

# REPORT ON STEAM TURBINE MACHINERY.

No. 72022

Date of writing Report 21st August 1947 when handed in at Local Office 3. 9. 1947 Port of Glasgow Received at London Office 10 SEP 1947  
No. in Survey held at Glasgow Reg. Book. 200.50 on the "BEAVERCOVE" Date, First Survey 27. 9. 45 Last Survey 19th August 1947  
(Number of Visits 1/1/1)

Built at Govan By whom built Fairfield S & Eng Co Ltd Yard No. 728 Tons } Gross 9824  
Engines made at Newcastle - m. Tyne By whom made C. A. Parsons & Co Ltd Engine No. 2692-5 When built 1947-8 Net 5818.5  
Boilers made at Govan By whom made Fairfield S & Eng Co Ltd Boiler No. 728 When made 1947  
Shaft Horse Power at Full Power 9000 Owners Canadian Pacific Steamship Co Ltd 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

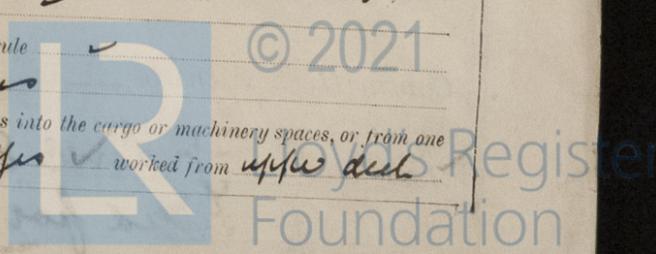
## STEAM TURBINE ENGINES, &c.—Description of Engines

No. of Turbines 1 Ahead 1 Direct coupled, single reduction geared } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 1  
Astern 0 Direct coupled, double reduction geared }  
direct coupled to { Alternating Current Generator phase 3 periods per second } rated 9000 Kilowatts Volts at 2200 revolutions per minute;  
for supplying power for driving Propelling Motors, Type Direct Current Generator  
rated 9000 Kilowatts Volts at 2200 revolutions per minute. Direct coupled, single or double reduction geared to 1 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												

*See Newcastle - m. Tyne report No 104293*

Shaft Horse Power at each turbine { H.P. 9000 I.P. 2052 L.P. 2052 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 2200 I.P. 2200 L.P. 2200 }  
Rotor Shaft diameter at journals { H.P. 17.5" I.P. 17.5" L.P. 17.5" } Pitch Circle Diameter { 1st pinion 17.5" 1st reduction wheel 17.5" 2nd pinion 17.5" main wheel 17.5" } Width of Face { 1st reduction wheel 17.5" main wheel 17.5" }  
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 17.5" 1st reduction wheel 17.5" 2nd pinion 17.5" main wheel 17.5" }  
Flexible Pinion Shafts, diameter { 1st 17.5" 2nd 17.5" } Pinion Shafts, diameter at bearings External 17.5" Internal 17.5" } 1st 17.5" 2nd 17.5" } diameter at bottom of pinion teeth { 1st 17.5" 2nd 17.5" }  
Wheel Shafts, diameter at bearings { 1st 17.5" 2nd 17.5" } diameter at wheel shroud, { 1st 17.5" 2nd 17.5" } Generator Shaft, diameter at bearings 17.5" Propelling Motor Shaft, diameter at bearings 17.5"  
Intermediate Shafts, diameter as per rule 17.5" as fitted 17.5" Thrust Shaft, diameter at collars as per rule 17.5" as fitted 17.5" Tube Shaft, diameter as per rule 17.5" as fitted 17.5"  
Screw Shaft, diameter as per rule 17.5" as fitted 17.5" Is the tube screw shaft fitted with a continuous liner yes Bronze Liners, thickness in way of bushes as per rule 1" as fitted 1"  
Thickness between bushes as per rule 7/8" as fitted 7/8" Is the after end of the liner made watertight in the propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a elastic material insoluble in water and non-corrosive no If two liners are fitted, is the shaft lapped or protected between the liners no Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no Length of Bearing in Stern Bush next to and supporting propeller 6'-4"  
Propeller, diameter 18'-0" Pitch 17'-3" No. of Blades 4 State whether Movable yes Total Developed Surface 136 square feet. Can the H.P. or I.P. Turbine exhaust direct to the condenser no No. of Turbines fitted with astern wheels none Feed Pumps { No. and size two @ 72000 lb/hour How driven steam }  
Pumps connected to the Main Bilge Line { No. and size two - 150 l/min/hour How driven electric } Lubricating Oil Pumps, including Spare Pump, No. and size two @ 5250 galls/hour  
Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room 4 @ 2 1/2", pipe tunnel 1 @ 2 1/2", Frig. R. 2 @ 3", pump main Span 1 @ 3" & 2 @ 2 1/2". In Holds, &c. tunnel 1 @ 4" & 1 @ 2 1/2", N°1-2 @ 3" N°2-2 @ 3" Off-1 @ 2 1/2", N°3-2 @ 3 1/2" pump Tank 2 @ 3", N°4-2 @ 3", N°5-2 @ 3", N°6-2 @ 3", 2 @ 2 1/2" Off-2 @ 2 1/2"



BOILERS, &c.—(Letter for record **S**) Total Heating Surface of Boilers **7660** Working Pressure **850 lb**  
 Is Forced Draft fitted **Yes** No. and Description of Boilers **one - Johnson**  
 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** Donkey Boilers **Yes**  
 Superheaters **Yes** 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,

*S. H. MacDonald* Manufacturer

Dates of Survey while building  
 During progress of work in shops -- 1945 Sep 27 Oct 31 Nov 2 Dec 30  
 During erection on board vessel --- 1946 Jan 8 16 24 31 Feb 8 15 22 29 Mar 8 15 22 29 Apr 5 12 19 26 29 May 6 13 20 27 Jun 4 11 18 25 30 Jul 2 9 16 23 30 Aug 7 14 21 28  
 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 8/5/46**  
 Propeller **16.7.46** Stern tube **8.5.46** 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 **OM Steel** Thrust shaft, Material Identification Mark **OM Steel**  
 Intermediate shafts, Material **OM Steel** Identification Marks **64.17.11.7.46** Tube shaft, Material Identification Marks  
 Screw shaft, Material **0.4 Steel** Identification Marks **64.17.11.7.46** Steam Pipes, Material **S.P. Steel** Test pressure **1850 lb**

Date of test **July 1947 (See Noting in List 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 **Beauglen**

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	£	:	:	When applied for,
3/8 # 227-12-0				<b>9 SEP 1947</b>
Special	£	136	12	19
Donkey Boiler Fee	£	12	5	When received,
Travelling Expenses (if any)	£			19

**S. 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**

