

REPORT ON OIL ENGINE MACHINERY.

No. 63609

Received at London Office

MAR 28 1941

Date of writing Report

When handed in at Local Office

25: 3: 10 41 Port of

No. in Survey held at
Reg. Book.

Date, First Survey

3rd May 1939

Last Survey

12th Mar. 1941.

Number of Visits 112

Single
on the ~~Four~~
~~Triple~~
~~Quadruple~~

Screw vessel

"CAPE HAWKE"Tons { Gross 5081
Net 2933Built at GlasgowBy whom built Lithgow's Ltd.Yard No. 930 When built 1941Engines made at GlasgowBy whom made David Brown & Co. Ltd.Engine No. 1037 When made 1941Donkey Boilers made at DunbarBy whom made Cochran & Co. Dunbar Ltd.Boiler No. 4493 When made 1941Brake Horse Power 2850Owners Lyle Shipping Co.Port belonging to GlasgowNom. Horse Power as per Rule 599Is Refrigerating Machinery fitted for cargo purposes NoIs Electric Light fitted Yes

Trade for which vessel is intended

L ENGINES, &c.—Type of Engines Rover Oxford Opposed Piston 2 or 4 stroke cycle 2 Single or double acting SingleMaximum pressure in cylinders 570 lb.Diameter of cylinders 560 mmLength of stroke 2160 mmNo. of cylinders 4No. of cranks 12Mean Indicated Pressure 90 lb.Mean of bearings, adjacent to the Crank, measured from inner edge to inner edge 1120 mmIs there a bearing between each crank NoRevolutions per minute 110Flywheel dia. 2120 mmWeight 8.87 tonsMeans of ignition compressionKind of fuel used Diesel OilCrank Shaft, { Solid forged
Semi built
All built

dia. of journals

as per Rule 440 mmas fitted 420 mmCrank pin dia. 420 mm

Crank Webs

Mid. length breadth 610 mmMid. length thickness 240 mmThickens parallel to axis 240 mmThickens around eyehole 193 mm

Flywheel Shaft, diameter

as per Rule 12.43"as fitted 14 1/2"

Intermediate Shafts, diameter

as per Rule 13.762"as fitted 15 1/2"

Thrust Shaft, diameter at collars

as per Rule 13.05"as fitted 420 mm

Main Shaft, diameter

as per Rule 13.762"as fitted 15 1/2"

Screw Shaft, diameter

as per Rule 13.762"as fitted 15 1/2"Is the { tabo } shaft fitted with a continuous liner { Yes }

Bronze Liners, thickness in way of bushes

as per Rule .775"as fitted 13/16"

Thickness between bushes

as per Rule .681"as fitted 3/4"

Is the after end of the liner made watertight in the

Propeller boss YesIf the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yesthe 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 Yestwo liners are fitted, is the shaft lapped or protected between the liners No

Is an approved Oil Gland or other appliance fitted at the after end of the tube

If so, state type NoLength of Bearing in Stern Bush next to and supporting propeller 5' 2"Propeller, dia. 16'-0" Pitch 11'-6"No. of blades 4Material Brasswhether Moveable NoTotal Developed Surface 94 sq. feetMethod of reversing Engines DirectIs a governor or other arrangement fitted to prevent racing of the engine when detached YesMeans of lubrication YesThickness of cylinder liners 23 mmAre the cylinders fitted with safety valves YesAre the exhaust pipes and silencers water cooled lagged withnon-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 NoCooling Water Pumps, No. 1 on M.E. 1 spare dupl. onIs the sea suction provided with an efficient strainer which can be cleared within the vessel F.W. CoolingLarge Pumps worked from the Main Engines, No. noneDiameter -Stroke -Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line

No. and Size 1 @ 14" x 10 1/2" x 24"How driven All steam1 @ 9" x 8" x 18"1 @ 5" x 8" x 8"1 @ 5" x 8" x 8"the cooling water led to the bilges No

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements -Ballast Pumps, No. and size 1 @ 14" x 10 1/2" x 24"Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 @ 10" x 8" x 18"two independent means arranged for circulating water through the Oil Cooler Yes

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces 2 @ 3" 2 @ 2" rily bilgeIn Pump Room -Holds, &c. N° 1-2 @ 3" N° 2-2 @ 3 1/2" Dup tank 2 @ 2 1/2" N° 3-2 @ 3" N° 4-2 @ 3" Tunnel well 1 @ 2 1/2"Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 5"

Are the Bilge Suctions in the Machinery Spaces

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yesfrom easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yesall Sea Connections fitted direct on the skin of the ship YesAre they fitted with Valves or Cocks Boththey fixed sufficiently high on the ship's side to be seen without lifting the platform plates YesAre the Overboard Discharges above or below the deep water line abovethey each fitted with a Discharge Valve always accessible on the plating of the vessel YesAre the Blow Off Cocks fitted with a spigot and brass covering plate Yeswhat pipes pass through the bunkers noneHow are they protected -what pipes pass through the deep tanks F.P. Ballast pipes. N° 1 & 2 bilge pipesHave they been tested as per Rule See GRH. apt on hull.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

apartment to another YesIs the Shaft Tunnel watertight YesIs it fitted with a watertight door Yesworked from upper decka 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. -No. of stages -Diameters 11 1/2" 8 3/4" 11 1/2" 9 1/2" 6 1/2"Stroke -Driven by -Auxiliary Air Compressors, No. 2No. of stages 3Diameters 2 3/4"Stroke -Driven by steamSmall Auxiliary Air Compressors, No. -No. of stages -Diameters -Stroke -Driven by -what provision is made for first Charging the Air Receivers steam driven compressorsSavenging Air Pumps, No. oneDiameter 1850 mmStroke 540 mmDriven by Main engine

Auxiliary Engines crank shafts, diameter

as per Rule -as fitted -No. -Position -Are the Auxiliary Engines been constructed under special survey -Is a report sent herewith -Lloyd's Register
Foundation

AIR RECEIVERS:—Have they been made under survey *Yes* ✓ State No. of Report or Certificate *GLS. Cert. C 4058* Rpt.
Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes* ✓
Can the internal surfaces of the receivers be examined and cleaned *Yes* ✓ Is a drain fitted at the lowest part of each receiver *Yes* ✓
Injection Air Receivers, No. *✓* Cubic capacity of each *✓* Internal diameter *—* thickness *—*
Seamless, lap welded or riveted longitudinal joint *—* Material *—* Range of tensile strength *—* Working pressure *—* by Rules *—* Actual *—* date of
Starting Air Receivers, No. *2* ✓ Total cubic capacity *220 cu. ft.* Internal diameter *3'-6"* thickness *1"* ✓
Seamless, lap welded or riveted longitudinal joint *riveted* ✓ Material *steel* Range of tensile strength *28/32 tons* Working pressure *602 lb.* by Rules *602 lb.* Actual *600 lb.*
IS A DONKEY BOILER FITTED? *Yes* ✓ If so, is a report now forwarded? *Yes* ✓
Is the donkey boiler intended to be used for domestic purposes only *no*
PLANS. Are approved plans forwarded herewith for Shafting *Yes* ✓ Receivers *Yes* ✓ Separate Fuel Tanks *Yes* ✓
Donkey Boilers *Yes* ✓ General Pumping Arrangements *—* Pumping Arrangements in Machinery Space *Yes* ✓
Oil Fuel Burning Arrangements *Yes* ✓
SPARE GEAR.
Has the spare gear required by the Rules been supplied *Yes* ✓
State the principal additional spare gear supplied *List attached* ✓

The foregoing is a correct description,

for David Rowan & Co. Ltd.

Archd. N. Grierson.

Manufacturer.

Dates of Survey while building
During progress of work in shops—*1939 May 3 22 26 31 June 13 16 20 26 29 30 Aug 3 4 7 9 15 16 24 Sep 4 11 15 19 26 Oct 2 4*
During erection on board vessel—*12 24 Nov 29 Dec 8 12 18 21 (1940) Jan 9 30 Feb 23 26 Mar 4 6 28 Apr 9 11 15 16 17 May 8 9 14 20 21 24 27 28*
Total No. of visits *12-19 20 25 26 Dec 6 11 12 13 27 30 (1941) Jan 2 7 30 Feb 7 12 18 19 25 Mar 3 7 12*

Dates of Examination of principal parts—Cylinders *20-5-40* Covers *—* Pistons *20-9-40* Rods *20-9-40* Connecting rods *6-6-40*
Crank shaft *2-7-40* Flywheel shaft *2-7-40* Thrust shaft *2-7-40* Intermediate shafts *17-6-40* Tube shaft *—*
Screw shaft *21-5-40* Propeller *30-12-40* Stern tube *9-5-40* Engine seatings *10-5-40* Engines holding down bolts *18-2-41*
Completion of fitting sea connections *30-4-40* Completion of pumping arrangements *3-3-41* Engines tried under working conditions *7-3-41*
Crank shaft, Material *SM. steel* Identification Mark *8719 F.D.* Flywheel shaft, Material *SM. steel* Identification Mark *8719 F.D.*
Thrust shaft, Material *SM. steel* Identification Mark *8719 F.D.* Intermediate shafts, Material *SM. steel* Identification Marks *8719 AJB*
Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *SM. steel* Identification Mark *8719 AJB*

Identification Marks on Air Receivers

Nº 20552

LLOYD'S TEST 800 lb. WP 600 lb. LCO 18-4-40.

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 *no* If so, have the requirements of the Rules been complied with *—*
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *—*
Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *"CAPE CLEAR" GLS. Rº Nº 61406*

General Remarks (State quality of workmanship, opinions as to class, &c. *This machinery has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been satisfactorily installed in the vessel, tested under working conditions and, in my opinion, is eligible to be classed in the Register Book with record + LMC 3, 41 and notation CL 2 DB 120 lb.*

The amount of Entry Fee .. £ 6 : - :
Special £ 104 : 19 :
Donkey Boiler Fee £ 11 : 4 :
WELDING FEE
Travelling Expenses (if any) £ 12 : 12 :
When applied for, **25 MAR 1941**
When received, **25 MAR 1941**

Committee's Minute **GLASGOW 25 MAR 1941**

Assigned *-1- LMC 3. 41*

2 DB 120 lb.

Oil Eng.

W. Brown
Engineer Surveyor to Lloyd's Register of Shipping.



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