

REPORT ON OIL ENGINE MACHINERY.

No. 9514

2 OCT 1933

Received at London Office

Writing Report 28th Sept. 1933 When handed in at Local Office 29th Sept. 1933 Port of Gothenburg
 Survey held at Gothenburg Date, First Survey 16th June Last Survey 24th Sept 1933
 Number of Visits 43

on the Single Twin Triple Quadruple Screw vessel "WASHINGTON EXPRESS" Tons Gross 3643 Net 2165
 at Gothenburg By whom built A.B. GÖTAVERKEN Yard No. 476 When built 1933
 at Gothenburg By whom made A.B. GÖTAVERKEN Engine No. 10478 When made 1933
 rs made at ✓ By whom made ✓ Boiler No. ✓ When made ✓
 Power 4030 Owners SKIBS A/S SEATTLE Port belonging to 0340
 as per Rule 724 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes
 the vessel is intended General.

ES, &c. Type of Engines Two diesel oil engines 2 or 4 stroke cycle 4 Single or double acting single
 in cylinders 49 $\frac{49}{\text{cm}^2} = 700 \text{ lb.}$ Diameter of cylinders 21 5/8" [550 mm] Length of stroke 39 3/8" [1000 mm] No. of cylinders 16 No. of cranks 16
 adjacent to the Crank, measured from inner edge to inner edge 724 mm Is there a bearing between each crank yes
 rule 175 Flywheel dia. None Weight ✓ Means of ignition Diesel system Kind of fuel used Diesel fuel oil
 of journals as per Rule 347 mm Crank pin dia. 350 mm Crank Webs as per Rule 237-245 mm Mid. length breadth ✓ Thickness parallel to axis 197-213 mm
 as fitted 350 mm Mid. length thickness ✓ Thickness around eye-hole 171 mm
 diameter as per Rule Intermediate Shafts, diameter as per Rule 237-245 mm Thrust Shaft, diameter at collars as per Rule 260 mm
 as fitted ✓ as fitted 237-245 mm as fitted 260 mm
 diameter as per Rule Screw Shaft, diameter as per Rule 275-285 mm Is the tail screw shaft fitted with a continuous liner Yes
 as fitted ✓ as fitted 275-285 mm
 thickness in way of bushes as per Rule 16 mm Thickness between bushes as per Rule 12 mm Is the after end of the liner made watertight in the Yes
 as fitted 16-17 mm as fitted 15.5 mm

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

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 Yes

so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 1350 mm

124 mm Pitch 3410 No. of blades 3 Material Brass whether Moveable No Total Developed Surface 2 x 3.56 = 7.12 sq. ft.

using Engines with compressed air ✓ Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication ✓

thickness of cylinder liners 34 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with ✓

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

Pumps, No. One - 100 tons/hour Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

sucked from the Main Engines, No. 2 Diameter 150 mm Stroke 127 mm Can one be overhauled while the other is at work Yes

to the Main Bilge Line No. and Size One 100 tons ballast, One 20 tons plunger, Two 20 tons plunger

No. and size One - 100 tons/hour How driven Electrically Electrically Main engines

Lubricating Oil Pumps, including Spare Pump, No. and size Two - 22 tons/hour each

at means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge ✓

ze:—In Machinery Spaces Three - 3"; Two - 2 1/2"; One 2 1/2" from cofferdam, One 2 1/2" from Pump Room turned well

hold - 2 x 3"; No. 2 hold - 2 x 3"; No. 3 hold - 4 x 2 1/2"

ower Pump Direct Suctions to the Engine Room Bilges, No. and size One 5", One 3"

Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces Yes

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

suctions fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes

cently high on the ship's side to be seen without lifting the platform plates Not all Are the Overboard Discharges above or below the deep water line Above

with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓

rough the bunkers No coal bunkers How are they protected ✓

rough the deep tanks None Have they been tested as per Rule ✓

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

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 ✓

other Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper engine - room platform

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

ressors, No. Two No. of stages 2 Diameters 280 & 320 mm Stroke 150 mm Driven by Electric motors

ompressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Air Compressors, No. One No. of stages 2 Diameters 34 & 106 mm Stroke 80 mm Driven by Crude oil engine

Pumps, No. as per Rule Diameter 160 mm Stroke ✓ Driven by ✓

es crank shafts, diameter as fitted 160 mm No. — 4 Position — At the fore end in the engine room.

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

surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

Air Receivers, No. One Cubic capacity of each 250 litres Internal diameter 380 mm thickness 15 mm

ess, lap welded or riveted longitudinal joint Lap welded Material S. 4. Steel Range of tensile strength 40.6-41.2 kg/mm² Working pressure by Rules 48.5 kg/cm²

ing Air Receivers, No. Two Total cubic capacity 2 x 14 m³ = 28 m³ Internal diameter 1600-1644 mm thickness 22-22.5 mm

ess, lap welded or riveted longitudinal joint Riveted Material S. 4. Steel Range of tensile strength 45.4-50.0 kg/mm² Working pressure by Rules 25.9 kg/cm²

Actual 25 kg/cm²

Foundation

002947-002955-0105

IS A DONKEY BOILER FITTED?

No

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 2 1/2, 2 1/2, 2 1/2 1933
(If not, state date of approval)

Receivers 2 1/2, 2 1/2 - 1933

Separate Tanks 1 1/6 - 1933

Donkey Boilers ✓

General Pumping Arrangements 8/3 - 1933

Oil Fuel Burning Arrangements ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes

State the principal additional spare gear supplied For the main engines: One cylinder liner, 1 cooling jacket, 14 exhaust valves with 4 extra spindles, 6 fuel valves and 3 spindles for same, 10 atomizers, 3 sets of piston rings for one piston, 4 crosshead bearing caps, 6 halves of crank pin brasses, 2 halves of journal brasses, for the fuel pumps: 8 suction valves, 8 plungers with line, 8 valve chests with valves, 4 delivery pipes between pump & fuel valve, one propeller shaft, 2 cast iron propellers.

For the auxiliary engines: 1 cylinder with cover complete, 4 sets of piston rings for one piston, 4 fuel valves complete, 8 fuel non return valves, 8 fuel pump slide valves with liners, 15 exhaust valves and 8 extra spindles for same, 1 starting air valve, 2 halves of crosshead brasses, 4 halves of crank pin brasses, 4 halves of journal brasses, 1 set of piston rings for a manoeuvring compressor, 2 vanes for the ball pump, 3 sets of valves and seats for budge & ballast pump, 8 number of springs & packings of each size used for main & auxiliary engines.

The foregoing is a correct description

ANTHONY & CO. LONDON

Wm. S. Neelue

Manufacturer.

Dates of Survey while building
During progress of work in shops: June 16, July 7, 8, 11, 12, 12, 14, 14, 17, 18, 20, 26, 27, 28 Aug. 3, 4, 8, 8, 10, 12, 16, 18, 25, 26 Sept. 2
During erection on board vessel: July 7, 20 Aug. 12, 24, 29, 30, 31 Sept. 2, 6, 13, 14, 18, 19, 20, 21, 22, 23, 24
Total No. of visits 43

Dates of Examination of principal parts—Cylinders 1/3 1/3 2/9 Covers 1/3 1/3 2/9 Pistons 2 1/2 4/3 Rods ✓ Connecting rods 1 1/7
Crank shaft 2 1/2 7/7 Flywheel shaft ✓ Thrust shaft 16/8 Intermediate shafts 2 1/8 Tube shaft ✓
Screw shaft 5/7 2/8 1 1/9 Propeller 1 1/9 Stern tube 20/7 Engine seatings 14/7 Engines holding down bolts 12/8
Completion of fitting sea connections 1 1/9 Completion of pumping arrangements 2 1/9 Engines tried under working conditions 2 1/9

Crank shaft, Material J. H. Steel Identification Mark LLOYD 1688/1689 CK 4.5.33 Flywheel shaft, Material ✓ Identification Mark LLOYD 1696/1697 CK 20.5.33
Thrust shaft, Material J. H. Steel Identification Mark LLOYD 9921/14882 CB 16.8.33 Intermediate shafts, Material J. H. Steel Identification Mark LLOYD 9921/14882 CB 25.8.33
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material J. H. Steel Identification Mark LLOYD 9098/9099/9100/9101 PK 24.4.33

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

Aux. eng. cranks.

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

Yes.

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

No

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 Yes If so, state name of vessel Yes "Oregon Express."

General Remarks (State quality of workmanship, opinions as to class, &c.) The main & auxiliary engines of this vessel have been built under special survey and all the requirements of the Rules have been complied with. The shafting as per forging reports attached. Historical of starting air receivers as per test sheets attached. The workmanship is good and the material fulfils the requirements of the Rules. The dimensions are as specified and in accordance with the Rules & approved plans. The auxiliary machinery consists of four - 4 cylinder, 4 stroke cycle, single acting diesel oil engine having a cyl. diam. of 240 mm and stroke 160 mm manufactured by R.B. Götterverkeim. The machinery of this vessel is eligible in our opinion to be classed in the Register Book of this Society with notation of + LMC 9.33.

A plan of the pumping arrangement as fitted is forwarded herewith

The amount of Entry Fee .. £ 109 : 20

When applied for,

Special ... £ 2023 : 84

29/9 1933

Start air receiver fee ... £ 152 : 88

When received,

Travelling Expenses (if any) £ :

16/10 1933

Committee's Minute TUE. 10 OCT 1933

Assigned

+ L.M.C. 9.33

V. Bulow S. Berrelius
Engineer Surveyor to Lloyd's Register of Shipping.



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CERTIFICATE WRITTEN