

# REPORT ON OIL ENGINE MACHINERY.

No. 4609

Received at London Office

JAN 31 1938

Date of writing Report 31<sup>st</sup> Dec 1937 When handed in at Local Office 31<sup>st</sup> Dec 1937 Port of Montreal

No. in Survey held at Suez S. S. Date, First Survey 12<sup>th</sup> Nov Last Survey 15<sup>th</sup> Dec 1937  
eg. Book. Number of Visits 8

on the Single Screw vessel Motor Vessel "Ducellite"  
Triple  
Quadruple

Tons: Gross 400.8  
Net 208.78

uilt at Suez S. S. By whom built Navie Industries S. S. Yard No. 86 When built 1937  
ines made at Beloit Wis. By whom made Fairbanks Morse Co. Engine No. 802562 When made 1937  
akey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓  
ike Horse Power 575 Owners Imperial Oil Shipping Co. Ltd Port belonging to Lancaster S. S.  
m. Horse Power as per Rule 172 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted Yes  
ide for which vessel is intended Carrying Gasoline, Kerosene etc in Bulk.

ENGINES, &c.—Type of Engines Single solid injection Positive beam type model #37 2 or 4 stroke cycle 2 Single or double acting 1  
imum pressure in cylinders 750# Diameter of cylinders 14" Length of stroke 17" No. of cylinders 5 No. of cranks 5  
Indicated Pressure 500# of bearings, adjacent to the Crank, measured from inner edge to inner edge 16 13/16" Is there a bearing between each crank Yes  
utions per minute 300 Flywheel dia. 48" Weight 4700# Means of ignition Comp Kind of fuel used Seed Oil  
ik Shaft, dia. of journals as per Rule 8 1/8" Crank pin dia. 9" Crank Webs Mid. length breadth 4 9/16" Thickness parallel to axis ✓  
as fitted 9" Mid. length thickness 12" shrunk Thickness around eye-hole ✓  
heel Shaft, diameter as per Rule 9" Intermediate Shafts, diameter as per Rule None Thrust Shaft, diameter at collars as per Rule 9"  
as fitted 9" as fitted None as fitted 9"  
Shaft, diameter as per Rule 7" Is the tube shaft fitted with a continuous liner Continuous  
as fitted 7" screw

ize Liners, thickness in way of bushes as per Rule 1 1/2" Thickness between bushes as per rule 1 7/8" Is the after end of the liner made watertight in the  
as fitted 1 7/8" as fitted 1 7/8" Uller 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-corrosive  
o 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 the tube  
✓ If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 2.6"

eller, dia. 78" Pitch 46" No. of blades 3 Material Bronze whether Moveable Solid Total Developed Surface 18.95 sq. feet  
od of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication  
oil Thickness of cylinder liners 1 1/4" - 7/8" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with  
nducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓

ing Water Pumps, No. 5 3/4 x 5 1/8" 2 ea Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
Pumps worked from the Main Engines, No. 1 Diameter 3 1/4" Stroke 5 1/8" Can one be overhauled while the other is at work Yes  
ps connected to the Main Bilge Line } No. and Size One Duplex 2" suction, 2" Disch. One centrifugal 2" suction, 1 1/2" Disch.  
How driven Motor driven

ooling water led to the bilges Overboard If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
gements ✓  
st Pumps, No. and size One 3" One 4" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 5 3/4 x 5 1/8" 2 ea  
o independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
s, No. and size:—In Machinery Spaces One 2" One 1 1/2" One 2" Non-for One 2" Seal for One 2 1/2" aft In Pump Room One 2 1/2"  
lds, &c. One 4" N. 3 Tank, One 3" Cofferdam, Double in Hold + Fore peak (Ballast)

pendent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two 2" One 2 1/2" aft to main eng. pump included above  
One 2" One 2" aft to independent bilge pump  
ll the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ✓ Are the Bilge Suctions in the Machinery Spaces  
om easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

ll Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Valves  
ey 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 above  
ey 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 None  
pipes pass through the bunkers None How are they protected ✓  
pipes pass through the deep tanks ✓ Have they been tested as per Rule ✓

ll Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
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  
rtment to another Yes Is the Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓  
ood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

Air Compressors, No. 1 No. of stages 1 Diameters 8" Stroke 5 1/8" Driven by Main engine  
liary Air Compressors, No. 1 No. of stages ✓ Diameters ✓ Stroke ✓ Driven by Motor  
l Auxiliary Air Compressors, No. 1 No. of stages ✓ Diameters ✓ Stroke ✓ Driven by aux engine

enging Air Pumps, No. 1 Diameter 32" Stroke 14 1/2" Driven by Main engine

liary Engines crank shafts, diameter as per Rule 3" See Cleveland No. 2  
as fitted 3" Position ✓

**AIR RECEIVERS:**—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 *Yes* ✓  
**High Pressure 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.** 3 Total cubic capacity ✓ Internal diameter 29 1/2" thickness 3/8" ✓  
 Seamless, lap welded or riveted longitudinal joint *lap welded* Material *S.* Range of tensile strength 28 \* 32 Tons Working pressure by Rules ✓ Actual 250 lbs.

**IS A DONKEY BOILER FITTED?** *no* If so, is a report now forwarded? ✓  
 Is the donkey boiler intended to be used for domestic purposes only *Yes* 2  
**PLANS.** Are approved plans forwarded herewith for Shafting *Yes* Receivers *Yes* ? Separate Fuel Tanks ✓  
 Donkey Boilers ✓ General Pumping Arrangements *Yes* ✓ Pumping Arrangements in Machinery Space *Yes* ✓  
 Oil Fuel Burning Arrangements ✓

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *Yes* ✓  
 State the principal additional spare gear supplied *See Fairbanks Morse Co. list # 5884 B, sheets # 278 & 297, attached to this Report.*

The foregoing is a correct description,

*Self* *for* *Mann* *Industries* *Ltd.* Manufacturer.

Dates of Survey while building  
 During progress of work in shops-- August 5, 9, 12, 17, 25, 26, 28, 1937  
 During erection on board vessel-- Nov. 12, 18, 19, 20, 24, 26, Dec. 3, 15  
 Total No. of visits 15.

Dates of Examination of principal parts—Cylinders *Aug 5, 26* Covers *Aug 5, 26* Pistons *Aug 5, 26* Rods ✓ Connecting rods *Aug 5, 26*  
 Crank shaft *Aug 5, 9* Flywheel shaft ✓ Thrust shaft Intermediate shafts Tube shaft  
 Screw shaft *12th Nov* Propeller *18th Nov* Stern tube *19th Nov* Engine seatings *12th Nov* Engines holding down bolts *18th Nov*  
 Completion of fitting sea connections *19th Nov* Completion of pumping arrangements *19th Nov* Engines tried under working conditions *26th Nov*  
 Crank shaft, Material *O.H. steel* Identification Mark *8.9.37.42* Flywheel shaft, Material ✓ Identification Mark ✓  
 Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material ✓ Identification Marks ✓  
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *O.H. steel* Identification Mark *6777.27.8.37.2*

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* ✓  
 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 *no* If so, state name of vessel ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The above mentioned engines have been built under special survey, and on completion were tested under full and intermediate loads in the shop. The materials and workmanship were found to be sound and efficient. The machinery of this vessel has now been fitted on board and on completion tried under full working conditions and found satisfactory. In my opinion the vessel is eligible for the record + L.R.C. 12.37.*)

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

The amount of Entry Fee .. £	When applied for,
Special ... .. £ <i>Fees charged</i>	✓ 19
Donkey Boiler Fee ... .. £ <i>on Hull</i>	When received,
Travelling Expenses (if any) £ <i>Report</i>	19

*Geo Allan*  
 Engineer/Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *See Inst. Rpt. 4609*

