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REPORT ON OIL ENGINE MACHINERY.

No. 19490.

16 NOV 1951

Received at London Office

Date of writing Report **2nd Nov. 1951** When handed in at Local Office **9th Nov. 1951** Port of **MIDDLESBROUGH.**

No. in Survey held at _____ Date, First Survey **8th Feb. 1951** Last Survey **25th Oct. 1951**
Reg. Book. _____ 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.**

Boilers made at **Wallsend on Tyne,** whom made **The North Eastern Marine Eng. Co. (1938) Ltd.,** Boiler No. **3196.** When made **1951.**

Indicated 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.**

Service 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 cranks _____ Revolutions per minute _____

Flywheel dia. _____ Weight _____ Moment of inertia of flywheel (lbs. in² or Kg. cm.²) _____ Means of ignition _____ Kind of fuel used _____

Crankshaft: 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.

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.

Propeller 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 _____

Liner 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 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. in² or Kg. cm.²) _____ 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 and 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 _____

Other 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" 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. 1-14" x 10" x 15" Duplex.**

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

On 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.**

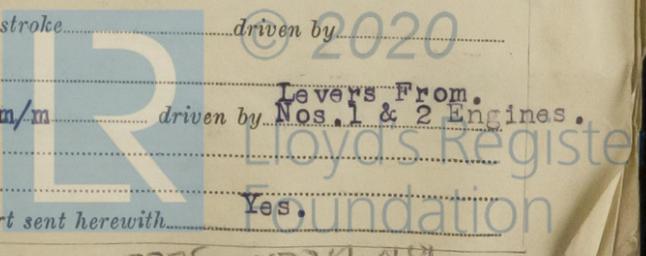
Small Auxiliary Air Compressors, No. _____ No. of stages _____ diameters _____ stroke _____ driven by _____

What provision is made for first charging the air receivers **steam driven.** Levers from _____

Reversing 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.**



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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.....

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..... Total cubic capacity..... Internal diameter..... thickness.....

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

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. Has the spare gear required by the Rules been supplied Yes.....

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

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

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, 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

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

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.

The amount of Entry Fee ... £ 85 : 2 : 6 Special ... £ : : When applied for 18. 11. 19 51. Donkey Boiler Fee... £ : : When received 19 Travelling Expenses (if any) £ : :

Committee's Minute TUES. 11 DEC 1951 Assigned + LMC 10,51 Oil Eng. C.L. 2DB 180/b

