

## REPORT ON BOILERS.

No. 44559

Received at London Office

29 JAN 1937

Date of writing Report

19

When handed in at Local Office

28 JAN 1937

Port of

HULL

No. in Survey held at  
Reg. Book.

69055 on the

Hull.  
Steam Trawler "ST NIDAN"

Date, First Survey

27<sup>th</sup> Oct. 1936

Last Survey

22<sup>nd</sup> Jan. 1937

(Number of Visits

Gross 564.50

Tons

Net 209.75

Master

Built at

Beverley.

By whom built

Cook, Mutton &amp; Fenner Ltd

Yard No.

620 When built 1937-1.

Engines made at

Hull

By whom made

S. D. Holmes &amp; Co., Ltd

Engine No.

1514. When made 1937

Boilers made at

Hull

By whom made

S. D. Holmes &amp; Co., Ltd

Boiler No.

1514 When made 1937.

Nominal Horse Power

157.

Owners

Thomas Hamling &amp; Co., Ltd

Port belonging to

Hull.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd

(Letter for Record

"S"

Total Heating Surface of Boilers

2402 square feet

Is forced draught fitted

Yes.

Coal or Oil fired

Coal

No. and Description of Boilers

One Single Ended Return Tube.

Working Pressure

220 lbs/sq in

Tested by hydraulic pressure to

380 lbs/sq in

Date of test

22.12.36.

No. of Certificate

3961.

Can each boiler be worked separately

Area of Firegrate in each Boiler

63.25 sq ft.

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

per Rule 15.07 sq ins

Pressure to which they are adjusted

220 lbs/sq in

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

10"

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

15' 6"

Length

11' 6"

Shell plates: Material

Steel

Tensile strength

31.35 Tons/sq in

Thickness

1 1/32"

Are the shell plates welded or flanged

Description of riveting: circ. seams

end Double riveted.

long. seams

Double riveted D.B.S.

Diameter of rivet holes in

circ. seams 1 1/32"

Pitch of rivets

3 3/4"

Percentage of strength of circ. end seams

plate 62.50

rivets 60.60

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 84.80

rivets 87.90

Working pressure of shell by Rules

221 lbs/sq in

Thickness of butt straps

outer 1 3/32"

inner 1 3/32"

No. and Description of Furnaces in each Boiler

Three "Deighton" Corrugated.

Material

Steel

Tensile strength

26.30 Tons/sq in

Smallest outside diameter

45 1/8"

Length of plain part

top

bottom

Thickness of plates

crown 1 1/16"

bottom 1 1/16"

Description of longitudinal joint

Welded.

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

223 lbs/sq in

End plates in steam space: Material

Steel

Tensile strength

26.30 Tons/sq in

Thickness

1 1/32"

Pitch of stays 18 3/4" x 18 3/4"

How are stays secured

Nuts &amp; large washers

Working pressure by Rules

223 lbs/sq in

Tube plates: Material

front Steel

back Steel

Tensile strength

26.30 Tons/sq in

Thickness

2 3/32"

Mean pitch of stay tubes in nests

10.532"

Pitch across wide water spaces

14 1/2"

Working pressure

front 240 lbs/sq in

back 259 lbs/sq in

Girders to combustion chamber tops: Material

Steel

Tensile strength

29.33 Tons/sq in

Depth and thickness of girder

at centre

9 3/4" x 1 3/4"

Length as per Rule

35.906"

Distance apart

9" Max.

No. and pitch of stays

in each

3 at 8 1/2"

Working pressure by Rules

230 lbs/sq in

Combustion chamber plates: Material

Steel

Tensile strength

26.30 Tons/sq in

Thickness: Sides

23 1/32"

Back

23 1/32"

Top

23 1/32"

Bottom

Pitch of stays to ditto: Sides

9 1/2" x 8 1/2"

Back

9 1/4" x 8"

Top

9" x 8 1/2"

Are stays fitted with nuts or riveted over

Nuts.

Working pressure by Rules

221 lbs/sq in

Front plate at bottom: Material

Steel

Tensile strength

26.30 Tons/sq in

Thickness

30/32"

Lower back plate: Material

Steel

Tensile strength

26.30 Tons/sq in

Thickness

29/32"

Pitch of stays at wide water space

14 1/2" x 8 3/4"

Are stays fitted with nuts or riveted over

Nuts.

Working Pressure

230 lbs/sq in

Main stays: Material

Steel

Tensile strength

28 Tons/sq in Minimum.

Diameter

At body of stay, or Over threads

3 1/4"

No. of threads per inch

8

Area supported by each stay

342.5 square inches

Working pressure by Rules

234 lbs/sq in

Screw stays: Material

Steel

Tensile strength

26 Tons/sq in Minimum.

Diameter

At turned off part, or Over threads

1 3/4"

No. of threads per inch

10.

Area supported by each stay

74 square inches

W450-0078

Lloyd's Register  
Foundation



Working pressure by Rules  $245 \text{ lbs/sq. in.}$  Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, or Over threads  $1\frac{1}{8}, 2 \text{ and } 2\frac{1}{8}$ "

No. of threads per inch  $10$ . Area supported by each stay  $99 \text{ square inches}$  Working pressure by Rules  $250 \text{ lbs/sq. in.}$

Tubes: Material *L. W. Iron.* External diameter { Plain  $3\frac{1}{4}$ " Thickness {  $5\frac{1}{16}, 5\frac{3}{16}, 7\frac{1}{16}$ " No. of threads per inch  $9$ .

Pitch of tubes  $4\frac{1}{8} \times 4\frac{1}{2}$ " Working pressure by Rules  $230 \text{ lbs/sq. in.}$  Manhole compensation: Size of opening in shell plate  $16 \times 12$ " Section of compensating ring  $4\frac{1}{4} \text{ dia} \times 1\frac{1}{32}$ " No. of rivets and diameter of rivet holes  $118 \text{ at } 1\frac{1}{2}$ "

Outer row rivet pitch at ends  $10\frac{3}{4}$ " Depth of flange if manhole flanged  $3\frac{1}{4}$ " Steam Dome: Material *Steel.*

Tensile strength  $26.30 \text{ Tons/sq. in.}$  Thickness of shell  $3\frac{1}{4}$ " Description of longitudinal joint *Single riveted lap.*

Diameter of rivet holes  $1\frac{1}{32}$ " Pitch of rivets  $2\frac{1}{4}$ " Percentage of strength of joint { Plate  $34.00$  Rivets  $43.80$ .

Internal diameter  $33$ " Working pressure by Rules  $230 \text{ lbs/sq. in.}$  Thickness of crown  $7\frac{1}{8}$ " No. and diameter of stays  $2 \text{ at } 2\frac{3}{8}$ " Inner radius of crown

How connected to shell *Double riveted.* Size of doubling plate under dome  $4\frac{1}{4} \text{ dia} \times 1\frac{1}{32}$ " Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell  $1\frac{1}{2}$ " diameter at  $4$ " pitch.

Type of Superheater *Smoke Tube.* Manufacturers of { Tubes *Please see Manchester Report N° F6034.* Steel forgings *Blackett, Hutton & Co.* Steel castings

Number of elements  $57$ . Material of tubes *L. D. Steel.* Internal diameter and thickness of tubes  $17 \frac{1}{4} \text{ in. } 2.5 \frac{1}{16} \text{ in.}$

Material of headers *Steel forgings* Tensile strength  $26.30 \text{ Tons/sq. in.}$  Thickness  $5\frac{1}{8}$ " 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  $1.76 \text{ square inches}$  Are the safety valves fitted with easing gear *Yes.* Working pressure as per Rules *Approved for*  $220 \text{ lbs/sq. in.}$  Pressure to which the safety valves are adjusted  $220 \text{ lbs/sq. in.}$  Hydraulic test pressure: tubes  $1000 \text{ lbs/sq. in.}$  forgings and castings  $660 \text{ lbs/sq. in.}$  and after assembly in place  $660 \text{ lbs/sq. in.}$  Are drain cocks or 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 *Yes.*

The foregoing is a correct description,  
FOR CHARLES D. HOLMES & CO., LTD.  
*J. A. Orde* Manufacturer.

Dates of Survey { During progress of work in shops -- } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *Yes.*

while building { During erection on board vessel -- } Please see *Index Rpt. herewith* Total No. of visits *✓*

Is this Boiler a duplicate of a previous case *Yes.* If so, state Vessel's name and Report No. *"St Loman" N° 47458.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The boiler has been built under Special Survey, and in accordance with the approved plan, the materials, and workmanship, being sound & good.*

*Charged on engine report herewith.*

Survey Fee ... .. £	:	:	When applied for, .....	10
Travelling Expenses (if any) £	:	:	When received, .....	10

*J. A. Orde*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 2 FEB 1937

Assigned

*See Ind. J.E. 47539*



© 2020

Lloyd's Register  
Foundation