

REPORT ON OIL ENGINE MACHINERY.

No. 18490.

30 DEC 1925

Received at London Office

Date of writing Report 19. 12. 1925 When handed in at Local Office 25. 12. 1925 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 1st March, 1925. Last Survey 21st December 1925
 No. of Book. Number of Visits 6.
 on the ^{Single} ~~Twin~~ ^{Screw vessels} ~~Triple~~ T S M V "Athelmaire"
 Tons ^{Gross} ~~Net~~
 Master Built at Middlesbrough By whom built James MacCallum Yard No. 85 When built 1926
 Engines made at Greenock By whom made John E. MacCallum & Co. Ltd Engine No. 158 When made 1926
 Monkey Boilers made at Greenock By whom made John E. MacCallum & Co. Ltd Boiler No. 158 When made 1926
 Brake Horse Power 2895 Owners Port belonging to
 Nom. Horse Power as per Rule 409 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

MAIN ENGINES, &c.—Type of Engines Burmeister & Wain (2 sets) 2 or 4 stroke cycle H Single or double acting Single
 Maximum pressure in cylinders 500 No. of cylinders 12 No. of cranks 12 Diameter of cylinders 24 1/2" 630 mm
 Length of stroke 51 1/2" 1300 mm Revolutions per minute 100 Means of ignition Compression Kind of fuel used Coal
 Is there a bearing between each crank yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 892
 Distance between centres of main bearings 1250 Is a flywheel fitted yes Diameter of crank shaft journals as per Rule 403.3 as fitted 415
 Diameter of crank pins 415 mm Breadth of crank webs as per Rule 650 as fitted 650 mm Thickness of ditto as per Rule 270 as fitted 270 mm
 Diameter of flywheel shaft as per Rule 415 as fitted 415 mm Diameter of tunnel shaft as per Rule 11.26 as fitted 11 3/4" Diameter of thrust shaft as per Rule 11.8 as fitted 12 3/8"
 Diameter of screw shaft as per Rule 12.386 as fitted 13" Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes
 Is the 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 no
 Is 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 yes
 Are two liners fitted, is the shaft lapped or protected between the liners yes If without liners, is the shaft arranged to run in oil no
 Is the propeller fitted to stern tube no Length of stern bush 52" Diameter of propeller 13.3" Total surface 52 square feet
 Pitch of propeller 11.0" No. of blades 4 state whether moveable no Thickness of cylinder liners 36.46 mm
 Method of reversing air Is a governor or other arrangement fitted to prevent racing of the engine when decelerated yes Are the exhaust pipes and silencers water cooled or lagged with no
 Are the cylinders fitted with safety valves yes Means of lubrication oil Is the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine no
 Is conducting material yes No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared yes
 Is there a pump on the vessel No. of bilge pumps fitted to the main engines no Diameter of ditto no Stroke no
 Can one be overhauled while the other is at work yes No. of auxiliary pumps connected to the main bilge lines 2 How driven steam
 Sizes of pumps (9.8+12)(4+4.5+9) No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room yes
 Is there a pump in holds, etc. yes No. of ballast pumps one How driven steam Sizes of pumps 9+8+12
 Is the ballast pump fitted with a direct suction from the engine room bilges yes State size no Is a separate auxiliary pump suction fitted in no
 Is the engine room and size yes Are all the bilge suction pipes fitted with roses yes Are the roses in Engine Room always accessible yes
 Are the sluices on Engine Room bulkheads always accessible yes Are all connections with the sea direct on the skin of the ship yes
 Are they valves or cocks yes Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates yes
 Are the discharge pipes above or below the deep water line yes Are they each fitted with a discharge valve always accessible on the plating of the vessel yes
 Are 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 yes
 Is communication between the sea and the bilges yes Is the screw shaft tunnel watertight yes Is it fitted with a watertight door yes
 Is the vessel worked from yes If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork yes
 No. of main air compressors 2 No. of stages 3 Diameters 600 540 148 Stroke 480 Driven by Main Engines
 No. of auxiliary air compressors one No. of stages 2 Diameters 400 350 Stroke 260 Driven by steam
 No. of small auxiliary air compressors one No. of stages 3 Diameters 2 1/2 1 1/2 9 Stroke 4 Driven by steam
 No. of scavenging air pumps yes Diameter yes Stroke yes Driven by yes
 Diameter of auxiliary Diesel Engine crank shafts as per Rule yes as fitted yes Are the air compressors and their coolers made so as to be easy of access yes

AIR RECEIVERS:—No. of high pressure air receivers 4 Internal diameter 295 Cubic capacity of each 1504 ft³
 Material SDS Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength 26.30
 Thickness 58.61 59.59 working pressure by Rules 1000 No. of starting air receivers 2 Internal diameter 6.4 1/16
 Total cubic capacity 650 cf Material Steel Seamless, lap welded or riveted longitudinal joint T.R.D.B.S.
 Range of tensile strength 28.32 thickness 1 1/2 1 1/2 Working pressure by rules 376 Is each receiver, which can be isolated, yes
 Is it fitted with a safety valve as per Rule yes Can the internal surfaces of the receivers be examined yes What means are provided for cleaning their yes
 Inner surfaces Manhole in each Is there a drain arrangement fitted at the lowest part of each receiver yes

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

How?

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS <i>Union</i>	28.9.25 to 30/9/25	-	500	W.G.M.	Satisfactory
" " COVERS	14.10.25 to 16.10.25	-	1000	W.G.M.	"
" " JACKETS	2.11.25	-	50	W.G.M.	"
" " PISTON WATER PASSAGES	8.12.25	-	100	W.G.M.	"
MAIN COMPRESSORS—1st STAGE	7.9.25 to 26/10/25	-	2000	H.M.C.	"
" 2nd "	<i>ditto</i>	-	500	H.M.C.	"
" 3rd "	<i>ditto</i>	-	150	H.M.C.	"
AIR RECEIVERS—STARTING	24.11.25 to 15.12.25	-	2000	H.M.C.	"
" INJECTION	<i>ditto</i>	-	2000	H.M.C.	"
AIR PIPES	16.11.25	-	2000	W.G.M.	"
FUEL PIPES	16.11.25	-	2000	W.G.M.	"
FUEL PUMPS	Not Fitted				
SILENCER	"	-	-	-	"
" WATER JACKET	"	-	-	-	"
SEPARATE FUEL TANKS	27.10.25	-	10	W.G.M.	"

PLANS. Are approved plans forwarded herewith for shafting

Receivers

Separate Tanks

SPARE GEAR

The foregoing is a correct description,

FOR JOHN G. KINCAID & COY., LIMITED

Robert Greer

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	(1925) Jan 11.13.31. Apr 13.23.27.29.30. May 4.13.27. June 3.12.17.19.22.29. July 23.28.29.31.
	During erection on board vessel - -	Aug. 4.5.11.18.21.24.25.27. Sept 4.9.14.17.22.24.30. Oct 14.16.19.21.23.27. Nov 25.1.9.14.16.17.18.20.22.
	Total No. of visits	61.
Dates of Examination of principal parts—Cylinders 14/10/25 16/10/25 Covers 14.10.25 Pistons 8.12.25 Rods 9.11.25 Connecting rods 9.11.25		
Crank shaft 6.11.25 Thrust shaft 6.11.25 Tunnel shafts 14.10.25 Screw shaft 14.10.25 Propeller 14.10.25 Stern tube 16.10.25 Engine seatings		
Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions		
Completion of fitting sea connections Stern tube Screw shaft and propeller		
Material of crank shaft S	Identification Mark on Do. LR KP.W.G.M.	Material of thrust shaft S Identification Mark on Do. 6068.1213
Material of tunnel shafts S	Identification Marks on Do. LR 245.14P.W.G.M.	Material of screw shafts S Identification Marks on Do. LR.138-11 W.G.M.

Is the flash point of the oil to be used over 150° F.

Is this machinery duplicate of a previous case

Yes

If so, state name of vessel

T/S M.V. Arthur M. J. Ark R/L N° 18413

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

These Engines have been built under Special Survey in accordance with the approved plans. The workmanship & material are of good quality. The Engines have been tested on the trial bed & found satisfactory. They have now been shipped to Dordrecht, at which port they will be fitted on board. The machinery when fitted on board & tried under working conditions, will be entered in my opinion for the record of L.M.C. with date.

The amount of Entry Fee ...	£ 6 - 0	When applied for,	25/12/1925.
Special <i>See middle</i> ...	£ 110 : 9	When received,	14/2/1926
Donkey Boiler Fee ...	£ 20 : 6		
Travelling Expenses (if any) ...	£ 8 : 8		

Committee's Minute

GLASGOW 29 DEC 1925

Assigned

Deferred. *MD*

W. Gordon-Mitchell

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 26 FEB 1926



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