

REPORT ON OIL ENGINE MACHINERY.

No 34478

Received at London Office 3 JUN 1946

a List of
tpt. 4b.
UN 1946

When handed in at Local Office 28 May 1946 Port of Sunderland
Date, First Survey 13 and 15 Last Survey 27 May 1946
Number of Visits 77

No. in Survey held at Sunderland
leg. Book.
on the Single Screw vessel BRITISH MARQUIS Tons Gross 8563 Net 4908
Built at Sunderland By whom built Wm. Hayford & Sons Ld. Yard No. 435 When built 1946
Engines made at Sunderland By whom made Wm. Hayford & Sons Ld. Engine No. 435 When made 1946
Donkey Boilers made at Stockton By whom made Stockton Chem Eng & Refry Bk Ld. Boiler No. 6924/8 When made 1946
Brake Horse Power 3100 Owners British Tanker Co Ld. Port belonging to London
Nom. Horse Power as per Rule 684 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended 235/8 915/16
L ENGINES, &c. Type of Engines Opposed piston action tripetia 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 640 lbf/sq. in Diameter of cylinders 600 mm Length of stroke Upper 980 mm Lower 1340 mm No. of cylinders 4 No. of cranks 4 (3 throws)
Mean Indicated Pressure 85 lbf/sq. in Is there a bearing between each crank Between each 3 throws
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 886 mm
Revolutions per minute 105 Flywheel dia. F. 1690 mm R. 2450 mm Weight A. 1.33 Tons Means of ignition Compression Kind of fuel used Temperature
Crank Shaft, Solid forged dia. of journals as per Rule 431 mm Crank pin dia. 450 mm Crank Webs Mid. length breadth 650 mm Thickness parallel to axis 255 mm
All built as fitted 450 mm as per Rule 450 mm Mid. length thickness 285 mm Thickness around eye-hole 201 mm
Flywheel Shaft, diameter as per Rule 431 mm Intermediate Shafts, diameter as per Rule 450 mm Thrust Shaft, diameter at collars as per Rule 431 mm
as fitted 450 mm as fitted 450 mm as fitted 450 mm

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 450 mm Is the tube shaft fitted with a continuous liner Yes.
Bronze Liners, thickness in way of bushes as per Rule 22 mm Thickness between bushes as per Rule 14 mm 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 one length
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 No.
If two liners are fitted, is the shaft lapped or protected between the liners No. Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes.
If so, state type Hand lapped Length of Bearing in Stern Bush next to and supporting propeller 5' 8"

Propeller, dia. 16' 3" Pitch 11' 9" No. of blades 4 Material Bronze whether Movable No. Total Developed Surface 93 sq. feet
Method of reversing Engines Hand lapped Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes. Means of lubrication forced
Thickness of cylinder liners 25 mm 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 one engine driven
Cooling Water Pumps, No. one steam driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel (F.W. Cooling)
Bilge Pumps worked from the Main Engines, No. none Diameter - Stroke - Can one be overhauled while the other is at work -
Pumps connected to the Main Bilge Line { No. and Size 2 @ 4" x 8" x 8" (duplex) Ballast. How driven Steam.

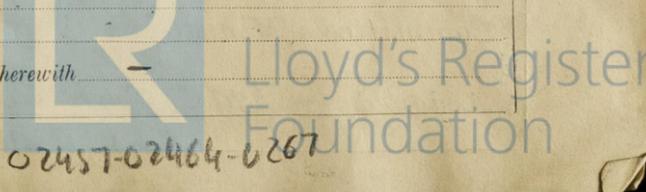
Is the cooling water led to the bilges No. If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements -
Ballast Pumps, No. and size 1 @ 10" x 15" x 10" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one engine driven 110 mm x 510 mm
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 2 @ 3 1/2" in E.R. + 1 - 6" hull suction one steam driven 8" x 4" x 18"
In Holds, &c. (Tanker) In bilge pump room 4" R.P.S. bilge pump.
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ (Ballast) 1 @ 6" (G.S.) + 1 - 4" main engine cooling water pump.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes. Are the Bilge Suctions in the Machinery Spaces Yes.
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 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 Yes.
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 Yes.

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 (Tanker) Is the Shaft Tunnel watertight none 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 None

Main Air Compressors, No. Two No. of stages 3 Diameters 12 3/4 - 3, 12 3/4 - 10 1/4 - 3" Stroke 4" Driven by Steam engine 13 1/2" x 4"
Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -
Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -
What provision is made for first Charging the Air Receivers (Steam driven Compressors) Recd from Main engine.
Scavenging Air Pumps, No. Two Diameter 1510 mm Stroke 510 mm Driven by Recd from Main engine.
Auxiliary Engines crank shafts, diameter as per Rule No. - Position -
as fitted -

Have the Auxiliary Engines been constructed under special survey - Is a report sent herewith -



02457-02464-0207

AIR RECEIVERS: - Have they been made under survey? **Yes**
 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**

State No. of Report or Certificate **Glo Br. No 54315**
 Relief valves on each from Camp? **Yes**

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

Starting Air Receivers, No. **Two** Total cubic capacity **280 Cufs.** Internal diameter **4'-6"** thickness **1 1/4"**
 Seamless, lap welded or riveted longitudinal joint **Riveted** Material **M/Steel** Range of tensile strength **28/32** Working pressure by Rules Actual **600 lbs.**

IS A DONKEY BOILER FITTED? **Yes (2)**
 Is the donkey boiler intended to be used for domestic purposes only? **No**
 If so, is a report now forwarded? **Yes**

PLANS. Are approved plans forwarded herewith for Shafting **4/5/45** **Gen 1803** Receivers - Separate Fuel Tanks -
 (If not, state date of approval) **23/4/45**
 Donkey Boilers - General Pumping Arrangements - Pumping Arrangements in Machinery Space **Retained for Sister Vessel**
 Oil Fuel Burning Arrangements **Retained for Sister vessel**

SPARE GEAR.
 Has the spare gear required by the Rules been supplied? **Yes**
 State the principal additional spare gear supplied **1 Cyl. lower of each complete, 1 upper & 1 lower piston skirt, 4 scraper**
1 main piston head, 40 main piston rings, 4 fuel valves complete, 8 spray flaps, 1 Cent. Cam. rod
best. End spherical bearing, 2 Side Cam rod best End spherical bearing, 1 main spherical bearing,
main bearing studs & nuts, 4 Central & Side (each) top & best End bearing bolts & nuts, 2 Side rod lead
nuts, 1 Set Coupling bolts & nuts, 2 N.R. Sliding air valves, 2 Cyl. relief valves, 1 fuel pump Suct. Cham
2 fuel pump heads complete with valves, 1 Scavenge pump Del. Valve, 1 det. for Suct., 1 Set pads for trans
8 rubber hoses for piston cooling, 1 roller chain for camshaft drive, 1 C.I. pin roller, 1 tail shaft, 3 P.
for int. shaft bearing, 3 det. for tail shaft bearing. &c.
 The foregoing is a correct description.
WILLIAM DOXFORD & SONS, Limited.
Wm J. Furdie Manufacturer.

Dates of Survey while building	During progress of work in shops - -	45/	Apr. 13, July 9, 10, 11, 12, 14, 22, 24, 25, 26, 28, Aug 9, 10, 11, 17, 20, 22, 28, 29, 31, Sep. 4, 5, 6, 7, 10, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Oct. 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 22, Nov. 2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Dec. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1945
Total No. of visits		77	
Dates of Examination of principal parts - Cylinders		26/1/45, 20/9/45, 22/8/45	
Crank shaft	Flywheel shaft	21/9/45	21/9/45
Screw shaft	Propeller	19/2/46	24/1/46
Completion of fitting sea connections	Completion of pumping arrangements	21/2/46	24/5/46
Crank shaft, Material	Identification Mark	Ingot Steel	N° 735 W.H.F.
Thrust shaft, Material	Identification Mark	as crank	21/9/45
Tube shaft, Material	Identification Mark	-	-
Identification Marks on Air Receivers		K 1858/9.	L.R. 22094
		A.R.R. 15/1/46.	

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 **2 1/2" pipe led across furnace fronts between boilers for flooding & spraying.**
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo? **(Tanker)**
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with? **not decided.**
 Is this machinery duplicate of a previous case? **Yes**. If so, state name of vessel **British Major (Slack Pt. 34436).**

General Remarks (State quality of workmanship, opinions as to class, &c.) **This machinery has been built under Special Survey in accordance with the approved plans & the rules of the Society. The materials & workmanship are good. It has been securely fitted on board the vessel & tried under working conditions alongside quay & also at sea with satisfactory results. The two donkey boilers have also been securely fixed on board, fitted to burn oil fuel (F.P. above 150°F) & safety valves adjusted under steam to working pressure in accordance with rule requirements, Section 20 of the rules has been complied with. The machinery is reliable in my opinion to have notation 2 DB 150 lbs.**

The amount of Entry Fee	£ 6	When applied for,	
Special	£ 109. 4		19
Donkey Boiler Fee	£ 12. 12.	When received,	
Travelling Expenses (if any)			19

J. K. Law.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 14 JUN 1946**
 Assigned **+ LMC 5.46 Oil Eng.**
C.L. 2 DB. 150 lbs.

