

REPORT ON BOILERS.

No. 59070

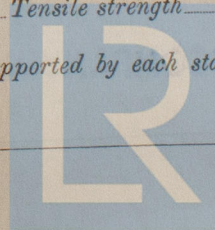
DEC -1 1937

Received at London Office

ing Report 26th Nov 1937 When handed in at Local Office 27. 11. 37 Port of Glasgow
 Survey held at Glasgow Date, First Survey 30. 3. 37 Last Survey 18th Nov 1937
 on the Twin S.S. "EL MADINA" (Number of Visits 16) Gross 3962 Tons Net 1628
 Built at Glasgow By whom built Barelay Curle & Co. Yard No. 666 When built 1934-11
 Made at Glasgow By whom made Barelay Curle & Co. Engine No. 666 When made 1934
 Made at Glasgow By whom made Barelay Curle & Co. Boiler No. 666 When made 1937
 Horse Power 458 Owners Scindia Steam Navigation Co. Port belonging to Bombay.

WATER TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel D. Colville & Sons Ltd (Letter for Record (S))
 Heating Surface of Boilers 13144 sq ft Is forced draught fitted Yes Coal or Oil fired Coal
 Description of Boilers Four Single Ended. Working Pressure 220 lbs
 Hydraulic pressure to 380 lbs Date of test 7/9/34 No. of Certificate 20014 Can each boiler be worked separately Yes
6.34 Firegrate in each Boiler 80 sq ft No. and Description of safety valves to each boiler One - 2 1/2" Improved High Lift Double Safety Valve
 each set of valves per boiler {per Rule 8.70 as fitted 9.810 Pressure to which they are adjusted 220 Are they fitted with easing gear Yes
 If donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes
 distance between boilers on uptakes and bunkers on woodwork 12' sides 2'6" back Is oil fuel carried in the double bottom under boilers No
 distance between shell of boiler and tank top plating 24" Is the bottom of the boiler insulated Yes
 internal dia. of boilers 16' 9" Length 12' 3" Shell plates: Material Steel Tensile strength 30/34 Tons
19/16" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. inter. Yes
HA1-1 T.R - D.B.S. Diameter of rivet holes in {circ. seams 15/8" Pitch of rivets {4.3" inter. 11"
HA1-2 Age of strength of circ. end seams {plate 62.61 rivets 47.24 Percentage of strength of circ. intermediate seam {plate 85.22 rivets 86.57
HA1-3 Age of strength of longitudinal joint {plate 87.95 rivets 87.95 Working pressure of shell by Rules 222 lbs
HA1-4 ss of butt straps {outer 13/16" inner 15/16" No. and Description of Furnaces in each Boiler 4. DEIGHTON SECTION. total 16 cf
HA1-5 Material STEEL Tensile strength 26/30 Tons Smallest outside diameter 3' 6 5/8"
 of plain part {top 21/32" bottom 21/32" Description of longitudinal joint WELD
 of stiffening rings on furnace or c.c. bottom Yes Working pressure of furnace by Rules 225 lbs
 plates in steam space: Material STEEL Tensile strength 26/30 Tons Thickness 1 15/32" Pitch of stays 23 3/4" x 18 1/2"
HA1-6 Are stays secured D.N. Working pressure by Rules 220 lbs
 plates: Material {front STEEL back STEEL Tensile strength {26/30 TONS Thickness {27/32" front 225 lbs back 237 lbs
 pitch of stay tubes in nests 10.4" Pitch across wide water spaces 14" Working pressure {front 225 lbs back 237 lbs
 plates to combustion chamber tops: Material STEEL Tensile strength 28/32 Tons Depth and thickness of girder 8 1/8" centre
HA1-7 re 10 1/4" x 13/16" dble Length as per Rule 2' 9 15/16" Distance apart 10" wings No. and pitch of stays 3 @ 8"
 Working pressure by Rules 230 lbs Combustion chamber plates: Material STEEL
 strength 26-30 TONS Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 13/16"
 of stays to ditto: Sides 10" x 8" Back 9" x 9" Top 10" x 8" wing Are stays fitted with nuts or riveted over NUTS
 Working pressure by Rules 221 lbs Front plate at bottom: Material STEEL Tensile strength 26/30 TONS
HA1-8 Thickness 15/16" Lower back plate: Material STEEL Tensile strength 26/30 TONS Thickness 7/8"
 of stays at wide water space 14" Are stays fitted with nuts or riveted over NUTS
 Working Pressure 248 lbs Main stays: Material STEEL Tensile strength 28/32 TONS
 At body of stay, 3 5/8" No. of threads per inch 6 Area supported by each stay 23 3/4" x 18 1/2"
 Over threads 232 lbs Screw stays: Material STEEL Tensile strength 26/30 TONS
 At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 81 sq in
 Over threads



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Working pressure by Rules 224 lbs Are the stays drilled at the outer ends No Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. 2\text{"} \checkmark$
No. of threads per inch $9\checkmark$ Area supported by each stay $103\frac{1}{2}\text{ sq"} \checkmark$ Working pressure by Rules 239 lbs
Tubes: Material WROTI External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 3\text{"} \checkmark$ Thickness $\left\{ \begin{array}{l} 8\text{"} \\ 5\text{"} \\ 2\text{"} \\ 3\text{"} \\ 16\text{"} \\ 16\text{"} \\ 8\text{"} \end{array} \right. \checkmark$ No. of threads per inch \checkmark
Pitch of tubes $4\frac{1}{4}\text{"} \times 4\frac{1}{8}\text{"} \checkmark$ Working pressure by Rules 250 lbs Manhole compensation: Size of \checkmark
shell plate $20\frac{1}{2}\text{"} \times 16\frac{1}{2}\text{"} \checkmark$ Section of compensating ring $8\frac{3}{4}\text{"} \times 19\frac{1}{16}\text{"} \checkmark$ No. of rivets and diameter of rivet holes $40\checkmark 15\frac{1}{8}$
Outer row rivet pitch at ends $11\text{"} \checkmark$ Depth of flange if manhole flanged $4\frac{3}{8}\text{"} \checkmark$ Steam Dome: Material \checkmark
Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. \checkmark$
Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and _____
stays _____ Inner radius of crown _____ Working pressure by Rules _____
How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet hole _____
of rivets in outer row in dome connection to shell _____
Type of Superheater Smith bar type Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right. \checkmark \text{See Mch rpt.}$
Number of elements 60 each bar Material of tubes S.D. steel Internal diameter and thickness of tubes $\checkmark \text{See Mch rpt.}$
Material of headers Forged steel Tensile strength $\checkmark \text{See Mch rpt.}$ Thickness _____ Can the superheater be _____
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 $\checkmark \text{Yes}$
Area of each safety valve $3.14\text{ sq"} \checkmark$ Are the safety valves fitted with easing gear Yes Working pressure _____
Rules 220 lbs Pressure to which the safety valves are adjusted $220\checkmark$ Hydraulic test _____
tubes $\checkmark \text{See Mch rpt.}$ castings $\checkmark \text{See Mch rpt.}$ and after assembly in place 440 lbs Are drain cocks or _____
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 BURLAY, GURLEY & CO., LTD.

Alexander Macneil

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} \end{array} \right. 1937 \text{ Mar.: 30 Apr.: 26 May.: 6 June.: 18-28}$
while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} \end{array} \right. \text{July.: 29 Aug.: 3. 6. 30}$
Total No. of visits 16

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under Special Survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good.

These boilers have been efficiently secured in position board the vessel, examined under steam and found satisfactory.

27/11/37

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

H. Suthers

Engineer Surveyor to Lloyd's Register of S

Committee's Minute GLASGOW 30 NOV 1937

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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