

Rpt. 4.

REPORT ON MACHINERY.

TUE 6-11-1919 No. 31559

Date of writing Report 1919 When handed in at Local Office 31/12 1919 Port of Hull
 Received at London Office
 No. in Survey held at Hull
 Reg. Book. on the S/S "ISAAC ARTHAN"
 Date, First Survey 3. 4. 19 Last Survey 12. 11. 1919
 (Number of Visits 4)
 Master Built at Beverley By whom built Cook, Welton & Gemmell Ltd
 Engines made at Erith, London. By whom made Messrs Fraser & Chalmers Ltd No 27413
 Boilers made at ✓ By whom made when made 1919
 Registered Horse Power ✓ Owners Admiralty when made 1919
 Nom. Horse Power as per Section 28 ✓ Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted ha
 Port belonging to ✓

ENGINES, &c.—Description of Engines

Dia. of Cylinders ✓ Length of Stroke ✓ Revs. per minute ✓ No. of Cylinders ✓ No. of Cranks ✓
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube ✓ Dia. of Screw shaft as per rule 7 1/2 Material of screw shaft iron
 as fitted 7 1/8 Is the after end of the liner made water tight
 in the propeller boss ✓ 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 34 1/2"
 Dia. of Tunnel shaft as per rule ✓ Dia. of Crank shaft journals as per rule ✓ Dia. of Crank pin ✓ Size of Crank webs ✓ Dia. of thrust shaft under
 as fitted ✓ collars ✓ Dia. of screw 9'-6" Pitch of Screw 11'-1 1/2" No. of Blades 4 State whether moceable no. Total surface 35.5 sq. ft.
 No. of Feed pumps ✓ Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 No. of Bilge pumps ✓ Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 No. of Donkey Engines ✓ Sizes of Pumps ✓
 In Engine Room No. and size of Suctions connected to both Bilge and Donkey pumps
 one 2" ejecta from shushwell. In Holds, &c. One 2" from forehold, one 2" from shushwell.
 No. of Bilge Injections ✓ sizes ✓ Connected to condenser, or to circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size ✓
 Are all the bilge suction pipes fitted with roses ✓ Are the roses in Engine room always accessible ✓ Are the sluices on Engine room bulkheads always accessible ✓
 Are all connections with the sea direct on the skin of the ship ✓ Are they Valves or Cocks Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates ✓ Are the Discharge Pipes above or below the deep water line above
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel ✓ Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓
 What pipes are carried through the bunkers Forward suction How are they protected wood Casings.
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ✓
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges ✓
 Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

OILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers ✓ Is Forced Draft fitted ✓ No. and Description of Boilers ✓
 Working Pressure ✓ Tested by hydraulic pressure to ✓ Date of test ✓ No. of Certificate ✓
 Can each boiler be worked separately ✓ Area of fire grate in each boiler ✓ No. and Description of Safety Valves to
 each boiler ✓ Area of each valve ✓ Pressure to which they are adjusted ✓ Are they fitted with easing gear ✓
 Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Mean dia. of boilers ✓ Length ✓ Material of shell plates ✓
 Thickness ✓ Range of tensile strength ✓ Are the shell plates welded or flanged ✓ Descrip. of riveting: cir. seams ✓
 long. seams ✓ Diameter of rivet holes in long. seams ✓ Pitch of rivets ✓ Lap of plates or width of butt straps ✓
 Per centages of strength of longitudinal joint rivets ✓ Working pressure of shell by rules ✓ Size of manhole in shell ✓
 plate ✓
 Size of compensating ring ✓ No. and Description of Furnaces in each boiler ✓ Material ✓ Outside diameter ✓
 Length of plain part top ✓ Thickness of plates crown ✓ Description of longitudinal joint ✓ No. of strengthening rings ✓
 bottom ✓
 Working pressure of furnace by the rules ✓ Combustion chamber plates: Material ✓ Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓
 Pitch of stays to ditto: Sides ✓ Back ✓ Top ✓ If stays are fitted with nuts or riveted heads ✓ Working pressure by rules ✓
 Material of stays ✓ Area at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ End plates in steam space ✓
 Material ✓ Thickness ✓ Pitch of stays ✓ How are stays secured ✓ Working pressure by rules ✓ Material of stays ✓
 Area at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ Material of Front plates at bottom ✓
 Thickness ✓ Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓
 diameter of tubes ✓ Pitch of tubes ✓ Material of tube plates ✓ Thickness: Front ✓ Back ✓ Mean pitch of stays ✓
 Pitch across wide water spaces ✓ Working pressures by rules ✓ Girders to Chamber tops: Material ✓ Depth and
 thickness of girder at centre ✓ Length as per rule ✓ Distance apart ✓ Number and pitch of stays in each ✓
 Working pressure by rules ✓ Steam dome: description of joint to shell ✓ % of strength of joint ✓
 diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓
 2 SUPERHEATER. Type ✓ Date of Approval of Plan ✓ Tested by Hydraulic Pressure to ✓
 Date of Test ✓ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler ✓
 diameter of Safety Valve ✓ Pressure to which each is adjusted ✓ Is Easing Gear fitted ✓

007376-007324-0248

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

1919: - Apr 3, 23, Sept 6, Nov 12.
 Dates of Survey while building { During progress of work in shops - - } ~~Apr 11, Jun 20, Aug 6, 13, 27, 30, 12, 14, 24, 30, Aug 10, 24, Jun 2, 22, 30, Aug 2, 11, 16~~
 { During erection on board vessel - - - } ~~21, 23, 25, 28, 29, Sep. 2, 3, 6, 9, 10, 11, 25, 26, Oct 3, 11, 29, Nov 9, 11, 13, Dec 9~~
 Total No. of visits 4

Is the approved plan of main boiler forwarded herewith
 " " " donkey " " "

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods
 Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft 3/4/19 Propeller 3/4/19
 Stern tube Steam pipes tested Engine and boiler seatings 6/9/19. Engines holding down bolts
 Completion of pumping arrangements Boilers fixed Engines tried under steam 12th Nov. 1919
 Completion of fitting sea connections 23/4/19. Stern tube 23/4/19. Screw shaft and propeller 23/4/19.
 Main boiler safety valves adjusted Thickness of adjusting washers
 Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do. 2221
 Material of Steam Pipes Test pressure
 Is an installation fitted for burning oil fuel 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 If so, state name of vessel

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

The stem tube, screw shaft, propeller and sea-connections were fitted in accordance with rules of the Society the rest of the machinery and boiler were built & fitted under the survey of the British Corporation, see certificate dated 19/11/19 attached.

Certificate (if required) 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 £	✓	:	19.....
Donkey Boiler Fee ... £	✓	:	When received,
Travelling Expenses (if any) £	:	:	19.....

C. H. Fowling.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI JAN 9 1920

Assigned

L.M.B. 11/19



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