

REPORT ON BOILERS.

No. 101619

Received at London Office 3 - NOV 1943
NEWCASTLE-ON-TYNE.

Date of writing Report F-2 NOV 1943 When handed in at Local Office F-2 NOV 1943 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Walleud. Date, First Survey 4th June, 1942 Last Survey 22nd Sept 1943
Reg. Book. 37280 on the 83 "EMPIRE CAMP" (Number of Visits 49) Tons Gross 7017
Net 4758

Built at Sunderland. By whom built Short Bros Ltd. Yard No. 477 When built 1943.
Engines made at Walleud By whom made N.E. Marine Eng Co (1938) Ltd Engine No. 3050 When made 1943
Boilers made at Walleud By whom made Walleud Boiler No. 3048 When made 1943
Nominal Horse Power 542 Owners Ministry of War Transport Port belonging to Sunderland

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co of Scotland Ltd. (Letter for Record S.)
Total Heating Surface of Boilers 5538 Is forced draught fitted Yes Coal or Oil fired coal

No. and Description of Boilers 2 SB. Working Pressure 220

Tested by hydraulic pressure to 380 Date of test 14.4.43 No. of Certificate 1043 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 67.5 No. and Description of safety valves to each boiler 1 Double
Area of each set of valves per boiler per Rule 14.9 Pressure to which they are adjusted 225 Are they fitted with easing gear Yes
as fitted 16.58

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 Yes Is oil fuel carried in the double bottom under boilers Yes
Smallest distance between shell of boiler and tank-top plating Yes Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-11 1/16" Length 12'-4 1/2" Shell plates: Material S. Tensile strength 29.35
Thickness 1 7/32 Are the shell plates welded or flanged Yes Description of riveting: circ. seams DR
inter.

long. seams TR. D.B.S. Diameter of rivet holes in circ. seams 1 9/16" Pitch of rivets 4.1
long. seams Percentage of strength of circ. end seams plate 62 Percentage of strength of circ. intermediate seams plate 49.6
rivets 85.5

Percentage of strength of longitudinal joint plate 86 Percentage of strength of circ. intermediate seams plate 88.2
rivets 86

Thickness of butt straps outer 1 3/16" No. and Description of Furnaces in each Boiler 3 cf
inner 1 5/16" Material S Tensile strength 26-30 Smallest outside diameter 3'-11 1/4"

Length of plain part top Thickness of plates crown 47/64" Description of longitudinal joint weld.
bottom Dimensions of stiffening rings on furnace or c.c. bottom Yes

End plates in steam space: Material S. Tensile strength 26-30 Thickness 1 1/2" Pitch of stays 23 x 20 13/16"
How are stays secured Double nuts.

Tube plates: Material front S. Tensile strength 26-30 Thickness 1 5/16"
back Mean pitch of stay tubes in nests 8.87 Pitch across wide water spaces 14 1/4 x 4 1/8"

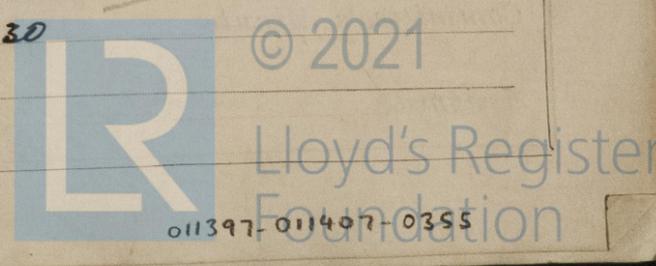
Girders to combustion chamber tops: Material S Tensile strength 29-33 Depth and thickness of girder
at centre 11 1/2 x 1" dbb Length as per Rule 46 1/2" Distance apart 8 1/2" No. and pitch of stays
in each 3 @ 11 1/8" Combustion chamber plates: Material S.

Tensile strength 26-30 Thickness: Sides 25 1/32" 51/64" Back 25 1/32" Top 25 1/32" 51/64" Bottom 29 1/32"
Pitch of stays to ditto: Sides 11 1/8 x 8 7/8" Back 10 1/2 x 7 3/4" Top 11 1/8 x 8 1/2" Are stays fitted with nuts or riveted over nuts

Front plate at bottom: Material S Tensile strength 26-30
Thickness 1 5/16" Lower back plate: Material S Tensile strength 26-30 Thickness 3/32"
Pitch of stays at wide water space 15 1/8 x 14 1/2" Are stays fitted with nuts or riveted over nuts

Main stays: Material S. Tensile strength 28-32
Diameter At body of stay, 3 1/2" No. of threads per inch 6
Over threads

Screw stays: Material S Tensile strength 26-30
Diameter At turned off part, 1 3/4" No. of threads per inch 6
Over threads 1 7/8"



Are the stays drilled at the outer ends 110 Margin stays: Diameter ^{At turned off part,} 2 1/8"
 or Over threads
 No. of threads per inch 9
 Tubes: Material SD. Steel External diameter ^{Plain} 3" Thickness ^{8 W.G.} 3/8" - 7/16" No. of threads per inch 9
^{Stay} 3"
 Pitch of tubes 5 7/8" x 4 1/8", 4 3/4" x 4 1/8", 4 7/8" x 4 1/8" Manhole compensation: Size of opening in
 shell plate none Section of compensating ring _____ No. of rivets and diameter of rivet holes _____
 Outer row rivet pitch at ends _____ Depth of flange if manhole flanged _____ Steam Dome: Material none
 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 Smoke tube Manufacturers of ^{Tubes} Stewart & Lloyds
^{Steel forgings} Appleby Frodingham Steel Co
^{Steel castings} _____
 Number of elements 126 Material of tubes SD. Steel Internal diameter and thickness of tubes 17 1/4" x 2 1/4"
 Material of headers Forged Steel Tensile strength 26-30 Thickness 7/8" Can the superheater be shut off and
 the boiler be worked separately yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes
 Area of each safety valve 3.14 Are the safety valves fitted with easing gear yes
 Pressure to which the safety valves are adjusted 225 lbs. Hydraulic test pressure:
 tubes 1500 forgings and castings 660 and after assembly in place 440 Are drain cocks or
 valves fitted to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes
 THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.
 The foregoing is a correct description,
John Nell Manufacturer.
 DIRECTOR

Dates of Survey ^{During progress of} See main Rpt. Are the approved plans of boiler and superheater forwarded herewith 10/11/41
^{while} work in shops - - (If not state date of approval.)
^{building} ^{During erection on} board vessel - - Total No. of visits _____

Is this Boiler a duplicate of a previous case _____ If so, state Vessel's name and Report No. _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers & superheaters
have been constructed under Special Survey in accordance with
the Requirements of the Rules, the approved Plan & the Specification

The materials & workmanship are good
The boilers proved sound & tight under hydraulic test
& satisfactory under steam

Survey Fee ... £ See Main Rpt. When applied for, 19 _____
 Travelling Expenses (if any) £ See Main Rpt. When received, 19 _____

R. Moffitt
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 16 NOV 1943

Assigned see minute
and E. Rpt.