

# REPORT ON BOILERS.

No. 87196

28 MAY 1931

Received at London Office

27 MAY 1931

Port of NEWCASTLE-ON-TYNE

Date of writing Report

When handed in at Local Office

No. in  
Reg. Book.

Date, First Survey

30 Jan

Last Survey

23 May 1931

No. in  
Reg. Book.

(Number of Visits)

Gross

Net

on the *Two single-ended boilers for the S. S. "MORA"*

Master

Built at *Sunderland*By whom built *Swan Hunter, W.R. & Co* Yard No. *1464* When built *1931*

Engines made at

*Walker*By whom made *Swan Hunter, Wigham & Co* Engine No. *1410* When made *1931*

Boilers made at

*Walker*By whom made *Swan Hunter, Wigham & Co* Boiler No. *1410* When made *1931*

Nominal Horse Power

Owners *The M. S. Shipping Co* Port belonging to *Newcastle*

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *The Steel Co of Scotland*(Letter for Record *S*)

Total Heating Surface of Boilers

*2238 sq ft*Is forced draught fitted *No*Coal or Oil fired *coal*

No. and Description of Boilers

*2 single-ended marine*Working Pressure *180 lbs*

Tested by hydraulic pressure to

*320 lbs*Date of test *24.4.31*No. of Certificate *549*Can each boiler be worked separately *yes*

Area of Firegrate in each Boiler

*34 sq ft*No. and Description of safety valves to each boiler *1 pair 1 H.L. Type*

Area of each set of valves per boiler

*3.59 sq ft*Pressure to which they are adjusted *180 lbs*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

*18"*Is oil fuel carried in the double bottom under boilers *No*

Smallest distance between shell of boiler and tank top plating

*24"*Is the bottom of the boiler insulated *No*

Largest internal dia. of boilers

*11'-1 1/4"*Length *10'-6"*Shell plates: Material *S*Tensile strength *30/34 T*

Thickness

*7/8"*Are the shell plates welded or flanged *No*

Description of riveting: circ. seams

*end D.R. Lap*

long. seams

*T.R.D.B.S.*

Diameter of rivet holes in

circ. seams

*1 5/16"*

Pitch of rivets

*3.24"*

Percentage of strength of circ. end seams

plate

*69.13*

rivets

*42.44*

Percentage of strength of circ. intermediate seam

plate

*-*

rivets

Percentage of strength of longitudinal joint

plate

*85.84*

rivets

*85.55*Working pressure of shell by Rules *182 lbs*

Thickness of butt straps

outer

*21/32"*

inner

*25/32"*

No. and Description of Furnaces in each Boiler

*Two Single Section*

Material

*S*

Tensile strength

*26/30 T*

Smallest outside diameter

*3'-1 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

*None*

Working pressure of furnace by Rules

*191 lbs*

End plates in steam space: Material

*S*

Tensile strength

*26/30 T*

Thickness

*1 5/16"*Pitch of stays *15"-14 1/2"*

How are stays secured

*D. nuts*

Working pressure by Rules

*185 lbs*

Tube plates: Material

front

*S*

back

*S*

Tensile strength

*26/30 T*

Thickness

*1 5/16"*

Working pressure

front *186 lbs*back *194 lbs*

Mean pitch of stay tubes in nests

*11 1/16"*

Pitch across wide water spaces

*14 1/4"*

Working pressure

front *186 lbs*back *194 lbs*

Girders to combustion chamber tops: Material

*S*

Tensile strength

*28/32 T*

Depth and thickness of girder

at centre

*8 1/2" x 1 1/4"*

Length as per Rule

*30 9/16"*

Distance apart

*9"*

No. and pitch of stays

in each

*2 @ 9 1/2"*

Working pressure by Rules

*185 lbs*

Combustion chamber plates: Material

*S*

Tensile strength

*26/30 T*

Thickness: Sides

*1 1/16"*

Back

*5/8"*

Top

*1 1/16"*

Bottom

*1 1/16"*

Pitch of stays to ditto: Sides

*9 1/2" x 9 1/2"*

Back

*8 1/2" x 8 1/2"*

Top

*9 1/2" x 9"*

Are stays fitted with nuts or riveted over

*nuts*

Working pressure by Rules

*181 lbs*

Front plate at bottom: Material

*S*

Tensile strength

*26/30 T*

Thickness

*1 5/16"*

Lower back plate: Material

*S*

Tensile strength

*26/30*

Thickness

*1 5/16"*

Pitch of stays at wide water space

*15 3/4" x 9 1/2"*

Are stays fitted with nuts or riveted over

*nuts*

Working Pressure

*225 lbs*

Main stays: Material

*S*

Tensile strength

*28/32 T*

Diameter

At body of stay,

*2 3/8"*

or

Over threads

*-*

No. of threads per inch

*6*

Area supported by each stay

*214.35*

Working pressure by Rules

*180 lbs*

Screw stays: Material

*S*

Tensile strength

*26/30 T*

Diameter

At turned off part,

*1 5/8" - 1 3/4"*

or

Over threads

*-*

No. of threads per inch

*9*

Area supported by each stay

*83.85**R*



Working pressure by Rules 181 lbs Are the stays drilled at the outer ends Yes Margin stays: Diameter 1 3/4"  
 No. of threads per inch 9 Area supported by each stay 95.6 sq" Working pressure by Rules 189 lbs  
 Tubes: Material 6 External diameter 3 1/4" Thickness 1/4" No. of threads per inch 9  
 Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 211 lbs Manhole compensation: Size of opening in  
 shell plate 20" x 16" Section of compensating ring 9 1/2" x 7/8" No. of rivets and diameter of rivet holes 32 @ 1 1/4"  
 Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged - 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 -  
 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 Smoke - Tubes Manufacturers of Tubes Walden Steel Tube Co.  
 Number of elements 20 cast tubes Material of tubes S. D. Steel Steel castings Goodingham Steel Co. Ltd.  
 Material of headers M. Steel Tensile strength 26/30 T 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 sq" Are the safety valves fitted with easing gear Yes Working pressure as per  
 Rules 180 lbs Pressure to which the safety valves are adjusted 185 lbs Hydraulic test pressure:  
 tubes 1500 lbs castings 540 lbs and after assembly in place 360 lbs 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 foregoing is a correct description,  
 SWAN, HUNTER & WILKINSON, LTD.  
 Leo A. Wright Manufacturer.

Dates of Survey See Weekly Report Are the approved plans of boiler and superheater forwarded herewith Yes  
 while building See Weekly Report (If not state date of approval)  
 Total No. of visits -

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

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

The Boilers have been built under special survey in accordance with the Rules of the Society. The approved plans & have been recently fitted on board the vessel & their safety valves adjusted under steam to working pressure. The materials & workmanship are of good quality throughout.

Survey Fee ... £ 6 : When applied for, 19  
 Travelling Expenses (if any) £ None : When received, 19  
Report

Geo. A. Ferguson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 2 JUN 1931

Assigned See F.B. Rpt.