

# REPORT ON OIL ENGINE MACHINERY.

No 14303

23 DEC 1946

Received at London Office

Rpt. 4b.

DEC 1946

Date of writing Report

When handed in at Local Office 20/12/46 Port of

Belfast

No. in Survey held at Reg. Book.

BELFAST

Date First Survey 20 Aug, 1945. Last Survey 17 Dec. 1946

Number of Visits 16 1/2

on the <sup>Single</sup> ~~Turn~~ <sup>Triple</sup> ~~Triple~~ <sup>Quadruple</sup> Screw vessel

"PATELLA"

Tons: Gross 8277 Net 4121

Built at BELFAST By whom built HARLAND & WOLFF, LD Yard No. 1316 When built 1946

Engines made at BELFAST By whom made HARLAND & WOLFF, LD. Engine No. 1316 When made 1946

Donkey Boiler made at BELFAST By whom made HARLAND & WOLFF, LD. Boiler No. 1316 When made 1946

Brake Horse Power 3600 Owners ANGLO-SAXON PETROLEUM CO. LD Port belonging to LONDON

Nom. Horse Power as per Rule 502 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES

Trade for which vessel is intended CARRIAGE OF PETROLEUM OR BITUMEN IN BULK. request order 20.4.46

ENGINES, &c.—Type of Engines HARLAND B.&W. WITH UNDERPISTON or 4 stroke cycle 4 Single or double acting S.

Maximum pressure in cylinders 650 LB/IN<sup>2</sup> SUPERCHARGE 259/16 Diameter of cylinders 650 MM Length of stroke 1400 MM No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 128 LB/IN<sup>2</sup> MAX. Mean of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 MM = 16,700 kg/mm<sup>2</sup> Is there a bearing between each crank YES

Revolutions per minute 120 Flywheel dia. 2218.5 MM Weight 2150 Kgs. Means of ignition COMP. Kind of fuel used DIESEL

Crank Shaft, Solid forged dia. of journals as per Rule 460 MM Crank pin dia. 460 MM Crank Webs Mid. length breadth 750 MM Thickness parallel to axis 267 MM - PIN

Intermediate Shafts, diameter as per Rule 19" Thrust Shaft, diameter at collars as per Rule 18" - JOUR.

Screw Shaft, diameter as per Rule 18" Is the screw shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule 7/8" Thickness between bushes as per Rule 3/4" Is the after end of the liner made watertight in the

propeller boss YES If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -

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 -

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 the tube

Length of Bearing in Stern Bush next to and supporting propeller 5'-0"

propeller, dia. 15'-6" Pitch 12' to 10' No. of blades 4 Material M. BRZ. whether Moveable SOLID Total Developed Surface 75 sq. feet

method of reversing Engines COMP. AIR As a governor or other arrangement fitted to prevent racing of the engine when disengaged YES Means of lubrication

Thickness of cylinder liners 48 MM Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with

insulating 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 -

cooling Water Pumps, No. 2 S.W. & 2 F.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

Large Pumps worked from the Main Engines, No. 1 Diameter ROTARY Stroke - Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line No. and Size 1 @ 32 T/HR 1 @ 40 T/HR 1 @ 100 T/HR How driven MAIN ENG. STEAM STEAM.

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 - 1 @ 100 T/HR IN ENG. RM. 1-ENG. DRIVEN - 145 T/HR

Oil Pumps, No. and size 1 @ 6" x 6" x 6" FORWARD Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1- STAND-BY - 145 T/HR.

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 2 @ 3 1/2" 1 @ 4" In Pump Room 1 @ 2 1/2"

Holds, &c. FORD. - 2 @ 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 6" P. 1 @ 4" S. 1 @ 6" EMERGY.

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

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges YES

all Sea Connections fitted direct on the skin of the ship YES Are they fitted with Valves or Cocks YES

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 ABOVE

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

at pipes pass through the bunkers NONE How are they protected -

at pipes pass through the deep tanks NONE Have they been tested as per Rule -

all 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

compartment to another YES Is the Shaft Tunnel watertight - Is it fitted with a watertight door - worked from -

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

STARTING Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 122 FT<sup>3</sup> FREE AIR/MIN. Driven by STEAM

STARTING Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 90 FT<sup>3</sup> FREE AIR/MIN. Driven by AUX. OIL ENG.

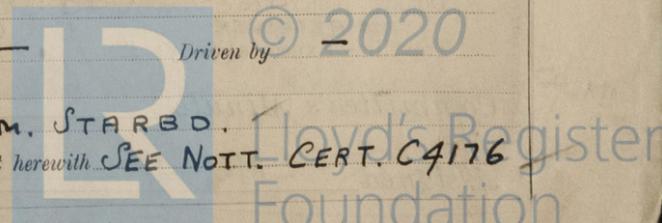
Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

what provision is made for first Charging the Air Receivers STEAM DRIVEN A. COMP.

Revolving Air Pumps, No. - Diameter - Stroke - Driven by -

Auxiliary Engines crank shafts, diameter as per Rule 4 3/16" Position ENG. RM. STARBD.

the Auxiliary Engines been constructed under special survey YES Is a report sent herewith SEE NOTT. CERT. C4176



004630-004634-0220

**AIR RECEIVERS:** - Have they been made under survey  YES State No. of Report or Certificate 21740  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule  YES  
 Can the internal surfaces of the receiver be examined and cleaned  YES Is a drain fitted at the lowest part of each receiver  YES  
**Injection Air Receivers, No.** NONE 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.** 1 Total cubic capacity 500 FT<sup>3</sup> Internal diameter 72 5/16" thickness 1"  
 Seamless, lap welded or riveted longitudinal joint Riv. Material M.S. Range of tensile strength 28/32T Working pressure by Rules - Actual 356 LB/0  
 If so, is a report now forwarded?  YES  
**IS A DONKEY BOILER FITTED?**  YES  
 Is the donkey boiler intended to be used for domestic purposes only  NO  
**PLANS.** Are approved plans forwarded herewith for Shafting  YES Receivers YES Separate Fuel Tanks NONE  
 (If not, state date of approval)  
 Donkey Boilers  YES General Pumping Arrangements YES Pumping Arrangements in Machinery Space YES  
 Oil Fuel Burning Arrangements YES **TORSIONAL VIBRATION CHARACTERISTICS APP. 4/7/45**  
**SPARE GEAR.**  
 Has the spare gear required by the Rules been supplied  YES  
 State the principal additional spare gear supplied **SEE ATTACHED LIST.**

The foregoing is a correct description,  
*W. Marshall* Manufacturer.

Dates of Survey while building	During progress of work in shops--	1945 Aug. 20 Sept. 18, 21, 24, 25, 26, 27, 28 Oct. 1, 2, 3, 4, 5, 9, 10, 12, 15, 16, 23, 25, 30 Nov. 12, 15, 19, 21, 22, 26, 27 Dec. 6, 12, 1946 Jan. 18, 21, 28 Feb. 6, 12, 22 Mar. 21, 25, 29 Apr. 8, 16, 17, 19, 29 May 9, 11, 14, 15, 20, 21, 22, 24, 28, 29, 30, 31 June 3, 6, 7, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28 July 1, 4, 6, 9, 10, 24, 27, 29, 30, 31 Aug. 1, 2, 5, 8, 9, 13, 14, 16, 17, 19, 22, 24, 26, 27, 30 Sept. 3, 5, 6, 7, 10, 11, 12, 13, 17, 18, 19, 20, 21, 23, 25, 26, 27, 30 Oct. 3, 4, 7, 9, 10, 11, 14, 15, 16, 17, 18, 19, 24, 25, 29, 30, 31 Nov. 4, 11, 12, 13, 14, 22, 26, 27, 28, 29 Dec. 2, 4, 6, 7, 9, 10, 11, 13, 17
	During erection on board vessel--	
Total No. of visits	164	
Dates of Examination of principal parts--	Cylinders 4/7/46 Covers 10/6/46 Pistons 7/6/46 Rods 24/6/46 Connecting rods 4/6/46	
Crank shaft 30/5/46	Flywheel shaft 30/5/46 Thrust shaft 4/6/46 Intermediate shafts 10/6/46 Tube shaft -	
Screw shaft 10/6/46	Propeller 12/6/46 Stern tube 1/6/46 Engine seatings 25/6/46 Engines holding down bolts 7/10/46	
Completion of fitting sea connections 25/6/46	Completion of pumping arrangements - Engines tried under working conditions	
Crank shaft, Material S.	Identification Mark LLOYD'S NO. 1132 G.J.T. Flywheel shaft, Material S.	Identification Mark LLOYD'S NO. 1132 G.J.T.
Thrust shaft, Material S.	Identification Mark LLOYD'S NO. 52982 G.J.T. Intermediate shafts, Material S.	Identification Marks 490 J.M.
Tube shaft, Material -	Identification Mark - Screw shaft, Material S.	Identification Mark 490 J.M.
Identification Marks on Air Receivers	No. 336	
	LLOYD'S TEST 556 LBS.	
	W.P. 356 LBS.	
	J.M.C.A. 26/11/45	

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 TO BLR. & ENG. RMS. WITH REMOTE CONTROL ALSO PORTABLE CHEMICAL EXTINGUISHERS.**  
 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  YES If so, state name of vessel **SEE M.V. "NEOTHYRIS"**  
 General Remarks (State quality of workmanship, opinions as to class, &c.) **This machinery has been constructed under special plans in accordance with the Society's Rules and Regulations and the Secretary's letters. The scantlings and arrangements are in accordance with the approved plans.**  
**The materials and workmanship are good. The machinery has been efficiently installed on board the vessel and tested under full working conditions at sea with satisfactory results. In our opinion this machinery is eligible to receive the notations**  
**+ L.M.C. 1,46 OIL ENGINE, C.L. 2 D.B. 180 LB.**

The amount of Entry Fee .. £	When applied for,
Special F.P. F.E. MACH. £ 125 : 4	20/12/46
Donkey Boiler Fee ... £ 39 : 10	When received,
AIR RECEIVER Travelling Expenses (if any) £ 5 : 0	19

*John McAfee and Edwin Griener*  
 Engineer Surveyors to Lloyd's Register of Shipping.  
 2020  
 Lloyd's Register Foundation

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

Committee's Minute  
 Assigned + L.M.C. 12.46. Oil Eng. C.L. 2 D.B. 180 lbs.