

# REPORT ON BOILERS.

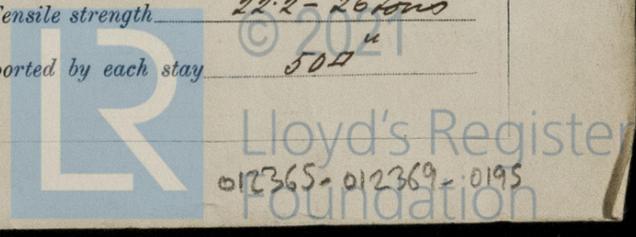
No. 78793

Received at London Office 28 JAN 1925

Date of writing Report \_\_\_\_\_ 192 \_\_\_\_\_ When handed in at Local Office 26/11 1925 Port of \_\_\_\_\_  
 No. in Survey held at Swansea-on-Tyne Date, First Survey 7<sup>th</sup> Jan. Last Survey 22<sup>nd</sup> Jan 1925  
 J. Book. \_\_\_\_\_ (Number of Visits 11) Tons {Gross 998  
1725 on the S.S. Solbkin {Net 554  
 Built at Stettin By whom built Stettiner Aderwerke Yard No. \_\_\_\_\_ When built 1921  
 Engines made at Stettin By whom made Stettiner Aderwerke Engine No. \_\_\_\_\_ When made 1921  
 Boilers made at Stettin By whom made Stettiner Aderwerke Boiler No. \_\_\_\_\_ When made 1921  
 Nominal Horse Power 92 Owners British India Steam Nav<sup>y</sup> Co Ltd Port belonging to Glasgow

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

Manufacturers of Steel \_\_\_\_\_ (Letter for Record \_\_\_\_\_)  
 Total Heating Surface of Boilers 2160 ft<sup>2</sup> Is forced draught fitted no ✓ Coal or Oil fired Coal ✓  
 No. and Description of Boilers 2 single ended multitubular 2SB ✓ Working Pressure 200 lbs  
350 1/2" 20, 1, 25. L.R. 24.  
 Tested by hydraulic pressure to 270 ✓ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Can each boiler be worked separately no ✓  
 Area of Firegrate in each Boiler 29 ft<sup>2</sup> No. and Description of safety valves to each boiler two direct spring ✓  
 Area of each set of valves per boiler {per Rule 3.16 " as fitted 11.34 " Pressure to which they are adjusted 199 lbs 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 9 1/2 " ✓ Is oil fuel carried in the double bottom under boilers \_\_\_\_\_  
 Smallest distance between shell of boiler and tank top plating 14 " ✓ Is the bottom of the boiler insulated yes ✓  
 Largest internal dia. of boilers 10-4 " Length 10-5 3/16 " Shell plates: Material steel ✓ Tensile strength 28-32 ✓  
 Thickness 3/32 " ✓ Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams {end double exp inter. none  
 long. seams with straps ✓ Diameter of rivet holes in {circ. seams 1 3/16 " ✓ Pitch of rivets {long. seams 1 3/16 " ✓  
 Percentage of strength of circ. end seams {plate 68.2 rivets 53.0 Percentage of strength of circ. intermediate seam {plate \_\_\_\_\_ rivets \_\_\_\_\_  
 Percentage of strength of longitudinal joint {plate 84.15 rivets 118.5 combined \_\_\_\_\_ Working pressure of shell by Rules 200 lbs  
 Thickness of butt straps {outer 3/32 " ✓ inner 3/32 " ✓ No. and Description of Furnaces in each Boiler 2 Suspension ✓  
 Material steel ✓ Tensile strength 21.6-26 tons ✓ Smallest outside diameter 39 1/16 " 36 1/16 " ✓  
 Length of plain part {top \_\_\_\_\_ bottom \_\_\_\_\_ Thickness of plates {crown 9/16 " ✓ Description of longitudinal joint welded ✓  
 Dimensions of stiffening rings on furnace or c.c. bottom none ✓ Working pressure of furnace by Rules 223 lbs  
 End plates in steam space: Material steel ✓ Tensile strength 21.6-26 tons ✓ Thickness 15/16 " ✓ Pitch of stays 14 3/4" x 14 3/8"  
 How are stays secured double nuts and melted washers Working pressure by Rules 215 lbs  
 Tube plates: Material {front steel back steel Tensile strength { 21.6-26 tons Thickness { 15/16 " 3/32 " 33 fronting 32 plate!  
 Mean pitch of stay tubes in nests 8 7/8 " Pitch across wide water spaces 14 3/16" x 4 9/16" Working pressure {front 230 lbs back 293 " ✓  
 Girders to combustion chamber tops: Material steel ✓ Tensile strength 22.2-26 tons ✓ Depth and thickness of girder  
 at centre 6 1/2" x 1 9/16 " ✓ Length as per Rule 23 7/8 " ✓ Distance apart 4 7/8 " ✓ No. and pitch of stays  
 in each 2-4 7/8 " ✓ Working pressure by Rules 226.5 lbs ✓ Combustion chamber plates: Material steel ✓  
 Tensile strength 21.6-26 tons ✓ Thickness: Sides 3/32 " ✓ Back 19/32 " ✓ Top 11/16 " ✓ Bottom 21/32 " ✓  
 Pitch of stays to ditto: Sides 4 7/8" x 4 7/8 " ✓ Back 4 1/16" x 4 1/16 " ✓ Top 4 7/8" x 4 7/8 " ✓ Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules 240-5 244-8 264-7 Front plate at bottom: Material steel ✓ Tensile strength 21.6-26 ✓  
 Thickness 15/16 " Lower back plate: Material steel ✓ Tensile strength 21.6-26 ✓ Thickness 15/16 " ✓  
 Pitch of stays at wide water space 14 3/16" x 4 7/16 " ✓ Are stays fitted with nuts or riveted over nuts  
 Working Pressure 280 lbs Main stays: Material steel ✓ Tensile strength 22.2-26 tons  
 Diameter {At body of stay, 2 1/2 " ✓ or 2 3/4 " ✓ No. of threads per inch 6 ✓ Area supported by each stay 212 " ✓  
 Working pressure by Rules 205 lbs ✓ Screw stays: Material steel ✓ Tensile strength 22.2-26 tons ✓  
 Diameter {At turned off part, 1 1/2 " ✓ or 1 3/8 " ✓ No. of threads per inch 9 ✓ Area supported by each stay 50 " ✓



Working pressure by Rules 200 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/8"

No. of threads per inch 9 Area supported by each stay 75 sq" Working pressure by Rules 203 lbs

Tubes: Material steel External diameter { Plain 3 1/2" Stay 3 1/4" Thickness { 5/32" 9/32" No. of threads per inch 9

Pitch of tubes 4 7/16" Working pressure by Rules 200 lbs Manhole compensation: Size of opening in shell plate 15 1/2 diam Section of compensating ring 4 7/8" x 3 1/2" No. of rivets and diameter of rivet holes 30 1 3/8"

Outer row rivet pitch at ends 5 3/4" Depth of flange if manhole flanged — Steam Dome: Material steel

Tensile strength 28-32 Lons Thickness of shell 5/8" Description of longitudinal joint double lap

Diameter of rivet holes 13/16" Pitch of rivets 2 3/4" Percentage of strength of joint { Plate 40.4 Rivets 130.0

Internal diameter 33 7/16" Working pressure by Rules 345 lbs Thickness of crown 5/8" No. and diameter of stays none Inner radius of crown 37 1/8" Working pressure by Rules 237 lbs

How connected to shell double welded flange Size of doubling plate under dome none Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 7/8" dia. 2 1/8" pitch. double welded.

Type of Superheater Schmitt Manufacturers of { Tubes — Steel castings —

Number of elements 24 each Blr Material of tubes steel Internal diameter and thickness of tubes 19 1/32" 1/8"

Material of headers Steel Tensile strength — Thickness 1" Can the superheater be shut off and the boiler be worked separately yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes

Area of each safety valve 3.04 sq" Are the safety valves fitted with easing gear yes Working pressure as per Rules 199 lbs/sq" Pressure to which the safety valves are adjusted 208 lbs/sq" Hydraulic test pressure: tubes — castings — and after assembly in place 400 lbs/sq" Are drain cocks or valves fitted to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes

The foregoing is a correct description,  
 \_\_\_\_\_  
 Manufacturer.

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

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

These boilers were examined internally & externally and found to be in good condition. The scantlings were checked, as far as possible, from plans and found to be correct. The boiler mountings were examined and found as fit in good condition; cocks were fitted instead of valves to comply with rules section 18 ff 6; the aux<sup>y</sup> check valve of the S. Blr. was renewed to comply with section 29 ff 1. Easing gear workable from the stowhold floor was fitted to the Superheat safety valves. The riveting & flanging of the steam domes was particularly examined, the lagging being removed, as necessary, to permit of this. The boilers were tested hydraulically to the rule requirements, Btls 350 lbs/sq Superheater 400 lbs/sq and found satisfactory. The boilers were examined under steam and the safety valves adjusted to the pressures stated above. Please see also machinery report attached.

Survey Fee ... .. £ : When applied for. 192  
 Travelling Expenses (if any) £ : When received. 192

L.R. Home & Maurice Nelson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 30 JAN. 1925

Assigned See other rpt  
Same No.

