

## REPORT ON BOILERS.

No. 19124

Received at London Office

27 NOV 1929

Date of writing Report 6-6-1929 When handed in at Local Office 22-11-1929 Port of Greenock

No. in Reg. Book. Greenock Date, First Survey 3<sup>rd</sup> April 1929. Last Survey 20<sup>th</sup> Nov 1929.

on the S/S Discovery II (Number of Visits 18.) Gross 1036 Tons Net 344

Master P. Elangow Built at P. Elangow By whom built Ferguson Bros Yard No. 205 When built 1929

Engines made at P. Elangow By whom made Ferguson Bros Engine No. 205 When made 1929

Boilers made at Greenock By whom made John McLeod & Co Boiler No. 192 When made 1929

Nominal Horse Power 221 Owners Government of the Falkland Isles Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY OF DISCOVERY II.

Manufacturers of Steel Balville, Scottish Iron Steel Co. (Letter for Record S)

Total Heating Surface of Boilers 3556 ft Is forced draught fitted yes Oil fired oil

No. and Description of Boilers 2 Single ended Working Pressure 200

Tested by hydraulic pressure to 350 Date of test 7.6.29 No. of Certificate 1842. Can each boiler be worked separately yes.

Area of Firegrate in each Boiler oil fuel No. and Description of safety valves to each boiler 2. COCKBURNS IMPROVED HIGH LIFT VALVES

Area of each set of valves per boiler {per Rule 6.18<sup>5</sup>/<sub>16</sub> as fitted 6.28<sup>5</sup>/<sub>16</sub>} Pressure to which they are adjusted 205 Are they fitted with easing gear yes

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 3'-6" Is oil fuel carried in the double bottom under boilers NO.

Smallest distance between shell of boiler and tank top plating 18" Is the bottom of the boiler insulated YES.

MEAN 13.0 ft Length 11-0 ft Shell plates: Material S Tensile strength 29.33

Thickness 15/32 Are the shell plates welded or flanged ✓ Description of riveting: circ. seams {end DR inter. ✓}

long. seams TR.DBS Diameter of rivet holes in {circ. seams 13/16 long. seams 15/32} Pitch of rivets {3 1/2 4 7/8}

Percentage of strength of circ. end seams {plate 66 rivets 43.4 } Percentage of strength of circ. intermediate seam {plate 85.3 rivets 85.8 }

Percentage of strength of longitudinal joint {plate 85.8 rivets 88.25 } Working pressure of shell by Rules 203

Thickness of butt straps {outer 7/8 inner 1"} No. and Description of Furnaces in each Boiler 3 Doughton's 3cf.

Material S Tensile strength 26-30 Smallest outside diameter 3.2 1/16"

Length of plain part {top ✓ bottom ✓} Thickness of plates {crown 17/32 bottom ✓} Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 202

End plates in steam space: Material S Tensile strength 26-30 Thickness 1 1/4" Pitch of stays 19x18 1/2"

How are stays secured Ornith. traction Working pressure by Rules 208

Tube plates: Material {front steel back ✓} Tensile strength {26-30 } Thickness {23/32 }

Mean pitch of stay tubes in nests 9.375 Pitch across wide water spaces 13 1/2" Working pressure {front 220 back 210}

Girders to combustion chamber tops: Material S Tensile strength 29-33 Depth and thickness of girder at centre 8 3/4 x 3 1/4 (2) Length as per Rule 2. 8 5/8" Distance apart 8 1/2" No. and pitch of stays in each 3 at 8 1/2" Working pressure by Rules 212 Combustion chamber plates: Material S

Tensile strength 26-30 Thickness: Sides 21/32 Back 21/32 Top 21/32 Bottom 3/4"

Pitch of stays to ditto: Sides 8 1/2 x 8 1/2" Back 8 x 9" Top 8 1/2 x 8 1/2" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 206 Front plate at bottom: Material S Tensile strength 26-30

Thickness 7/8" Lower back plate: Material S Tensile strength 26-30 Thickness 27/32"

Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over Nuts

Working Pressure 210 Main stays: Material S Tensile strength 28-32

Diameter {At body of stay, 3" or Over threads ✓} No. of threads per inch 6 Area supported by each stay 360.75

Working pressure by Rules 220 Screw stays: Material S Tensile strength 26-30

Diameter {At turned off part, 1 5/8" or Over threads ✓} No. of threads per inch 9 Area supported by each stay 72



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Working pressure by Rules 212 Are the stays drilled at the outer ends NO Margin stays: Diameter 17/8"  
 No. of threads per inch 9 Area supported by each stay 99" Working pressure by Rules 201.  
 Tubes: Material Iron External diameter 2 1/2" Thickness 9 W.G. No. of threads per inch 9  
 Pitch of tubes 33 1/4" x 33 1/4" Working pressure by Rules 210 Manhole compensation: Size of opening in  
 shell plate 16 1/2" x 20 1/2" Section of compensating ring 2' 11" x 2' 4" 19/32" No. of rivets and diameter of rivet holes 38 at 1 5/16"  
 Outer row rivet pitch at ends 9 1/4" Depth of flange if manhole flanged 3 1/4" Steam Dome: Material  
 Tensile strength Thickness of shell Description of longitudinal joint  
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint  
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter of  
 stays Inner radius of crown Working pressure by Rules  
 How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch  
 of rivets in outer row in dome connection to shell  
 Type of Superheater Manufacturers of Tubes  
 Number of elements Material of tubes Steel castings  
 Material of headers Tensile strength Thickness Can the superheater be shut off and  
 the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  
 Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per  
 Rules Pressure to which the safety valves are adjusted Hydraulic test pressure:  
 tubes, castings and after assembly in place Are drain cocks or valves fitted  
 to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

The foregoing is a correct description,  
 FOR JOHN G. KINCAID & COY. LIMITED  
 Manufacturer.

Dates of Survey { During progress of work in shops - - April 1-9-12-13-14-23-26-29 May 1-13-17-20 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes  
 while building { During erection on board vessel - - 24-29 June 1-6-7  
 Total No. of visits 18.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Boilers have been  
built under Special Survey in accordance with  
the approved plans & the workmanship and  
material are of good quality. They have been  
securely fitted on board.  
This Report accompanies that of the Machinery

Survey Fee ... £ 27. 6 : : When applied for, 12th June 1929.  
 Travelling Expenses (if any) £ ✓ : : When received, 29th June 1929.

W. Gordon-Mucllin  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 26 NOV 1929

Assigned See accompanying machinery  
report.



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