

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No 79440

Received at London Office 28 JUL 1925

Date of writing Report 27/7/1025 Port of **NEWCASTLE ON TYNE**
 No. in Survey held at **Jamm. n. Tunc.** Date, First Survey **25 Aug 1924** Last Survey **24 July 1925**
 Reg. Book. **BRITISH CHEMIST** Number of Visits **128**
 on the **Single** Screw vessels **BRITISH CHEMIST** Tons **Gross**
 Master **Jamm.** Built at **Jamm.** By whom built **Palmerston** Yard No. **987** When built **1925**
 Engines made at **Jamm.** By whom made **do** Engine No. **987** When made **1925**
 Donkey Boilers made at **Jamm.** By whom made **do** Boiler No. **987** When made **1925**
 Brake Horse Power **2700** Owners **British Tankers Co** Port belonging to **London**
 Nom. Horse Power as per Rule **985** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

OIL ENGINES, &c.—Type of Engines **Horizontal Full gear** 2 or 4 stroke cycle **2** Single or double acting **Single**
 Maximum pressure in cylinders **6** No. of cylinders **6** No. of cranks **6** Diameter of cylinders **23"**
 Length of stroke **36" x 2 = 72"** Revolutions per minute **86** Means of ignition **By compression** Kind of fuel used **Anglo Russian**
 Is there a bearing between each crank **No** Span of bearings (Page 92, Section 2, par. 7 of Rules) **6-2 1/2**
 Distance between centres of main bearings **7-9 1/4** Is a flywheel fitted **Yes** Diameter of crank shaft journals **17 1/2"**
 Diameter of crank pins **18"** Breadth of crank webs **23.607"** Thickness of ditto **9.94"**
 Diameter of flywheel shaft **14.67"** Diameter of tunnel shaft **14.67"** Diameter of thrust shaft **15.43"**
 Diameter of screw shaft **14.78"** Is the screw shaft fitted with a continuous liner the whole length of the stern tube **Yes**
 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 joints burned **No**
 If the liner does not fit lightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive **No**
 If two liners are fitted, is the shaft lapped or protected between the liners **No** If without liners, is the shaft arranged to run in oil **No**
 Type of outer gland fitted to stern tube **No** Length of stern bush **6-0"** Diameter of propeller **17-8"**
 Pitch of propeller **14-9"** No. of blades **4** state whether moveable **Yes** Total surface **86.7** square feet
 Method of reversing **By hand** a governor or other arrangement fitted to prevent racing of the engine **Yes** Thickness of cylinder liners **1 1/2"**
 Are the cylinders fitted with safety valves **Yes** Means of lubrication **Mechanical** Are the exhaust pipes and silencers water cooled or lagged with non-conducting material **Lagged**
 Is the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine **Yes**
 No. of cooling water pumps **1** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes**
 No. of bilge pumps fitted to the main engines **1** Diameter of ditto **6"** Stroke **1**
 Can one be overhauled while the other is at work **No** No. of auxiliary pumps connected to the main bilge lines **3** How driven **1 MOTOR 2 STEAM**
 Sizes of pumps **4" BORE, 10" x 12"** No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room **3 @ 3 1/2"**
 and in holds, etc. **7 x 7 x 9"** No. of ballast pumps **1** How driven **Steam** Sizes of pumps **10 x 10 x 12"**
 Is the ballast pump fitted with a direct suction from the engine room bilges **Yes** State size **6"** Is a separate auxiliary pump suction fitted in Engine Room and size **Yes 7"**
 Are all the bilge suction pipes fitted with roses **Yes** Are the roses in Engine Room always accessible **Yes**
 Are the sluices on Engine Room bulkheads always accessible **Yes** Are all connections with the sea direct on the skin of the ship **Yes**
 Are they valves or cocks **Both** Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates **Yes**
 Are the discharge pipes above or below the deep water line **Above** Are they each fitted with a discharge valve always accessible on the plating of the vessel **Yes**
 Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times **Yes** Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges **Yes**
 Is the screw shaft tunnel watertight **Yes** Is it fitted with a watertight door **No**
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **No**
 No. of main air compressors **1** No. of stages **4** Diameters **30 1/2, 25 1/4, 9 1/2"** Stroke **22"** Driven by **Main engine**
 No. of auxiliary air compressors **1** No. of stages **3** Diameters **15 1/2, 13 1/8, 3 1/2"** Stroke **8"** Driven by **Steam**
 No. of small auxiliary air compressors **1** No. of stages **1** Diameters **6 1/2 x 2 1/2"** Stroke **36"** Driven by **MAIN ENGINE**
 No. of scavenging air pumps **4** Diameter **6 1/2 x 2 1/2"** Stroke **36"** Driven by **MAIN ENGINE**
 Diameter of auxiliary Diesel Engine crank shafts **as per Rule** Are the air compressors and their coolers made so as to be easy of access **Yes**

AIR RECEIVERS:—No. of high pressure air receivers **3** Internal diameter **15 1/8"** Cubic capacity of each **9.05 CF.**
 Material **STEEL** Seamless, lap welded or riveted longitudinal joint **SEAMLESS** Range of tensile strength **28 to 32 TONS**
 Thickness **1 1/8"** working pressure by Rules **1380 LBS.** No. of starting air receivers **4** Internal diameter **50"**
 Total cubic capacity **772 cu ft** Material **Steel** Seamless, lap welded or riveted longitudinal joint **riveted**
 Range of tensile strength **ends 26 to 30** thickness **shell 13/16" ends 1 1/32"** Working pressure by rules **6087 lbs** 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 **Yes** What means are provided for cleaning their inner surfaces **Manhole fitted**
 Is there a drain arrangement fitted at the lowest part of each receiver **Yes**

W1630-0156

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	<i>Line over to dia. apl.</i>				
" " COVERS	<i>approved 17/5/25</i>				
" " JACKETS	<i>26/2/25 & 18/5/25</i>	30	50	JH.	
" PISTON WATER PASSAGES	<i>26/1/25 & 7/5/25</i>	30	200	JH.	
MAIN COMPRESSORS—1st STAGE	<i>22/12/24 & 13/1/25</i>	30	50	JH.	
" 2nd "	<i>7/1/24</i>	100	200	JH.	
" 3rd "	<i>25/1/24</i>	355	1800	JH.	
AIR RECEIVERS—STARTING	<i>12/12/24</i>	1200	2400	JH.	
" INJECTION	<i>23/1/25 & 1/2/25</i>	800	800	JH.	
AIR PIPES	<i>21/1/24 to</i>	1200	2500	JH.	
FUEL PIPES	<i>21/1/24 to</i>	1200	2500	JH.	
FUEL PUMPS	<i>5/1/25 & 28/1/25</i>	1200	2500	JH.	
SILENCER	<i>4/2/25</i>	Atmosphere	20 lbs	JH.	
" WATER JACKET					
SEPARATE FUEL TANKS	<i>cut.</i>	5	15		

PLANS. Are approved plans forwarded herewith for shafting
(If not, state date of approval)

SPARE GEAR As per attached list in addition a quantity of assorted bolts & nuts. Lengths of pipes of various sizes used with unions & flanges also safety valves for aux & main compressors.

The foregoing is a correct description.

Palmer Shipbuilding & Iron Co., Ltd.

Manufacturer.

Dates of Survey while building
During progress of work in shops—*Aug. 25, Sept. 10, 11, 12, 16, 22, 24, 25, Oct. 2, 3, 5, 10, 14, 15, 16, 20, 24, 25, 29, 30, 31, Nov. 4, 5, 7, 18, 20, 21, 24, 25, 26, 27, 29, Dec. 2, 4, 12, 15, 17, 18, 22, 23, 25, Jan. 5, 6, 7, 12, 13, 15, 18, 19, 22, 23, 26, 28, Feb. 2, 3, 4, 6, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 24, 25, Mar. 2, 3, 4, 6, 9, 11, 10, 11, 12, 16, 30, July 3, 8, 9, 10, 15, 16, 17, 21, 23, 24.*
During erection on board vessel—*13, 16, 17, 18, 19, 20, 23, 25, 26, 30, 31, Apr. 1, 2, 3, 6, 7, 15, 16, 17, 21, 23, 27, 29, May 4, 5, 11, 13, 14, 15, 19, 21, 25, 27, 28, June 2, 4, 8, 12, 18.*
Total No. of visits *128.*

Dates of Examination of principal parts—Cylinders *10/10/24* Covers *Nov.* Pistons *8/5/25* Rods *14/10/24* Connecting rods *14/10/24*
Crank shaft *4/1/24* Thrust shaft *10/12/24* Piston shafts *10/2/25* Screw shaft *18/12/24* Propeller *20/3/25* Stern tube *2/10/24* Engine seatings *25/5/25*
Engines holding down bolts *12/6/25* Completion of pumping arrangements *22/7/25* Engines tried under working conditions *22/7/25*
Completion of fitting sea connections *29/5/25* Stern tube *29/5/25* Screw shaft and propeller *13/5/25*
Material of crank shaft *W. STEEL* Identification Mark on Do. *499 JH.* Material of thrust shaft *W. STEEL* Identification Mark on Do. *7063 JH*
Material of piston shafts *W. STEEL* Identification Marks on Do. *468 JH.* Material of screw shafts *W. STEEL* Identification Marks on Do. *7063 JH*
Is the flash point of the oil to be used over 150° F. *Yes.*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *British Aviator.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under Special Survey & the materials & workmanship are good. On completion the machinery was tried under full working conditions (at sea) with satisfactory results. The machinery of this vessel is now in a good & efficient condition & I am in my opinion to have the notation L.M.C. & S. marked in Red in the British Register Book also T.S.C.L. & Aux boiler fitted for oil fuel V.F. above 150° NOTE. With the exception of the scavenger pumps & one or two small details the machinery is duplicate of the "BRITISH AVIATOR"*

The amount of Entry Fee ... £ *124-5-0*
Special ... £
Donkey Boiler Fee *See Report*
Travelling Expenses (if any) *Report*

When applied for, *27 JUL 1925*

When received, *30 JUL 1925*

W. H. W. W.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 31 JUL 1925*

Assigned

+ L.M.C. 7.25. C.L.
oil engines.

CERTIFICATE WRITTEN in duplicate



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