

REPORT ON OIL ENGINE MACHINERY.

No. 32275

Received at London Office

Date of writing Report

10

When handed in at Local Office

6 Jan 1938 Port of

Sunderland.

Date, First Survey 14 June 37

Last Survey 5 Jan 1938

Number of Visits 88

No. in Survey held at
Reg. Book.Single
on the ~~Two~~ Screw vessel

"POZARICA"

Tons { Gross 1893
Net 838.Built at ~~Sunderland~~By whom built ~~Wm. Dargford & Sons Ltd~~

Yard No. 634 When built 1934.

Engines made at ~~Sunderland~~By whom made ~~Wm. Dargford & Sons Ltd~~

Engine No. 634 When made 1934.

Donkey Boilers made at ~~Stockton~~By whom made ~~Stockton Chem. Eng. & Ship Bldg Co.~~

Boiler No. 6269 When made 1934.

Brake Horse Power 3400

Owners ~~MacAndrews & Co. Ltd~~Port belonging to ~~London~~

Nom. Horse Power as per Rule 4347

Is Refrigerating Machinery fitted for cargo purposes ~~Yes~~Is Electric Light fitted ~~Yes~~

Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines ~~Approved piston airless injection 2 or 4 stroke cycle 2~~ Single or double acting ~~Single~~Maximum pressure in cylinders ~~540 lbs/sq. in.~~ Diameter of cylinders ~~560 in.~~ Length of stroke ~~Upper 400 in.~~ No. of cylinders ~~5~~ No. of cranks ~~5 (3 throws)~~Mean Indicated Pressure ~~88 lbs/sq. in.~~ Span of bearings, adjacent to the Crank, measured from inner edge to inner edge ~~138 in.~~ Is there a bearing between each crank ~~3 throws~~Revolutions per minute ~~138~~ Flywheel dia. ~~1805 in.~~ Weight ~~2 1/2 tons~~ Means of ignition ~~Compression~~ Kind of fuel used ~~Tempurite~~Crank Shaft, dia. of journals ~~394 in.~~ Crank pin dia. ~~420 in.~~ Crank webs ~~305 in.~~ Thickness parallel to axis ~~240 in.~~ Thickness around eye hole ~~194 in.~~Flywheel Shaft, diameter ~~400 in.~~ Intermediate Shafts, diameter ~~318 in.~~ Thrust Shaft, diameter at collars ~~420 in.~~Tube Shaft, diameter ~~334 in.~~ Screw Shaft, diameter ~~350 in.~~ Is the ~~shaft~~ shaft fitted with a continuous liner ~~Yes~~Bronze Liners, thickness in way of bushes ~~18 in.~~ Thickness between bushes ~~16 in.~~ Is the after end of the liner made watertight in thepropeller boss ~~Yes~~ 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 tubeshaft ~~Yes~~ Length of Bearing in Stern Bush next to and supporting propeller ~~4'-4"~~Propeller, dia. ~~13'-6"~~ Pitch ~~10'-3"~~ No. of blades ~~4~~ Material ~~Bronze~~ whether Moveable ~~Yes~~ Total Developed Surface ~~45~~ sq. feetMethod of reversing Engines ~~Hand lever~~ Is a governor or other arrangement fitted to prevent racing of the engine ~~Yes~~ Means of lubricationnon-conducting material ~~Yes~~ Thickness of cylinder liners ~~23 in.~~ Are the cylinders fitted with safety valves ~~Yes~~ Are the exhaust pipes and silencers water cooled or lagged withCooling Water Pumps, No. ~~one engine driven~~ 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. ~~none~~ Diameter ~~2 @ 10" x 9" x 24" Simplex~~ Stroke ~~2 @ 6" x 5 1/2" x 15" Simplex~~Pumps connected to the Main Bilge Line ~~Steam~~ No. and size ~~2 @ 10" x 9" x 24" Simplex~~ How driven ~~Steam~~Is the cooling water led to the bilges ~~Yes~~ If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumpingarrangements ~~Yes~~ Ballast Pumps, No. and size ~~2 @ 10" x 9" x 24"~~ Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size ~~one engine driven 120 in. x 340 in. x 8 in.~~Are two independent means arranged for circulating water through the Oil Cooler ~~Yes~~ Suctions, connected to both Main Bilge Pumps and Auxiliary BilgePumps, No. and size:—In Machinery Spaces ~~4 @ 3" in E.R.~~ In Pump Room ~~1 @ 2 1/2" in Tunnel well~~In Holds, &c. ~~No. 1. 2 1/2" φ RS. No. 2. 2 1/2" φ RS. No. 3. 3" φ RS. 1 @ 3" aft.~~Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ~~2 @ 4" (Ballast pumps) 1 @ 5"~~Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ~~Yes~~ Are the Bilge Suctions in the Machinery Spacesled from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges ~~Yes~~ Are they fitted with Valves or Cocks ~~Both~~Are all Sea Connections fitted direct on the skin of the ship ~~Yes~~ Are the Overboard Discharges above or below the deep water line ~~Below~~Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates ~~Yes~~ Are the Blow Off Cocks fitted with a spigot and brass covering plate ~~Yes~~Are they each fitted with a Discharge Valve always accessible on the plating of the vessel ~~Yes~~ How are they protectedWhat pipes pass through the bunkers ~~(no dup tank)~~ 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~~If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ~~Yes~~ Driven by ~~Steam~~Main Air Compressors, No. ~~Three~~ No. of stages ~~Three~~ Diameters ~~11 1/2" - 9 1/4" - 2 3/4"~~ Stroke ~~6 1/2"~~Auxiliary Air Compressors, No. ~~One~~ No. of stages ~~One~~ Diameters ~~14 10 in.~~ Stroke ~~10 40 in.~~ Driven by ~~main crank~~Small Auxiliary Air Compressors, No. ~~One~~ No. of stages ~~One~~ Diameters ~~14 10 in.~~ Stroke ~~10 40 in.~~ Driven by ~~main crank~~Scavenging Air Pumps, No. ~~One~~ Diameter ~~14 10 in.~~ Stroke ~~10 40 in.~~ Driven by ~~main crank~~Auxiliary Engines crank shafts, diameter ~~as per Rule~~ Position ~~as fitted~~

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes. On discharge from Compressor*
Can the internal surfaces of the receivers be examined and cleaned *Yes.* Is a drain fitted at the lowest part of each receiver *Yes.*
High Pressure Air Receivers, No. *1* Cubic capacity of each *1* Internal diameter *1* thickness *1*
Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓*
Starting Air Receivers, No. *Two.* Total cubic capacity *220 cuft.* Internal diameter *3'-6"* thickness *1"* Actual *✓*
Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Th. Steel* Range of tensile strength *28/32.* Working pressure by Rules *603* Actual *600.* *✓*

IS A DONKEY BOILER 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 *✓* Separate Fuel Tanks *Retained for ship*
Donkey Boilers *(two.)* General Pumping Arrangements *✓* Pumping Arrangements in Machinery Space *Yes.*
Oil Fuel Burning Arrangements *Yes.*

SPARE GEAR.
Has the spare gear required by the Rules been supplied *Yes (To latest requirements).*
State the principal additional spare gear supplied *1 Brass iron propeller, 1 Tail End Shaft, 1 Cylinder Liner & Jacket Complete, 3 main piston heads Complete, 1 upper & lower piston rod & skirt, 12 piston rings, 2 (each) top & bott. end bolts for Centre & side conn. rods, 1 Centre & 1 Side Conn. rod & spherical bearings, 2 Centre & Side Conn. rod top end bearings, 4 Dual Valves Complete, 8 Spray plugs, 1 Starting air valve Complete, 1 Cyl. relief valve Complete, 4 Dual pump bodies, delivery Chambers, rams & guides, Suct. Valves & Chambers, 1 set each size valves for Eng. driven & indpt. pumps, 1 set pads & Mitchell Block, 1 roller chain for Camshaft drive.*
The foregoing is a correct description, *WILLIAM DOVEFORD & SONS, Limited.*

W. H. Fraser Director. Manufacturer.
Dates of Survey while building { During progress of work in shops-- *27/ June 14, July 16, 26, 27, 28, 29, 30. Aug. 4, 10, 11, 12, 16, 17, 19, 20, 23, 25, 26, 27, 30, 31. Sep. 1, 2, 3, 6, 7, 8, 10, 14, 15.*
During erection on board vessel-- *17, 20, 21, 22, 23, 24, 27, 29. Oct. 1, 3, 5, 6, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29. Nov. 1, 2, 3, 4, 5, 8, 9, 10, 12, 17, 18, 19, 22, 26, 29, 30. Dec. 2, 3, 6, 8, 13, 14, 15, 16, 21, 23, 24, 29. 1938. Jan. 5.*
Total No. of visits *88*
Dates of Examination of principal parts—Cylinders *26/8/37, 27/8/37* Covers *✓* Pistons *3/10/37, 14/10/37* Rods *3/10/37* Connecting rods *14/10/37*
Crank shaft *16/9/37 (Quo.)* Flywheel shaft *as crank.* Thrust shaft *as crank.* Intermediate shafts *4/9/37.* Tube shaft *✓*
Screw shaft *20/9/37.* Propeller *1/9/37* Stern tube *16/9/37, 24/9/37* Engine seatings *Tank top.* Engines holding down bolts *3/12/37.*
Completion of fitting sea connections *2/9/37* Completion of pumping arrangements *21/12/37.* Engines tried under working conditions *5/1/38.*
Crank shaft, Material *Infot. Steel* Identification Mark *N.S. 13553, 13554* Flywheel shaft, Material *as crank.* Identification Mark *as crank.*
Thrust shaft, Material *as crank.* Identification Mark *16/9/37.* Intermediate shafts, Material *Infot. Steel* Identification Marks *N.S. 3402, 3404, 3405, 3406, 3407*
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Infot. Steel* Identification Mark *W.H.F. 4/9/37.*
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.* *No 3408 W.H.F. 20/9/37.*
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 *✓*
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 *no.* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under Special Survey in accordance with the Rules of the Society & the Secretary's letter E 20/4/34. The materials & workmanship are good. The machinery has been securely fitted on board the vessel & tried under full working conditions at sea, including rule requirements for starting, with satisfactory results. The two donkey boilers have also been securely fixed on board, fitted to burn oil fuel (F.P. above 150° F) Section 20 of the Rules has been complied with, Safety valves of boilers adjusted to working pressure & accumulation test carried out satisfactorily. The machinery is reliable in my opinion to have notation of L.M.C. 1.38 oil Eng. T.S. (CL) 2 DB 120 lbs/sq"*

The amount of Entry Fee *£ 6 :* When applied for, *10 JAN. 1938*
Special *£ 118 : 14 :*
Donkey Boiler Fee *£ 12 : 12 :* When received, *13/11/1938*
Travelling Expenses (if any) *£ :*
Committee's Minute *TUE 18 JAN 1938*
Assigned *+ L.M.C. 1.38 2 DB 120 lbs*
Oil Eng. CH
W. H. Fraser Engineer Surveyor to Lloyd's Register of Shipping.
© 2021 Lloyd's Register Foundation