

## REPORT ON OIL ENGINE MACHINERY.

No. 43380

Received at London Office

WED. FEB 27 1924

Date of writing Report

19

When handed in at Local Office

16.2.

1924

Port of Glasgow

No. in  
Reg. Book.

Survey held at

Glasgow

Date, First Survey

9.8.1923

Last Survey

15.2.1924

Number of Visits

56

on the  
Single  
Twin  
Triple

Screw vessels

M/S "KATHIAWAR"

Tons  
Gross 4150  
Net 2538

Master

Built at Glasgow

By whom built

Harland &amp; Wolff Ltd

Yard No.

611

When built

1924

Engines made at

Glasgow

By whom made

Harland &amp; Wolff Ltd

Engine No.

611

When made

1924

Donkey Boilers made at

Aman

By whom made

Cochran &amp; Co Ltd

Boiler No.

9222

When made

1923

Brake Horse Power

1850

Owners

Messrs Andrew Weir &amp; Co Ltd

Port belonging to

Glasgow

Nom. Horse Power as per Rule

489

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

## OIL ENGINES, &amp;c.—Type of Engines DIESEL

2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders

500 LBS/SQ IN

No. of cylinders

6

No. of cranks

6

Diameter of cylinders

740 mm

Length of stroke

1500

Revolutions per minute

90

Means of ignition

COMPRESSION

Kind of fuel used

ABOVE 150°F

Is there a bearing between each crank

YES

Span of bearings (Page 92, Section 2, par. 7 of Rules)

1004 mm

Distance between centres of main bearings

1450

Is a flywheel fitted

YES

Diameter of crank shaft journals

as per Rule 470 mm

as fitted 485 mm

Diameter of crank pins

485 mm

Breadth of crank webs

as per Rule 625 mm

as fitted 890 mm

Thickness of ditto

as per Rule 263 mm

as fitted 310 mm

Diameter of flywheel shaft

as per Rule 470 mm

as fitted 485 mm

Diameter of tunnel shaft

as per Rule 13 1/8"

as fitted 13 1/2"

Diameter of thrust shaft

as per Rule 13 3/4"

as fitted 14 1/4"

Diameter of screw shaft

as per Rule 14"

as fitted 14 1/4"

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

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

WOOD LINED STERN BUSH

Length of stern bush

6'-0"

Diameter of propeller

15'-9"

Pitch of propeller

15 (variable 14.5 to 15.5)

No. of blades

4

state whether moveable

YES

Total surface

78

square feet

Method of reversing

AIR

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

YES

Thickness of cylinder liners

as per Rule 80 mm

Are the cylinders fitted with safety valves

YES

Means of lubrication

SIGHT &amp; FORCED FEED

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

No. of cooling water pumps

2

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 engine

2 (1 WORKING 1 EMERGENCY)

Diameter of ditto

7" DUPLEX

Stroke

7"

Can one be overhauled while the other is at work

YES

No. of auxiliary pumps connected to the main bilge lines

5

How driven

ELECTRIC MOTOR

Sizes of pumps

2 BILGE 7x7" BALLAST 9x9"

No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 4x2 1/2" G.P. 2 1/2" G.P. 1 1/2" EMERGENCY E.R.

and in holds, etc.

AFT 6x3" 2x2 1/2" EMERGENCY 6x3"

No. of ballast pumps

1

How driven

ELECTRIC MOTOR

Sizes of pumps

9x9" DUPLEX

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

YES

State size

4 1/2"

Is a separate auxiliary pump suction fitted in

Engine Room and size

Are all the bilge suction pipes fitted with roses

YES (EXCEPT TWO WITH TAIL PIPES)

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

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

YES

Is it fitted with a watertight door

YES

worked from UPPER DECK &amp; AUTOMATICALLY 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

1

No. of stages

3

Diameters

750x675x450

Stroke

460 mm

Driven by

MAN ENGINE

No. of auxiliary air compressors

1

No. of stages

3

Diameters

360x350x72

Stroke

230 mm

Driven by

ELECTRIC MOTOR

No. of small auxiliary air compressors

1

No. of stages

2

Diameters

106x34

Stroke

80 mm

Driven by

STEAM

No. of scavenging air pumps

—

Diameter

—

Stroke

—

Driven by

—

Diameter of auxiliary Diesel Engine crank shafts

as per Rule 167 mm

as fitted 170 mm

Are the air compressors and their coolers made so as to be easy of access

YES

## AIR RECEIVERS:—No of high pressure air receivers

Six

Internal diameter

295 mm

Cubic capacity of each

3000 LITRES

material

STEEL

Seamless, lap welded or riveted longitudinal joint

SEAMLESS

Range of tensile strength

28-32 TONS

thickness

58"

working pressure by Rules

1375 LBS/SQ IN

No. of starting air receivers

Two

Internal diameter

6'-0 3/8"

Total cubic capacity

1076 CU. FT.

Material

STEEL

Seamless, lap welded or riveted longitudinal joint

T.R.D.B.S.

Range of tensile strength

27-32 TONS

thickness

1 1/2" SHELL

Working pressure by rules

360 LBS/SQ IN

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

DETACHABLE HEADS &amp; MANHOLE DOORS

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 .....	11-10-23 TO 16-10-23	15 LBS/SQ	50 LBS/SQ	H.W.B.	
JACKETS .....	17-10-23 TO 19-10-23	"	"	H.W.B.	
PISTON WATER PASSAGES .....	3-10-23 TO 15-10-23	"	"	H.W.B.	
MAIN COMPRESSORS—1st STAGE .....	17-10-23	71 LBS/SQ	150 LBS/SQ	H.W.B.	
2nd .....	16-10-23	220 LBS/SQ	500 LBS/SQ	H.W.B.	
3rd .....	15-10-23	1000 LBS/SQ	2000 LBS/SQ	H.W.B.	
AIR RECEIVERS—STARTING .....	24-10-23	356 LBS/SQ	585 LBS/SQ	W.B.	
INJECTION .....	8-10-23 & 11-10-23	1000 LBS/SQ	2000 LBS/SQ	H.W.B.	
AIR PIPES .....	26-10-23 TO 23-1-24	356 LBS/SQ	712 LBS/SQ	H.W.B.	AV. N° 536, 537, 538, 539, 540
FUEL PIPES SUCTIONS .....	18-1-24		30 LBS/SQ		
FUEL PUMPS .....					
SILENCER .....					
WATER JACKET .....					
SEPARATE FUEL TANKS .....	8-11-23		15 LBS/SQ	H.W.B.	

PLANS. Are approved plans forwarded herewith for shafting Feb. 1921  
(If not, state date of approval)

Receivers

Separate Tanks

SPARE GEAR Supplied as per attached list.

The foregoing is a correct description,  
For HARLAND & WOLFF LTD.

J. C. Green  
MANAGER FINNIESTON WORKS

Manufacturer.

Dates of Survey while building  
During progress of work in shops: 1923 Aug 9, 15, 28, 29, 30, 31, 1924 Jan 11, 18, 23, 30, 31, Feb 5, 8, 15.  
During erection on board vessel: 26, 27, 29, Dec 5, 6, 12, 14, 21, 1924 Jan 11, 18, 23, 30, 31, Feb 5, 8, 15.  
Total No. of visits 56

Dates of Examination of principal parts—Cylinders 17/10/23 Covers 11/16/23 Pistons 30/15/23 Rods 20/11/23 Connecting rods 17/9/23  
Crank shaft 25/9/23 Thrust shaft 9/10/23 Tunnel shafts 14/9/23 6/3/23 New shaft 15/10/23 Propeller 15/10/23 Stern tube 30/10/23 Engine seatings 20/11/23  
Engines holding down bolts 8/21/23 Completion of pumping arrangements 30/11/24 Engines tried under working conditions 15/2/24 ✓  
Completion of fitting sea connections 20/11/23 Stern tube 13/11/23 Screw shaft and propeller 13/11/23  
Material of crank shaft STEEL Identification Mark on Do. 29/9/23 H.M.C. Material of thrust shaft STEEL Identification Mark on Do. 19/6/23 P.M.C.  
Material of tunnel shafts STEEL Identification Marks on Do. SEE UNDER Material of screw shafts STEEL Identification Marks on Do. 19/6/23 P.M.C. 23/6/23 P.M.C. 23/6/23 P.M.C. 23/6/23 P.M.C.

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 "GUJARAT"

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

INTERMEDIATE SHAFTING: T2+33 N°1 2534 N°2 2533 N°3 2564 N°4  
LLoyDS 240405 240405 240405 240405  
1947 2006 2007 2016  
P.M.C. 19/7/23 P.M.C. P.M.C. P.M.C.

This machinery has been built under special survey and in accordance with the Rules and approved plans, the materials & workmanship are so far as seen sound and good. It has been fitted on board in an efficient manner tried under working conditions and found satisfactory in all respects and is eligible in my opinion to be classed with record of \* L.M.C. 2-24.

It is submitted that this vessel is eligible for THE RECORD.

The amount of Entry Fee ... £ 5 : 0  
Special ... £ 98 : 7  
Donkey Boiler Fee ... £ ✓  
Travelling Expenses (if any) £ ✓

When applied for,

When received,

Committee's Minute

GLASGOW

26 FEB 1924

Assigned + LMC 2,24

CERTIFICATE WRITTEN

3-4-24 (dated 27-2-24)



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