Rpt. 5a.

REPORT ON BOILERS.

No. 52413.

Received at London Office 17 JAN 1945

Date of writing Report 5-12-1944. When handed in at Local Office 6 JAN 1945 19 Port of HULL.

No. in Reg. Book. 1 Survey held at HULL. Date, First Survey 24.1.44 Last Survey 6.1. 1945.

on the H.M. DAN LAYER. LINGAY. J. 2696. (Number of Visits 31.) Tons Gross 452. Net 144.

Built at SELBY. By whom built Cochrane & Sons Ld Yard No. 1290. When built 1945

Engines made at HULL. By whom made AMOS & SMITH. Ld Engine No. 747. When made 4

Boilers made at HULL. By whom made AMOS & SMITH Ld Boiler No. 745. When made 4

Nominal Horse Power 160 Owners THE ADMIRALTY. Port belonging to —

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

Manufacturers of Steel Appleby Frodingham Steel Co. Ld and C. Cammell. (Letter for Record S.

Total Heating Surface of Boilers 2785 ft Is forced draught fitted Yes. Coal or Oil fired Oil Fuel

No. and Description of Boilers One S.B. **Working Pressure** 200 lbs /in²

Tested by hydraulic pressure to 350 lbs /in² Date of test 8.11.44 No. of Certificate 4238. Can each boiler be worked separately —

Area of Firegrate in each Boiler — (0.=) No. and Description of safety valves to each boiler 2 Spring loaded High Lift.

Area of each set of valves per boiler { per Rule 8.08 in² / as fitted 9.8 in² 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 —

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 3/8" Length 11'-6". **Shell plates:** Material Steel Tensile strength 29-33 tons /in²

Thickness 15/16". 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 88.8% / combined 88.8%

Thickness of butt straps { outer 1". / inner 1 1/8". **No. and Description of Furnaces in each Boiler** 3 c.f. Deighton Section.

Material Steel Tensile strength 26-30 tons /in² 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 /in² Thickness 1 11/32". Pitch of stays 21" × 20".

How are stays secured Nuts inside & out.

Tube plates: Material { front Steel / back Steel Tensile strength { 26-30 tons /in² / 26-30 tons /in² 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 /in² Depth and thickness of girder at centre 8 1/4" × 1 7/8" Length as per Rule 2'-6 29/32". Distance apart 10 3/4". No. and pitch of stays in each 2 @ 9 1/2".

Combustion chamber plates: Material Steel

Tensile strength 26-30 tons /in² Thickness: Sides 25/32" Back 3/4". Top 25/32". Bottom 25/32".

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

Front plate at bottom: Material Steel Tensile strength 26-30 tons /in².

Thickness 7/8". **Lower back plate:** Material Steel. Tensile strength 26-30 tons /in² Thickness 7/8".

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

Main stays: Material Steel Tensile strength 28-32 tons /in²

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 /in²

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

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LINGAY.

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

No. of threads per inch 9.

Tubes: Material Steel. External diameter {Plain 2 3/4" / Stay 2 3/4".} Thickness {S.W.G. / 1/4", 5/16", 3/8", 7/16".} No. of threads per inch 9.

Pitch of tubes 3 1/8" x 3 1/8". **Manhole compensation:** Size of opening in shell plate 12" (x16".) Section of compensating ring 1 5/16" x 20". No. of rivets and diameter of rivet holes 15 @ 1 15/32".

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 of stays ____ Inner radius of crown ____

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 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 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 Yes.

For AMOS & SMITH LTD.

The foregoing is a correct description,

A.R. Kewley DIRECTOR Manufacturer.

Dates of Survey while building {During progress of work in shops - - Jan. 26 - Apr. 24. Nov. 8. 1st Rpt 4. / During erection on board vessel - - -} Are the approved plans of boiler and superheater forwarded herewith 14-5-43. (If not state date of approval.) 7-7-39. Total No. of visits 31.

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

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

This boiler has been Constructed under Special Survey in accordance with the Rules and the approved Admiralty Plan.

The Workmanship and Material are good, and, When subjected to an hydraulic pressure of 350 lbs/□" it was found satisfactory in every respect.

The boiler has been installed at HULL, examined under Steam, Safety Valves adjusted as overleaf, accumulation test held and found Satisfactory on completion of all tests.

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

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

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 2 FEB. 1945

Assigned See F.E. machy. rpt.