

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

(Received at London Office 19 NOV 1951)

Date of writing Report Sept. 11, 1951 When handed in at Local Office Sept. 11, 1951 Port of Newport News, Va.

No. in Reg. Book 69468 Survey held at Newport News, Va. Date, First Survey June 11th, Last Survey Aug. 7th, 1951
On the Machinery of the ~~Wood~~ Steel S/S "MOBILUBE" (No. of Visits 10)

Tonnage { Gross 10,222 Vessel built at Sparrow's Pt. By whom Bethlehem Steel Co., S.B. When 1939 6
Net 6181 Engines made at Phl. By whom Westinghouse Elect. & Mfg. Co. When 1939 - 6
Nominal Horse Power 1025 Boilers, when made (Main) 1939 - 6 (Donkey) -
No. of Main Boilers 2 Owners Socony-Vacuum Oil Co., Inc. Owners' Address Port New York
No. of Donkey Boilers 1 Managers - Voyage -
Steam Pressure in Main Boilers 150 Spt. 420 Spt. 420
in Donkey Boilers - - - -
Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

Last Report No. Port

Particulars of Examination and Repairs (if any)

(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.

" " Donkey " " " -

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

And what parts of the Boilers could not be thus thoroughly examined? None.

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? Tested at 675 psi. by U.S. Coast Guards.

State latest date of internal examination of each boiler July 2nd, 1951. Present condition of funnel(s) -

Did the Surveyor examine the Safety Valves of the Main Boiler? Yes To what pressure were they afterwards adjusted under steam? Main 150 psi. Supt. 430 psi.

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 Boilers? -

Did the Surveyor examine the drain plugs of the Main Boilers? Yes, and of the Donkey Boilers? -

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

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? Yes If so, state reasons to suit new turbines & gearing.

Has the shaft now fitted been previously used? No. Has it a continuous liner? Yes Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? No.

State date of examination of Screw Shaft Apr. 24th State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft 1/32"

Engine parts, when referred to by numbers, should be counted from forward. Is electric light and/or power fitted? Yes.

So, did the Surveyor examine the generators, motors, switchgear, cables and fuses? Yes.

Has the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? Yes

Has the Survey is not complete, state what arrangements have been made for its completion and what remains to be done. LMC. now completed.

Vessel placed in dry dock, sea valves and cocks opened up, cleaned, ground in, examined, found or placed in good order, glands repacked and covers rejointed. Sea strainers removed, chests cleaned, examined and coated and fastenings renewed as found necessary.

NOW DONE:- Emergency bilge injection valve in engine room renewed. Auxiliary sea injection valve renewed. Auxiliary condenser overboard discharge valve renewed.

REPOWERING:-

Propeller, tail shaft and stern bushings removed, stern tube rebored and new forward and after stern bushings, complete with lignum vitae linings made, fitted and bored to suit diameter of new tail shaft. New tail shaft of increased diameter, made of material tested in accordance with the Society's Rules and stamped: H.T. 3C-204-3 - F-518 - J.S. 4-23-51, fitted to Owners supplied

General Observations, Opinion, and Recommendation:-
(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, *LMC. 9,11, or *LMC 140 lb., F.D., &c.)
* LMC 3,34, CS 3,34,

The machinery of this vessel in good, safe working condition and eligible in my opinion that the record of LMC-8-51 new Engine and Tail Shaft -CL (new) 8-51 be made in the Register Book in the case of this vessel.

Survey Fee (per Section 29) \$235.00
Special Damage or Repair Fee (if any) \$ 30.00
(per Section 29.)
Traveling expenses (if chargeable) \$ 10.00
Aug. 5th Sun. fee \$ 30.00
Committee's Minute NEW YORK OCT 24 1951
Assigned LMC. 8.51

TS.N. 8.51
N.E. 46 FITTED 8.51
CERTIFICATE WRITTEN (7.4.52)
Lloyd's Register Foundation
011823-011825-0096

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

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Cast iron hub, stamped:- Reconditioned N.Ns.S.& D.D.Co., static balance 7-3-51 and four new bronze blades stamped; L.R. 520, 521, 522, 523 - J.S. 7-2-51. New tailshaft and built up, four bladed propeller installed, stern gland repacked and propeller fairwater cone renewed. Forward and after intermediate shafts removed from vessel, and replaced with new shafts of increased diameter - forward shaft stamped F-516, Lloyd's J.S. 4-19-51, after shaft stamped; F-517 - Lloyd's J.S. 4-19-51. Tail shaft and intermediate shafts placed in correct alignment, checked coupling bolt holes reamed and new bolts fitted. New spare tail shaft stamped; H.T. 1723-2, F-519 J.S. 6-19-51 placed on board and stowed in place.

All of the above new shafting and coupling bolts, were made in accordance with drawings, approved by the New York Office of the Society, and of material tested in accordance with the Society's Rules, by the Society's Surveyors.

Line shaft bearings renewed to suit new diameter of shafts and bearing foundations modified to suit new bearings.

Main propulsion unit, consisting of H.P. & L.P. turbines connected to double reduction gears, removed from vessel in their entirety, together with foundations for same and all associated piping. Complete unused De Laval main propulsion unit, consisting of H.P. & L.P. turbines connected to double helical, double reduction gears, with integral thrust, Serial No. 244405, rated at 8500 shaft horse power and built by the De Laval Steam Turbine Co., Trenton, N.J., April 1946 and under the American Bureau of Shipping inspection, and placed in storage as War Surplus material, installed together with all her fabricated steel foundations and associated piping and fitted as per drawings approved by the New York Office of the Society. H.P. & L.P. turbines opened up, examined and found satisfactory. Reduction gears previously examined at Trenton, N.J., by the Surveyors of this Society, as per Philadelphia Report, dated June 12th, 1951, opened up and again examined, together with thrust and found satisfactory. Main reduction gear shaft and intermediate shaft coupling placed in correct alignment, new chocks fitted under unit, bolt holes reamed and new coupling bolts fitted. H.P. & L.P. rotor and pinion couplings examined for correct alignment and found satisfactory.

The above main propulsion unit, rated when built at 8,500 SHP, has been now reduced in power to 6,800 Normal SHP. at 110 RPM., shaft speed plus 10% overload on 7480 SHP., for maximum power requirements by modification of the H.P. turbine nozzle ring and permanently blanking off of various nozzles in both ahead and astern turbines. Main throttle valve completely reconditioned. Main unit tested and overspeed trips adjusted.

Main condenser removed from vessel to shop, tubes removed, shell cut circumferentially and lengthened approximately 3'-9". Condenser retubed, using Yorcalbro tubes; shell and tubes tested and proved tight. Steam inlet trunk altered to suit connection to new turbine exhaust branch. Water end renewed, coated and zinc plates renewed. Condenser returned to vessel, fitted to new unit and spring supports installed.

Auxiliary Condenser:- Heads removed, cleaned, examined and coated, tubes cleaned, tested, examined and proved tight, forward head renewed.

Lubricating Oil Coolers: Head removed, tubes cleaned internally and externally, tested,

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examined and proved tight - heads coated and rejointed.

Main and auxiliary Air Ejectors opened up and examined, condensers opened up, cleaned, tested and found in order; covers replaced and rejointed.

Main and auxiliary circulating pumps, fuel oil service pumps, fuel transfer pump, bilge pump, general service pump, fire pump, feed pumps and lubricating oil pumps completely opened up, impellers and casings examined, found or placed in good order.

Main and auxiliary circulating pumps:- spare ~~and~~ impellers and shafts fitted; removed impellers and shafts reconditioned and placed on board as spares. Fire pump - impeller shaft sleeves and sealing rings renewed. Fuel oil service pumps - impeller shaft bearings renewed. The feed water pumps (Coffin) and two lubricating oil pumps removed, completely reconditioned by Makers, returned to vessel and installed.

Condensate Pumps:- Two condensate pumps removed in their entirety and replaced with reconditioned pumps of increased capacity. MAKERS:- Ingersol Rand, serial Numbers 03423255 and 03428116, size 2 U H, 200 G.P.M., 1750 RPM. 160 psi. head. Test pressure 200 psi. Motors G.F.C.- Model 32 A 1705. Direct current, 230 volts - 73.7 amps., 20 H.P. shunt wound.

Forced draft Fans:- Fan shaft bearing renewed, existing motor removed and renewed with motors of increased H.P. MAKERS:- Century Electric Co. Type P.N. Form 375 - Y. Volts 230, Amps. 112. RPM - 1750 to 2250. H.P. - 30 - shunt wound, serial Nos. 11 W 30129 and 1 WW 30822.

Pumping arrangements, including cargo lines, stripping lines, fuel oil lines, bilge lines, examined together with their valves and control rods, found or placed in good order.

BOILERS:- Port and starboard boilers opened up, cleaned internally and externally, generator tubes turbed, and all parts examined together with doors and fastenings. All boiler mountings opened up, valves ground in, examined, covers rejointed and glands replaced. Superheater tubes renewed in their entirety, and front superheater baffles removed to provide reduction in superheated steam temperature. Brickwork removed to allow examination of tubes, replaced as original and existing brickwork placed in good order. 5 generator tubes in each boiler renewed.

Starboard Boiler: 5 upper tubes in economizer renewed, together with inlet header - header stamped:- M-87812 - 6 - 3000 - Test 675 - 6-51 - LR. RSH.

Boilers hydrostatically tested at 675 psi., together with superheater and economizer elements and found satisfactory. Safety valves adjusted under steam with satisfactory results. Main and auxiliary steam pipes tested and examined. Fuel oil heaters tested, together with piping and fittings and examined under working conditions and found satisfactory. Steam smothering and C.O₂ fire extinguishing systems examined and tested.

Generators: Nos. 1 & 2 Turbo Generator. Turbine casing lifted casings rotors and all blading examined, rotor shafts skimmed up in way of packing and carbon packing renewed; Rotor and pinion shaft bearings re-metaled, machined and fitted.

Inboard Generator: Shrouding of one segment of 1st stage stationary blading renewed. 2nd. row of 3rd. stage blading renewed. Rotor dynamically balance and replaced in good order. Throttle valve removed, overhauled and replaced.

Outboard Generator: Rotor dynamically balanced, alignment of rotor, pinions and gears checked, and turbine re-checked to place all parts in correct alignment. Generator

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armatures, field coils and commutators cleaned, tested and placed in good order.

Generators examined under working conditions, overspeed trips and governors adjusted and tested.

Emergency Generator:- Armature shaft skimmed up in way of bearings, new sleeve fitted and shaft bearings renewed. Motor and generator placed in correct alignment and coupling fibre disc renewed. Generator examined under working conditions and governing devices adjusted and tested.

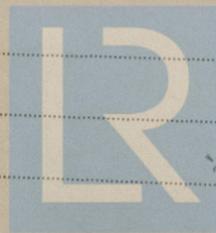
Steering Gear:- Completely opened up, together with oil pumps, examined, re-assembled in good order, tested under working conditons and found satisfactory.

Anchor Windlass:- Completely opened up, examined together with all bearings, tested under working conditons and found satisfactory.

Electric:- All electric motors, power and lighting circuits megger tested, grounds removed as found necessary and all placed in good order. Circuit breaker, switch gear, fuses and wiring examined and placed in good order.

The main and auxiliary machinery was tested out under working conditions on a clock trial of four hours duration and sea trials of 8 hours duration, during which period all parts were examined and found satisfactory.

W. D. Wardle - Johnson



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