

REPORT ON OIL ENGINE MACHINERY.

No. 18952

5 SEP 1928

Received at London Office

Date of writing Report 20th August 28 When handed in at Local Office 31st August 28 Port of Greenock

No. in Survey held at Greenock Date, First Survey 29th July 1924 Last Survey 29th August 1928
Number of Visits 62

on the Single Screw vessel "Brunswick" Tons ^{Gross} _{Net}

Built at Greenock By whom built Scotts & Co. Ltd. Yard No. 534 When built 1928

Engines made at Greenock By whom made Scotts & Co. Ltd. Engine No. 4509 When made 1928

Boilers made at Greenock By whom made Scotts & Co. Ltd. Boiler No. 606 When made 1928

Horse Power 2800 Owners The Atlantic Rymer Co. Ltd. Port belonging to Panama

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

made for which vessel is intended Foreign

ENGINES, &c.—Type of Engines 4 Ingersoll-Rand Diesel Engines Coupled to Main Generator on Propelling Shaft 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders No. of cranks

of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute Flywheel dia. Weight Means of ignition Kind of fuel used

Crank Shaft, dia. of journal Crank pin dia. Crank Webs Mid. length breadth Thickness parallel to axis
Mid. length thickness Thickness around eye-hole

Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Screw Shaft, diameter as per Rule as fitted Is the shaft fitted with a continuous liner

Liner 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

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

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

liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after

the tube shaft Length of Bearing in Stern Bush next to and supporting propeller 60"

Propeller, dia. 16'-6" Pitch 11'-8 3/4" No. of blades 4 Material Brass whether Moveable Yes Total Developed Surface 82 sq. feet

Method of reversing Electric Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

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

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

Working Water Pumps, No. 3 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

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

Pumps connected to the Main Bilge Line { No. and Size 4 (3 at 450 Galls/min. one at 325 Galls/min.) How driven Motor

Oil Pumps, No. and size one 325 Galls/min. Lubricating Oil Pumps, including Spare Pump, No. and size on Main Engines

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

Oil Pumps, No. and size:—In Machinery Spaces 5. 3 1/2" (3 at 450 Galls + one at 325 Galls per min.)

Direct Suctions, No. and size 1. 8" each. For Cargo hold. 1. 3 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 6"

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

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

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

Are they fixed 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 above

Are they each 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

How are they protected Have they been tested as per Rule

Pipes pass through the bunkers Pipes pass through the deep tanks

Pipes, 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 None Is it fitted with a watertight door None worked from

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

Air Compressors, No. No. of stages Diameters Stroke Driven by

Primary Air Compressors, No. Two No. of stages 2 Diameters 5 1/2 x 2 3/4 Stroke 5" Driven by Motor

Auxiliary Air Compressors, No. one No. of stages one Diameters 1 1/2 x 1 1/2 Stroke 4" Driven by Hand

Working Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted

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

Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces manhole

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

High Pressure Air Receivers, No. Two Cubic capacity of each 208 Internal diameter 4'-2" thickness 19/32"

Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 28-32 Working pressure by Rules 262

Auxiliary Air Receivers, No. Two Total cubic capacity 13 Internal diameter 12" thickness 3/8"

Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 26-30 Working pressure by Rules 267

WASTE HEAT

IS A **WASTE HEAT** BOILER FITTED? *yes* If so, is a report now forwarded? *yes*

PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Tanks *yes*

Waste Heat Boilers *yes* General Pumping Arrangements *yes* Oil Fuel Burning Arrangements *yes*

SPARE GEAR

see separate list attached

The foregoing is a correct description,
SCOTT'S SHIPBUILDING & ENGINEERING COMPANY, LIMITED.
J. Rich Manufacturer.

Dates of Survey while building	During progress of work in shops - -	(1924) July 29. Sept. 15. 22. Oct. 1. Nov. 3. 10. 22. Dec. 2. 4. 11. (1928) Jan. 10. 18. 25. 24. Feb. 1. 8. 13. 23. 24. 29. Mar. 4. 12. 20. 23. 28. April 3. 11. 23. 26.
	During erection on board vessel - - -	30. May 1. 4. 10. 15. 14. 24. June 1. 4. 26. July 10. 12. 13. 16. 18. 19. 20. 23. 24. 25. 24. Aug. 4. 8. 13. 20. 23. 24. 25. 24. 29.
	Total No. of visits	62

Dates of Examination of principal parts—Cylinders	<input checked="" type="checkbox"/>	Covers	<input checked="" type="checkbox"/>	Pistons	<input checked="" type="checkbox"/>	Rods	<input checked="" type="checkbox"/>	Connecting rods	<input checked="" type="checkbox"/>
Crank shaft	<input checked="" type="checkbox"/>	Flywheel shaft	<input checked="" type="checkbox"/>	Thrust shaft	30 H. 28	Intermediate shafts	<input checked="" type="checkbox"/>	Tube shaft	<input checked="" type="checkbox"/>
Screw shaft	30. H. 28	Propeller	30. H. 28	Stern tube	13. 3 28	Engine seatings	24. 2 28	Engines holding down bolts	23. 4. 28
Completion of fitting sea connections	24. 2. 28	Completion of pumping arrangements	23. 8. 28	Engines tried under working conditions	29. 8. 28				
Crank shaft, Material	<input checked="" type="checkbox"/>	Identification Mark	<input checked="" type="checkbox"/>	Flywheel shaft, Material	<input checked="" type="checkbox"/>	Identification Mark	<input checked="" type="checkbox"/>		
Thrust shaft, Material	S	Identification Mark	LR 2122 WGM	Intermediate shafts, Material	<input checked="" type="checkbox"/>	Identification Marks	<input checked="" type="checkbox"/>		
Tube shaft, Material	<input checked="" type="checkbox"/>	Identification Mark	<input checked="" type="checkbox"/>	Screw shaft, Material	S	Identification Mark	LR 2122 WGM		

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

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.)

Three Buguis (Antwerp Ref. No. 15484) & Rue Marie Electrical Propulsion Plant (London Ref. No. C 5076)

• The Waste Heat Boiler have been built under special survey & are now securely fitted on board, tried under working conditions

• found satisfactory

*The Machinery is eligible in my opinion for an record of **✠ LMC 8.28***

GREENOCK. Certificate (if required) to be sent to

The amount of Entry Fee ...	£ 125 : 3 - 10	When applied for,	30 th AUGUST 1928.
as per London letter 27/7/27	Special ...	When received,	15 th SEPTEMBER 1928.
Air Reservoirs	£ 6 : 6		
Donkey Boiler Fee	£ 2 : 2		
Travelling Expenses (ditto)	£ 2 : 2		
Committee's Minute	GLASGOW 4 - SEP 1928		

W.M.
W.M. London-Nucleic
 Engineer Surveyor to Lloyd's Register of Shipping.



Assigned *+ LMC 8.28*