

REPORT ON BOILERS.

No. 21284.

Received at London Office

Date of writing Report 1st FEB 1941. When handed in at Local Office 4th FEB 1941. Port of GREENOCK

No. in Survey held at GREENOCK Date, First Survey 26th March 1940 Last Survey 30th Jan 1941

7765 on the SINGLE SC "DENBYDALE" Oil ENGINES (Number of Visits ✓) Tons {Gross 8000 Net 7236

Master Built at GLASGOW By whom built BLYTHSWOOD SHIP CO L^{td} Yard No. 62 When built 1941

Engines made at GREENOCK By whom made JOHN G. KINCAID & CO L^{td} Engine No. 132 When made 1941

Boilers made at GREENOCK By whom made JOHN G. KINCAID & CO L^{td} Boiler No. 132 When made 1941

Nominal Horse Power 490 Owners Ministry of Shipping Port belonging to Glasgow.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland (Letter for Record 5 ✓)

Total Heating Surface of Boilers 3302^{sq} Is forced draught fitted Yes ✓ Gas or Oil fired Yes ✓

No. and Description of Boilers Two cylindrical ✓ Working Pressure 150 lbs ✓

Tested by hydraulic pressure to 275 Date of test 17-10-40 No. of Certificate 2217 Can each boiler be worked separately Yes ✓

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two 2" 144 ✓

Area of each set of valves per boiler {per Rule 6.25" as fitted 6.28" Pressure to which they are adjusted 150 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 15" Is oil fuel carried in the double bottom under boilers No ✓

Smallest distance between shell of boiler and tank top plating Boilers on upper Deck in ER Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 12-5 1/8" Length 11'-0" Shell plates: Material S Tensile strength 29/33 ✓

Thickness 7/8" Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams {end 29 inter. 2.873" ✓

long. seams T.R. D.B.S. Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 3/8" Pitch of rivets { 6.75" ✓

Percentage of strength of circ. end seams {plate 67.4% rivets 43.7% Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓

Percentage of strength of longitudinal joint {plate 56.0% rivets 56.8% combined 59.6% Working pressure of shell by Rules 158 lbs ✓

Thickness of butt straps {outer 2 1/32" inner 2 5/32" No. and Description of Furnaces in each Boiler Two Dighton ✓

Material S Tensile strength 26/30 tons Smallest outside diameter 3'-9" ✓

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

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 160 lbs ✓

End plates in steam space: Material S Tensile strength 26/30 tons Thickness 1 1/32" Pitch of stays 19" x 16 1/2" ✓

How are stays secured D.N. Working pressure by Rules 154 lbs ✓

Tube plates: Material {front S back S Tensile strength { 26/30 tons Thickness { 1 1/2" ✓

Mean pitch of stay tubes in nests 9.5" Pitch across wide water spaces 13 1/2" Working pressure {front 183.25" back 155. ✓

Girders to combustion chamber tops: Material S Tensile strength 29/33 tons Depth and thickness of girder

at centre. 8 3/4" x 1 1/2" Length as per Rule 2'-9 1/4" Distance apart 8 1/2" No. and pitch of stays

in each 3 @ 8" Working pressure by Rules 192 lbs Combustion chamber plates: Material S ✓

Tensile strength 26/30 tons Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4" ✓

Pitch of stays to ditto: Sides 8 x 9" Back 9 x 9" Top 8 x 8 1/2" Are stays fitted with nuts or riveted over Nuts ✓

Working pressure by Rules 167 lbs Front plate at bottom: Material S Tensile strength 26/30 ✓

Thickness 1 5/16" Lower back plate: Material S Tensile strength 26/30 Thickness 7/8" ✓

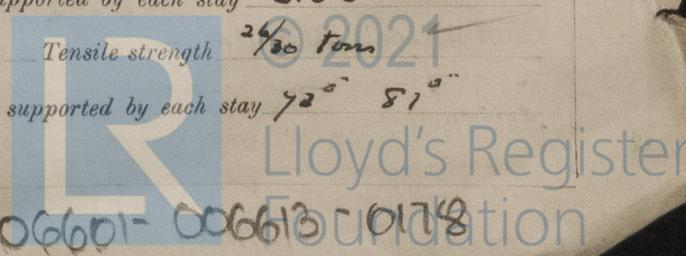
Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over Nuts ✓

Working Pressure 156 lbs Main stays: Material S Tensile strength 28/32 tons ✓

Diameter {At body of stay, or Over threads 2 1/2" No. of threads per inch 6 Area supported by each stay 313.5" ✓

Working pressure by Rules 170 lbs Screw stays: Material S Tensile strength 26/30 tons ✓

Diameter {At turned off part, or Over threads 1 1/2" - 1 3/8" No. of threads per inch 9 Area supported by each stay 72" x 81" ✓



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Working pressure by Rules 174 L Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4" or Over threads }
 No. of threads per inch 9 Area supported by each stay 103.5" Working pressure by Rules 175 L
 Tubes: Material S External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 9/16" 1/32" } No. of threads per inch 9
 Pitch of tubes 3 7/8" x 3 3/4" Working pressure by Rules 250 L Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 2' 5" x 2' 9" x 1" No. of rivets and diameter of rivet holes 38 x 1 1/8"
 Outer row rivet pitch at ends 5" 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 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 _____ Manufacturers of { Tubes Steel forgings 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 _____ forgings and 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 _____

The foregoing is a correct description,
 FOR JOHN G. KINGAID & CO. LIMITED.
W. G. Kingaid Director/Manufacturer.

Dates of Survey { During progress of work in shops - - } while building { During erection on board vessel - - - }
 Are the approved plans of boiler and superheater forwarded herewith 16-10-39 (If not state date of approval.)
 Total No. of visits _____
See machinery report

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These boilers have been built under special survey in accordance with the Rules and approved plans. The materials & workmanship are sound & good. The safety valves have been adjusted under steam, accumulation oil. These boilers are eligible in my opinion to be fitted in a vessel classed in the Society's Register Book.

Survey Fee ... £ : : When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

Charles J. Hunter
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 11 FEB 1941**
 Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

