

REPORT ON BOILERS.

No. 86364

Received at London Office 25 OCT 1930

Date of Writing Report

19

When handed in at Local Office

23/10/1930

Port of Newcastle-on-Tyne.

No. in Survey held at Reg. Book.

Walker

Date, First Survey

24 Oct 1929

Last Survey

15 Oct 1930

1930

ending in

on the oil-fired, water heat boiler for the M.V. "MORGENEN."

(Number of Visits)

Gross 7095

Net 4288

Master

Built at Walker

By whom built Swan Hunter & W. B. Esch, Ltd.

Yard No. 1384

When built 1930

Engines made at

Walker

By whom made Swan Hunter & W. B. Esch, Ltd.

Engine No. 1384

When made

Boilers made at

- do -

By whom made

- do -

Boiler No.

When made

Nominal Horse Power

425

Owners O. & K. Gauztransport

Port belonging to Gensburg.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

D. Colville & Co.

(Letter for Record 8.)

Total Heating Surface of Boilers

2260 sq ft

Is forced draught fitted Yes

Coal or Oil fired Oil.

No. and Description of Boilers

1 oil-fired, water heat donkey boiler (Cyl.)

Working Pressure 150 lbs

Tested by hydraulic pressure to

245 lb

Date of test 29.5.30

No. of Certificate 464

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 Spring loaded I.H.L. type.

Area of each set of valves per boiler

per Rule 4.66 sq in
as fitted 4.94 sq in

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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

BUNKER

15"

Is oil fuel carried in the ~~bottom~~ TANK under boilers

Yes

Smallest distance between shell of boiler and ~~bottom~~ plating

15"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

18'-4 1/4"

Length 11'-0"

Shell plates: Material Steel

Tensile strength 30/34 Tons

Thickness

1/8"

Are the shell plates welded or flanged

Yes

Description of riveting: circ. seams

end D. R. type

long. seams

T. R. D. B. S.

Diameter of rivet holes in

circ. seams 1 5/16"

long. seams

Pitch of rivets

3.24"

6.625"

Percentage of strength of circ. end seams

plate 69.14%
rivets 42.41%

Percentage of strength of circ. intermediate seam

plate -
rivets -

Percentage of strength of longitudinal joint

plate 85.84%
rivets 85.55%
combined 88.8%

Working pressure of shell by Rules 151 lbs

Thickness of butt straps

outer 2 1/32"
inner 2 5/32"

No. and Description of Furnaces in each Boiler 2 Deighton

Material

Steel

Tensile strength 26/30 TONS

Smallest outside diameter 34 5/8"

Length of plain part

top -
bottom -

Thickness of plates

13/32"

Description of longitudinal joint Weld.

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

Yes

Working pressure of furnace by Rules

153 lbs

End plates in steam space: Material

Steel

Tensile strength 26/30 TONS

Thickness 1 1/32"

Pitch of stays 18" x 18"

How are stays secured

Double nuts

Working pressure by Rules

151 lbs

Tube plates: Material

front } Steel
back }

Tensile strength } 26/30 TONS

Thickness } 5/8" x 1 1/16"

Mean pitch of stay tubes in nests

10 1/2" x 9 3/8" C.

Pitch across wide water spaces

13 3/4"

Working pressure

front } 151 lbs
back }

Girders to combustion chamber tops: Material

Steel

Tensile strength 28/32 TONS

Depth and thickness of girder

at centre

4 5/8" x 1 1/4"

Length as per Rule 30 1/32"

Distance apart 8 1/2"

No. and pitch of stays

in each

2 @ 9 3/8"

Working pressure by Rules 155 lbs

Combustion chamber plates: Material Steel

Tensile strength

26/30 TONS

Thickness: Sides 5/8"

Back 2 3/32"

Top 5/8"

Bottom 5/8"

Pitch of stays to ditto: Sides

9 3/8" x 9 1/2"

Back 9" x 8 1/4"

Top 9 3/8" x 8 1/2"

Are stays fitted with nuts or riveted over Nuts & Rivets.

Working pressure by Rules

151 lbs

Front plate at bottom: Material Steel

Tensile strength 26/30 TONS

Thickness

1/8"

Lower back plate: Material Steel

Tensile strength 26/30 TONS

Thickness 2 5/32"

Pitch of stays at wide water space

13 3/4" x 9"

Are stays fitted with nuts or riveted over Nuts.

Working Pressure

146 lbs

Main stays: Material Steel

Tensile strength 28/32 TONS

Diameter

At body of stay, 2 5/8"
or
Over threads

No. of threads per inch 6

Area supported by each stay 328.5 sq in

Working pressure by Rules

151 lbs

Screw stays: Material Steel

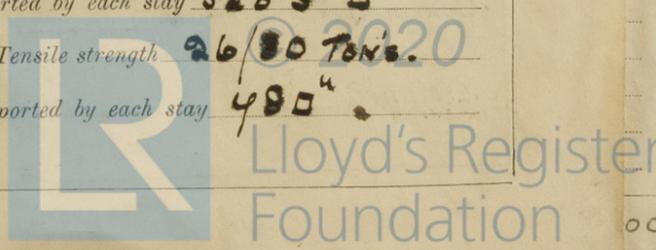
Tensile strength 26/30 TONS

Diameter

At turned off part, 1 1/2" Back & Caps
or
Over threads 1 5/8" Ends

No. of threads per inch 9

Area supported by each stay 480 sq in



Working pressure by Rules 160 lbs Are the stays drilled at the outer ends Yes Margin stays: Diameter 1 5/8"
 No. of threads per inch 9 Area supported by each stay 995" Working pressure by Rules 152 lbs
 Tubes: Material Steel External diameter 3 1/2" Thickness 1/4" No. of threads per inch 9
 Pitch of tubes 4 1/4" x 4 1/8" = 3 3/4" x 3 3/4" Working pressure by Rules 166 lbs Manhole compensation: Size of opening in
 shell plate 20" x 16" Section of compensating ring 11 1/4" x 1/8" 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 —

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 — Manufacturers of —
 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 casing 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 22 inclusive for boilers been complied with —
 The foregoing is a correct description,
 SWAN, HUNTER & CO. MANUFACTURERS.
 G. J. J. HARRISON, LTD. Manufacturer.

Dates of Survey — During progress of work in shops — Are the approved plans of boiler and superheater forwarded herewith Yes
 while building — During erection on board vessel — (If not state date of approval.)
 See See Machinery Report Total No. of visits —

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.) The boiler has been built under special survey in accordance with the Rules of the Society, the approved plans & has been securely fixed on board the vessel, & its safety valves adjusted under steam to working pressure. The workmanship & materials are of good quality throughout.

Survey Fee ... £ 60 Mash When applied for, 19
 Travelling Expenses (if any) £ Repat. When received, 19

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

Committee's Minute FRI. 31 OCT 1930

Assigned See F.E. Rpt.

