

Rpt. 4a.

REPORT ON STEAM TURBINE MACHINERY.

No. 72022

Date of writing Report 21st August 1947 When handed in at Local Office 3. 9. 1947

Received at London Office

10 SEP 1947

No. in Survey held at Glasgow

Date, First Survey 27. 9. 45

Last Survey 19th August 1947

200.50 on the "BEAVERCOVE"

(Number of Visits 11)

Built at Govan By whom built Fairfield S & B 4 1/4" 1/4" Yard No. 728 Tons Gross 9824 Net 5818.5
Engines made at Newcastle - m. Tyne By whom made C. A. Parsons & Co 4 1/4" 1/4" Engine No. 2692-5 When built 1947-8
Boilers made at Govan By whom made Fairfield S & B 4 1/4" 1/4" Boiler No. 728 When made 1947
Shaft Horse Power at Full Power 9000 Owners Canadian Pacific Steamship Co Port belonging to London
Nom. Horse Power as per Rule 2052 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes
Trade for which Vessel is intended deep sea

STEAM TURBINE ENGINES, &c.—Description of Engines

No. of Turbines Ahead..... Direct coupled, single reduction geared } to propelling shafts. No. of primary pinions to each set of reduction gearing.
Astern..... double reduction geared }

direct coupled to { Alternating Current Generator phase..... periods per second } rated Kilowatts Volts at..... revolutions per minute;
for supplying power for driving..... Propelling Motors, Type.....

rated Kilowatts Volts at..... revolutions per minute. Direct coupled, single or double reduction geared to..... propelling shafts.

TURBINE BLADING.

	H.P.			I.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.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION												
2ND												
3RD												
4TH												
5TH												
6TH												
7TH												
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. I.P. L.P. }
Revolutions per minute, at full power, of each Turbine Shaft { H.P. I.P. L.P. }
1st reduction wheel
main shaft

Rotor Shaft diameter at journals { H.P. I.P. L.P. }
Pitch Circle Diameter { 1st pinion 1st reduction wheel 2nd pinion main wheel }
Width of Face { 1st reduction wheel main wheel }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 1st reduction wheel 2nd pinion main wheel }

Flexible Pinion Shafts, diameter { 1st 2nd }
Pinion Shafts, diameter at bearings { External Internal }
1st 2nd diameter at bottom of pinion teeth { 1st 2nd }

Wheel Shafts, diameter at bearings { 1st 2nd }
Generator Shaft, diameter at bearings
Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter { as per rule as fitted }
Thrust Shaft, diameter at collars { as per rule as fitted }
Tube Shaft, diameter { as per rule as fitted }

Screw Shaft, diameter { as per rule as fitted }
Is the { tube screw } shaft fitted with a continuous liner { yes no }
Bronze Liners, thickness in way of bushes { as per rule as fitted }

Thickness between bushes { as per rule as fitted }
Is the after end of the liner made watertight in the propeller boss { yes no }
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner { yes no }

If two liners are fitted, is the shaft lapped or protected between the liners { yes no }
Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft { yes no }

Propeller, diameter 18'-0" Pitch 17'-3" No. of Blades 4 State whether Movable { yes no }
Total Developed Surface 136 square feet.

Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine { yes no }
Can the H.P. or I.P. Turbine exhaust direct to the condenser { yes no }

No. of Turbines fitted with astern wheels none Feed Pumps { No. and size How driven }
Pumps connected to the Main Bilge Line { No. and size How driven }

Ballast Pumps, No. and size one @ 150 ltr/min Lubricating Oil Pumps, including Spare Pump, No. and size two @ 5250 gals/min

Are two independent means arranged for circulating water through the Oil Cooler { yes no }
Pumps, No. and size:—In Engine and Boiler Room 4 @ 2 1/2" pipe tunnel @ 2 1/2" N° 1-2 @ 3" N° 2-2 @ 3" N° 3-2 @ 3" N° 4-2 @ 3" N° 5-2 @ 3" N° 6-2 @ 3" N° 7-2 @ 3" N° 8-2 @ 3" N° 9-2 @ 3" N° 10-2 @ 3" N° 11-2 @ 3" N° 12-2 @ 3"

In Holds, &c. tunnel @ 4" @ 2 1/2" N° 1-2 @ 3" N° 2-2 @ 3" N° 3-2 @ 3" N° 4-2 @ 3" N° 5-2 @ 3" N° 6-2 @ 3" N° 7-2 @ 3" N° 8-2 @ 3" N° 9-2 @ 3" N° 10-2 @ 3" N° 11-2 @ 3" N° 12-2 @ 3"

Main Water Circulating Pump Direct Bilge Suctions, No. and size one @ 11" Independent Power Pump Direct Suctions to the Engine Room { No. and size How driven }

Bilges, No. and size 1 @ 5 1/2" @ 1 @ 3" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes { yes no }

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges { yes no }

Are all Sea Connections fitted direct on the skin of the ship { yes no }
Are they fitted with Valves or Cocks { yes no }

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates { yes no }
Are the Blow Off Cocks fitted with a spigot and brass covering plate { yes no }

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel { yes no }
How are they protected { yes no }

What pipes pass through the bunkers { yes no }
Have they been tested as per rule { yes no }

What pipes pass through the deep tanks { yes no }
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times { yes no }

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another { yes no }
Is the Shaft Tunnel watertight { yes no }
Is it fitted with a watertight door { yes no }

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 7660 6
Is Forced Draft fitted Yes No. and Description of Boilers one - Johnson Working Pressure 850 lb
Is a Report on Main Boilers now forwarded? Yes
Is a Donkey Boiler fitted? Yes If so, is a report now forwarded? Yes
Plans. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers Yes
(If not state date of approval)
Superheaters General Pumping Arrangements Yes Oil Fuel Burning Arrangements Yes
Spare Gear. State the articles supplied:— as per attached list

For The FAIRFIELD SHIPBUILDING & ENGINEERING Co. Limited

The foregoing is a correct description,

Manufacturer

Dates of Examination of principal parts—Casings Rotors Blading Gearing
During progress of work in shops— 1945 Sep 27 Oct 31 Nov 28 Dec 11, 1946 Jan 8 16 22 28 12 18 24 30 27 Mar 1 4 5 11 15 21 27 Apr 2 10 11 15 16 18 20 May 8 13 16 17 24 26 29 Jun 5 7 11 12 13 14 15 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
During erection on board vessel— 1945 Sep 27 Oct 31 Nov 28 Dec 11, 1946 Jan 8 16 22 28 12 18 24 30 27 Mar 1 4 5 11 15 21 27 Apr 2 10 11 15 16 18 20 May 8 13 16 17 24 26 29 Jun 5 7 11 12 13 14 15 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Total No. of visits 111

Dates of Examination of principal parts—Casings Rotors Blading Gearing
Wheel shaft Thrust shaft 9/1 14/2 15/3/46 Intermediate shafts 9/1 14/2 17/46 Tube shaft Screw shaft 9/1 14/2 13/5/46
Propeller 16.7.46 Stern tube 8.8.46 Engine and boiler seatings 12.6.46 Engine holding down bolts 12.6.47
Completion of pumping arrangements 12.8.47 Boilers fired 12.3.47 Engines tried under steam 12.8.47
Main boiler safety valves adjusted 30.7.47 Thickness of adjusting washers 5/8"

Rotor shaft, Material and tensile strength Identification Mark
Flexible Pinion Shaft, Material and tensile strength Identification Mark
Pinion shaft, Material and tensile strength Identification Mark
1st Reduction Wheel Shaft, Material and tensile strength Identification Mark

Wheel shaft, Material Identification Mark 0.4 Steel Thrust shaft, Material 0.4 Steel Identification Mark 0.4 Steel
Intermediate shafts, Material 0.4 Steel Identification Marks 0.4 Steel Tube shaft, Material Identification Marks 0.4 Steel
Screw shaft, Material 0.4 Steel Identification Marks 0.4 Steel Steam Pipes, Material S.D. Steel Test pressure 1850 lb

Date of test July 1947 (See Nottingham 5773) Is an installation fitted for burning oil fuel Yes
Is the flash point of the oil to be used over 150°F. Yes Have the requirements of the Rules for the use of oil as fuel been complied with Yes
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with
Is this machinery a duplicate of a previous case Yes If so, state name of vessel Beaconsfield

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery has been efficiently installed on board the vessel and afterwards tried under full working conditions, all in accordance with the approved plans and the Rules of the Society.
The machinery is eligible in my opinion to be classed in the Register Book with the record of L.M.C. 8.47 and the notation (C.L.). Fitted for oil fuel 8.47 F.P. one

The amount of Entry Fee ... £ : :
3/6 # 227-12-0 ... £ 136 : 12 :
Special ... £ 12 : 5 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 9 SEP 1947
When received, 19

G. H. Macdonald
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 9 SEP 1947

Assigned

-1- LMC 8.47
Fitted for oil fuel 8.47 F.P. above 150°F

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