

# REPORT ON BOILERS.

No. 4006.

Received at London Office

17 AUG 1935

Date of writing Report *Aug 1<sup>st</sup> 1935* When handed in at Local Office *Aug 1<sup>st</sup> 1935* Port of *Vancouver B.C.*

No. in Reg. Book *52111* Survey held at *Esquimalt B.C.* Date, First Survey *May 29* Last Survey *July 29 1935*

on the *Steel Sailing Ship "MOSHILU"* (Number of Visits *4*) Tons { Gross *3116* Net *2911*

Built at *Port Glasgow* By whom built *H. Hamilton & Co* Yard No. *171* When built *1904*

Engines made at *✓* By whom made *✓* Engine No. *✓* When made *✓*

Boilers made at *Everett Wash.* By whom made *Sumner Iron Works* Boiler No. *✓* When made *1922*

Owners *Gustaf Erikson.* Port belonging to *Marichamn.*

## VERTICAL DONKEY BOILER.

Made at *Everett.* By whom made *Sumner Iron Works* Boiler No. *✓* When made *1922* Where fixed *in house on forward deck*

Manufacturers of Steel *✓*

Total Heating Surface of Boiler *49.2 sq feet* Is forced draught fitted *no* Coal or Oil fired *Coal.*

No. and Description of Boilers *one cylindrical vertical tube* Working pressure *150 lbs*

Tested by hydraulic pressure to *200 lbs.* Date of test *June 18. 1935* No. of Certificate *✓*

Area of Firegrate in each Boiler *10 sq feet* No. and Description of safety valves to each boiler *one spring loaded*

Area of each set of valves per boiler { per rule *3.14* as fitted *3.14* Pressure to which they are adjusted *100 lbs.* 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 *✓*

Is oil fuel carried in the double bottom under boiler *no* Smallest distance between base of boiler and tank top plating *14"*

Is the base of the boiler insulated *Deck Cemented* Largest internal dia. of boiler *47.25"* Height *8'*

Shell plates: Material *O.H.S.* Tensile strength *26 tons* Thickness *3/8"*

Are the shell plates welded or flanged *butt strapped* Description of riveting: circ. seams { end *Single* inter. *outside strip double* long. seams *inside double*

Dia. of rivet holes in { circ. seams *3/4"* long. seams *3/4"* Pitch of rivets *2 1/4"* Percentage of strength of circ. seams { plate *66.6* rivets *46.1* of Longitudinal joint { plate *89.3* rivets *110* combined *103.7*

Working pressure of shell by rules *178 lbs* Thickness of butt straps { outer *3/8* inner *5/16*

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

Tensile strength *26 tons* Thickness *7/16* Radius *✓* Working pressure by rules *100 lbs*

Description of Furnace: Plain, spherical, or dished crown *plain spherical* Material *O.H.S.* Tensile strength *26 tons*

Thickness *7/16* External diameter { top *42 3/4* bottom *✓* Length as per rule *9 1/2 stays* Working pressure by rules *106 lbs.*

Pitch of support stays circumferentially *7°* and vertically *7°* Are stays fitted with nuts or riveted over *riveted.*

Diameter of stays over thread *1"* Radius of spherical or dished furnace crown *flat* Working pressure by rule *100 lbs*

Thickness of Ogee Ring *2 3/4 Solid ring* Diameter as per rule { D *47.25* d *42.75* 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 { front *✓* back *✓* Tensile strength { *✓* Thickness { *✓* Mean pitch of stay tubes in nests *✓*

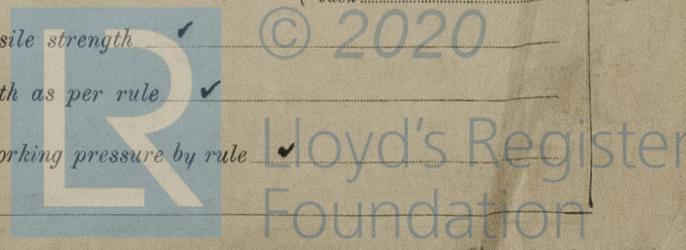
If comprising shell, Dia. as per rule { front *✓* back *✓* Pitch in outer vertical rows { *✓* Dia. of tube holes FRONT { stay *✓* plain *✓* BACK { stay *✓* plain *✓*

Is each alternate tube in outer vertical rows a stay tube *no. all plain tubes* 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 *✓*



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 Norway Iron Tensile strength  Diameter  at turned off part, or over threads 1" No. of threads per inch 11

Area supported by each stay 7x7 = 49" Working pressure by rules  Are the stays drilled at the outer ends no.

Tubes: Material O.A.S. External diameter  plain 3" stay  Thickness  .12

No. of threads per inch  Pitch of tubes greatest 4 1/2 x 3 Working pressure by rules 155

Manhole Compensation: Size of opening in shell plate 4 3/4 x 3 1/4 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 15" Thickness of uptake plate 1/8"

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,

Manufacturer.

Dates of Survey while building  During progress of work in shops - -  During erection on board vessel - -

Is the approved plan of boiler forwarded herewith (If not state date of approval.) YES.

Total No. of visits 4.

May 29 June 19 July 23 July 29 1935

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.)

This boiler was built and fitted into ship in 1922. to American Bureau Survey.

Boiler opened up throughout with all mountings, and examined and found to be in good working condition. All tubes now renewed, expanded & leaved over both ends.

Tubes 2" dia - .12 thickness. The workman ship is good, and the boiler has been tested by hydraulic pressure to 200 lbs per sq. inch, with satisfactory results.

Name plate on boiler reads. Summer Iron works, Everett, Wash. Aug 5. 1922. Pressure 182 lbs.

A duplex Worthington pump is fitted. 4 1/2 x 2 3/4 x 4" with hand pump also injector.

The Suction is led to a large fresh water tank on aft deck. (25 tons)

Safety valve adjusted under steam to 100 lbs per sq. inch. (July 29. 1935)

The boiler sits on a cast iron trinch frame, with steel ashpit fitted, and deck under same cemented 3" thick. The trinch, with cylinders on each side of boiler can be used to drive windlass & Capstans by chain and gipsy, also discharge for hatches.

A plate print of the boiler has been specially made and is attached.

The flat shell crown, and flat lower tube plate, the latter being exposed to flame, are stayed by plain tubes only. No stay tubes fitted.

A working pressure of 100 lbs per sq. inch is recommended and record N.B.S. 7. 35.

Survey Fee ... .. 45.00 } When applied for, Aug 1 1935

Travelling Expenses (if any) £ 30.00 } When received, 27.11. 1935

*A. Scott*

Engineer Surveyor to Lloyd's Register of Shipping.

TUE. 27 AUG 1935

Committee's Minute D.B.S. 7. 35 - 100 lbs

Assigned In black N.B.S. 22

