

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 Reg. Book. Survey held at... Date, First Survey...7th Jan 1944 Last Survey...1st Sept 1944

on the...8460 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 When made...1944

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

Nominal Horse Power...490 Owners Anglo Siam Petroleum Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Bolwilles Ltd. (Letter for Record 3)

Total Heating Surface of Boilers 1918 sq. ft. Is forced draught fitted yes Fuel 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 1272 Can each boiler be worked separately yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 1/4" Double Spring Cockburn S.H.L.

Area of each set of valves per boiler 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 tank top 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 D.R.

Long. seams T.R. D.B.S. Diameter of rivet holes in circ. seams 1 3/32" Pitch of rivets 3.038"

Percentage of strength of circ. end seams { plate 64 rivets 56.1 Percentage of strength of circ. intermediate seam { plate 84.6 rivets 106.7 combined 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/sq. in. Smallest outside diameter 42"

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 1/2" bottom ✓ Description of longitudinal joint Fire 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 Two @ 8 1/4" x 3/4" 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 1/4" x 8 1/4" Back 9 1/4" x 8" Top 11" x 7 1/4" Are stays fitted with nuts or riveted over margin & girder stays 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 or riveted over yes

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

Diameter { At body of stay 2 1/2" 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" No. of threads per inch 9 Area supported by each stay ✓

Working pressure by Rules *as approved* Are the stays drilled at the outer ends. *no* Margin stays: Diameter { At turned off part, *✓*
or *1 5/8"*
Over threads.....
No. of threads per inch *9* Area supported by each stay *✓* Working pressure by Rules *as approved*.
Tubes: Material *Weldless Steel* External diameter { Plain *2 1/2"* Thickness *10 LSG* ✓
Stay *2 1/2"* No. of threads per inch *9*
Pitch of tubes *3 3/4" x 3 5/8"* Working pressure by Rules *as approved*. Manhole compensation: Size of opening
shell plate *16 1/2" x 12 1/2"* Section of compensating ring *2 [10 x 3/4] + (1 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 *7/8" and 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
Rivets
Internal diameter Working pressure by Rules Thickness of crown No. and diameter Engine
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

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
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

Dates of Survey while building { During progress of work in shops - - - *1944*
During erection on board vessel - - -
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. "NORRISIA" BELF. RPT. No 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.*

This boiler has been properly fitted on board, and its safety valves afterwards adjusted under steam to the working pressure and found satisfactory. Compression washers sizes Port Boiler P. 13/32" S 3/8"
G. E. Murdoch

Survey Fee ... £ *12 : 15 : 0* When applied for *8/2/1944*
Travelling Expenses (if any) £ : - : When received *19*

G. D. Philston
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *GLASGOW 9 JAN 1945*
Assigned *SEE ACCOMPANYING MACHINERY REPORT.*