

REPORT ON BOILERS.

No. 13803

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office... 8/9/1944 Port of Belfast

No. in Survey held at Belfast Date, First Survey 1 Jan. 1944 Last Survey 12 Sept. 1944

Reg. Book. 7 on the M.V. "NISO" (Number of Visits... 38) Tons { Gross... 8273 Net... 4777

Master..... Built at Belfast By whom built Harland & Wolff Ltd Yard No. 1198 When built 1944

Engines made at Glasgow By whom made Harland & Wolff Ltd Engine No. 8463/1 When made 1944

Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. 8460 When made 1944

Nominal Horse Power 490 Owners Cinglo Saxon Petroleum Ltd Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Bolwiler Ltd. (Letter for Record S ✓)

Total Heating Surface of Boilers 1918 sq. ft. ✓ Is forced draught fitted yes ✓ Coal or Oil fired yes ✓

No. and Description of Boilers One cylindrical multitubular single ended Working Pressure 150 lb/sq. in. ✓

Tested by hydraulic pressure to 275 lb/sq. in. Date of test 16.5.44 No. of Certificate 1273 Can each boiler be worked separately yes ✓

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 1/2" double spring Cockburn S.H.L. ✓

Area of each set of valves per boiler per Rule 3.63 sq. in. ✓ Pressure to which they are adjusted 150 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 ✓

Smallest distance between boilers or uptakes and bunkers or woodwork well clear ✓ Is oil fuel carried in the double bottom under boilers ✓

Smallest distance between shell of boiler and 1 1/2" plating 30" ✓ Is the bottom of the boiler insulated yes ✓

Largest internal dia. of boilers 12' 6" ✓ Length 11' 0" ✓ Shell plates: Material Steel ✓ Tensile strength 29/33 tons ✓

Thickness 7/8" ✓ Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams { end... D.R. LAP inter... ✓

long. seams TR. D.B.S. ✓ Diameter of rivet holes in { circ. seams 1 3/32" ✓ Pitch of rivets { 3.038" ✓ long. seams 1 1/32" ✓ 6 1/16" ✓

Percentage of strength of circ. end seams { plate... 64.0 ✓ rivets... 56.1 ✓ Percentage of strength of circ. intermediate seam { plate... 84.6 ✓ rivets... ✓

Percentage of strength of longitudinal joint { plate... 106.7 ✓ rivets... 90.5 ✓ Working pressure of shell by Rules 154.6 lb/sq. in. ✓

Thickness of butt straps { outer 1 1/16" ✓ inner 3/16" ✓ No. and Description of Furnaces in each Boiler Two Corrugated Deighton Section ✓

Material Steel ✓ Tensile strength 26/30 tons ✓ Smallest outside diameter 42" ✓

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 1/2" ✓ bottom ✓ Description of longitudinal joint Flare weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules as approved ✓

End plates in steam space: Material Steel ✓ Tensile strength 26/30 tons ✓ Thickness 15/16" ✓ Pitch of stays irregular ✓

How are stays secured Nuts & washers inside & outside ✓ Working pressure by Rules as approved ✓

Tube plates: Material { front Steel ✓ back ✓ Tensile strength { 26/30 tons ✓ Thickness { 7/8" ✓ 13/16" ✓

Mean pitch of stay tubes in nests 9.25" ✓ Pitch across wide water spaces 13 1/2" ✓ Working pressure { front as approved ✓ back ✓

Girders to combustion chamber tops: Material Steel ✓ Tensile strength 28/32 tons ✓ Depth and thickness of girder

at centre 2 @ 8 1/4" x 3 1/2" ✓ Length as per Rule 29.94" ✓ Distance apart 11" ✓ No. and pitch of stays

in each 3 @ 7 1/4" ✓ Working pressure by Rules as approved ✓ Combustion chamber plates: Material Steel ✓

Tensile strength 26/30 tons ✓ Thickness: Sides 3/4" ✓ Back 3/4" ✓ Top 3/4" ✓ Bottom 3/4" ✓

Pitch of stays to ditto: Sides 9 3/4" x 8 1/2" ✓ Back 9 1/4" x 8" ✓ Top 11" x 7 1/2" ✓ Are stays fitted with nuts or riveted over margin & girder stays riveted remainder riveted ✓

Working pressure by Rules as approved ✓ Front plate at bottom: Material Steel ✓ Tensile strength 26/30 tons ✓

Thickness 7/8" ✓ Lower back plate: Material Steel ✓ Tensile strength 26/30 tons ✓ Thickness 15/16" ✓

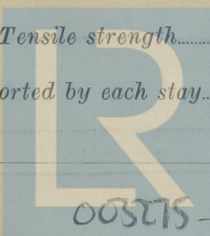
Pitch of stays at wide water space 13" x 9 1/4" ✓ Are stays fitted with nuts riveted over ✓ yes ✓

Working pressure as approved ✓ Main stays: Material Steel ✓ Tensile strength 28/32 tons ✓

Diameter { At body of stay 2 1/2" ✓ or ✓ No. of threads per inch 6 ✓ Area supported by each stay ✓

Working pressure by Rules as approved ✓ Screw stays: Material Steel ✓ Tensile strength 26/30 tons ✓

Diameter { At turned off part 1 1/2", 1 5/8", 2" ✓ or ✓ No. of threads per inch 9 ✓ Area supported by each stay ✓

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Working pressure by Rules as approved Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 1.58" ✓
No. of threads per inch 9 ✓ Area supported by each stay 2 1/2" ✓ Working pressure by Rules as approved
Tubes: Material Weldless steel External diameter { Plain 2 1/2" ✓ Thickness { 1.0 LSG ✓ No. of threads per inch 9 ✓
Pitch of tubes 3 3/4" x 3 7/8" ✓ Working pressure by Rules as approved Manhole compensation: Size of opening in
shell plate 16 1/2" x 12 1/2" ✓ Section of compensating ring 2[(10 x 3/4) + (4 x 1)] No. of rivets and diameter of rivet holes 28 @ 1 7/32" ✓
Outer row rivet pitch at ends 9" ✓ Depth of flange if manhole flanged front end plate 3 3/8" ✓ Steam Dome: Material _____
Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint { Plate _____
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 _____ Manufacturers of { Tubes _____
Steel forgings _____
Steel castings _____
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 _____ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____
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

Harland and Wolff, Limited
The foregoing is a correct description,

Manhall Manufacturer.

Secretary

Dates of Survey while building { During progress of work in shops - - 1944
Jan 9, 12, 14, 17, 21, 24, 26, 28, 30, Mar 1, 6, 10, 11, 27, Apr 3, 21, 25, May 1, 2, 6, 8, 16, 18, 19, 25, June 2, 5, 7, 8, 15, 23 (If not state date of approval.)
During erection on board vessel - - - July 7, Aug 3, 11, 17, 21, 24, 30 Sept 1
Are the approved plans of boiler and superheater forwarded herewith 26.5.41
Total No. of visits 38

Is this Boiler a duplicate of a previous case yes ✓ If so, state Vessel's name and Report No. M.V. "MORRISIA" BELF RPT N° 13626

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under Special Survey in accordance with the Society's Rules & approved plans. The materials & workmanship are good.
F.D.P.

This boiler has been properly fitted on board, and its safety valves afterwards adjusted under steam to the working pressure and found satisfactory. Compression washer sizes Starboard Boiler P. 23/164" S. 21/64"
G. E. Mundree.

Survey Fee ... £ 12 : 15 : 0 } When applied for 8/9/1944
Travelling Expenses (if any) £ : - : } When received 19

F.D. Philston

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 9 JAN 1945

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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