

Rpt. 5a.

## REPORT ON BOILERS.

No. 47183

Received at London Office 17 SEP 1936

Date of writing Report

19

When handed in at Local Office

19

Port of

HULL

No. in Survey held at  
Reg. Book.

Hull

Date, First Survey

26<sup>th</sup> May 1936

Last Survey

9<sup>th</sup> Sept 1936

(Number of Visits

Gross 430.32

Net 238.01

Master

Built at

Selly

By whom built

Bochrane &amp; Sons Ltd.

Yard No.

1168

When built 1936.9

Engines made at

Hull

By whom made

Amos &amp; Smith Ltd.

Engine No.

650

When made 1936

Boilers made at

Hull

By whom made

Amos &amp; Smith Ltd.

Boiler No.

650

When made 1936.

Nominal Horse Power

130.

Owners

Rinovia Steam Fishing Co. Ltd.

Port belonging to

Grimsby

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

Manufacturers of Steel

Steel Company of Scotland Ltd.

Appleby-Gradingham Steel Co. Ltd.

(Letter for Record

"S")

Total Heating Surface of Boilers

2350 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One single ended return tube.

Working Pressure

220 lb sq in

Tested by hydraulic pressure to

380 lb sq in

Date of test

9<sup>th</sup> Aug 36

No. of Certificate

3947

Can each boiler be worked separately

Area of Firegrate in each Boiler

63 sq ft

No. and Description of safety valves to each boiler

2 Spring loaded.

Area of each set of valves per boiler

per Rule

15.00 sq inches

as fitted

17.28"

Pressure to which they are adjusted

220 lb sq in

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

11 1/2"

Is oil fuel carried in the double bottom under boilers

✓

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

✓

Largest internal dia. of boilers

186"

Length

11' 0 1/32"

Shell plates: Material

Steel

Tensile strength

30-34 tons sq in

Thickness

1 3/16"

Are the shell plates welded or flanged

✓

Description of riveting: circ. seams

end

SR.

long. seams

S.S. LR.

Diameter of rivet holes in

circ. seams

long. seams

1 1/2"

Pitch of rivets

4 3/8"

10"

Percentage of strength of circ. end seams

plate

65.70

rivets

42.60

Percentage of strength of circ. intermediate seam

plate

85.00

rivets

Percentage of strength of longitudinal joint

rivets

87.30

Working pressure of shell by Rules

222 lb sq in

Thickness of butt straps

outer

1 3/32"

inner

1 7/32"

No. and Description of Furnaces in each Boiler

3 corrugated (Seighton)

Material

Steel

Tensile strength

26-30 tons sq in

Smallest outside diameter

47.4375"

Length of plain part

top

✓

bottom

✓

Thickness of plates

crown

23/32"

bottom

32"

Description of longitudinal joint

Welded.

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

Working pressure of furnace by Rules

223 lb sq in

End plates in steam space: Material

Steel

Tensile strength

26-30 tons sq in

Thickness

1 1/4"

Pitch of stays

18 x 18"

How are stays secured

Double nuts &amp; washers

Working pressure by Rules

241 lb sq in

Tube plates: Material

front

back

Steel

Tensile strength

26-30 tons sq in

Thickness

31/32"

28/32"

Mean pitch of stay tubes in nests

11"

Pitch across wide water spaces

14 1/4"

Working pressure

front

220 lb sq in

back

227 lb sq in

Girders to combustion chamber tops: Material

Steel

Tensile strength

29-33 tons sq in

Depth and thickness of girder

at centre

Centre cc. 10" x 1 3/4"

Wings cc. 9 3/4" x 1 3/4"

Length as per Rule

34"

Distance apart

9"

No. and pitch of stays

in each

3 @ 8"

Working pressure by Rules

221 lb sq in

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons sq in

Thickness: Sides

24/32"

Back

22/32"

Top

22/32"

Bottom

28/32"

Pitch of stays to ditto: Sides

9 x 8" max

Back

9 1/4 x 8" max

Top

11 x 8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

221 lb sq in

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons sq in

Thickness

21/32"

Lower back plate: Material

Steel

Tensile strength

26-30 tons sq in

Thickness

28/32"

Pitch of stays at wide water space

15" x 8 1/2" max.

Are stays fitted with nuts or riveted over

nuts

Working Pressure

231 lb sq in

Main stays: Material

Steel

Tensile strength

28-32 tons sq in

Diameter

At body of stay,

or

Over threads

3 1/4" and 3"

No. of threads per inch

6

Area supported by each stay

324 sq inches

Working pressure by Rules

248 lb sq in

Screw stays: Material

Steel

Tensile strength

28-32 tons sq in

Diameter

At turned off part,

or

Over threads

1 3/4"

No. of threads per inch

9

Area supported by each stay

74 sq inches



Working pressure by Rules **224 #0** Are the stays drilled at the outer ends **no**. Margin stays: Diameter { At turned off part, } **1 7/8" and 2"**  
 No. of threads per inch **9**. Area supported by each stay **94.45 sq inches** Working pressure by Rules **233 #0**  
 Tubes: Material **Iron** External diameter { Plain } **3 1/2"** Thickness { Stay } **5/16" and 3/8"** No. of threads per inch **9**.  
 Pitch of tubes **4 3/4" x 4 3/4"** Working pressure by Rules **260 #0** Manhole compensation: Size of opening in  
 shell plate **16" x 12"** Section of compensating ring **4' 6 1/2" dia x 1 1/8"** No. of rivets and diameter of rivet holes **48 @ 1 1/2"**  
 Outer row rivet pitch at ends **10 1/4"** Depth of flange if manhole flanged **3 1/2"** Steam Dome: Material **Steel**  
 Tensile strength **26-30 tons** Thickness of shell **13/16"** Description of longitudinal joint **S.R.**  
 Diameter of rivet holes **1 1/32"** Pitch of rivets **2 1/8"** Percentage of strength of joint { Plate } **51.40**  
 Internal diameter **36"** Working pressure by Rules **225 #0** Thickness of crown { Rivets } **42.80**  
 stays **2 @ 2 1/2"** Inner radius of crown **✓** Working pressure by Rules **✓** No. and diameter of  
 How connected to shell **Riveted (S.R.)** Size of doubling plate under dome **4' 6 1/2" dia x 1 1/8"** Diameter of rivet holes and pitch  
 of rivets in outer row in dome connection to shell **1" dia. 3' 6 1/2" p.c. (44 rivets)**  
 Type of Superheater **Smoke tube** Manufacturers of Tubes { Please see Manchester }  
 Number of elements **46** Material of tubes **S.D. Steel** Steel castings { Certificates **F 841/2** }  
 Material of headers **Steel forgings** Tensile strength **26-30 tons** Thickness **5/8"** Internal diameter and thickness of tubes **20 MM. 2.5 M.M.**  
 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 **(one) 3.1416 sq inches** Are the safety valves fitted with easing gear **Yes**. Working pressure as per  
 Rules **Approved for 220 #0** Pressure to which the safety valves are adjusted **222 #0** Hydraulic test pressure:  
 tubes **1000 #0** castings **660 #0** and after assembly in place **440 #0** 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 **✓**

The foregoing is a correct description,  
**For AMOS & SMITH LTD.** Manufacturer.

Dates of Survey { During progress of }  
 while { work in shops - - }  
 building { During erection on }  
 board vessel - - - }  
**See enchy Rpt. herewith** Are the approved plans of boiler and superheater forwarded herewith **yes**  
 (If not state date of approval.)  
 Total No. of visits **1**

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

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)  
**under special survey in accordance with the approved plan and**  
**the materials and workmanship are sound and good.**  
**It has been satisfactorily fitted on board, tried under steam**  
**and its safety valves adjusted to pressure stated.**

**Charged on engine report herewith.**

Survey Fee **£** : : When applied for, **19**  
 Travelling Expenses (if any) **£** : : When received, **19**

**B. Moffatt.**  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 25 SEP 1936**  
 Assigned **See Enl. 26 47183**