

Report on Refrigerating Machinery and Appliances.

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Date of writing Report 31 Oct. 1946 When handed in at Local Office 31st 19 46 Port of Vancouver, B.C.
 No. in Oct.,
 Reg. Book. Survey held at Vancouver, B.C. Date: First Survey 5 July, 1946 Last Survey 16th October, 1946
 (Number of Visits 20)

on the Refrigerating Machinery and Appliances of the S.S. "RABAUL" (Launched as H.M.S. "OXFORDNESS") Tons {Gross 7349
 Net 4577

Vessel built at Vancouver, B.C. By whom built West Coast Shipbuilders Ltd. Yard No. 163 When built 1945/6

Owners W.B. Carpenter (Canada) Ltd. Port belonging to Suva, Fiji Islands Voyage 11766

Refrigerating Machinery made by J. & E. Hall Ltd., Dartford, Machine Nos. 11767 When made 1945
 Eng. Methyl Chloride &

Insulation fitted by West Coast Shipbuilders Ltd. When fitted 1946 System of Refrigeration Brine

Method of cooling Cargo Chambers Brine pipes fitted Insulating Material used Cork & Rock Wool

Number of Cargo Chambers insulated Four Total refrigerated cargo capacity 13,700 cubic feet

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed on 2nd deck between Frs. 86 & 90

Refrigerating Units, No. of 2 No. of machines 2 Is each machine independent Yes

Total refrigeration or ice-melting capacity in tons per 24 hours 13.5 Are all the units connected to all the refrigerated chambers Yes

Compressors, driven direct or through V Belt Drive ^{single} reduction gearing. Compressors, single or double acting Single If multiple effect compression No

Are relief valves or safety discs fitted Yes No. of cylinders to each unit 2 Diameter of cylinders 6 1/2"

Diameter of piston rod Trunk type Length of stroke 5" No. of revolutions per minute 500

Motive Power supplied from Two 120 KW Turbo Generators Steam Supply from 2 W.T. Boilers
 (State number of boilers, oil engines or electric generators supplying the motive power.)

Steam Engines, high pressure, compound, or triple expansion, surface condensing. No. of cylinders Diameter

Length of stroke Working pressure Diameter of crank shaft journals and pins

Breadth and thickness of crank webs No. of sections in crank shaft Revolutions of engines per minute

Oil Engines, type 2 or 4 stroke cycle Single or double acting B.H.P.

No. of cylinders Diameter Length of stroke Span of bearings as per Rule

Maximum pressure in cylinders Diameter of crank shaft journals and pins

Breadth and thickness of crank webs No. of sections in crank shaft Revolutions of engine per minute

Air Receivers:—Have they been made under survey State No. of Report or Certificate

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

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

No. of Receivers Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Electric Motors, type Direct Current No. of 2 Cont. Rated 25 B.H.P. Kilowatts 230 Volts

at 1750 revolutions per minute. Diameter of motor shafts at bearings 2-11/16"

Reduction Gearing None Pitch circle diameter, pinion Main wheel Width of face

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings, pinion Main wheel

Pinion shafts, diameter at bearings Main wheel shaft, diameter at bearings

Gas Condensers, No. of 4 Cast iron or steel casings Steel Cylindrical or rectangular Cylindrical Are safety valves fitted

Tubes No. of coils in each 36 Material of coils Brass Can each coil be readily shut off or disconnected Yes

Water Circulating Pumps, No. and size of pumps available 2 Rotary, how worked 2 BHP Motors Oil Rectifiers

Gas Evaporators, No. of 2 Cast iron or steel casings Steel Pressure or gravity type pressure If pressure type, are safety

Tubes valves fitted No. of coils in each casing 44 Material of coils brass Can each coil be readily shut off or disconnected Yes

Direct Expansion or Brine Cooled Batteries, No. of Are there two separate systems, so that one may be in use while the other is

being cleared of snow No. of coils in each battery Material of coils Can each coil be readily shut off or

disconnected Total cooling surface of battery coils Is a watertight tray fitted under each battery

Air Circulating Fans, Total No. of each of cubic feet capacity, at revolutions per minute

Steam or electrically driven Where spare fans are supplied are these fitted in position ready for coupling up

Brine Circulating Pumps, No. and size of, including the additional pump 2 Rotary 50 G/Min how worked By 2 Motors 3 HP

Brine Cooling System, closed or open Closed Are the pipes and tanks galvanised on the inside No

No. of brine sections in each chamber 2 to each chamber on Port & Starboard sides and

One to centre chamber

One each to meat, vegetable & dairy store rooms (Domestic)

Can each section be readily shut off or disconnected Yes Are the control valves situated in an easily accessible position Yes

NOTE.—THE WORDS WHICH DO NOT APPLY SHOULD BE DELETED.

CH_3C CH_3C

Sounding Pipes, No. and position in each chamber situated below the loadwater line.....None.....
Diameter.....Are all sounding pipes in way of insulated chambers fitted in accordance with Section 3, Clause 11.....
Are all wood linings tongued and grooved...Ship lap.....Are cement facings reinforced with expanded steel lattice.....
How is the expanded metal secured in place.....
How are the cork slabs secured to the steel structure of the vessel.....Bitumastic cement.....
Air Trunkways in Chambers. Are the arrangements satisfactory and in accordance with the approved plans.....
Are they permanently fixed or collapsible, or portable.....
Where air trunkways pass through watertight bulkheads, are they fitted with watertight doors.....Are the door frames efficiently insulated.....
Are insulated plugs supplied for the doorways.....Where are the doors worked from.....
Cooling Pipes in Chambers, diameter...1-29/32.....Minimum thickness.....3/16".....Are they galvanised externally.....Yes.....
How are they arranged in the chambers..On inboard bulkheads and ceilings of all cargo chambers.....
Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers...Brine heater fitted.....
The foregoing is a correct description of the Insulation and Appliances.

J. R. G. G. G.

Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery 6-9-46.....and Insulation approved.....Not yet
(If not, state date of approval) H.M.S. "BERRY HEAD"
Is the Refrigerating Machinery and Appliances duplicate of a previous case.....Yes.....If so, state name of vessel Vcr. Report No. 6555
If the survey is not complete, state what arrangements have been made for its completion and what remains to be done.....

On vessel's return to Vancouver (due end of January, 1947) a new motor to be fitted to Port compressor and cooling tests to be again carried out. The cooling test recorded in this Report was interrupted due to overheating of Starboard motor which was replaced by a sound motor, a new test started but had to be abandoned due to the Port motor overheating. These defective motors were reconditioned motors obtained to expedite completion of vessel during the strikes at Electrical Works, but proved inefficient. A later test was unsatisfactory owing to brine being left circulating at temperature of domestic vegetable room.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The refrigerating machinery of this vessel was not constructed under Special Survey. It was supplied to British Admiralty for installation in a Maintenance Ship and was subject to Admiralty inspection at Makers Works, but it was installed on board under Special Survey and the materials and workmanship throughout are good.
The insulation of the chambers has not been approved, see attached letter.
~~Copy of Builders Data sheet forwarded herewith~~
This case is respectfully submitted for the consideration of the Committee and, in my opinion, this vessel is eligible for the record of Lloyd's B.M.C. with date when the machinery and appliances have been again examined and the recommendation stated above carried out.
Copies of approved Plans 163-11 & 19 Refrigerating Machinery Piping and Brine Coils also Insulation Plans 163-53 forwarded herewith also our letter to the Secretary dated 30th October, 1946 attached.

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	Ice melting capacity per 24 hours.	Is Refrigerating Machinery Electrically Driven?	INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.				No.	Capacity. Cubic ft.
2	2	Methyl Chloride	I. & E. Hall Ltd.	1945	Brine Cork & Rock Wool	Tons. 13.5	Yes	4	12700 12350

Fee \$ 150.00:
Travelling Expenses \$ 20.00:

Fee applied for 17 Oct. 1946
Received by me, 19

H. D. Buchanan
Surveyor to Lloyd's Register.

10 JAN 1947

Committee's Minute

Assigned

Deferred

*Write Vcr
(copy N.Y.)*

9 See Vcr 7210



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