

REPORT ON BOILERS.

No. 17634

Date of writing Report 29-12-1936 When handed in at Local Office 31-12-1936 Port of West Hartlepool
 Received at London Office -1 JAN 7
 No. in Reg. Book. Survey held at Hartlepool Date, First Survey 23-9-36 Last Survey 24-11-1936
 on the Steam Trawler Kelt (Number of Visits 14) Gross 455 Tons Net 165
 Master Built at South Bank By whom built Smiths Doen Co Ltd Yard No. 1020 When built 1937
 Engines made at South Bank By whom made Smiths Doen Co Ltd Engine No. 486 When made 1937
 Boilers made at Hartlepool By whom made Richardsons Westgarth & Co Ltd Boiler No. 486 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 The Steel Company of Scotland (Letter for Record S)
 Total Heating Surface of Boilers 2,500 sq ft. 2467 sq ft. Is forced draught fitted Yes Coal or Oil fired coal
 No. and Description of Boilers One Marine Cylindrical Multitubular Return Tube Working Pressure 225 lbs.
 Tested by hydraulic pressure to 388 lbs. Date of test 25-11-36 No. of Certificate 3854 Can each boiler be worked separately
 Area of Firegrate in each Boiler 50 sq ft. No. and Description of safety valves to each boiler Pair Corbourns Improved High Lift
 Area of each set of valves per boiler {per valve 6.51 sq ft. as fitted 9.8 sq ft. 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 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 Yes
 Largest internal dia. of boilers 15'6" Length 11'0" Shell plates: Material steel Tensile strength 29-30 tons
 Thickness 1 7/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams end Lap joint, D. Riveted
 long. seams D.B.S. Heble riveted Diameter of rivet holes in {circ. seams 1 7/16" long. seams 1 1/2" Pitch of rivets {circ. 3 7/8" long. 10 1/8"
 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 87.2 Working pressure of shell by Rules 225.8 lbs.
 Thickness of butt straps {outer 1 7/16" inner 1 5/16" No. and Description of Furnaces in each Boiler 3. Morrison type. 3 C
 Material steel Tensile strength 26-30 tons Smallest outside diameter 44 5/8"
 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.c. bottom Working pressure of furnace by Rules 225.8 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 and washers Working pressure by Rules 228 lbs.
 Tube plates: Material {front steel Tensile strength 26-30 tons Thickness 1" Working pressure {front 234 lbs. back 230 lbs.
 Mean pitch of stay tubes in nests 10 9/16" Pitch across wide water spaces 14 1/2" x 9 1/4" Depth and thickness of girder
 Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons
 at centre 2 plates, 9 3/8" x 7/8" Length as per Rule 34 1/32" Distance apart 9' No. and pitch of stays
 in each 3 x 8" Working pressure by Rules 229 lbs. Combustion chamber plates: Material steel
 Tensile strength 26-30 tons Thickness: Sides 2 1/32" Back 2 1/32" Top wing 1 1/16" Bottom 1"
 Pitch of stays to ditto: Sides 8 1/8" x 8" Back 8 1/8" x 8" Top wing 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 5/16"
 Pitch of stays at wide water space 15 1/2" x 8" Are stays fitted with nuts or riveted over nuts.
 Working Pressure 227 lbs. Main stays: Material steel Tensile strength 28-32 tons
 Diameter {At body of stay, 3" x 3 1/4" No. of threads per inch 6 Area supported by each stay 297.5 sq in. 350 sq in.
 {Over threads Working pressure by Rules 226 lbs. 229 lbs. Screw stays: Material steel Tensile strength 26-30 tons
 Diameter {At turned off part, 1 5/8" . 1 3/4" No. of threads per inch 9 Area supported by each stay 65 x 72 sq in.

Working pressure by Rules 234 lbs. Are the stays drilled at the outer ends ☒ no. Margin stays: Diameter { At turned off part, or Over threads 1 7/8" Working pressure by Rules 236 lbs.

No. of threads per inch 9 Area supported by each stay 90 sq ins

Tubes: Material Iron External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 7/16" 3/8" 5/16" No. of threads per inch 9

Pitch of tubes 4 3/4" x 4 5/8" 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 7/32" No. of rivets and diameter of rivet holes 30. 1 1/2"

Outer row rivet pitch at ends 10 1/8" Depth of flange if manhole flanged

Tensile strength 26-30 tons Thickness of shell 15/16" Steam Dome: Material steel

Diameter of rivet holes 13/16" Pitch of rivets 4 1/4" Description of longitudinal joint Reble riveted lap joint.

Internal diameter 36" Working pressure by Rules 515 lbs. Percentage of strength of joint { Plate 72. 25 Rivets 73. 7

stays. Inner radius of crown 36" Thickness of crown 1" No. and diameter of

How connected to shell Riveted Working pressure by Rules 292 lbs.

Size of doubling plate under dome 56 1/8" Dia x 1 1/8" to 7/8" collar riv Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 15/16" 9.07

Type of Superheater Smoke tube Manufacturers of { Tubes The Superheaters Co Ltd. Steel forgings do. Steel castings

Number of elements 49 Material of tubes solid drawn steel Internal diameter and thickness of tubes 20 7/8" 2 1/2" m.

Material of headers steel forgings Tensile strength Thickness 1 3/8" 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

Area of each safety valve 1.76 sq. Are the safety valves fitted with easing gear

Rules App. 225 lbs. Pressure to which the safety valves are adjusted 230 lbs Working pressure as per tubes forgings and castings and after assembly in place 6 7/8 lbs. Hydraulic test pressure: valves fitted to free the superheater from water where necessary

Are drain cocks or Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

The foregoing is a correct description,
W. E. Mudge Manufacturer.

Dates of Survey { During progress of work in shops - 1936 4/23-28 Oct 5-9-12-15-26-28 Nov 2 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 28-8-36. 19-9-36. No. 5.10.23.24

while building { During erection on board vessel - - - - -

Total No. of visits 14

Is this Boiler a duplicate of a previous case ☒ Yes. If so, state Vessel's name and Report No. Boiler D485. W. Appl Rpt No 17629

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, by hydraulic pressure to 388 lbs per sq inch, showed no signs of weakness and was found tight and sound in every respect at that pressure. The Boiler is to be dispatched to Middlesbrough for fitting on board the vessel intended for. This boiler has been securely fitted aboard and its safety valves adjusted under steam.

A. J. McAuliffe MAB 5.2.37

Survey Fee ... £ 16 : 13 : 0 When applied for, 1937
Travelling Expenses (if any) £ : : : When received, 16 Jan 1937

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

Committee's Minute TUE 2 MAR 1937
Assigned See MAB. J.E. 15919