

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

(Received at London Office)

MON. JUL. 26 1920

Report 23rd July 1920 When handed in at Local Office 24th July 1920 Port of Barrow-in-Furness

Survey held at Barrow-in-Furness Date, First Survey 4th Nov. 1919 Last Survey 17th July 1920

on the Machinery of the Wood, Iron or Steel M.V. "Marinula" ex Santa Margherita Master

Vessel built at Barrow-in-Furness By whom Vickers Ltd When 1916

Engines made at Barrow-in-Furness By whom Vickers Ltd When 1916

Boilers, when made (Main) (Donkey) 1916

Owners Anglo Saxon Petroleum Co Ltd Port London Voyage Bermuda

If Surveyed Afloat or in Dry Dock Both

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.	Year Assigned now expired.	Machinery and Boiler Surveys (including date of N.B., if any)
(Class contemplated)		

Port No. _____ Port _____

Years of Examination and Repairs (if any) _____ Classification _____

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

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 not accepted.

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

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

Donkey " " " " Yes

Where necessary, state for what reasons? _____

Where the Boilers could not be thus thoroughly examined?

What means, in the absence of internal examination, were adopted by the Surveyor to ensure himself of the thorough efficiency of those parts of each Boiler?

Did you examine the Safety Valves of the Main Boiler? To what pressure were they afterwards adjusted under steam?

Did you examine the Safety Valves of Donkey Boiler? Yes To what pressure were they afterwards adjusted under steam? 100 lbs

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

Did you examine the drain plugs of the Main Boilers? and of the Donkey Boiler?

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

Have the Main Boilers now been drawn and examined? Yes Is it fitted with continuous liner? Yes or two liners? or is it without liners?

Have the Donkey Boilers been changed? No If so, state reasons

Have the Donkey Boilers now been fitted new? Has it a continuous liner? or two liners? or is it without liners?

What is the distance between lignum vitae of stern bush and top of after bearing of screw shaft? 3/32"

Where necessary, state what arrangements have been made for its completion and what remains to be done? Complete

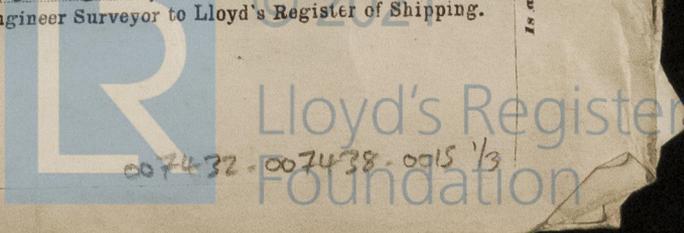
Main Engine cylinders & cylinder liners, pistons, valves & valve gear, connecting rods & guides, crank, thrust & propeller shafts & bearings, rollers, stern tubes, sea cocks & valves & their fastenings, & pumps have been opened up & examined. The Main Discharge Pumps, which are driven by four cylinder Diesel Engines, have been examined throughout including cylinders, pistons, valves & valve gear, crank shaft & bearings, & all compressor cylinders & connections. The small auxiliary air compressor has been examined throughout. All the air reservoirs have been cleaned out & examined internally, their scantlings verified & compared with the plans submitted, & they have all been hydraulically tested to 800 lbs per sq in. & found tight & sound.

Observations, Opinion, and Recommendation:— The Machinery of this vessel is in good order & condition & is eligible in my opinion to be classed L.M.C. 4-20, in the Register Book.

Section 28)	See	Fees applied for
or Repair Fee (if any)	1st Entry	
Section 28.)	Report	
Expenses (if chargeable)		Received by me, 19

John Houston
Engineer Surveyor to Lloyd's Register of Shipping.

Surveyor's Minute
MACHINERY DEPT.
WRITTEN
4.8.20
L.M.C. 4-20
(Oil Engines)



Insert Character of Ship and Machinery precisely as in the Register Book. Is a certificate required? If so, to be sent to

M.V. "MARINULA" ex "Santa Margherita"

All cylinder liners, & four spare ones, were bored out to $20\frac{7}{8}$ " dia - they were $20\frac{3}{4}$ " originally - & were afterwards tested by hydraulic pressure to 1000 lbs per sq in & found tight. All pistons, including four spares, have been renewed. All valves & valve gear were overhauled & put in order. All guide shoes & guides were trued up, the white metal being renewed as found necessary; both crank shafts were lifted, the main bearings being overhauled & remetalled as required; the journals & pins of the crank shafts were trued up, & the shafts were afterwards bedded down in place. The thrust shafts & shoes were overhauled, & when the vessel was in drydock all the sea cocks & valves were overhauled & made tight; the rotary bilge & ballast pumps were overhauled in the shops & afterwards refitted in place, the shafts being renewed in all cases. The fuel oil pumps were thoroughly overhauled, the pump bodies & all fuel pipes being tested to 6000 lbs per sq in & found good. All cylinder cover jackets were tested hydraulically to 30 lbs, & when the cylinder liners were replaced, the water cooling system throughout, - including cylinders, covers, exhaust branches, pipes, & main silencers, - was tested to 30 lbs & no leakage was found. All air reservoirs & air starting pipes were tested to 800 lbs & found in order. The bilge & ballast pipe lines were examined, & a new 8" bilge suction has been fitted to the ballast pumps in lieu of a bilge injection valve. Oil fuel suction valves, geared to deck, have been fitted to the after peak tank & the after cofferdam, & tanks fitted to the ballast pump suction as required. The air compressor cylinders were all tested to 1000 lbs per sq in, the three stages of the compressor to 75 lbs, 34 lbs, & 122 lbs per inch respectively & found tight, whilst all jackets were tested to 50 lbs. The crank shafts were lifted & trued up, the bearings being remetalled as found necessary, & the shafts bedded in place, the engines generally being overhauled & put in good working order.

It was proposed to drive the Generating Sets by two four cylinder Bolinder Engines - Gammoly Reports Nos 11344 & 11356 - in place of the two six cylinder Diesel Engines originally fitted, & these were actually installed on board on specially erected tools, but on trials they were proved to be entirely unsuited for this work & they were taken out of the vessels. The

of Barton in Furness Continuation of Report No. 1862¹ dated 23rd July 1922 on the

reports referred to are returned along with this report. ✓

The starboard generating set is now driven by one of the original six cylinder Diesel Engines, which has been thoroughly overhauled & rebuilt, whilst the port generating set is driven by a three cylinder Petter Engine, which has also been thoroughly overhauled, the shafts being trued up & bearings retailed as found necessary.

The spare gear for these engines is as follows:-

Diesel Engine:- Full set of working parts for oil fuel pumps, 4 cylinder liners, 1 cylinder cover with all valves, 3 pistons with rings, main bearing brasses & 6 studs, 2 connecting rods with bolts & washers, 2 induction valve boxes, 3 exhaust valve boxes, 7 induction valves & 15 exhaust valves, 4 air starting valves, one cylinder cover, relief valve & spring, one fuel spray valve complete & 34 nozzles, gear wheel for cam shaft drive & four lengths of oil fuel piping:-

Petter Engine:- 2 bonnet rod top & bottom end brasses with bolts & nuts, 2 cylinder covers, 2 spray holders & sprayers, 2 piston rings, 2 fuel oil pump bodies plungers & springs, set of air valves for crank case, 2 main bearing studs & nuts.

The two vertical donkey boilers have been examined throughout, together with all mountings manholes etc. Their cantlings were verified & compared with the plans submitted & found in order. The boilers & steam pipes were hydraulically tested to 200 lbs per sq in. & found tight. Their safety valves were afterwards adjusted under steam to 100 lbs per sq in. ✓

On completion of the overhaul & repairs, trials were carried out in dock & at sea, when the machinery was found to work satisfactorily.

It is the Owners' intention to fit steam driven auxiliaries on board in place of the present generating sets & electrically driven pumps, windlass etc. Larger boilers will be fitted in place of the present vertical donkey boilers, & it is understood that this conversion will take place in a few months' time.

John Houston.



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