

REPORT ON OIL ENGINE MACHINERY

No. 23.034

29 APR 1949

Received at London Office

Date of writing Report 23rd March 1949 When handed in at Local Office 23rd March 1949 Port of Sydney N.S.W.
 No. in Survey held at Sydney N.S.W. Date, First Survey 19th November 1947 Last Survey 15th February 1949
 Reg. Book. 48040 Number of Visits 27
 Single on the Twin Triple Quadruple Screw vessel "NYORA" Tons Gross 1356.51 Net 675.93
 Built at London, Germany By whom built Norddeutsche G.m.b.H. Yard No. 175 When built 1935
 Engines made at Kiel, Germany By whom made Fried. Krupp Germania-Werft A.G. Engine No. 4894 When made 1934
 Donkey Boilers made at — By whom made — Boiler No. — When made —
 Brake Horse Power 750 Owners Commonwealth of Australia Port belonging to Sydney N.S.W.
 M.N. Power as per Rule 232 222.6 N.H.P. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Australian Coast

OIL ENGINES, &c. — Type of Engines Krupp Type G 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders — Diameter of cylinders 16¹⁵/₁₆" Length of stroke 26³/₈" No. of cylinders 8 No. of cranks 8
 Mean Indicated Pressure 94.16/lb/sq. in. Ahead Firing Order in Cylinders 13478652 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 20³/₈" except No. 5 which is 24" (coupling) Is there a bearing between each crank Yes Revolutions per minute 160
 Flywheel dia. 1650 mm. Weight 2630 Kg. Moment of inertia of flywheel (lbs. in² or Kg. cm²) — Means of ignition Compression Kind of fuel used —
 Crank Shaft, Solid forged 2 LENGTHS. as per Rule — dia. of journals as fitted 10⁹/₃₂" Crank pin dia. 10⁹/₃₂" Crank webs Mid. length breadth 15³/₈" Thickness parallel to axis — shrunk Thickness around eye hole —
 Flywheel Shaft, diameter as per Rule — as fitted 9¹/₂" Intermediate Shafts, diameter as per Rule — as fitted 9¹/₂" Thrust Shaft, diameter at collars as per Rule — as fitted 10¹/₄"
 Tube Shaft, diameter as per Rule — as fitted — Screw Shaft, diameter as per Rule — as fitted 9¹/₂" Is the tube shaft fitted with a continuous liner No
 Bronze Liners, thickness in way of bushes as per Rule — as fitted — Thickness between bushes as per Rule — as fitted — Is the after end of the liner made watertight in the propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner —
 If the liner 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-corrosive Yes 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 end of tube shaft Yes If so, state type Bedwell type Length of bearing in Stern Bush next to and supporting propeller 38¹/₂" (980 mm)
 Propeller, dia 2800 mm. Pitch 2220 mm. No. of blades 4 Material BRONZE FITTED, C.I. SPARE whether moveable No Total developed surface 2.92 sq. feet 25/5/49
 Moment of inertia of propeller (lbs. in² or Kg. cm²) — Kind of damper, if fitted —
 Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched — Means of lubrication Lubed Thickness of cylinder liners — Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine — Cooling Water Pumps, No. One Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Bilge Pumps worked from the Main Engines, No. One Diameter 4¹/₂" Stroke 3³/₈" S.A. Can one be overhauled while the other is at work —
 Pumps connected to the Main Bilge Line { No. and size (I-M.E.) { 1-Fin & Bilge 2³/₈" Duct, 4¹/₂" piping { 1-Ballast Pump 5" suction
 How driven { as above { rotary type, Electric motor. { similar to F.B. pump.
 Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements —
 Ballast Pumps, No. and size One 5" 2³/₈" Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 M.E. Gear type 2³/₈" suction
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces 10.5" 8.0 3" In pump room —
 In holds, &c. 4 @ 80 mm in forward hold 4 @ 80 mm in aft hold.
 Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 from Ballast Pump 5" 1 from F.B. Pump 80 mm.
 Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction pipes in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
 Are all Sea Connections fitted direct on the skin of the Ship No Are they fitted with valves or cocks Valves Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the overboard discharges above or below the deep water line Below
 Are 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 —
 What pipes pass through the bunkers None How are they protected —
 What pipes pass through the deep tanks None Have they been tested as per Rule —
 Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Is the 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 spaces, or from one compartment to another Yes Is the shaft tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork —
 Main Air Compressors, No. — No. of stages — diameters — stroke — driven by —
 Auxiliary Air Compressors, No. Two 2 cyl. No. of stages 2 diameters 5¹/₂" & 1³/₃₂" stroke 5¹/₂" driven by 10HP Elec. motor
 Small Auxiliary Air Compressors, No. One No. of stages 2 diameters 7¹/₈" & 2¹/₂" stroke 3¹/₄" driven by 3.6HP Diesel
 What provision is made for first charging the air receivers Manually diesel is hand started.
 Scavenging Air Pumps, No. — diameter — stroke — driven by —
 Auxiliary Engines crank shafts, diameter as per Rule — as fitted 3¹/₂" Southern brass 3" Position Three (2 broadly D.I.C. 1 Southern brass B.S.C.)
 Have the auxiliary engines been constructed under special survey No Is a report sent herewith Yes

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AIR RECEIVERS:—Have they been made under survey Yes Germanischer Lloyd State No. of report or certificate 78206 D copy attached

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

Injection Air Receivers, No. — Cubic capacity of each — Internal diameter — thickness —
Seamless, welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure —
Actual — by Rules —

Starting Air Receivers, No. Three Total cubic capacity 2700 litres Internal diameter 600 mm thickness 14 mm
Seamless, welded or riveted longitudinal joint Seamless Material M.S. Range of tensile strength — Working pressure —
Actual 30 Atm. by Rules —

IS A DONKEY BOILER FITTED Yes If so, is a report now forwarded No, pressure below 50 lb/sq. in.
Is the donkey boiler intended to be used for domestic purposes only Yes

PLANS. Are approved plans forwarded herewith for shafting Yes, see letter E dated 10/3/48 Receivers Yes Separate fuel tanks Yes
(If not, state date of approval)

Donkey boilers — General pumping arrangements Yes Pumping arrangements in machinery space Yes

Oil fuel burning arrangements —
Have Torsional Vibration characteristics been approved Yes Date of approval 10/3/48

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied One spare tailshaft. One spare cast iron propeller.

The foregoing is a correct description,

Manufacturer.

Dates of Survey During progress of work in shops 1947 19th Nov. 1948 2, 17, 24 Feb. 4, 9, 19 March, 7th April, 5, 14, 26 May, 2, 11, 23 June, 6, 16, 27 July
During erection on board vessel 5, 23 Aug. 8, 17 Sept. 22 Oct., 1 Dec. 1949 11, 25 Jan. 11, 15 Feb.
Total No. of visits 27

Dates of examination of principal parts—Cylinders 6.16.48 Covers — Pistons — Rods — Connecting rods —
Crank shaft 6.16.48 Flywheel shaft 11.6.48 Thrust shaft 11.6.48 Intermediate shafts 11.1.49 Tube shaft —

Screw shaft 15.5.47 Propeller 25.1.49 Stern tube 15.5.47 Engine seatings — Engine holding down bolts 16.7.48
Completion of fitting sea connections — Completion of pumping arrangements 25.1.49 Engines tried under working conditions 11.2.49

Crank shaft, material S.M. Steel Identification mark 367297 (and 194894) Flywheel shaft, material — Identification mark —
Thrust shaft, material S.M. Steel Identification mark 12534 SKIMMED UP 4.9.46 L.R. HAJ. Intermediate shafts, material S.M. Steel Identification marks —

Tube shaft, material — Identification mark 27196 P.R.I. G.L. 10.34. Screw shaft, material — Identification mark —

Identification marks on air receivers Lide Nr. 3661 (P) 3660 (C) 3659 (S) Inhabit 900 liter Abr. Stempel Dat 7 36 6 35
Jahrd. Herst 1935 G.L.H.S.T. (P.W.R.I.) Betr. Druck 30 ATM. Probe Druck 60 ATM. Zertif. Nr. 78206 D.

Welded receivers, state Makers' Name Herstellung Weser-Werke A.G. Düsseldorf Reicholz

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 1-35 gall. beam 3-25 gall. beam 8-25 gall. Soda Acid 4-25 Gall. 8 Hose connections

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with —

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.) This engine has been built under Germanischer Lloyd Special Survey and photostat copies of certificates No. 9158, 7822 K, 250801, 78206 D are forwarded herewith. The original oil engine generating sets have been replaced with two new Crossley BW6 60KW and one new Southern Cross BGC 20KW sets, supplied from surplus Navy stores, see Rpts 4C enclosed. All machinery has now been examined in accordance with Rule requirements for Special Survey, found in good condition, properly installed and has been tested under working conditions with satisfactory results. The materials and workmanship throughout are good. This machinery is in my opinion, eligible to be classed with record of L.M.C. 2, 49 made in the Register Book.

The amount of Entry Fee ... £ :
Special ... £ 114 0 When applied for 15/21 1949
Donkey Boiler Fee... £ : When received 16/3/ 1949
Travelling Expenses (if any) £ :
Assigned See minute on p. 211.

H. Gerard
Engineer Surveyor to Lloyd's Register of Shipping.



Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute)

Committee's Minute See minute on p. 211.
Assigned