

# REPORT ON OIL ENGINE MACHINERY.

No. 19490.

Received at London Office

16 NOV 1951

Date of writing Report **2nd Nov. 1951** When handed in at Local Office **9th Nov. 1951** Port of **MIDDLESBROUGH**  
 No. in Survey held at **Reg. Book.** Date, First Survey **8th Feb. 1951** Last Survey **25th Oct. 1951**  
 Number of Visits **86**  
 Single on the Twin Triple Quadruple Screw vessel **m.v. "ATHEIFOAM".** Tons Gross **7486** Net **4145**  
 Built at **South Bank.** By whom built **Smith's Dock Co. Ltd.,** Yard No. **1212** When built **1951**  
 Engines made at **Newcastle on Tyne.** By whom made **R & W Hawthorn Leslie & Co. Ltd.,** Engine No. **4075** When made **1951**  
 Monkey Boilers made at **Wallsend on Tyne** whom made **The North Eastern Marine Eng. Co. (1938) Ltd.,** Boiler No. **3196** When made **1951**  
 Brake Horse Power **4450 (Max & Service)** Owners **Athel Line Ltd.,** Port belonging to **Liverpool.**  
 N. Power as per Rule **902.** Is Refrigerating Machinery fitted for cargo purposes **No.** Is Electric Light fitted **Yes.**  
 Made for which vessel is intended **Open Sea Service.**

**ENGINES, &c. —Type of Engines** 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders No. of cranks

Mean Indicated Pressure Ahead Firing Order in Cylinders 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 Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) Means of ignition Kind of fuel used

Crank pin dia. Crank webs Mid. length breadth Thickness parallel to axis  
 dia. of journals as per Rule as fitted Crank pin dia. Crank webs Mid. length thickness shrunk Thickness around eyehole

Propeller 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

Is the tube screw shaft fitted with a continuous liner

Is the after end of the liner made watertight in the

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 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 (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 when declutched Means of

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

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

Ge 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 1-10 1/2" x 14 1/2" x 24" Vert. Simplex. & 1-14" x 10" x 15" Vert. Duplex.

How driven Vertical Pumps Steam Driven & 1-Elec. Driven Rotary Pump 50 tons/hr. Cap.

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

Oil Pumps, No. and size 1-10 1/2" x 14 1/2" x 24" Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1- Rotary 45 tons/hr. Cap.

Are two independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both main bilge pumps and auxiliary

oil pumps, No. and size:—In machinery spaces 3-3 1/2" 2-2" Cargo Pump Recess, 1-4" Cofferdam In pump room Mid. 2-3" & 1-2 1/2" ejector

holds, &c. 1-4" Fore Peak 1-4" Aft Peak, 2-2" F.P. Flat 1-1 1/2" Chain Locker, 1-4" Cofferdam & 2-6" Deep Tank.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1-3 1/2" 1-4" & 1-6" Emergency.

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 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 None. Is it fitted with a watertight door worked from

Is 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. 2 No. of stages 3 diameters 8 1/2" 8 1/2" x 5 1/2" stroke 3" & 8" driven by steam.

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

Is provision made for first charging the air receivers steam driven.

Revolving Air Pumps, No. 2 diameter 1700 m/m stroke 548 m/m driven by Nos. 1 & 2 Engines.

Auxiliary Engines crank shafts, diameter as per Rule as fitted See London Report No. 121804. Position

Have the auxiliary engines been constructed under special survey Yes. Is a report sent herewith Yes.

003275 - 003281 0181



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. by Rules. Actual.

Seamless, welded or riveted longitudinal joint. Material. Range of tensile strength. Working pressure. Actual.

Starting Air Receivers, No. Total cubic capacity. Internal diameter. thickness. by Rules. Actual.

Seamless, welded or riveted longitudinal joint. Range of tensile strength. Working pressure. Actual.

IS A DONKEY BOILER FITTED Yes (2) 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. No. Receivers. No. Separate fuel tanks. No.

Donkey boilers. No. General pumping arrangements. Yes. Pumping arrangements in machinery space. Yes.

Oil fuel burning arrangements. Yes.

Have Torsional Vibration characteristics been approved. Yes. Date of approval. 4.1.50.

SPARE GEAR. Yes.

Has the spare gear required by the Rules been supplied.

State the principal additional spare gear supplied. Tail End Shaft & Propeller.

The foregoing is a correct description. FOR SMITH'S DOCK CO. LTD. Manufacturer.

ENGINE WORKS MANAGER

Dates of Survey while building. During progress of work in shops - (1951) Feb. 8, 14, 22, 23, 28, Mar. 12, 14, 16, Apr. 5, 10, 16, May 2, 3, 7, 8, 9, 11, 15, 16, 17, 18, 24, 30, June 12, 13, 18, 21, 22, 25, 27, 28, July 2, 3, 4, 6, 9, 10, 11, 12, 13, 23, 24, 26, 27, 30, 31, Aug. 1, 3, 7, 8, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 27, 29, 31, Sept. 4, 5, 7, 10, 12, 17, 18, 20, 27, 28, Oct. 1, 2, 3, 4, 9, 12, 15, 17, 23, 24, 25.

During erection on board vessel - - 25, 27, Oct. 1, 2, 3, 4, 9, 12, 15, 17, 23, 24, 25.

Total No. of visits. 86

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. 17, 21.5.51. Stern tube. 11.5.51. Engine seatings. 27.7.51. Engine holding down bolts. 27.7.51.

Completion of fitting sea connections. 21.5.51. Completion of pumping arrangements. 12.10.51. Engines tried under working conditions. 23.10.51.

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. SEE

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. Steam smothering & Fire Extinguishers. (See Print attached).

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. not desired.

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

Is this machinery duplicate of a previous case. If so, state name of vessel.

General Remarks (State quality of workmanship, opinions as to class, &c. These engines and boilers have been fitted

aboard this vessel in accordance with the approved plans and Rule Requirements and on completion

the machinery was tried under working conditions and found satisfactory.

In our opinion this vessel is now eligible for a record of LMC 10,51 and notation of T.S.(CL) 10.