

## REPORT ON OIL ENGINE MACHINERY.

No. 19905.

Received at London Office

Date of writing Report 3. 1. 35 When handed in at Local Office 2<sup>nd</sup> FEBRUARY, 1935. Port of Greenock 6 FEB 1935No. in Survey held at Greenock  
Reg. Book.Date, First Survey 9<sup>th</sup> FEBRUARY, 1934. Last Survey 2-2 1935

Number of Visits 96

Single  
on the Top  
Triple  
Quadruple

Screw vessel

SAN AMADO

Tons Gross 7316  
Net 4392

Built at Greenock By whom built Blythwood & Co. Ltd. Yard No. 37 When built 1935  
 Engines made at Greenock By whom made John E. Macaulay & Co. Ltd. Engine No. 1178 When made 1935  
 Donkey Boilers made at ditto By whom made ditto Boiler No. 1178 When made 1935  
 Brake Horse Power 2800 Owners Eagle Oil Refining Co. Ltd. Port belonging to Londonderry  
 Nom. Horse Power as per Rule 503 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which vessel is intended Foreign 25 7/8 55 1/8

OIL ENGINES, &c.—Type of Engines Diesel Solid Injection Under Pressure 4 stroke cycle 4 Single acting Single  
 Maximum pressure in cylinders 600 Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8  
 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 112 Flywheel dia. 2218 mm Weight 21950 kg Means of ignition Compression Kind of fuel used Diesel  
 Crank Shaft, dia. of journals 436 mm as per Rule 436 mm as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth shrunk Thickness parallel to axis 264 mm  
 Flywheel Shaft, diameter 436 mm as per Rule 436 mm as fitted 18 1/4 Intermediate Shafts, diameter 12 1/8 as per Rule 12 1/8 as fitted 24 Thrust Shaft, diameter at collars 12 1/8 as per Rule 12 1/8 as fitted 18 1/4  
 Tube Shaft, diameter 18 as per Rule 18 as fitted 18 Is the tube shaft fitted with a continuous liner Yes  
 Screw Shaft, diameter 18 as per Rule 18 as fitted 18  
 Bronze Liners, thickness in way of bushes 4/8 as per Rule 4/8 as fitted 4/8 Thickness between bushes 11/16 as per Rule 11/16 as fitted 11/16 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  
 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 Yes  
 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 Yes  
 Propeller, dia. 15 9/16 Pitch 11 3/8 No. of blades 4 Material Brass whether Moveable No Total Developed Surface 80 sq. feet  
 Method of reversing Engines air Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication Forced  
 Thickness of cylinder liners 48/640 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material lagged  
 Cooling Water Pumps, No. 2 (one 4 1/2 in. (one 2 1/2 in.)) 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. 2 Diameter 3 1/2 in. Stroke Rotary Can one be overhauled while the other is at work Yes  
 Pumps connected to the Main Bilge Line { No. and Size } 2 at 3 1/2 in. { one 8 x 8-10 }  
 How driven Main engine 3 Steam  
 Ballast Pumps, No. and size None Lubricating Oil Pumps, including Spare Pump, No. and size 2 one 4 1/2 in. (one 8 x 8-10)  
 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 at 3 In Pump Rooms 1-3 1/4 in each  
 In Tanks &c. 2 8 in each Tank Cargo hold. 2-2 1/2 2 1/4 in plan  
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Yes 2-6 5 in plan  
 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 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 None How are they protected Yes  
 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 —  
 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 —  
 Auxiliary Air Compressors, No. Two No. of stages 2 Diameters 9 1/4-11 1/2 Stroke 6 1/2 Driven by Steam  
 Small Auxiliary Air Compressors, No. None No. of stages — Diameters — Stroke — Driven by —  
 Scavenging Air Pumps, No. — Diameter — Stroke — Driven by —  
 Auxiliary Engines crank shafts, diameter as per Rule (an approved London 1-2 3/4) 110 mm as fitted 110 mm

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. one Cubic capacity of each 45 litres Internal diameter 250 mm thickness 7 mm  
 Seamless, lap welded or riveted longitudinal joint Seamless Material S Range of tensile strength 50-68 kg/mm<sup>2</sup> Working pressure 390 kg/cm<sup>2</sup>  
 Starting Air Receivers, No. 2 Total cubic capacity 800 cu ft Internal diameter 5-10 1/4 thickness 15/16  
 Seamless, lap welded or riveted longitudinal joint Riveted Material S Range of tensile strength 29-33 Working pressure 357 kg/cm<sup>2</sup>  
 Actual 350



4<sup>B</sup>. 19905.

IS A DONKEY BOILER FITTED? *Yes* <sup>2</sup> 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 Tanks *Yes*  
Donkey Boilers *Yes* General Pumping Arrangements *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 *Propeller shaft. Stamped L.R. 4903 WGM. 21.11.34*  
*2 cylinder heads. Pins complete also base. Iron Propeller*

The foregoing is a correct description,  
For JOHN G. KINCAID & CO. LIMITED.  
*W. Carter* Director. Manufacturer.

Dates of Survey while building { During progress of work in shops - - (1934) *Sept. 9-23-26. Oct. 2-14-23-29. Nov. 13-16-24-24. May 3-10-14-15-23-25-29. June 1-5-15-21-22-26. July 5-13-14-24-31. Aug. 6-9-15-17-23-27-28-31.*  
During erection on board vessel - - *Sept. 5-4-12-28. Oct. 2-10-12-15-18-22-24-26-29-30-31. Nov. 1-28-9-10-13-16-20-21-22-27-28-29-30. Dec. 3-4-5-10-11-12-14-18-20-21-24-26. (1935) Jan. 4-9-11-14-15-16-22-24-28-29-30.*  
Total No. of visits *96.*

Dates of Examination of principal parts—Cylinders *22. 10. 34* Covers *23-10-34* Pistons *8. 11. 34* Rods *18-9-34* Connecting rods *18-9-34*  
Crank shaft *12. 12-34* Flywheel shaft *✓* Thrust shaft *24. 11-34* Intermediate shafts *27. 11-34* Tube shaft *✓*  
Screw shaft *1-11-34* Propeller *1-11-34* Stern tube *30-10-34* Engine seatings *19. 11-34* Engines holding down bolts *10. 1-35*  
Completion of fitting sea connections *19. 11-34* Completion of pumping arrangements *10-1-35* Engines tried under working conditions *30 1-35*  
Crank shaft, Material *S* Identification Mark *L.R. 4903 WGM* Flywheel shaft, Material *✓* Identification Mark *✓*  
Thrust shaft, Material *S* Identification Mark *L.R. 4903 WGM* Intermediate shafts, Material *S* Identification Marks *L.R. 4903 WGM*  
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S* Identification Mark *L.R. 4903 WGM*

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 *No* If so, state name of vessel *✓*

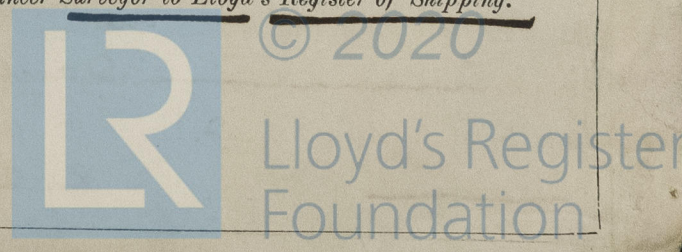
General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines & Boilers have been built under Special Survey in accordance with the approved plans and the workmanship & material are of good quality. They have now been securely fitted on board. Tried under working conditions & found satisfactory. The Machinery is eligible in my opinion for the record of LMC 2-35 (Notation of Donkey Boilers 180lb)*  
*On the official trials on the Clyde (30/1/35) a humming noise developed in the Propeller at 84 Revolutions to 112..*  
*It was agreed by the Eagle Oil Co. Supl. Engineer & the Engine Builders that there was no doubt about the noise.*  
*Instructions have been given by the Company's Supl. Engineer*

The amount of Entry Fee .. £ *6* : ✓ : When applied for,  
Special ... £ *100* : *3* : 1st FEBRUARY 1935.  
Donkey Boiler Fee ... £ *19-10* : : When received,  
*Car. Expenses* ... £ *8* : *8* : *5/21 1935*

*W. G. Gordon-Mitchell*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW** 5 FEB 1935  
Assigned *+ LMC 2,35*  
*2 DB-180d.*

GLASGOW  
Certificate (if required) to be sent to the Secretary of the Committee.





M/S "SKANDINAVIA"

Damage No. 1 (cont.) SB.

F. str. No. 17, G str. No. 16 and 17, H str. No. 16 and 17, J str. No. 16 and 17 renewed.

22 main frames in way of No. 1 and 2 side tanks renewed.

11 upper stringer flat beams, and 12 at lower stringer flat renewed,  
2 beams removed, faired and refitted.13 bottom brackets renewed, with 4 face bars, 3 frame angles removed, faired  
and refitted.

2 stiffeners on trans. bulkhead between No. 1 and 2 side tanks renewed.

No. 1 and 2 side tanks tested on completion of repairs.

Damage No. 2: Port side. Plates counted from aft.

H str. No. 15 and J str. No. 14 faired in place.

J - 17 renewed, No. 18 crossed and partly renewed.

K - 17 renewed.

15 main frames renewed.

No 1 and 2 port side tanks tested on completion of repairs.

Interim Certificate issued - copy attached -

16.



© 2020

Lloyd's Register  
Foundation



4 B.

Greenock.

Continuation of Report No. 19985 dated 2<sup>nd</sup> February 1935. on the

M/s "San Amado"

That the revolutions are not to exceed 104, an opportunity would be given to examine this Propeller, on the Vessel's next Dry Docking, at which Survey all interested Parties would be asked to attend. Propeller made by Messrs The Bull Metal Co. of Scotland Glasgow.

W<sup>m</sup> Gordon Muirhead