Rpt. 5a.

REPORT ON BOILERS.

No. 149

Received at London Office

Date of writing Report 19th Dec. 1950. When handed in at Local Office ..... 19..... Port of Bremen

No. in Reg. Book. 62497 Survey held at Vegesack Date First Survey 26.4. Last Survey 1.8. 1950.

on the T.S. M.V. "HERBRAND" (Number of Visits 8) Tons Gross 9122 Net ~~5515~~ 5488

Master ..... Built at Copenhagen By whom built Akt. Burmeister & Wain Yard No. - When built 1935/2

Engines made at Bremen-Vegesack By whom made Bremer Vulkan Engine No. 355/56 When made 1950

Boilers made at Bremen-Vegesack By whom made Bremer Vulkan Boiler No. - When made -

Nominal Horse Power ~~813~~ - Owners Sigurd Herlofson & Co., Oslo [MOSS] Port belonging to Moss

Subs. m/s HERBRAND

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

F. OIL ENGINES PORTSMOUTH SURVEY

Manufacturers of Steel Hüttenwerk Huckingen A.G., Duis Huckingen (Letter for Record .....)

Total Heating Surface of Boilers 2 x 180 qm Is forced draught fitted yes Coal or Oil fired oil

No. and Description of Boilers 2 cylindrical boiler **Working Pressure** 12.65 atü

Tested by hydraulic pressure to 22.5 atü Date of test ..... No. of Certificate ..... Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler 2 ordinary safety valves

Area of each set of valves per boiler { per Rule 8225 mm² / as fitted 10000 mm² } Pressure to which they are adjusted 12.65 atü 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 390 mm Is oil fuel carried in the double bottom under boilers yes

Smallest distance between shell of boiler and tank top plating 450 mm Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 3700 mm Length 3500 mm **Shell plates:** Material S.M. steel Tensile strength 47-55 kg/qmm

Thickness 24.5 mm Are the shell plates welded or flanged Nil Description of riveting: circ. seams { end zig zag riveting / inter. ..... }

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 28 mm / long. seams 28 mm } Pitch of rivets { 91.5 mm / 184 mm }

Percentage of strength of circ. end seams { plate 0.7 / rivets 0.42 } Percentage of strength of circ. intermediate seam { plate ..... / rivets ..... }

Percentage of strength of longitudinal joint { plate 0.848 / rivets 1 / combined 0.895 } Working pressure of shell by Rules 12.65 atü

Thickness of butt straps { outer 24 mm / inner 24 mm } **No. and Description of Furnaces in each Boiler** 2, corrugated

Material S.M. steel Tensile strength 41-47 kg/qmm ~~Smallest outside diameter~~ 1078 mm

Length of plain part { top ..... / bottom ..... } Thickness of plates { crown ..... / bottom 14 mm } Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom ..... Working pressure of furnace by Rules 12.65 atü

End plates in steam space: Material S.M. steel Tensile strength 41-47 kg/qmm Thickness 26 mm Pitch of stays 450 x 380 mm

How are stays secured welded Working pressure by Rules 12.65 atü

Tube plates: Material { front S.M. steel / back " } Tensile strength { 41-47 kg/mm / ..... } Thickness { 22 mm Back / 26 front } Working pressure { front ..... / back 12.65 atü }

Mean pitch of stay tubes in nests 270 x 180 mm Pitch across wide water spaces 350 combustion chamber

Girders to combustion chamber tops: Material S.M. steel Tensile strength 41 - 47 kg/qmm Depth and thickness of girder

at centre 210 mm, 22 mm Length ~~as per Rule~~ 732 mm ~~732~~ Distance apart 200. mm No. and pitch of stays

in each Welded Working pressure by Rules 12.65 atü **Combustion chamber plates:** Material S.M. steel

Tensile strength 41 - 47 kg/qmm Thickness: Sides 16 mm Back 16 mm Top 16 mm Bottom 22 mm

Pitch of stays to ditto: Sides 200 x 190 mm Back 220 x 185 mm Top Are stays fitted ~~with nuts or riveted over~~ welded + Screwed thro' plate

Working pressure by Rules 12.65 atü **Front plate at bottom:** Material S.M. steel Tensile strength 41 / 47 kg/qmm

Thickness 26 mm **Lower back plate:** Material S.M. steel Tensile strength 41-47 Thickness 26

Pitch of stays at wide water space 352 Are stays fitted with nuts or riveted over welded

Working pressure ..... **Main stays:** Material S.M. steel Tensile strength 44-51 kg/qmm

Diameter { At body of stay ..... / or Over threads 62 mm } No. of threads per inch welded Area supported by each stay .....

Working pressure by Rules 12.65 atü **Screw stays:** Material S.M. steel Tensile strength 41 - 47 kg/qmm

Diameter { ~~At turned off part 49, 43~~ / ~~or~~ Over threads 37 mm } No. of threads per inch welded Area supported by each stay .....

Working pressure by Rules 12.65 atü *Are the stays drilled at the outer ends* - *Margin stays: Diameter* { *At turned off part* 49.43 mm / *Over threads* ... }

No. of threads per inch - *Area supported by each stay* ... *Working pressure by Rules* 12.65 atü

Tubes: *Material* S.M. steel *External diameter* { *Plain* 63.5 mm ✓ / *Stay* 63.5 mm ✓ } *Thickness* { 3.5 mm ✓ / 7 mm ✓ } *No. of threads per inch* welded (stay tubes) ✓

Pitch of tubes 90 mm X90 ✓ *Working pressure by Rules* 12.65 atü

Manhole compensation: *Size of opening in shell plate* 366 x 466 mm ✓ *Section of compensating ring* ~~[illegible] 25 mm~~ 344 X24 ✓ *No. of rivets and diameter of rivet holes* 34 rivets, 28 mm Ø ✓

Outer row rivet pitch at ends 184 mm ✓ *Depth of flange if manhole flanged* 85 mm **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 for Bremer Vulkan Schiffbau und Maschinenfabrik *t description,*

McClintock Revelle *Manufacturer.*

Dates of Survey while building { *During progress of work in shops* 26.4., 2.5., 15.5., 25.5., 1.6., 7.6 / *During erection on board vessel* 21.7., 1.8.1950. }

Are the approved plans of boiler and superheater forwarded herewith ✓ (If not state date of approval.)

Total No. of visits 8

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.*)

This boiler has been constructed under S. S. in accordance with the Society's Rules, approved plans and Secretary's letters. It has been hydraulically tested as stated overleaf efficiently installed on board & the safety valves adjusted under under steam. An accumulation test was held. Workmanship is good throughout.

Survey Fee ... ... £ 114 : 0 : 0 } When applied for London 1/3/51

Travelling Expenses (if any) £ 10 : 0 : 0 } When received ... 19...

FEE rendered from

J. McClintock

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 23 FEB 1951

Committee's Minute ...

Assigned ...