

Received at London Office SAT. NOV. 24 1917.

Date of writing Report

19

When handed in at Local Office

19

Port of DUNDEE.

No. in Survey held at Dundee

Date, First Survey Oct. 24<sup>th</sup> 1914. Last Survey Nov. 14<sup>th</sup> 1917.

Reg. Book.

315 on the S.S. "AGUILA"

(Number of Vials 66.

Gross 3255.0

Net 1854.88

Master J. Pendergast Built at Dundee

By whom built Cairn S.B. &amp; C. Ld. When built 1914

Engines made at Dundee

By whom made Cairn S.B. &amp; C. Ld.

when made 1914

Boilers made at do

By whom made do

when made 1914

Registered Horse Power

Owners J. Howard Bros.

Port belonging to Liverpool

Nom. Horse Power as per Section 28 395

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

## ENGINES, &amp;c.—Description of Engines Triple Expansion, Surface Condensing No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25. 42. 68 Length of Stroke 42" Revs. per minute 82 Dia. of Screw shaft as per rule 3.26 Material of screw shaft as fitted 3.26 Steel

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 4'-6"

Dia. of Tunnel shaft as per rule 12.18 Dia. of Crank shaft journals as per rule 12.49 Dia. of Crank pin 13" Size of Crank webs 23 1/2 x 8 3/4 Dia. of thrust shaft under

collars 13" Dia. of screw 15'-6" Pitch of Screw 15'-0" No. of Blades 4 State whether moveable No Total surface 80 sq

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

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

No. of Donkey Engines 5 Sizes of Pumps 7 x 6 x 10 (2 H.P.) 2 3/4 x 5 (1 H.P.) No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 @ 3 1/2" aft. 2 @ 3 1/2" fore One @ 3 1/2" tunnel well. In Holds, &amp;c. Fore peak 1 @ 3". Fore Hold 2 @ 3 1/2". Main Hold 2 @ 3 1/2"

No. of Bilge Injections One sizes 8 Connected to circulating pump Yes Is a separate Donkey Suction fitted in Engine room &amp; 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 —

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 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

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

## BOILERS, &amp;c.—(Letter for record ) Manufacturers of Steel H. BEARDMORE &amp; CO. D. COLVILLE &amp; SONS FRODINGHAM IRON &amp; STEEL CO. LD. JOHN SPENCER &amp; SONS, LEEDS FORGE CO. LD.

Total Heating Surface of Boilers 1054.5 Is Forced Draft fitted No No. and Description of Boilers Two, S.E. return tube

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 15.8.16. No. of Certificate 962

Can each boiler be worked separately Yes Area of fire grate in each boiler 18.63 sq No. and Description of Safety Valves to

each boiler Two, spring loaded Area of each valve 4.06 Pressure to which they are adjusted 183 lb sq Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 16'-1 1/2" Length 11'-0" Material of shell plates Steel

Thickness 1 1/2" Range of tensile strength 28/32 Are the shell plates welded or flanged — Descrip. of riveting: cir. seams D.R.

long. seams T.R. D.B.S. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10 3/8 Lap of plates or width of butt straps 1'-10 3/8

Per centages of strength of longitudinal joint rivets 86.3 plate 85.5 Working pressure of shell by rules 209 Size of manhole in shell 14" x 13"

Size of compensating ring 11 x 15 3/2 No. and Description of Furnaces in each boiler 3, Dispenser in Bulk Material Steel Outside diameter 4'-3 1/2"

Length of plain part top 10" Thickness of plates crown 9" bottom 3 3/2" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 183.2 Combustion chamber plates: Material Steel Thickness: Sides 19 3/2 Back 19 3/2 Top 5" Bottom 1"

Pitch of stays to ditto: Sides 8 1/2 x 4 1/2 Back 8 1/2 x 8 Top 4 3/4 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 5. 189.6

Material of stays Steel Area at smallest part 1.45 to 2.41 (crown) Area supported by each stay 64 sq max Working pressure by rules 181.2 End plates in steam space:

Material Steel Thickness 1 1/8" Pitch of stays 19" x 15 3/4" How are stays secured D.R. &amp; lashed Working pressure by rules 186.2 Material of stays Steel

Area at smallest part 6.49 Area supported by each stay 304.6 Working pressure by rules 221 Material of Front plates at bottom Steel

Thickness 27 3/2" Material of Lower back plate Steel Thickness 13 1/2" Greatest pitch of stays 11" x 22" Working pressure of plate by rules 185

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 27 3/2" Back 3 1/4" Mean pitch of stays 9.5

Pitch across wide water spaces 14 1/2" Working pressures by rules 250 Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 1/4 x 7 1/8 (two) Length as per rule 36 1/2" Distance apart 9" Number and pitch of stays in each Two, 4 3/4"

Working pressure by rules 196 Steam dome: description of joint to shell — % of strength of joint

Diameter — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —

Pitch of rivets — Working pressure of shell by rules — Crown plates — Thickness — How stayed

## SUPERHEATER. Type — Date of Approval of Plan — Tested by Hydraulic Pressure to —

Date of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve — Pressure to which each is adjusted — Is Easing Gear fitted —



IS A DONKEY BOILER FITTED? ☒If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— 2 Top end bolts & nuts. 2 bottom end bolts & nuts. 2 main bearing bolts & nuts. One set coupling bolts & nuts. One set feed & bilge pump valves. One set piston rings for each engine. Assorted bolts & nuts, & iron of various sizes. Also the following:— One propeller shaft. One pair connecting rod brasses. 3 dozen Condenser tubes.

The foregoing is a correct description,

FOR THE CALEDON SHIPBUILDING &amp; ENGINEERING CO., LIMITED

J. B. Duff

SECRETARY.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- OCT. 24 DEC. 28 FEB. 3. 14. 22. MAR. 4. 22. APR. 28. MAY 14. JUNE 1. JULY 19. AUG. 6. 30. SEP. 7. 20. OCT. 2. 13. 20. NOV. 10. 19. 30. DEC. 13. 28. 30. 1914 JAN. 14. 25. 31. FEB. 21. 28. MAR. 20. APR. 19. JUNE 9. 30. JULY 4. 18. 21. 24. AUG. 4. 14. 15. SEP. 1. 4. 12. During erection on board vessel -- SEP. 26. OCT. 20. DEC. 1. 15. 1914 JAN. 12. 22. FEB. 15. APR. 12. MAY 15. 25. JUNE 11. 13. 20. 21. JULY 3. AUG. 23. SEP. 4. 5. 6. NOV. 9. 12. 14. 14. Total No. of visits 66 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders { 20.9.15 16.11.15 Slides 2.9.15 Covers 10.11.15 Pistons 10.11.15 Rods 19.11.15 Connecting rods 19.11.15 Crank shaft 2.10.15 Thrust shaft 19.11.15 Tunnel shafts 28.2.16 Screw shaft 18.7.16 Propeller 18.7.16 Stern tube 18.7.16 Steam pipes tested 8.6.14 Engine and boiler seatings 1.8.14 Engines holding down bolts 8.12.16 Completion of pumping arrangements 6.9.14 Boilers fixed 26.9.16 Engines tried under steam 5.9.14 Completion of fitting sea connections 4.8.17 Stern tube 4.8.14 Screw shaft and propeller 4.8.14 Main boiler safety valves adjusted 4.9.14 Thickness of adjusting washers P.A.  $\frac{3}{8}$  F.  $\frac{7}{16}$  S.A.  $\frac{13}{32}$  F.  $\frac{13}{32}$  F. For. A.  $\frac{13}{32}$  F.  $\frac{7}{16}$  F. Material of Crank shaft Steel Identification Mark on Do. 4563 J.C. Material of Thrust shaft Steel Identification Mark on Do. 4563 J.C. Material of Tunnel shafts Steel Identification Marks on Do. 4563 J.C. Material of Screw shafts Steel Identification Marks on Do. 4563 J.C. Material of Steam Pipes S.D. Copper Port - 5" dia x 4 1/2" Test pressure 360 Lbs. per sq. inch. Is an installation fitted for burning oil fuel No 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 engines & boilers of this vessel have been constructed under special survey, and in accordance with the approved plans & the Society's Rules.

The materials &amp; workmanship are sound &amp; good.

The machinery has been examined under full working conditions &amp; found satisfactory.

It is eligible in my opinion to have record of S.L.M.C. 11.14.

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 11.17.

Certificate (if required) to be sent to

The amount of Entry Fee ... £ 3 : 0 : When applied for,  
Special ... £ 39 : 15 : 19  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : 4-12-19 14 5-12-17

Committee's Minute

TUE 4-DEC. 1917

Assigned

+ L.M.C. 11.14

J. B. Duff  
27/11/17.  
John B. Duff  
Engineer Surveyor to Lloyd's Register of Shipping.



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Lloyd's Register  
FoundationMACHINERY CERTIFICATE  
WRITTEN