

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 100938
2 JAN 1943

Received at London Office
NEWCASTLE-ON-TYNE

Date of writing Report

When handed in at Local Office

18/2/42 Port of

No. in Survey held at Newcastle on Tyne

Date, First Survey

13 May

Last Survey

16 Dec

19 42

Reg. Book.

Number of Visits 47.

Single
on the Twin
Triple
Quadruple

Screw vessel

"BRITISH GRATITUDE"

Tons Gross 8463
Net 4914

Built at Newcastle (Wallsend)

By whom built

Swan, Hunter & Wigham Richardson & Co

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 & Co

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

Diameter of cylinders 740 mm

Length of stroke 1,500 mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 128 lbs/sq in

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

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. as fitted

Crank Webs

Mid. length breadth as fitted

Thickness parallel to axis as fitted

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

13.28" 13.48" 17 3/4" 14.0 (3.56) 4.54 mm

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

24.35/32

Thickness between bushes as per rule as fitted

18/32

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 11.6" at tip

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. B. B.

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, 1 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

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 (135 tons/hr)

Two Bilge/Sanitary Ps 7" x 7 1/2" x 8" duplex

each 80 tons/hr

How driven

by Indep't 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 M. B. driven and Standby 12" x 10 1/2" x 24 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 g 3 1/2", 2 g 2 1/2" to d.b. cofferdams + 2 g 2 1/2" to of gutterways

In Pump Room 2 g 4 in each

In Hold, &c. For Hold 2 g 2 1/2"; For Hold Pump Room 1 g 2"; For Store 2 g 2"; Main Cofferdams: For 1 g 4"

apt 1-3" Ejector Suction

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

1 g 7" & 1 g 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. apt

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.

Position

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 by Rules ✓

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

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

Donkey Boilers Yes 11/10/41 General Pumping Arrangements At 700 Lbs 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 Bresses, 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. Murray 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 fitting 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 7.5H Identification Marks 11683 HAI
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material 7.5H 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 installing £ 32 : 17 :
2 Donkey Boilers Fee ... £ 23 : 10 :
2 Starting Air Receivers Fee ... £ 8 : 8 :
Travelling Expenses (if any) £ : :
When received, 19

Committee's Minute

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.



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