

REPORT ON BOILERS.

No. 15065

Received at London Office

Date of writing Report. 20th Nov. 1946. When handed in at Local Office. 21st Nov. 1946. Port of Gothenburg.

No. in Reg. Book. Survey held at Gothenburg Date, First Survey 3rd May Last Survey 13th Nov. 1946.

on the "ARABIAN QUEEN" (Number of Visits. 21.....) Tons Gross..... Net.....

Master Built at Gothenburg By whom built A-B. Götaverken Yard No. 609 When built 1946

Engines made at Gothenburg By whom made A-B. Götaverken Engine No. When made

Boilers made at Gothenburg By whom made A-B. Lindholmens Varv Boiler No. 2751-2 When made 1946

Nominal Horse Power 245 Owners Rederi A-B. Transoill Port belonging to Gothenburg

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 2 x 1838 square feet (2 x 170.8 m²) Is forced draught fitted Coal or Oil fired OilNo. and Description of Boilers 2 Scotch donkey boilers Working Pressure 10.55 kg/cm²Tested by hydraulic pressure to 19.5 kg/cm² Date of test 13.11.46 No. of Certificate 504 & 505 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 as fitted 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 3750 mm. Length 3450 mm. Shell plates: Material S.M. Steel Tensile strength 44-50 kg/mm²

Thickness 23.5 mm. Are the shell plates welded or flanged No Description of riveting: circ. seams end E.W. inter

long. seams E.W. Diameter of rivet holes in circ. seams long. seams Pitch of 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 10.75 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 1124 mm.

Length of plain part top 180 mm. Thickness of plates crown 12 mm. bottom 12 mm. Description of longitudinal joint E.W.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 10.75 kg/cm²End plates in steam space: Material S.M. Steel Tensile strength 41-47 kg/mm² Thickness 22 mm. Pitch of stays 425 x 376How are stays secured E.W. with E.W. outside washers Working pressure by Rules 22.4 kg/cm²Tube plates: Material front S.M. Steel Tensile strength 41-47 kg/mm² Thickness 22 mm. back S.M. Steel Tensile strength 41-47 kg/mm² Thickness 19 mm.Mean pitch of stay tubes in nests 277.5 mm. Pitch across wide water spaces 330 mm. Working pressure front 11.95 kg/cm² back 11.8 kg/cm²Girders to combustion chamber tops: Material S.M. Steel Tensile strength 44-50 kg/mm² Depth and thickness of girder

at centre 235 x 25 mm. Length as per Rule 771 mm. Distance apart 225 mm. No. and pitch of stays

in each E.W. Working pressure by Rules 10.7 kg/cm² Combustion chamber plates: Material S.M. SteelTensile strength 41-47 kg/mm² Thickness: Sides 18 mm. Back 18 mm. Top 18 mm. Bottom 18 mm. R.to shell

Pitch of stays to ditto: Sides 240x195 mm. Back 225 x 205 mm. Top 225 x E.W. Are stays fitted with nuts or riveted over rem. E.W.

Working pressure by Rules 16.7 kg/cm² Front plate at bottom: Material S.M. Steel Tensile strength 41-47 kg/mm²Thickness 22 mm. Lower back plate: Material S.M. Steel Tensile strength 41-47 kg/mm² Thickness 22 mm.

Pitch of stays at wide water space 330 mm. Are stays fitted with nuts or riveted over E.W.

Working pressure 18.45 kg/cm² Main stays: Material S.M. Steel Tensile strength 44-55 kg/mm²

Diameter At body of stay or Over threads 60 mm. No. of threads per inch E.W. Area supported by each stay 425 x 376 mm.

Working pressure by Rules 13.55 kg/cm² Screw stays: Material S.M. Steel Tensile strength 41-47 kg/mm²

Diameter At turned off part or Over threads 38 mm. No. of threads per inch E.W. Area supported by each stay Side 195 x 240 mm. Back 225 x 205 mm.

Working pressure by Rules 15 kg/cm² Are the stays drilled at the outer ends No ✓ Margin stays: Diameter 45 mm. ✓
No. of threads per inch E.W. ✓ Area supported by each stay 277.5 x 205 Working pressure by Rules 17.8 kg/cm²
Tubes: Material S.M. Steel External diameter { Plain 63.5 mm. Thickness 3.5 mm. No. of threads per inch 9 ✓
Stay 63.5 mm. ✓
Pitch of tubes 96 x 89 mm. Working pressure by Rules 14.5 kg/cm² Manhole compensation: Size of opening in
shell plate 570 x 455 mm. ✓ Section of compensating ring 11920 mm. ✓ No. of rivets and diameter of rivet holes E.W.
Outer row rivet pitch at ends — Depth of flange if manhole flanged 89 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
Manufacturers

Dates of Survey { During progress of work in shops - - 3rd May - 13th November 1946 Are the approved plans of boiler and superheater forwarded herewith No
while building { During erection on board vessel - - - — (If not state date of approval.)
Total No. of visits 2

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 donkey boilers have been built under special survey in accordance with the Rules for Welded Pressure Vessels Class I and approved plan and will be fitted in A-B. Götaverken's Yard No. 604. The workmanship is good. All welded parts of the boilers have been stress-relieved in accordance with the Rules. Test sheets for the material of the boilers are attached. Chalmers' certificate of routine tests of welding carried out in my presence and plans showing the position and number of X-ray films and indicating the category in which each film was placed by Tekniska Röntgencentralen and four representative films are attached. Macro tests carried out at A-B. Lindholmens Varv with satisfactory results. The boilers have been marked:

No. 504 & 505
LLOYD'S TEST 275 LBS.
WP 150 LBS.
SJ 13.11.46

Survey Fee ... Kr. 960:00: When applied for, 21st Nov. 1946.
Travelling Expenses (if any) £ — : — : — When received — : — : —

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

Committee's Minute —

Assigned For minute see JE head Rfr