

# REPORT ON OIL ENGINE MACHINERY.

No. 2640.

15 NOV 1948

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Writing Report 10<sup>th</sup> Nov. 1948. When handed in at Local Office 12<sup>th</sup> Nov. 1948. Port of Mahmro.  
 Survey held at Mahmro. Date, First Survey 4<sup>th</sup> February. Last Survey 7<sup>th</sup> November 1948.  
 Number of Visits 128.  
 Single BEAUFIGHTER Tons Gross 10.442.  
 on the Triple Screw vessel Net 6.197.  
 Quadruple  
 Mahmro By whom built Hockmms Mels. V. G. O. Yard No. 304 When built 1948.  
 Mahmro By whom made Hockmms Mels. V. G. O. Engine No. 486 When made 1948.  
 K. Boilers made at Mothmill By whom made Boonside Boiler Co. Ltd. Boiler No. 2145 When made 1948.  
 -I. Horse Power 6000 Owners Skills 9s Oceanline, Skills 9s Ocanfort Port belonging to Orolo.  
 Horse Power as per Rule 1686 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.  
 which vessel is intended ✓

GINES, &c. —Type of Engines MAN. D62 22/120 2 or 4 stroke cycle 2 Single or double acting Double.  
 pressure in cylinders 50 kg. cm<sup>2</sup> Diameter of cylinders 720 mm Length of stroke 1200 mm No. of cylinders 6 No. of cranks 6.  
 icated Pressure 5.5 kg. cm<sup>2</sup> Is there a bearing between each crank Yes.  
 bearings, adjacent to the crank, measured from inner edge to inner edge 1110 mm.  
 ns per minute 110 Flywheel dia 2682 mm Weight 7700 Kgs Means of ignition Diesel syst Kind of fuel used Heavy oil.  
 Solid forged as per 500 mm Mid. length breadth 800 mm Thickness parallel to axis 320 mm.  
 Semi built dia. of journals 500 mm Crank pin dia 500 mm Crank webs as fitted 320 mm shrunk Thickness around eye hole 330.5 mm.  
 All built as fitted 500-414 mm Intermediate Shafts, diameter as fitted 394 mm Thrust Shaft, diameter at collars as fitted 414 mm.  
 1 Shaft, diameter as fitted 500-414 mm as fitted 438 mm in body 420 mm at compl Is the shaft fitted with a continuous liner Yes.  
 shaft, diameter as fitted 21.5 mm Screw Shaft, diameter as fitted 438 mm in body 420 mm at compl.  
 Liners, thickness in way of bushes as fitted 21.5 mm Thickness between bushes as fitted 16.5 mm Is the after end of the liner made watertight in the Yes.  
 r boss Yes. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓.  
 inner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-  
 e ✓. If two liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved Oil Gland or other appliance fitted at the after  
 the shaft ✓ If so, state type ✓ Length of bearing in Stern Bush next to and supporting propeller 1880 mm.  
 er, dia 5460 mm Pitch 4315 mm No. of blades 4 Material Brass whether moveable No Total developed surface 9.81 sq. m.  
 of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of  
 ion Forced Thickness of cylinder liners 45 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled  
 d with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned  
 the engine ✓ Cooling Water Pumps, No. 2 each of 275 m<sup>3</sup>/H Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes.  
 umps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓.  
 connected to the Main Bilge Line { No. and size 2.7 of 100 m<sup>3</sup>/H. 1 of 70 m<sup>3</sup>/H. In main pump room ✓ In pump room fwd ✓.  
 How driven 1 steam & 1 elec. driven Steam driven. Steam driven.  
 cooling water led to the bilges No. led overboard. If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
 ements ✓.  
 t Pumps, No. and size 1-100 m<sup>3</sup>/H. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 each of 180 m<sup>3</sup>/H.  
 o independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both main bilge pumps and auxiliary  
 numps, No. and size:—In machinery spaces 4-90 mm. 2-100 mm in aft cofferd. 2-90 mm in main pump room. In pump room fwd 1-90 mm.  
 ds, &c. 2-90 mm in dry cargo hold. 2-90 mm in forward cofferd. 2-12.5 mm.  
 endent Power Pump Direct Suctions to the engine room bilges, No. and size 2-12.5 mm.  
 ll the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes. Are the bilge suction in the machinery spaces led from easily  
 ible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes.  
 ll Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Boath Are they fixed  
 iently high on the ship's side to be seen without lifting the platform plates Yes or by lifting special covers above.  
 they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes.  
 t pipes pass through the bunkers ✓ How are they protected ✓.  
 at pipes pass through the deep tanks Inclination pipes from aft cofferd Have they been tested as per Rule Yes.  
 all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes.  
 he arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery  
 ces, or from one compartment to another Yes. Is the shaft tunnel watertight No tunnel. Is it fitted with a watertight door ✓ worked from ✓.  
 a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓.  
 ain Air Compressors, No. None No. of stages ✓ diameters ✓ stroke ✓ driven by ✓.  
 auxiliary Air Compressors, No. 2 No. of stages 2 diameters 300 & 110 mm stroke 220 mm driven by Aux. oil eng.  
 small Auxiliary Air Compressors, No. 1 Williams & James No. A 7691. Size: 2.5 cu. ft. atm. air/H. driven by Aux. general oil.  
 hat provision is made for first charging the air receivers Small compressor.  
 avenging Air Pumps, No. 2 Vanderm diameter 1650 mm stroke 910 mm driven by Main engine.  
 auxiliary Engines crank shafts, diameter as fitted 170 mm No. 2 Position 1 port & 1 fwd. side.  
 ve the auxiliary engines been constructed under special survey Yes. Is a report sent herewith Yes.  
 Lloyd's Register  
 Foundation



AIR RECEIVERS:—Have they been made under survey Yes State No of report or certificate 169 & 170

Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

Can the internal surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

Spare Injection Air Receivers, No. 1 Cubic capacity of each 200 lit Internal diameter 474 mm thickness 13 mm

Seamless, lap welded or riveted longitudinal joint bol. welded Material 1. m. steel Range of tensile strength 45.2-49.2 Working pressure 12.9 mm

Starting Air Receivers, No. 2 Total cubic capacity 20.4 m<sup>3</sup> Internal diameter 1650 mm thickness 27 mm

Seamless, lap welded or riveted longitudinal joint Riveted Material 1. m. steel Range of tensile strength 46.2-49.4 Working pressure 12.9 mm

IS A DONKEY BOILER FITTED Yes If so, is a report now forwarded Yes

Is the donkey boiler intended to be used for domestic purposes only No

PLANS. Are approved plans forwarded herewith for shafting 24.5.1946 Receivers 18.5.1946 Separate fuel to

Donkey boilers 29.1.1946 General pumping arrangements 21.10.1947 Pumping arrangements in machinery space 11.6.1946

Oil fuel burning arrangements 15.12.1947

#### SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied 1 top and 1 bottom cylinder covers. 2 top and 2 cylinder liners. 2 complete pistons with piston rods. 1 piston rod. 1 complete fuel pump. 1 propeller shaft. 1 cast iron propeller.

The foregoing is a correct description,

Just to be sure Manufacturer. From 4<sup>th</sup> February, 1948 to 13<sup>th</sup> August, 1948.  
Dates of Survey while building During erection on board vessel - - - " 18<sup>th</sup> August, 1948 " 7<sup>th</sup> November, 1948.  
Total No. of visits 128.

Dates of examination of principal parts—Cylinders (11 visits) 4/2-25/5.1948. Covers (9 visits) 29/5-17/6.1948. Pistons 17/6-11/6.1948 Rods 2/7-9/3.24.47 Connecting rods 3/11  
Crank shaft 24/8-1948 Flywheel shaft 16/6-1948 Thrust shaft 16/6-1948 Intermediate shafts 16/6-1948 Tube shaft 13/9  
Screw shaft 22/6-1948 Propeller 3/11-1948 Stern tube 15/6-1948 Engine seatings 28/6-1948 Engine holding down bolts 13/9  
Completion of fitting sea connections 28/6-1948 Completion of pumping arrangements 24/11-1948 Engines tried under working conditions 7/11  
Crank shaft, material 1. m. steel Identification mark NV. 134 Flywheel shaft, material 1. m. steel Identification mark LLLOYD'S 740 AB  
Thrust shaft, material 1. m. steel Identification mark LLLOYD'S 836 AB 16.6.48 Intermediate shafts, material 1. m. steel Identification mark LLLOYD'S 835 AB  
Spare screw Tube shaft, material 1. m. steel Identification mark NV. 837 AB 10.4.47 Screw shaft, material 1. m. steel Identification mark NV. 838 AB  
Identification marks on air receivers nos. 169 & 170. Lloyd's test 44 Kg. W.P. 30 Kg. AB. 7.10.48.

Is the flash point of the oil to be used over 150°F Yes

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes

Description of fire extinguishing apparatus fitted three and five "Kemmer-Inggg" apparatus, capacity 10 l.

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Oil tanker If so, have the requirements of the Rules been complied with Yes

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with ✓

Is this machinery duplicate of a previous case No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The main & aux. oil engines, pumps etc. of the

have been built under Special Survey in accordance with the Rules & approved plans. The material for

Rule requirements & the workmanship is good. The shafting as per forging reports enclosed.

The machinery of this vessel is eligible, in my opinion, to be classed in the Reg. Book of this Society

record of LMC 11.48. Working pressure of donkey boilers & exhaust gas economiser 170 lbs./sq. in.

The main engine crank shaft is made by Roda Works, Ltd. Plans and tested by NV. 22.8.46.

The intermediate, thrust, & propeller shafts (ordinary & spare) are made by The Life Forge Co. Ltd, Kirk

& tested by NV. 10.4.47. The flywheel shaft is made by W. Beardmore & Co. Ltd, Parkhead, Glasgow, & tested by NV.

The flywheel, thrust, & intermediate shafts have been checked tested at Mahroo as per Rotterdam letter d

20.5.48 & afterwards tested by the Brinell method with satisfactory results. The crank shaft & propeller

shafts (ordinary & spare) have been tested by the Brinell method with satisfactory results. (Please see let

not. & mss. of pumps. 1948 from Mahroo to Mr. Town

The amount of Entry Fee Rs. 860.-

Special Rs. 4060.-

S.S. of 2 start air res. Rs. 200.-

Donkey Boiler Fee Rs. 100.-

Insurance Rs. 90.-

Committee's Minute Rs. 90.-

Assigned + LMC 11.48 Oil Eng.

C.L. 208 1706.

Engine Surveyor to Lloyd's Register of Ship

Lloyd's Register Foundation