

REPORT ON MACHINERY.

No. 739.

REC'D NEW YORK May 21-1919

Received at London Office

Date of writing Report May 9, 1919 When handed in at Local Office May 9, 1919 Port of Vancouver, B.C.
 No. in Survey held at Vancouver, B.C. Date, First Survey Dec. 13/18, Last Survey May 1, 1919
 Reg. Book. Single Screw Steel S.S. War Cavalry (Number of Visits 2) Gross 5756.85
 Master John Park Built at Vancouver, B.C. By whom built Coughlan & Son Tons Net 14199.01
 Engines made at Spokane Wash. By whom made Hallidie & Co. Ltd. when made 1918
 Boilers made at Vancouver, B.C. By whom made Vulcan Iron Works when made 1910
 Registered Horse Power 2500 Owners Imperial Munitions Board Port belonging to London
 Nom. Horse Power as per Section 28 564 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Engines, &c.—Description of Engines Double Reduction Assemblies Incorporated No. of Cylinders 2, I.P.P. No. of Cranks ✓
 Dia. of Cylinders ✓ Length of Stroke ✓ Revs. per minute 90 Dia. of Screw shaft as per rule 14-1 Material of Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight
 in the propeller boss yes If the liner is in more than one length are the joints burned yes If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 4'-2"
 Dia. of Tunnel shaft as per rule 12-3 Dia. of Crank shaft journals as per rule 12-3 Dia. of Crank pin 13-2 Size of Crank webs ✓ Dia. of thrust shaft under
 collars as fitted 12-3/16 Dia. of screw 14-0 Pitch of Screw 13 ft. No. of Blades 4 State whether moceable yes Total surface 81 Sq Ft.
 No. of Feed pumps 2 Diameter of ditto 8" Stroke 16 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 8 1/2" x 12" Duplex Can one be overhauled while the other is at work yes
 No. of Donkey Engines one Sizes of Pumps 12" x 12" x 12" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 40' 3 1/2" Diam In Holds, &c. Two in each hold 3 1/2"
 No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size yes
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves & Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Discharge Pipes above or below the deep water line Below
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes
 What pipes are carried through the bunkers None How are they protected ✓
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Worked from Deck

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Stearns & Lloyd
 Total Heating Surface of Boilers 4995 Is Forced Draft fitted yes No. and Description of Boilers 3 Single Ended Scotch
 Working Pressure 190 lbs Tested by hydraulic pressure to 300 lbs Date of test 6/2/19 No. of Certificate 19
 Can each boiler be worked separately yes Area of fire grate in each boiler 63 No. and Description of Safety Valves to
 each boiler Two of Marine Area of each valve 9.06 Pressure to which they are adjusted 190 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 14.97 1/2 Length 11' 5 1/2 Material of shell plates Steel
 Thickness 1 1/16 Range of tensile strength 62000 Are the shell plates welded or flanged Neither Descrip. of riveting: cir. seams Lap Riveted
 long. seams Double Butt Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9.358 Lap of plates or width of butt straps 14 1/2 x 22 1/2
 Per centages of strength of longitudinal joint 89.47 Working pressure of shell by rules 193.6 Size of manhole in shell 12 x 16
 Size of compensating ring ✓ No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 48 3/16
 Length of plain part top 19.32 Thickness of plates bottom 19.32 Description of longitudinal joint ✓ No. of strengthening rings ✓
 Working pressure of furnace by the rules 196 Combustion chamber plates: Material Steel Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 7/8
 Pitch of stays to ditto: Sides 8" Back 7 1/8" Top 7 1/2" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 194
 Material of stays Steel Area at smallest part 2.07 Area supported by each stay 57.9 Working pressure by rules 210.9 End plates in steam space:
 Material Steel Thickness 1 1/16 Pitch of stays 16 1/4" How are stays secured Yes Working pressure by rules 193 Material of stays Steel
 Area at smallest part 4.9 Area supported by each stay 264 Working pressure by rules 193 Material of Front plates at bottom Steel
 Thickness 2 1/2 Material of Lower back plate Steel Thickness 2 1/2 Greatest pitch of stays 7 x 4 1/2" Working pressure of plate by rules 212
 Diameter of tubes 2 1/2 Pitch of tubes 3 7/8" Material of tube plates Steel Thickness: Front 2 1/2 Back 3/4 Mean pitch of stays 7 1/8"
 Pitch across wide water spaces 13" Working pressures by rules 191.9 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10" x 3/4" Length as per rule 3'-0" Distance apart 7 1/2" Number and pitch of stays in each 30' 7 1/2"
 Working pressure by rules 194 Steam dome: description of joint to shell ✓ % of strength of joint ✓
 Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓

SUPERHEATER. Type Foster Date of Approval of Plan ✓ Tested by Hydraulic Pressure to 620 lbs
 Date of Test 17/1/19 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes
 Diameter of Safety Valve 1 1/2" Pressure to which each is adjusted 210 lbs Is Easing Gear fitted yes

W1310-6133

IS A DONKEY BOILER FITTED?

NO

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:—One Thrust & Bearing complete, Two Slides & Vals for Rotor Bearing, 2 Slides & Vals for Main Turbine, 2 Slides & Vals for Main Gear Bearing, 2 Slides & Vals for Pinion Bearing, one Set of Coupling Bolts each size 1/20 Bolts for Casing Joint 1/20 Bolts for Turbine Joint, Two Thermometer for oil Cooling System, one Set Bearing Bushes for one Gear, one Set of bearing Bushes for one Pinion, one Set of Bearing Bushes for one Rotor Bearing, 1/2 Set of Packing for Rotor Glands, 1/2 Set of Pads for King & Vary Thrust, one Set of Sea Pump Valves, one Set of Bilge Pump Valves, one Bucket Rod for Lubricating oil Pump, Altered Bolt & Nut, Steel Bars & Plates, Spare Propeller Blade, Spare Tail Shaft, Spare Bolts, 1/2 Set of Spare Check Valves, Spare Safety Valve Spring, Spare Superheating Coils, Spare Condenser Tubes, The foregoing is a correct description, Tubes of 1/2 inch.

J. Houghlan Sons
by J. Houghlan

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Dec 3, 10, 30, 1918, Jan 7, 6, 20, Feb, 6, March 12, 13, 25, 28 April, 1, 3, 4, 7, 10, 15, 23, 25, 29 May 1, 21
During erection on board vessel --
Total No. of visits

Is the approved plan of main boiler forwarded herewith

✓

Dates of Examination of principal parts—Cylinders ✓ Slides ✓ Covers ✓ Pistons ✓ Rods ✓

Connecting rods ✓ Crank shaft ✓ Thrust shaft ✓ Tunnel shafts 1/4/19 Screw shaft 25/3/19 Propeller 25/3/19

Stern tube 13/3/19 Steam pipes tested 29/3/19 Engine and boiler seatings 15/4/19 Engines holding down bolts 15/4/19

Completion of pumping arrangements 15/4/19 Boilers fixed 15/4/19 Engines tried under steam 23/4/19

Completion of fitting sea connections 13/3/19 Stern tube 13/3/19 Screw shaft and propeller 25/3/19

Main boiler safety valves adjusted 23/4/19 Thickness of adjusting washers 4 13/32 2 2/32 1 1/2 5/16 5/16

Material of Crank shaft ✓ Identification Mark on Do. ✓ Material of Thrust shaft Steel Identification Mark on Do. ✓

Material of Tunnel shafts Steel Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. ✓

Material of Steam Pipes Steel ✓ Test pressure 570 lb 150

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 duplicate of a previous case Yes ✓ If so, state name of vessel "War Convoys"

General Remarks (State quality of workmanship, opinions as to class, &c. The Engines & Boilers of this

vessel have been built under Special Survey, and installed under Special Survey, and in accordance with approved plans, together with the Auxiliaries, Pipes, Mountings, Fittings, Sea Connections, etc. The material workmanship are both of Good Quality. On completion of the machinery installation the vessel was tried under full steam at sea, and found Satisfactory. Safety Valves were floated independently. Tail Shaft is a continuous Liner.

The Machinery & Boilers are eligible in my opinion to have the Record & L.M.C. 5-19 made in the Register's Book in the Case of this vessel.

Please Refer to Seattle Report No. 487.

Please Refer to Pittsburgh Report No. 56, THE RECORD & L.M.C. 5-19

2 Steam Turbines geared to 1 Screw Shaft

The amount of Entry Fee ... £ : : When applied for,

3/3 Special ... £ 152.00 : May 15th 1919

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 20/9/19 R.B.M.

Committee's Minute

Assigned

FRI JUN. 13. 1919

+ L.M.C. 5. 19

F.D.

C. C. M. Gower

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation