

Rpt. 4b

## REPORT ON OIL ENGINE MACHINERY.

No. 29118.

Received at London Office 1900 1325

Date of writing Report

19

When handed in at Local Office

21st Aug 1925

Port of

SUNDERLAND.

No. in  
Reg. Book.

Survey held at

SUNDERLAND.

Date, First Survey

30 Oct 1924

Last Survey

21st Aug 1925

Number of Visits

59

Single  
on the  
Triple

Screw vessels

"SYLVAFIELD"

MACHINERY AFT.

Tons

Gross 5709

Net 3392

Master

Built at

Sunderland

By whom built

Sir James Laing

Yard No.

693

When built

1925

Engines made at

Sunderland

By whom made

W. Dredford &amp; Sons

Engine No.

583

When made

1925

Donkey Boilers made at

Stockton-on-Tees

By whom made

Riley Bros Ltd

Boiler No.

5569

When made

1925

Brake Horse Power

2500

Owners

Hunting &amp; Son

Port belonging to

Newcastle

Nom. Horse Power as per Rule

640

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

YES

## OIL ENGINES, &amp;c.

Type of Engines

Dredford Opposed Piston

2 or 4 stroke cycle

2

Single or double acting

Single

Maximum pressure in cylinders

568 lbs

No. of cylinders

4

No. of cranks

4 (3 thrown)

Diameter of cylinders

580 mm

Length of stroke

2 x 1160 mm

Revolutions per minute

87

Means of ignition

Temp. of compression

Kind of fuel used

Crude oil

Is there a bearing between each crank

YES

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

1050 mm

Distance between centres of

Side Cranks

1330 mm

Is a flywheel fitted

YES

Diameter of crank shaft journals

as per Rule 400 mm

as fitted 430 mm

Diameter of crank pins

460 mm

Breadth of crank webs

as per Rule 650

Thickness of ditto

as per Rule 260 mm

as fitted 260 mm

Diameter of flywheel shaft

as per Rule 400 mm

Diameter of tunnel shaft

as per Rule 370 mm

Diameter of thrust shaft

as per Rule 400 mm

as fitted 430 mm

Diameter of screw shaft

as per Rule 400 mm

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

NONE

Length of stern bush

5' 10"

Diameter of propeller

17'-0"

Pitch of propeller

15'-0"

No. of blades

4

state whether moveable

No

Total surface

91 square feet

Method of reversing

Comp'd air

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

YES

Thickness of cylinder liners

1" Reinforced

Are the cylinders fitted with safety valves

YES

Means of lubrication

Forced

Are the exhaust pipes and silencers water cooled or lagged with

Insulation

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

Funnel

No. of cooling water pumps

2

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

YES

within the vessel

THRO JACKET

No. of bilge pumps fitted to the main engines

NONE

Diameter of ditto

Stroke

3

How driven

Hand driven

Can one be overhauled while the other is at work

YES

No. of auxiliary pumps connected to the main bilge lines

3

In engine room

203 1/2, 108"

Sizes of pumps

2 @ 40 tons

1 @ 20 tons

per hr

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

2 @ 2 1/2 in

in

No. of ballast pumps

1

How driven

Hand

Sizes of pumps

200 tons per hr

and in holds, etc.

2 @ 2 1/2 in

in

No. of ballast pumps

1

How driven

Hand

Sizes of pumps

200 tons per hr

and in holds, etc.

2 @ 2 1/2 in

in

No. of ballast pumps

1

How driven

Hand

Sizes of pumps

200 tons per hr

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

YES

State size

8"

Is a separate auxiliary pump suction fitted in

YES

Engine Room and size

YES. 3 1/2" x 8"

Are all the bilge suction pipes fitted with roses

MUD BOXES +

STAIR AT TAIL PIPES

Are the roses in Engine Room always accessible

YES

Are the sluices on Engine Room bulkheads always accessible

NONE

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

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

NONE

No. of stages

Stroke

Driven by

STEAM

No. of auxiliary air compressors

2

No. of stages

3

Stroke

Driven by

CYL. 13 1/2 x 7" stroke

No. of small auxiliary air compressors

No. of stages

Stroke

Driven by

Main Engine

No. of scavenging air pumps

1

Diameter

62"

Stroke

41"

Driven by

YES

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

YES

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

NONE

Internal diameter

Cubic capacity of each

Range of tensile strength

material

Seamless, lap welded or riveted longitudinal joint

thickness

working pressure by Rules

No. of starting air receivers

Internal diameter

3'-6"

Total cubic capacity

220 1/2

Material

Steel

Seamless, lap welded or riveted longitudinal joint

Riveted

Range of tensile strength

28-32 tons

thickness

1 1/4"

Working pressure by rules

610 lbs

Is each receiver, which can be isolated,

What means are provided for cleaning their

inner surfaces

YES

filled with a safety valve as per Rule

YES

Can the internal surfaces of the receivers be examined

YES

Is there a drain arrangement fitted at the lowest part of each receiver

YES

inner surfaces

Man hole 16 1/2"

Is there a drain arrangement fitted at the lowest part of each receiver

YES

Lloyd's Register  
1045-0053



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	Plain cylindrical form found as ascertained by inspection				
COVERS	NONE			583 LLOYD'S TEST	
JACKETS	31.3.25 to 27.4.25	4 1/2	30 1/2	30 1/2 G.A.H.	
PISTON WATER PASSAGES	7.5.25 to 22.5.25	30 1/2	100 1/2	583 LLOYD'S TEST	
MAIN COMPRESSORS—1st STAGE	✓			100 1/2 G.A.H.	
2nd	✓				
3rd	✓			583 LLOYD'S TEST	
AIR RECEIVERS—STARTING	8.5.25	600 1/2	800 1/2	800 1/2 G.A.H.	
INJECTION	✓			583 LLOYD'S TEST	
AIR PIPES	4.6.25 to 18.6.25	600 1/2	1000 1/2	1000 1/2 G.A.	
FUEL PIPES	22.5.25	8000 1/2	12000 1/2	583 LLOYD'S TEST	
FUEL PUMPS	12.6.25	8000 1/2	12000 1/2	12000 1/2 G.A.	
SILENCER	Lagged with asbestos, open to atmosphere				
WATER JACKET	NONE			583 LLOYD'S TEST	
SEPARATE FUEL TANKS	12.6.25, 19.6.25	NIL	10 1/2	10 1/2 G.A.	

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

YES

Receivers SAME AS "PACIFIC TRADER" Separate Tanks. YES.

SPARE GEAR 1 Piston complete with skirt, rings, studs, 2 centre con. rod tips and bearings complete with bolts, nuts, 1 centre con. rod bottom end bearing complete with bolts, nuts, 1 side crosshead complete with bolts, nuts, 1 side con. rod bottom end bearing complete with bolts, nuts, 1 main bearing complete with bolts, nuts, 1st coupling bolts for crank shaft, 1st for tunnel shaft, 1 spur & bevel wheel for cam shaft drive, 4 fuel valves complete, 1 relief valve main exhaust, 6 Pads for thrust, Leverage pump & delivery valves, 1 fuel pump tray complete, 1 Tail shaft, 1 Propeller, 1 Strain, shaft length for crank shaft. Compressor spare parts: Main bearing & crank brackets, air inlet & delivery valves, piston rings, assorted bolts & nuts, from various sizes.

The foregoing is a correct description,

WILLIAM DEXFORD & SONS, Limited,  
A. Maxwell

Manufacturer.

Dates of Survey while building  
During progress of work in shops - 19.2.24, Oct. 30, Nov. 5.11.19, Dec. 1.5.22, 25, Jan. 6.9.20, 26.29, Feb. 11.10.16.19, Mar. 11.12.17.18.19.25  
During erection on board vessel - 21.2.24, 3.6.7.16.17.20.22.27, May 11.4.8.13.22.28.29, June 11.9.12.16.18.19.22.25.30, July 2.8.4.  
Total No. of visits 55 59

Dates of Examination of principal parts—Cylinders 27.4.25 Covers ✓ Pistons 8.5.25 Rods 13.5.25 Connecting rods 29.5.25  
Crank shaft 26.1.25 Thrust shaft 12.6.25 Tunnel shaft 12.6.25 Screw shaft 12.6.25 Propeller 29.5.25 Stern tube 31.3.25 Engine seatings 17.4.25  
Engines holding down bolts 2.7.25 Completion of pumping arrangements 7.7.25 Engines tried under working conditions 15.7.25  
Completion of fitting sea connections 17.4.25 Stern tube 17.4.25 Screw shaft and propeller 22.6.25  
Material of crank shaft Steel Identification Mark on Do. 2056A, 8V.L. Material of thrust shaft Steel Identification Mark on Do. 583 G.A.  
Material of tunnel shafts Steel Identification Marks on Do. 583 G.A. Material of screw shafts Steel Identification Marks on Do. 583 G.A.

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 "PACIFIC TRADER"

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

The machinery of this vessel has been built under special survey, the materials and workmanship are sound and good and under the vessel ship in our opinion to have used of 4-L.M.C. 8-25 oil Engine

Vessel dry docked in Misch any dock South Shires. Propeller and fastenings examined and found satisfactory.

The amount of Entry Fee ... £ 6 :  
Special ... £ 107 :  
Donkey Boiler Fee ... £ 4 : 4  
Travelling Expenses (if any) £ :  
When applied for, 24 JULY 1925  
When received, 20 AUG. 1925

Committee's Minute

Assigned

FRI. 23 OCT 1925

+ Ltr 6.10.25 C.L.  
oil engines.

E. H. Hake + G. Anderson  
Engineer Surveyor to Lloyd's Register of Shipping.

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Foundation