

## REPORT ON BOILERS.

No. 22325.

Received at London Office 26 MAY 1943

Date of writing Report 19<sup>th</sup> MAY 1943. When handed in at Local Office 20<sup>th</sup> MAY 1943. Port of GREENOCK

No. in Survey held at GREENOCK Date, First Survey 15<sup>th</sup> SEPTEMBER 1941. Last Survey 19<sup>th</sup> MAY 1943.  
 Reg. Book. 5443 "NINELLA" (Number of Visits 42.) Gross 8134  
 57829 on the SINGLE SCREW 614 ENGINE TANKER Tons Net 4745

Built at GLASGOW By whom built BLYTHSWOOD S.B. CO L<sup>td</sup> Yard No. 70 When built 1943  
 Engines made at GREENOCK By whom made JOHN G. KINCAID & CO L<sup>td</sup> Engine No. 1146 When made 1943  
 Boilers made at GREENOCK By whom made JOHN G. KINCAID & CO L<sup>td</sup> Boiler No. 1146 When made 1943  
 Nominal Horse Power 502 Owners OCEAN GOING OIL TANKER Port belonging to LONDON

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLE L<sup>td</sup> (Letter for Record S)  
 Total Heating Surface of Boilers 3502 Is forced draught fitted Yes Coal or Oil fired and/or Exhaust  
 No. and Description of Boilers One SE cylindrical Working Pressure 180 lbs/sq in  
 Tested by hydraulic pressure to 320 lb Date of test 7-12-42 No. of Certificate 2314 Can each boiler be worked separately Yes  
 Area of Firegrate in each Boiler No. and Description of safety valves to each boiler One double spring 14 L.  
 Area of each set of valves per boiler {per Rule 11.22" as fitted 14.14" Pressure to which they are adjusted 180 lb Are they fitted with easing gear Yes  
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 4'-4" Is oil fuel carried in the double bottom under boilers Yes  
 Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated Yes  
 Largest internal dia. of boilers 16'-3" Length 12'-6" Shell plates: Material S Tensile strength 29/33 tons  
 Thickness 1 5/16" Are the shell plates welded or flanged No Description of riveting: circ. seams {end DR inter. 3.953"  
 long. seams TR. DBS Diameter of rivet holes in {circ. seams 1 3/8" long. seams 1 5/16" Pitch of rivets {plate 8.937"  
 Percentage of strength of circ. end seams {plate 65.2 rivets 45.3 Percentage of strength of circ. intermediate seam {plate rivets  
 Percentage of strength of longitudinal joint {plate 85.3 rivets 85.7 combined 87.6  
 Thickness of butt straps {outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler Three Doughton  
 Material S Tensile strength 26/30 tons Smallest outside diameter 3'-11 3/16"  
 Length of plain part {top bottom Thickness of plates {crown 19" bottom 32 Description of longitudinal joint Weld  
 Dimensions of stiffening rings on furnace or c.c. bottom Yes  
 End plates in steam space: Material S Tensile strength 26/30 tons Thickness 1 1/4" Pitch of stays 17 1/2" x 19 1/2"  
 How are stays secured Double nuts & loose washers  
 Tube plates: Material {front S back S Tensile strength {26/30 tons Thickness {15" 23/32"  
 Mean pitch of stay tubes in nests 9.375" Pitch across wide water spaces 1'-1 1/2"  
 Girders to combustion chamber tops: Material S Tensile strength 29/33 tons Depth and thickness of girder  
 at centre 9 3/4" x 1 1/2" Length as per Rule 3'-2 9/32" Distance apart 9" No. and pitch of stays  
 in each Four @ 7 3/4" Combustion chamber plates: Material S  
 Tensile strength 26/30 tons Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 7/8"  
 Pitch of stays to ditto: Sides 7 1/4" x 7 3/4" Back 6 3/4" x 8 1/16" Top 9" x 7 3/4" Are stays fitted with nuts or riveted over NUTS TO TOP & MARGIN  
 Front plate at bottom: Material S Tensile strength 26/30 tons  
 Thickness 1 5/16" Lower back plate: Material S Tensile strength 26/30 tons Thickness 1 3/16"  
 Pitch of stays at wide water space 14" x 8 1/16" Are stays fitted with nuts or riveted over NUTS  
 Main stays: Material S Tensile strength 28/32 tons  
 Diameter {At body of stay, or Over threads 3" No. of threads per inch 6  
 Screw stays: Material S Tensile strength 26/30 tons  
 Diameter {At turned off part, or Over threads 1 3/8" No. of threads per inch 9



Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 1 5/8" ✓  
or  
Over threads

No. of threads per inch 9

Tubes: Material What Iron External diameter { Plain 2 1/2" ✓  
Stay 2 1/2" ✓ Thickness { 9/32" ✓ 11/32" ✓ No. of threads per inch 9 ✓

Pitch of tubes 3 3/4" x 3 3/4" ✓ Manhole compensation: Size of opening in  
shell plate 16 1/2" x 20 1/2" ✓ Section of compensating ring 2'-10 1/2" x 3'-1 1/2" x 1 1/32" No. of rivets and diameter of rivet holes 38 - 1 1/2" ✓

Outer row rivet pitch at ends 10 1/4" ✓ Depth of flange if manhole flanged Flat plate type door ✓ 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 \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of  
stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_

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 \_\_\_\_\_

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 \_\_\_\_\_

The foregoing is a correct description,  
For JOHN G. KINCAID & CO. LTD.  
Robert Green Director. Manufacturer.

Dates of Survey { During progress of work in shops - - }  
while building { During erection on board vessel - - }  
See machinery report Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.)  
Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case Yes ✓ If so, state Vessel's name and Report No. "NARAHIO" GRN N° 22141  
Narrahio

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This boiler has been built under Special Survey in accordance with the Rules and approved plans. The materials & workmanship are sound & good. The Safety valves have been adjusted under steam 180 lbs / " accumulation nil. For recommendations please see engine report.

Survey Fee ... £ : : When applied for, 19  
Travelling Expenses (if any) £ : : When received, 19

See machinery report

Charles W. Hunter  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 25 MAY 1943  
Assigned SEE ACCOMPANYING MACHINERY REPORT