

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

(Received at London Office)

-8 FEB 7

Date of writing Report 22nd Dec. 1936 When handed in at Local Office 19 Port of WELLINGTON

No. in Reg. Book. 86336 Survey held at WELLINGTON FLOATING DOCK AND SLIP & FERRY WHARVES, WELLINGTON Date, First Survey 13th Oct. Last Survey 21st Dec. 1936
(No. of Visits 13)
on the Machinery of the Wood, Iron or Steel STEAMER "WAHINE"

Tonnage { Gross 4436 Vessel built at DUMBARTON By whom W. DENNY & BROS. When 1913 5-mo.
{ Net 1798 Engines made at DUMBARTON By whom DENNY & CO. When 1913

Nominal Horse Power { 1694 NHP Boilers, when made (Main) 1935 (Donkey) -

No. of Main Boilers 6 WTB Owners UNION STEAM SHIP CO OF NZ. LD Owners' Address -
See Rpt 5C. 2176 Managers - Port LONDON Voyage WELLINGTON - LYTELTON

No. of Donkey Boilers - Steam Pressure in Main Boilers 200 Lbs If Surveyed Afloat or in Dry Dock BOTH Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

in Donkey Boilers - 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 summarized at the end of the report. State also the dates and initials of any letters respecting this case. My cable of 24/9/36 and your reply received 26/9/36 and my letter of 30/9/36

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 NONE

Did the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time? YES NONE

If this was not done, state for what reasons?

And what parts of the Boilers could not be thus thoroughly examined?

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?

State latest date of internal examination of each boiler B1, 2, 3 & 4 ON 17/11/36; A3 & 4 ON 24/11/36 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? 200 LBS

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, dobs and their fastenings of the Main Boilers? YES, and of the Donkey Boilers? -

Did the Surveyor examine the drain plugs of the Main Boilers? NONE, and of the Donkey Boiler? -

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

Has screw shaft now been drawn and examined? NO 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? - 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?

State date of examination of Screw Shaft State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft

Engine parts, when referred to by numbers, should be counted from forward.

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done. COMPLETE WITH EXCEPTION OF SURVEY OF

PORT L.P. TURBINE AND SHAFTING, CIRCULATING AND AIR PUMPS ALSO PORT GENERATOR ENGINE WHICH WILL BE

DONE AT THE NEXT ANNUAL SURVEY.

The vessel has been laid up for six months (subsequent to repairs to Bow from damage received by

collision with the Pipitea Wharf, Wellington - reported by Mr. D.K. Blair No. 2101) when new Boilers

have been fitted also the Machinery opened up and submitted for 2nd Special Survey No.3. The vessel

was placed on the blocks of the Wellington Floating Dock on the 9th December 1936, when the Sea

connections, Propellor and Stern Bushes were examined.

MAIN BOILERS (6 B. & W. WATER TUBE): B1 Boiler was renewed throughout. A3, A4, B2, B3 & B4 Boilers

- all pressure parts except steam drums were renewed, see attached report 5C No. 2176 on new Boilers

A1 & A2 Boilers were discarded and scrapped. All the steam drums with the exception of B1 had

all internal parts removed, thoroughly cleaned out and examined. The corrosion which had taken

place under the baffles in way of the return tubes was cleaned to the bare steel afterwards (P.T.O.)

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, & L.M.C. 9,11, or

X L.M.C. 140 lb., F.D., &c.)

REMAIN AS CLASSED WITH FRESH RECORD +LMC11, 36 WHEN SURVEY OF PORT L.P. TURBINE CIRCULATING AND

AIR PUMPS IS COMPLETED.

Survey Fee (per Section 29) £ 22: 10 - Fees applied for 21/12/1936

Special Damage or Repair Fee (if any) £ : : Received by me, 19

Travelling expenses (if chargeable) & Cables 1: 6 6

Committee's Minute

Assigned

TUE 23 FEB 1937

FRI 18 JUN 1937

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register

Foundation

W 1076-10333

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

YES

Messrs Union Steam Ship Co of NZ Ltd Wellington

George S. Sidgett

12-36

Withheld copy and

CERTIFICATE WRITTEN

3 coats of Apexior No.1 paint applied. About 80 per cent of the internal attachment angles for baffles, etc. were renewed.

Boiler Supports at the bottom - These were examined when all boilers and casing were removed and about 20 per cent renewed. These are now in good condition.

All the mountings were removed from the drums, refitted and packed. All studs renewed and mountings rejointed to same. New Salinometer cocks fitted to all boilers (6), about 60 per cent of the plugs and gland nuts of the water gauge mountings were renewed.

Safety Valves - seats were drawn, refaced and valve seats resecured.

Blowdown Valves - 3 inboard chests and valves renewed. Scum valves - 2 renewed complete. All these mountings are now in good condition.

Boiler Casings - Practically the whole of these were renewed, quite 90 per cent and are now in good condition.

Furnaces & Baffles - Oil fired furnace bottoms and baffles completely renewed and all linings were renewed. All these parts are now in good condition.

Safety Valves on each boiler were floated separately and set to their correct working pressure (200 lbs) on split compression washers and padlocked.

Funnels: Examined and found in good condition with the exception of the top strakes on each funnel casing; the inner funnels at the top after ends wasted.

Repairs: Inner funnel tops (2) repaired by cropping the wasted portion, welding in new 1/4" plates electrodes. Funnel casings (2) top strake renewed by 1/4" plates and welded in place electrodes. All hangers and stay eyes replaced.

Funnel guys examined. The funnel and gear is now in good condition.

TAILSHAFTS: Dealt with by Mr. Blair, vide his Report No. 2101 of 30/9/36 thereon.

These parts were examined in position during the final docking and were found in good condition.

SEA COCKS & SHIP'S SIDE VALVES WITH THEIR ROSES AND FASTENINGS: All were opened up, rose plates removed, thoroughly cleaned out, examined and found in good condition together with their fastenings. Beyond the usual refit, grinding-in and repacking, no repairs were found necessary.

~~CYLINDERS, COVERS, PISTONS & SLIDE VALVES WITH THEIR RODS & SPRINGS~~ Turbines Centre Turbine H.P. Cover and Rotor lifted and cleaned, blading and bearings were found in good condition; the dummy piston showed considerable wear.

Repairs: New dummy piston fitted and 24 bolts renewed, every second bolt being fitted, all holes reamerred out. 6 cover bolts renewed. Wear down taken on rotor bearings were forward 10/1000, aft 4/1000. Thrust rings adjusted and blade clearances taken. All lubricating appliances were tested, oil clearances being 6/1000, and found satisfactory, this unit being in good condition. Inside of rotor cleaned and painted out with Apexior paint.

STARBOARD L. P. TURBINE: The cover and rotor were lifted, all thoroughly cleaned.

Blading, bearings, etc. were examined and found in good condition with exception of 4 defective gland rings.

Repairs: 2 Gland rings were renewed at each end 2 gland steam valves and 3 cover bolts were renewed. Wear down on rotor shaft being forward 22/1000, aft 19/1000. Oil clearance 8/1000. Blade clearance tested and all lubricating gear satisfactory.

The balance strip being forced off by rust, this with its bolts were carefully weighed and a new one fitted, bolts being renewed. The inside of the rotor was cleaned and

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painted with Apexior paint. This unit is now in good condition.

TUNNEL SHAFTING & BEARINGS: Starboard and Centre - all top half bearings were removed, shafting thoroughly cleaned and found in good condition.

CONDENSERS (MAIN P. & S.): Opened up and cleaned. Examined, tested and now in good condition. 12 Soft iron corrosion plates renewed in each.

CONDENSER (AUXILIARY): Completely retubed and tested, division plate repaired. 10 collar studs renewed and 8 soft iron corrosion plates fitted. This part is now in good condition.

EVAPORATOR: Declared idle; never used on this vessel.

AUXILIARIES:

Main Circulating Pumps (2) (Matthew & Paul): Opened up and examined and found in good condition with the exception of 4 defective impeller flange studs starboard renewed. No repairs were found necessary.

Main Air Pumps (Weir's Dual): Starboard completely opened up and found in good condition with the exception of a number of Kinghorn valves and bucket rings worn. 21 Kinghorn valves fitted, 4 bucket rings renewed. P. & S. Augmentor stop valves faced up and seats renewed.

Main Feed Pumps (Weir's): Both opened up and examined and found in good condition with the exception of bucket valves which were renewed.

Feed Heater (Weir's): Opened up, cleaned, examined and found in good condition.

Feed Filter: Opened up, cleaned, examined and found in good condition.

Forced Draught Fan Sets (4) (Matthew & Paul): Opened up, examined and beyond the usual refit and a few cylinder cover studs renewed, no repairs were found necessary.

Electric Lighting Sets (2) (Bellis & Morcom): Starboard completely opened up and examined and beyond the usual adjustments, crank and crosshead pins tured up, no repairs were found necessary. Port engine doors removed and external examination made. Both machines were run on full load on different occasions and found satisfactory.

Emergency Generator: (6 Cyl. Petrol Engine). Opened up and examined and found in good condition with the exception of a few piston ^{Rings} which were renewed; valves were ground in and new battery fitted. This unit was tested under its full load for 20 minutes, the trial being satisfactory.

The following Auxiliary Pumps and Gear were opened up, examined and beyond the usual small renewals and a general refit, they were all in good condition:- Wash Deck, General Service, Ballast, Bilge, Hot Salt, Water Service, Sanitary, 2 Lubricating Oil, Fresh Water, Auxiliary Feed (all by Lamont). Dirt Hoist (McLellan), Clayton Fire Engine. There has also been fitted at this survey a small Compressor Plant and Air Receiver by Ingersoll driven by a 5 H.P. motor. This plant is to be used for tube cleaning. Air Receiver built to N.Z. Government requirements and passed by the Marine Department. W.P. 100 lb. a ✓

VALVES, COCKS & ROSES OF PUMPING ARRANGEMENTS: All examined, some opened up and examined. Port stockehold bilge pipe was renewed, several joints were remade and cleaning done. These parts are now in good condition.

STEAM PIPES & VALVES: Examined throughout under full pressure after all joints were remade, nearly all the pipes were rejointed in the Boiler Room, new bolts and nuts being used. These parts are now in good condition.

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OIL FUEL PUMPS & FUEL PUMPING ARRANGEMENTS: 3 (Weir's) and 1 Hand Pump for lighting up purposes. All were opened up, cleaned and examined and beyond the usual refit, were in good condition.

STEAM STEERING ENGINES (2): The Brown Steam Tiller on the Main Rudder aft was opened up and examined, overhauled, control valve locking nut and spindle end renewed and master valve seat renewed. Tested in operation and found satisfactory. The Bow (McLachlan) examined by Mr. Blair (vide his Report No. 2101) tested in operation by me and adjustments made and worked satisfactorily.

Telemotor Aft - Link pins renewed, holes reamed out and rebushed. 4 new collars made. Hand wheel quadrant resecured on shaft.

Telemotor Admidships - Tapered pins (2) fitted in bevel pinions, 3 keys renewed steering-wheel and 2 horizontal pinion shafts. These parts are now in good condition and were tested in operation with the steering gear and found satisfactory.

STEAM WINDLASS: Opened up, examined and found found in good condition. Beyond the usual refit and renewal of cover studs, no repairs were found necessary. Tested in operation, anchors lowered and driven satisfactorily.

ELECTRIC INSTALLATION: The two Siemen's Main Dynamos and the Crompton's Emergency Dynamos were examined and tested and found in good condition wiring and general. The switch board was stripped and re-assembled. The whole of the Boiler Room and main leads thereto were stripped down and renewed. Points renewed as required. Insulation megged as required. All these parts are now in good condition.

ENGINE ROOM TELEGRAPHS: Examined through, wires shortened as required and union screws adjusted. Tested from Bridge to Engine Room and vice versa and found to register correctly.

GENERAL: On completion of overhaul, the trials of Main Engines and Auxiliaries were carried out in the Harbour from dock to wharves. Engines manoeuvred, all tests being satisfactory.

George D. Lidgett

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A Spare Tailshaft (New) was placed on board - marked on coupling end as follows:-

Lloyd's	B & T
6346	T. McL
H.V.C.	6-8-36
6-8-36	268

Marks and sizes verified.

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