

REPORT ON BOILERS.

No. 17245

Date of writing Report 26th Jan. 19 50. When handed in at Local Office 9th Febr. 19 50. Port of Gothenburg

No. in Reg. Book. Survey held at Gothenburg Date, First Survey 17th February, 1949 Last Survey 4th February 1950.

35245 on the Motor Tanker "L I N D E S N Ä S" (Number of Visits 25) Tons {Gross 1202 Net 540

Master Built at Gothenburg By whom built A-B. Lindholmens Varv Yard No. 1011 When built 1950

Engines made at Kristinehamn By whom made Karlstads Mek. Verkstad, A-B. Engine No. 16 When made 1949

Boilers made at Gothenburg and London By whom made A-B. Lindholmens Varv & Towler & Sons, Ltd. Boiler No.s 2840 395 When made 1949

XXXXXXXXXXXX 78.9 MN Owners Rederi A-B. Nordstjernan Port belonging to Stockholm

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 110 M² = 1184 square feet Is forced draught fitted Yes Coal or Oil fired Oil Working Pressure = 150 lbs/in²

No. and Description of Boilers 1 Single Ended Multitubular

Tested by hydraulic pressure to 275 lbs. Date of test 3.5.1949 No. of Certificate 529/1432 Can each boiler be worked separately Yes

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

Area of each set of valves per boiler {per Rule 5780 mm² as fitted 6600 mm² Pressure to which they are adjusted 150 lb/in² Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No main boiler

Smallest distance between boilers and bunkers 900 mm. Is oil fuel carried in the double bottom under boilers Boiler on a platform

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

Largest internal dia. of boilers 3110 mm. Length 3000 mm. Shell plates: Material S.M. Steel Tensile strength 44-50 kg/mm²

Thickness 20 mm. Are the shell plates welded or flanged El. welded Description of riveting: circ. seams {end El. welded inter. ---

Long. seams Electrically welded Diameter of rivet holes in {circ. seams --- long. seams --- Pitch of rivets {plate --- rivets ---

Percentage of strength of circ. end seams {plate --- rivets --- Percentage of strength of circ. intermediate seam {plate --- rivets ---

Percentage of strength of longitudinal joint {plate --- rivets --- Working pressure of shell by Rules 10.9 kg/cm²

Thickness of butt straps {outer --- inner --- No. and Description of Furnaces in each Boiler 2 Morison corrugated

Material S.M. Steel Tensile strength 41 - 47 kg/mm² Smallest outside diameter 870 mm.

Length of plain part {top 135 mm. Thickness of plates {crown 10 mm. bottom 10 mm. Description of longitudinal joint Electrically welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 11.4 kg/cm²

End plates in steam space: Material S.M. Steel Tensile strength 41-47 kg/mm² Thickness 21 mm. Pitch of stays 490 x 320 mm.

How are stays secured Electrically welded with outside washers Working pressure by Rules 11.8 kg/cm²

End plates: Material {front S.M. Steel Tensile strength 41 - 47 kg/mm² Thickness 21 mm. back S.M. Steel Tensile strength 41 - 47 kg/mm² Thickness 18 mm.

Mean pitch of stay tubes in nests 238 mm. Pitch across wide water spaces 360 mm. Working pressure {front 11.2 kg/cm² back 14.3 kg/cm²

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

Centre 210 x 21 mm. Length as per Rule 655.5 mm. Distance apart 195 mm. No. and pitch of stays

Each E.W. cont. Working pressure by Rules 12.3 kg/cm² Combustion chamber plates: Material S.M. Steel

Tensile strength 41 - 47 kg/mm² Thickness: Sides 15 mm. Back 15.5 mm. Top 15 mm. Bottom 15 mm.

Ch of stays to ditto: Sides 210 x 195 mm. Back 185 x 190 mm. Top 195 x Cont. E.W. Are stays fitted with nuts or riveted over Electr. welded

Working pressure by Rules 11.75 kg/cm² Front plate at bottom: Material S.M. Steel Tensile strength 41 - 47 kg/mm²

Thickness 21 mm. Lower back plate: Material S.M. Steel Tensile strength 41 - 47 kg/mm² Thickness 21 mm.

Ch of stays at wide water space 360 x 190 mm. Are stays fitted with nuts or riveted over Electrically welded

Working Pressure 25.3 kg/cm² Main stays: Material S.M. Steel Tensile strength 44 - 50 kg/mm²

At body 60 mm. No. of threads per inch Electr. welded Area supported by each stay 320 x 490 mm.

Working pressure by Rules 15.4 kg/cm² Screw stays: Material S.M. Steel Tensile strength 41 - 47 kg/mm²

Over threads 38 mm. No. of threads per inch 9 Area supported by each stay 195 x 210 mm.

Working pressure by Rules 13.8 kg/cm^2 the stays drilled at the outer ends ☒ No Margin stays: Diameter ☒ 47 mm.
No. of threads per inch ☒ El. welded Area supported by each stay $272.5 \times 190 \text{ mm.}$ Working pressure by Rules 24.7 kg/cm^2
Tubes: Material ☒ S.M. Steel External diameter { Plain 63.5 mm. Thickness 3.25 mm. No. of threads per inch ☒ 9
Stay 63.5 mm. 8 mm.
Pitch of tubes $92 \times 89 \text{ mm.}$ Working pressure by Rules 12.5 kg/cm^2 Manhole compensation: Size of opening in
shell plate $570 \times 455 \text{ mm.}$ Section of compensating ring 8760 mm.^2 No. of rivets and diameter of rivet holes ☒ Electrically welded
Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged 83 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 ☒ Yes

The foregoing is a correct description.

AKTIEBOLAGET LINDHOLMENS VARV

ÄNGPANNENAVDELNINGEN

Manufacturer.

Dates of Survey { During progress of
work in shops -
while During erection on
building board vessel -

17th February, 1949 - 20th January, 1950.

Are the approved plans of boiler ☒ forwarded herewith ☒ No

Total No. of visits 23

Approved 28.10.47

Is this Boiler a duplicate of a previous case ☒ Yes If so, state Vessel's name and Report No. M/T "Elfnäs", Got. report No. 16707.
M/T "Framnäs", Got. report No. 17035.

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

This donkey boiler has been built under special survey in accordance with the Rules for Welded Pressure Vessels Class I and the approved plan. The workmanship is good. All welded parts of the boiler have been stress relieved in accordance with the Rules. The material fulfils the requirements of the Rules. Test sheets of the boiler material were forwarded with our report No. 16707. Chalmers' certificate of routine tests of welding carried out in my presence was attached to our report No. 17035. Plan showing position and number of X-ray films on which it is indicated the category in which each film was placed by Tekniska Röntgencentralen and two representative X-ray films are attached. Macro tests have been carried out at the works of A-B. Lindholmens Varv with satisfactory results. The donkey boiler has been marked:

No. 529
LLOYD'S TEST 275 LBS.
WP 150 LBS.
SJ 14.5.49

Both donkey boilers have been fitted on board under my inspection and to my satisfaction and their safety valves adjusted under steam to 150 lbs. per square inch.

Survey Fee ... Kr. 275:00: When applied for, 9th Febr. 19 50.

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

Anders Sjögren / himself and S. Johansson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 10 MAR 1950

Assigned In unit see J.E. Rff-