

REPORT ON BOILERS.

No. 6340

Received at London Office 26 NOV. 1928

Date of writing Report 23rd Oct. 1928 When handed in at Local Office 24th Oct. 1928 Port of Hong Kong
 No. in Reg. Book. 87565 Survey held at Hong Kong Date, First Survey May 2nd Last Survey Oct. 20th 1928
 (Number of Visits 25) Gross 210.40 Tons Net 73.48
 on the Steel Twin Screw Ferry Steamer "VIOLET"
 Built at Hong Kong By whom built H'Kong + W'poa Dock Co. Ltd. Yard No. 651 When built 1928
 Engines made at Hong Kong By whom made H'Kong + W'poa Dock Co. Ltd. Engine No. 396/7 When made 1928
 Boilers made at Hong Kong By whom made H'Kong + W'poa Dock Co. Ltd. Boiler No. 726 When made 1928
 Nominal Horse Power 55.4 Owners Federated Malay States Railway Port belonging to Penang

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Lanarkshire Steel Co. David Colville & Sons (Letter for Record H.S.)
 Total Heating Surface of Boilers 983 sq ft Is forced draught fitted no Coal or Oil fired Coal
 No. and Description of Boilers 1 - S.E. Multitubular Working Pressure 190 lbs.
 Tested by hydraulic pressure to 335 lbs. Date of test 9-8-28 No. of Certificate 165 Can each boiler be worked separately ✓
 Area of Firegrate in each Boiler 36.6 sq ft No. and Description of safety valves to each boiler 2 - 1 3/4" Cockburn's High Lift
 Area of each set of valves per boiler { per Rule 3.9 sq ft as fitted 4.81 sq ft Pressure to which they are adjusted 190 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 12" Is oil fuel carried in the double bottom under boilers no
 Smallest distance between shell of boiler and tank top plating Open floors Is the bottom of the boiler insulated no
 Largest internal dia. of boilers 11'-0" Length 10'-6" Shell plates: Material steel Tensile strength 28 to 32 Tons
 Thickness 31/32" Are the shell plates welded or flanged no Description of riveting: circ. seams { end double lap inter. ✓
 Rivet seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1" long. seams 1" Pitch of rivets { 2.983" plate 7 3/16" rivets ✓
 Percentage of strength of circ. end seams { plate 66.5 rivets 44.6 Percentage of strength of circ. intermediate seam { plate 86.0 rivets 86.8
 Percentage of strength of longitudinal joint { plate 86.0 rivets 86.8 combined 89.6 Working pressure of shell by Rules 192 lbs.
 Thickness of butt straps { outer 3/4" inner 7/8" No. and Description of Furnaces in each Boiler 2 - Morison 2 cf.
 Material Steel Tensile strength 26 to 30 Tons Smallest outside diameter 41 1/8"
 Length of plain part { top 10" bottom ✓ Thickness of plates { crown 9/16" bottom ✓ Description of longitudinal joint Welded
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 198 lbs.
 Plates in steam space: Material Steel Tensile strength 26 to 30 Tons Thickness 15/16" Pitch of stays 13 1/2" x 15"
 How are stays secured nuts inside + outside Working pressure by Rules 198 lbs.
 Main plates: Material { front Steel back Steel Tensile strength { 26 to 30 Tons Thickness { 15/16" front 201 lbs. back 228 lbs.
 Mean pitch of stay tubes in nests 9 1/4" x 9 1/2" Pitch across wide water spaces 14" Working pressure { front 201 lbs. back 228 lbs.
 Orders to combustion chamber tops: Material Steel Tensile strength 28 to 32 Tons Depth and thickness of girder
 centre 9 1/2" x 1" Length as per Rule 30 19/32" Distance apart 7 5/8" No. and pitch of stays
 each 3 - 7 3/8" Working pressure by Rules 198 lbs. Combustion chamber plates: Material Steel
 Tensile strength 26 to 30 Tons Thickness: Sides 9/16" Back 21/32" Top 9/16" Bottom 3/4"
 Pitch of stays to ditto: Sides 7 3/8" x 7 5/8" Back 7 7/8" x 9" Top 7 3/8" x 7 5/8" Are stays fitted with nuts or riveted over nuts
 Working pressure by Rules 192.7 lbs. Front plate at bottom: Material Steel Tensile strength 26 to 30 Tons
 Thickness 15/16" Lower back plate: Material Steel Tensile strength 26 to 30 Tons Thickness 15/16"
 Pitch of stays at wide water space 7 7/8" x 14" Are stays fitted with nuts or riveted over nuts
 Working Pressure 191.2 lbs. (least) Main stays: Material Steel Tensile strength 28 to 30 Tons
 Diameter { At body of stay 2 3/8" x 2 1/2" No. of threads per inch 6 Area supported by each stay 226.5 sq in + 314 sq in
 Working pressure by Rules 212 lbs + 197 1/2 lbs. Screw stays: Material Steel Tensile strength 26 to 30 Tons
 Diameter { At turned off part 2", 1 3/4", 1 5/8" + 1 1/2" No. of threads per inch 9 Area supported by each stay 56.25 sq in
 At turned off part 2", 1 3/4", 1 5/8" + 1 1/2" No. of threads per inch 9 Area supported by each stay 56.25 sq in

Working pressure by Rules 223 lbs. Are the stays drilled at the outer ends Yes Margin stays: Diameter ^{At turned off part,} 1 3/4"
 No. of threads per inch 9 Area supported by each stay 90.6 sq" Working pressure by Rules 200 lbs.
 Tubes: Material Lap welded Iron External diameter ^{Plain} 3 1/2" Thickness ^{8 L.S.G.} 5/16 + 3/8" No. of threads per inch 9
 Pitch of tubes 4 5/8" x 4 3/4" Working pressure by Rules 215 lbs. Manhole compensation: Size of opening in
 shell plate 15 3/4" x 19 3/4" Section of compensating ring 22" x 1 1/16" No. of rivets and diameter of rivet holes 42 - 1 1/8"
 Outer row rivet pitch at ends 8 1/2" Depth of flange if manhole flanged ^{Top} 3 1/2" ^{Bottom} 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 _____ 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 None 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 Yes

The foregoing is a correct description,
R.H. Dunn Manufacturer.
 Chief Manager

1928
 Dates of Survey ^{During progress of} May 2, 7, 18, 21, 30 ^{work in shops - -} June 1, 7, 12, 15 Are the approved plans of boiler and superheater forwarded herewith Kobe
 while building ^{During erection on} 18, 25, 30 ^{board vessel - -} July 12, 19, 24 Aug. 1, 7 + 9, (If not state date of approval.) 21-2-2
Aug. 31, Sept. 10, 24, 26 Oct. 3, 15 + 20 Total No. of visits 25

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The materials have been tested
by the Surveyors to this Society and boiler has been constructed as shown on approved
plan, copy of which is in the London office.
The workmanship is good and the boiler has been satisfactorily
tested by hydraulic pressure in accordance with the rules.

Indentification marks on boiler :-

**No. 165 H.Kg.
 LLOYD'S TEST
 335 lbs.
 WP 190 lbs.
 9-8-28. T.S.M.**

In conjunction with the machinery it is recommended that a
vessel be classed with Lloyd's Machinery Certificate & the record of L.M.C. 10-28. C.L.
be made in the Register Book.

Survey Fee £ : : When applied for, 192
 Travelling Expenses (if any) See Machinery Report : : When received, 192

W. Morrison
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 30 NOV 1928
 Assigned See Minute on HKg Rpt 6340
attached -