

DOCKING REPORT OF VESSEL

RUHUNA -01 PILOT BOAT



Location of docking – Hambantota International Port Group no 08 Pier.

Date of docking – 25/07/2019

Date of undocking – 13/08/2019



DOLPHIN MARINE LANKA (PVT) LIMITED

182/8, Industrial Estate. Wataraka, Panaluwa, Sri Lanka

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1. INTRODUCTION

With reference to the Factual Statement of Lloyds Register (LR) had issued on 17 July 2019 for the Pilot Launch RUHUNA 1 which supplied by HIPG (Hambantota International Port Group), there were necessary repair.

As Marine Solution Company we, Dolphin Marine Lanka (pvt) LTD & Inter Ocean Service had studied on all reports, documents & specs of the particular vessel and involved as Third party nominated by HIPG to rectify the issues.

Point Raised in the Factual Statement

1. Hull power brushing & painting
2. Over board valves & intermediate valves service
3. Tiller flat area sea water leaking through the rudder seals
4. Steel works, including newly fabricate escape ladder, engine room pipe modification, tiller flat modification etc..

2. VESSEL PARAMETERS

Length overall – 19.5m

Length WL – 18.54 m

Breadth – 4.70 m

Depth – 2.20 m

Draft – 1.17m

IMO nu - 9734666

Type – pilot boat

Displacement – 44 ton

3. WORK SCOPE

1. Scrape barnacles from under water hull propellers, rudders and fittings.
2. High pressure wash under water hull, ship side, deck, propellers, rudders, and shafts. Power supply and water supply by HIPG.
3. Spot power wire brush remove barnacle's roots, loose paint under water hull, Power brush ship side (top side), by buffing. Power supply by HIPG.
4. Apply primer for under water area, top side area as soon as power brush and cleaning and paint apply by air less spray painting machine.
5. Application of antifouling coats as recommended by paint supplier, application of tie coats and antifouling coats and line cutting. Paint provide by HIPG.
6. Repainting of hull draft mark, port of registry, ship name, plim sol marks anchor resting area, Paint supply by DML.
7. Remove rust, power brush bulkheads, bilge area, sea keeper compartment, tiller flat, chain locker, fore peak space as required and apply paint. Paint provide by HIPG.
8. Remove existing anodes and supply new anodes and weld to hull.
9. Propeller shaft port & stbd side 'P' bracket clearance calibration and supply report.
10. Remove refit propellers with fabricated new suitable spanner for propeller cone nut.
11. Light polishing propellers
12. D.P. Testing propeller tips and roots. And tail shafts, tappers, and key ways D.P test due to the shaft material was stainless steel.
13. Port & stbd side propeller shaft alignment check by dial gauge. Due to tide with lifting cable during lifting boat and positioning on cradle.
14. Propellers re fit supply with 12mm dia propellers sealing O ring, sealant and STBD propeller shaft countersunk key locking Allen bolt. Supply O rings, sealant and countersunk key way Allen bolt.
15. Taking jumping clearance and remove rudders, re fit back with new seals and rudder stock upper tapered roller bearings. Supply bearings and seals by DML.
16. Anchor chain transported to Colombo workshop, blasted and painted, resup anchor fluke & swivel transport back to Hambantota and fixed it back.
17. Anchor windless panel mount to be repaired, (Total box to be removed due to corrosion with heave up and walk back switches and push buttons).

18. Water leaking through tiller flat hatch cover, replace compression bar, hatch beading & chalk tested.
19. Engine room pipe modification, valve position to be change.
20. Valves overhauling and pressure testing 25mm dia, 32mm dia, 50mm dia, 80mm dia, 150mm dia insitu done Sea chest valves re fit with new nut & bolts and packing.
21. Air vent 01 nos beyond repair (cannot repair at the place have to send to workshop)
22. Clean engine room bilge and dry.
23. Emergency escape ladder newly fabricate and install at forward emergency escape hatch cover.
24. Forward emergency hatch cover locking handle to be repaired.
25. Auxiliary engine alternator service- insulation test, washing and cleaning the winding use electrical cleaning chemical, after red varnish apply.
26. Engine room blower port dismantle & removing the housing blower motors after insulation test motor housing open check the bearing and cleaning the winding & heat after apply the red varnish after assembling test.
27. Engine room blower stbd dismantle & removing the housing blower motors after insulation test motor housing open check the bearing and cleaning the winding & heat after apply the red varnish after assembling test.
28. MSB cleaning work - all terminals check & loose bolts tight all panel msb cleaning using chemical.
29. Conduit pipes replace works with material with removing wire approx 75m.
30. Under water pitted areas 16 nos weld build up.
31. We cropped of angle frames to facilitate removal of the valves, under the flow plate area.
32. Lube oil coolers & fresh water coolers (main engines) remove clean by copper 3.5mm dia rod & refit. (gear box)
33. Both rudders top and bottom plugs removed and check any water in rudders, float coat to be done with palm oil and top & bottom plug covered with cement.
34. Engine room ventilation covers, chipping buffing and painting.
35. Rudder stock greasing arrangement introducing & fitting.
36. Fabricated new suitable spanner for propeller cone nut.
37. Remove sea gratings port & stbd internal cleaned and gratings fitted back with S/S strips.

4. BOAT LIFTING AND DOCKING

Boat lifting and positioning on cradle done by HIPG crew

Date – 19/07/2019



After positioning



Boat lifting again and positioning on two trailers with boat cradle for increase height from ground level facilitate for power brush and painting under water hull area. Done by HIPG crew

Date – 31/07/2019



During boat positioning



After positioning

5. BARNACLES REMOVING AND HIGH PRESSURE WATER WASHING

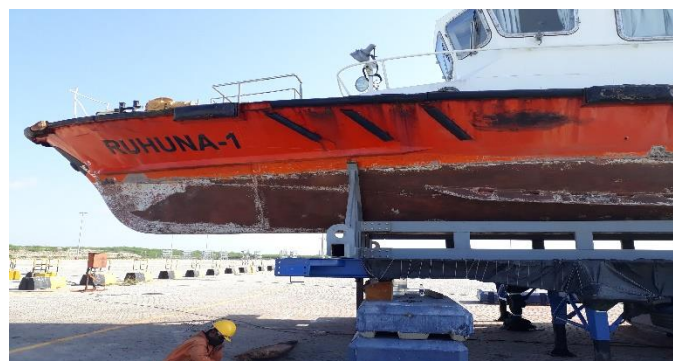
Date – 25/07/2019 to 27/07/2019

Barnacles removing manually by hand scrapers, under water hull area, propellers both side, rudders both side, and propeller shafts and sea chest gratings.

High pressure water wash by high pressure water washing gun, with 400 psi pressure. Under water hull area, top side hull area, propellers, rudders and shafts cleaned by high pressure water washed after barnacles removing.



Before scrape barnacles



After scrap, & brushing

6. POWER BRUSH UNDER WATER HULL AREA AND TOP SIDE HULL AREA

Date – 28/07/2019 to 02/08/2019

Power brushing total hull area, and rudders for remove marine growth roots, loose paints, corroded areas, and rusts. Power brushed by buffing wheels with electric grinders.

Before start painting fresh water high pressure washing for remove power brushed rust and impurities.

7. HULL PAINTING

Painting with HEMPAL paint scheme, total hull surface, and rudders.

HEMPAL Paint scheme

- Painting method – Airless spray painting

Under water area

Coat no	Description	Actual D.F.T	Clac T.S.R	C.F
1-primer coat	Hempadur Quattro - Red	125 microns	5.8	1.8
2-tie coat	Hempadur Tie coat – Yellowish grey	125 microns	5.0	1.5
3-intermediate coat	Hempel's A/F Olympic + Brown	110 microns	5.8	1.5
4-finish coat	Hempel's A/F Olympic + Red	110 microns	5.8	1.5

Free board area

Coat no	Description	Actual D.F.T	Calc T.S.R	C.F
1-primer coat	Hempadur Quattro - Red	125 microns	5.8	1.8
2-intermediate coat	Hempadur Quattro - Cream	125 microns	5.8	1.5
3-finish coat	Hempathane Top Coat- Orange	70 microns	7.3	1.5

- Remove rust, power brush bulkheads, bilge area, sea keeper compartment, tiller flat, chain locker, fore peak space as required and apply paint.
- Anchor chain transported to Colombo workshop, blasted and painting transport back to Hambantota and fixed it back.

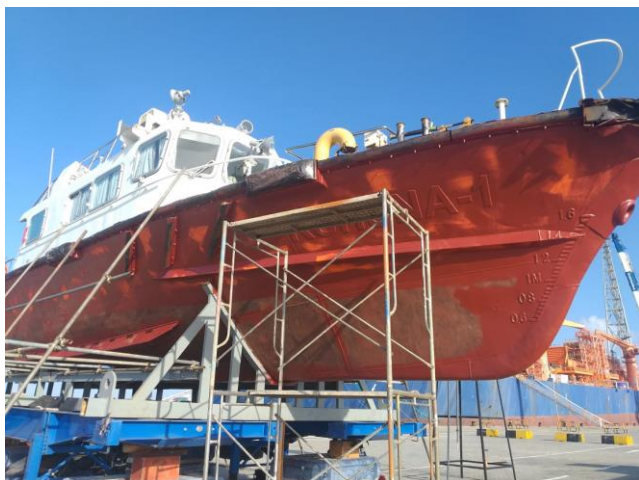
8. ANCHOR CHAIN BLASTING & PAINTING



After blasting



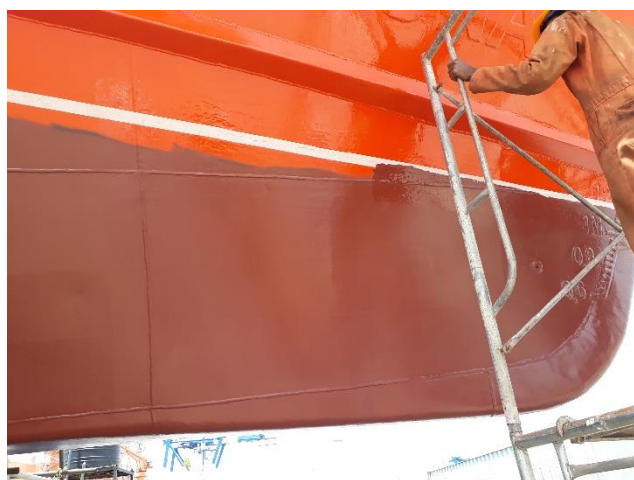
After painting



Apply primer



After finish coats apply



Line cutting



POR, Name, Pilmsol marks repainting



After painting

9. PROPELLER “P” BRACKET CLEARANCE & RUDDER JUMPING & BUSH CLEARANCE CALIBRATION

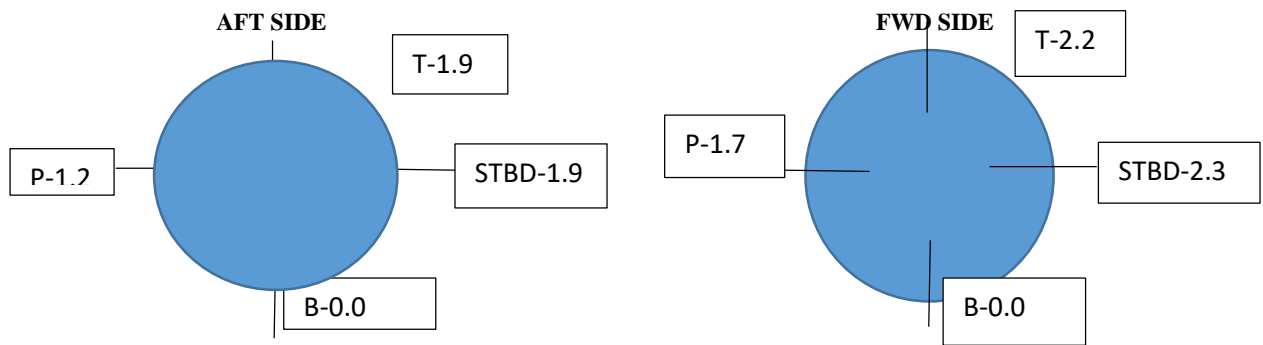
INTER OCEAN SERVICES LTD REPAIR DEVISION DRY DOCK REPORT			
Name of vessel: - RUHUNA 01 Classification society: - LLOYDS REGISTER	Docking date: - 16/07/2019 Dry dock no: - N.A.	Before repair	YES
		After repair	NO

PROPELLER SHAFT					
SHAFT DIAMETER “P” BRACKET AREA		PORT SIDE SHAFT - 85		STBD SIDE SHAFT - 85	
		FWD	AFT	FWD	AFT
“P 1” BRACKET BUSH	T	2.2	1.9	1.7	1.2
	B	0.0	0.0	0.0	0.0
	P	1.7	1.2	1.4	0.2
	S	2.3	1.9	1.2	0.3
“P 2” BRACKET BUSH	T	N.A	N.A	N.A	N.A
	B	N.A	N.A	N.A	N.A
	P	N.A	N.A	N.A	N.A
	S	N.A	N.A	N.A	N.A

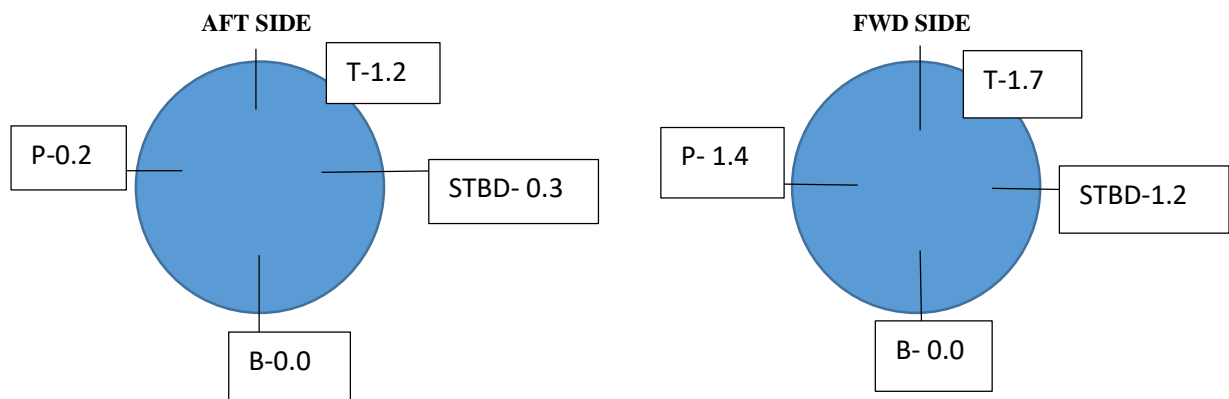
RUDDER				
PINTLE DIA- N.A	PORT SIDE		STBD SIDE	
	TOP BUSH	BOTTOM BUSH	TOP BUSH	BOTTOM BUSH
FORWARD	N.A	N.A	N.A	N.A
AFT	N.A	N.A	N.A	N.A
PORT	N.A	N.A	N.A	N.A
STBD	N.A	N.A	N.A	N.A
JUMPING CLEARANCE	PORT SIDE		STBD SIDE	
	FWD	7.6	FWD	5.7
	AFT	7.3	AFT	3.5
	P	4.7	P	6.8
	STBD	5.7	STBD	7.0
REMARKS:-				
<ul style="list-style-type: none"> Bush clearance will be submitted after withdrawal of the rudder Since we observed both rudders seals were damage, hence we decided to withdraw the rudder to facilitate renewal of water seals and to obtain rudder bush clearances physically. 				

	DATE – 28/07/2019	
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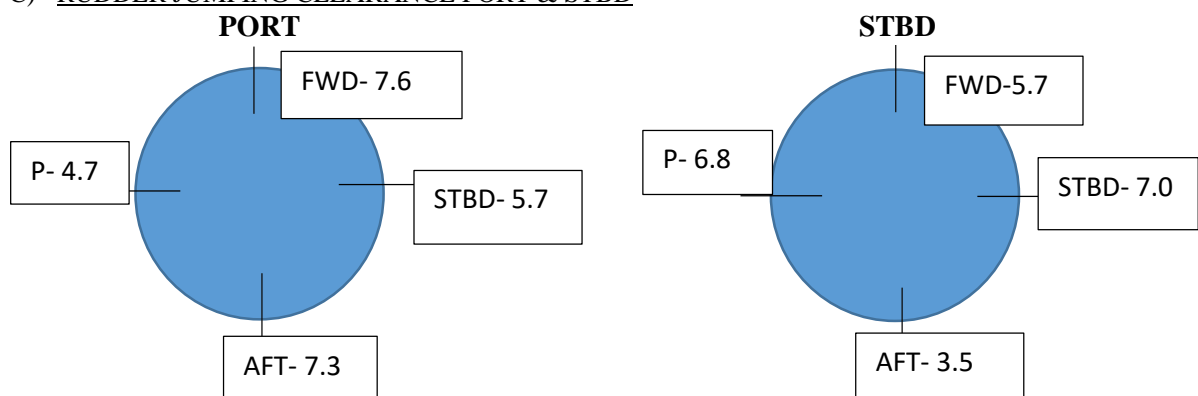
A) PROPELLER SHAFT “P” BRACKET BUSH CLEARANCE PORT SIDE



B) PROPELLER SHAFT “P” BRACKET BUSH CLEARANCE STBD SIDE



C) RUDDER JUMPING CLEARANCE PORT & STBD



- All clearance were in mm and measured by feeler gauge.



INTEROCEAN SERVICES LTD

REPAIRS DIVISION

No.284, Vauxhall Street, Colombo 2, Sri Lanka.

Office: +94 114 799 100 | Fax: +94 114 797 910 | Mail: repairs@interocean.lk

INTER OCEAN SERVICES LTD REPAIR DEVISION DRY DOCK REPORT			
Name of vessel: - RUHUNA 01	Docking date: - 16/07/2019	Before repair	YES
Classification society: - LLOYDS REGISTER	Dry dock no: - N.A.	After repair	NO

<u>RUDDER</u>				
PINTLE DIA- N.A	PORT SIDE		STBD SIDE	
	TOP BUSH	BOTTOM BUSH	TOP BUSH	BOTTOM BUSH
FORWARD/AFT	N.A	101.2	N.A	100.8
PORT/STBD	N.A	101.0	N.A	101.2
RUDDER STOCK DIA	99.70		99.60	
EXISTING RUDDER BUSH MATERIAL	BRONZE		BRONZE	
REMARKS:-				
ALL DIMENSIONS IN MM				
BUSH DIMENSIONS:				
Port: Length. 130.00 I.D. 101.20 OD. 130.00				
Stbd: Length. 130.00 ID. 100.80 OD. 130.00				

K. L. R. Perera	DATE - 31/07/2019	
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Shaft alignment checking by dial gauge

10.REMOVE & REFIT PROPELLERS

Remove propellers, for remove to propeller cone nut fabricate new spanner tool from 20mm thickness plate. Scaffolding stage arrange around after side for remove propellers. Remove cone nut using fabricated tool and get it down and inspection propeller key way and S/S Allen bolts condition. During inspection appear STBD side S/S allen bolt damage. Supply S/S allen bolt. STBD side propeller hard to remove easily, previous time propeller was tide pushup.

Then we have to use high 4nos tension studs, and high tension nuts for loose propeller

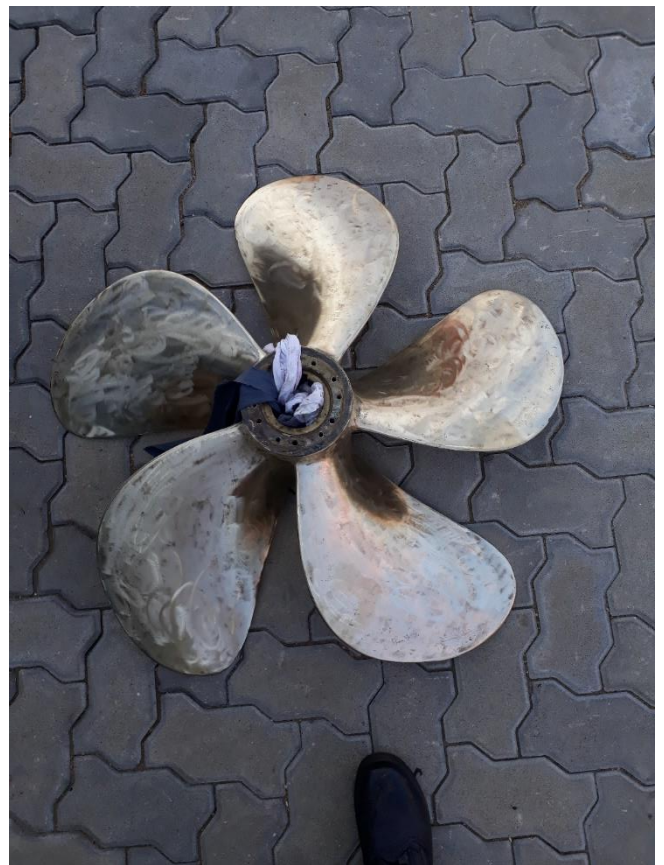
Propeller lightly polishing by buffing. After D.P. testing re fit propellers (propeller D.P. testing describe following) after re fit propellers checked clearance again.



During removing propellers



P side SS allon bolt head damage



Light polish propellers

11.REMOVE & REFIT RUDDER



After remove the rudders

- Measuring rudders jumping clearance.
- Port & stbd rudders dismantled -When we inspection rudder condition initially there is a considerable play appeared so we have to dismantle rudder jumping clamps and rudder stock get them down.
- Rudder stock bearings and oil seals are badly worn, due to worn seals allow entrance for sea water to tiller plat area. Rudder bearings and oil seals are renewal.



Worn rudder bearings



Worn rudder seals

- Rudder bearings – “NTN” bearings supply from local market. (02nos)



New NTN rudder bearings

- Rudder oil seals are not available in local market, therefore export from DUBAI. (04nos)



New rudder seals

- Before refit rudder remove top & bottom plugs of rudders and check any water in rudder, float coat done with palm oil and top & bottom plugs covered with cement.
- Rudder stock bearing housing greasing arrangement introducing & fitting.
- Refit rudders with new bearings and oil seals.

12. VALVES DISMANTLE, SERVICE, PRESSURE TESTING AND REFIT

- Sea chest valves, intermediate valves, over board valves – 38 nos dismantle, before dismantle all valves are marks with separately and tag valve name each by each.
- Service valves- power brushed valve body, collar, and spindle all parts of valves and apply painting with standard color code.

- Pressure testing for valve- pressure testing for check valves good operating condition, pressure testing to each valve for 5 bar, and submit report.
- After service and pressure testing valves refit the same.
- After refitting check any clearance the flanges by feeler gauge

Description valve sizes	Quantity
25mm diameter	09 nos
32mm diameter	11 nos
50mm diameter	15 nos
80mm diameter	02 nos
150mm diameter	02 nos
Sea chest valves	02 nos

- Forward fore peak tank stbd side air vent service, painting and install.



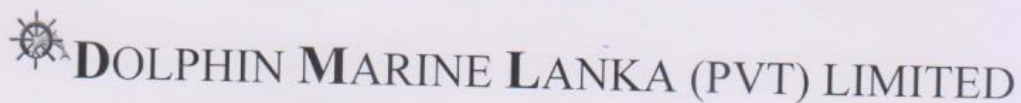
During valve service, after P testing

PRESSURE TESTING VALVES





13.VALVE TESTING REPORT



Address – Dolphin Marine Lanka, Industrial estate
Panaluwa, Watareka.
Tel – 011-2830832, 2830831
E-mail – dolphinmlanka@gmail.com
Web site – www.dml.lk

PRESSURE TESTING REPORT

Vessel name – RUHUNA 01
IMO nu – 9734666
Location – HAMBANTOTA INTERNATIONAL PORT
Date – 09/08/2019

Following valves pressure tested after overhauling at pressure of 5 bar, kept under pressure for 01 hour, found no pressure drop.

Valve no	Type of valves	Quantity	Description
	Intermediate valves (Port & STBD)		
01	Butterfly valve	01	Port main sea suction
02	Butterfly valve	01	Port main sea suction
03	Globe valve	01	Port A/C suction -01
04	Globe valve	01	Port A/C suction -02
05	Globe valve	01	Port A/C discharge -01
06	Globe valve	01	Port A/C discharge -02
07	Globe valve	01	Port bilge discharge -01
08	Globe valve	01	Port bilge discharge -02
09	Globe valve	01	Port bilge discharge -03
10	Globe valve	01	Port bilge discharge -04
11	Manifold valve	01	Port bilge discharge -05
12	Manifold valve	01	Port bilge discharge -06
13	Globe valve	01	Port engine cooling line
14	Globe valve	01	Stbd engine cooling line
15	Globe valve	01	Auxiliary engine cooling line
16	Globe valve	01	Port main sea suction vent
17	Globe valve	01	Port shaft cooling
18	Globe valve	01	Tiller flat cooling

182/S, Industrial Estate, Watareka, Panaluwa (Padukka) Sri Lanka (BR: PV 60041)
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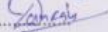
DOLPHIN MARINE LANKA (PVT) LIMITED

19	Butterfly valve		Stbd main sea suction valve
20	Butterfly valve		Stbd main sea suction valve
21	Globe valve		Stbd fire pump suction valve
22	Globe valve		Stbd bilge suction valve -02
23	Globe valve		Stbd bilge discharge valve - 01
24	Manifold valve		Stbd bilge suction manifold - (03,04)
25	Globe valve		Stbd bilge suction pump - 01
26	Globe valve		Stbd fire pump discharge valve - 01
27	Globe valve		Stbd fire pump discharge valve - 02
28	Globe valve		Stbd fire pump discharge valve - 03
29	Globe valve		Stbd main sea suction vent valve
30	Globe valve		Stbd shaft cooling line
	Over board valves (Port & STBD)		
31	Globe valve	01	Port main engine discharge
32	Globe valve	01	Galley over board
33	Globe valve	01	A/C over board
34	Globe valve	01	STBD main engine discharge
35	Globe valve	01	Bilge discharge over board
36	Globe valve	01	Fire discharge over board
37	Globe valve	01	Sea keeper discharge over board

Remarks – valve reinstalled in place

Checked by:

Engineer of Dolphin Marine Lanka.
Tharindu Dhanesh,
BSc. In Marine Engineer





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14. STEEL WORKS

- Forward emergency escape ladder newly fabricate and install – forward emergency escape ladder 2300mm height, 320mm width

Materials

- 100×10mm M/S flat bar
- 25×25mm M/S square bar
- 16mmØ nut and bolts

Welding by Co2 welding, install with nut and bolt upward and welding downward.

- AFT tiller plat hatch cover compression bar and hatch coaming replace & chalk tested check weather proof.



Hatch cover compression bar replace

- Forward emergency S/S locking handle repair and refit – 04 nos S/S locking handles are cracked in welding joints, cut grove along with crack area and filling S/S materials by welding. One handle locking bar was broken and replace new S/S bar.
- AFT life ring mount cropped off and weld back inside of hand railing by S/S welding.



Life ring mounting repair

- Engine room pipe modification – Propeller shaft mechanical seal cooling sea water supply line from under of sea chest valve. Then due to this pipe & valve arrangement, if damage any area of the between strainer end to valve end water leaking cannot stop. So previous pipe line blank from strainer area and create new pipe section above the sea main sea chest valve.

Materials –

- 22Ømm sch 80 pipe 1,500mm
- Blank flanges 22Ømm - 02 nos
- Flanges 22Ømm – 02 nos



Corroded shaft cooling line



After pipe modification

- Under water area cavitation filling with welding, grinding surface and apply paint to repair areas.



Cavitation filling

- Sea chest gratings cropped off, remove chipping, power brushed remove rust, painting and re fit with S/S welding.

15. ELECTRICAL WORKS.

- MDKDR ONAN auxiliary engine alternator service- insulation test, washing and cleaning the winding use electrical cleaning chemical, after red varnish apply.
- Engine room blower port dismantle & removing the housing blower motors after insulating test motor housing open check the bearing and Cleaning the winding & heat after apply the red varnish after assembling test.
- Engine room blower stbd dismantle & removing the housing blower motors after insulating test motor housing open check the bearing and cleaning the winding & heat after apply the red varnish after assembling test.
- MSB cleaning work - all terminals check & loose bolts tight all panel msb cleaning using chemical.
- Flexible wire Conduit pipes replace works with material with removing wire approx 75m, with steel hose clips.

Material –

10mm dia wire conduit – 11m

18mm dia wire conduit-03m

30mm dia wire conduit- 56m

50 mm dia wire conduit-04m

Steel hose clip – 125 nos

- Anchor windless heave up switches and push buttons replace and re connecting with supply wire.
- Anchor windless operating panel mount box fabricate by S/S, supply and install.

16. ELECTRICAL WORKS REPORT



R.T.D. MARINE SERVICE & ENGINEERS (PVT) LTD

Ship Repairing, General Engineering, Naval Electrical, Auto Electrical, Automation Work, Electrical Installation
For Industrial, Commercial & Residential Building, Electrical Maintainers Work, Pipe Work, Welding Work,
Rigging Work, Generator Installation & Maintenance, Service & Maintainers For Power
Distribution Panel & Automation Control Panel.

	E	Ship In charge	Inspect By
		Signac her	Yard in charge
01	<p>Generator Service works</p> <p># Generator insulation test 200 MΩ / 500V E to T1 36.7 MΩ E to T2 40.3 MΩ T1 to T2 Infinity</p> <p># Dimondale the Back cover check the Bearing Bearing is ok</p> <p># after comical wash the starter & Rotor after all cleaning works completed , Heat the starter & Rotor Apply the Red Venice Check the insulation test refaxing the cover.</p> <p># After cleaning the check the insulation test 200 MΩ / 500V E to T1 127.5 MΩ E to T2 146.2 MΩ</p> <p># after All works completed assembling the generator</p>		
02	<p>M.S.B. Service Works</p> <p># M.S.B barkers termination check & louse bolt tide bolt</p> <p># After all panel cleaning to use contact cleaners</p> <p># Complete the job</p> <p>MSB Engine room</p> <p>Insulation Test 200MΩ/ 500 V</p> <p># Anchor winch control Box E to L1 26.5 Ω E to L2 32.1 Ω</p> <p># Starter of Gen Pump For Bilge & Fire E to L1 30.8 Ω E to L2 38.1 Ω</p> <p># Water supply Plant C-B E to L1 48.6 Ω E to L2 51.6 Ω</p> <p># Starter of No 01 E/R Supply Fan E to L1 45.7 Ω E to L2 52.3 Ω</p> <p># Starter of No 01 E/R Supply Fan E to L1 38.5 Ω E to L2 35.1 Ω</p> <p># Starter of No 01 E/R Exhaust Fan E to L1 65.2 Ω E to L2 53.2 Ω</p> <p># Starter of No 02 E/R Exhaust Fan E to L1 70.5 Ω E to L2 64.5 Ω</p> <p># Potable Air Compressor E to L1 127.3 Ω E to L2 136.2 Ω</p> <p># Gen E N Alarm E to L1 230.2 Ω E to L2 255.9 Ω</p> <p># Fir Det Alarm E to L1 165.7 Ω E to L2 237.1 Ω</p> <p># Radar E to L1 248.3 Ω E to L2 215.1 Ω</p> <p># No 01 W.C. Power Starter E to L1 162.1 Ω E to L2 137.2 Ω</p> <p># No 02 W.C. Power Starter E to L1 134.8 Ω E to L2 128.3 Ω</p>		



RTD. MARINE SERVICE & ENGINEERS (PVT) LTD

Ship Repairing, General Engineering, Naval Electrical, Auto Electrical, Automation Work, Electrical Installation
For Industrial, Commercial & Residential Building, Electrical Maintenance Work, Pipe Work, Welding Work,
Rigging Work, Generator Installation & Maintenance, Service & Maintenance For Power
Distribution Panel & Automation Control Panel.

03	Flexible conduit works # As per the request replace the following locations # engine Room all flexible conduits # Navigation Master replace the conduits		
04	Engine room blowers 02w No's # Dismantle the blower port & STD, # Insulation test the winding # PORT Blower 200 MG / 500V E to U1 Infinity MG E to U2 Infinity MG # STBD blower 200 MG / 500V E to U1 Infinity MG E to U2 Infinity MG # After All works completed reassembling blower fixing the locations port & Std		

Following work done for work scope

Job Start Date: 6.8.2019

Job Finish Date: 8.8.2019





Thank You,

Yours Faithfully
Rohitha Perera
Director

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17.DP TESTING REPORTS

 SEA TECH INSPECTIONS		Report no.	SEATECH/NDT/GAC/PT/2019/01		
		Page no.	1		
No.221/1 High level road, Nugegoda, sri lanka.		Date	7/8/2019		
TP.0776602107,2-825184	email. cppeiris@yahoo.com	Drg. No.			
Liquid Penetrant Examination report					
VESSEL	RUHUNA -1		Location	PORT OF HAMBANTOTA	
Item No.	Roots & tips of port & stbd propellers		Material	BRONZE	
Acceptance criteria		Surface temp.	Surface condition		
ASME SEC VIII		28c°	as polished		
PT Technique	ASME Sec. V Art.6				
LIQUID PENETRANT EQUIPMENT					
Type of penetrant	Aerosol	Manufacturer	MagnaFlux	SKL- SP1	
Pre cleaner	Aerosol	Manufacturer	MagnaFlux	SKC-S	
Developer	Aerosol	Manufacturer	MagnaFlux	SKD -S2	
METHOD DESCRIPTION					
Pre Cleaning Method	By solvent				
Penetrant application	spraying	Dwell time	10min		
Developer application	spraying	Developing time	10min.		
Light Intensity	N/A	Lighting equipment	Day light		
Drawing no.	Item / marked	Joint No.	Length tested (M)	evaluation	Results
N/A	PORT PROPELLER	N/A	N/A	NONE	SATISFACTORY
N/A	STBD PROPELLER	N/A	N/A	NONE	SATISFACTORY
					
Note. P- porosity C - Crac CP - cluster porosity UC- Under cut					
NDT INSPECTOR			WITNESSED		
Name.	C.P. PEIRIS				
Signature					
Level	ASNT LEVEL II PT				
 SEA TECH INSPECTIONS		Report no.	SEATECH/NDT/GAC/PT/2019/02		
		Page no.	1		
No.221/1 High level road, Nugegoda, sri lanka.		Date	7/8/2019		
TP.0776602107,2-825184	email. cppeiris@yahoo.com	Drg. No.			

Liquid Penetrant Examination report						
VESSEL	RUHUNA -1			Location	PORT OF HAMBANTOTA	
Item No.	TAIL SHAFT TAPER,KEY WAY & END FILLET (PORT/STBD)			Material	ST. STEEL	
Acceptance criteria			Surface temp.	Surface condition		
ASME SEC VIII			28c°	as cleaned		
PT Technique		ASME Sec. V Art.6				
LIQUID PENETRANT EQUIPMENT						
Type of penetrant		Aerosol	Manufacturer	MagnaFlux	SKL- SP1	
Pre cleaner		Aerosol	Manufacturer	MagnaFlux	SKC-S	
Developer		Aerosol	Manufacturer	MagnaFlux	SKD -S2	
METHOD DESCRIPTION						
Pre Cleaning Method		By solvent				
Penetrant application		spraying	Dwell time		10min	
Developer application		spraying	Developing time		10min.	
Light Intensity		N/A	Lighting equipment		Day light	
Drawing no.	Item / marked	Joint No.	Length tested (M)	evaluation	Results	
N/A	Tail shaft - port	N/A	N/A	non relevent	SATISFACTORY	
N/A	Tail shaft - stbd	N/A	N/A	non relevent	SATISFACTORY	
<div style="display: flex; justify-content: space-around;">   </div>						
Note. P- porosity		C - Crac	CP - cluster porosity	UC- Under cut		
NDT INSPECTOR				WITNESSED		
Name.	C.P. PEIRIS		 C. P. PEIRIS QC & NDT INSPECTOR UT / PT LEVEL III PT / ET LEVEL II (S.P. 13-9712)			
Signature						
Level	ASNT LEVEL II PT					

OTHER WORKS

- Clean bilge and dry at engine room, tiller flat, forepeak area, chain locker.
- 01 Air vent repair, service, and painting and refit back. (cannot repair at the place have to send to workshop)


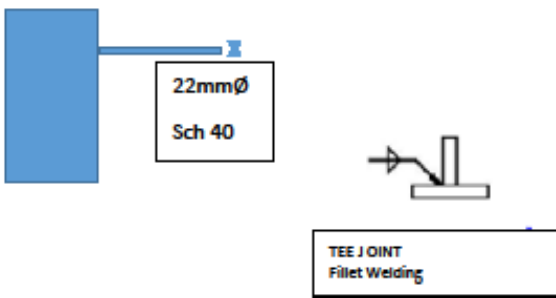
18.ADDITIONAL WORK

- Under water pitted areas 16 nos weld build up.
- We cropped of angle frames to facilitate removal of the valves, under the flow plate area and weld back in to previous location.
- Both main engines fresh water coolers remove cleaned & refit.
- Both main engine gearboxes Lube oil coolers remove clean & refit (gear box).
- Both rudders top and bottom plugs removed and check any water in rudders, float coat to be done with palm oil and top & bottom plug covered with cement.
- Engine room ventilation covers, chipping buffing and painting.
- Rudder stock greasing arrangement introducing, machining and fitting bearing housing.
- Steel wire clips install to all around the wire conduits in engine room.

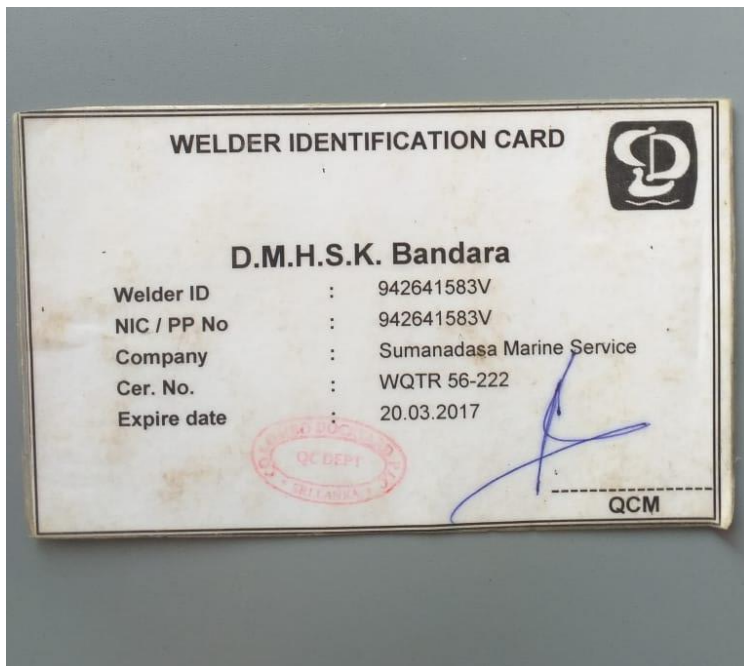
19. Lube oil testing report

- Lube oil testing report still not received from ITI, Lube oil testing submit as soon as received.

20.WELDING PROCEDURE

DOLPHIN MARINE LANKA (PVT) LTD INDUSTRIAL ESTATE, PANALUWA, HOMAGAMA  REF Standard : DML/MR/011 JOB DESCRIPTION : Port & stbd side shaft cooling line modification LOCATION : Sea chest strainer Port & Stbd (above the sea chest valve) VESSEL : RUHUNA 01	WELDING PROCEDURE DATA SHEET		Date 15	Month 08	Year 2019	
			Job No: DML/Q55231			
Plate shape /Joint configuration / Layer sequence 						
Welding process		ARC WELDING (MANUAL)				
Position		HORIZONTAL, VERTICAL, DOWN HAND, OVER HEAD				
Process mode		Manual	<input checked="" type="checkbox"/> semi Auto	Machine	Auto	
Joint Type		Butt	Tee	<input checked="" type="checkbox"/> Corner	Lap	Edge
Penetration		Complete	partial	ETT	Fillet	<input checked="" type="checkbox"/>
Backing		Material : N/A Thickness				
Back gauging		Yes : No : <input checked="" type="checkbox"/> Depth : Method:				
Electrode Extension		N/A		Dia.	3.2mm	
Nozzle diameters		N/A				
Flux classifications		N/A				
Cleaning Procedures		Chipping, Wire brush, clean between passes				
Identification of Base Material						
NO	Standard	Classification	Plate No	Plate, flange, pipe size		
01		ASTM A 233		22 mmØ, sch 40 pipe		
Welding Parameters						
PROCESS	Shielded Gas	Electrode classification	Process	Position	Current	Voltage
Manual arc welding	N/A	AWS A5.1 (M) E - 6013	Manual	VERTICAL HORIZONTAL DOWN HAND OVER HEAD	70-130A	polarity AC/DC +
Remarks		Survey Recommendation		Company Authorization		
				S.H.Tharindu Dhanesh BSc. Marine Engineer		

21.WELDER CERTIFICATES



22.DML CERTIFICATE

Certificate

GL 

Certificate No. **WF 0910286 HH**

This is to certify that Messrs.

Dolphin Marine Lanka (PVT) Ltd.
182/8, Industrial Estate
Watarocka
Panaluwa
Sri Lanka

has been granted on the basis of the verification of the workshop's preconditions and of the proofs of qualification presented the

Approval for Welding

In accordance with the **Germanischer Lloyd Rules for Welding
(Rules for Classification and Construction,
II - Material and Welding Technology, Part 3 - Welding)**

The range of application, if applicable other regulations also considered, the responsible supervisor(s) as well as the period of validity are mentioned in the appendix to this certificate. Approved procedures are confirmed within the assigned supplements to the appendix.

Hamburg, 2009-08-11

Germanischer Lloyd


Marcus von Busch


Dipl.-Ing. Liebich

Germanischer Lloyd is not responsible for the validity of the certificate if the conditions of approval are not fulfilled. The certificate is valid for the period of validity given in the appendix to this certificate. The certificate is valid for the period of validity given in the appendix to this certificate. The certificate is valid for the period of validity given in the appendix to this certificate. The certificate is valid for the period of validity given in the appendix to this certificate.

23. BOAT LAUNCHING AFTER REPAIR

Date – 15/08/2019



The end.....

Special thanks...

- Mr. Kimi Ji
- Mr. Charaka Rupasinghe
- Mr. Rienzie Samarahewa
- Mr. Ravi Jayawikrama
- Mr. Aruna
- All crew members RUHUNA -01
- HIPG engineering team

Participation

- W.D. Amarasiri
Director
Dolphin Marine Lanka
- Terence Hettiarachchi
Marine Engineer
- Rohan Perera
Engineer consultant
Inter Ocean Service
- S.H. Tharindu Dhanesh
Marine engineer
Dolphin Marine Lanka
- Kasun Wikramasinghe
Manager
Dolphin Marine Lanka
- A.P. Gamini – Supervisor
- All DML crew members.