

## REPORT ON BOILERS.

No. 32798

FEB -8 1940

Date of writing Report *18 Jan 1940* When handed in at Local Office *18 Jan 1940* Port of *Sunderland*  
 No. in Survey held at *Sunderland* Date, First Survey *12 Jan 1940* Last Survey *12 Jan 1940*  
 opening on the *Screw Steamer "DAY DAWN"* (Number of Visits *✓*) Gross *4768* Tons Net *2772*  
 Built at *Sunderland* By whom built *W. Pickering & Sons Ltd.* Yard No. *241* When built *1940*  
 Engines made at *Manchester* By whom made *Richardsons & Co. Ltd.* Engine No. *H2694* When made *1939 1940*  
 Boilers made at *Sunderland* By whom made *G. Clark (1938) Ltd.* Boiler No. *H2694* When made *1940*  
 Indicated Horse Power *423* Owners *Claymore Shipping Co. Ltd.* Port belonging to *Candiff*

RETAIN

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

Manufacturers of Steel *The Appleby & Dinningham Steel Co. Ltd.* (Letter for Record *S. ✓*)  
 Total Heating Surface of Boilers *1555 sq ft* Is forced draught fitted *Yes. ✓* Coal or Oil fired *Coal*  
 No. and Description of Boilers *One cylindrical multitubular marine* Working Pressure *220*  
 Tested by hydraulic pressure to *380* Date of test *4/12/39* No. of Certificate *H313* Can each boiler be worked separately *Yes. ✓*  
 Area of Firegrate in each Boiler *39 sq ft* No. and Description of safety valves to each boiler *Two lock-burn Imp. High Lift.*  
 Area of each set of valves per boiler *4.14 sq ft* Pressure to which they are adjusted *220* Are they fitted with easing gear *Yes. ✓*  
 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 *6'-0"* Is oil fuel carried in the double bottom under boilers *no.*  
 Smallest distance between shell of boiler and tank top plating *3'-0"* Is the bottom of the boiler insulated *Yes. ✓*  
 Largest internal dia. of boilers *12'-3 9/16"* Length *10'-6"* Shell plates: Material *Steel* Tensile strength *29/33*  
 Thickness *1 1/32"* Are the shell plates welded or flanged *no.* Description of riveting: circ. seams *end* *D.R. Lap.*  
 Long. seams *T.R.D.B.S.* Diameter of rivet holes in *1 1/4"* Pitch of rivets *3 1/2"*  
 Percentage of strength of circ. end seams *plate 64.3* Percentage of strength of circ. intermediate seam *plate 45.4*  
 Percentage of strength of longitudinal joint *plate 85.3* Working pressure of shell by Rules *225*  
 Thickness of butt straps *outer 15/16"* No. and Description of Furnaces in each Boiler *3 corrugated (Leighton).*  
 Material *Steel* Tensile strength *26/30* Smallest outside diameter *2'-8 1/4"*  
 Length of plain part *bottom 1 1/16"* Thickness of plates *crown 1/2"* Description of longitudinal joint *welded.*  
 Dimensions of stiffening rings on furnace or p.c. bottom *✓* Working pressure of furnace by Rules *223*  
 End plates in steam space: Material *Steel* Tensile strength *26/30* Thickness *15/16"* Pitch of stays *22" x 15"*  
 How are stays secured *double nuts.* Working pressure by Rules *228*  
 Tube plates: Material *Steel* Tensile strength *26/30* Thickness *29/32"*  
 Mean pitch of stay tubes in nests *8 1/16"* Pitch across wide water spaces *13 1/2"* Working pressure *front 236*  
 Girders to combustion chamber tops: Material *Steel* Tensile strength *28/32* Depth and thickness of girder *back 282*  
 at centre *8" 2 @ 3/4"* Length as per Rule *2'-5 1/16"* Distance apart *8" x 1/2"* No. and pitch of stays  
 in each *2 @ 9/4"* Working pressure by Rules *240* Combustion chamber plates: Material *Steel*  
 Tensile strength *26/30* Thickness: Sides *23/32"* Back *2 1/32"* Top *23/32"* Bottom *15/16"*  
 Pitch of stays to ditto: Sides *9 1/4" x 8 1/2"* Back *8" x 8"* Top *9 1/4" x 8"* Are stays fitted with nuts or riveted over *nuts. ✓*  
 Working pressure by Rules *Sides 230* Front plate at bottom: Material *Steel* Tensile strength *26/30*  
 Thickness *29/32"* Lower back plate: Material *Steel* Tensile strength *26/30* Thickness *7/8"*  
 Pitch of stays at wide water space *14 3/4" x 8"* Are stays fitted with nuts or riveted over *nuts. ✓*  
 Working Pressure *222* Main stays: Material *Steel* Tensile strength *28/32*  
 Diameter *At body of stay, 3/8"* No. of threads per inch *6* Area supported by each stay *330 sq in*  
 Working pressure by Rules *223* Screw stays: Material *Steel* Tensile strength *26/30*  
 Diameter *At top of part, 1 3/4"* No. of threads per inch *9* Area supported by each stay *tops 440*  
*Back 15/8"* *Sides 48.6 sq in*  
*Back 64 sq in*

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Sides 230  
 Backs 234  
 Working pressure by Rules *234* Are the stays drilled at the outer ends *no.* Margin stays: Diameter *1 1/8"*  
 No. of threads per inch *9.* Area supported by each stay *91 sq.* Working pressure by Rules *234.*  
 Tubes: Material *Iron.* External diameter *2 1/2"* Thickness *7/16 3/8 5/16* No. of threads per inch *9.*  
 Pitch of tubes *3 3/4" x 3 3/4"* Working pressure by Rules *300.* Manhole compensation: Size of opening  
 shell plate *(Boiler End)* Section of compensating ring *✓* No. of rivets and diameter of rivet holes *✓*  
 Outer row rivet pitch at ends *✓* Depth of flange if manhole flanged *✓* Steam Dome: Material *none.*  
 Tensile strength *✓* Thickness of shell *✓* Description of longitudinal joint *✓*  
 Diameter of rivet holes *✓* Pitch of rivets *✓* Percentage of strength of joint *✓*  
 Internal diameter *✓* Working pressure by Rules *✓* Thickness of crown *✓* No. and diameter  
 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 *none.* Manufacturers of *✓*  
 Number of elements *✓* Material of tubes *✓* Internal diameter and thickness of tubes *✓*  
 Material of headers *✓* Tensile strength *✓* Thickness *✓* Can the superheater be shut off and  
 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 *✓* castings *✓* and after assembly in place *✓* Are drain cocks or valves fitted  
 to free the superheater from water where necessary *✓*

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

The foregoing is a correct description,

Dates of Survey *During progress of work in shops - - -* *Please see Mech. Rpt.* 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 *✓*

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

This boiler has been constructed under Special Survey in accordance with the approved plan & the Rules of the Society.

The materials & workmanship are good.

On completion the boiler has been tested by hydraulic pressure of 320 lbs/sq. & found tight & sound. It has been securely fitted on board the vessel, & amended under steam & safety valves adjusted to working pressure in accordance with the Rules.

In recommendation please see Mech. Rpt.

Survey Fee ... .. £ *See Mech. Rpt.* When applied for, 192

Travelling Expenses (if any) £ : : When received, 192

*J. T. Haas.*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 20 FEB 1940

Assigned

*See Sld. J.E. 32798*



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