

REPORT ON BOILERS.

No. 52234

Received at London Office 7 DEC 1943

Date of writing Report 5-11-1943. When handed in at Local Office 23 NOV 1943

Port of HULL

No. in Survey held at HULL

Date, First Survey 4. 8. 43. Last Survey 23. 11. 1943.

on the H.M. TRAWLER GILLSTONE.

(Number of Visits) Gross 452
Tons Net 144

Built at SELBY.

By whom built Cichrane & Son Ltd

Yard No. 1271. When built 1943

Engines made at HULL.

By whom made Gurn & Smith Ltd

Engine No. 729 When made

Boilers made at HULL.

By whom made Gurn & Smith Ltd

Boiler No. 729. When made

Nominal Horse Power

Owners THE ADMIRALTY.

Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodsham Steel Co. Ltd and Co. Ltd

(Letter for Record 5.

Total Heating Surface of Boilers 2650 sq. ft.

Is forced draught fitted Yes.

Coal or Oil fired Coal

No. and Description of Boilers One S.B.

Working Pressure 200 lbs/sq. in.

Tested by hydraulic pressure to 350 lbs/sq. in. Date of test 23-9-43. No. of Certificate 4202. Can each boiler be worked separately

Area of Firegrate in each Boiler 63 sq. ft. No. and Description of safety valves to each boiler 2 - Springloaded

Area of each set of valves per boiler { per Rule 15.4 sq. ft. as fitted 16.6 sq. ft. Pressure to which they are adjusted 200 lbs/sq. in. 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 2'-0" Is oil fuel carried in the double bottom under boilers No

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'-6" Shell plates: Material Steel Tensile strength 29/33 tons/sq. in.

Thickness 1 5/16" Are the shell plates welded or flanged No Description of riveting: circ. seams { end DR lap inter. None

Long. seams T.R. D.B.S. Diameter of rivet holes in { circ. seams 1 3/8" long. seams 1 5/8" Pitch of rivets { 4" 9 1/2"

Percentage of strength of circ. end seams { plate 65.6% rivets 44.7% Percentage of strength of circ. intermediate seam { plate 85.5% rivets 88.5% combined 88.8%

Percentage of strength of longitudinal joint { plate 85.5% rivets 88.5% combined 88.8%

Thickness of butt straps { outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 - cf Deighton section

Material Steel Tensile strength 26/30 tons/sq. in. Smallest outside diameter 3'-6 7/16"

Length of plain part { top 19 1/2" bottom 19 1/2" Thickness of plates { crown 19 1/2" bottom 19 1/2" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material Steel Tensile strength 26/30 tons/sq. in. Thickness 1 1/32" Pitch of stays 2 1/2 x 20 max

How are stays secured Nuts inside and out

Tube plates: Material { front Steel back Steel Tensile strength { 26/30 tons/sq. in. do Thickness { 7/8" 25/32"

Mean pitch of stay tubes in nests 9 1/16" Pitch across wide water spaces 13 5/8"

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons/sq. in. Depth and thickness of girder

at centre 8 1/4" x 1 7/8" Length as per Rule 2'-7 5/32" Distance apart 10 3/4" No. and pitch of stays

in each 2 - 9 7/8" Combustion chamber plates: Material Steel

Tensile strength 26/30 tons/sq. in. Thickness: Sides 25/32" Back 3/4" Top 25/32" Bottom 25/32"

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

Front plate at bottom: Material Steel Tensile strength 26/30 tons/sq. in.

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 tons/sq. in. Thickness 7/8"

Pitch of stays at wide water space 14 1/2" x 9 7/8" Are stays fitted with nuts or riveted over Nuts

Main stays: Material Steel Tensile strength 28/32 tons/sq. in.

Diameter { At body of stay, 3 1/8" No. of threads per inch 6

crew stays: Material Steel Tensile strength 26/30 tons/sq. in.

Diameter { At turned off part, 1 7/8" No. of threads per inch 9

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Are the stays drilled at the outer ends No Margin stays: Diameter 2" ^{At turned off part,} ^{or} ^{Over threads} 2" ✓

No. of threads per inch 9

Tubes: Material Steel External diameter 2 3/4" Thickness 8 W.G. No. of threads per inch 9

Pitch of tubes 3 7/8 x 3 7/8 Manhole compensation: Size of opening in shell plate 12" (x 16") Section of compensating ring 1 5/16" x 20" No. of rivets and diameter of rivet holes 15 - 1 5/32"

Outer row rivet pitch at ends 10 1/8" Depth of flange if ^{bottom} manhole flanged 3 1/4" Steam Dome: Material None

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 _____ Thickness of crown _____ No. and diameter of stays _____ Inner radius of crown _____

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} _____

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 _____

Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: _____

tubes _____ forgings and 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,
W. E. Shields Manufacturer.
 DIRECTOR

Dates of Survey ^{During progress of work in shops - - -} 1943. Aug 14. 17. 30. Sept 7. 18. 23. Are the approved plans of boiler and superheater forwarded herewith 17-7-39. (If not state date of approval.) 34.

^{while building} ^{During erection on board vessel - - -} See machinery report attached. Total No. of visits _____

Is this Boiler a duplicate of a previous case _____ If so, state Vessel's name and Report No. H.M.T. BIRCH. Rep No. 50672

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This boiler has been constructed under Special Survey in accordance with the approved Admiralty plans & the Rules. The workmanship & materials are good and when subjected to a hydraulic test of 350 lbs/sq" it was found satisfactory in every respect.

Boiler installed in H.M.T. GILLSTONE at Hull, examined under steam, safety valves adjusted as overleaf, accumulation test held and afterwards examined on completion of all trials and found satisfactory in every respect.
W. E. Shields.

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

J. F. ...
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 14 DEC 1943

Assigned See fe. machy r/s