

REPORT ON MACHINERY

Seattle 487.

No. Portland 547

REC'D NEW YORK *May 1919*

Received at London Office

Date of writing Report 19 1919 When handed in at Local Office 19 1919 Ports of Seattle and Portland

No. in Survey held at Spokane, Wash. Date, First Survey July 30 Last Survey Nov. 24 19 18
Reg. Book. on the Single Screw Steel S.S. War Cavalry (Number of Visits Five)

Master John Park Built at Vancouver, B.C. By whom built Houghlan & Sons L. When built 1919
Engines made at Spokane Wash. By whom made Hallidie Co. when made 1918

Boilers made at Vancouver, B.C. By whom made Vulcan Iron Works L. when made 1919.

Registered Horse Power 564 Owners, Imperial Munitions Board Port belonging to London
Shaft Horse Power at Full Power 2800 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

TURBINE ENGINES, &c. — Description of Engines Gross Compound Geared Parsons Type No. of Turbines 2

Diameter of Rotor Shaft Journals, H.P. 4" L.P. 4" Diameter of Pinion Shaft 4 7/8" + 12 5/8"
Diameter of Journals 5" + 10" Distance between Centres of Bearings 2' 6" + 5' 1 1/2" Diameter of Pitch Circle 7' 7 1/2" + 13' 2"

Diameter of Wheel Shaft 13 1/2" Distance between Centres of Bearings 5' 1 1/2" Diameter of Pitch Circle of Wheels 46" + 48' 8"
Width of Face 15" + 14" Diameter of Thrust Shaft under Collars _____ Diameter of Tunnel Shaft _____

No. of Screw Shafts _____ Diameter of same _____ Diameter of Propeller _____ Pitch of Propeller _____
No. of Blades _____ State whether Moveable _____ Total Surface _____ Diameter of Rotor Drum, H.P. 13' 19" L.P. 26" Astern 2' 5" mean

Thickness at Bottom of Groove, H.P. _____ L.P. _____ Astern _____ Revs. per Minute at Full Power, Turbine 3200 Propeller 90

ARTICULARS 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.
ST EXPANSION	1 1/8"	1' 2 3/8"	4	1 3/8"	2' 5 3/4"	2	H.P. + L.P. Turbines fitted with Astern units impulse nozzles on a mean diameter of 2' 5"		
ND	1 1/8"	1' 2 3/4"	4	2 1/2"	2' 4"	2	H.P. 5" nozzle L.P. 1 1/2" nozzle		
ED	1 1/8"	1' 3 1/4"	6	3 1/8"	2' 8 5/8"	2	3 Rows of buckets in each case.		
TH	1 1/8"	1' 3 1/2"	6	4 3/8"	2' 10 1/4"	2			
TH	1"	1' 4"	3	5"	3' 0"	1			
TH	1 7/8"	1' 9 5/8"	3	5"	3' 0"	1			
TH	1 7/8"	1' 10 3/8"	3	5"	3' 0"	1			
TH	2 3/8"	1' 11 1/4"	3	5"	3' 0"	1			

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 _____

That 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 stanged _____ 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 _____ Working pressure of shell by rules _____ Size of manhole in shell _____

Size of compensating ring _____ No. and Description of Furnaces in each Boiler _____ Material _____ Outside diameter _____

Length 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 _____

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 _____

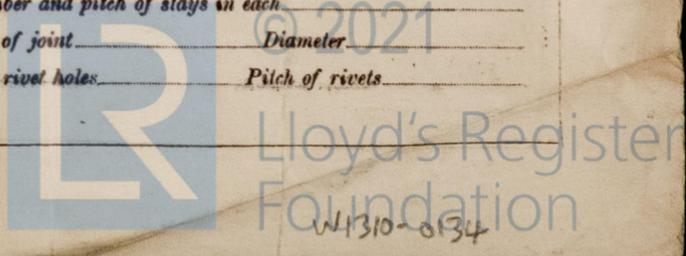
Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____

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 _____



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SUPERHEATER.

Date of Test ... Date of Approval of Plan ... Tested by Hydraulic Pressure to ... Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler ... 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,

Jno. J. Blakely

Manufacturer.

Dates of Survey while building ... During progress of work in shops ... July 30th Oct 1st 7th 30th (by C. Swing) Nov. 24 by J. H. Yates

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Casings July 30 Rotors July 30, Oct 31 donkey " " " " Blading Oct 30 Gearing ... Thrust shaft ... Tunnel shafts ... Screw shaft ... Propeller ... Steam pipes tested ... Engine and boiler seatings ... Engines holding down bolts ... Boilers fixed ... Engines tried under steam Nov. 24, 1918

Material and tensile strength of Rotor shaft O. H. Steel, 80240 lbs per sq. in. Identification Marks on Do. HP. 156, LP. 156 Heat No. 1484

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

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.

Certificates (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 ... \$ 15.00 ... 1/3 of Special to Seattle ... \$ 89.00 ... Donkey Boiler Fee ... \$... Travelling Expenses (if any) ... \$ 34.00 ... \$ 16.82

Edley Swing, J. H. Yates Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI JUN 13 1919

Assigned

