

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 4190

TUE. JUL. 26 1921

Date of writing Report. Philadelphia When handed in at Local Office Philadelphia 19 May 21/21 Port of Philadelphia  
 No. in Survey held at Philadelphia Date, First Survey May 21/21 Last Survey June 13 1921  
 Reg. Book. Single on the Twin Screw vessel. William Penn Number of Visits 1  
 Master John A. Neesh Built at Gloucester, MS By whom built Pusey & Jones Co. Yard No. 14 When built 1921  
 Engines made at Copenhagen By whom made Burmeister & Wain Engine No. 96-7 When made 1918-21  
 Donkey Boilers made at Philadelphia By whom made W. Brampton & Co. S. B. & C. Co. Boiler No. ✓ When made 1921  
 Brake Horse Power 20 1450 Owners Emergency Fleet Corp. Port belonging to Gloucester, MS  
 Nom. Horse Power as per Rule 20 1478 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

OIL ENGINES, &c.—Type of Engines 2 off Vertical Diesel Oil Engrs 2 or 4 stroke cycle Single or double acting Single

Maximum pressure in cylinders See Copenhagen Report 10 5981 No. of cylinders ✓ No. of cranks ✓ Diameter of cylinders ✓  
 Length of stroke ✓ Revolutions per minute 115 Means of ignition ✓ Kind of fuel used Cryde oil 89 above 150° F

Is there a bearing between each crank ✓ Span 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

Diameter of crank pins ✓ Breadth of crank webs as per Rule Thickness of ditto as per Rule

Diameter of flywheel shaft as per Rule Diameter of tunnel shaft as per Rule Diameter of thrust shaft as per Rule

Diameter of screw shaft as per Rule 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 ✓

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 yes

If two liners are fitted, is the shaft lapped or protected between the liners ✓ If without liners, is the shaft arranged to run in oil ✓

Type of outer gland fitted to stern tube none Length of stern bush 5'-6" Diameter of propellers 13'-6"

Pitch of propeller 11'-9" No. of blades four state whether moveable no Total surface 5435 square feet

Method of reversing Quick Reversille a governor or other arrangement fitted to prevent racing of the engine when detached Thickness of cylinder liners ✓

Are the cylinders fitted with safety valves yes Means of lubrication free Are the exhaust pipes and silencers water-cooled or lagged with

non-conducting material yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine the

Exhaust pipes are led 25'-0" above boat deck No. of cooling water pumps 3 for sea, 1 for fresh water Is the sea suction provided with an efficient strainer which can be cleared

within the vessel yes No. of bilge pumps fitted to the main engines none Diameter of ditto 14" Stroke ✓

Can one be overhauled while the other is at work ✓ No. of auxiliary pumps connected to the main bilge lines two 3 plungers pumps How driven Electromotors

Sizes of pumps 8" plungers 11" stroke No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps the bilge line, each plunger can be disconnected 50 3 1/2" + 30 4"

and in holds, etc. 20 3 1/2" dia in each hold & tunnel wells No. of ballast pumps one How driven Electromotor Sizes of pumps 50 3 1/2" + 30 4"

Is the ballast pump fitted with a direct suction from the engine room bilges yes State size 6" Is a separate auxiliary pump suction fitted in

Engine Room and size yes 20 4" 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 ✓ Are all connections with the sea direct on the skin of the ship yes

Are they valves or cocks Valves 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 above 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

communication between the sea and the bilges yes Is the screw shaft tunnel watertight yes Is it fitted with a watertight door yes

worked from Up platform If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

No. of main air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

No. of auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

No. of small auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

No. 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 ✓

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 yes 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 yes



5b.

SEE COPENHAGEN REPORT No 5084 ATTACHED.

### Separate Tanks

SPARE GEAR  
Spare gear supplied as per blue prints attached checked & found all in order.

*Manufacturer.*

Total No. of visits 41  
 Dates of Examination of principal parts—Cylinders ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓  
 Crank shaft ✓ Thrust shaft ✓ Tunnel shafts 5-8-20 Screw shaft 12-7-20 Propeller 1-7-20 Stern tube 3-6-20 Engine seatings 20-9-20  
 Engines holding down bolts Jan 21<sup>st</sup>/20 Completion of pumping arrangements April 1<sup>st</sup> 21 Engines tried under working conditions May 16+17-21  
 Completion of fitting sea connections 20-9-20 Stern tube 20-9-20 Screw shaft and propeller 20-9-20  
 Material of crank shaft ✓ Identification Mark on Do. 906 3305, 3322, 3342, 3989 H.R. Material of thrust shaft ✓ Identification Mark on Do. 906 3989  
 Material of tunnel shafts off Steel Identification Marks on Do. 3305, 3322, 3342, 3989 H.R. Identification Marks on Do. off Steel

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

Is this machinery duplicate of a previous case. yes If so, state name of vessel M/S "Afrika"

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

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 "This Machinery has been built under special journey, materials & workmanship good and hydraulic tests satisfactory. The main engine auxiliary machinery & motors are efficiently installed & secured in place and run satisfactorily on trial under full working conditions and are in good & safe working condition & eligible in my opinion to be placed on record. \* LMC. 6-21 fitted for oil fuel F.P. above 15 6-21 in the Register Book

When applied for,

19.

When received.

29/7/

..... 11/11/19

..... 11/11/19

+ LMC-6.21 subject

MACHINERY SENT.  
WRITTEN 17.

William Butler  
Engineer Surveyor

Engineer Surveyor to Lloyd's Register of Shipping

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Lloyd's Register  
Foundation