

# REPORT ON BOILERS.

No. 16193.

Received at London Office TUE JUN 17 1924

Date of writing Report 192 When handed in at Local Office 192 Port of WEST HARTLEPOOL

No. in Survey held at West Hartlepool Date, First Survey 23 July 1923 Last Survey 12 June 1924

1003 on the S S SØBORG (Number of Visits 76.) Gross 2013.6 Tons Net 1196.4.

Boiler made at West Hartlepool By whom built Wm Gray & Co Ltd Yard No. 956 When built 1924

Engines made at West Hartlepool By whom made Central Marine Engine Works Engine No. 956 When made 1924

Boilers made at ditto. By whom made ditto Boiler No. 956 When made 1924

Indicated Horse Power 194 Owners C. H. Hansen. Port belonging to Copenhagen.

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

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

Total Heating Surface of Boilers 3134 sq. ft. Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers 2, single ended 2SB Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 23.1.24 No. of Certificate 3631 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 396 sq. ft. No. and Description of safety valves to each boiler 2 direct spring

Area of each set of valves per boiler {per Rule 10" as fitted 14.14" 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'-6" 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

Largest internal dia. of boilers 13'-0" Length 10'-6" Shell plates: Material Steel Tensile strength 26.5/30

Thickness 1 1/8" Are the shell plates welded or flanged yes Description of riveting: circ. seams {end DR Lap inter.

Long. seams J.R. D.B.S. Diameter of rivet holes in {circ. seams 1 1/8" long. seams 1 1/8" Pitch of rivets {3 3/4" 8 1/8"

Percentage of strength of circ. end seams {plate Shell flanged rivets Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 86.1 rivets 88.5 combined 90.0 Working pressure of shell by Rules 180 lbs

Thickness of butt straps {outer 5/8" inner 1" No. and Description of Furnaces in each Boiler 2 Deightons

Material Steel Tensile strength 26/30 Smallest outside diameter 43"

Length of plain part {top bottom Thickness of plates {crown 9" bottom 10" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 189 lbs

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 3/32 Pitch of stays 17" x 17 1/2"

How are stays secured D nuts Working pressure by Rules 186 lbs

Tube plates: Material {front Steel back Steel Tensile strength {26/30 Thickness {15" 16 3/16"

Mean pitch of stay tubes in nests 13 1/2" x 9" Pitch across wide water spaces 14" Working pressure {front 218 lbs back 187 lbs

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

Centre 7 1/2" x 1 3/4" Length as per Rule 2'-5 1/2" Distance apart 10" No. and pitch of stays

each 2 9" Working pressure by Rules 192 lbs Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 11/16"

Pitch of stays to ditto: Sides 9" x 9 3/4" Back 9" x 9 1/4" Top 9" x 10" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 183 lbs Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 15/16" Lower back plate: Material Steel Tensile strength 26/30 Thickness 7/8"

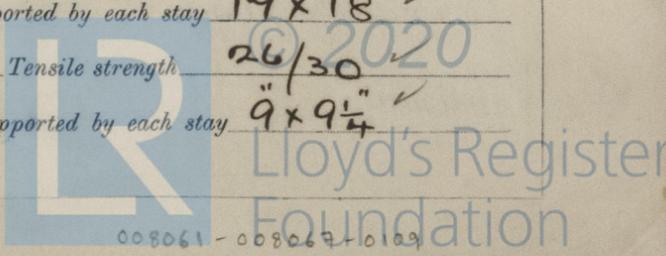
Pitch of stays at wide water space 14" x 9" Are stays fitted with nuts or riveted over nuts

Working Pressure 226 lbs Main stays: Material Steel Tensile strength 28/32

Diameter {At body of stay 2 3/4" No. of threads per inch 6 Area supported by each stay 17" x 18"

Working pressure by Rules 180 lbs Screw stays: Material Steel Tensile strength 26/30

Diameter {At turned off part 1 5/8" No. of threads per inch 9 Area supported by each stay 9" x 9 1/4"



Working pressure by Rules 183 lb Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, or Over threads 1 7/8" ✓  
 No. of threads per inch 9 ✓ Area supported by each stay 11 1/8 x 9 ✓ Working pressure by Rules 211 lb  
 Tubes: Material Iron ✓ External diameter { Plain 3 3/4" Stay 3 3/4" Thickness { 9 SWG 5/16" No. of threads per inch 9 ✓  
 Pitch of tubes 4 1/2 x 4 1/2" ✓ Working pressure by Rules 180 Manhole compensation: Size of opening in end shell plate 12 x 16 ✓ Section of compensating ring \_\_\_\_\_ No. of rivets and diameter of rivet holes \_\_\_\_\_  
 Outer row rivet pitch at ends \_\_\_\_\_ ✓ Depth of flange if manhole flanged 3 1/2" ✓ 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 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 \_\_\_\_\_  
 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 THE CENTRAL MARINE ENGINE WORKS, (INC. LTD. & CO. LTD.)  
 The foregoing is a correct description,  
John H. Gearing Manufacturer.  
 DIRECTOR

Dates of Survey { During progress of work in shops - - - } See attached report on Machinery ✓ Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes ✓  
 { During erection on board vessel - - - }  
 Total No. of visits \_\_\_\_\_

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
These boilers have been built under Special Survey and satisfactorily withstood the hydraulic test. The materials and workmanship are good

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

R.D. Shilston  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 20 JUN 1924

Assigned

