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# REPORT ON BOILERS.

No. 29225

Received at London Office - 9 FEB 1926

- 8 FEB 1926

Writing Report 192 When handed in at Local Office 192 Port of Sunderland

in Survey held at Sunderland Date, First Survey 3<sup>rd</sup> Feb 1926 Last Survey 3<sup>rd</sup> Feb 1926

on the new steel S.S. DEMETERTON (Number of Visits 1) (Gross 5251 Tons) (Net 3244 Tons)

Built at Sunderland By whom built Short Bros Ltd Yard No. 422 When built 1926

Engines made at Sunderland By whom made J. Dickinson & Sons Ltd Engine No. 882 When made 1926

Boilers made at Sunderland By whom made J. Dickinson & Sons Ltd Boiler No. 882 When made 1926

Indicated Horse Power 363 Owners Carlton S.S. Co Ltd Port belonging to Newcastle  
(R. Chapman & Sons Mgrs).

# RETAIN

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

Manufacturers of Steel David Colville & Sons Ltd (Letter for Record (S))

Heating Surface of Boilers 5806 Is forced draught fitted 2SB Coal or Oil fired Coal

Description of Boilers Two single ended marine type Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 9-1-26 No. of Certificate 3930 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 445 No. and Description of safety valves to each boiler Two Direct Spring loaded

Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Distance between boilers or uptakes and bunkers 1-11/4" Is oil fuel carried in the double bottom under boilers No

Distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated Yes

Internal dia. of boilers 16'-9 3/8" Length 11'-6" Shell plates: Material Steel Tensile strength 29 1/2 to 33 tons

Are the shell plates welded or flanged No Description of riveting: circ. seams D.R. LAP.

Seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 3/8" Pitch of rivets 3 3/4"

Percentage of strength of circ. end seams: plate 63.3 rivets 44.5 Percentage of strength of circ. intermediate seam: plate 85.5 rivets 88.65

Working pressure of shell by Rules 180 lbs

Thickness of butt straps: outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler 4 - Dighton

Material Steel Tensile strength 26 to 30 tons Smallest outside diameter 3'-5 13/16"

Thickness of plates: crown 1 1/2" bottom 1 1/2" Description of longitudinal joint Welded

Working pressure of furnace by Rules 183.6 lbs

Plates in steam space: Material Steel Tensile strength 26 to 30 tons Thickness 1 3/16" Pitch of stays 18" x 22"

Are stays secured Double nuts and washers Working pressure by Rules 184 lbs

Plates: Material Steel Tensile strength 26 to 30 tons Thickness 7/8" + 5/16" and 1 3/16"

Pitch of stay tubes in nests 9" Pitch across wide water spaces 13 1/4" (5 D.P.) Working pressure: front 193 lbs back 342 lbs

Plates to combustion chamber tops: Material Steel Tensile strength 28 to 32 tons Depth and thickness of girder

Length as per Rule 2'-9 3/16" Distance apart 10" No. and pitch of stays

Working pressure by Rules 190 lbs Combustion chamber plates: Material Steel

Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1/16"

Are stays fitted with nuts or riveted over Nuts in CC's

Working pressure by Rules 180 lbs Front plate at bottom: Material Steel Tensile strength 26 to 30 tons

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26 to 30 tons Thickness 7/8"

Are stays fitted with nuts or riveted over Nuts on marginal stays

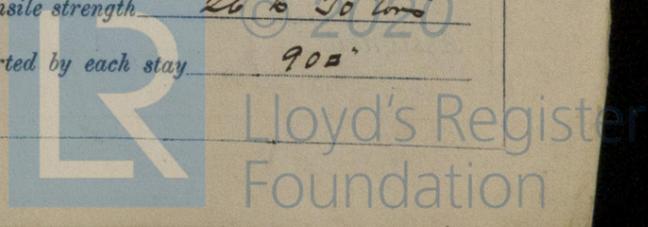
Working Pressure 230 lbs Main stays: Material Steel Tensile strength 28 to 32 tons

Shipping: At body of stay, No. of threads per inch 6 Area supported by each stay 396 sq

Working pressure by Rules 192 lbs Screw stays: Material Steel Tensile strength 26 to 30 tons

At turned off part, No. of threads per inch 9 Area supported by each stay 90 sq

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Working pressure by Rules 202 lbs. Are the stays drilled at the outer ends No ✓ Margin stays: Diameter At turned off part, or Over threads 1 3/4 ✓

No. of threads per inch 9 ✓ Area supported by each stay 100.1 sq Working pressure by Rules 181.4 ✓

Tubes: Material Weldless Steel ✓ External diameter { Plain 3 3/4 ✓ Stay 3 3/4 ✓ Thickness { 8.W.G ✓ 5 ✓ No. of threads per inch 16 ✓

Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules 214 lbs Stay tubes 230 lbs Plain tubes Manhole compensation: Size of shell plate 16" x 12" ✓ Section of compensating ring 2 x 8 3/4" x 1 5/16" ✓ No. of rivets and diameter of rivet holes 26 @ 1 1/2"

Outer row rivet pitch at ends 9 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 stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_

How connected to shell \_\_\_\_\_ Size of doubling plate under dome \_\_\_\_\_ Diameter of rivet hole of rivets in outer row in dome connection to shell \_\_\_\_\_

Type of Superheater North Eastern Marine Manufacturers of { Tubes Weldless Steel Tube Co. Steel castings N. E. Marine Eng Co. Wallend.

Number of elements 124 Material of tubes Solid drawn steel Internal diameter and thickness of tubes 1 1/4 m/m 2 1/2"

Material of headers Mild Steel Tensile strength 26 to 30 tons Thickness 3/4" Can the superheater be the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes

Area of each safety valve 1.74 sq Are the safety valves fitted with easing gear Yes ✓ Working Rules 180 lbs Pressure to which the safety valves are adjusted 185 lbs ✓ Hydraulic tubes 1500 lbs @ Makers Headers 540 lbs (Weld) and after assembly in place 400 lbs ✓ Are drain cocks to free the superheater from water where necessary Yes ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes For Yes ✓

John The foregoing is a correct description of the boiler and superheater. Director

Dates of Survey { During progress of work in shops - - } Please see Main 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 boilers have been constructed under special survey and satisfactorily fixed in the vessel.

Survey Fee ... £ See Machinery : When applied for, 192

Travelling Expenses (if any) £ Rebate : When received, 192

George Anderson  
Engineer Surveyor to Lloyd's Register of

Committee's Minute FRI, 12 FEB 1926

Assigned See A Entry rpt attached

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