

REPORT ON MACHINERY.

No. 84005

Received at London Office 11 FEB 1921

Date of writing Report 9 Feb 1921 When handed in at Local Office 11 FEB 1921 Port of Harwich London
 No. in Survey held at Gt Yarmouth Date, First Survey June 3rd 1920 Last Survey 27th Jan 1921
 Reg. Book. on the S.S. "Mary Aston II" (Number of Visits 20)
 Master Built at Gt Yarmouth By whom built Crafter & Co Ltd Gross 180 Tons When built 1921
 Engines made at Gt Yarmouth By whom made Crafter & Co Ltd No 546 when made 1921
 Boilers made at Stockton By whom made Sudron & Co Ltd when made 1920
 Registered Horse Power Owners The A. Steamship Co Ltd Port belonging to Scarborough
 Nom. Horse Power as per Section 28 61 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 16" 33" Length of Stroke 22" Revs. per minute as per rule 47 1/2 Dia. of Screw shaft as per rule 4 7/8 Material of screw shaft Steel
 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 34 1/2"
 Dia. of INT shaft as per rule 6 4.73" Dia. of Crank shaft journals as per rule 6 7/8" Dia. of Crank pin 4" Size of Crank webs 10" x 5" Dia. of thrust shaft under collars 4" Dia. of screw 8" x 6" Pitch of Screw 9" - 6" No. of Blades 4 State whether moveable No Total surface 25 1/4 sq ft
 No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work ✓
 No. of Bilge pumps one Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one Sizes of Pumps 5 1/2" x 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2" In Holds, &c. Three 2"

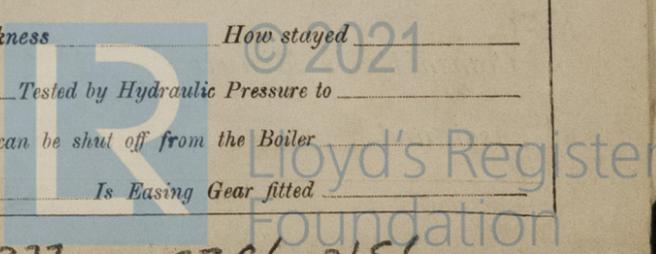
No. of Bilge Injections one sizes 3" Connected to condenser, or to circulating pump epb Is a separate Donkey Suction fitted in Engine room & size Yes 2"
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always 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 None How are they protected ✓
 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 ✓ Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel John Spencer & Sons
 Total Heating Surface of Boilers 1183 sq ft Is Forced Draft fitted No No. and Description of Boilers One Single Ended
 Working Pressure 130 lbs Tested by hydraulic pressure to 245 lbs Date of test 8-7-20 No. of Certificate 6141
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 34.74 sq ft No. and Description of Safety Valves to each boiler Direct spring Area of each valve 4.9 sq in Pressure to which they are adjusted 132 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 10" 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 _____ Working pressure of shell by rules _____ Size of manhole in shell _____

No. and Description of Furnaces in each boiler _____ Material _____ Outside diameter _____
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 Pitch of stays to ditto: Sides _____ 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 _____

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 _____

For further particulars see Medd's Report No 10742



IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 connecting rod top, 2 bottom end bolts & nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set feed pump valves, 1 set helpe pump valves, a quantity of assorted bolts & nuts. Iron of various sizes.

The foregoing is a correct description,
GRABTREE & CO., LTD

H. F. Crabtree Manufacturer.
MARAGINA DISTRICT

Dates of Survey while building: 1920: June 3, 30 July 14, 26 Aug 16 Sep 1, 23 Oct 5, 18, 19, 26 Nov 4, 18, 29 Dec 7, 16 1921: Jan 5, 12
During progress of work in shops -- }
During erection on board vessel --- } 18.24
Total No. of visits Twenty Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts: Cylinders 16-8-20 Slides 3-6-20 Covers 3-6-20 Pistons 30-6-20 Rods 30-6-20
Connecting rods 3-6-20 Crank shaft 23-9-20 Thrust shaft 23-9-20 Tunnel shafts 8-10-20 Screw shaft 8-10-20 Propeller 8-10-20
Stern tube 8-10-20 Steam pipes tested 23-11-20 Engine and boiler seatings 26-10-20 Engines holding down bolts 18-11-20
Completion of pumping arrangements 18-1-21 Boilers fixed 18-11-20 Engines tried under steam 18-1-21
Completion of fitting sea connections 18-10-20 Stern tube 18-10-20 Screw shaft and propeller 18-10-20

Main boiler safety valves adjusted 18-1-21 Thickness of adjusting washers 3/8 P. 3/8 S.
Material of Crank shaft Steel Identification Mark on Do. 5062 Material of Thrust shaft Steel Identification Mark on Do. 16 ab7
Material of Tunnel shafts Steel Identification Marks on Do. 13 ab7 Material of Screw shafts Steel Identification Marks on Do. 13 ab7
Material of Steam Pipes Copper Test pressure 280 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 "Pecardy" "Steel Point"

General Remarks (State quality of workmanship, opinions as to class, &c.) The Engines of this vessel have been built under Special Survey, in accordance with the approved plans & Society's Rules. The materials & workmanship are sound and good. The Engines together with the Boiler have been examined whilst being installed in the vessel, afterwards tried under working conditions, found satisfactory, and safety valves adjusted under steam. The machinery complete is now eligible in our opinion to have the Record L.M.C 1-21 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 1. 21.

Robert Rae Engineer Surveyor to Lloyd's Register of Shipping.
18/2/21

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 ...	£ 2 : -	When applied for,
Special	£ 11 : 6	11/3/21
Donkey Boiler Fee ...	£ :	When received,
Travelling Expenses (if any) £	4 : 14	16.3.21

Committee's Minute FRI. 11 MAR. 1921
Assigned + L.M.C. 1. 21

CERTIFICATE WRITTEN

