

# REPORT ON BOILERS.

No. 80205

Received at London Office 11 MAR 1926

Date of writing Report

192

When handed in at Local Office

15/3/1926

Port of

NEWCASTLE-ON-TYNE

No. in opening of Book.

Survey held at

WALKER WALLSEND

Date, First Survey

24/10/24 Last Survey

5/3/1926

(Number of Visits)

Gross 9557  
Tons Net 6018

on the TWIN-SCREW MOTOR SHIP "ATHELKING"

Master

Built at WALLSEND

By whom built S. H. W. R. L<sup>o</sup>

Yard No. 1285 When built 1926

Engines made at

WALKER

By whom made SWAN HUNTER WIGHAM RICHARDSON

Engine No. 1208 When made 1926

Boilers made at

WALKER

By whom made S. H. W. R. L<sup>o</sup>

Boiler No. 1208 When made 1926

Nominal Horse Power 1051

Owners BRITISH MOLASSES & L<sup>o</sup>

Port belonging to LIVERPOOL

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

Manufacturers of Steel DAVID COLVILLE. PLATES/STAYS. DEIGHTON CO L<sup>o</sup>. FURNACES (Letter for Record S)

Total Heating Surface of Boilers 1380

Is forced draught fitted YES

Coal or Oil fired OIL

Working Pressure 180 lb<sup>sq</sup>

No. and Description of Boilers ONE S.E. CYLINDRICAL MULTITUBULAR

Tested by hydraulic pressure to 320 lb Date of test 10.12.25 No. of Certificate 9961 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 4.076 sq as fitted 7.952 sq

Pressure to which they are adjusted 180 lb<sup>sq</sup> 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~~ top plating 17"

Is the bottom of the boiler insulated NO

Largest internal dia. of boilers 11' 4 3/16" Length 11' 6"

Shell plates: Material STEEL Tensile strength 30/34 TONS

Thickness 29/32" Are the shell plates welded or flanged NO

Description of riveting: circ. seams { end DRL inter. 3 1/2"

long. seams DBS. TR. Diameter of rivet holes in { circ. seams 1 1/16" long. seams 15/16"

Pitch of rivets { plate 6 7/16" rivets

Percentage of strength of circ. end seams { plate 69.64% rivets 42.8%

Percentage of strength of circ. intermediate seam { plate 85.43% rivets 85.04%

Percentage of strength of longitudinal joint { plate 85.43% rivets 85.04%

Working pressure of shell by Rules 183 lb<sup>sq</sup>

Thickness of butt straps { outer 1 1/16" inner 13/16"

No. and Description of Furnaces in each Boiler TWO DEIGHTON

Material STEEL Tensile strength 26/30 TONS

Smallest outside diameter 38 5/8"

Length of plain part { top bottom Thickness of plates { crown 1/2" bottom

Description of longitudinal joint WELD

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

Working pressure of furnace by Rules 186 lb<sup>sq</sup>

End plates in steam space: Material STEEL Tensile strength 26/30 TONS

Thickness 1" Pitch of stays 16/2 x 15"

How are stays secured DOUBLE NUTS

Working pressure by Rules 185 lb<sup>sq</sup>

Tube plates: Material { front STEEL back " Tensile strength { 26/30 TONS

Thickness { F 1" B 3/4"

Mean pitch of stay tubes in nests 9 3/8"

Pitch across wide water spaces 13 1/2"

Working pressure { front 209 lb back 228 lb

Girders to combustion chamber tops: Material STEEL Tensile strength 28/32 TONS

Depth and thickness of girder

at centre 8 1/4" x 1 1/4" Length as per Rule 31 5/8"

Distance apart 8"

No. and pitch of stays

in each 2 of 9 3/4" Working pressure by Rules 182 lb<sup>sq</sup>

Combustion chamber plates: Material STEEL

Tensile strength 26/30 TONS Thickness: Sides 2 1/32" Back 5/8" Top 2 1/32" Bottom 2 1/32"

Pitch of stays to ditto: Sides 8 x 9 1/2" Back 8 x 9 1/8" Top 8 x 9 3/4"

Are stays fitted with nuts or riveted over NUTS

Working pressure by Rules 184 lb<sup>sq</sup>

Front plate at bottom: Material STEEL Tensile strength 26/30 TONS

Thickness 1" Lower back plate: Material STEEL Tensile strength 26/30 TONS

Thickness 1"

Pitch of stays at wide water space 13 1/2 x 9 1/8"

Are stays fitted with nuts or riveted over NUTS

Working Pressure 311 lb<sup>sq</sup>

Main stays: Material STEEL Tensile strength 28/32 TONS

Diameter { At body of stay, 2 1/2" Over threads

No. of threads per inch 6

Area supported by each stay 242.6 sq"

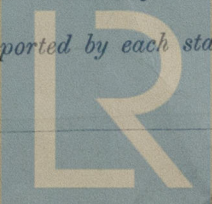
Working pressure by Rules 182 lb

Screw stays: Material STEEL Tensile strength 26/30 TONS

Diameter { At turned off part, 1 5/8" Over threads

No. of threads per inch 9

Area supported by each stay 46.27 sq"



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Working pressure by Rules  $199\frac{1}{2}$  Are the stays drilled at the outer ends **NO** Margin stays: Diameter { At turned off part,  $1\frac{3}{4}$ "  
Over threads  $1\frac{3}{4}$ "  
No. of threads per inch **9** Area supported by each stay  $96.1$  Working pressure by Rules  $188\frac{1}{2}$   
Tubes: Material **IRON** External diameter { Plain  $3\frac{1}{2}$ "  
Stay  $2\frac{1}{2}$ " Thickness {  $9$  WG  
 $5/16$ " 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 in  
shell plate  $20 \times 16$  Section of compensating ring  $8 \times 29/32$  FLANGED. of rivets and diameter of rivet holes  $30 \cdot 15/16$   
Outer row rivet pitch at ends **9** 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 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** Manufacturers of { Tubes  
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, 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,  
FOR  
**SWAN, HUNTER & WIGHAM RICHARDSON** Manufacturer.  
*G. J. Sweet*

Dates { During progress of  
of Survey { work in shops - -  
while {  
building { During erection on  
board vessel - - -

*See Machinery Report*

Are the approved plans of boiler and superheater forwarded herewith  
(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 MCHY. REPT**  
Survey Fee ... £ : : When applied for, 192  
Travelling Expenses (if any) £ : : When received, 192

*L. G. Shalloo*  
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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