

# REPORT ON BOILERS.

No. 61406

Received at London Office AUG 16 1939

Date of writing Report 19 When handed in at Local Office 14. 8. 1939 Port of Glasgow

No. in Reg. Book. 2 on the new M/V "CAPE CLEAR" Glasgow Date, First Survey 8-8-1939 Last Survey 8-8-1939

(Number of Visits 5085) Tons {Gross 5085 Net 2976}

Master Built at Port Glasgow By whom built Lithgows Ltd Yard No. 906 When built 1939

Engines made at Glasgow By whom made David Rowan & Co Ltd Engine No. 1020 When made 1939

Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 1020 When made 1939

Nominal Horse Power 599 Owners Lyle Shipping Co Port belonging to Glasgow

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co. of Scotland Ltd (plates) Lochmills Ltd (stays) (Letter for Record S)

Total Heating Surface of Boilers 1686 sq ft Is forced draught fitted no Coal or Oil fired oil

No. and Description of Boilers one single ended Working Pressure 120

Tested by hydraulic pressure to 230 Date of test 14-10-38 No. of Certificate 20287 Can each boiler be worked separately

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler Two Improved High Lift (3 1/2")

Area of each set of valves per boiler {per Rule 7.8 sq ft as fitted 9.8 sq ft Pressure to which they are adjusted 120 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 no bunkers or woodwork oil fuel carried in the double bottom under boilers yes

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 12'-9" Length 11'-0" Shell plates: Material S Tensile strength 29-33 tons

Thickness 23/32 Are the shell plates welded or flanged no Description of riveting: circ. seams {end 1 1/2" inter. 1 1/2"} long. seams DBS TR. 4 rivets per pitch Diameter of rivet holes in {circ. seams 29" long. seams 32"} Pitch of rivets {2-9 1/8" 5 3/8"}

Percentage of strength of circ. end seams {plate 69.3 rivets 48} Percentage of strength of circ. intermediate seam {plate 83.14 rivets 98.9 combined 92.1} Working pressure of shell by Rules 120

Percentage of strength of longitudinal joint {plate 83.14 rivets 98.9 combined 92.1}

Thickness of butt straps {outer 9/16" inner 1/16"} No. and Description of Furnaces in each Boiler Two Deighton

Material S Tensile strength 26-30 tons Smallest outside diameter 3-8 25/32

Length of plain part {top bottom} Thickness of plates {crown 25/64 bottom 6/4} Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 123

End plates in steam space: Material S Tensile strength 26-30 tons Thickness 1 1/32" Pitch of stays 22 1/2 x 16

How are stays secured DN Working pressure by Rules 122

Tube plates: Material {front S back "} Tensile strength {26-30 tons} Thickness {13/16"}

Mean pitch of stay tubes in nests 11 21/32 Pitch across wide water spaces 14" Working pressure {front 123 back 123}

Girders to combustion chamber tops: Material S Tensile strength 28-32 tons Depth and thickness of girder at centre 2 @ 6 1/4 x 7/8 Length as per Rule 31 3/4 Distance apart 9 7/8 No. and pitch of stays in each 2 @ 10 1/4 Working pressure by Rules 122 Combustion chamber plates: Material S

Tensile strength 26-30 tons Thickness: Sides 19/32 Back 9/16 Top 19/32 Bottom 19/32

Pitch of stays to ditto: Sides 10 1/4 x 9 7/8 Back 8 3/4 x 9 1/2 Top 10 1/4 x 9 7/8 Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 120 Front plate at bottom: Material S Tensile strength 26-30 tons

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

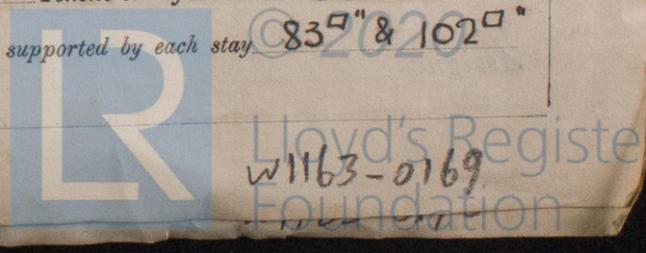
Pitch of stays at wide water space 13 1/2 Are stays fitted with nuts or riveted over nuts

Working Pressure 120 Main stays: Material S Tensile strength 28-32 tons

Diameter {At body of stay, or Over threads} 2 3/8 & 2 1/4 No. of threads per inch 6 Area supported by each stay 448" & 347"

Working pressure by Rules 120 & 126 Screw stays: Material S Tensile strength 26-30 tons

Diameter {At turned off part, or Over threads} 1 3/8 1 1/2 No. of threads per inch 9 Area supported by each stay 832" & 202"



Working pressure by Rules 123 & 125 Are the stays drilled at the outer ends no Margin stays: Diameter At turned off part, 1 1/2" or Over threads 1 7/8"  
 No. of threads per inch 9 Area supported by each stay 101" & 112" Working pressure by Rules 125 & 137  
 Tubes: Material steel External diameter Plain 3" Stay 3" Thickness 9 w.s. 7/16" No. of threads per inch 9  
 Pitch of tubes 4 1/4" x 4 7/8" Working pressure by Rules 190 Manhole compensation: Size of opening in shell plate 15" x 19" Section of compensating ring 7" x 2 3/4" No. of rivets and diameter of rivet holes 36 @ 2 9/32"  
 Outer row rivet pitch at ends 5 9/16" 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 Plate Rivets  
 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 Tubes Steel forgings Steel castings  
 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 casing gear \_\_\_\_\_ Working pressure as per Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: tubes \_\_\_\_\_ forgings and 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 ye

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

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

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.)

The workmanship and materials are good.  
The boiler has been constructed under Special Survey, satisfactorily fitted in the vessel and the safety valves adjusted under steam.

FLAT					
"					
BOTTO of S					
BILGE Str					
SIDE Str					
UPPER STR					
UPPER STR					
STRAB STR					
STRAB STR					
POOP					
BRIDGE					
FOREC					
Total					

Survey Fee ... £ \_\_\_\_\_ When applied for, ... 10  
 Travelling Expenses (if any) £ \_\_\_\_\_ When received, ... 10

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

Committee's Minute GLASGOW 15 AUG 1939  
**SEE ACCOMPANYING MACHINERY REPORT.**  
 Assigned \_\_\_\_\_