

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 100938
2 JAN 1943

Received at London Office
NEWCASTLE-ON-TYNE

Date of writing Report 18/1/42 Port of Newcastle-on-Tyne
When handed in at Local Office 13 May 1942
No. in Survey held at Newcastle-on-Tyne Date, First Survey 16 Dec 1942
Reg. Book. Number of Visits 47.

on the Single Screw vessel "BRITISH GRATITUDE" Tons Gross 8463 Net 4914
Built at Newcastle (Wallsend) By whom built Swan, Hunter & Wigham Richardson Ltd Yard No. 1673 When built 1942-12
Engines made at Glasgow By whom made Harland & Wolff, Ltd Engine No. 8458 When made 1942-12
Donkey Boilers made at Newcastle (Walker) By whom made Swan, Hunter & Wigham Richardson Ltd Boiler No. 1732 When made 1942-
Brake Horse Power 3200. Owners British Tanker Co. Ltd Port belonging to London
Nom. Horse Power as per Rule 490. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended Ocean going, Carrying Petroleum in bulk.

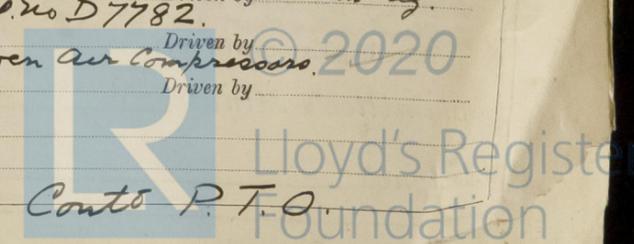
OIL ENGINES, &c.—Type of Engines Heavy oil, airless injection. 2 or 4 stroke cycle 4. Single or double acting Single
Maximum pressure in cylinders 700 lbs/sq in. See also Glasgow Rpt No 66106.
Mean Indicated Pressure 128 lbs/sq in. Diameter of cylinders 740 mm Length of stroke 1,500 mm No. of cylinders 6 No. of cranks 6.
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank
Revolutions per minute 115 Flywheel dia. 2489 mm Weight 2590 Kg. Means of ignition Heat & Compression Kind of fuel used Heavy fuel oil
Crank Shaft, dia. of journals as per Rule as fitted Crank pin dia. Crank Webs Mid. length breadth Thickness parallel to axis
Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted
Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the shaft fitted with a continuous liner Yes.
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 In 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 a tight fit.
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 shaft No If so, state type Length of Bearing in Stern Bush next to and supporting propeller 62 1/4"
Propeller, dia. 16'-0" Pitch 9'-6" at root. No. of blades 4 Material M. Brg. whether Moveable No Total Developed Surface 81 sq. feet
Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes Means of lubrication Forced 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 lagged 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. 1 Ballast Pump for S.W. to Coolers Is the sea suction provided with an efficient strainer which can be cleared within the vessel on S.W. line Yes
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 one Ballast P. 10" x 11" x 10" duplex + two Bilge/Sanitary Ps 7" x 7 1/2" x 8" duplex (135 tons/hr) each 80 tons/hr How driven by Indept 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 One 10" x 11" x 10" duplex Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 W. by driven and Standby 12" x 10 1/2" x 2 1/2" duplex each 100 tons/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 of 3 1/2", 2 of 2 1/2" to d.b. cofferdams + 2 of 2 1/2" of gutterways In Pump Room 2 of 4 in each
In Hold, &c. Fore Hold 2 of 2 1/2"; Fore Hold Pump Room 1 of 2"; Fore Store 2 of 2"; Main Cofferdams: Fore 1 of 4" aft 1-3" Ejector Suction
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 7" + 1 of 5"
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 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
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 machy. aft 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. none No. of stages Diameters Stroke Driven by
Auxiliary Air Compressors, No. Two No. of stages 2 Diameters 120 cut ft of free air to 356 lbs/sq in. Stroke Driven by Steam Eng.
Small Auxiliary Air Compressors, No. none No. of stages Diameters Stroke Driven by
Scavenging Air Pumps, No. none Diameter Stroke Driven by
Auxiliary Engines crank shafts, diameter as per Rule as fitted No. None Position

175
313
2.10.14.16.29.
3.31. Sep. 1.2.3.7.
Nov. 3.4.5.9.



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. *None* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*

Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *✓*

Starting Air Receivers, No. *2* Total cubic capacity *900 cub. ft* Internal diameter *5'0" and 4'10 1/2"* thickness *3/16" and 25/32"*

Seamless, lap welded or riveted longitudinal joint *T.R. dble butt straps* Material *Steel* Range of tensile strength *29 to 33 tons* Working pressure *by Rules 356 lbs*
Actual *356 lbs*

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 (22/9/41)* Receivers *Yes 11/10/41* Separate Fuel Tanks *Yes 25/4/42*
(If not, state date of approval) *31/7/42*

Donkey Boilers *Yes 11/10/41* General Pumping Arrangements *At for End 20/1/42* Pumping Arrangements in Machinery Space *Yes 19/10/42*

Oil Fuel Burning Arrangements *Yes 22/5/42*

SPARE GEAR.

Has the spare gear required by the Rules been supplied. *Yes*

State the principal additional spare gear supplied. *4 Exhaust Valves complete, 1 Set of piston rings & 1 set of scraper rings for one piston, 1 pair of main Bearing dresses, 1 chain for each chain drive, 1 complete set of spares for cylinder lubricators for main engine.*

The foregoing is a correct description.

G. J. Jueady Manufacturer.

Dates of Survey while building

During progress of work in shops-- *1942 May 13, June 30, July 21, 24, 27, 28, Aug. 5, 7, 13, 14, 21, 28, Sep. 2, 3, 8, 14, 16, 17, 20, 21*

During erection on board vessel--- *24, 25, Oct. 5, 12, 13, 20, 22, 29, 30, Nov. 2, 4, 9, 11, 13, 16, 17, 20, 23, 26, 27, Dec. 3, 4, 10, 11, 14, 16,*

Total No. of visits *47*

Dates of Examination of principal parts—

Cylinders *See Glasgow Rpt no 66106.* Covers *✓* Pistons *✓* Rods *✓* Connecting rods *✓*

Crank shaft *✓* Flywheel shaft *✓* Thrust shaft *✓* Intermediate shaft *21/9/42* Tube shaft *✓*

Screw shaft *7/8/42* Propeller *7/8/42 & 24/9/42* Stern tube *16/9/42 & 20/9/42* Engine seatings *8/9/42* Engines holding down bolts *22/10/42*

Completion of filling sea connections *24/9/42* Completion of pumping arrangements *11/12/42* Engines tried under working conditions *3rd & 11th Dec 42*

Crank shaft, Material *✓* Identification Mark *✓* Flywheel shaft, Material *✓* Identification Mark *✓*

Thrust shaft, Material *✓* Identification Mark *✓* Intermediate shaft, Material *F. 5H* Identification Marks *11683 HAI.*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *F. 5H* Identification Mark *11683 HAI.*

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. *not desired*

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 satisfactorily fitted on board under special survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good. The machinery has been satisfactorily tested under working conditions with vessel moored at wharf, and is eligible, in my opinion for record + LMC 12.42, and the notations 2 DB WP 150 lb. FD, CL. Oil by machy aft.*

Electric Light Report to follow

The amount of Entry Fee .. £ *✓* : : When applied for, *31 DEC 1942*

Special *1/3 for dismantling* £ *32* : *17* : : When received, *19*

2 Donkey Boilers Fee ... £ *23* : *10* : :
2 Starting Air Receiv. Fee £ *7* : *8* : :
Travelling Expenses (if any) £ : : : *19*

A. Watt
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE 19 JAN 1943*
J. Lamb 12.42
2 DB - 150 lb
Oil by Ch

Assigned



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BOTTOM PLATE
STRAKES
BILGE PLATE
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SIDE PLATE
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UPPER IRON
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BRIDGE SIDE
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Rpt. 4b.
Date of writing
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