>	Diverter:	60" Shaffer 21 1/4", 500psi with 18" flow line
	BOP Stack:	Shaffer 18 3/4" 15,000 psi six-ram preventer 3x NXT Double 22" Operators LFSR-CVX Full API Std 53 and BP GP10-10/10-11 compliance
	C&K Manifold:	3 1/16", 15,000 psi
	Marine Riser:	Shaffer FT-H 10,000ft, 21" OD, 75 ft long per joint
	Tensioners:	8 x 450 kips double wireline riser tensioners Total capacity 3,600 kips with 50 ft of wire travel
	Moonpool:	29.5 ft x 91.8 ft
<b>OTHER</b>	Mooring System:	Fitted with (2) 84mm x 320mm R5 chains w/ 18mT Stevpris Mk6 anchors for harbor mooring, capacity for (8) 84mm x 2,200m R5 chain
	Accommodation:	180 people
	Helideck:	EH-101 or S-92; CAP 437 compliant

2015

2016

OCEAN BLACKLION

OCEAN GREATWHITE