

REPORT ON MACHINERY.

No. 26299

Received at London Office

SAT. DEC. 12. 1914

Date of writing Report 19 When handed in at Local Office

5. 12 19 1/4 Port of Sunderland

No. in Survey held at Sunderland
Reg. Book.

Date, First Survey 27 May 14 Last Survey 4-12-1914

Number of Visits

Tons } Gross 4399
 } Net 2791

on the new steel S/S "UMVUMA"

Master W. G. Rivers Built at Sunderland By whom built Sir James Laing & Sons Ltd (No. 650) When built 1914

Engines made at Sunderland By whom made George Black Ltd (No. 1014) when made 1914

Boilers made at Sunderland By whom made George Black Ltd (No. 1014) when made 1914

Registered Horse Power - Owners Bullard King & Co Port belonging to London

Nom. Horse Power as per Section 28 504 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 27.44.73 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 1.453 Material of Steel
as fitted 1.43/4 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 no 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 no If two

liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 5'-5"

Dia. of Tunnel shaft as per rule 13.33 Dia. of Crank shaft journals as per rule 12 Dia. of Crank pin 1 1/4 Size of Crank webs 2 1/4 x 9 1/4 Dia. of thrust shaft under

collars 14 3/8 Dia. of screw 14.0 Pitch of Screw 17-3 No. of Blades 4 State whether moveable no Total surface 96 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 30 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 3/8 Stroke 30 Can one be overhauled while the other is at work yes

No. of Donkey Engines 3 Sizes of Pumps BALLAST 9x10x10. FEED 8x5x8. GENERAL 7 1/2 x 5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three @ 3 1/2 In Holds, &c. No. 1 hold - two @ 3 1/2. No. 2 hold - two @ 3 1/2.

Overboard - two @ 3 1/2. No. 3 hold - two @ 3 1/2. No. 4 hold - two @ 3 1/2. Tunnel well - one @ 3 1/2.

No. of Bilge Injections 1 sizes 1 1/2 Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes 5"

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 forward hold suction How are they protected under timber boards

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 16-10-14 of Stern Tube 16-10-14 Screw shaft and Propeller 21-10-14

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

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel John Spence & Sons Ltd

Total Heating Surface of Boilers 7374 sq ft Is Forced Draft fitted yes No. and Description of Boilers Three single ended marine

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 2-9-14 No. of Certificate 3243

Can each boiler be worked separately yes Area of fire grate in each boiler 60 sq ft No. and Description of Safety Valves to

each boiler two direct spring Area of each valve 11.040 Pressure to which they are adjusted 180 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-6" Mean dia. of boilers 14'-10 1/2" Length 11'-9" Material of shell plates steel

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

long. seams WBS, TR Diameter of rivet holes in long. seams 15/16 Pitch of rivets 8 1/16 Lap of plates width of butt straps 1'-8"

Per centages of strength of longitudinal joint 89 Working pressure of shell by rules 208 Size of manhole in shell 16 x 12

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Doughton (B) Material steel Outside diameter 3'-10"

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

Working pressure of furnace by the rules 191 Combustion chamber plates: Material steel Thickness: Sides 3/4" Back 2 3/32" Top 3/4" Bottom 7/8"

Pitch of stays to ditto: Sides 10 x 9 3/4 Back 10 x 9 1/4 Top 9 1/4 x 9 1/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 192

Material of stays steel Diameter at smallest part 2.030 Area supported by each stay 97.50 Working pressure by rules 187 End plates in steam space:

Material steel Thickness 1 1/16 Pitch of stays 23 1/2 x 20 How are stays secured DN Working pressure by rules 193 Material of stays steel

Diameter at smallest part 8.950 Area supported by each stay 20 1/2 x 21 1/2 Working pressure by rules 211 Material of Front plates at bottom steel

Thickness 61/64 Material of Lower back plate steel Thickness 1 5/16 Greatest pitch of stays 15 x 10 Working pressure of plate by rules 187

Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 1/8 Material of tube plates steel Thickness: Front 61/64 Back 3/4" Mean pitch of stays 9 7/8

Pitch across wide water spaces 13 3/4 Working pressures by rules 184 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 20 x 8 3/4 x 7 1/8 Length as per rule 2-10 3/8 Distance apart 9 3/4 Number and pitch of stays in each 2 @ 9 3/4

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

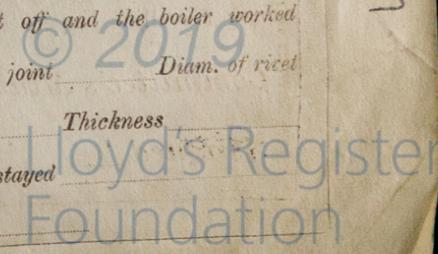
separately no Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

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

W266-0147



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____
 Made at _____ By whom made _____ When made _____ Where fired _____
 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 _____ Rivets _____ Plates _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____
 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 connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed, bilge and air pump valves, iron and bolts of various sizes, air pump head valve, bucket, rod and tail guide bracket, one impeller for circulating pump, one pair of bottom end bearings.

The foregoing is a correct description,
FOR GEORGE CLARK, LIMITED

W. J. Spence
 Manufacturer of the main engines & boilers.

Dates of Survey while building	During progress of work in shops --	1914 May 27 Jun 10 19 26 Jul 19 24 Aug 6 10 12 15 20 22 Sep 2 10 14 17 20 22 24 26 28 30
	During erection on board vessel --	Oct 9 13 14 15 16 19 21 22 23 24 27 28 Nov 6 7 11 14 17 Dec 1 10
	Total No. of visits	(40)

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 18-9-14 Slides 28-9-14 Covers 25-9-14 Pistons 25-8-14 Rods 10-9-14
 Connecting rods 14-10-14 Crank shaft 15-10-14 Thrust shaft 8-10-14 Tunnel shafts 8-10-14 & 19-10-14 Screw shaft 16-10-14 Propeller 14-10-14
 Stern tube 23-9-14 Steam pipes tested 7 & 12-11-14 Engine and boiler seatings 28-8-14 Engines holding down bolts 6-11-14
 Completion of pumping arrangements 7-12-14 Boilers fixed 6-11-14 Engines tried under steam 14-11-14
 Main boiler safety valves adjusted 14-11-14 Thickness of adjusting washers Pist. bolt both 7/16. Coupling bolt P 7/16. 5/8. 5/16.

Material of Crank shaft J. Steel Identification Mark on Do. 21RM7.14 Material of Thrust shaft J. Steel Identification Mark on Do. 1853D.F.C.
 Material of Tunnel shafts J. Steel Identification Marks on Do. 1853D F.C. Material of Screw shafts J. Steel Identification Marks on Do. 1853D F.C.
 Material of Steam Pipes lapwelded wrought iron - 805" x 5/16" ✓ Test pressure 540 lbs per sq" ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The materials and workmanship are good. The machinery has been constructed under special survey and is eligible in my opinion for classification and the record + LMC 12.14

It is submitted that
 this vessel is eligible for
THE RECORD. + LMC 12.14. F.D.

J. W. D.
 12/12/14

The amount of Entry Fee .. £ 3 : - :	When applied for.
Special .. £ 45.4 :	8.12.14
Donkey Boiler Fee .. £ :	When received.
Travelling Expenses (if any) £ :	10.12.14

J. W. D.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute THE DEPT 15.1914
 Assigned + LMC 12.14

SUNDERLAND.

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

