

30 AUG 1934

Rpt. 5a.

# REPORT ON BOILERS.

No. 54727

Received at London Office 31 JUL 1934

Date of writing Report 10 When handed in at Local Office 9.7.10 34 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 8.5.33 Last Survey 6.7.1934

on the new steel S/S "PETWORTH" (Number of Visits 52) Tons { Gross Net

Master Built at Buntisland By whom built Buntisland S.B. Co. Ltd Yard No. 179 When built 1934

Engines made at Glasgow By whom made David Rowan & Co. Ltd Engine No. 960 When made 1934

Boilers made at Glasgow By whom made David Rowan & Co. Ltd Boiler No. 960 When made 1934

Nominal Horse Power 118 Owners Port belonging to

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

Manufacturers of Steel Bohills Ltd. (Letter for Record (3))

Total Heating Surface of Boilers 1985 sq ft Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers one single ended Working Pressure 200

Tested by hydraulic pressure to 350 Date of test 19-6-34 No. of Certificate 19394 Can each boiler be worked separately -

Area of Firegrate in each Boiler 53 3/4 sq ft No. and Description of safety valves to each boiler Two Improved High Lift

Area of each set of valves per boiler { per Rule 5.770 as fitted 6.280 Pressure to which they are adjusted 200 lbs Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Smallest distance between boilers or uptakes and bunkers or ~~woodwork~~ 14" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and <sup>FLOOR</sup> tank top plating 18" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'0" Length 10'3" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 5/16" Are the shell plates welded or flanged no Description of riveting: circ. seams { end DR inter. -

Long. seams DBS. TR Diameter of rivet holes in { circ. seams F 1 1/4" B 1 3/8" Pitch of rivets { F 3.2" B 3.742" long. seams 1 3/8" 9"

Percentage of strength of circ. end seams { plate F 60.9 B 63.2 rivets F 51.1 B 47.8 Percentage of strength of circ. intermediate seam { plate 84.7 rivets 93.2 combined 88

Percentage of strength of longitudinal joint { plate 84.7 rivets 93.2 combined 88 Working pressure of shell by Rules 201

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

Material Steel Tensile strength 26-30 tons Smallest outside diameter 44.219"

Length of plain part { top - bottom - Thickness of plates { crown 3/8" bottom 6/16" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 200

Head plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/4" Pitch of stays 18" x 20"

How are stays secured DN Working pressure by Rules 201

Head plates: Material { front Steel back " Tensile strength { 26-30 tons Thickness { 32" 35" 32"

Span pitch of stay tubes in nests 10-18" Pitch across wide water spaces 14 1/4" Working pressure { front 202 back 210

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

Centre 2 @ 8 7/8" x 1/8" Length as per Rule 32.53 Distance apart 9 1/2" No. and pitch of stays

each 3 @ 8" Working pressure by Rules 203 Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 3/4" Back 1/2" Top 3/4" Bottom 3/4"

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

Working pressure by Rules 214 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 25/32"

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

Working Pressure 201 Main stays: Material Steel Tensile strength 28-32 tons

Diameter { At body of stay, 3" & 2 3/4" No. of threads per inch 6 Area supported by each stay 395 & 328 sq in or Over threads

Working pressure by Rules 200 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 76 sq in or Over threads

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Working pressure by Rules 200 Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 1 3/4" <sub>or Over threads</sub> ✓  
 No. of threads per inch 9 Area supported by each stay 89.60" Working pressure by Rules 201  
 Tubes: Material Iron External diameter <sup>Plain</sup> 3 1/4" <sub>Stay</sub> 3 1/4" Thickness <sup>B.W.S.</sup> 1/4" <sub>5/16"</sub> 3/8" No. of threads per inch 9 ✓  
 Pitch of tubes 4 3/8" x 4 7/16" Working pressure by Rules 230 Manhole compensation: Size of opening in shell plate 15 1/2" x 19 1/2" Section of compensating ring 9 1/2" x 15 1/16" No. of rivets and diameter of rivet holes 32 @ 1 3/8" ✓  
 Outer row rivet pitch at ends 9 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 22 inclusive for boilers been complied with? \_\_\_\_\_

The foregoing is a correct description,  
 For David Rowan & Co. Ltd. Manufacturers.  
Arch. H. Green

Dates of Survey <sup>During progress of work in shops - -</sup> \_\_\_\_\_ <sub>while building</sub> <sup>During erection on board vessel - -</sup> \_\_\_\_\_  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) \_\_\_\_\_  
**SEE ACCOMPANYING MACHINERY REPORT.**  
 Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. Pulborough. Gl. Rpt. No. 53777

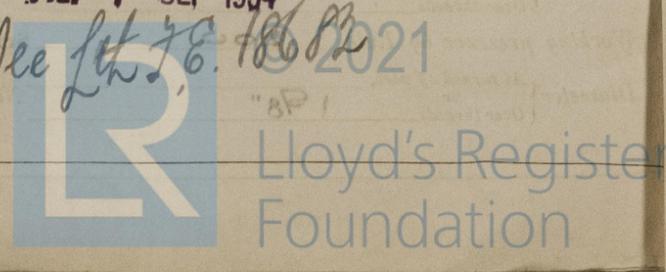
**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)  
The materials and workmanship are good.  
The boiler has been inspected under special survey and is being sent to Burntand to be fitted in the vessel.

7/7/34  
This boiler has been efficiently fitted on board, examined under steam & safety valves adjusted 200 lbs.  
SAH

Survey Fee £ \_\_\_\_\_ When applied for, \_\_\_\_\_ 19 \_\_\_\_\_  
 Travelling Expenses (if any) £ \_\_\_\_\_ When received, \_\_\_\_\_ 19 \_\_\_\_\_

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

Committee's Minute FR. 7 SEP 1934  
 Assigned SEE ACCOMPANYING MACHINERY REPORT.



(The Surveyors are requested not to write on or below the space for Committee's Minute.)