

## REPORT ON OIL ENGINE MACHINERY.

No. 105870

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Date of writing Report 3. 2. 49 When handed in at Local Office 3. 2. 49 Port of NEWCASTLE-ON-TYNE  
No. in Survey held at NEWCASTLE & HEBBURN-ON-TYNE Date, First Survey 17. 11. 47 Last Survey 27. 1. 49  
Reg. Book. 90797 on the Single Screw vessel M.V. "BRITISH ENDEAVOUR" Number of Visits 107  
SUPPLEMENT Triple Tons Gross 8589.18  
Quadruple Net 4953.70  
Built at HEBBURN-ON-TYNE By whom built R.W. HAWTHORN LESLIE & CO. L<sup>td</sup> Yard No. 695 When built 1949  
Engines made at NEWCASTLE-ON-TYNE By whom made R.W. HAWTHORN LESLIE & CO. L<sup>td</sup> Engine No. 4049 When made 1949  
Donkey Boilers made at WALSSEND-ON-TYNE By whom made WALSSEND SHIPWAY & ENG. CO. L<sup>td</sup> Boiler No. 419B When made 1948  
Brake Horse Power 3,300 Owners BRITISH TANKER CO. L<sup>td</sup> Port belonging to LONDON  
Nom. Horse Power as per Rule 7/2 = MN Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES  
Trade for which vessel is intended OPEN SERVICE

OIL ENGINES, &c. — Type of Engines HAWTHORN DOXFORD OPPOSED PISTON 2 or 4 stroke cycle 2 Single or double acting SINGLE  
Maximum pressure in cylinders 640 lbs/sq 23 1/2 AIRLESS INJECTION. Diameter of cylinders 609 mm Length of stroke 2320 mm No. of cylinders 4 No. of cranks 4 (THREE THROU)  
Mean Indicated Pressure 88 lbs/sq Span of bearings, adjacent to the crank, measured from inner edge to inner edge 1748 mm Is there a bearing between each crank BETWEEN EACH THREE THROU  
Revolutions per minute 108 Flywheel dia 2450 mm Weight 3.26 TONS Means of ignition COMPRESSION Kind of fuel used HEAVY OIL  
Crank Shaft, Solid forged dia. of journals as per Rule APPROVED Crank pin dia 450 mm Crank webs Mid. length breadth 650 mm Thickness parallel to axis 255 mm  
Semi built as fitted 450 mm Mid. length thickness 255 mm Thickness around eye hole 200 (100) mm  
Atl built as per Rule 355 mm as fitted 450 mm Thrust Shaft, diameter at collars as fitted 388 mm as per Rule 450 mm  
Flywheel Shaft, diameter as fitted 388 mm Intermediate Shafts, diameter as fitted 450 mm as per Rule 450 mm as fitted 450 mm Thrust Shaft, diameter at collars as fitted 388 mm as per Rule 450 mm  
Tube Shaft, diameter as fitted 388 mm as per Rule 450 mm Is the tube shaft fitted with a continuous liner YES  
Screw Shaft, diameter as fitted 450 mm as per Rule 450 mm  
Bronze Liners, thickness in way of bushes as per Rule 21.4 mm Thickness between bushes as per Rule 16 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 YES  
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 YES  
If two liners are fitted, is the shaft lapped or protected between the liners YES Is an approved Oil Gland or other appliance fitted at the after end of tube shaft NO  
If so, state type NO Length of bearing in Stern Bush next to and supporting propeller 68"  
Propeller, dia 16.58 ft Pitch 12.20/9.77 ft No. of blades 4 Material P. MANG. BRONZE whether moveable NO Total developed surface 90 sq. feet  
Method of reversing Engines COMPRESSED AIR Is a governor or other arrangement fitted to prevent racing of the engine when declutched 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 LAGGED  
If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine YES Cooling Water Pumps, No. TWO (DISTILLED WATER) 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. NONE Diameter YES Stroke YES Can one be overhauled while the other is at work YES  
Pumps connected to the Main Bilge Line { No. and size ONE BALLAST 10" x 11" x 10" 200 TONS/H.C. ONE BILGE 7x8x8 100 TONS/H.C. ONE SANITARY 7x8x8 100 TONS/H.C.  
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 YES  
Ballast Pumps, No. and size ONE 10" x 11" x 10" 200 TONS/H.C. Power Driven Lubricating Oil Pumps, including spare pump, No. and size ONE MAIN ENGINE 50 TONS/H.C. ONE INDEPENDANT SEAR 6" x 6 1/2 x 7 35 TONS/H.C.  
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 1-3 1/2" FOR PORT STAG, 1-4" COFFELDA 1-6" AFT WELL In pump room 1-4" FOR 1-4" S. 1-4" P. 1-4" S. 1-2" DIA.  
In holds, &c. UPPER FOR STAGE 1-2" PORT & 1-2" STAG. LOWER FOR STAGE 1-2" PORT & 1-2" STAG. FOR COFFELDA 1-4" DIA.  
Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1-6" BILGE DIRECT AFT WELL PORT SIDE & 1-6" BILGE DIRECT BALLAST PUMP STAG SIDE  
Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes YES Are the bilge suction pipes 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 NO Are they fitted with valves or cocks BOTH Are they fixed efficiently 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  
That pipes pass through the bunkers NONE How are they protected YES  
That pipes pass through the deep tanks YES 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 YES Is the shaft tunnel watertight YES Is it fitted with a watertight door YES worked from YES  
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES  
Main Air Compressors, No. NONE No. of stages YES diameters YES stroke YES driven by YES  
Auxiliary Air Compressors, No. TWO No. of stages THREE EACH diameters 1.25 in stroke AGAINST 1.6 in driven by 1 1/2 x 7" SEAR ENGINE  
Small Auxiliary Air Compressors, No. YES No. of stages YES diameters YES stroke YES driven by YES  
That provision is made for first charging the air receivers SEAR DRIVEN AIR COMPRESSORS  
Savenging Air Pumps, No. TWO diameter 1510 mm stroke 510 mm driven by MAIN ENGINE LEVER DRIVEN 11.2  
Auxiliary Engines crank shafts, diameter as per Rule 3 3/8" AT FLYWHEEL END. 3 3/4" MIDDLE & FLYWHEEL END. Position STARBOARD SIDE OF ENGINE ROOM  
Have the auxiliary engines been constructed under special survey YES Is a report sent herewith YES

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AIR RECEIVERS:—Have they been made under survey.

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.

Injection Air Receivers, No.

Seamless, lap welded or riveted longitudinal joint.

Starting Air Receivers, No.

Seamless, lap welded or riveted longitudinal joint.

IS A DONKEY BOILER FITTED

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

PLANS. Are approved plans forwarded herewith for shafting.

Donkey boilers.

Oil fuel burning arrangements.

Has the spare gear required by the Rules been supplied.

State the principal additional spare gear supplied.

TORSIONAL VIBRATIONS APPROVED 27<sup>th</sup> MAY 1947 for 108 r.p.m.  
No DETUNER FITTED.

The foregoing is a correct description, AND THE PARTICULARS OF THE INSTALLATION AS FITTED ARE AS APPROVED  
FOR TORSIONAL VIBRATION CHARACTERISTICS.

Dates of Survey while building  
During progress of work in shops - - -  
During erection on board vessel - - -  
Total No. of visits - 107

Dates of examination of principal parts—Cylinders. 28.1.48 Covers. ✓ Pistons 4.5.48 etc Rods 4.5.48 etc Connecting rods 27.5.48

Crank shaft 3.6.48 Flywheel shaft. ✓ Thrust shaft. ✓ Intermediate shafts. 30.7.48 Tube shaft. ✓

Screw shaft 21.6.48 Propeller 21.6.48 Stern tube 6.8.48 Engine scatings. ✓ Engine holding down bolts 28.10.48

Completion of fitting sea connections 20.8.48 Completion of pumping arrangements 25.1.49 Engines tried under working conditions 27.1.49

Crank shaft, material OPEN HEARTH / NOT STEEL Identification mark LLOYD'S N°17324 Flywheel shaft, material, OPEN HEARTH Identification mark 199 Lloyd's N°1

Thrust shaft, material, Identification mark Intermediate shafts, material / NOT STEEL Identification marks H.A.I. 28.7.49

Tube shaft, material, Identification mark Screw shaft, material OPEN HEARTH / NOT STEEL Identification mark H.A.I. 21.7.47

Identification marks on air receivers. N°1 LLOYD'S TEST. 800 LBS. WP 600 LBS. T.A.O. 19.7.48 2AD. N°2 LLOYD'S TEST. 800 LBS. WP 600 LBS. T.A.O. 19.7.48 2AD.

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 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.

General Remarks (State quality of workmanship, opinions as to class, &c.)

Constructed & installed under special survey.

The materials & workmanship are good.

Satisfactory basin & sea trials were witnessed & the machinery is eligible in my opinion to have the record of LMC 1,49 & notation T.S.C.L. - OIL ENG MACH.

Two DB 150 LB.

The amount of Entry Fee LMC... £217: 8

Special Two Air Receivers 8: 0

Eng: WELDING CONSTRUCTION Donkey Boiler Fee 66 LBS. £17: 15

Travelling Expenses (if any) £

Committee's Minute

Assigned + LMC. 1.49 Oil Eng.

2 D.B. 150 lb C.L.

When applied for

When received

Engineer Surveyor to Lloyd's Register of Shipping

Lloyd's Register Foundation