

Sheet. Rpt. 5.

REPORT ON BOILERS.

Gls No. 23689
New No. 50846

Port of Glasgow

Received at London Office

TUESDAY 21st MARCH 1906
APR 1906

Nb. in Survey held at Annan Date, first Survey 7 March Last Survey 21 March 1906
 Reg. Book. 57 on the Twin Donkey Boilers for S.S. EMPRESS Swan Hunter No 4074 Tons } Gross 1342
 } Net 645
 Master Built at Newcastle By whom built Swan Hunter & W Richard & Co When built 1906
 Engines made at Newcastle By whom made Swan Hunter & W Richards & Co Ld when made 1906
 Boilers made at do By whom made do when made 1906
 Registered Horse Power Owners Charlottesville S. Nav Co Port belonging to Charlottesville

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel

(Letter for record) Total Heating Surface of Boilers Is forced draft fitted No. and Description of Boilers
 Working Pressure Tested by hydraulic pressure to Date of test
 No. of Certificates Can each boiler be worked separately Area of fire grate in each boiler No. and Description of safety valves to each boiler
 Area of each valve Pressure to which they are adjusted
 Are they fitted with easing gear In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler
 Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length
 Material of shell plates Thickness Range of tensile strength Are the shell plates welded or flanged
 Descrip. of riveting: cir. seams long. seams Diameter of rivet holes in long. seams Pitch of rivets
 Lap of plates or width of butt straps Per centages of strength of longitudinal joint rivets Working pressure of shell by plate
 rules Size of manhole in shell Size of compensating ring No. and Description of Furnaces in each boiler
 Material Outside diameter Length of plain part top Thickness of plates crown bottom
 Description of longitudinal joint No. of strengthening rings Working pressure of furnace by the rules Combustion chamber
 plates: Material Thickness: Sides Back Top Bottom Pitch of stays to ditto: Sides Back
 Top If stays are fitted with nuts or riveted heads Working pressure by rules Material of stays Diameter at smallest part
 Area supported by each stay Working pressure by rules End plates in steam space: Material Thickness
 Pitch of stays How are stays secured Working pressure by rules Material of stays Diameter at smallest part
 Area supported by each stay Working pressure by rules Material of Front plates at bottom Thickness Material of Lower back plate
 Thickness Greatest pitch of stays Working pressure of plate by rules Diameter of tubes
 Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays Pitch across wide water spaces
 Working pressures by rules Girders to Chamber tops: Material Depth and thickness of girder at centre
 Length as per rule Distance apart Number and pitch of Stays in each
 Working pressure by rules 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

VERTICAL DONKEY BOILER No. 3930 Description Cochran Manufacturers of steel Wm Beardmore & Co
 Made at Annan By whom made Cochran & Co Annan When made 1906 Where fixed Strickland Working pressure 80 lbs
 tested by hydraulic pressure to 160 lbs Date of test 21/3/06 No. of Certificates 4948 Fire grate area 8.54 Description of safety valves Spring
 No. of safety valves 2 Area of each 3-1/4 Pressure to which they are adjusted 85 If fitted with easing gear 76 If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 4'-0" Length 9'-0" Material of shell plate Steel Thickness 3/16" + 5/16" Range of tensile strength 24/22 Descrip. of riveting long. seams Double rivet Dia. of rivet holes 23/32 Whether punched or drilled ✓ Pitch of rivets 2 1/2"
 Lap of plating 3 3/8" Per centage of strength of joint Rivets 48% Working pressure of shell by rules 110 lbs Thickness of shell crown plates 3/16"
 Radius of do. 14'-0 1/2" No. of Stays to do. 3 Small stays & dishes 3" x 3" x 3/16" plates Diameter of furnace Top 1'-11" Bottom 3'-6" Length of furnace 2'-6"
 Thickness of furnace plates 10/32 Description of joint Lap single rivet Working pressure of furnace by rules 122 lbs Thickness of furnace crown plates 8/16" Radius of do. 1'-11" Stayed by none Diameter of uptake 9 1/4" x 13 1/4" Thickness of uptake plates 9/16" F.T.P. 2.P.P.
 Thickness of water tubes do

The foregoing is a correct description,
For GOODMAN & CO. ANNAN, LIMITED. Manufacturer.

Dates of Survey while building
 During progress of work in shops - - 1906 March 7-21
 During erection on board vessel - - 1906 April 6, 17, 24, 28 / May 3, 7, 10, 16
 Total No. of visits 10

Is the approved plan of main boiler forwarded herewith ✓
 " " " donkey " " ✓



GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The Boiler has been made under survey. The material & workmanship are of good description and the test proved satisfactory.

This boiler has been filled in a safe manner
John H Heck.

Certificate (if required) to be sent to the Committee's Minute.

| | | | | |
|--------------------------------|---|---|---|-------------------|
| The amount of Entry Fee... | £ | : | : | When applied for. |
| Special ... | £ | : | : | 19 |
| Donkey Boiler Fee ... | £ | 2 | : | 2 |
| Travelling Expenses (if any) £ | : | : | : | 19 |

Committee's Minute

Assigned *transmit to London.*

Glasgow 2 - APR 1906

James Morrison
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Clyde District

TUES. 15 MAY 1906

see minute on Newcastle Rpt.
Lloyd's Register Foundation