

REPORT ON BOILERS.

No. 77502

Received at London Office FRI. 1 FEB. 1924

NEWCASTLE-ON-TYNE

Date of writing Report 1924 When handed in at Local Office 26/1/1924 Port of

No. in Survey held at Newcastle Date, First Survey 22 March 1923 Last Survey 25 January 1924

40943 on the Steel Se. SNOWDON Tons Gross 5230 Net 3320

Master Built at Newcastle By whom built Northumberland S.S. Co. Ltd. Yard No. 383 When built 1924

Engines made at Newcastle By whom made North Eastern Marine Eng. Co. Ltd. Engine No. 2541 When made 1924

Boilers made at Newcastle By whom made North Eastern Marine Eng. Co. Ltd. Boiler No. 2541 When made 1924

Nominal Horse Power 381 Owners Sunnam S.S. Co. Ltd. Port belonging to Cardiff

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 6330 sq ft Is forced draught fitted No. Coal or Oil fired Coal

No. and Description of Boilers Three Single End Cylindrical Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 7th Sept. 1923 No. of Certificate 9780 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 50 sq ft No. and Description of safety valves to each boiler Two Spring loaded

Area of each set of valves per boiler per Rule 13.5 sq in as fitted 14.12 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 Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 3'-0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 30" Is the bottom of the boiler insulated No

Largest internal dia. of boilers 14'-3 1/16" Length 11'-0" Shell plates: Material Steel Tensile strength 28 1/2 x 32 1/2

Thickness 1 1/32" Are the shell plates welded or flanged No Description of riveting: circ. seams end Double inter. 3 3/8" long. seams 1 7/32" Pitch of rivets 8 9/16"

Percentage of strength of circ. end seams plate 61 rivets 43 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.7 rivets 89.1 combined 89.3 Working pressure of shell by Rules 181 lbs

Thickness of butt straps outer 7/8" inner 1" No. and Description of Furnaces in each Boiler Three Heighton

Material Steel Tensile strength 26/30 Smallest outside diameter 39 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 181 lbs

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 1/32" Pitch of stays 20 1/2" x 2 1/2"

How are stays secured Double nuts & washers Working pressure by Rules 181 lbs

Tube plates: Material front Steel back Steel Tensile strength 26 10/32 Thickness 15/16" 3/4"

Mean pitch of stay tubes in nests 9 1/8" Pitch across wide water spaces 14 1/2" Working pressure front 218 back 241

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder

at centre 9" x 1 1/2" Length as per Rule 32" Distance apart 10 3/4" No. and pitch of stays

on each Two - 9" Working pressure by Rules 182 lbs Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 15/16"

Pitch of stays to ditto: Sides 10 1/2" x 9" Back 10 1/2" x 9 1/2" Top 10 3/4" x 9" 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 15/16" Lower back plate: Material Steel Tensile strength 26/30 Thickness 27/32

Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over Nuts

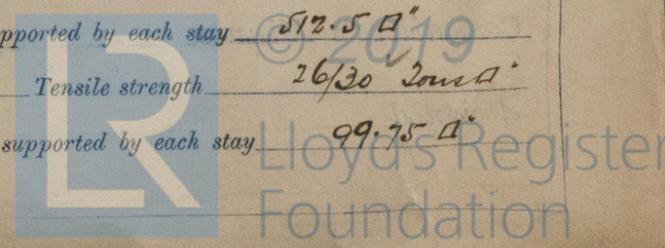
Working Pressure 197 lbs Main stays: Material Steel Tensile strength 28/32

diameter At body of stay, or Over threads 3 1/4" No. of threads per inch 6 Area supported by each stay 512.5 sq in

Working pressure by Rules 181 lbs Screw stays: Material Steel Tensile strength 26/30

diameter At turned off part, or Over threads 2" 1 3/4" No. of threads per inch 9 Area supported by each stay 99.75 sq in

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Working pressure by Rules 182 lb Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 2" or Over threads 2" ✓

No. of threads per inch 9 ✓ Area supported by each stay 137.750" Working pressure by Rules 180 lb

Tubes: Material Iron ✓ External diameter { Plain 3 1/4" Stay 3 1/4" ✓ Thickness { 5/16" 1/4" ✓ No. of threads per inch 9 ✓

Pitch of tubes 4 5/8" x 4 1/2" ✓ Working pressure by Rules 198 lb Manhole compensation: Size of opening none ✓

Shell plate 16" x 12" ✓ Section of compensating ring Flanged ✓ No. of rivets and diameter of rivet holes none ✓

Outer row rivet pitch at ends none ✓ Depth of flange if manhole flanged 3 1/4" ✓ 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 _____

How connected to shell _____ Inner radius of crown _____ Working pressure by Rules _____

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 none 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 _____ Hydraulic test pressure _____

Pressure to which the safety valves are adjusted _____

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 ✓

The foregoing is a correct description, TO THE NORTH WESTERN MARINE ENGINEERING CO. LTD. Sp. J. Jamieson Manufacturer

Dates of Survey { During progress of work in shops - - } See Machinery Report. 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 _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The Boilers have been constructed under Special Survey. The materials and workmanship are sound and good. The Boilers were tested by hydraulic pressure, they were efficiently installed in the vessel and the safety valves adjusted under steam. In my opinion they are eligible for a classed vessel.

Survey Fee See Mchry Report £ : : When applied for, 192

Travelling Expenses (if any) £ : : When received, 192

Sp. J. Jamieson
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI FEB 18 1904

Assigned _____