

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 98606

27/6/40

Received at London Office
NEWCASTLE-ON-TYNE

Date of writing Report

When handed in at Local Office 20/6/1940 Port of

No. in Survey held at
Reg. Book.

Newcastle on Tyne

Date, First Survey 28/4/39 Last Survey 15/6/1940

Number of Visits 152.

Single
Twin
Triple
Screw vessel

"PORT NAPIER"

Tons { Gross 9847
Net 5906

At Newcastle

By whom built Swan, Hunter & Wigham Richardson Ltd Yard No. 1569 When built 1940-

Engines made at Newcastle

By whom made -ditto Engine No. 1624 When made 1940

Boilers made at Annan

By whom made Cochran & Co (Annan) Ltd Boiler No. 14443 When made 1939-12

Horse Power 0,700

Owners Port Line Ltd Port belonging to London

Horse Power as per Rule 2152 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Service for which vessel is intended Ocean going

ENGINES, &c. Type of Engines Opposed Piston airless injn 2 stroke cycle Z; Single or double acting Single

Mean pressure in cylinders 640 lb/45 kg/cm² Diameter of cylinders 670 M.M. Length of stroke 1340 M.M. No. of cylinders 10 No. of cranks 3 throw

Indicated Pressure 87 lb. BETWEEN CENTRES OF SIDE RODS 1300 M.M. Is there a bearing between each crank Yes; but each

of bearings, adjacent to the Crank, measured from inner edge to inner edge of side rods 1030 M.M. Means of ignition Heat of Compression Kind of fuel used Heavy oil fuel.

Revolutions per minute 113 Flywheel dia. 8'2" Weight 1.88 tons

Stroke of journals 5'7" Crank pin dia. 4 1/2" Crank Webs 730 Mid. length breadth 730 Thickness parallel to axis 290

Propeller Shaft, diameter as fitted 520 Intermediate Shafts, diameter as fitted 15" Thrust Shaft, diameter at collars as fitted 520

Shaft, diameter as per Rule 16.516 Is shaft fitted with a continuous liner Yes

Shaft, diameter as fitted 17 1/16

Liners, thickness in way of bushes as per Rule 26/32 Thickness between bushes as per Rule 19/32 Is the after end of the liner made watertight in the

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

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 No space.

Liners 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

No If so, state type Length of Bearing in Stern Bush next to and supporting propeller 6'8"

Propeller, dia. 17'-0" Pitch 15'-9" No. of blades 4 Material M. Buge whether Moveable No Total Developed Surface 98 sq. feet

Method of reversing Engines Hand lever + Compressed air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication

Thickness of cylinder liners 25 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

Insulating 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 up funnel.

Sea Water Pumps, No. Two for distilled water cooling Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes on 7th in Air

Pumps worked from the Main Engines, No. None Diameter - Stroke - Can one be overhauled while the other is at work

connected to the Main Bilge Line One Bilge Pump (150 tons/hr); One Ball Pump (280 tons/hr)

How driven each by Elec. motor

Cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements

Oil Pumps, No. and size one 13" Drysdale 280 tons/hr. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two of 100 tons/hr.

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

No. and size: - In Machinery Spaces 4 of 3" in trachey space; 3" in tunnel well In Pump Room

Direct Suctions to the Engine Room Bilges, No. and size 2 of 6" No. 1, 2 1/2"; No. 2, 2 1/2"; No. 3, 2 1/2"; No. 4, 3 1/2"; No. 5, 3 1/2"; No. 6, 2 1/2";

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 Yes

Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks both.

Are they fitted with Valves or Cocks both.

Are the Overboard Discharges above or below the deep water line both.

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

How are they protected

Have they been tested as per Rule

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

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

compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deck level in E.R.

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

Air Compressors, No. None No. of stages - Diameters - Stroke - Driven by -

Auxiliary Air Compressors, No. Two No. of stages 3 Diameters 15 1/2 - 3 1/4; 3 3/4 Stroke 8 3/4 Driven by Elec. motors.

Small Auxiliary Air Compressors, No. One No. of stages 2 Diameters 6-2 1/4 Stroke 4 1/2 Driven by Steam Eng. 7 1/2" dia x 4 1/2" stroke

What provision is made for first Charging the Air Receivers

Scavenging Air Pumps, No. One abstracting on each engine Diameter 1780 M.M. Stroke 1380 M.M. Driven by Main Eng. direct

Auxiliary Engines crank shafts, diameter as per Rule See London Rpt 108469. Position Three 375 kW. Oil Eng. Dyno. Set 2020

Have the Auxiliary Engines been constructed under special survey. Yes Is a report sent herewith

Lloyd's Register
P.T.O. (A) 119

WTI-0049

AIR RECEIVERS:—Have they been made under survey *Yes* State No. of Report or Certificate *800/15*
 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 and cleaned *Yes* Is a drain fitted at the lowest part of each receiver *Yes*
Injection Air Receivers, No. *None* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*
 Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *✓*
Starting Air Receivers, No. *3* Total cubic capacity *696 cub. ft.* Internal diameter *5'-0"* thickness *1/32"*
 Seamless, lap welded or riveted longitudinal joint *T.R. 80lb. buth Straps* Material *Steel* Range of tensile strength *30-34 tons* Working pressure *604*
 by Rules *600*
 Actual *600*

IS A DONKEY BOILER FITTED? *Yes - Two* If so, *are* reports now forwarded? *Yes*
 Are the donkey boilers intended to be used for domestic purposes only *No - For domestic, & for heating C.W. for Eng. and for heating coils in OF 20*
PLANS. Are approved plans forwarded herewith for Shafting *Crank shaft* Receivers *24/4/39* Separate Fuel Tanks *20" x 26" x 9"*
 (If not, state date of approval) *TS. 5/14/39*
 Donkey Boilers *General Pumping Arrangements 9/6/39* Pumping Arrangements in Machinery Space *28/6/39*
6/11/39

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*
 State the principal additional spare gear supplied *One Main Eng Piston Head, 2 lower piston rods, 1 light skirt for piston, one upper piston rod, one M.E. Cyl. liner, one side connecting rod both end spherical bearing, one main bearing (spherical), one top end & one both end bearings for Scavenge pump, one relief valve complete for M. Engine Cylinders, one set of ball bearings & roller bearings for Cam shaft drive.*

The foregoing is a correct description.
G. J. Sturdy Manufacturer.

Dates of Survey while building	During progress of work in shops--	1939 Apr. 28, May 26, June 1, 2, 5, 6, 14, 16, 26, 30, July 3, 4, 7, 13, 24, 26, Aug. 23, 24, 25, Sep. 1, 6, 8, 11, 12, 13, 14, 15, 18, 19, 20			
	During erection on board vessel--	27, 28, Oct. 2, 6, 9, 11, 13, 16, 17, 18, 19, 24, 25, 27, 28, 31, Nov. 2, 3, 6, 7, 8, 10, 13, 14, 15, 20, 22, 23, 24, 27, 29, 30, Dec. 1, 4, 7, 8, 11, 12, 13, 14, 15			
	Total No. of visits	<i>152</i>			
Dates of Examination of principal parts	Cylinders	<i>27-12-39</i>	Covers	<i>✓</i>	
Crank shafts	<i>2-4-40</i>	Flywheel shafts	<i>as Crank shaft</i>	Thrust shafts	<i>as Crank shaft</i>
Screw shafts	<i>S</i>	Propellers	<i>14-3-40</i>	Stern tubes	<i>P 23-2-40</i>
Completion of fitting sea connections	<i>1-12-39</i>	Completion of pumping arrangements	<i>14/6/40</i>	Engines tried under working conditions	<i>at wharf 29th & 30th Nov</i>
Crank shafts Material	<i>Steel</i>	Identification Mark	<i>5034 J.L. 9245 L.P.</i>	Flywheel shafts Material	<i>Steel</i>
Thrust shafts Material	<i>Steel</i>	Identification Mark	<i>as Crank shafts</i>	Intermediate shafts, Material	<i>Steel</i>
Tube shafts Material		Identification Mark	<i>—</i>	Screw shafts Material	<i>Steel</i>
Identification Marks on Air Receivers (all three Receivers)	LLOYD'S TEST WT 800 LBS WP 600 LBS 6-11-39 A.W.A.D.		Identification marks of Intermediate Shafts from AFT. PORT. STARBD. AB 14547 J.L. 14624 J.L. BC 14565 J.L. 14631 J.L. CD 14635 J.L. 14625 J.L. DE 14639 J.L. 14636 J.L. EF 14600 J.L. 14626 J.L. FG 14632 J.L. 14633 J.L. GH 14599 J.L. 14598 J.L.		

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*
 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 *No* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Machinery has been built and installed under special survey in accordance with the Society's Rules and approved plans. Nos 1, 2, 3, 4 & 5 holds were, towards the latter part of the survey subdivided and suitable additional hold bilge suction pipes fitted as shown in attached blueprints. The machinery was tried under full load on test bed in the works, and afterwards with vessel moored at wharf, and found satisfactory. The Bedplates, Columns & cutablature of the Main Engines are of fabricated construction and the electric welding was examined after the Shop full load test. The machinery of this vessel is eligible, in my opinion, for the Records of L.M.C., G.H.O., T.S.C.

2 DB. 105 lbs. OIL ENGS. Fitted for OF. 6.40, FP above 150° F.
R.S. Re of Transfer Pump Control: The Sight glass in the OF overflow pipe to the one ton OF Drain Tank is on the aft end of E.R. on S. side of C.W. line and is visible from the Starting platform of the Port M. Eng. A REMOTE CONTROL for each of the two OF Trans. Pumps (both on S. side aft in E.R.) is fitted on the front of Port Eng. at Board, and is under the control of the Eng. on Watch.
 The amount of Entry Fee .. £ .. : .. : When applied for, **25 JUN 1940**
 Special £ 153: 16: :
 Elie. Welded Constr. £ 23: 4: :
 Donkey Boilers Etc £ 9: 9: :
 3 Starting Air Receivers
 Travelling Expenses (if any) £ .. : .. :
 When received, *8th July 1940*

Committee's Minute
 Assigned
 Engineer Surveyor to Lloyd's Register of Shipping
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Newcastle-on-Tyne

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

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 Office No.
 Parts
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