

# REPORT ON BOILERS.

Received at London Office 27 APR 1936

Date of writing Report 21-4-36 when handed in at Local Office 25-4-36 Port of West Hartlepool

No. in Survey held at Hartlepool Date, First Survey 13-2-36 Last Survey 8-4-1936

on the steam trawler LOCH MONTEITH (Number of Visits 15) Tons {Gross 530 Net 194}

Master Built at South Bank By whom built Smittes Docks Ltd Yard No. 1003. When built 1936

Engines made at South Bank By whom made Smittes Docks Ltd. Engine No. 461 When made 1936.

Boilers made at Hartlepool By whom made Messrs Richardson Westgarth & Co. Boiler No. 461 When made 1936.

Nominal Horse Power Owners Loch Fishing Co. of Hull Ltd Port belonging to Hull

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland. (Letter for Record S ✓) less front tube plate

Total Heating Surface of Boilers 2450 sq. ft. 2714 sq. ft. Is forced draught fitted yes ✓ Coal or Oil fired coal ✓

No. and Description of Boilers One, single ended ✓ 150. Working Pressure 225 lbs. ✓

Tested by hydraulic pressure to 387 lbs. ✓ Date of test 20-3-36 No. of Certificate 3838 ✓ 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 Cockburns Improved High Lift

Area of each set of valves per boiler {per Rule 7.19 as fitted 9.80} 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 uptakes and bunkers or 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 No.

Largest internal dia. of boilers 15' 5 5/16" ✓ Length 12' 0" ✓ Shell plates: Material steel ✓ Tensile strength 29-30 tons ✓

Thickness 1 1/32" ✓ Are the shell plates welded or flanged ✓ Description of riveting: circ. seams {end D.R. ✓

long. seams Y.R.D.B.S ✓ Diameter of rivet holes in {circ. seams 1 7/16" ✓ 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 combined 87.27} 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 30 ✓

Material steel ✓ Tensile strength 26-30 tons ✓ Smallest outside diameter 3' 8 3/8" ✓

Length of plain part {top bottom ✓ Thickness of plates {crown 1 1/16" bottom 1 1/16" ✓ Description of longitudinal joint welded ✓

Dimensions of stiffening rings on furnace or e.c. 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 1 7/2" ✓

How are stays secured double nuts & washers. ✓ Working pressure by Rules 228 lbs. ✓

Tube plates: Material {front back steel ✓ Tensile strength {26-30 tons ✓ Thickness {3 1/32" 5 7/64" ✓

Mean pitch of stay tubes in nests 1 1/4" ✓ Pitch across wide water spaces 1 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 2' 11 5/16" ✓ 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" 9 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 3 1/32" ✓ Lower back plate: Material steel ✓ Tensile strength 26-30 tons ✓ Thickness 1 5/16" ✓

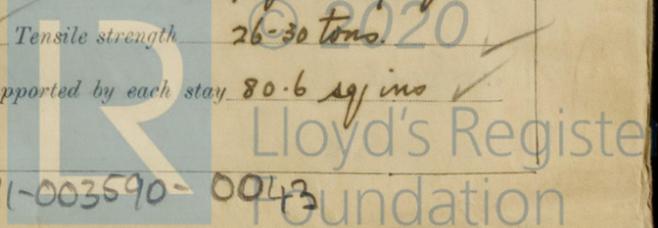
Pitch of stays at wide water space 1 3/4" x 8" ✓ Are stays fitted with nuts or riveted over nuts. ✓

Working Pressure 231 lbs. ✓ Main stays: Material steel ✓ Tensile strength 28-32 tons ✓

Diameter {At body of stay, or Over threads 3 1/4" & 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, or Over threads 1 3/4" ✓ No. of threads per inch 9 ✓ Area supported by each stay 80.6 sq. ins. ✓



Working pressure by Rules 237 lbs. Are the stays drilled at the outer ends no. Margin stays: Diameter <sup>At turned off part,</sup> 1 7/8" <sub>or Over threads</sub>

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 <sup>Plain</sup> 3 1/4" <sup>Stay</sup> 3 1/4" Thickness 8 W.C. 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 in shell plate 20 1/2" x 14" Section of compensating ring 36" x 32" x 1 7/32" 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 <sup>Plate</sup> 72.05 <sup>Rivets</sup> 73.7

Internal diameter 36" Working pressure by Rules 515 lbs. Thickness of crown 1" No. and diameter of stays 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 5/16" x 9.07"

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

Number of elements 64 Material of tubes steel Internal diameter and thickness of tubes 1 7/8" 3 mm.

Material of headers forged steel Tensile strength Yls. Thickness Yls. Can the superheater be shut off and the boiler be worked separately Yls.

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

Rules approx 225 lbs. Are the safety valves fitted with easing gear Yls. Working pressure as per tubes 230 lbs. Pressure to which the safety valves are adjusted 230 lbs. Hydraulic test pressure: 675 lbs. Are drain cocks or valves fitted to free the superheater from water where necessary Yls.

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

For RICHARDSONS, WESTGARTH & Co. LIMITED.  
The foregoing is a correct description,  
W. E. Forridge Manufacturer.  
DIRECTOR

Dates of Survey <sup>During progress of work in shops - - -</sup> 21-12-35 Are the approved plans of boiler and superheater forwarded herewith no  
<sup>while building</sup> <sup>During erection on board vessel - - -</sup> 9-1-36 (If not state date of approval.)

Total No. of visits 9-1-36

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 in accordance with the approved plans for a working pressure of 225 lbs per square inch. The materials and workmanship have been found good. Upon completion the boiler tested by hydraulic pressure 387 lbs per square inch with satisfactory results.

The Boiler is to be dispatched to Middlesbrough for fitting on board.

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

P. J. McA  
Midb 27. 6. 36

Survey Fee ... £ 18 : 6 : 0 | When applied for, 25-4-1936  
Travelling Expenses (if any) £ : : | When received, 5-5-1936

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

Committee's Minute FRI. 17 JUL 1936  
Assigned See Indb. L.E. 15737