

No. 13830

# REPORT ON MACHINERY.

Port of Glasgow

Received at London Office 1UES 23 JUL 1895

No. in Survey held at Glasgow Date, first Survey 31<sup>st</sup> Aug<sup>r</sup> 1892 Last Survey 10<sup>th</sup> July 1895

Reg. Book. 62 on the S. S. Saint Jagoans (Number of Visits 52) Tons { Gross 1321 Net 821

Master Mackay Built at Newcastle By whom built Thesinger, Davis & Co When built 1878

Engines made at Newcastle By whom made J. Clark & Co when made 1878

Boilers made at Glasgow By whom made Nutson & Son when made 1895

Registered Horse Power 157 Owners Donald & Taylor Port belonging to Cardiff

Nom. Horse Power as per Section 28

**ENGINES, &c.**— Description of Engines Compound No. of Cylinders Two

Diameter of Cylinders 26" x 56" Length of Stroke 36" Revolutions per minute \_\_\_\_\_ Diameter of Screw shaft as per rule 9.4 as fitted 10"

Diameter of Tunnel shaft as per rule 8.92 as fitted 9" Diameter of Crank shaft journals 10" Diameter of Crank pin 10" Size of Crank webs built

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 (a.)) Total Heating Surface of Boilers 2191 sq. ft.

No. and Description of Boilers Two S. E. Multitubular Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs

Date of test 26.4.93 Can each boiler be worked separately Yes Area of fire grate in each boiler 36" No. and Description of safety valves to each boiler Two direct spring Area of each valve 12.5" 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 12" Mean diameter of boilers 11'-0"

Length 10'-0" Material of shell plates steel Thickness 5/8 Description of riveting: circum. seams d. r. lap long. seams d. butt str.

Diameter of rivet holes in long. seams 7/8 Pitch of rivets 3 1/2 Lap of plates & width of butt straps 4 7/8 + 9 1/4

Per centages of strength of longitudinal joint rivets 85 plate 75 Working pressure of shell by rules 90 lbs Size of manhole in shell 12" x 16"

Size of compensating ring 7" x 3 1/4" No. and Description of Furnaces in each boiler 2. plain Material Steel Outside diameter 39"

Length of plain part 57'-0" Thickness of plates 5/8 Description of longitudinal joint welded No. of strengthening rings 1

Working pressure of furnace by the rules 90 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/2 Back 1/2 Top 1/2 Bottom 3/4

Pitch of stays to ditto: Sides 8 1/2 x 9 Back 9 x 9 Top 9 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 95 lbs

Material of stays iron Diameter at smallest part 1 3/8 Area supported by each stay 576.5" Working pressure by rules 95 lbs End plates in steam space: Material Steel Thickness 3/4 Pitch of stays 17" How are stays secured d. nuts Working pressure by rules 92 lbs Material of stays iron

Diameter at smallest part 2 1/2 Area supported by each stay 289.4" Working pressure by rules 100 lbs Material of Front plates at bottom Steel

Thickness 5/8 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 10" Working pressure of plate by rules 150 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 11 1/4

Pitch across wide water spaces 14" Working pressures by rules 103 lbs Girders to Chamber tops: Material iron Depth and thickness of girder at centre 6" x 7 1/8 d.f. Length as per rule 27" Distance apart 9" Number and pitch of Stays in each 2. 8 1/2

Working pressure by rules 102 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 \_\_\_\_\_

GLS172-0320

Lloyd's Register Foundation

13830 yls.

old

**DONKEY BOILER**— Description *Vertical* *Good for 55 lb w.p.*

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made *1886* Where fixed *Stokehold*

Working pressure *55 lb* 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 *blowing at 50 lb* 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,  
*Hutton of Park* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The old boilers have been taken out and new ones fitted, these boilers have been built under special survey and are of good workmanship and material, they have been well fitted on board and safety valves adjusted to 90 lbs. w.p. The donkey boiler has been overhauled & 2 doubling plates fitted round budge doors and patches at landings of fire box. Safety valves blowing at 50 lb no more required. —*

*The vessel has been placed in dry dock when the tail shaft was drawn in for measurement & examination and found in good order, all sea cocks overhauled & put in order. —*

*A new liner has been fitted in the high pres. cylinder of the diameter given on other side. All parts opened up and there were examined: Cylinders, pistons slides rods. Air feed bilge and circulating pumps, also bilge pipes and suction. Crank & thrust shaft examined. Tunnel shafting partly renewed to make up for increased working pressure. —*

*This vessel's machinery is now in my opinion in good working order and eligible to the notation of: *L.M.C. 7.95. & T.N.B. 95* with alteration of size of H.P. Cylinder.*

*Appended Boiler print & report on shafting.*

Certificate (if required) to be sent to \_\_\_\_\_

The amount of Entry Fee..	£	:	:	When applied for,
Special .. .. .	£	6 2/2	10	11/4/18.95
Donkey Boiler Fee .. .. .	£	2	5	When received,
Travelling Expenses (if any) £	:	:	:	12/4/18.95

*J. M. Anderson*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI 26 JUL 1895**

Assigned *+ L.M.C. 7.95 + T.N.B. 95*  
*subject*

**Glasgow** 2019  
**TUES. 15 OCT 1895**  
Lloyd's Register Foundation

(The Surveyors are requested not to write on or below the space for Committee's Minute.)