

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 Reg. Book. 17 Survey held at 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 Steamships 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 ϕ Is forced draught fitted no Coal or Oil fired Coal

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

Tested by hydraulic pressure to 350 lb. Date of test 16-12-30 No. of Certificate 1097 Can each boiler be worked separately yes

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

Area of each set of valves per boiler per Rule 8.68 ϕ Pressure to which they are adjusted 200 lb. Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no

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 no

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 end D.R.

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

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 combined 89.25 Working pressure of shell by Rules 204.5 lb.

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

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

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

Dimensions of stiffening rings on furnace or c.c. bottom no Working pressure of furnace by Rules 201 lb.

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 lb.

Tube plates: Material front Steel back Steel Tensile strength 26/30 tons Thickness 29/32" 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 lb. back 203

Girders to combustion chamber tops: Material Steel Tensile strength 29/33 tons Depth and thickness of girder 8 7/8" x 1 1/8"

at centre 8 7/8" x 1 1/8" Length as per Rule 31.53" Distance apart 8" No. and pitch of stays 2 @ 9 7/8"

Working pressure by Rules 200 lb. 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 lb. 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 lb. Main stays: Material Steel Tensile strength 28/32 tons

Diameter At body of stay, 2 5/8" No. of threads per inch 6 Area supported by each stay 224.5

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

Diameter At turned off part, c.c. heads 1 5/8" Sides & tops 1 3/4" No. of threads per inch 9 Area supported by each stay 76 Back 79

Working pressure by Rules 200.5 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 2 5/8" Stag 2 1/4" Thickness { 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 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 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
while building { During erection on board vessel - - Nov. 13, Dec. 4, 10-12. Is the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes
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 & tested 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. 7.6 16390