

REPORT ON MACHINERY.

Received at London Office

Report of 26th July 1919
 Date of writing Report 26th July 1919
 Date, First Survey 16th Oct 1918
 Date, Last Survey 29th Sept 1919
 Port of 14/8/19
 Survey held at West Hartlepool
 on the S.S. "Golconda" (Wear Shipyard of Wm Gray & Co. No 931)
 Gross 5316
 Net 3203
 Built at Sunderland By whom built Wm Gray & Co. Ltd
 When built 1919
 Engines made at West Hartlepool By whom made Central Marine Engine Works Ltd
 when made 1919
 Meters made at ditto By whom made ditto when made 1919
 Registered Horse Power 517 Owners British India S.N. Co. Ltd Port belonging to Glasgow
 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 No. of Cylinders 27-44-73 Length of Stroke 48" Revs. per minute Dia. of Screw shaft as per rule 14.7" Material of Ingot Steel
 as fitted 15.2" screw shaft
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight
 the propeller boss yes If the liner is in more than one length are the joints burned 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
 shafts are fitted, is the shaft lapped or protected between the liners Length of stern bush 60 1/2"
 Dia. of Tunnel shaft as per rule 13.33" Dia. of Crank shaft journals as per rule 14" Dia. of Crank pin 14 1/2" Size of Crank webs 9x22 3/4" Dia. of thrust shaft under
 as fitted 13 1/2" as fitted 14 1/2"
 Dia. of screw 17-6" Pitch of Screw 16-6" No. of Blades 4 State whether moceable yes Total surface 102.5 sq ft
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 single Sizes of Pumps Feed 9 1/2" x 7" x 18" single Ballast 10 1/2" x 14" x 24" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Four of 3 1/2" dia. General service 9 1/2" x 7" x 18" 2 main feed single 10 1/2" x 8" x 14" In Holds, &c. Two of 3 1/2" dia in each hold
 3 1/2" pipe in tunnel Ash ejecta - 12" x 8" x 10"
 No. of Bilge Injections 1 sizes 13" Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 3 1/2"
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible none
 Are all connections with the sea direct on the skin of the ship yes Are they 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 Discharge Pipes above or below the deep water line above & below
 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
 How are they protected
 Are all pipes carried through the bunkers none
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Date of examination of completion of fitting of Sea Connections 12.6.19 of Stern Tube 10-7-19 Screw shaft and Propeller 22-7-19
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper grating

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Sons Ltd
 Heating Surface of Boilers 7668 sq ft Is Forced Draft fitted yes No. and Description of Boilers 3 single ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 30-5-19 No. of Certificate 3533
 Can each boiler be worked separately yes Area of fire grate in each boiler 63.3 sq ft No. and Description of Safety Valves to
 boiler Two direct spring Area of each valve 9.62 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Least distance between boilers or uptakes and bunkers or woodwork 28" Mean dia. of boilers 15-6" Length 11-6" Material of shell plates Steel
 Thickness 1 1/4" Range of tensile strength 28/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR Lap
 seams JR DBS Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 19 1/2"
 Percentages of strength of longitudinal joint rivets 88.3 Working pressure of shell by rules 182 lbs Size of manhole in shell end 12x16"
 plate 85.6
 No. of compensating ring flanged No. and Description of Furnaces in each boiler 3 Deightons Material Steel Outside diameter 4-2 3/16"
 Thickness of plain part top 19" Description of longitudinal joint welded No. of strengthening rings
 bottom 32
 Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 32/32"
 No. of stays to ditto: Sides 10 5/8" x 9 1/4" Back 10 1/4" x 8 3/4" Top 10 5/8" x 9 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbs
 Material of stays Steel Diameter at smallest part 2.395 Area supported by each stay 10 5/8" x 9 1/4" Working pressure by rules 219 lbs End plates in steam space
 Material Steel Thickness 1 1/32" Pitch of stays 20 1/2" x 21 3/4" How are stays secured DR & W. Working pressure by rules 190 lbs Material of stays Steel
 Diameter at smallest part 8-48 Area supported by each stay 21 1/8" x 21 3/4" Working pressure by rules 192 Material of Front plates at bottom Steel
 Thickness 31/32" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 13 5/8" x 8 3/4" Working pressure of plate by rules 194
 Diameter of tubes 2 3/4" Pitch of tubes 4 x 3 7/8" Material of tube plates Steel Thickness: Front 31/32" Back 3/4" Mean pitch of stays 8 x 11 5/8"
 Distance across wide water spaces 13 5/8" Working pressures by rules 180 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 x 1 3/4" Length as per rule 35 1/2" Distance apart 10 5/8" Number and pitch of stays in each Three 9 1/4"
 Working pressure by rules 187 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 Are they fitted with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

Wh58-0146

IS A DONKEY BOILER FITTED? None If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 bolts & nuts for connecting rods top ends & bottom ends & for main bearings. 6 coupling bolts & nuts. 6 valves for feed, bilge and air pumps and for feed check valve. One crank shaft, screw shaft. One pair of bearings for main bearings. One crank pin and crosshead and a pair of eccentric straps. H.P. piston. 12 condenser tubes & 50 ferrules. Various spare parts for circulation fan engines, and winches. Assorted bolts, studs, nuts and Propeller.

The foregoing is a correct description. GENERAL MARINE ENGINE WORKS, (W. Gray & Co. (1918) Ltd.)

W. Gray & Co. Manufacturer.

Dates of Survey while building: During progress of work in shops - 18. Oct. 16. Nov. 7. 22. 26. Dec. 9. 10. 19. 20. 1919. Jan. 17. 21. Feb. 5. 17. 24. 25. 26. 27. 28. Mar. 1. 14. 27. 28. 31. Apr. 1. 2. 3. 4. 7. 8. 9. 10. 11. 14. 16. 17. 23. 25. 30. May 1. 2. 6. 7. 8. 9. 12. 13. 14. 15. 21. 22. 23. 26. 27. 28. 29. 30. June 12. 13. 16. 18. 19. 25. 26. 27. 30. July 2. 3. 4. 7. 9. 10. 11. 14. 15. 16. Total No. of visits (82+4) Is the approved plan of main boiler forwarded herewith? Yes

Dates of Examination of principal parts - Cylinders 6.5.19 Slides 15.5.19 Covers 25.4.19 Pistons 25.4.19 Rods 23.4.19 Connecting rods 8.5.19 Crank shaft 23.4.19 Thrust shaft 23.4.19 Tunnel shafts 30.5.19 Screw shaft 18.6.19 Propeller 18.7.19 Stern tube 7.7.19 Steam pipes tested 30.6.19 Engine and boiler seatings 25.6.19 Engines holding down bolts 18.7.19 Completion of pumping arrangements 24.7.19 Boilers fixed 11.7.19 Engines tried under steam 24.7.19 Main boiler safety valves adjusted 24.7.19 Thickness of adjusting washers P. 3/8 - 3/8 C. 3/8 - 3/8 S. 3/8 - 3/8 bare Material of Crank shaft Ingot S. Identification Mark on Do. 6070 Material of Thrust shaft Ingot S. Identification Mark on Do. 6070 Material of Tunnel shafts Ingot S. Identification Marks on Do. 6070 Material of Screw shafts Ingot S. Identification Marks on Do. 6070 Material of Steam Pipes Lap welded steel Test pressure 600 lbs. 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 Section 49 of the Rules been complied with? ✓ Is this machinery duplicate of a previous case? Yes If so, state name of vessel Standard A

General Remarks (State quality of workmanship, opinions as to class, &c.) An evaporator and a heater have been fitted, the shells of which have been tested by hydraulic pressure to 50 lbs. and the coils to 400 lbs. per sq. in.

This vessel's machinery has been constructed and installed under Special Survey, and is in accordance with the requirements of the Rules. The materials and workmanship are good. The main engines and boilers were examined full steam when working at the moorings. The survey is to be completed at Sunderland by the examination of auxiliaries at work, the completion of pumping connections in holds and the checking of spare gear.

This vessel's machinery is eligible in my opinion to have notation +L.M.C. with date, on completion of the survey. Auxiliaries examined under working conditions, pumping arrangements in holds, tunnel crane, spare gear checked. Vessel eligible in my opinion for notation +L.M.C. 9.19. W. H. H. H. Sunderland.

The amount of Entry Fee £ 31.0.0 When applied for. Special See note 22/9/19 £ 159.19.19 When received. Donkey Boiler Fee £ 45.17.0 Travelling Expenses (if any) £ 17.0.0

R. D. Shilston Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute FRI 10 OCT 1919 Assigned 7.8.19



WEST HARTLEPOOL

Certificates (if required) to be sent to the Registrar of Shipping at the office of the Registrar of Shipping, 15, Abchurch Lane, London, E.C. 4.

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

MACHINERY CERTIFICATE WRITTEN