

REPORT ON MACHINERY.

No. 19912

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Date of writing Report 19 July 1920 When handed in at Local Office 19 Port of NEWPORT, MON.
No. in Survey held at Chepstow Date, First Survey 4 Mch Last Survey 19 July 1920
Reg. Book. S/S SILE & WAR/LLIAD (Number of Visits 12)
on the S/S SILE & WAR/LLIAD
Master Manabishi Built at Chepstow By whom built Newcastle S B Co Ltd When built 1920
Engines made at Manabishi By whom made British Westinghouse Co when made 1919
Boilers made at Renfrew By whom made Baloch Wilson & Co when made 1918
Registered Horse Power 2900 Owners Soc. Nav. Italiana Port belonging to no
Shaft Horse Power at Full Power 2900 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

TURBINE ENGINES, &c.—Description of Engines Italian Turbines + D R Gas No. of Turbines 2 (H.P. + L.P.)
Diameter of Rotor Shaft Journals, H.P. 4 1/2" L.P. 4 1/2" Diameter of Pinion Shaft 1 1/2" 4 1/2" 2" 9"
Diameter of Journals 1 1/2" 4 1/2" 2" 9" Distance between Centres of Bearings 1' 27" 2 4 1/2" 1' 6" 302" 2" 13" 379"
Diameter of Wheel Shaft 1 1/2" 9" 2" 40 1/4" Distance between Centres of Bearings 1' 26" 2" 45 1/2" Diameter of Pitch Circle of Wheel 1' 49" 656" 2" 96" 745"
Width of Face 1 1/2" 18" 2" 33 1/2" Diameter of Thrust Shaft under Collars 14 3/4" Diameter of Tunnel Shaft as per rule 1 1/4" as fitted 1 1/4"
No. of Screw Shafts one Diameter of same as per rule 1 3/4" as fitted 1 3/4" on line Diameter of Propeller 17' 9" Pitch of Propeller 16' 6"
No. of Blades 4 State whether Moveable no Total Surface 100 sq ft Diameter of Rotor Drum, H.P. as per rule L.P. as per rule Astern as per rule
Thickness at Bottom of Groove, H.P. as per rule L.P. as per rule Astern as per rule Revs. per Minute at Full Power, Turbine 3500 Propeller 98

PARTICULARS OF BLADING.

	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.
Wheel									
EXPANSION	17 1/8"	3' 2 1/2" 3' 3 1/4"	2	17 1/8"	3' 3 3/8"	1	H.P.	17 1/8"	3' 2 1/2" 3' 3 1/4"
ID	1 1/2"	3' 2 1/2"	1	17 1/8"	3' 3 3/8"	1	17 1/8" 2 1/4"	3' 2 1/2" 3' 3 1/4"	2
ED	1"	3' 3"	1	2 1/2"	3' 4 1/2"	1			
CH	1 1/2"	3' 2 1/2"	1	3 7/8"	3' 5 7/8"	1	L.P.		
CH	1 1/8"	3' 3 1/8"	1	4 3/4"	3' 6 1/4"	1	2 1/4"	3' 4 1/4"	1
CH				6 1/8"	3' 8 1/8"	1	4"	3' 6"	1
CH				7"	3' 9"	1			
CH									

No. and size of Feed pumps Two 1 1/2" dia Steam 8" dia water x 24" Stroke
No. and size of Bilge pumps one bilge + ballast pump 10 1/2" dia steam 14" dia water x 24" stroke + 1 Gun Suction 8" dia steam 12" dia water x 12" stroke
No. and size of Bilge suction in Engine Room Four 3 1/2" 1 Independent 8"
In Holds, &c. no 1 hold 1 3/2" No 2. 2 3/2" No 3. 3 3/2" No 4. 1 3/2"
No. of Bilge Injections 1 sizes 1 1/4" Connected to condenser, or to circulating pump no pump Is a separate Donkey Suction fitted in Engine Room & size 4 1/2" 8"
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 no 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
What pipes are carried through the bunkers Bilge + four peak suction How are they protected Steel covers
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 Engine room Grating upper deck

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Columbian Steel Co of Holders, Hawaii + Hongkong
Total Heating Surface of Boilers 9636 sq ft Is Forced Draft fitted yes No. and Description of Boilers 3 Baloch Wilson Marine W.T
Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 19. 4. 20 No. of Certificate 14
In each boiler be worked separately yes Area of fire grate in each boiler 85 3/4 sq ft No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 3 1/2" Pressure to which they are adjusted 200 Are they fitted with easing gear yes
Greatest distance between boilers or uptakes and bunkers or woodwork 6' 0" Mean dia. of boilers 4' 0" Length 15' 1 1/4" Material of shell plates Steel
Thickness 7/16" + 1 1/16" Range of tensile strength 28/32 tons Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams DR
g. seams TR + S. BS Diameter of rivet holes in long. seams 29/32" Pitch of rivets 3.53" Lap of plates or width of butt straps 7 1/4"
Percentages of strength of longitudinal joint 76.77 Working pressure of shell by rules 238 Size of manhole in shell 15" x 11"
No. of compensating ring 7/8" x 4 1/8" No. and Description of Furnaces in each Boiler no Material no Outside diameter no
Length of plain part top Thickness of plates crown Description of longitudinal joint no No. of strengthening rings no
Working pressure of furnace by the rules no Combustion chamber plates: Material no Thickness: Sides no Back no Top no Bottom no
Pitch of stays to ditto: Sides no Back no Top no If stays are fitted with nuts or riveted heads no Working pressure by rules no
Material of stays no Diameter at smallest part no Area supported by each stay no Working pressure by rules no End plates in steam space no
Material Steel Thickness 3/16" Pitch of stays no How are stays secured bolts Working pressure by rules 140 Material of stays no
Diameter at smallest part no Area supported by each stay no Working pressure by rules no Material of Front plates at bottom no
Thickness no Material of lower back plate Steel Thickness no Greatest pitch of stays no Working pressure of plate by rules no
Diameter of tubes 1 1/2" + 3 1/2" Pitch of tubes 2 1/4" + 2 3/8" Material of tube plates Steel Thickness: Front 1 1/2" Back no Mean pitch of stays no
Pitch across wide water spaces no Working pressures by rules no Girders to Chamber tops: Material no Depth and thickness of girder at centre no Length as per rule no Distance apart no Number and pitch of stays in each no
Working pressure by rules no Steam dome: description of joint to shell no % of strength of joint no Diameter no
Thickness of shell plates 3/4" Material Steel Description of longitudinal joint no Diameter of rivet holes no Pitch of rivets no
Working pressure of shell by rules no Crown plates: Thickness no How stayed no

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? No If so, is a report now forwarded? _____

SPARE GEAR. State the articles supplied: 1 Propeller. Two bushes for turbine spindle & shaft. 2 bearing bushes for slow speed
cranks, gland casing for spindles, one thrust shaft bearing. 2 bearing bushes for slow speed
whirl shaft. 2 bearing bushes for slow speed pinion shaft. 2 bearing bushes for high speed
whirl shaft. 2 bearing bushes for high speed pinion shaft. white metal fixtures for
for bearing run bearing gear. Spare gear in accordance with Rules & as per
Specification

The foregoing is a correct description.

Manufacturer. _____

Dates of Survey while building { During progress of work in shops -- } March 1920. 4. 10. 14. April 14. 19 May 6. 18. June 24. 28 July 8. 15. 17
{ During erection on board vessel -- }
Total No. of visits 12 Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Casings Aug 1918 Rotors Aug 1918 Blading Sept 1918 Gearing Nov 1918

Rotor shaft Aug 1918 Thrust shaft 12. 12. 18 Tunnel shafts _____ Screw shaft 14. 6. 19 Propeller _____

Stern tube 14. 4. 20 Steam pipes tested 24. 6. 20 Engine and boiler seatings 28. 6. 20 Engines holding down bolts 24. 6. 20

Completion of pumping arrangements 8. 7. 20 Boilers fired 19. 4. 20 Engines tried under steam 8. 7. 20

Main boiler safety valves adjusted 8. 7. 20 Thickness of adjusting washers Phos. S. 24. C. Brin S. 9/32. Strin S. 7/16

Material and tensile strength of Rotor shaft Half Stub 33.2 tons + 33.6 tons Identification Mark on Do. 1663

Material and tensile strength of Pinion shaft Half Stub 48.56 tons Identification Mark on Do. 1663

Material of Wheel shaft Half Stub Identification Mark on Do. 1663 Material of Thrust shaft Half Stub Identification Mark on Do. 1663

Material of Tunnel shafts 60 Identification Marks on Do. E 4787 Material of Screw shafts 60 Identification Marks on Do. 3536

Material of Steam Pipes Bricks S. D. Stub. Also L. P. Stub Test pressure 600 lbs

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

Have the requirements of Section 49 of the Rules been complied with r

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

General Remarks (State quality of workmanship, opinions as to class, &c.) The boilers of this vessel made by
Jessie Bulcock Union & Co Ltd see Gls Rpt No 38288 have been securely fitted on board
tested to 400 lbs per sq" by hydraulic pressure, examined under steam & safety valves
adjusted to 200 lbs per sq". The Turbine Machinery built by British Westinghouse
& double reduction Gear by David Brown & Sons Ltd have been securely fitted
on board & tried under steam. On the trial trip the Machinery worked
well with no undue heating of any part & with satisfactory results
& vessel is now eligible for the Record of S. L.M.C. 7.20.
New owners intend fitting donkey on board at Cardiff & supplying spare screw.

The amount of Entry Fee ... £ 14-4-3 When applied for, 1/9/20 from Lon.
Sitting on Board ... £ _____ When received, 30/10/20 Ebbw.
Special ... £ _____
Donkey Boiler Fee ... £ _____
Travelling Expenses (if any) £ _____

Committee's Minute FRI JUL 30 1920
Assigned + L.M.C. 7.20 7D subject
Water tube boilers

