

REPORT ON BOILERS.

No. 19980

DEC 12 1939

Received at London Office

Date of writing Report 9-12-1939 When handed in at Local Office 9-12-1939 Port of Leith

No. in Survey held at Leith Date, First Survey 16-11-39 Last Survey 2-12-1939

5626 on the S.S. "CROWN ARUN" ex "HANNAH BÖGE" (Number of Visits) (Gross Tons) 2372 (Net Tons) 1371

Master *[Signature]* Built at Kosteck By whom built Neptunwerft, Kosteck, G.M.B.H. No. When built 1938

Engines made at Altona By whom made Ottensener, Mel. G.M.B.H. Engine No. When made

Boilers made at By whom made Neptun "G.M.B.H." Kosteck Boiler No. When made

Nominal Horse Power Owners Ministry of Shipping Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel (Letter for Record *S*)

Total Heating Surface of Boilers 2933 *#* Is forced draught fitted *Yes* Coal or Oil fired *Coal*

No. and Description of Boilers Two cylindrical, single-ended Working Pressure 228 lbs.

Tested by hydraulic pressure to Date of test No. of Certificate Can each boiler be worked separately *Yes*

Area of Firegrate in each Boiler 30.67 *#* No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler *per Rule* as fitted 10.30" Pressure to which they are adjusted 228 lbs. 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 8'-0" to bulkhead *23" side of boiler to bunker.* Is oil fuel carried in the double bottom under boilers *No*

Smallest distance between shell of boiler and tank top plating 1'-4" Is the bottom of the boiler insulated *Yes*

Largest internal dia. of boilers 11'-5 3/4" Length 11'-1 13/16" Shell plates: Material *Steel* Tensile strength *Assumed 28/32 Tons*

Thickness 1.22" Are the shell plates welded or flanged *No* Description of riveting: circ. seams *Double riveted*

Long. seams *T.R.I.B.S.* Diameter of rivet holes in *circ. seams 1.378" long. seams 1.378"* Pitch of rivets *4.173" 8.819"*

Percentage of strength of circ. end seams *plate 66.9 rivets 48.0* Percentage of strength of circ. intermediate seam *plate 84.3 rivets*

Percentage of strength of longitudinal joint *combined 89.9* Working pressure of shell by Rules 230 lbs/0"

Thickness of butt straps *outer 1.22" inner 1.22"* No. and Description of Furnaces in each Boiler Two corrugated

Material *Steel* Tensile strength *Assumed 26/30 Tons* Smallest outside diameter 39.37" *40.73*

Length of plain part *top bottom* Thickness of plates *top bottom .669"* Description of longitudinal joint *Weld*

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 243 lbs/0"

End plates in steam space: Material *Steel* Tensile strength *Assumed 26/30 Tons* Thickness .984" Pitch of stays 15.748" *14-17*

How are stays secured *Nuts & riveted washers* Working pressure by Rules 234 lbs.

Tube plates: Material *front back Steel* Tensile strength *Assumed 26/30 Tons* Thickness *.787" .945"*

Mean pitch of stay tubes in nests 8.347" *8.27* Pitch across wide water spaces 13.858" Working pressure *front 288 lbs. back over 288 lbs.*

Girders to combustion chamber tops: Material *Steel* Tensile strength *Assumed 28/32 Tons* Depth and thickness of girder

at centre 7.48" — .709" Length as per Rule *25.85"* Distance apart 7.874" No. and pitch of stays

on each 2-7.874 Working pressure by Rules 256 lbs/0" Combustion chamber plates: Material *Steel*

Tensile strength *Assumed 26/30 Tons* Thickness: Sides .709" Back .787" Top .709" Bottom .906"

Pitch of stays to ditto: Sides 7.874" x 7.874" Back 7.874" x 7.244" Top 7.874" x 7.874" Are stays fitted with nuts or riveted over *Nuts*

Working pressure by Rules 282 lbs. Front plate at bottom: Material *Steel* Tensile strength *Assumed 26/30 Tons*

Thickness .984" Lower back plate: Material *Steel* Tensile strength *Assumed 26/30 Tons* Thickness .984"

Pitch of stays at wide water space *11.811" 13.80"* Are stays fitted with nuts or riveted over *Nuts*

Working Pressure 248 lbs. Main stays: Material *Steel* Tensile strength *Assumed 28/32 Tons*

Diameter *At body of stay 2.677" Over threads 2.835"* No. of threads per inch 6 Area supported by each stay 15.748" x 14.173"

Working pressure by Rules 264 lbs/0" Screw stays: Material *Steel* Tensile strength *Assumed 26/30 Tons*

Diameter *At turned off part 1.5" Over threads 1.625"* No. of threads per inch Area supported by each stay 62 sq.

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Working pressure by Rules 245 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, 1.75" or Over threads 1.876"

No. of threads per inch _____ Area supported by each stay 62 sq" Working pressure by Rules over 245 lbs.

Tubes: Material Steel or Iron External diameter { Plain 3" Stay 3" Thickness { _____ No. of threads per inch _____

Pitch of tubes Stay = 8.347" PLAIN = 4.173" Working pressure by Rules over 230 lbs. Manhole compensation: Size of opening _____

shell plate 15.748" x 11.811" Section of compensating ring 6 1/2" WIDE x 1 1/4" THICK No. of rivets and diameter of rivet holes 32 - 1.378"

Outer row rivet pitch at ends 4.331" Depth of flange if manhole flanged _____ Steam Dome: Material Steel

Tensile strength Assumed 28/32 Tons Thickness of shell .787" Description of longitudinal joint riveted strap

Diameter of rivet holes 1.142" Pitch of rivets 2.835" Percentage of strength of joint { Plate 59 Rivets _____

Internal diameter 31.496" Working pressure by Rules over 230 lbs/sq" Thickness of crown .827" No. and diameter of stays _____

How connected to shell None Inner radius of crown 25.19" Working pressure by Rules over 230 lbs.

of rivets in outer row in dome connection to shell 1.378", 8.071" Size of doubling plate under dome 4' - 4" DIA. Diameter of rivet holes and _____

Type of Superheater _____ Manufacturers of { Tubes _____ Steel castings _____

Number of elements _____ Material of tubes Steel Internal diameter and thickness of tubes .875" outside dia

Material of headers Steel Tensile strength _____ Thickness _____ Can the superheater be shut off 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 1.49 sq" Are the safety valves fitted with easing gear Yes Working pressure as Rules _____ Pressure to which the safety valves are adjusted 228 lbs/sq" Hydraulic test pressure _____

tubes _____ castings _____ and after assembly in place _____ 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 _____

The foregoing is a correct description,

Manufacture

Dates of Survey { During progress of work in shops - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building { During erection on board vessel - - - Total No. of visits

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

The above information is forwarded for the consideration of the Committee. See report 9.

Survey Fee ... £ See : When applied for, 192

Travelling Expenses (if any) £ Rpt 9 : When received, 192

J. Campbell
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 29 DEC 1939

Assigned

See Lth. J.C. 19980



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