

Rpt. 4.

REPORT ON MACHINERY

WED. 18 OCT. 1922

Received at London Office

Date of writing Report 1st 10 1922 When handed in at Local Office 17 Oct 1922 Port of WEST HARTLEPOOL
 No. in Survey held at West Hartlepool Date, First Survey 24 Nov 1920 Last Survey 12 Oct 1922
 Reg. Book. 78479 on the S.S. "CITY OF EVANSVILLE" (No 919) (Number of Visits 139)
 Master Built at West Hartlepool By whom built Wm Gray & Co Ltd. Tons Gross 6553.31
 Engines made at West Hartlepool By whom made Central Marine Engine Works when made 1922 Not 4152.78.
 Boilers made at ditto By whom made ditto when made 1922
 Registered Horse Power Owners Ellerman (Hall) Lines, Ltd. Port belonging to Liverpool
 Nom. Horse Power as per Section 28 617. Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 24½"-42½"-74" Length of Stroke 51 Revs. per minute 75 Dia. of Screw shaft as per rule 15.204 Material of Ingot. Stl.
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight
 in the propeller boss yes If the liner is in more than one length are the joints burned If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'-6"
 Dia. of Tunnel shaft as per rule 14.0" Dia. of Crank shaft journals as per rule 14.7" Dia. of Crank pin 15¼" Size of Crank webs 9" x 22½" Dia. of thrust shaft under
 collars 15¼" Dia. of screw 17'-9" Pitch of Screw 16'-9" No. of Blades 4 State whether moveable yes Total surface 114 Sq ft
 No. of Feed pumps 2 Weirs independent Diameter of ditto Stroke Can one be overhauled while the other is at work yes 2 Weirs main feed pumps
 No. of Bilge pumps 2 Diameter of ditto 4½" Stroke 28" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 5 Sizes of Pumps Ballast 9" x 10½" x 10 duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 5 of 3½" Harbour 3rd 7½" x 5½" x 5" Holds, &c. 2 of 3½" in each hold
 2 Oil transfer 10½" x 12½" x 18" 1 of 3" in tunnel
 No. of Bilge Injections 1 sizes 11" Connected to condenser, or to circulating pump C.P. & a separate Donkey Suction fitted in Engine room & size 3½"
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible none
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Discharge Pipes above or below the deep water line above
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes
 What pipes are carried through the bunkers none How are they protected
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Is the Screw Shaft Tunnel watertight, see ship reports it fitted with a watertight door yes worked from Cylinder grating

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Sons
 Total Heating Surface of Boilers 8946 sq ft Forced Draft fitted yes No. and Description of Boilers 3 single ended
 Working Pressure 225 lb Tested by hydraulic pressure to 388 lb Date of test 15.3.22 No. of Certificate 3611
 Can each boiler be worked separately yes Area of fire grate in each boiler 76.8 sq ft No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 11.04" Pressure to which they are adjusted 230 lb Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean dia. of boilers 16'-4½" Length 12'-6" Material of shell plates Steel
 Thickness 1½" Range of tensile strength 28/30 Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams J.R. Lef.
 long. seams J.R. D.B.S. Diameter of rivet holes in long. seams 1½" Pitch of rivets 10½" Lap of plates or width of butt straps 23½"
 Per centages of strength of longitudinal joint rivets 90 Working pressure of shell by rules 227 lb Size of manhole in shell 16" x 20"
 Size of compensating ring 2'-9" x 3'-1" x 1½" No. and Description of Furnaces in each boiler 4 Deightons Material Steel Outside diameter 3'-9½"
 Length of plain part top Thickness of plates crown 21" Description of longitudinal joint welded No. of strengthening rings
 bottom 32 Working pressure of furnace by the rules 235 Combustion chamber plates: Material Steel Thickness: Sides 23" Back 23" Top 23" Bottom 1"
 Pitch of stays to ditto: Sides 9" x 8½" Back 9½" x 7¾" Top 9" x 8½" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 226
 Material of stays Steel Area at smallest part 2.096" Area supported by each stay 7¾" x 12½" Working pressure by rules 225 End plates in steam space:
 Material Steel Thickness 1½" Pitch of stays 19" x 16" How are stays secured D nuts Working pressure by rules 226 Material of stays Steel
 Area at smallest part 6.65" Area supported by each stay 19" x 16" Working pressure by rules 227 Material of Front plates at bottom Steel
 Thickness 1½" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 15½" x 7¾" Working pressure of plate by rules 236
 Diameter of tubes 2½" Pitch of tubes 3¾" x 3¾" Material of tube plates Steel Thickness: Front 1½" Back 1½" Mean pitch of stays 11½" x 7½"
 Pitch across wide water spaces 14" Working pressures by rules 234 & 269 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10½" x 1¼" Length as per rule 36½" Distance apart 8½" Number and pitch of stays in each Three 9"
 Working pressure by rules 230 Steam dome: description of joint to shell none % of strength of joint
 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Schmidts Date of Approval of Plan 30-3-21 Tested by Hydraulic Pressure to 450 lbs
 Date of Test 11/3 & 20-4-22 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes
 Diameter of Safety Valve 2" Pressure to which each is adjusted 235 lbs Is Easing Gear fitted yes

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

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SPARE GEAR. State the articles supplied:— 2 bolts & nuts for connec. rods top ends, 2 ditto for bottom ends, 2 ditto for main bearings, 1 set coupling bolts & nuts, 1 set valves for feed, bilge and all donkey pumps, 1 hood & rings for HP piston, 1 valve spindle, 1 pair crank pin bearings, 1 air pump rod, 1 pair eccentric straps, 2 blades for propeller & 1 set studs & nuts for same, 3 safety valve springs, Various spare parts for Cent. circulating pump & fan engines, Assorted bolts, nuts, and iron.

The foregoing is a correct description of the WORKS,
(M. Gray & Co. Ltd.)

J. H. Seames

Manufacturer.

DIRECTOR.

Dates of Survey while building: During progress of work in shops - 1920 Nov 24, 25, 29, Dec 6, 7, 8, 20, 21, 1921 Jan 19, 21, 31, Feb 4, 15, 17, 21, 22, 23, 25, 28, Mar 2, 4, 8, 15, 21, 22, 24, 28, Apr 15, 20, 25, May 2, 3, 5, 6, 10, 14, 27, 30, Jul 27, Aug 9, 11, 15, 19, Nov 28, Dec 2, 6, 7, 8, 12, 14, 16, 19, 20, 22, 1922 Jan 4, 6, 9, 16, 17, 19, 24, 25, 26, 30, Feb 1, 2, 3, 6, 7, 8, 10, 13, 15, 17, 22, 28, Mar 7, 13, 15, 16, 20, 23, 24, 28, Apr 3, 7, 11, 12, 19, 20, 21, May 15, 16, 17, 22, 25, 29, Jun 7, 23, 26, July 3, 4, 6, 7, 24, 27, 28, Aug 15, 18, 21, 22, 23, 24, 25, 28, 29, 30, 30, Sept 1, 4, 5, 6, 8, 11, 13, 14, 15, 19, 20, 21, 28, Oct 3, 6, 9, 10, 11, 12, Total No. of visits 139.

Is the approved plan of main boiler forwarded herewith? yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 16-1-22 Slides 27-4-22 Covers 26-1-22 Pistons 9-1-21 Rods 19-1-22

Connecting rods 8-12-21 Crank shaft 25-1-22 Thrust shaft 23-3-22 Tunnel shafts 7-4-22 Screw shaft 23-3-22 Propeller 28-2-22

Stern tube 29-5-22 Steam pipes tested 21-8-22 & 13-9-22 Engine and boiler seatings 21-8-22 Engines holding down bolts 1-9-22

Completion of pumping arrangements 6-10-22 Boilers fixed 25-8-22 Engines tried under steam 21-9-22

Completion of fitting sea connections 26-6-22 Stern tube 27-7-22 Screw shaft and propeller 27-7-22

Main boiler safety valves adjusted 21-9-22 Thickness of adjusting washers P 23" 3" S 6" CP 25" 9" SP 23" 27" S 6" 32" C 24" 32" 17"

Material of Crank shaft Ingot S. Identification Mark on Do. 5642N Material of Thrust shaft Ingot S. Identification Mark on Do. 3090D

Material of Tunnel shafts Ingot S. Identification Marks on Do. 7, 3049 D, 1-6135 N. Material of Screw shafts Ingot S. Identification Marks on Do. 3049 D

Material of Steam Pipes Lap welded steel Test pressure 675 lbs

Is an installation fitted for burning oil fuel? yes Is the flash point of the oil to be used over 150°F. yes

Have the requirements of Section 49 of the Rules been complied with? yes

Is this machinery duplicate of a previous case? no If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. A Wallsend Howden oil burning installation fitted. A 35 ton evaporator fitted, the shell of which was tested to 50 lbs, and the coils to 400 lbs.

This vessel's machinery has been constructed and installed under Special Survey. The materials and workmanship are good. On completion it was tried under full steam and found satisfactory, and is now in good and safe working condition and eligible to have the notation

LMC 10.22.

It is submitted that this vessel is eligible for THE RECORD. + LMC 10.22. FD. CL

Fitted for oil fuel 10.22. FP above 150°F.

J.W.D. 23/10/22

The amount of Entry Fee ... £ 6 : 0 : When applied for, Special ... £ 105 : 17 : 17 Oct 1922. Donkey Boiler Fee ... £ ✓ : When received, Travelling Expenses (if any) £ ✓ : 18 Oct 1922

T.C.D. Shilston Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute.

Assigned.

TUE: 24 OCT. 1922 + LMC 10.22 F.D. C.L.

Fitted for oil fuel 10.22 F.P. above 150°F.