

# REPORT ON BOILERS.

No. 16286.

Received at London Office

4 APR 1929

Date of writing Report 19 When handed in at Local Office 19 Port of *Grimsby*

No. in Survey held at *Copenhagen* Date, First Survey *Feb. 5th* Last Survey *March 27 1929*  
Reg. Book *758* on the *Steel Twin Screw Motor Vessel "PACIFIC RANGER"* (Number of Visits *8*) Gross *6866.46* Tons Net *4186.33*

Built at *Copenhagen* By whom built *Akt. Burmeister & Wain* Yard No. *561* When built *1929*

Engines made at *Copenhagen* By whom made *Akt. Burmeister & Wain's Helsingørsk Skibsværktøj* Engine No. *1642* When made *1929*  
*1643*

Boilers made at *Lincoln* By whom made *Babcock & Wilcox, Ltd* Boiler No. *73/4593* When made *1929*

Owners *The Transoceanic Steamship Co. Ltd (Swedish Navigation Co. Ltd)* Port belonging to *London*

## VERTICAL DONKEY BOILER.

Made at *Lincoln* By whom made *Babcock & Wilcox, Ltd* Boiler No. *73/4593* When made *1929* Where fixed *Forward end of engine room casing at the height of second deck.*

Manufacturers of Steel *Parkgate Iron Works, Ltd*

Total Heating Surface of Boiler *400 sq. ft.* Is forced draught fitted ☒ Oil fired ☒ *Exhaust gas*

No. and Description of Boilers *One Clarkson patent, waste heat, chimney type* Working pressure *100 lb*

Tested by hydraulic pressure to *200 lb.* Date of test *15th March, 1929* No. of Certificate *261*

Area of Firegrate in each Boiler *none* No. and Description of safety valves to each boiler *None, spring loaded.*

Area of each set of valves per boiler *per rule 5.2174* Pressure to which they are adjusted *100 lbs/sq. in.* Are they fitted with easing gear *yes*  
*as fitted 6.2832*

State whether steam from main boilers can enter the donkey boiler ☒ Smallest distance between boiler or uptake and bunkers

or woodwork *no 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 *5'-0"* Height *8'-7 3/8"*

Shell plates: Material *S. L. steel* Tensile strength *28/32 T.* Thickness *7/16"*

Are the shell plates welded or flanged ☒ Description of riveting: circ. seams *end SR & DR* long. seams *DR. Lap.*  
*inter. S. R.*

Dia. of rivet holes in *13/16"* Pitch of rivets *1 7/8" & 2 1/8"* Percentage of strength of circ. seams *plate 57.269* of Longitudinal joint *plate 69*  
*long. seams 13/16"* rivets *52.076* rivets *7.3*  
*combined 75*

Working pressure of shell by rules *133 lb* Thickness of butt straps *outer - inner -*

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat *Flat* Material *S. L. steel*

Tensile strength *26/30 T.* Thickness *5/8"* Radius *-* Working pressure by rules *231 lb.*

Description of Furnace: Plain, spherical, or dished crown *dished* Material *S. L. steel* Tensile strength *26/30 T.*

Thickness *13/16"* External diameter *4'-1 5/8"* Length as per rule *5'-6"* Working pressure by rules *110 lb*

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 *3'-8"* Working pressure by rule *118 lb.*

Thickness of Ogee Ring *7/8"* Diameter as per rule *4'-1 5/8"* Working pressure by rule *182 lb.*

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 *-* Tensile strength *-* Thickness *-* Mean pitch of stay tubes in nests *-*

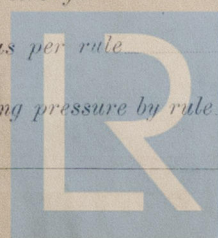
If comprising shell, Dia. as per rule *-* Pitch in outer vertical rows *-* Dia. of tube holes FRONT *-* BACK *-*

Is each alternate tube in outer vertical rows a stay tube ☒ Working pressure by rules *-*

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 *S. L. steel* External diameter ☒ plain *3 1/4"* Thickness ☒ *6 kg.*

No. of threads per inch ☒ Pitch of tubes ☒ Working pressure by rules ☒

**Manhole Compensation:** Size of opening in shell plate ☒ Section of compensating ring ☒ No. of rivets and diameter ☒

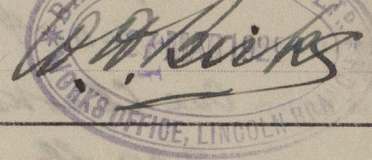
of rivet holes ☒ Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged ☒

**Uptake:** External diameter *2'-4 1/4"* Thickness of uptake plate *5/8"*

**Cross Tubes:** No. ☒ External diameters ☒ Thickness of plates ☒

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

The foregoing is a correct description,



Manufactured

Dates of Survey ☒ During progress of work in shops - *1929 Feb 5, 13, 22, 26 March 1, 8, 15, 27* Is the approved plan of boiler forwarded herewith ☒ yes  
☒ while building ☒ During erection on board vessel - *1929 Aug. 7, 12, 20, 27 Sept. 3, 4, 5, 6.* Total No. of visits *8.*

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) *The materials and workmanship are good. This boiler has been built under special survey and in accordance with the rules and approved plan. It is to be shipped to Copenhagen.*

*The donkey boiler has been fitted on board the above vessel and connected complete under special survey and to our satisfaction. Two vertical Heier's pumps have been fitted and connected for feeding purpose to the boiler. -*

*Recommend the vessel to have notation in the Register Book of DB-100768.*

*According to London Letter 2nd May 1929.*  
 SURVEYOR TO LLOYD'S REGISTER OF SHIPPING  
 Copenhagen

Survey Fee ... £ 4 : 4 : : When applied for, *21st May 1929*  
 Travelling Expenses (if any) £ - : 17 : : When received, *2nd May 1929*

Committee's Minute  
 Assigned

TUE. 24 SEP 1929

*See bpr. F.E. 8079*

Engineer Surveyor to Lloyd's Register of Shipping.

ERI. 27 SEP 1929

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