

Rpt. 5a.

# REPORT ON BOILERS.

No. 39591.

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Date of writing Report 1 FEB 1929 When handed in at Local Office 1 FEB 1929

Port of HULL.

No. in Surrey held at Hull. Date, First Survey 7 June 1928 Last Survey 28 Jan 1929  
60712 on the Steam Trawler "CLYNE CASTLE" (Number of Visits 24) Gross 306.94 Tons Net 116.69

Master Built at Selby By whom built Cochran & Sons Ltd Yard No. 1035 When built  
Engines made at Hull By whom made Amos & Smith Ltd Engine No. 565 When made  
Boilers made at Hull By whom made Amos & Smith Ltd Boiler No. 565 When made  
Nominal Horse Power 96 Owners Consolidated Fisheries Ltd Port belonging to Swansea

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

Manufacturers of Steel Apperby Iron Co Ltd (Letter for Record)

Total Heating Surface of Boilers 1546 sq. ft. Is forced draught fitted ho Coal or Oil fired Coal

No. and Description of Boilers One single ended return tube 15B. Working Pressure 200 lbs.

Tested by hydraulic pressure to 350 lbs Date of test 15/1/29 No. of Certificate 3689 Can each boiler be worked separately

Area of Firegrate in each Boiler 50 sq ft No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler (per boiler 8.89 sq ft as fitted 9.8) 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 14'-0" Length 10'-9" Shell plates: Material Steel Tensile strength 29/33 Tons

Thickness 1 1/4" Are the shell plates welded or flanged Description of riveting: circ. seams 37/8" inter. 5R. end

long. seams T.R. 5B.S. Diameter of rivet holes in circ. seams 1 1/2" Pitch of rivets 8 1/2"

Percentage of strength of circ. end seams (plate 66.9 rivets 42.2) Percentage of strength of circ. intermediate seam (plate 84.9 rivets 84.2)

Percentage of strength of longitudinal joint (plate 84.9 rivets 84.2) Working pressure of shell by Rules 200.8 lbs.

Thickness of butt straps (outer 1" inner 1 1/2") No. and Description of Furnaces in each Boiler Three plain

Material Steel Tensile strength 26/30 Tons Smallest outside diameter 41 7/8"

Length of plain part (top 80" bottom 72") Thickness of plates (crown 13/16" bottom 13/16") Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom 3 1/2 x 3 1/2 x 13/16 Working pressure of furnace by Rules 206 lbs.

End plates in steam space: Material Steel Tensile strength 26/30 Tons Thickness 13/16" Pitch of stays 21 x 16"

How are stays secured S.N. & Washers Working pressure by Rules 213 lbs.

Tube plates: Material (front Steel back) Tensile strength (26/30 Tons) Thickness (15/16" 7/8")

Mean pitch of stay tubes in nests 9.75" Pitch across wide water spaces 14" Working pressure (front 208 lbs. back 220)

Girders to combustion chamber tops: Material Steel Tensile strength 29/33 Tons Depth and thickness of girder

at centre 9 1/4 x 13/4 Length as per Rule 36" Distance apart 9' + 9 1/8" (centre) No. and pitch of stays

in each 3 @ 8" Working pressure by Rules 204 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30 Tons Thickness: Sides 4/6" Back 4/6" Top 11/16" Bottom 11/16"

Pitch of stays to ditto: Sides 10 x 8" Back 9 x 8 3/4" Top 9 x 8" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 205 lbs. Front plate at bottom: Material Steel Tensile strength 26/30 Tons

Thickness 15/16" Lower back plate: Material Steel Tensile strength 26/30 Tons Thickness 7/8"

Pitch of stays at wide water space 14 x 9" Are stays fitted with nuts or riveted over nuts

Working Pressure 250 lbs. Main stays: Material Steel Tensile strength 28/32 Tons

Diameter (At body of stay, or Over threads) 3 1/4" No. of threads per inch 6 Area supported by each stay 336 sq in

Working pressure by Rules 238 lbs. Screw stays: Material Steel Tensile strength 26/30 Tons

Diameter (At turned off part, or Over threads) 1 7/8" + 1 3/4" No. of threads per inch 9 Area supported by each stay 80 sq in



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Working pressure by Rules 220 Lbs Are the stays drilled at the outer ends Yes Margin stays: Diameter 1 7/8 (At turned off part, or Over threads) 17/8  
 No. of threads per inch 9 Area supported by each stay 97.7 sq in Working pressure by Rules 200 Lbs  
 Tubes: Material Iron External diameter 3 1/2 (Plain Stay) Thickness 9/16 & 3/8 No. of threads per inch 9  
 Pitch of tubes 4 7/8 Working pressure by Rules 215 Lbs Manhole compensation: Size of opening in shell plate 16 x 12 Section of compensating ring 56 7/8 dia No. of rivets and diameter of rivet holes 32 @ 1 1/4  
 Outer row rivet pitch at ends 10 1/4 Depth of flange if manhole flanged - Steam Dome: Material Steel  
 Tensile strength 2432 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 (Plate Rivets) 54.0 / 43.6  
 Internal diameter 36 Working pressure by Rules - Thickness of crown 7/8 No. and diameter of stays 2 @ 2 1/2 Inner radius of crown - Working pressure by Rules -  
 How connected to shell Riveted Size of doubling plate under dome 56 7/8 dia Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 1/4 - 10 1/4 Pitch

Type of Superheater \_\_\_\_\_ Manufacturers of Tubes \_\_\_\_\_ Steel castings \_\_\_\_\_  
 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 23 inclusive for boilers been complied with \_\_\_\_\_

The foregoing is a correct description,  
 For AMOS & SMITH LTD.  
 \_\_\_\_\_ Manufacturer.

Dates of Survey (During progress of work in shops - -) See attached report Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) \_\_\_\_\_  
 (During erection on board vessel - - -) on board Total No. of visits 1  
 \_\_\_\_\_ MANAGER

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 are sound & good. It has been satisfactorily fitted on board, tried under steam and its safety valves adjusted as above.

Chapman engine report  
 Survey Fee £ 192 When applied for, ✓  
 Travelling Expenses (if any) £ - When received, ✓

John Mackintosh  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 5 FEB 1929  
 Assigned See Report attached

For S.S.O.F. please see F.E. "Canton Castle" Hull Ref 39317