

# REPORT ON BOILERS.

No. 55133.

9 SEP 1948

Received at London Office 11 SEP 1948

Date of writing Report

When handed in at Local Office

10

Port of HULL.

No. in Survey held at Hull.

Hull.

Date, First Survey 24. 10. 47.

Last Survey 19. 8. 19 48

73656

on the

Steam Trawler "ST. CHAD".

(Number of Visits 23.)

Gross Tons 689  
Net Tons 249

Builder Built at Beverley

By whom built Cook, Welton & Gemmell Ltd.

Yard No. 794 When built 1948

Engines made at Hull

By whom made C. D. Holmes & Co., Ltd.

Engine No. 1763 When made 1948

Boilers made at -do-

By whom made -do-

Boiler No. 1763 When made 1948

Donkey M.N. 230

Owners Saint Andrew's Steam Fishing Co., Ltd. Port belonging to Hull

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

Manufacturers of Steel Appleby-Frodingham Steel Co., Ltd.

Total Heating Surface of Boilers  $2831 \frac{blr.}{spt.} + 1140 = 3971 \text{sq. ft.}$  Is forced draught fitted Yes

(Letter for Record S)

Number and Description of Boilers One S.E. multitubular

Coal or Oil fired Oil

Working Pressure 225 lbs.

Tested by hydraulic pressure to 390 lb. Date of test 21.7.48. No. of Certificate 4307

Can each boiler be worked separately -

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler

1 D. Sp. 3 1/2"

Area of each set of valves per boiler

per Rule approx. 19.2

Pressure to which they are adjusted 230 lbs. 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 20"

Is oil fuel carried in the double bottom under boilers none

Smallest distance between shell of boiler and tank top plating open floor

Is the bottom of the boiler insulated No

Largest internal dia. of boilers 16'0" Length 11'0"

Shell plates: Material S.M. Steel Tensile strength 31/35 tons.

Thickness 1 1/2" Are the shell plates welded or flanged No

Description of riveting: circ. seams 2 R.L.

Number of seams 3 R.D.B.S. Diameter of rivet holes in

circ. seams 1.15/32"  
long. seams 1.1/2"

Pitch of rivets 3.7/8"  
9.9/16"

Percentage of strength of circ. end seams

plate 62.2%  
rivets 43.3%  
plate 84.31%  
rivets 85.6%  
combined 85.7%

Percentage of strength of circ. intermediate seam

Percentage of strength of longitudinal joint

Working pressure of shell by Rules -

Thickness of butt straps

outer 1.5/32"  
inner 1.9/32"

No. and Description of Furnaces in each Boiler 3 - Deighton Type Corrugation.

Material Steel

Tensile strength 26/30 tons.

Smallest outside diameter 3'11.1/32"

Length of plain part

Thickness of plates 47/64"

Description of longitudinal joint welded

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

Working pressure of furnace by Rules -

Plates in steam space: Material steel

Tensile strength 26/30 tons. Thickness 1.17/64" Pitch of stays 18 5/8" x 19 1/4"

Are stays secured double nuts and washers.

Working pressure by Rules -

End plates: Material

front steel

Tensile strength 26/30 tons.

Thickness 31/32"

back -do-

Tensile strength -do-

Thickness 29/32"

Pitch of stay tubes in nests 9 1/2" x 9 1/2"

Pitch across wide water spaces 14 1/4"

Working pressure front -  
back -

Boilers to combustion chamber tops: Material steel

Tensile strength 29/33 tons.

Depth and thickness of girder.

Centre 9 1/2" - 2 @ 7/8" tk Length as per Rule 2-10 1/4"

Distance apart 9 1/4"

No. and pitch of stays

Each 3-8 1/4"

Working pressure by Rules -

Combustion chamber plates: Material Steel

Tensile strength 26/30 tons.

Thickness: Sides 3/4"

Back 23/32"

Top 23/32"

Bottom 15/16"

Number of stays to ditto: Sides 9 3/4" x 8 1/4"

Back 9 1/8" x 8 7/8"

Top 9 1/4" x 8 1/4"

Are stays fitted with nuts or riveted over nuts

Working pressure by Rules -

Front plate at bottom: Material Steel

Tensile strength 26/30 tons

Thickness 31/32"

Lower back plate: Material Steel

Tensile strength 26/30 tons. Thickness 29/32"

Number of stays at wide water space 14 1/4" x 8 5/8"

Are stays fitted with nuts or riveted over nuts

Working Pressure -

Main stays: Material Steel

Tensile strength 28/32 tons.

At body of stay, or over threads 3.3/8"

No. of threads per inch 8

Area supported by each stay

Working pressure by Rules -

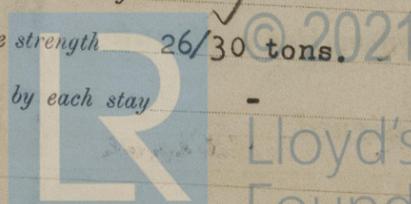
Screw stays: Material Steel

Tensile strength 26/30 tons.

At body of stay, or over threads 1.3/4"

No. of threads per inch 10

Area supported by each stay



Lloyd's Register Foundation

012678-012685-0116

"ST. CHAD".

Working pressure by Rules  Are the stays drilled at the outer ends  No Margin stays: Diameter  Over threads  $1\frac{7}{8}"$  &  $2"$

No. of threads per inch 10 Area supported by each stay - Working pressure by Rules -

Tubes: Material Seamless steel External diameter { Plain  $3\frac{1}{2}"$  Thickness { 7 W.G. No. of threads per inch  9  
Stay  $3\frac{1}{2}"$  }  $5/16"$ ,  $3/8"$  }  $7/16"$

Pitch of tubes  $4\frac{3}{4}"$  x  $4\frac{3}{4}"$  Working pressure by Rules - Manhole compensation: Size of opening

shell plate  $16" \times 12"$  Section of compensating ring  $4'11\frac{1}{4}"D \times 1\frac{1}{2}"$  Tk. No. of rivets and diameter of rivet holes   $106 - 1\frac{1}{2}"$

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

Tensile strength 26/30 tons. Thickness of shell   $3/4"$  Description of longitudinal joint  S.R.L.

Diameter of rivet holes  $1.1/32"$  Pitch of rivets  $2\frac{1}{4}"$  Percentage of strength of joint { Plate 54  
Rivets 43.8

Internal diameter  $2'9"$  Working pressure by Rules - Thickness of crown   $15/16"$  No. and diameter

stays 2 -  $2.3/8"$  Inner radius of crown Flat Working pressure by Rules -

How connected to shell D.R. Size of doubling plate under dome  $4'11\frac{1}{4}"D \times 1\frac{1}{2}"$  Tk. Diameter of rivet holes and pitch

of rivets in outer row in dome connection to shell  $1\frac{1}{2}" - 4"$

Type of Superheater ME LE SCO R.B. Type Manufacturers of { Tubes See Manchester  
Steel forgings Certificates  
Steel castings Nos. C.6122/3.

Number of elements 48 Material of tubes Steel Internal diameter and thickness of tubes -

Material of headers Steel Tensile strength - Thickness - Can the superheater be shut off

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 sq. in. Are the safety valves fitted with easing gear  Yes Working pressure as

Rules 2251bs. Pressure to which the safety valves are adjusted 230 lbs. Hydraulic test pressure

tubes forgings and castings - and after assembly in place 675 lbs. Are drain cocks

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,  
OR CHARLES D. HOLMES & CO., Manufacture

Dates of Survey { During progress of work in shops - 1947 Oct 24, 1946 Feb. 19, Apr. 19, 20, 23.  
while building { May 5, 10, June 21, 26, July 6, 8, July 16, 22, Aug. 4, 10, 12, Are the approved plans of boiler and superheater forwarded herewith 16.10.  
(If not state date of approval.)  
see machinery report Total No. of visits 23.

Is this Boiler a duplicate of a previous case  No If so, state Vessel's name and Report No. -

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

The boiler has been constructed and installed under Special Survey in accordance with the Secretary's letters, approved plans and the Rules. The materials and workmanship are good. The boiler was examined under hyd. test of 390 lbs. on completion and found sound and tight. The safety valves were adjusted under steam to 230 lb/sq.in. and an accumulation test held.

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

N. Chambers,  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI, 1 OCT 1946**

Assigned *See P.E. machinery report.*

