

REPORT ON MACHINERY

No. 25138

TUE. FEB. 27. 1912

SAT. FEB. 3-1912

Received at London Office

Date of writing Report 27-1-1912 When handed in at Local Office 2-1-1912 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 22 Sept. Last Survey 20 July 1912

New on the S/S "HOOTON" (Number of Visits 15)

Master J. H. Peck Built at Middlesbrough By whom built Sir Raylton Dixon & Co. Ltd. SP N° 567 Tons Gross 1897.91 Net 930.84 When built 1912

Engines made at Sunderland By whom made George Clark Ltd (N° 952) when made 1912

Boilers made at Sunderland By whom made George Clark Ltd (N° 952) when made 1912

Registered Horse Power Owners Denaby & Co. Main Collieries Ltd. Port belonging to Hull

Nom. Horse Power as per Section 28 228 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 21.34.56 Length of Stroke 36 Revs. per minute 90 Dia. of Screw shaft as per rule 11.5" Material of screw shaft Iron

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 3-11"

Dia. of Tunnel shaft as per rule 10.23" Dia. of Crank shaft journals as per rule 10.74" Dia. of Crank pin 10.3/4" Size of Crank webs 16 1/2 x 7 Dia. of thrust shaft under

collars 10.3/4" Dia. of screw 14-0" Pitch of Screw 13-6" No. of Blades 4 State whether moveable no Total surface 58 1/2

No. of Feed pumps 2 Diameter of ditto 2 1/8" Stroke 22" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 22" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 9 1/2 x 10" 6 1/2 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room four 3" & one 4" special In Holds, &c. Tunnel well - one 2 1/2" Forward

hold two 3" After hold two 3"

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump B.P. Is a separate Donkey Suction fitted in Engine room & size yes 4"

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

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 20.12.11 of Stern Tube 13-1-12 Screw shaft and Propeller 13-1-12

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

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel John Spencer & Son Limited

Total Heating Surface of Boilers 3850 sq ft Is Forced Draft fitted no No. and Description of Boilers Two single ended marine

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 14-12-11 No. of Certificate 2916

Can each boiler be worked separately yes Area of fire grate in each boiler 64.5 sq ft No. and Description of Safety Valves to

each boiler two direct spring Area of each valve 8.950 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 4-6" Mean dia. of boilers 14-10 1/2" Length 10-6" Material of shell plates steel

Thickness 1 9/16" Range of tensile strength 29 1/2-33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams W.R.

long. seams TR. D.B.S. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 7 13/16" Lap of plates or width of butt straps 14 5/8"

Per centages of strength of longitudinal joint rivets 92 plate 87-76 Working pressure of shell by rules 181 Size of manhole in shell 16 x 13 in end plate.

Size of compensating ring dished No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3-10 1/2"

Length of plain part top 6-1 1/2" bottom 3-10" Thickness of plates crown 1 13/16" bottom 1 13/16" Description of longitudinal joint welded No. of strengthening rings one

Working pressure of furnace by the rules 183 Combustion chamber plates: Material steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1/8"

Pitch of stays to ditto: Sides 9 1/2 x 9 1/2" Back 10 x 9" Top 9 1/2 x 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180

Material of stays steel Diameter at smallest part 2-0 3/4" Area supported by each stay 90-20" Working pressure by rules 202 End plates in steam space:

Material steel Thickness 1 3/8" Pitch of stays 22 3/4 x 20 1/2" How are stays secured D.N. Working pressure by rules 180 Material of stays steel

Diameter at smallest part 6-4 9/16" Area supported by each stay 36-50" Working pressure by rules 184 Material of Front plates at bottom steel

Thickness 1 3/16" Material of Lower back plate steel Thickness 2 9/32" Greatest pitch of stays 14 1/2 x 10 3/32" Working pressure of plate by rules 181

Diameter of tubes 3 1/4" Pitch of tubes 4 3/8 x 4 1/2" Material of tube plates steel Thickness: Front 1 3/16" Back 3/4" Mean pitch of stays 9 3/32"

Pitch across wide water spaces 14 1/4" Working pressures by rules 203 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 20 8 9/16 x 1 1/8" Length as per rule 2-10" Distance apart 9 1/2" Number and pitch of stays in each 2 @ 9 1/2"

Working pressure by rules 182 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

separately	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			

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

2700-082M

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 easing 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:— One screw shaft (mark 4585 M.R.) one propeller, two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed & bilge pump valves, assorted bolts & nuts etc.

The foregoing is a correct description,

FOR GEORGE CLARK, LIMITED

Manufacturer of Engines & Boilers

FOR GEORGE CLARK, LIMITED

W.S. Bruce

Dates of Survey while building	During progress of work in shops --	1911 Sep 22, 26, 28, Oct. 4, 23, Nov. 8, 13, 16, 17, 23, 30, Dec. 4, 5, 11, 14, 15, 19, 24, 29
	During erection on board vessel ---	1912 Jan 4, 9, 13, 16, 17, 19, 24, 25, 26
	Total No. of visits	28 17

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders	30-11-11	Slides	29-12-11	Covers	29-12-11	Pistons	23-11-11	Rods	30-11-11
Connecting rods	30-11-11	Crank shaft	13-11-11	Thrust shaft	14-1-12	Tunnel shafts	29-12-11	Screw shaft	9-1-12
Propeller	11-12-11	Stern tube	4-1-12	Steam pipes tested	19, 24-1-12	Engine and boiler seatings	3, 1, 12	Engines holding down bolts	25-1-12
Completion of pumping arrangements	24-1-12	Boilers fixed	24-1-12	Engines tried under steam	25-1-12	Main boiler safety valves adjusted	25-1-12	Thickness of adjusting washers	Staloh - both 7/16; Pat. Ph - P 5/16; S 11/32
Material of Crank shaft	steel	Identification Mark on Do.	1052-3 4812-11	Material of Thrust shaft	steel	Identification Mark on Do.	1017 MB 12.11	Material of Tunnel shafts	1014-9 MB 11
Material of Tunnel shafts	1014-9 MB 11	Identification Marks of Do.	steel	Material of Screw shafts	Iron	Identification Marks on Do.	4584 MR 64585 MA (spare)	Material of Steam Pipes	Lap welded steel
Test pressure	540 lbs per square inch								

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

To complete the survey the hold ductions require to be fitted, the tunnel made watertight, the spare gear examined and the electric light installation fitted.

Vessel proceeding to Middlesbrough. Surveyors advised at that port.

The materials and workmanship are good.

The machinery has been made under special survey and is eligible in our opinion for classification and the record + LMC 2.12 (with date), when the survey is completed, as above.

The survey has now been completed as above.

It is submitted that this vessel is eligible for THE RECORD + LMC 2.12.

J.W.D. 27/2/12

W.S.B.

Heurle Davis, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 2 : 0	When applied for	21 1912
Special	£ 31 : 8	When received	28 2 1912
Donkey Boiler Fee	£ - : -		
Travelling Expenses (if any)	£ - : -		

Committee's Minute

TUE FEB 27 1912

Assigned

+ L.M.C. 2.12

REGISTRY CERTIFICATE



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Certificate (if required) to be sent to the Surveyors and not to be sent to the Committee's Minute.