

REPORT ON OIL ENGINE MACHINERY.

No. 57900

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Date of writing Report 11-2-37 When handed in at Local Office 3.2.37 Port of Glasgow

No. in Survey held at Reg. Book. *Blydebank* Date, First Survey 11th Nov 1935 Last Survey 10th Feb 1937 Number of Visits 167

on the *Single* *Twin* *Triple* *Quadruple* Screw vessel "*Sussarc*" Tons Gross 11063 Net 6516

Built at *Blydebank* By whom built *John Brown & Co. Ltd* Yard No. *546* When built *1937*

Engines made at *Do* By whom made *Do* Engine No. *546* When made *1937*

Donkey Boilers made at *Do* By whom made *Do* Boiler No. *546* When made *1937*

Brake Horse Power *6625 each Eng* Owners *P. & O. S. N. Co. Ltd* Port belonging to *London*

Nom. Horse Power as per Rule *2528* Is Refrigerating Machinery fitted for cargo purposes *Yes* Is Electric Light fitted *Yes*

Trade for which vessel is intended *New Zealand Meat Trade*

II ENGINES, &c.—Type of Engines *Diesel* *28 9/16* *88 9/16* 2 or 4 stroke cycle *2* Single or double acting *Single*

Maximum pressure in cylinders *568 lb* Diameter of cylinders *725 m/m* Length of stroke *1125 m/m mean* No. of cylinders *5* No. of cranks *5-3 throw*

Mean Indicated Pressure _____ Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *7'-3"* Is there a bearing between each crank *Yes*

Revolutions per minute *145* Flywheel dia. _____ Weight _____ Means of ignition *Comp.* Kind of fuel used *Heavy oil*

Crank Shaft, dia. of journals *as per Rule 14-11-35* Crank pin dia. *560 m/m* Crank Webs Mid. length breadth *820 m/m* Thickness parallel to axis *315 m/m*

Flywheel Shaft, diameter *as per Rule 14-11-35* Intermediate Shafts, diameter *as per Rule 14-11-35* Thrust Shaft, diameter at collars *as per Rule 14-11-35*

Tube Shaft, diameter *as per Rule none* Screw Shaft, diameter *as per Rule 18"* Is the screw shaft fitted with a continuous liner *Yes*

Bronze Liners, thickness in way of bushes *as per Rule 15/16"* Thickness between bushes *as per rule 2 1/32"* 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 *One length*

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 *light fit*

If 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 end of the tube

shaft *No* If so, state type _____ Length of Bearing in Stern Bush next to and supporting propeller *8'-3"*

Propeller, dia. *17'-0"* Pitch *16'-0"* No. of blades *4* Material *Boss. C.S. Blades Bronze* whether Moveable *Yes* Total Developed Surface *100* sq. feet

Method of reversing Engines *sliding cam shaft* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *Yes* Means of lubrication

forced Thickness of cylinder liners *2 5/16 m/m* 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 *not overboard*

Cooling Water Pumps, No. *3* — *3- Centrifugal salt water* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *Yes for Pump?*

Bilge Pumps worked from the Main Engines, No. *none* Diameter _____ Stroke _____ Can one be overhauled while the other is at work *Yes*

Pumps connected to the Main Bilge Line { No. and Size *2- Centrifugal each 130 tons per hr, 3- Centrifugal each 100 tons per hr* How driven *Trotor* *Trotor*

Is 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 *2- Centrifugal each 100 tons per hr* Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *3- Centrifugal each 70 tons per hr*

Are 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 *Tunnel Well 1-3" Tunnels each 1-2", E.R. 3-3 1/2" 2-2 1/2" coffee* In Pump Room *Yes*

In Holds, &c. *N°5 3-3", N°4 3-3", N°3 2-3 1/2", N°1 2-3" Duct Keel 1-3" dams 2-3" 1-2 1/2"*

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *2-6"*

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

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

Are all Sea Connections fitted direct on the skin of the ship *Yes* 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 *Yes* Are the Overboard Discharges above or below the deep water line *Both*

Are 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*

What pipes pass through the bunkers *none* How are they protected _____

What pipes pass through the deep tanks *none* 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 *Yes*

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 *Yes* Is the Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *E.R. top platform*

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

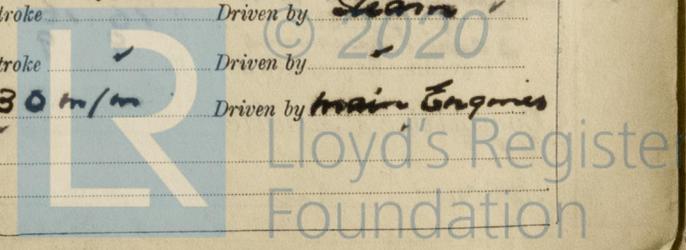
Main Air Compressors, No. *2* No. of stages *3* Diameters *See Don Carlos N° 9114, 9115* Stroke _____ Driven by *Motor*

Auxiliary Air Compressors, No. *1* No. of stages *2* Diameters *See Don Carlos N° 9087* Stroke _____ Driven by *Steam*

Small Auxiliary Air Compressors, No. _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____

Scavenging Air Pumps, No. *2* Diameter *1780 m/m* Stroke *1430 m/m* Driven by *Main Engines*

Auxiliary Engines crank shafts, diameter *as per Rule* No. _____ Position _____



AIR RECEIVERS:—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*

High Pressure Air Receivers, No. 3 Cubic capacity of each *300* Internal diameter *5'-4"* thickness *1 13/32"*

Seamless, lap welded or riveted longitudinal joint *Yes* Material *Steel* Range of tensile strength *29-33* Working pressure by Rules Actual *600*

Starting Air Receivers, No. See above Total cubic capacity Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED? *Yes 2 Clarkson* If so, is a report now forwarded? *Yes below*

Is the donkey boiler intended to be used for domestic purposes only *No*

PLANS. Are approved plans forwarded herewith for Shafting *14-11-35* Receivers *See below* Separate Fuel Tanks *See below*

Donkey Boilers *See below* General Pumping Arrangements *See below* Pumping Arrangements in Machinery Space *Do*

Oil Fuel Burning Arrangements *See below*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*

State the principal additional spare gear supplied *One screw shaft, one propeller boss, 4 blades, four cylinder liners, etc.*

The foregoing is a correct description,
John Brown & Company, Limited.

Manufacturer.

| | | |
|--------------------------------|------------------------------------|---|
| Dates of Survey while building | During progress of work in shops-- | 1935 Nov: 11-14-20-21-26-27-28-29 Dec: 10-12-16-18-19-23-26 (1936) Jan: 6-14-20-23-24-28 Feb: 3-10-20-24 Mar: 3-9-11-13-17-18-20-23-25-26-28-29 Apr: 7-8-22-24-27-29 May: 1-4-5-7-8-11-12-13-19-22-25-26-28-29 June: 1-3-4-12-15-16-17-19-20-22-23-25-26-28-29 July: 1-3-6-8-9-10-13-15-29-31 Aug: 4-7-10-12-14-17-20-21-24-27-28-31 Sep: 2-7-8-9-11-14-15-16-18-21-22-25-30 Oct: 1-3-6-7-9-12-13-14-16-19-20-21-22-26-27-28-30 Nov: 2-3-5-6-9-10-11-13-16-18-20-23-24-26-30 Dec: 1-4-7-11-17-21-22-23-29 (1937) Jan: 6-8-11-12-15-18-19-20-21-25-26-27-28-29 Feb: 1-2-3-4-5-9-11 |
| | During erection on board vessel-- | |
| | Total No. of visits | 172 |

Dates of Examination of principal parts—Cylinders *24-4-36* Covers Thrust shaft *24-4-36* Intermediate shafts *24-4-36* Tube shaft *none*

Crank shaft *4-5-36* Flywheel shaft Thrust shaft *24-4-36* Intermediate shafts *24-4-36* Tube shaft *none*

Screw shaft *19-5-36* Propeller *16-6-36* Stern tube *30-9-36* Engine seatings *1-7-36* Engines holding down bolts *21-12-36*

Completion of fitting sea connections *16-11-36* Completion of pumping arrangements Engines tried under working conditions

Crank shaft, Material *S* Identification Mark *S. 62* Flywheel shaft, Material Identification Mark

Thrust shaft, Material *S* Identification Mark *P10599, S174* Intermediate shafts, Material *S* Identification Marks *220*

Tube shaft, Material *none* Identification Mark Screw shaft, Material *S* Identification Mark *220*

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 *Not required*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *Essex all approved plans in that Report SLS N: 57690*

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

The machinery of this vessel has been built under special survey in accordance with the approved plans, and the Society's Rules and requirements, the materials and workmanship are good and it has been securely fitted on board and satisfactorily tried under working conditions and in my opinion is eligible for the record + L. M. C. 2-37. 2 H. B. 120 lbs

3/2/37

| | | | |
|------------------------------|-----------|-------------------|--|
| The amount of Entry Fee | £ 6 : - | When applied for, | |
| Special | £ 163 : 4 | When received, | |
| 2 Donkey Boilers Fee | £ 25 : - | | |
| 3 Air Receivers | £ 16 : 16 | | |
| Travelling Expenses (if any) | £ 9 : 9 | | |

Jas. Cairns
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 12 FEB 1937**
Assigned + *2.58.120 lb*
oil sup. etc.



Certificate (if required) to be sent to Glasgow.

The Surveyors are requested not to write on or below the space for Committee's Minute.