

# REPORT ON BOILERS.

Received at London Office. **22 NOV 1951**

Date of writing Report ..... 19..... When handed in at Local Office ..... 19..... Port of Seattle, Washington

No. in Reg. Book. 08568 Survey held at Seattle, Washington Date, First Survey 25th July Last Survey 21st Sept. 19 51

(Number of Visits. 30.....) Tons } Gross 2887  
Net 1919

on the SS. "KAISANIEMI" (ex "EMPIRE CONSEQUENCE")

Built at Lubeck By whom built Lubeck er Machinsbau Gesettchaff Yard No. 396 When built 1940

Engines made at Hamburg-Altona By whom made Ottensener-Eisenverk AG Abt Engine No. 1430 When made 1939

Boilers made at Hamburg-Altona By whom made Ottenseult Steel Works Boiler No. x When made 1940

Nominal Horse Power 330 MN Owners Etela-Suomen, Laiva O.Y. Port belonging to Helsinki, Finland  
Kluuvikatu 4, Helsinki

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Ottenseult Steel Works (Letter for Record S)

Total Heating Surface of Boilers (2) 3660 sq. ft. Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers (2) Two Prudhon Capus Working Pressure 235# per sq.in.

Tested by hydraulic pressure to 360# per sq.in. Date of test 13 Sept. 51 No. of Certificate x Can each boiler be worked separately Yes

Area of Firegrate in each boiler 45.2# per sq.in. No. and Description of Safety valves to each boiler two - 2" Consolidated High Lift.

Area of each set of valves per boiler { per Rule 4.55 in. Pressure to which they are adjusted 235# per sq.in. Are they fitted with easing gear Yes  
{ as fitted 6.30

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler x

Smallest distance between boilers or uptakes and bunkers or woodwork Well clear Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 18" Is the bottom of the boiler insulated Yes

Largest internal diameter of boilers 12'-9-3/4" Length 12'-0" Shell plates: Material SMOH Steel Tensile strength 66,000# per sq.in.

Thickness 1-5/16" Are the shell plates welded or flanged Flanged Description of riveting: circ. seams { end Double ZigZag lap  
inter. x

Long. seams Treble ZigZag Butt Diameter of rivet holes in { circ. seams 1-7/16" Pitch of rivets { 4.09375"  
long. seams 1-7/16" { 8.0625"

Percentage of strength of circ. end seams { plate 64 Percentage of strength of circ. intermediate seam { plate x  
rivets 51 rivets x

Percentage of strength of longitudinal joint { plate 82 235 lbs. per sq. In. 229  
rivets 103  
combined 85

Thickness of butt straps { outer 1/5625" No. and Description of Furnaces in each Boiler 3 Morrison Corrugated  
inner 1.5625"

Material SM. OH Steel Tensile strength 50,000 lbs. per sq.in. Smallest outside diameter 3'-0-5/8"

Length of plain part { top 8-15/32" Thickness of plates { crown 19/32" Description of longitudinal joint Lap welded  
bottom 19/32"

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules - 240 lbs. per sq.in.

End plates in steam space: Material SM. OH Steel Tensile strength 58,000 # per sq.in. Thickness 1-9/64 Pitch of stays 15-15/16" x 18-1/8"

How are stays secured Nutted Riveted Doublings Working pressure by Rules 247 lbs. per sq. in.

Tube plates: Material { front SM. OH Steel Tensile strength { 58,000 lbs. per sq.in. Thickness { 1-9/64"  
back SM. OH Steel { 58,000 lbs. per sq.in. { 1-9/64"

Mean pitch of stay tubes in nests 8-3/16 Pitch across wide water spaces 14-3/16

Girders to combustion chamber tops: Material x Tensile strength x Depth and Thickness of girder at centre x Length as per Rule x Distance apart x No. and pitch of stays in each x

Combustion chamber plates: Material x Tensile strength x Thickness: Sides x Back x Top x Bottom x

Pitch of stays to ditto: Sides x Back x Top x Are stays fitted with nuts or riveted over x

Front plate at bottom: Material SM. OH Steel Tensile strength 58,000 lbs. per sq.in.

Thickness 1-9/64" Lower back plate: Material SM. OH Steel Tensile strength 58,000 lbs. per sq.in. Thickness 1-9/64"

Pitch of stays at wide water space x Are stays fitted with nuts or riveted over x

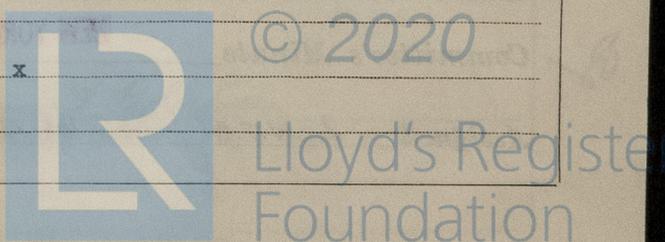
Main stays: Material SM. OH Steel Tensile strength 48,000 - 59,000

Diameter { At body of stay 3-11/32" No. of threads per inch 6  
or 3-31/32"

Screw stays: Material x Tensile strength x

Diameter { At turned off part x No. of threads per inch x  
or x

GDW  
11-2-52



Are the stays drilled at the outer ends  Margin stays: Diameter  At turned off part.   
 or  Over threads

No. of threads per inch

Tubes: Material SM. OH Steel External diameter  Plain 3"  
 Stay 3" Thickness  $\left\{ \begin{array}{l} 5/32'' \\ 5/16'' \ 25/64'' \end{array} \right.$  No. of threads per inch 9

Pitch of tubes 8.125" Manhole compensation: Size of opening in shell plate 22-11/16"x17-9/16" Section of compensating ring 24"x1-5/16" No. of rivets and diameter of rivet holes 47 @ 1-3/8"

Outer row rivet pitch at ends 8-3/32" Depth of flange if manhole flanged 3" BE CHECKED Steam Dome: Material

Tensile strength  Thickness of shell  Description of longitudinal joint

Diameter of rivet holes  Pitch of rivets  Percentage of strength of joint  Plate   
 Rivets

Internal diameter  Thickness of crown  No. and diameter of stays  Inner radius of crown

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 TO BE CHECKED Manufacturers of  Tubes Deutsche, Schiffe-Masch-Bau A.G. Weser Bremen  
 Locomotive type. Elements through smoke tubes  Steel forgings   
 Steel castings " " " " " " " "

Number of elements 40 Port 32 Stb Material of tubes Seamless Steel Tubing Internal diameter and thickness of tubes 3/4" I.D. Thickness 3/32"  
 Material of headers Cast Steel Tensile strength 58,000# per sq. in. Thickness 7/8" Can the superheater be shut off and the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes  
 Area of each safety valve 2/40 inches Are the safety valves fitted with easing gear No  
 Pressure to which the safety valves are adjusted 225 lbs. per sq. in. Hydraulic test pressure: tubes 700 lbs. per sq. in. forgings and castings  and after assembly in place 360 lbs. per sq. in. Are drain cocks or valves fitted to free the superheater from water where necessary Yes

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

The foregoing is a correct description,  
 Manufacturer.

Dates of Survey  During progress of work in shops -- Are the approved plans of boiler and superheater forwarded herewith   
 while building  During erection on board vessel --- (If not state date of approval.)  
 Total No. of visits

Is this Boiler a duplicate of a previous case  If so, state Vessel's name and Report No.

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

These (2) two Capus Prudhon Water Tube Boilers were constructed to the requirements and under the supervision of Germanischer Lloyd; have now been examined throughout and the materials and workmanship are considered satisfactory. The boilers were subjected to a hydrostatic test of 360 pounds per square inch, examined under steam and safety valves adjusted as noted.

The attached boiler plan refers to the acetylene welding of the long seams of the upper and lower drums and these welds have now been specially examined and appear to be sound and tight, both under hydrostatic tests and under steam pressure.

The scantlings and arrangements have been verified as far as practicable and found to conform with the attached plan. For recommendations as to class, etc., please see Report 9 attached herewith.

Survey Fee ... £ See Rpt 9. When applied for, 19  
 Travelling Expenses (if any) £ : : When received, 19

James F. Robertson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK OCT 31 1951  
 Assigned 2 W.T.B. 235 lbs. □ (See Rpt. 5c attached)