

# REPORT ON MACHINERY.

Port of Glasgow

Received at London Office MON. 14 OCT 1895

No. in Survey held at Supplementary Report  
Reg. Book. on the donkey boiler of S.S. Langbank

Last Survey 18

(Number of Visits)

Master \_\_\_\_\_ Built at \_\_\_\_\_ By whom built \_\_\_\_\_ Tons <sup>Gross</sup> \_\_\_\_\_ <sub>Net</sub> \_\_\_\_\_ When built \_\_\_\_\_

Engines made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_

Boilers made at Glasgow By whom made Dunsmuir & Jackson when made 1895

Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

Nom. Horse Power as per Section 28 \_\_\_\_\_

**ENGINES, &c.** — Description of Engines \_\_\_\_\_ No. of Cylinders \_\_\_\_\_

Diameter of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ Revolutions per minute \_\_\_\_\_ Diameter of Screw shaft \_\_\_\_\_ as per rule \_\_\_\_\_ as fitted \_\_\_\_\_

Diameter of Tunnel shaft \_\_\_\_\_ as per rule \_\_\_\_\_ Diameter of Crank shaft journals \_\_\_\_\_ Diameter of Crank pin \_\_\_\_\_ Size of Crank webs \_\_\_\_\_ as fitted \_\_\_\_\_

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 S) Total Heating Surface of Boilers 731 sq ft

No. and Description of Boilers one Cylindrical Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs

Date of test 11.9.95 Can each boiler be worked separately — Area of fire grate in each boiler 24 sq ft No. and Description of safety valves to each boiler two spring loaded Area of each valve 4'9" sq in Pressure to which they are adjusted 90 lbs Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork hands clear Mean diameter of boilers 114"

Length 91'6" Material of shell plates Steel Thickness 9/16" Description of riveting: circum. seams Lap 2 Rivets long seams Lap 4 Rivets

Diameter of rivet holes in long. seams 3/16" Pitch of rivets 3'15/16" Lap of plates or width of butt straps 7"

Per centages of strength of longitudinal joint \_\_\_\_\_ rivets 79.6 Working pressure of shell by rules 90" Size of manhole in shell 12" x 16"

Size of compensating ring W. Neils No. and Description of Furnaces in each boiler two plain Material Steel Outside diameter 33"

Length of plain part \_\_\_\_\_ top 3'6" Thickness of plates \_\_\_\_\_ crown 3'15/32" Description of longitudinal joint weld No. of strengthening rings none

Working pressure of furnace by the rules 100 lbs Combustion chamber plates: Material steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"

Pitch of stays to ditto: Sides 8" x 9" Back 8" x 9" Top 8" x 9" If stays are fitted with nuts or riveted heads nuts inside Working pressure by rules 95 lbs

Material of stays Steel Diameter at smallest part 1'0 3/4" Area supported by each stay 74 sq in Working pressure by rules 11 lbs End plates in steam space: \_\_\_\_\_

Material Steel Thickness 7/8" Pitch of stays 15" x 13" How are stays secured Double nuts Working pressure by rules 106 lbs Material of stays Steel

Diameter at smallest part 3'4 3/8" Area supported by each stay 234 sq in Working pressure by rules 132 lbs Material of Front plates at bottom Steel

Thickness 3/4" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 9" Working pressure of plate by rules 116 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" Material of tube plates Steel Thickness: Front 7/8" Back 3/4" Mean pitch of stays 13 1/8"

Pitch across wide water spaces 14 1/4" Working pressures by rules 134, 117 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 5 1/4" x 2 1/8" Length as per rule 25 3/4" Distance apart 9" Number and pitch of Stays in each 2 x 8"

Working pressure by rules 105 lbs Superheater or Steam chest; how connected to boiler none 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 \_\_\_\_\_

**DONKEY BOILER—**

Description

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:—

The foregoing is a correct description,

*Dunnair & Jackson* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c. For recommendations see Chief report)

*C. J. Brownlee*

Certificate (if required) to be sent to

The amount of Entry Fee..	£	:	:	When applied for,
Special .. .. .	£	:	:	.....18.....
Donkey Boiler Fee .. .. .	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	.....18.....

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

Committee's Minute

FRI 18 OCT 1895

FRI 1 NOV 1895

Assigned



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