Rpt. 4.

No. 16572

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 26 APR 1948

Date of writing Report 21st March 1948 When handed in at Local Office ..... 19.... Port of Amsterdam

No. in Reg. Book Survey held at Amsterdam Date, First Survey 21-8-47 Last Survey 10th March 1948 (Number of Visits 23)

on the steam tugboat ice-breaker "SWAROZYC" Tons Gross 712,02 Net ~

Built at Amsterdam By whom built Amsterdamsche Droogdok My. Yard No. 83 When built 1948

Engines made at Amsterdam By whom made " do " Engine No. 52 When made 1948

Boilers made at Flushing By whom made Kon. My. "De Schelde" Boiler No. PORT: 1113 STARB: 1114 When made 1947

Registered Horse Power 1550 Owners POLIMAC Port belonging to SZCZECIN

Nom. Horse Power as per Rule 330 = MN. = 260 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which vessel is intended 1st Ocean Trade (Strengthened for Navigation in Ice)

ALL DIMENSIONS IN mm

ENGINES, &c.—Description of Engines double compound - type Christiansen & Meyer Revs. per minute 110

Dia. of Cylinders 2HP: 425 ✓ 2LP: 900 Length of Stroke 950 ✓ No. of Cylinders 4 ✓ No. of Cranks 4 ✓

Crank shaft, dia. of journals as per Rule approved as fitted 310 ✓ Crank pin dia. 310 ✓ Crank webs Mid. length breadth ~ Mid. length thickness ~ shrunk Thickness parallel to axis 195 ✓ Thickness around eye-hole 136 ✓

Intermediate Shafts, diameter as per Rule approved as fitted 280 ✓

Thrust shaft, diameter at collars as per Rule approved as fitted 280 ✓

Tube Shafts, diameter as per Rule ~ as fitted ~

Screw Shaft, diameter as per Rule approved as fitted 310 in body / 290 at Forw. end ✓ Is the ~~tube~~ screw shaft fitted with a continuous liner ~ no ✓

Bronze Liners, thickness in way of bushes as per Rule ~ as fitted ~ Thickness between bushes as per Rule ~ as fitted ~ Is the after end of the liner made watertight in the propeller boss ~

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ~

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 ~

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 the tube at no If so, state type ordinary (stress by hollow rubber ring) Length of Bearing in **Stern Bush** next to and supporting propeller 1270 ✓

Propeller, dia. 3960 ✓ Pitch 4180 No. of Blades 4 Material cast steel whether Moveable solid Total Developed Surface 6,25 m² ~~sq. feet~~

Feed Pumps worked from the **Main Engines,** No. one - 13,5 T/h Diameter 80 Stroke 475 Can one be overhauled while the other is at work ~

Bilge Pumps worked from the **Main Engines,** No. one - 13,5 T/h Diameter 80 Stroke 475 Can one be overhauled while the other is at work ~

Feed Pumps No. and size 1 - DUPLEX - 16 T/h 1 FEEDINJECTOR - 8,4 T/h How driven steam

Pumps connected to the Main Bilge Line No. and size 1 ME driven Bilgepump — 13,5 T/h ✓ 1 Bilgepump - DUPLEX — 11 T/h ✓ 1 Ballastpump - DUPLEX - 100 T/h ✓ How driven 1 Salvagepump - DUPLEX - 300 T/h ✓

Ballast Pumps, No. and size 1 (see above) ✓ **Lubricating Oil Pumps,** including Spare Pump, No. and size ~

Are two independent means arranged for circulating water through the **Oil Cooler** ~ ✓ **Suctions,** connected both to Main Bilge Pumps and Auxiliary Bilge Pumps :—In Engine and Boiler Room E room : 1 (ø2½") - B room : 1 (ø2") — Bunker (P.S) : 2 (ø2") ✓

In Pump Room — In Holds, &c. cargo hold : 1 (ø2") ✓ In Forward drain tank : 1 (ø2") ✓

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 (ø8") ✓ **Independent Power Pump Direct Suctions** to the Engine and/or Boiler Room Bilges, No. and size on Ballastpumps : 1 (ø3") ✓ on Bilgepumps : 1 (ø2½") ✓ Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes yes ✓

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges strum-boxes ✓.

Are all **Sea Connections** fitted direct on the skin of the ship steel inlet chest ✓ Are they fitted with Valves or Cocks yes ✓

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold 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 none ✓ How are they protected ~

What pipes pass through the deep tanks ~ Have they been tested as per Rule ~

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 ~ ✓

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 370 m² ✓ ; superheaters : 140 m² ✓ Total for all = 4290 ft²

Which Boilers are fitted with Forced Draft both ✓ Which Boilers are fitted with Superheaters both ✓

No. and Description of Boilers ~ ✓ Working Pressure 15 Kg/cm² ✓

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes ✓

IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? ~

Can the donkey boiler be used for other than domestic purposes ~

PLANS. Are approved plans forwarded herewith for Shafting 22-11-46 / 19-2-47 Main Boilers 22-11-46 Auxiliary Boilers ~ Donkey Boilers ~

(If not state date of approval)

Superheaters 17-2-48 General Pumping Arrangements 2-12-46 Oil fuel Burning Piping Arrangements ~

Ent 27/5/48

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes ✓

State the principal additional spare gear supplied spare tail shaft

The foregoing is a correct description.

Amsterdamsche Droogdok Mij N.V.

Manufacturer.

011636-011645-0044

Dates of Survey while building

During progress of work in shops - -
1947 : 21/8 - 3/9 - 29/9 - 6/10 - 7/10 - 16/10 - 24/10 - 1/12 - 4/12 - 10/12

During erection on board vessel - - -
1947 : 24/12 - 29/12
1948 : 5/1 - 14/1 - 19/1 - 28/1 - 30/1 - 2/2 - 20/2 - 25/2 - 27/2 - 4/3 - 10/3

Total No. of visits 23

Dates of Examination of principal parts—Cylinders Hydr. tested 21-8-47 Slides 3-9-47 Covers 3-9-47

Pistons 29-9-47 Piston Rods found marked: LLOYDS. Nrs 10005/8 HPB. 30-12-43 Connecting rods found marked: LLOYDS. Nrs 1000 HPB. 30-12-43

Crank shaft 3-9-47 Thrust shaft 3-9-47 Intermediate shafts 3-9-47

Tube shaft ✓ Screw shaft 24-10-47 Propeller 24-10-47

Stern tube HYDR. TESTED AND DRAWN IN BY GERM. LLOYD IN 1943 Engine and boiler seatings 5-1-48 Engines holding down bolts 14-1-48

Completion of fitting sea connections 1-12-47

Completion of pumping arrangements 14-1-48 Boilers fixed 29-9-47 Engines tried under steam 1948: 27/2 & 10/3

Main boiler safety valves adjusted 10-3-48 Thickness of adjusting washers STARB: Boiler: (S) 12,1 mm - (P) 13,3 mm; Superht: 19,9
PORT: " " 14 mm - " 13 " ; " 18,6

Crank shaft material SM steel Identification Mark LLOYDS. Nº 10004 HPB. 30-12-43 Thrust shaft material SM steel Identification Mark GL 2357 R-6

Intermediate shafts, material SM steel Identification Marks GL 1422 AD Tube shaft, material ✓ Identification Mark ✓

Screw shaft, material SM steel Identification Mark GL 1443 AD Steam Pipes, material solid drawn steel ✓ Test pressure 60 kg/cm² Date of Test 16-10-47 and subseq

Is an installation fitted for burning oil fuel no ✓ Is the flash point of the oil to be used over 150° F. ✓

Have the requirements of the Rules for the use of oil as fuel been complied with ✓

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no ✓ 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 yes

Is this machinery duplicate of a previous case no If so, state name of vessel ✓

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

The design and construction of this machinery, originally commenced under Germ. Lloyd Special Survey, has been continued and completed under our supervision in accordance with the approved plans, Rule requirements and Secretary's letters. Found workmanship satisfactory.

The machinery has been tried under full charge for several hours during towing- and running trials and found working satisfactorily.

I am of opinion that this vessel is eligible to be recorded in the Register Book with record of LMC. 3,48 "strengthened for navigation in ice"

Certificate to be sent to Rh Amsterdam Surveyors

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee	£	£: 800:	When applied for, 22-4-1948
Special	£	: :	
Donkey Boiler Fee	£	: :	When received, 19
Travelling Expenses (if any)	£	£: 25:5:0	

Engineer Surveyor to Lloyd's Register of Shipping.

Date FRI. 28 MAY 1948

Committee's Minute LMC 3.48

F.D. C.L. 2SB 213/6 Sp1.