

REPORT ON MACHINERY.

Port of Hull

Received at London Office W.F.N. 30 JUN 1909

No. in Survey held at Hull
Reg. Book.

Date, first Survey Sep. 28/08 Last Survey Jun 11th 1909

(Number of Visits 51)

on the Screw Steamer "Sun II"

Tons } Gross 199
Net 34

Master Hull Built at Hull By whom built Messrs Earles & Co Ltd When built 1909

Engines made at } By whom made } Messrs when made 1909

Boilers made at } Hull By whom made } Earles & Co Ltd when made 1909

Registered Horse Power 98.69 Owners W. H. J. Alexander Port belonging to London

Nom. Horse Power as per Section 28 98.69 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 15" - 24" - 40" Length of Stroke 27" Revs. per minute 115 Dia. of Screw shaft as per rule 2.66 Material of screw shaft Steel
as fitted 9.5

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 50"

Dia. of Tunnel shaft as per rule 7.39 Dia. of Crank shaft journals as per rule 7.76 Dia. of Crank pin 7.5 Size of Crank webs 15" x 5.5" Dia. of thrust shaft under

collars 4.5 Dia. of screw 10' 0" Pitch of Screw 12' 0" No. of Blades 3 State whether moveable No Total surface 36 sq

No. of Feed pumps 2 Diameter of ditto 2.5" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2.5" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Donkey Engines One Sizes of Pumps 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" one 2" under blk. In Holds, &c. One 2" to each, the aft cabin,

fore cabin, fore peak, and aft peak.

No. of Bilge Injections one sizes 3.5 Connected to condenser, or to circulating pump 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 0

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 24.4.09 of Stern Tube 24.4.09 Screw shaft and Propeller 24.4.09

Is the Screw Shaft Tunnel watertight No Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix Act. Ges. fur. Berg. Hoerder. Dusseldorf.

Total Heating Surface of Boilers 1636 sq Is Forced Draft fitted No No. and Description of Boilers One Cyl. Multi Single Ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 21.4.09 No. of Certificate 1699

Can each boiler be worked separately Area of fire grate in each boiler 50 sq No. and Description of Safety Valves to

each boiler Two Spring Area of each valve 4.9 sq 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 5 Mean dia. of boilers 13' 0" Length 11' 0" Material of shell plates Steel

Thickness 1.76 Range of tensile strength 28.32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.

long. seams D.A.S.Y.C. Diameter of rivet holes in long. seams 1.5 Pitch of rivets 4.76 Lap of plates or width of butt straps 16.2

Per centages of strength of longitudinal joint rivets 86.6 Working pressure of shell by rules 181 lbs Size of manhole in shell 16" x 12"

plate 85.6 Size of compensating ring 28" x 31" x 1.76 No. and Description of Furnaces in each boiler 2 Deightons Material Steel Outside diameter 50.5"

Length of plain part top 19" Thickness of plates crown 32 Description of longitudinal joint Welded No. of strengthening rings 0

bottom 32 Working pressure of furnace by the rules 187 lbs Combustion chamber plates: Material Steel Thickness: Sides 3.2 Back 3.2 Top 1.6 Bottom 3.2

Pitch of stays to ditto: Sides 8" x 9.5" Back 8.5" x 9.5" Top 9.5" x 9.5" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 188 lbs

Material of stays Steel Diameter at smallest part 1.5 Area supported by each stay 76.3 sq Working pressure by rules 185 lbs End plates in steam space:

Material Steel Thickness 1.5 Pitch of stays 18" x 17" How are stays secured D. 76 Working pressure by rules 185 lbs Material of stays Steel

Diameter at smallest part 2.76 Area supported by each stay 306 sq Working pressure by rules 211 lbs Material of Front plates at bottom Steel

Thickness 3.2 Material of Lower back plate Steel Thickness 7.8 Greatest pitch of stays 14.75" x 8.5" Working pressure of plate by rules 185 lbs

Diameter of tubes 3.75 Pitch of tubes 5" x 5" Material of tube plates Steel Thickness: Front 3.2 Back 1.6 Mean pitch of stays 10"

Pitch across wide water spaces 14.75 Working pressures by rules 187 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8.5" x 1.75 Length as per rule 2' 6.5" Distance apart 9.5" Number and pitch of stays in each Two 9.5"

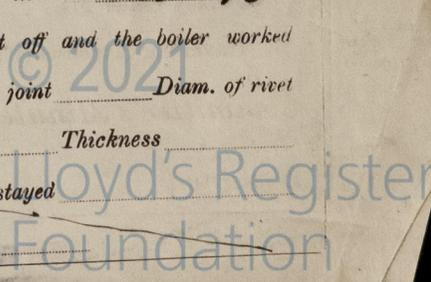
Working pressure by rules 217 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

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



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ When made _____ Where fixed _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Fire grate area _____ Description of Safety _____

If fitted with casing gear _____ If steam from main boilers can enter the donkey boiler _____ Date of adjustment _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Dia. of donkey boiler _____ Length _____

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 _____ 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 and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each feed and bilge pump valves, and a quantity of assorted bolts nuts etc*

The foregoing is a correct description,
F. J. Falthrop Manufacturer.

SECRETARY.

Dates of Survey while building: During progress of work in shops - 1908 - Sep 28, Nov 17, 20, 25, Dec 4, 7, 9, 16, 17, 22, 23, 1909 - Jan 8, 11, 19, 22, 29, 30, Feb 3, 9, 13, 15, 24, 25, 26, Mar 3, 12, 19, 26, 27, 31, Apr 5, 7, 14, 21, 23, 24, 26, 30, May 1, 5, 6, 7, 11, 13, 15, 17, 18, 20, 21, 25, Jun 11.

Total No. of visits *51.*

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts— Cylinders *27.3.09* Slides *5.4.09* Covers *14.4.09* Pistons *5.4.09* Rods *19.3.09*
 Connecting rods *19.3.09* Crank shaft *24.2.09* Thrust shaft *27.3.09* Tunnel shafts *27.3.09* Screw shaft *23.4.09* Propeller *26.4.09*
 Stern tube *23.4.09* Steam pipes tested *6.5.09* Engine and boiler seatings *26.4.09* Engines holding down bolts *25.5.09*
 Completion of pumping arrangements *11.6.09* Boilers fixed *25.5.09* Engines tried under steam *25.5.09*
 Main boiler safety valves adjusted *25.5.09* Thickness of adjusting washers *3/8" - 5/16"*

Material of Crank shaft *Steel* Identification Mark on Do. *2186 ATG* Material of Thrust shaft *Steel* Identification Mark on Do. *3013 PA*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *4264 KH* Material of Screw shafts *Steel* Identification Marks on Do. *3015 PA*
 Material of Steam Pipes *Solid drawn Copper* Test pressure *360 lbs*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been constructed under special survey in general conformity with the Rules. The boiler built in accordance with the approved plan, and the Secretary's letter of the 23.10.08. The material and workmanship are sound and good. The boiler tested by hydraulic pressure found satisfactory, and with the engines secured on board and tried under steam. They are now in good order and safe working condition, and respectfully submitted as being eligible in my opinion to be classed with the notation of *L.M.C. 6.09.* in the Register Book.*

It is submitted that this vessel is eligible for **THE RECORD. + LMC 6.09.**

J.W.D. ARR
1/7/09

The amount of Entry Fee. £ 1 : : : When applied for, *29.6.09*
 Special £ 14 : 17 : : : When received, *24/7/09*
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : :

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

Committee's Minute **FRI. 2 JUL 1909**
 Assigned *+ Lmb. 6.09*

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to _____