

REPORT ON BOILERS.

No. 1046.

Received at London Office

30 MAR 1928 J

Date of writing Report *11th March* 1928 When handed in at Local Office *13th March* 1928 Port of *Bremen / Angsburg*
 No. in Survey held at *Kaiserslautern & NIEL* Date, First Survey *28th November, 1927* Last Survey *18th Feb.* 1928
 Reg. Book *1* on the *M. V. "PACIFIC GROVE"* (Number of Visits *3*) Gross *7144* Tons Net *4346*
 Built at *Kiel* By whom built *Deutsche Werke Kiel, A.G.* Yard No. *213* When built *1928*
 Engines made at *Kiel* By whom made *Deutsche Werke Kiel, A.G.* Engine No. *243* When made *1928*
 Boilers made at *Kaiserslautern* By whom made *Kesselbau Kaiserslautern* Boiler No. *8824* When made *1928*
 Owners *TRANS-OCEANIC S.S. CO.* Port belonging to *London*

VERTICAL DONKEY BOILER

Made at *Kaiserslautern* By whom made *Kesselbau Kaiserslautern* Boiler No. *8824* When made *1928* Where fixed *Eng. room fore.*
 Manufacturers of Steel *Tecumseh Stahlwerke A.G. Hall- und Holzwerk Thyssen of Mülheim-Ruhr*
 Total Heating Surface of Boiler *45 sq. m.* Is forced draught fitted *+* Coal or Oil fired *oil fired*
 No. and Description of Boilers *1 Vertical multitube Donkey Boiler* Working pressure *100 lb/sq. in.*
 Tested by hydraulic pressure to *14 kg. per sq. cm.* Date of test *18th February, 1928* No. of Certificate *450*
 Area of Firegrate in each Boiler *oil fired* No. and Description of safety valves to each boiler *2 spring loaded*
 Area of each set of valves per boiler *per rule 10.8 cm²* Pressure to which they are adjusted *100 lb (7 kg)* Are they fitted with easing gear *yes*
 State whether steam from main boilers can enter the donkey boiler *+* 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 *1250 mm*
 Is the base of the boiler insulated *no, but painted* Largest internal dia. of boiler *1979 mm* Height *4600 mm*
 Shell plates: Material *Siemens Martin Steel* Tensile strength *44 to 50 kg/mm²* Thickness *14.5 mm*
 Are the shell plates welded or flanged *flanged* Description of riveting: circ. seams *lap joint* long. seams *lap joint double joint*
 Dia. of rivet holes in *circ. seams 23 mm* Pitch of rivets *54.6 mm* Percentage of strength of circ. seams *plate 58% rivets 39%* of Longitudinal joint *plate 67.5% rivets 61% combined 66.3%*
 Working pressure of shell by rules *8.6 kg. per sq. cm.* Thickness of butt straps *outer + inner +*
 Shell Crown: Whether complete hemisphere, dished partial spherical, or flat *dished partial spherical* Material *Siemens Martin Steel*
 Tensile strength *41 to 47 kg/mm²* Thickness *20 mm* Radius *1950 mm* Working pressure by rules *8.6 kg. per sq. cm.*
 Description of Furnace: Plain, spherical, or dished crown *partly dished crown* Material *Siemens Martin Steel* Tensile strength *41 to 47 kg/mm²*
 Thickness *18 mm* External diameter *top 1979 mm bottom 1979 mm* Length as per rule *1335 mm* Working pressure by rules *8 kg/cm²*
 Pitch of support stays circumferentially *215 mm* and vertically *300 mm* Are stays fitted with nuts or riveted over *riveted over*
 Diameter of stays over thread *38 mm* Radius of spherical or dished furnace crown *1250 mm* Working pressure by rule *13.2 kg/cm²*
 Thickness of Ogee Ring *+* Diameter as per rule *D + d +* Working pressure by rule *+*
 Combustion Chamber: Material *Siemens Martin Steel* Tensile strength *41 to 47 kg/mm²* Thickness of top plate *20 mm*
 Radius if dished *1700 mm* Working pressure by rule *9.9 kg/mm²* Thickness of back plate *18 mm* Diameter if circular *R = 700 mm*
 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 *front Siemens back dark steel* Tensile strength *41 to 47* Thickness *20 mm* Mean pitch of stay tubes in nests *315*
 If comprising shell, Dia. as per rule *front 1970 back 1970* Pitch in outer vertical rows *90 mm* Dia. of tube holes FRONT *stay 66 plain 66.5* BACK *stay 61 plain 63.5*
 Working pressure by rules *front 8.2 kg/mm² back 9.25*
 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 *+*

Rpt. 5
Data of
No. in
Reg. Book
Master
Engines
Boiler
Nominal
MUL
Manufa
Total H
No. and
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Area of
Area of
In case
Smalles
Smalles
Largest
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Percent
Percent
Thicke
Materio
Length
Dimens
End pl
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in each
Tensile
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Crown stays: Material \div Tensile strength \div Diameter { at body of stay, \div
over threads, \div
No. of threads per inch \div Area supported by each stay \div Working pressure by rules \div
Screw stays: Material *S. M. Steel* Tensile strength $41 \div 47$ *kg/cm²* Diameter { at turned off part, 34.5 *mm*
over threads, 38 *mm* No. of threads per inch *11*
Area supported by each stay $300 \times 215 = 64500$ *mm²* Working pressure by rules 8.76 *kg/cm²* Are the stays drilled at the outer ends *yes, 4 mm*
Tubes: Material *Simons Martens Steel* External diameter { plain 63.5 *mm*
stay 63.5 *mm* Thickness { 3 *mm*
 6 *mm*
No. of threads per inch 14 Pitch of tubes 90 *mm* Working pressure by rules 9 *kg/cm²* per sq. cm.
Manhole Compensation: Size of opening in shell plate \div Section of compensating ring \div No. of rivets and diameter
of rivet holes \div Outer row rivet pitch at ends \div Depth of flange if manhole flanged \div
Uptake: External diameter \div Thickness of uptake plate \div
Cross Tubes: No. \div External diameters { \div Thickness of plates \div

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *yes*.

The foregoing is a correct description,

Kesselfabrik Kaiserslautern
Oskar Schimmelbusch

Manufacturer.

Dates of Survey { During progress of work in shops - *18th November, 21st Jan. 18th Febr.*
while building { During erection on board vessel - *23-28/3-14/4-26/4-30/4/28*

Is the approved plan of boiler forwarded herewith *9/13/27*
(If not state date of approval.)
Total No. of visits *3 + 5*

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

This vertical multitube Donkey Boiler has been constructed under Special Survey in accordance with the approved plan and instructions hereto and in conformity with the Society's Rules. The materials used in the construction and the workmanship are good. In my opinion the Boiler is eligible to be classed in the Register Book with record of 7 kg. per sq. cm. = 100 lbs. per sq. inch. For completion of Survey the Boiler is to be satisfactorily fitted on board and examined under steam pressure. The boiler shall have been stamped above the fire hole:-

No 450

LLORDS TEST 14 ATM.

W.P. 7 ATM.

P.K. 18.2.28.

This Donkey Boiler has been satisfactorily fitted on board and was found under steam to be tight and satisfactory. The safety valves have been adjusted to 100 lbs. per sq. inch (7 kg/cm²) and adjusting washers are.

Forw: 18th Jan. Aff - 15th Jan.

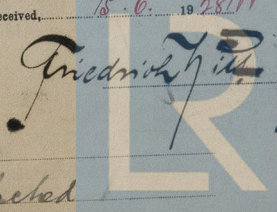
Survey Fee ... £ 4 : 4 : } When applied for, *26.2.1928*
Travelling Expenses (if any) £ 3 : 3 : } When received, *15.6.1928*

Committee's Minute

TUES. 22 MAY 1928

Assigned

See Rpt. attached



Friedrich
S.A. Winkler
Engineer, Bureau of Lloyd's Register of Shipping.

Lloyd's Register of Shipping.

Lloyd's Register

Foundation