

REPORT ON OIL ENGINE MACHINERY.

Received at London Office 3 APR 1951

of writing Report **22.3.51** 19 When handed in at Local Office **22.3.51** 19 Port of **MARSEILLES.**

Survey held at **MARSEILLES.** Date, First Survey **21.II.50(Msl)** Last Survey **23.I.51** 19
 Book. Number of Visits **6**

OIO on the **Single** Screw vessel **"ASTRO", ex "Artist".** Tons { Gross **3522**
 Net **2000**

at **Hamburg** By whom built **Deutsche Werft A.G.** Yard No. --- When built **1921**

ines made at **Berlin** By whom made **Allgemeine Elec. Ges.** Engine No. --- When made **1921**

ey-Boilers made at --- By whom made --- Boiler No. --- When made ---

orse Power --- **1430** Owners **Fundador Cia Naviera S.A.** Port belonging to **Panama**

Power as per Rule **360 MHP** **393 MN** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**

le for which vessel is intended ---

ENGINES, &c. — Type of Engines **6 cylinder Burmeister & Wain** 2 or 4 stroke cycle **4** Single or double acting **single**

imum pressure in cylinders **530lbs** Diameter of cylinders **24 7/8** Length of stroke **37 7/8** No. of cylinders **6** No. of cranks **6**

n Indicated Pressure --- **7 Kg** Ahead Firing Order in Cylinders --- Span of bearings, adjacent to the crank, measured
 inner edge to inner edge **2' 10" 1/2** **890** Is there a bearing between each cranks **Yes** Revolutions per minute **125**

heel dia. **7' 6" 9/16** weight **160Cwt.** Moment of inertia of flywheel (lbs. in² or Kg. cm.²) --- Means of ignition **Compr.** Kind of fuel used **Diesel oil**

ft. { Solid forged dia. of journals as per Rule --- as fitted **1' 3" 2/16** Crank pin dia **1' 3" 2/16** Crank webs Mid. length breadth **2' 8" 11/16** Thickness parallel to axis **10"**
 { All built { as fitted **1' 3" 2/16** Mid. length thickness **10"** shrunk Thickness around eyehole **9" 1/16**

heel Shaft, diameter as per Rule --- as fitted --- Intermediate Shafts, diameter as per Rule --- as fitted **14 9/16** Thrust Shaft, diameter at collars as per Rule **330** as fitted **11" 1"**

Shaft, diameter as per Rule --- as fitted --- Screw Shaft, diameter as per Rule **370** as fitted **1' 2" 9/16** Is the { tube } shaft fitted with a continuous liner { **Yes**
 { screw }

ze Liners, thickness in way of bushes as per Rule --- as fitted **3/4"** Thickness between bushes as per Rule **370** as fitted **19/32"** Is the after end of the liner made watertight in the
 ellow 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**

e 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-
 sive --- If two liners are fitted, is the shaft lapped or protected between the liners --- Is an approved Oil Gland or other appliances fitted at the after
 tube shaft **no** If so, state type --- Length of bearing in Stern Bush next to and supporting propeller **4' 9"**

eller, dia **12.26'** Pitch **9.28'** No. of blades **4** Material **Bronze** whether moveable --- Total developed surface --- sq. feet

nt of inertia of propeller (lbs. in² or Kg. cm.²) --- Kind of damper, if fitted ---

od of reversing Engines **Direct** Is a governor or other arrangement fitted to prevent racing of the engine ~~no~~ **Yes** Means of
 ation **forced** Thickness of cylinder liners --- Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers water cooled
 ged with non-conducting material **both** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned
 to the engine --- Cooling Water Pumps, No. **2** (centrifugal) Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes**

Pumps worked from the Main Engines, No. **none** Diameter --- Stroke --- Can one be overhauled while the other is at work ---

s connected to the Main Bilge Line (No. and size **2** How driven **Electric motor**

ooling 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
 ements ---

t Pumps, No. and size **one** Power Driven Lubricating Oil Pumps, including spare pump, No. and size ---

o-independent means arranged for circulating water through the Oil Cooler **no cooler** Suctions, connected to both main bilge pumps and auxiliary
 umps, No. and size:—In machinery spaces --- In pump room **two**

ls, &c. ---

endent Power Pump Direct Suctions to the engine room bilges, No. and size **three, diam. 5 9/16"**

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
 ble mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **yes**

Sea Connections fitted direct on the skin of the Ship **yes** Are they fitted with valves or cocks **both** Are they fixed
 ntly 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 **above**
 y 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**

ipes pass through the bunkers --- How are they protected ---

ipes pass through the deep tanks --- Have they been tested as per Rule ---

pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times **yes**

rrangement 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
 r from one compartment to another --- Is the shaft tunnel watertight --- Is it fitted with a watertight door --- worked from ---

d vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ---

ir Compressors, No. **one** No. of stages **3** diameters **4.88"** **21.2"** **24"** stroke --- driven by **Main Eng.**

y Air Compressors, No. **one** No. of stages **3** diameters **3.1"** **12.2"** **13.5"** stroke --- driven by **Aux. Oil Eng.**

uxiliary Air Compressors, No. **one** No. of stages **2** diameters --- stroke --- driven by ---

vision is made for first charging the air receivers ---

ng Air Pumps, No. --- diameter --- stroke --- driven by ---

Engines crank shafts, diameter as per Rule --- No. **2** Position **one port & one stbd. on E.R. floor.**

auxiliary engines been constructed under special survey --- Is a report sent herewith ---

Jm
12/6/51



State No. of report or certificate.....

AIR RECEIVERS:—Have they been made under survey.....

Is each receiver, which can be isolated, fitted with a safety valve as per Rule. **Yes**

Can the internal surfaces of the receivers be examined and cleaned..... **Yes** Is a drain fitted at the lowest part of each receiver. **Internal**

Injection Air Receivers, No. **2** Cubic capacity of each..... Internal diameter **15.5** thickness **0.748 in.**

Seamless, welded or riveted longitudinal joint **seamless** Material **steel** Range of tensile strength..... Working pressure by Rules..... Actual... **60**

Starting Air Receivers, No. **3** Total cubic capacity..... Internal diameter **72.8 in.** thickness **0.94 in.**

Seamless, welded or riveted longitudinal joint **riveted** Material **steel** Range of tensile strength..... Working pressure by Rules..... Actual... **25**

IS A DONKEY BOILER FITTED **Yes** If so, is a report now forwarded. **No**

Is the donkey boiler intended to be used for domestic purposes only. **No**

PLANS. Are approved plans forwarded herewith for shafting. **Plan noted 4.I0.50** Receivers **no** Separate fuel tanks. **No**

Donkey boilers **---** General pumping arrangements **Plan noted 2.I0.50** Pumping arrangements in machinery space **Plan A 551 herewith**

Oil fuel burning arrangements..... **---**

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

SPARE GEAR.

Has the spare gear required by the Rules been supplied..... **---**

State the principal additional spare gear supplied. **as per list forwarded herewith.**

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

- During progress of work in shops - - - **---**
- During erection on board vessel - - - **---**
- Total No. of visits..... **---**

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..... Stern tube..... Engine seatings..... Engine holding down bolts.....

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

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..... **---**

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 requirements in this respect have been complied with..... **---**

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.....)

The machinery of this vessel has been satisfactorily installed and the Special Survey required by the Rules for the Classification of Ships not built under survey, has been carried out.

The materials and workmanship, as far as seen, are good.

The installation has been examined under working conditions and found efficient and in my opinion, suitable for a classed vessel; see Msl.Rpt.9 N°.II.034A.

The amount of Entry Fee ... £ : : **---**

Special ... £ : : **---** When applied for..... 19

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

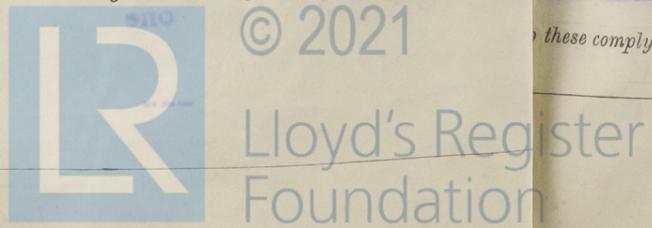
Travelling Expenses (if any) £ : : **---**

Committee's Minute.....

Assigned.....

FRI. 22 JUN 1951

[Signature]
Engineer Surveyor to Lloyd's Register of Shipping



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