

## REPORT ON BOILERS.

No. 124585

Received at London Office 16 OCT 1946

Date of writing Report

19

When handed in at Local Office

19

Port of

LIVERPOOL

No. in Survey held at  
eg. Book.

Glasgow Dock (San.)

Date, First Survey

2/4/46

Last Survey

3/9/1946

6503 on the

Steam Trawler ST. PHILIP (EX KUNISHI).

(Number of Visits)

Tons

Gross 301.42.

Net 113.33.

Master

Built at Middlesbrough

By whom built Smiths Dock &amp; Co.

Yard No. 827

When built 1927

Engines made at

Middlesbrough

By whom made

Smiths Dock &amp; Co. Ltd.

Engine No. 297

When made 1927

Boilers made at

Glenferland

By whom made

George Clark.

Boiler No. 247

When made 1927.

Nominal Horse Power

105.

Owners

The Boston Sub Sea Fishing &amp; Ice Co. Ltd. Port belonging to Glutworn.

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

Manufacturers of Steel

(Letter for Record S.B.)

Total Heating Surface of Boilers

1980.

Is forced draught fitted

No.

Coal or Oil fired

Coal

No. and Description of Boilers

1 SE. multitubular (Scotch Type).

Working Pressure 180 lb./sq. in.

Tested by hydraulic pressure to

320 lb./sq. in.

Date of test 17-3-27.

No. of Certificate

BCTEST. NO 3105. W.P. 180 lb./sq. in.

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

53.4 sq. ft.

No. and Description of safety valves to each boiler

Two - spring loaded.

Area of each set of valves per boiler

per Rule 12.41  
as fitted 14.14

Pressure to which they are adjusted 180 lb./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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

None clear.

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

Yes

Is the bottom of the boiler insulated

Largest internal dia. of boilers

14'-0"

Length 10'-9"

Shell plates: Material

Steel

Tensile strength 28-32 tons

Thickness

1 5/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end D.R.  
inter. Yes

long. seams

Double Riveted D.B.S.

Diameter of rivet holes in

circ. seams 1 7/16"  
long. seams 1 3/16"

Pitch of rivets

3 1/2"  
8 1/2"

Percentage of strength of circ. end seams

plate 66.09%  
rivets 43.98%

Percentage of strength of circ. intermediate seam

plate Yes  
rivets Yes

Percentage of strength of longitudinal joint

plate 86.04%  
rivets 86.2%  
combined 89.44%

Working pressure of shell by Rules 181.24.

Thickness of butt straps

outer 7/8"  
inner 1"

No. and Description of Furnaces in each Boiler

3 - Plain.

Material

Steel

Tensile strength

Yes

Smallest outside diameter

5'-5 3/4"

Length of plain part

top 6'-6 1/16"  
bottom

Thickness of plates

crown 49/16"  
bottom 1/64"

Description of longitudinal joint

Welded.

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

Yes

Working pressure of furnace by Rules

187.2 lb./sq. in.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 7/16"

Pitch of stays 18"x19"

How are stays secured

Double nut &amp; loose washers.

Working pressure by Rules

212.8 lb./sq. in.

Tube plates: Material

front Steel  
back Steel

Tensile strength

26-30 tons

Thickness

3/4"

Mean pitch of stay tubes in nests

9"x11 1/4"

Pitch across wide water spaces

14 1/4"

Working pressure

front 288.6 lb./sq. in.  
back 253.9

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

9 3/4" Double Plat.

Length as per Rule

2'-7 5/8"

Distance apart

8 1/2"

No. and pitch of stays

in each

Two - 9 1/16"

Working pressure by Rules

240 lb./sq. in.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

2 1/32"

Back

5/8"

Top

2 1/32"

Bottom

1"

Pitch of stays to ditto: Sides

8"x9 3/4"

Back

9"x9"

Top

8 1/2"x9 3/4"

Are stays fitted with nuts or riveted over

Nuts.

Working pressure by Rules

187.2

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

7/8"

Pitch of stays at wide water space

14 1/4"x9"

Are stays fitted with nuts or riveted over

Nuts.

Working Pressure

220.7 lb./sq. in.

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay,  
or  
Over threads

2 7/8"

No. of threads per inch

6

Area supported by each stay

295 sq. in.

Working pressure by Rules

207 lb./sq. in.

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part,  
or  
Over threads

1 3/4" + 1 1/8"

No. of threads per inch

9

Area supported by each stay

B - 81 sq. in.  
S - 85"  
T - 79"Lloyd's Register  
Foundation

002340-002351-0009



Working pressure by Rules  $\frac{B-224}{S-214}$   $\frac{7-213}{7-213}$  Are the stays drilled at the outer ends *no*. Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads } 1\frac{7}{8} + 2\frac{1}{8} \end{array} \right.$

No. of threads per inch *9*. Area supported by each stay *104.2 sq in*. Working pressure by Rules *204.6 lb/in*

Tubes: Material *Iron - Salt Water* External diameter  $\left\{ \begin{array}{l} \text{Plain } 3\frac{1}{4} \\ \text{Stay } 3\frac{1}{4} \end{array} \right.$  Thickness  $\left\{ \begin{array}{l} 8 \text{ W.G.} \\ 3\frac{1}{8} + \frac{1}{4} \end{array} \right.$  No. of threads per inch *9*.

Pitch of tubes *4 1/2" x 4 1/2"* Working pressure by Rules *205 + 230 lb/in* Manhole compensation: Size of opening in shell plate *16 x 12"* Section of compensating ring *2 1/2" x 2 1/2" x 1 1/2"* No. of rivets and diameter of rivet holes *28 @ 1 1/4"*

Outer row rivet pitch at ends *8 1/4"* Depth of flange if manhole flanged *4* Steam Dome: Material *✓*

Tensile strength *✓* Thickness of shell *✓* Description of longitudinal joint *✓*

Diameter of rivet holes *✓* Pitch of rivets *✓* Percentage of strength of joint  $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 *low*. Manufacturers of  $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$

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 *✓*

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 *✓* forgings and 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 *yes*.

The foregoing is a correct description,

Manufacturer.

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$

Are the approved plans of boiler and superheater forwarded herewith (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. *ST CONINGSBY. LIV REPT No 124316.*

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

*The boiler of the vessel was built under the United Corporation Survey.*

*The boiler has been opened up and examined internally + externally + the safety valves adjusted under steam to 180 lb/in.*

*The scantlings of the boiler have been checked and are in accordance with the builder's plans.*

*The workmanship and material appear to be of good quality and the boiler in my opinion is eligible for classification with record of - 1 S.B. 3 P.F. 180 lb/in*

Survey Fee *See Machinery Report 9*

Travelling Expenses (if any) £

When applied for,

10

When received,

10

*H. H. H. H.*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*LIVERPOOL 15 OCT 1946*

Assigned

*See Minute on Liverpool Report 9 No. 124585*



© 2020

Lloyd's Register Foundation

Rpt. 13.

Date of writing Report

No. in Survey Register Book

*62199* on

Built at *M.*

Owners *B.*

Electrical Installation

Is vessel fitted

Have plans been

Heating *✓*

has the governing

trip switch as per

if not compound

arranged to run

*Legal*

test for machine

of the generator

near unprotected

injury and damage

contact *yes*

are they in accordance

and oil *✓*

material is used

semi-insulating

Is the construction

to pilot and

side of switch

*✓*

and for each

Are compartments

ammeters

equaliser con