

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

(Received at London Office)

-5 JUN 1936

Date of writing Report Apr. 27th, 1936. When handed in at Local Office Port of SAN FRANCISCO,
 No. in Reg. Book 34491 Survey held at San Francisco, Cal. Date, First Survey Dec. 22nd, 1935 Last Survey Apr. 23rd, 1936.
 on the Machinery of the XXXXXXXXXX Steel Twin Screw M. V. "SVEABORG" (No. of Visits Thirty)

Tonnage { Gross 9076 Vessel built at Hamburg By whom Blohm & Voss K.a.A. When 1931 - 2
 Net 5258 Engines made at Got. By whom Gotaverken A/B. When 1931
 Nominal Horse Power 709 NHP Boilers, when made (Main) (Donkey) 1931
 No. of Main Boilers -- Owners Stockholms Rederi A/B Svea. Owners' Address (if not already recorded in Appendix to Register Book.)
 No. of Donkey Boilers 2 Managers Eman. Hogberg, Mgr. Port STOCKHOLM Voyage --
 Team Pressure in Main Boilers -- If Surveyed Afloat or in Dry Dock Both - Mt's Pt. Dock. Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).
 in Donkey Boilers 150 lbs.

Last Report No. Port L.M.C. D.B.S. & DMQ. REPAIRS.

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.

1 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 Not required.

Was a damage report made by anyone else? If so, by whom? Swedish Underwriter's Surveyor.

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

" " Donkey " " " Yes.

When this was not done, state for what reasons? OIL ENGINE CONTINUOUS SURVEY

What parts of the Boilers could not be thus thoroughly examined? FUNNEL:-- SATISFACTORY.

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? 26th February, 1936.

State latest date of internal examination of each boiler 26th February, 1936.

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

Did the Surveyor examine the Safety Valves of Donkey Boiler? Yes. To what pressure were they afterwards adjusted under steam? 150 lbs.

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? -- and of the Donkey Boilers? Yes.

Did the Surveyor examine the drain plugs of the Main Boilers? -- and of the Donkey Boiler? "

Did the Surveyor examine all the mountings of the Main Boilers? -- and of the Donkey Boiler? "

Has the screw shaft now been drawn and examined? S. 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? --

Has the 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 Apr. 21, 1936. State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft Star. Lower Half rewooded. Port 3/16"

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

Survey is not complete, state what arrangements have been made for its completion and what remains to be done Complete.

As the Vessel would be laid up for a period of at least sixty days for extensive repairs to aboard main engine, the Owners decided to hold a complete L.M.C. survey on the machinery and examination of the Donkey Boilers.
DAMAGE:- Stated on the 4th December, 1935, after section of crank shaft broke, also after section bed plate and column in way of the No. 5 Engine, while on a voyage from Yokohama.
Swedish Government Survey Authorization and copy of report attached hereto.
L.M.C. PORT MAIN ENGINE:- Cylinders and heads, pistons and rings, valves and gears, guides, connecting rods and brasses, crossheads and brasses, crank shaft journals and pins, thrust and intermediate shafts examined. Thrust shaft bearing opened up, cleaned out, shoes examined and set in order. Main compressor, pistons, cylinders, cover, valves, connecting rod, top and bottom brasses examined. Air receivers opened up, cleaned, and examined. Turning gear and motor opened and examined. (Minor repairs effected, engine tried out under working conditions and found satisfactory.)

General Observations, Opinion, and Recommendation: (P. T. O.)
 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.)
RECOMMENDED that the machinery of this Vessel be retained as now classed and have fresh record of L.M.C. 4-36 and notation of D.B.S. 4-36 and starboard tail shaft seen 4-36 C.L.

Survey Fee (per Section 29) \$190.00 Fees applied for Apr. 23 1936
 Special Damage or Repair Fee (if any) \$570.00 Received by me, Apr. 30 1936
 (per Section 29.) SWED. GOVT... \$40.00
 Travelling expenses (if chargeable) \$10.00
 1 S.F. & 2 L. Fees \$30.00

Committee's Minute
 Assigned + L.M.C. 4-36 D.B.S. 4-36
 W439-0226(112)
 Lloyd's Register Foundation

TWIN SCREW M. V. "SVEABORG"

RETAIN

Auxiliary Oil Engines Nos. 1 and 2 on the Port Side and No. 3 on the starboard side, together with compressors opened up, pistons and rings, valves, gears, connecting rods, brasses, crank shaft and bearings examined, overhauled and now in order. Auxiliary air starting receivers opened up, examined, tested, and now in order. The oil fuel storage tanks and daily service tanks, together with their piping, valves and connections examined. The electric driven pumps, together with all pumping arrangements overhauled, examined, tried out, and now in good order.

Electrical Generators for auxiliary machinery, steering gear, windlass, turning engine pumps, etc., opened up, cleaned, overhauled, tested and examined. The entire wiring system for lighting, etc., tested for grounds and put in order throughout the Vessel. The entire electrical system tried out under working condition and now in order. Meggar test applied.

The Vessel placed in dry dock, sea cocks and valves opened up, ground in, examined, and now in order. Propellers and all fastenings examined and now in order.

STARBOARD MAIN ENGINE:- This engine dismantled in its entirety owing to nature of accident to No. 5 Engine and after section of bedplate. All cylinders, pistons and rings, valves, gears, guides, connecting rods and brasses, crossheads and brasses, crank shaft journals and pins, thrust and intermediate shafts examined. Thrust bearing opened up, cleaned out, shoes examined and closed in order. Main compressor piston, cylinders, cover, valves, connecting rod, top and bottom end brasses examined. Air receivers opened up, cleaned, and examined. Turning gear and motor opened up and examined.

(Minor repairs clear of the damage effected; engine tried out under working conditions and found satisfactory.)

DAMAGE REPAIRS STARBOARD MAIN ENGINE:- The six cylinders with attached columns and all fastenings removed from Ship. Broken after section of bedplate and crank shaft removed, also forward section of crank shaft removed from ship to shop. Connecting rods for Nos. 4, 5, and 6 Engines tried in the lathe for truth.

The following parts of the after section of crank shaft renewed of tested materials and installed:-

FORWARD COUPLING JOURNAL:- LLOYD'S No. 62.A. 18-2-36 F.G.A. CRANK PIN NO. 4 ENGINE:- LLOYD'S No. 62.B. 18-2-36 F.G.A.

CRANK PIN NO. 5 ENGINE:- LLOYD'S No. 62.G. 18-2-36 F.G.A. JOURNALS FOR NOS. 5 AND 6 ENGINES:- LLOYD'S No. 62.A. 18-2-36 F.G.A.

FORWARD CRANK WEB NO. 5 ENGINE:- LLOYD'S No. 62. 18-2-36 F.G.A. AFTER CRANK WEB NO. 5 ENGINE:- LLOYD'S No. 1149.A. 1-4-36 D.M.

The following parts of the forward section of crank shaft renewed of tested materials, and installed:-

FORWARD CRANK WEBS NO. 2 ENGINE:- LLOYD'S No. 1149.C. 1-4-36 D.M. AFTER CRANK WEBS NO. 2 ENGINE:- LLOYD'S No. 1149B. 1-4-36 D.M.

NOTE:- All journals of the forward and after sections of crank shaft for the starboard main engine turned down from 15.906 diameter to 15.831 diameter to bring to true alignment. (See attached blue prints for all particulars.)

A new after section of bedplate installed, together with a new column No. 6 from forward

The main bearing top and bottom halves all reinstalled.

The crank pin brasses all reinstalled.

(CONT. ON PAGE #3.)

OF THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.

RETAIN

Crank Shaft sections properly bedded in the main bearings, raised, checked, bearings examined and now in order.

The entire engine reassembled, properly aligned through cylinders and crank shaft, clearances taken for adjustments of bearings and piston compressions. The holding down bolts of the forward section of the bed plate examined, hardened up and now in order. The thrust opened up, cleaned and examined and necessary adjustment made. All valves and other disturbed parts opened up for examination and closed in good order.

Vessel placed in dry dock, starboard tail shaft drawn in and lower half rewooded. A line run through from thrust shaft to outer end of stern tube, spring bearings adjusted to suit. Vessel floated; shaft again tested for alignment, coupled up, and now in order.

The starboard main engine tried out under working conditions at dock, necessary adjustments made. Vessel taken out in San Francisco Bay and six hours trial made at various speeds and manoeuvres made as per Rule requirements and found satisfactory.

Two blue prints of after section of bed plate as installed attached hereto.

DONKEY BOILER SURVEY:- The two donkey boilers opened up and examined internally and externally, together with all mountings and steam pipes.

Safety valves adjusted under steam to 150 lbs.

K.B.—If this Report is copied by copying Press, especial care must be taken that the copying paper is not so much damped as to spread the ink, or to cause it to show through to the other side.