

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

10 JAN 1944

Received at London Office

Date of writing Report 21-12-43 When handed in at Local Office 10 JAN 1944 19 44 Port of HULL  
 No. in Survey held at HULL Date, First Survey 31.5.43 Last Survey 3.1.44  
 Reg. Book on the STEAM TUG EMPIRE HUMPHREY (Number of Visits 33) Tons {Gross 274  
 Net NIL  
 Built at SELBY By whom built Cochrane & Sons Ltd Yard No. 1273 When built 1944  
 Engines made at HULL By whom made Amos & Smith Ltd Engine No. 733 When made .  
 Boilers made at HULL By whom made Amos & Smith Ltd Boiler No. 733 When made .  
 Registered Horse Power . Owners Ministry of War Transport Port belonging to Hull  
 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 1/2"  
 as fitted 8 1/2" Crank webs 5 1/4" shrunk 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 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" as fitted 8 1/4"  
 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  
 as fitted . as fitted . 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 CI 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 1/4" x 6" Pumps connected to the { No. and size One Duplex 7 1/2" x 5" x 6" 2-2 3/4" x 15"  
 How driven Independent Steam Main Bilge Line { How driven Independent Area N.E.  
SALVAGE Pumps, No. and size One 12" x 9" x 12" Lubricating Oil Pumps, including Spare Pump, No. and size NONE  
 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" & 2 @ 3" Dia. Bl. Rm 2 @ 2 1/2"  
 In Pump Room Fore Hold, Apr Hold & Apr Peak Tank In Holds, &c. One @ 2" Dia in each of the following:—F. 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 — 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.

M. C. Brown.

Manufacturer.



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Lloyd's Register  
 012187, 012192, 0122



# EMPIRE (UMPHREY)

During progress of work in shops - - - { 1943 May 31. June 14. Aug 23. 26. Sept 10. 15. Oct 11. 25. 24. 29. Nov. 6. 23.  
 Dates of Survey while building { During erection on board vessel - - - { 1943 AUG 26 SEP 18 OCT 2 NOV 6, 23, 24, 26 DEC 2, 3, 7, 10, 13, 14, 15, 16, 17, 21, 24, 28.  
 1944 JAN 3.  
 Total No. of visits 33.

Dates of Examination of principal parts—Cylinders 29/10/43. 25/10/43. 27/10/43. Slides 27/10/43. Covers 29/10/43. 25/10/43. 27/10/43.  
 Pistons 27/10/43. Piston Rods 27/10/43. Connecting rods 27/10/43.  
 Crank shaft 15/10/43. Thrust shaft 10/9/43. Intermediate shafts 15/9/43.  
 Tube shaft None. Screw shaft 23/8/43. Propeller 26/8/43.  
 Stern tube 26/8/43. Engine and boiler seatings 6/11/43. Engines holding down bolts 7/12/43.  
 Completion of fitting sea connections 26/8/43.  
 Completion of pumping arrangements 16/12/43. Boilers fixed 7/12/43. Engines tried under steam 14/12/43.  
 Main boiler safety valves adjusted 14/12/43. Thickness of adjusting washers 5/16" P & S.  
 Crank shaft material F. I. Steel Identification Mark 33 FW. 20/7/43. Thrust shaft material F. F. S. Steel Identification Mark 4. FW. 5/7/43.  
 Intermediate shafts, material F. I. Steel Identification Marks 5 FW. 5/7/43. Tube shaft, material None. Identification Mark  
 Screw shaft, material F. I. Steel Identification Mark 111 G. 14/8/43. Steam Pipes, material STEEL Test pressure 600 lb Date of Test 13/12/43.  
 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 81m Tug. EMPIRE Pat. 51723.

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 Specification, of tested material made by firms accredited by the Society.

The Workmanship and Materials are good

The Machinery & Auxiliaries have been fitted on board and, when tried under steam at or 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 1,44 and O.G. and the notations T. 3 Cy. 15", 25", 42" — 27".  
 132 NHP. 200 @ 10' 15. B. 3. C. f. G. S. 63. H. S. 2390.

Certificate to be sent to

The amount of Entry Fee ... £ 3 : 0 : When applied for,  
 Special CLASS.. ... £ 33 : 0 : 10 JAN 1944  
 SPEC. ... £ 8 : 5 :  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ : : 19

TUES. 18 JAN 1944

Committee's Minute

Assigned

+ LMC 1.44 OG

J. Philson W. S. Shields  
 Engineer Surveyor to Lloyd's Register of Shipping.



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