

VESSEL PARTICULARS (FORM C)
LPG/C GAS PREMIERSHIP
(last updated 10/09/2018)

Specifications of the vessel and the gas installation which are representations by the Owners.

(A) VESSEL'S CHARACTERISTICS

PREAMBLE

Name	:	Gas Premiership		
Owner	:	TIF03 Limited		
Flag	:	Marshall Island		
Build	:	July 25, 2000		
Date on Service	:	February 28, 2001		
Class	:	Lloyd's Register		
IMO Number	:	9232321		
GRT International	:	5764 T	Suez	: 6205.11 T
TPC	:	16.8 MT	Panama	:
NRT International	:	1999 T	Suez (SCID 39502)	: 5139.66 T
			Panama	: 4900.00 T
Is vessel build according to			USCG regulations?	: Yes
			RINA regulations?	:
			Japanese regulation?	: Yes
Has vessel received			USCG approval?	: No
			RINA approval?	: No

HULL

LOA	:	119.29 M
LBP	:	112.50 M
Breadth	:	18.20 M
Depth	:	8.40 M
Summer Draft	:	6.464 M corresponding to Summer DWT = 6633.92 T
Multiple Draft	:	M corresponding to Multiple DWT =
LIGHTSHIP	:	3545.16 MTS

Estimated draft with full cargo and full bunkers are as follows.

Product	Draft Fore' (m)	Draft Aft' (m)	Draft Mean (m)	Corresponding Deadweight (t)
Propane (98%)	3.79	6.60	5.20	4498
Butadiene (98%)	5.33	7.04	6.19	4400
VCM (98%)	5.65	7.18	6.42	6537

Propeller immersion :

At draft	At 6.60 m correspond.	: 122 %
At draft	At 7.04 m correspond.	: 134 %
At draft	At 7.18 m correspond.	: 137 %

COMMUNICATION EQUIPMENT

Call letter : V7OS9
 Radio Station normally watched : Master, C/O, 2/O & 3/O
 Radio MF/HF NBDP : 2182
 Radio MF/HFTEL/DSC : 2187.5 & 8414.5
 VHF : 16
 Satellite Communication **Inmarsat 'C'** : 453833125 / 353847220
 FLEET 33 : 764844326 / 764844327
 FAX : 353847218
 EMAIL : gaspremiership@stealth.gr
 MMSI : 538003151

MACHINERY

Main Engine x 1 . Type and make : Hitachi Zosen – Man B&W, 7L35MC
 . Service power : M.C.O. 4530 kW (6160 PS) X 210 rpm
 No of Cylinders : 7
 Cyl Bore x Stroke :
 . Grade of fuel used : HFO at 50 degs.C 380 cst

Auxiliaries Type and make : 4 cycle single acting trunk piston type
 (Electrical)
 (Mechanical) : 2x YANMAR 6N165L-UN 440 KW
 Grade of fuel used : MGO
 No off : 2 sets

Emergency Gen Type : BF6L913 Mitsui Zosen Machinery
 No off : 1 set

Bow Thruster Type : Power: Nil

Boiler Type : Natural Circulation Water Tube Type/ Miura Co. Ltd
 Evaporation : 800 kg/hr
 Max Design : 7.0 kg/cm2
 Pressure :
 Feed Water Temp :
 No off : 1

Exhaust Economiser Type : Forced circulation water tube type
 Evaporation : 610 kg/hr X 0.6 mpa
 No off : 1

Air Compressors (Main) Type / Capacity : MH1148 / 101 Cub.m/hr
 No off : 2

Air Compressors (Emergency) Type : MG78ADT
 No off : 1

Fuel Oil Purifier Type : MMPX404
 No off : 1
 Capacity : 1.5 cbm / hr

Lub Oil Purifier	Type No off Capacity	MMPX404 1 1.5 cbm / hr
Evaporator	Type Capacity	Low temp. and vacumm 10 ton/day
Fresh Water Sterilizer	Type Capacity	LN201F 2000 Ltrs/Hr
Fresh Water Mineraliser	Type / Capacity	
Waste Oil Incinerator (IMO MEPC 76 (40))	Type Capacity	BGW- 20N 20 ltrs/ hr
Oily Water Separator	Type Capacity	HMS-200 2 cub mtr / hr
Sewage Treatment plant	Type Capacity	Sbt – 25 60 ltrs / man - day
Hot Water Set (Calorifier unit)	No off	1
Steering Gear	Type Duty Capacity Hydraulic pump unit	Hydraulic 270 kN.m 2

Speed

About 12.5 kts Laden / 13.0 kts Ballast with (- minus) 0.5 knot margin and upto Beaufort Scale 4 Douglas Sea state 3

CONSUMPTION/ DAY

Main Engine	HFO	About 13.0 mts/Day	
Auxiliary Engine	MGO	About 1.3 mts /Day	
In Port	MGO	About 2.3 MT/Day	Discharging
	MGO	About 1.3 MT/Day	Idle (without boiler)
	MGO	About 1.5 MT/Day	Loading/St By (Boiler On)
	MGO	Variable 1.5-3.0 MT/Day	Manoeuvring

Permanent bunker capacity (100%)

HFO	:	505.88 cubm @ 90% 440MTS
Diesel	:	147.92 cubm @ 90% 113MTS
Fresh Water	:	249.78 cubm
Sludge tank/Bilge tank	:	9.40 cbm / 6.21 cbm

(B) CARGO INSTALLATIONS

1. Transportable products and respective quantities, calculated in accordance with IMO – maximum filling formula. (Tonnes)

	100% (CBM)	98% (CBM)		
NO.1 CARGO TANK	3600	3528		
NO.2 CARGO TANK	3600	3528		
TOTAL	7200	7056		
	SPSV (bar g)	Ref. Temp. (deg. C.)	Density at (Ref. Temp.)	Corresponding Quantity (MT)
Propane	17.65	45.0	0.459	3238
Propylene	17.65	45.0	0.470	3316
B/P Mixture	17.65	45.0	0.487	3436
I-Butane	17.65	45.0	0.526	3710
N-Butane	17.65	45.0	0.548	3866
Butylene	17.65	45.0	0.565	3986
Butadiene	17.65	45.0	0.588	4148
V.C.M.	17.65	45.0	0.872	4800
Isoprene	17.65	45.0	0.656	4628

Note(1): In case of USCG, propylene, propane and B/P mixtures are not to be carried except the vapour pressure of B/P mixtures is not more than 12.75 bar g, 13.0 kg/cm² @ 45 °C

Note(2): On and after, the pressure value in parentheses is shown as a conversion value

Mixing ratio of above mentioned B/P mixtures is as follows:

Butane 35 wt% and propane 65 wt%

2. Other transportable products N/A

	SPSV	Ref. Temp. (°C.)	Density at Ref. Temp.	Corresponding Quantity (MT)

3. TANKS

- 3.1 Design pressure (Vapour) – BV-IGC : **17.65 bar g (1.765 MPag)**
- USCG : **12.75 bar g (1.275 MPag)**
- 3.2 Valve setting : **17.65 bar g (1.765 MPag) / 12.75 bar g (1.275 MPag)**
- 3.3 Maximum vacuum obtainable : **Atmospheric**
- 3.5 Maximum temperature acceptable : **45 °C**
- 3.6 Minimum temperature acceptable : **0 °C**
- 3.7 Hydrostatic Test Pressure : **26.48 bar g (2.648 MPag)**

4. LOADING RATE (TONS/HOUR) – For Full Cargo Parcels

- Ex-atmospheric storage with gas : 1 tank : **620m³/hr**
Return : 2 tanks : **950m³/hr**

Remarks:

* Based on maximum velocity of 6.5 metres/sec except VCM, and 4.0 meters/sec for VCM in the liquid piping.

* If cargo temperature is less than 0 °C, shore heater to be used. If ship heater used, max rate is **250 m³** per hour.

* Loading by shore pump only, proper size gas return line to be connected

* Subject to both ship and shore tanks being under favourable conditions

5. CARGO PUMPS

5.1	Type	:	VERTICAL CENTRIFUGAL MULTISTAGE DESIGN / 200-4 VCWI
	Make	:	TEIKOKU MACHINERY WORKS LTD.
	How many	:	2
	Maximum specific gravity	:	0.984
5.2	Capacity (CBM/Hour)	:	450
	Two speed or variable speed	:	variable
	Rated kW (each)	:	
	Working pressure maximum	:	
5.3	Location	:	Cargo tanks no. 1 & no. 2
	Removable	:	
5.4	Booster pumps	:	N/A
	Type	:	
	Maker	:	
5.5	Capacity (CMB/Hour)	:	N/A
	Working pressure	:	
5.6	Location	:	
5.7	Time to discharge a full liquid cargo using all pumps against back pressure at pump	:	
	1 bar	:	about hours for LPG
	5 bars	:	about hours for LPG
	10 bars	:	-----
5.8	Nominal back pressure when working	:	about 1 bar
	In series corresponding head	:	N/A
	Maximum back pressure	:	about 5 bar
	Nominal pressure at rail (propane)	:	about 13 bar at 20 degree C of cargo temperature
5.9	What amount of cargo remains in tanks after completion pumping before stripping:	:	
	- liquid	:	about 1.7cbm per one tank
	- vapour	:	about 30 ton per one tank for LPG

6. STRIPPING

6.1	Stripping system, if any	:	Nil
6.2	Time required to remove all traces of liquid cargo as stated in 5.9 for:	:	
	- LPG	:	about hours

7. CARGO COMPRESSORS

7.1	Type	:	Water cooled stage double acting oilless
	Make	:	Tanabe Pneumatic machinery co.
	How many	:	2
	Piston displacement	:	480
	Rated Kw	:	
	Stroke	:	
	Max discharge pressure	:	1.96 mpa
	Pressure differential	:	4

No of Revolutions

7.2 Are compressors oil free : **yes**

7.3 Can they reliquefy VCM without risk :

7.4 State time to bring full cargo of butane to atmospheric pressure from :

8. INERT GAS SYSTEM

8.1 Does the vessel use inert gas? : **yes**
If so, state utilization and quantities : **Nitrogen**

8.2 Can the vessel produce inert gas? : **Yes**
If so, state type and composition of gas produce:
Nitrogen 96%

Discharge Pressure **0.686 mpa to 0.784 mpa**

8.3 Maximum production obtainable **185NM3/H**
Purity **99.5%**

NOTE:- Above quantities obtained at engine room temperature 45° C

8.4 State if there are storage facilities for inert gas onboard: **N/A**

- Size : **N/A**

- Pressure : **N/A**

8.5 State if any shore supply of nitrogen may be required: : **N/A**

- for what purpose : **N/A**

- what quantities : **N/A**

9. GAS FREEING

9.1 State method used giving all details : **Nitrogen Plant / Fans**

9.2 State time required including stripping : **TBA**

10. CHANGING GRADE

10.1 From completion discharge of cargo Propane, time required in hours and inert gas in CBM required to reach a tank and gas installation atmosphere of less than 100 ppm of Propane in Vapour phase.

Time required: TBA

10.2 Can this operation be carried out at sea? : **yes**

10.3 Can the ship measure the number of ppm in vapour phase? :

10.4 Has vessel deck tank for changing grade/cooling operations? : **nil**

10.5 Deck tanks : **NIL**

Capacity :

Purpose :

11. COOLING BEFORE LOADING :

12. CARGO HEATER

- 12.1 Type : **Sea water cooling**
- 12.2 Inside Diameter
- 12.3 Overall length
- 12.4 Cargo flow rate : **550 m3/ hr**
- 12.5 Min Inlet Temp : **18**
- 12.6 Min Outlet Temp : **0**
- 12.7 Required Sea water Capacity : **800 m3/hr**
- 12.8 Design Pressure
- 12.9 Hydrostatic Test Pressure
- 12.10 Tightness Test Pressure
- 12.0 State discharging rate for propane to be brought from atmospheric pressure
Loading rate for Propane – ° C / 0° C: **about** Mt/hr

13. CARGO VAPORIZER

In case vapour gas is needed to feed compressors, can vessel produce its own if no shore available:

No

14. REFRIGERATING APPARATUS

NA

- 14.1 Is it independent of cargo? : **NA**
Is so, state cooling agents : **NA**
- 14.2 What minimum temperature can be maintained : **NA**
- 14.3 What time required at sea to lower by 1°C the full cargo of : **NA**

15. MEASURING APPARATUS

What gauges on board?

- Type : **Float type level gauge**
Location : **At each cargo tank dome**

16. SAMPLES

- 16.1 State how tank atmosphere samples can be taken and where from?

Standard of fitting? :

- 16.2 Same question for cargo : **TBA**
- 16.3 Are sample bottles available on board? : **No**

17. CARGO LINES

- 17.1 Is ship fitted with a port and starboard cargo manifold? : **Yes**
- 17.2 Position of cargo manifold
- | | | | |
|------------------------------------|---|--------------|------------------------------|
| - distance from stern (AP) (S / P) | : | 63.11 | M |
| - distance from stem (FP) (S / P) | : | | M |
| - height above deck | : | 1.12 | m for Liquid manifold |
| - distance from ship's rail | : | 2.4 | M |
| - underside keel to manifold | : | 9.52 | M |

17.3 Liquid line
 - flange-size : **8 in.**
 - type : Ansi

Gas line
 - flange-size : **5 in.**
 - type : ansi

17.4 What reducers on board? :
For Liquid line (low temperature) **ANSI**

10"	x 300	-	12"	x 300	1
10"	x 300	-	8"	x 300	1
10"	x 300	-	6"	x 300	1
10"	x 300	-	5"	x 300	1
10"	x 300	-	4"	x 300	2
10"	x 300	-	3"	x 300	1
10"	x 300	-	10"	x 150	1
10"	x 300	-	8"	x 150	1
10"	x 300	-	6"	x 150	1
10"	x 300	-	5"	x 150	1

For Vapor line (normal temp.) **ANSI**

6"	x 300	-	8"	x 300	1
6"	x 300	-	5"	x 300	1
6"	x 300	-	4"	x 300	1
6"	x 300	-	3"	x 300	1
6"	x 300	-	2"	x 300	1
6"	x 300	-	8"	x 150	1
6"	x 300	-	6"	x 150	1
6"	x 300	-	5"	x 150	1
6"	x 300	-	4"	x 150	1
6"	x 300	-	3"	x 150	1

17.5 Is ship fitted with stern discharge? **No**
 - Liquid line - diameter : **N/A**
 - flange – size : **N/A**
 - type : **N/A**

18. HOSES

Are serviceable hoses available on board? : **None**

18.1 :
 Length : **N/A**
 Diameter : **N/A**
 Flange-size : **N/A**
 Type : **N/A**
 Bending radius : **N/A**

18.2 Minimum temperature acceptable : **N/A**
Maximum pressure acceptable : **N/A**

18.3 For what products are hoses suitable? :

19. DERRICKS

- Hose cranes : **Yes**
- Where situated : **Mid ship**
- Lifting capacity : **5**
- Working radius : **14 m**

20. SPECIAL FACILITIES

20.1 How many grades can be segregated? : **none**

20.2 How many cooled? : **N/A**

20.3 Can vessel sail with slack cargo tanks? : **Yes**