

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

(Received at London Office 31 AUG 1944)

Date of writing Report 10th July 1944 When banded in at Local Office 19th July 1944 Port of MOBILE, ALABAMA  
 No. in Survey held at MOBILE Date, First Survey 3rd March Last Survey 1st May 1944  
 Book 3087 on the Machinery of the ~~Wooden~~ Steel T.S.S. "EL LIBERTADOR" (No. of Visits 27)

Gross 1713 Vessel built at Danzig By whom International S.B. & E. Co. When 1929  
 Net 750 Engines made at " By whom " When -  
 Nominal 306 HP Boilers, when made (Main) - (Donkey) -  
 Horse Power Owners Koninkl. Nederl. Stoomb. Maats Owners' Address -  
 of Main Boilers 2 SB N.V. (if not already recorded in Appendix to Register Book.)  
 of Donkey Boilers - Port Amsterdam Voyage -  
 Steam Pressure 200 lb. Managers -  
 in Main Boilers 200 lb. If Surveyed Afloat or in Dry Dock both  
 in Donkey Boilers - (State name of Dock.) Alabama D.D. & S.B. Co.

Report No. Port Main & Aux. Mch.,  
 Particulars of Examination and Repairs (if any) BS, TS & Elec. Inst.  
 Periodical Surveys, when held, must be reported in detail and serialim in the terms of the Rules. State clearly the  
 nature 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  
 details being detailed in the body of the report, should be briefly summarised at the end of the report. State also the  
 names and initials of any letters respecting this case.  
 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 report attached.

CHARACTER * for Special Survey Date of last Survey and of Periodical Surveys.	Years assigned now expired	Machinery and Boiler Surveys (including date of N.B., if any)
Examined LR 9,43		B.S. 5,43 (200 lb.) T.S. 5,42

a damage report made by anyone else? If so, by whom? -  
 The Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? yes  
 " " Donkey " " -  
 Was not done, state for what reasons? -  
 What parts of the Boilers could not be thus thoroughly examined? -  
 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? -  
 Latest date of internal examination of each boiler 7th April 1944 Present condition of funnel(s) good  
 Did the Surveyor examine the Safety Valves of the Main Boiler? yes To what pressure were they afterwards adjusted under steam? 14 ATM (200 lb.)  
 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? - and of the Donkey Boilers? -  
 Did the Surveyor examine all the mountings of the Main Boilers? yes, and of the Donkey Boilers? -  
 Were shafts now been drawn and examined? yes Are they fitted with continuous liner? yes Is an approved appliance fitted at the after end of  
 the shaft to permit of it being efficiently lubricated? L.V.  
 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? -  
 Date of examination of Screw Shaft 5 Apr. /44 State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft close  
 Engine parts, when referred to by numbers, should be counted from forward. Is electric light and/or power fitted? yes  
 Did the Surveyor examine the generators, motors, switchgear, cables and fuses? yes  
 The insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? yes  
 Survey is not complete, state what arrangements have been made for its completion and what remains to be done COMPLETE.  
 The vessel stated to have been sustained FIRST by vessel grounding in the Demerara River on 1st November  
 1943 and SECOND by vessel striking a submerged object at Paramaribo on 21st January 1944.  
 For further particulars please see copy of special damage report attached.

ONE  
 vessel placed on drydock examined the propellers, stern and strut bushes, also sea connections  
 their fastenings, found or placed in good order.

## REPAIRS due to FIRST ACCIDENT

Connections  
 underwater sea connections opened up, examined and closed.  
 inner plates removed, sea chests cleaned, examined, coated, and strainers replaced.  
 Condenser  
 Condenser opened up, cleaned, examined and closed.  
 (P.T.O.)

General Observations, Opinion, and Recommendation:— The machinery of this vessel, so far as  
 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, \*L.M.C. 9,11, or  
 \*L.M.C. 140 lb., F.D., &c.)  
 CS 3,34,  
 is in good and efficient working condition and eligible, in my opinion, to have notation of  
 LR 4,44 for 12 months and record of ~~B.S. 4,44~~ and TAIL SHAFTS seen 4,44 made in the Register  
 or, when classed, LMC 4,44 and TAIL SHAFTS SEEN 4,44.

Survey Fee (per Section 29) BS, TS £ 40.00 Fees applied for  
 Special Damage or Repair Fee (if any) £ 150.00 July 21, 1944  
 (per Section 29.) Repairs 150.00  
 Selling expenses (if chargeable) £ 27.00 Received by me,  
 Surveyor

Committee's Minute  
 signed LMC-5,44  
 T.S. 4,44

NEW YORK AUG 9 1944

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register  
 Foundation

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

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

002762 - 002769 - 002142



Main Circulating Pump  
Pump opened up, cleaned, examined and closed.

NOTE:- During the examination of the high and low main injection sea chests with their valves and the waterbox for the main condenser, they were found wasted to such an extent that renewals were carried out. The main circulating pump, centrifugal, was renewed. These repairs and renewals are described under WEAR & TEAR REPAIRS below.

#### DAMAGE REPAIRS due to SECOND ACCIDENT

Port Propeller (3 bladed solid bronze)  
Propeller removed and taken to shop, bent blades faired and pitch checked, propeller replaced on shaft.

Port Tail Shaft  
Tail shaft drawn, taken to shop, placed in lathe and checked for truth, bronze liners (2) skimmed off, shaft replaced. Stern gland repacked with new packing.

Port Stern Bush & Strut Bush  
Stern and strut bushings drawn, rewooded with end grain lignum vitae, bored to fit tail shaft and replaced.

Port Spring Bearing  
Opened up, examined, found good and closed.

Port Thrust Block (Michell)  
Opened up and examined. Thrust pads removed, remetalled and again adjusted to place.

Port Thrust Shaft  
Disconnected and removed to shop, placed in lathe and checked for truth, thrust collar polished and shaft replaced.

Port Main Engine  
Main bearing caps removed and bearings examined, found good and closed.

Port Main Engine Pump Lever  
Bearings opened up, lever and bearings examined, found good and closed.

Starboard Propeller (3 bladed solid bronze)  
Propeller removed and taken to shop, bent blades faired and pitch checked, propeller replaced.

Starboard Tailshaft  
Tailshaft drawn, taken to shop, placed in lathe and checked for truth, bronze liners (2) skimmed off and shaft replaced. Stern gland repacked with new packing.

Starboard Stern Bush & Strut Bush  
Stern and strut bushings drawn, rewooded with end grain lignum vitae, bored to fit shaft and replaced.

Starboard Main Engine  
Holding down bolts examined and hardened up as necessary.

#### SURVEY CORRESPONDING TO S.S. carried out on classed vessels for LMC notation in the Register Book.

The propellers, stern and strut bushes, sea connections and their fastenings examined while the vessel was on drydock.

The screw shafts drawn, examined and replaced.

The cylinders, pistons, slide valves and crank shafts of port and starboard main engines, together with the thrust and intermediate shafts, pumps and condensers examined.

The valves, cocks, pipes and strainers of the pumping arrangements examined.

The main boilers examined internally and externally, afterwards tested hydrostatically to 250 lbs.

The steam pipes and all boiler mountings examined and safety valves afterwards adjusted under steam to 14 Atm. (206 lbs.).

A selected number of main and auxiliary steam pipes removed, examined and tested hydrostatically to double the working pressure, 412 lbs.

All accessories (Circular 1748) tested under working conditions, oil fuel service pumps opened and examined as undermentioned, the controls for the fuel and steam smothering systems examined with valves and oil discharge pipes, etc. and now satisfactory.

The electrical equipment and installations generally examined and tested under working conditions.

The fittings on main switchboard and sub-division panels and boxes examined and no circuits found overfused.

The electric cables examined as far as practicable without dismantling.

The generators, cables, fittings, etc. megger tested and the insulation resistance found in excess of 100,000 ohms.

(continued)

Rpt. 9a.

Port of MOBILE, ALABAMA

MCHY.

Continuation of Report No. 2077

dated 10th July 1944

on the

T.S.S. "EL LIBERTADOR"

#### WEAR & TEAR REPAIRS

##### Sea Connections

High and low suction sea chests renewed complete, made of all welded construction.  
High and low suction sea valves renewed (cast steel).

##### Port Main Engine

I.P. cylinder bored out.  
H.P. and I.P. piston hoods and piston rings renewed.  
H.P. piston rod renewed of tested steel. (Re test see below.)  
H.P., I.P. and L.P. crank brasses remetalled.  
H.P. and I.P. eccentric strap top halves remetalled.  
Attached feed and bilge pump cylinders renewed complete and rams fitted with new bronze sleeves.  
Air pump valve seats faced off and new kinghorn valves fitted.  
Reversing engine shaft and bronze bushing, slide valve with valve stem and gland, also packing gland for piston rod, renewed.

##### Starboard Main Engine

H.P. and I.P. piston hoods and piston rings renewed.  
H.P. piston rod renewed of tested steel. (Re test see below.)  
H.P., I.P. and L.P. crank brasses remetalled.  
H.P. eccentric strap remetalled.  
Attached feed and bilge pump cylinders renewed complete and rams fitted with new bronze sleeves.  
Air pump valve seats faced off and new kinghorn valves fitted.  
Reversing engine shaft and bronze bushing, slide valve with valve stem and gland, also packing gland for piston rod renewed.

NOTE:- The new H.P. piston rods for port and starboard main engines, together with one new spare H.P. piston rod delivered to the vessel, are made from a round steel bar tested by the Society's Surveyor and stamped "TCI H.1091 LLOYDS No.1313 J.C.S.McK. 12.3.43". Test certificate attached.

##### Main Condenser

Water box and lower half of after cover renewed.  
Eight condenser tubes renewed.

##### Main Circulating Pump Engines (2 Sing.Cyl.)

Cylinders and piston valve chests bored out, pistons with rings and piston valves renewed.

##### Main Circulating Pump (Centrifugal)

Pump housing renewed, impeller shaft renewed of bronze and impeller fitted to place.

##### Oil Fuel Service Pumps and Oil Heaters

Steam and liquid end piston rings renewed.  
Valve gear overhauled.  
Oil heaters dismantled, cleaned, tested and reassembled.

##### Auxiliary Bilge Pump

Liquid end cylinders bored out and brass plungers renewed.  
Valve seats and valves renewed.

##### Starboard Auxiliary Feed Pump

Steam end piston with rings renewed.  
Valve gear overhauled and rebushed.

##### Fresh Water Pump

Steam end pistons with rings renewed, piston rods polished, neck bushings renewed and packing glands rebushed.  
Liquid end cylinders fitted with new brass liners and bronze plungers renewed.

##### Auxiliary Sanitary Pump

Liquid end bronze plungers with rods renewed.

##### Starboard Dynamo Engine (1 Cyl.)

Cylinder bored out and piston with rings renewed.

##### Fan Engines (2 Sing.cyl.)

Cylinders bored out and slide valve faces machined, pistons with rings and slide valves renewed.

##### Main Boilers

Forward boiler - all plain and three (3) stay tubes renewed.  
All mountings opened up and overhauled as necessary.

After boiler - all plain and one (1) stay tube renewed.  
All mountings opened up and overhauled as necessary.

Both boilers tested hydrostatically to 250 lbs. and found good.

#### ELECTRICAL INSTALLATION

##### Port & Starboard Dynamos

Opened up, armature and coils cleaned and varnished as necessary.

##### Navigating Lights

Fuse panel removed from wheelhouse and relocated in chartroom.

(P.T.O.)

002762-002769-002172



Lighting Circuits

Circuits at panels in Officers' passage and bathroom, starboard side, firemen's mess-room and bathroom port side, cross passage, amidship, storerooms aft, engine and boiler rooms and in shaft alley overhauled, wires and fittings renewed as necessary.

DOCK TRIAL

After all repairs were completed, the entire main and auxiliary machinery was given a satisfactory dock trial.

Minor Items

Several items of a minor nature were also made good at this time.

SPECIAL REASONS LIST No.50, 1944

"Renew circl. pump first opportunity."

This pump has now been renewed and the item may therefore be deleted from the Special Reasons List.

*[Handwritten signature]*



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