

## REPORT ON BOILERS.

No. 10.493

-5 NOV 1930

Received at London Office

Date of writing Report

192

When handed in at Local Office

3-11-

1930

Port of

BELFAST

No. in  
Sg. Book.

Survey held at

BELFAST

Date, First Survey

Last Survey

192

90352 on the

STEEL SC.

EBANO

(Number of Visits

Tons

Gross

Net

Master

Built at

BELFAST

By whom built

HARLAND AND WOLFF LD.

Yard No.

899

When built

1930

Engines made at

BELFAST

By whom made

HARLAND AND WOLFF LD.

Engine No.

899

When made

1930

Boilers made at

BELFAST

By whom made

HARLAND AND WOLFF LD.

Boiler No.

899

When made

1930

Nominal Horse Power

229

Owners

Ebano Oil Co. Ltd. (S. Wein &amp; Co. Ltd. Mgrs.)

Port belonging to

London.

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

Manufacturers of Steel

David Colville &amp; Sons Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

3880

2SB

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

Two single-ended cylindrical

Working Pressure 180 lbs. sq. in.

Tested by hydraulic pressure to

320 lbs.

Date of test

12-15 May 1930

No. of Certificate

3498950

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two spring-loaded improved high lift.

Area of each set of valves per boiler

per Rule 150"

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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

20"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

14"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

14'-0 1/16"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

29-33 tons sq. in.

Thickness

1 3/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end double

long. seams

kettle d.t.s.

Diameter of rivet holes in

circ. seams 1 1/4"

long. seams 1 1/4"

Pitch of rivets

3-6"

Percentage of strength of circ. end seams

plate 64.7

rivets 46.6

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 85.1

rivets 94.2

Working pressure of shell by Rules

186.6 lbs.

Thickness of butt straps

outer 2 3/32"

inner 1 1/16"

No. and Description of Furnaces in each Boiler

Three Morrison

3 cf.

Material

Steel

Tensile strength

26-30 tons sq. in.

Smallest outside diameter

40 3/8"

Length of plain part

top

Thickness of plates

crown 9"

bottom 7 1/16"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

203 lbs.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

1 1/8"

Pitch of stays 17 1/2" x 20 1/2"

How are stays secured

double nuts and washers and screw heads and plates

Working pressure by Rules

182 lbs.

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 tons sq. in.

Thickness

7/8"

Mean pitch of stay tubes in nests

8.325"

Pitch across wide water spaces

13 1/4"

Working pressure

front 192 lbs.

back 311 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons sq. in.

Depth and thickness of girder

at centre

7 1/2" - 1 3/4"

Length as per Rule

30 5/8"

Distance apart

8"

No. and pitch of stays

in each THREE

8'

Working pressure by Rules

210 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness: Sides

3/4"

Back

2 1/32"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

8 x 10 1/2"

Back

9 x 7 3/4"

Top

8 x 8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

212 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

1 1/16"

Pitch of stays at wide water space

13 1/4" x 7 3/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

228 lbs. sq. in.

Main stays: Material

Steel

Tensile strength

28-32 tons sq. in.

Diameter

At body of stay,

2 3/4"

Over threads

3"

No. of threads per inch

FIVE

Area supported by each stay

327.7 sq. in.

Working pressure by Rules

218 lbs. sq. in.

Screw stays: Material

Steel

Tensile strength

26-30 tons sq. in.

Diameter

At turned off part,

1 7/8"

Over threads

1 3/4"

No. of threads per inch

TEN

Area supported by each stay

69.75 sq. in. 84 sq. in.



Working pressure by Rules 216 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4" or 1 3/4" Over threads 1 3/4" 1 3/4"

No. of threads per inch TEN Area supported by each stay 112.64 sq in 78.4 sq in Working pressure by Rules 189 lbs 231 lbs

Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { No. 8 W.G. 1/2" 5/16" 1/4" No. of threads per inch TEN

Pitch of tubes 3 3/4" Working pressure by Rules 577/259 lbs Plain 300 lbs Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 36" x 32" x 1 1/2" double No. of rivets and diameter of rivet holes 22- 1 1/4"

Outer row rivet pitch at ends 8 3/8" 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 None 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 Yes

The foregoing is a correct description,  
**FOR HARLAND AND WOLFF, LIMITED,**  
De Heboeck Manufacturer.

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

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.) These boilers have been constructed under special survey and to approved plans. The materials and workmanship are sound and good. They have been tested by hydraulic pressure with satisfactory results, have been efficiently fitted and fastened on board the vessel. The safety valves have been adjusted under steam

Survey Fee ... .. £  
 Travelling Expenses (if any) £

*See machinery report*

When applied for, 192  
 When received, 192

R Lee Amers

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE, 11 NOV 1930

Assigned

See other report



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 Foundation