

REPORT ON OIL ENGINE MACHINERY.

30 JAN 1931

Date of writing Report

When handed in at Local Office

29 JAN 1931

Port of Sunderland

No. in Reg. Book

Survey held at Sunderland

Date, First Survey

May 6 '30 Last Survey

Jan 27 1931

Number of Visits 48

Single
Twin
Triple
Quadruple

MOTOR
Screw vessel

BRITISH SCIENCE

Tons
Gross
Net

Built at Janus-on-Tyne By whom built Palmer & Co. Ltd. Yard No. 1003 When built 1931
 Engines made at Sunderland By whom made Wm. Gifford & Sons Engine No. 182 When made 1931
 Donkey Boilers made at Janus-on-Tyne By whom made Palmer & Co. Ltd. Boiler No. _____ When made 1931
 Brake Horse Power 2850 Owners British Tanker Co Port belonging to _____
 Nom. Horse Power as per Rule 687 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Oil Tanker

OIL ENGINES, &c.—Type of Engines DOXFORD OPPOSED PISTON AIRLESS INJECTION 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 568 LBS Diameter of cylinders 600 = 23 7/8 Length of stroke 2320 = 9 1/4 No. of cylinders 4 No. of cranks 4, 3 THROW
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1050 Is there a bearing between each crank Yes
 Revolutions per minute 84 Flywheel dia. _____ Weight _____ Means of ignition TEMP OF COMPRESSION Kind of fuel used CRUDE OIL
 Crank Shaft, dia. of journals as per Rule 4 2/3 APPROVED as fitted 4 3/8 Crank pin dia. 4 7/8 APP Crank Webs Mid. length breadth 650 Thickness parallel to axis 260
 as fitted _____ Mid. length thickness 260 shrunk Thickness around eyehole 190
 Flywheel Shaft, diameter as per Rule _____ as fitted 4 3/8 APPROVED Intermediate Shafts, diameter as per Rule _____ as fitted 5 1/2 APPROVED Thrust Shaft, diameter at collars as per Rule _____ as fitted 4 3/8 APPROVED
 Tube Shaft, diameter as per Rule _____ as fitted _____ Screw Shaft, diameter as per Rule _____ as fitted 4 1/2 APPROVED Is the shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule 13/16 APPROVED as fitted 13/16 Thickness between bushes as per Rule _____ as fitted 13/16 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 _____
 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 the tube _____

Propeller, dia. 17-6 Pitch 15-6 No. of blades 4 Material BRONZE, whether Moveable No Total Developed Surface 96 sq. feet
 Method of reversing Engines COMPRESSED AIR Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES Means of lubrication FORCED
 Thickness of cylinder liners REINFORCED Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with non-conducting material LAGGED

Cooling Water Pumps, No. 2 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. _____ Diameter _____ Stroke _____ Can one be overhauled while the other is at work _____
 Pumps connected to the Main Bilge Line No. and Size 1 BALLAST PUMP 100 TONS PR HR How driven STEAM ELECTRIC

Ballast Pumps, No. and size 1 250 TONS PR HR Lubricating Oil Pumps, including Spare Pump, No. and size 2 2 TONS PR HR
 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 3 2 3 1/2 DIA In Pump Room 2 2 4

In Holds, &c. FORE HOLD 2 2 3 FORE PEAK FLAT 1 2 3
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 2 5 DIRECT BILGE PMP 1 2 9 DIRECT BALLAST PMP SUC
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES Are the Bilge Suctions 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 YES Are they fitted with Valves or Cocks BOTH
 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 ABOVE
 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 YES

What pipes pass through the bunkers _____ How are they protected _____
 What pipes pass through the deep tanks _____ 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 _____ Is the Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

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. 2 No. of stages 3 Diameters 1 1/2 x 9/4 x 2 3/4 Stroke 7 Driven by STEAM CY 13 1/2 DIA

Small Auxiliary Air Compressors, No. _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
 Scavenging Air Pumps, No. One Diameter 1960 Stroke 610 Driven by MAIN ENGINE
 Auxiliary Engines crank shafts, diameter as per Rule 769 1/2 as fitted 190 No. TWO Position ENGINE ROOM PLATFORM

AIR RECEIVERS:—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
 High Pressure Air Receivers, No. _____ Cubic capacity of each _____ Internal diameter _____ thickness _____
 unless, lap welded or riveted longitudinal joint _____ Material _____ Range of tensile strength _____ Working pressure _____

Low Pressure Air Receivers, No. 2 Total cubic capacity 220 CU FT Internal diameter 3-6 thickness 1
 unless, lap welded or riveted longitudinal joint RIVETTED Material STEEL Range of tensile strength 28 TO 32 TONS Working pressure _____

2019

610 LBS

600

M 11-0033

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 YES
(If not, state date of approval)

Receivers No Dup of M.S. BRITISH GLORY Separate Tanks No Dup BRITISH GLORY
Oil Fuel Burning Arrangements No To

Donkey Boilers YES General Pumping Arrangements SEE N.C. RPT

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES

State the principal additional spare gear supplied 1 cylinder liner, 2 spur wheels, 1 bevel wheel for camshaft drive, 1 spare tail end shaft, 1 C.I. Propeller set

The foregoing is a correct description.

J.H. Miller

Manufacturer.

Dates of Survey while building: During progress of work in shops - 30. May, 6. Sep. 4. Oct. 2, 6, 7, 9, 14, 17, 20, 21, 22, 23, 24, 27, 28, 29. Nov. 3, 4, 6, 11, 12, 13, 18, 19, 20, 21, 24, 27.
During erection on board vessel - Dec. 1, 2, 3, 4, 5, 8, 9, 10, 12, 15, 19, 24, 29, 31, 1931. Jan. 5, 7, 8, 9, 27.
Total No. of visits 48

Dates of Examination of principal parts - Cylinders 27/10/30 JACKET Covers 24/10/30 Pistons 3/6/30 Rods 21/10/30 Connecting rods 9/10/30
Crank shaft 11/11/30 Flywheel shaft 23/10/30 Thrust shaft 23/10/30 Intermediate shafts 12/11/30 Tube shaft -
Screw shaft 13/11/30 SPARE Propeller 17/10/30 Stern tube 29/10/30 Engine seatings 9/12/30 Engines holding down bolts 31/12/30
Completion of fitting sea connections 27/1/31 Completion of pumping arrangements 27/1/31 Engines tried under working conditions 27/1/31
Crank shaft, Material I-STEEL Identification Mark 2991 Flywheel shaft, Material I Identification Mark -
Thrust shaft, Material I-STEEL Identification Mark 3655 Intermediate shafts, Material I-STEEL Identification Marks 4136
Tube shaft, Material I Identification Mark - Screw shaft, Material I-STEEL Identification Mark 4156 SPARE 4148 WORKING

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 - 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.) The machinery of this vessel has been built under special license & the materials & workmanship are good. On completion the machinery was tried under full working conditions with satisfactory results. The machinery throughout is now in a good & efficient condition & eligible in my opinion to have the record L.M.C. 1-31 marked in the British Register Book.

The donkey boilers are also fitted to burn oil fuel F.P above 150° F & the requirements of the Rules (Section 20) fully complied with.

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

The amount of Entry Fee .. £ 6 : :
Special .. £ 109 : 7 :
Air Receivers .. £ 4 : 4 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 28 JAN 1931
When received, 3/2/31

Harbottle
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 10 FEB 1931
Assigned + L.M.C. 1.31 Cl. 2.D.B. 1500
oil fuel

