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Lloyd's Register of Shipping.

Port GDYNIA

5th February 1949.

This is to Certify that

W. Kimber and L.D. Trenchard

the undersigned Surveyor to this Society did at the request of the Amsterdamsche Droogdok-Maatschappij N.V., the Szczecinski Urzad Morski and the Gdanski Urzad Morski attend on board the Tugboat-icebreaker "SWAROZYC" 712 tons gross of Szczecin, whilst the vessel lay afloat at Szczecin on the 3rd June 1948 and subsequently whilst the vessel lay afloat, and on the floating dock at the Stocznia Gdanska, Gdansk, for the purpose of ascertaining the damage to the main engine and screwshaft, making recommendations for, and approving, ther repair; examining the vessel, machinery and boilers making recommendations, appoving repairs and reporting on alterations.

Szczecin. The main engine forward high pressure cylinder cover was found holed in the clearance space in way of the piston rod nut, the piston rod thimble end and nut were badly hammered. Six of the eight piston junk ring bolts were found loose, the remaining two had worked out of the piston; the one lay on top of the piston, bent and badly damaged, while the other had broken into small pieces, the washers from both bolts were bent and broken. The cylinder was slightly scored but not considered detrimental. The top section of the forward top high pressure valve and its liner were scored and two rings in the valve broken. The main engine after high pressure cylinder and piston were examined and six of the eight junk ring bolts found thread bound, the copper and steel washers were slack under the heads of the bolts.

Five of the six ribs in both low pressure pistons, lower sections, were found cracked at the junction of the ribs and the periphery of the pistons.

Two plain smoke tubes in the inboard bottom row of the port box of the port boiler were leaking at the front tube plate and were expanded; one leaking main stay was caulked and the nut refitted.

The valve seats in the auxiliary steam distribution chest on the starboard side of the engineroom were found slack.

It was stated that the screwshaft oil gland had been leaking freely, the stern gland was leaking and the oily water contained particles of metal.

An efficient temporary repair was effected to the main engine forward high pressure cylinder cover, the piston junk ring bolts refitted, the broken rings removed from the high pressure valve and the vessel was taken to Gdansk for docking and repairs.

Gdansk MAIN RING

It was stated that during the voyage from Amsterdam to Szczecin some difficulty was experienced with the crankshaft main bearings and the forward crankpin bearing through overheating.

Sections of engineroom skylight removed, main engine cylinders, valve casings and condenser opened and fragments of broken junk ring bolt collected and weighed. New annealed type junk ring bolts were fitted to both high pressure pistons

P.T.O.

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"While the Committees of the Society use their best endeavours to ensure that the functions of the Society are properly executed, it is to be understood that neither the Society nor any Member of any of its Committees is under any circumstances whatever to be held responsible for any inaccuracy in any report or certificate issued by the Society or its Surveyors, or in any entry in the Register Book or other publication of the Society, or for any error of judgment, default or negligence of any of its Committees or any Member thereof, or the Surveyors, or other Officers or Agents of the Society."

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pistons, prevented from turning by wiring. Forward high pressure piston rod tested for truth in the lathe and found good, thimble end and nut dressed. A new cylinder cover was made and fitted to the forward high pressure cylinder a new upper section was made and fitted to the forward high pressure valve, with new rings. Both low pressure pistons appeared to be bearing hard on the port side of the cylinders, the starboard sides appeared to be untouched; both low pressure engines disconnected and the alignments of these cylinders together with both high pressure cylinders tested. The cylinders and guide plates were found true but the crankshaft was found to be laying slightly to starboard of the central axis. Loose metal was found in the horns of Nos. 2, 4 & 5 lower half bearings and Nos. 1 & 3 top half bearings showed traces of overheating; the forward low pressure crankpin bearing metal was wiped and loose. Turning gear disconnected and crankshaft lifted; the shaft was found to have been heavily on Nos.2, 4 & 5 bearings and lightly on Nos. 1 & 3. No.5 main bearing, No.3 top half and the forward low pressure crankpin bearings remetalled, coupling bolts dressed and main engine reassembled with new joints and damaged lagging replaced. The cleading and lagging on the cylinder covers has been amended in way of the relief valves. A number of spanners were made for the purpose of opening the main engine.

The vessel was placed on the floating dock from August 12th until September 3rd, 1948 and from October 10th to December 4th 1948. The screw shaft had worn down 27 m.m., wearing through the stern bush for a length of about 1 metre and into the stern tube. The stern tube was found cracked circumferentially for approximately three quarters of the circumference at a position 20 m.m. inside the stern frame. One shell plate removed at the port side in way of the stern tube to facilitate, cutting out the cement at the tube, and afterwards replaced, staging erected and removed on completion. Stern tube drawn and alignment of shafting to stern frame tested; the shafting appears to be on the central axis of the vessel at the forward end and lying to starboard at the after end. The screw shaft was drawn and found deeply scored in way of the stern bush, cast iron had fused into the surface of the steel shaft; unsuccessful attempts were made to machine the shaft in way of the bearing and the shaft has been rejected. Intermediate shaft and bearing removed for access. A new cast iron stern tube was made and fitted, bored in place to suit the line of the shafting. New cast iron stern bush installed and the spare screw shaft fitted.

The oil gland was found in good condition and refitted with the necessary compression. Thrust shaft and intermediate shaft refitted, thrust block rechocked. The cocks and valves of sea connections were examined and found in good order. A spare cast iron high pressure cylinder cover and a spare high pressure piston rod, supplied by the Builders, have been placed on board the vessel.

BOILERS. Two plain tubes in port box of port boiler, expanded at Szczecin, leaking heavily and now renewed. Starboard boiler water gauge cocks overhauled and one broken handle renewed. Approximately 200 combustion chamber stay nuts hardened up. One handle on the starboard boiler smoke box door, stated to have been broken at Amsterdam, renewed. Lifting chains fitted to all smoke box doors and suitable cleats welded to the bulkhead. New handoperating shaft fitted to ash hoist engine. Air casings on both boiler fronts rejointed where leaking.

AUXILIARY MACHINERY.

Crankpins on fan engine and turning engine dressed and bearings adjusted. Drain cocks and pipes fitted to independent bilge pump steam valve chest. Slack valve seats in the auxiliary steam distribution valve chests, port and starboard sides of the engineroom, renewed and locked by securing pins.

ELECTRICAL.

Defective voltmeter on switchboard renewed. Main lead to compass on upper bridge broken and now renewed, compass and panelling in way removed for access. Incorrect leads to portable light fitting on boiler tops rewired. Six defective switches and five lamp holders in accommodation renewed.

Engineroom cleaned down and coated on completion of repairs.

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HULL Shell plating cleaned, examined and found in good order, coated with anticorrosive and antifpuling composition. Decks, casings, ventilat and coamings examined and found in good order. Lifeboats examined and le king seams caulked. All external paintwork cleaned and recoated. Decks, casings, ventilators and coamings examined and found in good order. Ice breaking spur on counter closed in with welded steel plates and filled with cement. Rubbing strips secured under flanges of hawse pipes. Chain cables stoppers between windlass and hawse pipes raised to suitable height and rebedded to deck. Steering chain fairlead pins removed and oilways cut in same; portable guard plates fitted to bulwar stanchions in way of buffer springs. Six bollards, bolted to light scant channel sections welded to deck stringer plates, replaced by larger, mor suitable, bollards bolted to deck on oak pads. Deck stringer plate, port and starboard sides at end of machinerycasing found cracked for about 400 m.m. athwartship under two originally welded bollards; both plates cropped and part renewed. Wood sheathing laid on upper bridge deck (28 sq.metres) and on boat deck (67 sq.metres), drain pipes amende accordingly. Protection gratings fitted over portlights, near deck level, in after accommodation space.

Ventilation trunks to forecastle and amidship accommodation amended allowing increased ventilation. Deck head linings in amidship accommodation cabins and wheelhouse resecured.
Deck water service pipe removed from above deck and carried below deck in machinery space and boiler room. Freshwater discharge pipe, starboard side amidships, replaced by a pipe of larger bore with necessary cock and three way connection. Handpumps fitted capable of filling fresh water service tanks. Valves and connections in accommodation steam heating overhauled, 46 new hand wheels fitted. New screw made and fitted to deck vice.
Towing Winch. Attention was drawn, by the Owners, to the apparently underpowered towing winch. The specification stated that the towing winch and derrick winch are to be capable of a pull of at least 5 tons, the specified bore and stroke of the towing winch are 280 m.m. while the bore and stroke of the towing winch are 175 m.m. by 250 m.m. The derrick winch has a bore of 178 m.m. and stroke 305 m.m. Arrangements could not be made, by the Stocznia Gdanska, for testing winches.
Trials. Main and auxiliary machinery examined under working condition at sea, on completion of repairs, and found satisfactory.

A Leuchard
for W. Kember - Surv.

Surveyor to Lloyd's Register of Shipping.

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