

M/V CRAIC

48M 150t Crane Vessel (Heavy Lift) & Diving Support 6 Point Mooring



Heavy Lift Crane Vessel 150t (47.5 x 17m) - present rigged for 120t and 34.5m Boom – 6* point mooring – 3* Diver Mixed Gas system (only 4 years old) - IMCA certified Chamber (Containerized 20ft) - Machinery Container with electric and diesel driven Compressors, UW-Welding and Hydraulic Powerpack - Workshop Container - Aluminum Dive Tender - 2x75hp Mariner Outboard engines (9x2.5m) - built in divesystem.



Professional Career serving great clients like TOTAL and Huge projects like building several UAE & Africa ports and construction / installation projects)

To summarize the vessel ability, she can be used purely as a crane ship, or as a dive support or used in hook, maintenance and installation works.

TECHNICAL DATA

GENERAL SPECIFICATIONS

Date Built	1985
LOA	47.6M
LPP	45.0M
Beam	17.0M
Draft – Operational	2.8 M
Draft (Max)	3.0 M
Light Ship Draft	0.75 M
Flag	Panamanian
Class:	PMDS
Gross Tonnage	658 Mt
Net Tonnage	197 Mt
Deadweight	1060 Mt
Max Speed	9 Knots
Service Speed	7-8 knots
Deck Cargo Space	400 m ²
Deck Loading	10 MT/m ²
Accommodation	50





PROPULSION AND MACHINERY

Main Engines

Make	2 x NIIGATA IRONWORKS CO. (DIESEL)
Model	6MG /L/ 18CX
STBD engine	S/N 17452
PORT engine	S/N 17453
Cylinders	6
Rated Power	1300PS
HP	650
Rated Speed	950 rpm
Propellers	2 x fixed pitch with 4 wings (diameter 1.7m)

Engine Clutches

Licensed by	TWIN DISC. INCORPORATED USA
Model	MGN 486
Clutch operating	17-20 kg/cm ²
Lube oil	2-4 kg/cm ²
Main pump	20 l/min
Standby pump	50 l/min
Pressure	20 kg/cm ²
PORT clutch	No. 4861079, S03549000
STBD clutch	No. 4861078, S03548000

Auxiliary Engines

Engines	CATERPILLAR – D348 CAT
Engine 1	S/N 36J2022
Engine 2	S/N 36J2015
HP	480
RPM	1500
Max altitude	1400

Main Generators

Model	2 X Perkins 1300 series (1306C-E87TAG6), synchronised (installed in 2013)
Capacity	2 x 250 KVA, 220V/400V, 50Hz (Optimum power output 350KVA)

Emergency Generator

Make:	Perkins
Rated Power:	125 KVA

Poop deck providing alternative (or emergency) power for general purpose use and when in port.

1 X Atlas Copco LP Compressor delivering 311cfm at 12Bar

2 x Lincoln Welding Generators (Optional)

Cooling Sea Water Pumps:

Bilge Pump – No 83251

GS Pump, bore 80mm, type SM, capacity 25m³/h, total head 26m
RPM 1800, power 5.5kw, manufacturer: Ishikura Pump Meg Co Ltd

Fire pump – No 83252

GS pump, bore 80mm, type SM, capacity 25m³/h, total head 25m
RPM 1800, power 5.5kw, manufacturer: Ishikura Pump Meg Co Ltd

Crane cooling pump – No 83253

GS pump, bore 80mm, type SM, capacity 25m³/h, total head 25m
RPM 1800, power 5.5kw, manufacturer: Ishikura Pump Meg Co Ltd

Cooling SW pump for A/E 1

Ajax – Elite; size E65-20-A20C; serial no. 33987 – 2C imp. Dia 214/F
manufacturer: KSB Aja Pumps PTY Ltd, Australia

Cooling SW pump for A/E 2

Ajax – Elite; size E65-20-A20C; serial no. 2002/004 Imp. Dia
manufacturer: KSB Aja Pumps PTY Ltd, Australia

Pre lube oil pump for main engines

BORE 50m/m, type HMG, capacity 10m³/h, RPM 1200, head 20M, power 2.2kw, no. 83242, manufacturer: Ishikura Pump MFG Ltd

F.O. transfer pump

BORE 25 m/m, type HMG, capacity 3m³/h, RPM 1200, head 20M, power 0.75kw, no. 83257, manufacturer: Ishikura Pump MFG Ltd

Motor compressor

No 58-30252, SKH-2ME, RPM 1550, capacity 10.5 m³/h, max P – 30kg/cm²

Deck motor compressor

Atlas Copco XA146 with 320cfm/12ltr/sec @8bar, weight 1.8t

Governors

A/E no.1 governor

Type WOODWARD UG8; designation A8520-314; governor RPM 1100-1550; serial no. 1345211
Speed motor: type V-10R V115 Hz60/DC; No Z0427488; RPM 3 INSA; Toro OZ IN 24

A/E no. 2 governor

Type WOODWARD UG8; designation A8520-314; governor RPM 1100-1550; serial no. 1390456
Speed motor: type V-10R V115 Hz60/DC; No Z0427374; RPM 3 INSA; Toro OZ IN

M/E governors

DIESEL KIKI – PHD6-PC 105856-2350

STBD Eng. Ser. No. 34612222

PORT Eng. Ser. No. 34812438

Oil SAE 20-40

Gov. speed 400-2000 RPM

Change oil – every 3000 h

MOORING SYSTEM

The vessel has a 6-point mooring system with 3.7 ton Delta Flipper anchors.

Winch:	Single Drum
Make	APOA 7R Hydraulic
Manufacturer	Daido Heavy Machinery Co
Rated Capacity	12000 Kg f.
Rated Speed	10/12 mtrs/min
Wire	each 3000ft of 32mm dia.
Hydraulic pump for winches	Daido Heavy Machinery Co, type A-7-0010 approx. 0012A
Video Monitoring System	
Bridge monitored remote payout & load meters	
Camford communications linked throughout	

SAFETY EQUIPMENT

The vessel is outfitted with safety equipment to comply with the safety requirements as set out in the vessel safety plan in accordance with SOLAS.

The vessel is equipped with one rescue boat capable of accommodating 8 people and 8 liferafts (self-righting/with self-contained air support system/fire protected) with the capacity to accommodate 200 people as well as 12 life buoys and 112 life jackets.

Rescue boat launching and recovery arrangements: Davit, radial type, 2 Tons / Winch, electric motor, 2Tons

Line throwing appliances with 4 rockets and lines – COMET (loc. wheel house)

12 rockets parachute flares – KORYO (loc. wheel house)

Fire fighting:

8 smoke detectors (TYCO), located on bridge, capt. deck, poop deck, mess room, engine room & other

Fire alarm (C-TECH alarm bell), located on bridge, capt. deck, poop deck, mess room, engine room & other

Control panel on bridge, alarm is automatically activated if fire signal not acknowledged in 2 minutes

Fixed CO₂ fire fighting systems complete with T100 Marine Controller Fire Monitoring Systems.

Fire hydrants and extinguishers according to specifications.

A comprehensive H₂S and LEL detection is installed, comprising of 4 deck-mounted sensors, with remote monitors on the bridge.

BRIDGE NAVIGATION AND COMMUNICATION SYSTEMS

VHF Sailor	2 sets
SSB ICOM	3 sets
GMDSS	Area A1, A2 and A3 (International)
9 GHz Radar	Furuno FAR2817
9 GHz Radar Transponder	TAIYU MUSEN TBR600A (3 sets)
Second radar	ICOM MR1200
ATA	Furuno FAR2817
Magnetic Compass	Daiko Keiki
Gyro Compass	Anschutz Kiel Standard ST-06
GPS Chart Plotter	GARMIN (MAP 4008)
GPS Chart Plotter	SAMYUNG (NAVIS 3000)
BNWAS	Samyung BNW50
Echo Sounder	dual digital and paper
Satellite E.P.I.R.B.	COSPAS-SARSAT
A.I.S. as required for ISPS	COMNAV X3 Class A
LRIT	SATAMATICS SAT201i
Speed and distance measuring device through the water	
Echo Sounding device	HONDEX HE-770
Rudder angle indicator	TOYO KEIL
Propeller revolution indicator	
Telephone to emergency steering position – PANASONIC	
General Emergency Alarm System	Bridge, accommodation, alleyways, stores & engine room
Public address systems	Speakers in accommodation, alleyways, mess room, galley, main deck & engine room
Navigation lights	Fore masthead/Main masthead/Port side/Stb side/Stern/Anchors # 1 & 2/NUC
<i>Signalling apparatus:</i>	
Day light signalling lamp	ALDIS LAMP (loc. bridge)
Forecastle bell	bronze (loc. f ^o ctle)
Ship's whistle	electric (loc. bridge top)
Weather fax / Navtex	
INMARSAT 'C' Satellite System	
Camford Hard wire communication systems to Bridge, Crane, Dive Control, ROV/Survey Control, Project Office and Engine Room.	
100 Mb Ethernet LAN connecting offices, bridge and owner / client cabins.	
Internet access via SAT DSL (3Mbps)	
WLAN up to 20km radius from the vessel can be provided.	
Satellite Data/Communications System	

TANK CAPACITIES

Marine Gas Oil:	65 T
Potable Water:	120 T
Water Ballast:	374 T
Lube Oil:	1000 Ltrs

FUEL CONSUMPTION

Cruising Mode	2.5 T/Day
On Anchor Pattern	0.6 T/Day
Lube Oil	16 ltrs/day (avg)

WATER MAKER

Water Maker:	Selmar-Atlantic-SW700, serial no. 3051
El. Supply	400V, 50Hz 3-phase
Consumption	15A
Working pressure	850psi-60bar
Water temperature	1-46C
Automatic shutdown	1000psi-70bar
Filtration	3x5x20" spun polypropylene
Max silt density index	5
NTU max	1
PH value	2-11
Chlorine tolerance	0.1 ppm
Typical salt reject	99.1%
Fresh water production	Up to 16 Tons/Day
Max feed water input rate	2600 ltr/h
Minimum required input pressure	1bar
Membrane containers	Fibre glass
Flushing system	Manual

SEWAGE TREATMENT PLANT

Certified Hamworthy Super Trident-8

MODULAR ACCOMMODATION UNITS

Modular accommodation units can be added subject to Client requirements.

150ton MAIN CRANE (Rigged for 120ton)

Model:	SKK-1700DT-AS Total Rotating System SHIKOKU KENKI CO LTD, KOCHI, JAPAN		
Main Engine:	YANMAR DIESEL ENGINE 1 x 6LAAL-DTN-1		
Rated Power:	470PS		
Cylinders:	6		
RPM	1800		
Engine Clutch	NIIGATA CONVERTER CO LTD Model TDCIN 11-26045, ser. No. TY1126056		
Air Compressor	Small sized reciprocating, type GN J5-3 39kg/cm ² , 58mmx2x98mm, 3.7kw, 875 RPM MEJI AIR COMPRESSOR MFG CO LTD, OSAKA JAPAN		
Air Bottle	SKK – 900 DTA, No x 42884		
Crane wires diam	Main SWR D/A 38,35mm Aux SWR D/A 37,79 mm Boom D/A 28,75 mm		
Boom Length:	No. 1: 33.5 meters	Whipline:	34.5 meters
Hook Capacity:	No. 1: 120 Tons @ 8.3 m	Whipline:	30 Tons
Working Radius:	No. 1: 8.3 to 23.1 m	Whipline:	9.2 to 25.9 m
Hoist Speed:	No. 1: 0-6m/min	Whipline:	0-25m/min
Lowering Speed	No. 1: 6m/min	Whipline:	0-25m/min
Wire Rope:	No. 1: 36mm dia, 8 Falls	Whipline:	28mm dia, 2 Falls

Tugger Winches: 3 x 2.0T each
(Optional 2 x 5.0T additional if required)

ON BOARD SURFACE SUPPLIED AIR DIVE SYSTEM

SMS Air/Mixed Gas Dive system can be made available according to Client / Project requirements. The system comprises of three units all housed in 20ft ISO containers, dimensions being L x W x H = 5900 x 2330 x 2380 mm.

DDC-DIVE CONTROL CONTAINER

60" Air Dive Chamber ADC 2011/101

Built:	2011
Built by:	Shreeji Engineering
Inspected by:	M/S Bureau Veritas
Rules Code:	ASME SEC. VIII DIV. 1-1ED 2008
P.P. No.:	SWE-SE-001
Capacity:	6762 ltrs
MFG. Sr. No.:	SE-757
Content fluid:	Air
Material of construction:	SS316
Design pressure:	135/1.055 kg/cm ² (g)
Radiography	100%
Corrosion allowance:	1.0 mm
Heat treatment:	NIL
Test pressure:	212 kg/cm ² (g)
Weight empty:	2860 kg
Full of water:	9622 kg

Dive Control:

Dive Panel:	Three Diver Air/Mixed Gas
Video Systems:	Hat mounted – 2 systems All remotable Hand Held System (option) Remote from ROV/survey desk Chamber Monitoring System
Communications Systems:	Three Diver Camford Comms remotable VHF base station & hand held units Thuraya phone system
Gas analysis	Divers & Chamber
Burning/Welding	Remote control
IMCA medical kit	2xBA sets Chamber Drench and fire suppressant system
Computer systems	Project laptop, net-workable

MACHINERY CONTAINER

Diving Compressor No: 1 – Diesel

Bauer HP Compressor

Manufacture: Norfolk Virginia USA
Date of manufacture: 05/2002
Model No: K10-D/A
Block no: B/5610/01
S/N: 024532
Max Pressure: ~5000 PSIG
Capacity: 8.5 CFM
Charge rate: 10.2 CFM
Motor: 10 HP

**Diving Compressor No. 2 – Electric/3 phase L&W
(Lenhardt & Wagner) HP Compressor**

Manufacture: Germany

Date of manufacture: 2012

Model No: LW 570E

S/N: 61281110

Max Pressure: 225 bar Charging

Capacity: 20.1 cfm Power: 15 kW

Speed: 1060 rpm

Machinery

Hydraulic Power Pack x 2

Welding/Cutting machine x 1

Fire fighting sprinkler system

All spares and ancillary equipment

Non-Containerised Units

Diving Compressor No. 3 - Diesel

L&W (Lenhardt & Wagner) HP Compressor

Manufacture: Germany

Date of manufacture: 2005

Model No: LW 450D

S/N: 2716/8/03

Max Pressure: 225

Charging Capacity: 15.9 cfm

Power: 11 kW

Speed: 980 rpm

WORKSHOP/RIGGING/TOOLS CONTAINER

Workshop unit containing all ancillary equipment, spare parts, equipment specific tools, project tools & rigging.

Additional equipment includes scuba replacement packs, digital hand held camera systems and a full range of underwater tools depending on Client/Project requirements.

DIVING ANCILLARY EQUIPMENT

5 X KMB 27 Helmets

6 X KMB 18 Band Masks

3 X 300 Mtr Jacques Diving Hoses

2 X 150 Mtr Jacques Diving Hose

UTILISATION AREAS

SBM/SPM

General maintenance and inspection of the buoy, floating hoses, subsea hoses, chains, PLEM and pipeline; SBM turnkey installation from pipeline beach pull to anchor deployment and installation, PLEM installation and buoy installation and hook-up; Buoy, PLEM, subsea and floating hose and chain/anchor replacement; Anchor hydraulic piling or SBM mud anchor.

Diving Support/Surface Intervention

Diving support platform and equipment from surface to -100 meters; Installation, maintenance and repair of any subsea structure, including but not limited to pipelines, pipeline spools, weight coat, bridges, sleepers, risers, tube turns, seabed intervention, positioning and or retrieval of any subsea structure or object not exceeding 120tons in weight or 100 meters of water depth; Platform and structure surface/subsea intervention/installation/maintenance, including but not limited to; hook up works, boat landings, risers, riser guards, riser clamps, anodes, structural repairs, replacement or installation of any size not exceeding 120tons weight to a maximum height of 34 meters above sea level; Hydraulic hammer piling; Inspection and survey of structures, pipelines, seabed and other objects.

Marine Civil Engineering

Block setting, installation of concrete or gravel/stone foundations, terram deployment and installation, piling.

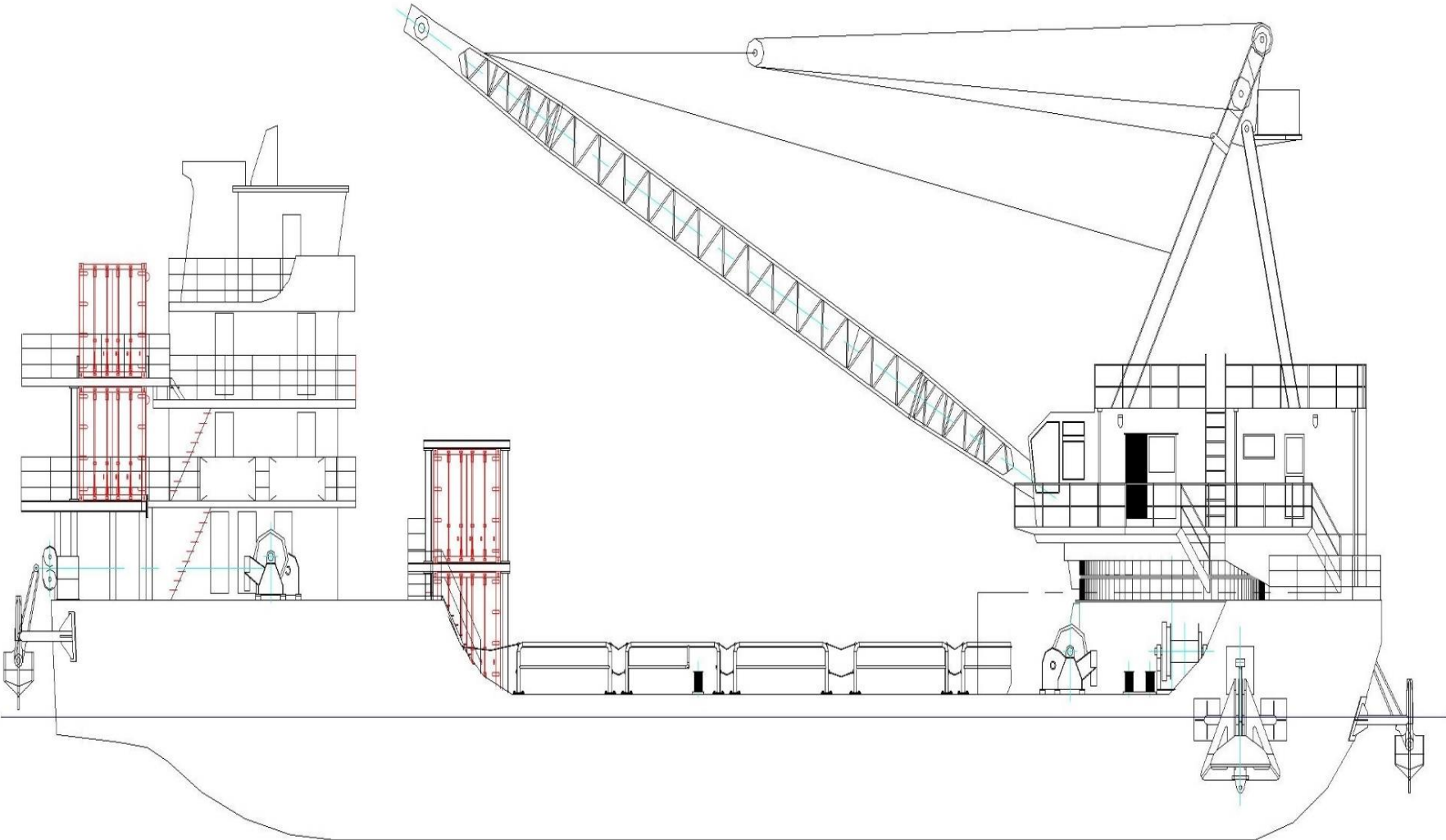
Salvage

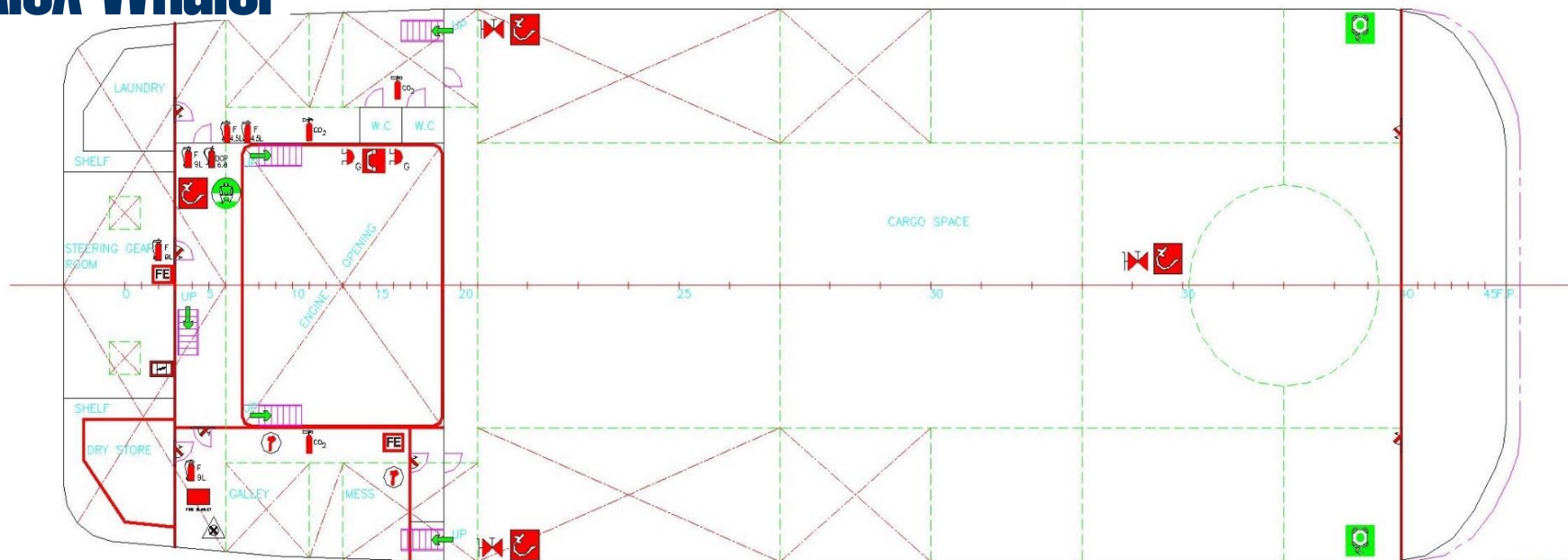
Any sunken vessel or structure that can be broken up and recovered in sections not exceeding 120tons; Sufficient equipment and expertise to conduct salvage operations to re-float vessels where possible.

To summarize the vessel ability, she can be used purely as a crane ship, or as a dive support or used in hook, maintenance and installation works

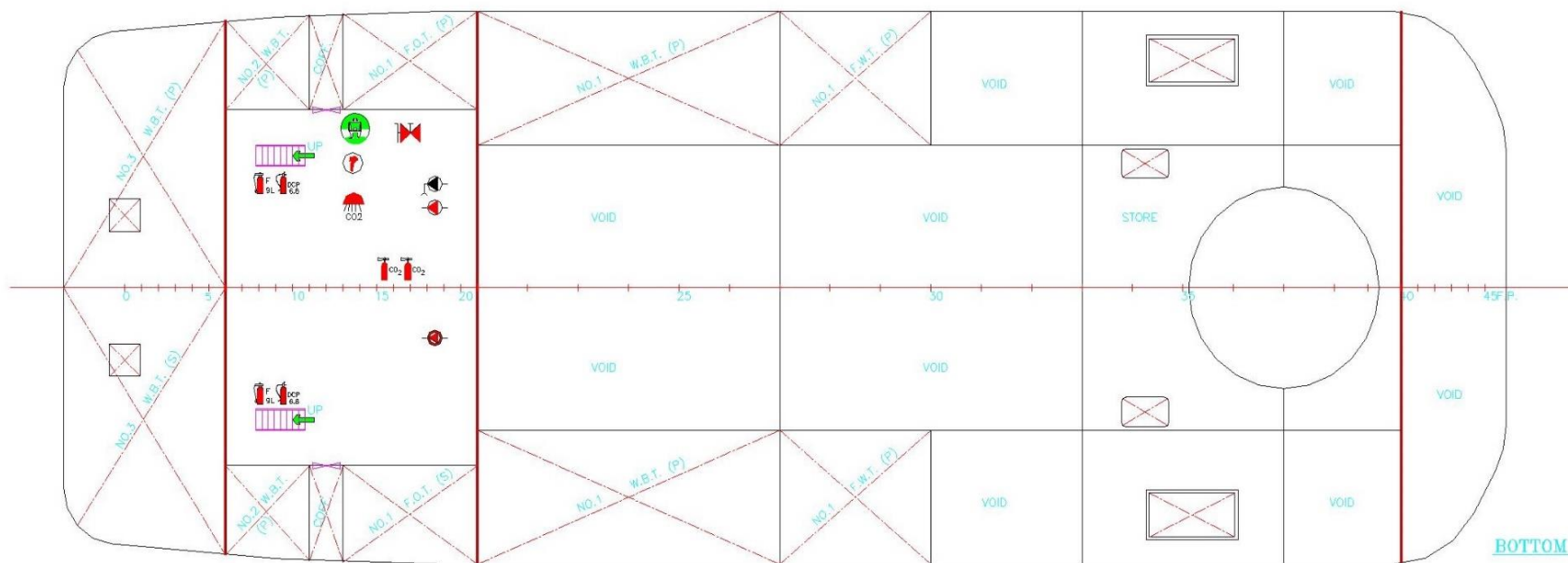




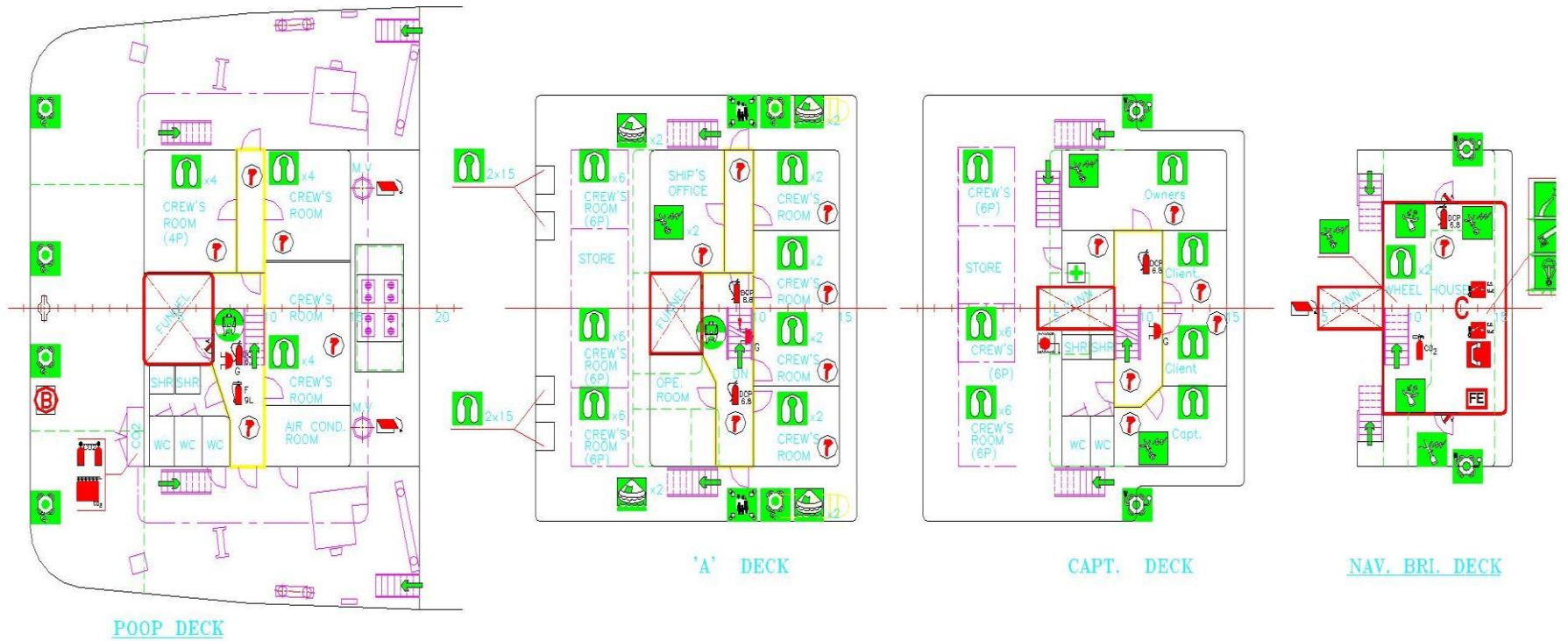


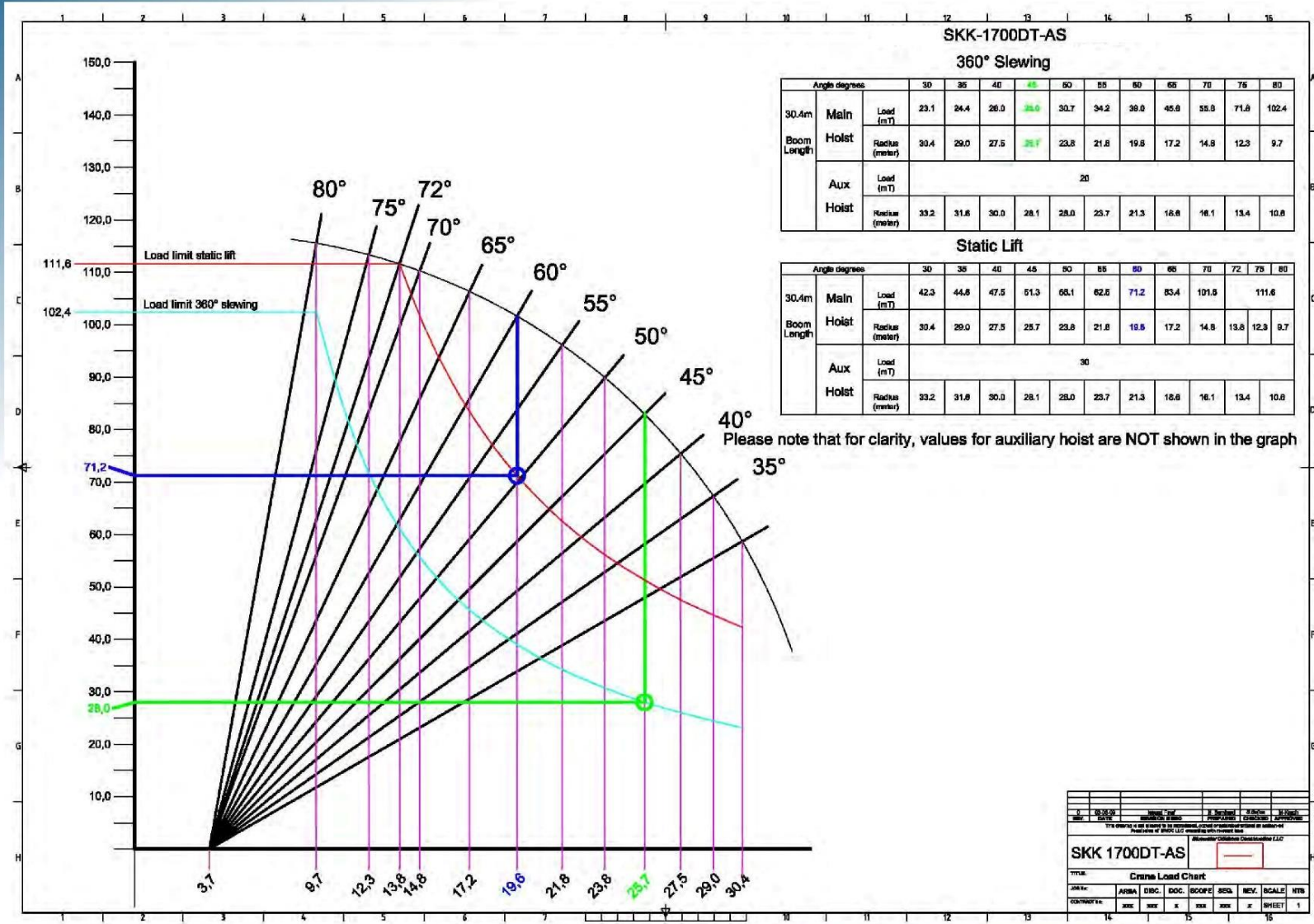


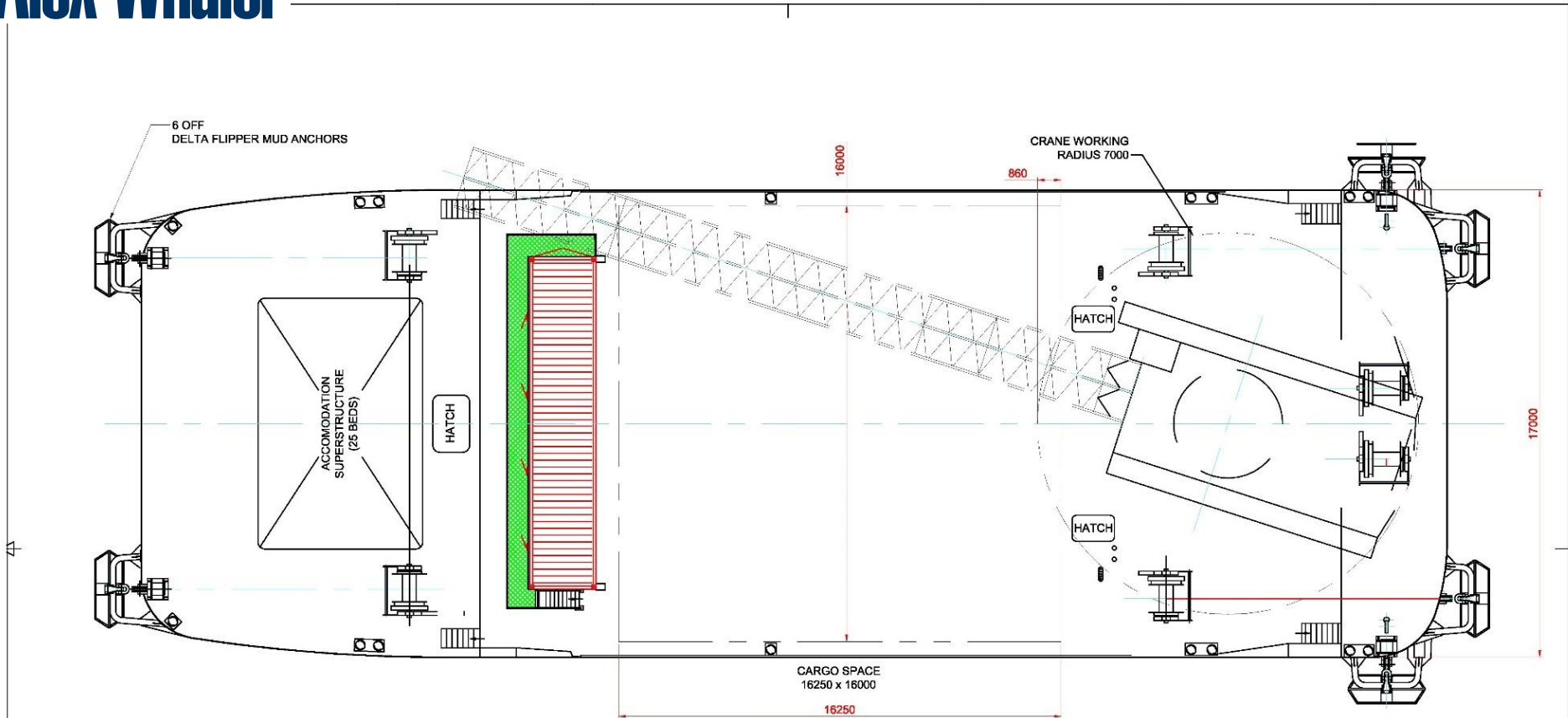
UPPER DECK



BOTTOM PLAN

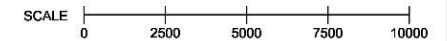






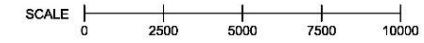
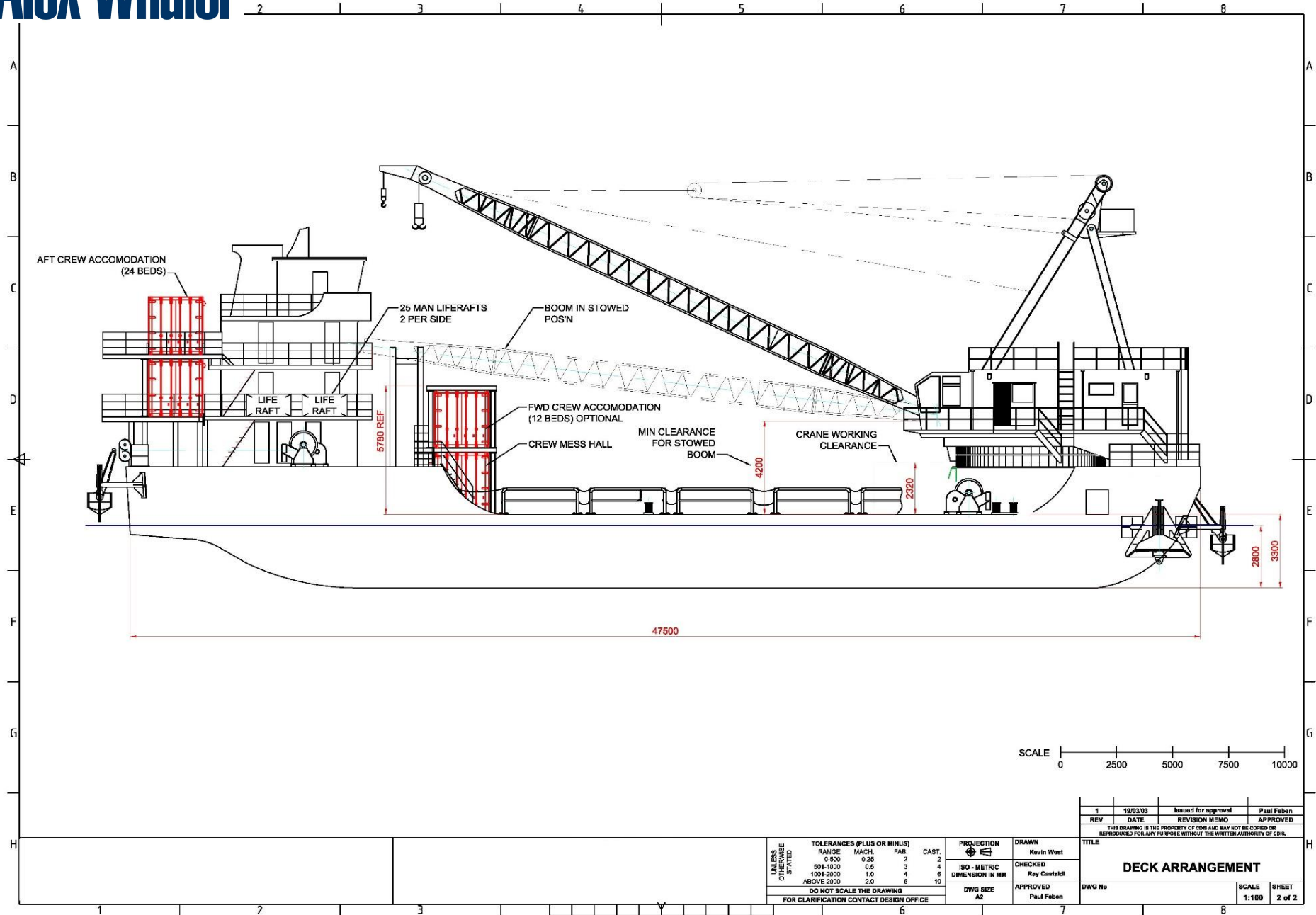
HULL	
LENGTH (TOTAL)	47M 600
BREADTH	17M 000
DEPTH	3M 300
DRAFT	2M 800
DEADWEIGHT CAPACITY	600t
GROSS WEIGHT	675t
SPEED	9 KNT

CRANE		
	MAIN HOOK	AUX. HOOK
JIB LENGTH	30.4M (STANDARD)	30.4M + (3)M
MAIN HOIST CAPACITY	150TON x 8.3M	20TON x 25.9M
WORKING RADIUS	8.3 - 23.1M	9.2 - 25.9M
LOWERING ROPE SPEED	0 - 6M/MIN	0 - 6M/MIN
HOISTING ROPE SPEED	0 - 6M/MIN	0 - 25M/MIN
MAX LIFTING HEIGHT	16M (AT SEA LEVEL)	20M (AT SEA LEVEL)



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UNLESS OTHERWISE STATED	TOLERANCES (PLUS OR MINUS)			PROJECTION 1st Angle	DRAWN Kevin West	TITLE DECK ARRANGEMENT
	RANGE	HATCH	CAST.			
	0-500	0.25	2			
	501-1000	0.5	3	190 - METRIC	CHECKED Ray Castaldi	
	1001-2000	1.0	4	DIMENSION IN MM		
	ABOVE 2000	2.0	5	DWG SIZE A2	APPROVED Paul Feben	DWG No
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TITLE			
DECK ARRANGEMENT			
DWG No	SCALE	SHEET	
	1:100	2 of 2	

UNLESS OTHERWISE STATED	TOLERANCES (PLUS OR MINUS)			CAST.	
	RANGE	MACH.	FABR.		
	0-500	0.25	2		2
	501-1000	0.6	3		4
	1001-2000	1.0	4		6
ABOVE 2000	2.0	6	10		

PROJECTION	DRAWN
ISO - METRIC	Kevin West
CHECKED	Ray Castaldi
DWG SIZE	APPROVED
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