

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 10 When handed in at Local Office 23 JUL 1942 Port of LIVERPOOL
 No. in Survey held at WIGAN Date, First Survey 28/7/41 Last Survey 2/7/1942
 Reg. Book WIGAN (Number of Visits 35)
 on the single screw tug "EMPIRE TOBY" Tons 35
 Built at Thorne By whom built Richard Bundon Ltd. Yard No. T 376 When built 1942
 Engines made at WIGAN By whom made WORSLEY MESNES IRONWORKS LTD Engine No. 9951 When made 1942
 Boilers made at STOCKTON By whom made RILEY Boiler No. 6584 When made "
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Nom. Horse Power as per Rule _____ Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____
 Trade for which Vessel is intended _____

ENGINES, &c.—Description of Engines TRIPLE EX. INVERTED DIRECT ACTING SURFACE CONDENSER Revs. per minute 140
 Dia. of Cylinders 12" 20" + 32" Length of Stroke 22" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 6.4" as fitted 6.5" Crank pin dia. 6.5" Crank webs Mid. length breadth 9.6 Mid. length thickness 4.12 Thickness parallel to axis 4.12 Thickness around eye-hole 2.8
 Intermediate Shafts, diameter as per Rule 6.12" as fitted 6.25" Thrust shaft, diameter at collars as per Rule 6.4" as fitted 6.5"
 Tube Shafts, diameter as per Rule 7.08" as fitted 7.12" Is the screw shaft fitted with a continuous liner No
42 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 ✓ 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 YES If so, state type NEWARK PATENT TYPE NO 3 (SOLID) Length of Bearing in Stern Bush next to and supporting propeller 2'-5"
 Propeller, dia. 8'-0" Pitch ✓ No. of Blades 4 Material CASI IRON Whether Moveable NO Total Developed Surface 28 sq. feet

Feed Pumps worked from the Main Engines, No. 1 Diameter 2 1/2" Stroke 12" Can one be overhauled while the other is at work ✓
 Bilge Pumps worked from the Main Engines, No. 1 Diameter 2 1/2" Stroke 12" Can one be overhauled while the other is at work ✓
 Feed Pumps NO How driven _____ Pumps connected to the Main Bilge Line No. and size _____ How driven _____
 Ballast Pumps, No. and size _____ 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;—In Engine and Boiler Room _____ In Holds, &c. _____
 in Pump Room _____

Main Water Circulating Pump Direct Bilge Suctions, No. and size _____ 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 stram-boxes _____
 Are the Bilge Suctions in the Machinery Space 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 stokehold 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 _____

MAIN BOILERS, &c.—(Letter for record _____) Total Heating Surface of Boilers _____ Working Pressure _____
 Is Forced Draft fitted _____ No. and Description of Boilers _____
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? _____
 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 NO Main Boilers ✓ Auxiliary Boilers ✓ Donkey Boilers ✓
 Superheaters ✓ General Pumping Arrangements ✓ Oil fuel Burning Piping Arrangements ✓

SPARE GEAR.
 Has the spare gear required by the Rules been supplied YES
 State the principal additional spare gear supplied ONE EACH PISTON RINGS FOR MP & LP PISTONS. 12 CONDENSER TUBES. 24 FERRULES + PLUGS. ONE PAIR MAIN BEARING BRASSES, WITH BOLTS + NUTS.

Shipping. Worsley Mesnes Ironworks Ltd
 10 8
 2/5 S 337 332
 30/7/42

The foregoing is a correct description.
 FOR WORSLEY MESNES IRONWORKS LTD.
 J. A. Helling Director.

Manufacturer.

1941
 July 20. Aug 20. 22. 25. Sept 2. 19. 24. Oct 7. 10. 15. 17. 24. Nov 6. 13. 20. Dec 4. 19. 1942
 Jan 8. 15. Feb 5. 19. Mar 5. 13. 21. Apr 2. 9. 16. 23.

Dates of Survey while building
 During progress of work in shops - - -
 May 14. 21. June 11. 25. July 2.

During erection on board vessel - - -

Total No. of visits 35+

Dates of Examination of principal parts—Cylinders 13-2-42 Slides 13-2-42 Covers 13-2-42
 Pistons 19-2-42 Piston Rods 5-2-42 Connecting rods 5-2-42
 Crank shaft 13-2-42 Thrust shaft 5-2-42 Intermediate shafts 5-2-42
 Tube shaft ✓ Screw shaft 5-2-42 Propeller 26-3-42
 Stern tube ✓ Engine and boiler seatings Engines holding down bolts
 Completion of fitting sea connections Boilers fixed Engines tried under steam
 Completion of pumping arrangements Thickness of adjusting washers
 Main boiler safety valves adjusted Crank shaft material STEEL Identification Mark 2292 Thrust shaft material STEEL Identification Mark 2282
 Intermediate shafts, material Identification Marks 2283 Tube shaft, material Identification Mark ✓
 Screw shaft, material STEEL Identification Mark 2284 Steam Pipes, material ✓ Test pressure ✓ Date of Test ✓
 Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓
 Have the requirements of the Rules for the use of oil as fuel been complied with ✓
 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 - If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. THIS ENGINE HAS BEEN BUILT UNDER SPECIAL SURVEY IN ACCORDANCE WITH THE RULES THE MACHINERY MATERIALS & WORKMANSHIP ARE GOOD). THE ABOVE ENGINES HAVE BEEN DISPATCHED TO HULL FOR FITTING TO R. JUNCTION'S YARD NO 1376.

Certificate to be sent to
 The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 8 : 10 :
 Special SPEC. FEE £ 2 : 2/6
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ 7 : 8/4

When applied for, 24 JUL 1942
 When received, 19

H. Taylor
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 28 JUL 1942
 Assigned Transmit to London.

