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REPORT ON BOILERS.

No. 23916

28 JUL 1949

Received at London Office

Date of writing Report 27 JULY 1949 When handed in at Local Office 11th JULY 1949 Port of GREENOCK

No. in Reg. Book. GREENOCK Survey held at GREENOCK Date, First Survey 23rd NOV. 1948 Last Survey 30th JUNE 1949

on the S.S. 'FINELAND' (Number of Visits ✓) Tons Gross 245.9 Net 14.03

Master DUNDEE Built at DUNDEE By whom built CALEDON S/S & ENG CO Yard No. 472 When built 1949

Engines made at GREENOCK By whom made JOHN G. KINCAID & CO LD Engine No. 798 When made 1949

Boilers made at DO By whom made DO Boiler No. 798 When made 1949

Nominal Horse Power 412 Owners CURRIE LINE LD Port belonging to Lark

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLE LD (Letter for Record S)

Total Heating Surface of Boilers 4940 sq ft Is forced draught fitted Yes Coal or Oil fired Oil

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

Tested by hydraulic pressure to 380 lb Date of test 8/6/49 No. of Certificate 2531/2 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler Two 14 lb

Area of each set of valves per boiler per Rule 6.57 Pressure to which they are adjusted 225 lb 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 34/30 tons

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

long. seams TP085 Diameter of rivet holes in 1 7/16 Pitch of rivets 3.936

Percentage of strength of circ. end seams plate 63.47 rivets 46.67 Percentage of strength of circ. intermediate seam plate 85.867 rivets 86.7

Percentage of strength of longitudinal joint combined 88.57 Working pressure of shell by Rules 223 lb

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 24/30 tons Smallest outside diameter 3'-7 5/16"

Length of plain part top 2 1/32 bottom 2 1/32 Thickness of plates 2 1/32 Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 24/30 tons

End plates in steam space: Material S Tensile strength 24/30 tons Thickness 1 13/32 Pitch of stays 20 x 30

How are stays secured DN washers Working pressure by Rules 34/30 tons

Tube plates: Material S Tensile strength 24/30 tons Thickness 3 3/32

Mean pitch of stay tubes in nests 9.8 Pitch across wide water spaces 14" Working pressure 24/30 tons

Girders to combustion chamber tops: Material S Tensile strength 24/30 tons Depth and thickness of girder at centre 9' x 1 1/2" Length as per Rule 2'-7 7/32 Distance apart 9" No. and pitch of stays in each three 2 8" Working pressure by Rules 24/30 tons

Tensile strength 24/30 tons Thickness: Sides 1 1/16 Back 1 1/16 Top 1 1/16 Bottom 2 5/32

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

Working pressure by Rules 24/30 tons Front plate at bottom: Material S Tensile strength 24/30 tons

Thickness 3 1/32 Lower back plate: Material S Tensile strength 24/30 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 24/30 tons Main stays: Material S Tensile strength 24/30 tons

Diameter At body of stay 3 1/4" No. of threads per inch 9 Area supported by each stay 6 sq in

Working pressure by Rules 24/30 tons Screw stays: Material S Tensile strength 24/30 tons

Diameter At turned off part 1 3/4" No. of threads per inch 9 Area supported by each stay 6 sq in

Working pressure by Rules..... Are the stays drilled at the outer ends. *No* Margin stays: Diameter *At turned off part, 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" ✓* Thickness *8 w.g. 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 3/32" ✓* No. of rivets and diameter of rivet holes *40 @ 1 7/16 ✓*
Outer row rivet pitch at ends *10" ✓* Depth of flange if manhole flanged *10" ✓* 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 *The Superheater Co. Ltd.*

Manufacturers of

Tubes.....
Steel forgings.....
Steel castings.....

Number of elements..... Material of tubes *S* Internal diameter and thickness of tubes *22 1/7" ✓*
Material of headers..... Tensile strength..... Thickness..... Can the superheater be shut off and
the boiler be worked separately *Yes* 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 *3.14" ✓* Are the safety valves fitted with easing gear *Yes* Working pressure as per
Rules..... Pressure to which the safety valves are adjusted *225 lb/sq. in. ✓* Hydraulic test pressure
tubes..... forgings and castings..... and after assembly in place *600 lb/sq. in. ✓* Are drain cocks on
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 *J. Kincaid & Co., Limited.* 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.....

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *Grh N° 23847*

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 been despatched to Dundee to be installed in Messrs Caledon S/S & Co. Yard N° 472 Please see machinery report Greenock N° 23916 for recommendations

These Boilers have now been efficiently installed in the above vessel, seen under steam, evaporator's test carried out as per Rules, and safety valves adjusted to 225 lb/sq. in. Satisfactorily.

A. C. J. Juniper
Bender
August 1/49.

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.....

Assigned.....

SEE ACCOMPANYING MACHINERY REPORT.



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