

NEWCASTLE-on-TYNE,

21st August, 1919.

L.G. Shallcross

the Ministry of Shipping attend on board the S.S. "MINNA HORN" on the 3rd July, 1919 and subsequently for the purpose of ascertaining as far as practicable what deterioration and losses had taken place to the Main Engines and Boilers, Auxiliary Machinery and General Engine Room Equipment previous to the vessel being taken over by the Ministry of Shipping.

The survey was held in conjunction with The Norske Veritas Surveyors and Mr. Pingham representing the Managers.

The survey was held while the vessel was afloat and in Messrs. The Middle Dry Docks Co. Ltd. South Shields.

Recommended that the Cylinders, pistons and slide valves, crank shaft, thrust and tunnel shafts, condenser, air and circulating, Feed and Bilge pumps, steam steering and windlass engines, winch condenser, Feed Donkey pumps and Ballast Pump, Main Boilers and their mountings should be opened out, and prepared for Survey and overhauled.

FOUND

HP piston rings broken into a number of small pieces. Some of the pieces found in HP, MP and LP steam chests. MP piston rings worn and slack.

RECOMMENDED

That the HP piston rings be renewed. (Lockwood and Carlisle piston rings fitted) Junk ring and piston forced up in lathe, the piston bolts overhauled, piston rod packing overhauled. That the

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FOUND

The joint between the MP and LP cylinders shewed evidence of slightly leakage, but has not been dealt with.

MP piston rod neck bush somewhat slack - not dealt with - efficient.

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Crank shaft in good condition. Nos. 4 and 5 journals, not bedding properly in bottom of bearing.

MP bottom end white metal broken.

Condenser Examined - tested under a head of water. One rivet leaking in shell.

Winch Condenser - tested under a head of water - tubes plates leaking.

Pump crosshead guide bush slack.

Bilge pumps delivery valve seats out of order.

Feed pipe broken.

Reversing Engine Cylinder scored.

Fan engine

Auxiliary Pumps -

To be overhauled.

RECOMMENDED

MP and LP pistons be removed from the cylinders, and the bottom of cylinders examined for any broken pieces of metal. The manhole door in the bottom of LP cylinder to be removed for the same purpose.

All Main Engine piston rod and slide valve rod packing to be overhauled and made good or renewed as found necessary.

MP piston rings to be renewed MP guide water service pipe to be repaired.

That the crank shaft be lifted, the lower halves of the main bearings to be scraped up and the shafts properly bedded and adjusted and closed up as before. That the white metal in MP bottom end be renewed.

That the defective rivet be replaced by a bolt and jointed washer.

The tube plates of the winch condenser to be rejointed - tubes cleaned and replaced.

The bush to be remetalled.

New valves and seats to be fitted.

Feed pipe to be repaired.

Reversing engine to be overhauled (and cylinder bored) and new piston fitted.

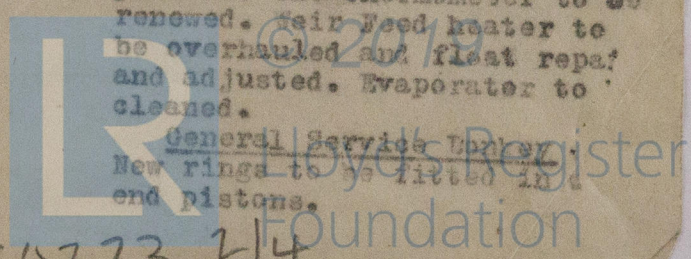
Stop valve to be overhauled and ground in.

Ballast Pump new rings to be fitted in water end pistons and glands repacked.

Two Feed Pumps (Weirs) - valves to face up, new rings to be fitted (woodite) in water end pistons. One thermometer to be renewed. Air Feed heater to be overhauled and float repaired and adjusted. Evaporator to be cleaned.

General Service Tank - New rings to be fitted in end pistons.

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FOUND

Bilge injection valve box flange part broken, efficient, not dealt with.

Main Engine Filters.

Engine room telegraph - Dials German characters.

Brass direction plates on various valve boxes in German.

Tank pipe in tunnel leaking.

Wash deck pipes - one valve defective.

Winches

No. 3 winch - several teeth in wheel broken - aft winch extension shaft bracket, broken and patched. Sanitary tank pipe defective.

Engine Room Oil Tanks

Tunnel flooring.

Propeller, Built, Bronze blades. Tips of blades somewhat bent. Main injection and tank filling valves of cast iron - wings wasted and slack, efficient, meanwhile.

RECOMMENDED

To be cleaned and overhauled.

German dials to be replaced by English dials, and telegraph to be overhauled and adjusted.

Direction plates to be reversed and marked in English.

Tank pipe to be repaired, and six new spindle wheels fitted to tank valves as required.

Wash deck pipes to be overhauled and one new valve to be fitted.

All deck steam and exhaust pipes and valves to be overhauled joints to be remade where necessary. Valves ground in and new bolts and nuts fitted as required.

Broken teeth repaired by screwed studs, the winches generally to be overhauled and made workable and tested under steam - guard plates to be repaired where necessary, pipe to be repaired.

Steam heaters to be tested under steam and repaired as found necessary.

Oil tanks to be cleaned out, one small tank to be repaired.

Tunnel flooring to be overhauled and part repaired.

Main engine holding down bolts to be tested and hardened up.

Vessel dry docked, propeller drawn off tail shaft, tail shaft examined found in order. Blades of propeller faired so far as practicable, edges of blades creased up in way of small pieces broken out of one blade and where chipped at cutting edge of blades. As time would not permit of the main injection valve and tank filling valve being replaced by new brass valves and spindles it was arranged that this should be done at the next dock and that the new valves and spindles should be made and put on.

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FOUND

RECOMMENDED

board as spare gear.
The electric light installation
to be tested (A new switch fitted
complete)

The Main Boilers to be scaled
and cleaned, a few local places to
be caulked in shell seams, and lag-
ging renewed where disturbed for
this purpose - Superheater pipes to
be taken down and tested and refit-
ted and spare stoppers to be supplied
(twelve). Ash pit dampers to be re-
placed and several door baffles
renewed.

Mountings to be overhauled and
made good as required - Tube blowers
to be overhauled. Flexible steam jet
hose to be supplied for blowing
through boiler tubes.

The Engines and Boilers, and the Machinery generally
found in good condition. Recommended that all parts opened out,
damaged or disturbed in effecting the above examination and overhaul
be closed up and made good as before. Various spare gear found on
board.

Certificate of Classification of Machinery Germanischer
Lloyd © MC 12.7 Kg/qcm Boiler Pressure - from July, 1917.

Tail shaft stated to have been examined in dry dock
30th May, 1919, but not stated to have been drawn in and examined.

In the opinion of the undersigned, as far as can be
judged from the inspection of the Machinery as set forth herein -
the Machinery and Boilers appear to be in a fit condition to run
for a period of six months.

Leonard H. Hallors
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