

REPORT ON OIL ENGINE MACHINERY.

No. 43296

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Date of writing Report 21. 1. 1924 Port of *Glasgow*

No. in Survey held at *Clydebank* Date, First Survey *26 Jan 1921* Last Survey *27 Dec 1923*

Reg. Book. *Single* } Screw vessels
Twin }
Triple }

Master _____ Built at _____ By whom built _____ Yard No. _____ When built _____

Engines made at *Clydebank* By whom made *John Brown & Co.* Engine No. *502 A* When made _____

Donkey Boilers made at _____ By whom made _____ Boiler No. _____ When made _____

Brake Horse Power *2500* Owners _____ Port belonging to _____

Nom. Horse Power as per Rule *593* Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

OIL ENGINES, &c.—Type of Engines *Cammellaird Fullagar* 2 or 4 stroke cycle *2* Single or double acting *Single*

Maximum pressure in cylinders *500 lbs.* No. of cylinders *6* No. of cranks *6* Diameter of cylinders *22"*

Length of stroke *33" x 2* Revolutions per minute *98* Means of ignition *Heat of Compression* Kind of fuel used *Diesel fuel oil*

Is there a bearing between each crank *no.* Span of bearings (Page 92, Section 2, par. 7 of Rules) *6' 0 15/16"*

Distance between centres of main bearings *7' 7"* Is a flywheel fitted *yes.* Diameter of crank shaft journals as per Rule *15.6"* as fitted *16.0"*

Diameter of crank pins *16 1/2"* Breadth of crank webs as per Rule *built 2 1/4"* as fitted *32"* Thickness of ditto as per Rule *9"* as fitted *11 1/2" centre, 12 1/2" centre.*

Diameter of flywheel shaft as per Rule *15.6"* as fitted *16"* Diameter of tunnel shaft as per Rule _____ as fitted _____ Diameter of thrust shaft as per Rule _____ as fitted _____

Diameter of screw shaft as per Rule _____ as fitted _____ Is the screw shaft fitted with a continuous liner the whole length of the stern tube _____

Is the after end of the liner made watertight in the propeller boss _____ If the liner is in more than one length are the joints burned _____

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 _____

If two liners are fitted, is the shaft lapped or protected between the liners _____ If without liners, is the shaft arranged to run in oil _____

Type of outer gland fitted to stern tube _____ Length of stern bush _____ Diameter of propeller _____

Pitch of propeller _____ No. of blades _____ state whether moveable _____ Total surface _____ square feet

Method of reversing *compressed air* Is a governor or other arrangement fitted to prevent racing of the engine *when detached yes.* Thickness of cylinder liners *2 1/2" at centre*

Are the cylinders fitted with safety valves *yes.* Means of lubrication *forced.* Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *exhaust pipe at back of engine water cooled, remainder lagged*

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine _____

No. of cooling water pumps *one* Is the sea suction provided with an efficient strainer which can be cleared _____

No. of bilge pumps fitted to the main engines *none* Diameter of ditto _____ Stroke _____

Can one be overhauled while the other is at work _____ No. of auxiliary pumps connected to the main bilge lines _____ How driven _____

Sizes of pumps _____ No. and sizes of suction connections to both main bilge pumps and auxiliary bilge pumps:—In engine room _____

No. of ballast pumps _____ How driven _____ Sizes of pumps _____

Is the ballast pump fitted with a direct suction from the engine room bilges _____ State size _____ Is a separate auxiliary pump suction fitted in _____

Engine Room and size _____ Are all the bilge suction pipes fitted with roses _____ Are the roses in Engine Room always accessible _____

Are the sluices on Engine Room bulkheads always accessible _____ Are all connections with the sea direct on the skin of the ship _____

Are they valves or cocks _____ Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates _____

Are the discharge pipes above or below the deep water line _____ Are they each fitted with a discharge valve always accessible on the plating of the vessel _____

Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times _____ Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges _____ Is the screw shaft tunnel watertight _____ Is it fitted with a watertight door _____

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

No. of main air compressors *Two* No. of stages *4 each* Diameter *25 1/2" 21 1/2" 7 1/2" 4 1/2"* Stroke *19"* Driven by *Crank shaft.*

No. of auxiliary air compressors _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____

No. of small auxiliary air compressors _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____

No. of scavenging air pumps *6* Diameter *56 1/2" x 23 1/2" rectangular* Stroke *33"* Driven by *slight note from overheads.*

Diameter of auxiliary Diesel Engine crank shafts as per Rule _____ as fitted _____ Are the air compressors and their coolers made so as to be easy of access _____

AIR RECEIVERS:—No. of high pressure air receivers _____ Internal diameter _____ Cubic capacity of each _____

Material _____ Seamless, lap welded or riveted longitudinal joint _____ Range of tensile strength _____

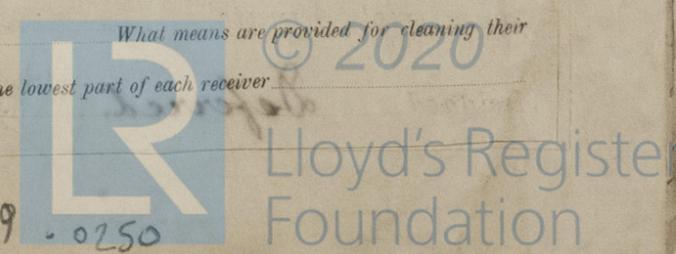
Thickness _____ working pressure by Rules _____ No. of starting air receivers _____ Internal diameter _____

Total cubic capacity _____ Material _____ Seamless, lap welded or riveted longitudinal joint _____

Range of tensile strength _____ thickness _____ Working pressure by rules _____ Is each receiver, which can be isolated, _____

Fitted with a safety valve as per Rule _____ Can the internal surfaces of the receivers be examined _____ What means are provided for cleaning their _____

Internal surfaces _____ Is there a drain arrangement fitted at the lowest part of each receiver _____



009040 - 009049 - 0250

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Rpt. 4b

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS	13/9/22, 29/9/22, 30/8/23	15 lbs	30 lbs		
" " JACKETS	12/4/23	15 lbs	30 lbs		
" " PISTON WATER PASSAGES	23/3/23	50 lbs	100 lbs		
MAIN COMPRESSORS—1st STAGE	23/3/23	125 lbs	250 lbs		
" " 2nd	2/6/23	350 lbs	700 lbs		
" " 3rd	22/3/23	1100 lbs	2400 lbs		
AIR RECEIVERS—STARTING					
" " INJECTION	24/12/23	1100 lbs	2400 lbs		
AIR PIPES	12/11/23, 13/12/23	1100 lbs	2400 lbs		
FUEL PIPES	12/11/23	1100 lbs	2400 lbs		
FUEL PUMPS					
SILENCER					
" " WATER JACKET	12, 14, 19/11/23, 4/12/23	15 lbs	30 lbs		
SEPARATE FUEL TANKS					

Date of writing
No. in Reg. Book
Master
Donkey
Brake
Nom. 1
IL E
Maximu

PLANS. Are approved plans forwarded herewith for shafting

Receivers

Separate Tanks

SPARE GEAR

To be checked in Japan.

The foregoing is a correct description

John Brown & Company, Limited.

J. Henderson Manufacturers.

Dates of Survey while building	1921 Jan 26, 27, 31 Feb 7, 10, 17 Mar 7, 21 Apr 11, 25 Sep 9, 14 Oct 11, 20, 24, 27 Nov 21 Dec 5, 29 1922 Jan 11, 12, 19, 23, 27 Feb 9, 13, 15, 18, 19, 26, 29 Oct 2, 5, 9, 17, 30 Nov 6, 9, 16, 17
Dates of Examination of principal parts	Cylinders 13/9/22, 29/9/22, 30/8/23 Covers 30/8/23 Pistons 12/4/23 Rods 12/4/23 Connecting rods 12/4/23

Cranks shaft 11/4/21. Thrust shaft Tunnel shafts Screw shaft Propeller Stern tube Engine seatings
Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions
Completion of fitting sea connections Stern tube Screw shaft and propeller
Material of crank shaft O.H. Steel Identification Mark on Do. 502A Material of thrust shaft Identification Mark on Do.
Material of tunnel shafts Identification Marks on Do. Material of screw shafts Identification Marks on Do.
Is the flash point of the oil to be used over 150° F.
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.)
This set of engines has been built under survey and the materials tested in accordance with the rules of this Society. The materials and workmanship so far as could be seen, are sound and good and the engines have been tried under full load on the test bed with satisfactory results.
Engines shipped to Kobe, Japan to be installed on board vessel.
To have record in the Register Book of 1/2 H.P. oil engine, with date, when instal

Glasgow

The amount of Entry Fee ... £ 6 : 0 :
Special 4/5th of total ... £ 83 : 15 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 22/11/24
When received, 30/1/24

A. Campbell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 22 JAN 1924
Assigned Deferred

WED. 15 APR 1925
See Vol. 4787
Lloyd's Register Foundation

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