

# REPORT ON BOILERS.

No. 19062

Received at London Office, 31 AUG 1949

30-8-1949

When handed in at Local Office 30-8-1949

Port of WEST HARTLEPOOL

West Hartlepool

Date, First Survey 17<sup>th</sup> May, 1949, Last Survey 17 August, 1949.

Smith's Dock Co Ltd EW 1197 - MV LUMEN

(Number of Visits 5)

Gross - 10146

Net - 5865

Built at SOUTH BANK

By whom built SMITHS DOCK CO. LTD.

Yard No. EW1197 When built - 1950

NEWCASTLE ON TYNE

By whom made R & W HANTHORN LESLIE & CO. LTD.

Engine No. 4059 When made - 1950

West Hartlepool

By whom made Central Marine Engine Works

Boiler No. R396 When made 1949

Indicated Horse Power 361

Owners THE LUSTROUS STEAMSHIP CO. LTD.

Port belonging to LIVERPOOL

## DONKEY

### 2. TITUBULAR BOILERS

Manufacturers of Steel Colvilles Ltd, Glasgow, South Durham S.S. Co & Appleby, Kidderminster S. Co.

Heating Surface of Boilers 4332 sq ft

Is forced draught fitted Yes

Coal or Oil fired oil or kerosene gas

Description of Boilers 2 S.E. multitubular

Working Pressure 180 lb per sq in

Tested by hydraulic pressure to 320 lb per sq in Date of test 17.8.49 No. of Certificate 4096

Can each boiler be worked separately Yes

Firegrate in each Boiler OIL FIRED No. and Description of safety valves to each boiler - COCKBURN'S DOUBLE HIGH LIFT (DOUBLE)

Pressure to which they are adjusted - 180 lb per sq in Are they fitted with easing gear - YES

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler -

Least distance between boilers or uptakes and bunkers or woodwork - 2'-6" Is oil fuel carried in the double bottom under boilers - No

Least distance between shell of boiler and tank top plating - SEPARATE FLAT Is the bottom of the boiler insulated Yes

Least internal dia. of boilers 13'-6" Length 11'-6" Shell plates: Material S.M. Steel Tensile strength 29-33 T

Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R. Lap inter -

Diameter of rivet holes in circ. seams 1 1/4" long. seams 1 3/32" Pitch of rivets 4" 8 3/16"

Percentage of strength of circ. end seams plate 68.75 rivets 44.4 Percentage of strength of circ. intermediate seam plate 85.88 rivets 87.18

Working pressure of shell by Rules 184.5 lb per sq in

Combined 89.18

Thickness of butt straps outer 2 7/32 inner 3 1/32

No. and Description of Furnaces in each Boiler 3 Deighton Section

Tensile strength 26-30 T Smallest outside diameter 3'-2 3/8"

Thickness of plates crown 1/2 bottom 1/2 Description of longitudinal joint welded

Working pressure of furnace by Rules -

Plates in steam space: Material S.M. Steel Tensile strength 26-30 T Thickness 1 1/8" Pitch of stays 18 1/4" x 17 3/8"

Working pressure by Rules -

Stays secured Double nuts

Material front S.M. Steel Tensile strength 26-30 T Thickness 13/16" 3/4"

Pitch of stay tubes in nests 7 1/2" x 11 1/4" Pitch across wide water spaces 13 1/2" Working pressure front back

Stays to combustion chamber tops: Material S.M. Steel Tensile strength 28-32 T Depth and thickness of girder

Length as per Rule 2'-9 19/32 Distance apart 9 1/2" No. and pitch of stays

Working pressure by Rules -

Combustion chamber plates: Material S.M. Steel Tensile strength 26-30 T Thickness Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 2 1/32

Stays to ditto: Sides 8 1/2" x 9 1/2" Back 9 1/4" x 8 1/2" Top 8 1/2" x 9 1/2" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules -

Front plate at bottom: Material S.M. Steel Tensile strength 26-30 T Thickness 13/16"

Lower back plate: Material S.M. Steel Tensile strength 26-30 T Thickness 13/16"

Stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts

Working pressure -

Main stays: Material S.M. Steel Tensile strength 28-32 T

At body of stay 2 7/8" No. of threads per inch 6 Area supported by each stay -

Working pressure by Rules -

Screw stays: Material S.M. Steel Tensile strength 26-30 T

At turned off part 1 5/8" No. of threads per inch 9 Area supported by each stay -



Working pressure by Rules... Are the stays drilled at the outer ends... Margin stays: Diameter { At turned off part or Over threads... 1 7/8", 2" ✓  
No. of threads per inch 9 ✓ Area supported by each stay... Working pressure by Rules...  
Tubes: Material H.R.W.S. ✓ External diameter { Plain... 2 1/2" ✓ 8-08 Thickness { 3/16", 1/4", 5/16" ✓ No. of threads per inch 9 ✓  
Pitch of tubes 3 3/4" x 3 3/4" ✓ Working pressure by Rules... Manhole compensation: Size of opening  
shell plate 20" x 16" ✓ Section of compensating ring 3'-1", 2'-9" x 1 3/32" ✓ No. of rivets and diameter of rivet holes 32 - 1 3/8" holes ✓  
Outer row rivet pitch at ends 9 3/4" ✓ Depth of flange if manhole flanged... Steam Dome: Material  
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  
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... Manufacturers of { Tubes... Steel forgings... Steel castings...  
Number of elements... Material of tubes... External 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 as  
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 14 to 22 inclusive for boilers been complied with... yes ✓

The foregoing is a correct description,  
FOR THE CENTRAL MARINE ENGINE WORKS,  
(In Charge of the Works)

Dates of Survey { During progress of work in shops - - 1949, May 17, 25, 27, July 19, Aug 17 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
while building { During erection on board vessel - - - - - Total No. of visits 5

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under special survey in accordance with the approved plans, Secretary's letters and the Rules of the Society for a working pressure of 180 lbs per square inch. The materials and workmanship are good. On completion these boilers were tested, in the presence of the undersigned by hydraulic pressure to 320 lbs per square inch and were found sound and tight. These boilers are being despatched to Middlesbrough for completion, fitting of mountings and installation on board the vessel. These boilers have been securely fixed on board and examined under working conditions. On completion the safety valves were adjusted to 180 lbs/sq in and found satisfactory.

Size of Adjusting Washers: Port Boiler - P 9/16" S. 15/32"  
Star Boiler - P 7/16" S. 27/64" ✓

Survey Fee ... £ 61 : 2 : 0 } When applied for, 30-8-1949  
Travelling Expenses (if any) £ : : } When received 19...

John T. Findlay  
Engineer Surveyor to Lloyd's Register of Ships

FRI. 1 SEP 1950

Committee's Minute...

Assigned... See R.E. Mely spf.