

Rpt. 5b.

REPORT ON BOILERS.

No.

19852

Received at London Office

24 APR 1931

Date of writing Report 11-4-31

When handed in at Local Office

19

Port of HAMBURG

No. in
Reg. Book

Survey held at

Hamburg

Date, First Survey 23-12-30

Last Survey

26-3-31

19

on the

Steel Ss. NORDEN (Oil Eng)

(Number of Visits 10)

Tons

Gross 8440

Net 5286.69

Built at

Hamburg

By whom built

Deutsche Werft A.G.

Yard No. 144

When built 1931

Engines made at

Augsburg

By whom made

Maschfabr. Augsb.-Nürnberg Engine No. 330440

When made 1931

Boilers made at

Hamburg

By whom made

Deutsche Werft A.G.

Boiler No. 458

When made 1931

Owners

Skibs A/S Norden, H. Kuhnle

Port belonging to

Bergen

VERTICAL DONKEY BOILER, combined with exhaust gas silencer & spark arrestor

Made at

Hamburg

By whom made

Deutsche Werft A.G.

Boiler No. 458

When made

1931

Where fixed engine room
green deck in main

Manufacturers of Steel

Gutehoffnungshütte, Oberhausen

Total Heating Surface of Boiler

80 m²

Is forced draught fitted

no

Coal or Oil fired

exhaust gas

No. and Description of Boilers

Vertical exhaust gas fired Donkey Boiler

Working pressure

170 lb

Tested by hydraulic pressure to

306 lb

Date of test

23/2/31

No. of Certificate

538

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

1, 2 springs loaded

Area of each set of valves per boiler

per rule 2697 m²

as fitted

Pressure to which they are adjusted

170 lb

Are they fitted with easing gear

yes

State whether steam from main boilers can enter the donkey boiler

no

Smallest distance between boiler or uptake and bunkers

or woodwork

Is oil fuel carried in the double bottom under boiler

Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated

Largest internal dia. of boiler 1800 mm

Height 3896 mm

Shell plates: Material

D. H. Steel

Tensile strength

41-47 kg/cm²

Thickness

16 mm

Are the shell plates welded or flanged

flanged

Description of riveting: circ. seams

end Single row

long. seams Double butt strap

Dia. of rivet holes in

circ. seams 29 mm

long. seams 26 mm

Pitch of rivets

96 mm

Percentage of strength of circ. seams

plate 61.2-62.4

rivets 48.5-49.5

Longitudinal joint

plate 73%

rivets 114%

combined 102.3%

Working pressure of shell by rules

12.4 kg/cm²

Thickness of butt straps

outer 16 mm

inner 16 mm

Shell Crown: Whether

complete hemisphere, dished partial spherical, or flat

flat

Material

D. H. Steel

Tensile strength

41-47 kg/cm²

Thickness

16 mm

Radius

1440 mm

Working pressure by rules

12.7 kg/cm²

Description of Furnace: Plain, spherical, or dished crown

Material

Tensile strength

Thickness

External diameter

top

bottom

Length as per rule

Working pressure by rules

Pitch of support stays circumferentially

and vertically

Are stays fitted with nuts or riveted over

Diameter of stays over thread

Radius of spherical or dished furnace crown

Working pressure by rule

Thickness of Ogee Ring

Diameter as per rule

Working pressure by rule

Combustion Chamber: Material

Tensile strength

Thickness of top plate

Radius if dished

Working pressure by rule

Thickness of back plate

Diameter if circular

Length as per rule

Pitch of stays

Are stays fitted with nuts or riveted over

Diameter of stays over thread

Working pressure of back plate by rules

Tube Plates: Material

from bottom

Tensile strength

41-47 kg/cm²

Thickness

30 mm

Mean pitch of stay tubes in nests

If comprising shell, Dia. as per rule

front

back

Pitch in outer vertical rows

Dia. of tube holes

FRONT

bottom

BACK

stay

plain

Is each alternate tube in outer vertical rows a stay tube

no

Working pressure by rules

front

back

Girders to combustion chamber tops: Material

Tensile strength

Depth and thickness of girder at centre

Length as per rule

Distance apart

No. and pitch of stays in each

Working pressure by rule

002134-002150-0046

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Foundation

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REPORT ON BOILERS

Crown stays: Material _____ Tensile strength _____ Diameter { at body of stay, _____ or over threads _____

No. of threads per inch _____ Area supported by each stay _____ Working pressure by rules _____

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 O. H. Steel, seamless drawn External diameter { plain 63.5 mm or LAURENCE 24 mm Thickness { 3.5 mm or 2 mm

No. of threads per inch _____ Pitch of tubes See Section 33/4, F=390 Working pressure by rules 18.5 kg/cm²

Manhole Compensation: Size of opening in shell plate 300 x 400 mm Section of compensating ring 150 x 16 mm No. of rivets and diameter of rivet holes 28, 26 mm φ Outer row rivet pitch at ends 130 mm Depth of flange if manhole flanged _____

Uptake: External diameter 734 mm Thickness of uptake plate 17 mm

Cross Tubes: No. ✓ External diameters { _____ Thickness of plates _____

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes

DEUTSCHE WERFT
AKTIENGESELLSCHAFT
H. Hilbert

The foregoing is a correct description.
Manufacturer.

Dates of Survey while building { During progress of work in shops - { 1930 Dec: 23, 1931 Jan: 22, 30, Febr: 18, 23 Is the approved plan of boiler forwarded herewith 8-1-31 (If not state date of approval.)

{ During erection on board vessel - { 1931 Febr: 26 March: 5, 14, 19, 26 Total No. of visits 10

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This Donkey Boiler has been constructed under Special Survey in accordance with the Society's Rules, the approved plans and instructions thereto. The materials used in the construction and the workmanship are of good quality. The boilers have been tested under hydraulic pressure of 305 lb with satisfactory result. Under steam it was found tight and the safety valves have been adjusted to 170 lb pressure. Distance of washers of safety valves:- front: 30.- mm, aft 28.- mm*

In my opinion this Donkey Boiler is eligible to be classed in the Society's Register Book with notation of "170 lbs."

Note: The approved plan has been retained and will be transmitted after completion of the Vard's No 143. Three plans, showing the relative positions of the Donkey Boilers are attached hereto.

Survey Fee £ 5 14:0 When applied for, 20.4.31 *army*

Travelling Expenses (if any) £ : : When received, 21.5.31 *old*

Committee's Minute FRI. 1 MAY 1931
Assigned See F.E. Rpt.

