

REPORT ON OIL ENGINE MACHINERY.

No. 34611

Received at London Office 15 JAN 1947

JAN 1947

Date of writing Report

When handed in at Local Office **JAN 14 1947** Port of **Sunderland.**

No. in Survey held at Reg. Book.

Date, First Survey **12 July 46** Last Survey **10 Jan 1947.**
Number of Visits **45**

on the **Single** Screw vessel
Triple

"**BRITISH ENSIGN**"

Tons: Gross **8738**
Net **4984**

Built at **Hawton Hill**

By whom built **James I.B. Col. L.**

Yard No. **393** When built

Engines made at **Sunderland**

By whom made **Wm. Leppard & Sons L.**

Engine No. **251** When made **1944.**

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power **3100** *not included*

Owners **British Tanker Co. L.**

Port belonging to **LONDON**

Nom. Horse Power as per Rule **687**

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

23 5/8 915/16

OIL ENGINES, &c.—Type of Engines **Approved piston and injection 2 or 4 stroke cycle 2** Single or double acting **Single**

Maximum pressure in cylinders **640 lbs.** Diameter of cylinders **600 mm** Length of stroke **upper 980 mm** No. of cylinders **4** No. of cranks **4 (3 throws)**

Mean Indicated Pressure **85 lbs.** Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **886 mm** Is there a bearing between each crank **Between each 3 throws.**

Revolutions per minute **F. 1690** Means of ignition **Compression** Kind of fuel used **-**

Crank Shaft, { Solid forged dia. of journals **431 mm** as per Rule **431 mm** Crank pin dia. **450 mm** Crank Webs **255 mm** Mid. length breadth **650 mm** Thickness parallel to axis **255 mm**
Semi built dia. of journals **431 mm** as fitted **450 mm** Crank Webs **255 mm** shrunk Thickness around eye-hole **201 mm**
All built dia. of journals **431 mm** as fitted **450 mm** Crank Webs **255 mm** Thickness around eye-hole **201 mm**

Flywheel Shaft, diameter **431 mm** as per Rule **431 mm** Intermediate Shafts, diameter **450 mm** as per Rule **450 mm** Thrust Shaft, diameter at collars **431 mm** as per Rule **431 mm**

Tube Shaft, diameter **450 mm** as fitted Screw Shaft, diameter **450 mm** as fitted Is the tube screw shaft fitted with a continuous liner **-**

Bronze Liners, thickness in way of bushes **25 mm** as per Rule **25 mm** Thickness between bushes **25 mm** as fitted Is the after end of the liner made watertight in the propeller boss **-**

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 **-**

shaft **-** If so, state type **-** Length of Bearing in Stern Bush next to and supporting propeller **-**

Propeller, dia. **Hand Lovers** Pitch **Hand Lovers** No. of blades **Hand Lovers** Material **Hand Lovers** whether Moveable **Hand Lovers** Total Developed Surface **Hand Lovers** sq. feet **Hand Lovers**

Method of reversing Engines **Hand Lovers** Is a governor or other arrangement fitted to prevent racing of the engine when detached **Yes** Means of lubrication **Hand Lovers**

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 engine driven** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **-**

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 **-**
How driven **-**

Is the cooling water led to the bilges **-** If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements **one engine driven 110 mm x 510 mm**

Ballast Pumps, No. and size **-** Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **-**

Are two independent means arranged for circulating water through the Oil Cooler **-** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces **-**
In Pump Room **-**

In Holds, &c. **-** Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **-**

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **-** 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 **-**

Are all Sea Connections fitted direct on the skin of the ship **-** Are they fitted with Valves or Cocks **-**

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates **-** Are the Overboard Discharges above or below the deep water line **-**

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel **-** Are the Blow Off Cocks fitted with a spigot and brass covering plate **-**

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 **-**

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. **-** 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 **-**

Scavenging Air Pumps, No. **two** Diameter **1510 mm** Stroke **510 mm** Driven by **Revers from 2 Engines**

Auxiliary Engines crank shafts, diameter **-** as per Rule **-** as fitted **-** Position **-**

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



AIR RECEIVERS: — Have they been made under survey

State No. of Report or Certificate

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Is a drain fitted at the lowest part of each receiver

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.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

by Rules

Actual

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting ^{4/5/46} Receivers ^{Jan. 1803} Separate Fuel Tanks

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes. (Engine only)

State the principal additional spare gear supplied

1 Cylinder lens & gasket complete, 1 upper & lower piston skirt, 4 scraper rings, 1 main piston head, 40 main piston rings, 4 fuel valves complete, 8 spray plugs, 1 Centre Cam. rod bolt end spherical bearing, 2 Side Cam. rod bolt end Sph. bearings, 1 main (Sph.) bearing, 2 main bearing studs, 4 Centre & side (each) top & bolt end bearing bolts & nuts, 2 Side rod bolt ends, 1 Set Coupling ball & nuts, 2 N.R. Starling valves, 2 C/L relief valves, 1 fuel pump Suct. Chamber, 2 fuel pump bodies complete with valves, 1 Scav. pump del. valve & ditto for Suct., 1 Set pads for Mitchell trust, 8 rubber hoses for piston cooling, 1 roller chain for cam shaft drive.

The foregoing is a correct description

WILLIAM DOXFORD & SONS, LIMITED.

Wm. J. Purdie Director

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1946. July 12. Aug. 6, 8, 13, 25, 28, 30. Sep. 3, 11, 12, 27. Oct. 2, 3, 4, 10, 11, 14, 18, 21, 22, 25, 30. Nov. 1, 18, 27. Dec. 5, 49.
	During erection on board vessel - -	12, 14, 17, 18, 19, 20, 21, 24, 27, 30, 31. 47. Jan. 2, 6, 7, 9, 10.
	Total No. of visits	45
Dates of Examination of principal parts—Cylinders 4/10/46, 11/10/46		
Crank shaft	27/12/46	Flywheel shaft <i>as crank</i> Thrust shaft <i>as crank</i> Intermediate shafts - Tube shaft -
Screw shaft	-	Propeller - Stern tube - Engine seatings - Engines holding down bolts -
Completion of filling sea connections - Completion of pumping arrangements - Engines tried under working conditions <i>test bed</i> 9/1/47, 10/1/47		
Crank shaft, Material	<i>Engot Steel</i>	Identification Mark <i>N° 258 H.H.F. 27/12/46</i> Flywheel shaft, Material <i>as crank</i> Identification Mark <i>as crank</i>
Thrust shaft, Material	<i>as crank</i>	Identification Mark <i>as crank</i> Intermediate shafts, Material - Identification Marks -
Tube shaft, Material	-	Identification Mark -
Screw shaft, Material	-	Identification Mark -
Identification Marks on Air Receivers -		

Is the flash point of the oil to be used over 150° F. -

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with -

Description of fire extinguishing apparatus fitted -

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 *Yes.*

If so, state name of vessel *BRITISH ADMIRAL (Slip 33413).*

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.

On completion it has been tried under full load conditions on test bed with Satisfactory results.

It has now been despatched to Harston Hill for installation on board the vessel & upon this being completed satisfactorily the machinery will be eligible, in my opinion, to have notation 150 H.M.C. (with date) (oil Eng.)

The amount of Entry Fee	£ 6	When applied for,
^{2/3} Special	£ 42 : 18	JAN 14 1947
Donkey Boiler Fee	£ 12 : 12	When received,
Travelling Expenses (if any)	£ :	19

J. H. Casw.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 13 JUN 1947**

Assigned *See F.E. Mchly. opt.*



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SUNDERLAND.

ML- (The Surveyors are requested not to write on or below the space for Committee's Minute.)