

REPORT ON OIL ENGINE MACHINERY.

No. 43296

Received at London Office *Glasgow* 23 JAN. 1924

Date of writing Report 19 *21. 1. 1924* When handed in at Local Office *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
on the *Twin* }
Triple }

Master *Clydebank* Built at *Clydebank* By whom built *Wm Brown & Co.* Yard No. *502 A* When built

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

Donkey Boilers made at *Clydebank* By whom made *Wm Brown & Co.* Boiler No. *502 A* When made

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

Nom. Horse Power as per Rule *593* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*

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 21 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 *No*

Is the after end of the liner made watertight in the propeller boss *No* If the liner is in more than one length are the joints burned *No*

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 *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 *No* Diameter of propeller *No*

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

Method of reversing *Compressed air* Is a governor or other arrangement fitted to prevent racing of the engine *when detached* *No* Thickness of cylinder liners *2 1/2" at centre*

Are the cylinders fitted with safety valves *No* Means of lubrication *Forced* Are the exhaust pipes and silencers water cooled or lagged with *No*

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*

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

May 6-12 *within the vessel* No. of bilge pumps fitted to the main engines *none* Diameter of ditto *No* Stroke *No*

16-3-7-10-12 *Can one be overhauled while the other is at work* No. of auxiliary pumps connected to the main bilge lines *No* How driven *No*

19-2 *Sizes of pumps* No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room *No*

9-9-24 *and in holds, etc.* No. of ballast pumps *No* How driven *No* Sizes of pumps *No*

25 *Is the ballast pump fitted with a direct suction from the engine room bilges* State size *No* Is a separate auxiliary pump suction fitted in *No*

Engine Room and size *No* Are all the bilge suction pipes fitted with roses *No* Are the roses in Engine Room always accessible *No*

Are the sluices on Engine Room bulkheads always accessible *No* Are all connections with the sea direct on the skin of the ship *No*

Are they valves or cocks *No* Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates *No*

Are the discharge pipes above or below the deep water line *No* Are they each fitted with a discharge valve always accessible on the plating of the vessel *No*

Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times *No* Are the bilge suction pipes, cocks and valves arranged so as to prevent any *No*

communication between the sea and the bilges *No* Is the screw shaft tunnel watertight *No* Is it fitted with a watertight door *No*

worked from *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 *Two* No. of stages *4 each* Diameter *25 1/2"* Stroke *19"* Driven by *Crank shaft.*

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

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

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

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

Material *No* Seamless, lap welded or riveted longitudinal joint *No* Range of tensile strength *No*

Thickness *No* Working pressure by Rules *No* No. of starting air receivers *No* Internal diameter *No*

Total cubic capacity *No* Material *No* Seamless, lap welded or riveted longitudinal joint *No*

Shipping. Range of tensile strength *No* thickness *No* Working pressure by rules *No* Is each receiver, which can be isolated, *No*

Fitted with a safety valve as per Rule *No* Can the internal surfaces of the receivers be examined *No* What means are provided for cleaning their *No*

Inner surfaces *No* Is there a drain arrangement fitted at the lowest part of each receiver *No*

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	A.M.C.	
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	24/12/23	1100 lbs	2400 lbs		
INJECTION	12/11/23, 13/12/23	1100 lbs	2400 lbs		
AIR PIPES	12/11/23	1100 lbs	2400 lbs		
FUEL PIPES					
FUEL PUMPS					
SILENCER					
WATER JACKET	2/4, 19/11/23, 4/12/23	15 lbs	30 lbs		
SEPARATE FUEL TANKS					

Date of writing

No. in
Reg. BookMaster.
Donkey
Engine.

Donkey

Brake

Nom. 1

IL E

Maximum

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

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	During progress of work in shops - -	1921 Jan 26, 27, 31 Feb 7, 10, 17 Mar 7, 21 Apr 4, 11, 25 Sep 9, 14 Oct 11, 20, 24, 27 Nov 21 Dec 5, 29 1922 Jan 11, 12, 19, 23, 27 Feb 9, 12, 19, 23, 27 Mar 2, 9, 14, 17, 23, 27, 29 Apr 3, 24 May 2, 10, 29 Jul 3 Aug 9, 11, 22, 24, 28, 31 Sep 6, 13, 15, 18, 19, 26, 29 Oct 2, 5, 9, 17, 30 Nov 6, 9, 16, 17 Dec 10, 12, 22 Mar 22 Apr 2, 5, 12 May 4, 7, 11, 14, 18, 21, 26, 29 Jul 2, 6, 9, 26 Aug 2, 14, 15, 20, 30 Sep 3, 13, 17, 25, 27 Oct 1, 4, 5, 8, 11, 15, 18, Nov 12, 14, 16, 19, 22, 29 Dec 13, 17, 24, 27
Total No. of visits	109	13/9/22, 29/9/22, 30/8/23

Dates of Examination of principal parts—Cylinders 30/8/23 Covers ✓ Pistons 12/4/23 Rods 12/4/23 Connecting rods 12/4/23

Crank 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

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,

30/11/24

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

WED. 15 APR 1925

Committee's Minute

GLASGOW 22 JAN 1924

Assigned

Deferred

See Vol. 4787
Lloyd's Register
Foundation

Glasgow.

H.C.
21.1.24Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)