

REPORT ON BOILERS.

No. 17560

Received at London Office

24 JUL 1936
16 MAY 1936

Date of writing Report 4-5-1936 When handed in at Local Office 13-5-1936 Port of West Hartlepool

No. in Survey held at Reg. Book.

Hartlepool

Date, First Survey 19-2-36 Last Survey 8-5-1936

(Number of Visits 14) Gross 830 Tons Net 19-4

on the

Steam trawler 'ANGLE'

Master

Built at South Bank

By whom built Smiths Dock Co. Ltd. Yard No. 1005 When built 1936

Engines made at

South Bank

By whom made Smiths Dock Co. Ltd.

Engine No. 463 When made 1936

Boilers made at

Hartlepool

By whom made Messrs. Richardson Westgarth & Co. Ltd. Boiler No. 463 When made 1936

Nominal Horse Power

Owners Hull Northern Fishing Co. Ltd. Port belonging to Hull

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record S)

Total Heating Surface of Boilers

3,750 sq. ft. 2714

Is forced draught fitted yes.

Coal or Oil fired coal.

No. and Description of Boilers

One, single ended

Working Pressure 225 lb.

Tested by hydraulic pressure to

387 lbs.

Date of test 8-4-36

No. of Certificate 3840

Can each boiler be worked separately

Area of Firegrate in each Boiler

62 sq. ft.

No. and Description of safety valves to each boiler

Pair Corburns Improved High Lift.

Area of each set of valves per boiler

per Rule 7.05

as fitted 9.87

Pressure to which they are adjusted 230 lbs.

Are they fitted with easing gear

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

Smallest distance between boilers

1'0"

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

15'5 1/16"

Length 12'0"

Shell plates: Material

steel

Tensile strength 29-33 tons

Thickness

1 7/32"

Are the shell plates welded or flanged

Description of riveting: circ. seams

long. seams

Y.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 7/16"

long. seams 1 1/2"

Pitch of rivets

3 7/8"

Percentage of strength of circ. end seams

plate 62.9

rivets 43.2

Percentage of strength of circ. intermediate seam

plate 85.18

rivets 84.74

Percentage of strength of longitudinal joint

plate 85.18

rivets 84.74

Working pressure of shell by Rules 225.8 lbs.

Thickness of butt straps

outer 1 3/16"

inner 1 5/16"

No. and Description of Furnaces in each Boiler

3. Morison

Material

steel

Tensile strength 26-30 tons

Smallest outside diameter 44 3/8"

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.e. bottom

Working pressure of furnace by Rules

227 lbs.

End plates in steam space: Material

steel

Tensile strength 26-30 tons

Thickness 1 5/16"

Pitch of stays 20" x 17 1/2"

How are stays secured

double nuts & washers.

Working pressure by Rules 228 lbs.

Tube plates: Material

front

steel

Tensile strength

26-30 tons

Thickness

2 1/32"

Mean pitch of stay tubes in nests

11 1/4"

Pitch across wide water spaces

14 1/4"

Working pressure

front 228 lbs.

back 227 lbs.

Girders to combustion chamber tops: Material

steel

Tensile strength 28-32 tons

Depth and thickness of girder

at centre

9 7/8" x 7/8"

Length as per Rule

35 15/16"

Distance apart

9"

No. and pitch of stays

in each

3 x 8 1/2"

Working pressure by Rules

225 lbs.

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

1 1/16"

Back 1 1/16" x 2 1/32"

Top 2 3/32"

Bottom 1"

Pitch of stays to ditto: Sides

8 1/2" x 8 1/2"

Back 9" x 8"

Top 9" x 8 1/2"

Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules

228 lbs.

Front plate at bottom: Material

steel

Tensile strength 26-30 tons

Thickness

2 1/32"

Lower back plate: Material

steel

Tensile strength 26-30 tons

Thickness 1 5/16"

Pitch of stays at wide water space

14 3/4" x 8"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

231 lbs.

Main stays: Material

steel

Tensile strength 28-32 tons

Diameter

At body of stay, 3 1/4" x 3 1/8"

No. of threads per inch

6

Area supported by each stay 357 sq. ins. 327 sq. ins.

Working pressure by Rules

229 lbs. 240 lbs.

Screw stays: Material

steel

Tensile strength 26-30 tons

Diameter

At turned off part, 1 3/4"

No. of threads per inch

9

Area supported by each stay 30.6 sq. ins.

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Working pressure by Rules 237 lbs. Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, or Over threads 1 7/8" ✓
No. of threads per inch 9. Area supported by each stay 94.8 sq. ins. Working pressure by Rules 239 lbs.
Tubes: Material Iron External diameter { Plain 3 1/4" ✓ Stay 3 1/4" Thickness { 8 W. S. 7/16" 3/8" 5/16" No. of threads per inch 9.
Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 230 lbs. Manhole compensation: Size of opening
shell plate 20 1/2" x 14" Section of compensating ring 36" x 32" x 1 1/32" No. of rivets and diameter of rivet holes 30. 1 1/2" dia.
Outer row rivet pitch at ends 10 1/8" Depth of flange if manhole flanged 3 1/2" Steam Dome: Material steel
Tensile strength 26-30 tons Thickness of shell 15/16" Description of longitudinal joint Lap, treble riveted ✓
Diameter of rivet holes 1 3/16" Pitch of rivets 4 1/4" Percentage of strength of joint { Plate 72.05 Rivets 73.7
Internal diameter 36" Working pressure by Rules 515 lbs. Thickness of crown 1" No. and diameter
stays ✓ Inner radius of crown 36" Working pressure by Rules 292 lbs.
How connected to shell by neck ring Size of doubling plate under dome neck ring, 1 1/8" thick Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 1 3/16" x 9.07"
Type of Superheater smoke tube Manufacturers of Tubes Superheater Co. Ltd.
Number of elements 64 Material of tubes steel Steel castings
Material of headers forged steel. 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. Yes.
Area of each safety valve 1.76 sq. Are the safety valves fitted with easing gear Yes Working pressure as per
Rules Apprx. 225 lbs. Pressure to which the safety valves are adjusted 230 lbs. Hydraulic test pressure
tubes castings and after assembly in place 675 lbs. 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 an correct description,
For RICHARDSON, MANUFACTURERS
W. J. Bridge Manufacture

Dates of Survey { During progress of work in shops - - - Are the approved plans of boiler and superheater forwarded herewith no. 21-12-35. 9-1-36.
while building { During erection on board vessel - - - (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. W. Hpl reports No. 17555-6.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This Boiler has been constructed under Special Survey and in accordance with the approved plan for a working pressure of 225 lbs per square inch. The materials and workmanship have been found good. Upon completion the boiler was tested by hydraulic pressure 387 lbs per square inch with satisfactory results.

The Boiler is to be forwarded to Middlesbrough for fitting on board a vessel.

This boiler has been securely fitted aboard and its safety valves adjusted under steam.

P. J. McA
dial. 21. 7. 36.

Survey Fee £ 18 : 6 : 0 When applied for, 15-5-1936
Travelling Expenses (if any) £ : : When received, 3-6-36

J. P. Brooke Smith
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. 5 AUG 1936
Assigned See dial. 2 E 15757