

Dudb. 10665

WED. APR. 16. 1919

WED. APR. 10

No. 15618

pt. 4a.

REPORT ON MACHINERY.

Received at London Office TUE. MAY 4 1920

Date of writing Report 4th April 19 When handed in at Local Office 15/4/19 Port of West Hartlepool
 No. in Survey held at Hartlepool Date, First Survey 27th June/19 Last Survey 31st March 1919
 Reg. Book. on the (N1) Standard Kenel Pollenzo et War Relief (Number of Visits 46)

Master _____ Built at _____ By whom built _____ When built _____
 Engines made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd. when made 1919
 Boilers made at _____ By whom made _____ when made _____
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Shaft Horse Power at Full Power _____ Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

TURBINE ENGINES, &c.—Description of Engines Double geared Impulse Turbines No. of Turbines Two
 Diameter of Rotor Shaft Journals, H.P. 4 1/2 L.P. 5 3/4 Diameter of Pinion Shaft { 1st Pinion 5 3/4 between Helices. / 2nd Pinion 7 1/2 between Helices.
 Diameter of Journals { 1st Pinion 4 1/2 / 2nd Pinion 5 3/4 Distance between Centres of Bearings { 1st Pinion 2-3 / 2nd Pinion 3-10 1/2 Diameter of Pitch Circle { 1st Pinion 6-3-02 / 2nd Pinion 13-3-49
 Diameter of Wheel Shaft { 1st Pinion 9 3/4 / 2nd Pinion 14 3/4 Distance between Centres of Bearings { 1st Pinion 2-2 / 2nd Pinion 3-9 1/2 Diameter of Pitch Circle of Wheel { 1st Pinion 19-6-56 / 2nd Pinion 46-7-65
 Width of Face { 1st Pinion 1-8 / 2nd Pinion 2-9 1/2 Diameter of Thrust Shaft under Collars 14 3/4 Diameter of Tunnel Shaft as per rule 13-1-25 as fitted _____
 No. of Screw Shafts one Diameter of same as per rule _____ Diameter of Propeller _____ Pitch of Propeller _____
 No. of Blades _____ State whether Moveable _____ Total Surface _____ Diameter of Rotor Drum, H.P. 29 5/8 L.P. 3 1/2 astern L.P. = 36
 Thickness at Bottom of Groove, H.P. solid L.P. solid Astern solid Revs. per Minute at Full Power, Turbine 3187 Propeller 41

PARTICULARS OF BLADING.

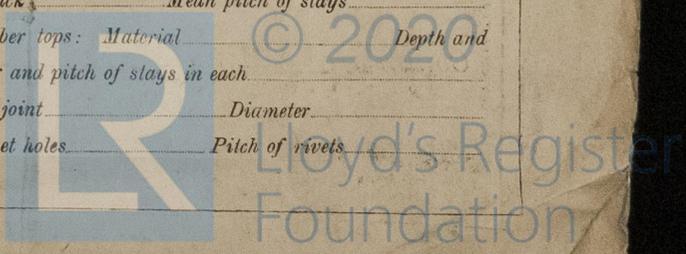
	H. P. (PCD=24)			L. P. (PCD=36)			ASTERN. (PCD=30) HP (PCD=39) LP		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION	<u>3/4 and 1 1/4</u>	<u>24 1/8 and 25 1/8</u>	<u>2</u>	<u>2 3/4</u>	<u>38 3/4</u>	<u>1</u>	<u>1 1/8 + 1 1/8 + 2 3/8</u>	<u>30 1/8 + 31 1/8 + 32 1/8</u>	<u>4</u>
2ND	<u>7/8 and 1 1/2</u>	<u>24 1/8 and 25 1/8</u>	<u>2</u>	<u>3</u>	<u>39</u>	<u>1</u>	<u>(i.e. four rows of bucket on one side)</u>	<u>(i.e. four rows of bucket on one side)</u>	<u>one of each side</u>
3RD	<u>1 1/2</u>	<u>25 3/4</u>	<u>1</u>	<u>3 7/8</u>	<u>39 7/8</u>	<u>1</u>			
4TH	<u>1 3/4</u>	<u>25 3/4</u>	<u>1</u>	<u>4 1/4</u>	<u>40 3/4</u>	<u>1</u>	<u>1 1/8 + 1 1/8 + 4 1/8</u>	<u>40 1/8 + 42 1/8 + 43 1/8</u>	<u>one of each side</u>
5TH	<u>2</u>	<u>26</u>	<u>1</u>	<u>6 1/8</u>	<u>42 1/8</u>	<u>1</u>	<u>(i.e. three rows of bucket on one side)</u>	<u>(i.e. three rows of bucket on one side)</u>	<u>for LP side</u>
6TH	<u>2 1/2</u>	<u>26 5/8</u>	<u>1</u>	<u>4 1/4</u>	<u>43 1/4</u>	<u>1</u>			
7TH	<u>2 7/8</u>	<u>26 1/2</u>	<u>1</u>	<u>4 1/2</u>	<u>43 1/2</u>	<u>1</u>			
8TH				<u>4 3/4</u>	<u>43 3/4</u>	<u>1</u>			

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 190 # 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 _____
 Percentages 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 _____ crown _____ 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 _____

8810-72600-0188
09267-09277-0188



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:— _____

The foregoing is a correct description.
W. H. HANDBONS WESTBARTH & CO LIMITED Manufacturer.
 Per. *A. Steel*

Dates of Survey while building: During progress of work in shops -- 1918. June 27. July 5. Aug 16. 26. Sep 6. 11. 13. 14. 19. 24. Oct 7. 8. 14. 16. 18. 22. 26. 29.
 During erection on board vessel --- Nov 2. 7. 21. 27. Dec 2. 9. 16. 1919. Jan 7. 9. 14. 15. 21. 22. 25. 27. 31. Feb 4. 6. 11. 13. 18. 19. 24. 26. Mar
 Total No. of visits *H.C.*

Is the approved plan of main boiler forwarded herewith _____
 " " " donkey " " " _____
 Dates of Examination of principal parts—Casings *27/6/18 to 16/4/18* Rotors *26/8/18 to 16/4/18* Blading *6/9/18 to 16/4/18* Gearing _____
 Rotor shaft *16/8/18 to 9/12/18* Thrust shaft _____ 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 *5 M steel 33.8 tons 34% ext.* Identification Mark on Do. *187 (25)*
 Material and tensile strength of Pinion shaft *Nickel-chrome steel* Identification Mark on Do. *187 (25)*
 Material of Wheel shaft *light steel* Identification Mark on Do. *No 102 11-1918 AC* Material of Thrust shaft *light steel* Identification Mark on Do. *91 25-9 5*
 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.)
*These Turbine Engines have been constructed under special survey. The material & workmanship are sound & good. The H.P. casing has been tested hydraulic pressure to 190 lbs & the L.P. casing to 40 lbs, all the Exhaust pipes between the casing tested to 50 lbs, the H.P. Controlling valve to 400 lbs, the ahead & astern separators to 100 lbs & the middle steam pipes to 600 lbs. The turbines & reduction gearing were erected & tried at full speed without load & worked satisfactorily & are eligible in my opinion to be fitted in a closed vessel & have the Notation *LMC with date in Register Book. (The engines do not get steam when the vessel is in port)*

The amount of Entry Fee ... £ 48-6-1
 Special _____
 Donkey Boiler Fee ... £ _____
 Travelling Expenses (if any) £ _____

When applied for, *11/5/20 from L.A.*
 When received, *29/5/20 A.P.M.*

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

FRI. MAY. 7 1920

Committee's Minute
 Assigned *See minute on J.E. repl.*



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