

## REPORT ON BOILERS.

No. 120343.

Date of writing Report 10-11-43 When handed in at Local Office 9 DEC 1943

Received at London Office

15 DEC 1943

27 MAR 1944

Port of Liverpool

No. in Survey held at Birkenhead Date, First Survey 29/10/42 Last Survey 10/9/1943

on the Admiralty Trawler Boiler for "ORONSAY" J2686 (Number of Visits 14) Tons {Gross 458.6 Net 143.9}

Master Built at Selby By whom built Cochran Sons &amp; Co. Yard No. 1277 When built 1944

Engines made at Hull By whom made Amos Smith &amp; Co. Engine No. 735 When made

Boilers made at Birkenhead By whom made Lamell Laird &amp; Co. Ltd Boiler No. 2252 When made 1943

Nominal Horse Power 147 Owners The Admiralty Port belonging to

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

Manufacturers of Steel Colvilles Ltd.

Total Heating Surface of Boilers 2650 ft<sup>2</sup>

Is forced draught fitted Yes

(Letter for Record (5))

Coal or Oil fired Coal

No. and Description of Boilers 1. 5. E.

Working Pressure 200 lb

Tested by hydraulic pressure to 350 lb Date of test 25/8/43 No. of Certificate 2610 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 63.3 ft<sup>2</sup> No. and Description of safety valves to each boiler Two spring loaded (high lift)

Area of each set of valves per boiler {per Rule 7.7 sq. ins. as fitted 9.8 Pressure to which they are adjusted 203 lb Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2' 0" Is oil fuel carried in the double bottom under boilers NONE

Smallest distance between shell of boiler and tank top plating NONE Is the bottom of the boiler insulated No

Largest internal dia. of boilers 14' 9 3/8" Length 11' 4 21/32" Shell plates: Material Steel Tensile strength 29/33 Tons

Thickness 1 5/16" Are the shell plates welded or flanged no. Description of riveting: circ. seams {end D.R. inter. 4.01" Pitch of rivets 9.5"

Long. seams T.R.-D.B.S. Diameter of rivet holes in {circ. seams 1 3/8" long. seams 1 3/8" Pitch of rivets 9.5"

Percentage of strength of circ. end seams {plate 65% rivets 45% Percentage of strength of circ. intermediate seam {plate 85.5% rivets 88.5%

Percentage of strength of longitudinal joint {plate 88.5% rivets 88.7% Working pressure of shell by Rules 238 lb

Thickness of butt straps {outer 1 1/8" inner 1 1/8" No. and Description of Furnaces in each Boiler 3. Beighton Section

Material Steel Tensile strength 26/30 Tons Smallest outside diameter 3' 6 1/2"

Length of plain part {top 19' 1/32" bottom 19' 1/32" Thickness of plates {crown 19' 1/32" bottom 19' 1/32" Description of longitudinal joint Weld.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 204 lb 208 lb

End plates in steam space: Material Steel Tensile strength 26/30 Tons Thickness 1 1/32" Pitch of stays 20 3/8" x 20"

How are stays secured DN. Working pressure by Rules 216 lb

Tube plates: Material {front Steel back Steel Tensile strength 26/30 Tons Thickness 7/8" 25/32"

Mean pitch of stay tubes in nests 9.6" Pitch across wide water spaces 13 5/8" Working pressure {front 234 lb back 233 lb

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Tons Depth and thickness of girder 8 1/4" x 15/16" double

at centre Length as per Rule 31 1/32" Distance apart 10 3/4", 9 1/4", 9"

in each 2 @ 9 7/8" Working pressure by Rules 247 lb 25/32" Combustion chamber plates: Material Steel

Tensile strength 26/30 Tons Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"

Pitch of stays to ditto: Sides 10 3/4" x 9 7/8" Back 9 7/8" x 9 1/2" Top 10 3/4" x 9 7/8" max. Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 202 lb Front plate at bottom: Material Steel Tensile strength 26/30 Tons

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

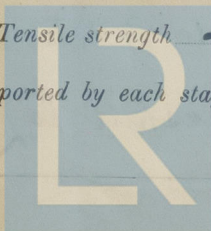
Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 200 lb Main stays: Material Steel Tensile strength 28/32 Tons

Diameter {At body of stay 3 1/8" No. of threads per inch 6 Area supported by each stay 10 3/8" x 20"

Working pressure by Rules 208 lb Screw stays: Material Steel Tensile strength 26/30 Tons

Diameter {At turned off part 1 7/8" - 2" No. of threads per inch 9 Area supported by each stay 10 3/4" x 9 7/8" max.



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Working pressure by Rules 201<sup>lb</sup> Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2" or Over threads 2 30<sup>th</sup>  
 No. of threads per inch 9 Area supported by each stay 128<sup>0</sup> Working pressure by Rules 230<sup>th</sup>  
 Tubes: Material Iron External diameter { Plain 2 3/4" Thickness { 5/16 No. of threads per inch 9  
 Pitch of tubes 3 7/8" x 3 7/8" Working pressure by Rules 275<sup>lb</sup> Manhole compensation: Size of opening  
 shell plate 21 1/4" x 17 1/4" Section of compensating ring 36" x 34 3/4" x 1 7/16" No. of rivets and diameter of rivet holes 44 @ 1 7/16"  
 Outer row rivet pitch at ends 9 5/8" Depth of flange if manhole flanged 3 1/2" Steam Dome: Material Iron  
 Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_  
 Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint { Plate \_\_\_\_\_ Rivets \_\_\_\_\_  
 Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_  
 How connected to shell \_\_\_\_\_ Size of doubling plate under dome \_\_\_\_\_ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell \_\_\_\_\_

Type of Superheater \_\_\_\_\_ Manufacturers of { Tubes \_\_\_\_\_ Steel forgings \_\_\_\_\_ Steel castings \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
 Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and the boiler be worked separately \_\_\_\_\_  
 Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ 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 \_\_\_\_\_ Hydraulic test pressure \_\_\_\_\_  
 Pressure to which the safety valves are adjusted \_\_\_\_\_ Are drain cocks fitted to free the superheater from water where necessary \_\_\_\_\_  
 forgings and castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with YES

The foregoing is a correct description,  
W. H. M. McEwen Manufacturer

Dates of Survey { During progress of work in shops - - - Oct 29, Jan 14, Feb 11, Mar 5, 16, 23, May 25 Are the approved plans of boiler and superheater forwarded herewith 14/7/4  
 while building { During erection on board vessel - - - June 17, July 1, 8, 24, Aug 25, 26, Sept 10 (If not state date of approval.)  
 See machinery report Total No. of visits 14

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Boiler No 2245

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good. It is stated they are being despatched to the Hull district for installation in Mr Cook Nelson's Gemmels J. 2733.

The above boiler installed in HMT ORONSAY at Hull by Messrs Amos & Smith under Special Survey, examined under steam, safety valves adjusted & overleaf, accumulation test held and found satisfactory on completion of all tests.  
W. S. Shields, Surveyor

Survey Fee N.B. £ 17/14/0 When applied for, 10 DEC 1913  
 Travelling Expenses (if any) £ \_\_\_\_\_ When received, 19  
 Supervision of Specification See Machinery Report

H. Sutherland  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL  
 Assigned Transmit to London

TUES. 4 APR 1944

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