

Rpt. 9

Date of writing report 10-7-57  
Survey held at DURBAN

Received London 17 AUG 1957  
No. of visits 23

Port DURBAN No. 7564  
First date 3rd June La. 5th July, 1957.

# REPORT OF PERIODICAL SURVEYS & REPAIRS OF MACHINERY

No. in R.B. 67488 Name "LARGS BAY" Gross tons 14362 Date of build 1921 - 12  
Owners Aberdeen & Commonwealth Line Ltd. Managers Shaw Savill & Albion Co. Ltd. Port of Registry London  
Engines made 1921 By W. Beardmore & Co. Ltd. Type 4 stm. turbines DR geared

No. of Main Engines 1 No. of Screws 1  
No. of Main Boilers 1 SB W.P. 220 (Spt.)  
No. of Aux./Donkey Boilers 1 SB 220 lbs.  
3 DB W.P. 220 Lbs.  
Surveyed Afloat or in Dry Dock Afloat  
Nature of Survey Machy. Defects & Damage  
Was Damage Report issued? Yes Int. Cert.? Yes  
Last Report (For Head Office only) 1019 KRE

Records of Survey & Special Notations as per Register Book

Hull	Machinery
+100 Al Shelter Deck With freeboard 1,57	+LMC CS 1,54 Blr.S. 8,56 TS CL p 2,53 s 7,56 sps 8,56
ss (Dr) 2,49	Ref. Machy.
ss Nwc. 8,53	

The condition of any of the following items is to be described as "good" only when the part has been examined, found or placed in good condition, and is considered to be acceptable until the due date of the next Periodical Examination. Where it is considered that re-examination or repairs should be effected before the due date of the next Periodical Examination a distinguishing mark thus † should be inserted against the item and the circumstances and action recommended described fully under "defects and repairs". At part or complete Special Surveys those items which are not applicable to the ship should be cancelled with a black line; this need not be done when the machinery is on a continuous survey basis. When any part has been subjected to pressure test this should be stated. Engine parts when referred to by numbers should be counted from forward.

DOCKING Propellers Wear Down of Stern Bushes Oil Glands Sea Connections  
Fastenings Has Screwshaft/Tubeshaft been drawn? Date of Examination Has Shaft been changed?  
Has Shaft now fitted been previously used? Has Shaft now examined/fitted a continuous liner? Approved oil gland?

MAIN ENGINES (Recip. Steam or I.C.) PORT STARBOARD

1 Cyls., Covers, Pistons & Rods  
2 Valves & Gears  
3 Connecting Rods, Top Ends & Guides { Side  
Centre  
4 Crankpins & Bearings { Side  
Centre  
5 Journals & Bearings

MAIN ENGINE DRIVEN AIR COMPRESSORS  
6 Cyls., Covers, Pistons & Rods  
7 Connecting Rods & Top Ends  
8 Crankpins & Bearings  
9 Journals & Bearings  
10 Coolers & Safety Devices

MAIN ENGINE DRIVEN SCAVENGE PUMPS  
11 Cyls., Covers, Pistons & Rods  
12 Connecting Rods & Top Ends  
13 Crankpins & Bearings  
14 Journals & Bearings  
15 Levers

SCAVENGE BLOWERS  
16 SUPERCHARGERS  
MAIN TURBINES  
17 Casings, Rotors, Blading, Bearings & Thrusts

EXHAUST STEAM TURBINES (WITH RECIP. ENGINES)  
18 STEAM COMPRESSORS  
19 CLUTCHES & HYDRAULIC COUPLINGS  
20 REDUCTION GEARING  
21 THRUST BLOCKS, SHAFTS & BEARINGS  
22 INTERMEDIATE SHAFTS & BEARINGS  
23 HOLDING DOWN BOLTS & CHOCKS

CONDENSERS (MAIN & AUX.)  
24 STEAM RE-HEATERS  
25 DE-SUPERHEATERS  
26 STOP & MANOEUVRING VALVES  
27 MAIN ENGINE DRIVEN PUMPS  
28 CRANKCASE DOORS & EXPLOSION RELIEF DEVICES

Have Main Engines been tested working and manoeuvring?  
**OPINION OF MACHINERY AND RECOMMENDATIONS.** The machinery of this ship is in safe working order and eligible in my opinion to remain as classed, subject to the temporary repairs now effected to auxiliary circulating pump impeller casing, and the steam separator casting in auxiliary steam line serving generators, being considered efficient only for the voyage to U.K. via Dakar.

Decision of Committee  
Decision Defered for Part 15  
FRIDAY 23 AUG 1957

Noted for Header

P. H. B. © 2020  
Engineer Surveyor to Lloyd's Register of Shipping

Lloyd's Register Foundation

003385-003390-0182/6

If certificate is required state where to be sent.

Essential Independent position)

Aux. Circ. pump.

Bilge, Ballast & Oil Fuel Lines, Fittings & Controls.

Have the remaining Piping Arrangements & Fittings in the machinery space been examined as considered necessary?

Fresh Water Coolers Lub. Oil Coolers Heaters (state service)

Independent Air Compressors, Coolers & Safety Devices

Air Receivers & Safety Devices—Main Auxiliary

Oil Fuel Tanks (Not forming part of hull structure)

Evaporators Have Evaporator Safety Valves been tested under steam?

Steering Machinery Windlass Fire Extinguishing Arrangements

AUXILIARY ENGINES (Identify by position) All (3) Port, Centre & Starboard.

ELECTRICAL EQUIPMENT

Table with columns: PROPULSION, PORT, STARBOARD, AUXILIARY EQUIPMENT. Lists items like Generators, Exciters, Air Coolers, Motors, etc.

BOILERS OPENED UP & EXAMINED (Identify by position and state latest date of internal examination of each boiler)

MAIN AUXILIARY, DONKEY or PRESS

Superheaters Safety Valves Mountings, Doors & Fastenings Safet Valves Adjusted to Sat. Spt. Boil. Securing Arrangements Main Economisers Exhaust Gas Heated Economisers Steam Heated Steam Generators Steam Generator Safety Valves Adjusted to Were Oil Burning System & Remote Controls examined working in accordance with Rules? Forced Circulating Pumps Have Saturated Steam Pipes in cylindrical boiler smoke boxes been examined as required by Rules? Funnel

EXAMINATION & TESTING OF STEAM PIPES (State material)

Main Auxiliary (over 3 in. bore) Were Copper Pipes annealed? Have Saturated Pipes in cylindrical boiler smoke boxes been tested?

PARTICULARS OF DEFECTS & REPAIRS, ETC. (Damage repairs should be detailed separate from wear and tear repairs: state what action has been taken regarding items which are subjects of class)

PARTICULARS OF DEFECTS AND REPAIRS.

NOTE. Owners' Superintendent attended from U.K., and stated that, inspite of the fact that the ship was to be broken up on arrival in the U.K. a complete overhaul of the auxiliary engines and the auxiliary circulating pump was to be carried out.

Table with columns: FOUND, RECOMMENDED. Content: PORT GENERATOR ENGINE. Crankshaft. Journals, crankpins and eccentric sheaves. Rough surfaces caused by corrosive action. Eccentric sheaves out of round. The crankshaft to be removed and journals, crankpins and eccentric sheaves ground. Grinding saved time as against lapping and polishing by hand.

(SEE FOLLOWER)

Table with columns: Description, Amount. Survey fees £25.0.0. Spec. Attend. Fees £12.0.0. £35.0.0. Damage fee Expenses £2.18.6. £2.10.0. Date when A/c rendered 10/7/57.

LEAVE THIS SPACE BLANK

Rpt. 9a.

Port of DURBAN

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Continuation of Report No. 7564 dated 10-7-57. on the

"LARGS BAY".

FOUND

RECOMMENDED

Main and bottom end bearings worn. To be remetaled. Eccentric straps to be renewed to suit new diameter of sheaves. Crosshead pins badly worn together with their brasses. Pins and brasses to be renewed. L.P. trunk guide smashed beyond repair. To be renewed. Spare trunk guide casting supplied by ship. Pistons and piston rods and packing for same. HP piston to be fitted with two (2) rams bottom rings. HP piston solid, 1/32" slack. LP piston rings to be renewed. LP piston rings worn. Piston rods rough. Piston rods to be machined, wiper or scraper packing (metallic) to be renewed. Soft packing in steam glands. Valve rods rough. To be machined. Soft packing in glands. Governor. Four (4) springs broken. Four (4) springs to be renewed. The attached lubricating oil pump, driven by eccentric sheave, badly worn. The pump plunger to be renewed, and the bushing to be bored out to suit.

After completion of repairs and reassembly, engine was carefully run in, only minor adjustments being necessary. Finally, the generator was run on load and found satisfactory. Governor was tested.

During the trials considerable vibration was noted on plating of generator flat, and examination revealed that rivets in engine seating and in beams below flat, were somewhat slack. To stiffen the generator flat, the toes of the beams were welded to the flat plating below engine seating, and this resulted in considerably damping the vibration.

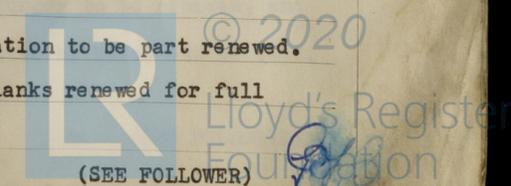
FOUND

RECOMMENDED

CENTRE GENERATOR ENGINE. The engine and generator bedplates laid on wood. Bedplate to be lifted for examination of foundations. Wood soft and sodden with oil and water. Wood foundation unfit for purpose intended, in way of bedplate landings. Wood foundation to be part renewed. Four (4) planks renewed for full length.

(SEE FOLLOWER)

0182 2/6



"LARGS BAY".FOUNDRECOMMENDED

Crankshaft. Journals, crankpins and eccentric sheave (one) badly roughened surfaces through corrosive action, and after journal not down on bearings.

Crankshaft to be removed, and journals, crankpins and sheave to be ground.

Main and bottom end bearings worn.

Main and bottom end bearings to be remetaled, and bedplate to be removed to shop for line boring main bearings, after bottom halves of main bearings had been bedded into bedplate bearing pockets.

The eccentric strap to be remetaled.

Crosshead pins badly worn. H.P. brasses worn and LP brasses broken.

Crosshead pins to be renewed together with their brasses.

L.P. guide slipper broken.

To be renewed. Spare piston rod and slipper supplied by ship.

L.P. connecting rod bent at fork end.

To be replaced by spare connecting rod supplied by ship.

NOTE. It is considered that the bend in forked end of connecting rod was the cause of the broken LP top end brasses, guide slipper and securing bolts.

The guide faces are part of the entablature casting, and the H.P. and L.P. guide faces were worn and ridged.

Entablature to be removed to the shop and the H.P. and L.P. guide faces to be machined.

Piston rods somewhat worn, and steam and wiper gland packing badly worn. (Metallic packing).

Piston rods to be machined, and all metallic packing to be replaced with soft packing, glands and stuffing boxes being adapted to suit.

H.P. valve rod slightly worn and L.P. valve rod badly worn.

H.P. valve rod to be machined and L.P. valve rod to be renewed.

L.P. piston rings worn.

To be renewed.

The attached lubricating oil pump, driven by eccentric sheave, badly worn.

The pump plunger to be renewed, and the bushing to be bored out to suit.

"LARGS BAY".

After completion of repairs and reassembly, the engine was carefully run in, and after several adjustments, the generator was run on load and found satisfactory.

Governor was tested.

FOUND

RECOMMENDED

STARBOARD GENERATOR ENGINE.

Crankshaft. Crankpins and eccentric sheave out of round.

Crankpins and eccentric sheave to be ground true.

Journals to be polished only.

Bottom end bearings and eccentric strap to be remetaled. Main bearings to be adjusted.

Crosshead pins worn and roughened on surface.

Crosshead pins to be renewed, together with their brasses.

Piston rods and packing. Both steam and wiper packing (metallic) badly worn.

Piston rods to be polished, and all metallic packing to be replaced with soft packing, glands and stuffing boxes being adapted to suit.

Valve rods roughened on surface.

Valve rods to be polished and packing renewed.

The L.P. piston rings worn.

To be renewed.

The attached lubricating oil pump driven by eccentric sheave, badly worn.

The pump plunger to be renewed, and the bushing to be bored out to suit.

After completion of repairs and reassembly, the engine was run in slowly, but shortly after starting to run, the lubricating oil pump plunger seized in the bushing, smashing the pump body beyond repair, breaking delivery pipe and bending the eccentric rod.

A new lubricating oil pump, plunger, bushing for same and pump body, made and fitted, together with new delivery pipe.

Eccentric rod faired and replaced.

After removal of the eccentric rod and the yoke piece which actuates valve rods, it was noted that the guide rod in centre of yoke piece was cracked at lower end. This yoke piece and guide rod are one forging, and complete renewal would have involved delay, it was therefore decided to make a new guide rod and screw same into yoke piece.

As in the case of the port generator, considerable vibration was noted during trials, and the toes of the beams below generator flat were welded to flat plating, which considerably dampened vibration.

Final trial under load proved satisfactory.



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(SEE FOLLOWER)

*Handwritten signature*

"LARGS BAY".

Governor tested.

NOTE. Owing to a misunderstanding between the ship and the shop, only the steam glands of the centre and starboard engines were adapted for, and fitted with, soft packing, and the metallic packing in wiper glands was renewed.

It should also be noted that, exceptionally high temperatures are experienced in the generator flat, which is situated at the after end of engine room, below the refrigerating machinery room.

It was reported that the temperature of the lubricating oil in the generator engines reached 173°F during the passage from Fremantle - Durban.

These conditions were discussed with the suppliers of lubricating oil in Durban (Wakefield), and it was decided to use a higher grade oil for the voyage to the United Kingdom.

AUXILIARY CIRCULATING PUMP.

After examination in place, with impeller casing cover removed, which revealed that the impeller shaft was severely worn and bearings for same, it was decided that the pump and its prime mover should be removed to the shop in its entirety.

FOUND, AFTER COMPLETE DISMANTLING.

Impeller shaft severely worn together with bearings for same.

The prime mover, single cylinder steam engine, in very unsatisfactory condition, all working parts being excessively slack and worn.

RECOMMENDED AFTER CONSULTATION WITH SUPERINTENDENT.

The impeller shaft and its bearings to be renewed.

The prime mover: Journals, crankpins and eccentric sheave to be ground true, and main bearings to be re-mated. Crankpin brasses and eccentric straps to be renewed.

Crosshead pin to be renewed together with its brasses.

Piston rod and valve spindle to machine, and glands and stuffing boxes to be bushed to suit.

Piston rings to be renewed, also piston valve.

The engine bedplate and impeller casing were mounted on a boring machine, and after aligning together, coupling bolt holes in bedplate and impeller casing were reamed and new bolts fitted.

The impeller shaft bearings and crankshaft main bearings were line bored.

Whilst above repairs were being carried out, it was noted that the material of the impeller casing was deteriorated through graphitisation, and was cracked in one small area adjacent to one of the studs which secure cover. This crack was repaired by the "METALOCK" process, and as an additional safe guard, the impeller casing was fitted with a substantial cement box after replacement onboard. The pump was finally examined under working conditions and found satisfactory.

(SEE FOLLOWER)

"LARGS BAY".

STEAM SEPARATOR IN STEAM LINE TO GENERATORS.

The steam separator was opened up for internal examination. It was noted that the flange of the steam receiver casting was cracked, and the crack ran into the body of receiver.

The receiver was removed to the shop, stripped of lagging, cleaned and examined, when it was found that the crack ran across the flange, through bolt holes for full width of flange and into body of receiver, the length of crack in receiver being approx 3 ins. It was stated that the ship was proceeding to the United Kingdom only, and would then go out of commission, it was therefore decided to carry out temporary repairs only, the crack being repaired by the metalock process.

On completion of temporary repairs the receiver was tested by hydraulic pressure to 350 lbs per sq. in. (working pressure stated to be 175 lbs. per sq. in.) and was found to be sound and tight.

REPAIR TO LONGITUDINAL STAY IN FORWARD CENTRE BOILER.

The forward centre boiler was opened up for cleaning, and it was reported that the lower centre longitudinal stay was broken, some 12 ins. from forward end plate.

This stay was repaired by renewing the short end of stay, connecting to existing stay by welding and sleeving joint, sleeve being fillet welded at each end.

P.Y.B.