Rpt. 9.

No. 85231

Report of Survey for Repairs, &c., of Engines and Boilers.

(Received at London Office 25 JAN 1930)

Date of writing Report ..... 19 ..... When handed in at Local Office 24/1/ 1930. Port of Newcastle-on-Tyne

No. in Reg. Book. 4781 Survey held at Wallsend Date of First Survey 23 Oct 1929 Last Survey 15 Jany 1930 (No. of Visits 30.)

on the Machinery of the ~~Wood, Iron or Steel~~ S.S. City of Cambridge.

Tonnage { Gross 4056 / Net 1554. Vessel built at Belfast By whom Workman Clark & Co Ld When 1921-2.

Nominal Horse Power 459 Engines made at do By whom do When do

No. of Main Boilers 3 Boilers, when made (Main) 1921 (Donkey) ✓

No. of Donkey Boilers ✓ Owners City Line Ld Owners' Address (if not already recorded in Appendix to Register Book).

Steam Pressure—in Main Boilers 225 Managers W. S. Workman Port Glasgow Voyage New York.

In Donkey Boilers ✓ ~~If~~ Surveyed Afloat ~~or~~ in Dry Dock W S Cys Quay & D.D. (State name of Dock.)

Last Report No. ..... Port .....

Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

CHARACTER. ✠ for Special Survey Date of last Survey and of Periodical Surveys.	Class Assigned now expired.	Machinery and Boiler Surveys (including date of N.B., if any).
+ 100 A.1. 10-28		+ LMC ~~4-25~~ 8-25
SS No 1-25		BS 4-28
		TS CL 4-28
Fitted for oil fuel 2-21 FP above 150°F.		

Particulars of Examination and Repairs (if any)

Fitting exhaust turbines, superheaters, + LMC & Docking.

Periodical Surveys, when held, must be reported in detail and seriatim in the terms of the Rules. State clearly the cause of Repairs, if any, and, in detail, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.

In damage cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined? ✓

Was a damage report made by anyone else? If so, by whom? ✓

Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? Yes

Do. " Donkey " " " ✓

If this was not done, state for what reasons? ✓

And what parts of the Boilers could not be thus thoroughly examined? ✓

Also what special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler? ✓

Did the Surveyor examine the Safety Valves of the Main Boiler? Yes. To what pressure were they afterwards adjusted under steam? 225 lbs.

Did the Surveyor examine the Safety Valves of Donkey Boiler? ✓ To what pressure were they afterwards adjusted under steam? ✓

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? Yes, and of the Donkey Boiler? ✓

Did the Surveyor examine the drain plugs of the Main Boilers? ✓, and of the Donkey Boiler? ✓

Did the Surveyor examine all the mountings of the Main Boilers? Yes, and of the Donkey Boiler?

Has screw shaft now been drawn and examined? Yes. Is it fitted with continuous liner? Yes Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? No

Has shaft now been changed? No If so, state reasons ✓

Has the shaft now fitted been previously used? ✓ Has it a continuous liner? ✓ Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? ✓

State the distance between lignum vitæ or bearing metal of stern bush and top of after bearing of screw shaft? 7/32"

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done? Complete

For + L.M.C.

Examined Cylinders slides covers & pistons, crank shaft & bushes Thrust Shaft & shoes & tunnel shafting.
New Perlit liners fitted in HP cylinder.
New rings fitted in HP & MP pistons
New HP & MP. perlit vim pistons valves & liners fitted.
All Piston rods & HP & LP valve rods. skimmed up in lathe & new packing fitted.
Condenser removed & a new condenser of the "Regenerative" type made by the W&A Cy. fitted, Tested to 15 lbs ⊠ Vacuum augmentor fitted to suit same.
New circulating pump fitted to existing engine.

General Observations, Opinion, and Recommendation:— The machinery of this

(State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and also any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.: thus, for example, B.S. 9,11, B.&M.S. 9,11, or ✠ L.M.C. 9,11, 140 lb., F.D., &c.)

vessel is now in good & safe working condition & eligible in my opinion to remain as classed and have records. + L M C 1-30. Tail Shaft seen, C. L 1-30. Fitted with "LP turbine with double reduction gearing & hydraulic coupling" The vessels name may be deleted from the S.R. list for smokebox door repairs,

Note NHP 459.

Survey Fee (per Section 28) ..... £ 14 . 0 . 0

Special ~~Damage or~~ Repair Fee (if any) (per Section 28.) ..... £ 15 . 15 . 0

Travelling Expenses (if chargeable) ..... £ ✓

Fees applied for 24 JAN 1930

Received by me, 1. 3. 1930

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 14 FEB 1930

Assigned + L.M.C. 1-30 without qfl. condn.

Note NHP 459. S. 1-30

CERTIFICATE WRITTEN. 6.3.30

Insert Character of ship and Machinery precisely as in the Register Book.

If a Certificate required? If so, to be sent to

of NEWCASTLE-on-TYNE. Continuation of Report No. 85231 dated 15/1/30. on the

S.S. "City of Cambridge"

New main injection and discharge valves & pipes fitted to suit new circulating pp & condenser.
Air feed & bilge pumps, opened up examined & overhauled, Independent feed, bilge & ballast pumps examined & overhauled.
Bilge & ballast & oil fuel pumping arrangements found satisfactory. Steering engine & Windlass examined & overhauled.
Propeller, tail shaft & fastenings sea cocks & valves internally & externally examined & all found in good order.
Crank shaft lifted, white metal in bearings found in poor condition. LP pin found badly scored, Crank shaft sent to Darlington Forge to have LP pin turned up in lathe, all bearings, top & bottom, remetalled & crank shaft fitted & lined up true. Bottom end brasses remetalled.
Thrust shaft & block renewed & new Michell thrust fitted to suit new arrangement for Exhaust turbine.
New seating constructed for LP turbine & gears.
Tunnel shafting lined up.
LP double reduction geared turbine fitted, connected to the main shafting by a hydraulic coupling, see separate report.
Main engines cylinders taken down for fitting of turbine, reerected & lined up true.
Main Boilers examined internally & externally with their mountings & all found in good condition.
All mountings cleaned & overhauled.
Main steam pipes taken down, annealed, tested & refitted, new steel pipes fitted for superheated steam (tested to 645 lbs □") Superheaters fitted to all boilers, see separate report.
Main Boilers scaled & cleaned & repairs effected of a minor nature. All smokebox doors & casings overhauled
Safety valves adjusted under steam as stated.

Engines tried under steam under working conditions & all found satisfactory.

Nathaniel Butler.

L.J. W2 due 2.29 - Held. L.P. turbine (Bauer Wach System) with gearing also superheater + new H.P. Cyl. liner fitted. and other repairs specified.

Boiler smoke box doors repaired.

It is submitted that this vessel is eligible for THE RECORD. +LMC.1.30. without Sgl and No.

S.1.30.

(2)
8/3/30

Add to Engine notation "And L.P. Turbine with DR Gearing and Hydraulic Coupling

NHP= 759