

# REPORT ON OIL ENGINE MACHINERY.

No. 479411

9 MAY 1928

Received at London Office

10. Date of writing Report

When handed in at Local Office

7.5.1928 Port of

Glasgow

in Survey held at

Glasgow

Date, First Survey

22.2.26

Last Survey 26.4.28

Number of Visits 102

on the

Single  
Twin  
Triple  
Quadruple

Screw vessel

"Elsa"

Tons  
Gross 5381  
Net 3177

uilt at

Glasgow

By whom built

Barclay Curle & Co. Ltd.

Yard No. 619 When built 1928.

ines made at

Glasgow

By whom made

Barclay Curle & Co. Ltd.

Engine No. 619 When made 1928.

onkey Boilers made at

Ayr

By whom made

Barclay Curle & Co. Ltd.

Boiler No. 10275 When made 1927.

ake Horse Power

Owners

H. Borthwick

Port belonging to

m. Horse Power as per Rule

482

Is Refrigerating Machinery fitted for cargo purposes

No. Is Electric Light fitted

Yes

ade for which vessel is intended

ENGINES, &c.—Type of Engines *Double acting piston* 2 or 4 stroke cycle *2* Single or double acting *Single*

imum pressure in cylinders *568* Diameter of cylinders *22.835* Length of stroke *45.47 x 2* No. of cylinders *3* No. of cranks *3*

in of bearings, adjacent to the Crank, measured from *inner edge to inner edge* *108.25* Is there a bearing between each crank *Yes*

olutions per minute *84* Flywheel dia. *8'-8"* Weight *13 tons* Means of ignition *Compression* Kind of fuel used *Diesel oil*

ank Shaft, dia. of journals *as per Rule approved* Crank pin dia. *18.1* Crank Webs *Mid. length breadth 25.6* Thickness parallel to axis *10.25*

as fitted *16.95* Crank pin dia. *18.1* Crank Webs *Mid. length thickness 10.25* Thickness around eyehole *4.5*

as per Rule *approved* Intermediate Shafts, diameter *as per Rule 13.19* Thrust Shaft, diameter at collars *as per Rule approved*

as fitted *16.95* Intermediate Shafts, diameter *as fitted 16.5* Thrust Shaft, diameter at collars *as fitted 16.95*

as per Rule *approved* Screw Shaft, diameter *as per Rule 14.8* Is the *tube* shaft fitted with a continuous liner *Yes*

as fitted *15.8* Screw Shaft, diameter *as fitted 15.8* Is the *tube* shaft fitted with a continuous liner *Yes*

as per Rule *3/32* Thickness between bushes *as per rule 9/16* Is the after end of the liner made watertight in the

as fitted *3/32* Thickness between bushes *as fitted 9/16* 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 junctions made by fusion through the whole thickness of the liner *Yes*

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*

two liners are fitted, is the shaft lapped or protected between the liners *Yes* Is an approved Oil Gland or other appliance fitted at the after

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 *hemp* whether Moveable *No* Total Developed Surface *85* sq. feet

ethod of reversing Engines *Comp. Air* Is a governor or other arrangement fitted to prevent racing of the engine when detached *Yes* Means of lubrication

*Need* Thickness of cylinder liners *1 1/2" imp* Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with

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 *to prevent*

ooling Water Pumps, No. *2 Main & 2 Aux.* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *Yes*

lge Pumps worked from the Main Engines, No. *1* Diameter *4.35* Stroke *26* Can one be overhauled while the other is at work *Yes*

umps connected to the Main Bilge Line { No. and Size *1 duplex 8x9x8* *1 duplex 6x7x8*

How driven *Steam* Lubricating Oil Pumps, including Spare Pump, No. and size *1 1/2 Main engine 4.35 dia x 26 Stroke*

allast Pumps, No. and size *108x9x8* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

re two independent means arranged for circulating water through the Oil Cooler *Yes* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

umps, No. and size:—In Machinery Spaces *10 1/2, 30 3/2, 10 1/2 in E.R. Cofferdam, 10 3/2 in aft Cofferdam*

Holds, &c. *Cargo hold 20 1/2, 1st pump room 10 1/2, 2nd Cofferdam 10 3/2, aft pump room 20 3/2, aft Cofferdam 10 3/2*

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *10 1/2*

re all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes *Yes* Are the Bilge Suctions in the Machinery Spaces

l from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges *Yes*

re all Sea Connections fitted direct on the skin of the ship *Yes* Are they fitted with Valves or Cocks *Both*

re they fixed sufficiently high on the ship's side to be seen without lifting the platform plates *Yes* Are the Overboard Discharges above or below the deep water line *Below*

re they each fitted with a Discharge Valve always accessible on the plating of the vessel *Yes* Are the Blow Off Cocks fitted with a spigot and brass covering plate *Yes*

That pipes pass through the bunkers *Yes* How are they protected *Yes*

That pipes pass through the deep tanks *Yes* Have they been tested as per Rule *Yes*

re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*

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

partment to another *Yes* Is the Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

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

ain Air Compressors, No. *1* No. of stages *1* Diameters *35, 43, 13* Stroke *7 1/2* Driven by *Steam*

uxiliary Air Compressors, No. *2* No. of stages *3* Diameters *24, 43, 9* Stroke *7 1/2* Driven by *Steam*

mall Auxiliary Air Compressors, No. *1* No. of stages *1* Diameters *62.2* Stroke *25.6* Driven by *Main Motors*

avenging Air Pumps, No. *1* Diameter *62.2* Stroke *25.6* Driven by *Main Motors*

uxiliary Engines crank shafts, diameter *as per Rule 2 electric generators driven by Single cylinder Polar Diesel Engines*

as fitted *marked A1-9.6.24*

R RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*

an the internal surfaces of the receivers be examined *Yes* What means are provided for cleaning their inner surfaces *Manhole doors in SA. Receivers*

there a drain arrangement fitted at the lowest part of each receiver *Yes* *2 starting & 2 injection for steam*

High Pressure Air Receivers, No. *2* Cubic capacity of each *220 ft* Internal diameter *4'-1 1/2"* thickness *1 1/2"*

eamless, lap welded or riveted longitudinal joint *Material 28.32 tons* Range of tensile strength *Working pressure by Rules 600 lb.*

Starting Air Receivers, No. *2* Total cubic capacity *220 ft* Internal diameter *4'-1 1/2"* thickness *1 1/2"*

eamless, lap welded or riveted longitudinal joint *Material 28.32 tons* Range of tensile strength *Working pressure by Rules 600 lb.*

W273-0089

IS A DONKEY BOILER FITTED?

Yes. Two  
22.1.27

If so, is a report now forwarded?

Yes

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

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

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 10.10.24 Pistons 10.10.24 Rods 10.10.24 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 14.11.27  
Screw shaft 23.1.28 Propeller 24.1.28 Stern tube 20.2.28 Engine sealings 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. high steel Identification Mark 2391-7-10-27 Flywheel shaft, Material S.M. high steel Identification Mark 194-H-2  
Thrust shaft, Material Identification Mark Intermediate shafts, Material S.M. high steel Identification Marks 165-MK-21-1  
Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark 2248-JL-9

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 Yes

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

The amount of Entry Fee ... £ 5 : - : When applied for, 7.5.28  
Special ... £ 97 : 6 :  
Donkey Boiler Fee ... £ 9 : 8 :  
S.A. Recimen Travelling Expenses (if any) £ 4 : 4 : When received, 1.6.28

Committee's Minute GLASGOW 8 - MAY 1928

Assigned +L.M.C. 4,28.

CERTIFICATE WRITTEN.

Engineer Surveyor to Lloyd's Register of Shipping.



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