

# REPORT ON MACHINERY.

No. 13431.

THURS. 26<sup>th</sup> JAN 1895

Port of *Glasgow*

No. in Survey held at *Glasgow* Date, first Survey \_\_\_\_\_ Last Survey \_\_\_\_\_ 18

Reg. Book. \_\_\_\_\_ on the *Donkey Boiler of the S.S. Gorsedd.* (Number of Visits \_\_\_\_\_)

Master \_\_\_\_\_ Built at \_\_\_\_\_ By whom built \_\_\_\_\_ Tons { Gross \_\_\_\_\_ Net \_\_\_\_\_ When built \_\_\_\_\_

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

Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_

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

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

**ENGINES, &c.**— Description of Engines *See attached report.* 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 \_\_\_\_\_ as fitted \_\_\_\_\_ Diameter of Crank shaft journals \_\_\_\_\_ Diameter of Crank pin \_\_\_\_\_ Size of Crank webs \_\_\_\_\_

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 *678 sq ft.*

No. and Description of Boilers *one cylindrical return tubular* Working Pressure *80 lbs* Tested by hydraulic pressure to *160 lbs*

Date of test *7.11.94* 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* Area of each valve *4'91.4"* 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 *15"* Mean diameter of boilers *114"*

Length *9'0"* Material of shell plates *Steel* Thickness *1/32"* Description of riveting: circum. seams *lap 2 kinds long* seams *lap 4 kinds*

Diameter of rivet holes in long. seams *1/8"* Pitch of rivets *4 3/8"* Lap of plates or width of butt straps *6 3/4"*

Per centages of strength of longitudinal joint rivets *88* Working pressure of shell by rules *81 lbs* Size of manhole in shell *12" x 16"*

Size of compensating ring *5/8" x 6 7/8"* No. and Description of Furnaces in each boiler *two plain* Material *Steel* Outside diameter *33"*

Length of plain part top *3 5/4"* bottom *3 7/16"* Thickness of plates top *3 7/16"* bottom *3 7/16"* Description of longitudinal joint *weld* No. of strengthening rings *none*

Working pressure of furnace by the rules *99 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *1/2"* Back *9/16"* Top *1/2"* Bottom *1/2"*

Pitch of stays to ditto: Sides *9" x 9 3/4"* Back *10 3/8" x 1 1/8"* Top *9 3/8" x 9"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *81 lbs.*

Material of stays *Steel* Diameter at smallest part *9 9/4"* Area supported by each stay *84.4* Working pressure by rules *93 lbs* End plates in steam space: Material *Steel* Thickness *1/32"* Pitch of stays *19"* How are stays secured *8 Nuts* Working pressure by rules *88 lbs* Material of stays *Steel*

Diameter at smallest part *3.4* Area supported by each stay *362.4* Working pressure by rules *85 1/2 lbs* Material of Front plates at bottom *1/4" Steel*

Thickness *8 1/16"* Material of Lower back plate *Steel* Thickness *5/8"* Greatest pitch of stays *11 1/8"* Working pressure of plate by rules *81 lbs*

Diameter of tubes *3"* Pitch of tubes *4 1/8"* Material of tube plates *Steel* Thickness: Front *1/16"* Back *1/16"* Mean pitch of stays *12 3/8"*

Pitch across wide water spaces *14"* Working pressures by rules *110 lbs* Girders to Chamber tops: Material *Iron* Depth and thickness of girder at centre *5" x 2 1/8"* Length as per rule *26"* Distance apart *9 3/4"* Number and pitch of Stays in each *2 x 9"*

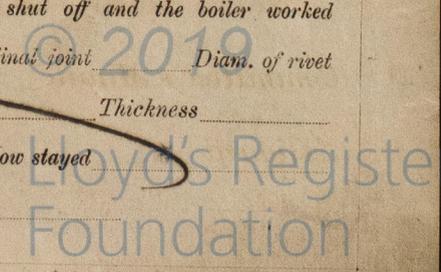
Working pressure by rules *91 lbs.* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler worked separately \_\_\_\_\_

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 \_\_\_\_\_

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**DONKEY BOILER**— Description *None Su. oval*

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 casing 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:—

*See attached report*

The foregoing is a correct description,

*Dunsmuir & Jackson* Manufacturer.

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

*For remarks see attached report.*

*report.*

*C. J. Schomeyer*

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

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 **FRIDAY 25 JAN 1895**

Assigned



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