

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

(Received at London Office

3 FEB 1942

Writing Report 31-1-1942 When handed in at Local Office 31-1-1942 Port of Manchester

Survey held at Manchester Date, First Survey 20-1-42 Last Survey 28-1-1942  
(No. of Visits TWO)

Report on the Machinery of the Wood, Iron or Steel S.S. "EMPIRE SPRING"

Gross 6946 Vessel built at Port Glasgow By whom Lithgow Ltd. When 1941-6  
Net 4147 Engines made at Greenock By whom J. G. Baird & Co. When 1941  
Ver 490 Boilers, when made (Main) (Donkey) 1941

in Boilers  Owners Ministry of War Transport Owners' Address (if not already recorded in Appendix to Register Book.)  
Key Boilers 2 Managers Donaldson Bros & Black Ltd. Port Greenock Voyage   
Boilers  Surveyed Afloat or in Dry Dock Trafford Works Manchester

Boilers 150 lbs Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

Report No.  Port

Particulars of Examination and Repairs (if any) Machinery Repair

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

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

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

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

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

Has the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

CHARACTER. Date of last Survey and of Periodical Surveys.	Years since last survey required.	Machinery and Boiler Surveys (including date of N.B., if any).
* 100 A1 with freeboard 12 to 41		* LMC 6, 41 CL

At the request of the Owner's representative the worm and worm wheel of the engine were examined on account of excessive and rapid wear of the teeth of the worm wheel.

The teeth were found to be worn 5/32" on one side and 1/16" on the other their surfaces together with those of the worm were scoured.

Particles of bronze completely choked the suction of the mechanically driven lubricating oil pump and partially filled the sump.

Done:— The run and alignment of the worm shaft was checked and found in order.

All burrs were removed from the teeth of the worm and wheel (OVER)

Observations, Opinion, and Recommendation:— The machinery of this vessel, 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, E.S. 9, 11, E. & M.S. 9, 11, L.M.C. 9, 11, or L.M.C. 140 lb., E.D., &c.)

As now seen, is, in my opinion, in an efficient condition and is eligible to remain as now classed in the Register Book.

It is recommended that a fresh record of survey subject to the steering engine worm gear being further examined before the end of April, 1942.

£ : : Fees applied for 31-1-1942 £ 2.2.0 Received by me, 19

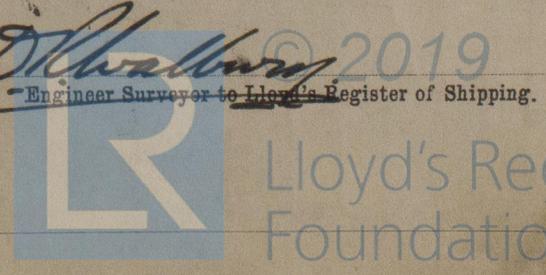
Committee's Minute FRI. 13 FEB 1942

As now Subject

Insert Character of Ship and Machinery precisely as in the Register Book

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

33-0035



and the mechanically operated lubricating oil pump and sump thoroughly cleaned.

The steering engine was then examined under running conditions and found satisfactory; the lubrication of the worm and worm wheel being efficient.

It is considered that the worm wheel remains efficient but it is recommended that it be further examined before the end of April, 1942.

*[Signature]*

Note

The material of the worm wheel, as indicated by jiling and hammer testing, appeared to be of good quality and it is considered that the rate of wear is such as would occur if the lubricating oil system was inefficient or not working for a period of time.

No information, however, could be obtained regarding this matter of lubrication.

*[Signature]*

The bronze worm wheel of steering engine worm has been examined & found efficient for the present but on account of excessive rapid wear it is recommended the steering gear wheel & worm be specially examined before end of 4-4-42

It is submitted that this report is similar to main as Old S.S. Co.

Subject as recommended

H. H. H.  
12.2.42

