Rpt. 5a.

REPORT ON BOILERS.   No. 6766

Date of writing Report _____ 19___   When handed in at Local Office 31. 5. 1943 Port of *Glasgow*

No. in Reg. Book. _____ Survey held at *Glasgow*   Date, First Survey 27th Mar 1942 Last Survey 25th Jan. 1943

on the   "OXNA"   (Number of Visits 4)   Tons { Gross / Net

Master _____   Built at *Glasgow*   By whom built *A & J. Inglis, Ld.* Yard No 1172e When built _____

Engines made at *Clydebank*   By whom made *Aitchison Blair Ld.*   Engine No. 246 When made _____

Boilers made at *Glasgow*   By whom made *Barclay Curle & Co. Ld.* Boiler No. 41/5 When made 1943

Nominal Horse Power 177 154   Owners _____   Port belonging to _____

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

Manufacturers of Steel *Colvilles Ld.*   (Letter for Record *S*   )

Total Heating Surface of Boilers 2657 ☐ 2621   Is forced draught fitted *Yes*   Coal or Oil fired *Coal*

No. and Description of Boilers *One Single-ended*   **Working Pressure** 200 lb.

Tested by hydraulic pressure to 350 lb. Date of test 13-7-42 No. of Certificate 21123 Can each boiler be worked separately _____

Area of Firegrate in each Boiler 62 ☐   No. and Description of safety valves to each boiler _____

Area of each set of valves per boiler { per Rule / as fitted _____   Pressure to which they are adjusted _____ Are they fitted with easing gear _____

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 _____   Is oil fuel carried in the double bottom under boilers _____

Smallest distance between shell of boiler and tank top plating _____   Is the bottom of the boiler insulated _____

Largest Ex internal dia. of boilers 15'-0"   Length 11'-6"   **Shell plates: Material** *S*   Tensile strength 29/33 tns

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

long. seams *DBS TR*   Diameter of rivet holes in { circ. seams 1 3/8" / long. seams 1 3/8"   Pitch of rivets { 3·74" / 9½"

Percentage of strength of circ. end seams { plate 63·2 / rivets 47·8   Percentage of strength of circ. intermediate seam { plate / rivets /

Percentage of strength of longitudinal joint { plate 85·5 / rivets 88·2 / combined 88·6   Working pressure of shell by Rules _____

Thickness of butt straps { outer 1" / inner 1⅛"   **No. and Description of Furnaces in each Boiler** 3 *Deighton*

Material *S*   Tensile strength 26/30 tns   Smallest outside diameter 42¼"

Length of plain part { top / bottom /   Thickness of plates { crown / bottom 19/32"   Description of longitudinal joint *Welded*

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

End plates in steam space: Material *S*   Tensile strength 26/30 tns Thickness 1 9/32" Pitch of stays 19"×19"

How are stays secured *D.N.*   Working pressure by Rules _____

Tube plates: Material { front / back *S*   Tensile strength { 26/30 tns   Thickness { 7/8" / 3/4"

Mean pitch of stay tubes in nests 9·87"   Pitch across wide water spaces 13¾"   Working pressure { front / back _____

Girders to combustion chamber tops: Material *S*   Tensile strength 28/32 tns   Depth and thickness of girder

at centre 2 @ 9¾" × 7/8" Length as per Rule 37 9/16"   Distance apart 9⅛" W 8" C   No. and pitch of stays

in each 3 @ 9"   Working pressure by Rules _____   **Combustion chamber plates: Material** *S*

Tensile strength 26/30 tns   Thickness: Sides 11/16"   Back 11/16"   Top 11/16"   Bottom 3/4"

Pitch of stays to ditto: Sides 9"×9⅛"   Back 8⅞"×9¼" Top 9"×9⅛"   Are stays fitted with nuts or riveted over *Nuts*

Working pressure by Rules _____   **Front plate at bottom: Material** *S*   Tensile strength 26/30 tns

Thickness 7/8"   **Lower back plate: Material** *S*   Tensile strength 26/30 tns Thickness 13/16"

Pitch of stays at wide water space 13¾"   Are stays fitted with nuts or riveted over *Nuts*

Working Pressure _____   **Main stays: Material** *S*   Tensile strength 28/32 tns

Diameter { At body of stay, or / Over threads 3¼"   No. of threads per inch 6   Area supported by each stay _____

Working pressure by Rules _____   **Screw stays: Material** *S*   Tensile strength 26/30 tns

Diameter { At turned off part, or / Over threads 1¾"   No. of threads per inch 9   Area supported by each stay _____

Working pressure by Rules _____ Are the stays drilled at the outer ends _no_ Margin stays: Diameter {At turned off part, or Over threads _1 7/8"_

No. of threads per inch _9_ Area supported by each stay _____ Working pressure by Rules _____

Tubes: Material _S_ External diameter {Plain _2 3/4"_ Stay _2 3/4"_ Thickness {_5/16", 3/8 & 7/16_} S.W.G No. of threads per inch _9_

Pitch of tubes _3 7/8" x 4"_ Working pressure by Rules _____ **Manhole compensation:** Size of opening in shell plate _20 1/2" x 16 1/2"_ Section of compensating ring _9 1/4" x 1 5/16"_ No. of rivets and diameter of rivet holes _40 @ 1 3/8"_

Outer row rivet pitch at ends _9 1/2"_ Depth of flange if manhole flanged _4"_ **Steam Dome:** Material _____

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 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 easing 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 _____

The foregoing is a correct description,

Alexander Macphail Manufacturer.

Dates of Survey while building {During progress of work in shops _1942 Mar 27 Ap 30 May 6 X Jun 4 No 22 Jul 29, Aug 7 Sep 8 Oct 2 1943 Jan 25_ During erection on board vessel _____} Are the approved plans of boiler forwarded herewith _Yes_ (If not state date of approval)

Total No. of visits _14_

Is this Boiler a duplicate of a previous case _Yes_ If so, state Vessel's name and Report No. _Barclay's Bo. No 41/1 Sh. Rpt. No 65740_

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

This boiler has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been despatched for installation in the vessel.

G?B 1/2/43

Survey Fee _£17 11_ When applied for, ____ 19__

Travelling Expenses (if any) £ _Inclusive_ When received, ____ 19__

R J Brown. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute _GLASGOW 1 JUN 1943_

Assigned _SEE ACCOMPANYING MACHINERY REPORT_