

REPORT ON BOILERS.

No. 101922.

Received at London Office

15 MAR 1933

Date of writing Report Mar 3rd 1933 When handed in at Local Office 11 MAR 1933 Port of LIVERPOOL

No. in Reg. Book 21113 on the S.S. 'Bidston' Date, First Survey 18/7/32 Last Survey 23/2/1933
(Number of Visits 98) Tons { Gross 437 Net 179

Master Built at Birkenhead By whom built Cammell Laird & Co Yard No. 988 When built 1933
Engines made at Birkenhead By whom made Mr. Cammell Laird & Co Engine No. 988 When made 1933
Boilers made at Birkenhead By whom made Cammell Laird & Co Boiler No. 988 When made 1933
Nominal Horse Power 194 Owners Municipal Corp. of Birkenhead Port belonging to Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd; Stuyveson Earl & Dudley (Letter for Record S)

Total Heating Surface of Boilers 3600 sq ft Is forced draught fitted no Coal or Oil fired Coal

No. and Description of Boiler Two cylindrical direct tube type 28A. Working Pressure 180 lb sq in

Tested by hydraulic pressure to 320 lb sq in Date of test 19/10/32 No. of Certificate 24001 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 57 sq ft No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler { per Rule 11.8 sq ft as fitted 11.8 sq ft Pressure to which they are adjusted 183 lb sq in 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 4'-2" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated no

Largest internal dia. of boilers 10'-0" Length 17'-1 7/8" Shell plates: Material steel Tensile strength 28-32 tons sq in

Thickness 27/32" Are the shell plates welded or flanged no Description of riveting: circ. seams { end DR. lap inter. hitch R. lap

Long. seam Int. Riv. Double butte Diameter of rivet holes in { circ. seams 1 5/16" Pitch of rivets { 6 1/2"

Percentage of strength of circ. end seams { plate 64.4 rivets 50.9 Percentage of strength of circ. intermediate seam { plate 70.3 rivets 62.6

Percentage of strength of longitudinal joint { plate 65.57 rivets 46.9 combined 40.5 Working pressure of shell by Rules 181 1/2 lb sq in

Thickness of butt straps { outer 1 1/16" inner 1 3/16" No. and Description of Furnaces in each Boiler Three corrugated

Material steel Tensile strength 26-30 tons sq in Smallest outside diameter 3'-2 3/4"

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 1/2" bottom 1/2" Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 186 lb sq in

End plates in steam space: Material steel Tensile strength 26-30 tons sq in Thickness 1 5/16" Pitch of stays 15 1/2" x 15"

How are stays secured Double nuts and washers Working pressure by Rules 199 lb sq in

Tube plates: Material { front steel back steel Tensile strength { 26-30 tons sq in Thickness { 31/32"

Mean pitch of stay tubes in nests 10 5/16" Pitch across wide water spaces 14" Working pressure { front 246 lb sq in back 225 lb sq in

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

at centre Two plates 9" x 5/16" Length as per Rule 3'-4 1/8" Distance apart 14" No. and pitch of stays

in each two 22 1/2" Working pressure by Rules approved Combustion chamber plates: Material steel

Tensile strength 26-30 tons sq in Thickness: Sides 19/32" Back 29/32" Top 1 1/16" Bottom 19/32"

Pitch of stays to ditto: Sides 8" x 8" Back 15" x 14" Top 28" x 22 1/2" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 190 lb sq in Front plate at bottom: Material steel Tensile strength 26-30 tons sq in

Thickness 1 5/16" Lower back plate: Material steel Tensile strength 26-30 tons sq in Thickness 1 5/16"

Pitch of stays at wide water space 15" x 14" Are stays fitted with nuts or riveted over nuts

Working Pressure 200 lb sq in Main stays: Material steel Tensile strength 28-32 tons sq in

Diameter { At body of stay, 2 1/2" No. of threads per inch 6 Area supported by each stay 232 1/2 sq in

Working pressure by Rules 191 lb sq in Screw stays: Material steel Tensile strength 26-30 tons sq in

Diameter { At turned off part, 1 1/2" No. of threads per inch 9 Area supported by each stay 64 sq in



