

REPORT ON BOILERS.

No. 18650

-8 SEP 1936

Received at London Office

Date of writing Report 5-9-1936 When handed in at Local Office 4-9-1936 Port of Aberdeen.

No. in Reg. Book. Survey held at Aberdeen. Date, First Survey 24th March '36 Last Survey 31st August 1936.

on the "G H E N G A R R I E F" (Number of Visits 15) Tons: Gross 868.45 Net 456.06

Master Built at Aberdeen By whom built Messrs John Lewis & Sons Ltd Yard No. 139 When built 1936.

Engines made at Aberdeen By whom made Messrs John Lewis & Sons Ltd Engine No. 214 When made 1936.

Boilers made at Aberdeen By whom made " " Boiler No. 181 When made 1936.

Nominal Horse Power 131. Owners John Kelly Ltd Port belonging to Belfast

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

Manufacturers of Steel Messrs C. Stilles Ltd. (Letter for Record S. ✓)

Total Heating Surface of Boilers 2357 Square feet Is forced draught fitted No ✓ Coal or Oil fired Coal. ✓

No. and Description of Boilers 6 one single ended ✓ Working Pressure 200 lbs ✓

Tested by hydraulic pressure to 350 lbs Date of test 1.8.36. No. of Certificate 1125 ✓ Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 60 sq ft No. and Description of safety valves to each boiler 2 Direct spring loaded

Area of each set of valves per boiler {per Rule 13.71 sq ft as fitted 14.13 sq ft} Pressure to which they are adjusted 200 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 4'-6" Is oil fuel carried in the double bottom under boilers ✓

Smallest distance between shell of boiler and tank top plating 6 feet Is the bottom of the boiler insulated No.

Largest internal dia. of boilers 15'-0 3/8" Length 10'-9" Shell plates: Material Steel Tensile strength 29/33 tons ✓

Thickness 1 5/16" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R.L. inter. ✓}

long. seams T. R. D. B. S Diameter of rivet holes in {circ. seams 1 3/8" long. seams 1 7/8" Pitch of rivets {4.090 9 1/2"}

Percentage of strength of circ. end seams {plate 66.6 rivets 43.5} Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓}

Percentage of strength of longitudinal joint {plate 85.5 rivets 88.5 combined 88.8} Working pressure of shell by Rules 200.1 lbs ✓

Thickness of butt straps {outer 1 1/8" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 Plain. ✓

Material Steel Tensile strength 26/30 tons ✓ Smallest outside diameter 3'-4 3/8" ✓

Length of plain part {top 6'-4 3/32" bottom 5'-10 15/32" Thickness of plates {crown 1 3/16" bottom 1 3/16" Description of longitudinal joint Weld. ✓

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 200 lbs ✓

End plates in steam space: Material Steel ✓ Tensile strength 26/30 tons ✓ Thickness 1 1/4" Pitch of stays 1'-8 1/4" x 1'-5 1/2" ✓

How are stays secured nut inside & outside. Working pressure by Rules 202.3 lbs ✓

Tube plates: Material {front Steel back " Tensile strength {26/30 tons Thickness {29/32" 25/32"}

Mean pitch of stay tubes in nests 10'-1" Pitch across wide water spaces 1'-2 1/8" Working pressure {front 201 lbs back 206 lbs}

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

at centre 2 @ 11" x 9 1/16" Length as per Rule 2'-10 17/32" Distance apart 9" No. and pitch of stays

in each 3 @ 8 1/8" Working pressure by Rules 204 lbs ✓ Combustion chamber plates: Material Steel, ✓

Tensile strength 26/30 lbs ✓ Thickness: Sides 2 1/32" Back 1 1/16" Top 2 1/32" Bottom 2 1/32" ✓

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

Working pressure by Rules 200.5 lbs ✓ Front plate at bottom: Material Steel Tensile strength 26/30 tons ✓

Thickness 29/32" Lower back plate: Material Steel Tensile strength 26/30 tons ✓ Thickness 27/32" ✓

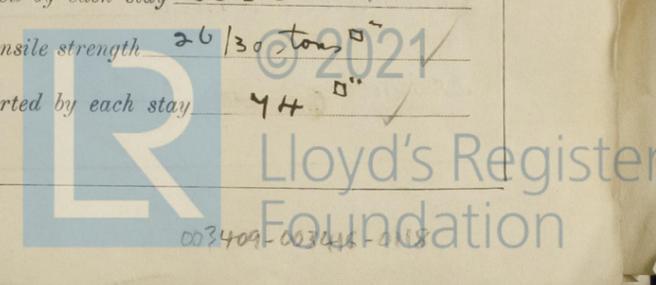
Pitch of stays at wide water space 1'-2 1/8" Are stays fitted with nuts or riveted over nuts.

Working Pressure 205.5 lbs ✓ Main stays: Material Steel Tensile strength 28/32 tons ✓

Diameter {At body of stay, or Over threads 3 1/8" No. of threads per inch 6 Area supported by each stay 353.5 sq in ✓

Working pressure by Rules 208 lbs ✓ Screw stays: Material 26/30 tons Tensile strength 26/30 tons ✓

Diameter {At turned off part, or Over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 44 sq in ✓



Working pressure by Rules 205.3 Are the stays drilled at the outer ends *N.S.* Margin stays: Diameter At turned off part, *1 7/8"*
 No. of threads per inch *9* Area supported by each stay *105.5"* Working pressure by Rules 202.3 *202.3 lbs.*
 Tubes: Material *Steel* External diameter Plain *3 1/4"* Thickness *8 W.G.* No. of threads per inch *9*
 Pitch of tubes *4 1/2" x 4 1/2"* Working pressure by Rules 209.8 & 205.8 Manhole compensation: Size of opening in
 shell plate *19" x 15"* Section of compensating ring *7" x 1 5/16"* No. of rivets and diameter of rivet holes *40 - 1 3/8"*
 Outer row rivet pitch at ends *9 1/2"* Depth of flange if ~~manhole~~ ^{COMPENSATING RING} flanged *3"* 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 casing 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 22 inclusive for boilers been complied with _____
 The foregoing is a correct description,
 For JOHN LEWIS & CO. LTD. *John Lewis*
 Secretary. Manufacturer.

Dates of Survey During progress of work in shops --- *Nov. 24, Dec. 9, 14, 24, 30, May 11, 18.* Are the approved plans of boiler and superheater forwarded herewith *Yes.*
 while building During erection on board vessel --- *June 1, 15, 24, July 6, 22, Aug. 1, 8, 15, 24, 31.* (If not state date of approval.)
 Total No. of visits *15.*

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been constructed under special survey, in accordance with the Rules and approved plan.*
The materials and workmanship are good.
The boiler has been securely fitted on board the vessel, examined under working conditions & found good.
The safety valves have been adjusted under steam as stated, and satisfactorily tested for accumulation.
For record of survey, please see machinery report attached.

Survey Fee *Charged on Mch report* £ : : When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

J. D. Avey
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 11 SEP 1936* *TUE. 20 OCT 1936*

Assigned *See Abn. J.E. Rpt. 18650*

