

REPORT ON MACHINERY.

No. 28782

Date of writing Report 19 When handed in at Local Office = 3 APR 1924 Port of SUNDERLAND Received at London Office MON. APR. 7 1924
 No. in Survey held at SUNDERLAND Date, First Survey 13 June 23 Last Survey 1 April 1924
 Reg. Book. on the new steel S/S GOATHLAND (Number of Visits 42)

Master Built at Sunderland By whom built R. Thompson & Son (45N°320) when built 1924
 Engines made at Sunderland By whom made N.E. Marine Engineering Co. (N°2540) when made 1924
 Boilers made at Sunderland By whom made N.E. Marine Engineering Co. (N°2540) when made 1924
 Registered Horse Power Owners Rouland & Marwood S.S. & Co. Ltd Port belonging to Whitby
 Nom. Horse Power as per Section 28 340 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

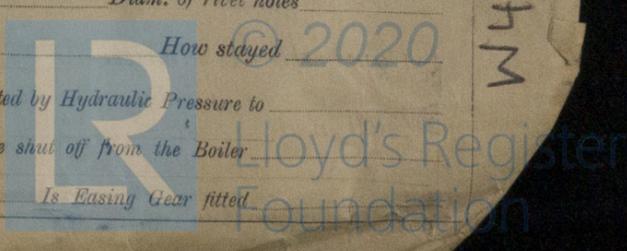
ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25" 42" 68" Length of Stroke 45" Revs. per minute 66 Dia. of Screw shaft as per rule 14.057" Material of Screw shaft as fitted 14 7/8" screw shaft
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight in the propeller boss yes If the liner is in more than one length are the joints burned no 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 light throughout
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 4-11 1/2"
 Dia. of Tunnel shaft as per rule 12.45" Dia. of Crank shaft journals as per rule 13.07" Dia. of Crank pin 13 1/4" Size of Crank webs 14 1/4" x 8 3/16" Dia. of thrust shaft under collars 13 1/2" Dia. of screw 14-3" Pitch of Screw 14-3" No. of Blades 4 State whether moveable no Total surface 90 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 1/2" 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 Sizes of Pumps 7 1/2" x 2 1/2" 7 1/2" x 5" 6" 7 1/2" x 9 1/2" 10 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 @ 2 1/2" In Holds, &c. N° 1 hold - 2 @ 2 3/4" N° 2 hold - 2 @ 3 1/4" (in cross bunker) N° 3 hold - 2 @ 2 3/4" N° 4 hold - 2 @ 2 3/4" Tunnel well - 1 @ 2 1/2"
 No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes 4 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
 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 forward hold suction How are they protected under timber boards
 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 yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel John Spencer & Son Ltd.
 Total Heating Surface of Boilers 5276 sq ft Forced Draft fitted no No. and Description of Boilers 2 SB. two single ended marine
 Working Pressure 180 Tested by hydraulic pressure to 320 Date of test 25-2-24 No. of Certificate 3864
 Can each boiler be worked separately yes Area of fire grate in each boiler 64 sq ft No. and Description of Safety Valves to each boiler two direct spring Area of each valve 9.62 sq in Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 22 1/2" Mean dia. of boilers 16-3 1/2" Length 11-0" Material of shell plates steel
 Thickness 1 1/4" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams WR
 long. seams WR S. TR Diameter of rivet holes in long. seams 13/8" Pitch of rivets 9 9/16" Lap of plates or width of butt straps 1-8 1/4"
 Per centages of strength of longitudinal joint rivets 90 Working pressure of shell by rules 180 Size of manhole in shell 16 x 12"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 4 Deighton Material S Outside diameter 38 1/4"
 Length of plain part top 1 1/2" Thickness of plates crown 1 1/2" Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 15/16"
 Pitch of stays to ditto: Sides 11 3/8" x 10 3/8" Back 11 1/4" x 10 5/16" Top 13 x 7 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182
 Material of stays steel Area at smallest part 2.36 sq ft Area supported by each stay 118 sq ft Working pressure by rules 180 End plates in steam space: Material steel Thickness 1 3/8" Pitch of stays 23 3/8" x 2 3/4" How are stays secured WN&W Working pressure by rules 180 Material of stays steel
 Area at smallest part 8.94 sq ft Area supported by each stay 556 sq ft Working pressure by rules 180 Material of Front plates at bottom steel
 Thickness 7/8" Material of Lower back plate steel Thickness 21/32" Greatest pitch of stays 14 1/2" x 10 5/16" Working pressure of plate by rules 183
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 5/8" Material of tube plates steel Thickness: Front 1/8" Back 25/32" Mean pitch of stays 10.9"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 184 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 2 @ 9 1/2" x 1" Length as per rule 33" Distance apart 13" Number and pitch of stays in each 3 @ 7 3/4"
 Working pressure by rules 182 Steam dome: description of joint to shell none % of strength of joint

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 _____
 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 _____

If not, state whether, and when, one will be sent?
 Is a Report also sent on the Hull of the Ship?
 Is a Report also sent on the Hull of the Ship?

W403-0071



IS A DONKEY BOILER FITTED? *yes* If so, is a report now forwarded? *yes*

SPARE GEAR. State the articles supplied:— *two connecting rod top and bottom end bolts and nuts. two main bearing bolts, one set of coupling bolts, one set of feed and lidge pump valves, iron and bolts of various sizes, one screw shaft and one propeller.*

The foregoing is a correct description.

C. T. Adams Manufacturer.

Dates of Survey while building: During progress of work in shops: 1923 June 13, July 5, 20, Aug. 15, 16, Sep. 7, Oct. 17, 23, Nov. 6, 14, 19, Dec. 5, 17, 19, 1924 Jan. 11, 15, 21, 31. During erection on board vessel: Feb. 7, 8, 12, 15, 16, 20, 22, 25, 26, 28, 29, Mar. 5, 6, 10, 11, 12, 14, 17, 18, 19, 22, 26, 29, 31, Apr. 1. Total No. of visits: *43*

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

Dates of Examination of principal parts—Cylinders *7-2-24* Slides *26-2-24* Covers *7-2-24* Pistons *15-2-24* Rods *22-2-24* Connecting rods *12-2-24* Crank shaft *26-2-24* Thrust shaft *7-2-24* Tunnel shafts *26-2-24* Screw shaft *26-2-24* Propeller *5-3-24* Stern tube *5-3-24* Steam pipes tested *14-3-24* Engine and boiler seatings *6-3-24* Engines holding down bolts *19-3-24* Completion of pumping arrangements *28-3-24* Boilers fixed *19-3-24* Engines tried under steam *20-3-24* Completion of fitting sea connections *6-3-24* Stern tube *10-3-24* Screw shaft and propeller *10-3-24* Main boiler safety valves adjusted *20-3-24* Thickness of adjusting washers *Port boiler - F 7/16" A 3/8" Star boiler - both 7/16"* Material of Crank shaft *steel* Identification Mark on Do. *LLOYD'S NO 6659 L.C.D. 26-2-24* Material of Thrust shaft *steel* Identification Mark on Do. *LLOYD'S 6659* Material of Tunnel shafts *steel* Identification Marks on Do. *LLOYD'S 3236* Material of Screw shafts *Snip Iron* Identification Marks on Do. *LLOYD'S 3236* Material of Steam Pipes *Solid drawn steel* Test pressure *600 lbs per sq in*

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 *no* If so, state name of vessel *—*

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

The materials and workmanship are good. The machinery has been constructed under special survey and is eligible in my opinion for classification and the record + LMC 4, 24.

It is submitted that this vessel is eligible for THE RECORD. + LMC 4. 24 CL.

S. C. Davis 8/4/24

S. C. Davis Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ *5* : : When applied for, *1 APR 1924*
Special ... £ *76* : - :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : *1. 5. 1924*

Committee's Minute *FRI 11 APR 1924*
Assigned *+ LMC 4. 24 CL*

SUNDERLAND.

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

DATE WRITTEN

