

REPORT ON MACHINERY.

Port of Leith

MUN 10 APL 1899

Received at London Office 18

No. in Survey held at Leith Date, first Survey 12th Apr 1898 Last Survey 5th April 1899
 Reg. Book. (Number of Visits 25)
 on the S.S. "Aurora" Tons { Gross 158.58
 Net 38.37
 Master George Linton Built at Leith By whom built Ramage & Ferguson When built 1899
 Engines made at Leith By whom made Ramage & Ferguson when made 1899
 Boilers made at do By whom made do when made 1899
 Registered Horse Power 54 Owners The Newhaven Hawkees (Limit) Port belonging to Gleanton
 Nom. Horse Power as per Section 28 54

ENGINES, &c.— Description of Engines Triple expansion No. of Cylinders 3
 Diameter of Cylinders 12-19-30 Length of Stroke 21 Revolutions per minute 130 Diameter of Screw shaft as per rule 6.1"
 Diameter of Tunnel shaft as per rule 4.5" Diameter of Crank shaft journals 6.4" Diameter of Crank pin 6.4" Size of Crank webs 10.5" x 4.3"
 Diameter of screw 8' 0" Pitch of screw 9' 9" No. of blades 4 State whether moveable no Total surface 19.5-sq
 No. of Feed pumps 1 Diameter of ditto 2" Stroke 12" Can one be overhauled while the other is at work ✓
 No. of Bilge pumps 1 Diameter of ditto 2.5" Stroke 12" Can one be overhauled while the other is at work ✓
 No. of Donkey Engines 1 Sizes of Pumps 5" x 3.75" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room One 2" dr. + gaskets 2" dr. In Hold, &c. One 2" dr.

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 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 suction to hold How are they protected Wood casing
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel Is the screw shaft tunnel watertight none
 Is it fitted with a watertight door ✓ worked from ✓

OILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 970.5 sq
 No. and Description of Boilers One multitubular single ended Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
 Date of test 18-1-99 Can each boiler be worked separately ✓ Area of fire grate in each boiler 30.6 sq No. and Description of safety valves to
 each boiler Two, Spring Area of each valve 3.98 sq Pressure to which they are adjusted 18.5 lbs Are they fitted
 with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean diameter of boilers 11' 0.5"
 Length 9' 0" Material of shell plates steel Thickness 3/32 Description of riveting: circum. seams Lap & Rivet long. seams L.B.S. & Rivet
 Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8 1/2" Lap of plates on width of butt straps 17 1/2"
 Per centages of strength of longitudinal joint rivets 89.2 Working pressure of shell by rules 184 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 32" x 28" No. and Description of Furnaces in each boiler 2- plain Material steel Outside diameter 36 1/2"
 Length of plain part top 370" Thickness of plates crown 3 1/4" Description of longitudinal joint L.B.S. & Rivet No. of strengthening rings ✓
 Working pressure of furnace by the rules 212 lbs Combustion chamber plates: Material steel Thickness: Sides 2 1/8" Back 2 1/8" Top 2 1/8" Bottom 2 1/8"
 Pitch of stays to ditto: Sides 9" Back 9" Top 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 184 lbs
 Material of stays steel Diameter at smallest part 2.03" Area supported by each stay 81 sq Working pressure by rules 200 lbs End plates in steam space:
 Material steel Thickness 1" Pitch of stays 16" x 15 1/2" How are stays secured 22-11 Working pressure by rules 190 lbs Material of stays steel
 Diameter at smallest part 5.05" Area supported by each stay 248 sq Working pressure by rules 204 lbs Material of Front plates at bottom steel
 Thickness 3/4" Material of Lower back plate steel Thickness 1 5/16" Greatest pitch of stays 12 7/8" Working pressure of plate by rules 184 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 192 lbs Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7 1/2" x 1 5/8" Length as per rule 23" Distance apart 8" Number and pitch of Stays in each 1- 11 1/2"
 Working pressure by rules 248 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 ✓
 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 ✓

DONKEY BOILER— Description *none*

Made at _____ By whom made _____ When made _____ Where fixed _____
Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can
enter the donkey boiler _____ Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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 _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *As per Rule.*

The foregoing is a correct description,

RAMAGE & FERGUSON, Limited. Manufacturer.

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

Dates of Survey while building
During progress of work in shops— 1899 Sep. 12. 22. 28. Oct. 4. 7. 13. 19. 27. 31. Nov. 8. 14. 22. Dec. 1. 7. 19. 22. 28. Jan. 10. 18. 26. 27. 30.
During erection on board vessel— Feb. 6. 10. 17. 20. 22. Mar. 1. 6. 13. 15. 24. 28. Apr. 1. 5.
Total No. of visits 35

The engines & boiler of this vessel have been constructed under special survey & the materials & workmanship are found & good. The engines have been tried under steam & the boiler safety valves adjusted at the working pressure. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of + LMC 4,99. Kindly return the enclosed boiler tracing for reference in dealing with the sister vessel.

It is submitted that
this vessel is eligible for
THE RECORD. L.M.C. 4,99.

A.C.H.

W.L. 11.4.99
11.4.99

Certificate (if required) to be sent to

The amount of Entry Fee. £ 1 : - : -
Special £ 8 : 2 : -
Donkey Boiler Fee £ - : - : -
Travelling Expenses (if any) £ - : - : -
When applied for, 18/4/99
When received, 8/4/99

Thomas Field
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 11 APR 1899

Assigned

+ LMC 4,99

MACHINERY CERTIFICATE
WRITTEN.



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Foundation