Rpt. 5 b.

REPORT ON BOILERS.

No. 5542

Received a London Office .....

Date of writing Report 28th Sep. 1942 When handed in at Local Office ..... 19..... Port of Stockholm

No. in Reg. Book ~ Survey held at Karlskoping & Stockholm Date, First Survey 25.8.1941 Last Survey 19.9 1942

on the M/T "DIVINA" (Number of Visits 5) Tons Gross 643 Net 383

Built at Stockholm By whom built B. Ekenbergs Varv Yard No. 178 When built 1942

Engines made at Stockholm By whom made B. Atlas-Diesel Engine No. 85890 When made 1942

Boilers made at Karlskoping (DONKEY) By whom made W. Södersteröms Gjuteri & Mek. Verkstads A/B Boiler No. 1407 When made 1942

Owners Rederi AB Diana Port belonging to Stockholm

VERTICAL DONKEY BOILER.

Made at Karlskoping By whom made W. Södersteröms Gjuteri & Mek. Verkstads A/B Boiler No. 1407 When made 1942 Where fixed ~

Manufacturers of Steel Messrs Degerfors Jernverks AB, of Degerfors

Total Heating Surface of Boiler 10 m² Is forced draught fitted ~ Coal or Oil fired Oil fired

No. and Description of Boilers One Rapid Donkey Boiler **Working pressure** 8 kg/cm²

Tested by hydraulic pressure to 16 kg/cm² Date of test 5th September 1941 No. of Certificate ~

Area of Firegrate in each Boiler 0.5 m² No. and Description of safety valves to each boiler 2 spring loaded safety valves

Area of each set of valves per boiler { per rule ~ / as fitted 22.68 cm² } Pressure to which they are adjusted 8 kg/cm² Are they fitted with easing gear Yes

State whether steam from main boilers can enter the donkey boiler ~ Smallest distance between boiler or uptake and bunkers or woodwork ~ Is oil fuel carried in the double bottom under boiler Yes Smallest distance between base of boiler and tank top plating 650 m/m Is the base of the boiler insulated Yes x Largest internal dia. of boiler 850 m/m Height 2485 m/m

Shell plates: Material S.M. Steel Tensile strength 45.6 kg/m/m² Thickness 10 m/m

Are the shell plates welded or flanged ~ Description of riveting: circ. seams { end Single / inter. ~ } long. seams Double

Dia. of rivet holes in { circ. seams 20 m/m / long. seams 20 -"- } Pitch of rivets { 48 m/m / 67 -"- } Percentage of strength of circ. seams { plate 58.4 / rivets 50.2 } of Longitudinal joint { plate 70.0 / rivets 72.2 / combined ~ }

Working pressure of shell by rules 15.2 kg/cm² Thickness of butt straps { outer ~ / inner ~ }

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished partial spherical Material S.M. Steel

Tensile strength 44.7 kg/m/m² Thickness 13 m/m Radius 680 m/m Working pressure by rules 17.4 kg/cm²

Description of Furnace: Plain, spherical, or dished crown dished crown Material S.M. Steel Tensile strength 45.8 kg/m/m²

Thickness 14.5 m/m External ~~diameter~~ Radius { top 754.5 m/m / bottom ~ } Length as per rule ~ Working pressure by rules 11.3 kg/cm²

Pitch of support stays circumferentially ~ and vertically ~ Are stays fitted with nuts or riveted over ~

Diameter of stays over thread ~ Radius of spherical or dished furnace crown ~ Working pressure by rule ~

Thickness of Ogee Ring 10 m/m Diameter as per rule { D 810 m/m / d 760 -"- } Working pressure by rule 21.1 kg/cm²

Combustion Chamber: Material S.M. Steel Tensile strength 45.8 kg/m/m² Thickness of top plate 14.5 m/m

Radius if dished Not dished Working pressure by rule ~ Thickness of back plate 10 m/m ~~Diameter~~ Radius if circular 330-380 m/m

Length as per rule ~ Pitch of stays 265 x 140 m/m Are stays fitted with nuts or riveted over (xx) E.W. 2 riveted over

Diameter of stays over thread 32 m/m Working pressure of back plate by rules 8.6 kg/cm²

Tube Plates: Material { front S.M. Steel / back S.M. Steel } Tensile strength { 44.7 kg/m/m² / 45.8 -"- } Thickness { 13.0 m/m / 14.5 -"- } Meanpitch of stay tubes in nests 205 m/m

If comprising shell, Dia. as per rule { front ~ / back ~ } Pitch in outer vertical rows { ~ / ~ } Dia. of tube holes FRONT { stay 53 m/m / plain 52 -"- } BACK { stay 49 m/m / plain 51 -"- }

Is each alternate tube in outer vertical rows a stay tube ~ Working pressure by rules { front 9.6 kg/cm² / back 12.2 -"- }

Girders to combustion chamber tops: Material ~ Tensile strength ~

Depth and thickness of girder at centre ~ Length as per rule ~

Distance apart ~ No. and pitch of stays in each ~ Working pressure by rule ~

(xx) PLATE

(x) Fire bricks fitted

Is a Report also sent on the Hull of the Ship? ..... If not, state whether, and when, one will be sent? .....

Elanders, Gbg 1148. 7.11.41.

Crown stays: *Material* ~ *Tensile strength* ~ *Diameter* { *at body of stay,* ~ / *or* / *over threads* ~

No. of threads per inch ~ *Area supported by each stay* ~ *Working pressure by rules* ~

Screw stays: *Material* Stl. Steel *Tensile strength* 43-5 kg/mm² *Diameter* { *at turned off part,* ~ / *or* / *over threads* 32 m/m *No. of threads per inch* 9

Area supported by each stay 265 × 140 m/m *Working pressure by rules* 9·8 kg/cm² *Are the stays drilled at the outer ends* ~

Tubes: *Material* Stl. Steel *External diameter* { *plain* 51 m/m / *stay* 51 —"— *Thickness* { 3.0 m/m / 4.75 —"—

No. of threads per inch 9 *Pitch of tubes* 90 × 80 m/m *Working pressure by rules* 11 kg/cm²

Manhole Compensation: *Size of opening in shell plate* 230 × 300 m/m *Section of compensating ring* 500 × 430 × 12 m/m *No. of rivets and diameter of rivet holes* E.W *Outer row rivet pitch at ends* E.W *Depth of flange if manhole flanged* ~

Uptake: *External diameter* ~ *Thickness of uptake plate* ~

Cross Tubes: *No.* ~ *External diameters* { ~ / ~ *Thickness of plates* ~

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,
W. Söderströms Gjuteri & Mek. Verkstads A.-B.
Gustav E. Söderström
Manufacturer.

Dates of Survey while building — *During progress of work in shops* 25 & 5 (8 & 9) 1941. *Is the approved plan of boiler forwarded herewith* (If not state date of approval.) 17.4.41 (GOT.)

During erection on board vessel 8 (5) 13 (7) 19 (9) -42 *Total No. of visits* 5

Is this Boiler a duplicate of a previous case Yes *If so, state Vessel's name and Report No.* M/T "GLEN" Stm. Rpt. 5325.

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

This boiler has been built under Special Survey and all the requirements of the Rules have been complied with. The workmanship is good and the material fulfils the requirements of the Rules. The dimensions are as specified and in accordance with the Rules and approved plans.

The boiler has been fitted on board under my supervision and to my satisfaction.

This boiler is, in my opinion, eligible to be classed in the Register Book and to have the notation of <u>D.B.S. 9.42</u>

Survey Fee ... ... £ 80:— :
Travelling Expenses (if any) £ 50:85 :

When applied for, 29 9 **19**42

When received, ... **19**.....

K. J. Andersson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute .....

Assigned .....