

REPORT ON BOILERS.

Std. No. 30184
Made No. 12752

Received at London Office 18 JUL 1929

Date of writing Report 16.7.1929 When handed in at Local Office 16.7.1929 Port of MIDDLESBROUGH

No. in Survey held at STOCKTON Date, First Survey 6 May Last Survey 16 Sep. 1929

on the S.S. CLAISDALE (Number of Visits 15) Gross 3777 Tons Net 2262

Master Built at Sunderland By whom built Sui J. daing & Co Yard No. 707 When built 1929

Engines made at Sunderland By whom made George Rank Ltd. Engine No. 1173 When made 1929

Boilers made at Stockton By whom made Riley Bros. (Boilermakers) Ltd Boiler No. 5902 When made 1929

Nominal Horse Power 341 Owners Headlam & Sons Port belonging to Whithby

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Iron Co. S. Veremigte Stahlwerke A.G. Stahl- & Walzwerke Thyssen (Letter for Record S.)
Total Heating Surface of Boilers 1010 sq. ft. Is forced draught fitted no Coal or Oil fired Coal. Working Pressure 180 lbs.

Tested by hydraulic pressure to 320 lbs. Date of test 12.7.29 No. of Certificate 6726. Can each boiler be worked separately?
Area of Firegrate in each Boiler 34.4 sq. ft. No. and Description of safety valves to each boiler Two spring loaded.
Area of each set of valves per boiler per Rule 6.46 sq. in. as fitted 7.94 sq. in. 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 No
Smallest distance between boilers or uptakes and bunkers or woodwork 6'-0" Is oil fuel carried in the double bottom under boilers? No

Smallest distance between shell of boiler and tank top plating fitted between decks. Is the bottom of the boiler insulated? No.
Largest internal dia. of boilers 10'-6" Length 10'-6" Shell plates: Material Steel Tensile strength 28/32.
Thickness 7" Are the shell plates welded or flanged? No Description of riveting: circ. seams end D.R. inter. ✓

Long. seams T.R.D.B.S. (5 rivets) diameter of rivet holes in circ. seams 1 1/16 long. seams 5/16 Pitch of rivets 3 1/4
Percentage of strength of circ. end seams plate 67.8 rivets 51.2 Percentage of strength of circ. intermediate seam plate 86.3 rivets 88.3
Percentage of strength of longitudinal joint combined 90.3 Working pressure of shell by Rules 181 lbs.

Thickness of butt straps outer 3/32 inner 3/32 No. and Description of Furnaces in each Boiler 2 Plain
Material Steel Tensile strength 26/30 Smallest outside diameter 39"
Length of plain part top 78 3/4 bottom 86 1/2 Thickness of plates crown 3/4 bottom 3/4 Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.e. bottom ✓ Working pressure of furnace by Rules 180 lbs.
End plates in steam space: Material Steel Tensile strength 26/30 Thickness 27/32 Pitch of stays 15 x 13 1/4
How are stays secured D.N.W. Working pressure by Rules 180 lbs.

Tube plates: Material front Steel Tensile strength 26/30 Thickness 27/32 back Steel Tensile strength 26/30 Thickness 3/4
Can pitch of stay tubes in nests 10 1/2" Pitch across wide water spaces 14" x 8 1/2" Working pressure front 181 lbs. back 196

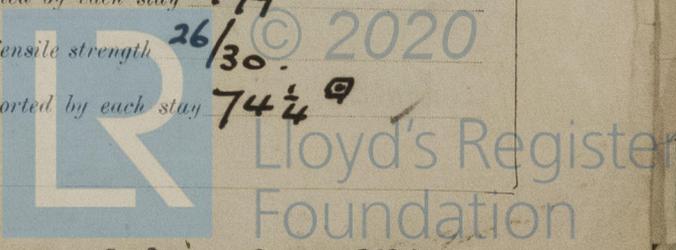
Orders to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder
centre 7" x 3/4" (double) Length as per Rule 2'-6" Distance apart 7 1/2" No. and pitch of stays
each 2 - 9 1/2" Working pressure by Rules 190 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 2 1/32 Back 5/8 Top 2 1/32 Bottom 1 1/2
Pitch of stays to ditto Sides 8 1/2 x 9 1/2 Back 9 x 8 1/4 Top 7 1/2 x 9 1/2 Are stays fitted with nuts or riveted over? nuts

Working pressure by Rules 181 lbs. Front plate at bottom: Material Steel Tensile strength 26/30
Thickness 27/32 back plate: Material Steel Tensile strength 26/30 Thickness 27/32
Pitch of stays at wide water space 14" x 8 1/4 Are stays fitted with nuts or riveted over? nuts

Working Pressure 220 lbs. Main stays: Material Steel Tensile strength 28/32.
Diameter At body of stay or Over threads 2 7/8 No. of threads per inch 6 Area supported by each stay 199

Working pressure by Rules 197 lbs. screw stays: Material Steel Tensile strength 26/30
Diameter At turned off part or Over threads 1 5/8 No. of threads per inch 9 Area supported by each stay 74 1/4



Working pressure by Rules **203 lbs.** Are the stays drilled at the outer ends **no.** Margin stays: Diameter ^{At turned off part.} **1 1/4"**
 No. of threads per inch **9.** Area supported by each stay **91 sq.** Working pressure by Rules **200 lbs.**
 Tubes: Material **iron** External diameter ^{Plain} **3 1/4" 6 3/16"** Thickness ^{Stay} **8/16" 5/16"** No. of threads per inch **9.**
 Pitch of tubes **4 1/4" x 4 1/2"** Working pressure by Rules **p. 230 lbs. & 200 lbs.** Manhole compensation: Size of opening in shell plate **20" x 16"** Section of compensating ring **8" x 1"** No. of rivets and diameter of rivet holes **40 - 1 1/2"**
 Outer row rivet pitch at ends **8"** 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} _____
 Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of stays _____
 How connected to shell _____ Inner radius of crown _____ Working pressure by Rules _____
 of rivets in outer row in dome connection to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and pitch _____

Type of Superheater _____ Manufacturers of ^{Tubes} _____
 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 _____
 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.**
BILLY BROS. (BOILERMAKERS) LIMITED,
 The foregoing is a correct description,
J. H. Shields SECRETARY, Manufacturer.

Dates of Survey ^{During progress of work in shops - -} **1929: May 6, 9, 15, 22, 30** ^{while building} **28, 31, 1-5, 9, 12** Are the approved plans of boiler and superheater forwarded herewith **Yes.**
 (If not state date of approval.)
 Total No. of visits **15**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 This boiler is a duplicate of Messrs. Riley's No 5788 (Tab. Rpt. 13323).
 The materials and workmanship are good.
 This boiler has been built under special survey in accordance with the Rules and Approved Plan. It will be installed at Sunderland.
 The boiler has been satisfactorily fitted in the vessel & the safety valves adjusted under steam. For notation see machinery report.

Survey Fee **£ 6 - 14 - 0** When applied for, **Monthly**
 Travelling Expenses (if any) **£** _____ When received, _____
P. J. McA...
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRL 20 SEP 1929**
 Assigned **See Sld Rpt up to 3032 attached**

