

REPORT ON BOILERS.

No. 78003

Received at London Office WED. JUL 2 1924

Date of writing Report 1924 When handed in at Local Office 11/7/1924 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Walker-on-Tyne Date, First Survey June 22-1923 Last Survey 3rd June 1924

on the STEEL SCREW STEAMER CORDENE (Number of Visits 24.) Tons {Gross 2345 Net 1322

Master Built at Wallsend By whom built Swan Hunter & Wigham Richardson L. Yard No. 1229 When built 1924

Engines made at S. Shields By whom made G. L. Grey & Co Engine No. 614 When made 1924

Boilers made at Walker-on-Tyne By whom made Swan Hunter & Wigham Richardson L. Boiler No. 1168 When made 1924

Nominal Horse Power 247. Owners Cory Colliers Coy Ld Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel John Spencer Steel Co of Scotland, Leeds Forge (Letter for Record S.)

Total Heating Surface of Boilers 4215 sq ft Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers 2 Single Ended Horizontal Multitubular Working Pressure 180 lbs

Tested by hydraulic pressure to 3200 lbs Date of test 15 April 24 No. of Certificate 9817 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 49 sq ft No. and Description of safety valves to each boiler 2 Spring loaded

Area of each set of valves per boiler {per Rule as fitted 7.06 sq ft Pressure to which they are adjusted 185 Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No. D. BOILER

Smallest distance between boilers or uptakes and bunkers or woodwork 2-0 Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 2-0 Is the bottom of the boiler insulated no

Largest internal dia. of boilers 15-3 1/2 Length 10-6 Shell plates: Material steel Tensile strength 30-34 tons

Thickness 1 3/8 Are the shell plates welded or flanged no Description of riveting: circ. seams Lap & Riveted

long. seams Double riveted Diameter of rivet holes in {circ. seams 1 3/8 long. seams 1 1/8 Pitch of rivets {4-3 3/8 4 3/8

Percentage of strength of circ. end seams {plate 68.72 rivets 48.64 Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 84.92 rivets 86.07 Working pressure of shell by Rules 181 lbs

Thickness of butt straps {outer 3/32 inner 1/32 No. and Description of Furnaces in each Boiler 3 Leighton Goulay Stephens

Material Steel Tensile strength 26-30 tons Smallest outside diameter 44

Length of plain part {top bottom Thickness of plates {crown 9/16 bottom 7/16 Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 185 lbs

End plates in steam space: Material steel Tensile strength 26-30 Thickness 1 3/32 Pitch of stays 21 x 14

How are stays secured Double nuts Working pressure by Rules 190 lbs

Tube plates: Material {front back Steel Tensile strength {26-30 tons 26-30 Thickness {1 3/32 1 1/8

Mean pitch of stay tubes in nests 11 3/8 Pitch across wide water spaces 14 1/2 x 8 1/2 Working pressure {front 189 lbs back 192

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 9 x 1 1/4 Length as per Rule 31 1/2 Distance apart 9 1/2 No. and pitch of stays

in each 2-9 1/4 Working pressure by Rules 184 lbs Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 23/32 Back 21/32 Top 23/32 Bottom 23/32

Pitch of stays to ditto: Sides 10 x 8 Back 9 1/8 x 8 1/2 Top 9 3/4 x 9 1/2 Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 182 lbs Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 1 3/32 Lower back plate: Material steel Tensile strength 26-30 tons Thickness 7/8

Pitch of stays at wide water space 14 1/2 x 8 1/2 Are stays fitted with nuts or riveted over Nuts

Working Pressure 227 lbs Main stays: Material steel Tensile strength 28-32 tons

Diameter {At body of stay, Over threads 3 No. of threads per inch 6 Area supported by each stay 359 sq in

Working pressure by Rules 188 lbs Screw stays: Material steel Tensile strength 26-30 tons

Diameter {At turned off part, Over threads 1 7/8 No. of threads per inch 9 Area supported by each stay 81.8 sq in



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Working pressure by Rules ⁴⁴ 185 Are the stays drilled at the outer ends ⁴⁰ 40 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" Working pressure by Rules 187
 Tubes: Material Iron External diameter { Plain 3 1/2" Stay 3 1/2" } Thickness { 9-wc- 7/16" } No. of threads per inch 9
 Pitch of tubes 4 1/2" + 4 5/8" Working pressure by Rules 211 Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 12 1/2" x 1 3/16" No. of rivets and diameter of rivet holes 32-1 1/2"
 Outer row rivet pitch at ends 10" Depth of flange if ^{manhole} flanged 2 3/4" Steam Dome: Material None
 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 None 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
 The foregoing is a correct description, Manufacturer.

Dates of Survey { During progress of work in shops - - } 1923 June 22, July 9, 27, 31, Aug 3, 11, 23, Sept 14, Oct 16, Dec 3, 10, 1924 Jan 3, 10, 23, Feb 15, 28, 1924 March 11, 24, April 2, 4, 15
 while building { During erection on board vessel - - - } 1924 April 30, May 30, June 3. Total No. of visits 24.
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 18/6/20
 Attached to report 11077349 of Corduff

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 The Boilers built under Special Survey. The material and workmanship found good and efficient.
 The boilers were tested under hydraulic pressure 320 lbs at the makers works, and found satisfactory. The mountings fitted to the boilers by Messrs G. T. Gray & Co., The Engine Builders. The boilers were subsequently fitted up on board the vessel, tested under steam and found satisfactory. Their safety valves adjusted under steam 185 lbs.
 In my opinion this boiler is now eligible for the notification as recommended on the Machinery Report (+LMC. 6. 24 IN RED)

Please see machinery report
 Survey Fee Boilers ... £ 24 : 14 : 0 When applied for, 29. JUL 1924
 S.H.-W.R. Travelling Expenses (if any) £ : : When received, 29. JUL 1924
 Maurice Pitou - L. G. Challers
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 4 JUL 1924
 Assigned See other rpt
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