

REPORT ON BOILERS.

No. 31077

Received at London Office 29 OCT 1932

Date of writing Report

1932

When handed in at Local Office

28 OCT. 1932

Port of

Sunderland.

No. in Reg. Book.

Survey held at

Sunderland.

Date, First Survey

Last Survey

Oct 26 1932

79160 on the STEEL SC. "WANDLE"

(Number of Visits

Tons

Gross

Net

Master _____ Built at Burntisland By whom built Burntisland S.B. Co. Ltd. Yard No. 173 When built 1932
 Engines made at Sunderland. By whom made H. E. Marine Eng. Co. Ltd. Engine No. 2792 When made 1932
 Boilers made at Sunderland. By whom made H. E. Marine Eng. Co. Ltd. Boiler No. 2792 When made 1932
 Nominal Horse Power 164 Owners Wandsworth & District Gas Co. Port belonging to London.

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland. (Letter for Record (S))
 Total Heating Surface of Boilers 2850 sq ft Is forced draught fitted No. Coal or Oil fired Coal.
 No. and Description of Boilers One single ended multitubular Working Pressure 200 lbs.
 Tested by hydraulic pressure to 350 lbs. Date of test 9-9-32 No. of Certificate 4137 Can each boiler be worked separately ✓
 Area of Firegrate in each Boiler 66.5 sq ft No. and Description of safety valves to each boiler 2 Spring loaded
 Area of each set of valves per boiler { per boiler 16.55 sq ft as fitted 19.24 sq ft Pressure to which they are adjusted 205 lbs. 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 at side 27" Is oil fuel carried in the double bottom under boilers No.
 Smallest distance between shell of boiler and open floor 19" Is the bottom of the boiler insulated Yes.
 Largest internal dia. of boilers 16'-3 3/32" Length 11'-0" Shell plates: Material Steel Tensile strength 29-33 Tms.
 Thickness 1 27/64" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. Lap. inter. ✓
 long. seams T.R. D. Butt Strap. Diameter of rivet holes in { circ. seams 1 15/32" long. seams 1 15/32" Pitch of rivets { 4 1/4" 10 1/8"
 Percentage of strength of circ. end seams { plate 65 rivets 44.5 Percentage of strength of circ. intermediate seam { plate 85.4 rivets 87.5
 Percentage of strength of longitudinal joint { plate 88.4 rivets 88.4 Working pressure of shell by Rules 201
 Thickness of butt straps { outer 1 3/32" inner 1 7/32" No. and Description of Furnaces in each Boiler 4 corrugated, Deighton Section.
 Material Steel Tensile strength 26-30 Tms. Smallest outside diameter 3'-3 3/8"
 Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 9/16" bottom ✓ Description of longitudinal joint Weld.
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 204
 End plates in steam space: Material Steel Tensile strength 26-30 Tms. Thickness 1 15/32" Pitch of stays 22 3/4" x 22"
 How are stays secured Double Nuts. Working pressure by Rules 203.
 Tube plates: Material { front Steel back Steel Tensile strength { 26-30 Tms. Thickness { 15/16" 25/32"
 Mean pitch of stay tubes in nests 10.31" Pitch across wide water spaces 14 1/2" x 9" Working pressure { front 208 back 206
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 Tms. Depth and thickness of girder
 at centre 9" x 2" (20 1/2") Length as per Rule 32" Distance apart 12" No. and pitch of stays
 in each 3 at 7 3/8" Working pressure by Rules 203. Combustion chamber plates: Material Steel
 Tensile strength 26-30 Tms. Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 1"
 Pitch of stays to ditto: Sides 10 7/8" x 10" Back 10 7/8" x 9 7/8" Top 12" x 7 3/8" Are stays fitted with nuts or riveted over Nuts.
 Working pressure by Rules 202 Front plate at bottom: Material Steel Tensile strength 26-30 Tms.
 Thickness 1 7/16" Lower back plate: Material Steel Tensile strength 26-30 Tms. Thickness 7/8"
 Pitch of stays at wide water space 14 7/8" x 9 7/8" Are stays fitted with nuts or riveted over Nuts.
 Working Pressure 201 Main stays: Material Steel Tensile strength 28-32 Tms.
 Diameter { At body of stay, 3 3/8" No. of threads per inch 6 Area supported by each stay 500.5 sq in.
 Over threads 3 3/4" Working pressure by Rules 200.5 Screw stays: Material Steel Tensile strength 26-30 Tms.
 Diameter { At turned off part, 2" 1 7/8" 1 3/4" No. of threads per inch 9 Area supported by each stay 122.7
 Over threads 2"

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Working pressure by Rules 200.1 Are the stays drilled at the outer ends No. Margin stays: Diameter ^{At turned off part,} _{or} 2 Over threads 2 ✓
 No. of threads per inch 9 Area supported by each stay 122.7 Working pressure by Rules 206
 Tubes: Material Steel External diameter ^{Plain} 3 1/4" ^{Stay} 3 1/4" ✓ Thickness ^{8 w.c.} 1/4", 3/8", 1/2" ✓ No. of threads per inch 9
 Pitch of tubes 4 1/2" x 4 3/8" ✓ Working pressure by Rules 212, 214, 203. Manhole compensation: Size of opening in
end shell plate 16" x 12" ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes 1
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 1/8" ✓ 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 22 inclusive for boilers been complied with Yes.

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.
 The foregoing is a correct description,

Archd. P. Berry Manufacturer.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boiler of this vessel has
been built under special survey and the materials & workmanship are
good. On completion, it was satisfactorily fitted in the vessel and
examined under a full head of steam. The safety valves were adjusted under
steam and accumulation test found to be satisfactory.
In notation, please see machinery report.

Survey Fee £ Charged with Machinery When applied for, 192
 Travelling Expenses (if any) £ _____ When received, 192

W. West
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 4 NOV 1932
 Assigned See fe. rpt. attached



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