

**Appendix G**  
**U.S. Army Corps of Engineers**  
**Nationwide Permit 8**

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**U.S. Army Corps of Engineers, Alaska District**  
**PRECONSTRUCTION NOTIFICATION FORM**

May be used instead of Form ENG 4345 to request authorization under a Nationwide Permit (NWP)

<b>Applicant:</b> Shell Offshore Inc.	Phone: 907-770-3700
Address: 3601 C Street, Suite 1000	Fax: 907-646-7145
City, State, Zip: Anchorage, Alaska 99503	Cell/Direct Line: 907-301-5792 / 646-7112
Point of Contact: Susan Childs	e-mail: susan.childs@shell.com

<b>Agent:</b>	Phone:
Address:	Fax:
City, State, Zip:	Cell/Direct Line:
Point of Contact:	e-mail:

**Location of the Proposed Project Site:**

Nearest Waterway: Camden Bay (Beaufort Sea)						
Section, Township, Range, and Meridian: not applicable (Federal waters)						
Latitude and Longitude (Decimal Degrees, NAD-83):						
Drill Site	Latitude	Longitude	OCS Area	Block	Lease	Water Depth
Sivulliq G	70.40N	-146.02W	Flaxman Island	6658	OCS-Y-1805	110 ft
Sivulliq N	70.39N	-145.98W	Flaxman Island	6658	OCS-Y-1805	107 ft
Torpedo H	70.45N	-145.83W	Flaxman Island	6610	OCS-Y-1941	120 ft
Torpedo J	70.48N	-145.90W	Flaxman Island	6559	OCS-Y-1936	124 ft
Nearest City: Deadhorse			Subdivision: not applicable			
Borough: North Slope			USGS Quad(s): not applicable (Minerals Management Service Official Protraction Diagram NR06-04 Flaxman Island)			
Driving Directions to Site: No road access						

**Project Description:**

To ensure your project meets the requirements for a NWP, read all of the NWP General Conditions and Regional Conditions, which can be found on our website at <a href="http://www.poa.usace.army.mil/reg/NWPs.htm">http://www.poa.usace.army.mil/reg/NWPs.htm</a> .
Description of the proposed project, including the area of impacts and the volume of fill material to be used (If there is a NWP that you think would apply to your proposed project, please include that in this section):
Shell Offshore Inc. (Shell) is submitting this pre-construction notification (PCN) to confirm that activities associated with its revised exploration drilling program near Camden Bay, Beaufort Sea, are authorized under NWP #8, oil and gas structures on the Outer Continental Shelf (OCS).

Shell is proposing to conduct an exploration drilling program on U.S. Department of the Interior, Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) (formerly Minerals Management Service [MMS] Alaska OCS leases located north of Point Thomson near Camden Bay in the Beaufort Sea beginning in 2012 (see attached Figure 1 for lease block locations). Shell proposes to drill four exploration wells total; one each on outer continental shelf lease blocks 6610 and 6559 and two exploration wells on lease block 6658. Each year, the drilling vessel placement will be temporary from approximately July 10 to October 31.

Shell will use either the purpose-built conical drilling unit *Kulluk* or the ice-strengthened drillship Motor Vessel (M/V) *Noble Discoverer* (*Discoverer*) to drill the wells. The *Kulluk* has an Arctic Class IV hull design, is capable of drilling in up to 600 feet of water and is moored using a 12-point anchor system. The *Discoverer* is ice-strengthened and is moored using an 8-point anchor system. Specifications for both drilling vessels are attached.

The following are the anchor radius depending on whether the *Kulluk* or *Discoverer* drills the wells:

Drillsite	Anchor Radius (if <i>Kulluk</i> drills the well)	Anchor Radius (if <i>Discoverer</i> drills the well)
Sivulliq G	3,117 ft (950 m)	2,903 ft (885 m)
Sivulliq N	3,117 ft (950 m)	2,903 ft (885 m)
Torpedo H	2,995 ft (913 m)	2,903 ft (885 m)
Torpedo J	2,995 ft (913 m)	2,903 ft (885 m)

During each drilling season, the *Kulluk* or *Discoverer* will be attended by a minimum of 10 vessels that will be used for ice management, anchor handling, oil spill response (OSR), refueling, resupply, waste handling, and servicing of the exploration drilling operations. The ice management vessels will consist of an icebreaker and an anchor handler.

The *Kulluk* or *Discoverer* and its ice management and support vessels will transit through the Bering Strait into the Chukchi Sea on or after July 1, arriving on location near Camden Bay approximately July 10. The planned exploration drilling program will commence on or about July 10 each year, as ice, weather, and other conditions allow for safe drilling operations. Exploration drilling will cease on or before October 31. Each year, Shell plans to suspend drilling operations in the Camden Bay area during the Kaktovik and Cross Island fall bowhead whale subsistence harvests from August 25 through the date upon which the Kaktovik and Cross Island subsistence harvests have concluded (approximately September 10). Shell will be prepared to resume exploration drilling operations once the Kaktovik and Cross Island fall bowhead whale subsistence harvests have concluded.

**No dredging will occur and no fill material is to be used.**

Project purpose: Attempt to locate concentrations of oil and/or gas.

Describe any direct and/or indirect adverse environmental effects that may result from the proposed project:

There are no anticipated direct or indirect adverse environmental effects due to the placement of a drilling vessel at the four identified locations in federal waters. There are no shipping lanes, fairways, or anchorages in the area. There is no commercial fishing in this part of the Beaufort Sea. There is little vessel traffic in this part of the Beaufort Sea. The traffic that does occur (e.g., village supply barges) generally transit well shoreward of the lease blocks.

Impacts, direct or indirect, associated with the exploration drilling activities subsequent to placement of the drilling vessel have been evaluated in an Environmental Impact Assessment that is part of the revised Camden Bay Exploration Plan (EP) submitted to BOEMRE.

Do you intend to use any other authorizations for any part of the proposed project or any related activity, for example, a NWP, General Permit (GP), or Individual Permit (IP)?

YES or NO X

If YES, specify what permit type (NWP, GP, IP) and for what aspect of the project:

Not applicable.

Will your proposed project result in the loss of greater than 1/10 of an acre of wetlands?

YES or NO X

If YES, describe how you will satisfy the mitigation requirement in Nationwide Permit General Condition 20 (attached). If additional space is needed, please attach sheets.

Not applicable.

Are there any threatened or endangered species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work? Contact USFWS or NMFS

YES X or NO

If YES, list all species: Polar bear, bowhead whale, spectacled eider, Steller's eider, and endangered species act (ESA) proposed ESA listed species: ringed and bearded seals; and candidate species: Pacific Walrus and yellow-billed loon

- An application for a Letter of Authorization (LOA) (incidental take of polar bears and Pacific walrus; intentional take of polar bears) has been sent to the USFWS. The LOA application is also included in the Shell revised Camden Bay EP that has been submitted concurrently to BOEMRE for approval.
- An application for an Incidental Harassment Authorization (IHA) for the incidental harassment of whales and seals, has been sent to the National Marine Fisheries Service (NMFS). The IHA application is also included in the Shell's revised Camden Bay EP covering exploration drilling activities planned to begin in 2012 that has been submitted to BOEMRE for approval.
- In response to BOEMRE's Beaufort Sea lease sales 195 and 202, Stipulation No. 7 (Lighting of Lease Structures to Minimize Effects to Spectacled and Steller's Eiders), Shell has drafted a plan to reduce potential birds in flight striking the drilling vessel. The Bird Strike Avoidance and Lighting Plan is included in Shell's revised Camden Bay EP that has been submitted to BOEMRE for approval.

Are there any historic properties that may be affected by the proposed work? Contact SHPO

YES or NO X

If YES, state which property or properties may be affected and/or attach a vicinity map indicating the location of the historic property or properties.

Site clearance surveys were conducted over the planned drill sites. No historic properties were identified.

Will the proposed work involve ground disturbing activities?

YES X or NO

If YES, attach a short narrative describing the topsoil or organic materials (including seed) that you intend to use for rehabilitation. If you intend to use other locally-obtained native materials, identify the source.

#### Kulluk Activities

Twelve anchors will be set using an anchor handling/ice management vessel. The anchor and their chains will disturb the seafloor sediments over a very small area and to a limited depth. Vessel mooring systems employed during operations will be removed upon abandonment of each well. A mudline cellar (MLC) will be constructed (drilled) at each drill site so that well structures are located beneath the seafloor and would not be affected by ice gouging if the drilling vessel has to temporarily move off the site before exploration drilling operations have concluded. The MLCs are approximately 24 feet (ft) (7.3 meters [m]) in diameter and 41 ft (12.5 m) below the seafloor. Cuttings from the MLC and the top two portions of the exploration well will be deposited on the surface of the seafloor per the U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) General Permit (GP) No. AK28-0000. Between 5,184 -5,335 barrels (824-848 cubic meters [m<sup>3</sup>]) of seafloor material and rock chips will be discharged to the seafloor. The MLC will be left to in-fill by the natural movement of sediments.

Discoverer Activities

Eight anchors will be set using an anchor handling/ice management vessel. The anchor and their chains will disturb the seafloor sediments over a very small area and to a limited depth. The drilling vessel is fitted with Sonat Offshore Drilling patented roller turret mooring system giving the drilling vessel the ability to rotate about the turret to maintain favorable heading without an interruption of the exploration drilling operations. Vessel mooring systems employed during operations will be removed upon abandonment of each well. A MLC will be constructed (drilled) at each drill site so that well structures are located beneath the seafloor and would not be affected by ice gouging if the drilling vessel has to temporarily move off the site before exploration drilling operations have concluded. The MLCs are approximately 20 ft (6.1 m) in diameter and 41 ft (12.5 m) below the seafloor. Cuttings from the MLC and the top two portions of the exploration well will be deposited on the surface of the seafloor per the EPA NPDES General Permit No. AKG-28-0000. Between 3,851 -4,002 barrels (612-636 m<sup>3</sup>) of seafloor material and rock chips will be discharged to the seafloor. The MLC will be left to in-fill by the natural movement of sediments.

Attach the following in addition to the above applicable items:

- Drawings of the site and project plans (For more information on acceptable drawings and plans, please visit our website at <http://www.poa.usace.army.mil/reg/permitapp.htm> and click on "Guide to Drawings")
- Delineation of special aquatic sites including wetlands, riffle and pool complexes, sanctuaries and refuges, mudflats, vegetated shallows, and/or coral reefs. You may request a delineation from the Corps. Please visit our website for the Request Jurisdictional Determination from the Corps Form at <http://www.poa.usace.army.mil/reg/JD%20Request%20Form%20Web.pdf>.

Note: If you request a Corps delineation, you may be delayed in receiving authorization for your proposed project.

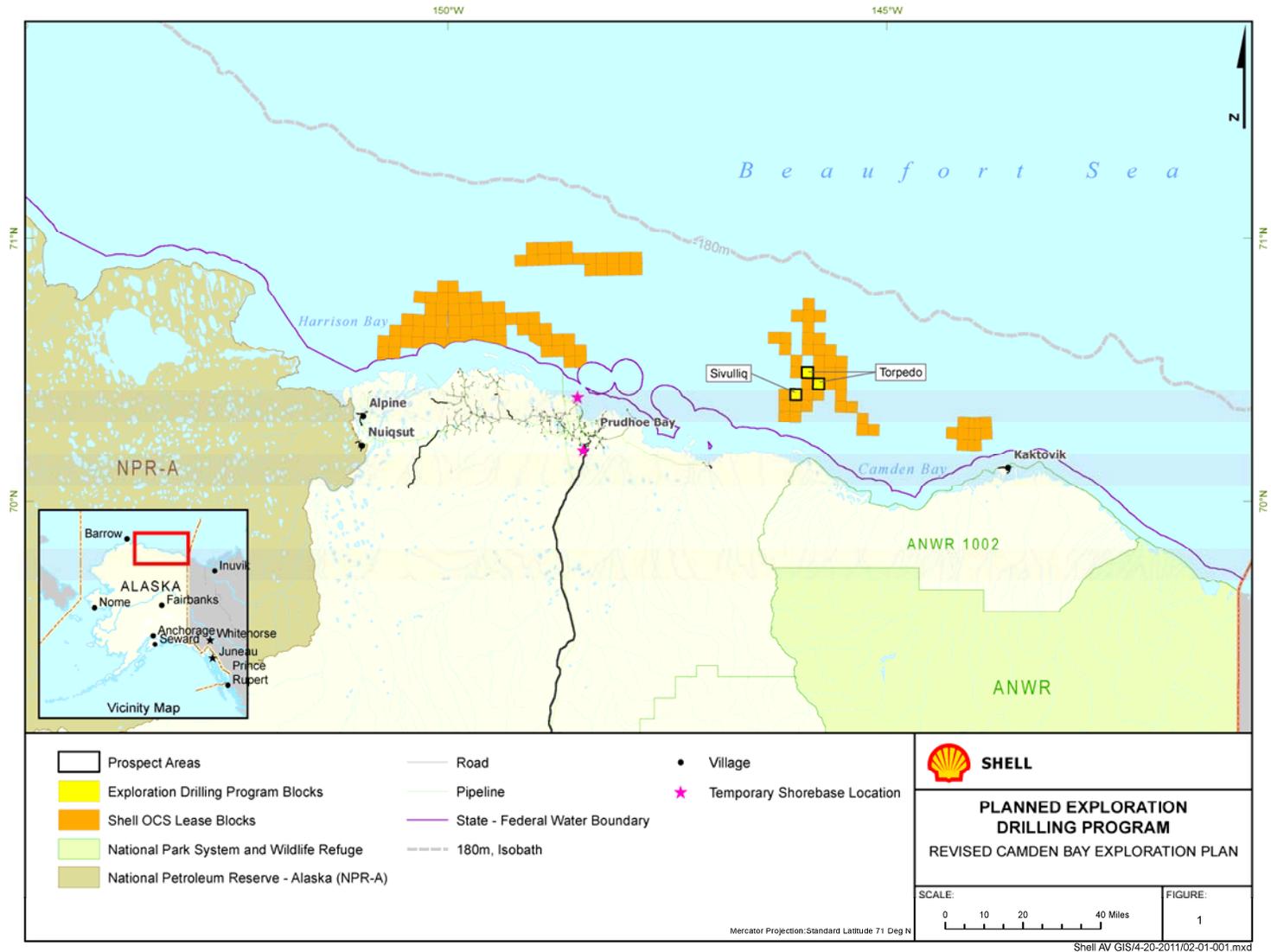
Application is hereby made for a permit or permits to authorize the work described in this preconstruction notification form. I certify the information in this preconstruction notification form is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

 5/2/11  
SIGNATURE OF APPLICANT      DATE

\_\_\_\_\_  
SIGNATURE OF AGENT

\_\_\_\_\_  
DATE

**Figure 1 Planned Exploration Drilling Program**



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## Kulluk Specifications

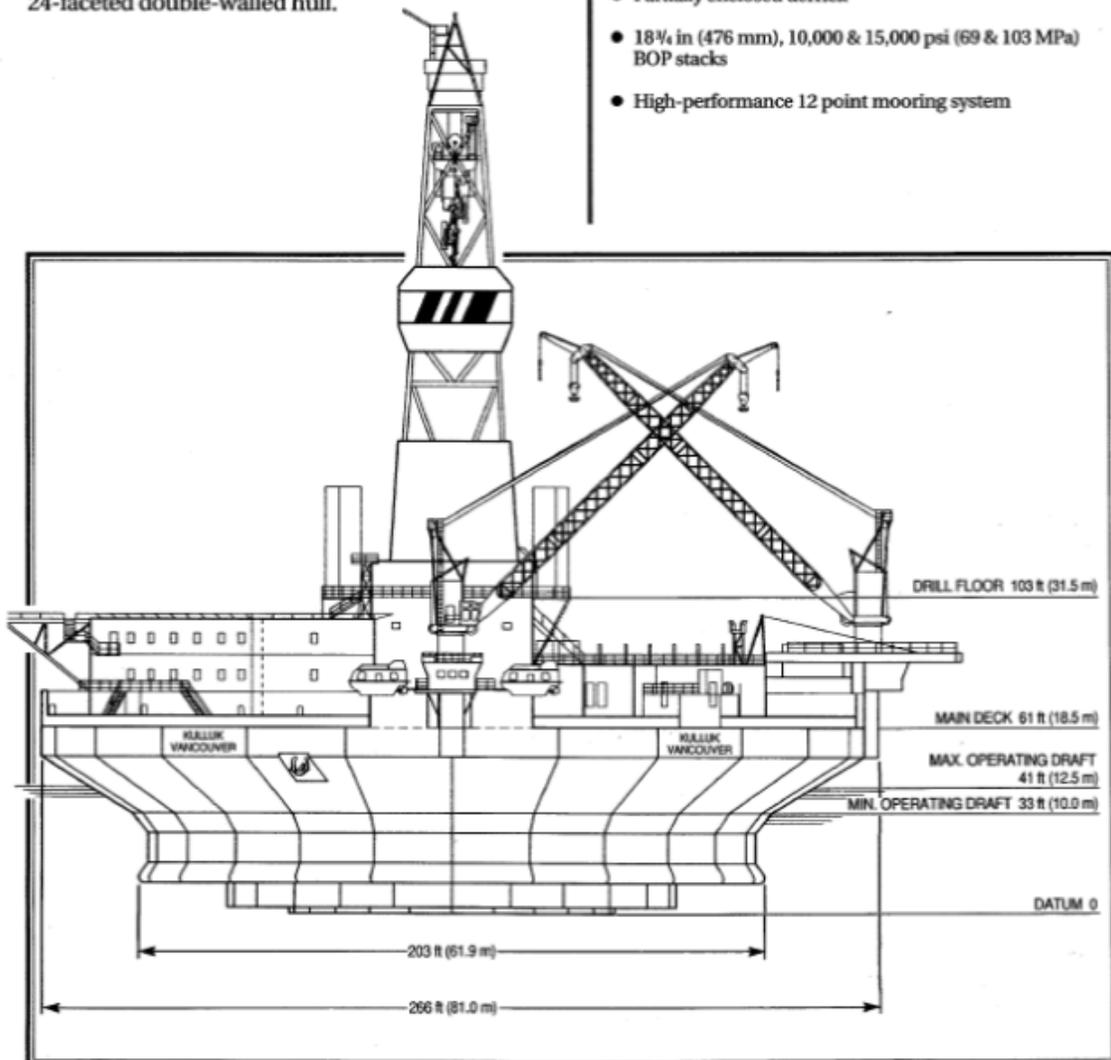
# Kulluk

Kulluk is the first floating drilling vessel designed and constructed for extended season drilling operations in deep Arctic waters.

An improvement on the floating drillship concept, Kulluk is a conically shaped, ice strengthened floating drilling unit with a 24-faceted double-walled hull.

### Key Features

- Unique, purpose-built conical Arctic Class IV hull design
- Operating water depth 60 to 600 ft (18.3 to 183 m), drilling depth up to 20,000 ft (6 096 m)
- Electrically driven Varco top drive drilling system
- 24 ft (7.3 m) diameter glory hole bit capable of drilling and setting a steel caisson 40 ft (12.2 m) into the seabed for ice scour protection
- Partially enclosed derrick
- 18 3/4 in (476 mm), 10,000 & 15,000 psi (69 & 103 MPa) BOP stacks
- High-performance 12 point mooring system



## Classification

The unit has been designated as Arctic Class IV (by the Canadian Coast Guard) under Canadian Arctic Shipping Pollution Prevention Regulations, and as Ice Class 1AA by the American Bureau of Shipping.

## Specifications

Owner:	BeauDril Limited
Flag:	Canadian
Rig Type:	Conical Drilling Unit (CDU)
Delivered:	1983
Rig Design:	Earl & Wright - Lavalin
Built By:	Mitsui Engineering and Shipbuilding, Japan

## Dimensions

Diameter at main deck:	266 ft (81.0 m)
Diameter at pump deck:	196 ft (59.7 m)
Hull Depth:	61 ft (18.5 m)

## Operations

Draft (max. operating):	41 ft (12.5 m)
Draft (min. operating):	33 ft (10.0 m)
Draft (light ship):	26 ft (8.0 m)
Light Ship Displacement:	19,300 tons (17 510 tonnes)
Maximum Drilling Depth:	20,000 ft (6 096 m)
Operating Water Depth:	60 to 600 ft (18.3 to 183 m)

## Variable Load

7,717 tons (7 000 tonnes)

## Storage Capacities

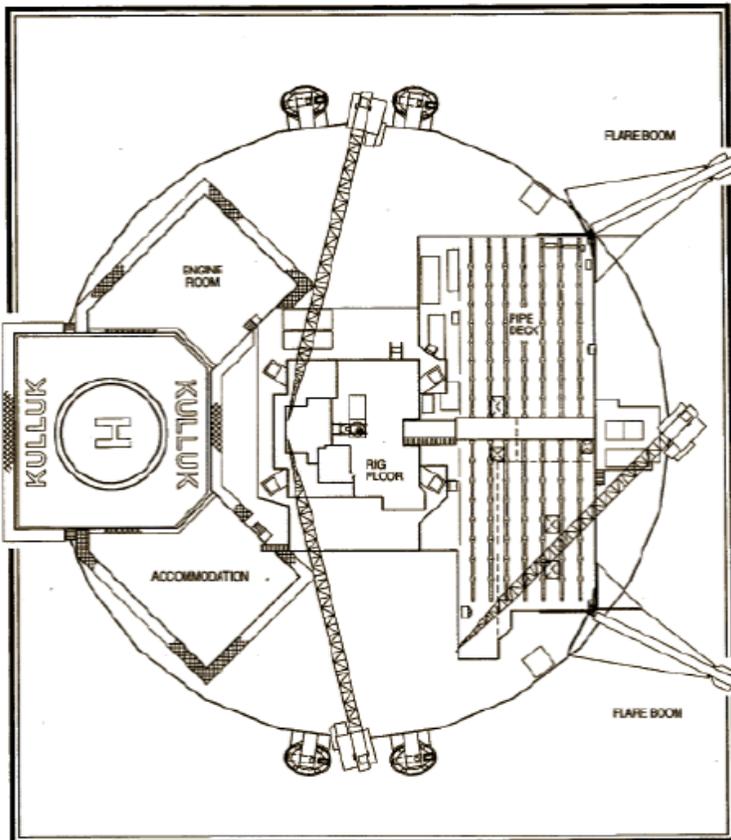
Barite & cement bulk:	21,471 cf (608 m <sup>3</sup> )
Liquid mud:	2,605 bbl (414 m <sup>3</sup> )
Drill water:	4,227 bbl (672 m <sup>3</sup> )
Fuel:	10,085 bbl (1 603 m <sup>3</sup> )
Potable water:	1,961 bbl (312 m <sup>3</sup> )
Ballast:	35,928 bbl (5 712 m <sup>3</sup> )
Pipe & casing (pipe deck):	1,543 tons (1 400 tonnes)
Brine:	2,010 bbl (320 m <sup>3</sup> )

## Operational Limits

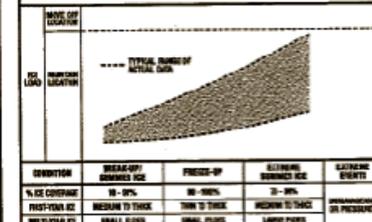
### Stationkeeping Conditions

Kulluk was built to operate in the ice infested waters of the Arctic offshore. The unit was developed to extend the drilling season available to more conventional floating vessels by enabling operations to be carried out through spring breakup conditions, the summer months, and well into the early winter period.

Kulluk was designed to maintain location in a drilling mode in moving first-year ice of 4 ft (1.2 m) thickness. With ice management support provided by BeauDril's Arctic Class IV icebreakers, the unit can maintain location in more severe conditions as shown below.



EXPECTED ICE LOADS ON KULLUK WITH ICE MANAGEMENT SUPPORT



In terms of Kulluk's open water performance, the drilling unit was designed to maintain location in storm conditions associated with maximum wave heights of 18 ft (5.5 m) while drilling and 40 ft (12.2 m) while disconnected (assumed storm duration of 24 hrs).

If ice or open water storm conditions become more severe than those indicated, the unit's mooring system, which incorporates acoustic release devices, is disconnected from the anchors and the unit moves off location.

## Equipment

### Drilling Equipment

#### Derrick

160 ft (44.8 m) Dresco dynamic with a 40 ft x 40 ft (12.2 m x 12.2 m) base, rated at 1,400,000 lb (623 000 daN) with 14 lines

Racking platform has capacity to hold 23,340 ft (7 115 m) of 5 in (127 mm) drill pipe plus bottom hole assembly

#### Drawworks

Ideco E-3000 electric drawworks complete with sand reel, Elmago model 7838 Baylor auxiliary brake, spinning and breakout catheads and three GE model 752 motors each rated at 1,000 hp (746 kW) continuous

#### Travelling Block

McKissick model 686, 650 ton (590 tonne) capacity with 7 sheaves grooved for 1 3/4 in (41.3 mm) drilling line

#### Swivel

Ideco TL-500, 500 ton (454 tonne) capacity

#### Drill Pipe

20,000 ft (6 096 m) x 5 in (127 mm), 19.5 lb/ft (29 kg/m) with 4 1/2 IF connections

#### Top Drive

Varco TDS-3 with one GE model 752 motor rated at 1,000 hp (746 kW) continuous and a 500 ton (454 tonne) hoisting capacity

#### Rotary Table

Ideco LR-495, 49.5 in (1 257 mm) driven by one GE model 752 motor, rated at 1,000 hp (746 kW) continuous, coupled to a two speed transmission

#### Drill String Compensator

NL Shaffer 18 ft (5.5 m) stroke 400,000 lb (178 000 daN) compensating capacity or a 1,000,000 lb (444 800 daN) locked capacity

#### Tensioner System

4 x 80,000 lb (35 600 daN) Western Gear riser tensioners, 48 ft (14.6 m) wireline travel with 1 3/4 in (44.5 mm) wire rope

6 x 16,000 lb (7 100 daN) Western Gear guideline/pod tensioners, 40 ft (12.2 m) wireline travel with 3/4 in (19.1 mm) wire rope

#### Mud Pumps

2 x Ideco T1600 triplex, each driven by two GE model 752 motors rated at 1,000 hp (746 kW) continuous

#### Cementing Unit

Dowell owned R717 twin triplex powered by two GE model 752 motors each rated at 1,000 hp (746 kW) continuous, with 7,500 psi (52 MPa) and 10,500 psi (72 MPa) fluid ends

#### Rig Floor Pipe Handling System

Varco Iron Roughneck model IR-2000 Range: 2 7/8 to 8 in (73 to 203 mm)

#### Mud Logging Room

Designed to accommodate equipment from any of the major mud logging companies. This room is an integral part of the rig and contains complete lab facilities

#### Testing Equipment

Complete testing system with a 10,000 BOPD (1 590 m<sup>3</sup>/day) capacity consisting of: data header, choke manifold, steam heater, 3-phase separator, surge tank, water degasser, transfer pumps, and flare booms

#### Mud Conditioning Equipment

4 x Thule United VSM-120 shale shakers

1 x Brandt SR-3 desander  
1 x Brandt SE-24 desilter  
1 x Thule VSM-200 mud cleaner  
1 x Wagner Sigma-100 centrifuge  
1 x Sharples DM 40 000 centrifuge  
2 x Burgess Magna-Vac vacuum degassers  
2 x Alfa-Laval AX30 mud coolers

#### Subsea Equipment

##### BOP System

1 x NL Shaffer 18 3/4 in (476 mm), 10,000 psi (69 MPa) BOP stack with annular, 4 ram type preventors, and Vetco H-4 E connector

1 x NL Shaffer 18 3/4 in (476 mm), 15,000 psi (103 MPa) BOP stack with annular rated at 10,000 psi (69 MPa), 4 ram type preventors, and Vetco H-4 E x F connector

##### Lower Marine Riser Packages

2 x 18 3/4 in (476 mm) with 10,000 psi (69 MPa) Shaffer annular, Regan 24 in (610 mm) CR-1 pressure compensated lower ball joint and Vetco H-4E connector

##### BOP Cranes

2 x Hepburn main bridge cranes, 85 ton (77 tonne) capacity each with 10 ton (9.1 tonne) auxiliary hoists

30 in (762 mm) Marine Riser System  
3 x hydraulic pin connectors; 2 x 36 in (914 mm) Cameron and 1 x 30 in (762 mm) Drill-Quip

1 x Regan 28 in (711 mm) CR-1 pressure compensated lower ball joint  
30 in (762 mm) riser consisting of 1 in (25.4 mm) wall casing with Hunting Lynx 52S connectors

1 x Regan 28 in (711 mm) telescoping riser joint with 45 ft (13.7 m) stroke

1 x Regan 28 in (711 mm) DR-1 upper ball joint

1 x Regan KFDS 28 in (711 mm) diverter

21 1/4 in (540 mm) Marine Riser System

21 1/4 in (540 mm) Cameron RCK riser with 10,000 psi (69 MPa) choke and kill lines

2 x Cameron telescoping riser joints, 1 x 40 ft (12.2 m), and 1 x 50 ft (15.2 m) stroke

1 x Regan 24 in (610 mm) DR-1 upper ball joint

1 x Regan KFDS 24 in (610 mm) diverter

##### Glory Hole Bit

1 x Brown Tornado, 24 ft (7.3 m) diameter hydraulically operated with airlift discharge. Capable of drilling a glory hole 40 ft (12.2 m) into the seabed for ice scour protection

#### Power Generation

##### Prime Movers:

3 x Electro-Motive Diesel rated at 2,817 hp (2 100 kW) each

##### Emergency Power:

1 x GM Detroit diesel rated 873 hp (651 kW)

#### Cranes

3 x Liebherr, BOS 65/850, rated at 72 ton (65 tonne) at 30 ft (9.1 m)

#### Safety Equipment

4 x Whittaker 54-person survival craft; two on port, two on starboard

1 x Hurricane Model 700-D emergency rescue boat

2 x RFD inflatable escape slides

#### Helideck

Capacity for Sikorsky 61 or similar with fueling station

#### Accommodation

Bunks for 108 people, recreation room, sauna, galley with seating for 36, offices, and hospital

## ***Kulluk Mooring System***

The Kulluk's mooring system consists of twelve Hepburn winches located on the outboard side of the main deck. Anchor wires lead off the bottom of each winch drum inboard for approximately 55 ft (17 m). The wire is then redirected by a sheave, down through a hawse pipe to an underwater, ice protected, swivel fairlead. The wire travels from the fairlead directly under the hull to the anchor system on the seafloor.

### ***Specifications***

#### ***Anchor Winch***

12 x Hepburn single-drum winches with a 287 ton (260 tonne) operating tension

#### ***Mooring Wires and Anchors***

##### ***Anchors:***

Various sizes & quantities of anchors are available for use. Exact anchor configuration to be provided once location and seafloor conditions are specified

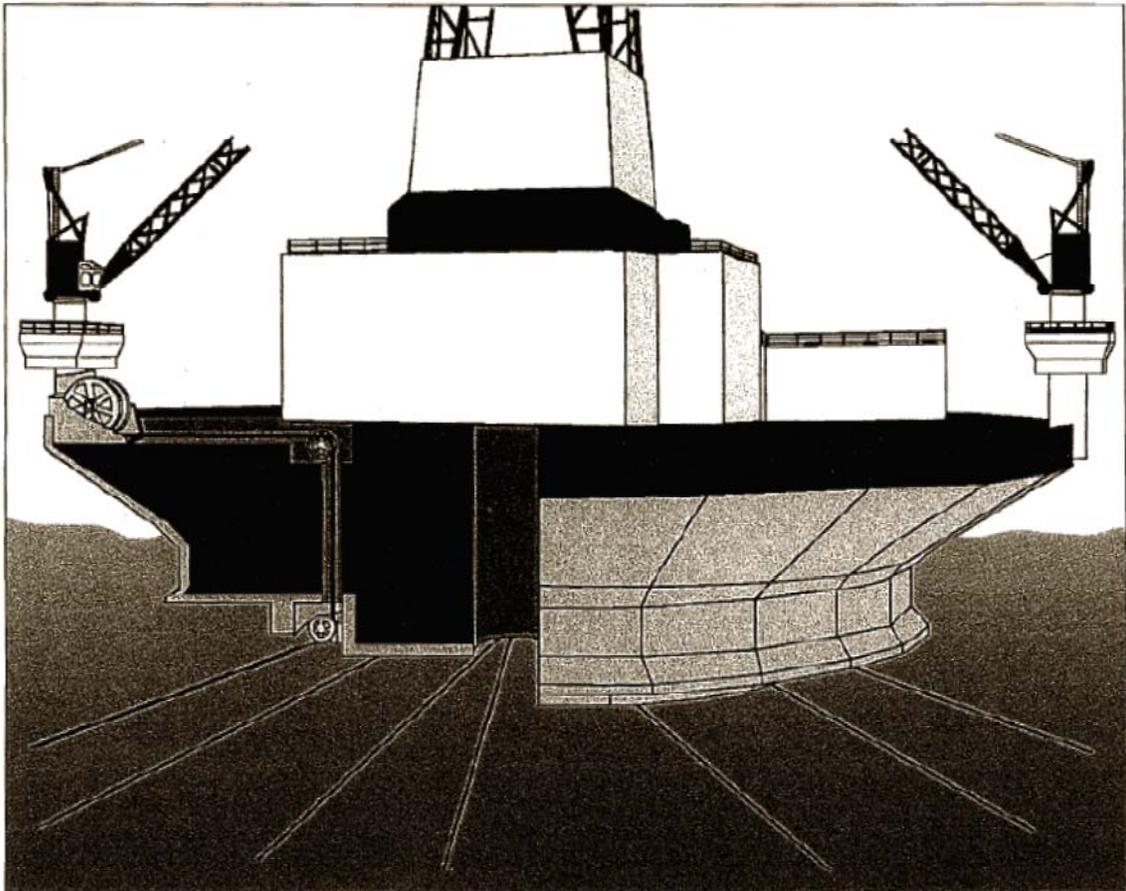
##### ***Wire ropes:***

Each winch drum has capacity for 3,763 ft (1 147 m) of 3 1/2 in (88.9 mm), 573 ton (520 tonne) breaking strength wireline

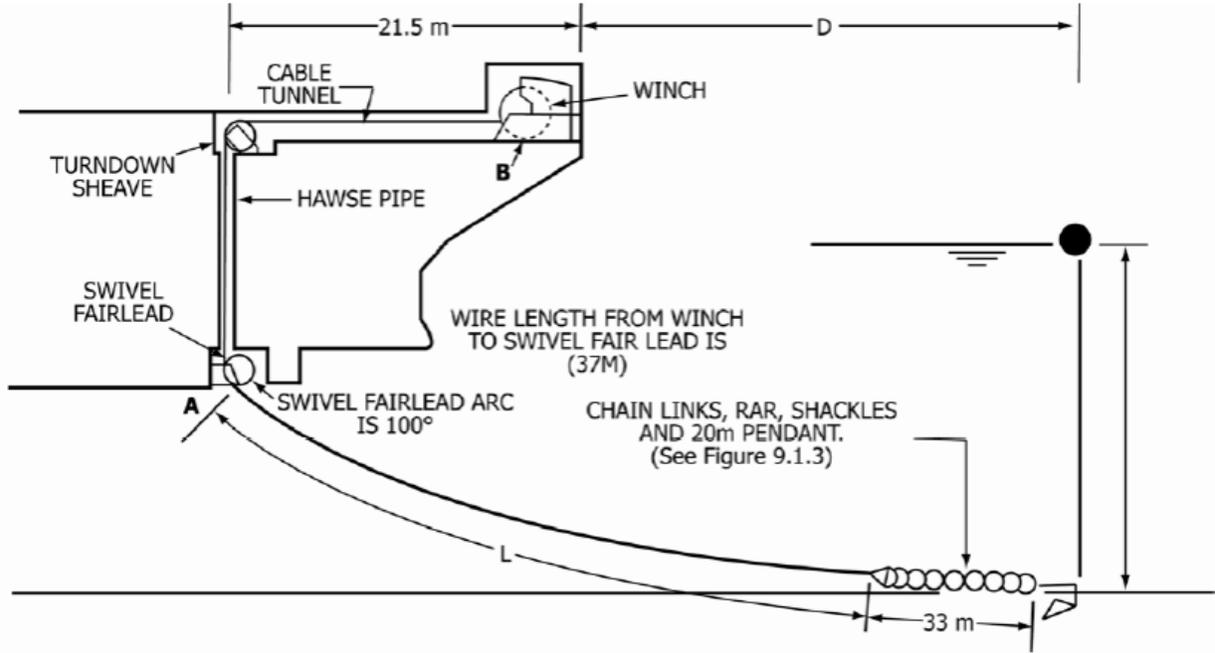
##### ***Anchor Release:***

Each anchor wire contains a remote acoustic release (RAR) unit

FOR MORE INFORMATION ABOUT KULLUK, CONTACT SYNAGRE BEAUBRIEU AT (03) 2 33 3000



# Kulluk Anchoring Detail



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## Discoverer Specifications



<b>DISCOVERER SPECIFICATIONS</b>	
TYPE-DESIGN	Drillship - Sonat Offshore Drilling <i>Discoverer</i> Class
SHAPE	Monohull with sponsons added for ice-resistance <sup>1</sup>
SHIP BUILDERS & YEAR	Namura Zonshno Shipyard, Osaka, Japan - hull number 355
YEAR OF HULL CONSTRUCTION	1965
YEAR OF CONVERSION	1976
DATE OF LAST DRY-DOCKING	2010

<b>DISCOVERER DIMENSIONS</b>		
LENGTH	514 ft	156.7 m
LENGTH BETWEEN PERPINDICULARS (LBP)	486 ft	148.2 m
WIDTH	85 ft	26 m
MAXIMUM (MAX) HEIGHT (ABOVE KEEL)	274 ft	83.7 m
HEIGHT OF DERRICK ABOVE RIG FLOOR	175 ft	53.3 m

<b>DISCOVERER MOORING EQUIPMENT</b>	
Anchor pattern symmetric 8 points system. The unit is fitted with Sonat Offshore Drilling patented roller turret mooring system giving the unit the ability to maintain favorable heading without an interruption of the drilling operations	
ANCHORS	Stevpris New Generation 15,400 lb each; 7,000 kilograms (kg) each (ea)
ANCHOR LINES	Chain Wire Combination
SIZE/GRADE	2.75 inch (in.) wire 3 in. ORQ Chain
LENGTH	2,750 ft (838 m) wire + 1,150 ft (351 m) chain (useable) per anchor

<b>DISCOVERER OPERATING WATER DEPTH</b>		
MAX WATER DEPTH	1,000 ft (305 m) with present equipment (can be outfitted to 2,500 ft [762 m])	
MAX DRILLING DEPTH	20,000 ft	6,098 m

DRAW WORKS	EMSCO E-2,100 - 1,600 horsepower (hp)
ROTARY	National C-495 with 49-1/2 in. (1.3 m) opening
MUD PUMPS	2 ea. Continental Emsco Model FB-1600 Triplex Mud Pumps
DERRICK	Pyramid 170 ft. (51.8 m) with 1,300,000 lb nominal capacity
PIPE RACKING	BJ 3-arm system
DRILL STING COMPENSATOR	Shaffer 400,000 lb with 18-ft (5.5-m) stroke
RISER TENSIONS	8 ea. 80,000 lb Shaffer 50-ft (15.2-m) stroke tensioners
CROWN BLOCK	Pyramid with 9 ea. 60-in. (1.5 m) diameter sheaves rated at 1,330,000 lb
TRAVELING BLOCK	Continental - Emsco RA60-6
BLOWOUT PREVENTOR (BOP)	Cameron Type U 18. 3/4-in. x 10,000 pounds per square inch (psi)
RISER	Cameron RCK type (21-in.)
TOP DRIVE	Varco TDS-3S, with GE-752 motor, 500 ton
BOP HANDLING	Hydraulic skid based system, drill floor

<b>DISCOVERER DISPLACEMENT</b>	
FULL LOAD	20,253 metric tons (mt)
DRILLING	18,780 mt (Drilling, max load, deep hole, deep water)

<b>DISCOVERER DRAUGHT</b>	
DRAFT AT LOAD LINE	27 ft (8.2 m)
TRANSIT	27 ft (8.2 m) (fully loaded, operating , departure)
DRILLING	25.16 ft (7.7 m)

<b>DISCOVERER HELIDECK</b>	
MAXIMUM HELICOPTER SIZE	Sikorsky S-92N
FUEL STORAGE	2 ea. 720-gallon (gal) tanks

<b>DISCOVERER ACCOMODATIONS</b>	
NUMBER OF BEDS	140
SEWAGE TREATMENT UNIT	Hamworthy ST-10

<b>DISCOVERER PROPULSION EQUIPMENT</b>	
PROPELLER	1 ea 15 ft 6 in. (4.8 m) diameter, fixed blade
PROPULSION DRIVE UNIT	Marine Diesel, 6 cylinder, 2 cycle, Crosshead type
HORSEPOWER	7,200 hp @ 135 revolutions per minute (RPM)
TRANSIT SPEED	8 knots

<b>GENERAL STORAGE CAPACITIES</b>	
SACK STORAGE AREA	934 cubic meters (m <sup>3</sup> )
BULK STORAGE	
Bentonite / Barite	1,132 bbl - 4 tanks
Bulk Cement	1,132 bbl - 4 tanks
LIQUID MUD	
Active	1,200 barrels (bbl)
Reserve	1,200 bbl
Total	2,400 bbl
POTABLE WATER	1,670 bbl (aft peak can be used as add. pot water tank)
DRILL WATER	5,798 bbl
FUEL OIL	6,497 bbl

<sup>1</sup> Sponsons designed and constructed to meet requirements of Det Norske Veritas (DNV) Additional Class Notation ICE-05.