

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 18 MAY 1944

Date of writing Report 19 When handed in at Local Office 16 MAY 1943 Port of HULL

No. in Survey held at HULL Date, First Survey 25-11-43 Last Survey 4-5-1944
Reg. Book (Number of Visits 28)

on the Steam Tug **EMPIRE BETSY** A/MS 712 Tons {Gross 274.35
Net 116

Built at Selby By whom built Cochran & Sons Ltd Yard No. 1280 When built 1944

Engines made at HULL By whom made A. & S. Smith Ltd Engine No. 738 When made

Boilers made at HULL By whom made A. & S. Smith Ltd Boiler No. 738 When made

Registered Horse Power Owners The Ministry of War Transport Port belonging to

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

ENGINES, &c.—Description of Engines **TRIPLE EXPANSION** CONTRACT Revs. per minute 122

Dia. of Cylinders 15" 25" 42" Length of Stroke 27" No. of Cylinders 3 No. of Cranks 3

Crank 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 1/4" 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"

Tube Shafts, diameter as per Rule NONE Screw Shaft, diameter as per Rule 8.865"
as fitted NONE as fitted 9 1/4" Is the {tube} shaft fitted with a continuous liner {No.}

Bronze 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 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 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 {No. and size One 6" x 4 1/4" x 6" Pumps connected to the {No. and size One Duplex 7 1/2" x 5" x 6"
Pumps How driven Independent Steam Main Bilge Line How driven Independent Steam

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 2 @ 2 1/2" Dia. 2 @ 3" Dia. Bl. Rm. 2 @ 2 1/2"

In Pump Room In Holds, &c. One @ 2" Dia. in each of the following:—
Fore peak tank Fore Hld. Apr Hld. Apr Peak tank

Main Water Circulating Pump Direct Bilge Suctions, No. and size One @ 5" Independent Power Pump Direct Suctions to the Engine Room Bilges,
No. and size Two @ 3" 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 5) 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./sq. 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

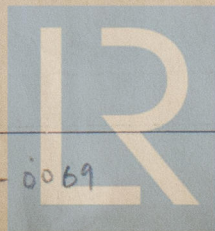
The foregoing is a correct description.

For AMOS & SMITH LTD.

A. R. Kenney

DIRECTOR

Manufacturer.



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EMPIRE BETSY.

During progress of work in shops -- { 1943. Nov. 25. Dec. 22. 1944 Jan. 1 Feb. 3. 23. 24. 25. Mar 7, 14. 28. 23. 28.
 Dates of Survey while building { During erection on board vessel --- { 1943 Nov 28. 1944 MAR 27, 28, 29. APR 5, 7, 12, 19, 21. 24. 25. 27, 28. May 2. 3. 4.
 Total No. of visits. 28.

Dates of Examination of principal parts—Cylinders 24/2/44 23/2/44 25/2/44 Slides 7. 3-44 Covers 24/2/44 23/2/44 25/2/44.
 Pistons 3/2/44 Piston Rods 1/1/44 Connecting rods 3/2/44
 Crank shaft 18/3/44 Thrust shaft 22/2/43 Intermediate shafts 22/2/43
 Tube shaft NONE Screw shaft 25/1/43 Propeller 28/11/43
 Stern tube 28/11/43 Engine and boiler seatings 5/4/44 Engines holding down bolts 5/4/44
 Completion of fitting sea connections. 28/11/43
 Completion of pumping arrangements 28/4/44 Boilers fixed 5/4/44 Engines tried under steam 28/4/44.
 Main boiler safety valves adjusted 28/4/44 Thickness of adjusting washers P & S 11/32".
 Crank shaft material F. I. Steel Identification Mark 313. Fw. 4/1/43 Thrust shaft material F. I. Steel Identification Mark 433. Fw. 4/1/43.
 Intermediate shafts, material F. I. Steel Identification Marks 452 Fw. 4/1/43 Tube shaft, material NONE Identification Mark ---
 Screw shaft, material F. I. Steel Identification Mark 320 Fw. 4/1/43 Steam Pipes, material STL. ✓ Test pressure 600 lb. ✓ Date of Test 25. 4. 44.
 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 From Tug EMPIRE PAT. HUL. Rpt. 51723.

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

The Machinery of the Vessel has been constructed in accordance with the rules the approved plans & the specification, of rolled material made by firms accredited by the Society.

The Workmanship & Materials are good

The Machinery auxiliaries have been fitted on board and, when tried under steam at as near full power as practicable in the basin, were found satisfactory in every respect.

The Vessel is eligible, in our opinion, when classed, to have the records of LMC 5.44. & OG. and the Notations T. 3 Cy. 15", 25", 42". — 27"

132 NHP. 200 BHP. 1 S.B. 3 Cf. H.S. 2390.

Fitted for Oil fuel

F.P. above 150° F.

Certificate to be sent to

The amount of Entry Fee ... £ 3 : 0 :
 Special LMC ... £ 33 : 0 :
 Donkey Boiler Fee ... £ 8 : 5 :
 Travelling Expenses (if any) £ : :
 When applied for, 16 MAY 1944
 When received, 19

Committee's Minute THURS 25 MAY 1944

Assigned + LMC 5.44

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



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