

# REPORT ON MACHINERY.

No. 75474

Writing Report 10 When handed in at Local Office 29.4.22 Port of NEWCASTLE-ON-TYN.  
 Survey held at Date, First Survey 21<sup>st</sup> Nov/1921 Last Survey 26<sup>th</sup> April 1922  
 on the STEEL QUAD SC. BERENGARIA (Number of Visits 78)  
 Built at HAMBURG By whom built VULCAN-WERKE Tons { Gross 52022  
 es made at HAMBURG By whom made VULCAN-WERKE Net 23229  
 s made at HAMBURG By whom made VULCAN-WERKE When built 1912  
 red Horse Power 14860 N.H.P. Owners Cunard S.S. Co. Ltd. when made 1912  
 Horse Power at Full Power 62000 Is Refrigerating Machinery fitted for cargo purposes No when made 1912  
 Port belonging to Liverpool Is Electric Light fitted Yes

INE ENGINES, &c.—Description of Engines IMPULSE-REACTION DIRECT DRIVE  
 of Rotor Shaft Journals, H.P. 700 M/M L.P. 900 M/M Diameter of Pinion Shaft No. of Turbines 4  
 of Journals Distance between Centres of Bearings Diameter of Pitch Circle  
 of Wheel Shaft Distance between Centres of Bearings Diameter of Pitch Circle of Wheel  
 Face Diameter of Thrust Shaft under Collars 530 M/M  
 row Shafts 4 3 liners Diameter of same as per rule 475.6 M/M 5-00  
 as fitted 480 M/M Diameter of Propeller 5080 M/M Pitch of Propeller 4420 M/M  
 blades 4 State whether Moveable No. Total Surface 11.35 METRES Diameter of Rotor Drum, H.P. 3300 L.P. 3650 M/M  
 at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine 185 Propeller 185

## DETAILS OF BLADING.

H.P.				L.P.				ASTERN.			
SECTION	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.	
1	87.5 M/M		12	150 M/M		9		145 M/M		9	
2	107.5		12	230 M/M		9		185		9	
3	129.5		12	290 M/M		9		235		9	
4	154.5		12	353 M/M		8		300		9	7
5	180.5	I.P.	12	420 M/M		3		380		8	7
6	205.5		9	490 M/M		5				8	10
7	235.5		8	560 M/M		7				7	
8	270.5		8	560 M/M		3					
9	305.5		8	600 M/M		2					
10	350.5		8	600 M/M							

size of Feed pumps 8 MAIN 500" x 350" x 800" 10 560 M/M  
 size of Bilge pumps 2 MAIN 220" x 260" x 350" 10 600 M/M  
 size of Bilge suction in Engine Room 16 INCLUDING 10 IN SHAFTS TUNNELS 6" dia  
 in each 3 1/2" 4 LAMONT TYPE 9" x 10" x 10" SHAFTS  
 4 1/2" x 2 3/4" x 10" SHAFTS

Ammonia 2 each (P+S) 6" has Hold Refrigerated Chambers 2 (P+S) 6"  
 In Holds, &c. 3 and 4 ft. Peaks 1 ea & Ballast line No. 1, 2, 3 Holds

Bilge Injections 2 sizes 3 1/4" Connected to condenser, or to circulating pump PUMP Is a separate Donkey Suction fitted in Engine Room & size 2-  
 the bilge suction pipes fitted with roses YES Are the roses in Engine room always accessible YES

connections with the sea direct on the skin of the ship YES Are they Valves or Cocks BOTH  
 fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YES NO Are the Discharge Pipes above or below the deep water line BOTH  
 each fitted with a Discharge Valve always accessible on the plating of the vessel YES NO Are the Blow Off Cocks fitted with a spigot and brass covering plate YES

are carried through the bunkers NONE BUT OIL HEATING COALS How are they protected  
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES  
 Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YES

Shaft Tunnel watertight YES Is it fitted with a watertight door YES worked from BRIDGE OR LOCAL (HYDRAULIC)

ERS, &c.—(Letter for record S) Manufacturers of Steel  
 Heating Surface of Boilers 203 000 Is Forced Draft fitted CLOSED STOKES  
 Pressure 228 LBS. Tested by hydraulic pressure to 392 LBS. No. and Description of Boilers 46 YARROW TYPE WATER TUBE  
 boiler be worked separately YES Area of fire grate in each boiler 7.6 DM. OIL FIRED No. of Certificate

3-SPRING-LOADED Area of each valve 62.61 Q.M.S. Pressure to which they are adjusted 230 LBS. No. and Description of Safety Valves to  
 distance between boilers or uptakes and bunkers or woodwork ABOUT 12" Mean dia. of boilers 1800 M/M Are they fitted with easing gear YES  
 Range of tensile strength 17 AND 28 M/M Length 1800 M/M Material of shell plates STEEL  
 D.R. 2.5.5. Diameter of rivet holes in long. seams 24 M/M Pitch of rivets 37 M/M Descrip. of riveting: cir. seams D.R. L.P.  
 rivets 75.2 Lap of plates or width of butt straps 242 M/M

ages of strength of longitudinal joint plates 79.8 Working pressure of shell by rules @ 55 LBS. 235.5 Size of manhole in shell 18" x 18" M/M

compensating ring flanged No. and Description of Furnaces in each Boiler SMALL DRUMS Material Outside diameter  
 plain part crown 18" x 18" M/M Description of longitudinal joint D.R. L.P. DIAM. 26 M/M No. of strengthening rings  
 bottom bottom

pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
 stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules End plates in steam space

of stays Diameter at smallest part Area supported by each stay Working pressure by rules Material of stays Steel  
 STEEL Thickness 22 M/M Pitch of stays 550/650 M/M How are stays secured D.N. + W. Working pressure by rules Material of Front plates at bottom Steel  
 at smallest part 2 1/2" Area supported by each stay Working pressure by rules Thickness 18 M/M Greatest pitch of stays BACK 818 M/M Working pressure of plate by rules  
 20 M/M Material of lower back plate 61200 LONG 80 M/M Material of tube plates Steel Thickness: Front 48 M/M Back 48 M/M Mean pitch of stays  
 of tubes 45 M/M Pitch of tubes 60 M/M Working pressures by rules Girders to Chamber tops: Material Depth and

na wide water spaces Length as per rule Distance apart Number and pitch of stays in each  
 of girder at centre Steam dome: description of joint to shell D.R. % of strength of joint Diameter 800 M/M  
 pressure by rules of shell plates 16 M/M Material STEEL Description of longitudinal joint D.R. L.P. Diameter of rivet holes Pitch of rivets

pressure of shell by rules Crown plates: Thickness 18 M/M How stayed DOME 800 M/M R.R.

W572-0054



SPARE GEAR. ~~State the articles supplied.~~ In accordance with and in excess of the Rule Regu

Manufacturer

Is the approved plan of main boiler forwarded herewith

Is this machinery a duplicate of a previous case No. If so, state name of vessel —

The vessel will be eligible for classification L.M.C. with date - Fitted for oil fuel F.P. above 150° F. Water Tube Boilers to be

Engineer Surveyor to Lloyd's Register of Shipping

TUE JUL 11 1972

Subject

Tested for wt fuel 5.22  
 7.2 above water

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FRI, 14 AUG. 1922 FEB 20 1923  
TUE JAN 30 1923  
TUE NOV. 28 1922  
Lloyd's Register  
Foundation