

# REPORT ON BOILERS.

No. 20926

6 OCT 1933

Received at London Office

Date of writing Report 29<sup>th</sup> Sept 1933. When handed in at Local Office

Port of Hamburg

Survey held at Hamburg

Date, First Survey 24<sup>th</sup> Septemb. 1932 Last Survey 21<sup>st</sup> Sept. 1933

No. in eg. Book on the M.V. "D.L. Harper" (Oil engine)

(Number of Visits 15.) Tons {Gross 72336 Net 7020}

Built at Hamburg By whom built Deutsche Werft A.G. Yard No. 749 When built 1933

Engines made at Augsburg By whom made M.A.N. Engine No. 330620/630 When made 1932/33

Boilers made at Hamburg By whom made Deutsche Werft A.G. Boiler No. 479/80 When made 1933

Owners Baltisch amerikanische Petroleum Import Ges. Port belonging to Danzig.

## VERTICAL DONKEY BOILER.

Made at Hamburg By whom made Deutsche Werft A.G. Boiler No. 479/80 When made 1933 Where fixed B. Room.

Manufacturers of Steel Gute Hoffnungs-Hütte, Rheinland

Total Heating Surface of Boiler 2x60 = 720 m<sup>2</sup> Is forced draught fitted  Coal or Oil fired Exhaust gas fired.

No. and Description of Boilers 2; Vertical, exhaust gas fired, Multitubular Boiler Working pressure 200 lbs.

Tested by hydraulic pressure to 350 lbs. Date of test 8-3-1933 No. of Certificate 571/72

Area of Firegrate in each Boiler  No. and Description of safety valves to each boiler 7; two springs loaded.

Area of each set of valves per boiler {per rule 2440 (610) as fitted 3927} Pressure to which they are adjusted 200 lbs 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 deck

or woodwork 350 mm Is oil fuel carried in the double bottom under boiler  Smallest distance between base of boiler and tank top plating

2000 mm Is the base of the boiler insulated yes Largest internal dia. of boiler 2000 mm Height 4220 mm

Shell plates: Material O.H. Steel Tensile strength 47/53 Kg/mm<sup>2</sup> Thickness 77.5 mm

Are the shell plates welded or flanged double butt strapped Description of riveting: circ. seams {end double riveted inter. long. seams double butt str.

Dia. of rivet holes in {circ. seams 26 mm long. seams 26 mm} Pitch of rivets {88 mm 98 mm} Percentage of strength of circ. seams {plate 70.5% rivets 52.8%} of Longitudinal joint {plate 73.5% rivets 89.0% combined 48.7%

Working pressure of shell by rules 74.3 Kg/cm<sup>2</sup> Thickness of butt straps {outer 77.5 mm inner 77.5 mm}

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished, partial spherical Material O.H. Steel.

Tensile strength 41/47 Kg/mm<sup>2</sup> Thickness 26.0 mm Radius 7600 mm Working pressure by rules 75.45 Kg/cm<sup>2</sup>

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 {lower O.H. Steel} Tensile strength 41/47 Kg/mm<sup>2</sup> Thickness 30.0 mm Mean pitch of stay tubes in nests all round

If comprising shell, Dia. as per rule {front back} Pitch in outer vertical rows {in lower tube plate FRONT BACK} Dia. of tube holes {stay plain 63.5 mm} stay plain

Is each alternate tube in outer vertical rows a stay tube 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



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**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 External diameter  plain 63.5 mm  non-plain tubes 24.0 mm Thickness  3.5 mm  2.0 mm  
 No. of threads per inch  Pitch of tubes all round in circle Working pressure by rules 74.2 Kg/cm<sup>2</sup> [F=530]  
**Manhole Compensation:** Size of opening in shell plate 300 x 400 mm Section of compensating ring 750 x 175 mm No. of rivets and diameter of rivet holes 28, 26 mm  $\phi$  Outer row rivet pitch at ends 120 mm Depth of flange if manhole flanged   
**Uptake:** External diameter 634 mm Thickness of uptake plate 77.9 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

The foregoing is a correct description.

**DEUTSCHE WERFT**  
**AG**  
**AKTIENGESELLSCHAFT**

Manufacturer.  
3.10.1933.

Dates of Survey while building  During progress of work in shops -  Is the approved plan of boiler forwarded herewith yes  
 (If not state date of approval.)  
 During erection on board vessel -  29/3/33, 13/4/33, 25/4/33, 17/5/33, 6/7/33, 2/9/33, 20+21/9/33 Total No. of visits 15.

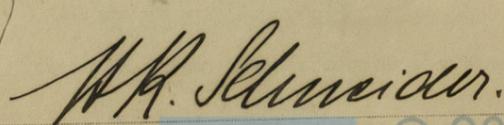
**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

These Vertical, exhaust gasfired, Donkey Boilers have been constructed under Special Survey in accordance with the Society's Rules and the approved plans and instructions thereto. The material used in the construction and the workmanship are of good quality. These Boilers have been tested under hydraulic pressure of 350 lbs. with satisfactory results. Under steam they were found tight and the safety valves have been adjusted to 200 lbs. pressure.  
 In my opinion these boilers are eligible to be classed in the Society's Register Book with notation of:- "D.B. 200 lbs. pressure".

Distance of washers of safety valves:- for n cft.  
 Port exhaust gasfired D.B. = 15.3 mm 20.9 mm  
 Starb. exhaust gasfired D.B. = 12.1 mm 13.2 mm.

The approved plans of boilers are forwarded here with.

Survey Fee ... .. £ 8 : 8 : 0 When applied for, 19  
 Travelling Expenses (if any) £ : : When received, 31.10.1933

  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 18 OCT 1933  
 Assigned See F.B. Rpt.

