

REPORT ON BOILERS.

No. 7/83.

12 FEB 1926

Received at London Office

Date of writing Report 8th February 1926 When handed in at Local OfficePort of CopenhagenNo. in Survey held at Copenhagen
Reg. Book. Sp7m.Date, First Survey 11th September 25 Last Survey 3rd February 1926246 on the Swedish Motor Vessel "NORDPOL"(Number of Visits 13.)Gross 5885.98
Tons Net 3657.68Built at CopenhagenBy whom built Akt. Burmeister & Wain's Masking & Skibstøggeri Yard No. 340 When built 1925-26Engines made at CopenhagenBy whom made Akt. Burmeister & Wain's Masking & Skibstøggeri Engine No. 1123 When made 1925-26Boilers made at CopenhagenBy whom made Akt. Burmeister & Wain's Masking & Skibstøggeri Boiler No. 1789 When made 1925Owners Akt. Samskibeelskabet Norden. (P. Brown jun. & Co)Port belonging to Copenhagen

VERTICAL DONKEY BOILER.

Made at Copenhagen By whom made Akt. Burmeister & Wain's Masking & Skibstøggeri Boiler No. 1789 When made 1925 Where fixed In engine room
 Manufacturers of Steel Plates: David Colville & Sons, Ltd. Motherwell. Uptake & Galloway tubes: Galloway Ltd. Ardwick Works, Manchester.
Steel Bars: David Colville & Sons, Ltd. Glasgow. Rivets made by Fingis Bros. Copenhagen of bars from David Colville & Sons Ltd. Glasgow.

Total Heating Surface of Boiler 100 sq. = 9.3 m² Is forced draught fitted no Coal or Oil fired Oil fired

and Description of Boilers One vertical cross-tube boiler. Working pressure 7 kg/cm² = 100 lbs

Tested by hydraulic pressure to 14 ATM. Date of test 27th November 1925 No. of Certificate 453.

Area of Firegrate in each Boiler 12.5 sq. ft. No. and Description of safety valves to each boiler 2 off, direct spring loaded.

Area of each set of valves per boiler per rule 2.6 sq. ft. Pressure to which they are adjusted 7 kg/cm² = 100 lbs Are they fitted with easing gear yes

Is whether steam from main boilers can enter the donkey boiler no main boilers. Smallest distance between boiler or uptake and bunkers No bunkers

Is oil fuel carried in the double bottom under boiler yes Smallest distance between base of boiler and tank top plating 32"

Is the base of the boiler insulated yes Largest internal dia. of boiler 1370 mm Height 3200 mm

Shell plates: Material Siemens Martin Steel Tensile strength 30.4 tons Thickness 10 mm

Are the shell plates welded or flanged No Description of riveting: circ. seams end Lap joint, single riveted long. seams Lap joint, double riveted.

Number of rivet holes in circ. seams 19 mm Pitch of rivets 45 mm Percentage of strength of circ. seams plate 57.8 of Longitudinal joint plate 69.3

long. seams 19 mm 62 mm 51.5 rivets 51.5 rivets 74.8 combined ✓

Working pressure of shell by rules 9.21 kg/cm² = 131 lbs/sq. in. Thickness of butt straps outer ✓ inner ✓

Crown: Whether complete hemisphere, dished partial spherical, or flat Flat. Material Siemens Martin Steel

Shell strength 27.0 tons Thickness 22 mm Radius ✓ Working pressure by rules 9.24 kg/cm² = 131.2 lbs/sq. in.

Description of Furnace: Plain, spherical, or dished crown Plain Material Siemens Martin Steel Tensile strength 27.8-28.3 tons

Thickness 14.5 mm External diameter top 1029 mm 40 1/4 Length as per rule 1732 mm Working pressure by rules 6.9 kg/cm²

bottom 1229 mm 48 1/4

Are support stays circumferentially ✓ and vertically ✓ Are stays fitted with nuts or riveted over ✓

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

Thickness of Ogee Ring ✓ Diameter as per rule D ✓ Working pressure by rule ✓

Combustion Chamber: Material ✓ Tensile strength ✓ Thickness of top plate ✓

Is it dished ✓ Working pressure by rule ✓ Thickness of back plate ✓ Diameter if circular ✓

Is as per rule ✓ Pitch of stays ✓ Are stays fitted with nuts or riveted over ✓

Radius of stays over thread ✓ Working pressure of back plate by rules ✓

Plates: Material front ✓ Tensile strength ✓ Thickness ✓ Mean pitch of stay tubes in nests ✓

back ✓ Pitch in outer vertical rows ✓ Dia. of tube holes FRONT stay ✓ BACK stay ✓

back ✓ plain ✓ plain ✓

Is alternate tube in outer vertical rows a stay tube ✓ Working pressure by rules front ✓ back ✓

Stays to combustion chamber tops: Material ✓ Tensile strength ✓

Length as per rule ✓

Working pressure by rule ✓

Thickness of girder at centre ✓

No. and pitch of stays in each ✓ Working pressure by rule ✓

Crown stays: Material *Simons Martin Steel* ✓ Tensile strength *28-35 tons* ✓ Diameter { at body of stay, *2"* ✓
or over threads, *2 1/4"* ✓
No. of threads per inch *11* ✓ Area supported by each stay *255 sq"* ✓ Working pressure by rules *131 lbs/sq"* ✓
Screw stays: Material ✓ Tensile strength ✓ Diameter { at turned off part, ✓
or over threads, ✓ No. of threads per inch ✓
Area supported by each stay ✓ Working pressure by rules ✓ Are the stays drilled at the outer ends ✓
Tubes: Material ✓ External diameter { plain ✓
stay ✓ Thickness { ✓
No. of threads per inch ✓ Pitch of tubes ✓ Working pressure by rules ✓
Manhole Compensation: Size of opening in shell *Crown plate 325 mm x 405 mm* ✓ Section of compensating ring *Plate flanged* ✓ No. of rivets and diameter of rivet holes ✓ Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged *75 mm* ✓
Uptake: External diameter *364 mm* ✓ Thickness of uptake plate *12 mm* ✓
Cross Tubes: No. *3 off* ✓ External diameters { *250 mm* ✓
Thickness of plates *10 mm* ✓
Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *Yes*.

The foregoing is a correct description,

AKTIESELSKABET
BURMEISTER WAINSKIN OG SKIBBYGGERI
Manufactured

Dates of Survey { During progress of work in shops - *11/9, 15/9, 10/10, 20/10, 2/11, 12/11, 27/11, 1925*
while building { During erection on board vessel - *4/1, 13/1, 20/1, 27/1, 1/2, 3/2, 1926*

Is the approved plan of boiler forwarded herewith *Yes* ✓
(If not state date of approval.)
Total No. of visits *13*.

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

The boiler has been constructed under Special Survey in accordance with the requirements of the Rules, the approved plan and the requirement contained in the London Letter E. dated the 15th April 1925.
The material and workmanship are of good description in every respect.
The material used in the construction of the boiler has been tested as required by the Rules as per certificates of test, produced. -

The boiler has been fitted onboard the vessel and connected as required by the Rules and to our satisfaction.

A duplex pump (Hortington system) 90 mm x 60 mm x 90 mm, and a feed injector have been fitted for feeding the boiler. -

Recommend the vessel to have notation in the Register Book of *DB-100 lbs.*

Survey Fee *is noted on the Machinery Report.* { When applied for, 19.
Travelling Expenses (if any) £ *✓ : ✓ :* { When received, 19.

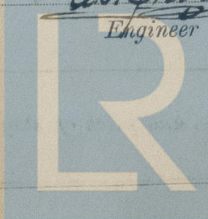
Committee's Minute
Assigned

FRI. 19 FEB 1926

*See J. E. Brady rpt
attached*

As. Dr. J. E. Brady

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register
Foundation