

RECEIVED

BRN 1930

# REPORT ON BOILERS.

No. 42918

D.O.

Received at London Office 29 DEC 1949

Date of writing Report 29-11-49 When handed in at Local Office 27-12-1949 Port of GLASGOW.

No. in Reg. Book. Survey held at GLASGOW. Date, First Survey 12-1-49 Last Survey 10-11-1949

on the MT. "ETNEFJELL" (Number of Visits 14) Tons } Gross.....  
Net.....

Master. Built at Gothenburg. By whom built Eriksbergs Mek Verkdy Yard No. 397. When built.....

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

Boilers made at Glasgow. By whom made Broomside Boiler Works. Barclay Curle & Co. Ltd. Engine No. 2272 Boiler No. 30421 When made 1949.

Nominal Horse Power M.N. 282. Owners..... Port belonging to.....

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles, Ltd. (Letter for Record S.)

Total Heating Surface of Boilers 2120 sq.ft. x 2 Is forced draught fitted..... Coal or Oil fired.....

No. and Description of Boilers 2 single ended multitubular. Working Pressure 143 lbs/sq.in.

Tested by hydraulic pressure to 265 lb/sq.in. Date of test 16/11/49. No. of Certificate 23016. Can each boiler be worked separately.....

Area of Firegrate in each Boiler..... No. and Description of safety valves to each boiler.....

Area of each set of valves per boiler } per Rule..... Pressure to which they are adjusted..... Are they fitted with easing gear.....  
as fitted.....

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

Smallest distance between boilers or uptakes and bunkers or woodwork..... Is oil fuel carried in the double bottom under boilers.....

Smallest distance between shell of boiler and tank top plating..... Is the bottom of the boiler insulated.....

Largest internal dia. of boilers 13'-1 1/2" Length 11'-6" Shell plates: Material Steel. Tensile strength 28-32 tons.

Thickness 29/32 Are the shell plates welded or flanged - Description of riveting: circ. seams { end D.R. inter -

Long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 1/8 long. seams 1 1/8 Pitch of rivets { 5.6" 6.735"

Percentage of strength of circ. end seams { plate 68.9% rivets 49.7% Percentage of strength of circ. intermediate seam { plate - rivets -

Percentage of strength of longitudinal joint { plate 83.4% rivets 124.6% combined 91.5 Working pressure of shell by Rules 145 lbs/sq.in.

Thickness of butt straps { outer 3/4" inner 7/8" No. and Description of Furnaces in each Boiler 2 corrugated (Morison).

Material Steel. Tensile strength 26-30 tons. Smallest outside diameter 46.625"

Length of plain part { top - bottom - Thickness of plates { crown 1/8" bottom 1/8" Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom..... Working pressure of furnace by Rules 154 lbs/sq.in.

End plates in steam space: Material Steel. Tensile strength 26-30 tons. Thickness 29/32" Pitch of stays 16 3/4" x 16 3/4"

How are stays secured welded inside and outside, as per plan. Working pressure by Rules 162 lbs/sq.in.

Tube plates: Material { front steel. back steel. Tensile strength { 26-30 tons. 26-30 tons. Thickness { 29/32" 23/32"

Lean pitch of stay tubes in nests 10.15/32" Pitch across wide water spaces 14" x 8 5/8" Working pressure { front 153 lbs/sq.in. back 168 lbs/sq.in.

Girders to combustion chamber tops: Material Steel. Tensile strength 28-32 tons. Depth and thickness of girder

at centre 7" x 1.3/16" Length as per Rule 28 1/2" Distance apart 8 5/8" No. and pitch of stays

in each welded as per plan Working pressure by Rules 155 lbs/sq.in. Combustion chamber plates: Material Steel.

Tensile strength 26-30 tons. Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 10" x 8" Back 10" x 8" Top - Are stays fitted with nuts or riveted over Riveted except margin which are nutted.

Working pressure by Rules 148 lbs/sq.in. Front plate at bottom: Material Steel. Tensile strength 26-30 tons.

Thickness 29/32" Lower back plate: Material Steel. Tensile strength 26-30 tons. Thickness 29/32"

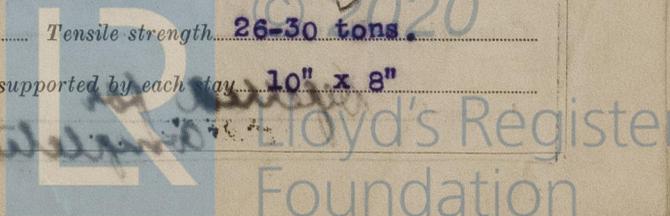
Pitch of stays at wide water space 14" x 8" Are stays fitted with nuts or riveted over welded inside and outside with washer, as per plan.

Working pressure 162 lbs/sq.in. Main stays: Material Steel. Tensile strength 28-32 tons.

Diameter { At body of stay 2 1/2" or over threads - No. of threads per inch as per plan. Area supported by each stay 16 3/4" x 16 3/4"

Working pressure by Rules 193 lbs/sq.in. Screw stays: Material Steel. Tensile strength 26-30 tons.

Diameter { At turned off part - or over threads 1 1/2" 1 5/8" No. of threads per inch 9 Area supported by each stay 10" x 8"



008743-008750-0164

008743-008750-0165

5A 74918.

Working pressure by Rules 156 lbs/sq.in. Are the stays drilled at the outer ends No. Margin stays: Diameter <sup>At turned off part</sup> 1.5" or <sup>Over threads</sup> 1.5"

No. of threads per inch 9 Area supported by each stay 12" x 8" Working pressure by Rules 158 lbs/sq.in.

Tubes: Material Steel External diameter <sup>Plain</sup> 3" <sup>Stay</sup> 3" Thickness <sup>9 LSG.</sup> 5/16. No. of threads per inch 9

Pitch of tubes 4.3/16" x 4.3/16" Working pressure by Rules 236 lbs/sq.in. Manhole compensation: Size of opening shell plate 19 3/4" x 15 5/8" Section of compensating ring 19 1/2" x 29/32" No. of rivets and diameter of rivet holes 44 at 1 1/8"

Outer row rivet pitch at ends 7 1/2" Depth of flange if manhole flanged 3.5/16" Steam Dome: Material ---

Tensile strength..... Thickness of shell..... Description of longitudinal joint.....

Diameter of rivet holes..... Pitch of rivets..... Percentage of strength of joint <sup>Plate</sup>..... <sup>Rivets</sup>.....

Internal diameter..... Working pressure by Rules..... Thickness of crown..... No. and diameter of stays..... Inner radius of crown..... Working pressure by Rules.....

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..... Manufacturers of <sup>Tubes</sup>..... <sup>Steel forgings</sup>..... <sup>Steel castings</sup>.....

Number of elements..... Material of tubes..... Internal diameter and thickness of tubes.....

Material of headers..... Tensile strength..... Thickness..... Can the superheater be shut off from the boiler.....

the boiler be worked separately..... Is a safety valve fitted to every part of the superheater which can be shut off from the boiler.....

Area of each safety valve..... Are the safety valves fitted with easing gear..... Working pressure as per Rules.....

Pressure to which the safety valves are adjusted..... Hydraulic test pressure.....

tubes..... forgings and castings..... and after assembly in place..... Are drain cocks fitted to free the superheater from water where necessary.....

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

The foregoing is a correct description,  
*Wm G Bivander* Manufacturer

Dates of Survey while building <sup>During progress of work in shops - -</sup> 1949 Jan. 12, Feb. 14, May 12, Aug. 16 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Oct. 17, Nov. 10.

<sup>During erection on board vessel - - -</sup> Total No. of visits.....

Is this Boiler a duplicate of a previous case..... Yes. If so, state Vessel's name and Report No. Eriksbergs Mek Verk, No. 393. Glasgow Report No. 74154.

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

These boilers have been constructed under Special Survey in accordance with the Society's Rules and the approved plans. The materials and workmanship are good.

These boilers have been despatched to Gothenburg for installation in the vessel.

Survey Fee ... .. £ 53 : 4 : - } When applied for.....19.....

Travelling Expenses (if any) £ : : } When received.....19.....

*J.B. Gray*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute..... GLASGOW 28 DEC 1949..... FRI, 22 SEP 1950

Assigned..... Referred for completion | See minute on J.B. Lpt.

