

REPORT ON BOILERS.

No. 19420

Received at London Office

10 DEC 1952

Reporting at Report 9-12-1952 When handed in at Local Office 9-12-1952 Port of WEST HARTLEPOOL

Survey held at West Hartlepool Date, First Survey 7th September, 1951, Last Survey 21st November, 1952

Name of the ship "EVGENIA" (Number of Visits 112) Gross 4404 Tons Net 4428

Built at West Hartlepool By whom built Wm Gray & Co. Ltd. Yard No. 1254 When built 1952

Made at West Hartlepool By whom made Gen. Mar. Eng. Wks (Wm Gray & Co. Ltd) Engine No. 1254 When made 1952

Made at West Hartlepool By whom made Gen. Mar. Eng. Wks (Wm Gray & Co. Ltd) Boiler No. 1254 When made 1952

Horse Power Owners W. G. Livianos Port belonging to Monrovia

TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Lubinski, Hattingen, Ruhr: & South Durham S.S. Co. (Letter for Record)

Heating Surface of Boilers 8034 + 3204 Suph. Is forced draught fitted Yes Coal or Oil fired Oil

Description of Boilers 3 Single Ended Multitubular Working Pressure 250 lb/sq in

Hydraulic pressure to 425 lb/sq in Date of test 18.10.52 14.10.52 8.10.52 No. of Certificate 4144/8/9 Can each boiler be worked separately Yes

Firegrate in each Boiler No. and Description of safety valves to each boiler Two 24" Improved High Lift

Each set of valves per boiler per Rule 6.3 sq in as fitted 4.952 sq in Pressure to which they are adjusted 250 lb/sq in Are they fitted with easing gear Yes

If donkey boilers, state whether steam from main boilers can enter the donkey boiler

Distance between boilers or uptakes and bunkers or woodwork 2'-0" Is oil fuel carried in the double bottom under boilers Yes

Distance between shell of boiler and tank top plating 2'-4" Is the bottom of the boiler insulated Yes

Internal dia. of boilers 15'-0" Length 11'-6" Shell plates: Material S.M. Steel Tensile strength 31/35 Tons

Are the shell plates welded or flanged Yes Description of riveting: circ. seams end 9/16" inter 4/4"

Diameter of rivet holes in circ. seams 9/16" long. seams 15/8" Pitch of rivets 10 13/16"

Percentage of strength of circ. end seams plate 63.24 rivets 43.26 Percentage of strength of circ. intermediate seam plate 84.96 rivets 86.24

Percentage of strength of longitudinal joint plate 84.96 rivets 86.24 Working pressure of shell by Rules 252.7 lb/sq in

Combined 87.2

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

Tensile strength 26-30 Tons/sq in Smallest outside diameter 3'-9 1/4"

Thickness of plates crown 25" bottom 32" Description of longitudinal joint Welded

Working pressure of furnace by Rules

Material S.M. Steel Tensile strength 26/30 Tons Thickness 1 15/32" Pitch of stays 20" x 20"

Stays secured Double Butts Working pressure by Rules

Material S.M. Steel Tensile strength 26-30 Tons/sq in Thickness 1"

Material S.M. Steel Tensile strength 26-30 Tons/sq in Thickness 29/32"

Pitch across wide water spaces 14" Working pressure front back

Material S.M. Steel Tensile strength 28-32 Tons/sq in Depth and thickness of girder

Length as per Rule 2'-9 7/8" Distance apart 8 1/8" No. and pitch of stays

Working pressure by Rules Combustion chamber plates: Material S.M. Steel

Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 29/32"

Sides 8 5/8" x 8 1/8" Back 8 5/8" x 8 1/8" Top 8 5/8" x 8 1/8" Are stays fitted with nuts or riveted over Nuts

Front plate at bottom: Material S.M. Steel Tensile strength 26-30 Tons/sq in

Lower back plate: Material S.M. Steel Tensile strength 26-30 Tons/sq in Thickness 15/16"

Are stays fitted with nuts or riveted over Nuts

Main stays: Material S.M. Steel Tensile strength 28-32 Tons/sq in

No. of threads per inch 6 Area supported by each stay

Screw stays: Material S.M. Steel Tensile strength 26-30 Tons/sq in

No. of threads per inch 9 Area supported by each stay

Working pressure by Rules..... Are the stays drilled at the outer ends..... *No.* ✓ Margin stays: Diameter { At turned off part..... or Over threads..... *2" & 2 1/4"*
No. of threads per inch..... *9* ✓ Area supported by each stay..... Working pressure by Rules.....
Tubes: Material *H.R.W. Steel* ✓ External diameter { Plain..... *3"* ✓ Stay..... *3"* ✓ Thickness { *8 wg* ✓ *1/4" 5/16" 3/8"* No. of threads per inch..... *9* ✓
Pitch of tubes..... *4 1/2" x 4 1/2"* ✓ Working pressure by Rules..... Manhole compensation: Size of op
shell plate..... Section of compensating ring..... No. of rivets and diameter of rivet holes.....
Outer row rivet pitch at ends..... Depth of flange if manhole flanged..... *4 1/2" in end plate* ✓ 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 dia
stays..... Inner radius of crown..... Working pressure by Rules.....
How connected to shell..... Size of doubling plate under dome..... Diameter of rivet holes a
of rivets in outer row in dome connection to shell.....

Type of Superheater *Smoke tube* Manufacturers of { Tubes..... *Yates Stead & Co Ltd*
Steel forgings..... *Colville & Co Ltd*
Steel castings..... *Hopkinsons Ltd*
Number of elements..... *57 per Boiler* Material of tubes..... *6060 S.D. Steel* ✓ Internal diameter and thickness of tubes..... *17 mm : 2 1/2 mm*
Material of headers..... *S.M. Steel* ✓ Tensile strength..... *26-30 tons/sq in* ✓ Thickness..... *1 3/16"* ✓ Can the superheater be shut
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..... *Yes* ✓
Area of each safety valve..... *1.464 sq in* ✓ Are the safety valves fitted with easing gear..... *Yes* ✓ Working pressure
Rules..... Pressure to which the safety valves are adjusted..... *255 lbs/sq in* ✓ Hydraulic test p
tubes..... *1000 lbs/sq in* ✓ forgings and castings..... *1000 lbs/sq in* ✓ and after assembly in place..... *500 lbs/sq in* ✓ Are drain
valves fitted 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 THE CENTRAL MARINE ENGINE WORKS
(W. Gray & Co. Ltd.)

Dates { During progress of work in shops - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
of Survey while building { During erection on board vessel - - - Total No. of visits.....

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

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

The boilers referred to herein have been constructed under Special Survey in accordance with the Rules of the Society, Approved Plans, and Secretary's letters.
The material and workmanship are good.
The boilers have been satisfactorily installed in the vessel, Safety valves adjusted under steam and accumulation test carried out with satisfactory results.
For recommendations see Machinery Report.

Survey Fee { £ 126. 0 : 0 } When applied for.....19.....
Travelling Expenses (if any) { Included in Machinery Fee 15/- } When received.....19.....

Abulker & H.A. Wilson
Engineer Surveyor to Lloyd's Register of Shipping
for J. Lundgren & Self.

Committee's Minute..... *TUES. 6 JAN 1953*

Assigned..... *See F.F. Moly spl.*