

REPORT ON OIL ENGINE MACHINERY.

No. 11282

Received at London Office JUN 12 1937

Date of writing Report 9th June 1937 When handed in at Local Office 11th June 1937 Port of **Gothenburg**

No. in Survey held at **Gothenburg** Date, First Survey 27th March 1936 Last Survey 28th May 1937
Reg. Book. **89000** on the **Single** Screw vessel **M/S "KOLLBJÖRG"** Number of Visits **75**

Tons Gross **8259**
Net **4978**

Built at **Gothenburg** By whom built **ERIKSBERGS M.V. AKTIEB.** Yard No. **264** When built **1937-5**

Engines made at **Gothenburg** By whom made **ERIKSBERGS M.V. AKTIEB.** Engine No. **159** When made **1937**

Donkey Boilers made at **Gothenburg** By whom made **ERIKSBERGS M.V. AKTIEB.** Boiler Nos. **535** When made **1937**

Brake Horse Power **3450** Owners **AKTIESELSKAPET KOLLBJÖRG** Port belonging to **OSLO**

Nom. Horse Power as per Rule **644** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

Trade for which vessel is intended **General.**

OIL ENGINES, &c.—Type of Engines **Vertical Diesel, crosshead type, solid inject² or 4 stroke cycle 2** Single or double acting **Double**

Maximum pressure in cylinders **49** Diameter of cylinders **450mm [17 1/16"]** Length of stroke **1900mm [74 7/8"]** No. of cylinders **6** No. of cranks **6**

Mean Indicated Pressure **6.65 kg/cm²** Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **840mm** Is there a bearing between each crank **Yes**

Revolutions per minute **115** ^{running} **9400 rpm** ^{ballance} **90° 20640 rpm** Means of ignition **Compression** Kind of fuel used **Diesel oil**

Crank Shaft, dia. of journals ^{as per Rule} **360mm** ^{as fitted} **360mm** Crank pin dia. **360mm** Crank Webs Mid. length breadth **shrunk** Thickness parallel to axis **304-324mm**

Flywheel Shaft, diameter ^{as per Rule} **340-413mm** Intermediate Shafts, diameter ^{as per Rule} **340-413mm** Thrust Shaft, diameter at collars ^{as per Rule} **490mm**

Tube Shaft, diameter ^{as per Rule} **490mm** Screw Shaft, diameter ^{as per Rule} **490mm** Is the **screw** shaft fitted with a continuous liner **Yes**

Bronze Liners, thickness in way of bushes ^{as per Rule} **21mm** Thickness between bushes ^{as per Rule} **21mm** 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**

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

shaft **Yes** If so, state type **Nickus "Vista" gland** Length of Bearing in Stern Bush next to and supporting propeller **2180mm**

Propeller, dia. **5029mm [16'-6"]** Pitch **3900mm [10'-6"]** No. of blades **4** Material **Bronze** whether Moveable **No** Total Developed Surface **8.067 [868 sq. feet]**

Method of reversing Engines **Direct reversal** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **Yes** Means of lubrication **Lubricated**

Thickness of cylinder liners **34mm** Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material **lagged** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine **1 fresh water pump 150 tons flow**

Cooling Water Pumps, No. **2 salt water pumps** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes**

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

Pumps connected to the Main Bilge Line No. and Size **1 piston pump 200 tons flow, 1 duplex 190x150x250mm** How driven **Electric** **Steam** **Electric**

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 **Yes** Ballast Pumps, No. and size **One, 150 tons flow** Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **Two, 2340 litres/minute, each**

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 **Four - 3 1/2"** In Pump Room **None**

In Hold, **None** **Two 2 1/2" to hold, One 2 1/2" to forward pump room and Two 4" main pumps from separate steam driven pumps**

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **One 3 1/2" steam " " " One 5" from ballast pump**

Are all the Bilge Suction pipes in Hold **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 **Yes**

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 **Above**

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 **No bunkers** How are they protected **Yes**

What pipes pass through the deep tanks **Large pipes and heating coils** Have they been tested as per Rule **Yes**

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 **Not tunnel** Is it fitted with a watertight door **Yes** 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 **Yes**

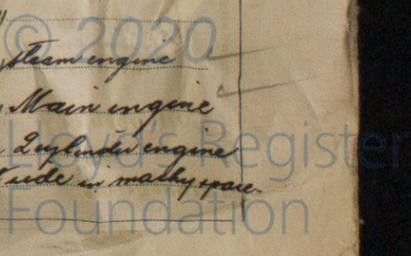
Main Air Compressors, No. **None** No. of stages **Diameters** **Stroke** Driven by **None**

Auxiliary Air Compressors, No. **2** No. of stages **Diameters** **Stroke** Driven by **None**

Small Auxiliary Air Compressors, No. **1** No. of stages **2** Diameters **1 1/8" x 3 3/4"** Stroke **3 1/4"** Driven by **Steam engine**

Scavenging Air Pumps, No. **2 off** Total capacity **290 m³/minute** Stroke **Yes** Driven by **Main engine**

Auxiliary Engines crank shafts, diameter ^{as per Rule} **150mm** No. **One Swedish engine, One English engine** Position **Starboard side** **port side in machinery space**



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. *None* Cubic capacity of each *-* Internal diameter *-* thickness *-*
 Seamless, lap welded or riveted longitudinal joint *-* Material *-* Range of tensile strength *-* Working pressure by Rules *-* Actual *-*
Starting Air Receivers, No. *one for aux. engine* Total cubic capacity *180 litres* Internal diameter *370 mm* thickness *22.5 mm*
 Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *34.7-41.0 kg/mm²* Working pressure by Rules *140.0* Actual *126.0*

IS A DONKEY BOILER FITTED? *Yes, two donkey boilers* 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 *No* *3/7/35 - 31/36* Receivers *No* *2/7/35* Separate Fuel Tanks *No* *3/7/35*
 (If not, state date of approval) Donkey Boilers *No* *3/7/35* General Pumping Arrangements *No* *19/6/35* Pumping Arrangements in Machinery Space *No* *19/6/35*
 Oil Fuel Burning Arrangements *-*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*
 State the principal additional spare gear supplied *5 complete sets of fuel valves for one cylinder, 1 exhaust top piston valve with rings and 2 add. sets of rings, 1 exhaust bottom piston valve with rings and 2 add. sets of rings, 4 halves of crosshead brasses, 2 halves of crank pin brasses, 2 halves of main bearing brasses, 1 cylinder liner (top & bottom), 2 piston rods, 2 rotators for the scavenging air blowers, 3 bearings for same, 1 propeller shaft with nut, 1 cast iron propeller.*

The foregoing is a correct description,

Eriksbergs Mek. Verkstads AB

Manufacturer.

1936: March 2, April 15, Sept 9, 12, Oct 2, 3, 5, 20, 21, 46, 57, Dec 11, 17, 22. 1937: Jan 5, 13, 22, 23, 28 Feb 3, 34, 5, 15, 17, 19, 22, 24, 26, 27, 29, March 1, 4, 9, 10, 11, 15, 17, 18, 19, 22, 25, 27, 30, 31, April 1, 2, 5, 6, 7, 14, 15, 17, 27, 29, May 4, 7, 14, 17, 20, 22, 26.
 1937: March 29, April 13, 16, 20, 27, 30, May 5, 10, 14, 21, 25, 26, 27, 28
 Total No. of visits *75*

Dates of Examination of principal parts—Cylinders *15/3/37* Covers *15/3/37* Pistons *18/3/37* Rods *15/3/37* Connecting rods *10/3/37*
 Crank shaft *27/2/37* Flywheel shaft *19/3/37* Thrust shaft *20/10/36* Intermediate shafts *14/3/37* Tube shaft *27/4/37*
 Screw shaft *27/3/37* Propeller *14/5/37* Stern tube *27/2/37* Engine seatings *22/3/37* Engines holding down bolts *27/4/37*
 Completion of fitting sea connections *14/5/37* Completion of pumping arrangements *26/5/37* Engines tried under working conditions *27/5/37*
 Crank shaft, Material *SM Steel* Identification Mark *LLOYDS 53172073* Flywheel shaft, Material *-* Identification Mark *-*
 Thrust shaft, Material *SM Steel* Identification Mark *ES 11-8-36* Intermediate shafts, Material *SM Steel* Identification Marks *LLOYDS 4542*
 Tube shaft, Material *-* Identification Mark *SR 20-10-36* Screw shaft, Material *SM Steel* Identification Marks *SR 5437*
 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 *Yes* If so, have the requirements of the Rules been complied with *Yes*
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *No*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *Similar to "Hollgrin's" Tonnöy*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The main & auxiliary engines of this vessel have been built under special survey and all the requirements of the Rules have been complied with. The shafting as per forging reports attached. Test sheets of donkey boiler and starting air material are also attached. The workmanship is good and the material fulfils the requirements of the Rules. The dimensions are as specified and in accordance with the Rules and approved. The auxiliary machinery consists of one 2 cylinder and one 3 cylinder, 2 stroke cycle, single acting Diesel oil engine of 220 mm diam and 370 mm stroke, manufactured by Eriksbergs M.V.A.B. of this port working dynamo of 8.2 and 100 Kw (The 1st entry reports now forwarded). The main & auxiliary engines have been tested under working conditions on a trial trip & found to work satisfactorily.*

The machinery of this vessel is eligible in my opinion to be classed in the Register of this Society with notation of *+140 5.37* (Working pressure of donkey boiler 142 kg/cm²)

The amount of Entry Fee *£ 114:00*
 Special *£ 9036:80*
 Donkey Boiler Fee *£ 158:60*
 Travelling Expenses (if any) *£ 30:6*
 When applied for, *11th June 1937*
 When received, *30.6.37*

L. J. Mander
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI 18 JUN 1937

Committee's Minute
 Assigned *+ Lamb 5-37*
Cl. Oil Div
208-142



Certificates (if required) to be sent to the Registrar of Shipping, 1, Cannon Street, London, E.C.4.
 (The Surveyors are requested not to sign on or below the space for Committee's Minute.)