

## REPORT ON BOILERS.

No. 3653D

18-NOV-1955

Received at London Office 30 SEP 1955

Date of writing Report.....19..... When handed in at Local Office...29 SEP 1955... Port of...SUNDERLAND

No. in Survey held at...SUNDERLAND... Date, First Survey...21st JULY 1955... Last Survey...15th SEPTEMBER 1955

24248 on the S.S. "QUEENWORTH" (Ex. Emp. Citizen - 45) (Number of Visits...8...) Gross...2066.  
Tons Net...1073.

Master... Built at "GRANGEMOUTH." By whom built...GRANGEMOUTH DYKA Co. Yard No. 449. When built 6, 1943.

Engines made at NEWCASTLE. By whom made...N.E. MAR. ENGRS Co (1938) LTD. Engine No. 3059. When made 6, 1943.

REPLACE PORT SUNDERLAND. By whom made...N.E. MAR. ENGRS Co LTD. Boiler No. 3317. When made 9.55.

Nominal Horse Power 135 MN. Owners WALKERGATE S.S. CO. LTD. Port belonging to NEWCASTLE.

## REPLACE PORT.

MULTITUBULAR BOILER MAIN, ~~REPLACE PORT~~.

Manufacturers of Steel COLVILLES LTD. (Letter for Record S.)

Total Heating Surface of Boiler 1460 sq. ft. Is forced draught fitted YES. Coal or Oil fired COAL.

No. and Description of Boilers ONE - SINGLE END CYLINDRICAL MULTITUBULAR (PORT) Working Pressure 220 lbs/sq. in.

Tested by hydraulic pressure to 380 lbs/sq. in. Date of test 12-9-55. No. of Certificate 4910. Can each boiler be worked separately YES.

Area of Firegrate in each Boiler 37.5 sq. ft. No. and Description of safety valves to each boiler ONE 2 1/2" Double Safety Valves. ORIGINAL VALVES RE-FITTED.

Area of each set of valves per boiler per Rule 7.80" as fitted 9.80" Pressure to which they are adjusted 220 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. Couple clearance Is oil fuel carried in the double bottom under boilers. No.

Smallest distance between boilers or uptakes and bunkers or woodwork. Couple clearance Is the bottom of the boiler insulated. No.

Smallest distance between shell of boiler and tank top plating. ✓ Is the bottom of the boiler insulated. No.

Largest internal dia. of boilers 12' - 3 5/8" EXT. Length 11' - 0" Shell plates: Material O.H. STEEL. Tensile strength 29-33 TONS.

Thickness 1 3/16" Are the shell plates welded or flanged. No. Description of riveting: circ. seams ✓ end ✓ inter ✓  
Tr. R. D.B.S. Diameter of rivet holes in { circ. seams 1 1/4" long. seams 1 1/4" Pitch of rivets { 3 5/8" 8 2 1/32"

Percentage of strength of circ. end seams { plate 66% rivets 44% Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 85.55% rivets 88.8% Working pressure of shell by Rules 220 lbs/sq. in.

Thickness of butt straps { outer 29/32" inner 1 1/32" No. and Description of Furnaces in each Boiler 3 - "JEIGHTON" CORRUGATED.

Material O.H. STEEL Tensile strength 26-30 TONS. Smallest outside diameter 2' - 9 25/32"

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 33/64" bottom 33/64" Description of longitudinal joint WELDED.

Dimensions of stiffening rings on furnace or c.c. bottom. ✓ Working pressure of furnace by Rules 220 lbs/sq. in.

Stays in steam space: Material O.H. STEEL. Tensile strength 26-30 TONS. Thickness 1 1/16" Pitch of stays 15" x 16"

Are stays secured DOUBLE NUTS & THIN WASHERS. Working pressure by Rules 232 lbs/sq. in.

Stays: Material front O.H. STEEL. Tensile strength 26-30 TONS. Thickness 1 1/16" back O.H. STEEL. Tensile strength 26-30 TONS. Thickness 7/8"

Pitch of stay tubes in nests 9 3/4" Pitch across wide water spaces 14 1/4" x 4 1/8" Working pressure { front 291 lbs/sq. in. back 290 lbs/sq. in.

Stays to combustion chamber tops: Material O.H. STEEL. Tensile strength 29-33 TONS. Depth and thickness of girder

Centre 9" x 1" Length as per Rule 32" Distance apart 8" No. and pitch of stays

Stays WELDED. Working pressure by Rules 220 lbs/sq. in. Combustion chamber plates: Material O.H. STEEL

Stays strength 26-30 TONS. Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"

Stays to ditto: Sides 9" x 10 3/4" Back 10 5/8" x 9" Top ✓ Are stays fitted with nuts or riveted over PART-NUTS INSIDE. WINGS-NUTS INSIDE ONLY.

Working pressure by Rules 220 & 222. Front plate at bottom: Material O.H. STEEL. Tensile strength 26-30 TONS.

Thickness 1 1/16" Lower back plate: Material O.H. STEEL. Tensile strength 26-30 TONS. Thickness 1 1/16"

Stays at wide water space 14 1/2" x 9" Are stays fitted with nuts or riveted over WELDED.

Working pressure 322 lbs/sq. in. Main stays: Material O.H. STEEL. Tensile strength 28-32 TONS.

At body of stay 2 3/4" No. of threads per inch 6. Area supported by each stay 15" x 16"

Over threads 232 lbs/sq. in. Screw stays: Material O.H. STEEL. Tensile strength 26-30 TONS.

At turned off part 1 7/8" SIDE (SCREWED) 96.75 sq. in. Sides

WELDED. 1 3/4", 1 7/8", 2 1/8" (BACKS) No. of threads per inch 9. Area supported by each stay 95.625 sq. in. BACKS. 96.75 sq. in. BACKS.



Working pressure by Rules 220.4 lbs/sq in Are the stays drilled at the outer ends No. Margin stays: Diameter WELDED 1 7/8" MARGIN.  
No. of threads per inch ✓ Area supported by each stay 113.04 sq in x 145.75 sq in Working pressure by Rules 224 x 226 lbs/sq in  
Tubes: Material S.D. STEEL External diameter 3" Thickness 3/8" - 5/16" No. of threads per inch 9.  
Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules 251 - 235 lbs/sq in Manhole compensation: Size of opening in  
shell plate 20 1/2" x 16 1/2" Section of compensating ring 10" x 1 1/4" No. of rivets and diameter of rivet holes 34 @ 1 1/2"  
Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 3 7/8" 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 ✓  
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 ✓  
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  
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 ✓  
Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure ✓  
tubes ✓ forgings and castings ✓ and after assembly in place ✓ Are drain cocks  
valves fitted to free the superheater from water where necessary ✓  
Have all the requirements of Sections APPROPRIATE for boilers been complied with ✓

THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

W. Dawson  
The foregoing is a correct description,  
DIRECTOR & RESIDENT MANAGER

Dates of Survey while building During progress of work in shops - - - 11955 JULY 21, AUG. 16, 22, 30, 31, SEPT. 6, 12, 15 Are the approved plans of boiler and superheater forwarded herewith  
(If not state date of approval.)  
Total No. of visits 8

Is this Boiler a duplicate of a previous case No. If so, state Vessel's name and Report No. (REPLACE FOR S.S. QUEENWOOD)

GENERAL REMARKS

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

This boiler has been constructed under Special Survey, in accordance with the requirements of the Rules, the approved plan and the Secretary's letters.  
The materials used, and the workmanship, are good.  
On completion, the boiler was examined under hydraulic test at 380 lbs/sq in and found sound and tight.  
It has now been despatched to the River Tyne, to be installed in the vessel.

Newcastle 4/4/55 NEWCASTLE-ON-TYNE, No. 112906

This boiler has been installed in the ship, tested under working conditions and the Safety valves adjusted to the above stated pressure, all in accordance with the Requirements of the Rules and to my satisfaction.

W. F. Rogers for self  
J. McGuire

Survey Fee £ 18 : 0 : 0. When applied for 29 SEP 1955  
Travelling Expenses (if any) £ : :  When received 19

R. W. Skinner

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

THURSDAY 8 DEC 1955

Assigned

See No. 112906



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Foundation