

4b

should be forwarded as

writing report 2-4-1959 Received London Port of Amsterdam No. 22748  
held at Haarlem In shops No. of visits On vessel 28 First date 22-12-1956 Last date 7-3-1959

## FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

R.B. Name m.s. "PILOTO PARDO" Gross tons 1882,41  
de la Armada  
Direction General de los Servicios Managers Valparaiso  
Port of Registry  
It at Haarlem By Haarlemsche Scheepsbouw Mij Yard No. 552 Year Month  
When 1959 3  
esel  
engines made at Kiel By M.A.K.Maschinenbau A.G. Eng. No. 13330  
13331  
13332  
S Slikkerveer By N.V.Electrotechnische Industrie  
made at  
propulsion electromotor made at Slikkerveer by N.V.Electrotechnische Industrie  
boilers made at London By Spanner Boiler Ltd. Blr. Nos. When  
st Gas-boiler made at London by Spanner Boiler Ltd.  
ry installed at Haarlem By Haarlemsche Scheepsbouw Mij When

arts of restricted service of ship, if limited for classification ocean going  
ars of vegetable or similar cargo oil notation, if required no  
class "1A"  
o be classed for navigation in ice? yes finnish Ia Is ship intended to carry petroleum in bulk? no  
erating machinery fitted? yes If so, is it for cargo purposes? no Type of refrigerant freon  
erfrigerating machinery compartment isolated from the propelling machinery space? yes Is the refrigerated cargo installation intended to be classed? -

lowing particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the  
is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that  
need not be repeated below, but the port and report number should be stated.

main engines 3 No. of propellers 1 Brief description of propulsion system 3 MAK Dieselgenerating engines  
one electric propulsion motor.

N RECIPROCATING ENGINES. Licence Name and Type No. MAK type MA301C  
cylinders per engine 8 Dia. of cylinders 230 mm stroke(s) 300 mm 2 or 4 stroke cycle 4 Single or double acting single  
um approved BHP per engine 770, SHP=1900 at 750 RPM of engine and 180 RPM of propeller.  
ponding MIP (For DA engines give MIP top & bottom) Maximum cylinder pressure Machinery numeral 154 x 3 380  
cylinders arranged in Vee or other special formation? no If so, number of crankshafts per engine

STROKE ENGINES. Is the engine of opposed piston type? If so, how are upper pistons connected to crankshaft?  
exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? No. and type of mechanically driven scavenge pumps or blowers per  
and how driven  
exhaust gas driven scavenge blowers per engine Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action?  
tand-by or emergency pump or blower is fitted, state how driven No. of scavenge air coolers Scavenge air pressure at full  
Are scavenge manifold explosion relief valves fitted?

STROKE ENGINES. Is the engine supercharged? Are the undersides of the pistons arranged as supercharge pumps? No. of exhaust gas driven blowers per  
No. of supercharge air coolers per engine Supercharge air pressure Can engine operate without supercharger?

& FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel Inlet Exhaust Starting Safety

ial of cylinder covers Material of piston crowns Is the engine equipped to operate on heavy fuel oil? NO  
g medium for : Cylinders fresh water Pistons Fuel valves Overall diameter of piston rod for double acting engines

rod fitted with a sleeve? Is welded construction employed for: Bedplate? Frames? Entablature? Is the crankcase separated from the

side of pistons? Is the engine of crosshead or trunk piston type? Total internal volume of crankcase No. and total area of explosion relief

s Are flame guards or traps fitted to relief devices? Is the crankcase readily accessible? If not, must the engine be removed for

aul of bearings, etc? Is the engine secured directly to the tank top or to a built-up seating? Diesel generator engines and Main electr. motor  
built up seatings How is the engine started? By air

the engine be directly reversed? NO If not, how is reversing obtained? By main electro propulsion motor

the engine been tested working in the shop? How long at full power? 400C

generator engines letter dd 1-1-58 to Kiel Surveyors  
NK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery 3000 see Secr. State barred speed range(s), if imposed

none For spare propeller Is a governor fitted? Is a torsional vibration damper or detuner fitted to the shafting?

e positioned? Type No. of main bearings Are main bearings of ball or roller

Distance between inner edges of bearings in way of crank(s) Distance between centre lines of side cranks or eccentrics of opposed piston engines

ckshaft type: Built, semi-built, solid. (State which)

meter of journals Diameter of crankpins Centre Breadth of webs at mid-throw Axial thickness of webs

Side Pins Minimum

Crunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals Approved

Webs Tensile strength

meter of flywheel Weight Are balance weights fitted? Total weight Radius of gyration

meter of flywheel shaft Material Minimum approved tensile strength

wheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which)

Total No. of Visits



## MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines \_\_\_\_\_ Open or closed cycle \_\_\_\_\_ BHP per set \_\_\_\_\_ at \_\_\_\_\_ RPM of output shaft \_\_\_\_\_

How is drive transmitted to propeller shaft? \_\_\_\_\_

ARRANGEMENT OF TURBINES. HP drives \_\_\_\_\_ at \_\_\_\_\_ RPM HP gas inlet temperature \_\_\_\_\_ pressure \_\_\_\_\_

(A small diagram should be attached showing gas cycle.) IP drives \_\_\_\_\_ at \_\_\_\_\_ RPM IP gas inlet temperature \_\_\_\_\_ pressure \_\_\_\_\_

LP drives \_\_\_\_\_ at \_\_\_\_\_ RPM LP gas inlet temperature \_\_\_\_\_ pressure \_\_\_\_\_

No. of air compressors per set \_\_\_\_\_ Centrifugal or axial flow type? \_\_\_\_\_ Material of turbine blades \_\_\_\_\_

compressor blades \_\_\_\_\_ No. of air coolers per set \_\_\_\_\_ No. of heat exchangers per set \_\_\_\_\_ How are turbines started? \_\_\_\_\_

How is reversing effected? \_\_\_\_\_ Are the turbines operated in conjunction with free piston gas generators? \_\_\_\_\_

Total No. of free piston gas generators \_\_\_\_\_ Diameter of working pistons \_\_\_\_\_ Diameter of compressor pistons \_\_\_\_\_ No. of double stroke \_\_\_\_\_

minute at full power \_\_\_\_\_ Gas delivery pressure \_\_\_\_\_ Gas delivery temperature \_\_\_\_\_ Have the turbines and attached equipment been tested \_\_\_\_\_

in the shop? \_\_\_\_\_ How long at full power? \_\_\_\_\_

ELECTRIC PROPULSION (Reciprocating engines ~~or gas turbines~~ Electrical particulars to be reported on Form 4d.)

No. of generators 3 KW per generator 540 at 750 RPM AC or DC? AC Position one ss one ps centre eng

No. of propulsion motors one SHP per motor 2000 at 180 RPM Position centre engine room after

How is power obtained for excitation of generators? one working + one spare convertor Motors? one working + one spare convertor

REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.) no gearing

Is gearing of single or double helical type? \_\_\_\_\_ If single, position of gear thrust bearing \_\_\_\_\_ Is gearing of epicyclic type? \_\_\_\_\_

PCD of pinions: First reduction \_\_\_\_\_ Second reduction \_\_\_\_\_ PCD of wheels: First reduction \_\_\_\_\_ Main \_\_\_\_\_

Material of pinions \_\_\_\_\_ Tensile strength \_\_\_\_\_ Material of wheel rims \_\_\_\_\_ Tensile strength \_\_\_\_\_

Are gear teeth surface hardened? \_\_\_\_\_ How are teeth finished? \_\_\_\_\_ Diameter of pinion journals \_\_\_\_\_ Wheel \_\_\_\_\_

journals \_\_\_\_\_ Are the wheels of welded construction? \_\_\_\_\_ Is gearcase of welded construction? \_\_\_\_\_ Has the wheel/gearcase been heat treated on completion of welding? \_\_\_\_\_ Where is the propeller thrust bearing located? \_\_\_\_\_ Are gear bearings of ball or roller type? \_\_\_\_\_

## CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting give

description and, for clutches, state how operated. Flexible couplings between Main Dieselgenerators and generators type Periflex

Can the main engine be used for purposes other than propulsion when declutched? no If so, what? no

STRAIGHT SHAFTING. Diameter of thrustshaft 250 mm Material SM steel Minimum approved tensile strength 45,5 kg/mm<sup>2</sup>

Shaft separate or integral with crank or wheel shaft? separate from main Diameter of intermediate shafts 235 mm Material SM steel

Minimum approved tensile strength 48,7 kg/mm<sup>2</sup> Diameter of screwshaft cone at large end 295 mm Is screwshaft fitted with a continuous liner? no

Diameter of tube shaft. (If these are separate shafts) \_\_\_\_\_ Is tube shaft fitted with a continuous liner in way of stern tube \_\_\_\_\_ Thickness of screwshaft \_\_\_\_\_

bearings 17 mm Thickness between bearings no liner Material of screwshaft SM steel Minimum approved tensile strength 45,5 kg/mm<sup>2</sup>

Is an approved oil gland fitted? no If so, state type \_\_\_\_\_ Length of bearing next to and supporting propeller 1160 mm

Material of bearing lignum vitae In multiple screw vessels is the liner between stern tube and A bracket continuous? \_\_\_\_\_ If not, is the exposed length of shafting between

liners readily visible in dry dock? no Exposed length of screw shaft is painted with 3 layers of solution paint.

PROPELLER. Diameter of propeller 3120 mm Pitch 2820 mm Built up or solid solid Total developed surface 4,14 m<sup>2</sup>

No. of blades 4 Blade thickness at top of root fillet 0.2R=29,4 mm Blade material cast steel Moment of inertia of dry propeller 3275 kgm<sup>2</sup>

If propeller is of special design, state type no Is propeller of reversible pitch type? no If so, is it of approved design? no

State method of control \_\_\_\_\_ Material of spare propeller iron Moment of inertia 3275 kgm<sup>2</sup>

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine no Can they be declutched? no

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) 2 Hatlapa compressors type LHD25, cap

cub.feet/min each driven by one electromotor, ss fore in eng.room (cert.Hamburg No.57/3100 A+B added); 1 Hatlapa

air cooled compressor type LHD10 driven by emergency Diesele engine, ss after on maindeck (cert.Hamburg 58/15

cap. 6 m<sup>3</sup>/h.

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) 1 cap.500 ltrs; 1 cap.100 ltrs, ss fore

room (cert.Köln KLN.C 57/1406 and cert.Köln KLN C/1407 added)

started by hand

How are receivers first charged? Emergency set with compressor can be Maximum working pressure of starting air system 30 kg/cm<sup>2</sup> Are the safety devices

accordance with the Rules? yes Has the starting of the main engines been tested and found satisfactory? yes

COOLERS. No. of main engine fresh water coolers 2 No. of main engine lubricating oil coolers 3

## OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure \_\_\_\_\_

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) 1 working fresh water cooling pump, 1 working salt water cooling pump

1 lub.oil pump.

Service for which each pump is connected to be marked thus X

## INDEPENDENT PUMPS

below essential pumps, state position and driven. Give capacity of bilge pumps.

	SUCTION							DELIVERY						
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	Fresh Water Cooling	Sea	Feed Tanks	Lub. Oil	Boiler Feed	Salt Water Cooling	Fresh Water Cooling	Oil Fuel Tanks	Fire Main	Lub. Oil
bilge/ballast/aux.SW cooling pump; ss fore in eng. room; electr.driven; 72 m <sup>3</sup> /h	X	X	X			X				X			X	
bilge/ballast/aux.SW cooling fire ext.pump; ss fore in eng. room; electr.driven, 60 m <sup>3</sup> /h	X	X	X			X				X			X	
bilge/fire ext.pump; ss fore in eng. room; electr.driven, cap.60 m <sup>3</sup> /h	X	X				X							X	
aux.freshwatercoolingpump/shwaterballastpump; ss fore in eng. room; electr.driven, 100 m <sup>3</sup> /h					X		X			X				
aux.lub.oil pump; electr. driven; ss in eng. room								X						X
fueloiltripump; electr. driven; ss in eng. room				X								X		
electr.driven SW cooling-pumps for aux.Diesele engines and air cooler of electr. in propulsion motor; centre after engine room.						X								

COFFERDAMS. No. and size in each hold. cofferdam 100/101 one of 70 mm; hold 1-2 of 70 mm; hold 2-4 of 70 mm;

cofferdam 58/59 - 1 of 70 mm; hold 3 - 2 of 70 mm.

Size and position of direct bilge suction in machinery spaces 4 of 70 mm In tunnel 2 of 70 mm

Size and position of emergency bilge suction in machinery spaces one of 101 mm mid after eng.room + 2 - 6 inch

ejectors from 2 independent powerpumps each of 800 gallons/min on maindeck.

Do the piping arrangements comply with the Rules including requirements for ships not classed for navigation in ice? (strike out words not applicable). yes

## STEAM &amp; OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
after in eng.room	Davey-Paxman type 6YHXZ	Davey-Paxman Colchester	Ipswich Rpt 4c No. 137352	one electric generator AC 298 KVA - 440 V.
after in eng.room	same	same	as above	same
after on maindeck	Austro air cooled Diesele engine type U2L	Motorenfabrik J.Warchalowski Vienna	Vienna cert.00581 dd 14th July 1958 (added)	one electr.generator A.C. 30 KVA, 440 V + one air cooled Hatlapa compressor.
emergency generator installed in a well ventilated position				

Electric current used for essential services at sea? yes If so, state the minimum No. and capacity of generators required in order that the ship may operate

Is an electric generator driven by Main Engine? no

Is steam essential for operation of the ship at sea? no Are any steam pipes over 3 ins. bore? no If so, what is their

position p.s. in eng.room

Are these boilers also heated by exhaust gas? no No. of donkey boilers heated by exhaust gas only? one w.p. 7 kg/cm<sup>2</sup>

Can the exhaust heated boilers deliver steam directly to

Port and No. of report on donkey

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# GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The machinery of this vessel is fitted under Special Survey in accordance with approved plans, Secretary's letters and Lloyd's Rules. Materials tested as required and workmanship found good.

The safety valves of the donkey boiler and exhaust gas boiler are set under steam to a pressure of 7 kg/cm<sup>2</sup>. An accumulation test of the oil fired donkey boiler is held with satisfactory results.

The machinery is tried out on a sea trial trip and the measured mile of New Biggin from 17th till 19th December 1958 with satisfactory results.

In my opinion the machinery of this vessel is eligible to be classed \* LMC 3-59 with notation suitable for navigation in ice and 2 DB 3-59.

C. van der Linden.

Engineer Surveyor to Lloyd's Register of Shipping

## PARTICULARS OF IDENTIFICATION MARKS ((Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS

CRANKSHAFT OR ROTOR SHAFT

FLYWHEEL SHAFT

THRUST SHAFT Lloyds KLN 1359  
H.D. 5-11-57 cert. Hamburg 57/5452 and cert. KLN F No. 57/1650 added.  
Ham 4-12-57

GEARING

INTERMEDIATE SHAFTS Lloyds DSF 1 and 2  
J.L. 28-10-57 cert. Amsterdam No. 58/1886 added  
CL 12-7-58

SCREW ~~AND~~ SHAFTS Lloyds DSF 7  
J.L. 31-10-57 cert. Amsterdam 58/210 added  
CL 13-1-58

PROPELLERS Lloyds KLN 17685 cap. Lloyds KLN 371 - 17686  
A.S. 25-2-58 AS 1-3-58 certs Köln C58/307 and KLN F58 No. 387 added.

OTHER IMPORTANT ITEMS

Shawpropeller C.D. Rot. 21/1/58 No 58/0497  
Stamped G.B. 8/1/58

Is the installation a duplicate of a previous case? no

If so, state name of vessel

Date of approval of plans for crankshaft

Straight shafting 10-9-57

Gearing

Clutch

Separate oil fuel tanks

Pumping arrangements

22-1-58

Oil fuel arrangements

22-1-58

Cargo oil pumping arrangements

Air receivers

Donkey boilers

Dates of examination of principal parts:-

Fitting of stern tube 27-5-58

Fitting of propeller 3-6-58

Completion of sea connections 6-6-58

Alignment of crankshaft in main bearings

12-7-58

Engine checks & bolts 12-7-58

Alignment of gearing

Alignment of straight shafting 5-7-58 +

Testing of pumping arrangements

Oil fuel lines 22-10-58

Donkey boiler supports 12-7-58

Steering machinery 23-7-58

Windlass 23-7-58

Date of Committee

FRIDAY 19 JUN 1959

Decision

See Rpt. 1.

Special Survey Fee

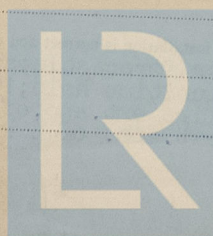
f. 990,-

Expenses

272,50

Date when A/c rendered

15/5/59



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