

REPORT ON OIL ENGINE MACHINERY.

No. 19014

10 APR 1929

Received at London Office
 Date of writing Report 28/2/29 When handed in at Local Office 5/4/29 Port of Bremer
 Date, First Survey 6th June 1928 Last Survey 5.4.1929
 in Survey held at Bremer Number of Visits 103

on the Single Twin Triple Screw vessel 301 1/2 " Arhelducker Tons { Gross Net
 By whom built Wm. Hamilton & Co. Yard No. 406 When built 1929
 By whom made John Mucard & Co. Engine No. 1734 When made 1929
 By whom made ditto Boiler No. 1734 When made 1929
 Owners United Molasses Co. Ltd. Port belonging to Loudon
 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 which vessel is intended Foreign

GINES, &c.—Type of Engines Reversible Steam (2 sets) 2 or 4 stroke cycle 4 Single or double acting Single
 Pressure in cylinders 500 Diameter of cylinders 630 mm. Length of stroke 1300 mm. No. of cylinders 12 No. of cranks 12
 Rings, adjacent to the Crank, measured from inner edge to inner edge 892 Is there a bearing between each crank Yes
 per minute 110 Flywheel dia. 2620 mm. Weight 13750 Kgs Means of ignition Compression Kind of fuel used Diesel
 ft. dia. of journals as per Rule 403.3 mm. Crank pin dia. 415 mm. Crank Webs Mid. length breadth shrunk Thickness parallel to axis 240 mm
 as fitted 415 mm. M.d. length thickness shrunk Thickness around eye-hole 184.4 mm
 Shaft, diameter as per Rule on approval Intermediate Shafts, diameter as per Rule 11.26 Thrust Shaft, diameter at collars as per Rule 11.8
 as fitted 16 3/8 as fitted 11 3/4 as fitted 12 3/8

ft. diameter as per Rule 12.38 Screw Shaft, diameter as fitted 13 Is the inter screw shaft fitted with a continuous liner Yes
 as fitted 65 Thickness in way of bushes as per Rule 56 as fitted 5 1/8 Is the after end of the liner made watertight in the Yes
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes
 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
 Is an approved Oil Gland or other appliance fitted at the after end of the tube Yes
 Length of Bearing in Stern Bush next to and supporting propeller 52"
 dia. 13.3" Pitch 11.0" No. of blades 4 Material Brass whether Moveable No Total Developed Surface 52 sq. feet

reversing Engines air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication oil
 Thickness of cylinder liners 36/46 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers lagged or lagged with lagged
 If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Yes
 Water Pumps, No. 3 (one 6" dia) 2 (10 1/8") Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 pumps worked from the Main Engines, No. 2 Diameter 8 1/2 Stroke 10 Can one be overhauled while the other is at work Yes
 connected to the Main Bilge Line { No. and Size 2 8 1/2 x 9 1/2 How driven Steam
 pumps, No. and size one 8 1/2 x 9 1/2 Lubricating Oil Pumps, including Spare Pump, No. and size 2 (one 6" dia) 2 (4 1/8")

dependent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 and size:—In Machinery Spaces 2 3 1/2" 2 3" 2 2" Fore hold 2 2"
2 10" in each Pump Room 2 3"
 Cent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 5 1/2"
 Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces
 easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
 Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks both
 and 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
 and 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
 pass through the bunkers How are they protected Yes
 pass through the deep tanks Have they been tested as per Rule Yes
 valves, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 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
 to another Yes Is the Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

Compressors, No. 2 No. of stages 3 Diameters 600-540-120 mm. Stroke 480 mm. Driven by Main Engine
 Air Compressors, No. one No. of stages 3 Diameters 450-350-62 mm. Stroke 260 mm. Driven by Steam
 Auxiliary Air Compressors, No. Yes No. of stages Yes Diameters Yes Stroke Yes Driven by Yes
 Suctioning Air Pumps, No. Yes Diameter Yes Stroke Yes Driven by Yes
 Primary Engines crank shafts, diameter as per Rule Yes
 as fitted Yes
RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
 Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Manual
 Is there a drain arrangement fitted at the lowest part of each receiver Yes
 High Pressure Air Receivers, No. 4 Cubic capacity of each 150 litres Internal diameter 12" thickness 1 1/2"
 Material Steel Range of tensile strength 29.33 Working pressure by Rules 1000 lbs.
 Air Receivers, No. 2 Total cubic capacity 1300 CF. Internal diameter 6-4 1/16" thickness 1 1/16 & 1 1/32"
 lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 28.32 Working pressure by Rules 350

IS Auxiliary BOILERS FITTED? *yes* If so, is a report now forwarded? *yes*
 PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Tanks
 Donkey Boilers *yes* General Pumping Arrangements Oil Fuel Burning Arrangements
 SPARE GEAR

see separate list attached

The foregoing is a correct description,
FOR JOHN G. KINCAID & COY, LIMITED

J.G. Kincaid Manufacturer.

Dates of Survey while building
 During progress of work in shops - (1928) June 6-20 July 14-25 Aug 14-22 23-24 28 Sept 3-4 5-11 20-26 28 Oct 1-4 8-9 15-16 19 22-23 26 Nov 1-2 5-6 4 8-9 12-13 14-15 16 19 20-21 22-23 26 24-25
 During erection on board vessel - Dec 3-5 6 4-9 10-12 14 17 18 21-24 26 27 28 (1929) Jan 4-9 10-11 14-15 16-18 23-24 25 28 31 Feb 1-6 4 11-15 18 19 20 21-22 25-26 27 28 Mar 1 4-11-12-15 18 19 21-22 28 Apr 1-4 5
 Total No. of visits 103

Dates of Examination of principal parts
 Cylinders 3. 12. 28 Covers 19. 11. 28 Pistons 24. 12. 28 Rods 24. 12. 28 Connecting rods 24. 12. 28
 Crank shaft 26-11-28 Flywheel shaft 1-11-28 Thrust shaft 1-11-28 Intermediate shafts 11-2-29 Tube shaft
 Screw shaft 4. 2. 29 Propeller 4. 2. 29 Stern tube 25-1-29 Engine seatings 7. 2. 29 Engines holding down bolts 15. 3.
 Completion of fitting sea connections 7. 2. 29 Completion of pumping arrangements 28. 3. 29 Engines tried under working conditions 15. 4.
 Crank shaft, Material S Identification Mark LR. 1134. W.G.M. Flywheel shaft, Material S Identification Mark LR. 2641. 2642
 Thrust shaft, Material S Identification Mark LR. 2641. 2642 W.G.M. Intermediate shafts, Material S Identification Marks LR. 1630. 476
 Tube shaft, Material Identification Mark Screw shaft, Material S Identification Mark LR. 584. 4763

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*
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *yes* If so, have the requirements of the Rules been complied with *yes*
 Is this machinery duplicate of a previous case *yes* If so, state name of vessel *M/S "Athal Duke" built 1910 1899*

General Remarks (State quality of workmanship, opinion as to class, &c.) *These engines have been built under special survey in accordance with approved plans, & the workmanship & material are of good quality. They are now securely fitted on board and under working conditions found satisfactory. The machinery is eligible in my opinion for the use of L.M.C. 4-29 (Rotation of Donkey Boilers 180°)*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4. 29. CL.

Oil Engines 4. S.C.S.A. 709 N.H.P. 12. Cy. 24 13/16 - 51 3/16. 2. D.B. 180 lb.

J.R.M.
12.4.29

W. Gordon-Musclie
Engineer Surveyor to Lloyd's Register of Shipping

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

The amount of Entry Fee ... £ 6 : - : When applied for,
 Special ... £ 110 : 9 : 5th APRIL 1929.
 Donkey Boiler Fee ... £ 25 : 3 : When received,
 Air Receiver (if any) ... £ 8 : 8 : 10/4/29
 Committee's Minute GLASGOW 9 APR 1929
 Assigned + L.M.C. 4, 29

