

REPORT ON BOILERS.

No. 50776.

Received at London Office

JUL 22 1940

of writing Report *3-7-1940* When *Surveyed* Local Office *19 JUL 1940* Port of *HULL*

in Survey held at *Hull* Date, First Survey *5.9.39* Last Survey *25.6.1940*

Book. *Full* (Number of Visits *39*) Gross *608* Tons Net *207*

on the *Steam Tractor* **ST APOLLO.** Yard No. *654* When built *1940-6*

lt at *Derby* By whom built *Cook, Weller & Gammell Ltd* Engine No. *1536* When made *do*

ines made at *Hull* By whom made *C.D. & Holmes Ltd* Boiler No. *1557* When made *do*

lers made at *do* By whom made *Firth Ship Trimming Co Ltd* Port belonging to *✓*

iminal Horse Power *165* Owners *The Admiralty (Hull)*

** No. 1536 & 1557 have been transposed 1556 being fitted in the St Zeno -*

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *The Steel Co of Scotland & Appleby & Hodgkinson Steel Co Ltd* (Letter for Record *"S"*)

al Heating Surface of Boilers *2551* Is forced draught fitted *Yes* Coal or Oil fired *Coal*

and Description of Boilers *One* S.B. Working Pressure *225 lbs/sq*

sted by hydraulic pressure to *390 lbs* Date of test *27.11.39* No. of Certificate *4017* Can each boiler be worked separately *✓*

ea of Firegrate in each Boiler *64* No. and Description of safety valves to each boiler *One - Valve - Spring loaded*

ea of each set of valves per boiler *per Rule 16.1* Pressure to which they are adjusted *225 lbs* Are they fitted with easing gear *Yes*

case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *✓*

allest distance between boilers or uptakes and bunkers or woodwork *12"* Is oil fuel carried in the double bottom under boilers *No*

allest distance between shell of boiler and tank top plating *✓* Is the bottom of the boiler insulated *No*

argest internal dia. of boilers *15'-9 1/8"* Length *11'-0"* Shell plates: Material *Steel* Tensile strength *31/35 tons/sq*

ickness *1 1/8"* Are the shell plates welded or flanged *No* Description of riveting: circ. seams *DR. lap*

g. seams *T.R. D.B.S.* Diameter of rivet holes in *circ. seams 1 1/8"* Pitch of rivets *9 9/16"*

ercentage of strength of circ. end seams *plate 62.1%* Percentage of strength of circ. intermediate seam *plate*

ercentage of strength of longitudinal joint *plate 84.31%* *rivets 86.9%* *combined 85.98%*

ickness of butt straps *outer 1 1/8"* No. and Description of Furnaces in each Boiler *3 of "Dighton" section*

aterial *Steel* Tensile strength *26/30 tons/sq* Smallest outside diameter *3'-10"*

ength of plain part *top* Thickness of plates *bottom 23/32"* Description of longitudinal joint *Welded*

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

nd plates in steam space: Material *Steel* Tensile strength *26/30 tons/sq* Thickness *1 1/4"* Pitch of stays *18 1/8" x 19 1/8"*

ow are stays secured *Double nut & washers*

ube plates: Material *front Steel* Tensile strength *26/30 tons/sq* Thickness *3/32"*

back *Steel* *do* *29/32"*

lean pitch of stay tubes in nests *10.94"* Pitch across wide water spaces *14 1/2"*

irders to combustion chamber tops: Material *Steel* Tensile strength *29/33 tons/sq* Depth and thickness of girder

t centre *9" x 1/8"* Double Length as per Rule *2'-8 1/4"* Distance apart *9 1/4"* No. and pitch of stays

n each *3 - 7 1/2"* Combustion chamber plates: Material *Steel*

Tensile strength *26/30 tons/sq* Thickness: Sides *23/32"* Back *23/32"* Top *1 1/16"* Bottom *1 5/16"*

Pitch of stays to ditto: Sides *4 3/4" x 8"* Back *8 1/4" x 9 1/2"* Top *4 1/4" x 7 1/2"* Are stays fitted with nuts or riveted over *No*

front plate at bottom: Material *Steel* Tensile strength *26/30 tons/sq*

Thickness *3/32"* Lower back plate: Material *Steel* Tensile strength *26/30 tons/sq* Thickness *29/32"*

Pitch of stays at wide water space *14 1/2" x 9 1/2" + 9 1/2"* Are stays fitted with nuts or riveted over *No*

ain stays: Material *Steel* Tensile strength *28/32 tons/sq*

Diameter *At body of stay, or Over threads 3 3/8"* No. of threads per inch *8*

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

Diameter *At turned off part, or Over threads 1 3/4"* No. of threads per inch *10*

© 2020

Lloyd's Register Foundation

Are the stays drilled at the outer ends CY0 Margin stays: Diameter { At turned off part. or Over threads 1 7/8", 2", 2 1/8"
No. of threads per inch 10
Tubes: Material Steel External diameter { Plain 5 1/2" Stay 3 1/2" Thickness { 7/16" 3/8" 7/16" No. of threads per inch 4.
Pitch of tubes 4 3/4" x 4 3/4" Manhole compensation: Size of opening 2
shell plate 16 x 12" Section of compensating ring 2'-10 1/4" x 1' 5/32" No. of rivets and diameter of rivet holes 56 @ 1 1/2" dia
Outer row rivet pitch at ends 10 3/4" Depth of flange if manhole flanged Top 3 1/4" Bottom 3 1/2" Steam Dome: Material Steel.
Tensile strength 26/30 lbs/sq in 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 { Plate 54% Rivets 43.8%
Internal diameter 2'-9" Thickness of crown 1 5/16" No. and diameter of stays Wood 2 3/8" Inner radius of crown Flat.
How connected to shell Riveted Size of doubling plate under dome 4'-11 1/4" dia x 1' 5/32" Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 1/2" dia 10 3/4"

Type of Superheater Smoke tube type Manufacturers of { Tubes { Steel forgings { See main Rpt. (Part No 430) Steel castings {
The Superheater Co. Ltd.
Number of elements 60 Material of tubes Steel Internal diameter and thickness of tubes 1 7/8" bore 3 3/4" thick
Material of headers Steel Tensile strength See main Rpt. Thickness 5 1/8" Can the superheater be shut off and the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes
Area of each safety valve 1.77 sq in Are the safety valves fitted with easing gear Yes
Pressure to which the safety valves are adjusted 230 lbs/sq in Hydraulic test pressure 300 lbs/sq in
tubes 1000 lbs/sq in forgings and castings 675 lbs/sq in and after assembly in place 675 lbs/sq in Are drain cocks on valves fitted to free the superheater from water where necessary Yes
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.
J. R. Cooper Manufacturer.

Dates of Survey { During progress of work in shops -- { 1939 Sept. 5, 11, 20, Oct. 11, Nov. 1, 7, 15, Are the approved plans of boiler and superheater forwarded herewith 31.7.39.
while building { During erection on board vessel -- { 17. 24. 26. Dec. 4, 6, 7, 9, 12, 13, 18, 20, 21, 26, 28,
1940 Jan. 4, 5, 8, 9, 12, 18, Feb. 9, 20, 21, Total No. of visits 39.
23, 26, 28, 29, Mar. 6, 20, June 18, 21, 25.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. Lady Lilian Hull Rpt No 50402
Cape Panaro. " 50266

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler has been constructed under Special Survey in accordance with the approved plan & the Rules. The workmanship & materials are good & when tested by hydraulic pressure it was found tight & safe in every respect.

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

J. R. Cooper
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 2 AUG 1940

Assigned See Ft2 machy r.p.