

## REPORT ON BOILERS.

No. 48873

Received at London Office

13 FEB 1929

No. of writing Report

192

When handed in at Local Office

11.2.28

1929

Port of

Glasgow

No. in  
Book

Survey held at

Glasgow

Date, First Survey

29. 10. 28

Last Survey

7.2.29

1929

(Number of Visits

42

Gross

4251.45

Tons

Net 2635.40.

on the

new steel S/S "PENYBRYN"

Master

Built at

Bumtislund

By whom built

Bumtislund SBC

Yard No. 150

When built

1929

Engines made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Engine No. 898

When made

1929

Boilers made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Boiler No. 898

When made

1929

Nominal Horse Power

Owners

Lundegaard and Sønner

Port belonging to

Farsund.

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

Manufacturers of Steel *Witkowitz Bergbau- und Eisenhütten-Gesellschaft in Witkowitz* (Letter for Record (S))

Total Heating Surface of Boilers *5190 sq ft* Is forced draught fitted *no* Coal or Oil fired *coal*

No. and Description of Boilers *Two single ended* Working Pressure *200*

Tested by hydraulic pressure to *350* Date of test *28.1.29* No. of Certificate *18184* Can each boiler be worked separately *yes*

Area of Firegrate in each Boiler *648 sq ft* No. and Description of safety valves to each boiler *Two, direct opening*

Area of each set of valves per boiler (per Rule *15.08* as fitted *16.58*) Pressure to which they are adjusted *205 lbs* 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 *10"* Is oil fuel carried in the double bottom under boilers *No.*

Smallest distance between shell of boiler and tank top plating *2'-6"* Is the bottom of the boiler insulated *yes*

Largest internal dia. of boilers *16'-0 5/8"* Length *11'-8"* Shell plates: Material *steel* Tensile strength *29-33 tons*

Thickness *1 3/4"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams *DR lap*

Long. seams *WBS, TR* Diameter of rivet holes in (circ. seams *1 1/2"* long. seams *1 1/2"*) Pitch of rivets *10 7/32"*

Percentage of strength of circ. end seams (plate *B63.2 F61.5* rivets *B48.4 F44.4*) Percentage of strength of circ. intermediate seam (plate *85.2* rivets *90.7*)

Percentage of strength of longitudinal joint (combined *88.6*) Working pressure of shell by Rules *203*

Thickness of butt straps (outer *1 5/8"* inner *1 1/2"*) No. and Description of Furnaces in each Boiler *Three Deighton*

Material *steel* Tensile strength *26-30 tons* Smallest outside diameter *48 1/2"*

Length of plain part (top *✓* bottom *✓*) Thickness of plates (crown *4 3/4"* bottom *4 3/4"*) Description of longitudinal joint *welded*

Dimensions of stiffening rings on furnace or c.c. bottom *✓* Working pressure of furnace by Rules *204*

End plates in steam space: Material *steel* Tensile strength *26-30 tons* Thickness *1 1/2"* Pitch of stays *23 1/8" x 19 3/4"*

How are stays secured *DN* Working pressure by Rules *200*

Tube plates: Material (front *steel* back *"*) Tensile strength *26-30 tons* Thickness (front *29/32"* back *25/32"*)

Mean pitch of stay tubes in nests *10 3/8"* Pitch across wide water spaces *14 1/4"* Working pressure (front *202* back *206*)

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

at centre *2 @ 1/8" x 8 1/2"* Length as per Rule *35 1/16"* Distance apart *8'* No. and pitch of stays

in each *3 @ 8 3/8"* Working pressure by Rules *200* Combustion chamber plates: Material *steel*

Tensile strength *26-30 tons* Thickness: Sides *5/8"* Back *2 1/2"* Top *5/8"* Bottom *7/8"*

Pitch of stays to ditto: Sides *8 3/8" x 8"* Back *9" x 8 1/4"* Top *8 3/8" x 8"* Are stays fitted with nuts or riveted over *nuts*

Working pressure by Rules *201* 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 *5 1/4"*

Pitch of stays at wide water space *13 1/2"* Are stays fitted with nuts or riveted over *nuts*

Working Pressure *200* Main stays: Material *steel* Tensile strength *28-32 tons*

Diameter (At body of stay, *3/4"* or *3 1/2"*) No. of threads per inch *6* Area supported by each stay *4760"*

Working pressure by Rules *200* Screw stays: Material *steel* Tensile strength *26-30 tons*

Diameter (At turned off part, *1 5/8"* or *1 7/8"*) No. of threads per inch *9* Area supported by each stay *670"*

Checked 13/2/29.

43  
64

740



204

Working pressure by Rules 228 ✓ Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part. or Over threads / 1 3/4"  
No. of threads per inch 9 ✓ Area supported by each stay 89.3 ✓ Working pressure by Rules 204  
Tubes: Material Iron External diameter { Plain 3 1/4" ✓ Thickness { 8 w.g. ✓ No. of threads per inch 9 ✓  
Pitch of tubes 4 1/2" x 4 3/8" ✓ Working pressure by Rules 230 ✓ Manhole compensation: Size of opening 16" x 12" ✓  
End plate 16" x 12" ✓ Section of compensating ring 4" ✓ No. of rivets and diameter of rivet holes 4" ✓  
Outer row rivet pitch at ends 4" ✓ Depth of flange if manhole flanged 4" ✓ Steam Dome: Material None  
Tensile strength 221 Thickness of shell 8 w.g. Description of longitudinal joint None  
Diameter of rivet holes 3/8" Pitch of rivets 4" Percentage of strength of joint { Plate Rivets 80%  
Internal diameter 8 1/2" Working pressure by Rules 230 Thickness of crown 8 w.g. No. and diameter of stays 4"  
Inner radius of crown 4" Working pressure by Rules 230  
How connected to shell None Size of doubling plate under dome None Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell None

Type of Superheater none Manufacturers of { Tubes Steel castings  
Number of elements None Material of tubes None Internal diameter and thickness of tubes None  
Material of headers None Tensile strength None Thickness None Can the superheater be shut off and 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 None Are the safety valves fitted with easing gear Yes Working pressure as per Rules 204  
Pressure to which the safety valves are adjusted 228 Hydraulic test pressure tested by hydraulic 230  
tubes castings and after assembly in place Yes 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 yes

The foregoing is a correct description,  
For David Rowan & Co. Ltd.  
Arch. W. Greenson

Dates of Survey { During progress of work in shops - - See Accompanying  
while building { During erection on board vessel - - Machy Report  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes  
Total No. of visits 42

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.  
These boilers have now been efficiently fitted on board, & examined & tried under steam. The safety valves have been adjusted & they passed satisfactory under an accumulation test.  
For particulars as to class see Leith Rpt. No. 17545  
John Houston.

Survey Fee ... £ See Machy Rpt. When applied for, 192  
Travelling Expenses (if any) £ See Machy Rpt. When received, 192

S. Davis  
Engineer Surveyor to Lloyd's Register of Shipping.  
TUE 26 MAR 1929

Committee's Minute GLASGOW 12 FEB 1929  
Assigned See Accompanying Machy Report  
See Minute on 1  
Ch. Rpt 48873