# 12,000 M3 LEG/LPG/NH3/VCM CARRIER (ELETSON)

## **GAS FORM-C**

based on the
OCIMF / SIGTTO
SHIP INFORMATION QUESTIONNAIRE
for
GAS CARRIERS
2nd Edition 1998

Specifications of the vessel and the gas installations are believed to be correct, but not guaranteed.

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# SECTION A **GENERAL INFORMATION**

### A1 PRINCIPAL SHIP PARTICULARS

	I AL SIIII I AKTICULAKS			
1.1	Date questionnaire completed			01/06/2018
1.2	Name of vessel			KALOLIMNOS
1.3	LR/IMO number	•		9796705
1.4	Last previous name			N/A
1.4.1	Date of name change	•		N/A
1.5	Second last previous name			N/A
1.5.1	Date of name change	•		N/A
1.6	Third last previous name			N/A
1.6.1	Date of name change	•		N/A
1.7	Fourth last previous name			N/A
1.7.1	Date of name change	•		N/A
1.8	Flag			LIBERIA
1.9	Port of Registry			MONROVIA
1.10	Official number			92857
1.11	Call sign			D5QY4
1.12	INMARSAT A or B number			N/A
1.13	Vessel's telephone number			70773910787 // 12341464 (Bridge)
				1465 (Master)
1.13.1	Vessel's mobile number		003725	4-430862
1.14	Vessel's fax number		N	//A
1.15	Vessel's telex number		N	[/A
HHI Version12/2004 -YSI	Vessel's E-mail address	Page 1HHI - Gas Form-C	master@kalolim	nos.eletson.com
		•		

1.17	INMARSAT C number	463725353
1.18	Vessel's MMSI number	636092857
1.19	Type of vessel	LEG/LPG/NH3/VCM Carrier
		Max tank pressure 5.0 Barg (0.972 t/m3)
		Min temp -104°C
	OWNERSHIP AND OPERATION	
1.20	Registered Owner	STAR RAY CORPORATION
	Full address	LEXUS TOWER BUILDING
		GROUND FLOOR, OFFICE No2
		78th E STREET, SAN FRANCISCO
	0.00	PANAMA CITY, REPUBLIC OF PANAMA
	Office telephone number	+30 2104282300
	Office telex number	217424 - EletGR
	Office fax number	+30 2104282320
	Office Email address	info@eletson.com
	Contact person	Cpt Antonios Michail
	Contact person after hours telephone number	+30 6946502363
1.21	Name of technical operator (If different from above)	As Above
1.21	Full Address	7
	1 411 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	Office telephone number	
	Office telex number	
	Office fax number	
	Office Email address	
	Contact person (Designated Person Ashore)	
	Contact person after hours telephone number	
	Emergency callout number	
	Emergency callout pager number	
	Contact details for person responsible for oil spill response	
	Number of years controlled by technical operator	Since Delivery Years
1.22	Total number of ships operated by this Operator	32
1.23	Number of years ship owned	Since Delivery Years
1.23.1	Name of commercial operator (If different from above)	As Above
1.23.1	Full Address	AS ADOVC
	Tuli Address	
	Office telephone number	
	Office telex number	
	Office fax number	
	Office Email address	
	Contact person	
	Contact person after hours telephone number	
	Emergency callout number	
	Emergency callout pager number	/
	Number of years controlled by commercial operator	Since Delivery Years
1.04	BUILDER	W 1:36 5 5
1.24	Builder	Hyundai Mipo Dockyard
1.25	Name of yard vessel built at	HMD
1.26	Hull number	8214
1.27	Date keel laid	22-May-17
1.28	Date launched	21-Jul-17
1.29	Date delivered	31-May-18
1.30	Date of completion of major hull changes, - if any.	N/A
1.31	If changes were made, what changes were made and at	
1.31	which yard were they carried out	
1.31	which yard were they carried out	
1.31 HHI Version12/2004	which yard were they carried out	

	CLASSIFICATION			
1.32	Classification society		LR	
1.33	Class Notation	Acedaldehyne, Anhydrous Butane-Propane mixture, I	ied Gas carrier, Ship type 2G, Ammonia, Butadiene, Butane,	-
		Ethylene, Ethylene Oxide-I E.O. 30% by weight), Isopi Chloride, Mixed C4, Mono isomers), Pentene(all isome	Propylene Oxide mixtures(Max rene, Isopropylamine, Methyl ethylamine, Pentanes(all	
		Independent Tank Type C,	Maximum Specific Gravity	
		0.97, Maximum Vapour Pr Cargo temperature minus	essure 5.0 bar, Minimum 104 C, ShipRight(ACS(B), CM	
		FDA, SDA), *IWS, LI ECO(BWT, EEDI-1, IHM,		
		+LMC, IGS, UMS, NAV1	1)	
		+Lloyd's RMC(LG) Description Notes: ShipRig	ht(BWMP(S,T), SCM, SERS)	
			1	<u> </u>
1.34	If Classification society changed, name of previous society		N/A	
1 25	If Classification assists showed data of shows		NI/A	
1.35 1.36	If Classification society changed, date of change Was ship built in accordance with the following regulations		N/A	
1.50	was sinp built in accordance with the following regulations	•	Approval Received	
	IMO	YES/ <del>NO</del>	YES/ <del>NO</del>	1
	US COAST GUARD	YES/NO	YES/NO	
	SIGTTO - EXXONMOBIL	YES/NO	YES/ <del>NO</del>	
	Other: Maritime Authority of Japan	YES/NO	YES/ <del>NO</del>	
1.37	IMO certification	•		=' =
	Certificate of fitness - IG		YES/ <del>NO</del>	
	Certificate - A32		YES/NO	
	Certificate - A32		YES/NO	
	Letter of Compliance		YES <del>/NO</del>	
1.38	Issued b Unattended Machinery Space Certificate	by LR	YES <del>/NO</del>	
1.50	Chattended Wachinery Space Certificate		TES/TVO	_
1.39	Net Registered Tonnage		4138	
1.40	Gross Registered Tonnage		13794	
1.41	Suez Net Tonnage - Canal Tonnage			
	Suez Gross Tonnage			
1.42	Panama Net Tonnage - Canal Tonnage		N/A	
	Panama Gross Tonnage		11616	
40 19111	DIMENCIONG			
A2 HULL 2.1	Length overall (LOA)		147.06	Metres
2.1	Length between perpendiculars (LBP)		139	Metres
2.3	Distance bow to bridge		117.62	Metres
2.4	Distance bridge front - mid point manifold		48	Metres
2.5	Distance bow to mid-point manifold		69.62	Metres
2.6	Extreme breadth		22.6	Metres
2.7	Extreme depth		12.6	Metres
2.8	Summer draught		9.214	Metres
2.9	Corresponding Summer deadweight		15068	Tonnes
2.10	Light displacement		6793	Tonnes
2.11	Loaded displacement (Summer deadweight)		21861	Tonnes
2.12	Cargo tanks cubic capacity - 100%		12154.8 122.929	Cubic metres
2.12.1 2.12.2	Deck tank(s) cubic capacity - 100% Cargo tanks cubic capacity - 98%		1122.929	Cubic metres Cubic metres
2.12.2	Deck tank(s) cubic capacity - 98%		120.47	Cubic metres Cubic metres
2.12.3	Distance from keel to highest point		45.14	Metres
2.13	Air draught (normal ballast condition)		39.63	Metres
				J

3.1 TPC - in normal ballast condition

TPC - in loaded condition (summer deadweight)

24.92	5.57
29.63	9.214

#### A4 LOADED PARTICULARS

4.1	Cargo grade
4.2	Density
4.3	Cargo loadable
4.4	Bunkers - FO
4.5	Bunkers - DO
4.6	Fresh water
4.7	Stores & spares
4.8	Lub oil
4.9	Ballast
4.10	Deadweight
4.11	Draught - forward
	Draught - aft
	Draught - mean

Cargo grade
Density
Cargo loadable
Bunkers - FO
Bunkers - DO
Fresh water
Stores & spares
Lub oil
Ballast
Deadweight
Draught - forward
Draught - aft

Draught - mean

Cargo grade

Density
Cargo loadable
Bunkers - FO
Bunkers - DO
Fresh water
Stores & spares
Lub oil
Ballast
Deadweight
Draught - forward
Draught - aft
Draught - mean

Density
Cargo loadable
Bunkers - FO
Bunkers - DO
Fresh water
Stores & spares
Lub oil
Ballast
Deadweight
Draught - forward
Draught - aft
Draught - mean

Cargo grade

Butane	Propane	
0.6	0.58	
7147	6909	Tonnes
1006	1006	Tonnes
282	282	Tonnes
266	266	Tonnes
34	34	Tonnes
54	54	Tonnes
1157	1157	Tonnes
9946	9708	Tonnes
6.48	6.34	Metres
8.39	8.36	Metres
7.44	7.35	Metres

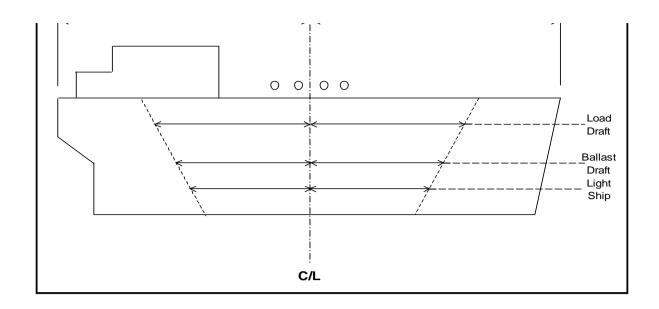
		-
Butadiene	Propylene	
0.65	0.6	
7742	7147	Tonnes
1006	1006	Tonnes
282	282	Tonnes
266	266	Tonnes
34	34	Tonnes
54	54	Tonnes
1157	1157	Tonnes
10541	9946	Tonnes
6.84	6.48	Metres
8.48	8.39	Metres
7.66	7.44	Metres

Ethylene	Ammonia	
0.57	0.68	
6789	8100	Tonnes
1006	1006	Tonnes
282	282	Tonnes
266	266	Tonnes
34	34	Tonnes
54	54	Tonnes
1157	1157	Tonnes
9588	10899	Tonnes
6.27	7.06	Metres
8.34	8.53	Metres
7.31	7.79	Metres

VCM	Propylene Oxide	
0.97	0.82	
11554	7380	Tonnes
1006	1006	Tonnes
282	282	Tonnes
266	266	Tonnes
34	34	Tonnes
54	54	Tonnes
1599	1157	Tonnes
14795	10179	Tonnes
9.18	6.49	Metres
9.24	8.48	Metres
9.21	7.52	Metres

#### A5 PARALLEL MID-BODY DIMENSIONS

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5.1	Light ship
5.2	Forward to mid-point manifold - light ship
5.3	Aft to mid-point manifold - light ship
5.4	Normal ballast
5.5	Forward to mid-point manifold - normal ballast
5.6	Aft to mid-point manifold - normal ballast
5.7	Loaded SDWT
5.8	Forward to mid-point manifold - loaded SDWT
5.9	Aft to mid-point manifold - loaded SDWT

	_
29.28	Metres
10.01	Metres
19.27	Metres
52.43	Metres
25.76	Metres
26.67	Metres
74.19	Metres
38.50	Metres
35.69	Metres

#### **A6 BUNKER CAPACITIES**

Main engine, Auxiliary engine(s)

Grade	Capacity M <sup>3</sup> @ 100%
No 1 P	102.3
No 2 P	272.7
No 3 P	102.3
No 1 S	102.3
No 2 S	272.7
No 3 S	102.3
No 1 Settling	18.1
No 1 Service	18.1
No 2 Settling	29.2
No 2 Service	17.6
MDO	319.8

Other: Storage (P + S)//Service Tanks

### A7 FUEL CONSUMPTION DETAILS PLEASE SEE CHARTER PARTY

	on shop test ISO ambient condition, HFO of 9,700 Kcal/kg
7.1	At sea - normal service speed (About 15.0 Knots)
7.2	At sea - normal service speed - while conditioning cargo (cooling down of cargo - 3 Cargo Compressors)
7.3	In port - loading based on three (3) diesel generator 24 hours running
7.4	In port - discharging based on three (3) diesel generator 24 hours running
7.5	In port - idle

N I I	
Grade	
Fuel oil	Tonnes/day
Diesel oil	Tonnes/day
Gas oil	Tonnes/day
Fuel oil	Tonnes/day
Diesel oil	Tonnes/day
Gas oil	Tonnes/day
Fuel oil	Tonnes/day
Diesel oil	Tonnes/day
Gas oil	Tonnes/day
Fuel oil	Tonnes/day
Diesel oil	Tonnes/day
Gas oil	Tonnes/day
Fuel oil	Tonnes/day
Diesel oil	Tonnes/day
Gas oil	Tonnes/day

Copies of the vessel's Speed and Consumption Graph for both Laden and Ballast conditions are enclosed?

NO

#### **A8 MAIN ENGINE PARTICULARS** Main engine make and type Hyundai-MAN B&W 8.1 6S46ME-B8.3 8.2 One(1) Number of units kW @ RPM 8.3 Maximum continuous rating (MRC) per engine 6,430 kW 125 RPM 8.4 Total available power 8,623 ΗP 8.5 6,895 Normal service power ΗP **AUXILIARY PLANTS Hyundai HiMSEN** 9.1 Make and type of auxiliary generators / engines 6H21/32 9.2 Number of units Three(3) RPM 9.3 Kilowatts Maximum generator output per unit 900 1,272 Unit no. 1 900 Unit no. 2 1,272 900 Unit no. 3 1,272 Unit no. 4 9.4 Shaft generator N/A 9.5 Total available power 3816 1800 120 9.6 Emergency generator 9.7 Emergency fire pump - type Vertical Centrifugal Delivery pressure 10(total head) Electrical Motive power If electrical, - indicate power required 55 Kilowatts 9.8 Steering gear - type Rotary vane Indicate power required to steer the vessel with one pump unit 22 Kilowatts A10 POWER/SPEED INFORMATION BHP 6039 10.1 Trial data 128.9 **MRC** SHP Speed 18.32 Knots Draught 5.14 Metres 10.2 5144 BHP Normal service speed 116 MRC SHP Speed 16 Knots Draught 7.3 Metres A11 THRUSTERS HHI-HSC-1550S / Controllable Pitch 11.1 Make and type 750 Kilowatts 11.2 Bow thruster (output) 11.3 Stern thruster (output) NA Kilowatts A12 FRESH WATER 12.1 Capacity of distilled tanks 0 Tonnes 12.2 Capacity of domestic tanks 266.6 Tonnes

#### A13 BALLAST CAPACITIES AND PUMPS

Daily consumption

Daily evaporator capacity

12.3

12.4

	Tank	Capacity (m3)	Number
13.1	Fore peak	307.7	1
13.2	Wing and or side tanks	753	2
13.3	Double bottom tanks	3909.4	17
13.4	Aft peak	212.7	1
13.5	Other:		
13.6	Total	5182.8	21

Distilled

Domestic

5

9

20

Tonnes

Tonnes

Tonnes

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13.7	Ballast pump make and type	SHIN SHIN / C200 VIC MDVC - CENTRIFUGAL ELECTRIC DRIVEN		
13.8	Number of pumps		2	
13.9	Total capacity		300	M3/hour
13.10	Location	E/room (Floor)		
13.11	Control location	PUMP SIDE	/ CCR / ECR	]

#### A14 MOORING EQUIPMENT

#### 14.1 **ROPES**

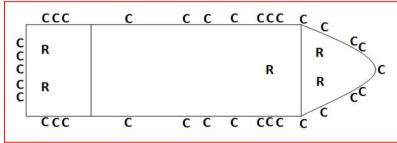
Indicate on the diagram below the position of:

Winch Mounted Ropes (R)

Open Fairleads (O)

Closed Fairleads (C) \_ APPLICATION OF CLOSED CHOCK

## Alternatively enclosed copy of vessel's Mooring arrangements in A4 format.



Mooring Ropes (On Drums) Forecastle - Number		4
Diameter		38 mm.
Material	New Superflex Euro	)
Length	1	Metre
Breaking Strength		39 Tonne
Mooring Ropes (On Drums) Forward Main Deck - Number		2
Diameter		38 mm.
Material	New Superflex Euro	)
Length	1	Metre
Breaking Strength		39 Tonne
Mooring Ropes (On Drums) Aft Main Deck - Number		
Diameter		mm.
Material		
Length		Metre
Breaking Strength		Tonne
Mooring Ropes (On Drums) Poop - Number		4
Diameter		38 mm.
Material	New Superflex Euro	)
Length	1	Metre
Breaking Strength		Tonne

#### OTHER MOORING LINES

Mooring Ropes not on Drums - Number		8	
Diameter		38	mm.
Material	50% POLYESTER	- 50 % POLYSTEEL	
Length		220	Metres
Breaking Strength		38.5	Tonnes
<b>Emergency Towing Wires / Fire Wires - Number</b>		2	
Diameter		28	mm.
Material	FIRE WIRES : GA	LVANIZED STEEL	
Length		45	Metres
Breaking Strength		3,425.0 N	Tonnes

#### 14.2 **MOORING WINCHES**

Fo	recastl	le - 1	Num	her

Single Drum or Double Drums

HHI Version12/2004 -YSL Split Drums Y/N

F	age	7HHI	- Gas	Form-C

2
Double
YES

Motive Power	El-Hydraulic	
Heaving Power	12.5	Tonnes
Brake Capacity	38.5	Tonnes
Hauling Speed	15	Metres/Min.
Forward Main Deck - Number	1	
Single Drum or Double Drums	Double	
Split Drums Y/N	YES	
Motive Power	El-Hydraulic	
Heaving Power	12.5	Tonnes
Brake Capacity	38.5	Tonnes
Hauling Speed	15	Metres/Min.
Aft Main Deck - Number	N/A	
Single Drum or Double Drums		
Split Drums Y/N		
Motive Power		
Heaving Power		Tonnes
Brake Capacity		Tonnes
Hauling Speed		Metres/Min.
Poop - Number	2	
Single Drum or Double Drums	Double	
Split Drums Y/N	YES	
Motive Power	El-Hydraulic	
Heaving Power	12.5	Tonnes
Brake Capacity	38.5	Tonnes
Hauling Speed	15	Metres/Min.

### 14.3 **ANCHORS AND WINDLASS**

Windlass motive power(e.g. steam, hydraulic)	Electro-	-Hydraulic	
Hauling pov	ver	16.3	Tonnes
Brake holding pov	ver	119.2	Tonnes
Anchor type	Stockless, High H	olding Power, AC-14	
Wei	ght	4.33	Tonnes
Is spare anchor carried		NO	
Cable diameter		58	mm.
Number of shackles port cable		11	
Number of shackles starboard cable		10	

### 14.4 TOWING ARRANGEMENTS

Is the vessel fitted with a Towing Bracket A	Aft?	N/A	
	If Yes, state SWL		Tonnes
Is Towing chain provided		N/A	
Dimensions of Towing wire	Diameter		mm.
	Length		Metres

#### 14.5 **WINDAGE**

Windage on ballast draught	End-on	530	Squaremetres
	Lateral	1936	Squaremetres

#### A15 NAVIGATIONAL EQUIPMENT

15.1	Magnetic compass		YES/NO
15.2	Off Course Alarm - Magnetic compass		YES/NO
15.3	Gyro compass		YES/NO
		Number of Units	2
15.4	Off Course Alarm - Gyro compass		YES/NO
15.5	Gyro (Bridge) Repeaters		YES/NO
		Number of Units	5
15.6	Radar 3cm		YES/NO
15.7	Radar 10cm		YES/ <del>NO</del>
15.8	Are radars gyro stabilised?		YES/ <del>NO</del>
15.9	Radar plotting equipment		YES/ <del>NO</del>
15.10	ARPA		YES/ <del>NO</del>
15.11	ECDIS		YES/NO
HHI Version12/2004 -YSL 15.12	Depth sounder with recorder	Page 8HHI - Gas Form-C	YES/NO
			-

15.13	Depth sounder without recorder		¥ES/NO
15.14	Speed/distance indicator		YES/NO
15.15	Doppler log		YES/NO
15.16	Docking approach Doppler		¥ES/NO
15.17	Rudder angle indicator		YES/NO
15.18	Rudder angle indicator on Each Bridge Wing		YES/NO
15.19	RPM indicator		YES/ <del>NO</del>
15.20	RPM indicator on Each Bridge Wing		YES/ <del>NO</del>
15.21	Controllable pitch propeller indicator		<del>YES/N</del> O/NA
15.22	Thruster(s) indicator		YES/NO
15.23	Rate of turn indicator		YES/NO
15.24	Radio direction finder		¥ES/NO
15.25	Navtex receiver		YES/NO
15.26	GPS		¥ES/NO
15.26.1	DGPS		YES/NO
15.27	Transit SATNAV		¥ES/NO
15.28	Decca navigator		¥ES/NO
15.29	Omega		¥ES/NO
15.30	Loran C		¥ES/NO
15.31	Weather fax		YES/NO
15.32	Sextant(s)		YES
15.33	Signal lamp ALDIS		YES/ <del>NO</del>
15.34	Anemometer		YES/NO
15.35	Engine order recorder		YES/ <del>NO</del>
15.35.1	VDR (Voyage Data Recorder)		YES/NO
15.36	Course recorder		YES/NO
15.37	Are steering motor controls and engine controls fitted on bridge wings?	No steering motor control on wings	YES <del>/NO</del>
15.38	Is bridge equipped with a 'Dead-Man' alarm?		YES/NO/NA
15.39	What chart outfit coverage is provided	World-wide	YES/NO
		Limited	¥ES/NO
	If limited, - please indicate area(s) covered	d N/A	
15.40	Formal chart correction system in use		YES/NO
15.41	Electronic Chart system in use		YES/NO

A16	COMMUNICATIONS AND ELECTRONICS	
16.2	What GMDSS areas is the vessel classed for? A1 A2 A3 A4	A1+A2+A3
16.3	Transponder (SART)	YES/NO
16.4	EPIRB	YES/NO
16.5	How many VHF radios are fitted on the bridge?	2
16.6	Is vessel fitted with VHF in the cargo control room (CCR)?	YES/NO
16.7	Is the CCR connected to the vessel's internal communication system?	YES/NO
16.8	How many intrinsically safe walkie talkies are provided for cargo handling?	11
16.9	Is vessel fitted with an INMARSAT satellite communications system?	YES/NO
16.10	Does vessel carry at least three survival craft two-way radio telephones?	YES/NO
16.11	Inmarsat satellite system	YES/NO
	Specify system type A, B or C	C / FBB 500
16.12	2182kHz bridge auto alarm	YES/NO
16.13	Radio telephone distress frequency watch receiver	YES/NO
16.14	Emergency lifeboat transceiver	¥ES/NO
16.15	Can vessel transmit the helicopter homing signal on 410 kHz?	¥ES/NO
16.16	Full set of Radio List publications	YES/ <del>NO</del>

### SECTION B **CARGO SYSTEMS**

#### 1.1 List products which the ship is Certified to carry

Transport and Carriage Conditions		
Minimum allowable tank temperature	-104	Deg. Celsius
Maximum Permissible tank pressure	5	Bar g
List Number of grades that can be loaded/discharged		
simultaneously and completely segregated without risk of contamination?	2	
List the Number of grades that can be carried simultaneously		
and completely segregated without risk of contamination?	2	
What is the Number of Products that can be conditioned by	2	
•		_
State the number of natural segregation's (NB: Separation must be by the removal of spools or the insertion of blanks)	2	
	Minimum allowable tank temperature Maximum Permissible tank pressure List Number of grades that can be loaded/discharged simultaneously and completely segregated without risk of contamination? List the Number of grades that can be carried simultaneously and completely segregated without risk of contamination?  What is the Number of Products that can be conditioned by reliquefaction simultaneously? State the number of natural segregation's (NB: Separation	Minimum allowable tank temperature  Maximum Permissible tank pressure  List Number of grades that can be loaded/discharged simultaneously and completely segregated without risk of contamination?  List the Number of grades that can be carried simultaneously and completely segregated without risk of contamination?  2  What is the Number of Products that can be conditioned by reliquefaction simultaneously?  State the number of natural segregation's (NB: Separation

B2 CARGO TANKS						
2.1	Type and materials of cargo tanks	Cylindrical Cargo Tank Type C	Fine austenitic grain, Fully killed, Nikel alloy steels with specified low temperature properties.			
2.2	Maximum allowable relief valve setting		5	Bar gauge		
2.2.1	IMO Setting		5	Bar gauge		
2.2.2	USCG Setting		5	Bar gauge		
2.3	Safety valve set pressure, - if variable stipulate range of pilot	5				
	valves	5		Bar gauge		
2.4	Maximum allowable vacuum		0.75	Bar abs		
2.5	Maximum cargo density at 15 deg Celsius		972	kg/m³		
2.6	Maximum rate of cool-down		10	Deg Cel / Hour		
2.7	State any limitations regarding partially filled tanks		no	•		

Diethylether, Etylene Oxide/Propylene Oxide, Isopropylamine, Monoethylamine, Vinylethylether max. 3000 m³ per cargo tank

2.8 State allowable combinations of filled and empty tanks

No.1 (2+3 empty); No.2(1+3 empty); No.3 (1+2 empty); Nos. 1+2 (No. 3 empty); Nos. 1+3 (No. 2 empty); Nos. 2+3 (No 1 empty)
There are no limitations for partial filling ratio

### **B3 CARGO TANK CAPACITIES**

B3 CARGO TANK CA	PACITIES				
Tank number / location		Tank	1/ Fore		
Capacity m	3 (100%)			4051	m3
Capacity 98	3%			3970	m3
Butane cap	acity			2382	Tonnes
Butane tem	perature			0	Deg. C
Propane ca	pacity			2303	Tonnes
HHI Version12/2004 -YSL Propane ter	nperature	Page 10HHI - Gas Form-C		-42	Deg. C

Tank number / location	Tank 2/ Mid.	$\overline{}$
Ammonia temperature	-33.5	Deg. C
Ammonia capacity	2700	Tonnes
Propylene Oxide temperature	24	Deg. C
Propylene Oxide capacity	2460	Tonnes
Ethylene temperature	-103.4	Deg. C
Ethylene capacity	2263	Tonnes
Vinyl Chloride Monomer temperature	-14	Deg. C
Vinyl Chloride Monomer capacity	3851	Tonnes
Propylene temperature	-48	Deg. C
Propylene capacity	2382	Tonnes
Butadiene temperature	-4	Deg. C
Butadiene capacity	2581	Tonnes

Tank number / location	Tank 2/ Mid.	
Capacity m3 (100%)	4052	m3
Capacity 98%	3971	m3
Butane capacity	2383	Tonnes
Butane temperature	0	Deg. C
Propane capacity	2303	Tonnes
Propane temperature	-42	Deg. C
Butadiene capacity	2581	Tonnes
Butadiene temperature	-4	Deg. C
Propylene capacity	2383	Tonnes
Propylene temperature	-48	Deg. C
Vinyl Chloride Monomer capacity	3852	Tonnes
Vinyl Chloride Monomer temperature	-14	Deg. C
Ethylene capacity	2264	Tonnes
Ethylene temperature	-103.4	Deg. C
Propylene Oxide capacity	2460	Tonnes
Propylene Oxide temperature	24	Deg. C
Ammonia capacity	2700	Tonnes
Ammonia temperature	-33.5	Deg. C

Tank number / location	Tank 3/ Aft	
Capacity m3 (100%)	4051	m3
Capacity 98%	3970	m3
Butane capacity	2382	Tonnes
Butane temperature	0	Deg. C
Propane capacity	2303	Tonnes
Propane temperature	-42	Deg. C
Butadiene capacity	2581	Tonnes
Butadiene temperature	-4	Deg. C
Propylene capacity	2382	Tonnes
Propylene temperature	-48	Deg. C
Vinyl Chloride Monomer capacity	3851	Tonnes
Vinyl Chloride Monomer temperature	-14	Deg. C
Ethylene capacity	2263	Tonnes
Ethylene temperature	-103.4	Deg. C
Propylene Oxide capacity	2460	Tonnes
Propylene Oxide temperature	24	Deg. C
Ammonia capacity	2700	Tonnes
Ammonia temperature	-33.5	Deg. C

•	<u> </u>	
Total Capacity of all cargo tanks (100%)	12155	m3
Total Capacity of all cargo tanks (98%)	11912	m3
Total Capacity of Butane	7147	Tonnes
Total Capacity of Propane	6909	Tonnes
Total Capacity of Butadiene	7743	Tonnes
Total Capacity of Propylene	7147	Tonnes
Total Capacity of Vinyl Chloride Monomer	11555	Tonnes
Total Capacity of Ethylene	6790	Tonnes
Total Capacity of Propylene Oxide	7380	Tonnes
Total Capacity of Ammonia	8100	Tonnes
	·	

Are Deck pressure tank(s) fitted?	YES	7
Material of tank(s)	X12 Ni5	
Maximum allowable relief valve setting	18	Bar gauge
Deck tank number 1 - capacity (100%)	122.9	m3
Capacity 98%	120.5	m3
Propane Capacity, sat @ +45°C	54	Tonnes
Butane Capacity, sat @ +45°C	64	Tonnes
Propylene capacity, sat @ +45°C	55	Tonnes
Ethylene capacity, sat @ -31°C	52	Tonnes
Ammonia Capacity, sat @ +45°C	67	Tonnes

#### **B4 LOADING RATES**

#### 4.1 From Refrigerated Storage (Fully Refrigerated at Vessel's

Manifold)

Butane - with vapour return Butane - without vapour return Propane - with vapour return Propane - without vapour return Butadiene - with vapour return Butadiene - without vapour return Propylene - with vapour return Propylene - without vapour return

Ethylene - with vapour return Ethylene - without vapour return Ammonia - with vapour return

Ammonia - without vapour return

Vinyl Chloride Monomer - with vapour return Vinyl Chloride Monomer - without vapour return

Propylene Oxide - with vapour return Propylene Oxide - without vapour return

#### 4.8 From Pressure Storage

Butane 0 deg C - with vapour return 0 deg C - without vapour return 10 deg C - with vapour return 10 deg C - without vapour return 20 deg C - with vapour return 20 deg C - without vapour return

Propane minus 30 deg C - with vapour return

Minus 30 deg C - without vapour return Minus 20 deg C - with vapour return

Minus 20 deg C - without vapour return

Minus 10 deg C - with vapour return

Minus 10 deg C - without vapour return

0 deg C - with vapour return

0 deg C - without vapour return 10 deg C - with vapour return

10 deg C - without vapour return

20 deg C - with vapour return

20 deg C - without vapour return

Butadiene 0 deg C - with vapour return

0 deg C - without vapour return

10 deg C - with vapour return

10 deg C - without vapour return

20 deg C - with vapour return

20 deg C - without vapour return

**Propylene** minus 30 deg C - with vapour return

Minus 30 deg C - without vapour return

Minus 20 deg C - with vapour return

Minus 20 deg C - without vapour return

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Minus 10 deg C - with vapour return

1200	m³/Hr.
720	Tonnes/Hr.
1200	m³/Hr.
696	Tonnes/Hr.
780	Tonnes/Hr.
780	Tonnes/Hr.
1200	m³/Hr.
730	Tonnes/Hr.
1200	m³/Hr.
680	Tonnes/Hr.
1200	m³/Hr.
816	Tonnes/Hr.
1164	Tonnes/Hr.
1164	Tonnes/Hr.
1200	m³/Hr.
987	Tonnes/Hr.
	-

720	Tonnes/Hr.
720	Tonnes/Hr.

696	Tonnes/Hr.
696	Tonnes/Hr.
500	Tonnes/Hr.
400	Tonnes/Hr.
200	Tonnes/Hr.

780	Tonnes/Hr.
780	Tonnes/Hr.
780	Tonnes/Hr.
700	Tonnes/Hr.
780	Tonnes/Hr.
500	Tonnes/Hr.

	_
1200	m³/hr.

Minus 10 deg C - without vapour return			350	m³/h
0 deg C - with vapour return			1200	m³/h
0 deg C - without vapour return			200	m³/h
10 deg C - with vapour return			1200	m³/h
10 deg C - without vapour return			150	m³/h
20 deg C - with vapour return			1200	m³/h
20 deg C - without vapour return			100	m³/h
<b>Ethylene</b> minus 100 deg C - with vapour return			1200	m³/h
Minus 100 deg C - without vapour return			1200	m³/h
Minus 95 deg C - with vapour return			1200	m³/h
Minus 95 deg C - without vapour return			500	m³/h
Minus 90 deg C - with vapour return			800	m³/h
Minus 90 deg C - without vapour return			300	m³/h
Minus 85 deg C - with vapour return			200	m³/h
Minus 85 deg C - without vapour return			100	m³/h
Ammonia minus 20 deg C - with vapour return			1200	m³/h
Minus 20 deg C - without vapour return			1200	m³/h
Minus 10 deg C - with vapour return			N/A	m³/h:
Minus 10 deg C - without vapour return			N/A	m³/h
0 deg C - with vapour return			N/A	m³/h
0 deg C - without vapour return			N/A	m³/h
<b>VCM</b> minus 10 deg C - with vapour return			1200	m³/h
Minus 10 deg C - without vapour return			1200	m³/h
0 deg C - with vapour return			1200	m³/h
0 deg C - without vapour return			1200	m³/h
10 deg C - with vapour return			1200	m³/h
10 deg C - without vapour return			100	m³/h
20 deg C - with vapour return			1200	m³/h
20 deg C - without vapour return			750	m³/h
Special remarks:				
1) Above figures are basis all tanks pre-cooled clo	se to product's boi	ling point.		
2) Butane refers to n-Butane				
3) Propane refers to n-Propane, not the commercia				
4) AMMONIA SHOULD NOT BE LOADED HO	TTER THAN -20	С		_
<u> </u>				_
RGING - GENERAL				
Cargo Pumps Type of Pumps	Da	ansvall stant	ical, centrifugal,	
Type of Pumps	De		tistage	
Number of pumps per tank	<u> </u>		1	$\dashv$
Rate per Pump			400	m3/h
At Delivery Head mlc			120	mlc
in Don'tory froud fine			120	

### B5 DISCHA

4.14

	Cargo Pumps	_	
5.1	Type of Pumps	Deepwell, vertical, centrifugal,	
		multistage	
5.2	Number of pumps per tank	1	
5.3	Rate per Pump	400	m3/hr
5.4	At Delivery Head mlc	120	mlc
5.5	Maximum density	972	Kg/m2
5.6	<b>Booster Pump</b> Type of Booster Pumps	Horizontal, centrifugal, single stage	e
	Type of Booster Pumps	Horizontal, centrifugal, single stage	e
5.6 5.7 5.8	Type of Booster Pumps  Number of pumps		m3/hr
5.7	Type of Booster Pumps	2	
5.7 5.8	Type of Booster Pumps  Number of pumps Rate per Pump	2 400	m3/hr

		_		_
	Manifold Back Press 1 bar g, with vapour return		12	Hot
	Manifold Back Press 1 bar g, without vapour return		12	Hou
	Manifold Back Press 5 bar g, with vapour return		14	Hot
	Manifold Back Press 5 bar g, without vapour return		14	Ho
	Manifold Back Press 10 bar g, with vapour return		42	Hou
	Manifold Back Press 10 bar g, without vapour return		42	Hou
		_		<b></b>
	Pressurised	Г		<b>–</b>
	Manifold Back Press 1 bar g, with vapour return	-	12	Hou
	Manifold Back Press 1 bar g, without vapour return	-	12	Ho
	Manifold Back Press 5 bar g, with vapour return	_	14	Ho
	Manifold Back Press 5 bar g, without vapour return	_	14	Ho
	Manifold Back Press 10 bar g, with vapour return	_	42	Ho
	Manifold Back Press 10 bar g, without vapour return	L	42	Ho
	UMPABLES The bound on Alexation	Touls 1/fore	0.2	一 。
1	Tank number / location	Tank 1/ fore	0.2	m3
	Tank number / location	Tank 2/ mid	0.2	m3
	Tank number / location	Tank 3/ aft	0.2	m3
	Tank number / location			m3
	Tank number / location			m3
	Tank number / location			m3
	Tank number / location			m3
	Tank number / location			m3
	Total		0.6	m3
	Time to vaporise liquid unpumpables remaining after full cargo discharge of:	-		_
.2	Butane		12	Но
.3	Propane		9	Но
.4	Butadiene		12	Ho
.5	Propylene		9	Ho
.6	Ethylene		9	Ho
.7	Ammonia		9	Ho
.8	Vinyl Chloride Monomer		12	Ho
.9	Propylene Oxide		N/A	Но
	IQUEFACTION PLANT	Г	45	٦,
.1	Plant Design Conditions - air temperature	_	45	Deg
.3	Plant Design Conditions - sea temperature	L	32	De
	Plant Type	-		_
.4	Is the plant single stage/direct?		YES	_
.5	Is the plant two stage/direct?		YES	_
.6	Is the plant simple cascade?		YES	_
.7	Coolant type	Seawater an	d propylene	
	Compressors			
8	Compressor type	Two cylinder doub recipro		
8.1	Compressor makers name	Burckhardt- (	-	$\dashv$
9	Number of compressors	Darekilarut C	3	$\dashv$
10	Capacity per unit	-	1200	m3
.10	Are they Oil Free?	F	YES	-1113
.11	Are mey On Free?	L	11:0	_
11 CA	RGO TEMPERATURE LOWERING CAPABILITY (AT SE	A WITH SEA TEN	MPERATURE +	+15C
1 1	Time taken to lower the temperature of:  Propage from -5 deg C to - 42 deg C	Г	186	Но
	• • • • • • • • • • • • • • • • • • •			

186

144

36

Hours

Hours

Hours

Propane from  $-5 \deg C$  to  $-42 \deg C$ 

**Propane** from -20 deg C to - 42 deg C

HH] VerSon12/2004 - YSL Propane from -38~deg~C~to-42deg~C Page 14HHI - Gas Form-C

11.1

11.2

11.4	<b>Propane</b> from +20 deg C to 0 deg C		50	Hours
11.5	Propane from 0 deg C to -20 deg C		62	Hours
11.5	1 Topane from 0 deg C to -20 deg C		02	Hours
11.6	<b>Butane</b> from +20 deg C to 0 deg C		100	Hours
11.7	Butane from +10 deg C to 0 deg C		55	Hours
11.7	Butane from +10 deg C to 0 deg C  Butane from +10 deg C to -5 deg C		80	
11.0	<b>Dutane</b> from +10 deg C to -3 deg C		80	Hours
11.9	Butadiene			
11.7			100	Lloure
	From +20 deg C to -5 deg C		100	Hours
11.10	Propylene			
11.10	From -20 deg C to -47 deg C		144	Hours
	110m -20 deg e 10 -47 deg e		2	Hours
11.11	Ethylene			
	From -100 deg C to -104 deg C		70	Hours
11.12	Ammonia			
	From -20 deg C to -33 deg C		168	Hours
11.13	Vinyl Chloride Monomer			
	From -5 deg C to -14 deg C		50	Hours
B12 INI	CRT GAS AND NITROGEN			
	Main IG Plant	PG + 37	71	
12.1	Type of system		rogen Plant	
12.2	Capacity	N2 - 99,5%	1000 N/A	Nm3/hr
12.3	Type of fuel used	l'	1	0/
12.4	Composition of IG - oxygen		N/A	%
	Composition of IC Nov		N/A N/A	%
	Composition of IG - Nox Composition of IG - N2		N/A N/A	% %
12.5	Lowest dewpoint achievable		-50	Deg. C
12.5	Used for		N2 purging/Inertia	
12.0	Osed for		142 purging/merui	15
	Auxiliary IG or Nitrogen plant			
12.7	Type of System	PSA - Nit	rogen Plant	
12.8	Capacity	N2 - 99,5%	1000	m3/hr
12.9	Composition of IG - oxygen		V/A	%
	Composition of IG - CO2		N/A	%
	Composition of IG - Nox		N/A	%
	Composition of IG - N2		N/A	%
12.10	Lowest dewpoint achievable		N/A	Deg. C
12.11	Used for		-50	
			N2 purging/Inertin	ng
	Nitrogen			
12.12	Liquid storage capacity		N/A	m3
12.13	Daily boil-off loss		N/A	m3
12.14	Maximum supply pressure		N/A	Bar g
12.15	Supply capacity		N/A	m3/hr
12.16	Used for	N/A		
B13 CA	RGO TANK INERTING/DE-INERTING			
13.1	Time taken to inert from fresh air to under 5% O2 at minus			
13.1	25 degree C?		24	Hours
13.2	Time taken to inert from cargo vapour to fully inert at minus	1		Tiours
	25 degrees dewpoint when IG density is <b>less</b> than product?	•	24	
	25 degrees dewpoint when to density is less than product?			Hours
	Time taken to inert from cargo vapour to fully inert at minus	3		110013
	25 degrees dewpoint when IG density is <b>greater</b> than	•	30	
	product?			Hours
	product.			

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#### **B14 GAS FREEING TO FRESH AIR**

14.1 Plant used

14.2

Time	taken	from	fully inert	condition	to	fully	breathable
fresh	air?						

PSA Plant in Dry	Air Mode	
	12	Hours

#### **B15 CHANGING CARGO GRADES**

Indicate number of hours needed to change grades from the removal of pumpables to tanks fit to load and the estimated quantity of Inert Gas and or Nitrogen consumed during the operation:

	Hours	Inert Gas (Nm³/hr)	Nitrogen (Nm³)
From Propane to Butane	10		0
From Propane to Butadiene	56		24,000
From Propane to Ethylene	64		30000
From Propane to Ammonia (*)	50		24,000
From Propane to Vinyl Chloride Monomer (*)	78		30,000
From Propane to Propylene Oxide	114		54000
From Butane to Propane	12		0
From Butane to Butadiene	50		24,000
From Butane to Ethylene	96		54000
From Butane to Ammonia (*)	50		24,000
From Butane to Vinyl Chloride Monomer	108		54,000
From Butane to Propylene Oxide	108		54000
From Butadiene to Propane	12		0
From Butadiene to Butane	12		0
From Butadiene to Ethylene	122		54000
From Butadiene to Ammonia	76		24,000
From Butadiene to Vinyl Chloride Monomer	136		54,000
From Butadiene to Propylene Oxide	136		54000
From Ethylene to Propane	24		0
From Ethylene to Butane	36		0
From Ethylene to Butadiene	96		36000
From Ethylene to Ammonia	82		36000
From Ethylene to Vinyl Chloride Monomer	112		36000
From Ethylene to Propylene Oxide	142		66000
From Ammonia to Propane (*, #)	108		54000
From Ammonia to Butane (*, #)	108		54000
From Ammonia to Butadiene	132		54,000
From Ammonia to Ethylene	118		54000
From Ammonia to Vinyl Chloride Monomer	132		54,000
From Ammonia to Propylene Oxide	132		54000
From Vinyl Chloride Monomer to Propane	114		54000
From Vinyl Chloride Monomer to Butane	114		54000
From Vinyl Chloride Monomer to Butadiene	138		54,000
From Vinyl Chloride Monomer to Ammonia	78		24,000
From Vinyl Chloride Monomer to Ethylene	120		54000
From Vinyl Chloride Monomer to Propylene Oxide	138		54000
From Propylene Oxide to Propane	154		66000
From Propylene Oxide to Butane	154		66000
From Propylene Oxide to Butadiene	160		66000
From Propylene Oxide to Ethylene	160		66000
From Propylene Oxide to Vinyl Chloride Monomer	166		66000
From Propylene Oxide to Ammonia	116		36000

<sup>(\*)</sup> means to include air purging and inerting (#) means for condition of less than 15ppm ammonia.

Load	ling c	argoes of	f ammonia or	after	ammonia	is of	ften sı	ıbject	t to	specific	termina	l requiremen	ıts.
------	--------	-----------	--------------	-------	---------	-------	---------	--------	------	----------	---------	--------------	------

Cargo Grade Change Operations that cannot be carried out at sea:	
N/A	

The following questions ask the Time and Quantity of coolant required to cooldown cargo tanks from ambient temperature to fully gassed up state sufficient to allow loading to commence.

17.1	Propane - Quantity of Coolant Required		100	m3
	<b>Propane</b> - Time required to cooldown cargo tanks from		8	
	ambient temperature with vapour return line		0	Hours
	<b>Propane</b> - Time required to cooldown cargo tanks from		12	
	ambient temperature without vapour return line			Hours
17.2	Butane - Quantity of Coolant Required		100	m3
17.2	Butane - Time required to cooldown cargo tanks from			
	ambient temperature with vapour return line		4	Hours
	Butane - Time required to cooldown cargo tanks from			
	ambient temperature without vapour return line		6	Hrs.
17.3	Butadiene - Quantity of Coolant Required		80	m3
17.3	Butadiene - Time required to cooldown cargo tanks from			
	ambient temperature with vapour return line		3	Hours
	<b>Butadiene</b> - Time required to cooldown cargo tanks from		_	
	ambient temperature without vapour return line		4	Hours
17.4	Promuleme Occapitate of Coolean Decision		80	
17.4	Propylene - Quantity of Coolant Required Propylene - Time required to cooldown cargo tanks from		- OU	m3
	ambient temperature without vapour return line		8	Hours
	Propylene - Time required to cooldown cargo tanks from			Tiours
	ambient temperature with vapour return line		12	Hours
15.5				
17.5	Ethylene - Quantity of Coolant Required		80	m3
	<b>Ethylene</b> - Time required to cooldown cargo tanks from ambient temperature with vapour return line		12	Hours
	Ethylene - Time required to cooldown cargo tanks from			Hours
	ambient temperature without vapour return line		16	Hrs.
				_
17.6	Ammonia - Quantity of Coolant Required		70	m3
	<b>Ammonia</b> - Time required to cooldown cargo tanks from ambient temperature with vapour return line		6	TT
	Ammonia - Time required to cooldown cargo tanks from			Hours
	ambient temperature without vapour return line		8	Hours
				<u> </u>
17.7	VCM - Quantity of Coolant Required		60	m3
	VCM - Time required to cooldown cargo tanks from		4	
	ambient temperature without vapour return line			Hours
	VCM - Time required to cooldown cargo tanks from ambient temperature with vapour return line		4	Hours
	amorent temperature with vapour return line			Hours
	O HEATER/VAPORISER (acting as vaporiser)			_
18.1	Type of Vaporiser	Shell and to		
18.2	Number of Vaporisers fitted		1 100	
18.3	Capacity per unit - Propane		1400	m3/hr Vap
18.4	Liquid Supply Rate	<u> </u>	5.16	m3/hr Liq
18.5 18.6	Delivery Temperature Capacity per unit - <b>Ammonia</b>		-42 1500	Deg. C
18.7	Liquid Supply Rate		1.78	m3/hr Vap m3/hr Liq
18.8	Delivery Temperature		-33	Deg. C
18.9	Capacity per unit - <b>Nitrogen</b>		N/A	m3/hr Vap
18.10	Liquid Supply Rate		N/A	m3/hr Liq
18.11	Delivery Temperature		N/A	Deg. C
	•			
B19 BLOW	ÆR			

### B19 BLOWER

19.1	Type of Blower	Centrifugal fans (3 OFF)		
19.2	Rated Capacity		3000	Nm3/hr
19.3	Delivery Pressure		1200	mm H2O

	CARGO HEATER/VAPORISER (acting as heater)			_
20.1	Type of Re-Heater	Shell	and tube	4
20.2	Number Fitted		1	4
20.3	Heating Medium		Sea water	4
20.4	Discharge rates with sea water at 15 degrees C to raise		400	
	product temperature of <b>Propane</b> from -42 degrees C to 0		400	
20.5	degrees C			m3/hı
20.5	Discharge rates with sea water at 15 degrees C to raise		260	
	product temperature of <b>Ammonia</b> from -33 degrees C to 0		260	2.0
	degrees C			m3/hı
B21 F	HYDRATE CONTROL			_
21.1	Type of Depressant?		Ethanol	
21.1.1	Freezing point temperature?		-114.1	Deg.
21.2	Quantity of Depressant Carried?		200	Ltr.
21.3	Location of injection?	Outlet cgo receiver	At pump discharge	
	Name any other system used		N/A	_
B22 (	CARGO MEASUREMENT			
(	Level Gauges			
22.1	Are level gauges local or remote?		Both	
22.2	Name of manufacture	Henri Syste	em Holland BV	
22.3	Type	•	Float	
22.4	Rated Accuracy		+/- 2	mm.
22.5	Certifying Authority		SGS	1
22.5	Countying radionty			-1
	Temperature Gauges			_
22.6	Name of manufacture		WIKA	
22.7	Type		TR 95 Pt100	)
22.0	D . 14		0.27	١
22.8	Rated Accuracy		<0,27	deg C
22.9	Certifying Authority		SGS	J
	Pressure Gauges			
22.10	Name of manufacture		Rosemount	
22.11	Type		82234 Wessling	
22.12	Rated Accuracy		0,01	bar
22.13	Certifying Authority		SGS	1
22.14	Oxygen Analyser	B . B	11.66	7
22.14	Name of manufacture	Bernt, Duss	eldorf, Germany	
22.15	Type		Crowcon, Txgard-IS+	-
22.15.1			0	%
22.16	Fixed Gas Analyser Name of manufacture		Autronica	7
22.10	Type	Flammable analyser	OGS 3,11/16	1
			YES/ <del>NO</del>	-
22.18	Are Cargo tank calibration tables available?		<u> </u>	-
22.19	Name of Measuring Company		SGS	-
22.20	Name of Certifying Authority		LRS	4
22.21	Calibration calculated to cm?		YES/NO	4
22.21.1			YES/ <del>NO</del>	
22.22	Tables established to cm?		YES/NO	4
22.22.1			YES/NO	4
22.22.2	` '			4
22.23	Are trim and list corrections available?		YES/NO	_
	Are temperature corrections available?		YES/NO	1
22.24 22.25	Are temperature corrections available?		I ES/ <del>NO</del>	_

### **B23 CARGO SAMPLING**

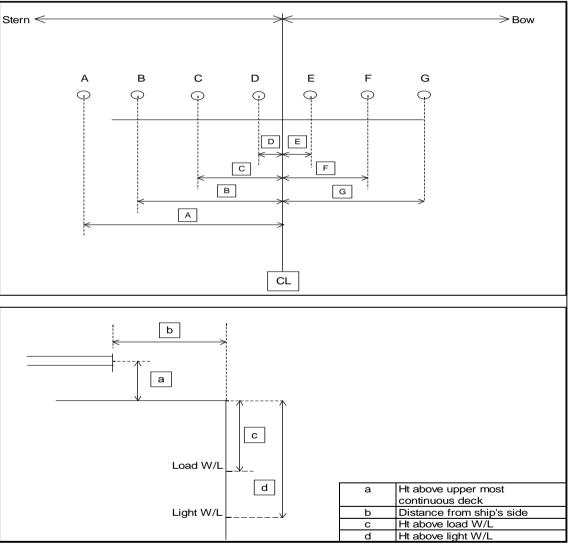
23.1 May cargo samples be obtained from the levels; top, middle and bottom in all cargo tanks?

YES

	If no, - the arrangement for sampling is limited to:		
23.2	Can complete be drawn from tank vanour outlet?		YES
23.2	Can samples be drawn from tank vapour outlet?  Can samples be drawn from manifold liquid line?		YES
	Can samples be drawn from manifold vapour line?		YES
	Can samples be drawn from pump discharge line?	<u> </u>	YES
23.3	State sample connection type	BALL VALVE	NPT(F)
	Size of sample connection		1/2" BSPP

#### **B24 CARGO MANIFOLD**

TBA Manifold arrangement diagram



			u	Tit above light VV/L	
	Center of manifold to bow			69.62	M.
	Center of manifold to stern			77.44	M.
	Dimension A			4700	mm
	Dimension B			3950	mm
	Dimension C			1950	mm
	Dimension D			650	mm
	Dimension E			650	mm
	Dimension F			1950	mm
	Dimension G			2700	mm
	Dimension H			3950	mm
	Height a			2850	mm
	Distance b	Dans 401111 Can Farm C		2004	mm
/ersion12/2004 -YSL	Height c	Page 19HHI - Gas Form-C		3411	mm

			7
	Height d	9125	mm
	Pipe Flange A - duty	Fuel oil (D.O.)	_
	Pipe Flange A - rating	3.3	bar
	Pipe Flange A - size	100A	mm
	Pipe Flange A raised or flat face	Raised	4
	Pipe Flange B - duty	Fuel oil	4
	Pipe Flange B - rating	3.3	bar
	Pipe Flange B - size	150A	mm
	Pipe Flange B raised or flat face	Raised	
	Pipe Flange C - duty	Liquid System II	_
	Pipe Flange C - rating	30	bar
	Pipe Flange C - size	10''	
	Pipe Flange C raised or flat face	Raised	]
	Pipe Flange D - duty	Vapour System II	]
	Pipe Flange D - rating	18.6	bar
	Pipe Flange D - size	6''	1
	Pipe Flange D raised or flat face	Raised	1
	Pipe Flange E - duty	Vapour System I	1
	Pipe Flange E - rating	18.6	bar
	Pipe Flange E - size	4''	1
	Pipe Flange E raised or flat face	Raised face	1
	Pipe Flange F - duty	Liquid System I	1
	Pipe Flange F - rating	30	bar
	Pipe Flange F - size	8"	1
	Pipe Flange F raised or flat face	Raised face	1
	Pipe Flange G - duty	Nitrogen	-
	Pipe Flange G - rating	6	bar
	Pipe Flange G - size	3"	mm
	Pipe Flange G - size  Pipe Flange G raised or flat face	Raised face	-
	Pipe Flange H - duty	Fuel oil	1
			1
	Pipe Flange H - rating	3.3	bar
	Pipe Flange H - size	150A	mm
	Pipe Flange H raised or flat face	Raised face	4
	Height above uppermost continuous deck	2850	mm
	Distance from ship side	2517	mm
	Height above load waterline	6261	mm
	Height above light waterline	11975	mm
	Manifold Arrangement Located on Top of Compressor		
	• •		1
	Distance from rail of compressor room/platform to	N/A	
	presentation flanges		mm
	Distance from deck of compressor room/platform/try to	N/A	
	centre of manifold		mm
B25 C/	ARGO MANIFOLD REDUCERS		
	ARGO MANIFOLD REDUCERS  Number of ANSI Class 300 reducers carried onboard	14	1
<b>B25</b> CA 25.1	Number of ANSI Class 300 reducers carried onboard	14	har
	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer	30	1
	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer	30 Var	mm
25.1	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer	30	mm
	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer Number of ANSI Class 300 to Class 150 reducers carried	30 Var	mm
25.1	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer Number of ANSI Class 300 to Class 150 reducers carried onboard	30 Var 500	mm
25.1	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer Number of ANSI Class 300 to Class 150 reducers carried onboard Flange rating of ANSI Class 300 to Class 150 reducer	30 Var 500 14 18.6	mm mm
25.1	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer Number of ANSI Class 300 to Class 150 reducers carried onboard Flange rating of ANSI Class 300 to Class 150 reducer Size of ANSI Class 300 to Class 150 reducer	30 Var 500 14 18.6 Var	mm mm
25.1 25.2	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer Number of ANSI Class 300 to Class 150 reducers carried onboard Flange rating of ANSI Class 300 to Class 150 reducer Size of ANSI Class 300 to Class 150 reducer Length of ANSI Class 300 to Class 150 reducer	30 Var 500 14 18.6 Var 500	mm mm
25.1	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer Number of ANSI Class 300 to Class 150 reducers carried onboard Flange rating of ANSI Class 300 to Class 150 reducer Size of ANSI Class 300 to Class 150 reducer Length of ANSI Class 300 to Class 150 reducer Number of ANSI Class 150 reducers carried onboard	30 Var 500 14 18.6 Var 500 4 (FO/DO)	bar mm
25.1 25.2	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer Number of ANSI Class 300 to Class 150 reducers carried onboard Flange rating of ANSI Class 300 to Class 150 reducer Size of ANSI Class 300 to Class 150 reducer Length of ANSI Class 300 to Class 150 reducer Number of ANSI Class 150 reducers carried onboard Flange rating of Class 150 reducer	30 Var 500 14 18.6 Var 500 4 (FO/DO)	bar mm
25.1 25.2	Number of ANSI Class 300 reducers carried onboard Flange rating of ANSI Class 300 reducer Size of ANSI Class 300 reducer Length of ANSI Class 300 reducer Number of ANSI Class 300 to Class 150 reducers carried onboard Flange rating of ANSI Class 300 to Class 150 reducer Size of ANSI Class 300 to Class 150 reducer Length of ANSI Class 300 to Class 150 reducer Number of ANSI Class 150 reducers carried onboard	30 Var 500 14 18.6 Var 500 4 (FO/DO)	bar mm bar mm bar mm

## **B26** CONNECTIONS TO SHORE FOR ESD AND COMMUNICATIONS SYSTEMS

26.1 Is ESD connection to shore available?

If yes, is the system pneumatic?

 $\begin{array}{l} \mbox{HHI Version12/2004-YSL} \mbox{ If yes, is the system electrical?} \\ \mbox{If yes, is the system fiber optic?} \end{array}$ 

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YES	
NO	
YES	
NO	

Are ESD hoses or cables available on board?  If yes, length of pneumatic If yes, length of electrical If yes, length of fiber optic  26.4 Is there a connection available for a telephone line?  26.5 Are ESD connections available on both sides of vessel? Are ESD Fusible plugs fitted at tank domes? Are ESD Fusible plugs fitted at manifolds? Is the link compatible with the SIGTTO guidelines? Type of manifold valve Closing time in seconds Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE 27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  Accommodation AFT STB'	•	What is the type of connection used?	Pendant		
If yes, length of electrical If yes, length of fiber optic  26.4 Is there a connection available for a telephone line?  26.5 Are ESD connections available on both sides of vessel? Are ESD Fusible plugs fitted at tank domes? Are ESD Fusible plugs fitted at manifolds? Is the link compatible with the SIGTTO guidelines? Type of manifold valve Closing time in seconds Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE  28.1 State location  Accommodation AFT STB*		**		YES	
If yes, length of fiber optic  26.4 Is there a connection available for a telephone line?  26.5 Are ESD connections available on both sides of vessel?  Are ESD Fusible plugs fitted at tank domes?  Are ESD Fusible plugs fitted at manifolds?  Is the link compatible with the SIGTTO guidelines?  Type of manifold valve  Closing time in seconds  Is closing time adjustable?  Is Independent high level shut down system fitted(overflow control)?  If yes, does the independent high level shutdown system also switch off running cargo pumps?  Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details  -  27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  Accommodation AFT STB*	]	If yes, length of pneumatic		0	mm.
If yes, length of fiber optic  26.4 Is there a connection available for a telephone line?  26.5 Are ESD connections available on both sides of vessel?  Are ESD Fusible plugs fitted at tank domes?  Are ESD Fusible plugs fitted at manifolds?  Is the link compatible with the SIGTTO guidelines?  Type of manifold valve  Closing time in seconds  Is closing time adjustable?  Is Independent high level shut down system fitted(overflow control)?  If yes, does the independent high level shutdown system also switch off running cargo pumps?  Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details  -  27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  Accommodation AFT STB*	]	If yes, length of electrical		30	m
26.4 Is there a connection available for a telephone line? 26.5 Are ESD connections available on both sides of vessel? Are ESD Fusible plugs fitted at tank domes? Are ESD Fusible plugs fitted at manifolds? Is the link compatible with the SIGTTO guidelines? Type of manifold valve Closing time in seconds Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE 27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB'		· · · · ·		0	mm.
Are ESD Fusible plugs fitted at tank domes?  Are ESD Fusible plugs fitted at manifolds?  Is the link compatible with the SIGTTO guidelines?  Type of manifold valve  Closing time in seconds  Is closing time adjustable?  Is Independent high level shut down system fitted(overflow control)?  If yes, does the independent high level shutdown system also switch off running cargo pumps?  Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details  27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE  28.1 State location  Accommodation AFT STB'		•		NO	
Are ESD Fusible plugs fitted at manifolds?  Is the link compatible with the SIGTTO guidelines?  Type of manifold valve Closing time in seconds Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE 27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB'	1	Are ESD connections available on both sides of vessel?		YES	
Are ESD Fusible plugs fitted at manifolds?  Is the link compatible with the SIGTTO guidelines?  Type of manifold valve Closing time in seconds Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE 27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB'	1	Are ESD Fusible plugs fitted at tank domes?		YES	
Type of manifold valve Closing time in seconds Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB'				YES	
Type of manifold valve Closing time in seconds Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB'		. 9		YES	
Closing time in seconds Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB'			Actuated But	terfly	
Is closing time adjustable? Is Independent high level shut down system fitted(overflow control)? If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard? If no, then stipulate details  - 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB'				28	secs
Is Independent high level shut down system fitted(overflow control)?  If yes, does the independent high level shutdown system also switch off running cargo pumps? Shut down level %   B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details  27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB*				YES	
switch off running cargo pumps? Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details  27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE  28.1 State location  Accommodation AFT STB	]	Is Independent high level shut down system fitted(overflow		YES	
Shut down level %  B27 MANIFOLD DERRICK/CRANE  27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details  27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  28 STORES DERRICK/CRANE  28.1 State location  Accommodation AFT STB		· · · · · · · · · · · · · · · · · · ·		YES	
27.1 Is manifold derrick provided 27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB		The state of the s		98	%
27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB	IANIF	OLD DERRICK/CRANE			
27.2 Is manifold crane provided 27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details 27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB		Is manifold derrick provided		NO	
27.3 Is lifting equipment same for port and starboard?  If no, then stipulate details  27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB		•		YES	
If no, then stipulate details  27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB		*		Yes	
27.4 State SWL at maximum outreach 27.4.1 Maximum outreach of lifting equipment  B28 STORES DERRICK/CRANE 28.1 State location  Accommodation AFT STB		7 2 2	-		
B28 STORES DERRICK/CRANE 28.1 State location Accommodation AFT STB				5	Tonne
28.1 State location Accommodation AFT STB'	1	Maximum outreach of lifting equipment		7.7	Metre
28.1 State location Accommodation AFT STB'	TORE	S DERRICK/CRANE			
			Accommodation AFT	STB'D sides	
				4	Tonne
B29 SISTER VESSEL(S)	IOMER	AMERICAL (C)			

29.1 Name of vessel

ITHAKI	
KITHIRA	
ANTIKITHIRA	
OTHONI	
ASTIPALEA	
PAROS	
KITHNOS	_
DILOS	