

# REPORT ON BOILERS.

No. 45931

Received at London Office 8 SEP 1926

Date of writing report 28/8/1926 Port of Glasgow

No. in Reg. Book. Glasgow Date, First Survey 29th Jan Last Survey 28.8.1926

on the new steel S/S "PLUME". Tons Gross 8621 Net 5208

Master Built at Port Glasgow By whom built Lithgow Ltd Yard No. 790 When built 1926

Engines made at Glasgow By whom made W. Rowan & Co Ltd Engine No. 835 When made 1926

Boilers made at " By whom made " Boiler No. 832 When made 1926

Nominal Horse Power 666 Owners Vacuum Oil Co. Ltd. Port belonging to London

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

Manufacturers of Steel Mannesmann-Rohrwerke Akt. Schulz, Knaack, Huelken, Germany (Letter for Record 5)

Total Heating Surface of Boilers 9300 sq ft Is forced draught fitted yes Coal or Oil fired oil

No. and Description of Boilers 3 SE Working Pressure 220

Tested by hydraulic pressure to 380 Date of test 28.4.26 No. of Certificate 17118 Can each boiler be worked separately yes

Area of Firegrate in each Boiler oil fuel No. and Description of safety valves to each boiler Two high lift.

Area of each set of valves per boiler {per Rule 4.95" as fitted 7.07" Pressure to which they are adjusted 220 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 3'-0" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 3'-0" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 16'-0" Length 12'-1 1/8" Shell plates: Material steel Tensile strength 30-34 tons

Thickness 1 31/64 Are the shell plates welded or flanged no Description of riveting: circ. seams D.R. inter.

long. seams D.B.S. T.R. Diameter of rivet holes in {circ. seams F 1 3/8" B 1 1/2" Pitch of rivets {F 3.428" B 4.16" as fitted 1 9/16" 10 3/8"

Percentage of strength of circ. end seams {plate F.59.9 B.63.9 rivets F.44.9 B.43.9 Percentage of strength of circ. intermediate seam {plate 84.9 rivets 89.3 combined 87.8

Percentage of strength of longitudinal joint {plate 84.9 rivets 89.3 combined 87.8 Working pressure of shell by Rules 221

Thickness of butt straps {outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 Deighton corrugated

Material steel Tensile strength 26-30 tons Smallest outside diameter 44 7/8"

Length of plain part {top bottom Thickness of plates {crown 11" bottom 11/16" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 225

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 25/64 Pitch of stays 23 1/2" x 16 1/4"

How are stays secured D.N. Working pressure by Rules 221

Tube plates: Material {front steel back " Tensile strength {26-30 tons Thickness {7/8" 3/4"

Mean pitch of stay tubes in nests 9 1/4 Pitch across wide water spaces 13 1/2 Working pressure {front 220 back 234

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 2 @ 10 1/8" x 7 3/8" Length as per Rule 36.5" Distance apart 9" No. and pitch of stays

in each 4 @ 7 3/8" Working pressure by Rules 248 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 21" Back centre 4 1/4" Top 21" Bottom 21"

Pitch of stays to ditto: Sides 8" x 7 3/8" Back centre 8 1/2" x 7 3/8" Top 9" x 7 3/8" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 221 Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 7/8" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 13/16"

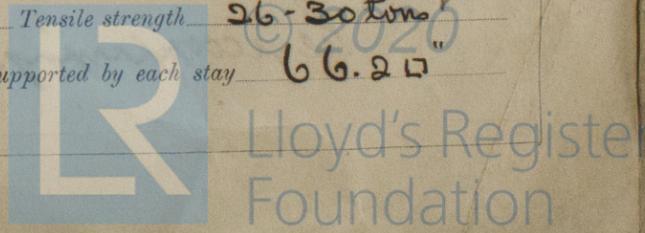
Pitch of stays at wide water space 13 1/2" x 7 3/8" Are stays fitted with nuts or riveted over nuts

Working Pressure 221 Main stays: Material steel Tensile strength 28-32 tons

Diameter {At body of stay 3 1/2" No. of threads per inch 6 Area supported by each stay 403 sq"

Working pressure by Rules 229 Screw stays: Material steel Tensile strength 26-30 tons

Diameter {At turned off part 1 9/8" 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> <sub>or</sub> 1 3/4" <sup>Over threads</sup>

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>9wg</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 1/2" No. of rivets and diameter of rivet holes 34 @ 1 1/2"

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> <sub>Rivets</sub> \_\_\_\_\_

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> \_\_\_\_\_ <sub>Steel castings</sub> \_\_\_\_\_

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 Roway & Co. Ltd. Manufacturer.  
Arch. M. Frierson

Dates of Survey <sup>During progress of work in shops - -</sup> \_\_\_\_\_ Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)

<sup>During erection on board vessel - - -</sup> See Machy Report Total No. of visits 11

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

The workmanship and materials 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.

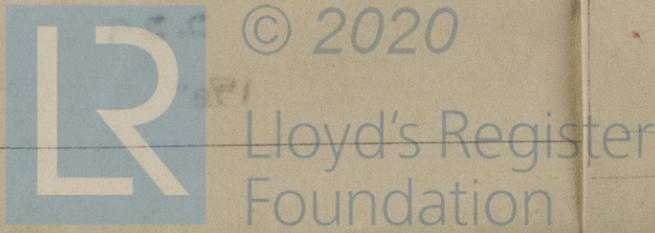
Survey Fee ... .. £ \_\_\_\_\_ When applied for, \_\_\_\_\_ 192

Travelling Expenses (if any) £ \_\_\_\_\_ When received, \_\_\_\_\_ 192

L. Davis.  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 7 - SEP 1926

Assigned See accompanying Machy Report.



A. L.  
30/8/26

Rpt. 4

Date of ...

No. in Reg. Bo...

Built at ...

Engines ...

Boilers ...

Register ...

Nom. H ...

Trade ...

ENGIN ...

Dia. of ...

Crank s ...

Intern ...

Tube S ...

Bronze ...

propeller ...

If the li ...

If two ...

end of t ...

Propel ...

Feed P ...

Bilge P ...

Feed Pumps ...

Ballast ...

Are two ...

Bilge P ...

In Hold ...

Main V ...

No. and ...

Are the ...

Are all ...

Are they ...

Are they ...

What I ...

What p ...

Are all ...

Is the a ...

compart ...

MAIN ...

Is For ...

IS A ...

IS A ...

PLA ...

Superhe ...

SPA ...

If not, state whether, and when, one will be sent