

# REPORT ON BOILERS.

No. 29225

Received at London Office - 9 FEB 1926

Report 192 When handed in at Local Office - 8 FEB 1926 Port of Sunderland  
 Size of Survey held at Sunderland Date, First Survey 3 Feb 1926 Last Survey 3 Feb 1926  
 on the new steel S.S. "DEMETERTON" (Number of Visits ✓) Tons { Gross 5251  
 Net 3244  
 Built at Sunderland By whom built Short Bros Ltd Yard No. 422 When built 1926  
 No. and side at Sunderland By whom made J. Dickinson & Sons Ltd Engine No. 882 When made 1926  
 side at Sunderland By whom made J. Dickinson & Sons Ltd Boiler No. 1086 When made 1926  
 Horse Power 363 Owners Carlton S.S. & Co Ltd Port belonging to Newcastle  
(R. Chapman & Son Mgrs)

RETAIN

## TUBULAR BOILERS ~~MAIN, AUXILIARY~~ OR DONKEY.

Boilers of Steel David Colville & Sons Ltd (Letter for Record (S) ✓)  
 Heating Surface of Boilers 1071 sq ft Is forced draught fitted No ✓ Coal or Oil fired Coal ✓  
 Description of Boilers One - Single ended marine type Working Pressure 180 lbs  
 Hydraulic pressure to 320 lbs Date of test 6-1-26 No. of Certificate 3929 Can each boiler be worked separately ✓  
 Regrate in each Boiler 33.4 sq ft No. and Description of safety valves to each boiler Two - Direct Spring Loaded  
 Each set of valves per boiler { per Rule 6.86 sq in as fitted 9.81 ✓ Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes ✓  
 Donkey boilers, state whether steam from main boilers can enter the donkey boiler No ✓  
 Distance between boilers 19 in ✓ Is oil fuel carried in the double bottom under boilers ✓  
 Distance between shell of boiler and tank top plating Briest on Main Deck Is the bottom of the boiler insulated yes ✓  
 External dia. of boilers 10'-10 3/16 in Length 10'-6 in Shell plates: Material Steel Tensile strength 28 to 32 tons  
29 in 32 in Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams { end D.R. LAP. inter. ✓ ✓  
T.R.D.B.S. ✓ Diameter of rivet holes in { circ. seams 1 in ✓ Pitch of rivets { 2 3/8 in ✓ 4 7/16 in ✓  
 of strength of circ. end seams { plate 65.2 rivets 49.7 Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓  
 of strength of longitudinal joint { plate 85.8 rivets 90.5 combined 90.6 Working pressure of shell by Rules 180 lbs  
 of butt straps { outer 1 1/16 in ✓ inner 13/16 in ✓ No. and Description of Furnaces in each Boiler Two - plain ✓  
Steel ✓ Tensile strength 26 to 30 tons ✓ Smallest outside diameter 3'-2 in ✓  
 plain part { top 6'-4 1/4 in ✓ bottom 6'-11 1/4 in ✓ Thickness of plates { crown 3/4 in ✓ bottom 3/4 in ✓ Description of longitudinal joint Welded ✓  
 of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 184.5 lbs ✓  
 stays in steam space: Material Steel ✓ Tensile strength 26 to 30 tons ✓ Thickness 7/8 in ✓ Pitch of stays 15" x 14 1/2"  
 stays secured Double nuts and washers ✓ Working pressure by Rules 181 lbs ✓  
 stays: Material { front Steel ✓ back Steel ✓ Tensile strength { 26 to 30 tons ✓ Thickness { 7/8 in ✓ 7/8 in ✓  
 of stay tubes in nests 9 in ✓ Pitch across wide water spaces 15 3/4 in (50 in) ✓ Working pressure { front 182 lbs ✓ back 342 lbs ✓  
 combustion chamber tops: Material Steel ✓ Tensile strength 28 to 32 tons ✓ Depth and thickness of girder  
2 @ 6 1/4 x 7/8 in ✓ Length as per Rule 2'-5 15/16 in ✓ Distance apart 4 1/2 in ✓ No. and pitch of stays  
2 @ 10 in ✓ Working pressure by Rules 183.7 lbs ✓ Combustion chamber plates: Material Steel ✓  
 length 26 to 30 tons ✓ Thickness: Sides 7/16 in ✓ Back 7/16 in ✓ Top 7/16 in ✓ Bottom 15/16 in ✓  
 stays to ditto: Sides 10" x 9 in ✓ Back 9 3/8 x 10 in ✓ Top 4 1/2 x 10 in ✓ Are stays fitted with nuts or riveted over Nuts in C.C. ✓  
 pressure by Rules 180 lbs ✓ Front plate at bottom: Material Steel ✓ Tensile strength 26 to 30 tons ✓  
7/8 in ✓ Lower back plate: Material Steel ✓ Tensile strength 26 to 30 tons ✓ Thickness 7/8 in ✓  
 stays at wide water space 14 x 10 in ✓ Are stays fitted with nuts or riveted over Nuts ✓  
 Pressure 296 lbs ✓ Main stays: Material Steel ✓ Tensile strength 28 to 32 tons ✓  
 At body of stay, 2 3/8 in ✓ No. of threads per inch 6 ✓ Area supported by each stay 214.5 sq in ✓  
 Over threads 180 lbs ✓ Screw stays: Material Steel ✓ Tensile strength 26 to 30 tons ✓  
 pressure by Rules 180 lbs ✓ No. of threads per inch 9 ✓ Area supported by each stay 91.25 sq in ✓  
 At turned off part, 1 3/4 in ✓

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Working pressure by Rules 199.245 Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8" ✓  
 No. of threads per inch 9 ✓ Area supported by each stay 115.6 Working pressure by Rules 184 lb ✓  
 Tubes: Material Woot Iron ✓ External diameter { Plain 3 1/2" Stay 3 1/2" ✓ Thickness { 8 W.G. No. of threads per inch 9 ✓  
 Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules 230 lb ✓ Plain 16 ✓ Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 2" x 8" x 2 1/2" No. of rivets and diameter of rivet holes 30 @ 1" dia ✓  
 Outer row rivet pitch at ends 4 1/2" ✓ Depth of flange if manhole flanged ✓ Steam Dome: Material ✓  
 Tensile strength Thickness of shell Description of longitudinal joint  
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets  
 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 Steel castings  
 Number of elements Material of tubes Internal diameter and thickness of tubes  
 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 23 inclusive for boilers been complied with Yes  
 For John The foregoing is a correct description,  
John The foregoing is a correct description, Manufacturer.

Dates of Survey { During progress of work in shops - - } Please see Mech. Rpt. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 while building { During erection on board vessel - - }  
 Total No. of visits

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

The materials and workmanship are good.  
 The boiler has been constructed under special survey and satisfactorily fixed on the main deck of the vessel.

Survey Fee ... .. £ See Machinery Rebut. When applied for, 192  
 Travelling Expenses (if any) £ See Machinery Rebut. When received, 192

George Anderson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 12 FEB 1926

Assigned See S. E. rpt attached



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