

REPORT ON BOILERS.

Received at London Office 3 SEP 1941

Date of writing Report 26th AUG 1941. When handed in at Local Office 27th AUG 1941. Port of GREENOCK

No. in Survey held at GREENOCK Date, First Survey 6th MAY 1940. Last Survey 19th AUGUST 1941.

Supp. 91015 on the SINGLE SCREW "EMPIRE JET" OIL ENG. (Number of Visits) Tons {Gross 8134 Net 4728

Master Built at Glasgow By whom built Blythwood S.B. Co. Ltd. Yard No. 63 When built 1941

Engines made at Greenock By whom made John G. Kincaid & Co. Ltd. Engine No. 4133 When made 1941

Boilers made at Greenock By whom made John G. Kincaid & Co. Ltd. Boiler No. 4133 When made 1941

Nominal Horse Power 490 Owners Ministry of Shipping Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland Ltd. (Letter for Record S)

Total Heating Surface of Boilers 3302 sq ft Is forced draught fitted Yes Exn. Gas Coal or Oil fired Oil fired

No. and Description of Boilers Two cylindrical 21-2-41 2230 Working Pressure 150 lbs/sq in

Tested by hydraulic pressure to 275 lbs Date of test 27-2-41 No. of Certificate 2232 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two - 2" 1HL

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 DR inter. Yes

Long. seams T.R. DBS Diameter of rivet holes in {circ. seams 15/16 long. seams 15/16 Pitch of rivets {2.873" 6.75"

Percentage of strength of circ. end seams {plate 67.4% rivets 43.77% Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 86.7% rivets 86.87% combined 89.67% Working pressure of shell by Rules 158 lbs

Thickness of butt straps {outer 2 1/32 inner 25/32 No. and Description of Furnaces in each Boiler Two Dighton

Material S Tensile strength 26/30 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 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 back S Tensile strength {26/30 Thickness {15/16 11/16

Mean pitch of stay tubes in nests 9.5" Pitch across wide water spaces 13 1/2" Working pressure {front 183.25 lbs back 185.0 lbs

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 1/16" 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 15/16 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 sq in

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 5/8" No. of threads per inch 9 Area supported by each stay 72 sq in & 51 sq in



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Working pressure by Rules 174L Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part.} 1 3/4"
 No. of threads per inch 9 Area supported by each stay 103.5" Working pressure by Rules 175L
 Tubes: Material S External diameter ^{Plain} 2 1/2" Thickness ^{9ws} 5/16" ^{1 1/32"} No. of threads per inch 9
 Pitch of tubes 3 7/8" x 3 3/4" Working pressure by Rules 250L 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 @ 1 1/2"
 Outer row rivet pitch at ends 8" 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} _____
 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 casing 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. KINCAID & CO. LTD. Manufacturer.
W. Carter Director

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
 (If not state date of approval.)
 Total No. of visits _____

SEE MACHINERY REPORT

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. DENBYDALE GRK 77 N° 21284

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 nil.
 These boilers are eligible in my opinion to be fitted in a vessel classed
 in the Society Register Book.

Survey Fee £ _____ When applied for, 19
 Travelling Expenses (if any) £ _____ When received, 19
 See machinery report

Charles H. Wether
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 2 SEP 1941

Assigned SEE ACCOMPANYING MACHINERY REPORT

