

REPORT OF SURVEY FOR REPAIRS, &c., OF ENGINES AND BOILERS

" IROHIAN OAVIATS " (Received at London Office)

20 APR 1953

Date of writing Report **31st March 53** When handed in at Local Office **HAMBURG** Port of **HAMBURG**

Survey held at **HAMBURG** Date First Survey **16th Dec. 52** Last Survey **24th March 53**
(No. of Visits **56**)

on the Machinery of the **Steel** M.V. **"STANVAC NAIROBI"** (ex **"JAMES J. MAGUIRE"**)

Gross **11643** Vessel built at **Monfalcone** By whom **Cantieri Riuniti Dell' Adriatico** Year **1939** Month **5**

Net **6858** Engines made at **Turin** By whom **Soc. An " Fiat " S.G.M.** Year **1939** Month **5**

Boilers when made (Main) **1000MV** (Donkey) **1939**

Owners **Oriental Trade & Transport Co.Ld.,** Owners' Address **London**

Particulars of Classification **Howaldtswerke A.G.,**

Report No. **1991** Port **London**

Particulars of Examination and Repairs (if any) **LMC (NE), Dckg, TS CL N, DBS, Alteration, Repairs, 100 A1, LMC 6,47, DBS 10,51, TS. CL 10,51, Oil Eng.**

Special damage report he is required to state whether he offered his services for this purpose, and why they were declined **no damage**

Damage report made by anyone else? If so, by whom? **no**

Did Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? **yes**

What parts of the Boilers could not be thus thoroughly examined? **efficient**

Special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler? **6.2.1953**

Latest date of internal examination of each boiler **6.2.1953**

Did Surveyor examine the Safety Valves of the Main Boilers? **yes** To what pressure were they afterwards adjusted under steam? **200 lbs**

Did Surveyor examine the Safety Valves of the Donkey Boilers? **yes** To what pressure were they afterwards adjusted under steam? **yes**

Did Surveyor examine all the manholes, doors and their fastenings of the Main Boilers, and of the Donkey Boilers? **yes**

Did Surveyor examine the drain plugs of the Main Boilers, and of the Donkey Boilers? **yes**

Did Surveyor examine all the mountings of the Main Boilers, and of the Donkey Boilers? **yes**

Has a screw shaft now been drawn and examined? **yes** Has it a continuous liner? **yes** Is an approved oil retaining appliance fitted at the after end? **no**

Has the shaft now fitted been previously used? **no** Has it a continuous liner? **yes**

State date of examination of Screw Shaft **15.1.1953** State the wear down in the bush **close fit** Is electric light and/or power fitted? **yes** If so, did the Surveyor examine the generators, motors, switchgear, cables and fuses? **yes**

Insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? **yes**

Parts, when referred to by numbers, should be counted from forward. **Complete**

Survey is not complete, state what arrangements have been made for its completion and what remains to be done **Complete**

WORK DONE:- **Docking:-**

Vessel placed in drydock. **Propeller, stern bush, screw shaft, cocks, valves and outside fastenings of sea connections**

opened up, examined and placed in good order.

LMC:-

Main Engine:- The complete old main engine type "Fiat" with thrust block, intermediate shafts, screw shaft, propeller and shaft driven pumps removed ashore for further disposal by the Owners.

A new main engine, type Sulzer - 7S D 72 with thrust block, new screw shaft (spare), new propeller and complete new shaft driven pump unit has been satisfactorily fitted on new strong seatings.

Auxiliary Machinery:- The following machinery parts removed ashore for complete overhaul, examined and placed in satisfactory condition:-

General Observations, Opinion, and Recommendation.

The Machinery of this vessel, as now seen, is in efficient condition and eligible, in my opinion, to remain as now classed with fresh records of **LMC 3,53 NE made 52, fitted 53, DBS 2,53 and CL N 1,53.**

Installation of main & part new aux. mchy. **£ 120. 0.0.**

DBS (Scotch Type) **£ 15. 0.0.**

(Exhaust type) **£ 10. 0.0.**

(per Section 20) T.S. **£ 5. 0.0.**

Printing expenses (if chargeable) **£ 14. 0.0.**

Electric (part new) 100KW **£ 20. 0.0.**

Printer's Minute Rprs & Alter. **£ 35. 0.0.**

(part fee for old aux. etc) **£ 25. 0.0.**

Late Fee **£ 4. 4.0.**

As recommended from London

Received by me, 19

W. D. Williams

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation

003458-003465-0355 1/3

Insert Character of Ship and Machinery precisely as in the Register Book.

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HAMBURG

LMC: contd.

Both steam driven feed pumps - one steam driven bilge pump, one steam driven cofferdam-bilge pump, steam driven condenser circulating pump, steam driven general service pump, steam driven fuel transfer pump, two steam driven boiler-fuel pressure pumps, one steam driven boiler-fuel transfer pump, one steam driven auxiliary air pump, one steam driven starting air compressor, one steam driven air compressor for working-air on deck, one feed water heater, both fresh water coolers, one lubricating oil cooler, windlass, steering engine and deck-winch, cargo pumps and stripping pumps. The steam driven generator engines and generators with attached emergency compressor have been removed ashore for further disposals by the Owners; and new diesel driven generators of 50 KW capacity (tested) have been fitted at this time.

The remaining auxiliary machinery parts; air receivers, condenser, Butterworth heater, fuel oil heaters, strainers, cocks and valves of pumping arrangements have been opened up, examined and placed in a satisfactory condition.

Condenser and heaters tested; Representative lengths of auxiliary steam pipes removed, annealed and tested to Rule Requirements.

Donkey Boiler Survey:-

Both donkey boilers and waste heat boilers have been examined internally and externally with mountings, manholes, doors and their fastenings and placed in a satisfactory condition.

Safety valves of all four boilers adjusted under steam as noted.

Oil fuel burning installation examined under working condition and found satisfactory.

Fire fighting appliances verified and control rods checked.

Electrical Installation:-

The old steam driven generator sets (35 KW) have been removed ashore for further disposals by the Owners; and new diesel-driven generator sets of 50 K.W. capacity (tested) have been fitted at this time (see Kiel Certificate).

The partly renewed cables, fuses and fittings have been satisfactorily installed in accordance with the approved plans and the Secretary's letters.

On completion of installation the generators, circuits and apparatus have been megger tested and found in accordance with the Rule Requirements (See attached F.E. Report).

Repairs (Docking):-

The working propeller and screw shaft removed ashore.

The screw shaft has been dressed up (see Hamburg letter dated 10.1.53) and satisfactorily fitted with a new continuous liner (LLOYD'S JL 1, 6.1.53) and placed on board as spare.

The old propeller remains for disposal by the Owners.

The spare screw shaft (252051 - P1 - N3 CH 3 A 8388 LLOYD'S DS - HB 3153 19.4.58) has now been also a new bronze propeller marked: AN 46718 LLOYD'S No. 2538 9.1.53 A.K. 8772 kgs.

A new bronze propeller (spare) has been placed on board (AN 46799, LLOYD'S No. 2549 A.K.)

The aft stern bush removed ashore and reworked. Minor repairs to sea connections effected.

Both 12" sea injection valves in the forward pump room removed, port sea chest satisfactorily closed and blanked off and one new 6" tested cast steel angle globe valve fitted on

starboard existing chest and connected to cofferdam and bilge pump.

The condenser discharge ship side valve found corroded and new renewed (LLOYD'S No. 721 L.T. 10-Atm. 9.52 G.M.)

Machinery Repairs (Wear & Tear):-

Last intermediate shaft bearing remetalled.

Windlass: Steam cylinder block including valve chests renewed (Owners' supply); steering engine valve chest, and all holding down bolts renewed.

Fuel Oil Transfer Pump: valve rods, suction and delivery valves renewed, steam and oil piston rings renewed.

Both feed Water Pumps: Water cylinders rebored, pistons renewed, steam and water rings renewed, one relief valve renewed.

Bilge Pumps and Cofferdam Pump: Bilge pumps, water side rebored, and pistons built up by welding; on both pumps steam and water rings renewed, suction and delivery valves renewed, slide valves renewed.

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Machinery Repairs:- contd.

Condenser Circulating Pump: Steam cylinder and valve chest rebored.

Pistons valve rods, valve rings renewed, eccentric strap re-metalled.

Impeller shaft renewed (bronze) and impeller built up by welding, bearing bushes and coupling bolts renewed.

General Service Pump:-

Slide valve faces, rings on steam and water ends, and air bottles renewed.

Diesel Oil Transfer Pump: Valve rods renewed, rings on steam and water ends renewed.

Boiler Pressure Pumps: Rings on both ends renewed.

Condenser Air Pump: Water cylinder liner and piston renewed, rings on steam and water ends renewed.

Steam Driven Starting Air compressor:- Steam piston and valve rods renewed, piston rings renewed, air cylinder with valves removed ashore for complete overhauling.

Bilge Pump (pump room):- Valve rods renewed, part suction and delivery valves renewed, steam and water rings renewed.

Cofferdam Pump (pump room):- Slide valves and valve rods renewed.

Steam and water rings renewed.

Feed Water Heater:- Water chamber and two covers renewed, tested on completion.

Fresh Water Coolers:- Both fresh water coolers chemically cleaned, six tubes renewed, shell partly welded (corrosions) and one cover renewed, tested on completion.

Sea Water Strainers:- 4 new cast iron stop valves, 2 each strainer, have been fitted, old ones corroded.

Steering Engine:- Crosshead pins renewed, valves and valve rods renewed.

Piston rings and one eccentric strap renewed (see also S.R.L.).

Deck Winches and Capstans : removed ashore and completely overhauled.

Main Air Receivers: Four new steel drain valves (two each receiver forward and aft) have been fitted together with drain pipes to bilge (No drainage of air receivers previously fitted).

Boiler Repairs:-

Port Scotch Boiler : Forward furnace two stay tubes renewed and 16 side stays renewed of tested material.

Starboard furnace, nine side stays renewed of tested material.

Starboard Scotch Boiler: Port furnace, eight side stays and one stay nut renewed of tested material.

Starboard furnace, 14 side stays renewed of tested material.

Soot blowers of both scotch boilers removed ashore for complete overhauling.

Minor repairs to boiler mountings effected.

All gauges for scotch and waste heat-boilers removed for adjusting.

Superheater element-tube headers removed ashore for dressing up and new elements furnished and re-installed (tested tube material, see attached report).

Superheater safety valves removed ashore for complete overhauling.

Waste Heat Boiler (port):- 14 new thimble tubes fitted, starboard 16 new thimble tubes fitted.

On completion, the scotch and waste heat boilers tested hydraulically to 160 lbs, found tight.

Sea Water Evaporator:- coils removed ashore, cleaned, annealed and tested on completion evaporator space cleaned, safety valves of heating steam and evaporator space adjusted on completion.

Alterations:-

The complete main engine type "Fiat", 8 cylinder 2 SCSEA, thrust block, shaft driven

p.t.o.



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Alterations:- contd.

pumps, screw shaft and propeller have been removed; and a new oil engine type Sulzer 7 S D 72, with thrust block, new main-shaft driven pump unit, consisting of one lubricating oil pump, one sea water centrifugal circulating pump and one centrifugal fresh water circulating pump: operated through clutches and belt drives.

The screw shaft and the propeller have been renewed (spare shaft) - see attached report. The main engine has been built under Special Survey in 1952 (see Kobe Rpt. and attached F.E. Report) and now fitted in this vessel on new strong engine seatings. All water, lubricating oil, fuel oil and starting air lines have been partly renewed and satisfactorily connected to the new engine.

The exhaust line of 700 mm diameter has been removed and a new 800 mm exhaust line, satisfactorily fitted and lagged, has now been fitted to the silencer. Also both steam driven 35 K.W. generator engines with attached clutch driven emergency compressor have been removed and two new diesel generator engines of 50 KW capacity each, have now been installed and satisfactorily fitted, on the existing seatings (see F.E. report).

For the removed emergency compressor a new hand started diesel driven emergency compressor has been fitted on the port side of engine room.

Conversion:-

The main engine is built for running on Heavy Fuel and therefore the forward deep tanks, port, centre and starboard cross bunkers partly, and the settling tanks placed in centre crossbunker, are fitted with tested heating coils.

The settling tanks are fitted with sounding pipes and also with a pneumatic indicators, suction and discharge pipes tested on completion in accordance with Rule Requirements, and found good.

All steam heating coil returns laid through suitably illuminated observation tank in the boiler room.

The new heavy fuel oil steam transfer pumps, heaters, filters and cooler, placed on the forward centre upper platform and the new heavy fuel purifiers (Owners' supply) with suction and delivery pumps, placed on the forward centre engine room bulkhead and mounted on fabricated stools, having drip trays draining to the engine room oily bilge.

Control rods, operated from outside the machinery space are capable of shutting off the oil fuel supply.

The system was examined during all stages of installation and on completion the main and essential auxiliary machinery examined under working conditions and found satisfactory.

Machinery:-

The following items have now been installed for essential service:-

- One new main engine 7 S D 72 Sulzer (see Kobe report),
- One new shaft driven lubricating oil pump, LLOYD'S TEST,
- One new shaft driven sea water circulating pump 245 m³/h, LLOYD'S TEST No. 2332 A 17.2.
- One new shaft driven fresh water circulating pump 2917 ltr./min. LLOYD'S TEST No. 2332 B 17.2.53 W.O.D.,
- One new screw shaft (spare) 252051 - P1 - N₃ - CH 3 A 83 88 LLOYD'S DS - HB 3153 19.4.38
- One new ~~xxxx~~ bronze propeller - A.N. 46718 LLOYD'S 2538 9.1.53 A.K.
- One new spare bronze propeller - A.N. 46799 LLOYD'S 2549 A.K.,
- Two new main lubricating oil coolers, LLOYD'S TEST 2303 -A, B 30.10.52 W.O.D.
- Two new diesel generator engines (see Kiel report),
- One new 60 ltr. air receiver, LLOYD'S 12 R 0316 TP 48.5 HD 10.12.52.
- One new steam driven stand-by lub. oil pump - LLOYD'S No. 2325 A 26.1.53 W.O.D.,
- One new steam driven stand-by sea water circulating pump - LLOYD'S No. 2325 B 26.1.53 W.
- One new steam driven standby fresh water circulating pump, Lloyd's tested.
- Two new main lubricating oil coolers: LLOYD'S TEST 2303 A,B. 30.10.52,
- Two new heavy fuel transfer pumps: LLOYD'S TEST 2624/25 29.1.53 A.K.,
- Six new suction and delivery heavy fuel oil pumps for purifiers: LLOYD'S No. 2759, 2760, 7.2.53 A.K.
- LLOYD'S No. 2614, /15, 26.1.53 A.
- Two new 20 m² heavy fuel heaters: LLOYD'S 2313 W.O.D.,
- Two new 9 m² heavy fuel heaters: LLOYD'S 2315 7.1.53 W.O.D.

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One new 10 m² heavy fuel cooler: LLOYD'S TEST 2333 18.2.53 W.O.D.

One new diesel-compressor (emergency) LLOYD'S TEST No. 460 ES 12.2.52.

Diesel Deutz MAK No. 1411674

4.5 BHP LLOYD'S TEST 2766 A.K.

Note:- Old engine is noted in R.B. as 1000 MN, but Chief Engineer stated that max. I.H.P. was only 4270.

W. O. Dahlmann