

# REPORT ON OIL ENGINE MACHINERY.

No 100.147

Date of writing Report 30/11/42 When handed in at Local Office Port of

Received at London Office  
**NEWCASTLE-ON-TYNE**

No. in Survey held at Newcastle Date, First Survey 7/1/41 Last Survey 26/1/1942  
Reg. Book. Number of Visits 84

on the Single Screw vessel SAN VENANCIO  
Triple  
Quadruple

Tons { Gross 8152  
Net 4801

Built at Newcastle (Hebburn) By whom built R.W. Hawthorn, Leslie & Co Yard No. 636 When built 1942-  
Engines made at " (St Peters) By whom made ditto Engine No. 3974 When made 1942-  
Donkey Boilers made at ditto By whom made ditto Boiler No. 3974 When made 1942.  
Brake Horse Power 3500. Owners Eagle Oil Coy Port belonging to London  
Nom. Horse Power as per Rule 502. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended Ocean going, Carrying Petroleum in bulk.

**OIL ENGINES, &c.**—Type of Engines Hawthorn-Workshop Supercharged 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 700 lb Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8  
Mean Indicated Pressure 135 lb

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank Yes  
Revolutions per minute 120 Flywheel dia. 2260 mm Weight 6000 kg Means of ignition Heat of Compression Kind of fuel used Heavy oil

Crank Shaft, { Solid forged dia. of journals as per Rule 448 mm  
Semi built as fitted 460 Crank pin dia. 460 mm Crank Webs Mid. length breadth 870 mm Thickness parallel to axis 267 & 290 mm  
All built Mid. length thickness 267 Thickness around eye hole 204 mm

Flywheel Shaft, diameter as per Rule 448 mm Intermediate Shafts, diameter as per Rule 325 mm Thrust Shaft, diameter at collars as per Rule 341 mm  
as fitted 460 as fitted 470% at bearings as fitted 460

Tube Shaft, diameter as per Rule } none Screw Shaft, diameter as per Rule 358 mm Is the tube shaft fitted with a continuous liner } Yes  
as fitted } none as fitted 400

Bronze Liners, thickness in way of bushes as per Rule 18.55 mm Thickness between bushes as per Rule 13.9 mm Is the after end of the liner made watertight in the propeller boss Yes  
as fitted 20 mm as fitted 15 mm

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner In 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 a tight 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 Yes Length of Bearing in Stern Bush next to and supporting propeller 1585 mm

Propeller, dia. 15'-0" Pitch 12'-0" No. of blades 4 Material Mang. whether Moveable No Total Developed Surface 72 sq. feet  
Method of reversing Engines Air Servo Motor Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced

Thickness of cylinder liners 55 mm 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 Lead to top of funnel.

Cooling Water Pumps, No. 2 { 1 Rotary on main lug. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
1 Steam Centrifugal

Bilge Pumps worked from the Main Engines, No. 2 Diameter Rotary Stroke 4 Can one be overhauled while the other is at work Yes  
Pumps connected to the Main Bilge Line { No. and Size Three in all viz. two Rotary each 35 tons/hr + one G.S.P. 12 x 8 1/2 x 12 duplex  
How driven by main engine Indep Steam Eng. 180 tons/hr.

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 12 x 8 1/2 x 12 duplex G.S.P. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 Rotary 40 tons/hr on M. Eng. 1 Standby 8 x 8 x 10 duplex Steam 50 tons/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 3 of 3 1/2 (aft, P & S); 2 of 2 1/2 to Cofferdam.  
In Holds, &c. In Fore Hold 2 of 2; In Fore Store 2 of 2; In 7 Hold Pump Room 1 of 2; In 7 & A Cofferdams one 4" in each.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 5" to G.S.P. on P. side; one 7" Emerg. to Cooling water Pump on S. side  
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 with 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 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 bunks 4" bore Suction from aft Cofferdam. How are they protected None necessary.

What pipes pass through the deep tanks None 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 None Is it fitted with a watertight door Yes worked from Yes

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 2 Diameters 120 cut ft 1 free air @ 350 lb Stroke 12 Driven by one by Oil Eng. on S. side

Auxiliary Air Compressors, No. Two No. of stages 2 Diameters 120 cut ft 1 free air @ 350 lb Stroke 12 Driven by one by Steam Eng. on P. side

Small Auxiliary Air Compressors, No. None No. of stages 2 Diameters 120 cut ft 1 free air @ 350 lb Stroke 12 Driven by one by Steam Eng. on P. side

What provision is made for first Charging the Air Receivers by Steam driven air compressor.  
Scavenging Air Pumps, No. None Diameter 120 cut ft 1 free air @ 350 lb Stroke 12 Driven by one by Oil Eng. on S. side

Auxiliary Engines crank shafts, diameter as per Rule 448 mm as fitted 460 No. One driving a 25 Kw Dyno + a Compressor Position on S. side Driven by Thru Clutch  
Have the Auxiliary Engines been constructed under special survey Yes Ruston Hornsby oil engine Yes Is a report sent herewith Copy of Cert. No. G.534, Nottingham  
Class V.C.R.E. No. 204200.

**AIR RECEIVERS:**—Have they been made under survey *Yes* State No. of Report or Certificate *Lloyd's Test 550 lb WP 350 lb 3-10-HAW and Two 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*  
**Injection 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.** *Two* Total cubic capacity *1000 cub. ft.* Internal diameter *5-6 1/4"* thickness *15/16*  
 Seamless, lap welded or riveted longitudinal joint *DButt Straps* Material *S.* Range of tensile strength *28-32 tons* Working pressure by Rules *371 lb* Actual *350 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 - also for Steam Auxiliaries*  
**PLANS.** Are approved plans forwarded herewith for Shafting *21/6/40* Receivers *21/6/40* Separate Fuel Tanks *22/12/39*  
 (If not, state date of approval.)  
 Donkey Boilers *21/6/40* General Pumping Arrangements *14/1/41* Pumping Arrangements in Machinery Space *24/6/40*  
 Oil Fuel Burning Arrangements

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *Yes*  
 State the principal additional spare gear supplied *As per list attached.*

The foregoing is a correct description,  
*R. & W. HAWTHORN, LESLIE & CO., LIMITED*  
*R. B. Johnson* Manufacturer.

**Dates of Survey while building**  
 During progress of work in shops-- *1941 Jan. 7, 10, 14, 17, 30. Feb. 25. Mar. 7, 28. Apr. 8, 22, 23. May 13, 15, 22, 30. June 4, 11, 14, 17, 20, 24, 26, 27. July 1, 15, 17, 18, 21, 25, 28, 29. Aug. 1, 5, 8, 11, 13, 14, 21, 23, 27, 29. Sep. 2, 3, 9, 11, 15, 17, 19, 24, 25, 29. Oct. 1, 3, 6, 8, 11, 15, 23, 28, 30. Nov. 5, 14, 20, 21, 24, 25, 27. Dec. 2, 4, 9, 11, 12, 19, 20, 23, 26, 29, 30. 1942 Jan. 3, 8, 15, 19, 26.*  
 During erection on board vessel--  
 Total No. of visits *84.*  
**Dates of Examination of principal parts**—Cylinders *27/6/41 to 27/7/41* Covers *27/6/41 to 27/7/41* Pistons *1/7/41 to 28/7/41* Rods *15/7/41 to 7/41* Connecting rods *1/3-8-41 to 11-9-41*  
 Crank shaft *25/7/40* Flywheel shaft *29/8/41* Thrust shaft *17/7/41* Intermediate shafts *24/9/41* Tube shaft *none*  
 Screw shaft *17/9/41* Propeller *17/9/41* Stern tube *25/9/41* Engine seatings *25/9/41* Engines holding down bolts *24/11/41 to 19/12/41*  
 Completion of fitting sea connections *25/9/41* Completion of pumping arrangements *19/1/42* Engines tried under working conditions  
 Crank shaft, Material *F.S.* Identification Mark *10362 HAI.* Flywheel shaft, Material *10362 HAI.* Identification Mark *F.S.*  
 Thrust shaft, Material *F.S.* Identification Mark *10362 HAI. 8798* Intermediate shafts, Material *F.S.* Identification Marks *10362 HAI 10157.*  
 Tube shaft, Material *none* Identification Mark *✓* Screw shaft, Material *F.S.* Identification Mark *10362 HAI. 10150*  
 Identification Marks on Air Receivers *LLOYD'S TEST 550 LBS WP 350 LBS WN. 3-10-41*  
 on both Receivers

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 *✓* 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 *DIPLODON. New Rpt 99860. Ship 632. Eng 3969.*

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
*The machinery of this vessel has been constructed under special survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good. The machinery has been efficiently installed on board, tested under working conditions with satisfactory results, and is eligible, in my opinion, for record + LMC 1.42, and notations DB WP 180 lb. cl. Oil Eng. machy aft.*

The amount of Entry Fee .. £ 6 : : When applied for,  
 Special ... .. £ 100 : 2 : *14 FEB 1942*  
 Donkey Boiler Fee ... .. £ 23 : 6 : : When received,  
 2 Starting Air Receivers £ 8 : 8 : :  
 Travelling Expenses (if any) £ : : :  
 FRI. 13 FEB 1942

*A Watt*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned *+ LMC 1.42 Oil Eng*  
*DB - 180 lb*



NEWCASTLE-ON-TYNE  
 Certificate (if required) to be sent to  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)