

REPORT ON MACHINERY.

No. 24989

Received at London Office MAY 15 1912

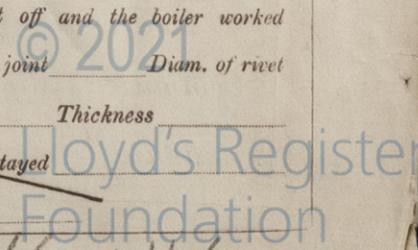
Date of writing Report 19 When handed in at Local Office 1/5/12 Port of Hull
 No. in Survey held at Reg. Book Hull Date, First Survey Nov 24th Last Survey Apr 25th 1912
 Name of ship on the Hull S.S.K. "EXMOUTH" (Number of Visits 28)
 Master Built at Selby By whom built Messrs. Cochran & Sons Tons Gross 236 Net 92
 Engines made at Hull By whom made Messrs. Charles R. Jones & Co. Ltd. when made 1912
 Boilers made at Hull By whom made Messrs. Charles R. Jones & Co. Ltd. when made 1912
 Registered Horse Power Owners Western Steam Trawling Co. Ltd. Port belonging to Bristol
 Nom. Horse Power as per Section 28 66. 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 12"-21"-34" Length of Stroke 24 Revs. per minute 104 Dia. of Screw shaft as per rule 4.04" Material of screw shaft as fitted 4.3" Material of 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 Yes 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 36"
 Dia. of Tunnel shaft as per rule 6.26" Dia. of Crank shaft journals as per rule 6.54" Dia. of Crank pin 6.8" Size of Crank webs 3 3/4" x 4 1/2" Dia. of thrust shaft under collars 6 3/4" Dia. of screw 8-4 1/2" Pitch of Screw 10-3" 10 11-3" 8 No. of Blades 4 State whether moccable No. Total surface 24 1/2 sq ft
 No. of Feed pumps 1 Diameter of ditto 2 3/8" Stroke 14 1/2" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 1 Diameter of ditto 2 3/8" Stroke 14 1/2" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 1 Sizes of Pumps 5" x 3 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" one 2 1/2" & one 3" In Holds, &c. One 2" in main hold.
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2" dia.
 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 Yes
 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 Hold suction How are they protected Wood casing
 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
 Dates of examination of completion of fitting of Sea Connections 5.3.12 of Stern Tube 5.3.12 Screw shaft and Propeller 5.3.12
 Is the Screw Shaft Tunnel watertight No. Is it fitted with a watertight door No. worked from No.

BOILERS, &c.—(Letter for record S.T.) Manufacturers of Steel Messrs. Bichwalzwerk, Schuler & Kromschlocher, A. G. of Essen.
 Total Heating Surface of Boilers 1045 sq ft Is Forced Draft fitted No. No. and Description of Boilers One large, built single ended.
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 10.4.12 No. of Certificate 1893.
 Can each boiler be worked separately Yes Area of fire grate in each boiler 35 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 3.94 sq ft Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 6" Mean dia. of boilers 12-6" Length 10-3" Material of shell plates S.
 Thickness 1" Range of tensile strength 29 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams L. B. S. T. R. long. seams D. B. S. T. R. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 4 3/8" Lap of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint rivets 86.4% plate 85.6% Working pressure of shell by rules 187 lbs. Size of manhole in shell 16" x 12"
 Size of compensating ring 4" x 1" No. and Description of Furnaces in each boiler Two plain Material S. Outside diameter 3-4"
 Length of plain part top 6-4 1/2" bottom 4 1/2" Thickness of plates crown 2 1/2" bottom 3 1/2" Description of longitudinal joint Welded No. of strengthening rings 1
 Working pressure of furnace by the rules 183 lbs. Combustion chamber plates: Material S. Thickness: Sides 7/8" Back 1" Top 1" Bottom 1"
 Pitch of stays to ditto: Sides 9" x 10" Back 9" x 10" Top 10" x 8 1/2" If stays are fitted with nuts or riveted heads No. Working pressure by rules 180 lbs.
 Material of stays Iron Diameter at smallest part 1 1/2" Area supported by each stay 90 sq ft Working pressure by rules 195 lbs. End plates in steam space: Material S. Thickness 1/2" Pitch of stays 14" x 14" How are stays secured D. B. S. T. R. Working pressure by rules 185 lbs. Material of stays S.
 Diameter at smallest part 2 1/8" Area supported by each stay 289 sq ft Working pressure by rules 208 lbs. Material of Front plates at bottom S.
 Thickness 3/8" Material of Lower back plate S. Thickness 3/8" Greatest pitch of stays 4 1/2" x 9" Working pressure of plate by rules 181 lbs.
 Diameter of tubes 3 1/2" Pitch of tubes 5" x 5" Material of tube plates S. Thickness: Front 3/8" Back 3/8" Mean pitch of stays 10" x 10"
 Pitch across wide water spaces 15" Working pressures by rules 249 lbs. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 8 1/2" x 1 3/4" Length as per rule 2-9 1/2" Distance apart 8 1/2" Number and pitch of stays in each 2-10"
 Working pressure by rules 202 lbs. Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately Yes
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

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

W1316-0116



VERTICAL DONKEY BOILER— Manufacturers of Steel

| | | | | | |
|--------------------------------------|--|---------------------------|-------------------------------------|----------------------------------|-----------------------|
| No. | Description | | | | |
| Made at | By whom made | When made | Where fixed | | |
| Working pressure | tested by hydraulic pressure to | Date of test | No. of Certificate | Fire grate area | Description of Safety |
| Valves | No. of Safety Valves | Area of each | Pressure to which they are adjusted | Date of adjustment | |
| If fitted with casing gear | If steam from main boilers can enter the donkey boiler | | Dia. of donkey boiler | Length | |
| Material of shell plates | Thickness | Range of tensile strength | Descrip. of riveting long. seams | | |
| Dia. of rivet holes | Whether punched or drilled | Pitch of rivets | Lap of plating | Per centage of strength of joint | Rivets Plates |
| Working pressure of shell by rules | Thickness of shell crown plates | Radius of do. | No. of stays to do. | Dia. of stays | |
| Diameter of furnace Top | Bottom | Length of furnace | Thickness of furnace plates | Description of joint | |
| Working pressure of furnace by rules | Thickness of furnace crown plates | Radius of do. | Stayed by | | |
| Diameter of uptake | Thickness of uptake plates | Thickness of water tubes | Dates of survey | | |

SPARE GEAR. State the articles supplied:—Two each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each fore & aft pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,

pro **CHARLES D. HOLMES & Co. 1th** Manufacturer.

Arthur Holmes DIRECTOR
 Dates of Survey while building: During progress of work in shops -- 1911:—Nov 24, Dec 14, 1912:—Jan 9, 12, 23, 25, Feb 26, 21, 23, 27.
 During erection on board vessel --- Mar 4, 5, 6, 12, 14, 19, 26, 27, April 2, 3, 10, 16, 17, 22, 24, 25.
 Total No. of visits 28

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

Dates of Examination of principal parts—Cylinders 12.3.12 Slides 1.4.12 Covers 27.3.12 Pistons 24.3.12 Rods 12.3.12
 Connecting rods 24.3.12 Crank shaft 19.3.12 Thrust shaft 1.4.12 Tunnel shafts — Screw shaft 21.2.12 Propeller 12.1.12
 Stern tube 21.2.12 Steam pipes tested 14.4.12 Engine and boiler seatings 5.3.12 Engines holding down bolts 14.4.12
 Completion of pumping arrangements 24.4.12 Boilers fixed 24.4.12 Engines tried under steam 22.4.12
 Main boiler safety valves adjusted 22.4.12 Thickness of adjusting washers Forward $\frac{3}{8}$ " Aft $\frac{3}{8}$ "
 Material of Crank shaft S. Identification Mark on Do. 19.3.12 No 885-7.4.D. Material of Thrust shaft S. Identification Mark on Do. 1.4.12 No 885-7.4.D.
 Material of Tunnel shafts — Identification Marks on Do. T.4.D. Material of Screw shafts S. Identification Marks on Do. No 885-21.2.12 T.4.D.
 Material of Steam Pipes Solid drawn copper Test pressure 360 lbs per sq. inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boiler of this vessel have been completed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure, & with the engines secured on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of **L.M.C. 4.12** in the Register Book.

It is submitted that this vessel is eligible for **T.B. B.C.O.B.D. + L.M.C. 4.12.**

J.W.D.
15/5/12

Shand
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 1 : 0 :
 Special .. £ 9 : 18 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : 8/2 :
 When applied for, 14.5.12
 When received, 31.5.12

Committee's Minute FRI. MAY 17. 1912
 Assigned *Home 4.12*

Certificate (if required) to be sent to Hall

The Surveyor are requested not to write on or below the space for Committee's Minute.

