

PRE-PURCHASE ASSESSMENT

FINAL REPORT

REEFER CARRIER

MV SINOTECH MARINE



IMO NO.	88888888
Port of Registry	PANAMA
Year of Built	30/04/1985
Builder Yard	APPLEDORE, UK
Classification	LLOYD'S REGISTER OF SHIPPING
Vessel State	UNLOADING FROZEN FISH
Date of Inspection	21-22 FEB 2020
Port of Inspection	KLAIPEDA
Inspection Company	SINOTECH MARINE, HONG KONG
Inspection Type	PRE-PURCHASE
Client	CONFIDENTIAL

NOTES TO READER

This assessment report has been prepared and issued by SINOTECH Marine Hong Kong for the sole use of the SINOTECH Marine's Customer. The purpose of this report is to offer an independent evaluation of the condition of the subject vessel, as found during the superficial inspection of the vessel and in the independent opinion of the attending Surveyor/Inspector. The report is subject to any restrictions applied to the access of information, vessel areas, and/or records as described here in the report, and it is also subjected to the level of cooperation extended by the Ship Crew to the surveyor during the inspection. All details are given in good faith, and without guarantee. This report has been prepared and issued by SINOTECH Marine Corporation Hong Kong Ltd. to its Customer in accordance with the SINOTECH Standard Terms and Conditions which are available on our website www.sinotechmarine.com.

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C- Preamble

MV XXXXXXXX was inspected by Sinotech Marine appointed surveyor for pre-purchase condition assessment at Klaipeda.

MV XXXXXXXX is a Reefer Bulk Carrier ship, registered at Panamá. The final report for assessment of condition is based on superficial inspection by the surveyor, information shared by ship's crew and documents and records provided. This report should be read in continuation of the Preliminary Report submitted earlier. Objective of the report is to provide thorough condition assessment and grading of the various areas of subject ship.

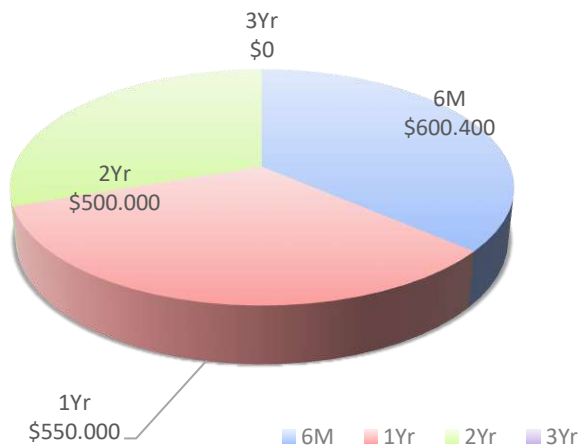
Capex Forecast

Major Capital Expenses in next 3 years in USD

Items	Estimated Cost
Forthcoming Compliance	\$1050,000
Upgradation (Repair or Maintenance)	\$350,400
Dry-Docking (2022)	\$250,000
Estimated Total	\$1,650,400

Cost Break up

Capex Projections
Total \$ 1650,400

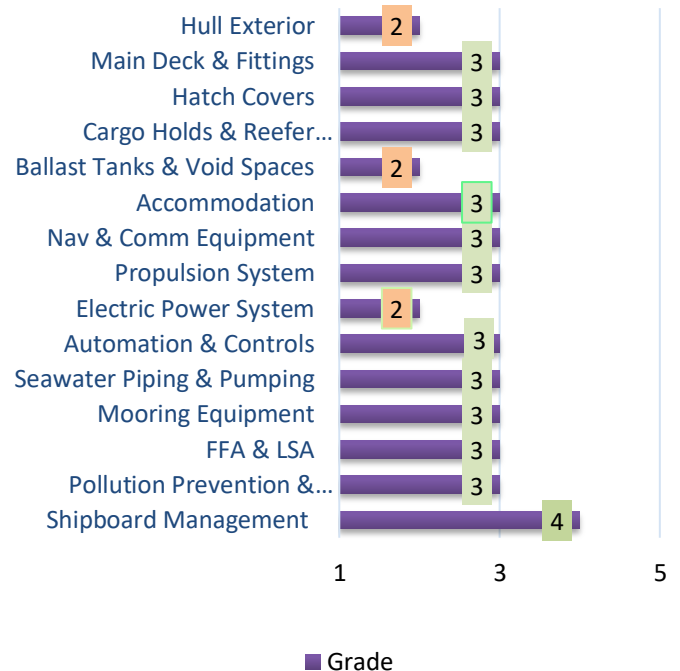


Description of the Grades

1	Unsatisfactory	Condition of inadequate strength or operational efficiency. Immediate extensive repair or renewal required to restore vessel serviceability.
2	Poor	Significant defect or damage present that require remedial action.
3	Fair	Obvious wear & tear, and other moderate deficiencies, require some level of corrective actions or repair works
4	Good	Non-significant wear & tear or minor defect, no immediate corrective action required
5	Very Good	Unimpaired condition without wear or deviation from original strength or operating efficiency

Average Vessel Grade 2.9 (Poor-Fair)

Vessel Grading



D- Defects, Concerns & Recommendations

DEFECTS CATEGORIES

Critical Defect <i>Urgent Remedial Action Required</i>	Significant Defect <i>May lead to a high future cost</i>	Minor Defect, low cost <i>defect, could be an Industry recommendation</i>	<i>A good Design or operational feature of the ship.</i>
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Severity	Description	Action-Timeline	Approx. Cost US\$
Significant	Vessel uses R22 refrigerant. Which is a GHG and it will be difficult to get R22 as the production after 1 st Jan 2020 will be only 0.5 %. Alternative refrigerant to be applied such as R404.	1 Year	\$150,000
Critical	List of approved hazardous material onboard not present due date 31 st Dec 2020. Vessel uses Glass wool as the insulation materials. There approval of use of Glass wool is subject to administration acceptance. Cost of renewal could be significant.	1 Year	\$400,000
Significant	Cargo holds tank tops appeared in fair condition. 5-year-old diminution results close to max. limits. Possibility of repair in next special Survey.	1 Year	To be assessed
Minor	Installation of BWTP, though de-coupled but required installation in 2022.	2 Years	\$500,000
Significant	Ballast Tank Frames and Coating in poor condition and re-coating and steel renewal may be warranted based on UTG report	6 Month	\$400,000
Significant	Approx. 30% severely rib caged and caved in port/stbd. topside shipside around midships	6 Months	\$100,000
Significant	ME & Aux Engine spares (Bearings and Liner) not onboard	6 Months	\$100,000
Minor	Only 1 ECDIS fitted	6 Months	\$10,000
	380/220V earth fault, leaky Fire pump seal, FWG	6 Months	\$5000
Minor	7th Special Survey due by 19 July 2020	6 Months	\$250,000
Significant	Main Deck upgradation & Steel renewal	6 Months	\$30,000
Significant	Cargo Hold maintenance	6 Months	\$100,000
Critical	Engine Room Bilges and Leakages,	6 Months	\$5000

Total Approximate Cost of Up-gradation (additional Cost): \$1,650,400

(The above cost is indicative up-gradation cost may be required in addition to cost of vessel routine maintenances. It is an independent opinion of surveyor and/or Sinotech marine Technical team for reference only. Above cost may vary and will be subjected to determination of actual scope and Shipyard assigned.

E- VESSEL PERFORMANCE

MAIN ENGINE PERFORMANCE CONSUMPTION

Condition	Speed in Knots	% Load	Ship's Logs		Charter Party	
			MT/Day		MT/day	
			ULFO	DO	FO	DO
Ballast	9	63	9		Not Known	
Loaded	8.5	63	9		Not Known	
Idle @ Port	Not Known					
Active @ Port	Not Known					
Laden @ Eco Speed	Not Known					
Ballast @ Eco Speed	Not Known					

MAIN ENGINE CONSUMPTION

LOAD	FO (MT/Day)	RPM
MCR		
NCR		
67%		
52%		

AUX ENGINE CONSUMPTION

CONDITION	LOGBOOK	
	FO (MT/Day)	DO(MT/Day)
At sea		
Idle at port		
Active at port		

AUX BOILER CONSUMPTION

CONDITION	LOGBOOK	
	FO (MT/Day)	DO(MT/Day)
At sea		
Idle at port		
Active at port		

LUBE OIL CONSUMPTION			
MACHINERY	LUBE OIL	AMOUNT (LITERS/DAY)	REMARK
Main Engine		No Info	
Diesel Generators		No Info	
Stern Tube		No Info	

RECENT VOYAGES RECORD					
VOYAGE	ORIGIN		DESTINATION		
	PORT	DATE	PORT	DATE	CARGO
LADEN	Norway	Last many years	Poland /Lithuania	Last many years	Frozen Fish

RECENT PSC RECORD					
DATE	MOU	PORT	DETAINED	DEFICIENCIES	SEVERITY/CODE
23/09/2019	Paris MoU	Klaipeda	Nil	Nil	Normal

F- VESSEL ASSESSMENT QUESTIONNAIRE

1. HULL EXTERNAL

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
1.1	Are Draft Marks/Plimsoll Marks clearly visible and well maintained without rust?	Yes	
1.2	Is the Paint Coating on External Hull found in satisfactory condition?	Yes	
1.3	<i>Is the External Hull found in satisfactory condition in respect of corrosion damage and indentation?</i>	No	Approx. 30% severely rib caged and caved in port/stbd. topside shipside around midships
1.4	<i>Were the Tips of the Propeller blades, Rudder Stock and Rudder Horn visible? Is the condition satisfactory?</i>		Not seen
1.5	<i>Were the Hull Anodes visible?</i>	No	
1.6	<i>Were ICCP Current and Voltage within Normal range?</i>	No	Not fitted
1.7	Were any Sea Chests visible noted and in satisfactory condition?	Yes	

Comments

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2. FORECASTLE & POOP DECKS

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
2.1	Does the Mooring Machinery on the Forecastle deck appear in good condition with no significant oil leakages?	Yes	
2.2	Are Fair Leads, Capstans and Rollers appeared in good condition?	Yes	
2.3	<i>Are the Hydraulic Pipes and Control Valve blocks in good condition?</i>	Yes	
2.4	<i>Is the Control Lever held in neutral position, when there is no operation?</i>	Yes	
2.5	<i>Do the Brake arrangements of Windlass and Mooring winches appear in order?</i>	Np	Need upgradation. Few fulcrum pins found to be with excessive clearance.
2.6	<i>Are Anchor Chains in good condition no visible sign of significant wear or crack/fretting or twisting or any other damages?</i>	Yes	
2.7	Do the Anchors sit properly in the Hawse Pipe and are Cable Stoppers properly seated?	Yes	
2.8	<i>Do the Forward and Aft Masts appear in good condition?</i>	Yes	
2.9	Is the general condition of Deck Plating and Coating in good condition?	No	In fair condition, with some pitting and wastage

Comments

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3. MAIN DECK AND FITTINGS

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
3.1	Is the condition of the Deck Plating and Coating found satisfactory?		No, in fair condition and in need of maintenance
3.2	Is the condition of Piping and Electrical Conduits on Deck noted satisfactory?	Yes	Fair condition
3.3	<i>Are Sounding Pipes, Caps, Air Ventilators, Flaps, Plugs, Air Pipes in good condition, rust free, and freely operating?</i>	Yes	Fair condition
3.4	<i>Are Weather Tight Doors, Stores, and Hatch Opening covers, are in good condition, providing apparently enough sealing?</i>	Yes	
3.5	<i>Are Cross-decks Area and Mast Houses being accessible and well maintained?</i>	No	Fair condition, need of maintenance
3.6	<i>Are Bunker-davit, Lifeboat Davit, and Provision Crane Structures in good condition and apparently in operational state?</i>	Yes	
3.7	<i>Is the vessel fitted with Stanchions for Carriage of Logs? Are Log lashing materials enough and in good condition, if applicable to vessel type?</i>	No	Vessel is a reefer carrier
3.8	Are Accommodation Gangways and Pilot Ladders free of rust, damage, wire condition is good, Turntable rotating smoothly, no jerky movement, safety net in place and well-greased?	Yes	
3.9	<i>Are Deck save-alls in good condition and rated capacity marked?</i>	Yes	
3.10	<i>Are the Forecastle Stores, Deck Paint Stores, Bosun's Stores, and Shelters in good condition?</i>	Yes	
3.11	<i>Are Bulwark on Port and Starboard sides in good condition?</i>	Yes	

Comments

4. CARGO CRANES & GEARS

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
4.1	Are Jibs, Jib Rests, Sheaves, Cable Drums and Pulleys of Cargo Cranes apparently in good condition and free of rust, pitting, deformation or any other kind of damage?	Yes	
4.2	Are Hydraulic Systems of the Cargo Cranes in good condition free of Oil Leakages , any alarm on the control panel such as overheat/overload etc.?	Yes	
4.3	Is there any significant sign of damage/ defect/ excessive rust /oil leakage /damage to lips sealing of Grabs ?	No	There are no grabs fitted
4.4	<i>Whether Cranes Operation was witnessed during the inspection? If Yes, then whether the operation was smooth with normal lube oil temperature, electric current, level of noise and vibrations?</i>	Yes	
4.5	<i>Are the Operator Cabins in tidy condition with Operator Controls working normal and Limit Switches operational?</i>	Yes	
4.6	<i>Is the Slewing Gears of Cargo Cranes in good condition with no visible sign of damage/ wear /deformation? Are records of Rocking Test and Annual Cargo Gear Survey available on-board?</i>	Yes	
4.7	<i>Are Hoisting & Luffing Drums in good condition with no visible sign of defect in Brake Operation, apparently normal Brake Bands (please observe Brake Tightness setting, does not exceed maximum limit), Drum Collar, and Actuator?</i>	Yes	
4.8	Are the Cargo Cranes fitted with Fine LO filters while Filter Element showing normal level of filtering element?		
4.9	<i>Are the Cargo Grab onboard? If so, advise number and type?</i>	No	
4.10	If no Grabs, then does the Main Deck Space enough for placing grabs.	No	Vessel is a reefer carrier

Comments

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5. CARGO HOLDS AND HATCH COVERS

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
5.1	Are Cargo holds free of significant Coating Damages like hard rusting, loose rusting, peel off, blisters, material wastage, and pitting etc.?	No	
5.2	Is there Safe Access to the Cargo Holds with appropriate warning stenciled as required?	No	
5.3	<i>Is there no visible sign of damage to the Structural Frames found on the Side Plating and Bulkheads of the cargo holds?</i>	No	
5.4	<i>Are the Twin Decks in the cargo holds in good condition (if applicable)?</i>	Yes	
5.5	<i>Are structural frames in the way of cargo holds in good condition?</i>	Yes	
5.6	<i>Is the Cargo-Hold Lighting (Isolation switch) in good condition?</i>	Yes	
5.7	<i>Is the Tank Top in good condition without any visible damage, loose rust and deformation?</i>		Not visible
5.8	<i>Are Cargo Holds Ladders in good condition free of any visible damage?</i>	No	Ladders need to be made safe
5.9	<i>Are the Bilge Wells clean and clear of any cargo deposit/obstruction, filters in place?</i>		No seen
5.10	Are the Anodes inside the cargo holds in good condition?		Not applicable
5.11	Is the Cargo-hold Bilge Pumping arrangement visibly in good condition and working?	Yes	Reported to be satisfactory
5.12	<i>Are cargo holds Ingress Alarms tested regularly and records of test results are maintained?</i>	No	
5.13	<i>Are cargo holds suitable to load Clean Cargoes like grain, sugar, salt, rice etc.?</i>	No	Only for reefer cargo
5.14	<i>Is the Top Hopper in a good condition?</i>		N/A
5.15	<i>Is the Bottom Hopper in good condition?</i>		N/A
5.16	<i>Are cargo holds fitted with Firefighting System?</i>	No	
	<i>Applicability of Regulation 10.7.1.3 & 10.7.2 of Chapter II-2</i>	No	
5.17	<i>Is Hatch Cover Coaming in good condition without any significant sign of damage/deformation of brackets/excessive rust/damaged coating/wasted channels?</i>	No	In fair condition, in need of upgradation
5.18	Are Water Tightness tests by hose carried out regularly with satisfactory test results?	Yes	Reported to be satisfactory
5.19	Does the result of last UV Ray Test of hatch cover show satisfactory water tightness of the hatches?	No	No such report sighted on board
5.20	<i>Are hatch covers operated by hydraulic motors and ram-type actuators? If yes, Is there any visible sign of oil leakage, poor condition of flexible hoses?</i>	No	
5.21	<i>Are hatch covers operated by variable frequency electric motors? If yes, are the chains and pulleys in good condition?</i>	No	Hydraulic Ram operated
5.22	Is there an emergency hatch opening arrangement in place?	Yes	Reported to be satisfactory

5.23	Is the water drainage Channels on hatch covers clear? Are non- return valves, Pontoons trackways, wheel and assembly in good condition?	Yes	In fair condition, in need of upgradation
5.24	<i>Are operation control units of the hatch cover apparently in good condition without oil leakage?</i>	Yes	
5.25	<i>Is the hatch cover structure top or underside free from rust, deformation, damage or wastage?</i>	Yes	
5.26	<i>Are there cement holes available in the hatch covers? Which hatch cover has extra strengthening for landing of the helicopter (if applicable)?</i>	No	
5.27	Does the vessel have a sludge lifter davit ?	No	

Comments

- Tank tops rusted
- Glass wool is used as thermal insulator.

6. BALLAST TANKS

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
6.1	Is there USCG approved Ballast Water Treatment System fitted on-board?	No	
	If no, is there USCG Approval for the extension of due date of installation of BWTS on-board?		
6.2	Are Ballast tanks and void spaces free from significant damage, pitting, wastage and Scaling?	No	
	<i>Please advise tanks inspected in the comments.</i>		
6.3	<i>Is the Coating of the ballast tanks apparently in good condition free from significant sign of hard rust, wastage, damage, peeled-off, blister etc.</i>	No	
6.4	<i>Are anodes installed and active with suitable amount remaining?</i>	No	
6.5	<i>Are Steel Structure and Stringer Plates, Brackets & Girders inside ballast tanks are free from buckling/fractures/doublets/temporary repairs?</i>	Yes	
6.6	<i>Is there no significant deposit of mud or oil contamination inside ballast tanks?</i>	No	
6.7	Are the bunker pipelines and sounding pipes passing through ballast tanks are in good condition free from any leakage?	Yes	

6.8	<i>Is manhole covers, seals and ladders in good condition?</i>		
6.9	<i>Is ballast tanks remote operation valve in good condition and no sign of leakage of oil?</i>		
6.10	<i>Is the record of Ballast Pump operation and capacity test are maintained? Is Ballast pump capacity compliant with requirements?</i>	Yes	
6.11	<i>Is ballast tank bilge eductor in good condition?</i>	Yes	
6.12	<i>Are Ballast valve control panel and hydraulic pipeline in good condition?</i>	Yes	
6.13	<i>Is the Fore peak tank free of excessive mud deposit, buckling, fracture, doublets, temporary repairs or any other kind of damage, and fitted with active anodes?</i>	Yes	
6.14	Did you inspect Top side ballast tank on either side of the ship? Please list the name of the Ballast tanks inspected.	Yes	

Comments

- All Ballast Tanks reported to be in poor condition both structurally and coating wise.

7. ACCOMMODATION

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
7.1	Is the general condition of Accommodation superstructure good free from visible damage, buckling, fracture, and rusting?	Yes	
7.2	<i>Is the accommodation maintained well from the MLC perspective?</i>	Yes	
7.3	<i>Are accommodation sky doors and watertight doors in good condition?</i>	Yes	
7.4	Are common areas in the accommodation such as Mess-rooms, Dayrooms, Galley, Alley ways, offices and staircases clean, tidy and maintained in good condition?	Yes	
7.5	<i>Are the galleys clean and free of roach and rodent infestation?</i>	Yes	
7.6	<i>Are self-closing devices fitted on fire doors and in good condition and closing the doors fully?</i>	Yes	

7.7	Are the laundry and sanitary places clean, tidy and maintained in good condition?	Yes	
7.8	<i>Is Cooking range in good condition without any low insulation alarm?</i>	Yes	
7.9	<i>Are Waste Commutator dispenser fitted with appropriate mesh and arrangements to protect disposal in ports?</i>	No	Not fitted
7.10	<i>Is the dry provision and refrigerated rooms clean, tidy and maintained in good condition?</i>	Yes	
7.11	<i>Are the temperatures of the refrigerated rooms maintained at correct levels and equipment working in good condition?</i>	Yes	
7.12	<i>Is the hospital and toilet clean, tidy and organized and medicine locker maintained in good condition with proper arrangement for disposal of expired medicines?</i>	No	Hospital being used as living cabin
7.13	<i>Are the refer room alarms regularly tested and records maintained on-board?</i>	Yes	
7.14	<i>Is the air-con room clean, tidy and well maintained? No abnormal noise, current, leakage of oil or water, dampers moving freely, condensation drains clear?</i>	Yes	
7.15	<i>Are records of air-con leakage test maintained? Is there kit available for collection of refrigerants, if applicable? Records of refrigerant re-charge maintained on-board?</i>	Yes	
7.16	Condition of flooring (Tiling and cement) found in good order?	Yes	
7.17	<i>Is there evidence of unkempt wiring and/or exposed wiring noted within the acc. space?</i>	No	
7.18	<i>Is the Medical locker well maintained without any expired medicines?</i>	No	Hospital being used as living cabin
7.19	<i>Is the Air con blower room in good condition?</i>	Yes	
7.20	Is the Blower room drain clear with no sign of debris?	No	
7.21	<i>Is there a dedicated Garbage station with proper color coding for the segregation of the cargo?</i>	Yes	
7.22	<i>Is the Coating inside the accommodation bulkhead normal?</i>	Yes	

Comments

- Hospital being used as a living cabin.

8. NAVIGATION & COMMUNICATION SYSTEM

#	QUESTIONNAIRE	YES/NO	COMMENTS
8.1	Is the Navigational Equipment in good condition?	Yes	
8.2	Is the vessel provided with two ECDIS ?	No	Only one ECDIS provided for reference only.
8.3	<i>Is the Communication Equipment, General Emergency Alarm and Public address system in good condition and regularly tested?</i>	Yes	
8.4	<i>Are Emergency batteries in good condition and their current and voltage in normal range?</i>	Yes	
8.5	<i>Does the vessel use paper charts as the primary means of navigation?</i>	Yes	
8.6	<i>Is the inventory of charts and publications up to date?</i>	Yes	
8.7	<i>Does the vessel do paperless navigation?</i>	No	
8.8	<i>Are all charts and publications digitized?</i>	No	
8.9	<i>Is the BWAS alarm operational?</i>	Yes	
8.10	Are the Navigation lights operational and tested regularly?	Yes	
8.11	Is the Emergency communication equipment, SAT-C, GMDSS in normal operational condition	Yes	
8.12	<i>Does the Ship e-mail system operate in normal condition?</i>	Yes	
8.13	<i>Are the Radars operational and maintained in good condition without any alarm on the panel?</i>	Yes	
8.14	<i>Are the required GMDSS walkie-talkies available with spare battery?</i>	Yes	
8.15	<i>Is the SART in good condition with valid battery life?</i>	Yes	
8.16	<i>Is the EPIRB in good condition with valid battery life?</i>	Yes	
8.17	<i>Is the SAS Alarm regularly tested and recorded?</i>	Yes	
8.18	Are the watch keeper Binoculars in good condition?	Yes	

Comments

- Single ECDIS fitted. Paper Charts in use. ECDIS for reference only.

9. LIFE SAVING APPLIANCES

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
9.1	Are Lifeboats with their engine & davits in good condition without any sign of damage, corrosion, wastage, rust and deformation?	Yes	
9.2	Is the Rescue boat & Davit in good condition without any sign of damage, corrosion, wastage, rust and deformation?	Yes	
9.3	<i>Does the qty of LSA equipment meet the required qty. per regulation?</i>	Yes	
9.4	<i>Are the EEBD in good condition and deployed at appropriate location?</i>	Yes	
9.5	<i>Is the Emergency escape route well equipped and illuminated?</i>	Yes	
9.6	<i>Are the Life rafts & Davit in normal condition without any sign of visible damage?</i>	Yes	
9.7	Is the Life Raft Hydrostatic release mechanism not expired and in good condition?	Yes	
9.8	<i>Are Sign, Symbols & tutorial in place for operation of lifeboat, life rafts and other lifesaving appliances?</i>	Yes	

Comments

- Satisfactory condition

10. FIRE FIGHTING APPLIANCES

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
10.1	Is the Fire detection system in good condition without any abnormal alarm?	Yes	
10.2	Is the Fixed firefighting system in good condition with last service records available on-board?	Yes	
10.3	<i>Is the Emergency fire pump in satisfactory condition?</i>	Yes	
10.4	<i>Is the Emergency generator in good condition?</i>	Yes	
10.5	<i>Are the Deck fire hydrants free of rust and can be easily opened? Any leaking hydrants sighted?</i>	Yes	
10.6	<i>Is the Fire line on deck in good condition without soft patches?</i>	Yes	
10.7	<i>Is the Engine room fire line in good condition?</i>	Yes	
10.8	Is the Engine room fire hydrant free of rust and eased?	Yes	
10.9	<i>Are the Foam monitors in good condition?</i>	Yes	Some foam extinguishers provided in ER only.
10.10	<i>Does the Cargo hold fire detection system operative?</i>	No	Not fitted
10.11	Do the Cargo holds have a fixed firefighting installation? (Insert Comment)	No	Not fitted
10.12	<i>Is the deck Fire line deck isolation valve in good condition?</i>	Yes	
10.13	<i>Does the vessel have a designated "Heli-deck" and is their enough FFA as per Heli-deck requirements?</i>	No	

Comments

- ER fitted with CO2 flooding system.

11. ENGINE ROOM & ELECTRICAL SYSTEM

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
Main Engine			
11.1	Is the Main Engine Performance normal at optimal loads? (Please confirm no abnormal alarm from the alarm history record, abnormal generation of sludge, abnormal FO & LO consumption etc.)	Yes	At 75% load and found to be satisfactory
11.2	<i>Are the Main Engine Control (Remote Telegraph, local Telegraph, & Governor System, Cylinder Lubricator systems) in apparently good operating condition?</i>	Yes	
11.3	<i>Are Main Engine Safeties such as shut-downs, slow-downs, and various overload alarms are not by-passed and /or de-activated?</i>	Yes	
11.4	<i>Is the ER operated in UMS mode with dead man alarm operational?</i>	No	
11.5	<i>Are the fuel consumption & cylinder oil consumptions as recorded in the Engine logbook in normal ranges as compared with Sea Trial data/ Charter Party data?</i>	Yes	System oil consumption found to be normal
11.6	<i>Is the Main engine structure in good condition, free of any sign of significant damage and free of oil and exhaust leakages?</i>	Yes	
11.7	<i>Are the Crank case relief doors in good condition and free of oil deposit or any error alarm on the Oil mist detector?</i>	Yes	
11.8	Is the Main Engine Safety control system in operational condition and tested regularly?	Yes	
11.9	Are the Main Engine bracings in the normal condition without any sign of damage?	Yes	
11.10	<i>Are the Main Engine high pressure fuel pipes in good condition, any leakages noted from HP pumps or pipes?</i>	Yes	
11.11	<i>Is the condition of Main Engine Exhaust manifold and uptake in good condition?</i>	Yes	
11.12	<i>Are the foundation bolts and checks of the ME in good condition?</i>	Yes	
11.13	<i>Is the area under the Main Engine flywheel clear of any leakage, deposit?</i> Is the ME Crank Shaft sealing free of oil leakage?	Yes	
11.14	<i>Is the Main Engine Air Distributor in normal condition?</i>	Yes	
11.15	<i>Is the Automatic air control valve in normal operational condition?</i>	Yes	

11.16	Is the Turning gear in good condition and with no visible sign of damage to gears?	Yes	
11.17	<i>Is the Engine control console in operational condition with no alarm?</i>	Yes	
	Aux Engines		
11.18	<i>Is the Aux engine Performances satisfactory?</i>	Yes	
11.19	<i>Is there any overdue maintenance of Aux. Engines? If yes, please state in the comments with running hours since last overhaul.</i>	No	
11.20	<i>Is there any sign of leakage of L.O, F.O or cool water Aux. engine, particularly from fuel pump, cylinder heads, and flywheel areas?</i>	No	
11.21	Are the Running parameters of Aux engine within normal ranges as per the records?	Yes	
11.22	<i>What is the Color of Aux Engine exhaust observed at funnel uptake</i>	Yes	
	Stern Tube		
11.23	Does the shaft seal use air-guard technology ?	No	
	If air-guard sealing in use does the vessel have the relevant exemption certificate on board		
11.24	<i>Is there any visible abnormality or sign of damage to intermediate shaft (such as crack, rust, corrosion, overheating on the surface), deformation, and intermediate shaft bearing found?</i>	No	
11.25	<i>Is the shaft earth voltage within normal range?</i>	Yes	
11.26	<i>Is stern tube bearing temperatures in the logbook within normal range?</i>	Yes	
11.27	Is Tail shaft monitoring approved?	No	
	Aux Boiler		
11.28	<i>Is the Boiler burner operation found normal with no leakage or sign of damage with normal parameters?</i>	Yes	
11.29	<i>Are the Boiler mountings (Safety valve, apparently in normal condition and tested regularly?</i>	Yes	
11.30	<i>Is the boiler water level remote indicator, low alarms and shut down, flame failure alarm and fuel shut apparently okay and tested regularly as per records?</i>	Yes	

11.31	No abnormal alarm on the control panel of boiler found?	Yes	
11.32	<i>Aux boiler structure including furnace, uptake, foundation, insulation in normal condition with no visible sign of damage?</i>	Yes	
11.33	<i>Are the boiler water test results in normal range with chemical levels maintained?</i>	Yes	
11.34	Is there evidence that aux boiler requires to be run at sea?	Yes	
Miscellaneous Items			
11.35	<i>Is the Workshop kept tidy and clean?</i>	Yes	
11.36	<i>Are the Spare & Storerooms in tidy and clean condition?</i>	Yes	
11.37	<i>Is the Purifier room free of oil leakages and purifiers operating in normal condition with no sign of abnormality</i>	Yes	
11.38	<i>Is the Refer & Air con. plant operating in normal condition?</i>	Yes	
11.39	<i>What type of the Refrigerant is in use on-board? Is the refrigerant collection kit available on-board?</i>	No	R-22 in use
11.40	<i>Records of regular leakage testing and re-charging available on-board?</i>	Yes	
11.41	Is the Tank Top Clean, free of any leakage or deposits?	No	Oily and wet
11.42	Are Bilge wells free of any sign of oil contamination?	No	
11.43	<i>Is the Engine room operated under UMS mode? Are operation & records of alarms maintained?</i>	No	ER manned at all times
11.44	<i>Are Quick closing valves and arrangement in good condition and operation regularly tested?</i>	Yes	
11.45	<i>Is the Emergency escape free of any obstruction, and well equipped for evacuation</i>	Yes	
11.46	<i>Are the Auxiliary machineries such as LO coolers, FW Coolers, FO Heaters, LO Heaters, Fuel Oil and LO filters, LO and FO pumps, Cooling water pumps in good condition and free of leakage and no visible sign of any damage?</i>	Yes	
11.47	Are the engine room various pumps running normal with current and load within acceptable ranges?	Yes	
11.48	<i>Are the general Fuel oil piping's in the engine room in good condition? Any evidence of oil stained lagging of the fuel piping?</i>	Yes	
11.49	<i>Does the ship have min Critical spares as per the class requirement?</i>	No	Spare Main Cylinder liner not on board

11.50	Is the Main air bottles structure in good condition?	Yes	
11.51	<i>Are the Main air compressors operating normal with temperature and pressure normal and cutting off in auto?</i>	Yes	
11.52	<i>Are Airline valves in normal condition?</i>	Yes	
11.53	<i>Is the Main switch board in normal condition with insulation check of domestic and HV system normal?</i>	No	380/220V Earth lamps showing low insulation
11.54	<i>Is the Emergency generator and switch board in good condition with normal voltage and current levels?</i>	Yes	
11.55	Is the Alarm monitoring system operational and in normal condition?	Yes	

Comments

- Engine Room bilges contaminated by oil from machinery leakages

12. POLLUTION PREVENTION & CONTROL

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
12.1	<i>Is an approved Incinerator fitted on-board and apparently in operational condition with no visible damage to body, furnace, refractory, burner and fan?</i>	No	Not fitted
12.2	Is an approved Sewage Treatment plant installed and operational on-board? State make and type.	Yes	Hamworthy
12.3	Records of test and dosing available on-board?	No	
12.4	<i>Is there a sewage holding tank fitted on-board with content level indicator?</i>	Yes	
12.5	<i>Is there an approved Sewage discharge connection with standard coupling available on board?</i>	Yes	
12.6	Does the OWS Piping appear tamper free?	Yes	

	Is an Isolation valve between ER and hold bilges provided, was it noted shut and lashed /Sealed?		
12.7	<i>Is the Oil Record Book as applicable properly filled-up and up to date?</i>	Yes	
12.8	<i>Is the engine room & deck free of oil leakages posing potential risk to pollution?</i>	No	Bilges were partly filled with oily water
12.9	<i>Is there Bunkering & Oil transfer procedure in place and displayed?</i>	Yes	
12.10	<i>Is an approved OWS installed apparently in good condition with 15 PPM monitor calibrated and 3-way valve functional test records available?</i>	Yes	
12.11	<i>Check MEPC code of compliance of the 15-ppm monitoring equipment,</i>	Yes	
12.12	<i>Is there provision for the retrieval of alarm data of the OWS equipment?</i>	No	
12.13	Are there any tamper proof seals fitted in the piping of the OWS and flanges on pipe leading to overboard?	No	
12.14	<i>Is the operation and test procedure for the OWS clearly identified and displayed near the equipment?</i>	Yes	
12.15	<i>Are deck Scupper plugs in place and no sign of potential pollution risk? Are the plugs visibly in good condition?</i>	Yes	
12.16	<i>Is there a class approved SOPEP/SMPEP and a VRP, with an updated IMO coastal state contact listing on-board?</i>	Yes	
12.17	<i>Are Deck save-alls fitted with drain plugs as required?</i>	Yes	
12.18	<i>Is the SOPEP equipment available and maintained in good condition?</i>	Yes	
12.19	<i>Does the SOPEP locker carry such inventory?</i>	Yes	
12.20	<i>Is the Garbage record book up to date?</i>	Yes	
12.21	Are receipts for garbage discharge available?	Yes	
12.22	<i>Is the list of ODS equipment, records of regular leakage test available in the PMS?</i>	Yes	
12.23	<i>Is there a fuel change over procedure in place for vessel operation in Emission Control Areas and records of fuel change over maintained as per MARPOL – Annex-VI requirements?</i>	No	
12.24	<i>Is there proper segregation of garbage with placards describing the color coding in place and appropriate storage on-board?</i>	Yes	

Comments

- BWTS is not installed. IOPP is de-harmonized renewal in 2022.

13. SHIP MANAGEMENT

#	QUESTIONNAIRE	YES/NO	ASSESSMENT
13.1	Is the Shipboard Safety Management System effectively implemented? Are Internal ISM audits regularly carried out?	Yes	
13.2	<i>Is there an electronic Planned Maintenance System on board and updated by the crew regularly? Which PMS system is currently in use on-board?</i>	Yes	Ship specific designed by company, not class certified
13.3	Is there a procedure for reporting Defects & keeping follow-up on pending Corrective actions?	Yes	
13.4	Are records of Non-conformity, accidents, near misses, root cause analysis and corrective actions maintained on-board?	Yes	
13.5	<i>Are the SOLAS equipment test records maintained on-board?</i>	Yes	
13.6	<i>Is the MARPOL equipment testing records maintained on-board?</i>	Yes	
13.7	<i>Does the Crew compliment on-board comply with the requirements of the Safe Manning Certificate issued by Flag State?</i>	Yes	
13.7	<i>Are the Critical operation contingency plans in place and displayed in common areas with duties of the responsible crew members?</i>	Yes	
13.8	<i>Are the Critical operation contingency plans in place and displayed in common areas with duties of the responsible crew members?</i>	Yes	
13.9	Is there an approved stability booklet on-board and in use?	Yes	
13.10	<i>Do you find records of Superintendent inspections and follow-up available on-board?</i>	Yes	
13.11	<i>What nationalities of crew on-board and common language of communication among them? Please list them in the remark column.</i>	Yes	
13.12	<i>Are critical records like Oil Record Book, Garbage Record Book, Ballast water record book, Engine Logbooks, and Deck Logbooks maintained as required?</i>	Yes	
13.13	Are the records of crew familiarization, handing and taking over reports of Master/Chief Engineer prior joining of senior staff available on-board?	Yes	

13.14	<i>Is the record of defects found during PSC Inspection and corrective actions maintained on-board?</i>	Yes	
13.15	<i>Are the record of random drug and alcohol tests maintained on-board?</i>	Yes	

Comments

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G- VESSEL MAINTENANCE OVERVIEW

UT GAUGING REPORT

Please state company name carried out the latest UTG Inspection, Date of Inspection, Place of Inspection.:

Max. and Min Diminution?	Chain Locker 17%, Poop Deck -10%, Wind Water Strake 14%
Any requirement of the steel renewal stated in the report?	Yes, in Ballast Tanks iwo frames and shipside
Diminution of Cargo Hold tank tops, lower hoppers?	11-12%
Diminution in Ballast tanks?	about 17-18%
Diminution of Hatch Covers?	5-6%
Diminution of lower portion of the corrugated bulkhead in Cargo holds?	5-6%
Any abnormal diminution observed?	Yes, Due to poor condition of ballast tanks

TASKS CARRIED OUT IN THE LAST DRY-DOCKING SURVEY

Job Name	Yes/ No	Remark
Ship's hull	Yes	Reported Satisfactory
Chain Locker	Yes	Reported Satisfactory
Cargo Holds Treatment	No	Reported Satisfactory
ME overhauled	Yes	Reported Satisfactory
ME turbocharger overhauled	Yes	Reported Satisfactory
Aux. Engines & Equipment	Yes	Reported Satisfactory
Ship's plating Ultrasonic Thickness Measured	Yes	Reported Satisfactory
Deck Crane Load Test	Yes	Reported Satisfactory
Deck crane rocking test	Yes	Reported Satisfactory
Steering Gear and Rudder inspected	Yes	Reported Satisfactory
Sea Chest	Yes	Reported Satisfactory
Tail Shaft and Propeller	Yes	Reported Satisfactory

ENGINES TOTAL RUNNING HOURS & RUNNING HOURS SINCE LAST OVERHAUL			
Machinery	Total Running Hours	Turbocharger Running Hours (Since last overhaul)	AE Running Hours (Since last overhaul)
Main Engine	165326	N/A	
Aux. Engine #1	48512	N/A	13321
Aux. Engine #2	83091	N/A	3537
Aux. Engine # 3	93047	N/A	3009

MAIN ENGINE - CYLINDERS RUNNING HOURS SINCE LAST OVERHAUL						
Cylinder unit	Piston	Cylinder Cover	Exhaust	Cylinder liner	Main bearing	Line Wear in (mm)
No. 1	9735	9735		9735	39653	0.21
No. 2	9735	9735		9735	39653	0.22
No. 3	9735	9735		9735	39653	0.18
No. 4	9735	9735		9735	39653	0.32
No. 5	9735	9735		9735	39653	0.34
No. 6	9735	9735		9735	39653	0.21
No. 7	9735	9735		9735	39653	0.20
No. 8	9735	9735		9735	39653	0.18

- Liner wear limit – 030 mm (IV), 0.5 MM (II) I=0.8 MM
- Liner 4 &5 will require replacement

LUBE OIL & WATER TESTING ANALYSIS REPORT						
<div>Lube Oil Lab Analysis Results</div> <div>(N=Normal, W=Abnormal)</div>	Main Engine	A/E #1	AE #2	AE #3	S/Tube	Hydraulic
	N	N	N	N	N	N
	04/12/2019	04/12/2019	04/12/2019	04/12/2019	04/12/2019	04/12/2019
	Please write N for Normal and W for Abnormal condition of Lube oil as per the latest report onboard. Also mention date of sampling for each sample above.					
WATER ANALYSIS REPORT						
<div>Water Analysis Results</div> <div>(N=Normal, W=Abnormal)</div>	LT		HT		Boiler	
	N		N		N	
	Feb 2020		Feb 2020		Feb 2020	
	Please write N for Normal and W for Abnormal condition of Lube oil as per the latest report onboard. Also mention date of sampling for each sample above.					

H- VESSEL CERTIFICATES & CLASS STATUS

CERTIFICATES DETAIL		
Certificate Name	Survey/Issue Date	Expiry Date
Registry Certificate	17/04/2018	16/04/2023
Radio Station License	13/03/18	3/04/2023
International Tonnage Certificate	08/02/2018	
Suez Canal Tonnage Certificate	12/06/1990	
Certificate of Class	11/10/2017	19/07/2020
International Load Line Certificate	11/10/2017	19/07/2020
Cargo Ship Safety Construction Certificate	31/01/18	19/07/2020
Cargo Ship Safety Equipment Certificate	10/11/2017	19/07/2020
Cargo Ship Safety Radio Certificate	10/11/2017	19/07/2020
International Oil Pollution Prevention Certificate (MARPOL Annex-1)	18/06/2019	23/06/2022
International Air Pollution Prevention Certificate (MARPOL Annex VI)	10/11/2017	19/07/2020
International Sewage Pollution Prevention, Certificate (MARPOL Annex IV)	10/11/2017	19/07/2020
Minimum Safe Manning Document	21/12/2017	
International Anti-Fouling Certificate	10/11/2017	
Fitness Certificate for carriage of Solid Bulk Cargoes	N/A	
International Energy Efficiency Certificate	10/11/2017	
Ballast Water Management Statement of compliance (Exchange Method)	7/12/2017	23/06/2022
Last Right Ship Inspection (If any)	N/A	
EAL Compliance Statement	N/A	

CLASS SURVEY STATUS			
CLASS CERTIFICATES			
Survey	Survey Date	Renewal date	
		From	To
Special Survey	19/07/2020	20/07/2015	
Intermediate Survey			
Annual Survey	19/07/2020	17/07/2015	19/07/2020
Dry-docking	23/06/2020	29/07/2015	
IWS Survey	N/A		
Tail shaft withdrawal	30/06/2022		
Boiler Survey	19/07/2020	01/07/2015	
ESP Survey	N/A		
CAP Rating	N/A		
IOPP Survey	23/06/2022		
De-harmonization			
Change of Class/ Withdrawal	N/A		
Condition of Class	NIL		
Memos/Recommendations	Yes		
UT Gauging Survey Result	From June 2015		

I- DESIGN & EQUIPMENT

MACHINERY DETAILS			
Machinery	Sets	Maker & Model	Rating
Main Engine	1	Wartsila VASA 8 R32	
Turbocharger	1		
Generators	3	Deutz BA9M816U	
Alternator	3		
Shaft Generator	1		
Aux Boiler	1	Spanner Swirlyflo	
Incinerator		Not fitted	
Oily water separator	1	Hodge	
Reefer Plant	4	Sabroe	
Air Condition Plant	1		
Air Compressor	2	Hamworthy	
Cargo Cranes	4	Moelven Type DK2 X 200 2 X258 16 JNF	
Grabs			
Ballast Pumps	2	Hamworthy	
Hatch Covers	16	Macgregor	
Cathodic Protection			
Windlass	2		
Winches	4		
Anchor	2		
Anchor Chain	2		
Lifeboats	2		
Sewage Plant	1	Hamworthy	

NAVIGATIONAL EQUIPMENT DETAIL

Machinery	Sets	Maker & Model
Standard Compass	1	Not Known
Gyro Compass	1	Not Known
Radar	2	Furuno FAR 2873S, Furuno FR 2115
GPS	2	Furuno GP90/GP32
Echo Sounder	1	Skipper
ECDIS	1	Not Known
BNWAS	1	Not Known
NAVTEX Receiver	1	Furuno NX 500
Speed Log		
GMDSS (MF/HF Radio)	1	Skanti DSC 9001
VDR	1	Not Known
AIS	1	Furuno FA 100
VHF	2	Sailor RM 2048

CARGO HOLDS & HATCH DETAILS

Cargo Hold	Capacities (M3)	Hatch Cover Size (L x B) in Meters	Load Capacities	Permissible load of Tank Top in T/m ²	Permissible load of Hatch Cover T/m ²
Hold 1 LH	642,606	10.53x2.50 P/S/12.45x5.20P/S	Not known		
Hold 2 TWD	1070,667		Not known		
Hold 2 LH	1315,458	12.45x5.20P/S/12.45x5.20P/S	Not known		
Hold 2 TWD	1463,319		Not known		
Total	4692,05				

TANK CAPACITIES	
TANK	CAPACITIES
HFO Low Sulphur	N/A
HFO High Sulphur	N/A
HFO Settling Tank 1	
HFO Settling Tank 2	
HFO Service Tank	
HFO Overflow Tank	
MDO Tank-1	
MDO Tank-2	
MSGO Tank	
Total Fresh Water Capacity	
Total Ballast Capacity	1638.6mt
Total ME CC Lube Oil Storage 1 /2	N/A
Total ME Cylinder oil capacity	N/A

VESSEL SUB-DIVISION	
Name of decks in Accommodation and Engine room. (Accommodation- Sub-divisions)	Name of transverse Bulkhead on the hull (Hull sub-divisions)
Compass Deck	3: ER Bulkhead, Bulkhead between Hold 1,2, Forward Bulkhead
Navigation Bridge Deck	
Upper Bridge Deck	
Lower Bridge Deck	
Forecastle Deck	
Poop Deck	
Main Deck	
Tween Deck	

• Shape of Stem:

Shape of Stern:

J- CONCLUSION

Condition Based on the superficial inspection and information shared by the ship staff, surveyor found that subject ship is in the Poor to Fair Condition considering her age. The surveyor highlights following technical points to be considered for the pre-purchase assessment of the vessel.

1. There is statutory requirement that by 31st Dec 2020, vessel calling or trading in European water must have verified list of Hazardous Materials onboard. There is no approved inventory available. Vessel cargo holds use Glass Wool as thermal insulator. There is a possibility that administration ask for the replace Glass wool with non-hazardous insulator.
2. Vessel is currently using R22 refrigerant onboard. R22 is a greenhouse gas. From 1st Jan 2020, R22 production will be reduced to very low. Buyer may be required to consider changing the refrigerant in reefer plant.
3. There is statutory requirement that by 19th July 2022, the vessel must be fitted with A verified Ballast Water Treatment Plant. Vessel IOPP certificate is de-harmonized with other classification surveys.
4. There is an immediate structural concern that at least 30% rusted Frames and 20% badly rusted side plates and Bulkheads of all Ballast Tanks be immediately cropped and renewed as found necessary. Tank coating of the ballast tanks in poor condition and to be suitably upgraded.
5. There is an Immediate structural concern that the severely caved and RIB caged port and starboard Ship sides. Port and Starboard shipside, mostly topside be cropped and renewed as deemed necessary.
6. There is an immediate operation concern that there was no spare Main Engine Liner or Bearings sighted in the Engine Room.
7. The vessel uses paper charts. There is one ECDIS set kept for reference only.
8. Both 380/220V earth lamps were showing low insulation in the ECR.
9. Found engine room bilges contaminated by the Oil. Oil leakages in the Engine Room. Vessel is due for the Special survey by 19th July 2020.
10. To carry out the repair on Ballast Tanks, it may be necessary to remove insulation prior repairs. Therefore, repair of Ballast tanks may be more expansive as the Glass Wool insulator may not be allowed to re-use.
11. The UT gauging report is 5-year-old and values are marginally lower than max limits. There is a possibility high amount of steel renewal may be required.
12. Cargo hold tank tops are rusted. A 5-year-old UT gauging report show significant diminution of tank tops.
13. Deck mooring winches and deck fittings shows significant wastage. Paint is applied on various areas without surface preparation.
14. Vessel has shaft generator, bow thruster, and CPP. Vessel machinery are in operational condition. Cargo reefer plant found in good operational condition with cargo hold temperatures well maintained.
15. Vessel charter party speed is 12 Knots. Vessel is running at 9 knots.

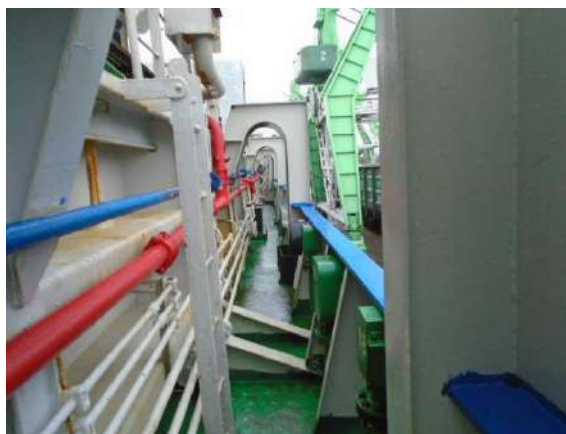
Overall, ship warrants significant maintenance and upgradation in upcoming special survey. It is recommended to consider the purchasing the ship only after successful completion of the special survey. Vessel machinery such as cargo cranes are from manufacturers may not be producing spare parts. Vessel may be considered for the purchase and operation for the short period basis in costal trade subject to acceptance.

K- VESSEL PHOTOS

Hull External



Main Deck



Ballast Tanks



Hatch Covers



Cargo Gears



Accommodation & Bridge



Engine Room



LSA & FFA



11. Disclaimer

Whilst every reasonable effort has been made to survey the vessel concerned in accordance with instructions, neither SINOTECH Marine Corporation (HK) LTD. nor the Inspector conducting the inspection, accept any responsibility whatsoever for failure to survey or inspect any item of hull or machinery that is not reasonable, accessible or available for inspection, or (in the case of machinery) opened up for inspection and having regard always to the condition of the vessel and its location, whether or not the machinery was seen in operation and the time available for the carrying out of the Survey.

This report is without prejudice to any stake holder of the vessel. This report contains facts observed by the inspector and information shared by the Master/ CE/ crew of vessel. No observation (indicating apparent damage to equipment or malfunction of machinery) in this report has been investigated to ascertain the cause or extent of damage/ defect. The inspector or his employer is not responsible for any claims based on interpretation of information in this report.



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