

## Rpt. 4b

28 AUG 1963

Date of writing report 6-5-1963 Received London Port Amsterdam No. 25577  
 Survey held at Haarlem No. of visits In shops } 25 First date 5-11-1962 Last date 3-5-1963  
 On vessel

## FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name "GASCOGNE" Gross tons 450  
 Owners Armement Frédéric Managers Port of Registry La Rochelle  
 Hull built at Haarlem By Haarlemse Scheepsbouw Mij Yard No. 581 Year Month 1963 5  
 Main Engines made at Amsterdam By Messrs. Werkspoor Eng. No. 2490 When 1962  
 Gearing made at Augsburg By Messrs. Renk  
 Donkey boilers made at - By Blr. Nos. When  
 Machinery installed at Haarlem By Messrs. Haarlemse Scheepsbouw Mij When 63-5  
 Particulars of restricted service of ship, if limited for classification none  
 Particulars of vegetable or similar cargo oil notation, if required -  
 Is ship to be classed for navigation in ice? no Is ship intended to carry petroleum in bulk? no  
 Is refrigerating machinery fitted? yes If so, is it for cargo purposes? yes Type of refrigerant freon 12  
 Is the refrigerating machinery compartment isolated from the propelling machinery space? no Is the refrigerated cargo installation intended to be classed?

The following 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 report need not be repeated below, but the port and report number should be stated.

No. of main engines 1 No. of propellers 1 Brief description of propulsion system reversible ME flexible coupled to reduction gear, direct coupled to shafting  
 MAIN RECIPROCATING ENGINES. Licence Name and Type No. TMAS 278 Ams report 25256

No. of cylinders per engine 8 Dia. of cylinders 270 mm stroke(s) 500 mm 2 or 4 stroke cycle 4 Single or double acting single  
 Maximum approved BHP per engine 580 at 375 RPM of engine and 182 - 209 RPM of propeller.  
 Corresponding MIP 7.5 kg/cm<sup>2</sup> (For DA engines give MIP top & bottom) Maximum cylinder pressure 50 kg/cm<sup>2</sup> Machinery numeral 116  
 Are the cylinders arranged in Vee or other special formation? no If so, number of crankshafts per engine

TWO STROKE ENGINES. Is the engine of opposed piston type? If so, how are upper pistons connected to crankshaft?  
 Is the 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 engine and how driven

No. of 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?  
 If a stand-by or emergency pump or blower is fitted, state how driven No. of scavenge air coolers Scavenge air pressure at full power  
 Are scavenge manifold explosion relief valves fitted?

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

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel Inlet Exhaust Starting Safety  
 Material of cylinder covers Material of piston crowns Is the engine equipped to operate on heavy fuel oil? no

Cooling medium for :—Cylinders Pistons Fuel valves Overall diameter of piston rod for double acting engines  
 Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? Frames? Entablature? Is the crankcase separated from the underside of pistons?  
 Is the engine of crosshead or trunk piston type? Total internal volume of crankcase No. and total area of explosion relief devices  
 Are flame guards or traps fitted to relief devices? Is the crankcase readily accessible? If not, must the engine be removed for overhaul of bearings, etc?  
 Is the engine secured directly to the tank top or to a built-up seating? built-up seating How is the engine started? air  
 Can the engine be directly reversed? yes If not, how is reversing obtained?

Has the engine been tested working in the shop? How long at full power?  
 CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 2-1-63 State barred speed range(s), if imposed for working propeller For spare propeller Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting?

Where positioned? Type No. of main bearings Are main bearings of ball or roller type?  
 Distance between inner edges of bearings in way of crank(s) Distance between centre lines of side cranks or eccentrics of opposed piston engines

Crankshaft type: Built, semi-built, solid. (State which)  
 Diameter of journals Diameter of crankpins Centre Breadth of webs at mid-throw Axial thickness of webs  
 Side Pins Minimum  
 If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals Approved  
 Webs Tensile strength  
 Diameter of flywheel Weight Are balance weights fitted? Total weight Radius of gyration  
 Diameter of flywheel shaft Material Minimum approved tensile strength  
 Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which)

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# 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..... Material of 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 strokes per minute at full power.....  
 Gas delivery pressure..... Gas delivery temperature..... Have the turbines and attached equipment been tested working 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..... kW per generator..... at..... RPM AC or DC?..... Position.....

No. of propulsion motors..... SHP per motor..... at..... RPM Position.....

How is power obtained for excitation of generators?..... Motors?.....

## REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of 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 shaft 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 and gearing or between engine and line shafting give brief description and, for clutches, state how operated.

flexible coupling between ME and gearing - Vulkan EZ 171 with rubber discs.

Can the main engine be used for purposes other than propulsion when declutched? yes If so, what? fishing winch belt driven from ME

## STRAIGHT SHAFTING. Diameter of thrustshaft..... Material..... Minimum approved tensile strength.....

Shaft separate or integral with crank or wheel shaft?..... Diameter of intermediate shaft 145 mm Material SM steel

Actual tensile strength 49,1 kg/mm<sup>2</sup> Diameter of screwshaft cone at large end 170 Is screwshaft fitted with a continuous liner? yes

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 liner at bearings 12,5 mm

Thickness between bearings 12 mm Material of screwshaft SM steel Actual tensile strength 50 kg/mm<sup>2</sup>

Is an approved oil gland fitted? no If so, state type..... Length of bearing next to and supporting propeller 738 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?.....

## PROPELLER. Diameter of propeller 2400 mm Pitch 1790 mm Built up or solid solid Total developed surface 40

No. of blades 4 Blade thickness at top of root fillet 78,8 mm Blade material bronze Moment of inertia of dry propeller 811 kgm<sup>2</sup>

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

State method of control..... Material of spare propeller bronze Moment of inertia 811 kgm<sup>2</sup>

## AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine none Can they be declutched?.....

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) 2 compressors driven by aux. engines

and one electric driven (port forw + aft and starbd forw) each 13 cub.m/h - Kiel 62/3641/42

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) two - 620 litres each

aft ER bulkhead upper + lower engines Cert. KLN C60/644 - 61/382

How are receivers first charged? hand and air started aux. Maximum working pressure of starting air system 30 kg/cm<sup>2</sup> Are the safety devices in 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 1 No. of main engine lubricating oil coolers 1

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

one in top of E.R.

## MAIN ENGINE DRIVEN PUMPS (No. and Purpose)

one F.W. pump 28 t/h; S.W. cooling pump 28 t/h

lub.oil pump - 6250 litres/h.



BILGE SUCTIONS. No. and size in each hold, deep tank or pump room..... one handpump on forw. cofferdam 2 x 1 1/2" ; one handpump on stores  
2 x 1 1/2" ; one handpump on chainlocker 1 1/2" ; one handpump 1 1/2" suction on hatch; one 2" main suction from ED  
pump on hatch and one 2" suction on cofferdam in front of E.R.  
No. and size connected to main bilge line in main engine room..... 3 x 2" ✓ In tunnel.....  
In aux. engine room..... Size and position of direct bilge suction in machinery spaces..... 1 x 3" and  
1 x 2" starb.  
Size and position of emergency bilge suction in machinery spaces..... 1 x 3" starb. forward  
Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side?..... no Do the piping arrangements comply with the Rules.....  
Special arrangements for this purpose provided on bilge overboard outlet for operation in ice? (strike out words not applicable). ..... yes

[illegible]

STEAM INSTALLATION. No. of donkey boilers burning oil fuel..... W.P..... Type.....

Position .....

Is a superheater fitted?..... Are these boilers also heated by exhaust gas?..... No. of donkey boilers heated by exhaust gas only?..... W.P.....

Type..... Position..... Can the exhaust heated boilers deliver steam directly to the steam range or do they operate only as economisers in conjunction with oil fired boilers?..... Port and No. of report on donkey boilers.....

Is steam essential for operation of the ship at sea?..... Are any steam pipes over 3 ins. bore?..... If so, what is their material?.....

For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules?..... No. of oil burning pressure units.....

No. of steam condensers..... No. of Evaporators.....

Has the spare gear required by the Rules been supplied?.....yes..... Has all the machinery been tried under full working conditions and found satisfactory?.....yes..... Date and duration of full power sea trials of main engines.....23-4-63 - 4 hours..... Does this machinery installation contain any features of a novel or experimental nature? (Give particulars)  
.....none.....

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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 and give 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 has been installed under Special Survey in accordance with Rules, approved plans and Secretary's letters.

On completion the main and auxiliary machinery have been tested under full load conditions and all found efficient.

The gear box has been examined under full load conditions and found satisfactory.

In my opinion this machinery is suitable for consideration of the Committee \* LMC.

*J. C. Karelse*

J.C.Karelse.

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 Lloyd's Ams No. 7788 A-AB 13-9-61; No. 9122 C-E, 9123 E-JL, 9124 A 23-3-62, 9136 A AB 28-3-62

CRANKSHAFT OR ROTORSHAFT Lloyd's Rot No. 1244 EMD HA 16-11-60

FLYWHEEL SHAFT

THRUSTSHAFT into gearing

GEARING Lloyd's Aug BF 61 - GH - 12-2-63 also see Rpt

INTERMEDIATE SHAFTS Lloyd's DSF 174-5/175-1 MSA JK 7-1-63/16-4-63

SCREW AND TUBE SHAFTS Lloyd's DSF - 154 A - MSA - JK 7-12-62

PROPELLERS Lloyd's Rot AVH 9577 - 15-10-62

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case?

no

If so, state name of vessel

Date of approval of plans for crankshaft 7-9-62

Straight shafting 21-8-62

Gearing

Clutch

Separate oil fuel tanks 18-12-62

Pumping arrangements 18-12-62

Oil fuel arrangements 18-12-62

Cargo oil pumping arrangements

Air receivers 7-9-62

Donkey boilers

Dates of examination of principal parts:-

Fitting of stern tube 15-1-63

Fitting of propeller 7-12-62

Completion of sea connections 12-3-63

Alignment of crankshaft in main bearings 31-8-62

Engine chocks & bolts 11-4-63

Alignment of gearing 4-4-63

Alignment of straight shafting 4-4-63

Testing of pumping arrangements 2-5-63

Oil fuel lines 2-5-63

Donkey boiler supports -

Steering machinery 23-4-63

Windlass 23-4-63

Date of Committee

FRIDAY 20 SEP 1963

Special Survey Fee

Decision

+ LMC ES  
TS(24) } 5-63

installation

f. 350.--

Expenses

f. 251.-

Date when A/c rendered

23-8-1963



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