Rotterdam

19 DEC 1960

Rpt. 4b

ate of writing report 24-11-1960 Received London Port of LONDON No. 50622

rvey held at Zaltbommel No. of visits In shops On vessel 15 First date 11-2-60 Last date 24-11-60

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

o. in R.B. Name "GOLDEN COMET" Gross tons 1279,52

wners Messrs. Bonni Managers Port of Registry Guernsey

Year Month

ull built at Zaltbommel By Messrs. Scheepswerf "De Waal" Yard No. 670 When 1960

ain Engines made at Augsburg By Messrs. Mannesmann Eng. No. 405-304 When 1960

aring made at -- By --

nkey boilers made at -- By -- Blr. Nos. When

chinery installed at Zaltbommel By Messrs. Scheepswerf "De Waal" When 1960

ticulars of restricted service of ship, if limited for classification ---

ticulars of vegetable or similar cargo oil notation, if required ---

hip to be classed for navigation in ice? yes Is ship intended to carry petroleum in bulk? no

efrigerating machinery fitted? yes If so, is it for cargo purposes? yes Type of refrigerant F12

e refrigerating machinery compartment isolated from the propelling machinery space? no Is the refrigerated cargo installation intended to be classed? yes

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 ding 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 rt need not be repeated below, but the port and report number should be stated.

of main engines 1 No. of propellers 1 Brief description of propulsion system Heavy Oil Engine

AIN RECIPROCATING ENGINES. Licence Name and Type No. M.A.N. type G8 V 40/60

Please see Hamburg ~~Cert.~~ REPORT Nr. 9854

of cylinders per engine Dia. of cylinders stroke(s) 2 or 4 stroke cycle Single or double acting

imum approved BHP per engine 1820 at RPM of engine and 300 RPM of propeller.

esponding MIP (*For DA engines give MIP top & bottom*) Maximum cylinder pressure Machinery numeral

he cylinders arranged in Vee or other special formation? 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?

e 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

e and how driven

f 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?

g medium for :—Cylinders freshwater Pistons Lub.oil Fuel valves fuel oil 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

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

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

l of bearings, etc? Is the engine secured directly to the tank top or to a built-up seating? How is the engine started?

e engine be directly reversed? If not, how is reversing obtained?

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

& FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 28.7.66 State barred speed range(s), if imposed 170 & 205 R.P.M 482 Y

ing propeller For spare propeller Is a governor fitted? Is a torsional vibration damper or detuner fitted to the shafting?

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

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

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

k, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Pins Journals Webs Minimum Approved Tensile strength

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

ter of flywheel shaft Material Minimum approved tensile strength

el 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. (*A small diagram should be attached showing gas cycle.*)
HP drives ..... at ..... RPM HP gas inlet temperature ..... pressure .....
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 ..... Materia

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

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

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 ..... Whe

journals ..... Are the wheels of welded construction? ..... Is gearcase of welded construction? ..... Has the wheel/gearcase been heat treated on con

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 gi

description and, for clutches, state how operated .....

Can the main engine be used for purposes other than propulsion when declutched? ..... If so, what? .....

STRAIGHT SHAFTING. Diameter of thrustshaft 280 mm. Material S.M.steel Minimum approved tensile strength 44 kg./m

Shaft separate or integral with crank or wheel shaft? separate Diameter of intermediate shaft 190 mm. Material S.M.steel

Minimum approved tensile strength 44 kg./mm² Diameter of screwshaft cone at large end 230 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 screw/tube shaf

bearings — Thickness between bearings — Material of screw/tube shaft S.M.steel Minimum approved tensile strength A

Is an approved oil gland fitted? yes If so, state type Cederwall Length of bearing next to and supporting propeller 940 mm.

Material of bearing Cast iron lined with white metal In multiple screw vessels is the liner between stern tube and A bracket continuous? — If not, is the exposed length of shafting

liners readily visible in dry dock? —

PROPELLER. Diameter of propeller 2340 mm. Pitch 1750 mm. Built up or solid Solid Total developed surface 65%

No. of blades 4 Blade thickness at top of root fillet 933 mm. Blade material Bronze Moment of inertia of dry propeller 1253

If propeller is of special design, state type — Is propeller of reversible pitch type? — If so, is it of approved design? —

State method of control — Material of spare propeller Moment of inertia

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

No. of independently driven air compressors. (*State capacity, prime mover, position in ship, and Port and No. of certificate*) 1 à 60 M³/h Portside E.R. Rotterda

60/3136 1 emergency à 27 M³/h top of E.R.

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

2 à 800 L. Aft centre E.R. Cert. Grom. 470 1 à 125 Portside Engine Room aft. Cert. Augsb. 1835

How are receivers first charged? Emergency engine hand started Maximum working pressure of starting air system 30 kg./m² Are the safet

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 2

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure 1 à 1250 L. P.S. top E.R.

MAIN ENGINE DRIVEN PUMPS (*No. and Purpose*) 2 lubricating oil pumps à 33 m³/h, 1 fuel injection pump for e

cylinder, 1 oil fuel delivery pump.

INDEPENDENT PUMPS

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

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

	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	Piston Cooling	Overboard
Starb.inb.bilgepump 55 tons/h	x	x				x										x
Starb.outb.gen.serv.pump 60t/h	x	x	x		x					x	x					x
Lub.oilp.forw.centre E.R.								x						x		
Fresh coolingwaterp.SBforw.ER					x						x					x
Salt " " " SB E.R.						x				x	x	x				
Fuel oil pump SB E.R.				x								x			x	
Fuel oil transferp.PS E.R.				x								x				
Saltcoolingwaterpump refrigerating machinery P.S. E.R.						x				x						

BILGE SUCTIONS. No. and size in each hold, deep tank or pump room Hold Nr.1, 2 à 2.5/8", Hold Nr.2, 2 à 2.5/8", Cofferdam 1 à 2" à 1½" chainlocker.

and size connected to main bilge line in main engine room 1 à 4" Emergency, 1 à 4", 2 x 2.5/8" In tunnel —

ux. engine room — Size and position of direct bilge suctions in machinery spaces 1 à 4" aft

ngine room Size and position of emergency bilge suctions in machinery spaces 1 à 4" S.B.side E.R.

e bilge or ballast system fitted with means for separating oily water on the overboard discharge side? yes Do the piping arrangements comply with the Rules including

al requirements for ships carrying petroleum in bulk, cargo oil or classed for navigation in ice? (*strike out words not applicable*). yes

STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.		Driven Machinery (For electric generators, state output)
.S. FORW. E.R.	W 6 V14/18 Nr.301883	M.A.N.	Augsburg	1930	Electric generator 96 kW
.forw. E.R.	" Nr.301907	M.A.N.	"	1931 6 cyl.	" " "
.top E.R.	" Nr.301884	M.A.N.	"	1929	" " "
top of E.R.	2 S 108	Samofa	Amsterdam	1573 2 cyl.	" " 8 " Emergencyset with compressor 27 M³/h 2

tric 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

1 a 96 kW. Is an electric generator driven by Main Engine? no

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

n —

perheater fitted? — Are these boilers also heated by exhaust gas? — No. of donkey boilers heated by exhaust gas only? — W.P. —

— Position — Can the exhaust heated boilers deliver steam directly to

m range or do they operate only as economisers in conjunction with oil fired boilers? — Port and No. of report on donkey

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

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

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

NG GEAR. (*State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars*) Electric driven, hydraulic steering engine Frydinbo Slip & Mek Verksted type HS 30 Super No. 426, Cert. Bergen 10233

e Rule Requirements for fire extinguishing arrangements been complied with? yes Brief description of arrangements One emergency aux. engine driving pump in steering gear compartment, E.R. 2 hoses with nozzles and sprays, three 7 lbs. dry powder CO^2 portable, 1 Pirene fire gun. 50 dry powder CO^2

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-

trials of main engines 22-23 November, 1960 28 hrs Does this machinery installation contain any features of a novel or experimental nature? (*Give particulars*)

oing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (*strike out words not applicable*).

SCHEEPSWERF „DE WAAL" N.V.

Builder

(2/2)

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 g... 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 possi...

The machinery of this vessel has been made and fitted in accordance with the approved plans, Secretary's letters and Society's Rules. Materials tested as required and workmanship found satisfactory. Upon completion the machinery has been tried under full working conditions during a trial trip to the North Sea on the 22nd and 23rd of November, 1960 when all was found in a good working and manoeuvring conditi... and in my opinion this installation merits the approval of the Committee for the record of +Lloyd's L.M.C. 11-60 O.G. "Oil Engines" to be made in the Society's Register Book.

A. v. Hasselt.

Engineer Surveyor to Lloyd's Register of Ship...

A. van Hasselt.

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

RODS

CRANKSHAFT OR ROTORSHAFT —

FLYWHEEL SHAFT Lloyd's Rot. No. 3002

THRUSTSHAFT H.T./J.F.V. 19-9-60

GEARING —

INTERMEDIATE SHAFTS Lloyd's Rot. No. 6829A H.A./J.F.V. 30-8-60

SCREW ~~AND TUBE~~ SHAFTS Lloyd's Rot. No. 6820 B H.A./J.F.V. 30-8-60

PROPELLERS Bronze A.v.H. 23-8-1960. Lloyd's Rot. No. 8645 Cast Iron A.v.H. 8-11-60 Lloyd's Test Gro. 402 kg. Lloyd's Test Aug. 3491-93 W.P. 30 kg. A.v.B. 19-9-60 1 small vessel T.P. 60 kg. W.P. 30 kg. G.H. 17-8-60

OTHER IMPORTANT ITEMS 2 Air Vessels

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** 19-7-60 **Gearing** — **Clutch** —

Separate oil fuel tanks Locally approved **Pumping arrangements** 13/5, 15/7, 1960 **Oil fuel arrangements** 29-7-1960

Cargo oil pumping arrangements — **Air receivers** — **Donkey boilers** —

Dates of examination of principal parts:—

Fitting of stern tube 12-8-60 **Fitting of propeller** 12-8-60 **Completion of sea connections** 12-8-60 **Alignment of crankshaft in main bearings** 19-...

Engine chocks & bolts 19-10-60 **Alignment of gearing** — **Alignment of straight shafting** 26-10-60 **Testing of pumping arrangements** ...

Oil fuel lines 15-11-60 **Donkey boiler supports** — **Steering machinery** 23-11-60 **Windlass** 23-11-60

Date of Committee FRIDAY. 17 FEB 1961 *Special Survey Fee* £754-

Decision See Rpt. 1.

Expenses £126-

Date when A/c rendered 14 DEC. 19...