

REPORT ON BOILERS.

No. 95474

Received at London Office OCT -1 1937

Date of writing Report

19

When handed in at Local Office

30/9/37

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle on Tyne

Date, First Survey 23 Dec/36

Last Survey 28/9/1937

on the Single Screw Motor Tanker "ARNDALE"

(Number of Visits)

Gross 8296
Net 4936

Master J. J. Built at Newcastle By whom built Swan, Hunter & Wigham Richardson Ltd Yard No. 1516 When built 1937

Engines made at Sunderland By whom made W. Duxford & Sons Ltd Engine No. 201 When made 1937

Boilers made at Newcastle on Tyne By whom made Swan, Hunter & W. Richardson Ltd Boiler No. 1516 When made 1937

Nominal Horse Power $\frac{1520}{15} = 101$ Owners The Admiralty Port belonging to LONDON

Two-furnace Oil-fired

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

Manufacturers of Steel The Steel Company of Scotland (Letter for Record S)

Total Heating Surface of Boilers 1520 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil-fired

No. and Description of Boilers One Single ended Multi-tubular Scotch Working Pressure 150 lbs

Tested by hydraulic pressure to 275 lbs Date of test 9/7/37 No. of Certificate 725 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler Oil-fired No. and Description of safety valves to each boiler 2-2 1/2" Cockburn's Improved High Lift Spring Loaded

Area of each set of valves per boiler { per Rule 6.95 sq. in. as fitted 7.94 " Pressure to which they are adjusted 150 lbs Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No main boilers

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-10" Is oil fuel carried in the bunker Yes

Smallest distance between shell of boiler and tank top plating 2'-10" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 11'-4 1/2" Length 11'-6" Shell plates: Material Steel Tensile strength 30/34 tons

Thickness 3/4" Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. lap inter. none

long. seams T.R. Dble butt straps Diameter of rivet holes in { circ. seams 7/8" long. seams 13/16" Pitch of rivets { 2.89" 5.75"

Percentage of strength of circ. end seams { plate 69.79 rivets 42.43 Percentage of strength of circ. intermediate seam { plate 85.86 rivets 86.41 combined 89.02

Percentage of strength of longitudinal joint { plate 85.86 rivets 86.41 combined 89.02 Working pressure of shell by Rules 150 lbs

Thickness of butt straps { outer 9/16" inner 11/16" No. and Description of Furnaces in each Boiler Two Deighton Corrugated

Material Steel Tensile strength 26/30 tons Smallest outside diameter 37 3/16

Length of plain part { top 2'-5" c.c. butt. Thickness of plates { crown 13/32" bottom 5/8" c.c. butt. Description of longitudinal joint Furnaces fire welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 155 lbs

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 7/8" Pitch of stays 16 3/8" x 14"

How are stays secured Dble nuts & washers Working pressure by Rules 151 lbs

Tube plates: Material { front Steel back Steel Tensile strength 26/30 tons Thickness { 7/8" 5/8"

Mean pitch of stay tubes in nests 9.375" Pitch across wide water spaces 13 1/2" x 7 1/2" Working pressure { front 158 lbs back 156 "

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

at centre 7 3/4" x 1 1/4" Length as per Rule 29 21/32" Distance apart 9 1/2" No. and pitch of stays

in each 279" Working pressure by Rules 152 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 5/8" Back 23/32" Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 9 1/2" x 9 1/2" Back 9" x 8" Top 9 1/2" x 9" Are stays fitted with nuts or riveted over nutted both ends.

Working pressure by Rules 150 lbs. c.c. sides Front plate at bottom: Material Steel Tensile strength 26-30 tons Thickness 7/8"

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

Pitch of stays at wide water space 14 3/4" x 9" Are stays fitted with nuts or riveted over Nuts

Working Pressure 210 lbs Main stays: Material Steel Tensile strength 28/32 tons

Diameter { At body of stay Two top stays 2 1/2" No. of threads per inch 6 Area supported by each stay (15 3/4" x 14 3/4") - 3.26

Over threads other 2 1/4 Working pressure by Rules 151 lbs Screw stays: Material Steel Tensile strength 26/30 tons

Diameter { At turned off part 1 5/8" + 1 1/2" No. of threads per inch 9 Area supported by each stay (9 1/2" x 9 1/2") - 1.73

Working pressure by Rules 172 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { 15/8" }
No. of threads per inch 9 Area supported by each stay (10 3/4 x 9) - 1.73 Working pressure by Rules 160 lbs
Tubes: Material IRON External diameter { Plain 2 1/2" Stay 2 1/2" } Thickness { 3/8 + 5/16 } No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 229 lbs Manhole compensation: Size of opening in
shell plate 20" x 16" Section of compensating ring 7 3/8" x 3/4" x 2 No. of rivets and diameter of rivet holes 32 - 1 1/8" dia
Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 2 1/2" Steam Dome: Material IRON
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 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 None 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

The foregoing is a correct description,

Dates of Survey { During progress of work in shops - - - See Index Report } Are the approved plans of boiler and superheater forwarded herewith 15/10/35
while building { During erection on board vessel - - - } (If not state date of approval.) for 1498 (British FAME.)
Total No. of visits _____

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. British Fane No. 94124
etc.

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, and the materials & workmanship are good.
The Boiler is fitted on top of the oil fuel bunker, in the boiler space forward
of the Engine Room having access from the top platform of the Engine Room.
The Boiler is fitted for burning oil fuel, F.P. above 150° under forced draft.
The Safety valves have been adjusted under steam to 150 lbs per sq. inch
and the accumulation test was satisfactory.

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

A. Watt

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 8 JUL 1934

Assigned

See Note J.E. 95474



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Lloyd's Register
Foundation

Rpt. 13.

Date of cert.

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