

REPORT ON OIL ENGINE MACHINERY.

No. 94656

Received at London Office 2 FEB 1937

Date of writing Report 22.1.37 Port of NEWCASTLE-ON-TYNE
When handed in at Local Office 13 March 36 Last Survey 19/11/36
No. in Survey held at Newcastle on Tyne Date, First Survey 13 March 36 Number of Visits 77

Reg. Book. on the Single Twin Triple Quadruple Screw vessel **PORT JACKSON.** Tons Gross 9687 Net 5826
Built at Newcastle (Wallsend) By whom built Swan Hunter & Wigham Richardson Yard No. 1515 When built 1937.
Engines made at Glasgow By whom made Barclay Curle & Co Ltd Engine No. EW/108 When made "
Donkey Boilers made at Annan By whom made Cochran & Co Boiler No. When made "
Brake Horse Power 11,500. Owners Commonwealth & Dominion Line. Port belonging to LONDON
Nom. Horse Power as per Rule 2025. As Refrigerating Machinery fitted for cargo purposes Yes. Is Electric Light fitted Yes.
Trade for which vessel is intended UK to New Zealand & Australian Ports. 78 9/16 - 88 9/16

II. ENGINES, &c. Type of Engines Barclay-Curle - Dorriford opposed piston 2 or 4 stroke cycle 2. Single or double acting Single
Maximum pressure in cylinders 568 lbs Diameter of cylinders 725 1/2" Length of stroke 2250" No. of cylinders 8. No. of cranks 8.
Mean indicated pressure 87 lbs Span of bearings, adjacent to the Crank, measured from inner edge to inner edge See GLASGOW RPT. NO 57721
Revolutions per minute max 120 Flywheel dia. - Weight - Means of ignition Compressor Kind of fuel used Heavy oil.
Crank Shaft, dia. of journals as per Rule as fitted Crank pin dia. Crank Webs Mid. length breadth Mid. length thickness Thickness parallel to axis shrunk Thickness around eye-hole
Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted 15.07" Thrust Shaft, diameter at collars as per Rule as fitted 15.625"
Tube Shaft, diameter as per Rule as fitted 15.83" Is the shaft fitted with a continuous liner yes.
Bronze Liners, thickness in way of bushes as per Rule as fitted 25 1/32" Thickness between bushes as per rule as fitted 19/32" Is the after end of the liner made watertight in the propeller boss yes. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner C.L. in one length tight fit.
If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive
If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube
Propeller, dia. 16'-3" Pitch 16'-3" No. of blades 4 Material Mang. Brz whether Moveable Yes Total Developed Surface 88 sq. feet
Method of reversing Engines Comp. Air Direct Is a governor or other arrangement fitted to prevent racing of the engine when decelerated yes Means of lubrication forced
Thickness of cylinder liners Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine DISTILLED WATER USED.
Cooling Water Pumps, No. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel

What special arrangements are made for dealing with cooling water if discharged into bilges
Bilge Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line No. and Size Two: one Bilge Pump 150 tons/hr & one Ballast Pump 12" 650 tons/hr both Electric motor driven.
Ballast Pumps, No. and size one 12" Elec driven 650 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two (1-9 1/2" two throw; 1-100 ton/hr screw displacement)
Are two independent means arranged for circulating water through the Oil Cooler yes. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size:—In Machinery Spaces four of 3" In Pump Room
In Holds, &c. No 1 Hold, 2 of 3 1/2"; No 2 Hold, 2 of 3 1/2"; No 3 Hold, 2 of 3 1/2"; No 4 Hold, 4 of 2 1/2"; No 5 Hold, 3 of 2 1/2"; Tunnel well, 1 of 3"
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two (1 port & 1 starboard) of 6".
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes. Are the Bilge Suctions in the Machinery Spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes.
Are all Sea Connections fitted direct on the skin of the ship yes. Are they fitted with Valves or Cocks both.
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes. Are the Overboard Discharges above or below the deep water line below.
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes. Are the Blow Off Cocks fitted with a spigot and brass covering plate yes.
What pipes pass through the bunkers none. How are they protected
What pipes pass through the deep tanks none. Have they been tested as per Rule
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes.

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another yes. Is the Shaft Tunnel watertight yes. Is it fitted with a watertight door yes. worked from 2nd deck.
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
Main Air Compressors, No. none on Main Engines. No. of stages Diameters Stroke Driven by
Auxiliary Air Compressors, No. Two (Weirs) No. of stages 3. Diameters Stroke Driven by Elec. Motors.
Small Auxiliary Air Compressors, No. One (Weir) No. of stages 2. Diameters Stroke Driven by Steam Engine.
Scavenging Air Pumps, No. 2. (See Glasgow Report No 57721.) Stroke THREE 375KW. ALLEN'S ENGS NO K1/56979/2. Driven by Man Eng. Co. Shaft
Auxiliary Engines crank shafts, diameter as per Rule as fitted See London Rpt 103481. Position 2 on Port & 1 on Starboard in Eng. Room.

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule. yes.
Can the internal surfaces of the receivers be examined and cleaned yes. Is a drain fitted at the lowest part of each receiver yes.
High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual
Starting Air Receivers, No. THREE. Total cubic capacity 810 cub. ft. Internal diameter 5'-0" thickness 19/32"
Seamless, lap welded or riveted longitudinal joint Material M. Steel Range of tensile strength 30 to 34 tons. Working pressure by Rules Actual 602 lbs/sq. in. 600 lbs/sq. in.

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IS A DONKEY BOILER FITTED? *Yes. Two Boilers.* If so, is a report now forwarded? *Yes. Glasgow Rpts Nos. 57077 & 57078.*
 Are the donkey boiler intended to be used for domestic purposes only? *No.* *One Waste Oil Gas Boiler in E.P. Casings at Upper Deck Level. one oil fired Vert. Boiler on P. side in Eng. Room.*

PLANS. Are approved plans forwarded herewith for Shafting *2/4/36* Receivers *17/3/36* Separate Tanks *15/6/36*
 Donkey Boilers General Pumping Arrangements *Pumping Arrgt in Machinery Space 20/5/36 Oil Fuel Burning Arrangements 2/6/36.*

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *Yes.*
 State the principal additional spare gear supplied *4 Propeller Blades (2 R. & 2 L.), 7 Studs & nuts for Blades 1 propeller shaft complete.*

The foregoing is a correct description, *G. J. Tweedy* DIRECTOR, Manufacturer.

1936
 Dates of Survey while building: During progress of work in shops -- *Mar. 13, Apr. 24, May 12, 15, 22, 29, June 2, 3, 9, 11, 12, 15, 18, July 2, 10, 13, 14, 17, 21, 24, 30, Aug 6, 14, 19, 21, 24, 28, 31, 1937*
 During erection on board vessel -- *Sep. 1, 2, 3, 4, 14, 23, Oct. 6, 12, 15, 16, 19, 20, 23, 26, 27, 28, 30, Nov. 2, 9, 11, 12, 16, 19, 20, 23, 26, 27, Dec. 2, 3, 4, 8, 9, 10, 11, 14, 16, 17, 18, 21, 24, 28, 31, 1937*
 Total No. of visits *77.*

Dates of Examination of principal parts—Cylinders *See Glasgow Rpt 57721.* Covers Pistons Rods Connecting rods
 Crank shaft Flywheel shaft Thrust shaft Intermediate shafts *23/9/36 to 28/10/36* Tube shaft
 Screw shaft *28/8/36* Propeller *19/11/36* Stern tube *16" + 23" Oct 1936* Engine sealings *11/12/36* Engines holding down bolts *11/12/36*
 Completion of fitting sea connections *19/11/36* Completion of pumping arrangements *12/1/37.* Engines tried under working conditions *mooring trial 11/1/37 at sea 19/1/37 & 20/1/37*

Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark
 Thrust shaft, Material Identification Mark Intermediate shafts, Material *M. Steel* Identification Marks *See list below*
 Tube shaft, Material Identification Mark Screw shaft, Material *M. Steel* Identification Mark

Is the flash point of the oil to be used over 150° F. *Yes*
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with
 Is this machinery duplicate of a previous case *No* If so, state name of vessel

FROM AFT END	PORT	STARBOARD
	12312 MB	866 HB
	865 HB	867 HB
	12290 MB	12379 MB
	12314 MB	11132 J.L.
	12313 MB	884 HB
	12329 MB	910 H.B.
	868 HB	931 H.B.
	12380 MB	12381 M.B
	933 HB	932 HB.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery has been installed under special survey in accordance with the Rules, and the materials and workmanship are good.
The machinery has been satisfactorily tested under full working conditions and is, in my opinion for the records Oil Eng. + L.M.C. 1.37. T.S. 2.D.B. 100

The amount of Entry Fee .. £ *See Colos. Rpt* When applied for, *27 JAN 1937*
 Special *1/5 install* £ *30* : *2/6*
 3 Starting Air Receivers .. £ *9* : *9-0* When received, *20.2 37 22/2*
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : : *20.2 37 22/2*

A Watt.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 12 FEB 1937*

Assigned *+ L.M.C. 1.37 2 D.B. -100 HB oil Eng. Ch*

Newcastle-on-Tyne

