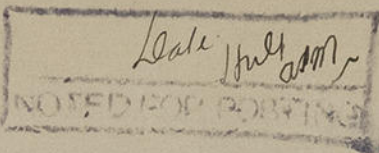


Rpt. 17.



R. M. C. No. 50413.

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

No. 19462.

(Received at London Office -2 JUN 1934)

Date of writing Report 30th MAY 1934 When handed in at Local Office 1st JUNE 1934. Port of GREENOCK.
 No. in Reg. Book. Survey held at PORT-GLASGOW Date: First Survey 19th FEBRUARY 1934 Last Survey 1st JUNE 1934
 40162 (No. of Visits 23.)

on the Refrigerating Machinery and Appliances of the S.S. "JAMAICA PRODUCER" Tons { Gross 5325.20
 Net 2935.36

Vessel built at PORT-GLASGOW By whom built LITHGOWS LIMITED. Yard No. 868 When built 1934.

Owners JAMAICA BANANA PRODUCERS STEAMSHIP CO. LD Port belonging to KINGSTON JAMAICA. Voyage JAMAICA

Refrigerating Machinery made by Liverpool Refrigerating Co. Ltd Machine No. 1539 When made 1934.

Insulation fitted by Liverpool Refrigerating Co. Ltd When fitted 1934 System of Refrigeration Ammonia

Method of cooling Cargo Chambers Air & Brine Insulating Material used Cork.

Number of Cargo Chambers insulated 6 Total refrigerated cargo capacity cubic feet.

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed on running deck.

Refrigerating Units, No. of 2 Single, double, or triple Single Cubic feet of air delivered per hour 13,920,000.

Total refrigeration or ice-melting capacity in tons per 24 hours 150. Are all the units connected to all the refrigerated chambers Yes.

Compressors, driven direct or through single or double reduction gearing. Compressors, single or double acting double acting No. of cylinders 2.

Diameter of cylinders ✓ Diameter of piston rod ✓ Length of stroke ✓ No. of strokes per minute 200.

Motive Power supplied from Main Boilers.

Steam Engines, high pressure, compound, or triple expansion, surface condensing. No. of cylinders 2 Diameter ✓

Length of stroke ✓ Working pressure 150 lbs. sq. in. Diameter of crank shaft journals and pins ✓

Breadth and thickness of crank webs ✓ No. of sections in crank shaft ✓ Revolutions of engines per minute 100

Oil Engines, type 2 or 4 stroke cycle Single or double acting

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

Electric Motors, type No. of Rated Kilowatts

Volts at revolutions per minute. Diameter of motor shafts at bearings

Reduction Gearing, maximum shaft horse power at 1st pinion Revolutions per minute at full power at 1st pinion

2nd pinion 1st reduction wheel main shaft Pitch circle diameter, 1st pinion 2nd pinion

1st reduction wheel Main wheel Width of face, 1st reduction wheel Main wheel

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings, 1st pinion 2nd pinion

1st reduction wheel Main wheel Flexible pinion shafts, diameter 1st 2nd

Pinion shafts, diameter at bearings, External, 1st 2nd Internal, 1st 2nd

Diameter at bottom of teeth of pinion, 1st 2nd Wheel shafts, diameter at bearings, 1st

Main Diameter at wheel shroud, 1st Main

Gas Condensers, No. of 2 Cast iron or steel casings Steel Cylindrical or rectangular Rectangular

No. of coils in each 4 Material of coils ✓ Can each coil be readily shut off or disconnected Yes.

Water Circulating Pumps, No. and size of 2 - 9" x 10" x 24" how worked steam Gas Separators, No. of 2

Gas Evaporators, No. of 2 Cast iron or steel casings Steel Pressure or gravity type Gravity

No. of coils in each casing 4 Material of coils ✓ Can each coil be readily shut off or disconnected Yes.

Direct Expansion or Brine Cooled Batteries, No. of 8 Are there two separate systems, so that one may be in use while the other is being

cleared of snow No No. of coils in each battery 4 of 5 Material of coils S.S. Steel Can each coil be readily shut off or

disconnected Yes Total cooling surface of battery coils 13,350 sq. ft Is a watertight tray fitted under each battery Yes.

Air Circulating Fans, Total No. of 8 each of 29,000 cubic feet capacity, at 2" W.G. revolutions per minute 400/600.

Steam or electrically driven Electrically 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 3 - 10" x 12" x 12" how worked Steam Duplex.

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 Cargo chambers fitted with grids on roof, sides & ends with 4 sections in each chamber

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

002838-002845-0201 1/2

Where the tanks are not closed is the compartment in which they are situated efficiently ventilated ✓

condenser & pumps, with change over to Auxiliary condenser.

HYDRAULIC AND OTHER TESTS.

DESCRIPTION.	Date of Test.	Working Pressure.	Hydraulic Test Pressure.	Air Test Pressure.	Stamped.	REMARKS.
ENGINE CYLINDERS (IF TESTED)						
GAS COMPRESSORS						
" SEPARATORS						
" CONDENSER COILS						
" EVAPORATOR COILS						
" CONDENSER HEADERS AND CONNECTIONS						
" CONDENSER CASINGS						
" EVAPORATOR CASINGS						
NH ₃ CONDENSER, EVAPORATOR AND AIR COOLER COILS AFTER ERECTION IN PLACE						
BRINE PIPING AFTER ERECTION IN PLACE...	21/5/34	✓	✓	90 lbs ^{sq} in	✓	Good.

Dates of test 24th, 28th, & 29th May 1934. Density of Brine 50° by Inwaddell. hydrometer

Temperatures (when the cargo chambers are cooled down to the required test temperatures) of air at the snow box and of the return air ✓ & ✓
or, delivery and return air at ~~direct expansion of~~ brine cooled batteries 8° FAH. & 13° FAH., outflow and return brine - 1° FAH. & 2° FAH.
atmosphere 64° FAH. cooling water inlet and discharge 50° FAH. & 60° FAH. gas in condensers 66° FAH. and evaporators - 3° FAH.
the average temperature of the refrigerated chambers 9½° FAH. and the rise of temperature in these chambers upon the expiration of 24 hours
time after the machinery and cooling appliances have been shut off 17½° FAH.

SPARE GEAR.

[illegible]

ARTICLES REQUIRED BY RULES AND NOT YET SUPPLIED

The foregoing is a correct description of the Refrigerating Machinery.

Manufacturer.

DESCRIPTION OF INSULATION.

BULKHEADS.

IN LOWER HOLD CHAMBERS.						IN 'TWEEN DECK CHAMBERS.					
	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.	
FRAME No. 165 (Fore Peak)	A	NONE	NONE	GRAN ^o CORK	8"	2-3/4" P.T.A.G.	NONE	NONE	GRAN ^o CORK	L 17 U + 8" → 2-3/4" P.T.A.G.	
FRAME No. 127	F	"	"	" "	9"	" "	"	"	6 1/2, 5 1/2, 4"	" "	
	A	"	"	" "	4"	" "	"	"	4, 4, 4"	" "	
FRAME No. 107	F	"	"	" "	8 1/2"	" "	"	"	8, 8, -	" "	
	A	COFFEROAM BETWEEN OIL FUEL BUNKER AND HOLD.					"	"	"	" "	
FRAME No. 95	F	IN UPPER 'TWEEN DECKS ONLY.					NONE	NONE	SILIC ^e COTTON GRAN ^o CORK	12" in Way of Bull ^s 8" in Way of SPACES	" "
	A										
FRAME No. ✓ (Boiler Room)	F										
	A										
FRAME No. 66 (Engine Room)	A	IN LOWER, MAIN & UPPER 'TWEEN DECKS ONLY.					NONE	NONE	SILIC ^e COTTON	12", 12", 12"	2-3/4" P.T.A.G.
FRAME No. 38	F	□ ^o .					"	"	GRAN ^o CORK	4", 4", 4"	" "
	A						"	"	" "	6 1/2, 5 1/2, 4"	" "
FRAME No. 13	F	IN LOWER 'TWEEN DECKS ONLY.					"	"	" "	12	" "
	A										
FRAME No. 4	F	IN UPPER 'TWEEN DECKS ONLY.					2"	1" P.T.A.G.	GRAN ^o CORK	12"	" "
	A										
FRAME No. 8 (After Peak)	F	IN MAIN 'TWEEN DECKS ONLY.					2"	1" P.T.A.G.	GRAN ^o CORK	12"	" "
SIDES ...	...	NONE	NONE	GRAN ^o CORK	8 1/2"	2-3/4" P.T.A.G.	NONE	NONE	GRAN ^o CORK	8 1/2, 9 1/2, 8 1/2"	2-3/4" P.T.A.G.
OVERHEADING ...	...	AT	UPPER DECK ONLY.					"	"	"	- - 8"
FLOORS OF CHAMBERS FOR ^o □ ^o (Aft) LOWER DE ^s	NONE	1/2" BIT ^e ENAMEL	GRAN ^o CORK	7"	1 1/4" P.T.A.G. 1 1/2" P.T.A.G.	✓	✓	✓	✓	✓	
	"	"	" "	6"	□ ²						
TRUNK HATCHWAYS ...	...	...	...	NONE	...	...	✓	✓	✓	✓
THRUST RECESS, SIDES AND TOP ...	...	...	...	LOWER DECK	...	...	NONE	NONE	SILIC ^e COTTON	12"	1 1/4" P.T.A.G. 1 1/2" P.T.A.G.
TUNNEL SIDES AND TOP ...	...	...	...	LOWER DECK	...	...	"	"	GRAN ^o CORK	6"	1 1/4" P.T.A.G. 1 1/2" P.T.A.G.
TUNNEL RECESS, FRONT AND TOP ...	...	...	...	...	...	...	"	"	" "	6"	1 1/4" P.T.A.G. 1 1/2" P.T.A.G.

FRAMES OR REVERSE FRAMES, FACE *UNDER SHIP'S SIDE INSULATION*

BULKHEAD STIFFENERS, TOP UNDER INSULATION. BOTTOM UNDER INSULATION. AND FACE UNDER INSULATION.

RIBBAND ON TOP OF DECKS 3'-0" WIDE x 2" P.P

SIDE STRINGERS, Top ✓ BOTTOM ✓ AND FACE ✓

WEB FRAMES, SIDES ✓ AND FACE ✓

BRACKETS, TOP BOTTOM AND FACE

INSULATED HATCHES, MAIN 8" GRAN° CORK, 10½ PLUGS. BILGE 5" GRAN° CORK, 8½ PLUGS. MANHOLE 4" GRAN° CORK, 7½ PLUGS.

HATCHWAY COAMINGS, MAIN 12" x 6" p.p. BILGE 9³/₄ x 4¹/₂" p.p.

HOLD PILLARS WOOD SHEATHED, USED AS BANANA BIN POSTS.

MASTS ✓ VENTILATORS ✓

Are insulated plugs fitted to provide easy access to bilge suction roses YES tank, air, and sounding pipes YES heels of mullars YES

and manhole doors of tanks Yes Are insulated plugs fitted to ventilators ✓ cargo ports Yes and side lights ✓

Is the insulation of the lower hold floor and tunnel top in way of the hatchways protected YES if so, how 2" ELN.

Oil Storage Tanks, where adjacent to the insulated chambers, state what provision has been made for ventilating the air space between the insulation and the bulkhead plating. COFFERDAM FITTED.

Coal Bunker Bulkheads, and Brine Outflow and Return Pipes *passing through coal bunkers. Is the insulation, so far as practicable, fireproof* ☒

Where **Cooling Pipes** pass through watertight bulkheads or deck plating, are the fittings and packing of the stuffing boxes both watertight and fireproof *Yes*

Cargo Battens, Dimensions and spacing, sides 6×1 WP. SPACED $6''$ floors $2\frac{1}{2} \times 1\frac{1}{2} - 1\frac{1}{4}''$ APART & ~~tunnel top~~ ^{ON} ALL DECKS

fixed or portable PORTABLE Are screens fitted over the brine grids at chamber sides ☒ hinged or permanently fixed ☒

Thermometer Tubes, No. and position in each chamber 2 PAS ON AIR DELIVERY & 1 CENTRE ON AIR SUCTION TRUNKS IN EACH HOLD & TWEEN DECK

diameter _____ ✓ _____ are they fitted in accordance with Section 3, Clause 8

Protection of Pipes. *Are all pipes, including air and sounding pipes, which pass through or into insulated chambers, well insulated* YES

Draining Arrangements. *Where the chambers are situated below the load water line, what provision is made for draining the inside of the chambers*

TRAPPED SCUPPERS TO BILGE. Where sluices, scupper pipes, and drain pipes are fitted are means provided for blanking them off. YES

What provision is made for draining the refrigerating machinery room..... Scuppers overboard

brine return room D² fan room D² water circulating pump room

Are all air spaces behind insulation arranged to drain to the bilges, bilge wells, or gutterways of the respective chambers.

Sounding Pipes, No. and position in each chamber situated below the load water line 1 P & S To Each Hold, UNDER SIDE INSULATION.

Diameter 2 1/2" Are all sounding pipes in way of insulated chambers fitted in accordance with Section 3, Clause 11 Yes.

Are all wood linings tongued and grooved Yes 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 ✓

Air Trunkways in Chambers, inside dimensions, main 1' 2" BY DECK HEIGHT. and branch ✓

Are they permanently fixed or collapsible, or portable PERMANENT. State position in chambers ACROSS BULKHEADS.

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 1/2" bore. Are they galvanised externally yes.

How are they arranged in the chambers Grids on roof, sides & ends of 2 small cargo chambers.

Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers Brine heater in Refrigerating engine room.

The foregoing is a correct description of the Insulation and Appliances.

Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery Yes and Insulation yes
(If not, state date of approval)

Is the Refrigerating Machinery and Appliances duplicate of a previous case No If so, state name of vessel ✓

If the survey is not complete, state what arrangements have been made for its completion and what remains to be done Complete.

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

The materials & workmanship are good.

This installation has been fitted on board the vessel, tried under working conditions & found satisfactory.

All the insulated spaces were cooled down. Temperatures taken before & after pause test & found as stated

The machinery is eligible in my opinion to be classed in the Register Book, & to have record of * R M C 6.34. (in red).

A diagrammatic sketch of air circulation in holds & tween decks will be forwarded together with Total refrigerated cargo capacity when received from the makers.

It is submitted that
this vessel is eligible for
THE RECORD.

+ Lloyd's Rule 6.34

STP. 4/6/34.

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	POWER.		INSULATED CARGO CHAMBERS.	
No. and whether Single or Duplex.	Makers.	Date of Construction.	System.	Type.		Cubic feet of air delivered per hour.	Ice melting capacity per 24 hours. Tons.	No.	Capacity.
2 UNITS	Liverpool Refrigerating Co. Ltd.	1934	Ammonia	Horizontal	Air & Brine Crank.	13,920,000.	150	6	20,3690

Fee Already charged. { Fee applied for, 19 ..
Travelling Expenses £ : : { Received by me, 19 ..

R. Donohue & J. Doney
Surveyors to Lloyd's Register.

Committee's Minute

Assigned

+ Lloyd's Rule 6.34

White Lys
" York (incl.)
5.6.34

MM



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