

REPORT ON BOILERS.

No. 76833

SAT. 23 JUN. 1923

Received at London Office

Date of writing Report 1923 When handed in at Local Office 20/6/1923 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle Date, First Survey 2nd Sept. 1921 Last Survey 19th June 1923

Reg. Book. 69051 on the Steel Sc. OILFIELD (Number of Visits) Tons (Gross/Net)

Master Built at Newcastle By whom built *Imperial Shipbuilding Co. Ltd.* Yard No. 2244 When built 1923

Engines made at Newcastle By whom made *Walkend Slipway & Eng. Co. Ltd.* Engine No. 844 When made 1923

Boilers made at Newcastle By whom made *Walkend Slipway & Eng. Co. Ltd.* Boiler No. 844 When made 1923

Nominal Horse Power 467 Owners *Imperial Petroleum Tank S.S. Co. Ltd.* Port belonging to Newcastle

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *John Spence & Sons Ltd.* (Letter for Record *S.*)

Total Heating Surface of Boilers 5368 sq ft Is forced draught fitted *Yes* Coal or Oil fired *Oil*

No. and Description of Boilers *Two S.C. byl^{ts} 2SB* Working Pressure 220 lbs

Tested by hydraulic pressure to 380 lbs Date of test 23.11.21 No. of Certificate 9630 Can each boiler be worked separately *Yes*

Area of Firegrate in each Boiler *Oil fired* No. and Description of safety valves to each boiler *Two Spring-loaded*

Area of each set of valves per boiler {per Rule 17.13 sq ft / as fitted 19.24 sq ft} Pressure to which they are adjusted 225 lbs Are they fitted with easing gear *Yes*

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

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Is oil fuel carried in the double bottom under boilers *Yes*

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

Largest internal dia. of boilers 15'-9 1/2" Length 11'-9" Shell plates: Material *Steel* Tensile strength 30/34 sq in

Thickness 1 1/2" Are the shell plates welded or flanged *No* Description of riveting: circ. seams {end Double / inter. 4.534"} long. seams *Tackle* Diameter of rivet holes in {circ. seams 1 1/2" / long. seams 1 1/2"} Pitch of rivets {4.534" / 10 7/8"}

Percentage of strength of circ. end seams {plate 66.2 / rivets 42.3} Percentage of strength of circ. intermediate seam {plate / rivets /}

Percentage of strength of longitudinal joint {plate 85.2 / rivets 87.0 / combined 89.0} Working pressure of shell by Rules 221 lbs

Thickness of butt straps {outer 1 1/4" / inner 1 1/4"} No. and Description of Furnaces in each Boiler *3 Deighton*

Material *Steel* Tensile strength 26/30 sq in Smallest outside diameter 46 1/8"

Length of plain part {top / bottom} Thickness of plates {crown 45" / bottom 64"} Description of longitudinal joint *weld*

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 221 lbs

End plates in steam space: Material *Steel* Tensile strength 26/30 sq in Thickness 1 3/8" Pitch of stays 16 3/4" x 22 1/2"

How are stays secured *Double-nuts* Working pressure by Rules 235 lbs

Tube plates: Material {front *Steel* / back *Steel*} Tensile strength {26/30 sq in / 26/30 sq in} Thickness {1 1/16" / 13/16"}

Mean pitch of stay tubes in nests 9'4" Pitch across wide water spaces 14 3/4" Working pressure {front 239 lbs / back 277 lbs}

Girders to combustion chamber tops: Material *Steel* Tensile strength 28/32 sq in Depth and thickness of girder at centre 10" x 1 1/2" Length as per Rule 35 1/2" Distance apart 8 3/8" No. and pitch of stays in each 3-8 3/8" Working pressure by Rules 228 lbs

Tensile strength 26/30 sq in Thickness: Sides 1 1/16" Back 2 1/32" Top 1 1/16" Bottom 1"

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

Working pressure by Rules 223 1/2 lbs Front plate at bottom: Material *Steel* Tensile strength 26/30 sq in

Thickness 1 1/16" Lower back plate: Material *Steel* Tensile strength 26/30 sq in Thickness 29/32"

Pitch of stays at wide water space 15" Are stays fitted with nuts or riveted over *nuts*

Working Pressure 230 lbs Main stays: Material *Steel* Tensile strength 28/32 sq in

Diameter {At body of stay, or Over threads 3 1/2"} No. of threads per inch 6 Area supported by each stay 376.875 sq in

Working pressure by Rules 250 lbs Screw stays: Material *Steel* Tensile strength 26/30 sq in

Diameter {At turned off part, or Over threads 1 3/4"} No. of threads per inch 9 Area supported by each stay 75.375 sq in

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Working pressure by Rules 24 1/2 Are the stays drilled at the outer ends No. Margin stays: Diameter ^{At turned off part,} 1 7/8"
 No. of threads per inch 9 Area supported by each stay 9.75 sq" Working pressure by Rules 225 lbs
 Tubes: Material Iron External diameter ^{Plain} 2 3/4" Thickness ^{No. 8 & 9} 3/8" & 5/16" No. of threads per inch 9
 Pitch of tubes 4x4" Working pressure by Rules 275 - 303 lbs Manhole compensation: Size of opening in
 shell plate 19" x 15" Section of compensating ring 36 1/4" x 29" x 1 1/4" No. of rivets and diameter of rivet holes 36 - 1 7/8"
 Outer row rivet pitch at ends 10 7/8" Depth of flange if manhole flanged 2" 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} _____
 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 Schmidt Manufacturers of ^{Tubes} marine & locomotive Superheaters Ltd.
 Number of elements 116 Material of tubes S.A. Steel ^{Steel castings} do. Internal diameter and thickness of tubes 15 mm x 2.5 mm
 Material of headers Moulded Steel Tensile strength 30 to 35 tons Thickness 1" Can the superheater be shut off and
 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 1.76 sq" Are the safety valves fitted with easing gear Yes Working pressure as per
 Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure:
 tubes 1000 lbs, castings 660 lbs and after assembly in place 440 lbs Are drain cocks or valves fitted
 to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with _____

The foregoing is a correct description,
 FOR THE WALSELEY SELF-WATERING & ENGINEERING CO. LIMITED
J. C. Hudson Manufacturer.
 SECRETARY.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Boilers were constructed under Special Survey. The materials and workmanship are sound and good. The Boilers were tested by hydraulic pressure with satisfactory results and the safety valves adjusted under steam. The Boilers have been efficiently installed and fastened.

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

R. Lee Amess
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 29 JUN 1923

Assigned _____

