

## REPORT ON MACHINERY.

No. 2982

Received at London Office  
 Date of writing Report Sept 27 1918 NEW YORK Oct 5 1918 When handed in at Local Office 19 Port of Philadelphia Pa  
 No. in Survey held at Wilmington Del Date, First Survey March 9 1916 Last Survey Sept 21 1918  
 Reg. Book. S.S. O.T. Waring (Number of Visits 80) Gross 5600  
 on the S.S. O.T. Waring Tons 3349  
 Master W. J. Healy Built at Wilmington Del By whom built Bethlehem Ship Bldg Co. (Harlan plant) When built 1918  
 Engines made at Wilmington Del By whom made Bethlehem Ship Bldg Co. (Harlan plant) when made 1918  
 Boilers made at Wilmington Del By whom made Bethlehem Ship Bldg Co. (Harlan plant) when made 1916-17  
 Registered Horse Power 528 Owners Emergency Fleet Corp Port belonging to Washington D.C.  
 Nom. Horse Power as per Section 28 528 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 24"-45"-74" Length of Stroke 48" Revs. per minute 80 Dia. of Screw shaft 14.8" Material of Steel  
 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 Yes 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 Yes Length of stern bush 5'-6"  
 Dia. of Tunnel shaft 13.38" as per rule 13.38" Dia. of Crank shaft journals 14.05" as per rule 14.05" Dia. of Crank pin 14.5" Size of Crank webs 28"x9 1/2" Dia. of thrust shaft under  
 collars 14.5" Dia. of screw 14.9" Pitch of Screw 14" No. of Blades 4 State whether moveable Yes Total surface 1000  
 No. of Feed pumps 2 Diameter of ditto 10"x8" Stroke 21" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 10 Sizes of Pumps see over No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room & Boiler room 1-6": 1-3 1/2": 3-3" In Holds, &c. 1-5": 2-3 1/2": 2-2 1/2": 2-3 1/2"  
 Forward 1-5 1/2" Aft 2 1/2" Deep tank 2 1/2" Out tank 2 1/2" Forepeak 1-3 1/2" After tank 1-3 1/2"  
 No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 3 1/2"  
 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 Yes  
 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 Bilge pipes & suction to 43 off main How are they protected Heavy wooden casing  
 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 Yes Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Lukens  
 Total Heating Surface of Boilers 4488.2 Is Forced Draft fitted Yes No. and Description of Boilers 2 SE. Scotch Marine  
 Working Pressure 180 lbs. Tested by hydraulic pressure to 240 lbs. Date of test 10-8-17 No. of Certificate 139  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 180 No. and Description of Safety Valves to  
 each boiler 2. 4 1/2" Spring loaded Area of each valve 15.9 Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 3' 0" Mean dia. of boilers 18' 1 1/2" Length 11-8 1/2" Material of shell plates Steel  
 Thickness 1 1/2" Range of tensile strength 60,000-71,600 lbs. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. 1/4"  
 long. seams TR. D.B.S. Diameter of rivet holes in long. seams 1 9/16" Pitch of rivets 9 3/4" Lap of plates or width of butt straps 22 1/2"  
 Per centages of strength of longitudinal joint 88.3% plate 83.9% Working pressure of shell by rules 200 lbs. Size of manhole in shell 12" X 16"  
 Size of compensating ring 13 X 29 X 1 1/2" No. and Description of Furnaces in each boiler 4. Monson Material Steel Outside diameter 51 3/16"  
 Length of plain part top 19 1/2" Thickness of plates bottom 19 1/2" Description of longitudinal joint Welded No. of strengthening rings —  
 Working pressure of furnace by the rules 184 lbs. Combustion chamber plates: Material Steel Thickness: Sides 2 1/2" Back 2 1/2" Top 2 1/2" Bottom 4 1/8"  
 Pitch of stays to ditto: Sides 7 1/2" X 7 1/2" Back 7 1/2" X 7 1/2" Top 7 1/2" X 8 3/4" If stays are fitted with nuts or riveted heads riveted heads Working pressure by rules 196 lbs.  
 Material of stays Steel Area at smallest part 1.521 Area supported by each stay 56.25 Working pressure by rules 216 lbs. End plates in steam space:  
 Material Steel Thickness 1 1/2" Pitch of stays 18" X 18" How are stays secured DN 9 Washers Working pressure by rules 184 lbs. Material of stays Steel  
 Area at smallest part 6.42 Area supported by each stay 321 Working pressure by rules 216 lbs. Material of Front plates at bottom Steel  
 Thickness 4 1/8" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 13" Working pressure of plate by rules 306 lbs.  
 Diameter of tubes 2 1/2" Pitch of tubes 3 1/4" X 3 1/2" Material of tube plates Steel Thickness: Front 7/8" Back 2 1/2" Mean pitch of stays 11.25 X 7.125  
 Pitch across wide water spaces 13" Working pressures by rules 284 lbs. Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 9 1/2" X 17 1/8" Length as per rule nt Distance apart 8 3/4" Number and pitch of stays in each 3-7 1/2"  
 Working pressure by rules 228 lbs. Steam dome: description of joint to shell — % 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

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

W 503-0017 Lloyd's Register Foundation

IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR.

State the articles supplied:—

1 Tail shaft. 2 Propeller blades. 1 section crank shaft. 1 piston rod. 1 set of piston rings for H.P. I.P. & L.P. 1 valve spindle. 1 air pump rod. 1 bilge pump ram. 1 crank pin box. 2 crosshead pin boxes. 2 crank pin, and 2 main bearing bolts. 1 set of coupling bolts & nuts. 1 set of feed, bilge, & air pump valves. 1 set valves for all auxiliaries. 20 boiler tubes, 20 condenser tubes, a quantity of assorted bolts & iron, 1 set propeller studs. 1 eccentric strap.

The foregoing is a correct description,

BETHLEHEM SHIPBUILDING CORPN., LTD. HARBOR PLANT

General Manager

Manufacturer.

Dates of Survey while building

During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

1916 Jan 18 Feb 14 Mar 24 Apr 15 May 11 Jun 24 July 31 Aug 11 Sept 15 Oct 5 Nov 15 Dec 6 1917 Jan 15 Feb 6 Mar 7 Apr 11 May 3 Jun 10 July 13 Aug 14 Sept 14 Oct 21 Nov 22 Dec 22

Is the approved plan of main boiler forwarded herewith

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Dates of Examination of principal parts—Cylinders 4-2-18 Slides 27-2-18 Covers 27-2-18 Pistons 6-3-18 Rods 6-3-18

Connecting rods 18-1-18 Crank shaft 4-2-18 Thrust shaft 17-4-18 Tunnel shafts ✓ Screw shaft 27-6-18 Propeller 27-6-18

Stern tube 11-4-18 Steam pipes tested 19-8-18 Engine and boiler seatings 30-7-18 Engines holding down bolts 27-8-18

Completion of pumping arrangements 4-9-18 Boilers fixed 27-8-18 Engines tried under steam 21-9-18

Completion of fitting sea connections 24-7-18 Stern tube 13-7-18 Screw shaft and propeller 17-8-18

Main boiler safety valves adjusted 11-9-18 Thickness of adjusting washers Pat Boiler F.A. 19/16" Star F. 17/16" A. 7/16"

Material of Crank shaft Steel Identification Mark on Do. 1681 J.D. Material of Thrust shaft Steel Identification Mark on Do. 1442 J.D.

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 1442 J.D.

Material of Steam Pipes Copper Test pressure 360 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. Yes If so, state name of vessel S.S. "Benjamin Brewster"

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

Pumps 1 - 12" x 10" x 12" 1 - 7 1/2" x 4 1/2" x 10" 1 - 8" x 8" 2 - 5 1/4" x 3 1/2" x 5" 2 - 10" x 6" x 10" 1 - 8" x 8 1/2" x 12" 1 - 8" x 6" x 12" 1 - 4 1/2" x 2 1/4" x 4"

The machinery of this vessel has been constructed & fitted on board under Special Survey, the workmanship is sound and good.

The Dohle oil fuel system has been fitted.

The machinery has all been tried under steam, and safety valves adjusted. oil fuel system tried, and found to work well, and in my opinion eligible for the record of + LMC 9-18. fitted for fuel oil 9-18, flash point over 150°F in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.18 F.D.

FITTED FOR OIL FUEL 9.18 F.P. ABOVE 150°F

The amount of Entry Fee ... £ \$ :15.00: When applied for, Sept 27, 1918  
Special ... £ \$ :232.00:  
Donkey Boiler Fee ... £ \$ :25.00:  
Travelling Expenses (if any) £ \$ :45.00: When received, 14/10/18

Committee's Minute New York OCT 8 1918

Assigned + LMC 9.18 Fitted for oil fuel 9.18 F.P. above 150°F

MACHINERY CERTIFICATE DATED 29. 10. 18

Wm. Runham  
Engineer Surveyor to Lloyd's Register of Shipping.



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