

REPORT ON OIL ENGINE MACHINERY.

No. 34863

22 MAR 1948

Received at London Office

Date of writing Report 19 When handed in at Local Office 18th March 1948 Port of Sunderland

No. in Survey held at SUNDERLAND Date, First Survey 16th September 1947 Last Survey 9th March 1948
Reg. Book. Number of Visits 29

Single on the Twin Screw vessel M/V "FERNLAND" Tons Gross 5564 Net 3140

Built at SUNDERLAND By whom built BARTRAM & SONS LTD. Yard No. 325 When built 1948

Engines made at GREENOCK By whom made JOHN G. KINCAID & CO. LD. Engine No. K193 When made 1948

Donkey Boilers made at ANNAN By whom made COCHRAN & ANNAN LTD. Boiler No. 17185 When made 1948

Brake Horse Power 4550 Owners FEARLEY & EGER Port belonging to OSLO

Nom. Horse Power as per Rule 892 = MN. Is Refrigerating Machinery fitted for cargo purposes NO. Is Electric Light fitted YES.

Trade for which vessel is intended OPEN SEA.

OIL ENGINES, &c. —Type of Engines HEAVY OIL B&W TYPE SUPERCHARGED 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders SEE ALSO GREENOCK REPORT NO 23562. Diameter of cylinders Length of stroke No. of cylinders No. of cranks

Mean Indicated Pressure Span of bearings, adjacent to the crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute Flywheel dia. Weight Means of ignition Kind of fuel used

Crank Shaft Solid forged dia. of journals as per Rule Crank pin dia. Crank webs Mid. length breadth Thickness parallel to axis
Semi built as fitted Crank webs Mid. length thickness shrunk Thickness around eye-hole
All built

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted
as fitted as fitted as per Rule

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube screw shaft fitted with a continuous liner
as fitted as fitted as fitted

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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

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 tube shaft NO. If so, state type Length of bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether moveable Total developed surface sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication Thickness of cylinder liners Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with non-conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Cooling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and size ONE - BALLAST PUMP 170^{T/H} ONE - BILGE PUMP 100^{T/H}
How driven ELECTRIC ELECTRIC

Is the cooling water led to the bilges NO. If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size ONE - 170^{T/H} Power Driven Lubricating Oil Pumps, including spare pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces 4 - 3" DIA. 6 - 2 1/2" DIA. (COFFERDAMS) TUNNEL WELL 1 - 2 1/2" In pump room

In holds, &c. NO 1 - HOLD 2 - 3" DIA. NO 2 HOLD 2 - 3 1/2" DIA. PIPE TUNNEL 1 - 2" DIA. NO 3 HOLD 2 - 3" DIA. NO 4 HOLD 1 - 3" DIA. DEEP TANK 2 - 3" DIA.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size TWO - 5" DIA.

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes YES. Are the bilge suction pipes 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 ABOVE OR 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 How are they protected
What pipes pass through the deep tanks 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 TOP E.R. PLATFORM.

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. No. of stages diameters stroke driven by
Auxiliary Air Compressors, No. No. of stages diameters stroke driven by
Small Auxiliary Air Compressors, No. ONE. No. of stages 2. diameters 3/4" stroke 3/4" driven by SMALL DIESEL ENGINE.

What provision is made for first charging the air receivers CLUTCH COUPLER TO EMERGENCY DYNAMO DIESEL ENGINE.

Scavenging Air Pumps, No. diameter stroke driven by
Auxiliary Engines crank shafts, diameter as per Rule AS APPROVED. No. 3. Position ON PORT SIDE OF ENGINE ROOM.
as fitted 5 3/4" DIA.

Have the auxiliary engines been constructed under special survey YES. Is a report sent herewith MANCHESTER REP. NO. 13149. 13158. 13165.

[Handwritten signature]

End 8/1/48

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Lloyd's Register Foundation

AIR RECEIVERS:—Have they been made under survey..... State No. of report or certificate.....
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule.....
 Can the internal surfaces of the receivers be examined and cleaned..... Is a drain fitted at the lowest part of each receiver.....
Injection Air Receivers, No...... Cubic capacity of each..... Internal diameter..... thickness.....
 Seamless, lap welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....
Starting Air Receivers, No...... Total cubic capacity..... Internal diameter..... thickness.....
 Seamless, lap welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....

IS A DONKEY BOILER FITTED..... **YES**..... If so, is a report now forwarded..... **YES**..... **GLASGOW REP. NO. 72083**.
 Is the donkey boiler intended to be used for domestic purposes only..... **NO**.....
PLANS. Are approved plans forwarded herewith for shafting..... Receivers..... Separate fuel tanks.....
 (If not, state date of approval)
 Donkey boilers..... General pumping arrangements..... **19. 11. 46**..... Pumping arrangements in machinery space..... **12. 11. 47**.
 Oil fuel buring arrangements.....

SPARE GEAR.

Has the spare gear required by the Rules been supplied.....
 State the principal additional spare gear supplied.....
GENERATOR NO. 1 - NO 21221. BALLAST PUMP NO. E2/62802. FOR LUB. OIL PUMP NO 203152.
 " NO 2 - NO 21222. BILGE " NO E2/62798. AFT " " " NO 203151.
 " NO 3 - NO 21223. FOR CARGO " NO E2/62806. FOR FEED PUMP. NO 10517.
COMPRESSOR. NO. 38256. AFT " " NO E2/62806. AFT " " NO 10516.
COCHRAN BLR. NO. 17185. CARBON OIL PUMP. NO 203532.

The foregoing is a correct description,.....
 Manufacturer.....

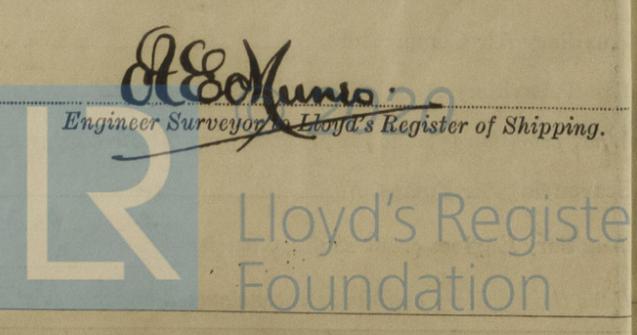
Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - } 1947 Sep 16, 24, 27 Oct 7, 15, 16, 20, 22, 24 Nov 3, 6, 10, 18, 28 Dec 4, 15, 18, 23, 31
 1948 Jan 6, 9, 21 Feb 5, 9, 12, 13, 16, 26 Mar 9
 Total No. of visits..... 29

Dates of examination of principal parts—Cylinders..... Covers..... Pistons..... Rods..... Connecting rods.....
 Crank shaft..... Flywheel shaft..... Thrust shaft..... Intermediate shafts..... Tube shaft.....
 Screw shaft..... Propeller..... 27. 9. 47. Stern tube..... 24. 9. 47. Engine seatings..... 24. 9. 47. Engine holding down bolts..... 26. 11. 47.
 Completion of fitting sea connections..... 27. 9. 47. Completion of pumping arrangements..... 9. 3. 48. Engines tried under working conditions..... 9. 3. 48.
 Crank shaft, material..... Identification mark..... Flywheel shaft, material..... Identification mark.....
 Thrust shaft, material..... Identification mark..... Intermediate shafts, material..... Identification marks.....
 Tube shaft, material..... Identification mark..... Screw shaft, material..... Identification mark.....
 Identification marks on air receivers.....

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**.....
 Description of fire extinguishing apparatus fitted..... **11 - 2 GALL CHEMICAL FIRE EXTINGUISHERS. STEAM SMOTHERING CONTROLLED FROM DECK**.
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo..... **(VEGETABLE OIL)** 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.....

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The main engines and auxiliaries have been efficiently fitted in place on board this vessel examined under working conditions during dock trials, also under full power conditions during sea trials with satisfactory results. Manoeuvring trials carried out with satisfactory results. Notice plate fitted to control station stating engine not to be run continuously between 35 and 45 R.P.M.
 The machinery is eligible in my opinion to have the notation **LMC 3.48 (OIL ENG) T3. CL. DBS 3.48 WP 105 LBS/D.**

The amount of Entry Fee ... } £ 54. 15. :
 1/3rd of £164. 4. 0 FITTING OUT }
 special ... } : : :
 Donkey Boiler Fee... } £ : : :
 Travelling Expenses (if any) } £ : : :
 When applied for..... 19.....
 When received..... 19.....
 Committee's Minute..... **23 APR 1948**
 Assigned..... **+ LMC 3.48 Oil Eng. C.L. D.B. 105lb**



Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.