

REPORT ON BOILERS.



D.O.

Received at London Office

9 FEB 1950

Date of writing Report 29-12-49 When handed in at Local Office 4-2-50 Port of GLASGOW

No. in Survey held at PAISLEY Date, First Survey 14-9-49 Last Survey 19-1-1950

on the M.T. HAVFRU. (Number of Visits 6) Gross Tons Net Tons

Master Built at MALMO. By whom built KOCKUMS MEK VERKS Yard No. 319. When built

Engines made at By whom made Engine No. When made

Boilers made at PAISLEY By whom made A.F. CRAIG & CO LTD Boiler No. 941 942 When made 1950

Indicated Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES LTD (Letter for Record S)

Total Heating Surface of Boiler 1750 sq (EACH) (OIL) Is forced draught fitted YES Coal or Oil fired OIL

No. and Description of Boilers 2-SE Working Pressure 180 lbs/sq

Tested by hydraulic pressure to 320 lbs Date of test 20-12-49 No. of Certificate 23043 23050 Can each boiler be worked separately

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

Area of each set of valves per boiler {per Rule 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 internal dia. of boilers 12'-1 1/16" Length 11'-5 13/16" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 6 3/64" Are the shell plates welded or flanged NO Description of riveting: circ. seams {end DR

Long. seams T.R. DBS Diameter of rivet holes in {circ. seams 1 3/16" Pitch of rivets {3.6"

Percentage of strength of circ. end seams {plate 67.0 Percentage of strength of circ. intermediate seam {plate

Percentage of strength of longitudinal joint {rivets 49.2 Working pressure of shell by Rules

Thickness of butt straps {outer 3/4" No. and Description of Furnaces in each Boiler 2-Morrison

Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-8 3/32"

Length of plain part {top Thickness of plates {erosion 35/64" Description of longitudinal joint weld

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

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 15/16" Pitch of stays 1'-4" x 1'-3 1/2"

How are stays secured D. Nuts or washers Working pressure by Rules

Tube plates: Material {front Steel Tensile strength {26-30 tons Thickness {15/16"

Mean pitch of stay tubes in nests 9/4" Pitch across wide water spaces 1'-1" Working pressure {front

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

at centre 7" x 20 3/4" Length as per Rule 2'-4 7/32" Distance apart 8 1/2" No. and pitch of stays

in each 2-9 1/2" Working pressure by Rules Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 13/16" Back 3/4" Top 13/16" Bottom 13/16"

Pitch of stays to ditto: Sides 7 1/2" x 9 1/2" Back 7 5/8" x 7 3/4" Top 8 1/2" x 9 1/2" Are stays fitted with nuts or riveted over Nuts on margin stays only

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

Thickness 15/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 15/16"

Pitch of stays at wide water space 1' 7 1/8" x 7 5/8" Are stays fitted with nuts or riveted over Nuts on margin stays

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

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

Working pressure by Rules Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, 1 1/2" No. of threads per inch 9 Area supported by each stay



50 75066

Working pressure by Rules — Are the stays drilled at the outer ends **No** ✓ Margin stays: Diameter { At turned off part, or Over threads **1 5/8"** ✓

No. of threads per inch **9** ✓ Area supported by each stay — Working pressure by Rules —

Tubes: Material **HR 55 Steel** External diameter { Plain } **2 1/2"** Thickness { **9 SWG** } No. of threads per inch **9** ✓

Pitch of tubes **3 35/64" x 3 21/32"** Working pressure by Rules — Manhole compensation: Size of opening No. of rivets and diameter of rivet holes **40 x 1 3/16"** ✓

shell plate **16" x 20"** ✓ Section of compensating ring **Flanged plate** ✓

Outer row rivet pitch at ends **4 1/2"** ✓ Depth of flange if manhole flanged — 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 — 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 from the boiler? —

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 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, *A. J. Jones & Co. Ltd.* Manufacturer

Dates of Survey { During progress of work in shops - - } **1949 SEP. 14 - OCT. 2 - NOV. 16 - DEC. 14 - 20 - 1960 JAN. 19.** Are the approved plans of boiler and superheater forwarded herewith **7-8-4** ✓ (If not state date of approval.)

{ During erection on board vessel - - - } Total No. of visits —

Is this Boiler a duplicate of a previous case ✓ If so, state Vessel's name and Report No. ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **These boilers have been constructed under Special Survey, in accordance with the Rule Requirements & approved plans. The materials and workmanship are good. These boilers have been dispatched to Malmo - Sweden, for installation in their vessel, Yard No 319.**

Survey Fee £ **54 : 4 : -** } When applied for, 19 **8 FEB 1950**

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

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

Committee's Minute **GLASGOW - 8 FEB 1950** ✓

Assigned **Deferred for completion.**

