

# REPORT ON BOILERS.

No. 42012

Received at London Office 16 JUL 1931

Date of writing Report 10 When handed in at Local Office 16.4.31 Port of **HULL**

No. in Reg. Book *AM* Survey held at **Hull** Date, First Survey **31 March** Last Survey **July 2** 1931  
 (Number of Visits **23**) Tons { Gross \_\_\_\_\_ Net \_\_\_\_\_

on the **Steam Trawler "EUCLASE"**

Master  Built at **Beverley** By whom built **Book, Welton & Gemmell** No. **565** When built **1931**

Engines made at **Hull** By whom made **Charles D. Holmes** No. **425** When made **1931**

Boilers made at **Hull** By whom made **do** Boiler No. **425** When made **1931**

Nominal Horse Power **89** Owners **Kingston Steam Trawling Co.** Part belonging to **Hull**

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

Manufacturers of Steel **Appleby Iron Co. Ltd** (Letter for Record \_\_\_\_\_)

Total Heating Surface of Boilers **1606 sq ft** Is forced draught fitted **no** Coal or Oil fired **coal**

No. and Description of Boilers **One single ended return tube** Working Pressure **200 lbs**

Tested by hydraulic pressure to **350 lbs** Date of test **9.6.31** No. of Certificate **3835** Can each boiler be worked separately

Area of Firegrate in each Boiler **48.6 sq ft** No. and Description of safety valves to each boiler **2 spring loaded**

Area of each set of valves per boiler { per Rule **9.35 sq ft** as fitted **9.8 sq ft** } Pressure to which they are adjusted **200 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 **7"** 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'-6"** Length **10'-6"** Shell plates: Material **Steel** Tensile strength **29/33 Tons**

Thickness **1 1/64"** Are the shell plates welded or flanged  Description of riveting: circ. seams { end **D.R.** inter. **3 3/8"** }  
 long. seams **T. R. D. B. S.** Diameter of rivet holes in { circ. seams **1 9/32"** long. seams **1/4"** } Pitch of rivets { **8 9/16"** }

Percentage of strength of circ. end seams { plate **62.0** rivets **51.0** } Percentage of strength of circ. intermediate seam { plate \_\_\_\_\_ rivets \_\_\_\_\_ }

Percentage of strength of longitudinal joint { plate **85.7** rivets **88.3** combined **88.4** } Working pressure of shell by Rules **203 lbs**

Thickness of butt straps { outer **1 5/16"** inner **1 3/16"** } No. and Description of Furnaces in each Boiler **Three plain**

Material **Steel** Tensile strength **26/30 Tons** Smallest outside diameter **40 1/2"**

Length of plain part { top **82"** bottom \_\_\_\_\_ } Thickness of plates { crown **1 3/16"** bottom \_\_\_\_\_ } Description of longitudinal joint **welded**

Dimensions of stiffening rings on furnace or c.c. bottom \_\_\_\_\_ Working pressure of furnace by Rules **210 lbs**

End plates in steam space: Material **Steel** Tensile strength **26/30 Tons** Thickness **1 3/32"** Pitch of stays **18" x 17"**

How are stays secured **D.N. washers** Working pressure by Rules **216 lbs**

Tube plates: Material { front **Steel** back \_\_\_\_\_ } Tensile strength { **26/30 Tons** } Thickness { **1 5/16"** }  
 Mean pitch of stay tubes in nests **10.9"** Pitch across wide water spaces **13 1/2"** Working pressure { front **220 lbs** back **217 lbs** }

Girders to combustion chamber tops: Material **Steel** Tensile strength **28/32 Tons** Depth and thickness of girder at centre **8 1/2" x 1 3/4"** Length as per Rule **32 3/4"** Distance apart **9"** No. and pitch of stays in each **3 @ 8 1/4"** Working pressure by Rules **209 lbs**

Tensile strength **26/30 Tons** Thickness: Sides **1/16"** Back **1/16"** Top **2 1/32"** Bottom **1/16"**

Pitch of stays to ditto: Sides **9 1/2" x 8 1/4"** Back **9 1/4" x 8 1/4"** Top **9" x 8 1/4"** Are stays fitted with nuts or riveted over **nuts**

Working pressure by Rules **204 lbs** Front plate at bottom: Material **Steel** Tensile strength **26/30 Tons**

Thickness **1 5/16"** Lower back plate: Material **Steel** Tensile strength **26/30 Tons** Thickness **2 7/32"**

Pitch of stays at wide water space **13 1/4" x 9 1/4"** Are stays fitted with nuts or riveted over **nuts**

Working Pressure **222 lbs** Main stays: Material **Steel** Tensile strength **28/32 Tons**

Diameter { At body of stay, **3"** or Over threads \_\_\_\_\_ } No. of threads per inch **8** Area supported by each stay **306 sq in**

Working pressure by Rules **219 lbs** Screw stays: Material **Steel** Tensile strength **26/30 Tons**

Diameter { At turned off part, **7/8"** or Over threads **1 3/4"** } No. of threads per inch **10** Area supported by each stay **80.8 sq in**

Working pressure by Rules 222 lbs Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 1 7/8"  
 No. of threads per inch 10 Area supported by each stay 101 sq" Working pressure by Rules 210 lbs  
 Tubes: Material Iron External diameter <sup>Plain</sup> 3 1/2" Thickness <sup>Over threads</sup> 5/16" No. of threads per inch 9  
 Pitch of tubes 4 3/4" Working pressure by Rules 215 lbs Manhole compensation: Size of opening in  
 shell plate 16 x 12" Section of compensating ring 1 3/64" x 57" DIA No. of rivets and diameter of rivet holes 16 @ 1 1/4"  
 Outer row rivet pitch at ends 10.3" Depth of flange if manhole flanged 3/4" Steam Dome: Material Steel  
 Tensile strength 2 1/30 Tons Thickness of shell 3/4" Description of longitudinal joint S. R. Lap  
 Diameter of rivet holes 1 3/32" Pitch of rivets 2 1/4" Percentage of strength of joint <sup>Plate</sup> 54.0  
 Internal diameter 33" Working pressure by Rules 229 lbs Thickness of crown 7/8" No. and diameter of  
 stays 2 @ 2 1/4" Inner radius of crown ✓ Working pressure by Rules ✓  
 How connected to shell Riveted Size of doubling plate under dome 1 3/64" x 57" DIA Diameter of rivet holes and pitch  
 of rivets in outer row in dome connection to shell 1/4 @ 10.3

Type of Superheater \_\_\_\_\_ Manufacturers of <sup>Tubes</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 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,  
 FOR CHARLES D. HOLMES & CO., LTD. <sup>Manufacturers</sup>  
*J. G. Cooper*

Dates of Survey <sup>1931</sup>  
 During progress of work in shops - - - Mar. 31. Apr. 9. 14. 20. May 1. 2. 5. 16. 18. 21. Are the approved plans of boiler and superheater forwarded herewith  
 while building <sup>During erection on board vessel - - -</sup> 28. 28. Jun. 2. 2. 8. 9. 11. 16. 22. 30 (If not state date of approval.)  
 Total No. of visits 23

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Siberite

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey and in accordance with the approved plan, the materials and workmanship being sound and good. It has been satisfactorily fitted on board, tried under steam and its safety valves adjusted as stated.

The boiler plan was forwarded previously with the report on the sister vessel "Siberite."

Charged on engine report sent herewith  
 Survey Fee ... .. £ : \_\_\_\_\_ When applied for, ✓ 19 \_\_\_\_\_  
 Travelling Expenses (if any) £ ✓ : \_\_\_\_\_ When received, ✓ 19 \_\_\_\_\_

G. Moffatt  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 21 JUL 1931

Assigned See J. G. Cooper

