

REPORT ON MACHINERY.

No. 26932

Received at London Office

10E. 13 MAR. 1917

Date of writing Report 15th Feb 1917 When handed in at Local Office 3rd Mar. 1917 Port of Humberland

No. in Survey held at Humberland Date, First Survey 2nd May 1917 Last Survey 2nd Mar 1917

Reg. Book. 12 Upon the Machinery of the S.S. Upminster (Number of Visits)

Master Gagon Built at Humberland By whom built Esbourne Graham & Co. Tons { Gross 2176
Net 1272

Engines made at Humberland By whom made Richardsons, Westgouth & Co. When built 1917

Boilers made at " By whom made " when made 1917

Registered Horse Power " Owners John Hudson & Co. Port belonging to London

Nom. Horse Power as per Section 28 215 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 21", 34", 56" Length of Stroke 39" Revs. per minute 70 Dia. of Screw shaft as per rule 11.92" Material of Iron
as fitted 12 1/4" 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 4'-1 1/2"

Dia. of Tunnel shaft as per rule 10.48" Dia. of Crank shaft journals as per rule 11.02" Dia. of Crank pin 11 3/4" Size of Crank webs 17 X 7 Dia. of thrust shaft under

collars 11 1/8" Dia. of screw 14'-9" Pitch of Screw 15'-6" No. of Blades 4 State whether moveable no Total surface 70.85

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 5 1/2 X 3 1/2 X 5 1/2 8 X 10 X 10 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 of 3" In Holds, &c. 2 of 3" in each & 1 of 3" in
tunnel well.

No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 none How are they protected Yes

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 23/12/16 of Stern Tube 3/1/17 Screw shaft and Propeller 3/1/17

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

OILERS, &c.—(Letter for record 8) Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 3364 Is Forced Draft fitted No No. and Description of Boilers 2 Single ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 29/8/16 No. of Certificate 3355

Can each boiler be worked separately Yes Area of fire grate in each boiler 38.5 No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 5.94 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 18" Mean dia. of boilers 13'-6" Length 10'-6" Material of shell plates Steel

Thickness 1 3/8" Range of tensile strength 28 1/2 - 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.t.t.

long. seams E. r. d. t. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/8" Lap of plates or width of butt straps 15"

Per centages of strength of longitudinal joint rivets 85.82 Working pressure of shell by rules 183.6 lbs Size of manhole in shell 16" X 12"

plate 85.71 Size of compensating ring flange No. and Description of Furnaces in each boiler 2 Doughtons Material Steel Outside diameter 47 1/2"

Length of plain part top Yes Thickness of plates crown 9 1/16" Description of longitudinal joint welded No. of strengthening rings Yes

bottom Yes Working pressure of furnace by the rules 185 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 3/16"

Pitch of stays to ditto: Sides 10" X 8 3/4" Back 10" X 8 3/8" Top 10" X 8 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183 lbs

Material of stays Steel Diameter at smallest part 1 7/8" Area supported by each stay 88.75 Working pressure by rules 181 lbs End plates in steam space:

Material Steel Thickness 1 3/16" Pitch of stays 19" X 18 3/8" How are stays secured d.n. Working pressure by rules 181 lbs Material of stays Steel

Diameter at smallest part 6.08 Area supported by each stay 34.9 Working pressure by rules 182 lbs Material of Front plates at bottom Steel

Thickness 1 3/16" Material of Lower back plate Steel Thickness 2 7/32" Greatest pitch of stays 14" X 8" Working pressure of plate by rules 188 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" X 6 3/8" Material of tube plates Steel Thickness: Front 1 3/16" Back 1 3/16" Mean pitch of stays 11 1/8"

Pitch across wide water spaces 14 1/2" Working pressures by rules 240 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9" X 1 1/2" Length as per rule 31" Distance apart 10" Number and pitch of stays in each 2 of 8 3/4"

Working pressure by rules 187 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet

holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

IS A DONKEY BOILER FITTED? ☒

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:—

Two top end & 2 bottom end bolts, 2 main bearing bolts
1 set of coupling bolts, 1 set of feed & bilge pump valves
a quantity of assorted bolts nuts & iron, propeller and
minor details.

The foregoing is a correct description,
FOR RICHARDSONS, WESTGARTH & CO., LTD

Frederic H. Russell

ASSISTANT MANAGER

Manufacturer.

Dates of Survey while building
During progress of work in shops - - - 1916 May 2 Jan 20 Jul 7 11 24 27 Aug 19 21 24 25 29 Sep 8 18 21
During erection on board vessel - - - Dec 13 23 28 Jan 3 5 9 10 11 12 15 18 21 Mar 2.
Total No. of visits 28

Is the approved plan of main boiler forwarded herewith ☒

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders 24/8/16 Slides 24/8/16 Covers 24/8/16 Pistons 24/7/16 Rods 1/8/16
Connecting rods 1/8/16 Crank shaft 21/8/16 Thrust shaft 12/1/17 Tunnel shafts 8/8/16 Screw shaft 1/8/16 Propeller 13/12/16
Stern tube 28/12/16 Steam pipes tested 24/10/16 & 10/1/17 Engine and boiler seatings 28/12/16 Engines holding down bolts 8/1/17
Completion of pumping arrangements 21/2/16 Boilers fixed 8/1/17 Engines tried under steam 18/1/17
Main boiler safety valves adjusted 18/1/17 Thickness of adjusting washers P. 3/4" P. 1/32" P. 3/4" P. 5/16"
Material of Crank shaft *Steel* Identification Mark on Do. *578/16 AB* Material of Thrust shaft *Steel* Identification Mark on Do. 12/1/17 *66*
Material of Tunnel shafts *Iron* Identification Marks on Do. 12/1/17 *66* Material of Screw shafts *Iron* Identification Marks on Do. 28/12/16 *66*
Material of Steam Pipes *Steel* ✓ Test pressure 540 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.)

The machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under steam. In my opinion this vessel is eligible for the record of L.M.C. 3, 17.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 3. 17.

JUR.
14/3/17

DRJR

The amount of Entry Fee ... £ 2 : 0 :
Special ... £ 30 : 15 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 12 MAR 1917
When received, 13/4/17

Committee's Minute FRI. 16 MAR. 1917

Assigned + L.M.C. 3. 17

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



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Foundation

MACHINERY CERTIFICATE
WRITTEN

SUNDERLAND

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