

## REPORT ON OIL ENGINE MACHINERY.

No. 1611.

29 MAR 1934

Received at London Office

Date of writing Report 24. 1. 1934 When handed in at Local Office 26. 1. 1934 Port of Bremen

No. in Survey held at Augsburg  
Reg. Book.

Date, First Survey 22nd September 1933 Last Survey 24th March 1934

Number of Visits 90

Single  
on the Twin  
Triple Screw vessel  
QuadrupleTons  
Gross  
Net

Built at Reupew

By whom built Messrs. Wm. Simons &amp; Co. Ltd.

Yard No. 704 When built 1933-34

Made at Augsburg

By whom made Masch. fabrik Augsburg-Nürnberg

Engine No. 080 When made 1933/34

Boilers made at

By whom made

Boiler No. When made

Horse Power 2x1500

Owners Messrs. Brunswick oil Co. Ltd.

Port belonging to London

Horse Power as per Rule 490

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

for which vessel is intended run propelling dredger

ENGINES, &amp;c.—Type of Engines 2x 96/674

2 or 4 stroke cycle 4 Single or double acting single

Pressure in cylinders 49 atm

Diameter of cylinders 520 mm

Length of stroke 740 mm

No. of cylinders 2x6

No. of cranks 2x6

Bearings, adjacent to the Crank, measured from inner edge to inner edge 660 mm

Is there a bearing between each crank yes

Revs per minute 250

Flywheel dia. 1800 mm

Weight 1280 kg

Means of ignition direct ign.

Kind of fuel used Diesel oil (on test bed)

Shaft, dia. of journals as per Rule

as fitted 302 mm

Crank pin dia. 310 mm

Crank Webs

Mid. length breadth 410 mm

Thickness parallel to axis

Mid. length thickness 175 mm

Thickness around eye-hole

Main Shaft, diameter as per Rule

as fitted 250 mm

Intermediate Shafts, diameter as per Rule

as fitted

Thrust Shaft, diameter at collars as per Rule

as fitted

Shaft, diameter as per Rule

as fitted

Screw Shaft, diameter as per Rule

as fitted

Is the tube screw shaft fitted with a continuous liner

Liners, thickness in way of bushes as per Rule

as fitted

Thickness between bushes as per rule

as fitted

Is the after end of the liner made watertight in the

boss

If the liner is in more than one length are the junctions made by fusion through the whole thickness of 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

Bushes are fitted, is the shaft lapped or protected between the liners

Is an approved Oil Gland or other appliance fitted at the after end of the tube

If so, state type

Length of Bearing in Stern Bush next to and supporting propeller

Pitch

No. of blades

Material

whether Moveable

Total Developed Surface

sq. feet

of reversing Engines

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

Means of lubrication

Thickness of cylinder liners 39 mm

Are the cylinders fitted with safety valves yes

Are the exhaust pipes and silencers water cooled or lagged with

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

Water Pumps, No. 1, works from main engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Arrangements are made for dealing with cooling water if discharged into bilges

Pumps worked from the Main Engines, No.

Diameter

Stroke

Can one be overhauled while the other is at work

Connected to the Main Bilge Line

No. and Size

How driven

Pumps, No. and size

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 cog wheel pump worked from main engine. 4 1/2 in 3/4

Independent means arranged for circulating water through the Oil Cooler

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

In Machinery Spaces

In Pump Room

Direct Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Are the Bilge Suctions in the Machinery Spaces

Easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Connections fitted direct on the skin of the ship

Are they fitted with Valves or Cocks

Fitted sufficiently high on the ship's side to be seen without lifting the platform plates

Are the Overboard Discharges above or below the deep water line

Fitted with a Discharge Valve always accessible on the plating of the vessel

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Pass through the bunkers

How are they protected

Pass through the deep tanks

Have they been tested as per Rule

Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

to another Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

Vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Air Pumps, No.

Diameter

Stroke

Driven by

Engines crank shafts, diameter as per Rule

as fitted

No.:

Position

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes

Internal surfaces of the receivers be examined and cleaned yes

Is a drain fitted at the lowest part of each receiver yes

High Pressure Air Receivers, No.

Cubic capacity of each

Internal diameter

Thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Starting Air Receivers, No. 2

Total cubic capacity 2x100 lbs

Internal diameter 800 mm

Thickness 17 mm (shell)

Seamless, lap welded or riveted longitudinal joint riveted

Material S.M. steel

Range of tensile strength 44-50 kg/cm<sup>2</sup>

Working pressure by Rules

Actual 30 atm

W6-0143



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting *yes, plans 5200322-30.10.33* Receivers *yes, plan 1417807-24.10.33* Separate Tanks  
(If not, state date of approval) *Letter 5.9.33 and 6.1.34*

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

### SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes, as per rules*

State the principal additional spare gear supplied

*The following is a correct description.*  
**Maschinenfabrik Augsburg-Nürnberg A.-G.**

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- *Sept 1933: 22.26.27. Oct 1933: 20.23.24.25.26. Nov 1933: 2.4.8.10.13.14.21.22.23.27.28. Dec 1933: 2.5.6.7.8.11.12.13.19.20. 21.23.30. Jan 1934: 2.3.10.11.12.13.17.18.19.20. Feb 1934: 1.2.3.5.6.7.8. 9.10.13.14.15.16.17.19. 20.21.22.23.24.26.27.28. 22.25.26.27.29.30.31*  
During erection on board vessel -- *March 1934: 1.2.3.5.6.7.8.9.10.12. 15.17.19.20.21.22.23.24.*  
Total No. of visits

Dates of Examination of principal parts—Cylinders *13.1.34/14.1.34* Covers *24.2/23.11.33* Pistons *12.3.34* Rods *12.1.34* Connecting rods *2.12.33*  
*7.12.33/23.2.34* Flywheel shaft *8.12.33* Thrust shaft Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts  
Engines tried under working conditions *19/20.2.34*

Completion of fitting sea connections Completion of pumping arrangements  
Crank shaft, Material *S.M. Steel* Identification Mark *LLOYDS F.S. 1827. 31.10.33* Flywheel shaft, Material *S.M. Steel* Identification Mark *LLOYD'S F.S. 1627 8.12.33*  
*HB 10198. 13.12.33*

Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

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

General Remarks (State quality of workmanship, opinions as to class, &c.) *These heavy oil engines have been constructed under special survey in accordance with the Soc. Rules and Regulations as well as with the approved plans and instructions thereto. The materials used in the constructions are good and the workmanship is satisfactory.*

*The engines have been tested on the makers test bed during 26 hours incl. hours 4 1/2 overload and 8 hours partial loads in the presence of the undersigned and were found to work satisfactorily.*

*In my opinion the vessel for which these engines are intended will be eligible for the notation of L.A.C. [with date] when the whole machinery has been fitted. Satisfactorily on board and tried under full working conditions. A copy of this report for the Rangoon Surveyors has been forwarded to the London head office.*

The amount of Entry Fee .. £ 6 : 8 : When applied for, *27. 3. 1934*  
*14/5 Special* .. £ 125 : 15 :  
*test bed trials* .. £ 13 : 8 :  
*Donkey Boiler Fee* .. £ 6 : 14 :  
*2 x 100 air receivers* .. £ 26 : 3 :  
Travelling Expenses (if any) .. £ 304 : 19 : 34  
When received, *304. 19. 34*

Committee's Minute

Assigned

FRI 12 OCT 1934

FRI 19 OCT 1934

Engineer-Surveyor to Lloyd's Register of Shipping.

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Foundation