

REPORT ON BOILERS.

No. 14968

Received at London Office

24 OCT 1927

Date of writing Report 21-10-1927 When handed in at Local Office 22-10-1927 Port of Aberdeen

No. in Survey held at

Aberdeen

Date, First Survey

21-6-27

Last Survey

15-10-

1927

Book

on the

S.S.

"BURSTOW"

(Number of Visits 14.)

Gross

927.08

Tons

Net

492.89

Master

Built at

Aberdeen

By whom built

J. Lewis & Sons Ltd

Yard No.

104

When built

1927

Engines made at

Aberdeen

By whom made

J. Lewis & Sons Ltd

Engine No.

185

When made

1927

Boilers made at

Aberdeen

By whom made

J. Lewis & Sons Ltd

Boilers Nos

148-9

When made

1927

Nominal Horse Power

140

Owners

E. J. Lindley

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

South Durham Steel & Iron Co. Ltd.

(Letter for Record

S)

Total Heating Surface of Boilers

2378 sq. ft.

Is forced draught fitted

no

Coal or Oil fired

Coal

No. and Description of Boilers

2 S.E. Main

Working Pressure

200 lb.

Tested by hydraulic pressure to

350 lb.

Date of test

148, 9-9-27

No. of Certificate

1060

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

34.4 sq. ft.

No. and Description of safety valves to each boiler

2 spring loaded

Area of each set of valves per boiler

per Rule 6.92 sq. ft.

as fitted 7.95 sq. ft.

Pressure to which they are adjusted

200 lb.

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

alt 5 ft.

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

23 1/2"

Is the bottom of the boiler insulated

no

Largest internal dia. of boilers

11' 3"

Length

10' 6"

Shell plates: Material

S

Tensile strength

28/32 tons

Thickness

1 1/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R.

Long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 1/16"

long. seams 1 1/16"

Pitch of rivets

3.1185"

Percentage of strength of circ. end seams

plate 66.

rivets 45.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 86.2

rivets 85.9

combined 89.7

Working pressure of shell by Rules

201 lb.

Thickness of butt straps

outer 25/32"

inner 29/32"

No. and Description of Furnaces in each Boiler

2 plain

Material

steel

Tensile strength

26/30 tons

Smallest outside diameter

41"

Length of plain part

top 80.33

bottom 71.5

Thickness of plates

crown 51/64"

bottom 61/64"

Description of longitudinal joint

welded

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

3 1/2 x 3 1/2 x 3/4 angle

Working pressure of furnace by Rules

200 lb.

End plates in steam space: Material

steel

Tensile strength

26/30 tons

Thickness

15/16"

Pitch of stays

15 3/4 x 12 3/8

How are stays secured

Double nuts.

Working pressure by Rules

201 lb.

Tube plates: Material

front steel

back steel

Tensile strength

26/30 tons

Thickness

29/32"

25/32"

Mean pitch of stay tubes in nests

10.39"

Pitch across wide water spaces

14 1/8"

Working pressure

front

203 lb.

back

200

Girders to combustion chamber tops: Material

steel

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

8 1/2 x 1 1/8"

Length as per Rule

29 1/32"

Distance apart

7 7/8"

No. and pitch of stays

in each

2 @ 9 1/4"

Working pressure by Rules

204

Combustion chamber plates: Material

steel

Tensile strength

26/30 tons

Thickness: Sides

21/32"

Back

11/16"

Top

21/32"

Bottom

21/32"

Pitch of stays to ditto: Sides

8 x 9 1/4"

Back

7 1/2 x 10 1/8"

Top

9 1/4 x 7 1/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

200 lb.

Front plate at bottom: Material

steel

Tensile strength

26/30 tons

Thickness

29/32"

Lower back plate: Material

steel

Tensile strength

26/30 tons

Thickness

13/16"

Pitch of stays at wide water space

13 2/8 x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

201.5 lb.

Main stays: Material

steel

Tensile strength

28/32 tons

Diameter

At body of stay

2 1/2 dia.

No. of threads per inch

6

Area supported by each stay

195 sq. in.

Working pressure by Rules

227 lb.

Screw stays: Material

steel

Tensile strength

26/30 tons

Diameter

At turned off part

1 5/8"

No. of threads per inch

9

Area supported by each stay

74 sq. in.

Working pressure by Rules 206 lb. Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 1 3/4" ✓
or Over threads. 1 3/4" ✓
No. of threads per inch 9 ✓ Area supported by each stay 90.8 sq. in. Working pressure by Rules 200 lb.
Tubes: Material Steel ✓ External diameter { Plain 3 1/4" ✓ Thickness { 1/4" + 5/16" ✓ No. of threads per inch 9 ✓
Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules 230 lb. Manhole compensation: Size of opening in
shell plate 15" x 19" ✓ Section of compensating ring 29 x 33 x 1 1/2" flanged to 12 x 16 manhole. No. of rivets and diameter of rivet holes 40 rivets 1 1/8" holes.
Outer row rivet pitch at ends 7 1/16" ✓ Depth of flange if manhole flanged 3" ✓ Steam Dome: Material ✓
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 JOHN LEWIS & SONS, LTD.,

Manufacturer.

Dates of Survey { During progress of work in shops - - 1927. June 21, July 5, 14, Aug. 8, 15, 26, Sept. 2, 9, 12. ✓
while building { During erection on board vessel - - Sept. 21, 24, Oct. 7, 13, 15. ✓
Are the approved plans of boiler and superheater forwarded herewith yes.
(If not state date of approval.)
Total No. of visits 14.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey in accordance with the approved plan & the Rules of this Society. The materials & workmanship are good. The boilers have been satisfactorily fitted on board the vessel, the safety valves adjusted under steam & tried for accumulation; boilers examined under working conditions & found satisfactory.

Survey Fee ... £ See Report When applied for, 192
Travelling Expenses (if any) £ on Machinery When received, 192

P. Fitzgerald.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Fri. 28 OCT 1927

Assigned

See Rpt. attached



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Foundation