

# REPORT ON BOILERS.

No. 46050

Received at London Office

21 Oct 1926

Date of writing Report

192

When handed in at Local Office

21-10-1926

Port of **Glasgow**

No. in Survey held at Book.

**Glasgow**

Date, First Survey

**22<sup>nd</sup> Feb**

Last Survey

**18-10**

1926

(Number of Visits **68**)

(Gross **8621**)

Tons

(Net)

on the **new steel 5 1/2" PULPIT POINT**

ster

Built at

**Port Glasgow**

By whom built

**Lithgows L<sup>td</sup>**

Yard No. **792**

When built **1926**

ines made at

**Glasgow**

By whom made

**D. Rowan & Co L<sup>td</sup>**

Engine No. **832**

When made **1926**

ers made at

"

By whom made

"

Boiler No. **835**

When made **1926**

inal Horse Power

**666**

Owners

**Vacuum Oil Co L<sup>td</sup>**

Port belonging to

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

Plate **steel** of **Scotland L<sup>td</sup>**

Stays—**Phoenix A.G. für Bergbau und Hüttenbetrieb**

ufacturers of Steel

**Gutehoffnungshütte A.G. Oberhausen**

**Fried Krupp A.G. Essen**

(Letter for Record **S**)

al Heating Surface of Boilers

**9300 sq ft**

Is forced draught fitted

**yes**

Coal or Oil fired

**oil**

and Description of Boilers

**3 S.E.**

**355**

Working Pressure **220**

ted by hydraulic pressure to

**380**

Date of test

**30-7-26**

No. of Certificate

**17180**

Can each boiler be worked separately

**yes**

ea of Firegrate in each Boiler

**oil fuel**

No. and Description of safety valves to each boiler

**two 'high lift'**

ea of each set of valves per boiler

per Rule **4.95"**

as fitted **7.07"**

Pressure to which they are adjusted

**225**

Are they fitted with easing gear

**yes**

case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

**no**

allest distance between boilers or uptakes and bunkers or woodwork

**3'-0"**

Is oil fuel carried in the double bottom under boilers

**no**

allest distance between shell of boiler and tank top plating

**3'-0"**

Is the bottom of the boiler insulated

**yes**

reatest internal dia. of boilers

**16'-0"**

Length

**12'-1 7/8"**

Shell plates: Material

**steel**

Tensile strength **30-34 tons**

ickness

**1 31/64"**

Are the shell plates welded or flanged

**no**

Description of riveting: circ. seams

**DR**

g. seams

**DBS. TR**

Diameter of rivet holes in

circ. seams **F 1 3/8" B 1 1/2"**

long. seams **1 9/16"**

Pitch of rivets

**F 3.428" B 4.16"**

centage of strength of circ. end seams

plate **F.59.9**

rivets **B.63.9**

Percentage of strength of circ. intermediate seam

plate **F.44.9**

rivets **B.43.9**

centage of strength of longitudinal joint

plate **84.9**

rivets **89.3**

combined **87.8**

Working pressure of shell by Rules

**221**

ickness of butt straps

outer **1 1/8"**

inner **1 1/4"**

No. and Description of Furnaces in each Boiler

**3 Deighton corrugated**

aterial

**steel**

Tensile strength **26-30 tons**

Smallest outside diameter **44 7/8"**

ngth of plain part

top **11"**

bottom **16"**

Thickness of plates

top **11/16"**

bottom **11/16"**

Description of longitudinal joint

**welded**

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

Working pressure of furnace by Rules

**225**

d plates in steam space: Material

**steel**

Tensile strength **26-30 tons**

Thickness

**1 25/64"**

Pitch of stays **23 1/4" x 16 3/4"**

w are stays secured

**W.N.**

Working pressure by Rules

**221**

be plates: Material

front **steel**

back **"**

Tensile strength

**26-30 tons**

Thickness

**7/8"**

**3/4"**

an pitch of stay tubes in nests

**9 1/4"**

Pitch across wide water spaces

**13 1/2"**

Working pressure

front **220**

back **234**

rders to combustion chamber tops: Material

**steel**

Tensile strength **28-32 tons**

Depth and thickness of girder

entre

**2 @ 10 1/8" x 7/8"**

Length as per Rule

**36.5"**

Distance apart

**9"**

No. and pitch of stays

each

**4 @ 7 3/8"**

Working pressure by Rules

**248**

Combustion chamber plates: Material

**steel**

nsile strength

**26-30 tons**

Thickness: Sides

**21/32"**

Back centre

**21/64"**

Top

**21/32"**

Bottom

**21/32"**

ch of stays to ditto: Sides

**8 x 7 3/8"**

Back centre

**8 7/8 x 7 3/8"**

Top

**9 x 7 3/8"**

Are stays fitted with nuts or riveted over

**nuts**

orking pressure by Rules

**221**

Front plate at bottom: Material

**steel**

Tensile strength

**26-30 tons**

ickness

**7/8"**

Lower back plate: Material

**steel**

Tensile strength

**26-30 tons**

Thickness

**13/16"**

ch of stays at wide water space

**13 1/2" x 7 3/8"**

Are stays fitted with nuts or riveted over

**nuts**

orking Pressure

**224**

Main stays: Material

**steel**

Tensile strength

**28-30 tons**

imeter

At body of stay, or Over threads **3 1/4"**

No. of threads per inch

**6**

Area supported by each stay

**403 sq"**

orking pressure by Rules

**229**

Screw stays: Material

**steel**

Tensile strength

**26-30 tons**

imeter

At turned off part, or Over threads **1 5/8"**

No. of threads per inch

**9**

Area supported by each stay

**66.2 sq"**

Working pressure by Rules **229** Are the stays drilled at the outer ends **no** ✓ Margin stays: Diameter <sup>At turned off part,</sup> **1 3/4"** ✓  
 No. of threads per inch **9** ✓ Area supported by each stay **75.60"** ✓ Working pressure by Rules **240**  
 Tubes: Material **Iron** ✓ External diameter <sup>Plain</sup> **2 1/2"** ✓ Thickness <sup>Stay</sup> **5/16 3/8 7/16"** ✓ No. of threads per inch **9** ✓  
 Pitch of tubes **3 5/8 x 3 3/4"** ✓ Working pressure by Rules **230** Manhole compensation: Size of opening in  
 shell plate **19 1/2 x 15 1/2"** ✓ Section of compensating ring **10 1/2 x 1 9/16"** ✓ No. of rivets and diameter of rivet holes **34 @ 1 9/16"** ✓  
 Outer row rivet pitch at ends **10 1/2"** ✓ Depth of flange if manhole flanged **3"** ✓ 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 <sup>Plate</sup> \_\_\_\_\_  
 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 <sup>Tubes</sup> \_\_\_\_\_  
 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 David Rowan & Co. Ltd.  
 Arch. H. Grierson } Manufacturer

Dates of Survey <sup>During progress of</sup> work in shops - - **See Accompanying** Are the approved plans of boiler and superheater forwarded herewith  
 while <sup>During erection on</sup> building board vessel - - **Machinery Report** (If not state date of approval.)  
 Total No. of visits **68**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
**The materials and workmanship are good.**  
**The boilers have been constructed under Special Survey in accordance with the Rules. They have been satisfactorily fitted in the vessel and their safety valves adjusted under steam.**

A.L.G.  
 21/10/26.

Survey Fee ... £ : ✓ : When applied for, 192  
 Travelling Expenses (if any) £ : ✓ : When received, 192

**S. Davis**  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **GLASGOW 26 OCT 1926**

Assigned **See attached machinery report.**

