

REPORT ON BOILERS.

No. 11750.

Received at London Office 25 AUG 1945

Date of writing Report 20th July 1945 When handed in at Local Office 10 Port of Copenhagen

No. in Reg. Book Survey held at Copenhagen Date, First Survey 2nd February 1944 Last Survey 16th July 1945

on the Twin Se. Motor Tanker "ESSO NYBORG" (Number of Visits 30) Gross Tons 9948.56 Net Tons 6044.58

Master D. J. Built at Copenhagen By whom built Apt. Bernuise & Wain Yard No 669 When built 1945

Engines made at Copenhagen By whom made Apt. Bernuise & Wain Engine No 3402-3 When made 1945

Boilers made at Copenhagen By whom made Apt. Bernuise & Wain Boiler No 2017 When made 1945

Nominal Horse Power of boiler 240 Owners Det Danske Petroleum A/S Port belonging to Copenhagen

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Plate: Hammesmann Rohrwerke, A.G. Dusseldorf Furnaces: Vitronics, A.G. - Steel Corp.
Manufacturers of Steel Tubes: Duisburger Stahlwerke, A.G. Dusseldorf Slays: Donnauel (Rivets: Lewis Bros. Expt)

Total Heating Surface of Boilers 2 x 168.2 m² Is forced draught fitted yes ☒ Oil fired exhaust gas ☒

No. and Description of Boilers 2 off horizontal multitubular Working Pressure 12.63 kg/cm² 180 lbs

Tested by hydraulic pressure to 22.5 kg/cm² Date of test 5.1.43 No. of Certificate 681-682 Can each boiler be worked separately yes ☒

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler 2 off 75th light lift, direct spring loaded ☒

Area of each set of valves per boiler per Rule 3750 mm² as fitted 6800 mm² Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes ☒

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 no woodwork Is oil fuel carried in the double bottom under boilers -

Smallest distance between shell of boiler and tank top plating Boiler placed on main deck Is the bottom of the boiler insulated yes ☒

Largest internal dia. of boilers 3550 mm Length 3294 mm Shell plates: Material S. cl. Steel Tensile strength 47.2 kg/cm² ☒

Thickness 23.5 mm Are the shell plates welded or flanged no ☒ Description of riveting: circ. seams lap joint ☒
drill riveted ☒

long. seams 26 butt straps 366 rivets Diameter of rivet holes in circ. seams 27 mm ☒
long. seams 26 mm ☒ Pitch of rivets 84.4 mm ☒
175 mm ☒

Percentage of strength of circ. end seams plate 68% ☒
rivets 44.04% ☒ Percentage of strength of circ. intermediate seam plate - ☒
rivets - ☒

Percentage of strength of longitudinal joint plate 85.14% ☒
rivets 92.3% ☒
combined 91.26% ☒ Working pressure of shell by Rules 12.9 kg/cm²

Thickness of butt straps outer 23.5 mm ☒
inner 23.5 mm ☒ No. and Description of Furnaces in each Boiler 2 of corrugated Dightons section ☒

Material S. cl. Steel ☒ Tensile strength 41-47 kg/cm² ☒ Smallest outside diameter 940 mm ☒

Length of plain part top - ☒
bottom - ☒ Thickness of plates top 13 mm ☒
bottom 13 mm ☒ Description of longitudinal joint welded ☒

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 14.0 kg/cm² ☒
375-430-490 mm ☒

End plates in steam space: Material S. cl. Steel ☒ Tensile strength 41-47 kg/cm² ☒ Thickness 27 mm ☒ Pitch of stays 340 mm ☒

How are stays secured Screwed in plate nuts inside & outside Working pressure by Rules 13.3 kg/cm² ☒
41-47 kg/cm² ☒

Tube plates: Material front S. cl. Steel ☒
back S. cl. Steel ☒ Tensile strength 41-47 kg/cm² ☒ Thickness 24 mm ☒
20 mm ☒

Mean pitch of stay tubes in nests 231 mm Pitch across wide water spaces 355 mm ☒ Working pressure front 15 kg/cm² ☒
back 18 kg/cm² ☒

Girders to combustion chamber tops: Material S. cl. Steel ☒ Tensile strength 44-50 kg/cm² ☒ Depth and thickness of girder - ☒

at centre 210 mm x (2 x 19) mm ☒ Length as per Rule 800 mm ☒ Distance apart 220 mm ☒ No. and pitch of stays - ☒

in each 3 off - 195 mm Working pressure by Rules 13.62 kg/cm² ☒ Combustion chamber plates: Material S. cl. Steel ☒

Tensile strength 41-47 kg/cm² ☒ Thickness: Sides 16 mm ☒ Back 16 mm ☒ Top 16 mm ☒ Bottom 20 mm ☒

Pitch of stays to ditto: Sides 195 x 205 mm ☒ Back 200 x 198 mm ☒ Top 195 x 220 mm ☒ Are stays fitted with nuts or riveted over drum ☒

Working pressure by Rules 14.4 kg/cm² ☒ Front plate at bottom: Material S. cl. Steel ☒ Tensile strength 41-47 kg/cm² ☒

Thickness 24 mm ☒ Lower back plate: Material S. cl. Steel ☒ Tensile strength 41-47 kg/cm² ☒ Thickness 24 mm ☒

Pitch of stays at wide water space a = 408 mm ☒ Are stays fitted with nuts or riveted over nuts inside & outside ☒

Working Pressure 20.8 kg/cm² ☒ Main stays: Material S. cl. Steel ☒ Tensile strength 46.6-47.5 kg/cm² ☒

Diameter At body of stay, 2 3/4" ☒
or 3"-2 3/4" ☒ No. of threads per inch 11 ☒ Area supported by each stay 166600 mm² ☒

Working pressure by Rules 15.1 kg/cm² ☒ Screw stays: Material S. cl. Steel ☒ Tensile strength 46.6-47.5 kg/cm² ☒

Diameter At turned off part, 1 1/2" ☒
or 1 1/2" ☒ No. of threads per inch 11 ☒ Area supported by each stay 42900 mm² ☒

Working pressure by Rules 13.2 kg/cm^2 Are the stays drilled at the outer ends *no* Margin stays: Diameter $\frac{1}{3} \frac{1}{4}$ "
 No. of threads per inch *11* Area supported by each stay 53770 cm^2 Working pressure by Rules 15.3 kg/cm^2
 Tubes: Material *Siell-Steel* External diameter 63.5 mm Thickness 3.66 mm No. of threads per inch *11*
 Pitch of tubes $90 \times 94 \text{ mm}$ Working pressure by Rules 230 kg Manhole compensation: Size of opening in
 shell plate $405 \times 505 \text{ mm}$ Section of compensating ring *Flanged* No. of rivets and diameter of rivet holes $47 \text{ off } 27 \text{ mm}$
 Outer row rivet pitch at ends 213 mm Depth of flange if manhole flanged 90 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
 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
 Number of elements Material of tubes Steel castings
 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 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

The foregoing is a correct description,
 AKTIESELSKABET
 BURMEISTER & WAIN'S MASKIN-OG SKIBSBYGGERI

Dates of Survey: During progress of work in shops - $1941-2/2-1942-14/10-22/10-4/11-11/11-7/11-26/11$
 while building: During erection on board vessel - $1943-12/1-1/2-5/2-17/3-18/3-24/3-23/4$ Total No. of visits *30*
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *yes*

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.) *The above boilers have been constructed and fitted under special survey in accordance with the Rules and the approved plans.*

The material used in construction has been tested as required by the Rules and the workmanship is good.

Survey Fee ... *£ 576.00* When applied for, *18.7.1945*
 Travelling Expenses (if any) £ ... : ... : When received, *19*

P. Langkilde Jensen
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *FRI. 16 NOV 1945*

Assigned *See F.E. machy. rpt.*



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