

NEWCASTLE-ON-TYNE  
No. 103755

For MEMO. 3091

Last Tanker

EMPIRE MASEBY

MEMO/22/45/2/45

Rpt. 5a.

# REPORT ON BOILERS.

No. 21498.

23 NOV 1944

DONKEY.

Received at London Office

Date of writing Report

When handed in at Local Office

21-11-1944

Port of

Aberdeen

No. in Reg. Book

Surrey held at Aberdeen

Date, First Survey 20<sup>th</sup> September 1943 Last Survey 16<sup>th</sup> November 1944

ADMIRALTY VESSEL

S/S. WAVE KNIGHT.  
EMPIRE MASEBY.

(Number of Visits 21.)

Gross Tons  
Net

Built at Sunderland

By whom built

Sir James Laing & Sons Ltd

A/M S

1946

Yard No. 764

When built 1944

Engines made at Wallsend

By whom made

N. E. Mar. Engrs Co (1938) Ltd

Engine No. TURB. N° 3091

When made 1946

Boilers made at Aberdeen

By whom made

Hall Russell

A/M S/M 494

Boiler No. 2/43

When made 1944

Nominal Horse Power

Owners

The Admiralty

Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles Ltd. ✓

(Letter for Record

S. ✓

Total Heating Surface of Boilers

(2) 4160 square ft. ✓

Is forced draught fitted

Yes ✓

Coal or Oil fired

Oil ✓

No. and Description of Boilers

Two single ended ✓

Working Pressure

180 lbs ✓

Tested by hydraulic pressure to 320 lbs ✓

Date of test 1-8-44

23.8.44

No. of Certificate 1159

1160

Can each boiler be worked separately

Yes ✓

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two Improved High Lift. ✓

Area of each set of valves per boiler

per Rule

6.4 ✓

as fitted

4.95 ✓

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

Yes ✓

Smallest distance between shell of boiler and tank top plating ✓

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

13'-3 1/16" ✓

Length

11'-4 2/32" ✓

Shell plates: Material

S ✓

Tensile strength

29/33 tons ✓

Thickness

1 3/32" ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

end D.R.L. ✓

long. seams

T. R. D. B. S. ✓

Diameter of rivet holes in

circ. seams

1 3/16" ✓

long. seams

1 3/16" ✓

Pitch of rivets

3 5/8" ✓

8 3/16" ✓

Percentage of strength of circ. end seams

plate

64.24

rivets

44.3

Percentage of strength of circ. intermediate seam

plate

85.49

Percentage of strength of longitudinal joint

plate

85.49

rivets

91.9

combined

89.3

Thickness of butt straps

outer 7/8" ✓

inner 1" ✓

No. and Description of Furnaces in each Boiler

3 Beighton. ✓

C.T

Material

S. ✓

Tensile strength

26/30 tons ✓

Smallest outside diameter

3'-1 1/4" ✓

Length of plain part

top FRONT 4 1/16" ✓

bottom BACK 10 1/2" ✓

Thickness of plates

crown 1/2" ✓

bottom 1/2" ✓

Description of longitudinal joint

Weld. ✓

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

None. ✓

End plates in steam space: Material

S. ✓

Tensile strength

26/30 tons ✓

Thickness

1 5/32" ✓

Pitch of stays 19" + 1 1/2" ✓

How are stays secured

Nuts & washers inside + outside. ✓

Tube plates: Material

front S ✓

back S ✓

Tensile strength

26/30 tons ✓

Thickness

13/16" ✓

1/16" ✓

Mean pitch of stay tubes in nests

11 1/4" + 4 1/2" ✓

Pitch across wide water spaces

13 1/2" ✓

Girders to combustion chamber tops: Material

S ✓

Tensile strength

29/33 tons ✓

Depth and thickness of girder

at centre

2-8 3/8" x 13/16" ✓

Length as per Rule

2'-8" ✓

Distance apart

10" ✓

No. and pitch of stays

in each

2-10" ✓

Combustion chamber plates: Material

S. ✓

Tensile strength

26/30 tons ✓

Thickness: Sides

2 1/32" ✓

Back

1/16" ✓

Top

2 3/32" ✓

Bottom

2 1/32" ✓

Pitch of stays to ditto: Sides

10" x 8" ✓

Back

10" + 4 1/2" ✓

Top

10" x 10" ✓

Are stays fitted with nuts or riveted over

Nuts ✓

Front plate at bottom: Material

S ✓

Tensile strength

26/30 tons ✓

Thickness

13/16" ✓

Lower back plate: Material

S ✓

Tensile strength

26/30 tons ✓

Thickness

2 1/32" ✓

Pitch of stays at wide water space

15" ✓

Are stays fitted with nuts or riveted over

Nuts on margin stays. ✓

Main stays: Material

S ✓

Tensile strength

28/32 tons ✓

Diameter

At body of stay, 2 7/8" ✓

Over threads

✓

No. of threads per inch

6 ✓

Screw stays: Material

S ✓

Tensile strength

26/30 tons ✓

Diameter

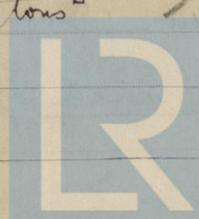
At turned off part, 1 3/4" ✓

Over threads

✓

No. of threads per inch

9 ✓



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004116-004124-0020

Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 1 1/8 x 2 ✓ 1 3/4  
or Over threads ✓

No. of threads per inch 9 ✓

Tubes: Material S. ✓ External diameter { Plain 2 1/2 ✓  
Stay 2 1/2 ✓ Thickness { 5/16 ✓ 3/8 ✓ No. of threads per inch 9 ✓

Pitch of tubes 3 3/4 x 3 3/4 ✓ Manhole compensation: Size of opening in shell plate 20 1/2 x 16 1/2 ✓ Section of compensating ring 9" + 1" ✓ No. of rivets and diameter of rivet holes 36 - 1 3/8 ✓

Outer row rivet pitch at ends 8 3/16 ✓ Depth of flange if manhole flanged 3 1/4 ✓ 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 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 ✓

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,  
ROBT. RUSSELL & Co., Ltd. Manufacturer.

Dates of Survey { During progress of work in shops - - Sept 20, Oct 20, Nov 18, Dec 17, Jan 19 ✓  
while building { During erection on board vessel - - - Mar 28, Apr 21, May 25, June 5, 15, 28, 30, July 11, 28, Aug 1, 7, 23, Sept 6, Nov 16 ✓

Are the approved plans of boiler and superheater forwarded herewith. (If not state date of approval.)

Total No. of visits 21

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 two auxiliary boilers have been built under Special Survey in accordance with the Rules, approved plan & Specification. The materials and workmanship are good. The boilers are to be shipped to Wallsend and installed on board the vessel by Messrs The North Eastern Marine Eng Co. Ltd.

These 2 Donkey Bhrs. WP 180 lbs. Aberdeen Rpt. No 21498. have been efficiently fitted on board H.M.S. WAVE KNIGHT. (ex EMPIRE NASERY) and safety valves were adjusted under steam to 185 lbs for WP 180 lbs

A Watt  
Newcastle on Tyne  
7/6/46.

Survey Fee ... .. £ 13 : 17 : 0  
SUPERVISION OF SPECIFICATION 3 : 9 : 3  
Travelling Expenses (if any) £

Changed at Aberdeen (Watt's 25/5/45)

When applied for, 19  
When received, 19

J. D. Avey  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 28 JUN 1946

Assigned See F.E. machy. rpt.