

REPORT ON MACHINERY.

Bow 1164
No. 21502

Port of Glasgow

Received at London Office JUL 9 FEB 1904

No. in Survey held at Glasgow Date, first Survey 26th Nov Last Survey 3-2-1904
(Number of Visits 15)

Reg. Book. on the S. S. "Guanche" Tons } Gross
Net

Master Built at Workington By whom built R. Williamsow & Son When built 1904

Engines made at Glasgow By whom made Ross & Duncan when made 1904

Boilers made at Glasgow By whom made Ross & Duncan when made 1904

Registered Horse Power Owners Elders & Tyffes Ltd Port belonging to Manchester

Com. Horse Power as per Section 28 62 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 16" 3/4 Length of Stroke 24" Revs. per minute 128 Dia. of Screw shaft as per rule 7 1/2" Material of screw shaft iron
as fitted 7 3/8"

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

the propeller boss yes If the liner is in more than one length are the joints burned the length 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 for protected between the liners ✓ Length of stern bush 2'-5 1/2"

Dia. of Tunnel shaft as per rule 6 5/8" Dia. of Crank shaft journals as per rule 7 1/8" Dia. of Crank pin 7 3/8" Size of Crank webs 4 1/2" x 10 1/2" Dia. of thrust shaft under

rollers 7 3/8" Dia. of screw 7'-5" Pitch of screw 10'-3" No. of blades 4 State whether moveable no Total surface 27 1/2

No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work no

No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work no

No. of Donkey Engines one Sizes of Pumps 5 1/2" x 4" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 1-2 1/2" In Holds, &c. 2-2"

No. of bilge injections 1 sizes 2 3/4" Connected to condenser, or to circulating pump Circuff a separate donkey suction fitted in Engine room & size 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 plates yes

How are they protected under ceiling

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 31-12-03 Is the screw shaft tunnel watertight ✓

Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 1130 1/2 Is forced draft fitted no

No. and Description of Boilers 1 Single-ended Mult. Working Pressure 130 lbs Tested by hydraulic pressure to 260 lbs

Date of test 29.12.03 Can each boiler be worked separately ✓ Area of fire grate in each boiler 35.6 1/2 No. and Description of safety valves to

each boiler 2 Direct Springs Area of each valve 4.9 Pressure to which they are adjusted 135 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers on woodwork 2'-3" Mean dia. of boilers 11'-6" Length 10'-0" Material of shell plates steel

Thickness 25/32 Range of tensile strength 27-32 Are they welded or flanged no Descrip. of riveting: cir. seams Lap. D.P. long. seams D.P.S. I.P.

Diameter of rivet holes in long. seams 15" Pitch of rivets 6" 3" Lap of plates or width of butt straps 15"

Percentages of strength of longitudinal joint plate 87.5% Working pressure of shell by rules 135 lbs Size of manhole in shell 16" x 12"

No. and Description of Furnaces in each boiler 2 plain Material steel Outside diameter 44"

Length of plain part top 6'-3" bottom 8'-10" Thickness of plates crown 24/32 bottom 32/32 Description of longitudinal joint weld No. of strengthening rings partial

Working pressure of furnace by the rules 137 lbs Combustion chamber plates: Material steel Thickness: Sides 17/32 Back 17/32 Top 17/32 Bottom 17/32

Pitch of stays to ditto: Sides 8 1/2" x 8" Back 8" x 8" Top 8 1/2" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 131 lbs

Material of stays steel Diameter at smallest part 1.24" Area supported by each stay 66" Working pressure by rules 150 lbs End plates in steam space:

Material steel Thickness 27" Pitch of stays 16" x 15 1/2" How are stays secured Nuts & washers Working pressure by rules 136 lbs Material of stays steel

Diameter at smallest part 3.36" Area supported by each stay 248" Working pressure by rules 135 lbs Material of Front plates at bottom steel

Thickness 4 1/2" Material of Lower back plate steel Thickness 5 1/8" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 245 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/4" x 4 5/8" Material of tube plates steel Thickness: Front 11/16" Back 21/32" Mean pitch of stays 10.75"

Each across wide water spaces 14" Working pressures by rules 146 + 133 lbs Girders to Chamber tops: Material iron Depth and

Thickness of girder at centre 6 1/2" x 13 1/4" Length as per rule 28.8" Distance apart 8" Number and pitch of Stays in each 2-8 1/4"

Working pressure by rules 140 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

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

007626-007638-0350



DONKEY BOILER— No. _____ Description _____ When made _____ Where fixed _____
 Made at _____ By whom made _____
 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 boiler _____
 enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of _____
 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 _____ 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 _____ Descript _____
 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:— 2 Top end, 2 Bottom ends 2 Main bearing bolts & nuts, 1 set of coupling bolts & nuts, 1 set of Bilge Speed pump valves, assortment of bolts & nuts, iron &c. 2 spare rings each for H.P & L.P. pistons, 1 propeller.
 The foregoing is a correct description,
 Ross & Duncan Manufacturer.

Dates of Survey while building
 During progress of work in shops— 1903: Nov. 26, 30 Dec 2, 8, 10, 11, 15, 21, 24, 29, 1904: Jan 11, 20
 During erection on board vessel— 1904: Jan 25, 26, 27, 28
 Total No. of visits 15
 Is the approved plan of main boiler forwarded herewith
 " " " donkey " " " "

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The materials have been tested, & the work carried out under special survey, both materials & workmanship being of good description, on completion this machine was securely fastened down, & tried under steam at full power with satisfactory results.
 In my opinion this vessel's machinery is eligible for classification with record of **L.M.C. 2.04.**

It is submitted that this vessel is eligible for THE RECORD **L.M.C. 2.04**

Handwritten signatures and dates:
 J.S. 9.2.04
 J.S. 9.2.04

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

The amount of Entry Fee. £ 1 : : : When applied for, _____
 Special £ 9 : 6 : : : - 8 FEB 1904
 Donkey Boiler Fee £ : : : : When received, _____
 Travelling Expenses (if any) £ 2 : 0 : : : 10/2/04

Signature: A. J. Barrett
 Engineer Surveyor to Lloyd's Register of British & Foreign Ships

Committee's Minute Glasgow - 8 FEB 1904

Assigned

L.M.C. 2.04
 (Subject to classification of hull)
 When fee is paid



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