

REPORT ON MACHINERY.

No. 26752

Received at London Office

WED. 1 JUL 1908

Date of writing Report 20th June 1908 When handed in at Local Office 20th June 1908 Port of Glasgow
No. in Survey held at Lyr & Troon Date, First Survey 2nd Dec. 1907 Last Survey 20th June 1908
Reg. Book. on the Tosca (Number of Visits 58)

Master Lyr Built at Lyr By whom built Ailsa S B G Ltd Tons Gross 1908
Engines made at Troon By whom made Ailsa S B G Ltd when made 1908
Boilers made at Govan By whom made Lindsay Burnett & Co when made 1908
Registered Horse Power 90 Owners H. C. Smith Port belonging to Lyr
Nom. Horse Power as per Section 28 90 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound Suction Condensing No. of Cylinders Two No. of Cranks 2
Dia. of Cylinders 18 & 40 Length of Stroke 27 Revs. per minute 100 Dia. of Screw shaft as fitted 8 1/2 Material of 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 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 34"
Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule 8 1/2 Dia. of Crank pin 8 1/2 Size of Crank web 16 1/2 Dia. of thrust shaft under
collars 8 1/4 Dia. of screw 9-6 Pitch of Screw 12-6 No. of Blades 1 State whether moveable No Total surface 13 1/2
No. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 14" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 3" Stroke 14" Can one be overhauled while the other is at work Yes
No. of Donkey Engines One Sizes of Pumps 7 1/2 & 4 1/2 & 10" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room One 2" diam. In Holds, &c. Two 2" diam.

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Yes 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 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 climbing 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 - deck action How are they protected Hard boxing
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 30/3-1/4/08 Stern Tube 21/4 & 27/4/08 Screw shaft and Propeller 29/4/08
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel As attached report
Total Heating Surface of Boilers 16316 Is Forced Draft fitted No No. and Description of Boilers As attached report
Working Pressure 130 lb per sq. in. Tested by hydraulic pressure to 260 lb per sq. in. Date of test 5/3/08 No. of Certificate 9247
Can each boiler be worked separately Yes Area of fire grate in each boiler 53 1/2 No. and Description of Safety Valves to
each boiler Two, direct spring Area of each valve 7.07 Pressure to which they are adjusted 135 lb per sq. in. Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 5-0" Mean dia. of boilers 13-6 Length 10-0 Material of shell plates Yes
Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cin. seams
long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell
Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules Material of stays
Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space: Material
Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom
Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules Diameter of tubes
Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays Pitch across wide water spaces
Working pressures by rules Girders to Chamber tops: Material Depth and thickness of girder at centre
Length as per rule Distance apart Number and pitch of stays in each Working pressure by rules
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 Yes

VERTICAL DONKEY BOILER

Manufacturers of Steel

None

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 _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied :-

Two top & two bottom end bolts and nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of fuel & bilge pump valves, assorted bolts & nuts and a few bars of iron

The foregoing is a correct description, FOR AILSA SHIPBUILDING CO., LIMITED

Manufacturer.

Wm. J. Watson.

Dates of Survey while building _____

During progress of work in shops - 1907 Dec. 2, 10, 13, 13, 1908 Jan. 13, 16, 20, 23, 30, 31, Feb. 5, 6, 10, 11, 14, 18, 19, 20, 24, 24, Mar. 2, 3, 6, 12

During erection on board vessel - 16, 20, 23, 27, 30, Apr. 1, 7, 10, 14, 15, 16, 18, 21, 24, 27, May 1, 4, 7, 8, 9, 11, 13, 15, 20, 25, 30, June 2, 5, 11, 17, 18, 20

Total No. of visits 58

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

Dates of Examination of principal parts - Cylinders *12/1, 14/1, 5/2* Slides *30/1, 15/1/08* Covers *14/2/08* Pistons *5/2, 5/2/08* Rods *20/1, 3/2/08*

Connecting rods *6/1, 14/2/08* Crank shaft *3/1, 23/1* Thrust shaft *14/1, 16/2/08* Tunnel shafts _____ Screw shaft *20/3, 23/3* Propeller *22/3, 14/4/08*

Stern tube *23/3, 14/4/08* Steam pipes tested *25/5/08* Engine and boiler seatings *29/4/08* Engines holding down bolts *20/5, 30/5/08*

Completion of pumping arrangements *30/5/08* Boilers fixed *20/5, 30/5/08* Engines tried under steam *5/4/08, 20/6/08*

Main boiler safety valves adjusted *5/6/08* Thickness of adjusting washers *18/32, 12/32*

Material of Crank shaft *Steel* Identification Mark on Do. *24/4/08* Material of Thrust shaft *Steel* Identification Mark on Do. *21/4/08*

Material of Tunnel shafts *Iron* Identification Marks on Do. _____ Material of Screw shafts *Iron* Identification Marks on Do. *do*

Material of Steam Pipes *Copper* Test pressure *300 lbs per sq in*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under special survey. The materials and workmanship are of good quality, it and the boiler (see attached report) have been securely fitted on board and satisfactorily tried under full steam pressure.*

In my opinion the machinery of this vessel is now eligible for record of L.M.C 6-08 (in red) in register book.

Forging reports now attached.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 6-08.

ARK 27.08

Jan 27/08

The amount of Entry Fee. £ 1 : 0 : _____ When applied for, _____

Special £ 18 : 0 : _____ 25/6/1908

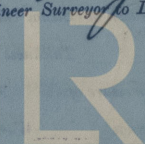
Donkey Boiler Fee £ 9 : 0 : _____ When received, _____

Travelling Expenses (if any) £ 2 : 18 : _____ 29/6/1908

Committee's Minute GLASGOW 30 JUN. 1908

Assigned + L.M.C 6,08.

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



Lloyd's Register Foundation

MACHINERY CERTIFICATE
WRITTEN 7.7.08 P

Glasgow.

Certificate (if required) to be sent to Committee's Minute.