

REPORT ON BOILERS.

No. 12291

Form 5a.

Received at London Office 28 MAR 1925

Date of writing Report 6/3/1925 When handed in at Local Office 9/3/1925 Port of Middlesbrough
 Survey held at Middlesbrough Date, First Survey White Building Last Survey 5/3/1925
 on the Steel Screw Steamer "Lynebridge" (Number of Visits See below) Tons { Gross 4442 Net 2778
 Built at Haverton Hill-on-Tees By whom built Furness S.B. Coy. Ltd Yard No. 78 When built 1925
 Boilers made at Middlesbrough By whom made Richardsons Westgarth & Co. Ltd Engine No. 2569 When made 1925
 Boilers made at do By whom made do Boiler No. 2569 When made 1925
 Original Horse Power ✓ Owners North of England S/S. Co. Ltd Port belonging to West Huttlepool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd (Letter for Record (S))
 Total Heating Surface of Boilers 6058 sq ft 6150 sq ft Is forced draught fitted no Coal or Oil fired coal
 and Description of Boilers Two Single Ended Working Pressure 180 lbs
 Tested by hydraulic pressure to 320 lbs Date of test 9-1-25 No. of Certificate 6425 Can each boiler be worked separately yes
 Area of Firegrate in each Boiler 76 sq ft No. and Description of safety valves to each boiler Two - Quiet Spring
 Area of each set of valves per boiler { per Rule 19.72 sq ft as fitted 22.08 sq ft Pressure to which they are adjusted 185 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 or uptakes and bunkers or woodwork 1'-9" Is oil fuel carried in the double bottom under boilers no
 Smallest distance between shell of boiler and tank top plating 2'-5 1/2" Is the bottom of the boiler insulated yes
 Largest internal dia. of boilers 17'-0 5/16" Length 11'-6" Shell plates: Material steel Tensile strength 29-33 tons
 Thickness 1 1/32" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams { end Pop DR. inter. ✓
 Circ. seams { Double Butt Straps Diameter of rivet holes in { circ. seams 1 3/8" Pitch of rivets { 3 5/8"
Triple Riveted { long. seams 1 3/8" 5 rivets in pitch
 Percentage of strength of circ. end seams { plate 62.07 rivets 48.2 Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓
 Percentage of strength of longitudinal joint { plate 85.52 rivets 86.00 combined 88.25 Working pressure of shell by Rules 180 lbs
 Thickness of butt straps { outer 1 1/16" inner 1 5/32" No. and Description of Furnaces in each Boiler Four Morrison Suspension
 Material steel Tensile strength 26-28 tons Smallest outside diameter 42.625"
 Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 9/16" bottom 9/16" Description of longitudinal joint Weld
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 191 lbs
 Plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 5/16" Pitch of stays 18 1/2" x 23 1/4"
 How are stays secured Double Nuts Working pressure by Rules 182 lbs
 Front plates: Material { front steel back steel Tensile strength { 26-30 tons Thickness { 7/8" 25/32" & 13/16"
 Pitch of stay tubes in nests { 10.69 11.125 Pitch across wide water spaces 14 1/4" x 8 3/4" Working pressure { front 189 lbs back 192 & 191 lbs
 Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder
 centre 9" x 1 1/2" Length as per Rule 31.75" Distance apart 9 7/8" No. and pitch of stays
 each 3 c 7 1/2" Working pressure by Rules 188 lbs Combustion chamber plates: Material steel
 Tensile strength 26-30 tons Thickness: Sides 1 1/16" Back 23/32" Top 2 1/32" Bottom 1 1/16"
 Pitch of stays to ditto: Sides 10" x 8 3/4" Back 10 7/8" x 8 1/2" Top 9 1/2" x 7 1/2" Are stays fitted with nuts or riveted over nuts
 Working pressure by Rules 188 lbs Front plate at bottom: Material steel Tensile strength 26-30 tons
 Thickness 7/8" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 27/32"
 Pitch of stays at wide water space 15" x 8 1/2" Are stays fitted with nuts or riveted over nuts
 Working Pressure 195 lbs Main stays: Material steel Tensile strength 28-32 tons
 Diameter { At body of stay, 3 1/4" No. of threads per inch 6 Area supported by each stay 418 sq in
 Over threads ✓
 Working pressure by Rules 192 lbs Screw stays: Material steel Tensile strength 26-30 tons
 Diameter { At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 93.5 sq in
 Over threads ✓

Working pressure by Rules 193 lbs 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 110.5 sq" Working pressure by Rules 193 lbs
 Tubes; Material Iron External diameter ^{Plain} 3 1/4" ^{Stay} 3 1/4" 4 3/2" Thickness No 8 SWG ^{5/16", 3/8", 7/16"} No. of threads per inch 9
 Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 226 & 250 lbs Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 8 1/2" x 1 1/32" No. of rivets and diameter of rivet holes 30 - 1 7/16"
 Outer row rivet pitch at ends 9 1/2" Depth of flange if manhole flanged 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 number 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 from the boiler _____
 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 of safety valves _____
 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 RICHARDSONS, WESTGARTH & Co. LIMITED

The foregoing is a correct description,
[Signature]
 MANAGER, KIDLESBROOK WORKS, MANUFACTURERS

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These boilers have been constructed under Special Survey, are of good material and workmanship and on completion were tested by hydraulic pressure with satisfactory results. They have now been fitted on board in accordance with the Rules, examined under steam and safety valves adjusted.

Survey Fee ... £ _____ : When applied for, _____ 192
 Travelling Expenses (if any) £ _____ : When received, _____ 192
See Engr's Rpt

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUES. 24 MAR 1925
 Assigned See other rpt
Same No.