

REPORT ON BOILERS.

No. 17668

Received at London Office

APR 22 1937

Date of writing Report 19-4-1937 When handed in at Local Office 21-4-1937 Port of West Hartlepool

No. in Reg. Book. Survey held at Hartlepool Date, First Survey 8-2-37 Last Survey 10-4-1937

on the steam trawler "LOCH OSKAIG" (Number of Visits 15) Tons { Gross 534 Net 197

Master Built at South Bank By whom built Smitts Doea Co Ltd Yard No. 1026 When built 1937

Engines made at South Bank By whom made Smitts Doea Co Ltd Engine No. 491 When made 1937

Boilers made at Hartlepool By whom made Richardsons Westgarth & Co Ltd Boiler No. 491 When made 1937

Nominal Horse Power Owners The Caledonian 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 2688 sq ft. Is forced draught fitted Coal or Oil fired

No. and Description of Boilers One single ended, cylindrical multitubular Working Pressure 225 lbs

Tested by hydraulic pressure to 388 lbs Date of test 10-4-37 No. of Certificate 3862 Can each boiler be worked separately

Area of Firegrate in each Boiler 62 1/2 sq ft. No. and Description of safety valves to each boiler Pair Cockburns Improved High Lift

Area of each set of valves per boiler 7.09 as fitted 98.7 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 on uptakes and bunkers on woodwork 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 16' 1" Length 11' 0" Shell plates: Material steel Tensile strength 29-33 tons

Thickness 1 1/32 Are the shell plates welded or flanged Description of riveting: circ. seams end lap joint D.R. inter. 4"

long. seams D.B.S. treble riveted Diameter of rivet holes in circ. seams 1 1/2 long. seams 1 5/8 Pitch of rivets 11"

Percentage of strength of circ. end seams plate 62.5 rivets 43.9 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.22 rivets 87 combined 87.9 Working pressure of shell by Rules 227 lbs

Thickness of butt straps outer 1 7/32 inner 1 1/32 No. and Description of Furnaces in each Boiler 3 Morrison type

Material steel Tensile strength 26-30 tons Smallest outside diameter 3' 10 1/16"

Length of plain part top bottom Thickness of plates crown 2 3/32 bottom Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 226 lbs

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 3/8" Pitch of stays 20 1/2" x 19"

How are stays secured Double nuts. Working pressure by Rules 227 lbs

Tube plates: Material front back steel Tensile strength 26-30 tons Thickness 7/8"

Mean pitch of stay tubes in nests 10 9/16 Pitch across wide water spaces 14 1/2 Working pressure front 233 lbs back 239 lbs

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 9 3/8" two 7/8" plates Length as per Rule 33 5/16 Distance apart 9" No. and pitch of stays

in each 3 stay. 8" Working pressure by Rules 229 lbs. Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 2 1/32 Back 1 1/16 Top 1 1/16 Bottom 1"

Pitch of stays to ditto: Sides 8 1/8" x 8" Back 8 1/4" x 8" wimp Top 9" x 8" 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 1" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 1"

Pitch of stays at wide water space 16" x 8" Are stays fitted with nuts or riveted over nuts.

Working Pressure 258 lbs. Main stays: Material steel Tensile strength 28-32 tons

Diameter At body of stay, or Over threads 3 1/2" 3 1/4" No. of threads per inch 6 Area supported by each stay 20 1/2" x 19" 19" x 18 1/4"

Working pressure by Rules 232 lbs. Screw stays: Material steel Tensile strength 26-30 tons

Diameter At turned off part, or Over threads 1 3/4" 1 5/8" No. of threads per inch 9 Area supported by each stay 72 sq ins. 65 sq ins

Working pressure by Rules 234 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter ^{At turned off part,} 1 7/8" or ^{Over threads}

No. of threads per inch 9. Area supported by each stay 92 sq ins. Working pressure by Rules 231 lbs.

Tubes: Material Iron lapwelded External diameter ^{Plain} 3 1/2" Thickness ^{7 W.G.} 7/16, 3/8, 5/16" No. of threads per inch 9

Pitch of tubes 4 5/8" x 4 3/4" Working pressure by Rules 260 lbs. Manhole compensation: Size of opening in shell plate 20 1/2" x 14" Section of compensating ring 36" x 32" x 1 19/32" No. of rivets and diameter of rivet holes 30. 1 1/2" dia.

Outer row rivet pitch at ends 11" Depth of flange if manhole flanged 3 1/2" Steam Dome: Material steel

Tensile strength 26-30 tons. Thickness of shell 1 5/16" Description of longitudinal joint G. R. Lap joint.

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 of stays — Inner radius of crown 36" Working pressure by Rules 292 lbs.

How connected to shell Riveted collar. Size of doubling plate under dome for manhole 36 x 32 x 1 19/32" Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 5/16" x 9.07"

Type of Superheater Smoke tube Manufacturers of The Superheater Co. Ltd.

Number of elements 57 Material of tubes steel Internal diameter and thickness of tubes 20 mm. 2 1/2 mm.

Material of headers steel Tensile strength X Thickness 1 3/8" Can the superheater be shut off and the boiler be worked separately Yls.

Area of each safety valve 1.76 sq Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yls.

Rules Oppn. 225 lbs. Pressure to which the safety valves are adjusted 230 lbs. Working pressure as per tubes X forgings and castings X and after assembly in place 675 lbs. Hydraulic test pressure: valves fitted to free the superheater from water where necessary Yes X

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
 For RICHARDSON, WESTGARTH & Co. LIMITED.
M.S.S. Sully Manufacturer.

Dates of Survey ^{During progress of work in shops - -} 1937 Feb 8-10-16-19-25. Mar 1-9-15-17-19-24-31 Are the approved plans of boiler and superheater forwarded here with no. (If not state date of approval.) 25-11-36. 24-12-36.

^{while building} ^{During erection on board vessel - - -} Total No. of visits 15

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.) This Boiler has been constructed under Special Survey and in accordance with the approved plan for a working pressure of 225 lbs per sq inch. The materials and workmanship have been found good.

Upon completion the Boiler was tested, in the presence of the undersigned, with hydraulic pressure 388 lbs per sq inch, showed no signs of weakness and was found tight and sound in every respect at that pressure.

The Boiler has now been dispatched to the Middlesbrough district.

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

M. J. R. A.
27. 4. 37.

Survey Fee £ 17 : 18 : 0 } When applied for, 21-4-1937

Travelling Expenses (if any) £ : : } When received, 10-5-1937

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

Committee's Minute FRI 28 MAY 1937

Assigned See ind. 28. 15997

