

REPORT ON MACHINERY.

No. 12986

Port of Glasgow

Received MON 1 JUN 1894

No. in Survey held at Glasgow

Date, first Survey 12 Nov. 1889 Last Survey 25 May 1894

Reg. Book.

(Number of Visits 17)

321. on the S. S. Dorset

Gross 2638
Net 1636
Tons

Master C. Mackenzie Built at Sunderland By whom built J. L. Thomson & Son

When built 1881

Engines made at Sunderland By whom made George Clark when made 1881

Boilers made at Glasgow By whom made James Howden & Co when made 1894

Registered Horse Power 300 Owners Marbeth & Gray Port belonging to Glasgow

Nom. Horse Power as per Section 28

ENGINES, &c.—

Description of Engines Compound

No. of Cylinders

Diameter of Cylinders 37" & 76" Length of Stroke 48" Revolutions per minute

Diameter of Tunnel shaft as per rule Diameter of Crank shaft journals 14" Diameter of Crank pin

Diameter of screw Pitch of screw No. of blades State whether moveable Total surface

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room In Holds, &c.

No. of bilge injections sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

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

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight

Is it fitted with a watertight door worked from

BOILERS, &c.—

(Letter for record (r.))

Total Heating Surface of Boilers 3500

No. and Description of Boilers Two Multitubular Working Pressure 80 lbs. Tested by hydraulic pressure to 160 lbs.

Date of test 12/11/89 Can each boiler be worked separately Yes Area of fire grate in each boiler 58 sq. No. and Description of safety valves to

each boiler 2 direct spring Area of each valve 15.9 sq. Pressure to which they are adjusted 80 lbs. Are they fitted

with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 14.6"

Length 11-2' Material of shell plates steel Thickness 25/32" Description of riveting: circum. seams d. riv. lap long. seams d. butt str.

Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 5 1/4" Lap of plates or width of butt straps 12"

Per centages of strength of longitudinal joint 80. Working pressure of shell by rules 93 lbs. Size of manhole in shell 12 x 16"

Size of compensating ring 7/8 ddb. pl. No. and Description of Furnaces in each boiler 3. Adamsons Material Steel Outside diameter 42"

Length of plain part 33-11 1/2" Thickness of plates 32 1/2 15 1/2 Description of longitudinal joint welded No. of strengthening rings 2.

Working pressure of furnace by the rules 116 lbs. Combustion chamber plates: Material Steel Thickness: Sides 15/32 Back 15/32 Top 15/32 Bottom 15/32

Pitch of stays to ditto: Sides 9" Back 9 x 7 1/2" Top 9 x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 83 lbs.

Material of stays iron Diameter at smallest part 1 3/4" Area supported by each stay 81 sq. Working pressure by rules 93 lbs. End plates in steam space:

Material steel Thickness 5/8 1/2 in. Pitch of stays 17 1/2" How are stays secured d. nuts Working pressure by rules 80 lbs. Material of stays steel

Diameter at smallest part 2" Area supported by each stay 306.25 sq. Working pressure by rules 80 lbs. Material of Front plates at bottom steel

Thickness 5/8" Material of Lower back plate steel Thickness 5/8" Greatest pitch of stays 11 1/4" Working pressure of plate by rules 80 lbs.

Diameter of tubes 3" Pitch of tubes 4 1/4" Material of tube plates steel Thickness: Front 1/16" Back 1/16" Mean pitch of stays 10 5/16"

Pitch across wide water spaces 14 1/2" Working pressures by rules 81 lbs. Girders to Chamber tops: Material iron Depth and

thickness of girder at centre 5" x 1 1/2" Length as per rule 26 1/2" Distance apart 8" Number and pitch of Stays in each 2. 9 in.

Working pressure by rules 89 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 —

GLS170-0044

Lloyd's Register Foundation

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Old DONKEY BOILER—

Description Vertical fitted with new steam space stays & exam-
over all parts

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 55 lbs If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Diameter of donkey boiler Length Material of shell plates Thickness
Description of riveting long. seams Diameter of rivet holes Whether punched or drilled 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
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:—

The foregoing is a correct description,

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. The vessel has been put in dry-

dock (Govanok) propeller shaft drawn and found in good order.

All sea connections overhauled and put in good order. —

Cylinders opened up, liner fitted in the H.P. Cylinder reducing diameter by 3" new piston fitted to suit same. — L.P. Cyl., Slide Valves, piston & rods exam'd. Crank shaft exam'd and found in fair condition. All tunnel shafting exam'd. — Condenser Air feed, bilge, circulating and donkey pumps overhauled and exam'd.

These boilers, now fitted, were commenced under the survey of the Liverpool Underwriters Surveyors, but, as the vessel was lost for which the boilers were intended, they were put aside. — In Nov. 1889 they were tested in my presence to 160 lbs and since then they have been under cover and when examined at the time of fitting on board they were found sound and free from any corrosion and under steam they were tight and satisfactory. The mountings and uptakes have been fitted now to suit the vessel.

This vessel's machinery is now in our opinion in good working order and eligible to the notation of: — L. M. E. 5.94 N.B. 94. —

Secretary & owner's letters re. new boilers attached also boiler tracing.

Certificate (if required) to be sent to

Glasgow

The amount of Entry Fee. £

Special

£ 4 : "

Donkey Boiler Fee £ 10 : 10

Travelling Expenses (if any) £

When applied for,

29/5/94

When received,

29/5/94

MACHINERY CERTIFICATE

WRITTEN.

James Morrison J. M. Anderson

Engineer Surveyor to Lloyd's Register of British & Foreign Ships

TUES. 27 AUG 1895

FRI. 22 NOV 1895

Committee's Minute

TUES. 12 JUN 1894

Assigned

L M E 5,94 made

N.B. 89 fitted 94

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