

REPORT ON OIL ENGINE MACHINERY.

No. 79795

17 NOV. 1925

Date of writing Report 6th Nov 1925 When handed in at Local Office 6th Nov 1925 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at Elswick - Leistonwood Date, First Survey 13 July 1923 Last Survey 5th Nov 1925
 Reg. Book. Number of Visits 271

21202 on the Single Screw vessels. Grisholm Tons Gross 17000
 Twin Screw vessels. By whom built Armstrong Net 10500
 Triple Master Built at Newcastle Yard No. 999 When built 1925
 Engines made at Copenhagen By whom made Burmeister & Wain Engine No. 1000 When made 1925
 Donkey Boilers made at Newcastle By whom made Armstrong Boiler No. 50 When made 1925
 Brake Horse Power 13500 Owners Resor AB Sverige Nordamerika Port belonging to Gothenborg.
 Nom. Horse Power as per Rule 2533 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

OIL ENGINES, &c.—Type of Engines Diesel for particular please See Copenhagen rule 7087A ✓ Single or double acting
 Maximum pressure in cylinders ✓ No. of cylinders ✓ No. of cranks ✓ Diameter of cylinders ✓
 Length of stroke ✓ Revolutions per minute ✓ Means of ignition ✓ Kind of fuel used ✓
 Is there a bearing between each crank ✓ Spans of bearings (Page 92, Section 2, par. 7 of Rules)
 Distance between centres of main bearings ✓ Is a flywheel fitted ✓ Diameter of crank shaft journals as per Rule
 as fitted ✓ Breadth of crank webs as per Rule ✓ Thickness of ditto as per Rule
 Diameter of crank pins ✓ as fitted ✓ as fitted ✓
 of flywheel shaft as per Rule ✓ Diameter of tunnel shaft as per Rule 17" Approved ✓ Diameter of thrust shaft as per Rule
 as fitted ✓ as fitted ✓
 of screw shaft as per Rule 18.5 Approved ✓ Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes ✓
 after end of the liner made watertight in the propeller boss Yes ✓ If the liner is in more than one length are the joints burned ✓
 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 ✓
 liners are fitted, is the shaft lapped or protected between the liners. ✓ If without liners, is the shaft arranged to run in oil ✓
 outer gland fitted to stern tube None ✓ Length of stern bush 84" ✓ Diameter of propeller 16.9" ✓
 of propeller 17.3" ✓ No. of blades 3 ✓ state whether moveable Yes ✓ Total surface 102 ✓ square feet
 of reversing ✓ Is a governor or other arrangement fitted to prevent racing of the engine when declutched ✓ Thickness of cylinder liners ✓
 cylinders fitted with safety valves ✓ Means of lubrication ✓ Are the exhaust pipes and silencers water cooled or lagged with
 insulating material ✓ If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓
 to main funnels ✓ No. of cooling water pumps ✓ Is the sea suction provided with an efficient strainer which can be cleared
 the vessel Yes ✓ No. of bilge pumps fitted to the main engines ✓ Diameter of ditto ✓ Stroke ✓
 to be overhauled while the other is at work ✓ No. of auxiliary pumps connected to the main bilge lines 3 ✓ How driven Electrical
 Two 150 tons Bilge + one emergency 135 tons per hour ✓ In engine room 3" m DB room
 of pump One 250 " Ballast ✓ No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 3" and 4" ✓
 holds, ✓ Two 3 in. dia 1.2. 3. 4. 5. 6 and one 3" No. of ballast pumps One for water Electrical ✓ Sizes of pumps 3" tunnel water
 in tunnel well ✓ State size 8" ✓ Is a separate auxiliary pump suction fitted in
 ballast pump fitted with a direct suction from the engine room bilges Yes ✓ Are the roses in Engine Room always accessible Yes ✓
 to Room and size Yes. 8" ✓ Are all the bilge suction pipes fitted with roses Yes ✓ Are the roses in Engine Room always accessible Yes ✓
 to suctions on Engine Room bulkheads always accessible ✓ Are all connections with the sea direct on the skin of the ship Yes ✓
 they valves or cocks Both ✓ Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates Yes ✓
 the discharge pipes 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 ✓
 all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Yes ✓ Are the bilge suction pipes, cocks and valves arranged so as to prevent any
 communication between the sea and the bilges Yes ✓ Is the screw shaft tunnel watertight Yes ✓ Is it fitted with a watertight door Yes ✓
 keed from upper floors ✓ If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. ✓
 of main air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 of auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 of small auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 of scavenging air pumps ✓ Diameter ✓ Stroke ✓ Driven by ✓
 diameter of auxiliary Diesel Engine crank shafts as per Rule ✓ Are the air compressors and their coolers made so as to be easy of access ✓

R RECEIVERS:—No of high pressure air receivers ✓ Internal diameter ✓ Cubic capacity of each ✓
 material ✓ Seamless, lap welded or riveted longitudinal joint ✓ Range of tensile strength ✓
 thickness ✓ working pressure by Rules ✓ No. of starting air receivers ✓ Internal diameter ✓
 total cubic capacity ✓ Material ✓ Seamless, lap welded or riveted longitudinal joint ✓
 range of tensile strength ✓ thickness ✓ Working pressure by rules ✓ Is each receiver, which can be isolated,
 fitted with a safety valve as per Rule ✓ Can the internal surfaces of the receivers be examined ✓ What means are provided for cleaning their
 inner surfaces ✓ Is there a drain arrangement fitted at the lowest part of each receiver ✓



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~~are~~ DONKEY BOILERS FITTED? Yes, Yeo. If so, is a report now forwarded? Yes

HYDRAULIC TESTS.—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" COVERS					
" JACKETS					
" PISTON WATER PASSAGES					
MAIN COMPRESSORS—1st STAGE		375 & 900	250 & 2000		
" 2nd		Pounds \square	Pounds \square		
" 3rd	27/2/25				
AIR RECEIVERS-STARTING	4, 6, 13, 16, 30/3/25, 20, 22/4/25, 5, 14, 19, 25, 27/5/25				
" INJECTION	5, 15, 16, 19, 20/6/25, 20, 24, 29, 28/7/25				
AIR PIPES	5, 10, 11, 12, 17, 20, 21, 26	27/5/25			
FUEL PIPES	4, 11, 14, 16, 18, 19, 22	25/7/25			
FUEL PUMPS	7, 8, 9/8/25.				
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting & tail shafts Receivers Can report Separate Tanks Can report
(If not, state date of approval)

SPARE GEAR See Copenhagen report, and 4 bronze propeller blades and two propeller shafts, 2 sets of spare bolts for propeller & thrust shafts.

All the spare gear enumerated on list forwarded with Copenhagen report on the main machinery have been examined on board.

Plan of Donkey Boilers - parts, bilge + tunnel + oil fuel arrangements, forming part of the foregoing is a correct description.

SIR W. G. ARMSTRONG, WHITWORTH & CO. LIMITED.

Sir W. G. Armstrong

Plans of intermediate & propeller shafts, certificates of oil burning units, Copenhagen report No 7057 A a list of spare gear are now forwarded.
Manufacturer.

Dates of Survey while building	During progress of work in shops -	1922 Sept 30, 31, Sep. 18, 19, 24, 26, 28 Oct. 1, 5, 10, 16, 19, 22, 24, 26, 29, 31 Nov. 6, 8, 12, 14, 15, 21, 23, 28, 30 Dec. 1, 5, 12, 17, 19, 28 Jan. 3, 7, 10, 16, 22, 24, 30 Feb.
	During erection on board vessel -	7, 12, 17, 25, 28, Nov. 5, 7, 11, 13, 17, 19, 21, 25, 27, 29, 31 April 3, 4, 10, 8, 16, 25, 29 May 1, 8, 10, 12, 13, 22, 26, 27, June 2, 4, 17, 23, 29, July 2, 7, 10, 28, 30 Aug. 5, 6, 22, 23, 24, 25, 26, 27, 28 Dec. 8, 9, 4, 8, 10, 11, 12, 16, 17, 18, 20, 23, 24, 27, 28, 29, 30 Apr. 1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24, 27, 28, 29, 30, 31
		22, 23, 24, 25, 26, 27, 28, 29, 30, 31 Jan. 6, 7, 13, 14, 21, 26, 27 Feb. 3, 9, 16, 17, 18, 19, 20, 23, 26, 27 March 2, 4, 5, 6, 9, 16, 17, 18, 19, 20, 23, 24, 27, 28, 29, 30, 31 April 5, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24, 27, 28, 29, 30, 31 May 5, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24, 27, 28, 29, 30, 31 June 5, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24, 27, 28, 29, 30, 31 July 3, 6, 7, 8, 10, 17, 20, 24, 27, 28, 29, 30, 31 Aug. 5, 6, 7, 8, 10, 17, 20, 24, 27, 28, 29, 30, 31 Sept. 5, 6, 7, 8, 10, 17, 20, 24, 27, 28, 29, 30, 31 Oct. 5, 6, 7, 8, 10, 17, 20, 24, 27, 28, 29, 30, 31 Nov. 5, 6, 7, 8, 10, 17, 20, 24, 27, 28, 29, 30, 31 Dec. 5, 6, 7, 8, 10, 17, 20, 24, 27, 28, 29, 30, 31
	Total No. of visits	271.

Dates of Examination of principal parts—Cylinders	Covers	Pistons	Rods	Connecting rods
Crank shaft	do	do	Tunnel shaft 20/10/25	Screw shaft 20/11/25 Propeller 30/11/25 Stern tube 30/11/25 Engine seatings 3/11/25
Engines holding down bolts	21/1/25	Completion of pumping arrangements	5/11/25	Engines tried under working conditions 3/11/25 and 4-5th Nov 1925
Completion of fitting sea connections	22/10 to 26/11/25	Stern tube 22/10 to 26/11/25	Screw shaft and propeller 14/11/25 to 26/11/25	Copenhagen
Material of crank shaft	Identification Mark on Do.	do	Material of thrust shaft	Identification Mark on Do.
Material of tunnel shaft	1 M Steel Identification Marks on Do.	20/10/25	Material of screw shafts 1 M Steel Identification Marks on Do.	20/11/25 GM

Is the flash point of the oil to be used over 150° F. 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, etc.) The twin Diesel engines (Copenhagen report No 7057 A) have been built under special survey as have also the intermediate and propeller shafts, propellers see coke, Stern tubes, the testing of all air, fuel & steam pipes, the survey and testing of 2 donkey boilers and the fitting on board of the engines, auxiliaries, donkey boilers, pumps etc carried out here.

On completion of the fitting on board, all the main engines and their auxiliaries in all cases started off without a hitch and the full speed trials in the North Sea on the 4th & 5th inst were satisfactory a speed of 17.82 Knots having been attained. On the 12 consecutive trials stopping and starting, the pressure fell from 375 to 275 lbs per square inch the reversing of the engines being very prompt.

The amount of Entry Fee £ Copenhagen When applied for, £ 17/10/25. The machinery is now eligible for record of LMC

Special £ 17/10/25 When received, 20 NOV 1925

2 Donkey Boiler Fee £ 17/10/25

Travelling Expenses (if any) £ 20 NOV 1925

Committee's Minute FRI. 20 NOV 1925

Assigned + Drub. 11, 25 Oil Engines 200B - 120H

LR-FAF-TB10-30

CERTIFICATE WRITTEN.

FRI. 4 DEC 1925



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