

# REPORT ON OIL ENGINE MACHINERY.

No. 74812

Received at London Office 8 DEC 1949

Date of writing Report 3/12/49 19... When handed in at Local Office 5.12.49 19... Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 24-1-49 Last Survey 24-11-1949  
 Reg. Book. Number of Visits 81

Single on the Triple Screw vessel. M.V. "British Captain" Tons Gross 8400  
 Quadruple

Built at Glasgow By whom built Harland & Wolff Ltd Yard No. 13949 When built 1949  
 Engines made at Glasgow By whom made Harland & Wolff Ltd Engine No. 13949 When made 1949  
 Donkey Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. 13949 When made 1949  
 Brake Horse Power 3200 Owners British Tanker Co Ltd Port belonging to London  
 I.N. Power as per Rule 696 NHP 489 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted Yes  
 Trade for which vessel is intended Ocean Going

**MAIN ENGINES, &c.**—Type of Engines Heavy Oil Airless Injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 650 lbs/sq in Diameter of cylinders 29 1/2 in Length of stroke 59 1/2 in No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 128 lbs/sq in Ahead Firing Order in Cylinders 1, 5, 3, 6, 2, 4 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 94 1/2 in Is there a bearing between each crank Yes Revolutions per minute 115

Flywheel dia 248 1/2 in Weight 2590 lbs Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 2350 KM<sup>2</sup> Means of ignition Comp<sup>tn</sup> Kind of fuel used Diesel Oil

Crankshaft: Solid forged dia. of journals as per Rule APP<sup>d</sup> Crank pin dia. 505 in Mid. length breadth 840 in Thickness parallel to axis 50 in  
 Semi-built as fitted 505 in Crank webs with 230 in Mid. length thickness 310 in shrunk Thickness around eye-hole 222.5 in  
 All built as per Rule with 1/16 in No<sup>ts</sup>

Flywheel Shaft, diameter as fitted APP<sup>d</sup> Intermediate Shafts, diameter as fitted 14 in Thrust Shaft, diameter at collars as fitted 4.5 in  
 Propeller Shaft, diameter as fitted APP<sup>d</sup> Screw Shaft, diameter as fitted 16 in Is the tube shaft fitted with a continuous liner Yes

Liner: Thickness in way of bushes as per Rule APP<sup>d</sup> Thickness between bushes as fitted 21/32 in 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-combustible 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 Yes Length of bearing in Stern Bush next to and supporting propeller 60 in

Propeller: dia. 15'-6" Pitch 12'-0" No. of blades 4 Material hang bronze whether moveable NO Total developed surface 45 sq. Feet  
 Moment of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 10020 kgm<sup>2</sup> Kind of damper, if fitted NONE

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of starting forced  
 Thickness of cylinder liners 302 1/2 in 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 to the engine 2 SW 180 T/HR + 140 T/HR  
 Cooling Water Pumps, No. 2 SW 140 T/HR Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps: Pumps worked from the Main Engines, No. NONE Diameter 8 in Stroke 100 T/HR Can one be overhauled while the other is at work Yes  
 Pumps connected to the Main Bilge Line (No. and size) 2 Bilge pumps 8 x 8 1/2 x 8: 100 T/HR | 1 Ballcock pump 9 x 10 x 10: 140 T/HR  
 How driven Steam | Steam  
 Is 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

Oil Pumps: Oil Pumps, No. and size 1 @ 9 x 10 x 10: 140 T/HR Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 M.K. 100 T/HR @ 460 R.P.M.  
 Are there two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size:—In machinery spaces (1) 3 1/2 x 1 1/2 x 3 1/2: 1 APP. x 3 1/2: 1 S.C. 22-32 frame pump x 2  
(2) 4 x 2: 6 in galv. pump x 2 In pump room Yes

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 x 8: 2 x 6  
 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

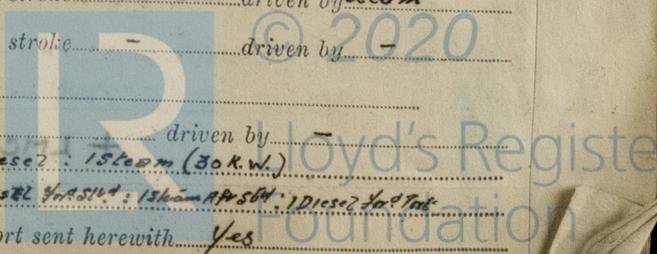
Sea Connections: Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks BOTH Are they fixed permanently high on the ship's side to be seen without lifting the platform plates Yes Are the overboard discharges above or below the deep water line Below  
 Are they 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  
 Do any pipes pass through the bunkers NONE How are they protected Yes  
 Do any 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  
 Are arrangements 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 or from one compartment to another Yes Is the shaft tunnel watertight NONE Is it fitted with a watertight door NONE worked from Yes  
 On a cargo vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes

Air Compressors: Air Compressors, No. NONE No. of stages - diameters - stroke - driven by -  
 Auxiliary Air Compressors, No. Two No. of stages Two diameters 290-245 in stroke 130 in driven by Steam  
 Auxiliary Air Compressors, No. NONE No. of stages - diameters - stroke - driven by -

Provision is made for first charging the air receivers Two Steam driven compressors as above

Engines: Charging Air Pumps, No. NONE (under points Supercharge) diameter - stroke - driven by -  
 Auxiliary Engines crank shafts, diameter as per Rule APP<sup>d</sup> No. Two Diesel: 1 Steam (30 K.W.)  
 as fitted 180 in Position 1 Diesel 475 H.P.: 1 Steam 475 H.P. Diesel 300 H.P.  
 Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes

Old 28/12/49



001938-001946-0147

**AIR RECEIVERS:**—Have they been made under survey Yes ✓ State No. of reports or certificate Spec X. 163 + X. 140  
 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 ✓  
 Injection Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓ by Rules ✓ Date of writing ✓  
 Seamless, welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure ✓ Actual ✓ No. in S. Reg. Book ✓  
 Starting Air Receivers, No. Three ✓ Total cubic capacity One @ 150 lbs Internal diameter 1 @ 14 1/4" thickness 1 @ 3/8" by Rules APP  
 Seamless, welded or riveted longitudinal joint unwelded Material Steel Range of tensile strength 1 @ 28-32 Working pressure Actual 85 Built at ✓  
**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 (If not, state date of approval) ✓ Receivers Spec 29.4.49 Separate fuel tanks ✓  
 Donkey boilers APP Report General pumping arrangements 18.3.49 Pumping arrangements in machinery space 29.4.49  
 Oil fuel burning arrangements ✓  
 Have Torsional Vibration characteristics been approved Yes (for Service speed 7115 RPM) Date of approval 30.3.48

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied Yes and as per attached list  
 State the principal additional spare gear supplied Spare screw shaft and spare C.S. propeller.  
 26405  
 4221A  
 W.H.  
 23.3.49  
 H.C.J.  
 11.4.49

The foregoing is a correct description, \_\_\_\_\_

Manufacturer. \_\_\_\_\_

**Dates of Survey while building**  
 During progress of work in shops - - - 1949 JAN. 24, FEB. 27, 9, 10, 14, 15, 17, 21, 23, MAR. 21, 25, APR. 5, 11, 13, 14, 20, 21, 27, 28, MAY 1, 4, 5, 9, 11, 15, 18, 20, 20, JUN. 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, OCT. 10, 12, 13, 17, 19  
 During erection on board vessel - - - 13, 29, 30, JUL. 4, 7, 21, 25, 27, 28, 29, AUG. 1, 2, 4, 12, 19, 23, 29, 31, SEP. 1, 5, 7, 8, 13, 14, 15, 19, 21, 22, 23, 29, OCT. 10, 12, 13, 17, 19  
 Total No. of visits 81

Dates of examination of principal parts—Cylinders 14-4-49 Covers 14-4-49 Pistons 11-4-49 Rods 11-4-49 Connecting rods 28-4-49  
 Crank shaft 6-4-49 Flywheel shaft ✓ Thrust shaft 21-3-49 Intermediate shafts 5-5-49 Tube shaft ✓  
 Screw shaft 21-4-49 Propeller 12-11-48 Stern tube 24-4-49 Engine seatings 29-4-49 Engine holding down bolts 28-9-49  
 Completion of fitting sea connections 11-8-49 Completion of pumping arrangements 22-11-49 Engines tried under working conditions 24-11-49  
 Crank shaft, material S.M.S. Identification mark Lloyds 188107 Flywheel shaft, material ✓ Identification mark Lloyds 812  
 Thrust shaft, material S.M.S. Identification mark Lloyds 2334 Intermediate shafts, material S.M.S. Identification marks J.S. 10-5-49  
 Tube shaft, material ✓ Identification mark ✓ Screw shaft, material S.M.S. Identification mark Lloyds 5-26-49  
 Identification marks on air receivers No 448/9: Lloyds Test 58H 1040; W.P. 356 105/10; R.O.B. 29-6-49.  
No 452: Lloyds Test 58H 105/10; W.P. 356 105/10; R.O.B. 20-4-49.

Welded receivers, state Makers' Name Harland & Wolff Belfast  
 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 Water, sand, steam & foam 2x10 gallons; 10x29 gallons;  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo OIL TANKER 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 Marine 400 Yd No 13499.

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
The machinery which has been constructed under Special Survey in accordance with the Rules, approved Plans Secretary's letters, has been efficiently secured in position in this vessel and tried under full power conditions satisfactorily.  
The materials and workmanship are good.  
Eligible in my opinion to be Classed in the Register Books with record L.M.C. 11.49, and notation T.S.C.L. and D.B. working pressure 150 lbs/sq. "Oil Engines"  
Remaining forging reports common to 13949 & 400 Yd No 1398/9 to follow, will be forwarded on completion of date

The amount of Entry Fee £ 214 :  
 Special ... £ :  
 Donkey Boiler Fee See Bot 76 MS 14. 295 £ :  
 Travelling Expenses (if any) £ :  
 When applied for 19  
 When received 19  
7 DEC 1949  
D. Craig-Jumper,  
 Engineer Surveyor to Lloyd's Register of Ship

Committee's Minute GLASGOW - 7 DEC 1949  
 Assigned + LMC 11.49.  
 2 DB - 150 lb. Oil Eng.

