

# REPORT ON OIL ENGINE MACHINERY.

No. 15109

Received at London Office 19 JAN 1951

Date of writing Report 1st January 1951 When handed in at Local Office 17/11 1951 Port of BELFAST

Survey held at BELFAST Date, First Survey 9 May 1949 Last Survey 29 Dec 1950 Number of Visits

M.V. "LAGANFIELD" Tons Gross 8196.22 Net 4735.35  
Screw vessel  
Belfast By whom built Harland & Wolff Ltd Yard No. 1418 When built 1950  
By whom made -do- Engine No. 1418 When made 1950  
Boilers made at -do- By whom made -do- Boiler Nos. 1467, 1468 When made 1950  
Horse Power 3200 Owners Hunting & Sons Ltd Port belonging to Newcastle on Tyne  
Power as per Rule 695 697 NHP=489 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted yes  
Intended for Carrying Petroleum in Bulk

ENGINES, &c. Type of Engines H.V. Heavy Oil Solid Injection 2 or 4 stroke cycle 4 Single or double acting Single  
Maximum pressure in cylinders 650 lbs./sq. in. Diameter of cylinders 7.40 in. Length of stroke 5.9 in. No. of cylinders 6 No. of cranks 6  
Indicated Pressure 128 lbs./sq. in. Ahead Firing Order in Cylinders 1.5.3, 6.2.4 Span of bearings, adjacent to the crank, measured  
inner edge to inner edge 9.72 in. 980 Is there a bearing between each crank yes Revolutions per minute 115

Wheel dia. 24.89 in. Weight 2590 kg Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 2252.10 Means of ignition Comp. Kind of fuel used Heavy Oil  
Crank pin dia. 5.05 in. Crank webs Mid. length breadth 9.40 in. Thickness parallel to axis 3.10 in.  
Crank webs Mid. length thickness 3.10 in. shrunk Thickness around eye-hole 2.27 in.  
Wheel Shaft, diameter as per Rule - as fitted - Intermediate Shafts, diameter as per Rule - as fitted - Thrust Shaft, diameter at collars as per Rule - as fitted -  
Screw Shaft, diameter as per Rule - as fitted - Is the shaft fitted with a continuous liner (screw) yes

Liners, thickness in way of bushes as per Rule 15/16 Thickness between bushes as per Rule 2/32 Is the after end of the liner made watertight in the  
peller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -  
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-  
osive - 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  
of tube shaft. No If so, state type - Length of bearing in Stern Bush next to and supporting propeller 5' 0"

Propeller, dia. 15'-6" Pitch 12'-0" No. of blades 4 Material Bronze whether moveable Solid Total developed surface 75 sq. feet  
Moment of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) - Kind of damper, if fitted -  
Method of reversing Engines Compound Air Is a governor or other arrangement fitted to prevent racing of the engine when ~~switched~~ yes Means of  
ignition 7 need Thickness of cylinder liners 53 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled  
lugged with non-conducting material Ragged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned  
to the engine. 2 SW = 1 ME & B. Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Water 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 1/2 170 ton/hr, 1/2 120 ton/hr, 1/2 100 ton/hr How driven Steam Steam Steam  
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 -

Fast Pumps, No. and size 1/2 170 ton/hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 M. G. 100 ton/hr  
two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both main bilge pumps and auxiliary  
pumps, No. and size:—In machinery spaces 3 3 1/2" C/Dam 1 2 3" In pump room 2 2 4" 1 2 1/2" 700  
valves, &c. 2 2 1/2" Fore Cold - 2 2 1/2" Fore Peak Space.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 2 1/2"  
all the bilge suction pipes in holds and tunnel 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  
all Sea Connections fitted direct on the skin of the Ship. yes Are they fitted with valves or cocks. Bolt 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. yes  
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

at pipes pass through the bunkers. none How are they protected -  
at pipes pass through the deep tanks. none Have they been tested as per Rule -  
all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times. yes  
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. - Is it fitted with a watertight door. - worked from -

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. -  
In Air Compressors, No. - No. of stages - diameters - stroke - driven by -  
Auxiliary Air Compressors, No. 2 No. of stages 2 diameters 2 80/24 in. stroke 130 mm driven by Steam Engine  
all Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 2 1/4 - 1 1/2 stroke 3" driven by Elec. Motor

at provision is made for first charging the air receivers. Steam Driven Compressors  
venting Air Pumps, No. Underpiston Supercharge diameter - stroke - driven by -  
Auxiliary Engines crank shafts, diameter as per Rule - as fitted - No. 2 1 Diesel 1 Steam  
the auxiliary engines been constructed under special survey. yes Is a report sent herewith. yes



AIR RECEIVERS:—Have they been made under survey. Yes ✓ State No. of report or certificate. 2 Main X309

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 ✓

Aux Injection Air Receivers, No. 1 ✓ Cubic capacity of each 120 litres Internal diameter. 1' 5 1/4" thickness. 3/8"

Seamless, welded or riveted longitudinal joint. Welded Material. Steel Range of tensile strength 28/32 ton/2" Working pressure Actual 3.5

Starting Air Receivers, No. 2 ✓ Total cubic capacity. 800 cu. ft. Internal diameter. 5ft 8 1/4" thickness. 1 1/32"

Seamless, welded or riveted longitudinal joint. Welded Material. Steel Range of tensile strength 29/32 ton/2" Working pressure Actual 3.5

IS A DONKEY BOILER FITTED Yes (2) ✓ 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 (If not, state date of approval) Receivers. Yes Separate fuel tanks. Yes

Donkey boilers. Yes General pumping arrangements. Yes Pumping arrangements in machinery space. Yes

Oil fuel burning arrangements. Yes

Have Torsional Vibration characteristics been approved. Yes ✓ Date of approval. 14-6-48

SPARE GEAR.

Has the spare gear required by the Rules been supplied. Yes ✓

State the principal additional spare gear supplied. See Attached List

Spare Screw Shafts  
Keys  
SG712  
11935 A1  
ROB 15-8-50

The foregoing is a correct description. Yes ✓

Manufacturer. Harland & Wolff Ltd Belfast

Dates of Survey while building	During progress of work in shops - -	1949 May 9 June 9 July 29 Aug 30 Nov. 15.17. Dec. 16. 20.22.23 29 1950 Jan 6.12.16.17.31 Feb. 24
During erection on board vessel - - -	10.11.14.15.16.17.18.21.22.23.24.25.28.29.30.31	July 4.5.6.17.19.20.21.24.25.31 Aug 1.2.3.4
Total No. of visits	5.6.7.8.9.10.11.12.13.14.15.18.19.20.21.22.28.29	141

Dates of examination of principal parts—Cylinders. 27-2-50 Covers. 31-7-50 Pistons. 4-7-50 Rods. 4-7-50 Connecting rods. 25-8-50

Crank shaft. 3-8-50 Flywheel shaft. 3-8-50 Thrust shaft. 3-8-50 Intermediate shafts. 19-9-50 Tube shaft. -

Screw shaft. 16-8-50 Propeller. 16-1-50 Stern tube. 11-5-50 Engine seatings. 25-9-50 Engine holding down bolts. 20-11-50

Completion of fitting sea connections. 25-9-50 Completion of pumping arrangements. 22-12-50 Engines tried under working conditions. 18-12-50

Crank shaft, material. S.M. Steel Identification mark. 101260 Flywheel shaft, material. - Identification mark. -

Thrust shaft, material. S.M. Steel Identification mark. 3-7-50 AD Intermediate shafts, material. S.M. Steel Identification marks. 19-9-50

Tube shaft, material. - Identification mark. - Screw shaft, material. S.M. Steel Identification mark. 16-8-50 AD

Identification marks on air receivers. 2 Main Nos 500 & 501 11.10.50 ROB Aux No 497 17.10.50 ROB

Welded receivers, state Makers' Name. Harland & Wolff Ltd Belfast

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 Smothering below Boilers. 1-10 gall / 100 2 gall Veg. Foam container

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. Tanker ✓ 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. Yes If so, state name of vessel. MS Kurdistan How Yard No. 1408

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery has been constructed and installed under Special Survey in accordance with the Society's Rules Approved Plans and Secretary's Letters. The materials and workmanship are good. The Machinery was examined under full working conditions with satisfactory results.

The Machinery of this vessel is eligible in our opinion to be classed in the Register Book with the records of + LMC 12.50. C.L. Oil Engine 2 DB. 150 lbs

The amount of Entry Fee ... £214:0:0

Welded Structure Special ... £26:9:0

Donkey Boilers Fee ... £16:0:0

Air Reservoir (2) Travelling Expenses (if any) £4:0:0

Committee's Minute ... FRI. 9 FEB. 1951

Assigned ... + LMC 12.50 Oil Eng. C.L. 2 DB 150 lb.

