

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

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Date of writing Report 19 When handed in at Local Office 16 Sep 1938 Port of Sunderland.
 No. in Survey held at Sunderland. Date, First Survey 14 Oct 37 Last Survey 8 Sep 1938
 Reg. Book. on the S.S. "GRAYBURN" (Number of Visits 42) Tons {Gross 6342 Net 3439.
 Built at Sunderland By whom built Sir J. Laing & Sons Ld. Yard No. 421. When built 1938.
 Engines made at Sunderland By whom made G. Clark (1938) Ld. Engine No. 1211 When made 1938.
 Boilers made at Sunderland By whom made G. Clark (1938) Ld. Boiler No. 1211 When made 1938.
 Registered Horse Power Owners Waller & Co Ld. Port belonging to London.
 Nom. Horse Power as per Rule 523 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted Yes.
 Trade for which Vessel is intended

ENGINES, &c.—Description of Engines Triple Expansion (Poppet Valve & HP) Revs. per minute 60.
 Dia. of Cylinders 25"-43"-72" Length of Stroke 51" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 14.489 Crank pin dia. 14 1/2" Crank webs Mid. length breadth 1' 10 1/2" Thickness parallel to axis 9 1/8"
 as fitted 14 1/2" Mid. length thickness 9 1/8" shrunk Thickness around eye-hole 7"
 Intermediate Shafts, diameter as per Rule 13.49" Thrust shaft, diameter at collars as per Rule 14.48"
 as fitted 13 7/8" as fitted 14 1/2"

Tube Shafts, diameter as per Rule 15.38" Screw Shaft, diameter as per Rule 15 1/2" Is the {tube screw} shaft fitted with a continuous liner {Yes.
 as fitted 15 1/2" as fitted 15 1/2"
 Bronze Liners, thickness in way of bushes as per Rule .44" Thickness between bushes as per Rule .46" Is the after end of the liner made watertight in the
 as fitted .48" as fitted .46" 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 Yes.
 If two liners are fitted, is the shaft lapped or protected between the liners Yes. Is an approved Oil Gland or other appliance fitted at the after end of the tube
 shaft no. If so, state type 19.6" at tips Length of Bearing in Stern Bush next to and supporting propeller 5'-2 1/4"

Propeller, dia. 19'-0" Pitch 16'-4" at 2'-0" radius No. of Blades 4 Material Bronze whether Moveable no. Total Developed Surface 125 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4 1/4" Stroke 2 1/2" Can one be overhauled while the other is at work Yes.
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/4" Stroke 2 1/2" Can one be overhauled while the other is at work Yes.

Feed Pumps {No. and size 2 @ 4" x 9 1/2" x 2 1/2" + 1 @ 4" x 5 1/8" Pumps connected to the {No. and size Two 10" x 12" x 12" Duplex.
 How driven Steam Main Bilge Line How driven Steam.
 Ballast Pumps, No. and size 2 @ 10" x 12" x 12" Lubricating Oil Pumps, including Spare Pump, No. and size 1

Are two independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room 3 @ 3" in E.R. 1 @ 2 1/4" in Tunnel well.
 In Pump Room Yes. In Holds, &c. No. 1. 3" φ 18. No. 2. 3" φ 18. No. 3. 3" φ 18. No. 4.
3" φ 18. No. 5. 3 @ 3 1/2" (2 ft. x 1 ft.).

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 9" Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size 1 @ 5" 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 sized 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 Both.
 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 Forward bilge Suctions How are they protected Strong wooden Casings.
 What pipes pass through the deep tanks none Have they been tested as per Rule Yes.

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 Yes. Is it fitted with a watertight door Yes. worked from E.R. top

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 4,149 sq. ft.
 Is Forced Draft fitted Yes. No. and Description of Boilers 3 SB. (Spt.) Working Pressure 220.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.
 IS A DONKEY BOILER FITTED? no. If so, is a report now forwarded? Yes.

Is the donkey boiler intended to be used for domestic purposes only Yes.
 PLANS. Are approved plans forwarded herewith for Shafting Yes. Main Boilers Yes. Auxiliary Boilers Yes. Donkey Boilers Yes.
 (If not state date of approval) Superheaters None. General Pumping Arrangements Yes. Oil fuel Burning Piping Arrangements Yes.

SPARE GEAR.
 Has the spare gear required by the Rules been supplied Yes (Latest requirements)
 State the principal additional spare gear supplied one cast iron propeller, one screw shaft, one impeller
Shaft for circulating pump.

The foregoing is a correct description,
 FOR GEORGE CLARK (1938) LTD.

M. W. W. W.

Manufacturer.



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