

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 *Spanish 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 *Crabtree & Co Ltd* *180* Tons Gross When built *1921*
Engines made at *Gt Yarmouth* By whom made *Crabtree & 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* Material of *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 4.9"* 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 *2 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 rivets plate Working pressure of shell by rules Size of manhole in shell
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
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

005377 - 005386 - 0151

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
MANAGING DIRECTOR

Manufacturer.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel ---
Total No. of visits

1920: June 3.30 July 14.26 Aug 16 Sep 1.23 Oct 8.18.19.26 Nov 4.18.29 Dec 7.16 1921: Jan 5.12

Twenty

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " ✓

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
3-6-20 Crank shaft 23-9-20 Thrust shaft 23-9-20 Tunnel shafts ✓ Screw shaft 8-10-20 Propeller 8-10-20
Connecting rods 30-6-20 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 abt
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 13 abt
Material of Steam Pipes Copper ✓ Test pressure 280 lb.
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 + L.M.C 1. 21.

The amount of Entry Fee ... £ 2 : - :
Special ... £ 11 : 6 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 4 : 14 :
When applied for, 11/3/21
When received, 16/3/21

Committee's Minute
Assigned

FRI. 11 MAR. 1921
+ L.M.C 1. 21

Robert Rae & A. G. Farmer
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation