

REPORT ON OIL ENGINE MACHINERY.

No. 18115.

Received at London Office 9 APR 1951

Date of writing Report 19th March 1951. When handed in at Local Office 4th April 1951. Port of Gothenburg

No. in Survey held at Uddevalla Date, First Survey 14th April, 1950 Last Survey 16th March 1951
Reg. Book. Number of Visits 1190078 on the ~~Twin~~ Screw vessel "ISLAS ORCADAS" Tons Gross 9809
Net 5582

Built at Uddevalla By whom built Uddevallavarvet A-B. Yard No. 112 When built 1951

Engines made at Milwaukee, U.S.A. By whom made Nordberg Manufacturing Company Engine No. TSM 2973 When made 1949

Donkey Boilers made at Paisley, Scotland By whom made A.F. Craig & Co., Ltd. Boiler No. 23178 When made 1950

Maximum and Brake Horse Power 2 x 4250 Owners Argentine Government (Yacimientos Petroliferos Fiscales) Port belonging to Buenos Aires

M.N. Power as per Rule 2062 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 Heavy oil engines, Crosshead type, Solid injection 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 800 psi Diameter of cylinders 29" Length of stroke 40" No. of cylinders 7 No. of cranks 7

Mean Indicated Pressure 80 psi Ahead Firing Order in Cylinders 1-7-2-5-4-3-6 Span of bearings, adjacent to the crank, measured

from inner edge to inner edge Is there a bearing between each crank No Revolutions per minute 140

Flywheel dia. --- Weight --- Moment of inertia of flywheel (lbs. in² or Kg. cm.²) --- Means of ignition Compr. Kind of fuel used Diesel oilCrank Shaft, Solid forged dia. of journals as per Rule --- Crank pin dia. --- Crank webs Mid. length breadth --- Thickness parallel to axis ---
Semi built dia. of journals as fitted --- Crank webs Mid. length thickness --- shrunk Thickness around eye hole ---
All built

Flywheel Shaft, diameter as per Rule --- Intermediate Shafts, diameter as fitted 325 mm. Thrust Shaft, diameter at collars as per Rule ---

Tube Shaft, diameter as per Rule --- Screw Shaft, diameter as fitted 360 mm. Is the ~~box~~ shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as fitted 19 mm. Thickness between bushes as fitted 14 mm. 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. tightly If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after

end of tube shaft No If so, state type --- Length of bearing in Stern Bush next to and supporting propeller 1575 mm. Metr.

Propeller, dia. 4280 mm. Pitch 3950 mm. No. of blades 4 Material Bronze whether moveable No Total developed surface 7.37 sq. ft.

Moment of inertia of propeller (lbs. in² or Kg. cm.²) --- Kind of damper, if fitted No damper fitted

Method of reversing Engines Compr. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of

lubrication Forced Thickness of cylinder liners --- 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 Led to a funnel Cooling Water Pumps, No. 3 salt water à 250 M³ per hour, and 3 fresh water à 250 M³ per

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 ---

Pumps connected to the Main Bilge Line No. and size 1 ballast à 100 tons/hour, 1 bilge à 30 tons/hour, 1 transfer à 50 tons/h.

How driven Electrically Steam Electrically

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 1 à 100 tons/hour Power Driven Lubricating Oil Pumps, including spare pump, No. and size 3. 225 M³/hour

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 x 3", 4 x 2" In forward pump room 1 x 2 1/2"

In Main Pump Room 3 x 3" In Dry Cargo Hold 2 x 2 1/2"

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 x 5" ballast pump, 1 x 3 1/2" bilge pump, 1 x 3" transfer

pump, 1 x 6" main cooling water pumps

Are all the bilge suction pipes in holds well fitted with strum-boxes Yes Are the bilge suction 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 Also on stands Are they fitted with valves or cocks Valves 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 coal bunkers How are they protected ---

What pipes pass through the deep tanks Only bilge pipe from cofferdam 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 No tunnel Is it fitted with a watertight door --- 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 ---

Main Air Compressors, No. None No. of stages --- diameters --- stroke --- driven by ---

Auxiliary Air Compressors, No. 2 No. of stages 2 diameters 11.1/4" x 4.3/4" stroke 8" driven by El. motor

Small Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 5" x 2.1/4" stroke 3 1/2" driven by Hand started diesel engine

What provision is made for first charging the air receivers The above diesel driven compressor

Scavenging Air Pumps, No. 2 for each engine diameter Rotary stroke --- driven by El. motors

Auxiliary Engines crank shafts, diameter as per Rule --- Journals 7" Crank pins 6" Position 4 Busch Sulzer Brothers

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes See also Cleveland Report NO. 1347.

AIR RECEIVERS:—Have they been made under survey... Yes ✓ State No. of ~~receivers~~ receivers 2339-40. Rpt. 4
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, welded or riveted longitudinal joint... --- Material... --- Range of tensile strength... --- Working pressure... ---
Starting Air Receivers, No. 2 + 1 ✓ Total cubic capacity... 1 à 3 M³ Internal diameter... 976 mm. thickness... 12 mm. appd. 17.5
Seamless, welded or riveted longitudinal joint... El. welded Material... S.M.Steel Range of tensile strength... 45-52 kg/mm² Working pressure... 28.0
Actual... 17.5

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... London 15.8.1949 Receivers... London 2.2.1949 Separate fuel tanks... ---
(If not, state date of approval)
Donkey boilers... --- General pumping arrangements... London 15.3.49 Pumping arrangements in machinery space... London 15.3.19
Oil fuel burning arrangements... ---
Have Torsional Vibration characteristics been approved... Yes ✓ Date of approval... London 12.10.1948 and 15

SPARE GEAR.
Has the spare gear required by the Rules been supplied... Yes ✓
State the principal additional spare gear supplied... Propeller shaft

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for
torsional vibration characteristics.

UDDEVALLAVARVET AKTIEBOLAG Manufacturer.

Dates of Survey while building
During progress of work in shops - - -
During erection on board vessel - - - 14th April, 1950 - 16th March, 1951.
Total No. of visits... 11

Dates of examination of principal parts—Cylinders... --- Covers... --- Pistons... --- Rods... --- Connecting rods... ---
Crank shaft... --- Flywheel shaft... --- Thrust shaft... --- Intermediate shafts... 5.2.1951 Tube shaft... ---
Screw shaft... 26.10.1950 Propeller... 26.10.1950 Stern tube... 14.4.1950 Engine seatings... 5.6.1950 Engine holding down bolts... 9.11.1950
Completion of fitting sea connections... 14.4.1950 Completion of pumping arrangements... 5.3.1951 Engines tried under working conditions... 16.3.1951

Crank shaft, material... --- Identification mark... --- Flywheel shaft, material... --- Identification mark... ---
Thrust shaft, material... --- Identification mark... --- Intermediate shafts, material... S.M.Steel Identification marks... See below
Screw shaft, material... S.M.Steel Identification mark... LL.1512-13 Spare Screw shaft, material... S.M.Steel Identification mark... SB 4.10.50

No. 2339	No. 2356	No. 2359
LLOYD'S TEST 35 KG.	LLOYD'S TEST 45.5 KG.	LLOYD'S TEST 45.5 KG.
WP 17.5 KG.	WP 28 KG.	WP 28 KG.
HL 7.9.50	HL 2.10.50	HL 5.10.50

Identification marks on air receivers... Starbd. 6859-1, 1
AS 5-2-51

Welded receivers, state Makers' Name... Uddevallavarvet A-B. in accordance with the Rules for Welded Pressure Vessels Class II A
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 ✓
Description of fire extinguishing apparatus fitted... Steam under donkey boilers and main engines, 8 x 12 litres foam extinguishers,
1 x 140 litres foam ext. in boiler

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... Oil tanker ✓ If so, have the requirements of the Rules been complied with... Not complied
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with... M/T "Islas Malvinas", Gothenburg Fire

Is this machinery duplicate of a previous case... Yes ✓ If so, state name of vessel... Entry Report No. 17660. See also Cle
land, Ohio, Report No.1377.

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

The machinery of this vessel has been fitted on board under my inspection and to my satisfaction and has
been tested under full working power on a trial trip and found to work satisfactorily.

Material certificates in respect of the straight shafting and air receiver are forwarded separately.

The main engines can easily be run continuously below 60 revolutions per minute, and in accordance with

the Secretary's letter dated the 12th October, 1948, and of the 15th August, 1949, a notice board has been fitted at

control station, stating that the main engines are not to be run continuously below 60 revolutions per minute. No

torsiograph records have been taken from the completed installation.

The machinery of this vessel is eligible, in my opinion, to be classed in the Register Book with notation

of +LMC 3.51, 2 donkey boilers à 150 lbs. per sq. inch, and Tail Shafts fitted with Continuous Liners.

The amount of Entry Fee ... £ --- : ---
Special ... Kr. 2720:00 : When applied for 4th April 1951.
Start. Air Rec. Fee... Kr. 370:00 : When received --- 19 ---
Travelling Expenses (if any) Kr. 274:40 :
TUES. 24 APR 1951

Assigned +LMC 3.51 Oil Eng. (with endorsement)
C.L. 2 DB 150lb.

Anders Sjögren
Engineer Surveyor to Lloyd's Register of Shipping

Lloyd's Register
Foundation