Rpt. 4.

No. 51820.

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 2 DEC 1942

Date of writing Report 22-10-42 19 When handed in at Local Office 30 NOV 1942 19 Port of HULL.

No. in Survey held at HULL. Date, First Survey 20. 4. 42. Last Survey 14. 11. 1942 (Number of Visits 38)

Reg. Book ..... on the H.M.T. MULLET. Tons Gross 387. Net 127.

Built at SELBY. By whom built Cochrane and Sons Ld. Yard No. 1253. When built 1942

Engines made at HULL. By whom made Amos & Smith Ld Engine No. 712 When made "

Boilers made at HULL. By whom made Amos & Smith Ld Boiler No. 712. When made "

Registered Horse Power ..... Owners THE ADMIRALTY. Port belonging to .....

Nom. Horse Power as per Rule 125. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Government Service.

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 115.

Dia. of Cylinders 13½", 24", 39". Length of Stroke 27". No. of Cylinders 3. No. of Cranks 3.

Crank shaft, dia. of journals as per Rule 7.65" as fitted 8". Crank pin dia. 8". Crank webs Mid. length breadth — Mid. length thickness — shrunk Thickness parallel to axis 5". Thickness around eye-hole 3 9/16".

Intermediate Shafts, diameter as per Rule 7.3" as fitted 7¾".

Thrust shaft, diameter at collars as per Rule 7.65" as fitted 8"

Tube Shafts, diameter as per Rule — as fitted None.

Screw Shaft, diameter as per Rule 8.15 as fitted 8½". Is the {tube / screw} shaft fitted with a continuous liner {— / Yes.}

Bronze Liners, thickness in way of bushes as per Rule 9/16" as fitted 19/32". Thickness between bushes as per Rule — as fitted 19/32". 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 One length.

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 No. — If so, state type —

Propeller, dia. 10'-3". Pitch 10'-9". No. of Blades 4. Material Cl. whether Moveable Solid. Total Developed Surface 39½". sq. feet Length of Bearing in **Stern Bush** next to and supporting propeller 2'-11 9/16".

Feed Pumps worked from the **Main Engines,** No. One Diameter 3" Stroke 15" Can one be overhauled while the other is at work (one only)

Bilge Pumps worked from the **Main Engines,** No. One Diameter 3" Stroke 15" Can one be overhauled while the other is at work (one only)

Feed Pumps {No. and size One 6" × 4¼" × 6" Duplex. / How driven Independent Steam.}

Pumps connected to the Main Bilge Line {No. and size 6" × 4¼" × 6" Duplex 3" Ejector M.E. / How driven Independent Steam. Steam Pump.}

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" Dia. and one 3" Ejector (see below).

In Pump Room — In Holds, &c. One @ 2" Dia in each of the following:—

Fwd. Ballast Space. Asdic Room. After Ballast Space. Magazine. Magazine Lobby. Spirit Room.

Main Water Circulating Pump Direct Bilge Suctions, No. and size One 6". **Independent Power Pump Direct Suctions** to the Engine Room Bilges, No. and size One 3" Steam Ejector. 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 Yes. Bilge ejector with Return.

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 1873. ft.

Which Boilers are fitted with Forced Draft All Which Boilers are fitted with Superheaters None.

No. and Description of Boilers One S.B. Working Pressure 210 lb /in".

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.

IS A DONKEY BOILER FITTED? None. 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 13-8-41 Main Boilers 13-8-41 Auxiliary Boilers None. Donkey Boilers None
(If not state date of approval)

Superheaters None. General Pumping Arrangements 16-6-41 Oil fuel Burning Piping Arrangements None

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.

per pro AMOS & SMITH LTD.

E. Wood ASST. SECRETARY Manufacturer.

MULLET.

Dates of Survey while building

During progress of work in shops — 1942. Apr. 20, 28. June 3, 16, 19, 30. July 2, 3, 3, 9, 13, 17, 24, Aug. 6, 7, 9, 18, 22.

During erection on board vessel — Sept. 14, 18, 19, 23, 30. Oct 6, 14, 16, 19, 21, 29, 23, 26, 28. Nov. 2, 6, 9, 10, 11, 12, 17.

Total No. of visits 38.

Dates of Examination of principal parts—Cylinders 9/7/42 13/7/42 6/8/42 Slides 14/9/42 Covers 9/7/42 13/7/42 6/8/42

Pistons 30/6/42. Piston Rods 30/6/42 Connecting rods 30/6/42.

Crank shaft 30/6/42. Thrust shaft 28/4/42 Intermediate shafts 20/4/42

Tube shaft — Screw shaft 13/7/42 Propeller 13/7/42

Stern tube 13/7/42 Engine and boiler seatings 13/7/42 Engines holding down bolts 14/10/42

Completion of fitting sea connections 9/8/42

Completion of pumping arrangements 28/10/42 Boilers fixed 23/9/42 Engines tried under steam 28/10/42 11/11/42

Main boiler safety valves adjusted 28/10/42 Thickness of adjusting washers F 3/8' A 7/16

Crank shaft material M.S. Coupling. 620 J.H. 17/3/42. Journal. 770 J.H. 22/4/42. Identification Mark Pin. 769 Fw. 11/5/42. Thrust shaft material M.S. Identification Mark 654, JH, 29/3/42. 1620 JS. 28.4.42

Intermediate shafts, material M.S. Identification Marks 1520 JS. 20.4.42 Tube shaft, material None. Identification Mark —

Screw shaft, material M.S. 1520. JS. 19/6/42 JH Identification Mark 791. 5/4/42 Steam Pipes, material Steel Test pressure 630 lbs/in². Date of Test 22/10/42

Is an installation fitted for burning oil fuel No 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 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 H.M.T. GRAYLING.

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

The Machinery of this Vessel has been constructed under Special Survey, in accordance with approved plans, The Rules, the Specification and Admiralty requirements of good materials and workmanship.

The Machinery has been fitted aboard under Special Survey and, when tried under working Conditions was found satisfactory in every respect.

It is eligible, in our opinion, to have the records ✠ LMC CL ~~E~~ and the notation of T. 3 Cy. 13½". 24". 39". – 27". 210 lbs/in². NHP 125. G.S. 50. H.S. 1873. F.D. 1 SB, 3 Cf.

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	£	:	When applied for,
Special	£ 62 -	:	30 NOV 1942 19
Donkey Boiler Fee	£	:	When received,
Travelling Expenses (if any)	£	:	19

W. L. Shields

Engineer Surveyor to Lloyd's Register of Shipping.

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FRI. 4 DEC 1942

Committee's Minute + Line 11.42 2D. CL.

Assigned