

Rpt. 17 (b)

3 JUL 1959

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Port Kobe

No. FE-6491

Survey held at Mukaishima, Japan

No. of visits 20

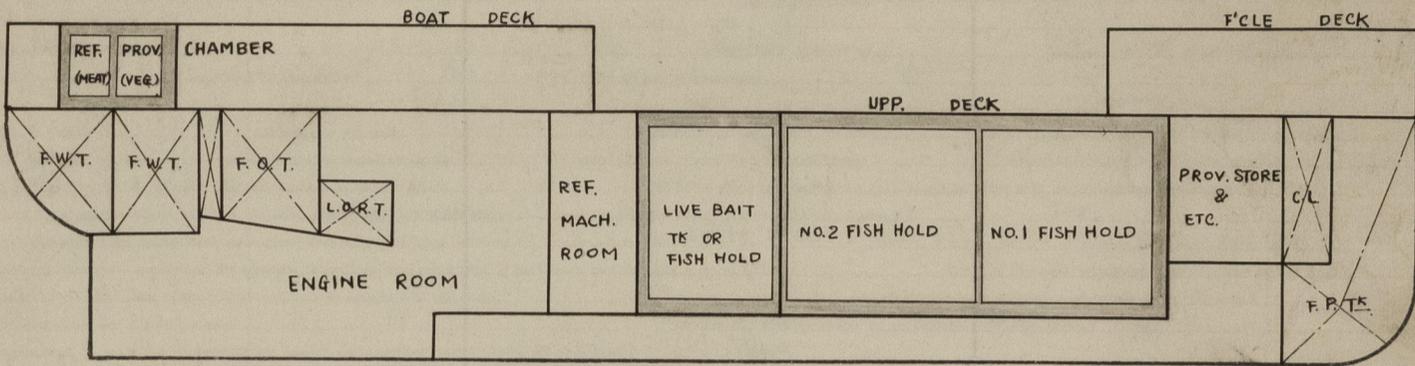
First date 22, Jan., 1959

Last date 27, April, 1959

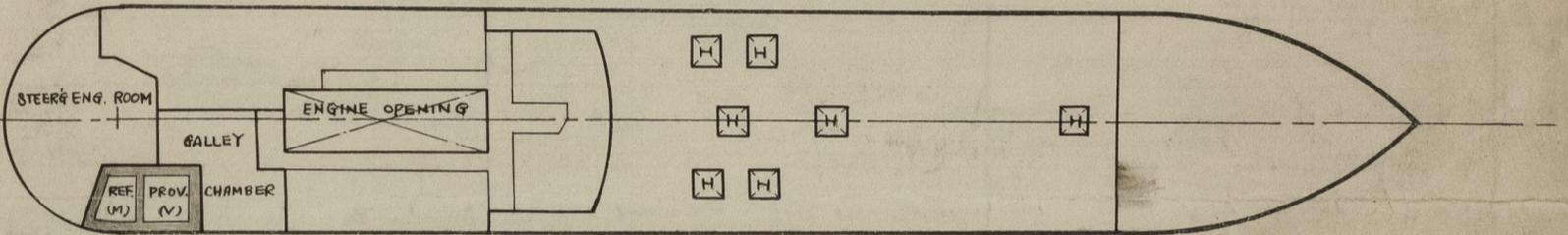
# REFRIGERATED CARGO INSTALLATION—REPORT ON INSULATION WORK, ERECTION OF PLANT ON BOARD AND TESTS AFTER COMPLETION

No. in R.B. \_\_\_\_\_ Name Steel Single Screw Motor Fishing Boat "DNEPR" Gross tons 497.10  
 Built at Mukaishima, Japan By whom Hitachi S.B. & E. Co., Ltd., Mukaishima Shipyard Yard No. 3872  
 Owners V.O. Sudoinport Moscow U.S.S.R. Port of Registry Vladivostok  
 Refrigerating Machinery made by Sabroe Co. of Japan Ltd. Machine Nos. 60029 & 60030 When made 11-1958  
 Insulation fitted by Hitachi S.B. & E. Co., Ltd., Mukaishima Shipyard Total No. of Chambers 2  
 Total refrigerated cargo capacity measured in accordance with Society's requirements 6,184 cu. ft.

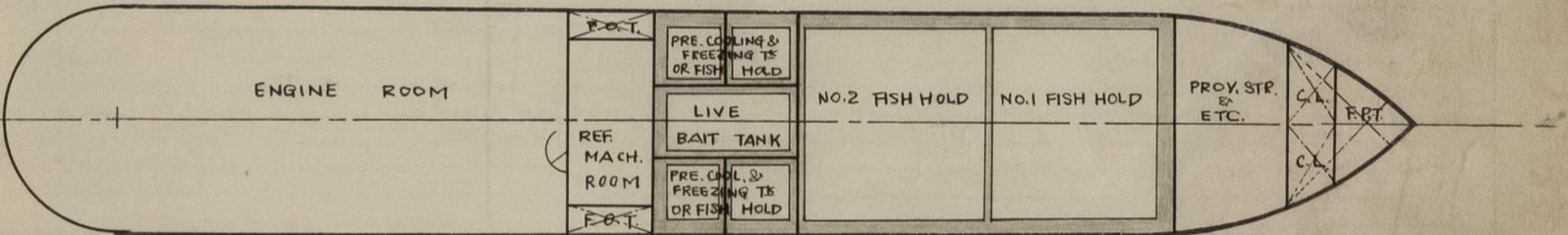
Location and boundaries in elevation and plan of each refrigerated cargo chamber, main and refrigerating machinery space(s), evaporator and brine rooms, and cooler houses to be shown by inserting decks and bulkheads in the diagrams. The frame numbers to be shown at each transverse bulkhead. The decks to be clearly marked in elevation and plan. Insulation to be shown by a line (preferably in colour) on the appropriate side or sides of decks and bulkheads. Oil storage tank tops and bulkheads adjoining refrigerated chamber(s) also to be shown. (If desired, a separately prepared diagram sheet may be attached by paste or staples provided the size is not greater than that below, all the required particulars are shown and the sheet is signed by the Surveyor.)



UPPER DECK PLAN



HOLD PLAN



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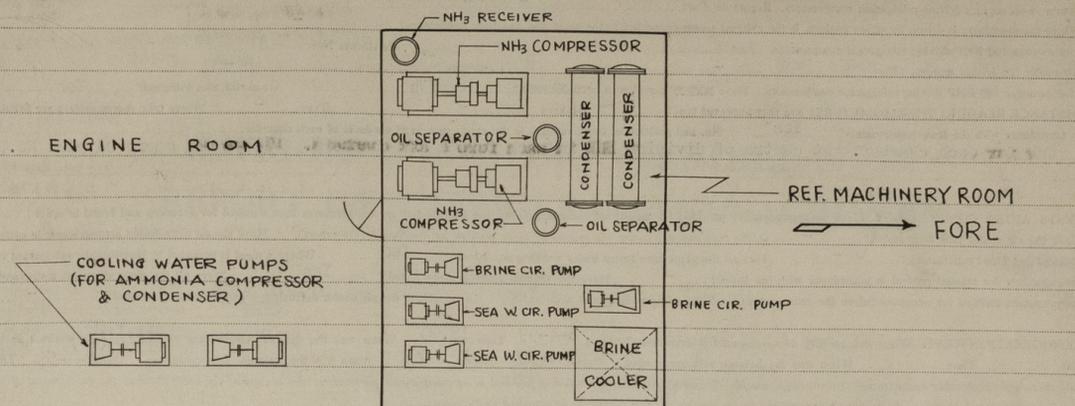
Lloyd's Register Foundation

010089-010095-0173 1/2

No. of refrigerating units 2 Can each unit operate on all chambers? Yes if not, state how connected

Primary refrigerant NH3 Where specified in the Rules, is the machinery isolated in an efficiently ventilated compartment? Yes  
 Medium for cooling chambers. Sea water For particulars of refrigerating machinery see Report No.

Diagrammatic sketch sufficient to show relative position (port or starboard, fore or aft) of each compressor, condenser, evaporator (brine cooler), condenser cooling pumps, and brine pumps.



Is provision made for subcooling the liquid refrigerant (if so, state method) No  
 MOTIVE POWER supplied from (state No. of boilers or electric generators) 2 off, Diesel Eng. Elect. Generators Condenser cooling medium (if not sea water) Sea water

CONDENSER COOLING PUMPS No. 2 Capacity of each 20  $\frac{lit.}{min.}$  1.1  $\frac{kg.}{cm^2}$  2  $\frac{B.H.P.}{@}$  2  $\frac{BHP}{@}$   
 Are safety valves fitted where required by the Rules? Yes No. of sea connections 2

BRINE PUMPS No. - Capacity of each -  $\frac{lit.}{min.}$  -  $\frac{kg.}{cm^2}$  -  $\frac{B.H.P.}{@}$  -  
 No. of brine temperatures which can be circulated simultaneously - Brine system "open" or "closed" type - Are safety valves fitted where required by the Rules? -

Are thermometers fitted to brine delivery and each return pipe? - If brine pipes and tanks are galvanized on brine side, is ventilation provided as per Rules? -  
 Are steel refrigerant pipes, cooling grids and air cooler coils galvanized externally where required by the Rules? Yes

How are refrigerant steel pipes connected (flanges, butt welds, screw joints, etc.) Every element made with butt welding and flanged to each other.  
 Where brine pipes are connected by screwed couplings, are the coupling and back nut threads a good fit? - What is the pipe thickness at the bottom of the thread? -

Are the screw threads clear of the coupling coated as required by the Rules? - Are air cooler coils parallel to or across the air stream? -  
 Is provision made for air refreshing? No If so, are the arrangements in accordance with the Rules? -  
 What provision is made for defrosting air cooler coils and/or cooling grids in chambers? None

PARTICULARS OF COOLING APPLIANCES IN EACH CHAMBER

Identify each chamber by position (e.g. No. 2 LTD. Port, No. 3 Orlop D., No. 5 L.H. etc.)

Chamber(s)	Capacity measured in accordance with Society's requirements cu. ft.	Roof grids		Side grids		FLOOR COILS			FANS					
		Length in ft.	No. of sections	Length in ft.	No. of sections	Length in ft.	No. of sections	Number	Maximum RPM	Minimum RPM	Cubic ft. of air per minute at maximum RPM	Static water gauge ins.	BHP of fan motor	Motor inside or outside insulated envelope
FISH HOLD	3114	967	8	1050	10	210	2							
FISH HOLD	3070	866	4	1194	10	245	2							

INSULATION OF BOUNDARIES EXPOSED TO EXTERNAL CONDITIONS

In cols. (1) identify each chamber by position (e.g. No. 2 UTD PORT) with each of its exposed surfaces immediately below (e.g. ships side, overheading, etc.), where the size of frames etc., change on any surface, give frame Nos. (e.g. Fms. 102 to 109) applicable to each size, on separate lines. Depth of insulation in cols. (3) to exclude any air space, linings, etc.

(1) Chamber(s) and Boundary	(2) Frames, reverse frames, beams, stiffeners, etc., within insulation			(3) Depth of Insulation fitted	(1) Chamber(s) and Boundary	(2) Frames, reverse frames, beams, stiffeners, etc., within insulation			(3) Depth of Insulation fitted
	Pitch ins.	Width of face ins.	Depth ins.			Pitch ins.	Width of face ins.	Depth ins.	
<b>FWD. FISH HOLD</b>									
Ship Side	550	75	150	238	Fms 56 to 66				
Fwd. Bulkhead	500	75	125	257	At Fm. 66				
Aft Wall	-	-	-	266	At Fm. 56				
Deck Over	550	-	125	238					
<b>AFT. FISH HOLD</b>									
Ship Side	550	75	150	238	Fms 48 to 56				
Fwd. Wall	-	-	-	266	At Fm. 56				
Aft Bulkhead	500	-	100	138	At Fm. 48				
Deck Over	550	-	125	238					

Are all divisional bulkheads of steel construction in accordance with the Rule? Yes If not, state position and when approved

Insulating material(s) (if more than one, state where fitted) Cork board & Alflex

Air space, if any, within insulation lining, position and depth Shell side, 31mm Fwd. Chamber Fwd. Bhd. (F66), 50mm Deck Above, 31mm Top of Inner Bottom  
 Is approved fire resisting insulation fitted in way of all bunkers and other surfaces exposed to excessive heat? Yes State material fitted Air space & gutter way

Insulation lining(s) material and thickness Timber: Shell side, Bhd. & Deck above 2 x 19mm Top of Inner Bottom: 50mm

Methods of securing lining(s) (if timber grounds state whether across face, on face or on sides of frames, etc.) Timber grounds on sides of frames

Floor insulation covering 1mm Galvanized Steel Plate on 50mm Timber Support for floor covering Steel Plate directly covers timber on joists

State location and thickness of insulation of all insulated hatch coamings exposed to external conditions One hatch each located on centre line at fwd. (F.Nos. 61-63) and aft (F.Nos. 49-51) of Nos. 1 & 2 chambers respectively Insulation 50mm

Insulation ribbands state where, the insulating material, thickness, width and covering -

Hatch covers, type and thickness of insulation Removable wood cover, 150mm Exposed loading and tonnage doors, state thickness of insulation -

Air ducts buried in insulation, state where -

Maximum grid hangers, state in which chambers In fore & aft fish holds

State location and dimensions of all web frames, deep girders or beams within the insulation Deep girders (depth, 250mm face 210mm) and Side stringers (depth, 200mm face 65mm) in both fwd. and aft fish holds

State how hold pillars and masts are insulated Pillars in insulated divisional wooden bulkhead (40mm thick.) 75mm Cork board covered by 2 x 19mm wood on both sides

Are air ducts and insulation linings so constructed and erected as to prevent air entering insulation? Yes

Where oil storage tanks adjoin refrigerated chambers, are the arrangements in accordance with the Rules? Yes Are screens fitted over cooling grids on sides of chambers? Yes

Is the insulation in way of hatchways on the tank and hatchways protected in accordance with the Rules? Yes Are hatch limbers and plugs, satisfactorily fitted and airtight? Yes

Are hatch plugs and their supports; chamber, air cooler and other access doors and frames; closing appliances of tonnage openings; bilge limbers and plugs, satisfactorily fitted and airtight? Yes

Are access plugs and their supports; chamber, air cooler and other access doors and frames; closing appliances of tonnage openings; bilge limbers and plugs, satisfactorily fitted and airtight? Yes

Are cargo battens provided in accordance with the Rules? Yes Dimensions and spacing on sides, vertical surfaces and horizontal 50mm x 50mm sp. 300mm

The foregoing is a correct description of the insulation and appliances.

*K. Sasaki*  
 Builders or Insulation Contractor  
 K. Sasaki, Head of Yard  
 Hitachi Shipbuilding & Engineering Co., Ltd.  
 Mukoishima Shipyard.



