

# REPORT ON BOILERS.

No. 45462

11 MAY 1935

Received at London Office

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

No. in Survey held at **Hull** Date, First Survey **19th Dec. 1934** Last Survey **8th May 1935**

Reg. Book. **Steel & K "Kingston Chrysoberyl"** (Number of Visits ) Gross **447.94** Tons Net **173.77**

Master **J.M.** Built at **Beverley** By whom built **Cook, Welton & Gemmell Ltd.** Card No. **602** When built **1935, 4**

Engines made at **Hull** By whom made **Charles D. Holmes & Co. Ltd.** Engine No. **1475** When made **1935**

Boilers made at **Hull** By whom made **Charles D. Holmes & Co. Ltd.** Boiler No. **1475** When made **1935**

Nominal Horse Power **117** Owners **Kingston Steam Trawling Co. Ltd.** Port belonging to **Hull**

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

Manufacturers of Steel **Parkgate Iron & Steel Co. Ltd.** **Steel Company of Scotland Ltd.** (Letter for Record **"S"**)

Total Heating Surface of Boilers **1940 sq. ft.** Is forced draught fitted **no** Coal or Oil fired **coal**

No. and Description of Boilers **One single ended return tube.** Working Pressure **215 #0"**

Tested by hydraulic pressure to **373 #0"** Date of test **21-3-35.** No. of Certificate **3913** Can each boiler be worked separately

Area of Firegrate in each Boiler **53.7 sq. ft.** No. and Description of safety valves to each boiler **2 Spring loaded.**

Area of each set of valves per boiler **per Rule 10.55 sq. ft.** Pressure to which they are adjusted **215 #0"** 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 **9"** 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 **174"** Length **10' 8"** Shell plates: Material **Steel** Tensile strength **29-33 tons 0"**

Thickness **1 3/8"** Are the shell plates welded or flanged  Description of riveting: circ. seams **end B.R.**

long. seams **I.R. & S.S.** Diameter of rivet holes in **circ. seams 1 3/8"** Pitch of rivets **inter. 3 3/4"**

Percentage of strength of circ. end seams **plate 63.20 rivets 72.40** Percentage of strength of circ. intermediate seam **plate - rivets -**

Percentage of strength of longitudinal joint **plate 85.13 rivets 86.80 combined 87.60** Working pressure of shell by Rules **217 #0"**

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

Material **Steel** Tensile strength **26-30 tons 0"** Smallest outside diameter **42.5"**

Length of plain part **top 42"** bottom **-** Thickness of plates **crowns 53/64"** Description of longitudinal joint **Welded**

Dimensions of stiffening rings on furnace or c.c. bottom **-** Working pressure of furnace by Rules **221 #0"**

End plates in steam space: Material **Steel** Tensile strength **26-30 tons 0"** Thickness **1 7/32"** Pitch of stays **19 3/4" x 18 1/4"**

How are stays secured **Double nuts & washers** Working pressure by Rules **221 #0"**

Tube plates: Material **front Steel** Tensile strength **26-30 tons 0"** Thickness **15/16"**

**back -** Tensile strength **-** Thickness **7/8"**

Mean pitch of stay tubes in nests **10-7"** Pitch across wide water spaces **14"** Working pressure **front 228 #0"**

**back 222 #0"**

Girders to combustion chamber tops: Material **Steel** Tensile strength **29-33 tons 0"** Depth and thickness of girder

at centre **10" x 1 3/4"** Length as per Rule **36 7/32"** Distance apart **9" x 9 1/2"** No. and pitch of stays

in each **3 @ 8"** Working pressure by Rules **215 #0"** Combustion chamber plates: Material **Steel**

Tensile strength **26-30 tons 0"** Thickness: Sides **3/4"** Back **23/32"** Top **23/32"** Bottom **3/4"**

Pitch of stays to ditto: Sides **9 1/2" x 8 1/2"** Back **9 3/8" x 8 1/4"** Top **9 1/2" x 8"** Are stays fitted with nuts or riveted over **nuts.**

Working pressure by Rules **232 #0"** Front plate at bottom: Material **Steel** Tensile strength **26-30 tons 0"**

Thickness **15/16"** Lower back plate: Material **Steel** Tensile strength **26-30 tons 0"** Thickness **7/8"**

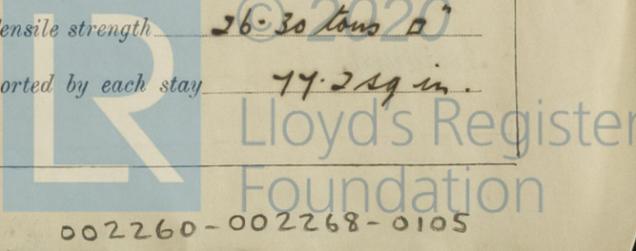
Pitch of stays at wide water space **14 1/4" x 8 1/4"** Are stays fitted with nuts or riveted over **nuts**

Working Pressure **230 #0"** Main stays: Material **Steel** Tensile strength **28-32 tons 0"**

Diameter **At body of stay, 3 1/4"** No. of threads per inch **8** Area supported by each stay **360 sq. in.**

**Over threads -** Working pressure by Rules **223 #0"** Screw stays: Material **Steel** Tensile strength **26-30 tons 0"**

Diameter **At turned off part, 1 3/4" + 1 7/8"** No. of threads per inch **10** Area supported by each stay **77.2 sq. in.**



Working pressure by Rules 232 #0 Are the stays drilled at the outer ends No Margin stays: Diameter <sup>At turned off part,</sup> 1 7/8" + 2"  
 No. of threads per inch 10 Area supported by each stay 89 sq inches Working pressure by Rules 240 #0  
 Tubes: Material Iron External diameter <sup>Plain</sup> 3 1/2" Thickness <sup>8 wg</sup> 5/16", 3/8", 7/16" No. of threads per inch 9  
 Pitch of tubes 4 3/4" Working pressure by Rules 215 #0 Manhole compensation: Size of opening in  
 shell plate 16 x 12" Section of compensating ring 5 1/2" dia x 1 1/8" No. of rivets and diameter of rivet holes 59 @ 1 3/8"  
 Outer row rivet pitch at ends 10.41" Depth of flange if manhole flanged ✓ Steam Dome: Material Steel  
 Tensile strength 26-30 tons Thickness of shell 3/4" Description of longitudinal joint S.R. lap  
 Diameter of rivet holes 1 1/32" Pitch of rivets 2 1/4" Percentage of strength of joint <sup>Plate</sup> 54.00  
 Internal diameter 33" Working pressure by Rules 229 #0 Thickness of crown 7/8" No. and diameter of  
 stays 2 @ 2 1/4" Inner radius of crown ✓ Working pressure by Rules 229 #0  
 How connected to shell Riveted Size of doubling plate under dome 5 1/2" dia x 1 1/8" Diameter of rivet holes and pitch  
 of rivets in outer row in dome connection to shell 1 3/8" @ 10.4"

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. Dr. [Signature] Manufacturer.

Dates of Survey <sup>During progress of work in shops - -</sup> \_\_\_\_\_ Are the approved plans of boiler and superheater forwarded herewith Yes  
 while building <sup>During erection on board vessel - - -</sup> See mchly Rpt. (If not state date of approval.)  
 Total No. of visits ✓

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Kingston Cairngorm" 45626.

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. It has been satisfactorily fitted on board, tried under steam and its safety valves adjusted as stated.

Charged on engine report herewith.

Survey Fee £ \_\_\_\_\_ : When applied for, \_\_\_\_\_ 19  
 Travelling Expenses (if any) £ \_\_\_\_\_ : When received, \_\_\_\_\_ 19

S. Knoffatt  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 14 MAY 1995  
 Assigned See Sub J. 45762

