

S/S Manuel Armas

Rpt. 4a.

REPORT ON MACHINERY

No. 75006

Received at London Office 3 DEC. 1921

Date of writing Report 19 When handed in at Local Office 2.12.21 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at Wallsend Date, First Survey 18 Mar 1920 Last Survey 29 Nov 1921
 Reg. Book. on the Starboard Set of Turbines and Double Reduction Gearing ENG No 185. (Number of Visits 47)
 Master Built at Cadiz By whom built Messrs Vickers Ltd order When built
 Engines made at Wallsend By whom made The Parsons Marine Steam Turbine Co Ltd when made 1921
 Boilers made at By whom made when made
 Registered Horse Power Owners Port belonging to
 Shaft Horse Power at Full Power 6250 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

TURBINE ENGINES, &c.—Description of Engines Double Reduction Geared Turbines No. of Turbines 2 Starboard (One H.P. L.P.)
 Diameter of Rotor Shaft Journals, H.P. 4" L.P. 5 1/2" Diameter of Pinion Shaft Bearings, 4 3/4" Distance between centres 2-1/2"
 Diameter of Journals 9 1/2" Distance between Centres of Bearings 4-10 1/2" Diameter of Pitch Circle 7.03 HP - 10.44 LP — 2" Rad 3/16" 252.
 Diameter of Wheel Shaft 14" Distance between Centres of Bearings 6-1" Diameter of Pitch Circle of Wheel 1" Rad. 51.4 - 2" Rad 79.4.
 Width of Face 14" - 27" Diameter of Thrust Shaft under Collars 14" Diameter of Tunnel Shaft as per rule as fitted
 No. of Screw Shafts 2 Diameter of same as per rule as fitted Diameter of Propeller Pitch of Propeller
 No. of Blades State whether Moveable Total Surface Diameter of Rotor Drum, H.P. 15" L.P. 36" Astern 30"
 Thickness at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine HP 4020 LP 2710 Propeller 1/3

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.
1ST EXPANSION	Impulse wheel 24" mean dia.						Impulse wheel 37" mean dia.		
2ND	1" to 2 1/8"			2" to 5 3/4"			7/8" to 2 1/4"		
3RD									
4TH									
5TH									
6TH									
7TH									
8TH									

No. and size of Feed pumps
 No. and size of Bilge pumps
 No. and size of Bilge suction in Engine Room
 In Holds, &c.
 No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size
 Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible
 Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water-line
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
 What pipes are carried through the bunkers How are they protected
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges
 Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record) Manufacturers of Steel
 Total Heating 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
 Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler Are they fitted with easing gear
 Area of each valve Pressure to which they are adjusted
 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
 long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
 Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell plates
 Size of compensating ring No. and Description of Furnaces in each Boiler Material Outside diameter
 Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings bottom
 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

W1350-0036

Lloyd's Register Foundation

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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. *See list appended*

Spare gear to be supplied, and checked on board - It is understood that Messrs Vickers Ltd are supplying this spare gear.

The foregoing is a correct description,

FOR THE PARSONS MARINE STEAM TURBINE CO. LIMITED

Manufacturer.

W. S. Pilmer

SECRETARY

Dates of Survey while building { During progress of work in shops -- 1920 Mar. 15. Apr. 23-29. May 5. 18. Jun. 10. 11. 15. 17. Jul. 28. Aug. 10. 22. Sep. 10. 14. 16. Oct. 20. 25. Nov. 4. 11. 16. 22. 25.
During erection on board vessel --- 1921 Dec. 8. 16. 20. Jan. 24. 26. Feb. 1. Mar. 3. 7. 8. 9. 23. Apr. 5. 6. 13. Jul. 1. 14. 20. Aug. 3. 12. 17. 19. Sep. 12. Nov. 1. 9. 29.
Total No. of visits 47.

Is the approved plan of main boiler forwarded herewith _____

Turbine Cylinder Casings tested under hydraulic pressure. " " " donkey " " " 17.6.20-6/20

Dates of Examination of principal parts - Casings 12.8.21 Rotors 10.2.21 Blading 9.21-17.6.20 Gearing 12.9.21-10.9.20

Rotor shaft 17.6.21 Thrust shaft 17.6.21 Tunnel shafts _____ Screw shaft _____ Propeller _____

Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____

Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____

Main boiler safety valves adjusted _____ Thickness of adjusting washers _____

Material and tensile strength of Rotor shaft Ingot Steel 34 6 38 tons 7974 Identification Mark on Do. LLOYDS 5416 R / LGS - 1506 WC

Material and tensile strength of Pinion shaft " " 34 6 38 tons 1315 / 7877 WC LLOYDS 1395 WC / 7876 Identification Mark on Do. LLOYDS LGS

Material of Wheel shaft Ingot Steel 31-35.7.7. LGS 1570.20 Identification Mark on Do. LLOYDS LGS 10/20

Material of Thrust shaft Ingot Steel Identification Mark on Do. LLOYDS 7969.13. - 1170

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts _____ Identification Marks on Do. _____

Material of Steam Pipes _____ Test pressure _____

Is an installation fitted for burning oil fuel _____ 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 _____

Is this machinery a duplicate of a previous case _____ If so, state name of vessel _____

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

Starboard set of double reduction Turbines and Gearing - Made by Messrs The Parsons Marine Steam Turbine Coy Ltd - Wallend on Tyne
This machinery built under special survey. The material and workmanship found good and efficient. The machinery after being erected was tested under steam at Messrs Parsons works, and found satisfactory. Subsequently dispatched to be installed on board the vessel at Cadiz.

Certificate (if required) to be sent to _____
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ... £ : :
Special ... £ 25 : 17 : 3
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, by B. Barrow
When received, 5/8/1921 from Barrow

Leonard S. Challers
Engineer Surveyor to Lloyd's Register of Shipping.

FRI MAY. 11 1923

Committee's Minute

Assigned _____

