

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

19 FEB 1946

HULL

Received at London Office 20 FEB 1945

Date of writing Report 19... When handed in at Local Office 19... Port of...
 No. in Survey held at... Date, First Survey 29. 6. 44 Last Survey 13. 2. 19 45.
 Reg. Book... on the STEAM TUG **EMPIRE BARBARA** (Number of Visits 35) A/MS 932 Tons {Gross 274.35 Net Nil
 Built at **SELEX** By whom built **Cochrane & Sons Ltd** Yard No. 1292 When built 1945
 Engines made at **HULL** By whom made **Amos & Smith Ltd** Engine No. 758 When made "
 Boilers made at **HULL** By whom made **Amos & Smith Ltd** Boiler No. 758 When made "
 Registered Horse Power... Owners **Ministry of War Transport**. Port belonging to **Goole**
 Nom. Horse Power as per Rule 132. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted **Yes**
 Trade for which vessel is intended **Towing Services**.

GINES, &c.—Description of Engines **TRIPLE EXPANSION**. CONTRACT Revs. per minute 122.
 ia. of Cylinders 15"-25"-42" Length of Stroke 27" No. of Cylinders 3 No. of Cranks 3
 ank shaft, dia. of journals as per Rule 8.05" Crank pin dia. 8 1/4" Mid. length breadth 15 1/2" Thickness parallel to axis 5 1/4"
 as fitted 8 1/4" Crank webs Mid. length thickness 5 1/2" shrunk Thickness around eye-hole 3 5/8"
 Intermediate Shafts, diameter as per Rule 7.665" Thrust shaft, diameter at collars as per Rule 8.05"
 as fitted 8" as fitted 8 1/4"
 ube Shafts, diameter as per Rule... Screw Shaft, diameter as per Rule 8.865" Is the {tube} shaft fitted with a continuous liner {No.}
 as fitted None as fitted 9 1/4"
 ronze Liners, thickness in way of bushes as per Rule... Thickness between bushes as per Rule... Is the after end of the liner made watertight in the
 as fitted... If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner...
 of 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...
 f 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** Length of Bearing in Stern Bush next to and supporting propeller 3'-2 1/2"
 Propeller, dia. 10'-0" Pitch 11'-9" No. of Blades 4 Material **C.I.** whether Moveable **SOLID** Total Developed Surface 38 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 15" Can one be overhauled while the other is at work **Yes**
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 15" Can one be overhauled while the other is at work **Yes**
 Feed Pumps {No. and size One 6" x 4 1/2" x 6" Pumps connected to the Main Bilge Line {No. and size One Duplex 7 1/2" x 5" x 6"
 How driven Independent Steam How driven Independent Steam
 Ballast Pumps, No. and size NONE Lubricating Oil Pumps, including Spare Pump, No. and size NONE
 Are two independent means arranged for circulating water through the Oil Cooler NONE Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps:—In Engine and Boiler Room 2 @ 2 1/2" D. Boiler Room 2 @ 2 1/2" D.
 In Pump Room NONE In Holds, &c. One @ 2" Dia in each of the following:—
 Fore Peak Tank, Fore Hold, Aft Hold, Aft Peak Tank
 Main Water Circulating Pump Direct Bilge Suctions, No. and size One @ 5" Dia. Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size Two @ 3" D. Included above Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes **Yes**
 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 **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 stokehold 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**
 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 NONE Is it fitted with a watertight door... worked from —

MAIN BOILERS, &c.—(Letter for record **S**) Total Heating Surface of Boilers 2390 sq. ft.
 Which Boilers are fitted with Forced Draft NONE Which Boilers are fitted with Superheaters NONE
 No. and Description of Boilers One S.B. Working Pressure 200 lb/in.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? **Yes**
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? —
 Can the donkey boiler be used for domestic purposes only —
PLANS. Are approved plans forwarded herewith for Shafting 28-7-41 Main Boilers 3-7-41 Auxiliary Boilers NONE Donkey Boilers NONE
 (If not state date of approval)
 Superheaters NONE General Pumping Arrangements 3-9-41 Oil fuel Burning Piping Arrangements 8-5-42.

SPARE GEAR.

Has the spare gear required by the Rules been supplied **Yes**
 State the principal additional spare gear supplied **See attached list.**

The foregoing is a correct description.

For AMOS & SMITH LTD.

Manufacturer.

A.S. Bentley
DIRECTOR



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EMPIRE BARBARA.

Dates of Survey while building

During progress of work in shops - - 1944 June 28, July 8, Aug 10, Oct 5, 17, Nov 13, 16, 18, 20, Dec. 9, 11, 12, 20.
1945 Jan. 2, 23.

During erection on board vessel - - - 1944 SEP 12, 14, OCT 9, NOV 22, DEC 15, 20.
1945 Jan 4, 11, 12, 13, 18, 22, 24, 26, 30, 31 Feb 2, 6, 13.

Total No. of visits 35.

Dates of Examination of principal parts—Cylinders 13/11/44 16/11/44 18/11/44 Slides 20/12/44. Covers 13/11/44 16/11/44 18/11/44

Pistons 12-12-44. Piston Rods 12-12-44. Connecting rods 5-10-44.

Crank shaft 17-10-44. Thrust shaft 8-7-44. Intermediate shafts 23-1-45.

Tube shaft None. Screw shaft 29-6-44. Propeller 14-9-44.

Stern tube 12-9-44. Engine and boiler seatings 15-12-44. Engines holding down bolts 19-1-45.

Completion of fitting sea connections 14-9-44.

Completion of pumping arrangements 30-1-45. Boilers fixed 19-1-45. Engines tried under steam 30/1/45. 13/2/45.

Main boiler safety valves adjusted 30/1/45. Thickness of adjusting washers P 13/32 S 5/16

Crank shaft material F-1. Steel Identification Mark 926 FW 20/6/44. Thrust shaft material F-1. Steel Identification Mark 968 FW 9/6/44.

Intermediate shafts, material F-1. Steel Identification Marks 928. FW 9/6/44. Tube shaft, material None Identification Mark —

Screw shaft, material F-1. Steel Identification Mark 925. FW. Steam Pipes, material Steel. Test pressure 600 lb/sq. in. Date of Test 29-1-45.

Is an installation fitted for burning oil fuel. Yes. Is the flash point of the oil to be used over 150° F. Yes.

Have the requirements of the Rules for the use of oil as fuel been complied with. Yes.

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. No. 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. EMPIRE JOSEPHINE HUL RPT 525 SS.

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

The Machinery of this vessel has been constructed in accordance with the approved plans, the Rules and the Specifications, of tested material made by firms accredited by the Society.

The Workmanship and Materials are good.

The Machinery and auxiliaries have been fitted on board and, when tried under steam at full power in the River Humber was found satisfactory in every respect.

The amount of Entry Fee ... £ 3 : 0 : 0 : When applied for, 19 FEB 1945

Special ... £ 33 : 0 : 0

SPECIFICATION 25% ~~Boiler~~ Fee ... £ 8 : 5 : 0 : When received,

Travelling Expenses (if any) £ : : : 19

W. L. Shields & J. P. ...
Engineer Surveyors to Lloyd's Register of Shipping.

FRI. 2 MAR 1945

Committee's Minute

Assigned + LMC 2.45 05

FITTED FOR OIL FUEL. 2.45 FLASH POINT ABOVE 160° F.



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Certificate to be sent to

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