

FORM C GAS  
SYN TURAIS

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MODEL

# Form C gas

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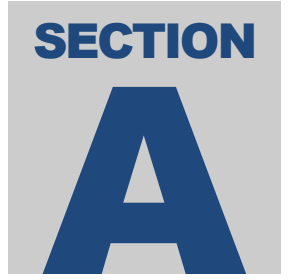
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## A1 PRINCIPAL SHIP PARTICULARS

1.1	Name of Ship	SYN TURAIS
1.2	Previous Name(s)	MARGHERITA IULIANO - OCEAN WIND – OCEAN PRIMARY
1.3	Builder	Cantiere Navale di Pesaro
1.4	Date of delivery	June 2007
1.5	Classification Society and No.	RINA 83009
1.6	Gross Registered Tonnage	3827
1.7	Net registered Tonnage	1148
1.8	Suez Tonnage Gross/Net	4200 / 3220
1.9	Panama tonnage Gross/Net	
1.10	Registered Owner	BOMAR TWO LLC
	Address	TRUST COMPANY COMPLEX, AJELTAKE ROAD
	Telephone	+390819637170
	Telex/fax	+390813313110
1.11	Manager or Operator	SYNERGAS SRL
	Address	VIA RIVIERA DI CHIAIA 287 – 80121 NAPOLI - ITALY
	Telephone	+390819637177
	Telex/fax	+0813313110
1.12	Flag	ITALIAN
1.13	Port of registry	NAPOLI
1.14	Official No.	27
1.15	Call Sign	IBEJ
1.16	Immarsat No.	00870773212627
1.17	LR/IMO No.	9346914
1.18	Was the ship built in accordance with the following regulations	
	IMO	Yes
	USCG	Yes
	RINA	Yes
	OTHER	
1.19	IMO Certification	
	Certificate of Fitness IGC	Yes
	A328	
	A329	
	Letter of Compliance	
1.20	Date questionnaire compiled	09 May 2014

## A2 HULL DIMENSIONS

2.1	Length overall	95.50 mtr.
2.2	Length between perpendiculars	86.35 mtr.
2.3	Extreme breadth	15.50 mtr.
2.4	Extreme depth	8.00 mtr.
2.5	Summer draught	6.50 mtr.
2.6	Corresponding deadweight	4026.16 mtons
2.7	light displacement	2353.036 mtons
2.8	Load displacement (summer)	6379.20 mtons
2.9	Cargo tank cubic capacity (100%)	3992 cbm (preliminary)
2.10	Distance from keel to top antenna	31.00 mtr.
2.11	Air draught (with normal ballast)	26.00 mtr.

## A3 BALLAST PARTICULARS

3.1	Permanent Ballast	
3.2	Ballast quantity 100%	1541 cbm / 1580 tonnes
3.3	Bunkers, stores, etc. 100%	550 tonnes
3.4	Draught	
	- Forward	3.60 mtr
	- Aft	6.00 mtr
	- Mean	4.80 mtr

## A4 IMMERSION

4.1	TPC at normal draught	11.20 at 4.50 mtr
4.2	TPC at loaded draught	12.20 at 6.00 mtr

## A5 LOADED PARTICULARS

(preliminary)

		BUTANE	PROPANE	VCM	BUTADIENE
5.1	Cargo				
5.2	Density	0.601	0.582	0.970	0.651
5.3	Cargo tons	2350	2270	3300*	2545
5.4	Bunkers IFO at 60%	180	180	180	180
5.5	GASOIL at 60%	60	60	60	60
5.6	Fresh water at 20%	25	15	15	15
5.7	Stores/spares	20	20	20	20
5.8	Lub oil at 60%	30	30	30	30
5.9	Ballast (forepeak-deeptank-12-13-14 at 100%)	850	850	421	850
5.10	Deadweight	3505	3425	4026	3700
5.11	Draught				
	- Forward	5.95	5.83	6.42	6.16
	- Aft	6.05	6.01	6.58	6.16
	- Mean	6.00	5.92	<b>6.50</b>	6.16

\* at summer loadline saturation

# A6 PARALLEL MID-BODY DIMENSIONS

PARALLEL MID BODY DIAGRAM	
DISTANCE BOW TO MID POINT MANIFOLD	54Metres
DISTANCE STERN TO MID POINT MANIFOLD	41,2 Metres
LIGHT SHIP PARALLEL BODY LENGH	40 Metres
LIGHT SHIP PARALLEL BODY LENGH- BOW TO MID POINT MANIFOLD	25Metres
LIGHT SHIP PARALLEL BODY LENGH- STERN TO MID POINT MANIFOLD	15Metres
NORMAL BALLAST PARALLEL BODY LENGH	45Metres
NORMAL BALLAST PARALLEL BODY LENGH- BOW TO MID POINT MANIFOLD	28 Metres
NORMAL BALLAST PARALLEL BODY LENGH- STERN TO MID POINT MANIFOLD	17Metres
PARALLEL BODY LENGTH AT SUMMER DEADWEIGHT (SDWT)	54Metres
PARALLEL BODY LENGTH (SDWT) BOW TO MANIFOLD	33Metres
PARALLEL BODY LENGTH (SDWT) STERN TO MID POINT MANIFOLD	21Metres

## A7 BUNKER CAPACITIES

7.1	M.E. Fuel Oil	Grade	380 cst
		Capacity 98%	280
7.2	Diesel Oil	Grade	
		Capacity 98%	95

## A8 FUEL CONSUMPTION DETAILS

(preliminary)

8.1	At sea (normal service speed)	FO	10.7 ton/day
		GO	Shaft generator
8.2	At sea (normal service speed) while conditioning cargo	FO	10.7 ton/day
		GO	1,2 ton/day
8.3	In port, loading	FO	
		GO	2.5 ton/day
8.4	In port, discharging	FO	
		GO	2.0 ton/day
8.5	In port, idle	FO	
		GO	1.2 ton/day

## A9 MAIN ENGINE PARTICULARS

9.1	Main engine make and type	MAN B & W ALFA 7L27/38
9.2	No. of units	One
9.3	Maximum continuous rating (MCR) per engine	800
9.4	Total available power	2380 Kw
9.5	Normal service power (ECR)	2023 kW

## A10 AUXILIARY PLANT

10.1	Make and type of auxiliary generators	VOLVO PENTA TAMD 165A
10.2	No. of units	Three
10.3	Maximum generator output per unit	400 kilowatts
10.4	Shaft generator	700 kilowatts (MAN B & W)
10.5	Emergency generator	100 kilowatts (VOLVO PENTA D7)
10.6	Total available power	1200 kilowatts

## A11 POWER/SPEED INFORMATION (preliminary)

11.1	Trial data	BHP	2380 kW
		MCR	100% SHP
		Speed	15,5 Knots
		Draught	4.40 M
11.2	Normal service speed	BHP	2023 kW
		MCR	85% SHP
		Speed	13,5 Knots
		Draught	Fwd 4.50 mtr - aft 6.50 mtr



## A12 THRUSTERS

12.1	Make and type	Brunvoll Thruster FU-45-LTC-1225
12.2	No. Installed	One
12.3	Location and rated bollard pull	300 Kw

## A13 FRESH WATER

13.1	Capacity of distilled tanks	
13.2	Capacity of domestic tanks	80 Cbm
13.3	Daily consumption distilled domestic	4 tons
13.4	Daily evaporator production	5 tons

## A14 BALLAST CAPACITIES AND PUMPS

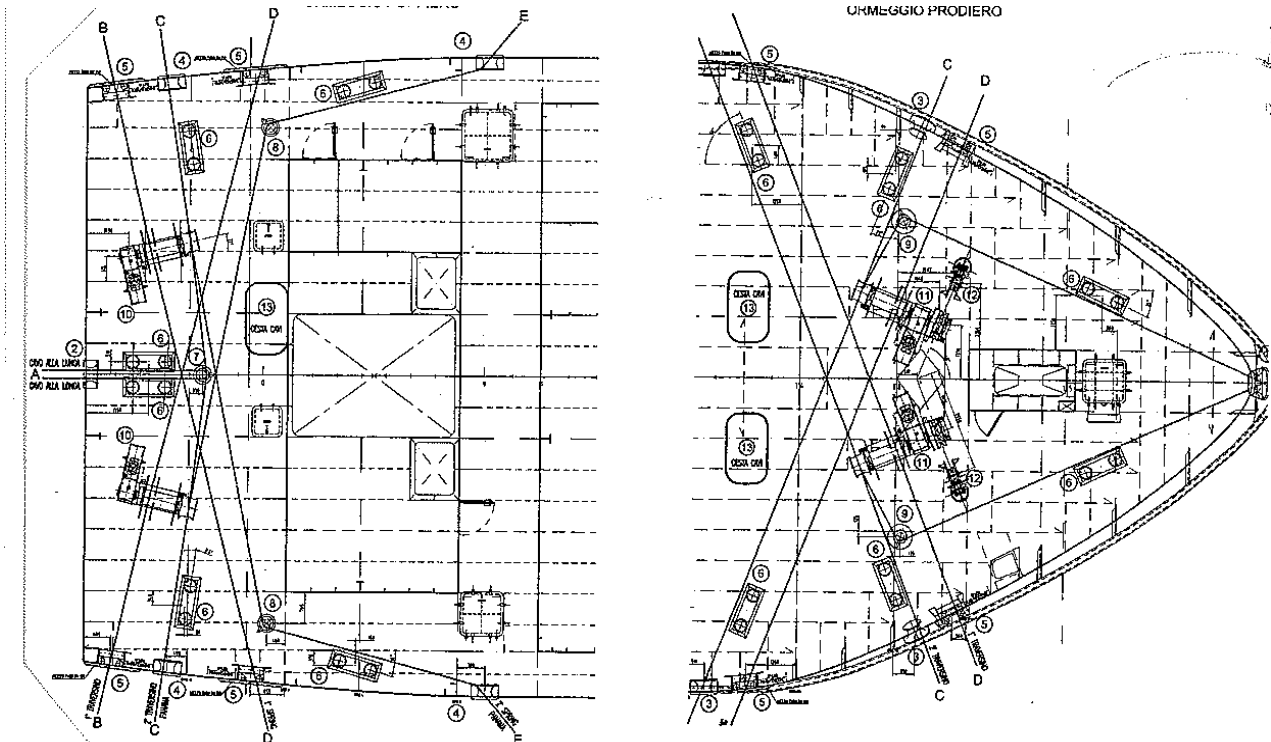
Fill the following table

	Tank	Capacity CBM
14.1	Fore peak	147
14.2	Wing or side tanks	1327
14.3	Double bottoms	
14.4	Aft peak	6
14.5	Other (deep tank)	61
14.6		Total 1541
14.7	Ballast pump make and type	GARBARINO MU 125/315 LE
14.8	No. of Pumps	One (other two on reserve)
14.9	Total capacity	250 cbm/hr x each
14.10	Location	Engine room
14.11	Control Location	Local on engine room / remote on SCP

# A15 MOORING EQUIPMENT

## 15.1 Ropes and Wires.

On the diagram below indicate the position of winch mounted wires(W) and ropes (R) together with open (O) and closed (C) fairleads.



## 15.2 Mooring Winches

	No	Motive power (steam,hydraulic)	Heaving power	Brake Capacity	Hauling speed (m/min)
Forecastle	2	hydraulic	70 kN	210 kN	12
Poop	2	hydraulic	70 kN	219 kN	12

## 15.3 Anchors and Windlasses

Windlass motive Power  
(steam, hydraulic)

Hydraulic

Hauling power

76 kN

nominal 9 m/min  
maximum 18 m/min

Brake holding capacity

114 kN (anchor braking out force)  
576 kN (brake holding force on the chain wheel)

Date of last test

Anchor type

Hall – full balance – high holding power

Weight

1.980tonnes

Is spare carried

Cable diameter

40 mm type U3

No of shackles port

8

No of shackles starboard

9

## 15.4

Windage

Windage on ballast draught

750 M2 (lateral) plus 150 M2 (end-on)

Windage full loaded

600 M2 (lateral) plus 150 M2 (end-on)

# A16 NAVIGATIONAL EQUIPMENT

Is the following equipment fitted :		YES	NO
16.1	Magnetic compass	Yes	
16.2	Gyro compass and repeaters	Yes	
16.3	Radars	Yes	
16.4	Radar plotting equipment		
16.5	Arpa	Yes	
16.6	Echo sounder	Yes	
16.7	Speed/Distance indicator	Yes	
16.8	Doppler log		
16.9	Rudder angle, RPM, controllable pitch and Thrusters indicators	Yes	
16.10	Rate of turn indicator		
16.11	Radio D.F.		
16.12	Navtex receivers	Yes	
16.13	Satellite navigator	Nr.2 units GPS	
16.14	Decca navigator		
16.15	Loran C		
16.16	Sextants	Yes	
16.17	Signal lamp (aldis)	Yes	
16.18	Course recorder	Yes	
16.19	Engine order printer		
16.20	What chart outfit coverage is provided if limited, indicate areas covered	Nautical charts	
16.21	Formal chart correction system in use	yes	

# A17 COMMUNICATION EQUIPMENT

Is the following equipment fitted :

	YES	NO
17.1 Is ship with GMDSS for areas A1 – A2 – A3	Yes	
17.2 Radio telegraph main transmitter including facility to transmit on radio telephone distress frequency	Yes	
17.3 Radio telegraph main receiver including facility to receive on radio telephone distress frequency	Yes	
17.4 Radio telephone distress frequency watch receiver	Yes	
17.5 Main radio antenna	Yes	
17.6 Radio telegraph reserve transmitter		
17.7 Radio telegraph reserve receiver		
17.8 Reserve radio antenna		
17.9 Are the main and reserve installation electrically separate and electrically independent of each other	Yes	
17.10 Radio telegraph auto alarm		
17.11 2182 KHZ bridge watch receiver	Yes	
17.12 Alarm signal generating device	Yes	
17.13 VHF radio	Yes	
17.14 Inmarsat satellite communications system if yes, state identification number	FBB 00870773212627 (voice)	
17.15 Telex if yes, state identification number	Standard C 453838753	
17.16 Telex if yes, state identification number	Standard C 453838754	
17.17 Weatherfax	Yes	
17.18 Epirbs	Yes	
17.19 At least three survival craft two-way radio telephone apparatus	Yes	
17.20 Emergency lifeboat transmitter		
17.21 Full set of publications	Yes	
17.22 Satellite Epirb	Yes	
17.23 VHF GMDSS	Yes	
17.24 Radio transponder for survival craft	Yes	

**SECTION**  
**B**

## B1 CARGO - GENERAL INFORMATION

- |     |   |  |
|-----|---|--|
| 1.1 | List products which the ship is certified to carry  | Anhydrous Ammonia (not exceed minus 20°C) – Butadiene – Butane – Butane/Propane Mixtures – Butylenes – Butadiene and (C4) hydrocarbon mixtures – Propane – Propylene – Vinyl Chloride Monomer – Commercial propane (max 2.5 mol.% ethane in liquid phase) – Dimethylamine – Isoprene (monomer) – Pentane – Diethyl Ether (topping up-padding system-with N2 bottles) – Isopropyl Almine – Monoethylamine . |
| 1.2 | Minimum allowable tank temp.  | Minus 48°C   |
| 1.3 | Maximum permissible tank pressure   | 8 bar/g  |
| 1.4 | List grades which can be transported simultaneously   | 2 grades (only one refrigerated)   |
| 1.5 | List grades which can be loaded or discharged simultaneously  | 2 grades (only one refrigerated)   |
| 1.6 | State natural tank segregation. (N.B. separation obtained by the removal of spools or by insertion of blind flange) | 2 grades can be carried by the use of flanges swing elbows and removal spool pieces  |
| 1.7 | Number of products, (gas) that can be conditioned by reliquefaction simultaneously.                                 | 1  |

## B2 CARGO TANKS

- |     |  |   |
|-----|--|---|
| 2.1 | No. and type of cargo tanks  | Type “C” cylindrical                                      |
| 2.2 | Maximum allowable relief valve setting                             | 8 bar (g)   |
| 2.3 | Safety valve set pressure - If variable give range for pilot valve | USCG 5 bar (g) - IMO 8 bar (g)<br>0.5 – 5.0 – 8.0 bar (g) |
| 2.4 | Maximum vacuum   | 0.75 bar (g) abs  |
| 2.5 | Maximum cargo density  | 0.972 d/cm <sup>3</sup>                                   |
| 2.6 | Maximum rate of cool-down  | 10°C/hr   |
| 2.7 | State any limitations regarding partially filled tanks             | Nil   |
| 2.8 | State allowable combinations of filled and empty tanks             | See Master’s Loading & Stability Instructions manual      |

## B3 CARGO TANK CAPACITIES

Complete the following table

TANK	Capacity CBM	Capacity CBM	PROPANE	AMMONIA	BUTANE	VCM *
	100%	98%	Tonnes -42.8°C	Tonnes -33°C	Tonnes -0,5°C	Tonnes -13,4°C
1	1951.4	1912.4	1110	1300	1150	1855 (98%)
2	2040.3	1999.5	1160	1360	1200	1445 (78%)
3						
4						
5						
6						
<b>TOTALS</b>	<b>3992</b>	<b>3912</b>	<b>2270</b>	<b>2660</b>	<b>2350</b>	<b>3300</b>

VCM \* at summer loading saturation

## B4 LOADING RATES

	PRODUCT	RATE (Tonnes/hr)	
		With vapour return	Without return
4.1	From refrigerated storage		
4.2	BUTANE	350	300
4.3	PROPANE	350	300
4.4	AMMONIA	400	350
4.5	V.C.M.	450	400
4.6	BUTADIENE	350	300
4.7	PROPYLENE	350	300
	<b>PRODUCT</b>	<b>RATE (Tonnes/hr)</b>	
		<b>With vapour return</b>	<b>Without return</b>
4.8	From pressure storage		
4.9	BUTANE 0-30°C	300	300
4.10	PROPANE 0°C	350	300
4.11	10° C	250	200
4.12	20° C	200	100
4.13	30° C	-	-

## B5 DISCHARGING - GENERAL

Cargo pumps

5.1	Type of pumps	Hamworthy Svanehoj A/S – model DW 150/150-3k-1 vertical deepwell single suction – multistage – radially split – line shaft with inducer
5.2	Number per tank	ONE
5.3	Rate (per pump)	250 cbm/hr
5.4	Delivery head	120 mlc
5.5	Maximum density	0.972 kg/cbm
	Booster pumps	
5.6	Type of pump	Hamworthy Svanehoj A/S – model NMB 150c horizontal in line
5.7	Number	ONE
5.8	Rate (per pump)	250 cbm/hr
5.9	Delivery head	120 mlc
5.10	Maximum density	0.680 kg/cbm (ammonia)

## B6 DISCHARGE PERFORMANCES

Full cargo discharge times (using all main pumps)

	MANIFOLD BACK PRESSURE	Hours	
		With vapour return	Without return
6.1 From refrigerated			
6.2	1 bar	8	8
6.3	5 bar	8	8
6.4	10 bar	15	15
<hr/>			
	MANIFOLD BACK PRESSURE	Hours	
		With vapour return	Without return
6.5 Pressurized			
6.6	1 bar	8	8
6.7	5 bar	8	8
6.8	10 bar	8	8

## B7 UMPUMPABLES

	TANK NO.	1	2	3	4	5	6	TOTAL TONNES
7.1	Vapour	5.2	5.3					10.5
7.2	Liquid	0.2	0.3					0.5
7.3							Total quantity	11.0

## B8 VAPORISING UNPUMPABLES

8.1	Process used	Puddle heating
	Time to vaporise liquid unumpables remaining after full cargo discharge :	
8.2	- Propane	0.5 Hrs
8.3	- Butane	3 Hrs
8.4	- Ammonia	2 Hrs
8.5	- Propylene	0.5 Hrs
8.6	-	- hrs
8.7	-	- hrs

## B9 RELIQUEFACTION PLANT

9.1	Plant design conditions	Air temperature max 45° C	
		Sea temperature 32° C	
	Plant type :		
9.2	Single stage/direct	<input type="checkbox"/> yes	<input type="checkbox"/> no
9.3	Two stage/direct	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
9.4	Simple cascade	<input type="checkbox"/> yes	<input type="checkbox"/> no
9.5	Coolant type	Sea water	
	Compressors		
9.6	Type	SULZER 2K 140 – 2F	
		two cylinder – double acting – oil free – labyrinth piston - reciprocating	
9.7	Number	2	
9.8	Capacity (per unit)	Varies with handled gas (about 350 cbm/hr with 1 bar of suction)	
9.9	Are they oil-free	yes	



## B10 COOLING CAPACITY

State cooling capacity (in Kcal/hr) for :			sea water 15°C	sea water 32°C
10.1	Propane	@ -42°C	Kcal/hr 80000	60000
10.2		@ -20°C	Kcal/hr 200000	170000
10.3		@ - 5°C	Kcal/hr 380000	320000
10.4	iso-Butane	@ - 5°C	Kcal/hr	121000
10.5		@ 0°C	Kcal/hr	151000
10.6	n-Butane	@ 0°	Kcal/hr	110000

## B11 CARGO TEMPERATURE LOWERING CAPABILITY (AT SEA)

Time taken to lower the temperature of:			sea water 15°C	sea water 32°C
11.1	Propane from	- 35°C to -42°C	Hrs 54	80
11.2		- 5°C to -42°C	Hrs 160	220
11.3		- 38°C to -42°C	Hrs 30	50
11.4		+20°C to -0.5°C	Hrs 21	27
11.5		+10°C to -0.5°C	Hrs 11	16
11.6	n-Butane from	+20°C to -0.5°C	Hrs	90
11.7		+10°C to -0.5°C	Hrs	53
11.8	iso-Butane from	+10°C to -0.5°C	Hrs	64
11.9	Propylene from	-42°C to -45°C	Hrs 24	28
11.10	Ammonia from	-20°C to -30°C	Hrs 89	102

## B12 INERT GAS

Main inert gas and nitrogen plant

12.1	Type of system	Enraf Smit Gas System GIn 350-6 BUCD
12.2	Capacity	350 cbm/hr inert gas / discharge pressure 6 bar (g)
12.3	Composition of inert gas	O2 max 0.5 / 0.1 % CO max 200 / 1000 ppm CO2 about 14% SO2 max 10 ppm N2 balance
12.4	Dewpoint	Soot (on Bachrach scale) : 0 40°C at 760mm/hg
12.5	Used to	provide dry inert gas or dry air for inerting & purging cargo tanks /void space
	Nitrogen	
12.6	No of bottles	Possibility to restore and operate nr. 12 bottles
12.7	Capacity (each one)	50 ltrs
12.8	Used for	Padding

## B13 CARGO TANK INERTING/DE-INERTING

13.1	Time taken from fresh air to under 5% O2 at -40°C dewpoint	71 hrs drying and inerting (from air at 25°C, 80%relative humidity to under 5% O2 at -40°C dewpoint).(inert gas 8000 cbm). 19 hrs for inerting only (from air with 21% O2 to under 5% O2).
	Time taken from cargo vapour to fully inert	
13.2	When : Inert gas density less than product	13 hrs
	Inert gas density greater than product	13 hrs

## B14 GAS FREEING TO FRESH AIR

- 14.1 Plant used Cargo compressors & dry air compressor I.G.  
 14.2 Time taken from fully inerted condition to fully breathable fresh air 15 hrs

## B15 CHANGING CARGO GRADES

In this table write down time to change products (in hrs). Write also consumption of nitrogen.

	From To	PROPANE TIME/CONS.	BUTANE TIME/CONS.	PROPYLENE TIME/CONS.	AMMONIA TIME/CONS.	VCM TIME/CONS.
	PROPANE	XXXXXXXXXX	50 / 4500	55 / 5500	70 / 11500	50 / 5000
	BUTANE	30 / 5500	XXXXXXXXXX	30 / 5500	50 / 11500	30 / 5000
	PROPYLENE	60 / 5500	55 / 4500	XXXXXXXXXX	75 / 11500	55 / 5000
	AMMONIA	35 / 5500	35 / 4500	35 / 5500	XXXXXXXXXX	30 / 5000
	VCM	35 / 5500	30 / 4500	35	55 / 11500	XXXXXXXXXX

Inert gas or dry air used instead of nitrogen

## B16 DECK TANK CAPACITY

- 16.1 Propane capacity Cbm  
 16.2 Butane capacity Cbm  
 16.3 Ammonia capacity Cbm  
 16.4 Nitrogen capacity Ncm

## B17 PRE-LOADING COOLDOWN

In the table below, show time and quantity of coolant required to cooldown cargo tanks from ambient temperature and fully gassed up state sufficient to allow loading to commence.

	PRODUCT	QUANTITY REQUIRED	TIME	
			With return line	Without return
17.1	ETHYLENE			
17.2	PROPANE	3	35	35
17.3	BUTANE	2	12	12
17.4	AMMONIA	1	15	15
17.5	VINYL	2	14	14

## B18 VAPORISER

- 18.1 Type of vaporiser None  
 18.2 Number fitted  
 18.3 Capacity (per unit) cbm/hr vapour  
 18.4 Liquid supply rate cbm/hr liquid  
 18.5 Delivery temperature °C

## B19 BLOWER

- 19.1 Type of blower None  
 19.2 Rated capacity cbm/hr  
 19.3 Delivery pressure kg/cm2

## B20 CARGO RE-HEATER

20.1	Type of re-heater	Horizontal shell & tube
20.2	Number fitted	1
20.3	Heating medium	Sea water
20.4	Discharge rates with sea water at 15°C to raise product temperature:	
	for propane from -42°C to -5°C	208 cbm/hr
20.5	for ammonia from -33°C to 0°C	147 cbm/hr

## B21 HYDRATE CONTROL

21.1	Freezing point temperature of Depressant	Minus 97°C
21.2	Quantity of Depressant carried	25 litres plus empty storage of 500 litres
21.3	Means of injection	Manual pump to injection valves at cargo pump and condenser outlets

## B22 CARGO MEASUREMENT

	LEVEL GAUGES	
21.1	Are level gauges local or remote	Yes yes
21.2	Manufacturer	Henry Systems Holland BV
21.3	Type	UASI 806 M HN / HT18
21.4	Rated accuracy	+/- 5 mm
21.5	Certifying authority	RINA
	TEMPERATURE GAUGES	
22.6	Manufacturer	Stiko
22.7	Type	1142-100
22.8	Rated accuracy	+/- 1% of full scale range
22.9	Certifying authority	RINA
	PRESSURE GAUGES	
22.10	Manufacturer	Wika Instruments Ltd
22.11	Type	233.30.100
22.12	Rated accuracy	+/- 1% fsd
22.13	Certifying authority	RINA
	OXYGEN ANALYSER	
22.14	Manufacturer	2 BW
22.15	Types	- Multi gas Detector - Five Gas Detector
	FIXED GAS DETECTOR	
22.16	Manufacturer	
22.17	Type	
22.18	No of points detected	
	PORTABLE GAS DETECTOR	
22.19	Number	2
22.20	Manufacturer	MSA
22.21	Type	Explosimeter mod. EX-METER II P COMBIKIT
	TOXIC GAS INDICATOR	
22.22	Number	2
22.23	Type	QUANTIGAS MODERNA SUPER
	TOXIC GAS INDICATOR TUBES	
22.24	Number	5 box
22.25	Products	Ammonia – Tricloroetano - VCM – Ethylene - Propano
22.26	Exp.dates	11/2008
	TANKSCOPE	
22.27	Type	

# B23 CARGO SAMPLING

23.1 Fill the following table

CARGO TANKS	SAMPLE			POINTS BOTTOM
	vapour	TOP	MIDDLE	
1	100 %	95 %	50 %	0 %
2	100 %	95 %	50 %	0 %
3				
4				
5				
6				

23.2 Can sample be drawn from:

- Tank vapour outlet
- Manifold liquid line
- Manifold vapour line
- Pump discharge line

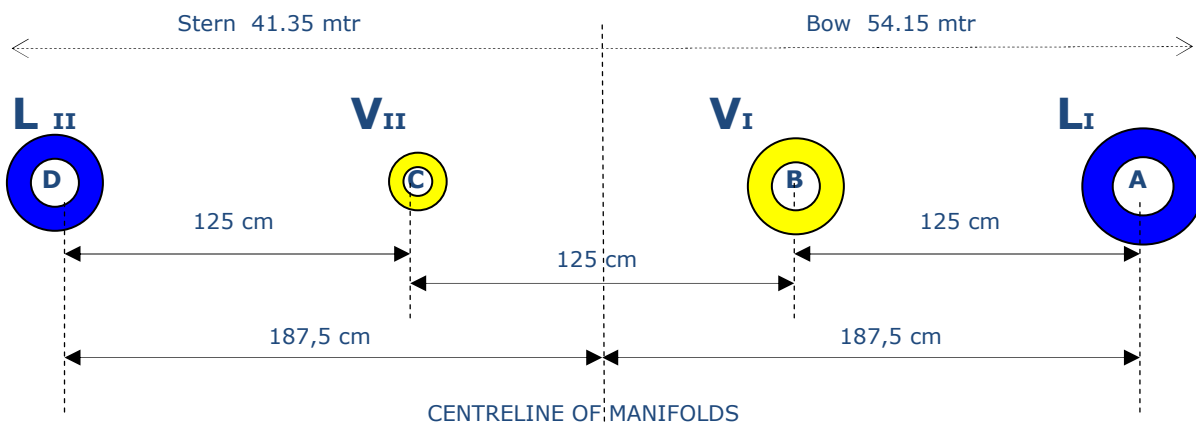
yes

23.3 State connection type and size

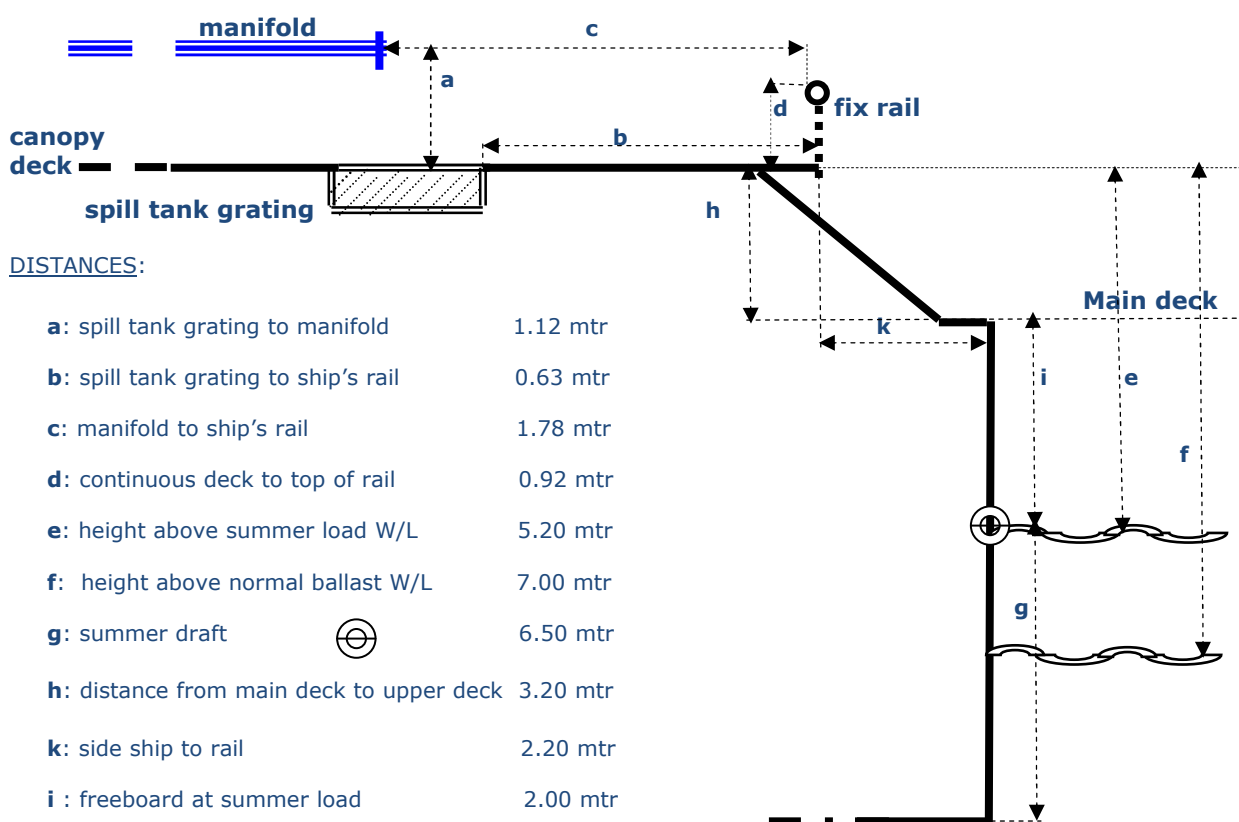
Sample bottle and valve with pipe

# B24 CARGO MANIFOLD ARRANGEMENTS

## CARGO MANIFOLDS



Pipe Flange	Duty	Rating	Size	Raised (R) or Flat (F) face
<b>A</b>	Liquid system I	Ansi <b>300</b>	<b>8"</b>	R
<b>B</b>	Vapour " I	Ansi <b>150</b>	<b>4"</b>	R
<b>C</b>	Vapour " II	Ansi <b>150</b>	<b>4"</b>	R
<b>D</b>	Liquid system II	Ansi <b>300</b>	<b>8"</b>	R



## B25 CARGO MANIFOLD REDUCERS

State number of reducers carried on board and their flange rating and size

25.1	AISI class 300	8" x 8" (4)
25.2		8" x 6" (1)
25.3		8" x 4" (1)
25.4	AISI class 300 to class 150	8" x 4" (1)
25.5		
25.6		
25.7	AISI class 150	4" x 4" (4)
25.8		6" x 4" (1)
		5" x 4" (1)
		4" x 3" (1)

## B26 MANIFOLD DERRICK/CRANE

26.1	Is Manifold Derrick provided	no
26.2	Is Manifold Crane provided	Yes
26.3	Is lifting equipment same port and starboard	Yes
	If not give details	
26.4	State SWL at maximum outreach	3 tonnes