

REPORT ON BOILERS.

No. 7824

5a.

Received at London Office JUL 1917

Writing Report 5th July 1917 When handed in at Local Office

Port of Belfast

Survey held at Belfast

Date, First Survey 29th Feb 1916 Last Survey 4th July 1917

Book. S.S.S. Mahana

(Number of Visits 121) Gross 11796 Tons Net 7488

Greene Built at Belfast By whom built Workman Clark & Co. Ltd. 1917

Lines made at Newcastle By whom made Parsons Marine Steam Turbine Co. Ltd. 1916-17

Boilers made at Belfast By whom made Workman Clark & Co. Ltd. 1917

Registered Horse Power Owners Shaw Savill & Albion Co. Ltd. Belonging to Southampton

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel Bessemer & Co. Ltd.

Total Heating Surface of Boilers 5398.2 sq ft forced draft fitted Yes

No. and Description of Boilers 2 Single End Glin

Working Pressure 180 lbs tested by hydraulic pressure to 360 lbs date of test 6-11-16

Area of fire grate in each boiler 66 1/2 sq ft

Area of each valve 11.04 sq ft Pressure to which they are adjusted 180 lbs

Can each boiler be worked separately Yes

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

Least distance between boilers or uptakes and bunkers About 8 ft. Mean dia. of boilers 15'-4 1/2" Length 11'-9"

Material of shell plates Steel Thickness 1 25/64 Range of tensile strength 28-32 tons the shell plates welded or flanged No

Range of riveting: cir. seams L. Dr. Treble. seams White Treble Diameter of rivet holes in long. seams 1 13/32 Pitch of rivets 9 1/8"

Width of butt straps 20 1/4" Per centages of strength of longitudinal joint rivets 85.7 plate 84.1 Working pressure of shell by rules 203 lbs

Size of manhole in shell 16" x 12" Size of compensating ring McNeill

No. and Description of Furnaces in each 4 Morrison Material Steel Outside diameter 42 1/2" Length of plain part top 9" bottom 9" Thickness of plates crown 3 1/2" bottom 3 1/2"

Description of longitudinal joint Weld No. of strengthening rings Working pressure of furnace by the rules 193 lbs

Material Steel Thickness: Sides 5" Back 5" Top 5" Bottom 4 3/8" Pitch of stays to ditto: Sides 8 3/8" x 7 1/4" x 8" Back 9 3/8" x 7 3/4"

Working pressure by rules 185 lbs Material of stays Steel Diameter at top 1 1/2" - 1 3/4" Area supported by each stay 72 5/8" Working pressure by rules 254 lbs

Material of plates in steam space: Material Steel Thickness 1 1/4"

Material of stays Steel Diameter at smallest part 3 7/16"

Working pressure by rules 183 lbs

Material of Front plates at bottom Steel Thickness 1" Material of back plate Steel Thickness 5/8" Greatest pitch of stays 15 1/2" Working pressure of plate by rules 188 lbs

Diameter of tubes 2 1/2"

Material of tube plate Steel Thickness: Front 15/16" Back 4/8" Mean pitch of stays 1 1/4" x 7 1/4" Pitch across wide spaces 1 3/8"

Working pressures by rules 184 lbs

Girders to Chamber tops: Material Steel Depth and thickness of at centre 8 5/8" (3/4" x 2) Length as per rule 31 9/16" Distance apart 8 1/2" Number and pitch of Stays in each 3-7 1/2"

Working pressure by rules 217 lbs

Superheater or Steam chest: how connected to boiler Iron tubes the superheater be shut off and the boiler worked

Yes Diameter Length 12' 6" Thickness of shell plates 1 1/2" Description of longitudinal joint as per approved plan enclosed Diam. of rivet 3/4"

Pitch of rivets Working pressure of shell by rules 180 lbs Material of flue plates Steel Thickness 1 1/2"

Reinforced with rings Distance between rings Working pressure by rules 180 lbs

End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater 7.07 sq ft Are they fitted with easing gear Yes

The foregoing is a correct description,
FOR WORKMAN, CLARK & CO., LIMITED,
Manufacturer.

See other sheet

Is the approved plan of boiler forwarded herewith Yes

Total No. of visits

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

See other sheet

Survey Fee ... £ : : } When applied for, 191

Travelling Expenses (if any) £ : : } When received, 191

Committee's Minute

Signed

R. J. Pennington
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.



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Belfast

dated 5th July 1917 on theJ. V. MahanaPumps

2 Weirs General Service	4" x 9 1/2" x 21"
1 Aux: Air	15" x 7 1/2" x 10"
1 - Centrif: Circulating	6"
1 Main -	15"
2 Bilge	9" x 7 1/2" x 18"
1 Ballast	10" x 12" x 12"
2 Weirs Forced Lubricating	8 1/2" x 5 1/2" x 15"
1 F Water	5" x 5" x 8"
2 Weirs Main Feed	10" x 13 1/2" x 26"
1 Hotwell	8" x 8" x 15"
2 Weirs Dual Air	20" x 11" x 15"

Spare Gear

1 Propeller shaft	
1 - Boss + 2 blades + 27 studs + nuts	
12 Coupling bolts + nuts	
1 Turbine Spindle + Pinion	
1 Complete Turbine + Pinion bearing of each size	
1 Bottom half bush for H.P. Rotor Spindles	
1 - - - - - L.P. - - -	
1 - - - - - Pinion shaft end bearings	
2 - - - - - Gear wheel shaft	
1 Top - - - - - Pinion shaft end bearings	
8 Pads for Turbine adjusting block	
1/40 Set of Turbine blades, Dummy + Binding strips, stops etc	
12 Holding down bolts + nuts	
2 Turbine bolts of each size fitted	
100 Main Condenser tubes + 500 ferrules	
50 Boiler tubes, dead plates + freedom fittings etc	
1 Complete Set Main feed pump valves + springs	
1 - - - Bilge - - -	
1 - - - Lubricating oil pump - - -	
2 Air pump rods + 1 Bucket complete	
1 - - - head valve seat - - -	
1 Circulating pump Impeller + spindle	
1 Set boiler feed Check valves.	
4 Safety valve springs	
Bolts, nuts, cover etc.	

R. M. Beveridge

1917