

should be forwarded and a List. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 34589

5 DEC 1946

of writing Report

19

When handed in at Local Office

29 Nov 1946

Port of

Sunderland

in Survey held at

Sunderland

Date, First Survey

11 Jan 45

Last Survey

28 Nov 1946

Book.

Single
on the ~~Triple~~
~~Quadruple~~

Screw vessel

BRITISH ENTERPRISE

Tons: Gross 6095
Net 3329

at Sunderland

By whom built

W. Bayford & Sons Ltd.

Yard No. 438

When built 1946

ines made at Sunderland

By whom made

W. Bayford & Sons Ltd.

Engine No. 438

When made 1946

Boilers made at Stockton

By whom made

Boiler No. 6933/4

When made 1946

Horse Power 2500

Owners British Tanker Co Ltd.

Port belonging to

London

Horse Power as per Rule 516

Is Refrigerating Machinery fitted for cargo purposes

no.

Is Electric Light fitted

Yes.

le for which vessel is intended

Anchor

23 5/8

91 5/16

ENGINES, &c.—Type of Engines

Open end piston, unless injection or 4 stroke cycle

2

Single or double acting

Single

imum pressure in cylinders

640 lbs/sq. in.

Diameter of cylinders

600 in.

Length of stroke

48 in.

23 in.

No. of cylinders

3

No. of cranks

3 Triple times

Indicated Pressure

88 lbs/sq. in.

Weight

2.265 tons

Means of ignition

Compression

Kind of fuel used

—

Is there a bearing between each crank

(Between each 3 throws)

of bearings, adjacent to the Crank, measured from inner edge to inner edge

940 in.

Weight

2.265 tons

Means of ignition

Compression

Kind of fuel used

—

Is there a bearing between each crank

(Between each 3 throws)

utions per minute

108

Flywheel dia.

2300 in.

Weight

2.265 tons

Means of ignition

Compression

Kind of fuel used

—

kraft, { Solid forged
Semi built
All built

dia. of journals

418 in.

as fitted

450 in.

Crank pin dia.

450 in.

Weight

2.265 tons

Means of ignition

Wheel Shaft, diameter

418 in.

as fitted

450 in.

Intermediate Shafts, diameter

308 in.

as fitted

430 in.

Thrust Shaft, diameter at collars

418 in.

Shaft, diameter

418 in.

as fitted

450 in.

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AIR RECEIVERS: - Have they been made under survey? *Yes.*
Is each receiver, which can be so fitted, fitted with a safety valve as per Rules? *Yes.*
Can the internal surfaces of the receivers be examined and cleaned? *Yes.*
Injection Air Receivers, No. *220* Cubic capacity of each *220 cu ft.* Internal diameter *3' 6 3/4"* thickness *1"*
Seamless, lap welded or riveted longitudinal joint *Seamless.* Material *M/Steel* Range of tensile strength *28/32* Working pressure by Rules *600 lbs/sq. in.*
Starting Air Receivers, No. *2* Total cubic capacity *440 cu ft.* Internal diameter *3' 6 3/4"* thickness *1"*
Seamless, lap welded or riveted longitudinal joint *Seamless.* Material *M/Steel* Range of tensile strength *28/32* Working pressure by Rules *600 lbs/sq. in.*

IS A DONKEY BOILER FITTED? *Yes.*
Is the donkey boiler intended to be used for domestic purposes only? *Yes.*
PLANS. Are approved plans forwarded herewith for Shifting (if not, state date of forwarding)? *Yes.*
Donkey Boilers *Yes.* General Pumping Arrangements *(Pump Room).* Pumping Arrangements in Machinery Space *Yes.*
Oil Fuel Burning Arrangements *Yes.* SPARE GEAR. *Yes.*
Has the spare gear required by the Rules been supplied? *Yes.*

State the principal additional spare gear supplied: *1 Cylinder liner & gasket complete, 1 upper & 1 lower piston skirt, 4 Scrapers rings, 1 main piston head & 40 rings, 8 fuel valve spray plugs, 4 fuel valves complete, 1 Centre & Side Cam and belt end spl. bearing, 1 main spl. bearing, 2 main bearings, 4 (each) Centre & Side Cam and top & belt end bearings, 2 Side rods, 2 belt & nut, 1 Set. Coupling belt & nut for int. shaft, 2 N.R. Starting air valves, 2 relief valves complete, 1 fuel pump Suct. chamber, 2 fuel pump bushes complete, 1 S.C. pump Suct. val. valve, 1 roller chain for Camshaft drive, 1 C.I. Propeller, 1 Cast Shaft, 1 Set. pad for thrust block, 3 pads for last shaft bearing.*

The foregoing is a correct description.

25 th 46. <i>Wardle</i>		Director.								
Dates of Survey while building	During progress of work in shops - -	1945. Jan. 11, 12, 14, 17, 18, 19, 21, 25, 27. Oct. 1, 2, 3, 4, 9, 24, 29, 31. Nov. 1, 5, 6, 7, 8, 9, 12, 14, 15, 16, 19, 20, 21, 22, 26, 27, 28, 29.								
	During erection on board vessel - -	20. Dec. 3, 4, 5, 6, 7, 11, 12, 13, 14, 17, 18, 19, 20, 21. 44. Jan. 29. May 11, 12, 15, 18. May 7, 24. June 5, 17, 19, 20, 27, 28. July 2, 11, 18. Aug. 2, 12, 17. Sep. 2, 24. Oct. 10, 14, 27. Nov. 11, 28.								
	Total No. of visits	77								
Dates of Examination of principal parts	Cylinders	26/10/45, 29/10/45	Covers	-	Pistons	5/12/45	Rods	5/12/45	Connecting rods	3/12/45.
	6/11/45									
Crank shaft	26/11/45	Flywheel shaft	as crank	Thrust shaft	as crank.	Intermediate shafts	29/1/46	Tube shaft	-	
Screw shaft	12/8/46	Propeller	25/1/46 (Q)	Stern tube	2/8/46	Engine seatings (Crank tip)		Engines holding down bolts	23/10/46.	
Completion of fitting sea connections	2/8/46.	Completion of pumping arrangements		28/11/46.	Engines tried under working conditions		11/11/46 & 28/11/46			
Crank shaft, Material	Super Steel	Identification Mark	Nº 438 W.H.F. 26/11/45	Flywheel shaft, Material	as crank	Identification Mark	as crank			
Thrust shaft, Material	as crank	Identification Mark	as crank.	Intermediate shafts, Material	Super Steel	Identification Marks	Nº 4809-841 W.H.F. 29/1/46			
Tube shaft, Material	-	Identification Mark	-	Screw shaft, Material	Super Steel	Identification Mark	Nº 4809-869 W.H.F. 12/8/46			
Identification Marks on Air Receivers	K 1852/3.									
	L.R. 22126.									
	L.C.D. 15/2/46.									

Is the flash point of the oil to be used over 150° F. *Yes.*
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with? *Yes.*
Description of fire extinguishing apparatus fitted: *1 1/2 H.L. Separator pipes for steam, led around E.R. & B.R. Rm.*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo? *(Tanker)*
If the notation for Ice Strengthening is desired, state whether the requirements of this respect have been complied with? *Not desired.*
Is this machinery duplicate of a previous case? *Yes.* If so, state name of vessel: *BRITISH COMMERCE*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been built under Special Survey in accordance with the approved plans & the rules of the Society. The materials & workmanship are good. It has been securely fitted on board the vessel & tried under working conditions alongside Quay & at Sea with satisfactory results. The two donkey boilers have also been securely fixed on board, fitted to burn oil fuel (F.P. above 150° F) & safety valves adjusted under steam to working pressure in accordance with rule requirements. Section 20 of the rules has been complied with. The machinery is reliable in my opinion, to have notation.*
LMC. 11.46 (oil Eng.) T.S. (CL) 2 DB 150 H.P.

The amount of Entry Fee .. £ 6 : : When applied for, *29 NOV 1946*
Special ... £ 100 : 16 : :
Donkey Boiler Fee ... £ 12 : 12 : :
Travelling Expenses (if any) £ : : :
Committee's Minute *FRI. 20 DEC 1946*
Assigned *+ LMC 11.46 Oil Eng.
C.L. 2 DB. 150lb*

Rpt. 5a.
Date of writing Report *2*
No. in Survey held at Reg. Book.
on the
Built at *Sunderland*
Engines made at
Boilers made at *Sto*
Nominal Horse Power
MULTITUBULAR
Manufacturers of St
Total Heating Surfa
No. and Description
Tested by hydraulic
Area of Firegrate i
Area of each set of
In case of donkey bo
Smallest distance be
Smallest distance be
Largest internal di
Thickness *29/3*
long. seams *TR.*
Percentage of stren
Percentage of stren
Thickness of butt
Material *Sto*
Length of plain p
Dimensions of sti
End plates in ste
How are stays se
Tube plates: Ma
Mean pitch of st
Girders to comb
at centre *7"*
in each *2*
Tensile strength
Pitch of stays to
Front plate at
Thickness
Pitch of stays
Main stays: A
Diameter { At bo
Over t
Screw stays:
Diameter { At tw
Over t