

Rpt. 4a.

REPORT ON MACHINERY.

No. 4268

Received at London Office

Date of writing Report 11 Feb 1919 When handed in at Local Office 11 Feb 1919 Port of Manchester
 No. in Survey held at Manchester Date, First Survey 17 Nov 1917 Last Survey 18 Jan 1919
 Reg. Book. on the RATEAU STEAM TURBINES and DOUBLE REDUCTION GEAR (Number of Visits 42)
NOW FITTED S/S GILBOUILLER & WAG GRAPE Tons Gross 2572 Net 1423
 Master Chips low Built at Chips low By whom built Wm Wright & Co When built 1920
 Engines made at Manchester By whom made B Westinghouse & Co when made 1919-1
Andersfield David Brown & Sons when made 1919-1
 Boilers made at _____ By whom made _____ when made _____
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Shaft Horse Power at Full Power 1000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

TURBINE ENGINES, &c.—Description of Engines RATEAU IMPULSE, HP and LP and DR GEAR No. of Turbines two
 Diameter of Rotor Shaft Journals, H.P. 4" L.P. 4" Diameter of Pinion Shaft 1st - 3 3/4" 2nd - 6 3/4"
 Diameter of Journals 1st - 3 3/4" 2nd - 6 3/4" Distance between Centres of Bearings 1st - 22" 2nd - 48" Diameter of Pitch Circle 1st - 5.99" 2nd - 9.92"
 Diameter of Wheel Shaft 1st - 6 3/4" 2nd - 11 1/2" Distance between Centres of Bearings 1st - 48" 2nd - 48" Diameter of Pitch Circle of Wheel 1st - 56.348" 2nd - 68.205"
 Width of Face 1st - 8 3/4" 2nd - 20" Diameter of Thrust Shaft under Collars 1 1/2" Diameter of Tunnel Shaft _____ as per rule _____ as fitted _____
 No. of Screw Shafts _____ 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. L.P. Astern
 Thickness at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine 4500 Propeller 70

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	1/2" x 1 1/2"	27 1/2" x 28 1/2"	2	1 1/8"	28 5/8"	1	HP 1 1/16" x 2 3/8"	28 1/16" x 29 3/8"	2
2ND	5/8"	27 5/8"	1	1 5/8"	28 5/8"	1			
3RD	5/8"	27 5/8"	1	2 5/8"	29 5/8"	1	LP 1 1/16"	28 1/16"	1
4TH	5/8"	27 5/8"	1	4 3/16"	31 1/16"	1	" 3 1/2"	30 1/2"	1
5TH				6 1/4"	33 1/4"	1			
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 _____
 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 _____
 long. seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
 rivets _____
 Per centages of strength of longitudinal joint _____ 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 _____
 top _____ crown _____
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 bottom _____ 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 _____



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:— One set pads each for nickel thrust and turbine thrust blocks, one set bearing bushes each for turbine rotor, low speed gear wheel shaft, intermediate gear shaft, and for pinion shaft. One spare pinion with flexible coupling, one spare rotor plunger pump, one set valves for lubricating pump, one bucket rod for lubricating pump, one escape valve of each size fitted, 5% condenser tubes & ferrules, one impeller & shaft, one air pump rod, bucket & valves, one set coupling bolts, Assorted bolts & nuts.

The foregoing is a correct description,

THE BRITISH WESTINGHOUSE ELECTRIC & MFG. CO., LTD., Manufacturer.
TRAFFORD PARK, MANCHESTER.

Dates of Survey while building { During progress of work in shops -- } from 17. Nov. 1917 various dates to 18. January 1919. 42 visits.
 { During erection on board vessel --- }
 Total No. of visits _____

Is the approved plan of main boiler forwarded herewith _____

Dates of Examination of principal parts—Casings 14 Jan 1918 Rotors 8 Feb 1918 Blading 12 Mar 1918 Gearing various dates 1918
 Rotor shaft 20 Feb 1918 Thrust shaft 26 June 1918 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 shafts forged steel 32.0 tons and 31.5 tons. Identification Mark on Do. U404 & U405

Material and tensile strength of Pinion shaft nickel steel 42.0 tons and 46.0 tons. Identification Mark on Do. 465, 462

Material of Wheel shaft forged steel Identification Mark on Do. _____ Material of Thrust shaft nickel steel Identification Mark on Do. _____

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? no If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c.) The Steam turbines and gear have been built under survey, the materials and workmanship so far as could be seen are sound and good and eligible in my opinion to be classed with this Society with record of LMC

Identification marks on couplings

H.P. turbine	L.P. turbine	Gear.
LLOYDS SET 5 1654	LLOYDS SET 5 1655	LLOYDS SET 5

This Machinery has now been fitted on the S/S Guelder to West Coast Supt Rpt No 1986

A. Campbell
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ : :
 Special 1/4c ... £ 28 : 11 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 19 _____
 When received, 166. 29. 22/6/20

Committee's Minute

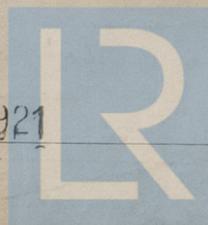
FRI. JUN. 18 1920

FRI. OCT. 15 1920

Assigned

TUE. JAN. 18 1921

TUE. FEB. 18 1921



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

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