



**Example Client** 

Organisation:

**Example Company** 



# **EXAMPLE LPG CARRIER**

IMO Number: 123456789

INSPECTED AT EXAMPLE PORT, EXAMPLE COUNTRY

1st MAY 2023







# REPORT TERMS OF USE

This report is intended for the sole use of **Example Client** and is designed to offer a condition evaluation of the subject vessel, as found on the day of the survey and in the opinion of the surveyor concerned. The report is subject to any access restrictions as described herein, and subject always to the level of cooperation afforded to the surveyor during the inspection itself. All details are given in good faith, and without guarantee.

This report has been prepared and issued by Idwal Marine Services Ltd to its Customer, **Example Client of Example Company**, in accordance with, and subject to, the General Terms and Conditions of Idwal Marine Services Ltd, a copy of which can be obtained at www.idwalmarine.com/terms-conditions. Attention is particularly drawn to restrictions on reproduction and disclosure of, and limits on reliance on, this Report as more fully set out therein.

To access all documents related to this report, and verify the authenticity of its contents, please view the full version available here:

#### customer.idwalmarine.com/0-0000

Pre-sale report reference: 0/0000

Report commissioned for: **Example Client** 

Organisation: **Example Company** 

PDF generated for: example@example.com

Time & date: 12:34 (UTC) on 1st May 2023



At Idwal, we are proud to run a carbon neutral business and provide the industry's first carbon neutral inspection service. Idwal has been carbon neutral since 2021 and has achieved PAS 2060 certification from Carbon Footprint Ltd.







# CONTENTS

| INCRECTION CUMMARY                          | q  |
|---|----|
| INSPECTION SUMMARY                          | -  |
| COMPARE YOUR IDWAL GRADE  KEY NOTABLE ITEMS |    |
| DECARBONISATION SUMMARY                     |    |
| DECARDONISATION SUIVINART                   |    |
| GRADING DATA                                | 8  |
| DESIGN AND CONSTRUCTION                     | g  |
| HULL  | 10 |
| MOORING DECKS                               | 12 |
| WEATHER DECKS AND FITTINGS                  | 13 |
| BALLAST TANKS AND SYSTEMS                   | 14 |
| ACCOMMODATION                               | 15 |
| BRIDGE AND NAVIGATION EQUIPMENT             | 17 |
| ENGINE ROOM AND MACHINERY                   | 18 |
| FIRE FIGHTING EQUIPMENT AND SYSTEMS         | 19 |
| LIFESAVING APPLIANCES                       | 20 |
| SAFE WORKING ENVIRONMENT                    | 21 |
| POLLUTION CONTROL                           | 22 |
| ONBOARD MANAGEMENT                          | 24 |
| VESSEL CAPABILITIES AND CARGO SYSTEMS       | 25 |
|   |    |
| ADDITIONAL DOCUMENTS                        |    |
| Vessel documents                            | C  |
| Vessel photos                               | [2 |



# INSPECTION SUMMARY









1 May 2023



Status: Standing by



8.5 Hours Aboard



Majority of documents provided

The Example Vessel is an example DWT, example Gross Tonnage, example flagged, LPG Carrier vessel built to a good standard by example shipbuilding, in South Korea, under example class supervision and was delivered on the 1st June 2014. The vessel is now Classed with example class.

A Pre-Purchase Inspection of the vessel was conducted on the 1st May 2023 in example port, example country by Idwal under instruction from example company.

Good cooperation was provided by the ship's crew with access granted to the ballast tanks. The vessel was at anchor, standing by at the time of inspection.

The vessel was found to be in good overall condition with an Idwal Grade above the average for vessels of a similar age, type and size but with a few notable items found during the inspection. These are reported specifically in the notable items section of this report.



#### **VESSEL PARTICULARS**

Ship NameExample VesselPrevious NameExample Vessel 1IMO Number123456789Port of RegistryExample PortShip TypeLPG CarrierFlagExample FlagClassification SocietyExample Class

Registered Owner Example Owner

Technical Manager Example Manager

Shipbuilder Example Shipbuilder

**Delivery Date** 01/01/2008 **Dead Weight** Example MT **Gross Tonnage** Example MT Example MT **Net Tonnage Length Overall** Example m Breadth Example m Depth Example m **Summer Draught** Example m

Example MT

Lightweight





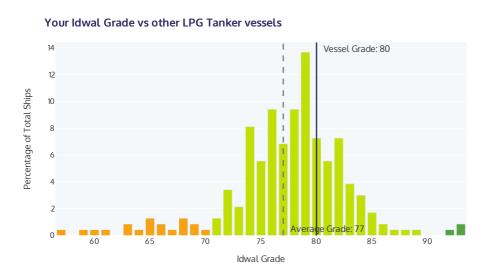
The onboard management was found to be good with the Safety Management system found to be well implemented and the vessel generally good. The vessel was found to provide a safe working environment. The Port State Control (PSC) history was found to be good to very good with 2 deficiencies and 0 detentions in the 4 inspections conducted in the past three years.

Given the good condition of the vessel it is estimated that the OPEX levels are likely to be as per industry norms for vessels of a similar age, type and size.

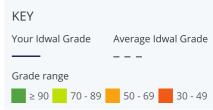


# COMPARE YOUR IDWAL GRADE

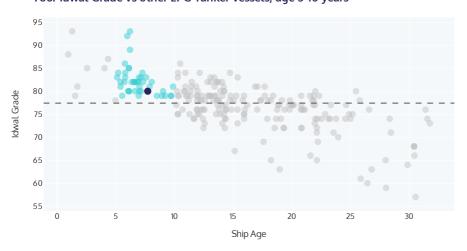
This section of the report allows you to compare your ship's grade with similar ships.



This graph shows the distribution of Idwal Grades against your ship's sector.



#### Your Idwal Grade vs other LPG Tanker vessels, age 5-10 years



This graph shows your ship's Idwal Grade compared against other ships inspected in the same sector, within a similar age range, and how it compares against the average Idwal Grade for the sector.



The ship's grade may appear different when compared with the average of the two graphs. This is as a result of the second graph comparing a smaller and more focused sample of ships.

For a more in-depth analysis of where your vessel compares amongst its peers, please contact your Idwal sales rep.



# KEY NOTABLE ITEMS

|   | Description  | Action / Timeline  | Estimated<br>Cost [USD] |
|---|--|--|-------------------------|
| 8 | The vessel does not use Environmentally Acceptable Lubricants (EALs) in the stern tube or has an airseal and is therefore not VGP compliant in this regard.  | Various upgrades and modifications may be required if the vessel wishes to trade in the USA.     | \$0                     |
|   | Coating breakdown and corrosion on the hull was seen to be moderate across the boot-top.   | Areas of Coating Breakdown and Corrosion should be addressed when possible.                      | \$20000 - \$50000       |
|   | The bow thruster is reportedly in working condition, but require repairs. At the date of the attendance, the condition was out of order as for the repairs the delivery of the coupling assembly for the repairs was expected. | Repair thruster as soon as possible to ensure full manoeuvrability.                              | \$20000 - \$50000       |
|   | Hull markings were seen to be partly obscured.   | Touch up of hull markings should be considered at the earliest opportunity to ensure legibility. | \$1000 - \$5000         |
|   | Provisions equipment was seen with excess frosting due in the Meat Room ice accumulation noted   | De-frost and rectify root cause of excess ice build-up   | <\$1000                 |
|   | It was reported that an IMO approved<br>BWTS is installed with no documentation<br>provided onboard to verify it's USCG<br>compliance  | This is recommended to be further investigated   | \$0                     |
|   | The vessel holds a Class approved<br>Inventory of Hazardous Material (IHM)   | An IHM is required for entry into EU ports.  | \$0                     |
|   | The vessel is reportedly fitted with free to access unlimited use Wi-Fi system   | None   | \$0                     |
|   | The following additional engine room machinery is installed: fuel mass flowmeters, MGO cooler, sea water box coolers   | None   | \$0                     |

Please note, all costs are estimations only, based on industry averages, and may vary depending on locations and scopes of work. These costs are provided to assist the reader to consider the potential Capex or Opex impact of the related Notable Item and should not be used for budgeting purposes without further internal assessment of their accuracy.



### **DECARBONISATION SUMMARY**

The vessel was delivered to market in 08 / 2015 with an Energy Efficiency Design Index (EEDI) score of 20.19, within the regulatory requirements at the time. This EEDI score is therefore the vessel's current Attained EEXI score. For more information about technologies to reduce a vessel's EEXI, the creation of the EEXI technical file or operational measures to reduce a vessel's Attained CII, please contact your Idwal sales representative.

#### **EEXI**

**Required EEXI** 

20.73

gCO<sub>2</sub>/t.nm

Attained EEDI/EEXI

20.19

gCO<sub>2</sub>/t.nm

This vessel meets the required EEDI/EEXI

Report commissioned by and for the sole use of **Example Client** of **Example Company** PDF



# GRADING DATA



The Idwal Grade® is an industry recognised measure of asset integrity. Using proprietary algorithms, the Idwal Grade is programmatically calculated from over 500 individual data points, captured during a rigorous and standardised inspection process. Our data-driven methodology ensures that our reports are consistent, accurate and free from bias.

#### **SUB GRADES**

The methodology used to calculate the Idwal Grade® is also applied to the grading of the different vessel areas and categories. Two key areas are the overall vessel condition and vessel management:

| Condition   | 78  | Management                            |  | 85 |  |  |  |
|---|-----|---------------------------------------|--|----|--|--|--|
| The following are grades representing individual areas of interest of the vessel: |     |                                       |  |    |  |  |  |
| Design and Construction   | 80  | Hull                                  |  | 70 |  |  |  |
| Mooring Decks   | 80  | Weather Decks and Fittings            |  | 90 |  |  |  |
| Ballast Tanks and Systems   | 90  | Accommodation                         |  | 80 |  |  |  |
| Bridge and Navigation Equipment   | 80  | Engine Room and Machinery             |  | 60 |  |  |  |
| Fire Fighting Equipment and Systems   | 80  | Lifesaving Appliances                 |  | 80 |  |  |  |
| Safe Working Environment  | 80  | Pollution Control                     |  | 80 |  |  |  |
| Onboard Management  | 80  | Vessel Capabilities and Cargo Systems |  | 80 |  |  |  |
| Forthcoming Regulatory Compliance   | 100 | Crew Welfare                          |  | 90 |  |  |  |
| Crew Performance  | 80  | Safety Management                     |  | 80 |  |  |  |
| Planned Maintenance System (PMS)  | 60  | Classification and Certification      |  | 90 |  |  |  |
| PSC Performance   | 80  |                                       |  |    |  |  |  |



80

### **DESIGN AND CONSTRUCTION**

The construction and design was found to be good overall, with the vessel built to IACS

standards and Rules in South Korea, by shipbuilder with the keel laid on 30/06/2014. The vessel is a LPG Carrier, with 2 tanks, driven by a fixed pitch, direct drive propeller. The Main Engine is a NOx Tier 2, and the vessel has 3 NOx Tier 2 Auxiliary Engines, and no shaft generator. It is not on the Enhanced Survey Program or Extended Dry Docking schedule but does hold a Class

notation for In Water Surveys. The UTM report showed only minor steel diminution. Apart from the equipment required by international rules and regulations, the bridge is also fitted with differential-gps and the engine room and machinery are fitted with fuel mass flowmeters, MGO cooler, incinerator sludge burning system, UMS capabilities, 2-stroke engine mechanical lubricator, centralised sea water cooling and sea water box coolers.

### **NOTABLE ITEMS**

Description

Cost [USD]

**Estimated** 

Issue:

**Issue:** The following additional engine room machinery is installed: fuel mass flowmeters, MGO cooler, sea water box coolers

Corrective Action: None

\$0









### HULL

The hull was seen to be in a fair to good overall condition, with the hull able to be inspected from all round at the anchorage. The vessel was found to be free of both major and minor structural defects but had moderate scattered and spot corrosion, up to

approximately 10% of the surface area, mainly located across the boot-top. Hull markings were partly obscured with no marine fouling observed. The vessel's last out of water bottom survey was carried out on 20-Oct-20, with the vessel's next out of water bottom survey due by 20-Oct-23.

#### **NOTABLE ITEMS**

Description Estimated Cost [USD]

**Issue:** Coating breakdown and corrosion on the hull was seen to be moderate across the boottop.

**Corrective Action:** Areas of Coating Breakdown and Corrosion should be addressed when possible.

\$20000 -\$50000

Description

Estimated Cost [USD]



Issued On: May 1 2023



**Issue:** Hull markings were seen to be partly obscured.



**Corrective Action:** Touch up of hull markings should be considered at the earliest opportunity to ensure legibility.

\$1000 -\$5000





### MOORING DECKS

The Mooring decks were seen to be in a good 80 condition overall with the decks found to be free of structural defects and free of significant coating breakdown and corrosion. Deck fittings were found to be in a good condition with fairleads and mooring rollers free to turn when tested. All Hydraulic windlasses and winches were reported to be fully operational and free from hydraulic leakage as observed. Mooring machinery was in generally good condition with the band brake linings seen to have substantial thicknesses. Anchor chains and mooring

ropes were in a good overall condition. Mooring practices were seen to be good and snap-back zone warnings were seen to be posted at the entrances to mooring areas as per industry best practice. The Bosun's store was in a good overall condition with no issues to the structure, coatings or housekeeping observed. The bitter end release arrangements were seen to be clear and unobstructed and the emergency towing booklet seen to be available near to the Foc'sle.





### WEATHER DECKS AND FITTINGS

The Weather Decks and Fittings were seen to be in 90 good to very good condition overall, with the decks found to be free of structural defects and was free of significant coating breakdown and corrosion. Deck fittings were found to be in a good condition with

pipework and fittings free of leakages. The accommodation ladders and gangways were in a good overall condition, with no notable defects found, as were provisions lifting appliances.





# BALLAST TANKS AND SYSTEMS

Ballast tanks and systems were deemed to be in a good to very good overall condition. Fore-peak, Side ballast tanks No. 7 port side and starboard side were entered for inspection and photographs of previous tank entries in 27-Mar-23 were provided for review. It was seen that the ballast tanks were found to be generally free of significant structural defects and were free of significant coating breakdown and corrosion. Ballast tank

fittings such as ladders and pipework were seen to be in a good overall condition with Anodes seen to be depleted up to 5%. Tanks were seen to have no mud/sediment accumulation and were free of any signs of staining from sewage or marine fouling. Ballast control systems such as valves and gauges were reported to be fully operational and all ballast pumps were in good working order and in good visual condition.



#### **ACCOMMODATION**

The accommodation areas were seen to be in a good condition overall with floor and wall 80 coverings found to be in good condition and upholstery and furniture found to be free from deterioration and defects. The levels of housekeeping and cleanliness was found to be good with levels of hygiene also seen to be good in the sanitary facilities. The hospital was seen to be well equipped and ready for use with the drugs seen to be controlled and secured and with the associated drugs log kept up to date. The accommodation was found to be outfitted to an average quality. The Crew Welfare was found to be in good to very good overall with it noted that the vessel is fitted with a free and unlimited Wi-Fi system and crew were reported to have access to a well-stocked bond store. The Air Handling Unit (AHU) was found to be

maintaining a comfortable temperature and was seen to be in good condition with no defects. The galley equipment was deemed to be in a good overall condition with all equipment reportedly in good working order. The galley was found to be in a very clean condition with the galley hoods also found to be kept clean. The vessel's walk-in cold rooms were found to be clean and hygienic with temperatures at the required levels. Provision room components were seen to have isolated defects such as in the Meat Room with ice accumulation noted. The external superstructure was found to be free of structural defects and was free of significant coating breakdown and corrosion. The external superstructure fittings were seen to be in a good overall condition with all external accommodation doors in good working order and properly closing.

#### **NOTABLE ITEMS**

#### Description

Estimated Cost [USD]



**Issue:** Provisions equipment was seen with excess frosting due in the Meat Room ice accumulation noted

**Corrective Action:** De-frost and rectify root cause of excess ice build-up

<\$1000







Issued On: May 1 2023



**Estimated** Description Cost [USD]



**Issue:** The vessel is reportedly fitted with free to access unlimited use Wi-Fi system

\$0 Corrective Action: None



# BRIDGE AND NAVIGATION EQUIPMENT

The Bridge and navigation equipment were found to be in a good condition overall with housekeeping found to be good and with all bridge equipment reported to be fully operational. The vessel's VDR was found to be free from any unanticipated alarms with collection instructions posted nearby and with the Bridge Navigation Watch Alarm System (BNWAS) reported to be fully operational. The vessel's primary means of navigation, as listed on form E of the safety equipment certificate is a dual ECDIS system which were found to be up to date. An in-date compass deviation card was seen to be posted near to the helm and the compass deviations. The

vessel is licensed to cover GMDSS sea areas A1, A2, and A3 and had a valid shore-servicing agreement in place. The radio batteries were seen to be well maintained and in good condition and the EPIRB, SART and VHF handheld batteries were all in date as required. Berth to berth passage plans were seen on-board and were signed by all navigating officers with nautical publications provided in Electronic format. Master's standing and night orders were found to be signed by all navigating officers with the bridge log book correctly filled in and the GMDSS logbook also up to date and correctly filled in. The Monkey island was found to be in a good overall condition with the mast, aerials and antennas seen to be satisfactory and free of defects.



#### ENGINE ROOM AND MACHINERY

The Engine room and machinery were found to be in a fair overall condition due to the Bow Thruster 60 being out of operation with the engine room generally found to be very clean. During the inspection the Auxiliary Engines, purifiers, pumps, air compressors and sewage treatment plant were seen running. Bilges and tank tops were generally free of oil or water. Pipework was seen to be in good overall condition, free of leaks, temporary repairs and significant corrosion with pipework lagging seen to be all clean and intact. Housekeeping was seen to be to a good overall standard with the vessel found to be equipped with adequate critical spares as recommended by the ship manager Safety Management System (SMS) which were seen to be neatly stowed and secured. A review of the latest lube oil analysis reports provided showed no areas of concern. The NOx Technical file was up to date and last updated on 17-Apr-23. The Main Engine was reported to be fully operational and was seen to be in good condition, with no major visible defects. A review of the latest Main Engine performance report provided showed no areas of concern. A review of the latest engine running hours showed that the Cylinder heads, Pistons, Bearings and Cylinder liners

overhauls were within the service hours. The bow thruster is reportedly in working condition, but require repairs. At the date of the attendance, the condition was out of order as for the repairs the delivery of the coupling assembly for the repairs was expected. The 3 Auxiliary Engines were reported to be fully operational and were seen to be in good condition, with no major visible defects. A review of the latest Auxiliary engines performance report provided showed no areas of concern. Auxiliary engines running hours data showed no areas of concern. The vessel's steam boiler was found to be fully operational and in good condition. The boiler safety valves were seen to be satisfactory and free of tampering. All Auxiliary equipment was found to be fully operational and in good condition. The steering gear was seen in good working order, free of leakage with emergency steering instructions seen to be posted nearby. The machinery spaces are operated in Unmanned mode and the alarm and control system was seen to be free of any serious alarms. Electrical distribution systems including the main switchboard were in good working order and switchboard insulation readings were adequate.

#### NOTABLE ITEMS

**Estimated** Description Cost [USD]

Issue: The bow thruster is reportedly in working condition, but require repairs. At the date of the attendance, the condition was out of order as for the repairs the delivery of the coupling assembly for the repairs was expected.

\$20000 -

**Corrective Action:** Repair thruster as soon as possible to ensure full manoeuvrability.

\$50000



### FIRE FIGHTING EQUIPMENT AND SYSTEMS

80 to be in a good condition overall and generally free of fire hazards with all firefighting equipment seen to be regularly serviced and inspected. The fire detection and alarm system was found to be fully operational and was free of signs of tampering and alarms. The vessel is fitted with CO2 and Water Spray fixed firefighting in the engine room, Water Spray and Deck Foam for the cargo areas and Galley CO2 in the accommodation. Fixed firefighting systems were all reported to be in good working condition with operating instructions clearly posted. The main and emergency fire pumps were reportedly fully operational and both were found to be in a good condition, free of leakages. The fire main and ancillaries such as hydrants and valves were in good overall condition, free of defects. Fire extinguishers were all in good

Fire Fighting Equipment and Systems were found

condition and all portable equipment were positioned in accordance with the fire plan. Firefighting outfits and associated equipment were all in good condition with BA equipment found fully charged and ready for use. The emergency generator was tested during the inspection and found to be in good working order and in a good overall condition. Remote shutdown emergency devices such as quick closing valves, machinery stops and ventilation dampers were deemed to be in a good overall condition with no defective shut down equipment. The fire doors were found to be in good condition, closing effectively and free from any unauthorised 'hold-open' arrangements. It was also noted additionally fixed dry powder fire extinguishing 2x800L is available for the cargo manifolds area.





### LIFESAVING APPLIANCES

Lifesaving appliances were seen to be in a good overall condition with all equipment regularly serviced and inspected as required. The vessel is fitted with 1 free-fall lifeboat, which was seen to be in good overall condition externally and internally. The lifeboat engine was tested during the inspection and found to be in good working order. The vessel's rescue boat was found to be in a good overall condition and ready for immediate use. The vessel is equipped with 3 life rafts, which were found to be in good condition with Hydrostatic Release Units (HRUs) in date and correctly rigged. Davits and lowering

arrangements were found to be in good condition overall with evidence of regular maintenance, servicing and inspection sighted and evident. Ancillary lifesaving equipment such as lifejackets, immersion suits and EEBD's etc. were found to be in good condition and ready for immediate use with man overboard smoke and light signals seen to be in date. Embarkation ladders were found to be in a good, well maintained condition with the pyrotechnics and line throwing apparatus found to be stored appropriately and within their expiry dates.



#### SAFE WORKING ENVIRONMENT

Safe working was deemed to be good overall with 80 no unsafe practices observed during the inspection and the vessel presenting a generally safe working environment. Hazards were seen to be clearly marked and external walkways adequately coated with nonslip paint and free of trip hazards. Adequate PPE was seen to be worn by crew at all times and portable gas detection meters were provided and calibrated. Hazardous substances were seen to be generally safely managed with appropriate Material Safety Data Sheets provided. Risk Assessments (RA)

were seen to be up to date and satisfactory with enclosed space entry procedures followed and an effective Permit To Work (PTW) system in place. Main and emergency exits were clearly identified and unobstructed with all IMO signage seen to be satisfactory. Pilot ladders and boarding arrangements were seen to be in a good, safe condition. Regular drills were conducted on board with the last drill conducted on the 19-Apr-23, which was an ENCLOSED SPACE ENTRY & RESCUE drill.



#### POLLUTION CONTROL

Pollution control was deemed to be good overall and generally found to be well implemented on board with the vessel free of pollution hazards.

The vessel holds a Class-approved Inventory of Hazardous Materials, which is required for entry into EU ports. The vessel's Oily Water Separator (OWS) was found to be fully operational and in good overall condition, with no obvious defects. The OWS was simulation tested during the inspection and the 15ppm Oil Content Meter (OCM) was seen to be calibrated. The bilge overboard was seen to be sealed and locked against unauthorised opening and the oily water treatment system as a whole was seen to be free from signs of tampering or unauthorised modification. The SOPEP locker or box was found to be well stocked with SOPEP equipment in good condition and an accurate list of equipment posted nearby. The Oil Record Book (ORB) was seen to be well-maintained and up-to-date, with the last entry on the 22-Apr-23. It was reported that an IMO approved Ballast Water Treatment System (BWTS) is fitted onboard with no documentation provided onboard to verify it's USCG compliance which was found to be fully

operational and in good overall condition. The vessel's ballast record book was seen to be up to date and correctly filled in. The vessel was not found to be Vessel General Permit (VGP) compliant, as the vessel had no valid oil-towater interface controls such as Environmentally Acceptable Lubricants (EALs) or an Airseal. The vessel's sewage treatment plant was found to be fully operational and in good overall condition, with no obvious defects. Garbage segregation was found to be good, with adequate, labelled containers and garbage seen to be well sorted and containers seen to be made of approved non-combustible materials. The Garbage Record Book (GRB) was seen to be well-maintained and up-to-date, with the last entry on the 13-Apr-23. The Emission Control Area (ECA) change-over logbook was reviewed and found to be satisfactory with the date of last entry on 15-Oct-22. The vessel's incinerator was found to be fully operational and in good overall condition, with no obvious defects. The vessel complies with IMO 2020 regulations by employing the use of Very Low Sulphur Fuels Oils (VLSFO) with a sulphur content of less than 0.5%.

### **NOTABLE ITEMS**

Description

Estimated Cost [USD]



**Issue:** The vessel does not use Environmentally Acceptable Lubricants (EALs) in the stern tube or has an airseal and is therefore not VGP compliant in this regard.

**Corrective Action:** Various upgrades and modifications may be required if the vessel wishes to trade in the USA

\$0



Issued On: May 1 2023



|   | Description  | Estimated<br>Cost<br>[USD] |
|---|--|----------------------------|
| • | Issue: It was reported that an IMO approved BWTS is installed with no documentation provided onboard to verify it's USCG compliance  Corrective Action: This is recommended to be further investigated | \$0                        |
|   | Description  | Estimated<br>Cost [USD]    |
|   | Issue: The vessel holds a Class approved Inventory of Hazardous Material (IHM)   |                            |

**Corrective Action:** An IHM is required for entry into EU ports.

\$0



#### ONBOARD MANAGEMENT

Onboard management was found to be good 80 overall. The computer-based Safety Management System (SMS) was deemed to be functioning and well implemented in general, with Permits to Work (PTW), risk assessments and procedures understood and followed. Onboard management was found to deal with accidents, near misses and deficiencies in an effective manner and regular safety committee meetings were carried out on board. The vessel's MLC certificate was valid with records of hours of rest (ILO) correct and up to date and maximum work hours not regularly exceeded. The PMS system was found to be kept up to date with no critical overdue work orders. The Non Class-approved system-based Planned

Maintenance System (PMS) was not fully integrated with the SMS for ordering of spares and general vessel management. The Port State Control (PSC) history was found to be good to very good with 2 deficiencies and 0 detentions in the 4 inspections conducted in the past three years. The vessel's flag is not targeted by any Memorandum of Understanding (MoU) or the USCG. Security access controls were deemed to be satisfactory with the vessel conforming to International Ship and Port Security (ISPS) standards. The Master and crew were prepared for the inspection and provided good cooperation with the majority of requested documents provided.



#### VESSEL CAPABILITIES AND CARGO SYSTEMS

Vessel capabilities and cargo systems were deemed to be in a good overall condition. The 80 vessel is a fully pressurised LPG Carrier equipped with 2 sets of cargo tanks, and can carry up to 2 segregations of cargo. No tanks could be entered as the vessel had cargo in it's tanks however, photographs of tank entries in the vessels last dry docking were provided for review. Cargo tank structural members were found to be free of damage as were tank fixtures, such as ladders and pipework etc. The void spaces surrounding cargo tanks could not bet entered therefore their internal condition could not be verified. The last cargo carried was butane. The compressor room was found to be in good condition, though no airlocks are fitted. Cargo pipework was in good overall condition with pipes, manifolds and relevant deck equipment were suitably marked. The hose handling crane was in full working order and in good condition as observed. Tank level, pressure and

temperature monitoring systems were in full working order and the Cargo Control Room (CCR) was in a good overall condition. Cargo Emergency Shutdown Devices (ESDs) were in full working order as observed. The Maximum Allowable Relief Valves (MARVs) were in good condition and operating pressures were clearly marked. The vessel is fitted with a vent mast, which was seen to be in a good overall condition. Gas monitoring instruments are provided on board which were calibrated, with records of calibration provided. Fixed gas monitoring equipment was in full working order. The Cargo heater, Nitrogen plant, Cargo Booster Pumps, Cargo pipework insulation, Compressor and Condenser were all found to be in good condition with no operational defects reported or seen. Cargo tank insulation was seen to be in a generally good condition with areas of repair work noted to be in good condition.



# OPERATIONAL DATA

### **Operational Data Condition**

Does the vessel have an Exhaust Gas Cleaning System (EGCS)?



| Total High Sulphur Fuel Oil (HSFO) capacity:                          | m <sup>3</sup>       |
|---|----------------------|
| Total Very and Ultra Low Sulphur Fuel Oil (VLSFO and ULSFO) capacity: | 407.2 m <sup>3</sup> |
| Total Marine Gas Oil (MGO) and Diesel Oil (DO) capacity:              | 82.5 m <sup>3</sup>  |

| What fuel type does the vessel run on for the majority of the time?  Diesel / Gas Oil |
|---|
|---|

Does the vessel have any energy efficiency technologies installed?





# Engines Table

|  | Main<br>Engine 1 | Main<br>Engine<br>2 | Aux Engine<br>1 | Aux Engine<br>2 | Aux Engine<br>3 | Aux<br>Engine<br>4 |
|--|------------------|---------------------|-----------------|-----------------|-----------------|--------------------|
| Designer   | Example          |                     | Example         | Example         | Example         |                    |
| Model  | Example          |                     | Example         | Example         | Example         |                    |
| Mark/Series/Revision   | Example          |                     | Example         | Example         | Example         |                    |
| Number of Cylinders  | 5                |                     | 6               | 5               | 6               |                    |
| Speed (RPM)  | 167              |                     | 900             | 900             | 900             |                    |
| Bore (mm)  | 350              |                     | 165             | 165             | 165             |                    |
| Stroke (mm)  | 1,550            |                     | 265             | 265             | 265             |                    |
| Specific Fuel Oil Consumption (SFOC) (g/kWhr) At 75% load for ME and 50% load for AEs, corrected to ISO conditions, as stated on Nox technical files | 178.08           |                     | 215             | 215             | 215             |                    |
| Nox Tier   | 2                |                     | 2               | 2               | 2               |                    |
| Fuel Oil Consumption at full load (tonnes/day)   | 10.2             |                     | 1.6             | 1.5             | 1.6             |                    |
| Cylinder Oil Consumption (litres/day)  | 55               |                     |                 |                 |                 |                    |
| System Oil Consumption (litres/day)  | 20               |                     | 3               | 3               | 3               |                    |



| Major Overhaul Interval (Hours)           |     | 12,000             | 12,000 | 12,000           |  |
|---|-----|--------------------|--------|------------------|--|
| Running Hours since last overhaul (Hours) |     | 10,969             | 6,434  | 9,717            |  |
|   | Ves | ssel Speed (knots) | Con    | sumption (t/day) |  |
| Loaded Eco                                |     | 12.9               |        | 10.8             |  |
| Loaded Service                            |     | 15                 |        | 11.8             |  |
| Ballast Eco                               |     | 13.4               |        | 9.7              |  |
| Ballast Service                           |     | 15.6               |        | 11.1             |  |

# Main Engine Maintenance

| Component       | Condition Based Monitoring? | Overhaul Interval |
|-----------------|-----------------------------|-------------------|
| Cylinder Heads  |                             | 16,000            |
| Pistons         |                             | 12,000            |
| Bearings        |                             | 30,000            |
| Cylinder Liners |                             | 12,000            |





Vessel: Example Vessel Ref: 0/0000

| Main Engine No.1 |       |       |       | Unit R | unning Ho | ırs |   |   |   |    |    |    |
|------------------|-------|-------|-------|--------|-----------|-----|---|---|---|----|----|----|
|                  | 1     | 2     | 3     | 4      | 5         | 6   | 7 | 8 | 9 | 10 | 11 | 12 |
| Cylinder Heads   | 9,252 | 9,252 | 9,252 | 9,252  | 9,252     |     |   |   |   |    |    |    |
| Pistons          | 9,252 | 9,252 | 9,252 | 9,252  | 9,252     |     |   |   |   |    |    |    |
| Bearings         | 9,252 | 9,252 | 9,252 | 9,252  | 9,252     |     |   |   |   |    |    |    |
| Cylinder Liners  | 9,252 | 9,252 | 9,252 | 9,252  | 9,252     |     |   |   |   |    |    |    |

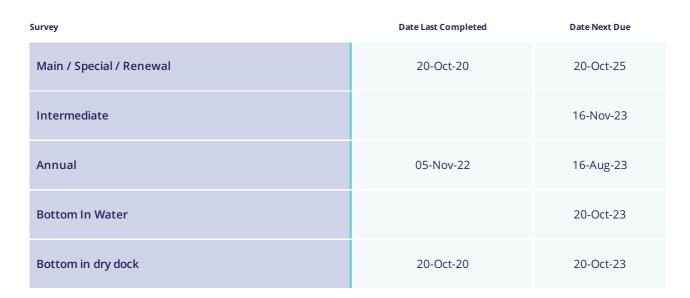
| Class Surveys  |             |
|--|-------------|
| Were all Class and Statutory certificates valid?         | Yes         |
| Is the vessel on the Extended Dry Docking (EDD) program? | <b>✗</b> No |
| Is the vessel on the Enhanced Survey Program (ESP)?      | × No        |
| Does the vessel have an In Water Survey Class notation?  | Yes         |
| Is the vessel ice classed?                               | Yes         |
| Ice class:   | IB          |





**IDWAL** 





| What was the location of the last out-of-water docking?  | Example shipyard |
|--|------------------|
| Is the vessels last dry dock report provided and attached?   | ✓ Yes            |
| Does the vessel intend to dry dock before the next scheduled bottom survey?  | <b>✗</b> No      |
| Has the vessel remained with the same flag since build?  | ✓ Yes            |
| Has the vessel remained with the same Class since build?   | ✓ Yes            |
| In total, how many of the following does the vessel have?: Conditions of Class, Recommendations of Class, Statutory Findings, Statutory Items, Conditions of Authority, Etc. | 0                |







Does the vessel have any Class Memos, Observations or Additional Requirements?



Please provide further details

17 Aug 2,015 Sea Water Ballast Tanks subject to Annual Survey: None 17 Aug 2,015 Main Engine Barred Speed Range in Normal and Continuous Running Condition: 107-126 RPM 17 Aug 2,015 Type and location of HT steel used:AH32, AH36, DH32, DH36, EH32 and EH36 as follows; 1. Side shell is mainly AH36 and DH36 at Cargo area 2. Bottom shell is mainly AH32 at Cargo area 3. Bilge strake is mainly DH32, and Bilge keel is EH32 at Cargo area 4. Upper deck is mainly EH36 at Cargo area 04 Nov 2,015 The additional Class notation Ice Class IB for navigation in ice is assigned for the following maximum and minimum draughts fore and aft and for the following minimum engine output: Maximum draught: Aft: 7.188 m, Fore: 6.893 m Minimum draught: Aft: 4.851 m, Fore: 3.288 m Minimum engine output: 3,031 kW

The cost for the next out of water bottom survey or dry docking based on a far eastern shipyard and includes all survey and normal maintenance costs is approximately estimated at:

100,000

What was the status of the vessel at the time of inspection?

Standing by







# DESIGN AND CONSTRUCTION

### **Design and Construction Condition**

Has the vessel been built to the standards and Rules of an IACS-member Class Society?



| Under what IACS Class society supervision was the vessel built?           | Example class |
|---|---------------|
| Did the vessel provide Ultrasonic Thickness<br>Measurement (UTM) reports? | Yes           |
| Did the UTM report show any diminution of steelwork?                      | Minor         |

Please provide further details

The latest UTM report provided showed minor levels of steel diminution.

#### **Hull & Structure**

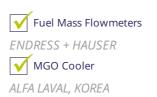
#### **Bridge & Communication**

What features were seen on the bridge?

Differential-GPS

### Engine Room & Firefighting

What features were seen in the engine room?







Incinerator sludge burning system

Example

UMS Capabilities (regardless of Class notation)

Example

2-Stroke Engine Adaptive Cylinder Oil Control e.g. MAN B&W Alpha Lubricator

Example

Centralised Sea Water cooling

Example

Sea Water Box coolers

Example



# HULL

# **Hull Condition**

| What sections of the hull were inspected?                                     | All round (at anchor)                     |
|---|---|
| Was the vessel free of any major structural damage or indentations?           | Yes                                       |
| Was the vessel free of any minor structural damage or indentations?           | Yes                                       |
| What was the level of Hull coating breakdown and corrosion?                   | Moderate                                  |
| Coating breakdown and corrosion was mainly located in the following areas:    | across the boot-top                       |
| The amount of surface area coating breakdown and corrosion was approximately: | 10%                                       |
| Type of coating breakdown and corrosion:                                      | Scattered Spot                            |
| What was the condition of the hull markings?                                  | Partly obscured                           |
| What type of anti-fouling coating was applied?                                | CHUGOKU SAMHWA PAINTS LTD., SEA GRANDPRIX |
| What level of marine fouling was seen?  | None                                      |
| Were fenders installed on the hull?   | <b>≭</b> No                               |





#### What were the vessels draughts?

| Fwd: (m) | 2.8  |
|----------|------|
| Aft: (m) | 5.75 |

Was the upper sections of the rudder visible?

Vessel



## MOORING DECKS

| Mooring Decks Condition   |             |
|---|-------------|
| Were the decks free of any structural damage or deformations?                   | ¥Yes        |
| What was the level of coating breakdown and corrosion observed on the decks?    | None        |
| What was the general condition of the deck fittings?                            | Good        |
| Were fairleads and mooring rollers free to move when tested?                    | ✓ Yes       |
| Were all mooring machinery reported to be fully operational?                    | ¥Yes        |
| What type of windlass(es) and winches were fitted?                              | Hydraulic   |
| Were the windlass(es) and winches seen to be free of hydraulic oil leaks?       | ✓ Yes       |
| Was the mooring machinery hydraulic pump unit (HPU) seen to be free from leaks? | ✓ Yes       |
| What was the condition of the mooring machinery?                                | Good        |
| What amount of band brake lining was seen to be remaining?                      | Substantial |
| Were clutching and gearing arrangements sufficiently greased?                   | ✓ Yes       |
| What condition were the visible sections of the anchor chains seen to be in?    | Good        |







| What type of mooring lines did the vessel have?  | Rope                                       |
|--|--|
| What was the condition of the mooring ropes / wires?   | Good                                       |
| Were safe mooring practices observed? i.e. no overlapping turns on split drum, chafing of lines or unsafe leading. | ✓ Yes                                      |
| Was the last brake test seen to be stencilled on the mooring winches?  | Yes  |
| Date of last test  | 29-Aug-22                                  |
| What type of snap back warning signs/zones were posted?  | Signs at the entrance to the mooring decks |
|  |  |
| Was the Bosun's / Foc'sle store available for inspection?  | ✓ Yes                                      |
| What was the condition of the bosun's store structure?   | Structurally sound with no visible damage  |
| What was the condition of the bosun's store coatings?  | Coatings fully intact with no corrosion    |
| Was the condition of the bosun's store housekeeping?   | Neat and tidy with items secured           |
| Were the bitter end release arrangements seen to be clear and unobstructed?  | ✓ Yes                                      |
| Was an 'emergency towing booklets/procedures' available near to the foc'sle?                                       | ✓ Yes                                      |



## WEATHER DECKS AND FITTINGS

| Weather Decks and Fittings Condition  |             |
|---|-------------|
| Were the decks free of any structural damage or deformations?   | ✓ Yes       |
| What was the level of coating breakdown and corrosion observed on the decks?                                      | None        |
|   |             |
| What was the general condition of the deck fittings e.g handrails, brackets, vent heads, walkways, lighting etc.? | Good        |
| Does the vessel have mooring winches fitted on the main deck?   | <b>✗</b> No |
| Were deck equipment and pipework free of leakages?  | ✓ Yes       |
| What was the condition of the accommodation ladders or gangways?  | Good        |
| Was the vessel fitted with a provision lifting appliance(s)?  | Yes         |
| What was the condition of the provision lifting appliance(s)?   | Good        |
| Does the vessel carry any major spares on external decks e.g. propeller blades, anchor etc.                       | <b>✗</b> No |

Vessel:

Vessel

Example





## BALLAST TANKS AND SYSTEMS

| Ballast Tanks and Systems Condition   |   |
|---|---|
| Were ballast tanks entered?   | Yes   |
| Please provide further details  | Tanks Entered: Fore-peak, Side ballast tanks No. 7 port side and starboard side |
| Were recent (last 12 months) ballast tank inspection photographs provided?                        | Yes   |
| Date photos were provided:  | 27-Mar-23   |
| Were inspection reports or reports of the tanks condition provided?                               | Yes   |
| Were the tanks free of any structural damage or indentations?                                     | ✓ Yes   |
| What was the level of Ballast Tank coating breakdown and corrosion?                               | None  |
| Were ballast tanks coatings certified to PSPC standards?  | ✓ Yes   |
| What was the condition of ballast tank fittings (e.g. ladders, handrails, pipes & manhole seals)? | Good  |
| Were the ballast tanks fitted with sacrificial anodes?  | ✓ Yes   |
| Anode depletion:  | 5%  |
| How much mud/sediment was seen inside the ballast tanks?  | None  |
| Please provide further details  | %   |







Were the tanks seen to be free from any signs of staining from oil, sewage or marine fouling?

Were ballast tank manhole covers seen to be in good condition?

Were the remote ballast control systems fully operational (e.g. valves, gauging etc)?

Were the ballast and/or anti-heeling pumps reported to be fully operational?

What condition were the ballast and/or anti-heeling pumps in?

Yes

Yes

Yes

Vessel:

Vessel

Example





## ACCOMODATION

| Internal Accomodation Condition                                     |                               |
|---|-------------------------------|
| Were accommodation spaces used for their assigned purposes?         | ¥Yes                          |
| What was the condition of the flooring and wall coverings?          | Good                          |
| What was the condition of the upholstery and furniture?             | Good                          |
| What were the general levels of housekeeping and cleanliness?       | Good                          |
| What was the level of hygiene of the sanitary facilities?           | Good                          |
| Was all laundry equipment in good working order?                    | ✓ Yes                         |
| Was the Hospital well equipped and ready for use?                   | ✓ Yes                         |
| Were the drugs controlled and substances seen to be locked away?    | ✓ Yes                         |
| Was the associated drugs log kept up to date?                       | ✓ Yes                         |
| What was the quality of accommodation outfitting?                   | Average quality of outfitting |
| Did the Air Handling Unit (AHU) maintain a comfortable temperature? | ✓ Yes                         |
| What was the condition of the AHU?                                  | Good                          |





## Galley Condition

| What was the level of cleanliness in the Galley?  | Very Clean                                 |
|---|--|
| Was all galley equipment operational?   | Yes  |
| What was the general condition of galley equipment?   | Good                                       |
| Were the insides of Galley hoods clean?   | ✓ Yes                                      |
| What type of cold provisions stores does the vessel have?                                       | Walk-in stores / Cold rooms                |
| Were provisions stores well organised with no provisions stored directly on the deck?           | Yes  |
| Were provisions stores clean and hygienic?  | Yes  |
| Were provisions stores at the required temperatures?  | ✓ Yes                                      |
| Were provision stores temperatures recorded and records kept nearby?                            | Yes  |
| Were provisions machinery, pipework and door seals free of frosting and deterioration?          | No In the Meat Room ice accumulation noted |
| Were lock-in alarms or handles in good working condition?                                       | Yes  |
| External Areas Condition  |  |
| Was the external Superstructure / Accommodation Block found to be free from damages?            | ✓ Yes                                      |
| Were accommodation external doors found to be in good condition and providing an adequate seal? | Yes  |
| What was the level of external accommodation superstructure coating breakdown and corrosion?    | None                                       |







| What was the general condition of external superstructure fittings?   | Good  |  |
|---|---|--|
| superstructure rittings:  |   |  |
| Crew Welfare  |   |  |
| What is the average contract length for crew members?   |   |  |
| Officers:   | 6 Months  |  |
| Crew:   | 9 Months  |  |
| Was Wi-Fi provided on-board?  | Yes, Free, Unlimited  |  |
| What is the approximate average internet speed?   | Average (Able to access social media apps and websites with ease) |  |
| Is access provided to catering facilities or food at all times?   | Yes   |  |
| What Public Recreation equipment did the crew have access to?   | Treadmill  Television  Karaoke                                    | Fixed weight machine  Cycling Machine  Games console  Entertainment Library - Books, DVDs, Games, etc.  En-suite facilities for all crew members |
| What was the quality of crew recreation facilities?   | Goo   | od   |
| Are crew given time and resources to celebrate religious or cultural events (i.e. Christmas, Independence days etc.)? | Yes   |  |
| What facilities were provided in crew cabins?   | ▼ Television ▼  | Carpets<br>Sofa<br>Ample storage   |





| Does the vessel have any onboard training facilities?                                       | Yes                                  |
|---|--------------------------------------|
| Type of onboard training facilities:  | ✓ Videotel ✓ Seagull ✓ Other         |
| Please provide further details  | REFLECTIVE LEARNING & SHELL PROGRAMM |
| Is there a crew suggestion policy in place?   | ✓ Yes                                |
| Does the crew have access to a bonded store?  | Yes, minimal stock                   |
| Are the crew given additional periods of rest throughout the working week (e.g Sunday off)? | Yes                                  |





## BRIDGE AND NAVIGATION EQUIPMENT

| General Condition   |          |           |
|---|----------|-----------|
| Was all the bridge equipment reported to be fully operational?  | ✓ Yes    |           |
| Was the bridge found to be clean and well maintained with good housekeeping?                                    | ✓ Yes    |           |
| Was the view from the bridge clear and unobstructed?  | Yes      |           |
| Were all required bridge equipment annual performance tests (e.g. VDR and AIS) completed in the last 12 months? | ✓ Yes    |           |
| Was the vessel fitted with a Voyage Data Recorder (VDR)?  | ✓ Yes    |           |
| Type of VDR fitted:   | VDR      |           |
| Was the VDR seen to be free from any unanticipated alarms?  | Yes      |           |
| Were the VDR collection instructions posted and known to the Master?  | Yes      |           |
| Was the vessels Bridge Navigation and Watch Alarm System (BNWAS) fully operational, and turned on when at sea?  | ✓ Yes    |           |
| Normal time setting at sea  | 12 mins  |           |
|   |          |           |
| Navigation Condition  |          |           |
|   | Primary  | Secondary |
|   | Filliary | Secondary |
| What was the vessels primary & secondary means of navigation as listed on Form E?                               | ECDIS    | ECDIS     |





| Were the primary & secondary means of navigation found to be up to date?                | ✓ Yes       |                    |            |             |
|---|-------------|--------------------|------------|-------------|
| Latest update week  | 16          |                    |            |             |
| Was the Echo Sounder fully operational?   | Yes         |                    |            |             |
| Were the RADARs fully operational?  | Yes         |                    |            |             |
| Were the "blind sectors" posted near to the RADARs?                                     | ✓ Yes       |                    |            |             |
| Does the vessel receive up to date weather information?                                 | Yes         | 26-Apr-23          |            |             |
| What type of weather updating service does the vessel use?                              |             | Weather fax        |            |             |
| Was an in-date compass deviation card posted near to the helm?                          | ✓ Yes       |                    |            |             |
| Was a compass deviation log kept, up to date and free of any major deviations?          | Yes         |                    |            |             |
| Were azimuth rings (bearing diopters) found to be available on the bridge?              | Yes         |                    |            |             |
| Communication Condition   |             |                    |            |             |
| What GMDSS sea areas was the vessel licensed to cover?                                  | <b>√</b> A1 | <b>√</b> A2        | <b>A</b> 3 | <b>X</b> A4 |
| Were the radio batteries seen to be in good condition?                                  | ✓ Yes       |                    |            |             |
| Were the EPIRBs, SARTs and Emergency Hand Held VHF Batteries within their expiry dates? | Yes         |                    |            |             |
|   |             | Battery expiry dat | es         |             |
| EPIRBS  |             | 01-Jun-26          |            |             |
| SARTs   |             | 01-Jul-26          |            |             |
| VHF   |             | 01-Feb-24          |            |             |







Was a valid GMDSS shore servicing certificate seen to be posted near to radio equipment?



#### **Documentation Condition**

| Were berth to berth passage plans seen on-board?   | Yes                    |
|--|------------------------|
| Were passage plans signed by all navigating officers?  | ✓ Yes                  |
| What format were nautical publications provided in?  | Electronic             |
| Were the Master's standing orders and night orders found to be signed by all navigating officers?  | ✓ Yes                  |
| Was the bridge log book up to date and correctly filled in?  | ✓ Yes                  |
| Was the GMDSS log book up-to-date and correctly filled in?   | ✓ Yes                  |
| Date of flood took   | 2C Ann 22              |
| Date of last test  | 26-Apr-23              |
| Date of last test  | 26-Αρτ-23              |
| External Condition   | 26-Apr-23              |
|  | <i>Z6-Apr-23</i> ✓ Yes |
| External Condition  Was the Monkey Island found to be in good, well  |                        |
| External Condition  Was the Monkey Island found to be in good, well maintained condition?  Were the main mast, aerials and antennas seen to be   | ✓ Yes                  |
| External Condition  Was the Monkey Island found to be in good, well maintained condition?  Were the main mast, aerials and antennas seen to be in good condition and free from damage? | ✓ Yes ✓ Yes            |



## ENGINE ROOM AND MACHINERY

| General Condition   |   |  |
|---|---|--|
| What equipment was seen running?  Was the engine room free of any significant defects, either reported by crew or observed? | Auxiliary Engines  Pumps  Sewage treatment plant  Refrigeration Compressor  Yes | Purifiers  Air compressors  Auxiliary Boiler |
| What was the general cleanliness of the Engine Room?  |   | Very Clean                                   |
| Were bilges and tank tops free of oil and water?  | ✓ Yes   |  |
| Was housekeeping to a good overall standard?  | ✓ Yes   |  |
| Was the vessel equipped with adequate critical spares as recommended by the ship manager Safety Management System (SMS)?    | ✓ Yes   |  |
| Were spares neatly stowed and correctly secured?  | Yes   |  |
| Were all sounding pipe self-closing devices in good working order and sounding pipes capped?                                | ✓ Yes   |  |
| Were recent copies of lube oil analysis reports provided for review?  | ✓ Yes   |  |
| Were any caution (amber) or action (red) alerts seen on the lube oil analysis reports?                                      | <b>x</b> No   |  |
| Was the NOx Technical file kept up to date?   | Yes   |  |
| Date of entry:  |   | 17-Apr-23                                    |
| Were Chief Engineer Standing Orders clearly posted and signed by all engineers?   | Yes   |  |





Good



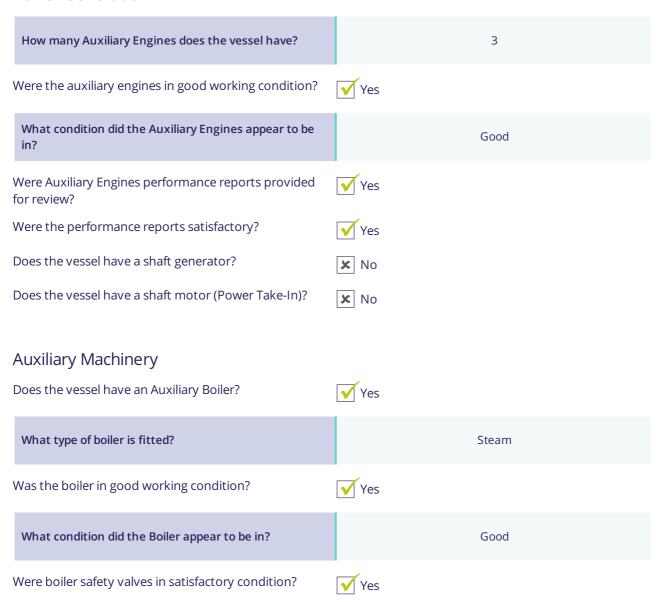
Were all machinery special tools provided and in good condition? Main Engine Condition Was the main engine in good working condition? Yes What condition did the Main Engine appear to be in? Good Were Main Engine performance reports provided for review? Were the performance reports satisfactory? Was there any overdue maintenance on the Main **✗** No **Engine Turbochargers?** Propulsion What type of propulsion does the vessel have? Fixed Pitch Propeller (FPP) Were the Propulsion systems, including shafts, machinery and electric motors, if relevant, in good working condition? What type of thruster systems does the vessel have? Bow Thruster Was the thruster(s) in good working condition? as declared, generally the bow thruster is **✗** No in working condition, but require repairs. At the date of the attendance, the condition was out of order as for the repairs the delivery of the coupling assembly for the repairs was expected.

What condition did the thruster(s) appear to be in?





#### **Power Generation**







| Equipment   | Fully operational? | Condition |
|---|--------------------|-----------|
| Purifiers   | Yes                | Good      |
| Pumps   | Yes                | Good      |
| Coolers   | Yes                | Good      |
| Air Compressors   | Yes                | Good      |
| Fresh Water Generator   | Yes                | Good      |
| Filters   | Yes                | Good      |
| Fans  | Yes                | Good      |
| Refrigeration Systems   | Yes                | Good      |
| Was all engine room pipework free of leakages?  | Yes                |           |
| Was all pipework free of temporary repairs?   | Yes                |           |
| Was all pipework free of corrosion or soft patches?                                       | ✓ Yes              |           |
| What condition was pipework lagging in?   | Clean              |           |
| Was the steering gear in good working condition?  | Yes                |           |
| Was the steering gear free of leakages?   | ✓ Yes              |           |
| Was the emergency steering communication equipment and gyro repeater working as required? | ✓ Yes              |           |
| Were emergency steering instructions posted nearby?                                       | ✓ Yes              |           |
| Was the Engine workshop clean and tidy?   | ✓ Yes              |           |





#### **ECR** and Electrical

Was the Engine Control Room clean and tidy?

**√** Yes

Was the Engine Control and Alarm system free of any serious alarms?

**√** Yes

Does the vessel have an Unmanned Machinery Space (UMS) notation?

Yes

Does the machinery space operate in UMS mode?

Yes

Were all Electrical distribution systems in good working condition?

Yes

Were Main Switchboard Insulation readings adequate?

Yes

Were distribution and switchboard panels protected with approved rubber matting?

**√** Yes





# FIRE FIGHTING EQUIPMENT AND SYSTEMS

| Fire and Safety Appliances Condition                                |                         |                         |                         |
|---|-------------------------|-------------------------|-------------------------|
| Was the vessel free of fire hazards?                                | ✓ Yes                   |                         |                         |
| Was all fire and safety equipment regularly serviced?               | Yes                     |                         |                         |
| Date of last service  |                         | 01-Sept-22              |                         |
| Were all relevant Fire and Safety instructions correctly posted?    | Yes                     |                         |                         |
| What was the vessels Fixed fire detection systems?                  | Engine Room             | Cargo Holds             | Accomodation            |
|   | Flame                   | <b>X</b> Flame          | <b>x</b> Flame          |
|   | Smoke                   | <b>x</b> Smoke          | Smoke                   |
|   | Heat                    | <b>x</b> Heat           | <b>H</b> eat            |
|   | Smoke & Heat (Combined) | Smoke & Heat (Combined) | Smoke & Heat (Combined) |
| Was the fire detection system reportedly fully operational?         | Yes                     |                         |                         |
| Was the fire detection system free of alarms or signs of tampering? | Yes                     |                         |                         |





| What is the vessels Fixed firefighting systems?   | Engine Room          | Cargo Holds          | Accomodation  |
|---|----------------------|----------------------|---------------|
|   | <b>√</b> CO2         | <b>x</b> CO2         | Water Mist    |
|   | <b>x</b> Foam        | <b>Deck Foam</b>     | Galley CO2    |
|   | <b>✓</b> Water Spray | <b>√</b> Water Spray | Wet Chemical  |
|   | <b>X</b> None        | <b>X</b> None        | <b>X</b> None |
| Were all fixed fire fighting systems in good working condition?                               | Yes                  |                      |               |
| Were clear operating instructions posted for the fixed firefighting systems?                  | ✓ Yes                |                      |               |
| Was the fixed firefighting system release protected against unauthorised operation?           | ✓ Yes                |                      |               |
| Was the main fire pump working?   | ✓ Yes                |                      |               |
| Was the emergency fire pump working?  | Yes                  |                      |               |
| Was a fire pump tested during the inspection?   | <b>x</b> No          |                      |               |
| Did the fire pump maintain adequate pressure?   | X Off                |                      |               |
| Were the main and emergency fire pumps in good condition and free of leakages?                | Yes                  |                      |               |
| What was the condition of the fire main and ancillaries such as pipework hydrants and valves? |                      | Good                 |               |
| Does the vessel have a fire control station?  | ✓ Yes                |                      |               |
| Were all portable equipment in place as per the fire plan?                                    | Yes                  |                      |               |
| Were all fire extinguishers in good condition?  | ✓ Yes                |                      |               |
| Were the firefighting outfits and associated equipment in good condition?                     | Yes                  |                      |               |





| Were the International Shore Connections on board?   | ✓ Yes               |
|--|---------------------|
| Location:  | poop deck port side |
| Was the BA equipment fully charged in good condition?  | √Yes                |
| Was the Emergency Generator tested during the inspection?                                      | Yes                 |
| Was the Emergency Generator in working order?  | √Yes                |
| Were Emergency Generator Starting instructions clearly posted?                                 | Yes                 |
| What was the condition of the Emergency Generator?   | Good                |
| Was the "18 hour" fuel level marked on the emergency generator fuel tank?                      | Yes                 |
| Was the Quick Closing Valve system in good working order?                                      | Yes                 |
| Were fire doors in good condition and effectively closing?                                     | Yes                 |
| Were fire doors free of unauthorised "hold-open" arrangements?                                 | Yes                 |
| Were all ventilation dampers remote closing positions well labelled and in good working order? | Yes                 |
| Were all remote machinery shutdown systems well labelled and in good working order?            | Yes                 |





## LIFESAVING APPLIANCES

| Lifsaving Appliances Condition  |            |
|---|------------|
| Were all Lifesaving Appliances regularly serviced?                          | ✓ Yes      |
| Date of last service:   | 23-Sept-22 |
| How many lifeboats is the vessel equipped with?                             | 1          |
| What type of lifeboat is the vessel fitted with?                            | Free-fall  |
| What was the external condition of the lifeboat(s)?                         | Good       |
| What was the internal condition of the lifeboat(s)?                         | Good       |
| Were Lifeboat Engines able to be tested?                                    | Yes        |
| Were lifeboat engines in good working order?                                | Yes        |
| What was the condition of the rescue boat?                                  | Good       |
| How many life rafts does the vessel have?                                   | 3          |
| What was the condition of the life rafts?                                   | Good       |
| Were Liferaft Hydrostatic Release Units (HRU) in date and correctly rigged? | ✓ Yes      |







| What was the condition of the Davits and lowering arrangements for the lifeboat(s), rescue boat and liferafts?             | Good      |
|--|-----------|
| What Date is the next Davit wire due for change?   | 30-Aug-25 |
| Were legible launching/recovery instructions posted near to survival craft?  | Yes       |
| Was evidence of regular maintenance, service and inspection of the launching appliances sighted and evident?               | ✓ Yes     |
| What was the date of the last abandon ship drill?  | 14-Apr-23 |
| Were all lifejackets, immersion suits, EEBDs and other lifesaving ancillary equipment in good condition and ready for use? | Yes       |
| Were Man Overboard Buoy (MOB) smoke and light signals in date?   | Yes       |
| Were the embarkation ladders in a good, well maintained condition?   | Yes       |
| Were pyrotechnics and line throwing apparatus available, stored in an appropriate container and                            | ✓ Yes     |







## SAFE WORKING ENVIRONMENT

| Safe Working Environment Condition  |                         |
|---|-------------------------|
| Were any unsafe practices observed during the inspection?   | <b>✗</b> No             |
| Did the vessel provide a safe working environment?  | ✓ Yes                   |
| Were all hazard markings clear?   | ✓ Yes                   |
| Were external walkways adequately coated with anti-<br>slip paint and free of trip hazards?   | ✓ Yes                   |
| Are all hazardous substances including safely managed and stored with relevant Material Safety Data Sheets (MSDS)?  | ✓ Yes                   |
| Is Personal Protective Equipment (PPE) provided and worn by crew?   | Yes                     |
| Are 'Enclosed Space Entry' procedures implemented?  | ✓ Yes                   |
| Is an offective Permit To Work (PTM) process  |                         |
| Is an effective Permit To Work (PTW) process implemented?   | Yes                     |
| ·   | ✓ Yes  26-Apr-23        |
| implemented?  |                         |
| implemented?  Date of last PTW:   | 26-Apr-23               |
| implemented?  Date of last PTW:  Is an effective Risk Assessment (RA) process in place?  Was evidence of the annual and 5-yearly inspections of both fixed and portable lifting equipment and   | 26-Apr-23  ✓ Yes        |
| Is an effective Risk Assessment (RA) process in place?  Was evidence of the annual and 5-yearly inspections of both fixed and portable lifting equipment and appliances sighted?  Are main and emergency exits clearly identified and | 26-Apr-23  ✓ Yes  ✓ Yes |







| What is the working language of the vessel?   | English                       |
|---|-------------------------------|
| Are standing orders, procedures, instructions and manufacturers' manuals written in a language which can be understood by the crew? | Yes                           |
| Are all IMO signs correctly placed, and compliant with IMO requirements?  | Yes                           |
| Does the vessel have an adverse history of accidents and near-misses?   | <b>✗</b> No                   |
| Is the vessel equipped with an approved SOLAS training manual?  | Yes                           |
| Were the pilot ladders and boarding arrangements in a good, safe condition?   | Yes                           |
| Does the vessel have clear pilot boarding instructions posted?  | √Yes                          |
| Are regular drills conducted on board?  | √Yes                          |
| Last drill date   | 19-Apr-23                     |
| Last drill type   | ENCLOSED SPACE ENTRY & RESCUE |





## POLLUTION CONTROL

### **General Condition** Was Pollution Control well implemented within the on ✓ Yes board Safety Management System (SMS)? Is the vessel free of pollution hazards? Yes, with no hazards Were scuppers plugged in port as required? Does the vessel have a Class approved Inventory of The vessel holds a Class approved Hazardous Materials (IHM)? Inventory of Hazardous Material (IHM) Oil - Marpol Annex I Is an Oily Water Separator (OWS) fitted? Was the OWS reportedly operational? What was the condition of the OWS? Good Was the OWS Tested? √ Yes Means of testing Simulated Was the 15ppm meter calibrated? Yes Date of calibration 08-Aug-20







| Was the Bilge Overboard valve secured against unauthorised opening with adequate signage and warnings posted?               | Yes                       |
|---|---------------------------|
| Means of securing   | ✓ Sealed ✓ Locked         |
| Was the oily water treatment system including valves and pipework free of any signs of tampering, bypass, or modifications? | ✓ Yes                     |
| Was the SOPEP locker or box well stocked?   | ✓ Yes                     |
| What was the condition of the SOPEP equipment?  | Good                      |
| Was a list of SOPEP equipment posted and accurate?  | <b>√</b> Yes              |
| Was the Oil Record Book (ORB) up to date and correctly filled in?   | ✓ Yes                     |
| Date of last entry  | 22-Apr-23                 |
| Category of last entry  | C & I                     |
| Were previous bunkering checklists correctly filled out?  | ✓ Yes                     |
| Date of last bunkering  | 19-Mar-23                 |
| Were bunker samples correctly stored?   | ✓ Yes                     |
| Does the vessel have a Ballast Water Treatment<br>System (BWTS) fitted?   | ✓ Yes                     |
| Ballast Water Treatment System  |                           |
| Manufacturer:   | Example BWTS Manufacturer |
| Type:   | UV                        |
| Other type:   | GloEn-PATROL              |















| How was the condition of Garbage segregation?                            | Good  |
|--|---|
| Were Garbage containers of approved, non-combustible type?               | Yes   |
| Was the Garbage Record Book (GRB) up to date and correctly filled in?    | ✓ Yes   |
| Date of last entry   | 13-Apr-23   |
| Category of last entry   | A, B, C, D, I. F, oily sludge                           |
| Air - Marpol Annex VI  |   |
| Does the vessel have a valid IAPP certificate?                           | √Yes  |
| Is the vessel compliant with IMO 2,020 Sulphur cap regulations?          | ✓ Yes   |
| How does the vessel comply with IMO 2,020 regulations?                   | Use of Very Low Sulphur Fuel Oils (VLSFO), MGO, DO etc. |
| Does the vessel use Ozone Depleting Substances (ODS) as Refrigerant Gas? | <b>✗</b> No   |
| Was an Incinerator fitted?   | ✓ Yes   |
| Was the Incinerator operational?   | √Yes  |
| What was the condition of the Incinerator?                               | Good  |
| Does the vessel have an Emission Control Area (ECA) change-over log?     | ✓ Yes   |
| Date of last entry   | 15-Oct-22   |





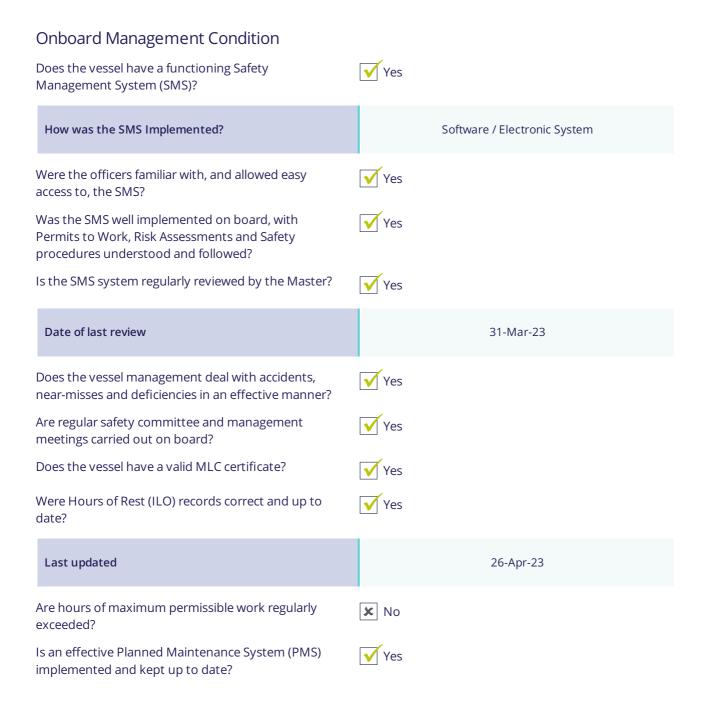
| EEXI  |                  |
|---|------------------|
| Does the vessel have an EEDI score assigned at build?                                     | ✓ Yes            |
| What is the EEDI score?   | 20.19            |
| What fuel type does the vessel run on for the majority of the time?                       | Diesel / Gas Oil |
| Does the vessel have any energy efficiency technologies installed?                        | 🗴 No             |
| Is the vessel ice classed?  | ✓ Yes            |
| Ice class:  | IB               |
| Main Engine(s)  |                  |
| Specific Fuel Oil Consumption (SFOC) (g/kWhr):  | 178.08           |
| Auxiliary Engines   |                  |
| Specific Fuel Oil Consumption (SFOC) (g/kWhr):  | 215              |
| Does the vessel have a shaft motor (Power Take-In)?                                       | × No             |
| What is the expiry date of the International Air Pollution Prevention (IAPP) certificate? | 16-Aug-25        |







#### ONBOARD MANAGEMENT







| Non Class-approved system          |
|------------------------------------|
| <b>≭</b> No                        |
| <b>✗</b> No                        |
|                                    |
| 4                                  |
| 2                                  |
| 0                                  |
| <b>✗</b> No                        |
| Yes                                |
| LEVEL 1                            |
| ✓ Yes                              |
| ✓ Yes                              |
| Onboard by Master External Company |
| ✓Yes                               |
| Good                               |
|                                    |





| Were documents provided as requested?                                    | Majority of documents provided |  |
|--|--------------------------------|--|
| What was the overall impression of the general management of the vessel? | Well managed                   |  |





Why were tanks not entered?

## VESSEL CAPABILITIES AND CARGO SYSTEMS - GAS CARRIER

## Cargo Tanks How many Cargo Tanks does the vessel have? 2 How many cargo segregations can the vessel carry? 2 Type of Gas Carrier LPG Type of Containment Fully-Pressurised **Cargo Tank Capacities** (m³) CT No.1 combined Example CT No.2 combined Example **Cargo Tank Capacities** (m³) **Total Capacity** Example Were the Cargo tanks able to be entered and **✗** No inspected?

Cargo tanks are not Gas-Free







| Were recent vessel cargo tank inspection photographs provided?   | ✓ Yes                         |
|--|-------------------------------|
| Date photographs were taken:   | 05-Nov-22                     |
| Were cargo tank structural members found to be free from damage?   | ✓ Yes                         |
| Were the cargo tank fittings such as ladders, hand rails and pipe guards etc. found to be free from damage?                    | ✓ Yes                         |
| Does the vessel have void spaces surrounding the cargo tanks?  | ✓ Yes                         |
| Were the void spaces and cofferdams surrounding the cargo tanks able to be entered for inspection?                             | ✓ Yes                         |
| Were void spaces and cofferdams found to be free of structural damage?   | ✓ Yes                         |
| What was the level of coating breakdown and corrosion observed in the void spaces?   | None                          |
| Were the void spaces and cofferdams adjacent to cargo tanks free of any cold spots with no damage/deterioration to insulation. | ✓ Yes                         |
| Does the vessel have any independent tanks, i.e. tanks located the deck?   | × No                          |
| What was the last cargo carried?   | LPG MIX                       |
| What is the next intended cargo to be carried?   | LPG MIX                       |
| Pumping and Piping Systems   |                               |
| What type of main cargo pumps are fitted?  | Electrically Driven deep well |







|   | m³/hr   |
|---|---|
| What is the capacity of the deep well pumps?                                  | 350   |
| What is the manufacturer of the deep well pumps?                              | Example Manufacturer                          |
| Were all the pumps fully operational?   | ✓ Yes   |
| What condition were the pumps in?   | Good  |
| Is the vessel fitted with a compressor room?                                  | <b>≭</b> No                                   |
| Is the vessel fitted with a motor room?                                       | Yes   |
| What was the condition of the motor room?                                     | Good  |
| Were the airlocks on the motor room in good working order?                    | ✓Yes  |
| Motor room airlocks were not in full working order due to:                    | COMPRESSOR ROOM & MOTOR ROOM ON SAME LOCATION |
| Were motor room airlock audible and visual alarms in full working order?      | <b>√</b> Yes                                  |
| Motor room airlock alarms were not fully operational due to:                  | N/A   |
| Do the motor room fans maintain a positive pressure in the Motor Room?        | ✓ Yes   |
| What condition was the cargo pipework in?                                     | Good  |
| Are deck cargo piping, manifolds and relevant deck equipment suitably marked? | ✓ Yes   |
| Are reducers and removable U-bends, if carried, in good condition?            | Yes   |







| Is the vessel fitted with a hose handling crane(s)?                                | ✓ Yes |  |
|--|-------|--|
| Is the crane in full working order?  | ✓ Yes |  |
| What condition was the crane(s) in?  |       | Good   |
|  |       |  |
| Monitoring and Safety Arrangements   |       |  |
| Are tank level, pressure and temperature monitoring systems in full working order? | ✓ Yes |  |
| Is the Cargo Control Room (CCR) in good overall condition?                         | ✓ Yes |  |
| Are all cargo Emergency Shutdown Devices (ESD) in full working order?              | Yes   |  |
| What condition were the Maximum Allowable Relief Valves (MARVs) in?                |       | Good   |
| Were the operating pressures clearly marked on the MARVs?                          |       | Yes  |
| Is the vessel fitted with Vent Masts?  | ✓ Yes |  |
| What condition was the Vent Masts in?  |       | Good   |
| Are Vent Masts fitted with a Fixed Fire Fighting system?                           | Yes   |  |
| What condition was the Vent Masts Fixed Fire Fighting Extinguishing system in?     |       | Good   |
| If appropriate, are fire wires in good condition and properly rigged?              |       | Yes  |
| Is the vessel provided with suitable gas monitoring instruments?                   | Yes   |  |
| Are the monitoring instruments calibrated and records available?                   | Yes   | No evidence of calibration of Gas monitoring Instruments was provided. |







| Does the vessel have a loading computer?                       | Yes, Class approved |
|--|---------------------|
| Is all Fixed Gas monitoring equipment in full working order?   | ✓ Yes               |
| Are Float Level Gauges fitted?                                 | ✓ Yes               |
| What condition was the Float Level Gauges in?                  | Good                |
| Vetting  |                     |
| What was the date of the last SIRE inspection?                 | 29-Nov-22           |
| How many observations were raised in the last SIRE inspection? | 3                   |
| Have all observations been fully resolved?                     | ¥Yes                |
| What was the date of the last CDI inspection?                  | 25-Sept-22          |
| How many observations were raised in the last CDI inspection?  | 5                   |
| Have all observations been fully resolved?                     | ✓ Yes               |
| Is the vessel older than 15 years?                             | <b>≭</b> No         |





| Equipment (LPG)           | Fully operational? | Condition |
|---------------------------|--------------------|-----------|
| Vaporiser                 | NA                 |           |
| Cargo heater              | Yes                | Good      |
| Inert Gas (IG) system     | NA                 |           |
| Nitrogen plant            | Yes                | Good      |
| Cargo Booster             | Yes                | Good      |
| Spray Pumps               | NA                 |           |
| Reliquification plant     | NA                 |           |
| Cargo Pipework insulation | Yes                | Good      |
| Compressor                | Yes                | Good      |
| Condenser                 | NA                 |           |