

Rpt. 4b

# REPORT ON OIL ENGINE MACHINERY.

No. 9902

Received at London Office 23 JAN 1928

Date of writing Report 19... When handed in at Local Office 21<sup>st</sup> Jan 1928 Port of Beefast

No. in Survey held at Beefast Date, First Survey 3<sup>rd</sup> March, 1927 Last Survey 16<sup>th</sup> Jan 1928

Reg. Book. 40271 on the Single / Triple Screw vessels CHESAPEAKE Tons 1017 (Gross / Net)

Master                      Built at Beefast By whom built Wahman Clark & Co. Ltd. Yard No. 494 When built 1928

Engines made at Beefast By whom made Wahman Clark & Co. Ltd. Engine No. 494 When made 1928

Donkey Boilers made at Beefast By whom made Wahman Clark & Co. Ltd. Boiler No. 494 When made 1928

Brake Horse Power                      Owners Anglo American Oil Co. Ltd. (Stamilton Ing) Port belonging to Beefast

Nom. Horse Power as per Rule 997 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

**OIL ENGINES, &c.**—Type of Engines Wahman Clark - Single 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 540 lbs No. of cylinders 8 No. of cranks 8 Diameter of cylinders 234 680 mm

Length of stroke 1200 mm Revolutions per minute 90 Means of ignition Compression Kind of fuel used diesel oil

Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 880 mm

Distance between centres of main bearings 1350 mm Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 465 mm as fitted 470 mm

Diameter of crank pins 470 mm Breadth of crank webs as per Rule 775 mm as fitted 775 mm Thickness of ditto as per Rule 290 mm as fitted 290 mm

Diameter of flywheel shaft as per Rule As approved as fitted 470 mm = 18 1/2" Diameter of tunnel shaft as per Rule 370 mm as fitted 400 mm = 15 3/4" Diameter of thrust shaft as per Rule 389 mm as fitted 470 mm (18 1/2")

Diameter of screw shaft as per Rule 455 mm as fitted 470 mm (18 1/2") Is the screw shaft fitted with a continuous liner the whole length of the stern tube no

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 Yes

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 Yes If without liners, is the shaft arranged to run in oil Yes

Type of outer gland fitted to stern tube Vickers Length of stern bush 72 1/2" Diameter of propeller 18'0"

Pitch of propeller 15'3" No. of blades Four state whether moveable Yes Total surface 100 square feet

Method of reversing semi motor Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners 3 mm

Are the cylinders fitted with safety valves Yes Means of lubrication forced 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 exhaust led up funnel

within the vessel Yes two No. of bilge pumps fitted to the main engines one Diameter of ditto 170 mm Stroke 150 mm

Can one be overhauled while the other is at work no No. of auxiliary pumps connected to the main bilge lines two How driven one motor one steam

Sizes of pumps motor 9x8" - Steam 10x12x12" No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 3 3/2" Giffordam 1-2 1/2" 2 3/4" Giffordam 2-3" Giffordam 1-4" B ejector

connected to pump in cargo pump room San 2 1/2" Giffordam 1-2 1/2" Capri 1-2 1/2" Impulse 2-2 1/2" No. of ballast pumps one How driven Steam Sizes of pumps 10" x 12" x 12"

in holds, etc. San 2 1/2" Giffordam 1-2 1/2" Capri 1-2 1/2" Impulse 2-2 1/2" Is the ballast pump fitted with a direct suction from the engine room bilges Yes State size 9" Is a separate auxiliary pump suction fitted in Engine Room and size Yes 6" 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 both 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 None Is it fitted with a watertight door Yes

worked from                      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 two No. of stages 3 Diameters 570-480-150 Stroke 600 mm Driven by Main Engines

No. of auxiliary air compressors One Tandem No. of stages 3 Diameters 13 1/2"-14"-3 1/4" Stroke 8" Driven by Steam

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

No. of scavenging air pumps two Diameter 160 mm Stroke 750 mm Driven by Main Engines

Diameter of auxiliary Diesel Engine crank shafts as per Rule Approved as fitted 3 3/4" Are the air compressors and their coolers made so as to be easy of access Yes

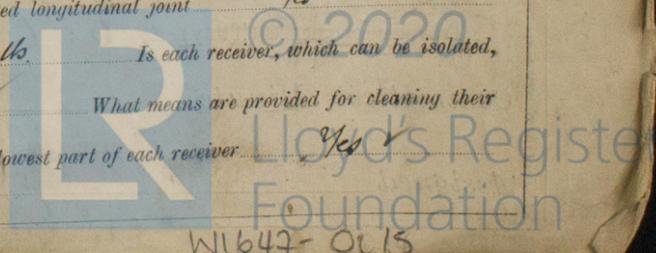
**AIR RECEIVERS:**—No. of high pressure air receivers Nine Internal diameter 540 mm / 300 mm Cubic capacity of each 28 cu ft / 5.3 cu ft

material Steel Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength 31 1/4" to 38 Tons

thickness 25 mm / 16 mm working pressure by Rules 1580 lbs No. of starting air receivers two Internal diameter 60"

Total cubic capacity 560 cu ft Material Steel Seamless, lap welded or riveted longitudinal joint Yes

Range of tensile strength 28-32 Tons thickness 1" Working pressure by rules 1436 lbs 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 Yes What means are provided for cleaning their inner surfaces manhole access Is there a drain arrangement fitted at the lowest part of each receiver Yes



IS A DONKEY BOILER FITTED? *Yes* ✓ If so, is a report now forwarded? *Yes* ✓

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
COVERS	<i>Tested at Winterton</i>	<i>union heads</i>	<i>Sacket 2 1/2</i>	<i>batms.</i>	
JACKETS	<i>11 + 29<sup>th</sup> Sept 1927</i>	<i>/</i>	<i>85 lbs</i>	<i>R.L.A.</i>	
PISTON WATER PASSAGES	<i>8<sup>th</sup> 15 12<sup>th</sup> Sept 1927</i>	<i>/</i>	<i>85 lbs</i>	<i>R.L.A.</i>	
MAIN COMPRESSORS—1st STAGE			<i>20 atms</i>		
2nd	<i>Tested at Winterton</i>		<i>50 atms</i>		<i>Sackets batms.</i>
3rd			<i>150 atms</i>		
AIR RECEIVERS—STARTING	<i>24<sup>th</sup> + 26<sup>th</sup> Oct. 1927</i>	<i>1127 lbs</i>	<i>610 lbs</i>	<i>R.L.A.</i>	
INJECTION					
AIR PIPES		<i>1000 lbs</i>	<i>2000 lbs</i>	<i>R.L.A.</i>	
FUEL PIPES			<i>2000 lbs</i>	<i>R.L.A.</i>	
FUEL PUMPS	<i>Tested at Winterton.</i>		<i>150 atms</i>		
SILENCER					
WATER JACKET					
SEPARATE FUEL TANKS	<i>24<sup>th</sup> + 28<sup>th</sup> Nov. 1927</i>		<i>15 lbs.</i>	<i>R.L.A.</i>	

PLANS. Are approved plans forwarded herewith for shafting *Yes* ✓ Receivers *Yes* ✓ Separate Tanks

SPARE GEAR *In excess of Lloyd's Register rules see separate list.*

The foregoing is a correct description,  
**FOR WORKMAN, CLARK & CO., LIMITED**  
*Birmingham* Manufacturer.

Dates of Survey while building	During progress of work in shops—	<i>1927</i>	<i>Mar 3. 16. 31</i>	<i>Apr 8. 15. 21. 28</i>	<i>May 5. 12. 27</i>	<i>June 1. 9. 22</i>	<i>July 7. 18. 23. 28. 26. 29. 30</i>	<i>Aug 2. 3. 5. 8.</i>
	During erection on board vessel—		<i>11. 13. 15. 19. 22. 24. 26. 29. 31</i>	<i>Sept 2. 5. 6. 7. 8. 9. 12. 14. 16. 19. 21. 22. 26. 29</i>	<i>Oct 6. 7. 10.</i>			
	Total No. of visits		<i>Dec 2. 6. 7. 9. 12. 15. 14. 15. 16. 17. 19. 21. 23. 27. 28. 29. 30. 31</i>	<i>Jan 2. 4. 5. 6. 10. 15. 16</i>	<i>104</i>			

Dates of Examination of principal parts—Cylinders *29.8.27* Covers *29.8.27* Pistons *12.9.27* Rods *12.9.27* Connecting rods *19.8.27*  
 Crank shaft *28.10.27* Thrust shaft *29.9.27* Tunnel shafts *29.9.27* Screw shaft *29.9.27* Propeller *1st. 10. 27* Stern tube *1st. 10. 27* Engine seatings *12.9.27*  
 Engines holding down bolts *27. 12. 27* Completion of pumping arrangements *19. 1. 28* Engines tried under working conditions *10. 1. 28*  
 Completion of fitting sea connections *2nd. 11. 27* Stern tube *2nd. 11. 27* Screw shaft and propeller *2nd. 11. 27*  
 Material of crank shaft *S.M. Ingot Steel* Identification Mark on Do. *5389 D.* R.L.A. Material of thrust shaft *S.M. Ingot Steel* Identification Mark on Do. *5389 D.* R.L.A.  
 Material of tunnel shafts *S.M. Ingot Steel* Identification Marks on Do. *7717* R.L.A. Material of screw shafts *S.M. Ingot Steel* Identification Marks on Do. *7722* R.L.A.

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, &c.)

*The machinery of this vessel has been constructed under special survey. The materials and workmanship are sound & good. The main machinery were tried out under working conditions with satisfactory results. The fuel oil lines were tested by hydraulic pressure. The air relief valves were adjusted to lift at their respective working pressures. The donkey boiler safety valves were adjusted under steam. In my opinion the vessel is now eligible for notation in the Society's Register Book + L.M.C. 1.28 O.G. (Fitted for oil fuel 1.28. F.P. above 150° F)*

The amount of Entry Fee	£ 6 : —	When applied for,	
Special	£ 124 : 17		<i>12/11 1928</i>
Donkey Boiler Fee	£ 26 : 11	When received,	
Air Receivers	£ 6 : 6		<i>17/11 1928</i>
Travelling Expenses (if any)			

*R. Lee Amess.*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned  
 + L.M.C. 1.28  
 Oil Engines 2000 1500  
 TUES. 31 JAN 1928 ✓  
 CERTIFICATE WRITTEN



Certificate (if required) to be sent to (The Surveyors are requested to write on or below the space for Committee's Minute.)