

## REPORT ON OIL ENGINE MACHINERY.

No. 93191

21 JAN. 1928

Received at London Office  
LIVERPOOL

Date of writing Report

When handed in at Local Office

Port of

No. in Survey held at  
Reg. Book.

Northwich

Date, First Survey

Sept 22<sup>nd</sup>/27

Last Survey

Jan 16<sup>th</sup> 1928

Number of Visits

6

Single  
on the ~~Twin~~ } Screw vessels

m.v. 'Castlegate'

Tons } Gross 51  
Net 28

Master

Built at Northwich

By whom built

W. J. Gardner &amp; Sons Ltd

Yard No. 372

When built 1927

Engines made at

Manchester

By whom made

L. Gardner &amp; Sons Ltd

Engine No. 23536

When made 1927

Donkey Boilers made at

By whom made

Boiler No.

When made

Brake Horse Power

55

Owners

The Anglo American Oil Co. Ltd

Port belonging to

Liverpool

Nom. Horse Power as per Rule

16

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

OIL ENGINES, &amp;c.—Type of Engines Gardner Paraffin, vert. non-reversing, 2 or 4 stroke cycle 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

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

as fitted

Diameter of crank pins

Breadth of crank webs as per Rule

as fitted

Thickness of ditto as per Rule

as fitted

Diameter of flywheel shaft as per Rule

as fitted

Diameter of tunnel shaft as per Rule

as fitted

Diameter of thrust shaft as per Rule

as fitted

Diameter of screw shaft as per Rule

2.46

as fitted

2.5/8

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

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

Gardner's O.G.

Length of stern bush

11"

Diameter of propeller

2'-8"

Pitch of propeller

1'-10"

No. of blades

4

state whether moveable

No

Total surface

3.06

square feet

Method of reversing

Is a governor or other arrangement fitted to prevent racing of the engine when declutched

Thickness of cylinder liners

Are the cylinders fitted with safety valves

Means of lubrication

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

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

No. of cooling water pumps

Is the sea suction provided with an efficient strainer which can be cleared

in the vessel

No. of bilge pumps fitted to the main engines

one

Diameter of ditto

3"

Stroke

4"

one be overhauled while the other is at work

No. of auxiliary pumps connected to the main bilge lines

one

How driven

aux. motor

No. and sizes of suction pumps

No. and sizes of suction pumps connected to both main bilge pumps and auxiliary bilge pumps

In engine room

one, 2"

in holds, etc.

No. of ballast pumps

How driven

Sizes of pumps

the ballast pump fitted with a direct suction from the engine room bilges

State size

Is a separate auxiliary pump suction fitted in

ine Room and size

yes, suction, 1 1/2"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine Room always accessible

Yes

the sluices on Engine Room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship

Yes

they valves cocks

Yes

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

Yes

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

ked from

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

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

as fitted

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



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *✓*

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....					
"    "    COVERS .....					
"    "    JACKETS .....					
"    "    PISTON WATER PASSAGES .....					
MAIN COMPRESSORS—1st STAGE .....					
"    2nd " .....					
"    3rd " .....					
AIR RECEIVERS—STARTING .....					
"    INJECTION .....					
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....					
SILENCER .....					
"    WATER JACKET .....					
SEPARATE FUEL TANKS .....	18.10.27	2 lbs	7 lbs	CNS	

PLANS. Are approved plans forwarded herewith for shafting *yes*  
(If not, state date of approval)

Receivers *✓*

Separate Tanks *yes*

SPARE GEAR

The foregoing is a correct description,

W. J. YARWOOD & SONS, LTD.

Manufacturer.

For W. J. YARWOOD & SONS, LTD.

*Albert Yarwood*  
DIRECTOR

Dates of Survey while building  
During progress of work in shops - 1927  
During erection on board vessel - Sept 22. Oct 7. Nov 24. Dec 14. 30. Jan 16. 1928  
Total No. of visits 6

Dates of Examination of principal parts—Cylinders *✓* Covers *✓* Pistons *✓* Rods *✓* Connecting rods *✓*  
Crank shaft *✓* Thrust shaft *✓* Tunnel shafts *✓* Screw shaft 22.9.27 Propeller 7.10.27 Stern tube 22.9.27 Engine seatings 7.10.27  
Engines holding down bolts 24.11.27 Completion of pumping arrangements 14.12.27 Engines tried under working conditions 30.12.27  
Completion of fitting sea connections 7.10.27 Stern tube 7.10.27 Screw shaft and propeller 7.10.27  
Material of crank shaft *✓* Identification Mark on Do. *✓* Material of thrust shaft *✓* Identification Mark on Do. *✓*  
Material of tunnel shafts *✓* Identification Marks on Do. *✓* Material of screw shafts M.S. Identification Marks on Do. 1786  
Is the flash point of the oil to be used over 150° F. *yes*

Is this machinery duplicate of a previous case *✓* If so, state name of vessel *yes*

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under special survey; the workmanship & materials are good. The engines & auxiliaries have now been fitted on board in an efficient manner & are now eligible for record of + LMC 1.28.  
Approx. speed 7 knots; lowest revs. 300 p.m.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 1.28. CL  
Oil Engines 4 SC. SA. 16 NH.  
3 Cy 8"-9"

The amount of Entry Fee ... £ : : When applied for,  
1/5 Special ... £ 3 : 8 21 JAN. 1928  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ 1 : 16/4 25.1.28

Committee's Minute LIVERPOOL 24 JAN. 1928

Assigned

+ LMC 1.28.

Elec Light

*P. Leonard*

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation