

REPORT ON BOILERS.

No. 16390

Received at London Office

17 DEC 1930

Date of writing Report 16-12-1930, When handed in at Local Office 16-12-1930 Port of Aberdeen

No. in Survey held at Reg. Book. J.M. Aberdeen Date, First Survey 27-5-30. Last Survey 12-12-1930

on the S.S. "KINI." (Number of Visits 19.) Gross 1388.44 Tons Net 779.48

Master Built at Aberdeen By whom built J. Lewis & Sons Ltd Yard No. 121 When built 1930

Engines made at Aberdeen By whom made J. Lewis & Sons Ltd Engine No. 201 When made 1930

Boilers made at Aberdeen By whom made J. Lewis & Sons Ltd Boiler No. 164-5 When made 1930

Nominal Horse Power 165 Owners Union Steamship Co. of New Zealand, Ltd. Port belonging to Dunedin, N.Z.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd. (Letter for Record S)

Total Heating Surface of Boilers 2984 sq. ft. Is forced draught fitted no Coal or Oil fired Coal

No. and Description of Boilers 2 S.E. Main Working Pressure 200 lbs.

Tested by hydraulic pressure to 350 lbs. Date of test 16/22-10-30 No. of Certificate 1098 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 40 sq. ft. No. and Description of safety valves to each boiler 2 spring loaded.

Area of each set of valves per boiler (per Rule 8.68 sq. in. as fitted 9.81 sq. in.) 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 5'-0" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 1'-4" Is the bottom of the boiler insulated

Largest internal dia. of boilers 12'-6" Length 10'-6" Shell plates: Material Steel Tensile strength 29/33 tons.

Thickness 1 1/8" Are the shell plates welded or flanged no Description of riveting: circ. seams D.R.

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 3/16" Pitch of rivets 3.517" 8 3/8"

Percentage of strength of circ. end seams (plate 64.4 rivets 44.6) Percentage of strength of circ. intermediate seam (plate 85.8 rivets 87.5)

Percentage of strength of longitudinal joint (plate 85.8 rivets 87.5 combined 89.25) Working pressure of shell by Rules 204.5 lbs.

Thickness of butt straps (outer 27/32" inner 31/32") No. and Description of Furnaces in each Boiler 2 of 2 Dighton.

Material Steel Tensile strength 26/30 tons Smallest outside diameter 42 15/16"

Length of plain part (top bottom) Thickness of plates (crown 19" bottom 32") Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 201 lbs.

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1" Pitch of stays 15 5/8" x 14 3/8"

How are stays secured Double nuts. Working pressure by Rules 202 lbs.

Tube plates: Material (front back) Steel Tensile strength 26/30 tons Thickness (32 25/32)

Mean pitch of stay tubes in nests 10.39" Pitch across wide water spaces 14 1/8" x 9" Working pressure (front 201 lbs. back 203)

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

at centre 8 7/8" x 1 1/8" Length as per Rule 31.53" Distance apart 8" No. and pitch of stays

in each 2 @ 9 7/8" Working pressure by Rules 200 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 11/16"

Pitch of stays to ditto: Sides 9 7/8" x 8" Back 10 1/8" x 7 1/2" Top 9 7/8" x 8" Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 204.5 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 13/16"

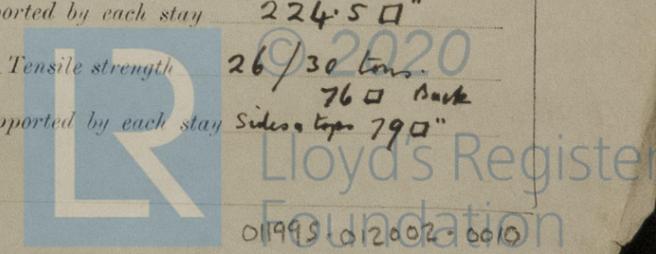
Pitch of stays at wide water space 13 7/8" x 8 1/2" Are stays fitted with nuts or riveted over nuts.

Working Pressure 203 lbs. Main stays: Material Steel Tensile strength 28/32 tons

Diameter (At body of stay, or Over threads) 2 5/8" No. of threads per inch 6 Area supported by each stay 224.5 sq. in.

Working pressure by Rules 221.5 lbs. Screw stays: Material Steel Tensile strength 26/30 tons

Diameter (At turned off part, or Over threads) (c.c. heads 1 5/8" Sides & tops 1 3/4") No. of threads per inch 9 Area supported by each stay Sides & tops 79 sq. in.



Working pressure by Rules 200 lb. Are the stays drilled at the outer ends no Margin stays: Diameter ^(At turned off part, or Over threads) 1 3/4"

No. of threads per inch 9 Area supported by each stay 10 1/16" x 8 1/2" = 90.80 Working pressure by Rules 200 lb.

Tubes: Material Iron External diameter ^{Plain} 3 1/4" Thickness ^{Stay} 3/4" ^{8 W.G.} 1/4" + 5/16" No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 230 lb. Manhole compensation: Size of opening in shell plate 19" x 15" Section of compensating ring 2' 9" x 2' 5" x 1" No. of rivets and diameter of rivet holes 40 @ 1 3/16"

Outer row rivet pitch at ends 8 3/8" Depth of flange if manhole flanged 3" 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 _____

How connected to shell _____ Inner radius of crown _____ Working pressure by Rules _____

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 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 _____, 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 yes.

The foregoing is a correct description,
FOR JOHN LEWIS & SONS, LTD., Manufacturer.

Car. J. Donald

1930.

Dates of Survey ^(During progress of work in shops - -) May 27, June 13-25, July 7-17-29, Aug. 15 vs the approved plans of boiler and superheater forwarded herewith yes
^(If not state date of approval.)

while building ^(During erection on board vessel - -) Nov. 13, Dec 4, 10-12. Total No. of visits 19.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been constructed under special survey in accordance with the approved plans & the Rules of this Society.

The materials & workmanship are good.

The boilers have been satisfactorily fitted on board the vessel, the safety valves adjusted with steam & tried for accuracy, & the boilers examined under working conditions & found satisfactory.

Survey Fee £ See Report | When applied for, 192

Travelling Expenses (if any) £ on Machinery | When received, 192

P. Fitzgerald
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 23 DEC 1930

Assigned See other Rpt
Abn. F.C. 16390

