

# RIG MODIFICATION PACKAGE

## CEMENT & WIRELINE UNITS

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install Cement Units, Wireline units and relevant works as below.

### Cement unit

- ☑ Unit installation
- ☑ Cabling and termination
- ☑ Pressure test
- ☑ Pipe modification

### Wireline Unit

- ☑ Unit installation
- ☑ Deck extension
- ☑ Jettison skid installation
- ☑ Cabling for communication, control, safety and power system



Owner	Reference	Project
COSL	Cement unit, Prepare room for PLC cabinets	Pioneer
Maersk Drilling	MDO Transfer Line in Cement Unit	Venturer
ODFJELL	Installation of Fixed Fuel Supply Line to Cement Unit	Deep Sea Metro I & II
	Modification Cement System LAS pipe work	Deep Sea Metro I
	Extension of wire line deck	Deep Sea Atlantic
	Extension of wire line deck	Deepsea Aberdeen
Pacific Drilling	Installation of brine and base oil line to cement unit	BORA
	Installation of Wireline Unit	BORA
Seadrill	Cement unit em'cy dump secondary isolation	West Aquarius
	Extension of wire line deck	West Hercules
	Power supply to WIRE LINE unit	West Aquarius
	Wire Line Mounting Pad	West Tellus
	Wire Line Deck Extension	West Saturn
STENA DRILL	Installation of Wireline Unit	ICE MAX
VANTAGE	Wire Line Unit Platform	Platinum Explorer
	Lifting Lug & Access Removable Ladder for Wire Line Platform	Platinum Explorer
	Spreader Bar with Lifting Lugs for Wire Line Platform	Platinum Explorer

# RIG MODIFICATION PACKAGE

## DECK HOUSE

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install & fabricate deck houses.

Deck house including HVAC, electrical, outfitting, insulation, piping, PAGA and F&G system.

☑ Heavy tool store, paint store, workshops and etc..



Owner	Reference	Project
Maersk Drilling	Hydraulic Workshop	Voyager
ODFJELL	Sliding Door Installation of Heavy Tool Store	Deepsea Stavanger
	ET workshop modification	Deep Sea Metro I
	Installation of Electrician workshop	Deep Sea Atlantic
Pacific Drilling	Installation Mud lab	BORA
	New Fishing Tools Store (built-in) under the riser catwalk, Deck A level	BORA
	New chemical storage in sack room	BORA
	Build a BOP / subsea workshop and office	BORA
	Build and install a Paint locker	BORA
	Build and install Rigging store under the wireline tower on riser deck (AFT)	BORA
	Build and install Rigging Loft Container 1x10" on pipe rack deck (FWD)	BORA
Seadrill	Preparations for installation of Electrician workshop	West Hercules
	Sub Sea Workshop & Office	West Tellus
TRANSOCEAN	Drill Floor Workshop	Deepwater Champion

# RIG MODIFICATION PACKAGE

## LIFTING EQUIPMENT & RELATED OUTFITTINGS

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install lifting equipment & related outfittings

### Lifting equipment

- ☑ Winch, hoist, jib crane, trolley and etc..

### Related outfittings

- ☑ Padeyes, spread bar

### Related work

- ☑ Piping, reinforcement, hydro test, load test, NDE test and etc



Owner	Reference	Project
COSL	Lifting device to lower deck	Pioneer
	Lifting of HPU electrical motors (Equipment for lifting of HPU motors)	Pioneer
	Monorail below aft mezzanine deck in moonpool	Pioneer
ENSCO	Installation of Davit to deploy and Recall Moonpool Skimmer	Deep Ocean Clarion
	Big Bag Hopper Hoisting Assembly and Trolley Beam	Deep Ocean Clarion
Maersk Drilling	Pad Eye Installation for Banana Sheave	Venturer
	Pad Eyes for Mux Cables	Voyager
Noble	Removal of 5 ton winch base frame	Sam Croft
	10 ton winch base frame welding on Drill floor	Sam Croft
ODFJELL	Winch Foundation	Deepsea Stavanger
	Fabrication of Steel Bag Holder (Lifting Device)	Deep Sea Metro I
	PDM-0023 Wire line padeye	Deep Sea Metro I
	Installation of Taut Wire System	Deep Sea Atlantic
	Mechanical Installation of 10 Ton Winch	Deep Sea Atlantic
Pacific Drilling	Installation of subsea winch at moon pool area	BORA
	Replacement of 5 ton winch to 10 ton winch	BORA
	Bags handling system improvement in sack room	BORA
	Arrange new sub rack storage on drill floor (use auxiliary draw works area). Include trolley beam	BORA
	Installation of two palfiger cranes	BORA
	Additional Padeyes on around the vessel	BORA
	New cargo hatch handling system in sack room	BORA
	Fabrication of Installation frame and supply 3 hoist for thruster	BORA
Seadrill	Installation of Taut Wire System	West Hercules
	DL-6 Lifting spread bar with sling set, 45ton	West Hercules
	Pad eyes for Defective 100KVA Transformer replacement in LD/PA/LV swbd room	West Hercules
	Tow 25 ton padeyes welded under the crown on main well side	West Tellus
	25ton Pad Eye Welded under the Crown on Main Well Side	West Saturn
	20T pad eye and roller frame	West Aquarius
TRANSOCEAN	Knuckle boom Cranes	Deepwater Champion
	Derrick Pull Back Winches	Deepwater Champion
VANTAGE	Rotating Sub JIB Hoist	Platinum Explorer
	25Ton Padeye for Wireline Compensating Line Yie-off	Platinum Explorer
	1, 3, 6 ton Padeye	Platinum Explorer
	Spread Beam w/lifting lug & Sling wire	Dragon Quest
	Lifting lug & Access removable ladder for Wire line platform	Dragon Quest
	Pad Eyes	Dragon Quest
	Lifting Lug & Access Removable Ladder for Wire Platform	Tungsten Explorer
	Spreader Bar Assemble	Tungsten Explorer
	Jib Arms	Tungsten Explorer

# RIG MODIFICATION PACKAGE

## MACHINERY & EQUIPMENT

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install machinery & equipment.

Machinery and equipment for drilling, mud circulation, engine, environmental and etc..

- ☑ Shale shaker, drill line spooler, bucking machine, slick line, MGS, N2 generator, water maker, food grinder, trash compactor, winch, palfinger crane and etc.

All related work such as piping, electrical, testing, reinforcement, commissioning and etc has been done during installation.



Owner	Reference	Project
Atwood	Poor boy	Advantage
	Food grinder	Advantage
COSL	Shaker screen washer machine	Pioneer
Maersk Drilling	Screen Cleaners	Viking
	Nitrogen Generator	Venturer
	RO Plant PCV Installation	Venturer
	N2 Generator	Voyager
	RO Plant PCV Installation	Voyager
Ocean Rig	Installation of Bucking Machine	Mylos
ODFJELL	Mechanical Installation of Foundation & CBP-800	Deep Sea Atlantic
	Mechanical Installation of CBP-30	Deep Sea Atlantic
	PDM-0010 Hydraulic Unit for Wet X-mas tree operations	Deep Sea Metro II
	PDM-0010 Water Maker System	Deep Sea Metro I
Pacific Drilling	7th shale shaker installation	BORA
	Installation of bucking machine	BORA
	Installation of new diverter box in shale shaker house	BORA
	Installation of drilling line spooler (15,000ft of 2" wire) and local structural reinforcement\	BORA
	Installation of trash compactor & service bins	BORA
	Installation of Food grinder	BORA
	Nitrogen Generator installation	BORA
	Install Mathey Slickline unit	BORA
Schahin	Back Box Unit Installation In Shale Shaker Room from #2 Schahin Project	#1 Cerrado
Seadrill	Drill floor Timber finish with motor	West Hercules
	Trash Compactor for Sack Store & Galley & Tuff Gut	West Neptune
TRANSOCEAN	Main & Aux Drill Line Spoolers	Deepwater Champion
	Exposed Engine Flywheel, Coupling	Deepwater Champion
	Installation for 'Screen Rack in Shaker Room'	Discoverer Inspiration
VANTAGE	Mud Gas Separation	Tungsten Explorer

# RIG MODIFICATION PACKAGE

## MLU & MWD

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install MLU & MWD and relevant works as below.

### MLU & MWD

- ☑ Installation of each units or combo unit
- ☑ Various sensor installation on pits and tanks
- ☑ Cabling and termination including FO
- ☑ Communication, control and power system between rig and units
- ☑ Utilities for MLU & MWD units
- ☑ Monitoring system in DCR and relevant offices
- ☑ Deck extension to install units



Owner	Reference	Project
Maersk Drilling	Mud Logging and MWD sensors	Viking
Noble	Sensors installation including cabling on mud pit room, mud pump room, shale shaker room, cement room and drill floor	Sam Croft
	Gas/Air line/Power cable pulling for Gas extractor and F.L.A.G	Sam Croft
	Combo Cabin & Communication	Sam Croft
OCEAN RIG	Installation of Mud logging Unit and MWD & LWD unit	#2 Olympia
ODFJELL	Install MWD units and relocation of mud logging unit	Deep Sea Atlantic unit
	Mud pit Room Sensor installation	Deepsea Aberdeen
	Install MWD units and relocation of mud logging unit	Deep Sea Metro I
Pacific Drilling	Installation of Mud logging cabin and additional sensors in mud pit tanks & trip	BORA
	Mud Logging Unit Area Modification	Khamsin
Seadrill	Preparation of ELE logging in company man office and utilities for MLU cabine	West Hercules
	Install MWD units and sensors on pump pumps	West Aquarius
	Installation of Mud Logging Unit and deck extension for MWD unit	West Tellus
	MWD installation	West Saturn
STENA DRILL	Preparation & Supply of all materials for 'Mud Logging System' installation	DrillMAX
	Geoservice-Mudlogging Unit	ICE MAX
TRANSOCEAN	Electrical & piping work for installation of Geoservices Mud logging system	Discoverer Americas



# RIG MODIFICATION PACKAGE

## ROV SYSTEM

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install ROV system on the rig by request of client. We installed all related equipment, communication and power system as below list.

### Equipment

- ☑ A-frame
- ☑ ROV
- ☑ Control and work van
- ☑ Umbilical reel
- ☑ Winch drum
- ☑ ROV lower guide

### Communication between ROV & Rig

- ☑ PAGA
- ☑ F&G
- ☑ ESD
- ☑ Telephone
- ☑ LAN
- ☑ CCTV
- ☑ Talkback

Power system from rig to ROV equipment



Owner	Reference	Project
COSL	Installation of ROV lower guides and preparing ROV room on rig	Pioneer
Maersk Drilling	Drains from ROV units	Valiant
	ROV Installation Assistance including all drain line installation	Venturer
ODFJELL	Installation of power cables for ROV system	Deep Sea Atlantic
	Installation of Main ROV winch drum, umbilical and Aux. ROV	Deep Sea Metro I
	Additional lights, PAGA, beacons for ROV System	Deep Sea Metro I
	Power Switch Board ROV Equipment Adjustable MCCB Type and Power system for ROV	Deepsea Stavanger
	Installation of ROV A-Frame Platform and ROV equipment	Deepsea Stavanger
	ROV HATCH HYDRAULICS	Deepsea Aberdeen
Pacific Drilling	Installation of ROV unit	BORA
Seadrill	Installation of cables between ROV hanger and observation ROV (Statoil)	West Hercules
	Deck reinforcement for ROV containers and access hatch for ROV C/T	West Aquarius
	ROV Installation	West Tellus
	ROV Container Access Platform	West Saturn

# RIG MODIFICATION PACKAGE

## SOLID CONTROL SYSTEM

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install solid control system.

### Cuttings dryer system

### Vacuum system

### Active pit cleaning system

- ☑ Units installation such as cuttings dryer, vacuum units, auger, centrifuge, power DB and all relevant units
- ☑ Cabling and termination
- ☑ Piping and tubing for each system
- ☑ Utilities for solid control system
- ☑ Platform fabrication for units
- ☑ Overboard line modification for cuttings disposal



Owner	Reference	Project
Atwood	Cuttings control & vacuum system and overboard line modification	Advantage
	Cuttings dryer & rig vacuum system	Achiever
ENSCO	Rig Vacuum System Revised Installation_Mi-Swaco	Deep Ocean Clarion
Maersk Drilling	Cutting Dryer System	Venturer
	Cutting Dryer System	Voyager
OCEAN RIG	Installation of Cutting Dryer System and vacuum system including independent power system	#3 Poseidon
	Installation of cuttings dryer & vacuum system and overboard chute line	#4 Mykonos
	Cutting Dryer System, vacuum system and ATC tank cleaning system	Mylos
	Cuttings dryer & vacuum system	Skyros
ODFJELL	Vacuum System Materials & Service	Athena
	Power Switch Board for MI SWACO_Adjustable MCCB Type	Deepsea Stavanger
Pacific Drilling	Electrical Installation for Cutting System including remote operated valves	Deep Sea Atlantic
	Installation of cuttings system by halliburton	Deep Sea Metro I
	Installation of Brant solid control equipment and vacuum system	BORA
Seadrill	Electrical Installation for Cutting System including remote operated valves	West Hercules
	Piping for cutting blower system	West Hercules
	Installation of Halliburton Cutting Solid system including independent power system	West Eminence
	Cuttings dryer & vacuum system	West Tellus
	SWACO/BHI unit installation including deck extension	West Aquarius
	Cutting Dryer System, vacuum system and ATC system	West Saturn
TRANSOCEAN	Piping work for installation of CPVC Vacuum line	Discoverer Americas

# RIG MODIFICATION PACKAGE

## STRUCTURE

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install structures.

### Structure including fabrication and installation

- ☑ Platform, lay down area, catwalk, deck extension, burner boom rest and etc.
- ☑ Related job – Electrical, piping, hydro test, load test, NDT test, endurance test and etc..



Owner	Reference	Project
COSL	Installation of Burner boom & piping	Pioneer
Maersk Drilling	Catwalk Bridge	Viking
	Repair of Catwalk Bridge	Voyager
	Burner Boom Installation	Voyager
ODFJELL	PDM-0024 Permanent Deck Extension	Deep Sea Metro I
Pacific Drilling	Built a mezzanine platform in the sack room	BORA
	Fabricate (2) x Removable Deck for Landing Completion Spools	BORA
	New structure for centrifuge	BORA
	Tensioner ring umbilical reel and platform	BORA
	New lay down ara to sack room for a 20ft container with a sliding door	BORA
	Installation a second trip tank 60 bbls - structure + piping	BORA
	New structure on Xtree area for FMC IWOCs and padeyes under drill floor for umbilical sheaves	BORA
	New X-tree working platforms around xtree carts parking + one new stairway to improve access upper deck to mud block	BORA
	Burner boom modifications	BORA
	Life board extension platform	BORA
	Port Side Extension for Heavy Duty Walkway	Khamsin
Seadrill	Lifeboat Platform Modification and Walkways	West Neptune
	X-MAS Tree Reeler Platform (Cameron IWOCs)	West Saturn
	Expro IWOCs (Container Platform + TH/EH Reeler Platform)	West Saturn
	Drawworks Platform Extension	West Saturn
VANTAGE	Sack Store Deck Extension	Platinum Explorer
	Workshop & Sack store deck Extension & Walk way	Dragon Quest



# RIG MODIFICATION PACKAGE

## ELECTRICAL & INSTRUMENTATION

**KHAN**<sup>®</sup>

KHAN has a lot of experience of E&I work.

### Electrical & Instrumentation

- ☑ Power, sensor, FO, lighting, CCTV, PAGA, F&G, communication, Satellite system, transformer and etc including all related test



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## ELECTRICAL & INSTRUMENTATION

**KHAN**<sup>®</sup>

Owner	Reference	Project
BP	Lighting Fix Tube	Skarv FPSO
	Ex-Type Receptacle	Skarv FPSO
COSL	Cabling of two IAS cabinets	Pioneer
	Cabling of additional equipment before operation	Pioneer
	Install extended 690V switchboard modules	Pioneer
Maersk Drilling	Installation of Riser Monitoring System	Valiant
	Installation of Cloud Ceiling Measurement Equipment	Valiant
	Fiber Optics Interface Box for Mud Logging	Venturer
	3rd Party 440V Cables	Venturer
	CLOUD CEILING MEASUREMENT	Venturer
	Riser Monitoring System	Viking
	Cloud Ceiling Measurement	Viking
	CCU Cabinet Installation	Voyager
	New Fiber Cables Run From ASTS System to Main System	Voyager
	Fiber Optic Cable Mud Logging Unit to Client Office	Voyager
	3rd Party 440V Cables	Voyager
	Power Supply for HPU Pump	Voyager
	Installation of Cloud Ceiling Measurements	Voyager
Noble	Pulling cable from Network connection to Subsea control room rack	Sam Croft
	ADCP Installation	Sam Croft
	ADCP Junction Box Installation	Sam Croft
Ocean Rig	220V TR & Power DB	#2 Olympia
	Installation of Additional 440V Power System and and 220V TR & Power DB	#2 Olympia
	Installation of Antenna Mast	Apollo
	BGAN Antenna Installation	Athena
	RENA/Vacuum/Chemical Unit Hook up	Athena
	2nd BOP Electrical Running	Mylos
	Fleet Broadband System Modification	Mylos
Installation of Additional 440V Power System and 220V TR & Power DB	#4 Mykonos	
ODFJELL	Extra cables in operation room A612 (Statoil)	Deep Sea Atlantic
	Electrical Installation for I/O Room Cabling Engineering	Deep Sea Atlantic
	Install cables between LER701 and Bridge801	Deep Sea Atlantic
	Installation of WLAN & Iridium Antennas	Deep Sea Atlantic
	Installation of LRIT antenna	Deep Sea Atlantic
	Extra Power Supply for 3-Party Equipment	Deep Sea Atlantic
	Hook Up FMC WOCS Transformer	Deep Sea Atlantic
	Installation of power transformer for WOCS (Statoil)	Deep Sea Atlantic
	Antenna, Homing beacon STBD Side to Relocate 2 Meter	Deep Sea Metro I
	PDM-0029 Installation of Weatherford Unit Mounting seat	Deep Sea Metro I
	Windsock	Deep Sea Metro I
	PDM-0007 Camera(2) over Trip Tank	Deep Sea Metro II
	PDM-0047 TB's/DB's/JP's installation for 3rd Party Equip	Deep Sea Metro II
	PDM-0033 Relocation Helideck Winsock	Deep Sea Metro II
	EI.Lighting & etc.	Deepsea Stavanger
	Red Stobe Light	Deepsea Stavanger

Owner	Reference	Project	
ODFJELL	750KVA Transformer	Deepsea Stavanger	
	Transmeters(x3)_Material preparation & Installation	Deepsea Stavanger	
Pacific Drilling	Need to add cameras in bow, stern, heliloung bulkhead, boom crane	BORA	
	Additional PA for Chevron	BORA	
	Additional Auto Telephone for Chevron	BORA	
	Additional LAN for Chevron	BORA	
	Additional 440VAC Power Dist. Board in the SWGR Room - 2 DB Panel	BORA	
	Need to add cameras in the pump room, shacker room & bridge (Qty. 6)	BORA	
	Additional Remote ESD monitoring panel and cable installed	BORA	
	Additional F/G for Chevron	BORA	
	Seadrill	Additional Lighting Fixture for Derrick	West Aquarius
		Interconnection Telephone & Data network	West Aquarius
LAN & PABX extension for accommodation		West Aquarius	
LAN Cable to Sack Store roof and wire Line unit		West Aquarius	
Telephone extension in Shale shaker room		West Aquarius	
Fiber optic cable installation between BHI and Mud mix control room		West Aquarius	
F.O Cable installation & connection between the JB on Sack store roof and BHI container		West Aquarius	
Iridium telephone antenna installation (#39)		West Aquarius	
Coax cable distribution between LIR and DCR/ROV (#40)		West Aquarius	
Cable Installation between LIR and ROV		West Aquarius	
440V Receptacle for refrigeration container		West Aquarius	
F&G and Communication extension for Rutledge working container		West Aquarius	
Addition of mud pit sensors (Item#27)	West Aquarius		
Extra cables in operation room A612 (Statoil)	West Hercules		
Installation of WLAN & Iridium Antennas	West Hercules		
Installation of LRIT antenna	West Hercules		
Fiber optic cable installation between BHI and Mud mix control room	West Hercules		
Extra Power Supply for 3-Party Equipment	West Hercules		
Hook Up FMC WOCS Transformer	West Hercules		
Flow Line Sensor Relocation	West Neptune		
CCTV and Control Station in Company Man's Office	West Saturn		
Crane Aviation Light	West Saturn		
Flow Line Gumbo Box Modifications Install of CCTV Camera	West Tellus		
Lightening protection system	West Tellus		
TRANSOCEAN	Power Supply H2S Rutledge Unit + Accommodation Top Supply	West Tellus	
Echo Talkback System	Deepwater Champion		
BOP Gantry Crane Antenna	Deepwater Champion		
Installation for 'Level Sensor Mounting Flanges for Mud Pit'	Discoverer Inspiration		

# RIG MODIFICATION PACKAGE

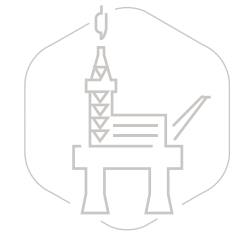
## PIPING & TUBING

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install piping & tubing lines.

### Piping & Tubing installation

- ☑ Mud, HP line, Sea water, air, water, oil, gas, brine, overboard, hydraulic and etc..
- ☑ Related job - Heat treatment, Hydro test, NDE test, flushing and etc..



# RIG MODIFICATION PACKAGE

## PIPING & TUBING

**KHAN**<sup>®</sup>

Owner	Reference	Project
Atwood	Brine line Modification	Advantage
COSL	Cross-over line from bulk barite to bulk cement	Pioneer
	Increase brine capacity	Pioneer
ENSCO	Bulk Testing Station	Deep Ocean Clarion
	ASC Installed Overboard Discharge Valve	Deep Ocean Clarion
KNOC	Bulk Transfer Line Repairing	Doo Sung Rig
Maersk Drilling	Insert in Overboard Dump Line	Valiant
	Installation of Rig Air for Diverter Controls	Valiant
	Brine Lines to Facilitate Filtration Unit	Venturer
	Insert in Overboard Dump Line	Venturer
	Diverter Backup Air Supply	Venturer
	Compensator Standpipe Deck	Viking
	Pump and Dump	Viking
	Skimmer Tank	Viking
	Tar Collection Spool	Viking
	Diverter Panel Back-up Ari	Viking
	Stand Pipe Installation	Voyager
	Lower the Mud/Mix Transfer Pumps	Voyager
	Reverse Circulation Line Modification	Voyager
	Insert in Overboard Dump Line	Voyager
	Diverter Back-up Air Supply	Voyager
K&C Manifold Backup Power Accumulators	Voyager	
Ocean Rig	Dual Rock Catcher & Sampling System	Athena
	Equalize Valve between Active Pit #7 and 8	Mylos
	Sieving System Installation	Mylos
	Dual Rock Catcher & Sampling System	Skyros
	Brine Filtration Line for Sack Room	Skyros
ODFJELL	Mud Sieving System Installation	Skyros
	PDM-0007 Replace the rock catchers	Deep Sea Metro I
	PDM-0034 Bulk Cement Supply line to Batch Mixer System	Deep Sea Metro I
	PDM-0034 Bulk Cement Supply line to Batch Mixer System	Deep Sea Metro I
	PDM-0041 EFC Glycol unit installation	Deep Sea Metro I
	PDM-0031 Replace the Rock Catchers(4-off)in the Bulk Lines	Deep Sea Metro II
Pacific Drilling	Mud Pump Room Line Modification	Deepsea Stavanger
	Bulk Storage Tanks Sounding spool prefabrication	BORA
	Installation of brine return lines and Feedlines to Filtration equipment on Cuttings Deck - Modification of Mix Header Manifold	BORA
	Installation of shaker bypass line from flow divider to active pits	BORA
	Gravel Pack/Frac Pack (Frac deck line - Port side) - 6" HP line TBC	BORA
	Mud pump relief valves to be relocated and pipe discharge rerouted into two pumps located under the pump room deck	BORA
	Stainer to install on charging line to HP mud pumps (total: 4 Strainers)	BORA
	Installation of the HP reverse circulation line from drill floor to shale shaker	BORA
	Modification of diverter overboard line	BORA
	New overboard line for cutting dryers through ballast tank	BORA

Owner	Reference	Project
Pacific Drilling	Rerouting of existing 20" cutting chute below water line	BORA
	Additional pump unit at the BOP room for recirculation purpose	BORA
	Installation of Emergency air supply line and regulator between standby APV's and Diverter panel	BORA
	Additional H.P Hydraulic lines for Expro equipment - From the HPU (port side) to the reel starboard side	BORA
	Installed by pass line with needle valve on hotline	BORA
Seadrill	Pipe mod for displacements and reverse circulating (Item #3)	West Aquarius
	Reverse circulating line (Item #17)	West Aquarius
	Shaker cutting chute overboard line mod	West Aquarius
	Secondary valve on overboard line from flow divider via Gumbo (Item #2)	West Aquarius
	Installation of Roller assembly for Compensate wire	West Hercules
	Stand to Mud clamps	West Hercules
	Overboard line addition to Mud Mix pump discharge	West Hercules
	Brine Line Extension	West Saturn
	Reserve Circulation Line	West Saturn
	Installation of isolation valve between mud treatment tanks and waste mud tank	West Tellus
TRANSOCEAN	LP Mud Line hot line to the poor boy degasser isolation	West Tellus
	Flow line bypass isolation valve	West Tellus
	Reverse Out Line Modification	West Tellus
	Mud System Modification	Deepwater Champion
	Overboard Valve	Deepwater Champion
VANTAGE	Overboard Valve Leak Check Modification	Deepwater Champion
	Design & Engineering for 'LP Mud Piping Modification'	Discoverer Luanda
VANTAGE	MUX Hose Reel Control Stand Re-locate	Platinum Explorer

# RIG MODIFICATION PACKAGE

## MISCELLANEOUS OUTFITTINGS

**KHAN**<sup>®</sup>

KHAN has a lot of experience to install miscellaneous outfittings.

### Miscellaneous outfittings

- ☑ Hand rails, Bumper bar, ladder, stair, access platform, hatch, shelves and etc by request of client.



Owner	Reference	Project
Atwood	Removable Bridge Fabrication and Installation	Advantage
	Mud Sampling Shaker House	Advantage
BP	Hatch	Pioneer
	Aft Equipment Hatch Air-Lock & Associated Modification	Pioneer
COSL	Crane independent hatches on DES	Pioneer
	Top Hat Modification at Mud Pit Room	Skarv FPSO
	Shaker Desilter Platform	Skarv FPSO
ENSCO	Clean Out Hatches Installed on Ascension	Deep Ocean Clarion
	Riser Deck Hatch	Deep Ocean Clarion
Maersk Drilling	Mud Sampling Shaker House	Valiant
	Mud Sampling Shaker House	Venturer
	Modification on BOP Work Platform	Voyager
Noble	Removable Bridge Fabrication and Installation	Sam Croft
OCEAN RIG	Installation of Bumper Bars Around Riser Deck Hatches	#4 Mykonos
	Protection Rack for Big Bag Hopper and Air Hoist	Mylos
	Installation of Shelves in Ballast Pump Room	#4 Mykonos
	Rig Floor Work Platform for Running Riser	Apollo
	Installation of Access Platform for Riser Catwalk to Drill Floor	#4 Mykonos
ODFJELL	PDM-0012 Drill Mud sample line	Deep Sea Metro I
	PDM-0044 Piping improvement, TT return line and shaker room & Drainage at aft poop deck hatch 's	Deep Sea Metro I
	PDM-0026 Bridge to Shaker Deck	Deep Sea Metro I
	Installation of Kick plates and bumpers	Deep Sea Atlantic
	Installation of guide post for FMC jumpers to rig Forklift Way Protection	Deep Sea Atlantic
Pacific Drilling	Installation of rubber Pad at rescue boat sealing	BORA
	Handrail modification - warehouse laydown area	BORA
	Install foldable heavy duty handrails fwd end of the side of the moonpool (Existion in unsafe)	BORA
	Miscellaneous Handrails	BORA
	Sack room Cargo Hatch at pipe rack deck level: Extend coaming to 1m high and reinforce	BORA
	Install raised hatch and deck drain sumps on top of the mud pits(16EA) + sump(2EA)	BORA
	To add two square boxes with hatches - length 500 mm x width 200 mm on top of the flow line	BORA
	New shale shaker screen storage racks	BORA
	Warehouse shelving to ve recurganized	BORA
	To bulid a access bridge from the pipe rack aft stbd corner to the drill floor via crane pedestal and mud logging platform	BORA
	New booby hatch in sack room	BORA
	Two new stairs & platform at both riser yoke storage cradies (Riser deck P/S)	BORA
	New stair to Stbd Fwd Crane from pipe rack deck level	BORA
	New stair to Port Fwd Crane from pipe rack deck level	BORA
	New stair tower from riser deck (A level) to Prot Aft Crane	BORA
New stairway to gripper yoke parking unit	BORA	
Grating and Stairway extension	BORA	



# RIG MODIFICATION PACKAGE

## MISCELLANEOUS OUTFITTINGS

Owner	Reference	Project
Pacific Drilling	One new stairway in the helideck cargo area (to the heli-fuel tanks)	BORA
	Platform extension to access flowline expansion joint	BORA
	Modification of BOP trolley walking platform support	BORA
	Fwd Catwalk walkway Extension & Handrail Modification (with stronger type) on handling machine	BORA
	Warehouse Shelving Intstallation	Khamsin
PETROSERV	Installation for 'Storage Shelf'	Victoria
	Fastening Work for Containers & Storage Shelves	Victoria
Seadrill	Guards on BOP HPU pumps, 3sets	West Hercules
	Pipe Skate bumpers for catwalk bridge	West Tellus
	Shale Shakers Safe Guards	West Tellus
	Utility Winch Bumper Guards	West Tellus
	Pipe Skate Bumper	West Saturn
	Hand rail extension for drill floor platform (Item#22)	West Aquarius
	Hand rail extension for riser pipe transporter (Item#26)	West Aquarius
	Hand rail extension for cable way platform (Item#21)	West Aquarius
	AFT Handrail at FWD Pipe Deck Extra Protection	West Saturn
	Hand rail at AFT Vee door	West Hercules
	Hatch Additional and Modification	West Neptune
	Hand rail at FWD Vee door	West Hercules
	Hatch Barrier in Mud Pit Room	West Saturn
	Clean out hatches in flow line & Sample catching hatches near return lines	West Tellus
	Grating for mud bucket connection in Drill floor	West Hercules
	Accommodations to Mud Module Crossovers at the A&C Decks	West Neptune
	Hatch 6'x6' on Riser Deck to Access U-Deck Storage	West Tellus
	Moonpool walk way for Bop access	West Hercules
	Access to BOP (Item#30)	West Aquarius
	Drawworks Platform Extension	West Saturn
Heli-Fuel Tank Guide and Skid Extension for additional Tank (Item#24)	West Aquarius	
BOP Trolley Working Platform	West Tellus	
Welding a extend plate to close the spaces	West Aquarius	
AFT Platform Upper deck-Ramp	West Carina	
Mod for drill floor/cement LAS room access area (Item#19 A,B,C)	West Aquarius	
TRANSOCEAN	Hand Rail Around Heave (Port & STBD)	Deepwater Champion
	Heavy Duty Hand Rail	Deepwater Champion
	Installation for 'Protection Handrial on Wireline deck'	Discoverer Inspiration
	Design & Engineering for 'Protection Handrail on Wireline Deck'	Discoverer Luanda
	Design & Engineering for 'Bump Hand Rail'	Discoverer Luanda
	Pit Tank Hatches	Deepwater Champion
	Design & Engineering for 'Fac Hose Hanger Modification'	Discoverer Luanda
	Hydraulic test manifold for rig floor mechanic shop	Deepwater Champion

Owner	Reference	Project	
TRANSOCEAN	Crane ladders	Deepwater Champion	
	Change ladders with space saving stairs	PETROBRAS 10000	
	Design, Fabrication & Supply of 'BOP Trolley Access Ladder'	Deepwater Champion	
	Inspection Hatch	Deepwater Champion	
	Installation of 'Shelves for Provision Lobby'	Discoverer Americas	
	Maintenance Platform For HP 4 Mud Pumps	Deepwater Champion	
	Saddle Hose Platform	Deepwater Champion	
	Installation of 'Main Engine T/C Access Platform'	Discoverer Americas	
	Design & Engineering for 'Heli-Fuel Unit Access Platform'	Discoverer Luanda	
	Installation for 'Access Platform in Mud pump room'	Discoverer Inspiration	
	Installation for 'M/E Turbocharger Access Platform'	Discoverer Inspiration	
	Design & Engineering for 'Heavy Tool Cart for AFT Catwalk'	Discoverer Luanda	
	Deck Extension for Pin & Saddle (Stb'd Side Only)	Discoverer India	
	knuckle Boom Crane Access Platform	Deepwater Champion	
	Main Engine Turbocharger Access Platform	Discoverer India	
	Access Platform for HP Mud Pump_#1,#3,#4&#5	Discoverer India	
	Platform for Mud Pump (No.1, No.3& No.4 Relief Valve)	Discoverer India	
	Platform for BOP cart	Discoverer India	
	VANTAGE	Top Hat Modification at Mud Pit Room	Tungsten Explorer
		Shaker Desilter Platform	Dragon Quest
BOP Access plaform		Platinum Explorer	
BOP Access Platform		Dragon Quest	
BOP Access Platform		Tungsten Explorer	
Sack Store Deck Extension		Platinum Explorer	
Workshop & Sack store deck Extension & Walk way		Dragon Quest	
Desander/Desilter Platform (2set)		Platinum Explorer	
Flex. Joint Platform		Platinum Explorer	
Warehouse Entry Door & Sack Store Door Protection		Tungsten Explorer	
Sack Store Bumper Railings (ref. PLXCO5)		Platinum Explorer	
HPU in Pipe Deck Protector		Dragon Quest	
STB Side Handrails (ref. PLXCO15)		Platinum Explorer	
Shaker Desilter Platform		Dragon Quest	
BOP Access Platform		Platinum Explorer	
BOP Access Platform		Dragon Quest	
BOP Access Platform		Tungsten Explorer	
Sack Store Deck Extension	Platinum Explorer		
Workshop & Sack store deck Extension & Walk way	Dragon Quest		
Sub Racks_Rack(type 1) for Pipe Deck (ref. PLXCO6-1)	Platinum Explorer		
Sub Racks_Rack(type 2) for Pipe Deck (ref. PLXCO6-2)	Platinum Explorer		
Sub Racks_Drill Floor Racks - 2 Sets (ref. PLXCO6-3)	Platinum Explorer		
Sub-Racks_Mobile Sub Rack (ref. PLXCO6-4)	Platinum Explorer		