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REPORT ON BOILERS.

No. 23847

Received at London Office. 4-5 JUN 1949

Date of writing Report. 31st MAR. 1949 When handed in at Local Office. 1st APRIL 1949 Port of. GREENOCK

No. in Survey held at. GREENOCK Date, First Survey 20th AUG. 1948 Last Survey 18th MARCH 1949

Reg. Book. on the S.S. "Woodland" (Number of Visits.) Tons { Gross. 2459 Net. 1403

Master. Built at DUNDEE By whom built. CALEDON S.E. CO. LTD. Yard No. 468 When built. 1949

Engines made at. GREENOCK By whom made. JOHN G. KINCAID & CO. LTD. Engine No. 797 When made. 1949

Boilers made at. do By whom made. do Boiler No. 797 When made. 1949

Nominal Horse Power. 412 Owners. Currie Line Port belonging to. Leith

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

Manufacturers of Steel. Colvilles Ltd. (Letter for Record. S)

Total Heating Surface of Boilers. 4940^{sq} ft. (Sp) 2020. Vol (2362) 6960. Is forced draught fitted. Yes Coal or Oil fired. Oil

No. and Description of Boilers. Two cylindrical SE ✓ Working Pressure. 220 lbs ✓

Tested by hydraulic pressure to. 380 lbs Date of test. 17-3-49 No. of Certificate. 2517 Can each boiler be worked separately. Yes ✓

Area of Firegrate in each Boiler. No. and Description of safety valves to each boiler. Two 1 H L

Area of each set of valves per boiler { per Rule. 6.57 ✓ as fitted. 7.96 ✓ Pressure to which they are adjusted. 225-235/2" 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. 2' 4" Is oil fuel carried in the double bottom under boilers. No

Smallest distance between shell of boiler and tank top plating. 2' Is the bottom of the boiler insulated. Yes

Largest internal dia. of boilers. 14' 6" Length. 11' 6" Shell plates: Material. S Tensile strength. 29/33 tons ✓

Thickness. 1 13/32" Are the shell plates welded or flanged. No Description of riveting: circ. seams { end. DR inter. 3.936" ✓

long. seams. TRDBS Diameter of rivet holes in { circ. seams. 17/16" ✓ long. seams. 17/16" ✓ Pitch of rivets { 10" ✓

Percentage of strength of circ. end seams { plate. 63.4 % rivets. 46.6 % Percentage of strength of circ. intermediate seam { plate. 85.56 % rivets. 86.7 %

Percentage of strength of longitudinal joint { plate. 88.57 % rivets. 88.57 % Working pressure of shell by Rules. 223 lbs / 0

Thickness of butt straps { outer. 1 1/16" ✓ inner. 1 3/16" ✓ No. and Description of Furnaces in each Boiler. Three Dighton corrugated

Material. S Tensile strength. 26/30 tons ✓ Smallest outside diameter. 3' 7 5/8" ✓

Length of plain part { top. ✓ bottom. ✓ Thickness of plates { crown. 2 1/32" ✓ bottom. 3/32" ✓ Description of longitudinal joint. Weld

Dimensions of stiffening rings on furnace or c.c. bottom. ✓ Working pressure of furnace by Rules. 26/30 tons

End plates in steam space: Material. S Tensile strength. 26/30 tons Thickness. 1 13/32" ✓ Pitch of stays. 20" x 20" ✓

How are stays secured. DN 9 washers Working pressure by Rules. 3 1/32" ✓

Tube plates: Material { front. S back. S Tensile strength { 26/30 tons ✓ Thickness { 25/32" ✓

Mean pitch of stay tubes in nests. 9.8 Pitch across wide water spaces. 14" ✓ Working pressure { front. 29/33 tons ✓ back. 25/32" ✓

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

at centre. 9" x 1 1/2" ✓ Length as per Rule. 2' 7 1/32" ✓ Distance apart. 9" ✓ No. and pitch of stays

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

Tensile strength. 26/30 tons Thickness: Sides. 1 1/16" ✓ Back. 1 1/16" ✓ Top. 1 1/16" ✓ Bottom. 25/32" ✓

Pitch of stays to ditto: Sides. 9 1/8" x 8" ✓ Back. 8 3/4" x 8 1/8" ✓ Top. 9 x 8" ✓ Are stays fitted with nuts or riveted over. Nuts except on shell

Working pressure by Rules. Front plate at bottom: Material. S Tensile strength. 26/30 tons

Thickness. 3 1/32" ✓ Lower back plate: Material. S Tensile strength. 26/30 tons Thickness. 7/8" ✓

Pitch of stays at wide water space. 14" x 8 3/4" ✓ Are stays fitted with nuts or riveted over. Nuts ✓

Working pressure. Main stays: Material. S Tensile strength. 25/32 tons

Diameter { At body of stay. 3 3/4" ✓ No. of threads per inch. 9 ✓ Area supported by each stay. 26/30 tons ✓

Working pressure by Rules. Screw stays: Material. S Tensile strength. 26/30 tons

Diameter { At turned off part. 1 3/4" ✓ No. of threads per inch. 9 ✓ Area supported by each stay. 26/30 tons ✓

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Working pressure by Rules..... Are the stays drilled at the outer ends..... *No*..... Margin stays: Diameter { At turned off part..... *2"* or Over threads..... *2"* ✓

No. of threads per inch..... *9* ✓..... Area supported by each stay..... Working pressure by Rules.....

Tubes: Material *Hot rolled steel*..... External diameter { Plain..... *3"* ✓ Stay..... *3"* ✓..... Thickness { *5/16"* ✓ *3/8"* ✓..... No. of threads per inch..... *9* ✓

Pitch of tubes..... *4 1/4" x 4 1/4"*..... Working pressure by Rules..... Manhole compensation: Size of opening in shell plate..... *20 7/8" x 16 7/8"* ✓..... Section of compensating ring..... *3-1 3/8" x 2-9 3/8" x 1 3/4"* ✓..... No. of rivets and diameter of rivet holes..... *40 - 1 7/16"* ✓

Outer row rivet pitch at ends..... *16"*..... Depth of flange if manhole flanged..... *No. Rivet type door* ✓..... Steam Dome: Material..... *7* ✓

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 *The Superheater Co. Ltd.*..... Manufacturers of { Tubes..... Steel forgings..... Steel castings..... *See Manchester certificate N° 7322/3*

Number of elements..... Material of tubes..... *S*..... Internal diameter and thickness of tubes..... *22/17 1/2"*

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..... *Yes*

Area of each safety valve..... *1 9/16" 3.14"*..... Are the safety valves fitted with casing gear..... *Yes*..... 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..... *600 LBS/1"* ✓..... Are drain cocks or valves fitted to free the superheater from water where necessary..... *Yes*

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., LIMITED
J. Kincaid Manufacturer.

Dates of Survey while building { During progress of work in shops - - - 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..... *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 constructed under special survey in accordance with the Rules & approved plans. The materials & workmanship are sound & good. They have now been despatched to Dundee to be installed into Messrs Calender & Co's Yard N° 468. Please see machinery report for recommendations JOK N°

These Boilers have been satisfactorily installed in The Vessel, seen under steam, safety valves adjusted to 225 LBS/1" and accumulation tests as per Rules carried out.

G. C. Hunter
Dundee, May/29.

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

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

Committee's Minute..... *GLASGOW - 5 APR 1929*

Assigned..... *See J.B. McIlroy, rpt.*