

REPORT ON BOILERS.

No. 96791.

Received at London Office

19 MAR 1930

Date of writing Report

When handed in at Local Office

14/3/1930

Port of

Liverpool.

No. in
Reg. Book.

Survey held at

Birkenhead

Date First Survey

14/5/29

Last Survey

4/3/1930

Number of Visits

74

Gross

8999

Tons

Net

39333 on the

S.S. 'Athellaird'

Master

Built at

Birkenhead

By whom built

Messrs. Cammell Laird & Co.

Yard No.

959

When built

1920

Engines made at

Greenock

By whom made

John Kincaid

Engine No.

1149

When made

1930

Boilers made at

Birkenhead

By whom made

Cammell Laird & Co.

Boiler No.

959

When made

1930

Nominal Horse Power

709

Owners

United Molasses Co. Ltd.

Port belonging to

Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

David Colville & Sons

(Letter for Record 9.)

Total Heating Surface of Boilers

1221 sq. ft.

Is forced draught fitted

Yls.

Coal or Oil fired

Oil

No. and Description of Boilers

One Cylindrical Multitubular

Working Pressure

180 lb. sq. in.

Tested by hydraulic pressure to

320 lb. sq. in.

Date of test

29.8.29

No. of Certificate

2345

Can each boiler be worked separately

Yls.

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

Two spring loaded - high lift

Area of each set of valves per boiler

per Rule

as fitted

4.81 sq. ft.

Pressure to which they are adjusted

185 lb. sq. in.

Are they fitted with easing gear

Yls.

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

2'-3"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

on 2nd deck

Is the bottom of the boiler insulated

Yls.

Largest internal dia. of boilers

11'-2 7/16"

Length

10'-7"

Shell plates: Material

Steel

Tensile strength

28-32 tons sq. in.

Thickness

15/16"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end D.R. lap.

long. seams

Jel. Riv. Double bolts

Diameter of rivet holes in

circ. seams

1 1/8"

Pitch of rivets

3.786"

Percentage of strength of circ. end seams

plate

70

rivets

46

Percentage of strength of circ. intermediate seam

plate

85.7

rivets

92

Percentage of strength of longitudinal joint

plate

85.7

rivets

92

combined

89.8

Working pressure of shell by Rules

183 lb. sq. in.

Thickness of butt straps

outer 23/32"

inner 27/32"

No. and Description of Furnaces in each Boiler

Two Corrugated

Material

Steel

Tensile strength

26-30 tons sq. in.

Smallest outside diameter

37"

Length of plain part

top

bottom

Thickness of plates

top

bottom

Description of longitudinal joint

weld.

Dimensions of stiffening rings on furnace or ex. bottom

none

Working pressure of furnace by Rules

182 lb. sq. in.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

3/32"

Pitch of stays

16 1/2" x 16 1/2"

How are stays secured

Double hats & plain washers

Working pressure by Rules

181 lb. sq. in.

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 tons sq. in.

Thickness

3/32"

Working pressure

front 243 lb. sq. in.

back 193 lb. sq. in.

Mean pitch of stay tubes in nests

9.5"

Pitch across wide water spaces

14"

Working pressure

front 243 lb. sq. in.

back 193 lb. sq. in.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons sq. in.

Depth and thickness of girder

at centre

2 plates 8 1/4" x 3/4"

Length as per Rule

2'-7 7/8"

Distance apart

8"

No. and pitch of stays

in each

Two at 10"

Working pressure by Rules

201 lb. sq. in.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32"

Bottom

13/16"

Pitch of stays to ditto: Sides

10 x 8"

Back

9 3/16" x 9"

Top

10 x 8"

Are stays fitted with nuts or riveted over

hats.

Working pressure by Rules

181 lb. sq. in.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

3/32"

Lower back plate: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

3/32"

Pitch of stays at wide water space

13 3/4" x 9"

Are stays fitted with nuts or riveted over

hats.

Working Pressure

240 lb. sq. in.

Main stays: Material

Steel

Tensile strength

28-32 tons sq. in.

Diameter

At body of stay, 2 5/8"

Over threads

No. of threads per inch

6

Area supported by each stay

272 sq. in.

Working pressure by Rules

181 lb. sq. in.

Screw stays: Material

Steel

Tensile strength

26-30 tons sq. in.

Diameter

At turned up part, 1 7/8"

Over threads

No. of threads per inch

9

Area supported by each stay

89 sq. in.

Lloyd's Register
Foundation

W375-0188

Working pressure by Rules *184 1/2* Are the stays drilled at the outer ends *no* Margin stays: Diameter *1 3/4* At turned off part *1 3/4* Over threads *1 3/4*

No. of threads per inch *9* Area supported by each stay *99 1/2* Working pressure by Rules *182 1/2*

Tubes: Material *Lapland Iron* External diameter *3 3/4* Thickness *1/4* No. of threads per inch *9*

Pitch of tubes *4 1/4 x 4 3/16* Working pressure by Rules *210 1/2* Manhole compensation: Size of opening in shell plate *21 x 17* Section of compensating ring *8 7/8 x 1 1/2* No. of rivets and diameter of rivet holes *38 @ 1 1/8*

Outer row rivet pitch at ends *7 1/2* Depth of flange if manhole flanged *3 1/2* 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 *✓*

How connected to shell *✓* Inner radius of crown *✓* Working pressure by Rules *✓*

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 *✓*

Area of each safety valve *✓* Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *✓*

Rules *✓* Pressure to which the safety valves are adjusted *✓* Working pressure as per Rules *✓*

tubes *✓* and after assembly in place *✓* Hydraulic test pressure: *✓*

to free the superheater from water where necessary *✓* Are drain cocks or valves fitted *✓*

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *Yes*

The foregoing is a correct description,
CAMMELL LAIRD AND COMPANY LIMITED.
 Manufacturer.

Dates of Survey *See Machy Report.* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *✓*

while building *See Machy Report.* Total No. of visits *✓*

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

This boiler has been constructed under special survey, and in accordance with the Rules and the approved plan. It has been satisfactorily fitted on board, and examined under steam, and is eligible for notation of D.B. 180th, in Register book.

Survey Fee *£ 8. 3. 0* When applied for *18 MAR. 1930*

Travelling Expenses (if any) *£* When received *12/4/30*

J. J. Milton
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **LIVERPOOL 18 MAR. 1930**

Assigned *See accompanying machy rpt.*