

# REPORT ON BOILERS.

No. 56014

Received at London Office 6 OCT 1949

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Date of writing Report 19 When handed in at Local Office 19 Port of HULL.

No. in Reg. Book. 22619 Survey held at HULL. Date, First Survey 22.6.49 Last Survey 25.8.1949  
 on the Steam Trawler "PRINCE CHARLES". (Number of Visits 16) Gross Tons 712 Net Tons 262.  
 Master - Built at Beverley By whom built Cook, Welton & Gemmell, Ltd. Yard No. 804 When built 1949  
 Engines made at Hull By whom made C.D. Holmes & Co., Ltd. Engine No. 1780 When made 1949  
 Boilers made at -do- By whom made -do- Boiler No. 1780 When made 1949  
 Nominal Horse Power M.N. 230 Owners Boston Deep Sea Fishing & Ice Co., Ltd. Port belonging to Hull

## MULTITUBULAR BOILERS - MAIN, AUXILIARY OR DONKEY.

Manufacturers of Steel Appleby-Frodingham Steel Co., Ltd. (Letter for Record S )  
 Total Heating Surface of Boilers Blr. 2831 + Spt 1140 = 3971 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil.  
 No. and Description of Boilers One S.H. multitubular Working Pressure 225 lb.  
 Tested by hydraulic pressure to 390 lb. Date of test 15.7.49 No. of Certificate 4331 Can each boiler be worked separately -  
 Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler 1 D. Sp. 3 1/2"  
 Area of each set of valves per boiler per Rule approx. 19.2 Pressure to which they are adjusted 230 lb. 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 20" Is oil fuel carried in the double bottom under boilers none  
 Smallest distance between shell of boiler and tank top plating open floor Is the bottom of the boiler insulated No  
 Largest internal dia. of boilers 16'0" Length 11'0" Shell plates: Material S.H. Stl. Tensile strength 31/35 tons  
 Thickness 1 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams {end 2 R.L. inter. - }  
 long. seams 3 R.D.B.S. Diameter of rivet holes in {circ. seams 1.15/32" long. seams 1.1/2" } Pitch of rivets { 3.7/8" 9.9/16" }  
 Percentage of strength of circ. end seams {plate 62.2% rivets 43.3% } Percentage of strength of circ. intermediate seam {plate - rivets - }  
 Percentage of strength of longitudinal joint {plate 84.31% rivets 85.6% combined 85.7% } Working pressure of shell by Rules -  
 Thickness of butt straps {outer 1.5/32" inner 1.9/32" } No. and Description of Furnaces in each Boiler 3- Deighton Type Corrugation  
 Material Steel Tensile strength 26/30 tons Smallest outside diameter 3'11.1/32"  
 Length of plain part {top - bottom - } Thickness of plates {crown 47/64" bottom - } Description of longitudinal joint welded  
 Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules -  
 End plates in steam space: Material steel Tensile strength 26/30 tons Thickness 1.17/64" Pitch of stays 18 1/2" x 19 1/2"  
 How are stays secured double nuts and washers. Working pressure by Rules -  
 Tube plates: Material {front steel back -do- } Tensile strength { 26/30 tons -do- } Thickness { 31/32" 29/32" }  
 Mean pitch of stay tubes in nests 9 1/2" x 9 1/2" Pitch across wide water spaces 14 1/2" Working pressure {front - back - }  
 Girders to combustion chamber tops: Material Steel Tensile strength 29/33 tons Depth and thickness of girder at centre 9 1/2" - 2 @ 3/8" tk. Length as per Rule 2'-10 1/2" Distance apart 9 1/2" No. and pitch of stays in each 3 - 8 1/2"  
 Tensile strength 26/30 tons Thickness: Sides 3/4" Back 23/32" Top 23/32" Bottom 15/16"  
 Pitch of stays to ditto: Sides 9 1/2" x 8 1/2" Back 9 1/2" x 8 1/2" Top 9 1/2" x 8 1/2" Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules - Front plate at bottom: Material steel Tensile strength 26/30 tons  
 Thickness 31/32" Lower back plate: Material steel Tensile strength 26/30 tons Thickness 29/32 inches  
 Pitch of stays at wide water space 14 1/2" x 8 1/2" Are stays fitted with nuts or riveted over nuts  
 Working Pressure - Main stays: Material steel Tensile strength 28/32 tons  
 Diameter {At body of stay, or Over threads 3.3/8" } No. of threads per inch 8 Area supported by each stay -  
 Working pressure by Rules - Screw stays: Material steel Tensile strength 26/30 tons  
 Diameter {At turned off part, or Over threads 1.3/4" } No. of threads per inch 10 Area supported by each stay -

See 3/10/49

Working pressure by Rules - Arc the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part. ✓  
 No. of threads per inch 10 ✓ Area supported by each stay - Working pressure by Rules -  
 Tubes: Material seamless steel ✓ External diameter { Plain 3 1/2" ✓ Stay 3 1/2" ✓ Thickness { 5/16" ✓ 3/8" ✓ No. of threads per inch 9 ✓  
 Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules - Manhole compensation: Size of opening in  
 shell plate 16" x 12" ✓ Section of compensating ring 4' 11 1/2" D x 1 1/2" Tk. No. of rivets and diameter of rivet holes 106 - 1 1/2" ✓  
 Outer row rivet pitch at ends 10 1/2" ✓ Depth of flange if manhole flanged 3 1/2" in dome Steam Dome: Material steel ✓  
 Tensile strength 26/30 tons ✓ Thickness of shell 3/4" ✓ Description of longitudinal joint S.R.L. ✓  
 Diameter of rivet holes 1.1/32" ✓ Pitch of rivets 2 1/4" ✓ Percentage of strength of joint { Plate 54 ✓  
 Internal diameter 2' 9" ✓ Working pressure by Rules - Thickness of crown 15/16" ✓ Rivets 43.8 ✓ No. and diameter of  
 stays 2 - 2.3/8" ✓ Inner radius of crown Flat ✓ Working pressure by Rules -  
 How connected to shell D.R. ✓ Size of doubling plate under dome 4' 11 1/2" D x 1 1/2" Tk. Diameter of rivet holes and pitch  
 of rivets in outer row in dome connection to shell 1 1/2" - 4" ✓

Type of Superheater ME LE SCO R.B. Type.

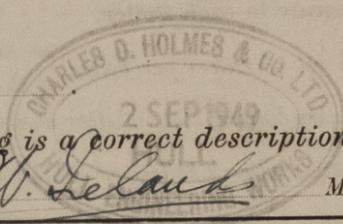
Manufacturers of

Tubes See Manchester Certificates  
 Steel forgings Nos. C.7488 & C.7639.  
 Steel castings

Number of elements 48 ✓ Material of tubes Steel ✓ Internal diameter and thickness of tubes -  
 Material of headers steel ✓ Tensile strength - Thickness - 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 3.14 sq.in. ✓ Are the safety valves fitted with casing gear Yes ✓ Working pressure as per  
 Rules 225 lb. ✓ Pressure to which the safety valves are adjusted 230 lb. ✓ Hydraulic test pressure:  
 tubes - forgings and castings - and after assembly in place 675 lb. ✓ 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, *h.c.*  
*W. Deland* Manufacturer.



Dates of Survey { During progress of work in shops - - ) 1949. June 22. July 1.5.8. 12.13. 15.20.22.  
 while building { During erection on board vessel - - - ) Aug 12, Are the approved plans of boiler and superheater forwarded herewith 16.10.49  
 (If not state date of approval.)  
 see machinery report Total No. of visits 16.

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "ST. CHAD" - Hull Report No. 55133.

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)  
 The boiler has been constructed and installed under Special Survey in accordance with the Secretary's letters, approved plans and the Rules.  
 The materials and workmanship are good.  
 The boiler was examined under hydraulic test of 390 lb/sq.in. on completion and found sound and tight.  
 The safety valves were adjusted under steam to 230 lb/sq.in.

Survey Fee £ see machinery report. } When applied for, 10  
 Travelling Expenses (if any) £ : : } When received, 10

*W. Chambers*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 4 NOV 1949

Assigned See F.E. Welch. rph.

