

REPORT ON BOILERS.

No. 80205

Received at London Office 17 MAR 1926

Date of writing Report

When handed in at Local Office

15/3/1926 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at WALKER

Date, First Survey 24/10/24

Last Survey 5/3/1926

Book.

(Number of Visits)

Gross 9557

on the TWIN SCREW MOTOR SHIP "ATHELKING"

Tons Net 6018

Master Built at WALLSEND By whom built S. H. W. R. L^d Yard No. 1285 When built 1926

Engines made at WALKER By whom made SWAN HUNTER WIGHAM RICHARDSON L^d Engine No. 1208 When made 1926

Boilers made at By whom made S. H. W. R. L^d Boiler No. 1208 When made 1926

Nominal Horse Power 1051 Owners BRITISH MOLASSES CO L^d Port belonging to LIVERPOOL

WASTE HEAT BOILER

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

Manufacturers of Steel DAVID COLVILLE - PLATES, BARS, DEIGHTON, FURNACES (Letter for Record S)

Total Heating Surface of Boilers 1766 sq ft Is forced draught fitted YES Coal or Oil fired OIL

No. and Description of Boilers ONE, S. E. CYLINDRICAL MULTITUBULAR, Working Pressure 180 lb sq in

Tested by hydraulic pressure to 320 lb sq in Date of test 10.12.25 No. of Certificate 9960 Can each boiler be worked separately YES

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler TWO, DIRECT SPRING HIGH LIFT

Area of each set of valves per boiler { per Rule 9.056 sq in as fitted 9.817 sq in Pressure to which they are adjusted 180 lb sq in 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 17" Is oil fuel carried in the ~~double bottom~~ under boilers YES

Smallest distance between shell of boiler and ~~top~~ ^{BUNKER} top plating 17" Is the bottom of the boiler insulated NO

Largest internal dia. of boilers 12'-10" Length 11'-6" Shell plates: Material STEEL Tensile strength 30/34 TONS

Thickness 1" Are the shell plates welded or flanged NO Description of riveting: circ. seams { end DRL inter.

Long. seams DBS, TR Diameter of rivet holes in { circ. seams 1 1/8" long. seams 1 1/16" Pitch of rivets { 3.58 7 3/8

Percentage of strength of circ. end seams { plate 68.5% rivets 42.5% Percentage of strength of circ. intermediate seam { plate --- rivets ---

Percentage of strength of longitudinal joint { plate 85.59% rivets 86.4% combined 88.46% Working pressure of shell by Rules 181 lb sq in

Thickness of butt straps { outer 25/32" inner 29/32" No. and Description of Furnaces in each Boiler 3, DEIGHTON

Material STEEL Tensile strength 26/30 TONS Smallest outside diameter 35 9/16"

Length of plain part { top --- bottom --- Thickness of plates { crown 15/32" bottom 13/32" Description of longitudinal joint WELD

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 188 lb sq in

End plates in steam space: Material STEEL Tensile strength 26/30 TONS Thickness 1 1/16" Pitch of stays 17 1/2 x 16 1/2"

How are stays secured DOUBLE NUTS Working pressure by Rules 180 lb sq in

Tube plates: Material { front STEEL back STEEL Tensile strength { 26/30 TONS Thickness { F 15/16" BC 3/4" BW 29/32"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2" Working pressure { front 183 lb sq in back 229 lb sq in

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

at centre 8 7/8 x 1 1/4" Length as per Rule 31 5/8" Distance apart 9 1/4" No. and pitch of stays

in each 2 OF 9 3/4" Working pressure by Rules 182 lb sq in Combustion chamber plates: Material STEEL

Tensile strength 26/30 TONS Thickness: Sides 11/16" Back C 5/8" W 21/32" Top 11/16" Bottom 11/16"

Pitch of stays to ditto: Sides 9 x 8" Back 9 1/4 x 9" Top 9 3/4 x 9 1/4" Are stays fitted with nuts or riveted over NUTS

Working pressure by Rules 180 lb sq in Front plate at bottom: Material STEEL Tensile strength 26/30 TONS

Thickness 15/16" Lower back plate: Material STEEL Tensile strength 26/30 TONS Thickness 7/8"

Pitch of stays at wide water space 13 1/2 x 9" Are stays fitted with nuts or riveted over NUTS

Working Pressure 238 lb sq in Main stays: Material STEEL Tensile strength 28/32 TONS

Diameter { At body of stay, 2 3/4" No. of threads per inch 6 Area supported by each stay 282.8 sq in

Working pressure by Rules 195 lb sq in Screw stays: Material STEEL Tensile strength 26/30 TONS

Diameter { At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 81.5 sq in

Working pressure by Rules $186\frac{1}{2}$ Are the stays drilled at the outer ends *NO* Margin stays: Diameter $1\frac{3}{4}$
 No. of threads per inch *9* Area supported by each stay 100.34 Working pressure by Rules $205\frac{1}{2}$
 Tubes: Material *IRON* External diameter $2\frac{1}{2}$ Thickness $9\frac{1}{16}$ No. of threads per inch *9*
 Pitch of tubes $3\frac{3}{4} \times 3\frac{3}{4}$ Working pressure by Rules $187\frac{1}{2}$ Manhole compensation: Size of opening $32 - 1\frac{5}{16}$
 shell plate 20×16 Section of compensating ring $8\frac{7}{16} \times 1$ FLANGED No. of rivets and diameter of rivet holes $32 - 1\frac{5}{16}$
 Outer row rivet pitch at ends $9\frac{1}{8}$ Depth of flange if manhole flanged _____ Steam Dome: Material _____
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$ _____
 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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$ _____
 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 Tested by hydr _____
 tubes _____ 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 23 inclusive for boilers been complied with _____

The foregoing is a correct description,
SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} \end{array} \right.$ _____
 while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} \end{array} \right.$ _____

See Machinery Report

Are the approved plans of boiler and superheater forwarded herewith *DIRECTOR*
 (If not state date of approval.)
 Total No. of visits _____

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

The Boiler built under Special Survey the material and workmanship found good and efficient.
The Boiler tested under hydraulic pressure at the makers works $320\frac{1}{2}$ and found Satisfactory.
The Boiler subsequently satisfactorily fitted up on board the vessel in boiler house leading off top platform of Engine Room at forward end.
The Boiler fitted up for oil fuel under forced draught, flash point of oil fuel above $150^{\circ} F$.

See Machinery Report.

Survey Fee	£	:	:	When applied for,	192
Travelling Expenses (if any)	£	:	:	When received,	192

L. G. Shallcross.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 19 MAR 1926

Assigned

See A.E. rpt attached



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