

# REPORT ON BOILERS.

No. 44559

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Port of HULL

No. in Reg. Book. 69055

Survey held at Hull. on the 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 Net 209.75

Master Built at Beverley By whom built Cook, Walton & Fenner L<sup>td</sup> Yard No. 620 When built 1937-1.  
Engines made at Hull By whom made S. D. Holmes & Co., L<sup>td</sup> Engine No. 1514 When made 1937  
Boilers made at Hull By whom made S. D. Holmes & Co., L<sup>td</sup> Boiler No. 1514 When made 1937.  
Nominal Horse Power 157. Owners Thomas Hamling & Co., L<sup>td</sup> Port belonging to Hull.

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

Manufacturers of Steel The Steel Company of Scotland L<sup>td</sup> (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 as fitted 16.60 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 13/32" Are the shell plates welded or flanged Description of riveting: circ. seams {end Double riveted. inter.  
long. seams Double riveted D.B.S. Diameter of rivet holes in {circ. seams 1 13/32" long. seams 1 1/2" Pitch of rivets {3 3/4" 9 15/16"  
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 combined 87.48 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 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 7/32" Pitch of stays 18 3/4" x 18 1/4"  
How are stays secured Nuts & large washers Working pressure by Rules 225 lbs/sq in  
Tube plates: Material {front Steel back Steel Tensile strength {26.30 Tons/sq in Thickness {1 15/16" 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 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 3 30/32"  
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 3 30/32" Lower back plate: Material Steel Tensile strength 26.30 Tons/sq in Thickness 2 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

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Working pressure by Rules  $245 \text{ lbs/} \square$  Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, or Over threads  $1\frac{7}{8}, 2 \text{ } \& \text{ } 2\frac{1}{8}$

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

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  $9$ . Stay  $3\frac{1}{4}$

Pitch of tubes  $4\frac{1}{8} \times 4\frac{1}{2}$  Working pressure by Rules  $230 \text{ lbs/} \square$  Manhole compensation: Size of opening in shell plate  $16 \times 12$  Section of compensating ring  $4\text{-}11\frac{1}{4} \text{ dia} \times 1\frac{13}{32}$  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  $26\text{-}30 \text{ Tons/} \square$  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  $54.00$  Rivets  $43.80$

Internal diameter  $33$  Working pressure by Rules  $230 \text{ lbs/} \square$  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  $4\text{-}11\frac{1}{4} \text{ dia} \times 1\frac{13}{32}$  Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell  $1\frac{1}{2} \text{ diameters at } 4 \text{ pitch}$

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

Number of elements  $57$  Material of tubes *L. D. Steel* Internal diameter and thickness of tubes  $17 \text{ mm}, 2.5 \text{ mm}$

Material of headers *Steel forgings* Tensile strength  $26\text{-}30 \text{ Tons/} \square$  Thickness  $5\frac{1}{8}$  Can the superheater be shut off and the boiler be worked separately *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*  $220 \text{ lbs/} \square$  Pressure to which the safety valves are adjusted  $220 \text{ lbs/} \square$  Hydraulic test pressure: tubes  $1000 \text{ lbs/} \square$  forgings and castings  $660 \text{ lbs/} \square$  and after assembly in place  $660 \text{ lbs/} \square$  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 *Yes* (If not state date of approval.) while building { During erection on board vessel -- } *Please see Mch Rpt herewith* Total No. of visits  $1$

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 Insl. J.C. 47539*