

REPORT ON MACHINERY.

No. 3064

Received at London Office MON. 20 JAN. 1919
 Date of writing Report Dec 21 1918 When handed in at Local Office Dec 21 1918 Port of Philadelphia
 Date, First Survey March 17 1917. Last Survey Dec 6 1918
 No. in Survey held at Wilmington
 Reg. Book. on the Steel S.S. "Charles M. Everest"

Master S.S. Harris Built at Wilmington Del. By whom built Bethlehem Ship Bldg Corp. Harlan Plant When built 1918
 Engines made at Wilmington Del By whom made Bethlehem Ship Bldg Corp. Harlan Plant when made 1918
 Boilers made at " " By whom made " " " when made 1917

Registered Horse Power Owners United States Shipping Board. Port belonging to Washington
 Nom. Horse Power as per Section 28 528 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

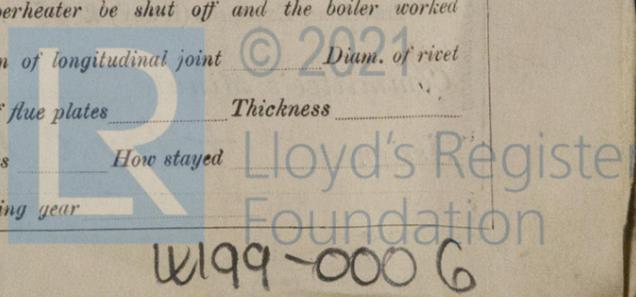
ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27"-45"-44" Length of Stroke 48" Revs. per minute 80 Dia. of Screw shaft as per rule 14.8" Material of screw shaft Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight
 Is 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 Tight fit If two
 cranks are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5'-6"

Dia. of Tunnel shaft as per rule 13.38" Dia. of Crank shaft journals as per rule 14.05" Dia. of Crank pin 14.5" Size of Crank webs 28 x 9" Dia. of thrust shaft under
 cranks 14.5" Dia. of screw 14'-9" Pitch of Screw 14'-0" No. of Blades 4 State whether moveable Yes Total surface 100 sq ft
 No. of Feed pumps 2 Diameter of ditto 10" x 8" 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 over leaf No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 1 Bilge room 1-6 1-3 1/2 3-3 In Holds, &c. No 4 Cofferdam 1-5 Bunker 2-3 1/2 Bunker bilges 2-2 1/2
 3. Cofferdam 2-3 1/2 Forward Cofferdam 1-3 1/2 Deep Tank 2-5 Deep tank flat 2-2 Forepeak 1-3 1/2 After peak 1-3 1/2
 No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 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
 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

Dates of examination of completion of fitting of Sea Connections 24-8-18 of Stern Tube 19-8-18 Screw shaft and Propeller 27-8-18
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes
 MANIFOLDERS, &c.—(Letter for record S) Manufacturers of Steel Lukem Steel & Iron Co
 Total Heating Surface of Boilers 4488.2 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 2 SE Scotch 2SB
 Working Pressure 180 lbs Tested by hydraulic pressure to 270 lbs Date of test 21-9-17 No. of Certificate 144
 Can each boiler be worked separately Yes Area of fire grate in each boiler 180 sq ft No. and Description of Safety Valves to
 each boiler 2 Spring Loaded Area of each valve 15-9 sq in 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 6000-47680 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR.L.
 1. seams R.D.B.S. Diameter of rivet holes in long. seams 3/16" Pitch of rivets 9/4" Lap of plates or width of butt straps 22 1/2"
 Percentages of strength of longitudinal joint rivets 88.3% Working pressure of shell by rules 200 Size of manhole in shell 12 x 16"
 No. of compensating rings 43 x 39 x 1 1/2 No. and Description of Furnaces in each boiler 4 Monson Material Steel Outside diameter 51 1/2"
 Length of plain part top 19" crown 19" bottom 32" Description of longitudinal joint Weld No. of strengthening rings
 Working pressure of furnace by the rules 184.4 Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 3/32" Top 3/32" Bottom 4/8"
 Pitch of stays to ditto: Sides 1/2 x 1/2 Back 1/2 x 1/2 Top 1/2 x 5/8 If stays are fitted with nuts or riveted heads Riveted heads Working pressure by rules 196
 Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 56.25" Working pressure by rules 216 End plates in steam space:
 Material Steel Thickness 1 1/32" Pitch of stays 18 x 18 How are stays secured DN & Washen Working pressure by rules 184.8 Material of stays Steel
 Diameter at smallest part 6.42" Area supported by each stay 324" Working pressure by rules 215.4 Material of Front plates at bottom Steel
 Thickness 1/8" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 13 x 1 1/2 Working pressure of plate by rules 306
 Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 1/2 Material of tube plates Steel Thickness: Front 7/8" Back 3/32" Mean pitch of stays 9-125"
 Pitch across wide water spaces 13" Working pressures by rules 284 Girders to Chamber tops: Material Steel Depth and
 Thickness of girder at centre 9 1/2 x 1 1/8 Length as per rule 32" Distance apart 8 3/4" Number and pitch of stays in each 3-1 1/2"
 Working pressure by rules 238.8 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked
 separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



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

The foregoing is a correct description,
BETHLEHEM SHIPBUILDING CORPN., Ltd. HARLAN PLANT

By *A. Mc Smith*
ASSISTANT GENERAL MANAGER

Manufacturer.

Dates of Survey while building: During progress of work in shops -- Mar 14, May 10-16-23, June 1-5-13-21, Feb 14, Apr 17-23-30, May 9-20, June 3-17-27, July 1-8-11-17-30, Aug 7-13-19-24
During erection on board vessel --- Sept 4-9-16-24-26, Oct 3-8-14-22-28, Nov 4-21-30, Dec 3-6
Total No. of visits *41* Is the approved plan of main boiler forwarded herewith *In New York*

Dates of Examination of principal parts—Cylinders *30-7-18* Slides *27-6-18* Covers *27-6-18* Pistons *27-6-18* Rods *7-8-18*
Connecting rods *7-8-18* Crank shaft *1-7-18* Thrust shaft *9-9-18* Tunnel shafts *9-9-18* Screw shaft *27-8-18* Propeller *27-8-18*
Stern tube *19-8-18* Steam pipes tested *26-9-18* Engine and boiler seatings *30-7-18* Engines holding down bolts *26-9-18*
Completion of pumping arrangements *21-11-18* Boilers fixed *24-9-18* Engines tried under steam *21-11-18*
Main boiler safety valves adjusted *30-11-18* Thickness of adjusting washers *For Boiler F. 1 7/16" A 1 7/16" Sta F. 1 1/2" A 1 7/16"*

Material of Crank shaft *Steel* Identification Mark on Do. *2081-J-D* Material of Thrust shaft *Steel* Identification Mark on Do. *2081-J*
Material of Tunnel shafts *Steel* Identification Marks on Do. *✓* Material of Screw shafts *Steel* Identification Marks on Do. *2681*
Material of Steam Pipes *Seamless Steel* Test pressure *570 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 *O.T. Waring*
"O.T. Waring"

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" Duplex, 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 3/4" x 4"
The machinery of this vessel has been constructed and fitted on board under Special Survey, the workmanship is sound and good.
The Dahl oil fuel system has been fixed.
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 12-18 fixed for oil fuel 12-18, flash point over 150°F. in the Register Book.

Certificate (if required) to be sent to...

It is submitted that this vessel is eligible for THE RECORD. + LMC 12. 18. F. D.
Fitted for Oil fuel 12. 18. F.P. above 150° F.

The amount of Entry Fee	... £ 15 : 00	When applied for,	
Special	... £ 232 : 00	Dec 21 1918	
Donkey Boiler Fee	... £ 25 : 00	When received,	
Travelling Expenses (if any)	£ 35 : 00		

W. Tunham
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute *New York DEC 31 1918*
Assigned *+ LMC 12. 18*
Fitted for oil fuel 12. 18 F. P. above 150° F

MACHINERY CERTIFICATE
WRITTEN 20/1/19

