

REPORT ON OIL ENGINE MACHINERY.

No. 25343

19/4/55 To

13/5/1955

Received at London Office

18 MAY 1955

13 JUL 1955

Date of writing Report

When handed in at Local Office

13/5/1955 Port of

GREENOCK

No. in
Reg. Book.

Survey held at

GREENOCK

Date, First Survey

20/8/54

Last Survey

6th MAY

1955

Number of Visits

73

91424 on the ^{Single} ~~Triple~~ ~~Quadruple~~

Screw vessel

"AYIA MARKELLA"

Tons

Gross

Net

Built at SUNDERLAND

By whom built BARTRAM & SONS LTD.

Yard No. 348

When built 1955

Engines made at GREENOCK

By whom made JOHN G. KINCAID & CO. LTD.

Engine No. K164

When made 1955

Donkey Boilers made at GREENOCK

By whom made JOHN G. KINCAID & CO. LTD.

Boiler No. K164

When made 1955

Brake Horse Power Maximum 4400

Owners C.M.L. MARITIME CO. LTD.

Port belonging to CHIOS

M.N. as per Rule 880

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted YES

Trade for which vessel is intended OPEN SEA SERVICE.

OIL ENGINES, &c. — Type of Engines KINCAID - BURMEISTER & WAIN 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 700 lbs/sq. in. Diameter of cylinders 610mm Length of stroke 470mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 6.3 kg/cm² Span of bearings (i.e., distance between inner edges of bearings in

way of a crank) 1194mm Is there a bearing between each crank YES Revolutions per minute Maximum 115 Service

Flywheel dia. 8.17 ft. Weight 2.35 tons Moment of inertia of flywheel (lb. in.²) 2218.2 Means of ignition COMP. Kind of fuel used HEAVY OIL." " " balance wts. (kg. m²) 1629

Crank Shaft, Solid forged dia. of journals as per Rule APPROVED Crank pin dia. 560mm Crank webs Mid. length breadth 1020mm Effective Thickness parallel to axis 150mm

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

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

Bronze Liners, thickness in way of bushes as per Rule APPROVED Thickness between bushes as per Rule APPROVED 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 YES If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland fitted at the after

end of stern tube NO If so, state type Length of bearing in Stern Bush next to and supporting propeller 6'-0"

Propeller, dia. 16.50' Pitch 13.48' No. of blades 4 Material BRONZE whether moveable SOLID Total developed surface 101.6 sq. feet

Moment of inertia of propeller including entrained water (lb. in.²) 13460 Kind of damper, if fitted YES

Method of reversing Engines DIRECT Is a governor other arrangement fitted to prevent racing of the engine YES Means of

lubrication FORCEO Thickness of cylinder liners 45mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

lagged with non-conducting material YES 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. and how driven 2 F.W. & 2 S.W. Working F.W. (1) H.E. DRIVEN

S.W. (1) H.E. DRIVEN Spare F.W. (1) STEAM S.W. (1) STEAM 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. and capacity NONE Can one be overhauled while the other is at work YES

Pumps connected to the Main Bilge Line No. and capacity of each 1X BILGE PUMP 100 TONS/H.R. 1X BALLAST PUMP 250 TONS/H.R.

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 capacity 1X 250 TONS/H.R. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1X H.E. DRIVEN 254 TONS/H.R. 1X STEAM 255 TONS/H.R.

Are two independent means arranged for circulating water through the Oil Cooler YES Branch Bilge Suctions 3"

No. and size: — In machinery spaces 3X 3", FORB. C/DAM 1X 2 1/2", Aft C/DAM 1X 2 1/2". OILY BILGES 2" P.X.S. FORO. In pump room 2 1/2" TUNNEL WELL.

In holds, &c. NO 1-3" P.X.S., NO 2 HOLD-3 1/2" P.X.S., NO 3-4" P.X.S., NO 4-3" P.X.S., NO 5-3" P.X.S.

Direct Bilge Suctions to the engine room bilges, No. and size 1X 9", 1X 5 1/2", 1X 3"

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes YES Are the bilge suction 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 ON RESERVOIRS OR Are they fitted with valves or cocks YES 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 YES

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 YES How are they protected YES

What pipes pass through the deep tanks YES Have they been tested as per Rule YES

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 YES

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES

Main Air Compressors, No. NONE No. of stages YES diameters YES stroke YES driven by YES

Auxiliary Air Compressors, No. TWO No. of stages 2 diameters 9" & 4" stroke 6" driven by STEAM ENGINES

Small Auxiliary Air Compressors, No. YES No. of stages YES diameters YES stroke YES driven by YES

What provision is made for first charging the air receivers STEAM DRIVEN AIR COMPRESSORS.

Scavenging Air Blowers, No. 2 How driven CHAIN DRIVEN FROM ENGINE.

Auxiliary Engines Have they been made under survey YES Engine Nos. YES Position of each in engine room YES Report No. YES

AIR RECEIVERS:—Have they been made under survey. **YES** State No. of report or certificate **CERT. NO. 4912 & 49**
State full details of safety devices. **FUSIBLE PLUGS ON AIR RECEIVERS AND RELIEF VALVE ON CHARGING LINE.**
Can the internal surfaces of the receivers be examined and cleaned. **YES** Is a drain fitted at the lowest part of each receiver. **YES**
Injection Air Receivers, No. **✓** Cubic capacity of each. **✓** Internal diameter. **✓** thickness. **✓**
Seamless, welded or riveted longitudinal joint. **✓** Material. **✓** Range of tensile strength. **✓** Working pressure. **✓**
Starting Air Receivers, No. **2** Total cubic capacity. **600 ft³** Internal diameter. **5'-10 1/4"** thickness. **15 1/16"**
Seamless, welded or riveted longitudinal joint. **RIVETED** Material. **STEEL** Range of tensile strength. **29/33 TONS/IN²** Working pressure. **350 lbs/IN²**

DONKEY BOILERS FITTED **YES** If so, is a report now forwarded. **YES**
Is the donkey boiler intended to be used for domestic purposes only. **No**

PLANS. Are approved plans forwarded herewith for shafting. **YES** Receivers. **YES** Separate fuel tanks. **YES**
Donkey boilers. **YES** General pumping arrangements. **YES** Pumping arrangements in machinery space. **YES**
Oil fuel burning arrangements. **YES**
Have Torsional Vibration characteristics been approved. **YES** Date and particulars of approval. **19/7/54. APPROVED FOR SERVICE SPEED OF 115 R.P.M.**

SPARE GEAR.
Has the spare gear required by the Rules been supplied. **YES** State if for "short voyages" only. **No**
State the principal additional spare gear supplied. **COMPLETE LIST OF SPARE GEAR ATTACHED TO REPORT.**

For **JOHN G. KINCAID & COY. LIMITED.**
The undersigned is a correct description of the vessel. **✓** Chief Draughtsman. **Manufacturer.**

Dates of Survey while building. During progress of work in shops. (1954) AUG. 20-30. SEPT. 8-15-24. OCT. 22-25-27-29. NOV. 1-3-5-15-17-19-22-24-26-29-30. DEC. 1-3-6-8-10-13-15-17-20-22-24-27-29. (1955) JAN. 7-10-12-14-17-19-21-24-26-27-28-31. FEB. 2-14-16-18-23-28. MAR. 2-4-7-9-11-14-16-21-23-25-28-30. APRIL 1-4-6-8-11-13-15-20-22-24-27-29. MAY 6.
During erection on board vessel. **45**
Total No. of visits. **45**

Dates of examination of principal parts—Cylinders. **12/10/54 to 12/4/55.** Covers. **✓** Pistons. **1/11/54 to 8/4/55.** Rods. **26/11/54 to 8/4/55.** Connecting rods. **26/11/54 to 8/4/55.**
Crank shaft. **8/4/55.** Flywheel shaft. **12/12/54 to 8/4/55.** Thrust shaft. **8/4/55.** Intermediate shafts. **17/1/55.** Tube shaft. **✓**
Screw shaft. **12/11/54 to 17/12/54.** Propeller. **17/12/54.** Stern tube. **29/11/54.** Engine seatings. **✓** Engine holding down bolts. **✓**

Completion of fitting sea connections. **✓** Completion of pumping arrangements. **✓** Engines tried under working conditions. **✓**
Crank shaft, material. **SEE SHIP REPORTS NO. F56290, F59555, F61083, F61310.** Identification mark. **L.R. HKT. 8/4/55.** Flywheel shaft, material. **AS THRUST.** Identification mark. **SEE DORTMUND CERTS.**
Thrust shaft, material. **SEE SHIP REPORTS NO. F56290, F59555, F61083, F61310.** Identification mark. **L.R. HKT. 8/4/55.** Intermediate shafts, material. **SEE DORTMUND CERTS.** Identification mark. **SEE DORTMUND CERTS.**
Tube shaft, material. **✓** Identification mark. **✓** Screw shaft, material. **SEE SHIP REPORTS NO. F56290, F59555, F61083, F61310.** Identification mark. **SEE DORTMUND CERTS.**

Identification marks on air receivers. **C. 4912. LLOYDS TEST-GAR. 550 lbs. W.P. 350 lbs. H.K.T. 31/12/54. C. 4913. LLOYDS TEST-GAR. 550 lbs. W.P. 350 lbs. H.K.T. 10/8/55.**
Welded receivers, state Makers' Name. **✓**
Is the flash point of the oil to be used over 150°F. **✓**

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with. **✓**
Full description of fire extinguishing apparatus fitted in machinery spaces. **CHEMICAL EXTINGUISHERS SUPPLIED. COMPLETE LIST OF FIRE EXTINGUISHING APPLIANCE ATTACHED TO REPORT.**
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. **✓** If so, have the requirements of the Rules been complied with. **✓**

What is the special notation desired. **✓**
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, Speed restrictions, &c.) **THE MACHINERY OF THIS VESSEL HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY IN ACCORDANCE WITH THE APPROVED PLANS AND THE RULES OF THIS SOCIETY. THE MATERIALS AND THE WORKMANSHIP ARE GOOD. THE MACHINERY IS SUITABLE FOR FITTING IN A CLASSED VESSEL AND ON EFFICIENT INSTALLATION AND TEST, WILL BE ELIGIBLE FOR THE RECORD OF LMC (WITH DATE AND NOTATIONS TS CL, 2 DB'S 150 lbs/IN², OIL ENGINE 25 CSA. ON COMPLETION OF THE SHOP TESTS, THE ENGINE FABRICATIONS WERE EXAMINED AND FOUND IN ORDER. CRANKCASE EXPLOSION DOORS ARE FITTED TO MAIN ENGINE. THE MACHINERY HAS BEEN DESPATCHED TO SUNDERLAND FOR INSTALLATION IN THE VESSEL.**

The amount of Entry Fee. **ENGINE £198-0-0. Special ... WELOWS £22-15-0.** When applied for. **12th MAY 1955.**
Donkey Boiler Fee. **£57-0-0.** When received. **19**
Air Receivers. **£16-0-0.**
Travelling Expenses (if any). **£**

Committee's Minute. **GLASGOW 17 MAY 1955.** TUESDAY 30 AUG 1955
Assigned. **Deferred for completion.** **H.K. Taylor.** Engineer Surveyor to Lloyd's Register of Shipping.
Lloyd's Register Foundation