

REPORT ON MACHINERY.

Received at London Office

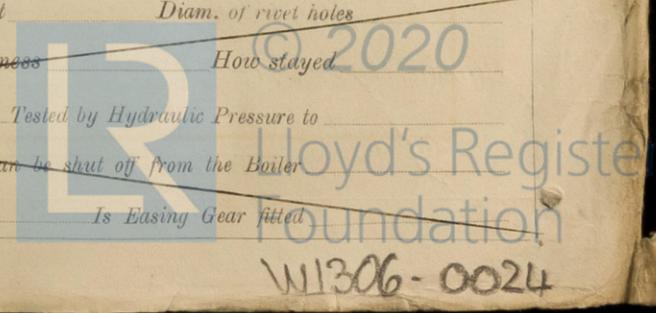
Date of writing Report 19 1906 When handed in at Local Office 19 1906 Port of Glasgow
 No. in Survey held at Paisley Date, First Survey 20th March Last Survey 14th Nov. 1906
 Reg. Book. Thames Conservancy Dopper No. 5 (Number of Visits 5)
 on the Thames Conservancy Dopper No. 5 Tons ^{Gross} 1906 _{Net}
 Master Built at Paisley By whom built Fleming & Ferguson When built 1906
 Engines made at Paisley By whom made Fleming & Ferguson Ltd. when made 1906
 Boilers made at 8 By whom made 8 when made 1906
 Registered Horse Power Owners Thames Conservancy Port belonging to London
 Nom. Horse Power as per Section 28 158 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted no.

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 18" 29" 48" Length of Stroke 30 Revs. per minute ✓ Dia. of Screw shaft as per rule 9.2 Material of screw shaft Steel
 as fitted 9.4
 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
 in 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 48"
 Dia. of Tunnel shaft as per rule 8.337 Dia. of Crank shaft journals as per rule 8.754 Dia. of Crank pin 9.4 Size of Crank webs 6 x 14.4 Dia. of thrust shaft under
 collars 9" Dia. of screw 11'0" Pitch of Screw 12'-6" No. of Blades 4 State whether moveable no. Total surface 47 f
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work Yes.
 No. of Donkey Engines 2 Sizes of Pumps 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 - 2.2" In Holds, &c. 5 - 2.2"

No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes - 2.2"
 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 —
 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
 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 are carried through the bunkers Ford. Suctions How are they protected Wood covering
 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
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co. of Scotland Ltd.
 Total Heating Surface of Boilers 2841 f Is Forced Draft fitted no. No. and Description of Boilers Two Single Ended
 Working Pressure 145 lbs Tested by hydraulic pressure to 350 lbs Date of test 18. 10. 06. No. of Certificate 8391
 See Remarks
 Can each boiler be worked separately Yes Area of fire grate in each boiler 59 f No. and Description of Safety Valves to
 each boiler Two Spring Loaded Area of each valve 5.94 Pressure to which they are adjusted 165 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork widest of stokehold dia. of boilers 13'0" Length 10'0" Material of shell plates Steel
 Thickness 1 3/16 Range of tensile strength 27.5632 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.L.
 long. seams D.B.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/4" Lap of plates or width of butt straps 18 3/8"
 Per centages of strength of longitudinal joint rivets 87.8 Working pressure of shell by rules 200 lbs Size of manhole in shell 16" x 12"
 plate 85.7
 Size of compensating ring 2' 2 1/8" x 2' 2 1/8" x 1 3/16" No. and Description of Furnaces in each boiler 3 Furnaces Material Steel Outside diameter 3'-2" (3)
 Length of plain part top 17/32 Thickness of plates bottom 186 lbs Description of longitudinal joint weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 187 Combustion chamber plates: Material Steel Thickness: Sides 21/32 Back 9/16 Top 21/32 Bottom 25/32
 Pitch of stays to ditto: Sides 9 3/4" x 8 Back 7 1/2" x 8 1/4" Top 9" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbs.
 Material of stays Steel Area at smallest part 1.46 Area supported by each stay 81 sq" Working pressure by rules 187 End plates in steam space:
 Material Steel Thickness 1 1/8" Pitch of stays 17 1/2" x 17 1/2" How are stays secured D. nuts Working pressure by rules 182 Material of stays Steel
 Area at smallest part 6.1 sq" Area supported by each stay 310 sq" Working pressure by rules 194 Material of Front plates at bottom Steel
 Thickness 1 3/16 + doublers Material of Lower back plate Steel Thickness 3/4" + doublers Greatest pitch of stays 14 1/2" Working pressure of plate by rules —
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 250 lbs. Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 1/4" x 1 1/16" x 2 Length as per rule 27 1/2" Distance apart 9" Number and pitch of stays in each 2" - 9"
 Working pressure by rules 177 lbs Steam dome: description of joint to shell None % 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 —

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 —



IS A DONKEY BOILER FITTED?

none.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end bolts, 2 bottom end bolts, set of coupling bolts, two main bearing bolts, assorted iron feed valve valves etc.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1906 Mar. 20 April 30. May 9. 15. June 19. July 12. 21 Aug. 24 30. Sept 10. During erection on board vessel - - - 19. 27. Oct. 1. 18. 19. Nov. 1. 10. 12. 14. Total No. of visits 19.

Is the approved plan of main boiler forwarded herewith Yes. " " " donkey " " " none

Dates of Examination of principal parts—Cylinders 24/8/06 etc Slides 24/8/06 etc Covers 24/8/06 etc Pistons 24/8/06 etc Rods 24/8/06 etc Connecting rods 24/8/06 etc Crank shaft 20/3/06 etc Thrust shaft 9/5/06 etc Tunnel shafts — Screw shaft 15/5/06 etc Propeller 1/10/06 Stern tube 1/10/06 Steam pipes tested 6/11/06 Engine and boiler seatings 1/11/06 Engines holding down bolts 12/11/06 Completion of pumping arrangements 14/11/06 Boilers fixed 14/11/06 Engines tried under steam 14/11/06 Completion of fitting sea connections 18/10/06 Stern tube 18/10/06 Screw shaft and propeller 18/10/06 Main boiler safety valves adjusted 14/11/06 Thickness of adjusting washers St Bl. F 5/16 A 1/2 Pt Bl. F 5/16 A 1/8

Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do. Material of Tunnel shafts — Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. Material of Steam Pipes Copper Test pressure 350 lbs

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. These engines & boilers have been constructed under Special Survey & are of good materials and workmanship. They have been satisfactorily fitted on board.

This vessel is in my opinion eligible for notation + LMC 11.06 in the Register Book.

The boilers are designed for a working pressure of 175 lbs but are only to be used for 160 lbs. The h.p. & the rule sizes of shafting given above are based on 160 lbs pressure.

Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.

Table with 4 columns: Fee description, Amount (£), and When applied for/When received. Rows include Entry Fee (£2), Special Fee (£23), Donkey Boiler Fee (£), and Travelling Expenses (£).

Sgd. N. Gardner Smith Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Assigned + LMC 11.06.

