

REPORT ON BOILERS.

No. 85267

Received at London Office

1 FEB 1930

Date of writing Report *31.1.30* When handed in at Local Office *31.1.30* Port of *Newcastle-on-Tyne*

No. in Survey held at *South Shields* Date, First Survey *28 May 1929* Last Survey *18 Jan 1930*
Reg. Book. *South Shields* (Number of Visits *1*) Gross *5884*
on the *S.S. "KOHISTAN"* Tons Net *3708*

Master *South Shields* Built at *South Shields* By whom built *John Readhead Sons Ltd*: Yard No. *499* When built *1930*
Engines made at *South Shields* By whom made *John Readhead Sons Ltd*: Engine No. *499* When made *1930*
Boilers made at *South Shields* By whom made *John Readhead Sons Ltd*: Boiler No. *499* When made *1930*
Nominal Horse Power *787 combined* Owners *Strick Line (1923) Ltd* Port belonging to *London*

MULTITUBULAR BOILERS - MAIN, ~~AUXILIARY~~, OR ~~DONKEY~~.

Manufacturers of Steel *The Steel Company of Scotland* (Letter for Record *1*)

Total Heating Surface of Boilers *9756 sq. feet* Is forced draught fitted *Yes* Coal or Oil fired *Coal + Oil*

No. and Description of Boilers *Three S.E. Multitubular* Working Pressure *210 lbs.*

Tested by hydraulic pressure to *365 lbs* Dates of test *25-10-29, 4-11-29, 13-11-29* No. of Certificate *397* Can each boiler be worked separately *Yes*

Area of Firegrate in each Boiler *69 sq. feet* No. and Description of safety valves to each boiler/pair *Grant's high lift, spring loaded.*

Area of each set of valves per boiler *per Rule @ 3/4 rule size 14.450"* Pressure to which they are adjusted *210 lbs.* Are they fitted with easing gear *Yes*
as fitted 15.340"

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *3'-6"* Is oil fuel carried in the double bottom under boilers *Yes*

Smallest distance between shell of boiler and tank top plating *2'-3"* Is the bottom of the boiler insulated *Yes*

Largest internal dia. of boilers *16'-3"* Length *12'-0"* Shell plates: Material *Steel* Tensile strength *29/33 Tons*

Thickness *1 1/2"* Are the shell plates welded or flanged *No* Description of riveting: circ. seams *end D.R. lap*
inter. 4 1/2"

long. seams *T.R.D.B.S.* Diameter of rivet holes in *circ. seams 1 1/2"* Pitch of rivets *10"*
long. seams 1 1/2"

Percentage of strength of circ. end seams *plate 64.7* Percentage of strength of circ. intermediate seam *plate*
rivets 45.6 *rivets*

Percentage of strength of longitudinal joint *plate 85.0* Working pressure of shell by Rules *212 lbs.*
rivets 87.6 *combined 87.5* *4cf*

Thickness of butt straps *outer 1 3/16"* No. and Description of Furnaces in each Boiler *Four Deighton corrugated.*
inner 1 5/16"

Material *Steel* Tensile strength *26/30 Tons* Smallest outside diameter *39"*

Length of plain part *top* Thickness of plates *crown 5/8"* Description of longitudinal joint *Weld*
bottom *bottom*

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules *234 lbs.*

End plates in steam space: Material *Steel* Tensile strength *26/30 Tons* Thickness *1 3/8"* Pitch of stays *22 1/2" x 21"*

How are stays secured *Double nuts + loose washers. 12 1/2" dia x 1"* Working pressure by Rules *212 lbs.*

Tube plates: Material *front Steel* Tensile strength *26/30 Tons* Thickness *3/8" plate + 1/6" doubler*
back Steel *26/30 Tons* *13/16"*

Mean pitch of stay tubes in nests *8 1/2"* Pitch across wide water spaces *13 1/2"* Working pressure *front 217 lbs.*
back 263 lbs.

Girders to combustion chamber tops: Material *Steel* Tensile strength *28/32 Tons* Depth and thickness of girder
at centre *9" x 1 3/4"* Length as per Rule *33"* Distance apart *10 1/4"* No. and pitch of stays

in each *Two. 9 1/2"* Working pressure by Rules *212 lbs.* Combustion chamber plates: Material *Steel*

Tensile strength *26/30 Tons* Thickness: Sides *25/32"* Back *13/16"* Top *25/32"* Bottom *1/8"*

Pitch of stays to ditto: Sides *10 1/2" x 9 5/8"* Back *10 7/8" x 10 1/8"* Top *10 1/4" x 9 1/2"* Are stays fitted with nuts or riveted over *Nuts*

Working pressure by Rules *212 lbs.* Front plate at bottom: Material *Steel* Tensile strength *26/30 Tons*

Thickness *7/8"* Lower back plate: Material *Steel* Tensile strength *26/30 Tons* Thickness *1/8"*

Pitch of stays at wide water space *13 1/2" x 10 1/8"* Are stays fitted with nuts or riveted over *Nuts*

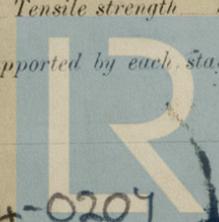
Working Pressure *220 lbs.* Main stays: Material *Steel* Tensile strength *28/32 Tons*

Diameter *At body of stay, 3 1/2"* No. of threads per inch *Six* Area supported by each stay *441 sq. ins.*
Over threads

Working pressure by Rules *215 lbs.* Screw stays: Material *Iron* Tensile strength *21 1/2 Tons*

Diameter *At turned off part, Sides + Top 1 3/8"* No. of threads per inch *Nine* Area supported by each stay *Sides + Top 1010"*
Over threads Back 2" *Back 1100"*

003487-003494-0207



Lloyd's Register Foundation

REPORT ON BOILERS

Working pressure by Rules ^{Sides + Top 211 lbs.} ~~Back 230 lbs.~~ are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part.} $2\frac{1}{8}$ " ^{or} ^{Over threads}

No. of threads per inch *Nine* Area supported by each stay 123.2 sq"^2 Working pressure by Rules *230 lbs*

Tubes: Material *Iron* External diameter ^{Plain} $2\frac{1}{2}$ " ^{Stay} $2\frac{1}{2}$ " Thickness $\frac{1}{4}$ " : $\frac{5}{16}$ " : $\frac{3}{8}$ " No. of threads per inch *Nine*

Pitch of tubes $3\frac{5}{8} \times 3\frac{3}{4}$ " Working pressure by Rules *Plain 230 lbs. Stay 233 lbs.* Manhole compensation: Size of opening in shell plate Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends Depth of flange if manhole flanged Steam Dome: Material *None fitted*

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

FOR JOHN READHEAD & SONS, LTD.

J. M. H. Readhead
The foregoing is a correct description,
Manufacturer.

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

Dates of Survey ^{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.) *Yes*

Total No. of visits

See mach^y Report.

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

These boilers have been built under Special Survey. Materials + Workmanship are good. Hydraulic tests satisfactory. They have been efficiently installed + fixed in the vessel, examined under steam, + their Safety Valves adjusted.

Survey Fee *£ 100* ^{When applied for,} 192

Travelling Expenses (if any) £ *0* ^{When received,} 192

E. H. Knowles
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 7 FEB 1930*

Assigned *See other Nuv. J.E. Rpt*

