

TECHNICAL REPORT

技术状况报告

编号: CJPG-JS-23-KY-199



普惠 2

Place of Inspection: Panzhi Island, Zhoushan Port

Date of Inspection: April 12th, 2023

Date of Report: April 14th, 2023

Technical Report of MV “PU HUI 2”

1. Summary

This technical report was made against ship certificates, pictures and videos provided by the transferor due to the epidemic prevention and control restrictions. This ship was inspected specifically in the form of remote in hull, outfitting, cabin decoration materials, engine and deck machinery, life-saving and fire-fighting equipment, electrical and communications equipment.

2. Principal Particulars

Name of Ship	PU HUI 2	Port of registry	Nan Tong
Type of Ship	Bulk Carrier	Identification No.	CN20043941788
LOA	119.80m	Class	ZC
LBP	112.60m	Hull materials	Steel
MLB	22.60m	Navigation area	Offshore
MLD	10.80m	Trade Area	A1+A2
Summer draft	7.90m	Shipbuilder	Zhejiang Donghong Shipbuilding Co., Ltd
Gross tonnage	8545	Date of Keel laying	October 18th, 2004
Net tonnage	4785	Date of Delivery	February 24th, 2006
DWCC	12882t	Model of M/E	G8300ZC18BH
Cargo Hold Capacity	14280m ³	Rated Power/Rated Speed /No.	2000kW×550r/min×2 sets
Light weight	3286.400t	M/E Manufacturer	Wuxi Antai Diesel

Note: Data above is recorded in the Ship's certificates, which are submitted by the Sellers and for reference only.

3. Overview

● Hull Part

The ship was built as a bulk carrier with single deck, double bottom, and driven by two engines with two propellers. The ship has 4 cargo holds, 7 watertight bulkheads and weathertight hatch cover.

● Engine Machinery

Main Engine (2 sets): G8300ZC18BH, 2000kW at 550r/min, manufactured by Wuxi Antai.

Propeller (2 sets): Fixed propeller, material is Cu3, diameter is 2960mm.

Main generator (3 sets): 150kW, and the engine is G128ZLCaf1, 193kW at 1500r/min.

Emergency generator (1 set): 64kW, and the engine is 6135Caf, 77kW at 1500r/min.

● Navigation conditions

After the completion of the Jingjiang-Ningbo route on December 8th, 2022, this ship is in a berthing state without any relevant log records. According to the ship management personnel, the ship has been berthed for about 4 months.

● Cargo Hold Capacity

According to the capacity plan of this ship, the cargo hold capacity is distributed as follows:

No.	Height from the center of the C/H to the baseline (m)	Capacity (m ³)
NO.1	5.95	3180
NO.2	5.95	3737
NO.3	5.95	3737
NO.4	5.95	3626
Total		14280

4. Class Status and Surveys

● Statutory Certificates or Documents of Compliance

No.	Certificates Description	Issue Date	Expiry Date
1	Certificate of Ship Ownership Registration	2017-04-21	---
2	Classification Certificate	2022-01-11	2027-02-27

The certificates listed above are validity.

● Class Surveys

The renewal survey has been completed on January 10th, 2022 in Zhoushan. The annual survey will be carried out no later than May 27th, 2023, and the next dock survey will be on May 27th, 2024.

	Survey Description	Next Survey Date
1	Annual Survey	February 27th, 2023
2	Intermediate Survey	---
3	Dock Survey	May 27th, 2024
4	Propeller/shaft Survey	May 27th, 2024
5	Boiler Survey	May 27th, 2024

● FSC Inspection Records

Date of Inspection	Place of Inspection	Deficiencies	Defect Code	Detained
2021.12.08-10 Re-inspection	Beilun, Ningbo	26	17/10	0
2022.02.06 Initial inspection	Rizhao, China	18	17/10	0

2022.04.19 Initial inspection	Qinghuangdao, China	10	17/10, 30	3
2022.06.02 Initial inspection	Chuanshan, Ningbo	13	17/10, 30	2
2022.04.20 Re-inspection	Qinghuangdao, China	10	17/10, 30/10	0
2022.06.22 Re-inspection	Chuanshan, Ningbo	13	17/10, 30/10	0

According to the FSC inspection information provided by the ship owner in the past 2 years, the ship has been detained, but all the defects have been corrected so far.

5. Performance Records

● Speed and Fuel Consumption

The fuel oil consumed by the M/E is CST 120.

Condition	Rotation speed (rpm)	Speed (kn)	Fuel Consumption (t/d)
Ballast Navigation	380	9	7.5
Laden Navigation	380	8	8.1

The fuel oil consumed by A/E is MGO.

Condition	Working set	Fuel Consumption (t/d)
Ballast Navigation	2 sets	0.5
Laden Navigation	2 sets	0.6
Ballast in port	1 set	0.36
Laden in port	1 set	0.36

● Hull Thickness Measurement Report

During the renewal survey in Zhoushan on January 6th, 2022, the ship was carried out hull thickness measurement. The details in the 0.4L area of the midship was as follows:

No.	Area	Initial (mm)	Actual corrosion (%)	Extreme corrosion(%)
1	Main deck area			
1.1	Main deck	18	2.8	20
1.2	Deck longitudinal	18	2.8	25
2	Hatch coaming area			
2.1	Hatch coaming	14-16	3.6	20
2.1	Top plate	16/20	10.5	20
3	Bottom area			
3.1	K plate	14	3.6	20
3.2	A-E plate	12	4.2	20
3.3	F-G bilge plate	14	4.3	20
3.4	Bottom longitudinal	12	6.7	25
4	Inner bottom area			
4.1	Inner bottom plate	12-16	17.5	20
4.2	Inner bottom longitudinal	12	6.7	25
5	Side area			
5.1	G-I plate	12	4.3	20
5.2	S plate	16	3.1	20
5.3	Side Longitudinal	10	6.0	25

The corrosion rate of the structure in the 0.4L area of the midship is within the extreme range.

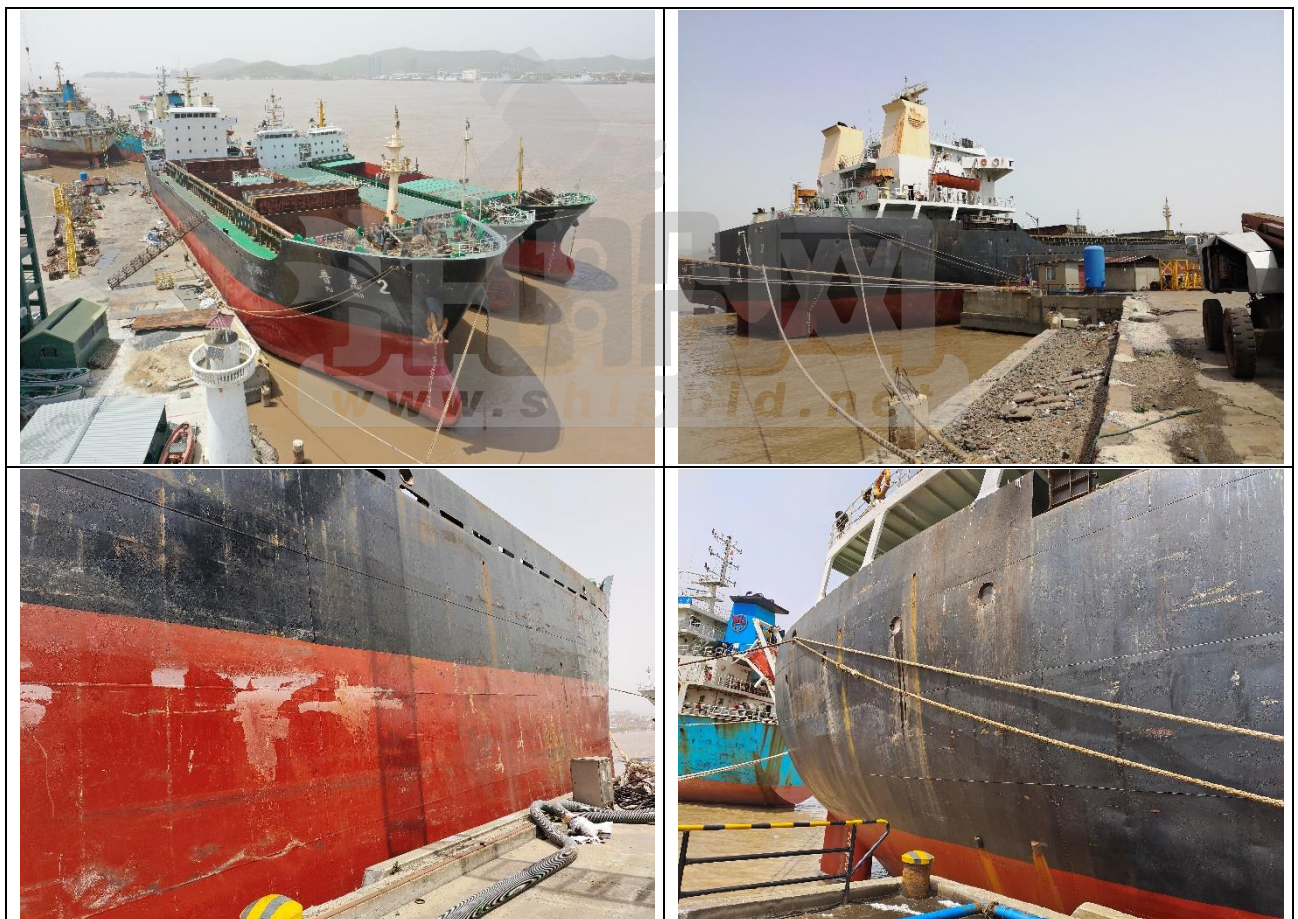
- **Last 10 Ports and Cargos**

The ship was maintained in July 2022 and has since operated on more than 10 voyages, mainly carrying ore and coal. It has been in a berthing state after the Jingjiang-Ningbo route finished.

6. Technical Status

6.1 Hull Structure Condition

The condition of exposed shell plate was found in generally good condition, with significant scratches on the bow and stern shell plates. The draft marks, ship's name, load line above the waterline was clear and complete. The condition of underwater shell was unknown.





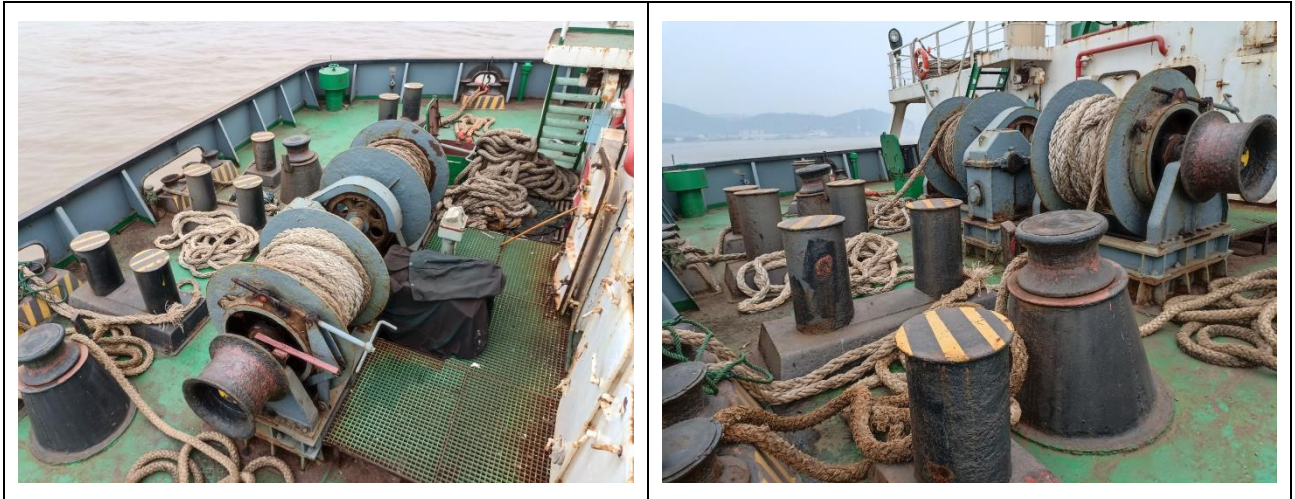
6.2 Main Deck and Deck Machinery

The paint condition of the forecastle deck was found basically intact, and local corrosion on the bulwark. No obvious deformation was found on the bulwark bracket, but rust damage on the steps of the ladder leading to the forecastle deck.

The body structure of the hydraulic windlass was found basically intact, with local coatings damaged and the foundation significantly corroded; The body structure of mooring equipment was found complete, with common condition on coating.

2 sets winches were installed on the main deck aft, with complete body and base structures and localized rusting. The paint condition of the fairlead pile and fairlead hole was found general, with local wear and tear.





6.3 Cargo Holds

The main deck was found rust, with basically intact paint. One spare anchor was found on the port side of the No.1 hatch coaming. No deformation or damage was found on the bulwark. The edge of the deck manhole cover was found rusted, with intact bolts.

The stiffeners of hatch coaming were found slightly rusted. No deformation or significant crack was found at the toe end. The welding seams were also found slightly rusted. No significant crack was found at the corners of the cargo hatch, and the corrosion was found on the top plate and sealing track groove. The drain holes were not blocked or damaged.

A large area of corrosion was found inside the cargo hold, and the paint of No. 1 hatch coaming and watertight transverse bulkhead was found damaged in multiple areas. No significant deformation was found on the frame structure in the cargo hold, but significant corrosion on the welding seam of the toe; The obvious depression was found on the tank top plate, but no significant damage. The ladder in NO.4 cargo hold was found deformed and damaged, with the steps missing.

The top plate of the hatch cover was found extensively corroded, but no cracking or deformation on the reinforcement structure. The sealing strip groove was found rusted and damaged, with the watertight sealing strips missing. No significant deformation was found on the rollers.

The vent pipes on the main deck between the cargo holds were found corroded in multiple places, and the watertight cover was rusted and thinned, with intact locks. The connecting

flange of the mechanical ventilation duct was found rusted, and the bolts were basically intact, the handwheel switch was found blocked, and the ventilation duct baffle was damaged.



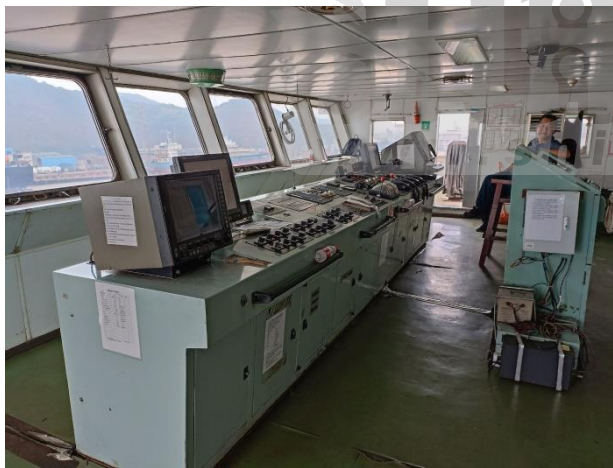




6.4 Bridge Equipment

The cleanliness of the wheelhouse was found in general condition, with complete flooring, steel doors, windows and complete communication equipment.

This ship is equipped with IF, VHF, electronic chart, AIS, GPS, gyro compass, magnetic compass, echo sounder, radar, etc. The appearance of the equipment was found normal and the surface cleanliness was general.





6.5 Engine Room and Equipment Condition

6.5.1 Overview

The structure in the engine room was found complete with good condition coating. The cleanliness in the engine room was found in general good condition, with no significant oil stains attached. The arrangement of facilities such as stairs, railings, and checkered plates was found complete. The cable layout on the top was found neat, the paint on the top was found intact with no obvious rust. The coating on the pump valve and other equipment on the bilge was found rusted and damaged.



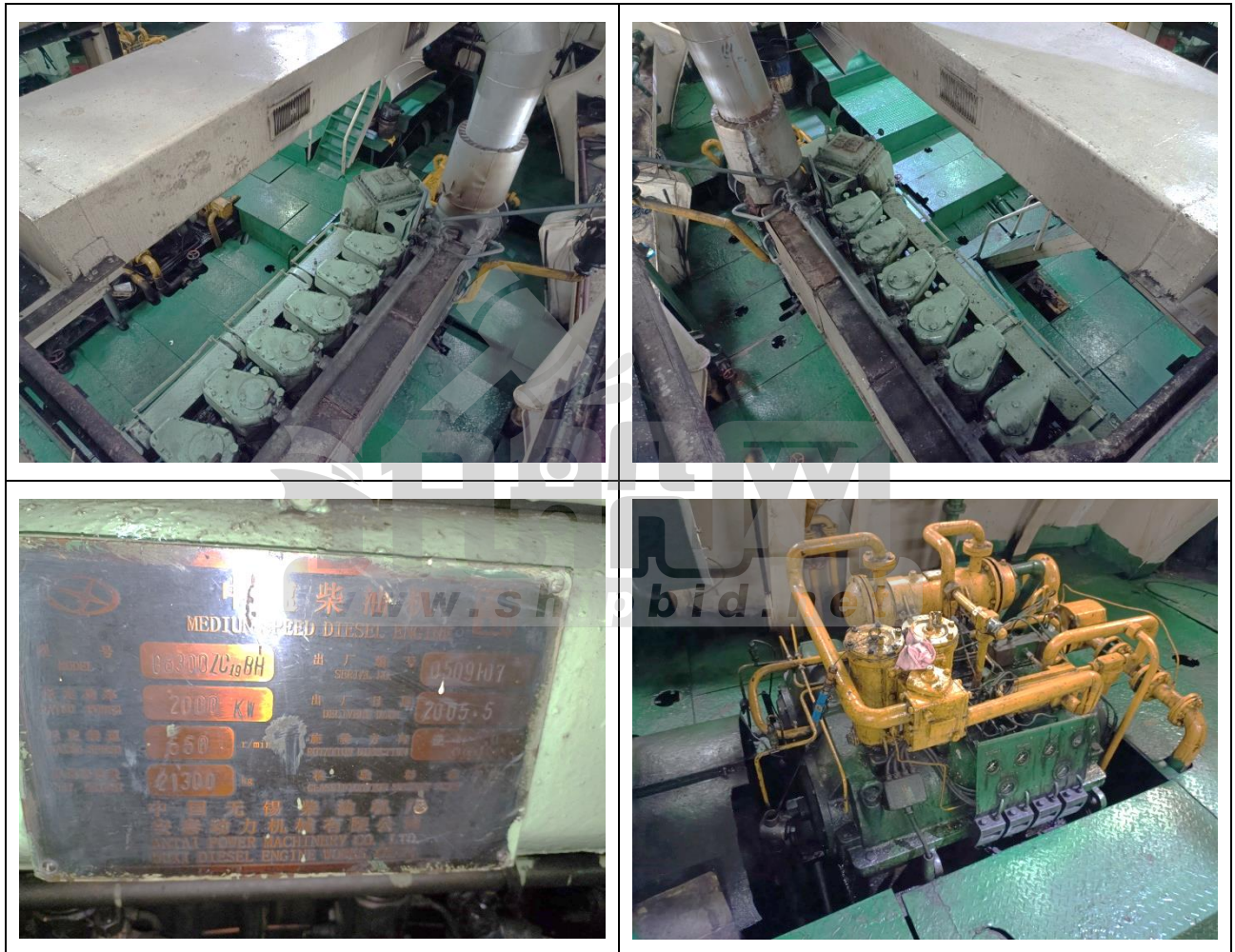
6.5.2 M/E

Model of M/E: G8300ZC18BH;

Rated Power/Rated Speed/No.: 2000kW*550r/min*2 sets;

M/E Manufacturer: Wuxi Antai Diesel

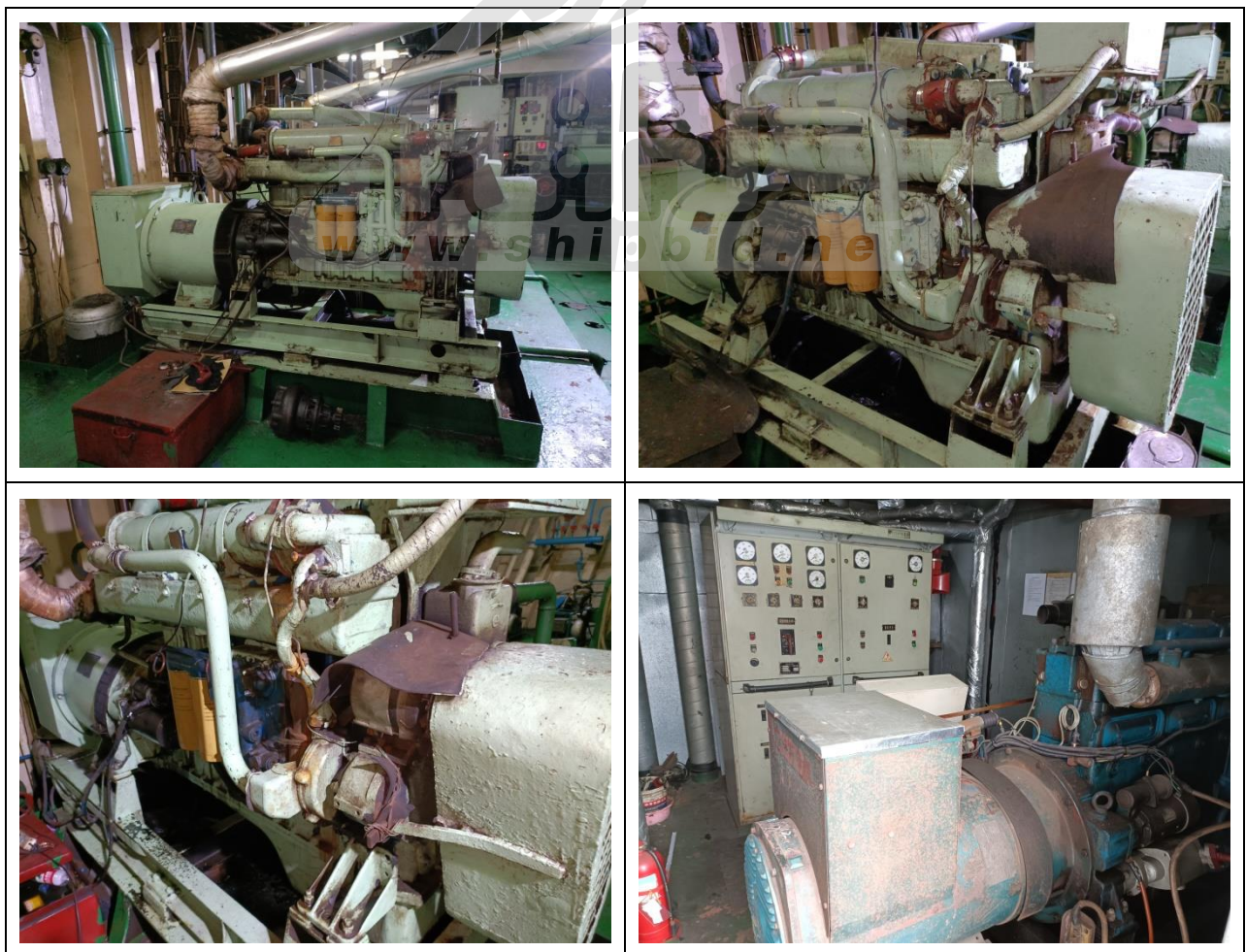
The nameplate of the diesel was found clear, and significant oil stains was found on the chassis. The local coating cracks were found on the surface of the diesel, and no obvious rust on the components and pipeline system.





6.5.3 Generator Set

3 sets main generators, the model is MP-H-150-4, 150kW*400V. The model of the diesel is G128ZLCaf1, 193kW*1500r/min. 1 set emergency generator, the model is MP-H-64-4, 64kW*400V. The model of the diesel is 6135Caf, 77kW*1500r/min.



6.5.4 ECR

This ship is equipped with a control console and main distribution board in engine control room. The indoor structure was found complete and tidy; The appearance of the monitoring instrument was normal; all indicator lights and button protection devices were found basically complete.

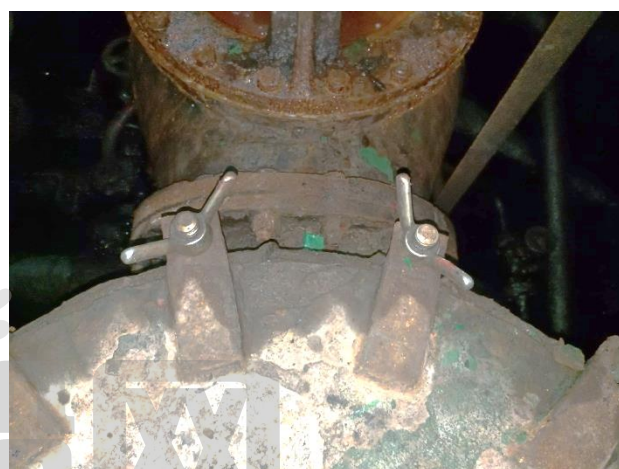
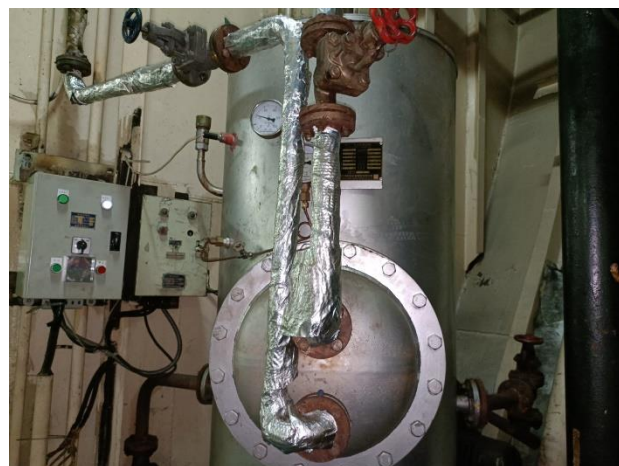


6.5.5 Other Equipment

This ship is equipped with oil heating boiler, domestic sewage treatment device, air bottle, air compressor, and oil purifier in the engine room, and various pumps and motors are installed in the bilge.

There were obvious oil stains at the bottom of the domestic sewage treatment device, oil purifier, and fuel tank. Most of the equipment was found intact paint, but some have significant oil stains attached.

The cleanliness of the steering gear room was found general, the body structure was found complete, and there was oil stains attached to the surface, without obvious oil or water seepage.



6.6 Main equipment

6.6.1 Major Machinery

Machinery	Qty	Model	Parameter	Manufacturer
Main Engine	2	G8300ZC18BH	2000kW×550r/min	Wuxi Antai
Main Generator	3	MP-H-150-4	150kW*400V	Shanghai Diesel Engine
Diesel Engines of Main Generator	3	G128ZLCaf1	193kW×1500r/min	
Emergency Generator	1	MP-H-64-4	64kW*400V	Shanghai Diesel Engine
Diesel Engine of Emergency Generator	1	6135Caf	77kW×1500r/min	
Steering Gear	1	234NB4-00	torque 250kNm	Nanjing Hangzhuang
Hydraulic windlass	1	226HCJ-60-00	45kW	--
Gear box	1	GWC49.54	reduction ratio 2.5:1	Chongqing Gearbox Co.,Ltd
Combined boiler	1	LYF0.9/110-0.7	Working pressure 0.7MPa	Greens Shazhou
Domestic sewage treatment device	1	CSWE-30	Capacity: 2100L/D	Shanghai Shijiu

6.6.2 Communication and Navigation Equipment

Equipment	Qty.	Model
GPS	1	GP90
Gyro Compass	1	HLD005E
Magnetic Compass	2	CGY-165
Sounding lead	1	
Radar1	1	FR-2125
Radar2	1	FR1510

Electronic Chart	1	HM-5817
AIS	1	FA-150
VHF Radiotelephone	1	FM-8800S
M/HF Radio Equipment	1	FS-1570
Two-way VHF	3	TW-50
EPIRB	1	VEP8
SAR transponder	2	TronSART
NAVTEX Receiver	1	NTX100A

6.7 Fire and life-saving equipment

6.7.1 Fire-fighting equipment

The ship is equipped with a CO2 fire extinguishing system, and the indoor fire insulation was found basically in place. No significant corrosion was found on the steel cylinder release valve.

The paint of the deck fire pipeline was found basically intact, with locally corroded on interface flange. The hose box was found complete and undamaged, and the appearance of the fire hose and connector was intact.

The self-closing door of the emergency passage in the engine room was found in a normally closed state, the self-closing device can work normally, and the lighting in the passage was found normal. The structure of the life-saving ladder was found complete, but no lifeline was found. The local cracks were found on the surface layer of the fire separation.

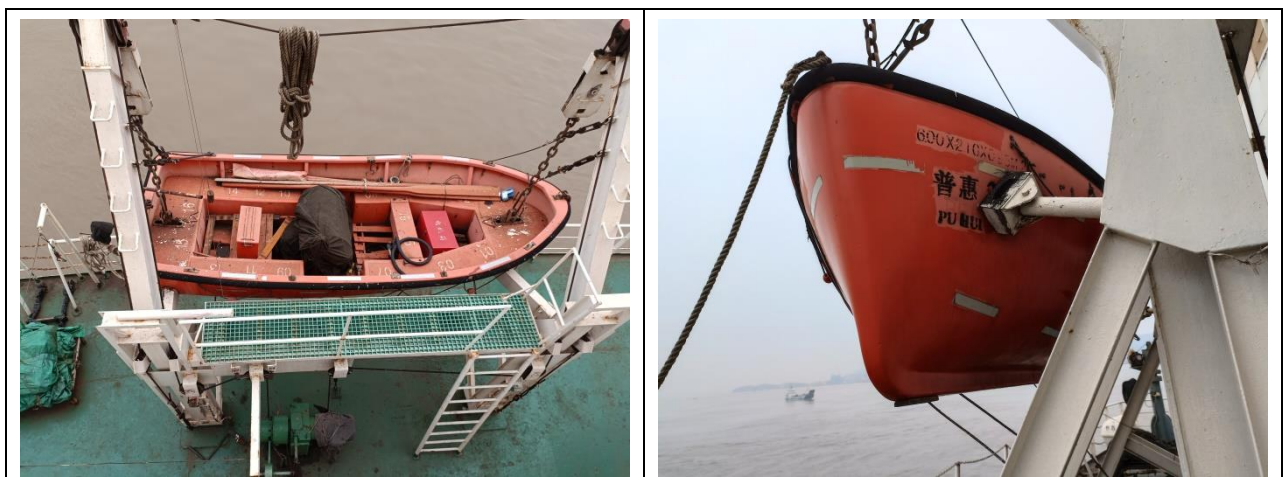


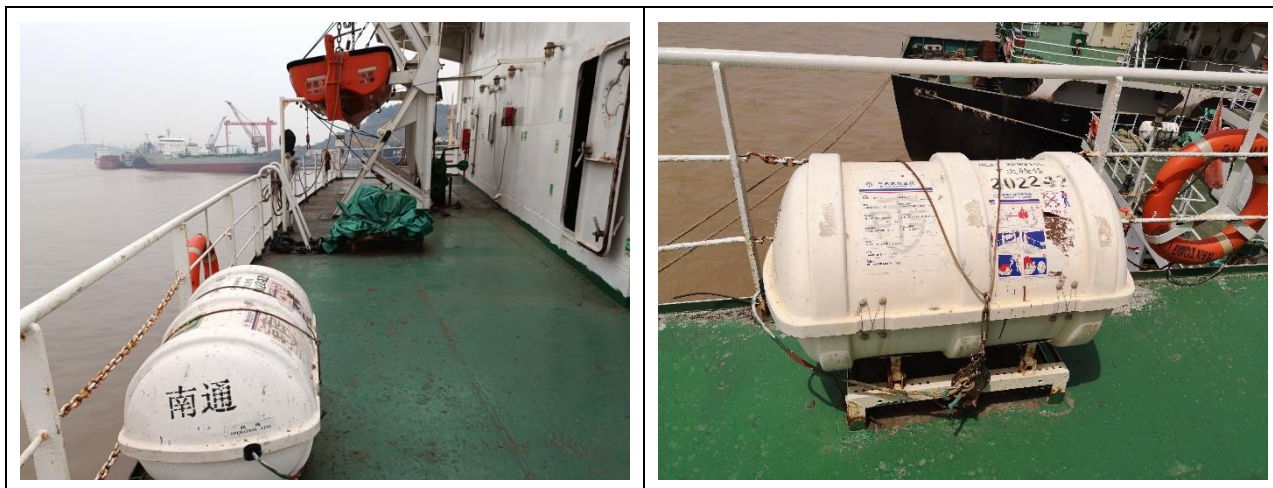


6.7.2 Lifesaving equipment

The ship is equipped with two open type motorized lifeboats, with no significant cracking or damage to the hull appearance. The arrangement of the facilities inside the boat was found complete, and the appearance of the equipment was found general condition. The boat frame was found local corrosion with overall general condition.

The ship is equipped with two inflatable liferafts with a capacity of 20 people and one inflatable liferaft with a capacity of 6 people. The liferaft release device was found complete, and the inspection mark is that it has expired in December 2022.





7. Conclusion

The ship was built as a bulk carrier with single deck, double bottom, and driven by two engines with two propellers. It was delivered on February 24th, 2006, and was built under ZC classification. The deadweight cargo capacity is 12882t, the cargo hold capacity is 14280m³, the light weight is 3286.4t. The ship has been berthed for about 4 months. The following conclusions were given against the ship certificates, technical drawings and pictures.

7.1 Class Status, Survey and Performance

The renewal survey has been completed on January 10th, 2022 in Zhoushan. The annual survey will be carried out no later than May 27th, 2023, and the next dock survey will be on May 27th, 2024. All FSC defects in the past 2 years have been corrected.

This design speed of this ship is 10 knots, with a main engine fuel of CST120 and a full load sailing speed of 8 knots, with a total fuel consumption of 8.1 t/d.

After the completion of the Jingjiang-Ningbo route on December 8th, 2022, this ship is in a berthing state without any relevant log records. The ship was maintained in July 2022 and has since operated on more than 10 voyages, mainly carrying ore and coal.

7.2 Hull Structure and Deck Machinery Condition

During the renewal survey in Zhoushan on January 6th, 2022, the ship was carried out hull thickness measurement, please refer to the thickness measurement table in the text for details. The significant scratches were found on the bow and stern shell plates. The main deck was found pitted and corroded, and the bulwark structure was intact. The structure of the hatch cover was found intact, and the sealing track groove was found severely corroded. The coating on the watertight bulkhead in the cargo holds was found damaged in multiple areas. The frame structure in the cargo hold was found complete without significant deformation. The connecting flange of the mechanical ventilation duct was found rusted, and the handwheel switch was found blocked, and the ventilation duct baffle was damaged. The body structure of the mooring machinery was found in general condition, but rusted on base.

7.3 Status of Electrical & Machinery Equipment

The navigation equipment on the bridge console was found basically complete. The significant oil stains was found on the chassis, and the pump valves of the bilge pipelines were found obvious corroded. Other auxiliary equipment, such as oil purifier and oil supply units, also have obvious oil contamination. The lifeline was not found in the emergency passage of the engine room, and the local cracks was found in the surface layer of the fire separation. The inspection label for the life raft was found expired.

Written by: Mr Zhang Chunwei

On April 14th, 2023

