

# REPORT ON OIL ENGINE MACHINERY.

No. 47941

9 MAY 1928

Received at London Office

Port of writing Report 10 When handed in at Local Office 7.5.1928 Port of Glasgow  
Date, First Survey 22.2.26 Last Survey 26.4.28 19  
Number of Visits 102

Survey held at Glasgow Date, First Survey 22.2.26 Last Survey 26.4.28 19  
Book. "Elsa" Tons Gross 5381 Net 3177

Single }  
Twin }  
Triple }  
Quadruple }  
Screw vessel  
Built at Glasgow By whom built Barclay Curle & Co. Ltd. Yard No. 619 When built 1928.  
Engines made at Glasgow By whom made do Engine No. 619 When made 1928.  
Monkey Boilers made at Amlwch By whom made Barclay Curle & Co. Amlwch Ltd. Boiler No. 10275 When made 1927.  
Indicated Horse Power Owners H. Borthen Port belonging to  
Nominal Horse Power as per Rule 482 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Y/N

ENGINES, &c.—Type of Engines Deaford opposed piston 2 or 4 stroke cycle 2 Single or double acting Single  
Maximum pressure in cylinders 568 Diameter of cylinders 22.835 Length of stroke 45.67 x 2 No. of cylinders 3 No. of cranks 3  
Position of bearings, adjacent to the Crank, measured from inner edge to inner edge 108.25 Is there a bearing between each crank Y/N  
Revolutions per minute 84 Flywheel dia. 8'-8" Weight 13 tons Means of ignition Compression Kind of fuel used Diesel oil  
Crank Shaft, dia. of journals as per Rule approved 10.95 Crank pin dia. 18.1 Crank Webs Mid. length breadth 25.6 Thickness parallel to axis 10.25  
as fitted 10.95 Mid. length thickness 10.25 shrunk Thickness around eye-hole 4.5  
Flywheel Shaft, diameter as per Rule approved 16.95 Intermediate Shafts, diameter as per Rule 13.19 Thrust Shaft, diameter at collars as per Rule approved  
as fitted 16.95 as fitted 16.5 as fitted 16.95  
Main Shaft, diameter as per Rule 14.8 Is the screw shaft fitted with a continuous liner Y/N  
as fitted 15.8 as fitted 15.8  
Bronze Liners, thickness in way of bushes as per Rule 3/32 Thickness between bushes as per rule 9/32 Is the after end of the liner made watertight in the  
as fitted 25/32 as fitted 3/32  
propeller boss Y/N If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Y/N  
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 Y/N  
two liners are fitted, is the shaft lapped or protected between the liners Y/N Is an approved Oil Gland or other appliance fitted at the after  
end of the tube shaft No. Length of Bearing in Stern Bush next to and supporting propeller 5'-2 1/2"

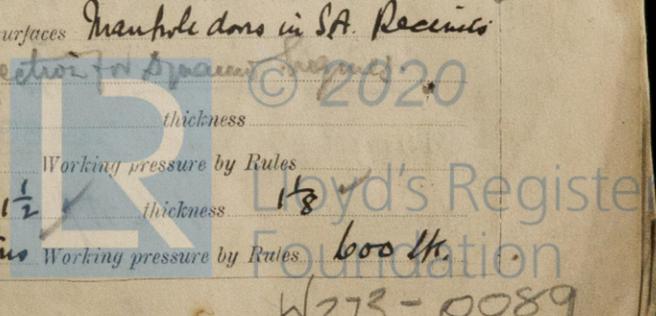
Propeller, dia. 15'-9" Pitch 13'-9" No. of blades 4 Material home whether Moveable No. Total Developed Surface 85 sq. feet  
Method of reversing Engines Comp. Air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Y/N Means of lubrication  
Oil used Thickness of cylinder liners 1/16 inch Are the cylinders fitted with safety valves Y/N Are the exhaust pipes and silencers water cooled or lagged with  
insulating material Y/N If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine to prevent  
cooling Water Pumps, No. 2 Main & 2 Aux. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Y/N  
Large Pumps worked from the Main Engines, No. 1 Diameter 4.35 Stroke 26 Can one be overhauled while the other is at work Y/N  
Pumps connected to the Main Bilge Line No. and Size 1 duplex 8x9x8 1 duplex 6x7x8 How driven steam  
Ballast Pumps, No. and size 108x9x8 Lubricating Oil Pumps, including Spare Pump, No. and size 1 1/2 main engine 4.35 dia x 26 stroke  
1 1/2 5 1/2 x 6 x 10  
Are two independent means arranged for circulating water through the Oil Cooler Y/N Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
Pumps, No. and size:—In Machinery Spaces 10 1/2", 30 3/4", 10 1/2" in E.R. Cofferdam, 10 3" in aft Cofferdam  
Holds, &c. Comp. flat 20 1/2" 1st pump room 10 1/2" 1st Cofferdam 10 3" aft pump room 20 3" aft Cofferdam 10 3"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 10 1/2"  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Y/N Are the Bilge Suctions in the Machinery Spaces  
fitted from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Y/N  
Are all Sea Connections fitted direct on the skin of the ship Y/N Are they fitted with Valves or Cocks Both  
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Y/N Are the Overboard Discharges above or below the deep water line Below  
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Y/N Are the Blow Off Cocks fitted with a spigot and brass covering plate Y/N  
That pipes pass through the bunkers How are they protected  
That pipes pass through the deep tanks Have they been tested as per Rule  
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Y/N  
Is the 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 Y/N Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
Main Air Compressors, No. 1 No. of stages 1 Diameters 35, 43, 13 Stroke 4 1/2 Driven by  
Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 24, 4 1/2, 9 Stroke 7 1/2 Driven by steam  
Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters Stroke Driven by  
Scavenging Air Pumps, No. 1 Diameter 62.2 Stroke 25.6 Driven by Main Motors  
Auxiliary Engines crank shafts, diameter as per Rule 2 electric generators driven by single cylinder Polar Diesel Engines  
as fitted marked A1-9.6.24

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Y/N  
Can the internal surfaces of the receivers be examined Y/N What means are provided for cleaning their inner surfaces Manhole doors in SA Receivers  
Is there a drain arrangement fitted at the lowest part of each receiver Y/N 2 starting & 2 injection for spare  
High Pressure Air Receivers, No. 2 Cubic capacity of each 220 ft Internal diameter 4'-1 1/2" thickness 1 1/2"  
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules  
Starting Air Receivers, No. 2 Total cubic capacity 220 ft Internal diameter 4'-1 1/2" thickness 1 1/2"  
Seamless, lap welded or riveted longitudinal joint Painted Material 5 Range of tensile strength 28,32 tons Working pressure by Rules 600 lb.

W273-0089



IS A DONKEY BOILER FITTED? *Yes, Two*

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

PLANS. Are approved plans forwarded herewith for Shafting *22.1.27*

Receivers *Yes*

Separate Tanks *9.11.26*

Donkey Boilers *Yes*

General Pumping Arrangements *Yes*

Oil Fuel Burning Arrangements *Yes*

SPARE GEAR

In accordance with Rules and additional

The foregoing is a correct description,  
FOR BARCLAY, CURLE & CO., LTD.

*John Hyander*  
ENGINE WORKS MANAGER

Manufacturer.

Dates of Survey while building  
During progress of work in shops-- 1926 Feb 22 Mar 1-3-10-15-17-21-23-25-28 Apr 1-6-12-20 May 19-31 June 2-10-16-23-28 Sep 2 Oct 6 (1927)  
During erection on board vessel-- 28 Mar 8-10-17-21-23 Apr 21-27 May 2-16-18-20-23-27 Jun 1-6-17-20-22-27 July 1-4-6-7-11-13 Aug 3-9-19 Sep 8-13  
Total No. of visits 102 Oct 3-10-12-13-26 Nov 4-11-14-16-18-25-28 Dec 2-12-19-21-28 (1928) Jan 6-11-12-18-20-23-25-27-29 Feb 8-13-17-29 Mar 2-5-6-19-26-30 Apr 4-6-10-13-17-18

Dates of Examination of principal parts—Cylinders 8-2-28 Covers ✓ Pistons 10-10-27 Rods 10-10-27 Connecting rods 20-1-28

Crank shaft 7-10-27 Flywheel shaft *and* Thrust shaft 14-11-27 Intermediate shafts 14-11-27 Tube shaft ✓

Screw shaft 23-1-28 Propeller 27-1-28 Stern tube 20-2-28 Engine seatings 20-2-28 Engines holding down bolts 10-4-28

Completion of fitting sea connections 17-4-28 Completion of pumping arrangements 18-4-28 Engines tried under working conditions 26-4-28

Crank shaft, Material *S.M. hyp steel* Identification Mark 2391-7-10-27 Flywheel shaft, Material *S.M. hyp steel* Identification Mark 194-H-27

Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material *S.M. hyp steel* Identification Marks 165-MK-21-1

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material " Identification Mark 2248-JL-27

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*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *oil tanks* If so, have the requirements of the Rules been complied with ✓

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

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been built under special Survey and in accordance with the Rules. The materials and workmanship are good. On completion it has been efficiently secured in position, tried under full working conditions with satisfactory results.

The machinery of this vessel is eligible, in my opinion, to be classed in the Register Book with notation of +L.M.C. H.28.

*A.B. 2/5/28 Glasgow*

The amount of Entry Fee ... £ 5 : - :  
Special ... £ 97 : 6 :  
Donkey Boiler Fee ... £ 9 : 8 :  
Travelling Expenses (if any) ... £ 4 : 4 :  
When applied for, 7-5-28  
When received, 1-6-28

*John Hyander*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 8 - MAY 1928 ✓

Assigned +L.M.C. 428.



CERTIFICATE WRITTEN.