

REPORT ON BOILERS.

No. 103570

Received at London Office 23 MAR 1946

Date of writing Report 19.3. 1946, When handed in at Local Office 19.3. 1946. Port of NEWCASTLE-ON-TYNE

No. in Survey held at Wallsend, Date, First Survey 10th Nov. 1945 Last Survey 15.3. 1946.

on the Motorship NEAERA. (Number of Visits 21) Tons {Gross 8254 Net 4761}

Built at Newcastle By whom built Hawthorn, Leslie & Co. Ld. Yard No. 670. When built 1946

Engines made at ditto By whom made ditto Engine No. 4011 When made

Boilers made at Wallsend. By whom made N. E. Mar. Eng. Co. (1938) Ld. Boiler No. 3094 When made 1945.

Nominal Horse Power of Boilers } 277. Owners Anglo-Saxon Petroleum Co. Port belonging to London

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY,~~ DONKEY.

Manufacturers of Steel The Steel Coy. of Scotland, and Colvilles Ld. (Letter for Record S. ✓)

Total Heating Surface of Boilers 4160 sq. ft. ✓ Is forced draught fitted Yes ✓ Coal or Oil fired Oil. ✓

No. and Description of Boilers 2, D.B. Working Pressure 180 lb/✓

Tested by hydraulic pressure to 320 lb ✓ Date of test 21-9-45 No. of Certificate 1175. Can each boiler be worked separately Yes. ✓

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 of 2 1/2" dia Lockburn Imp High Lift. ✓

Area of each set of valves per boiler {per Rule 8.0 as fitted 9.8 ✓ Pressure to which they are adjusted 185 lb ✓ 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 ✓ Is oil fuel carried in the double bottom under boilers ✓

Smallest distance between shell of boiler and tank top plating On flat in Eng. Room. ✓ Is the bottom of the boiler insulated Yes. ✓

Largest internal dia. of boilers 13'0" ✓ Length 12'4" ✓ Shell plates: Material S. ✓ Tensile strength 29 to 33 tons ✓

Thickness 1 3/4" ✓ Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams {end D.R. inter. ✓

long. seams T.R. D.H. butt straps Diameter of rivet holes in {circ. seams 1 1/8" ✓ long. seams Pitch of rivets {3 1/4" 7 13/16" ✓

Percentage of strength of circ. end seams {plate 65.4 rivets 46.3. ✓ Percentage of strength of circ. intermediate seam {plate NIL. rivets

Percentage of strength of longitudinal joint {plate 85.6 rivets 90.2 combined 89.2 ✓

Thickness of butt straps {outer 13/16" inner 15/16" ✓ No. and Description of Furnaces in each Boiler 2 C.f. Morrison type. ✓

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

Length of plain part {top ✓ bottom Thickness of plates {crown 9/16" ✓ bottom Description of longitudinal joint fire welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓

End plates in steam space: Material S. ✓ Tensile strength 26-30 tons ✓ Thickness 1 9/32" ✓ Pitch of stays 1'11" x 1'5" ✓

How are stays secured 8ble nuts ✓

Tube plates: Material {front S. back ✓ Tensile strength 26-30 tons ✓ Thickness {29/32" 25/32" ✓

Mean pitch of stay tubes in nests 9 7/8" ✓ Pitch across wide water spaces 13 3/4" x 7 3/4" ✓

Girders to combustion chamber tops: Material S. ✓ Tensile strength 29-33 tons ✓ Depth and thickness of girder

at centre 10" x 27/32" x two Length as per Rule 3'1 33/64" ✓ Distance apart 10 1/2" ✓ No. and pitch of stays

in each 3 @ 9" ✓ Combustion chamber plates: Material S. ✓

Tensile strength 26-30 tons ✓ Thickness: Sides 45/64" ✓ Back 45/64" ✓ Top 45/64" ✓ Bottom 1" ✓

Pitch of stays to ditto: Sides 9" x 6 7/8" ✓ Back 7 1/4" x 8 3/8" ✓ Top 9" x 10 1/2" ✓ Are stays fitted with nuts or riveted over margin stays are riveted. others riveted. ✓

Front plate at bottom: Material S. ✓ Tensile strength 26-30 tons ✓

Thickness 29/32" ✓ Lower back plate: Material S. ✓ Tensile strength 26-30 tons ✓ Thickness 7/8" ✓

Pitch of stays at wide water space 15" x 8 3/8" ✓ Are stays fitted with nuts or riveted over margin stays are riveted. others - riveted. ✓

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 1/2" ✓ No. of threads per inch 9. ✓



Are the stays drilled at the outer ends No ✓
 Margin stays: Diameter { At turned off part, 1 3/4" + 2"
 or Over threads
 No. of threads per inch 9 ✓
 Tubes: Material SEAMLESS STEEL External diameter { Plain 2 3/4"
 Stay Thickness { 9.WG. No. of threads per inch 9 ✓
3/8", 5/16"
 Pitch of tubes 4" x 3 7/8"
 Manhole compensation: Size of opening in shell plate 20 1/2" x 16 1/2" Section of compensating ring 8 1/2" x 1 1/8" No. of rivets and diameter of rivet holes 17 of 1 1/2"
 Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 3 3/4" ✓
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Steam Dome: NIL
 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 NIL 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 _____
 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 Yes.
 THE NORTH EASTERN MARINE ENGINEERING CO. (1930) LTD.
 The foregoing is a correct description,
Harry Hunt Manufacturer.
 DIRECTOR

Dates of Survey { During progress of work in shops - - - (1945) Apr. 10, Aug. 8, 27, 28, 29, 30, the approved plans of boiler and superheater forwarded herewith 30/6/45
 while building { During erection on board vessel - - - Sept. 3, 10, 11, 21, Dec. 4, Nov. 4, 2, 5, 6, 7, 20, (If not state date of approval.)
Dec. 22, (1946) Feb. 16, 18, Total No. of visits 21

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Empire Neptune Tm Rpt 103126 (NEMar Boiler No 3092)

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
These 2 Donkey Boilers have been constructed under special survey in accordance with the approved plan and the Society's Rules, and the materials + workmanship are good
The boilers have been efficiently fitted on board the vessel and their Safety Valves adjusted under steam to 180 lbs/sq. in. (See also Mach: Rpt.)

Survey Fee £ 26 - 7 - When applied for, 18/3/46
 Travelling Expenses (if any) £ : : When received, 19

Awatt & J.S. Martin
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 12 APR 1946

Assigned See F.E. machy. rpt.

