

REPORT ON MACHINERY.

No. 548

Received at London Office

Pressure to _____
 The Boiler _____
 Year fitted _____
 on the _____
 Survey held at Spokane, Wash. Date, First Survey July 30, 1918 Last Survey Dec. 23 19 18
 When handed in at Local Office Jan 21 1919 Port of Portland, Oregon.
 (Number of Visits 8)
 Tons } Gross 5752 4/8
 Net 4247 2/8
 Built at Vancouver B.C. By whom built J. Coughlan & Sons When built 1919
 made at Spokane, Wash. By whom made Hallidie Co. when made 1918
 made at Vancouver B.C. By whom made Vulcan Iron Works when made 1919
 Indicated Horse Power 577 Owners Imperial Munitions Board Port belonging to London
 Horse Power at Full Power 2500 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Shop No. 10.

ENGINE ENGINES, &c.—Description of Engines Cross Compound, Geared, Parson's Type No. of Turbines 2
 of Rotor Shaft Journals, H.P. 4" L.P. 4" Diameter of Pinion Shaft 4 7/8" and 12 5/8"
 of Journals 5" & 10" Distance between Centres of Bearings 2'6" & 5'1 1/2" Diameter of Pitch Circle 7.75" & 13.2"
 of Wheel Shaft 13 1/2" Distance between Centres of Bearings 5'1 1/2" Diameter of Pitch Circle of Wheel 46" & 78.8"
 Face 15" & 14" Diameter of Thrust Shaft under Collars _____ Diameter of Tunnel Shaft _____ as per rule _____ as fitted _____
 Screw Shafts _____ Diameter of same _____ as per rule _____ as fitted _____ Diameter of Propeller _____ Pitch of Propeller _____
 blades _____ State whether Moveable _____ Total Surface _____ Diameter of Rotor Drum, H.P. 13 1/2" L.P. 26" Astern 2'5"
 Revs. per Minute at Full Power, Turbine 3200 Propeller 90

DETAILS OF BLADING.

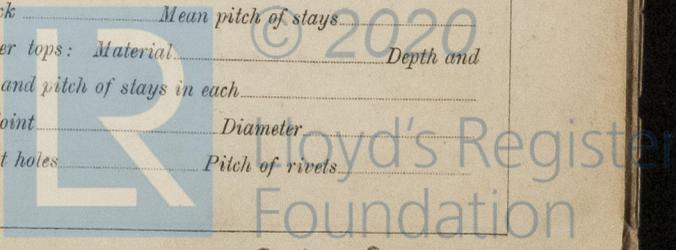
EXPANSION	H. P.			L. P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
.....	16"	1'2 3/8"	7	1 7/8"	2'5 3/4"	2	H.P. & L.P. Turbines fitted		
.....	7/8"	1'2 1/4"	7	2 1/2"	2'7"	2	with astern units impulse		
.....	1 1/8"	1'3 1/2"	6	3 5/16"	2'8 5/8"	2	nozzles on a mean dia. of		
.....	1 7/16"	1'3 7/8"	6	4 3/8"	2'10 3/4"	2	2'5".		
.....	1"	1'9"	3	5"	3'0"	1	H.P. 5/8" nozzle L.P. 1 1/4" nozzle,		
.....	1 5/16"	1'9 5/8"	3	5"	3'0"	1	3 rows of buckets in each		
.....	1 11/16"	1'10 3/8"	3	5"	3'0"	1	case.		
.....	2 1/8"	1'11 1/4"	3	5"	3'0"	1			

See Portland Oregon Rpt 571

_____ size of Feed pumps
 _____ size of Bilge pumps
 _____ size of Bilge suction in Engine Room
 In Holds, &c.
 Bilge Injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate Donkey Suction fitted in Engine Room & size _____
 the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____
 connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____
 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 _____
 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 _____
 pipes are carried through the bunkers _____ How are they protected _____
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times _____
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges _____
 Screw Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.—(Letter for record _____) Manufacturers of Steel

_____ 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 _____
 each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to _____
 boiler _____ Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 least 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 _____
 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 _____ Working pressure of shell by rules _____ Size of manhole in shell _____
 of compensating ring _____ No. and Description of Furnaces in each Boiler _____ Material _____ Outside diameter _____
 thickness of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 thickness 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 _____
 thickness 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 _____



005132-005140-0275

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,

John H. Blakey Manufacturer.

1918.
 Dates of Survey while building { During progress of work in shops --- July 30, Oct. 1, 7, 30 (by A. Ewing). Nov. 24. Dec. 10, 19, 23.
 { During erection on board vessel ---
 Total No. of visits 8

Is the approved plan of main boiler forwarded herewith
 Dates of Examination of principal parts—Casings " " " donkey " " "
 Rotor shaft Thrust shaft Rotors Blading Gearing
 Stern tube Steam pipes tested Tunnel shafts Screw shaft Propeller
 Completion of pumping arrangements Engine and boiler seatings Engines holding down bolts
 Main boiler safety valves adjusted Boilers fixed Engines tried under steam
 Thickness of adjusting washers
 Material and tensile strength of Rotor shaft O.H. Steel 82840 H.P. 81320 L.P. Heat Nos. H.P. 1484 L.P. 4071
 Identification Mark on Do. H.P. 157 I
 Material and tensile strength of Pinion shaft
 Material of Wheel shaft Identification Mark on Do. Identification Mark on Do.
 Material of Tunnel shafts Identification Marks on Do. Material of Thrust shaft Identification Mark on Do.
 Material of Steam Pipes Identification Marks on Do. Material of Screw shafts Identification Marks on Do.
 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 in accordance with the Rules and to the approved plans. The materials and workmanship are sound and good. The Engines have been forwarded to Vancouver, B.C. to be fitted onboard Messrs. John Coughlan & Sons (No. Vessel).

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 ... £	:	:	When applied for,
1/6 of Special ...	\$	40.72	Apr. 15 1919
Donkey Boiler Fee ...	£	:	When received,
Seattle	\$	24.00	Apr. 18 19
Travelling Expenses (if any)	\$:	19
Portland	\$	87.00	

J. A. Yates
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. AUG. 29. 1919

Assigned *see Minute on Ver. Rpt 748*

