

## REPORT ON OIL ENGINE MACHINERY.

No. 36482

13 JUL 1955

Received at London Office

Date of writing Report 19 When handed in at Local Office 9 - JUL 1955 Port of SUNDERLAND

No. in Survey held at SUNDERLAND Date, First Survey 6TH DECEMBER 1954 Last Survey 15TH JUNE 19 Reg. Book. Number of Visits 3

Single on the Twin Triple Quadruple Screw vessel "HYIA MARKELLA." Tons Gross 8451 Net 4957.6

Built at SUNDERLAND By whom built BARTRAM & SONS LTD. Yard No. 348 When built 1955, 5

Engines made at GREENOCK By whom made JOHN G. KINCAID & CO. LTD. Engine No. K264 When made 1955, 5

Donkey Boilers made at GREENOCK By whom made JOHN G. KINCAID & CO. LTD. Boiler No. K264 When made 1955, 5

Brake Horse Power { Maximum 4400 Service — 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 Diameter of cylinders Length of stroke No. of cylinders No. of cranks

Mean Indicated Pressure Span of bearings (i.e., distance between inner edges of bearings in way of a crank) Is there a bearing between each crank Revolutions per minute { Maximum Service

Flywheel dia. Weight Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) Means of ignition Kind of fuel used

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

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

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

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per Rule as fitted Is the after end of the liner made watertight in the propeller boss

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 fitted at the after end of stern tube

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

Moment of inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) Kind of damper, if fitted

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine 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. and how driven 2 F.W. & 2 S.W. Working F.W. 1 - MEDRIVEN

S.W. 1 - MEDRIVEN 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

Pumps connected to the Main Bilge Line No. and capacity of each 1 - BILGE PUMP. 100 TONS/HR. 1 - BALLAST PUMP. 250 TONS/HR. How driven STEAM STEAM

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 1 - 250 TONS/HR. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 - M.E. DRIVEN. 284 TONS/HR. 1 - STAND-BY. 255 TONS/HR.

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

No. and size: — In machinery spaces 3" - P & S FOR P; 3" STAR. AFT; 2" P & S OILY BILGES, FOR P; 2" OILY BILGE STAR AFT; BALL PP - DIRECT 9" PORT. BILGE PP - DIRECT 6" STAR.

In holds, &c. N°1 - 3" P & S; N°2 - 3 1/2" P & S; N°3 - 4" P & S; N°4 - 3" P & S; N°5 - 3" P & S; TUNNEL WELL - 2 1/2"

Direct Bilge Suctions to the engine room bilges, No. and size 1 - 9" PORT; 1 - 6" STAR; 1 - 3" PORT.

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 YES Are they fitted with valves or cocks VALVES OR COCKS 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 BOAT 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 No. of stages diameters stroke driven by

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

Small Auxiliary Air Compressors, No. NONE No. of stages diameters stroke driven by

What provision is made for first charging the air receivers DONKEY BAR STEAM TO AUX. COMPRESSORS

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

Auxiliary Engines Have they been made under survey YES Engine Nos. 27433 & 27434

Makers name E. READER & SONS LTD. Position of each in engine room BOTH, SIDE BY SIDE, ON

AUXILIARY FLAT STARBOARD SIDE OF E. ROOM. Report Nos 20221 & 2, NOTTINGHAM



AIR RECEIVERS:—Have they been made under survey. YES. State No. of report or certificate. CERT. NOS 4912 & 4913

State full details of safety devices. FUSIBLE PLUGS ON RECEIVERS. 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. NONE. 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 CU. FT. Internal diameter. 5' - 10 1/4" thickness. 15/16"

Seamless, welded or riveted longitudinal joint. RIVETED. Material. STEEL. Range of tensile strength. ENDS-26/30 Working pressure. 350 lbs/sq. in.

ARE DONKEY BOILERS FITTED YES. If so, is a report now forwarded. YES.

ARE the donkey boiler intended to be used for domestic purposes only. NO. (Aux. Steam; Tank Heating; Domestic Services.)

PLANS. Are approved plans forwarded herewith for shafting. YES. (If not, state date of approval) Receivers. GRK. CERTS. 4912/3. 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. 23-7-54. - SERVICE SPEED 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. SEE ATTACHED LIST.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops. 11954 DEC. 6, 8, 9, 11955 MAR. 3, APR. 14, 19, 27, MAY 17, 24, JUNE 8, 10, 13, 15.

During erection on board vessel. —

Total No. of visits. 13.

Dates of examination of principal parts—Cylinders. — Covers. — Pistons. — Rods. — Connecting rods. —

Crank shaft. — Flywheel shaft. — Thrust shaft. — Intermediate shafts. — Tube shaft. —

Screw shaft. FITTED 9-12-54. Propeller. FITTED 9-12-54. Stern tube. FITTED 6-12-54. Engine seatings. 6-12-54. Engine holding down bolts. 24-5-55.

Completion of fitting sea connections. 9-12-54. Completion of pumping arrangements. 8-6-55. Engines tried under working conditions. SEA-15-6-55.

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. ✓

Welded receivers, state Makers' Name. ✓

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.

Full description of fire extinguishing apparatus fitted in machinery spaces. SEE ATTACHED LIST OF FIRE APPLIANCES.

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. ✓

What is the special notation desired. NONE.

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with. NOT REQUIRED.

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 described

herein, has been efficiently installed on board the vessel under Special Survey, in accordance with the approved plans and the Rule Requirements. The material and workmanship are good. The donkey boilers have been examined under steam, safety valves adjusted and tested for accumulation. The machinery has been tried under full working conditions at sea and all found satisfactory. Explosion relief devices are fitted to the main engine crankcases; auxiliary engines are of small capacity and strong construction. The machinery is eligible, in our opinion, to be classed in the Register Book with record of + L.M.C. 6,55 and notations, C.L.; 2 D.B 150 lbs/sq. in.; Oil Eng. 2 S.C.S.A.

The amount of Entry Fee. INST. £114: 0.

Special ... .. £ : : When applied for. 12 JUL 1955

Donkey Boiler Fee... .. £ : : When received. 19

Travelling Expenses (if any) £ : :

(Committee's Minute) TUESDAY 30 AUG 1955

Assigned + L.M.C. 6.55.

2 D.B 150 lb.

C.L.

R. W. Skinner for & R. Wilson.  
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register  
Foundation