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REPORT ON BOILERS.

No. 16835.

8 AUG 1949

Received at London Office

Writing Report 3rd August 1949. When handed in at Local Office 6th August 1949. Port of Gothenburg.

Survey held at Gothenburg Date, First Survey 11th May Last Survey 2nd August 1949.

(Number of Visits 14)

on the Motor Tanker "V E N U S" Tons {Gross 10300 Net

Built at Malmö By whom built Kockums Mek. Verkst. Yard No. 345 When built 1949.

Machinery made at Malmö By whom made Kockums Mek. Verkstads A-B. Engine No. When made 1949.

Boiler made at Gothenburg By whom made A-B, Lindholmens Varv Boiler No. 2865-66 When made 1949.

and Pilot Horse Power 2 x 134 Owners Rederi A-B, Nordstjernen Port belonging to Stockholm.

MULTITUBULAR BOILERS - MAIN AND AUXILIARY ON DONKEY.

Manufacturers of Steel Avesta Jernverks A-B., Avesta, Sweden (Letter for Record a)

Heating Surface of Boilers 2 x 150 M² = 3229 square feet. Is forced draught fitted Coal or Oil fired

Description of Boilers 2 horizontal multitubular boilers Working Pressure 12.65 kg/cm²

Tested by hydraulic pressure to 22.5 kg/cm² Date of test 8.7.1949. No. of Certificate 530-531 Can each boiler be worked separately

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

of each set of valves per boiler {per Rule as fitted Pressure to which they are adjusted Are they fitted with easing gear

of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Least distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

Least distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Internal dia. of boilers 3700 mm. Length 3500 mm. Shell plates: Material S.M. Steel Tensile strength 44-50 kg/mm²

Thickness 27.5 mm. Are the shell plates welded or flanged E.W. Description of riveting: circ. seams {end inter. E.W.

Seams E.W. Diameter of rivet holes in {circ. seams long. seams Pitch of rivets {plate rivets

Percentage of strength of circ. intermediate seam {plate rivets Working pressure of shell by Rules 12.9 kg/cm²

Percentage of strength of longitudinal joint {plate rivets combined No. and Description of Furnaces in each Boiler 2 Morison

Material S.M. Steel Tensile strength 41-47 kg/mm² Smallest outside diameter 1129 mm.

Thickness of plates {top bottom crown bottom 14.5 mm. Description of longitudinal joint E.W.

Working pressure of furnace by Rules 13.1 kg/cm²

Stays in steam space: Material S.M. Steel Tensile strength 41-47 kg/mm² Thickness 25 mm. Pitch of stays 440 x 375 mm.

Stays secured E.W. with outside washers Working pressure by Rules 17.3 kg/cm²

Stays: Material {front back S.M. Steel Tensile strength 41-47 kg/mm² Thickness 25 mm. 22 mm.

Pitch of stay tubes in nests 278.5 mm. Pitch across wide water spaces 360 mm. Working pressure {front back 14.2 kg/cm² 15.9 kg/cm²

Stays to combustion chamber tops: Material S.M. Steel Tensile strength 44-50 kg/mm² Depth and thickness of girder

235 x 25 mm. Length as per Rule 731 mm. Distance apart 225 mm. No. and pitch of stays

E.W. cont. Working pressure by Rules 12.7 kg/cm² Combustion chamber plates: Material S.M. Steel

Tensile strength 41-47 kg/mm² Thickness: Sides 22 mm. Back 17 mm. Top 18 mm. Bottom 18 mm. E.W.

Stays to ditto: Sides 230 x 230 mm. Back 225 x 205 mm. Top 225 x Con. E.W. Are stays fitted with nuts or riveted over Side stays in shell R.O.

Working pressure by Rules 15.3 kg/cm² Front plate at bottom: Material S.M. Steel Tensile strength 41-47 kg/mm²

Thickness 25 mm. Lower back plate: Material S.M. Steel Tensile strength 41-47 kg/mm² Thickness 25 mm.

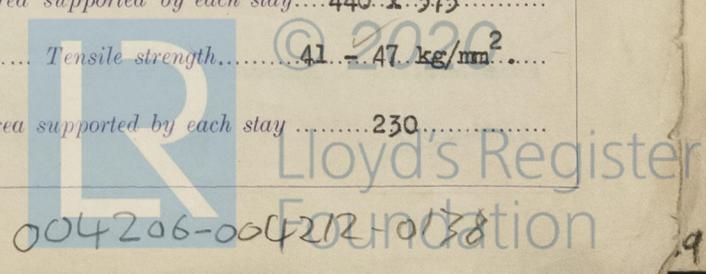
Stays at wide water space 360 x 205 mm. Are stays fitted with nuts or riveted over E.W.

Working Pressure 21.2 kg/cm² Main stays: Material S.M. Steel Tensile strength 44-50 kg/mm²

60 mm. No. of threads per inch E.W. Area supported by each stay 440 x 375

Working pressure by Rules 14.65 kg/cm² Screw stays: Material S.M. Steel Tensile strength 41-47 kg/mm²

47 mm. No. of threads per inch 9. (side stays) Area supported by each stay 230



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opening in Book.
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Built at
Machinery made at
Boiler made at
and Pilot
Manufacturers of Steel
Heating Surface of Boilers
Description of Boilers
Tested by hydraulic pressure to
Firegrate in each Boiler
of each set of valves per boiler
of donkey boilers, state whether steam from main boilers can enter the donkey boiler
Least distance between boilers or uptakes and bunkers or woodwork
Least distance between shell of boiler and tank top plating
Internal dia. of boilers
Thickness
Seams
Percentage of strength of circ. end seams
Percentage of strength of longitudinal joint
No. and Description of Furnaces in each Boiler
Material
Thickness of plates
Working pressure of furnace by Rules
Stays in steam space: Material
Stays secured
Stays: Material
Pitch of stay tubes in nests
Stays to combustion chamber tops: Material
Length as per Rule
E.W. cont.
Tensile strength
Stays to ditto: Sides
Working pressure by Rules
Thickness
Stays at wide water space
Working Pressure
No. of threads per inch
Working pressure by Rules
No. of threads per inch

Working pressure by Rules 178 kg/cm^2 Are the stays drilled at the outer ends No Margin stays: Diameter 47 mm .
 No. of threads per inch E.W. Area supported by each stay $292.5 \times 205 \text{ mm}$ Working pressure by Rules 21.4 kg/cm^2
 Tubes: Material **S.M. Steel** External diameter { Plain 63.5 mm Thickness 3.65 mm No. of threads per inch 9
 Stay 63.5 mm Thickness $9 \ \& \ 8 \text{ mm}$
 Pitch of tubes $93 \times 90 \text{ mm}$ Working pressure by Rules 16 kg/cm^2 Manhole compensation: Size of opening
 shell plate $570 \times 455 \text{ mm}$ Section of compensating ring 10035 mm No. of rivets and diameter of rivet holes E.W.
 Outer row rivet pitch at ends Depth of flange if manhole flanged 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
 stays Inner radius of crown Working pressure by Rules
 How connected to shell Size of doubling plate under dome Diameter of rivet holes and
 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
 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 at
 Rules Pressure to which the safety valves are adjusted Hydraulic test pres
 tubes forgings and castings and after assembly in place Are drain cock
 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.

AKTIEBOLAGET LINDHOLMENS VARV
ÅNGPANNEAVDELNINGEN
Manufact

Dates of Survey { During progress of work in shops - - 11th May - 2nd August, 1949. Are the approved plans of boiler and superheater forwarded herewith No
 while building { During erection on board vessel - - - - - Total No. of visits 14

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

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

These boilers have been built under special survey in accordance with the Rules for Welded Pressure Vessels Class I and the approved plan. All welded parts of the boilers have been stress-relieved in accordance with Rules. Test sheets for the material are attached. Chalmers' certificate of routine tests of welding carried out in presence and plans showing the position and number of X-ray films on which it is indicated the category in which each film was placed by Tekniska Röntgencentralen are attached. Four representative X-ray films are forwarded herewith. Macro tests have been carried out at the works of A-B. Lindholmens Varv with satisfactory results.

The boilers have been marked:

Nos. 530 - 531
 LLOYD'S TEST 320 LBS/SQ. INCH
 WP 180 LBS/SQ. INCH
 SJ 8.7.49

Survey Fee Kr. 910:00 } When applied for, 6th August 19 49.
 Travelling Expenses (if any) £ -- : -- : } When received, --- 19 ---

Stein Johansson
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute 1949.25-NOV 1949
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