

REPORT ON OIL ENGINE MACHINERY.

No 33044

FEB 24 1941

Received at London Office

Sunderland.

Date of writing Report

When handed in at Local Office

15th Feb 1941 Port of

No. in Survey held at Reg. Book.

Sunderland

Date, First Survey

and 9th 40 Last Survey 14th Feb 1941

Number of Visits 105.

on the *Single* *Triple* Screw vessel

"ANTAR"

Tons Gross 5222
Net 3034.

Built at *Sunderland*

By whom built *Wm Deasford & Sons L^o*

Yard No. 668 When built 1941

Engines made at *Sunderland*

By whom made *Wm Deasford & Sons L^o*

Engine No. 668 When made 1941.

Donkey Boilers made at *Stockton*

By whom made *Stockton Chem. Engrs. & Riley Bldg L^o*

Boiler No. When made 1941.

Brake Horse Power 2500

Owners *New Egypt & Levant Shipping Co^l*

Port belonging to *London.*

Nom. Horse Power as per Rule 516.

Is Refrigerating Machinery fitted for cargo purposes *no.*

Is Electric Light fitted *Yes.*

Trade for which vessel is intended

23⁵/₈ 91⁵/₁₆

OIL ENGINES, &c. Type of Engines *Opposed piston airless injection 2 or 4 stroke cycle 2* Single or double acting *Single*

Maximum pressure in cylinders *548 lbs/sq. in.* Diameter of cylinders *600 mm* Length of stroke *Upper 980 mm* No. of cylinders *3* No. of cranks *3 Triple*

Mean Indicated Pressure *88 lbs/sq. in.* *Lower 1340 mm* *Between Each 3 Throws*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *940 mm.* Is there a bearing between each crank *Yes.*

Revolutions per minute *108 mm* Flywheel dia. *F. 2300 mm* Weight *F. 5 3/4 tons* Means of ignition *Compression* Kind of fuel used *Yes.*

Crank Shaft, { Solid forged dia. of journals *as fitted 418 mm* Crank pin dia. *450 mm* Crank Webs Mid. length breadth *650 mm* Thickness parallel to axis *255 mm*
Semi built dia. of journals *as fitted 450 mm* Mid. length thickness *255 mm* Thickness around eye hole *200 mm*
All built *as fitted 418 mm* Thrust Shaft, diameter at collars *as fitted 418 mm*

Flywheel Shaft, diameter *as fitted 450 mm* Intermediate Shafts, diameter *as fitted 308 mm* Thrust Shaft, diameter at collars *as fitted 450 mm*

Tube Shaft, diameter *as per Rule 341 mm* Is the { tube screw } shaft fitted with a continuous liner *Yes.*
as fitted 392 mm

Bronze Liners, thickness in way of bushes *as per Rule 18.0 mm* Thickness between bushes *as per Rule 13.5 mm* Is the after end of the liner made watertight in the propeller boss *Yes*
as fitted 21.5 mm *as fitted 16.45 mm* *one length.*

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *one length.*

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 *Yes.* Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft *no.* Length of Bearing in Stern Bush next to and supporting propeller *4'-11"*

Propeller, dia. *15'-9"* Pitch *11'-6"* No. of blades *4.* Material *Bronze* whether Moveable *no.* Total Developed Surface *90* sq. feet

Method of reversing Engines *Hand lever* Is a governor or other arrangement fitted to prevent racing of the engine *no.* Means of lubrication *Hand forced*

Thickness of cylinder liners *25 mm* Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *Yes.*

Cooling Water Pumps, No. *1 Engine driven* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *(F.W. Cooling)*
1 Steam driven

Bilge Pumps worked from the Main Engines, No. *none* Diameter *2 @ 5 1/2 x 6 x 15" Simplex* Can one be overhauled while the other is at work *Yes.*

Pumps connected to the Main Bilge Line { No. and Size *2 @ 5 1/2 x 6 x 15" Simplex* & Ballast Pump.
How driven *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 *no.*

Ballast Pumps, No. and size *1 @ 10 1/2 x 12 x 24 (Simplex)* Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *one Engine driven 85 mm x 610 mm Stroke*
one Steam driven 5 1/2 x 6 x 15" Simplex

Are two independent means arranged for circulating water through the Oil Cooler *Yes.* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:— In Machinery Spaces *4 @ 3" W.E.R.* In Pump Room *1 @ 3" Tunnel well.*

In Holds, &c. *N^o1. 3" φ rs. N^o2. 3 1/2" φ rs. N^o3 (dup'd and) 3 1/2" φ rs. N^o4. 3" φ rs. N^o5 1 @ 3 1/2" (aft.)*

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1 @ 8" (Ballast pump) 1 @ 5" (Gen. Serv. Pump)*

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes *Yes.* Are the Bilge Suctions in the Machinery Spaces *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 *Yes.*

What pipes pass through the deep tanks *Dr. bilge Suctions* 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 *E.R. top platform.*

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. *Two.* No. of stages *Three* Diameters *11 1/2", 11 1/2"-9 1/2", 2 3/4"* Stroke *6 1/2"* Driven by *Steam Engine*

Auxiliary Air Compressors, No. *Yes.* No. of stages *Yes.* Diameters *Yes.* Stroke *Yes.* Driven by *Yes.*

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 Compressors)*

Scavenging Air Pumps, No. *One* Diameter *1400 mm* Stroke *610 mm* Driven by *Levers from Main Engine.*

Auxiliary Engines crank shafts, diameter *as per Rule* No. *Yes.* Position *Yes.*

Have the Auxiliary Engines been constructed under special survey *Yes.* Is a report sent herewith *Yes.*

AIR RECEIVERS: - Have they been made under survey

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

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 by Rules Actual

Starting Air Receivers, No. Two. Total cubic capacity 220 cu ft. Internal diameter 3'-6" thickness 1" Range of tensile strength 28/32 Working pressure by Rules 603. Actual 600.

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting Receivers Separate Fuel Tanks

Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements SPARE GEAR. Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied 1 cylinder liner complete, 1 C.I. Propeller, 1 main piston head & 2 piston rings, 4 fuel valves complete, 8 spray pumps, 1 N.R. air starting valve complete, 1 relief valve for exha., 4 scavenge pump half discs, 1 fuel pump body complete, nuts & H.D. + studs, 1 set coupling bolts, one set of pads for hutchell thrust, one set of valves for each size of main & indpt. pump, one roller chain for camshaft drive, 8 rubber hoses for upper piston cooling water.

The foregoing is a correct description.

WILLIAM DOXFORD & SONS, Limited.

Manufacturer. J. Miller Director

Table with columns: Dates of Survey while building, During progress of work in shops, During erection on board vessel, Total No. of visits. Dates range from 1940. Apr. 9 to Sep. 10/11.

Table with columns: Dates of Examination of principal parts, Crank shaft, Flywheel shaft, Thrust shaft, Intermediate shafts, Tube shaft, Screw shaft, Propeller, Storn tube, Engines holding down bolts, Completion of fitting sea connections, Completion of pumping arrangements, Engines tried under working conditions, Identification Marks on Air Receivers.

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

Description of fire extinguishing apparatus fitted

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 requirement in this respect have been complied with

Is this machinery duplicate of a previous case

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery has been built under Special Survey in accordance with the approved plans, rules of the Society & the British letter. The materials & workmanship are good. The steel castings used in the manufacture of the crankshaft are, so far as can be seen, sound. Particulars of the removal of certain small surface defects are attached herewith for record purposes. It has been securely fitted on board the vessel & tried under working conditions alongside Quay with satisfactory results. The two donkey boilers have also been securely fixed, fitted to burn oil fuel (F.P. above 130° F), Section 20 of the rules has been complied with, Safety Valves of boilers adjusted to working pressure in accordance with rule requirements. The machinery is eligible in my opinion to have notation 20 L.N.C. 2. 41 (oil Eng.), T.S. (C.L) 2 DB 120 lbs.

Table with columns: The amount of Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses (if any). Total £ 100.16

Signature of J. Hasw. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned



SUNDERLAND. Certificate (if required) to be sent to Committee's Minute.

(The Surveyors are requested not to write on or below the space for Committee's Minute.)