

REPORT ON OIL ENGINE MACHINERY.

No. 42799

Received at London Office
 Date of writing Report *5 June 1923* When handed in at Local Office *11. 6. 23* Port of *Glasgow* WED. JUN. 20 1923
 No. in Survey held at *Glasgow* Date, First Survey *16 Sept 1920* Last Survey *4 June 1923*
 Reg. Book. *Single* on the *Twin* *Triple* Screw vessels *"Dalgoma"* Tons { Gross *5953* Net *3571*
 Master *Glasgow* Built at *Glasgow* By whom built *A. Stephen* Yard No. *497* When built *1923*
 Engines made at *Glasgow* By whom made *A. Stephen* Engine No. *497* When made *1923*
 Donkey Boilers made at *Amman* By whom made *Cochrane & Co.* Boiler No. *8647* When made
 Brake Horse Power *3200 total* Owners *British India S. & C.* Port belonging to *Glasgow*
 Nom. Horse Power as per Rule *944* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

OIL ENGINES, &c.—Type of Engines *Twin screw Sulzer* 2 or 4 stroke cycle *2* Single or double acting *S.*
 Maximum pressure in cylinders *500* No. of cylinders *4, each eng* No. of cranks *4, each eng* Diameter of cylinders *680 mm* *26 3/4"*
 Length of stroke *1100 mm* *43 5/16"* Revolutions per minute *85* Means of ignition *Compression* Kind of fuel used *Diesel fuel oil*
 Is there a bearing between each crank *yes* Span of bearings (Page 92, Section 2, par. 7 of Rules) *890 mm*
 Distance between centres of main bearings *1360 mm* Is a flywheel fitted *yes* Diameter of crank shaft journals *as per Rule as approved* *430 mm*
 Diameter of crank pins *430 mm* Breadth of crank webs *as per Rule as approved* *360 mm* Thickness of ditto *as per Rule as approved* *260 mm*
 Diameter of flywheel shaft *as per Rule as approved* *430 mm* Diameter of tunnel shaft *as per Rule as fitted* *12 3/4"* Diameter of thrust shaft *as per Rule as approved* *430 mm*
 Diameter of screw shaft *as per Rule as fitted* *14 1/4"* 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 *yes*
 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* If without liners, is the shaft arranged to run in oil *yes*
 Type of outer gland fitted to stern tube *none* Length of stern bush *5'-5"* Diameter of propeller *16'-9"*
 Pitch of propeller *16'-9"* No. of blades *3* state whether moveable *yes* Total surface *74* square feet
 Method of reversing *Cams* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *yes* Thickness of cylinder liners *25 1/2* mm
 Are the cylinders fitted with safety valves *yes* Means of lubrication *mechanical* Are the exhaust pipes and silencers water cooled *yes*
 non-conducting material *yes* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine *funnel*
 No. of cooling water pumps *4* 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 *2 (1 each)* Diameter of ditto *180 mm* Stroke *5 1/2"*
 Can one be overhauled while the other is at work *yes* No. of auxiliary pumps connected to the main bilge lines *4* How driven *electrical*
 Sizes of pumps *180 mm x 140 mm* No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room *4'-3 1/2"*
 and in holds, etc. *2'-3 1/2" in 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100*
 Is the ballast pump fitted with a direct suction from the engine room bilges *yes* State size *8"* Is a separate auxiliary pump suction fitted in
 Engine Room and size *yes* 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 *none* 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 *below* 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 *yes*
 worked from *Bridge* If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork *yes*
 No. of main air compressors *2 (1 each)* No. of stages *3* Diameters *150 600 150* Stroke *600 mm* Driven by *main eng*
 No. of auxiliary air compressors *2* No. of stages *3* Diameters *4 16 16* Stroke *8"* Driven by *600 mm*
 No. of small auxiliary air compressors *1* No. of stages *3* Diameters *1 3/4 6 5/8 7 1/2* Stroke *4 1/2"* Driven by *600 mm*
 No. of scavenging air pumps *2* Diameter *yes* Stroke *Turbo blowers* Driven by *3. Motors*
 Diameter of auxiliary Diesel Engine crank shafts *as per Rule as approved* *215 mm* Are the air compressors and their coolers made so as to be easy of access *yes*

AIR RECEIVERS:—No. of high pressure air receivers *12* Internal diameter *17 3/4"* Cubic capacity of each *25*
 material *8* Seamless, lap welded or riveted longitudinal joint *Seamless* Range of tensile strength *28-32*
 thickness *1/64* working pressure by Rules *1000* No. of starting air receivers *4+2* Internal diameter *30"*
 Total cubic capacity *200* Material *8* Seamless, lap welded or riveted longitudinal joint *Seamless*
 Range of tensile strength *28-32* thickness *3/8"* Working pressure by rules *685* Is each receiver, which can be isolated,
 fitted with a safety valve *yes* Can the internal surfaces of the receivers be examined *yes* What means are provided for cleaning their
 inner surfaces *manhole door bottom* Is there a drain arrangement fitted at the lowest part of each receiver *yes*

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	15.27.22, 6.7.9.14.3.22.	500	1000	J.E.S.	
" " COVERS	9.23.22	45	90	"	
" " JACKETS.....	23.12.21, 17.2.4.1.22, 7.14.20.2.22.	45	90	"	
" " PISTON WATER PASSAGES.....	28.5.22	45	90	"	
MAIN COMPRESSORS—1st STAGE.....	24.4.22	25	150	"	
" 2nd	24.4.22	225	450	"	
" 3rd	20.2.22	1000	2000	"	
AIR RECEIVERS—STARTING	7.8.21, 6.25.2.22.	600	950	"	
" INJECTION	15.11.22	1000	2100	"	
AIR PIPES	27.11.22	1000	2100	"	
FUEL PIPES	27.11.22	1000	2100	"	
FUEL PUMPS	tested in Switzerland				
SILENCER	not tested				
" WATER JACKET	14.2.22		15		
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting *24.6.21* Receivers *15.10.21* Separate Tanks *20.7.21* *94.*

SPARE GEAR *As per Rules to-gather with attached list.*

The foregoing is a correct description,

ALEXANDER STEPHEN & SONS, LIMITED.

Manufacturer.

Dates of Survey while building
During progress of work in shops—*1920 Sep 16.28 Oct 7.15.20 Nov 4.29 Dec 17.21.27 1921 Jan 12.18.25.28 Feb 16.7.11.17.21 Mar 3.8.14.23.30 Apr 1.5.12.18.20.22.25.29 May 3.5.10.13.17.20.23 Jun 3.7.14.22 Jul 1.7 Aug 9.18.25 Sep 1.5.8.15.27 Oct 6.9.18.26.27 Nov 2.9.18.24.30 Dec 6.9.12.16.30.23 1922 Jan 11.17.24.26.31 Feb 3.7.8.10.13.14.17.20.23 Mar 3.6.8.14.15.22.29 Apr 4.11.14.20.26 May 2.10.17.24.26.30 Jun 6.19.22.29 Jul 4.11.26 Aug 3.15.17.23.25 Sep 6.12.13.18.27 Oct 2.6.10.19.23 Nov 7.15.23.27 Dec 5.21.27 1923 Jan 10.15.24 Feb 6.16.24.22.26 Mar 2.6.7.15.16.20.22.23 Apr 4.12.16.23 May 1.8.9.10.14.15.17.21.22.23 Jun 4*
During erection on board vessel—*16.3.*
Total No. of visits *163.*

Dates of Examination of principal parts—Cylinders *6.7.9.14.3.22* Covers *23.12.21* Pistons *10.10.22* Rods *23.8.22* Connecting rods *7.2.22*

Crank shaft *1.2.12.21* Thrust shaft *12.12.21* Tunnel shafts *13.14.8.22* Screw shaft *9.8.22* Propeller *22.6.22* Stern tube *26.7.22* Engine settings *16.2.22*

Engines holding down bolts *4.4.23* Completion of pumping arrangements *1.5.23* Engines tried under working conditions *16.6.23.*

Completion of fitting sea connections *7.11.22* Stern tube *7.11.22* Screw shaft and propeller *7.11.22*

Material of crank shaft *S* Identification Mark on Do. *497.J.E.S.* Material of thrust shaft *S* Identification Mark on Do. *497.J.E.S.*

Material of tunnel shafts *S* Identification Marks on Do. *497.J.E.S.* Material of screw shafts *S* Identification Marks on Do. *497.J.E.S.*

Is the flash point of the oil to be used over 150° F. *✓*

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 built under Special Survey in accordance with the Society's Rules and approved plans, the material and workmanship are good. The machinery has been satisfactorily tried under working conditions and is eligible in my opinion for records + L.M.C. 6.23.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.23. CL. Oil Engines 2 SC. SA. 944 NH 8 Cy 26 3/4 - 43 5/16. DB. 100 lb.

The amount of Entry Fee ... £ 6 : 0 : 0 When applied for.
Special ... £ 122 : 4 : 0 14.6.19.23
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : 3/8/23

Committee's Minute GLASGOW 19 JUN 1923

Assigned + LMC 6.23.

Harry Clarke
Engineer Surveyor to Lloyd's Register of Shipping.

