

# REPORT ON BOILERS.

No. 19162

Received at London Office

12 MAR 1930

Date of writing Report 15.2.1930 When handed in at Local Office 4<sup>th</sup> MARCH 1930 Port of Greenock

To, in Survey held at Greenock Date, First Survey 12<sup>th</sup> June 1929 Last Survey 1-3-1930

on the M/S "Athelknight" (Number of Visits ☒) Tons { Gross 8939.90 Net 5223.46

ster Built at P<sup>l</sup> Glasgow By whom built R Duncan & Co<sup>l</sup> Yard No. 394 When built 1920  
ines made at Greenock By whom made John E. Duncan & Co<sup>l</sup> Engine No. K50 When made 1930  
lers made at ditto By whom made ditto Boiler No. K50 When made 1930  
ninal Horse Power Owners United M. & L. Co<sup>l</sup> Port belonging to Liverpool

## ULTITUBULAR BOILERS ~~MAIN~~, AUXILIARY, ~~OR DONKEY~~.

Manufacturers of Steel Krupp, Fried. Krupp, Stal Co<sup>l</sup> of Scotland Letter for Record S

al Heating Surface of Boilers 1823 are Is forced draught fitted yes Coal or Oil fired oil

and Description of Boilers one single ended Working Pressure 180

ted by hydraulic pressure to 320 Date of test 24.12.29 No. of Certificate 1918 Can each boiler be worked separately yes

ea of Firegrate in each Boiler oil fuel No. and Description of safety valves to each boiler Double Spring

ea of each set of valves per boiler { per Rule 14.02 as fitted 14.13 Pressure to which they are adjusted 185 Are they fitted with easing gear yes

case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

allest distance between boilers or uptakes and bunkers or woodwork 5'-0" Is oil fuel carried in the double bottom under boilers no

allest distance between shell of boiler and tank top plating 14 1/2" Is the bottom of the boiler insulated yes

argest internal dia. of boilers 13'-4 7/8" Length 11'-0" Shell plates: Material S Tensile strength 28-32

ickness 1 1/8" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams { end DR inter. ✓

g. seams TR, DBS Diameter of rivet holes in { circ. seams 1 1/4" long. seams 1 3/16" Pitch of rivets { 3'-5 1/2" 8'-3 1/8"

centage of strength of circ. end seams { plate 67.5 rivets 46.5 Percentage of strength of circ. intermediate seam { plate 85.8 rivets 90.5

centage of strength of longitudinal joint { rivets 90.5 combined 89.8 Working pressure of shell by Rules 184

ickness of butt straps { outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3 Deighton's

aterial S Tensile strength 26-30 Smallest outside diameter 3'-0 15/16"

ngth of plain part { top ✓ bottom ✓ Thickness of plates { crown 15 1/32" bottom ✓ Description of longitudinal joint weld

ensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 182

d plates in steam space: Material S Tensile strength 26-30 Thickness 13 1/32" Pitch of stays 18 1/2" x 18 1/2"

are stays secured DN & Washers Working pressure by Rules 182

be plates: Material { front S back S Tensile strength { 26-30 Thickness { 23 1/32"

an pitch of stay tubes in nests 9 1/8" Pitch across wide water spaces 14" Working pressure { front 184 back 192

orders to combustion chamber tops: Material S Tensile strength 28-32 Depth and thickness of girder

centre 9 1/2" x 7 1/8" (2) Length as per Rule 37.62 Distance apart 8 1/2" No. and pitch of stays

each 3 at 9" Working pressure by Rules 204 Combustion chamber plates: Material S

isile strength 26-30 Thickness: Sides 21 1/32" Back 21 1/32" Top 21 1/32" Bottom 21 1/32"

ch of stays to ditto: Sides 9 x 9 1/4" Back 8 1/2" x 9" Top 9 x 8 1/2" Are stays fitted with nuts or riveted over nuts

orking pressure by Rules 183 Front plate at bottom: Material S Tensile strength 26-30

ickness 1" Lower back plate: Material S Tensile strength 26-30 Thickness 25 1/32"

ch of stays at wide water space 133 1/4" Are stays fitted with nuts or riveted over nuts

orking Pressure 183 Main stays: Material S Tensile strength 28-32

ping. ameter { At body of stay, 3 No. of threads per inch 6 Area supported by each stay 342.5

orking pressure by Rules 196 Screw stays: Material S Tensile strength 26-30

ameter { At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 46.5

Over threads

Over threads

Over threads

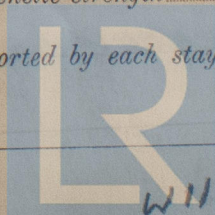
Over threads

Over threads

Over threads

Over threads

Over threads



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Working pressure by Rules 198. Are the stays drilled at the outer ends 910 Margin stays: Diameter { At turned off part, 1 3/4" Over threads. 181  
No. of threads per inch 9 Area supported by each stay 100.62" Working pressure by Rules 181  
Tubes: Material Iron External diameter { Plain } 3" Thickness { 9 WG. 1 1/4 5/16" No. of threads per inch 9  
Pitch of tubes 4 5/16" x 4 3/16" Working pressure by Rules 192 Manhole compensation: Size of opening in shell plate 20 1/2" x 16 1/2" Section of compensating ring 2 1/4" x 2 1/4" x 1 3/16" No. of rivets and diameter of rivet holes 36 at 1 5/16"  
Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged 3 1/2" 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

The foregoing is a correct description,  
For John G. Kincaid & Co. Ltd.  
Director Manufacturer.

Dates of Survey { During progress of work in shops - - }  
while building { During erection on board vessel - - - }  
SEE MACHINERY REPORT Are the approved plans of boiler and superheater forwarded herewith YES.  
(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. M/S "A. Helprinsen" Rpt No. 19139

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the approved plans & the workmanship & material are of good quality, it is now securely fitted on board.  
This Report accompanies that of the Machinery

Survey Fee charged on Machinery kept : When applied for, 19  
Travelling Expenses (if any) : When received, 19

Wm Gordon-Mitchell  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 11 MAR 1930

Assigned See accompanying report