

## REPORT ON BOILERS.

No. 51000

19 NOV 1930

Received at London Office

Date of writing Report 4-11-30 When handed in at Local Office 15-11-30 Port of Glasgow

No. in Reg. Book. Survey held at Glasgow Date, First Survey 21-11-29 Last Survey 11-11-30

on the MV. "NORFOLD" (Number of Visits 65) Gross 6370 Tons Net 3830

Master Built at Glasgow By whom built Barclay Curle & Co Yard No. 642 When built 1930  
Engines made at Glasgow By whom made Barclay Curle & Co Engine No. 642 When made 1930  
Boilers made at Glasgow By whom made Barclay Curle & Co Boiler No. 642 When made 1930  
Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel D. Colville &amp; Co Ltd, J. Dunlop &amp; Co Ltd, W. Beardmore &amp; Co Ltd (Letter for Record (S) oil &amp; for waste heat)

Total Heating Surface of Boilers 2142 sq ft Is forced draught fitted no Coal or Oil fired waste heat.

No. and Description of Boilers 1 S.B. Working Pressure 120 lb

Tested by hydraulic pressure to 230 lb Date of test 16-5-30 No. of Certificate 18730 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 Spring Loaded (H.L.)

Area of each set of valves per boiler (per Rule as fitted) 11.880 Pressure to which they are adjusted 120 lb 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 well clear Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating on upper flat Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 13'6" Length 11'0" Shell plates: Material Steel Tensile strength 29/33 Ton

Thickness 3/4" Are the shell plates welded or flanged no Description of riveting: circ. seams end 3.008" inter.

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 15/16" long. seams 13/16" Pitch of rivets 6"

Percentage of strength of circ. end seams plate 68.83 rivets 48.57 Percentage of strength of circ. intermediate seam plate 86.45 rivets 85.58

Percentage of strength of longitudinal joint plate 85.58 rivets 90.02 Working pressure of shell by Rules 122 lb

Thickness of butt straps outer 9/16" inner 11/16" No. and Description of Furnaces in each Boiler 2. Brighton Section

Material Steel Tensile strength 26-30 Ton Smallest outside diameter 3'4 3/4"

Length of plain part top bottom Thickness of plates crown 3/8" bottom 1/8" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 168 lb

End plates in steam space: Material Steel Tensile strength 26-30 Ton Thickness 1" Pitch of stays 19 1/2" x 19 1/2"

How are stays secured D.N. Working pressure by Rules 120 lb

Tube plates: Material front back Steel Tensile strength 26-30 Ton Thickness 5/8" Working pressure front 130 lb back 121 lb

Mean pitch of stay tubes in nests 10.6" Pitch across wide water spaces 14"

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Ton Depth and thickness of girder

at centre 8 1/4" x 9 1/16" dbll Length as per Rule 32.78" Distance apart 10" No. and pitch of stays

in each 2 @ 10" Working pressure by Rules 123 lb Combustion chamber plates: Material Steel

Tensile strength 26/30 Ton Thickness: Sides 19/32" Back 19/32" Top 19/32" Bottom 19/32"

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

Working pressure by Rules 120 lb Front plate at bottom: Material Steel Tensile strength 26/30 Ton

Thickness 23/32" Lower back plate: Material Steel Tensile strength 26-30 Ton Thickness 11/16"

Pitch of stays at wide water space 14 1/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 129 lb Main stays: Material Steel Tensile strength 28/32 Ton

Diameter At body of stay, or Over threads 2 5/8" No. of threads per inch 6 Area supported by each stay 380 sq"

Working pressure by Rules 130 lb Screw stays: Material Steel Tensile strength 26-30 Ton

Diameter At turned off part, or Over threads 1 5/8" No. of threads per inch 9 Area supported by each stay 100 sq"



Working pressure by Rules *125 lb.* Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, *1 5/8"* or Over threads *130 lb.*  
No. of threads per inch *9* Area supported by each stay *114 sq"* Working pressure by Rules *10 w.g.*  
Tubes: Material *Iron* External diameter { Plain *3"* Thickness *1/4"* No. of threads per inch *9*  
Pitch of tubes *4 1/4" x 4 1/4"* Working pressure by Rules *140 lb.* Manhole compensation: Size of opening in shell plate *20 1/4" x 16 1/4"* Section of compensating ring *24" x 3/4"* No. of rivets and diameter of rivet holes *44 x 1"*  
Outer row rivet pitch at ends *4 3/4"* Depth of flange if manhole flanged *4"* Steam Dome: Material *Iron*  
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

Manufacturers of { Tubes \_\_\_\_\_ 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 rising gear \_\_\_\_\_ Working pressure as per Rules \_\_\_\_\_  
Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressures: \_\_\_\_\_  
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 \_\_\_\_\_

FOR BARCLAY, CURLE & CO., LTD.

The foregoing is a correct description, \_\_\_\_\_  
Manufacturer.

Dates of Survey { During progress of work in shops - - } See accompanying \_\_\_\_\_ Are the approved plans of boiler and superheater forwarded herewith *yes* (If not state date of approval.)  
while building { During erection on board vessel - - } *machinery report* Total No. of visits *65*

Is this Boiler a duplicate of a previous case *yes* If so, state Vessel's name and Report No. *Alcides - Gls. Rpt. N° 50775.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under special survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good. It has been properly fitted on board the vessel and the safety valves adjusted under steam to 120 lb.*

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

*H. Litherst*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 18 NOV 1930*

Assigned *See accompanying machinery report*