

REPORT ON MACHINERY.

No. 13506.25.1919

Date of writing Report Nov 3 1919 When handed in at Local Office Nov 4 1919 Port of Philadelphia Pa
No. in Survey held at Essington and Chester, Pa Date, First Survey Sept 4 1918 Last Survey Nov 3 1919
Reg. Book. 55 "ICELAND" (Number of Vessels 68)

Master J. Amherman Built at Chester, Pa By whom built Merchants Shipbuilding Co When built 1919
Engines made at Essington, Pa. By whom made Westinghouse Elec & Mfg Co when made 1919
Boilers made at Cleveland, Ohio By whom made The D. Connelly Boiler Co when made 1919
Registered Horse Power _____ Owners United States Shipping Board Port belonging to Washington
Shaft Horse Power at Full Power 3000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

TURBINE No. HP 6484. L.P. 6524 GEAR 94R.
Description of Engines Double Reduction Geared Turbines No. of Turbines Two
Diameter of Rotor Shaft Journals, H.P. 4 1/2 L.P. 4 1/2 Diameter of Pinion Shaft 1 1/2 NO 8 X 6 BORE 4 1/4
Diameter of Journals 1 1/2 NO 2 AT 10 Distance between Centres of Bearings 19 1/2 NO 3 1/4 Diameter of Pitch Circle 22 1/2 (28 TEETH)
Diameter of Wheel Shaft 12 1/2 NO 2 AT 10 Distance between Centres of Bearings 41 1/2 NO 2 AT 10 Diameter of Pitch Circle of Wheel 22 1/2 (182 TEETH)
Width of Face 2 1/2 NO 2 AT 18 Diameter of Thrust Shaft under Collars END OF MAIN SHAFT Diameter of Tunnel Shaft as per rule 13 1/2
No. of Screw Shafts One Diameter of same as per rule 14 1/2 NO 4 1/2 Diameter of Propeller 14 1/2 Pitch of Propeller 14 1/2
No. of Blades 4 State whether Moveable No Total Surface 48.86 Diameter of Rotor Drum, H.P. 14 L.P. 24 Astern IMPULSE
Thickness at Bottom of Groove, H.P. 1 1/2 L.P. 1 1/2 Astern Solid Revs. per Minute at Full Power, Turbine 3360 Propeller 90

PARTICULARS OF BLADING.						REACTION.						IMPULSE BLADING DATA					
H.P.						L.P.						ASTERN					
HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
12 EXPANSION	2	21	8	3	30	3	30	3	3	30	3	DRUM DIA	12 ROTATING	30 1/2	24 1/2		
12	3	23	6	4	32	2	32	2									
12				5	34	1	34	1	MAX TIP	12							
12				6	36	3	36	3									
12				6	36	1	36	1									
12									WIDTH BLADE	12							
12																	
12									MEAN DIA. PASSING BLADES	32							
12									NO. OF ROTATING ROWS	2							

No. and size of Feed pumps 2 - 12" x 8" x 24"
No. and size of Bilge pumps 1 - 6" x 5 1/4" x 6" 1 - 10" x 8" x 12" 1 - 10" x 12" x 12"
No. and size of Bilge suction in Engine Room 5 - 3 1/2"
1 - 3 1/2" 2 - 5" to Deep tank Blanket off. In Holds, etc. 1-2-4-5 & Cofferdam - 2 - 3 1/2" Tunnel
No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Yes 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 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 Below
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 Yes
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 Upper engine room platform

BOILERS, &c. (Letter for record _____) Manufacturers of Steel _____
Working Surface of Boilers Is Forced Draft fitted No. and Description of Boilers _____
Working Pressure _____ Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
In each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to _____
Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates _____
Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____
Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
Percentages of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____
Length of compensating ring _____ No. and Description of Furnaces in each Boiler _____ Material _____ Outside diameter _____
Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
Material of stays _____ Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space _____
Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____
Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____
Thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
Working pressure by rules _____ Steam dome: description of joint to shell _____ % of strength of joint _____ Diameter _____
Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diameter 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 _____

IS A DONKEY BOILER FITTED? _____ If so, is a report now forwarded? _____

SPARE GEAR. State the articles supplied:—2 Main gear bearings, 2 Main turbine bearings, 3 Pinion bearings, 1" Red. 3 pinion bearings 2" Red. 1/2 set Kingsbury shoes for main thrust, 1 set Kingsbury shoes for turbine thrust. 1 set main coupling bolt 2 studs & nuts of each size used for each main gear turbine & pinion bearings, 1/2 set packing rings & springs for turbine spindle glands, 730 total number of studs & nuts for each turbine & gear case, 1 set of adjusting liners. 1 set valve for feed, bilge, & lubricating oil pumps, 1 spare spring of each size used, 2 thermometers for oil circulating system, 1 bucket & rod for lubricating oil pump, assorted bolts & nuts. Assortment of various sizes.

The foregoing is a correct description.

Northrup Electric & Mfg Co. Essington, Pa. Manufacturer.

W B Saunders Supermarine Dept for Robert S. Saunders, Representative. J E P Grant, Chief Eng. Merchant Ship

Dates of Survey while building: During progress of work in shops: Feb. 10-14-24-26. March 1-10-13-19-26. April 2-7-10-14-17-23-25-26-30. May 8-20-22-24. May 9. Jan 16. Feb 1-18. March 7. April 2. During erection on board vessel: May 6-19. June 12-23-24. July 8. Aug 4-14-22. Sept 11-29. Oct 8-10-13-24. Nov 3. Total No. of visits: Eng 21. Boiler 25. Tur 22. Total 68. Is the approved plan of main boiler forwarded herewith: No.

Dates of Examination of principal parts—Casings _____ Rotors _____ Blading _____ Gearing _____

Rotor shaft _____ Thrust shaft _____ Tunnel shafts 22-4-19 Screw shaft 9-5-19 Propeller 8-4-19

Stern tube 8-4-19 Steam pipes tested 13-10-19 Engine and boiler seatings 8-4-19 Engines holding down bolts 29-9-19

Completion of pumping arrangements 24-10-19 Boilers fired 24-10-19 Engines tried under steam 3-11-19

Main boiler safety valves adjusted 24-10-19 Thickness of adjusting washers _____ Locknuts _____

Material and tensile strength of Rotor shaft: Cast Steel 60,000 Identification Mark on Do. L.P. 6484

Material and tensile strength of Pinion shaft: 55 to 65 CARBON 85,000 Identification Mark on Do. 942

Material of Wheel shaft: INGT STEEL Identification Mark on Do. 942 Material of Thrust shaft: Identification Mark on Do. 942

Material of Tunnel shafts: INGT STEEL Identification Marks on Do. 1359, 1345, 1366, 974, 976, 1166, F.A. Material of Screw shafts: INGT STEEL Identification Marks on Do. 1199, 1198

Material of Steam Pipes: Seamless Steel Test pressure 600 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 a duplicate of a previous case: Yes If so, state name of vessel: S.S. "TEXARKANA"

General Remarks (State quality of workmanship, opinions as to class, &c.) The turbines and gears have been built under special survey in accordance with the approved plans. The workmanship and materials are good. The machinery has been shipped to Chester Pa. for fitting on board the vessel.

These engines and boilers have been securely fitted on board the vessel, and tried under full power with satisfactory results.

It is submitted that the vessel be eligible for a record of + LMC 11-19, fitted for oil fuel 11-19, flash point above 150°F in the Register Book.

The amount of Entry Fee \$ £ 15 : 00 : When applied for, Special \$ £ 270 : 00 : 19 Donkey Boiler Fee £ : : When received, Travelling Expenses (if any) £ 13 : 50 : 6/1/20 6/1/20

Credit allowed with 1/3 rec fee. 90¢.

Committee's Minute

Assigned

+ LMC 11.19 subject



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