Rpt. 5a.

REPORT ON BOILERS.

No. 52234.

30 NOV 1943

Received at London Office 2 DEC 1943

Date of writing Report 28.10.1943. When handed in at Local Office 19 Port of HULL

No. in Reg. Book. Survey held at HULL. Date, First Survey 12. 8. 43. Last Survey 23. 11. 19 43.

(Number of Visits 30.)

on the H.M.T. KITTERN. J.2719. Tons { Gross 452 / Net 144

Built at BEVERLEY By whom built Cook Welton & Gemmell Ltd Yard No. 720 When built 1943

Engines made at HULL By whom made Chas. D. Holmes Ltd Engine No. 1660 When made "

Boilers made at HULL By whom made Chas. D. Holmes Ltd Boiler No. 1660 When made "

Nominal Horse Power 156. Owners Admiralty Port belonging to

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

Manufacturers of Steel The Steel Company of Scotland (Letter for Record S

Total Heating Surface of Boilers 2650 sq ft Is forced draught fitted Yes. Coal or Oil fired Coal.

No. and Description of Boilers One - S.B. **Working Pressure** 200 lbs/sq"

Tested by hydraulic pressure to 350 lbs/sq" Date of test 23-9-43. No. of Certificate 4203. Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 63 sq ft No. and Description of safety valves to each boiler 2 - Spring loaded

Area of each set of valves per boiler { per Rule 15.4 sq" / as fitted 16.6 sq" } Pressure to which they are adjusted 200 lbs/sq" 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 2'-0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating None Is the bottom of the boiler insulated No.

Largest internal dia. of boilers 14'-9 7/8" Length 11'-6" **Shell plates:** Material Steel Tensile strength 29/33 tons/sq"

Thickness 1 3/16" Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. lap / inter. none

Long. seams T.R - D.B.S. Diameter of rivet holes in { circ. seams 1 3/8" / long. seams 1 3/8" } Pitch of rivets { 4" / 9 1/2" }

Percentage of strength of circ. end seams { plate 65.6% / rivets 44.7% } Percentage of strength of circ. intermediate seam { plate ✓ / rivets ✓ }

Percentage of strength of longitudinal joint { plate 85.5% / rivets 88.5% / combined 88.8% }

Thickness of butt straps { outer 1 / inner 1 1/8" } **No. and Description of Furnaces in each Boiler** 3 - Cf Deighton section

Material Steel Tensile strength 26/30 tons/sq" Smallest outside diameter 3'-6 7/16"

Length of plain part { top ✓ / bottom ✓ } Thickness of plates { crown / bottom } 19/32" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓

End plates in steam space: Material Steel Tensile strength 26/30 tons/sq" Thickness 1 11/32" Pitch of stays 21" x 20" max.

How are stays secured Nuts inside and out.

Tube plates: Material { front Steel / back Steel } Tensile strength { 26/30 tons/sq" / do } Thickness { 7/8" / 25/32" }

Mean pitch of stay tubes in nests 9 11/16" Pitch across wide water spaces 13 5/8"

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons/sq" Depth and thickness of girder at centre 8 1/4" x 1 7/8" Length as per Rule 2'-4 15/32" Distance apart 10 3/4" No. and pitch of stays in each 2 - 9 7/8"

Combustion chamber plates: Material Steel Tensile strength 26/30 tons/sq" Thickness: Sides 25/32" Back 3/4" Top 25/32" Bottom 25/32"

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

Front plate at bottom: Material Steel Tensile strength 26/30 tons/sq"

Thickness 7/8" **Lower back plate:** Material Steel Tensile strength 26/30 tons/sq" Thickness 7/8

Pitch of stays at wide water space 14 1/2" x 9 7/8" Are stays fitted with nuts or riveted over Nuts

Main stays: Material Steel Tensile strength 28/32 tons/sq"

Diameter { At body of stay, or Over threads 3 1/8" } No. of threads per inch 6

Screw stays: Material Steel Tensile strength 26/30 tons/sq"

Diameter { At turned off part, or Over threads 1 7/8" } No. of threads per inch 9

Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads } ✓ 2"

No. of threads per inch 9

Tubes: Material Steel External diameter { Plain 2 3/4" Stay 2 3/4" } Thickness { 8 W.G. 3/8", 5/16". } No. of threads per inch 9 ✓

Pitch of tubes 3 7/8 x 3 7/8 ✓ **Manhole compensation:** Size of opening

shell plate 12" (x16") ✓ Section of compensating ring 1 5/16" x 20" No. of rivets and diameter of rivet holes 15 – 1 3/32"

Outer row rivet pitch at ends 10 1/8" Depth of flange if bottom manhole flanged 3 1/4" **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 Thickness of crown No. and diameter

stays Inner radius of crown

How connected to shell Size of doubling plate under dome Diameter of rivet holes and pit

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 a

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

Pressure to which the safety valves are adjusted Hydraulic test pressure

tubes forgings and castings and after assembly in place Are drain cocks

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 Yes.

The foregoing is a correct description,

FOR CHARLES D. HOLMES & CO., LTD.

W. R. Evans Manufacturer.

Dates of Survey { During progress of work in shops - - } 1943, Aug 12. Sept 3. 23. Nov. 4. Are the approved plans of boiler and superheater forwarded herewith 15-2-43

(If not state date of approval.)

while building { During erection on board vessel - - - } See machinery report. Total No. of visits 30.

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. H.M.T. "GULLAND"

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

This boiler has been constructed under Special Survey in accordance with the approved Admiralty plans and the Rules. The workmanship and materials are good and when subjected to a hydraulic test of 350 lbs /□" it was found satisfactory in every respect. Boiler installed in H.M.T. "KITTERN" at Hull, examined under steam, safety valves adjusted as overleaf, accumulation test held and afterwards examined after all trials & found satisfactory in every respect. W. S. Shields.

15

Survey Fee ... ... £ : : | When applied for, 19

Travelling Expenses (if any) £ : : | When received, 19

J. Kilgour

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 7 DEC 1943

Assigned See Jr. machy rpt.