FACTORIAS VULCANO

FACTORIAS
VULCANO

FACTORIAS VULCANO

Factorías Vulcano is one of the most important shipyards in Spain. We are specialised in the construction of high added value mid-sized newbuildings, ranging between 80 and 170 m in length. And we do so for some of the most demanding ship-owners and markets in the world.

Out company harks back to 1919, although its activity in the shipbuilding business began in 1940. In line with most of the European companies in this sector, the company has evolved progressively towards its current “synthesis shipyard” model.

Currently, Factorías Vulcano is home to a highly-qualified staff specialised in the management of complex shipbuilding projects. We deliver our proven expertise in the areas of planning, engineering, procurement and production coordination –all of which are integrated in quality management, environmental compliance and health risk prevention systems that boast the certifications ISO 9001, ISO 14001 and OHSAS 18001, respectively.

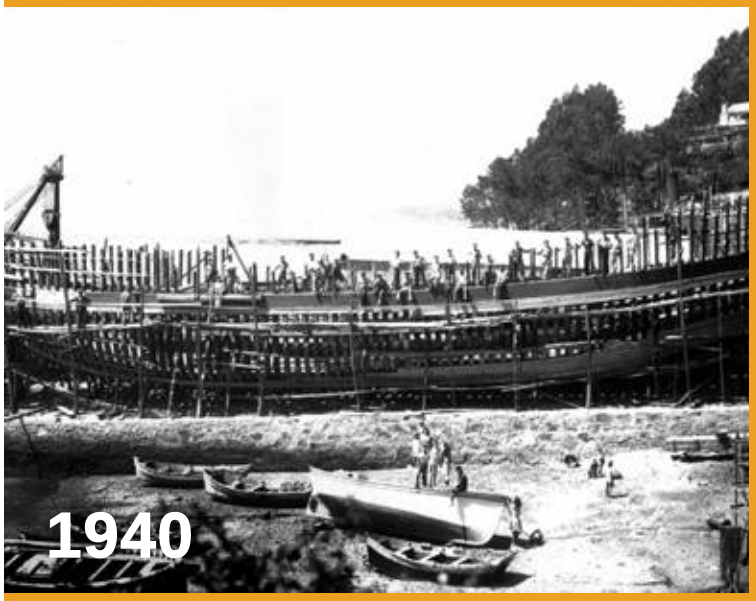
Additionally, Factorías Vulcano has access to the invaluable resource of the shipbuilding industry of the Vigo area, which provides the full spectrum of services required for the production of high-added value ships.

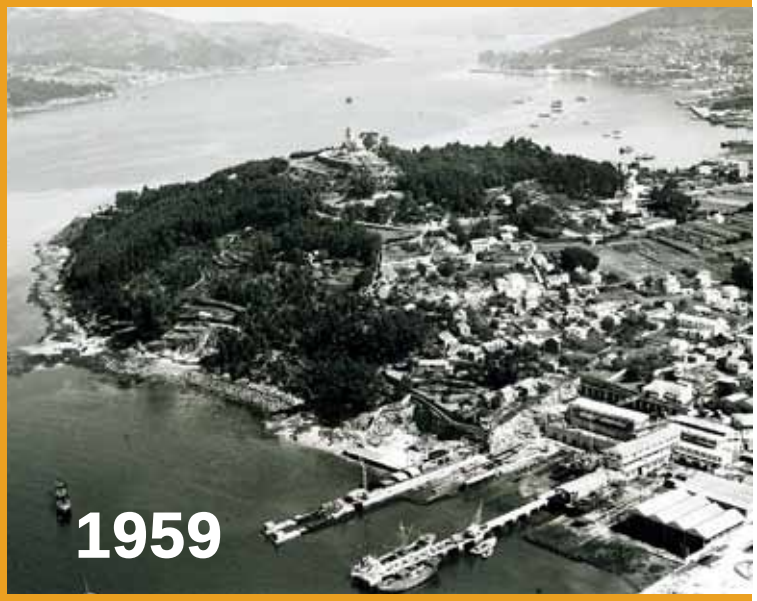
INDEX

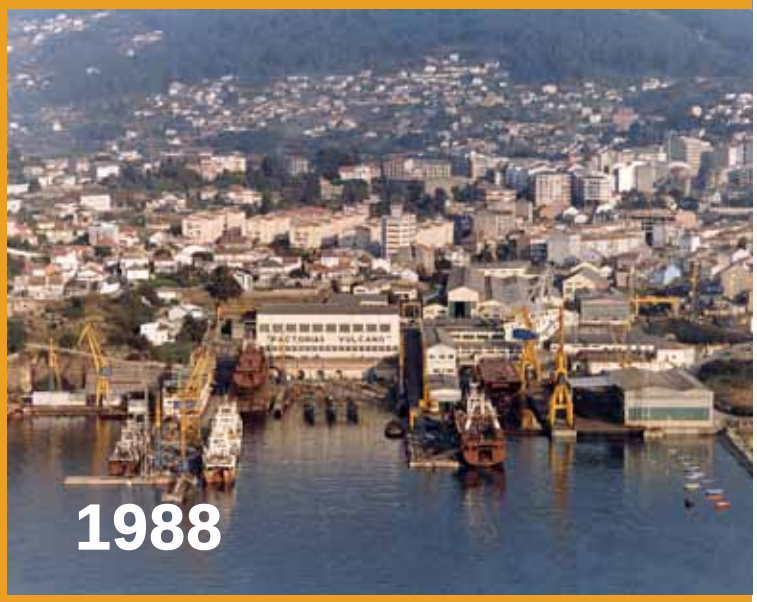
BACKGROUND

FACTORIAS VULCANO

BACKGROUND



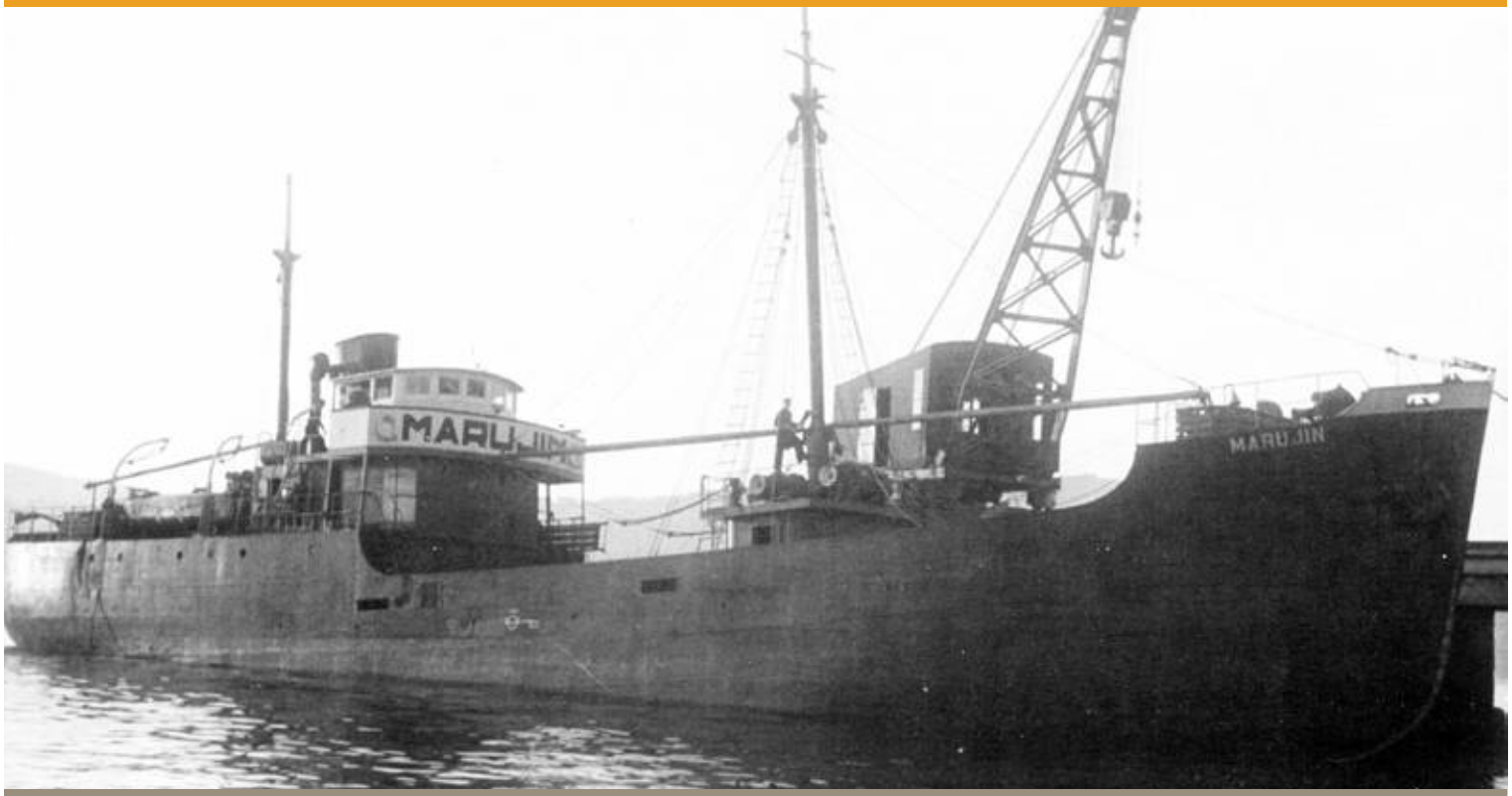




FACTORIAS VULCANO

FACTORIAS VULCANO

BACKGROUND



1948 **MARUJÍN / General Cargo**

1956 **NB 203 / LITRI / General Cargo**

GRT: 400,0 / DWT: 832,0 / LOA: 50,15 m / Breath: 7,90 m / Depth: 3,25 m

BACKGROUND

FACTORIAS VULCANO

1964 NB 249 / SER / General Cargo
GRT: 998,0 / LOA: 76,80 m / Breath: 11,32 m / Depth: 4,50 m

1964 NB 290 / VULCANO / Tugboat
GRT: 185,9 / DWT: 155,6 / LOA: 28,55 m / Breath: 7,00 m / Depth: 3,75 m

FACTORIAS VULCANO

BACKGROUND

1967 NB 319 / URQUIL / Fishing Vessel

GRT: 1.480,8 / DWT: 1.670,0 / LOA: 74,70 m / Breath: 12,00 m / Depth: 7,60 m

1973 NB 373 / ALBACORA CUATRO / Tuna Vessel

GRT: 1.583,0 / DWT: 2.081,0 / LOA: 76,20 m / Breath: 13,60 m / Depth: 6,65 m

BACKGROUND

FACTORIAS VULCANO

1975 NB 378 / ANTONIO SUARDÍAZ / Roll-on/Roll-off

GRT: 1.964,8 / DWT: 4.243,0 / LOA: 96,50 m / Breath: 17.50 m / Depth: 6,25 m

1977 NB 384 / SERTOSA DIECISIETE / Tugboat

GRT: 262,3 / DWT: 178,9 / LOA: 33,50 m / Breath: 8,85 m / Depth: 5,30 m

FACTORIAS VULCANO

BACKGROUND

1978 NB 388 / SIERRA GUADARRAMA / Freezer Vessel

GRT: 1.225,0 / DWT: 2.229,0 / LOA: 78,50 m / Breath: 13,60 m / Depth: 7,30 m

1978 NB 392 / LETICIA / Chemical

GRT: 3.695,0 / DWT: 6.863,0 / LOA: 108,75 m / Breath: 17,60 m / Depth: 8,00 m

BACKGROUND

FACTORIAS VULCANO

1979 NB 397 / DESAFÍO / Container Ship
GRT: 2.050,0 / DWT: 6.587,0 / LOA: 103,45 m / Breath: 18.50 m / Depth: 8,30 m

1980 NB 398 / GLORIA DEL MAR / Roll-on/Lift-off
GRT: 2.841,0 / DWT: 8.696,0 / LOA: 122,77 m / Breath: 19,40 m / Depth: 9,02 m

FACTORIAS VULCANO

BACKGROUND

1981 **NB 400 / ROLL-VIGO / Roll-on/Roll-off**

GRT: 2.841,0 / DWT: 5.273,0 / LOA: 122,80 m / Breath: 18,35 m / Depth: 6.50 m

1983 **NB 402 / VOLCÁN DE TAMIA / Roll-on/Roll-off**

GRT: 1.254,0 / DWT: 2.646,0 / LOA: 85,50 m / Breath: 16,00 m / Depth: 11,16 m

BACKGROUND

FACTORIAS VULCANO

1984 NB 394 / PEÑALARA / General Cargo

GRT: 5.434,0 / DWT: 9.600,0 / GT: 6.483 / LOA: 123,50 m / Breath: 18.50 m / Depth: 10,00 m

1988 NB 416 / PESCA VAQUEIRO / Fishing Vessel

GRT: 1.162,0 / DWT: 1.887,0 / GT: 1.819 / LOA: 74,50 m / Breath: 12,50 m / Depth: 7,70 m

ORGANIZATION AND RESOURCES

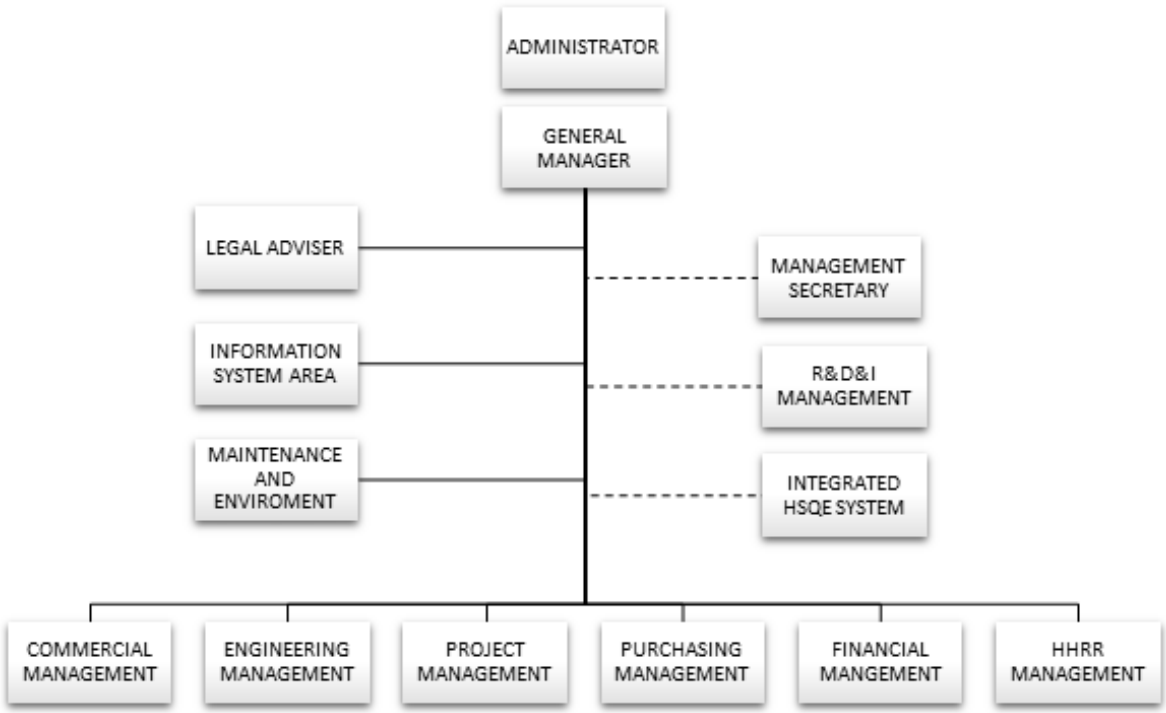
HH.RR.

The RRHH policy has always been the achievement of a highly qualified and motivated team, interested in the development of the company, innovation, the environment and good practices. Our goal is to obtain the loyalty of our workers and the active participation in the continuous improvement of the company, always focused to achieve our Client's satisfaction.

At Vulcano, we stand for:

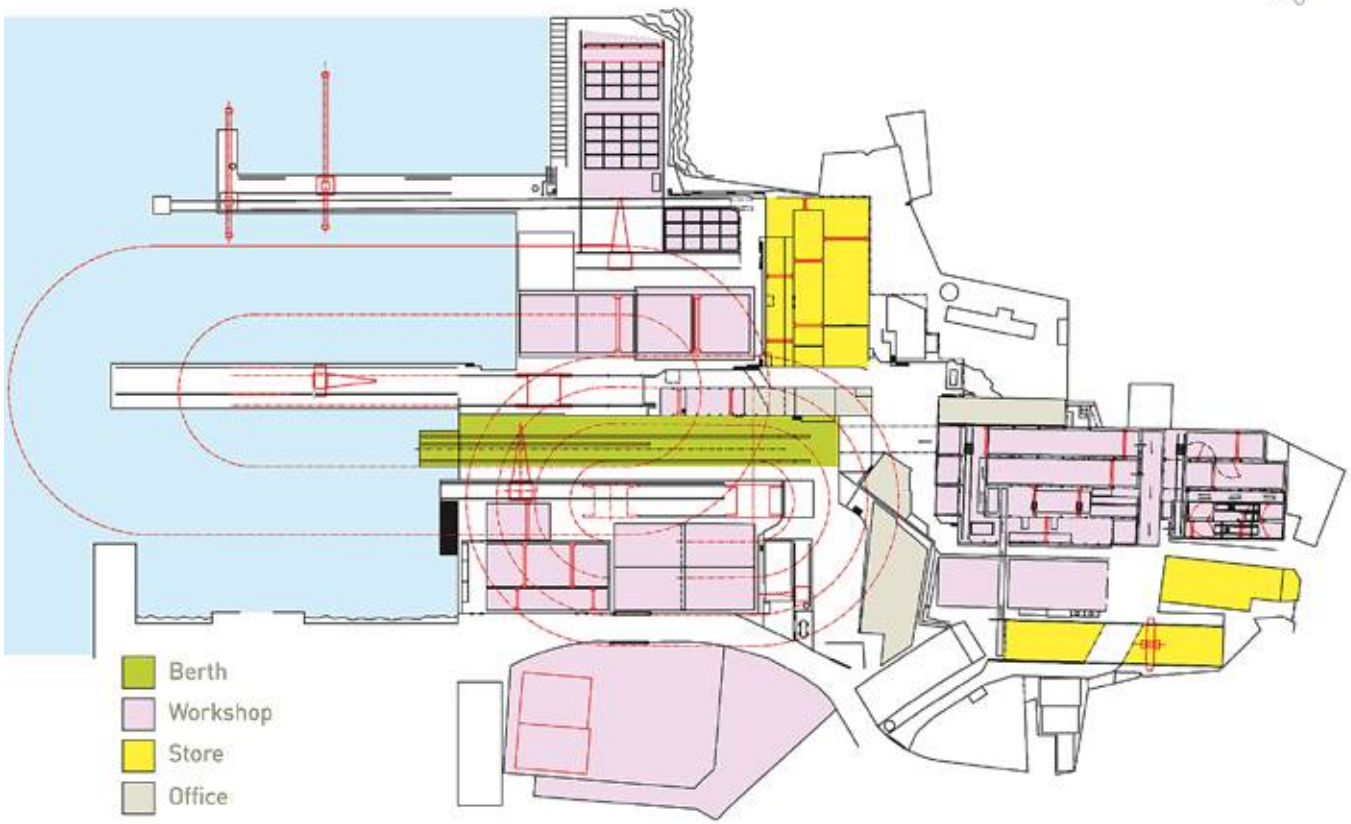
- Respecting individual human rights
- No discrimination, promoting diversity
- Complying with most exigent laws and ordinances
- Creating an environment of free, open-minded dialogue
- Giving safety our highest priority

The Factorias Vulcano staff amounts 80 workers with the following structure



FACTORIAS VULCANO

The facilities of the shipyard are located in the city of Vigo (Pontevedra), 69, Santa Tecla rd.



FACILITIES

Total Area	**79.283 m2**
Workshops Total Area	25.600 m2
Slipway a Quays	8.522 m2
Warehouses & Office Area	13.515 m2

Facilities

Slipway	170 x 26 m
South Quay	1 x 160 m
	1 x 120 m
North Quay	1 x 120 m
	1 x 140 m

Grúas

2 Cranes	125 Tm
2 Cranes	25 Tm
1 Crane	30 Tm
1 Crane	12 Tm
2 Tower Crane	10 Tm
1 Gantry Crane	20 Tm

FACTORIAS VULCANO

FACILITIES

FACTORIAS VULCANO

FACILITIES

FACTORIAS VULCANO

CERTIFICATES: HSQE

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

This is to certify that the management system of

FACTORIAS VULCANO, S.A.
Santa Tecla 69, 36207, Vigo, Pontevedra, Spain

has been found to conform to the Quality Management System standard:
ISO 9001:2008

This certificate is valid for the following scope:
DESIGN AND BUILDING OF STEEL VESSELS, OFFSHORE INSTALLATION AND LARGE METAL STRUCTURES.

Place and date:
Barcelona, 17 June 2016

ENAC CERTIFICACIÓN

For the issuing office:
DNV GL – Business Assurance
Edificio Inbisa Mas Blau, C/ Garrotxa 6-8, 3ª 1ª, El Prat de Llobregat, 08820, Barcelona, Spain

Ana del Río Salgado
Management Representative

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

This is to certify that the management system of

FACTORIAS VULCANO, S.A.
Santa Tecla 69, 36207, Vigo, Pontevedra, Spain

has been found to conform to the Environmental Management System standard:
ISO 14001:2004

This certificate is valid for the following scope:
DESIGN AND BUILDING OF STEEL VESSELS, OFFSHORE INSTALLATION AND LARGE METAL STRUCTURES.

Place and date:
Barcelona, 17 June 2016

ENAC CERTIFICACIÓN

For the issuing office:
DNV GL – Business Assurance
Edificio Inbisa Mas Blau, C/ Garrotxa 6-8, 3ª 1ª, El Prat de Llobregat, 08820, Barcelona, Spain

Ana del Río Salgado
Management Representative

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

This is to certify that the management system of

FACTORIAS VULCANO, S.A.
Santa Tecla 69, 36207, Vigo, Pontevedra, Spain

has been found to conform to the Occupational Health and Safety Management System standard:
OHSAS 18001:2007

This certificate is valid for the following scope:
DESIGN AND BUILDING OF STEEL VESSELS, OFFSHORE INSTALLATION AND LARGE METAL STRUCTURES.

Place and date:
Barcelona, 17 June 2016

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Ana del Río Salgado
Management Representative

INTEGRATED MANAGEMENT SYSTEM

The shipyard's Integrated Management System has been certified by the DNV Business Assurance and supervised by ENAC (Spain) and RvA (Holland) for the Design and Building of Steel Vessels Offshore Installations and Large metal Structures, as per the following standards:

ISO 9001:2008 - Quality Management System.
ISO 14001:2004 - Environmental Management System.
OHSAS 18001:2007 Occupational Health and Safety Management System.

Said standards apply to all of the project's development stages: specifications, contract, design, procurement, production, testing, delivery and after-sales service.

The System is based on self-monitoring for each stage of the process and a philosophy of "getting it right the first time".

The Manual, the Procedures and the Instructions define the System and are constantly updated through a permanent improvement process.

Dimensional control through laser, inspection and test equipment -both for destructive and non-destructive tests-, they all help the monitoring process.

External and internal audits, whose performance is required to qualify for the certification, guarantee the good functioning of the System.

CERTIFICATE OF CE CONFORMITY OF FACTORY PRODUCTION CONTROL

2449/CPR/AC-RL25

In compliance with Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC, VERUS (Notified Body No. 2449) has verified that:

		SUPPLIER:	MANUFACTURER:
PRODUCT:	Steel structures	FACTORIAS VULCANO, S.A.	FACTORIAS VULCANO, S.A.
DESCRIPTION:	See Annex	C/ Santa Tecla, 69	C/ Santa Tecla, 69
STANDARD:	See Annex	36207 Vigo (Pontevedra)	36207 Vigo (Pontevedra)

is subjected by the manufacturer to a Factory Production Control, type testing, type calculation, tabulated values or descriptive documentation of the product and the testing of samples taken at the factory in accordance with a prescribed test plan, and VERUS (Notified Body No. 2449) has conducted the initial inspection of the manufacturing plant and of Factory Production Control and performs the monitoring and permanent assessment of Factory Production Control.

This certificate attests that all provisions concerning the assessment and verification of constancy of performance and the performances described in Annex ZA of the mentioned standards are applied.

This certificate authorizes the manufacturer for CE marking of products indicated, and is valid until it is canceled or withdrawn by VERUS (See QR Code).

Original Approval: **June 2, 2016** Current Certificate: **August 29, 2017**

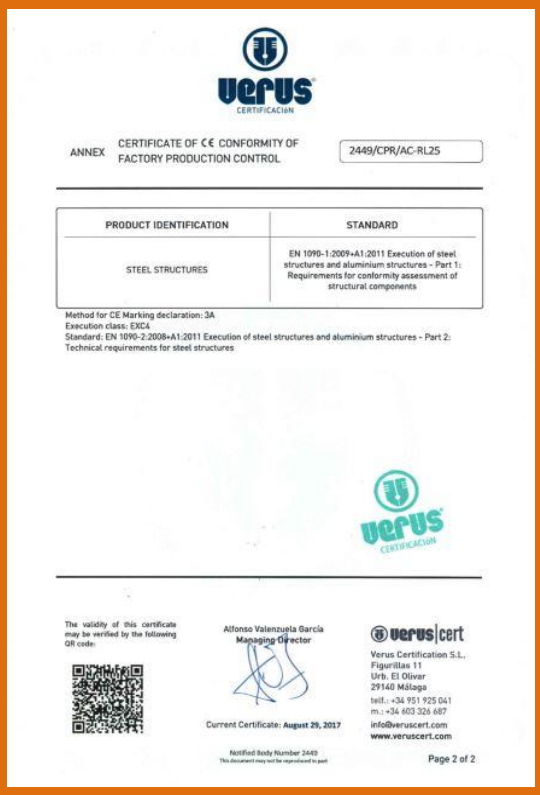
Alfonso Valenzuela García
Managing Director

The validity of this certificate may be verified by the following QR code:

ENAC CERTIFICACIÓN Nº OC-P/313

verus|cert
Verus Certification S.L.
Figurillas 11
Urb. El Olivar
29140 Málaga
telf.: +34 951 925 041
m.: +34 603 326 687
info@veruscert.com
www.veruscert.com

Notified Body Number 2449



ANNEX CERTIFICATE OF CE CONFORMITY OF FACTORY PRODUCTION CONTROL

2449/CPR/AC-RL25

PRODUCT IDENTIFICATION	STANDARD
STEEL STRUCTURES	EN 1090-1:2009+A1:2011 Execution of steel structures and aluminium structures - Part 1: Requirements for conformity assessment of structural components

Method for CE Marking declaration: 3A
Execution class: EXC4
Standard: EN 1090-2:2008+A1:2011 Execution of steel structures and aluminium structures - Part 2: Technical requirements for steel structures

The validity of this certificate may be verified by the following QR code:

Alfonso Valenzuela García
Managing Director

Current Certificate: **August 29, 2017**

verus|cert
Verus Certification S.L.
Figurillas 11
Urb. El Olivar
29140 Málaga
telf.: +34 951 925 041
m.: +34 603 326 687
info@veruscert.com
www.veruscert.com

Notified Body Number 2449

CERTIFICATE OF CE CONFORMITY FACTORY PRODUCTION CONTROL

EN 1090-1 Execution of steel structures and aluminium structures

For "large metal structures", this certificate entitles Factorías Vulcano to relizar the CE Marking of products.

FACTORIAS VULCANO

SHIPBUILDING ANCILLARY INDUSTRIES

The ancillary industries in the shipbuilding sector provides 70% of the added value for most constructions and employs 87% of the workforce directly involved in the shipbuilding process.

The entrepreneurial fabric of the ancillary industry in the area of Vigo is essentially structured in SMEs, all of them highly specialized and providing the full spectrum of services required for the production of high-added value ships.

NAVALIBER · INDASA · NERVIÓN · ISOLUX CORSÁN

FACTORIAS VULCANO

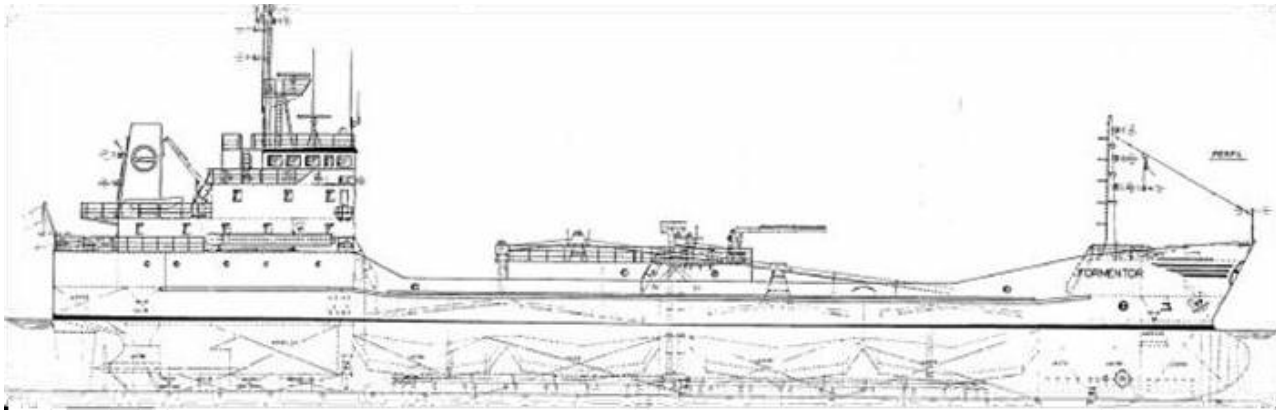
ACTIVITY SINCE 1991

FACTORIAS VULCANO

FACTORIAS VULCANO

CEMENT CARRIER

NB	Year	GT	LOA	Breadth	Name	Country
442	1991	2.169	82,5	13,0	Formentor	Spain



FACTORIAS VULCANO

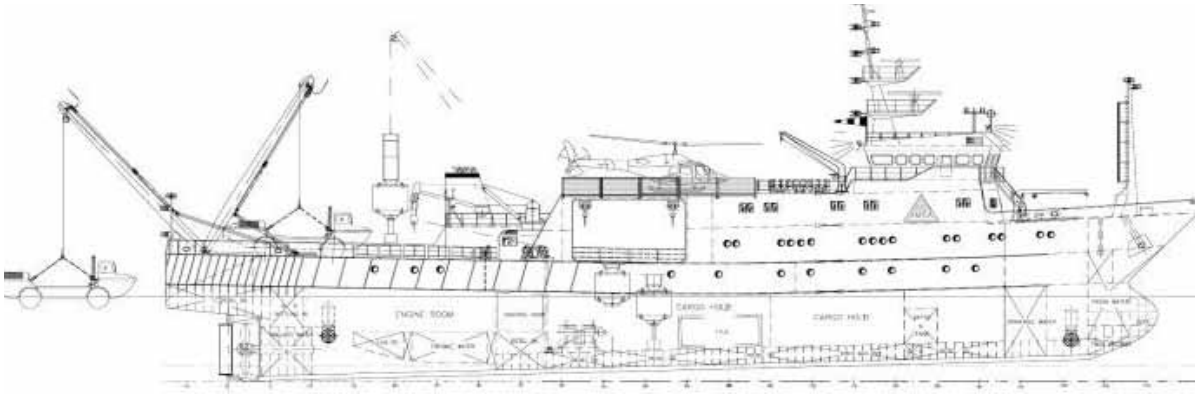
FISHING VESSEL

NB	Year	GT	LOA	Breadth	Name	Country
486	2000	9.082	140,8	18,68	Maartje Theadora	Nederland
437	1997	678	46,7	10,00	Walther Herwig III	Norway
507	1994	7.805	105,0	20,00	Mekhanik Kovtun	Russia
506	1994	7.805	105,0	20,00	Kapitan Demidenko	Russia
505	1993	7.805	105,0	20,00	Kapitan Azarkin	Russia
504	1993	7.805	105,0	20,00	Vladimir Starzhinsky	Russia
503	1993	7.805	105,0	20,00	Vigo	Russia
502	1992	7.805	105,0	20,00	Stanovlenie	Russia
501	1992	7.805	105,0	20,00	Solidarnost	Russia
500	1991	7.805	105,0	20,00	Sotrudnichestvo	Russia

FACTORIAS VULCANO

OCEANOGRAPHIC

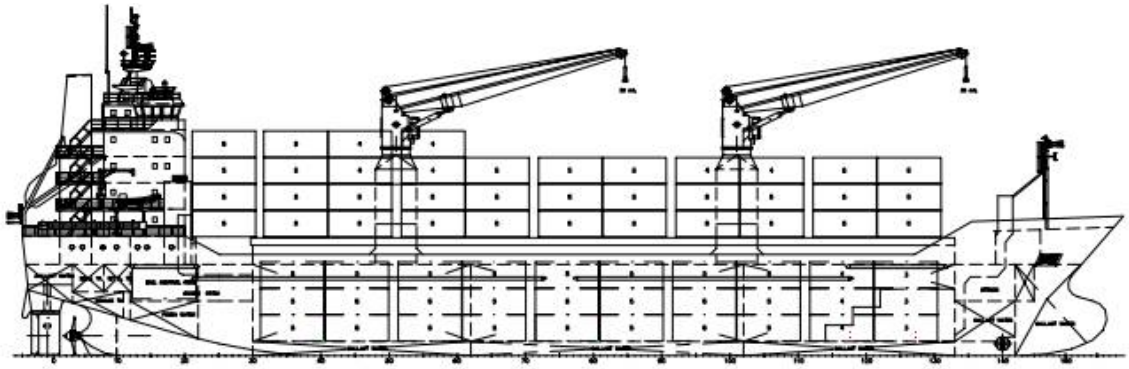
NB	Year	GT	LOA	Breadth	Name	Country
474	1998	1.179	53,5	12,0	BRP Hydrographer Ventura	Philippines
473	1998	1.179	53,5	12,0	BRP Hydrographer Presbitero	Philippines
408	1994	2.065	75,4	12,5	Cape Grafton	Australia



FACTORIAS VULCANO

MULTIPURPOSE CARGO VESSEL

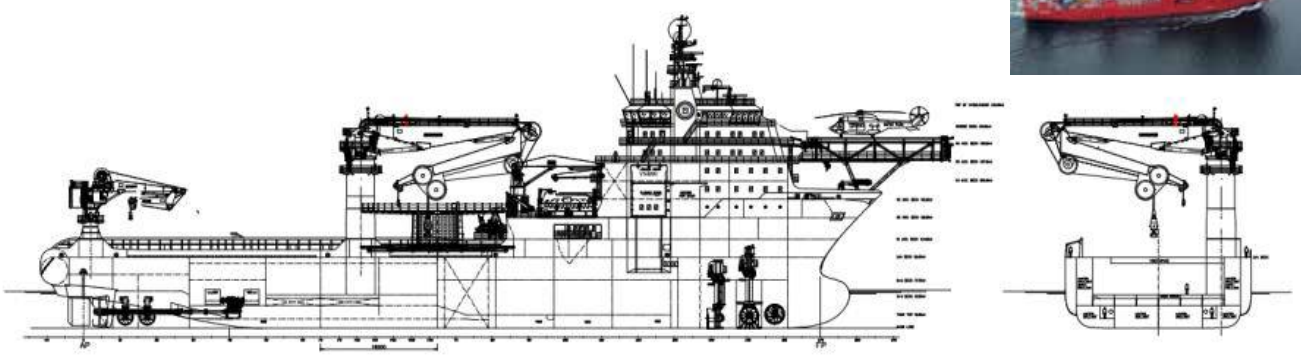
NB	Year	GT	LOA	Breadth	Name	Country
460	1998	4.559	105,0	16,2	Hilde K	Germany
461	1998	4.559	105,0	16,2	Helgoland	Germany



FACTORIAS VULCANO

OFFSHORE CONSTRUCTION VESSEL

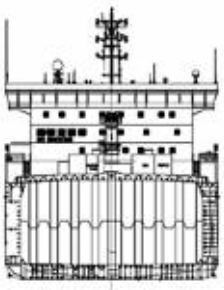
NB	Year	GT	LOA	Breadth	Name	Country
521	2007	16.562	138,5	30,06	Boa Sub C	Norway
485	2004	12.741	119,3	27,00	Boa Deep C	Norway



FACTORIAS VULCANO

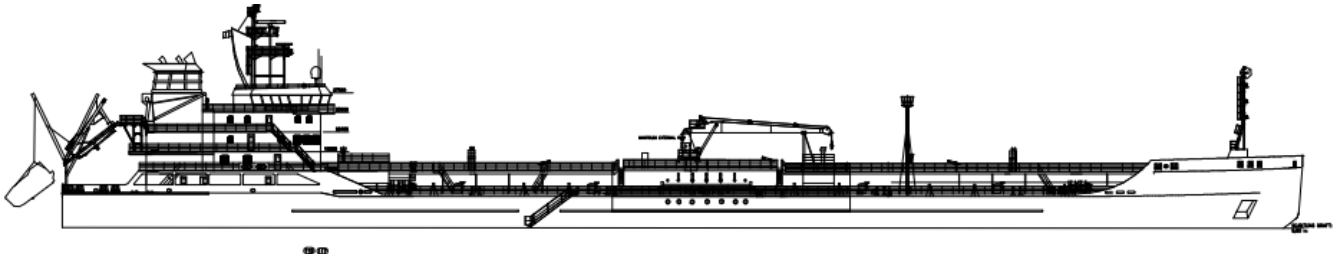
CHEMICAL/OIL TANKER

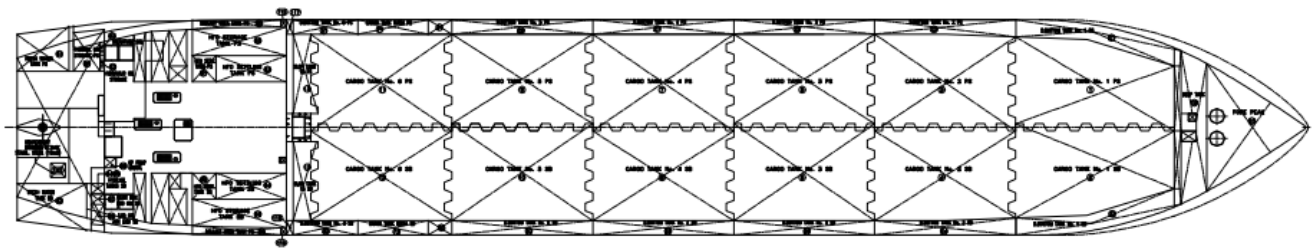
NB	Year	GT	LOA	Breadth	Name	Country
510	2010	19.994	176,10	29,8	RN Privodino	Russia
509	2009	19.994	176,10	29,8	RN Murmansk	Russia
508	2008	19.994	176,10	29,8	RN Arkhangelsk	Russia
492	2008	13.500	161,12	23,0	Canneto M	Italy
489	2008	13.500	161,12	23,0	Vicuna	Chile
491	2007	13.500	161,12	23,0	Calajunco M	Italy
490	2006	13.671	161,12	23,0	Dattilo M	Italy
480	2005	13.500	161,12	23,0	Filicudi M	Italy
482	2003	11.377	144,05	23,0	Mar Daniela	Spain
481	2003	11.377	144,05	23,0	Mar Elena	Spain
478	2003	13.740	161,12	23,0	Vulcano M	Italy
477	2002	11.377	144,05	23,0	Mar Adriana	Spain
475	1999	11.377	144,05	23,0	Primo M	Italiy
459	1999	11.377	144,05	23,0	United Atland	Sweden
458	1999	11.377	144,05	23,0	United Anton	Sweden



FACTORIAS VULCANO

CHEMICAL/OIL TANKER

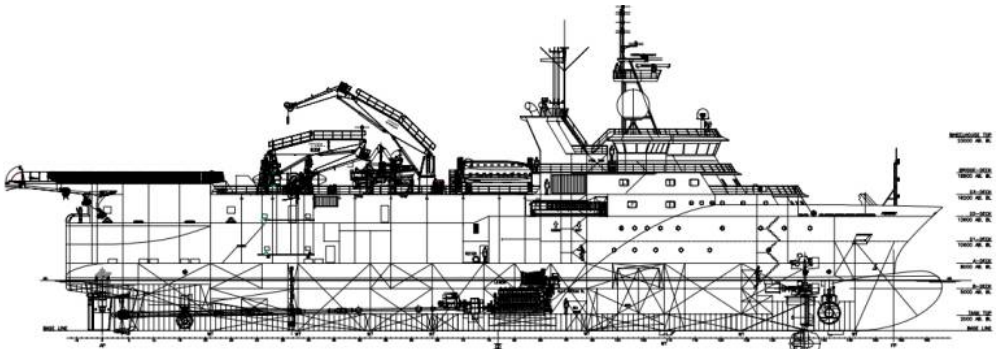




FACTORIAS VULCANO

SEISMIC VESSEL

NB	Year	GT	LOA	Breadth	Name	Country
533	2011	7.689	106,8	19,2	Polar Duchess	Norway
534	2010	7.450	106,8	19,2	PGS Apollo	Norway
532	2010	7.450	106,8	19,2	Polar Duke	Norway



PROJECTS IN PROCESS

FACTORIAS VULCANO and the Shipping Company TRASMEDITERRANEA, on 28th April 2017, signed, the entry into force of the contract for the construction of a new ferry.

The ship, of 139 m in length and 22 knots of speed, will have the latest technological advances and modern solutions of efficiency and respect to the environment that will allow the reduction of emissions by approximately 9%. These measures include the provision of catalysts and the hull painting with fluopolymers to improve hydrodynamic behaviour.

The new ferry will be delivered before the high season of 2018 and will have a capacity of 1,500 passengers, 450 vehicles and 600 linear meters of cargo. It will have modern interiors with innovative facilities to offer the passenger the best of experiences, and will have swimming pool, bars, Food Lounge area and VIP area.

FACTORIAS VULCANO

INNOVATIONS

OFFSHORE CONSTRUCTION VESSEL

Year of delivery: 2004
Vessel: Shipbuilding 485 “BOA DEEP C”
Ship-owner: Boa Group (Norway)

• INNOVATIONS

• This is the first offshore construction vessel in the world classified as CLEAN (which certifies it as environmentally-friendly both during its building process and its operation).

• First vessel in Spain to ever qualify for DP3 class (dynamic positioning that keeps the ship in position even in the event of a fire or flooding in adverse climate conditions).

• Pioneering the installation of hybrid propelling systems (diesel engines in combination with support electrical engines).

• Pioneering the installation of hydro-acoustic HIPAP systems (hydro-acoustic device for dynamic positioning purposes).

• One of the first ships in Spain to bear an ROV (remotely-operated submarines vehicle) deployment and lifting system with a range of 3,000 m depth.

• Fitted with an innovative system (AHC) for rolling and heeling offsetting. Offsetting of heeling torque during crane and winch operation.

OFFSHORE CONST/PIPE LAYING

Year of delivery: 2007
Vessel: Shipbuilding 521 “BOA SUB C”
Ship-owner: Boa Group (Norway)

• INNOVATIONS

• Carrying the biggest on-board articulated crane ever to be installed on a ship worldwide.

• Fitted with a 600-ton electric winch –the most powerful in the world.

• Bearing an ROV (remotely-operated submarines vehicle) deployment and lifting system with a range of 3,000 m depth.

• First ship to qualify for the ship class NAUT-OSV established by Det Norske Veritas to certify 360° visibility from the wheelhouse and ergonomic arrangement of the navigation systems.

• Qualifying for DP3 ship class (dynamic positioning that keeps the ship in position even in the event of a fire or flooding in adverse climate conditions).

FACTORIAS VULCANO

INNOVATIONS

CHEMICAL/OIL TANKER (PAINTED TANKS)

Years of delivery: 2008-2010
Vessel: Shipbuildings 508, 509 and 510
Ship-owner: Rosneft (Russia)

Singled out by the prestigious magazine MARITIME REPORT AND ENGINEERING as one of the best ships built worldwide in 2008.

• INNOVATIONS

• Designed and built to sail in extreme conditions on up to 1-m thick ice layers. Considered as a chemical/oil tanker fitted with an icebreaker bow.

• Noise levels in the living and crew quarters, as well as in the wheelhouse below the thresholds recommended by the IMO (International Maritime Organization).

• First chemical/oil tanker worldwide qualifying for DEICE class (defrosting system both for the main ship sections and lifesaving devices and their access areas in extreme polar conditions).

3D SEISMIC VESSEL

Years of delivery: 2010-2011
Vessel: Shipbuildings 532, 533 and 534
Ship-owner for 532-533: Rieber Shipping (Norway)
Ship-owner: Petroleum Geo-Services-PGS (Norway)

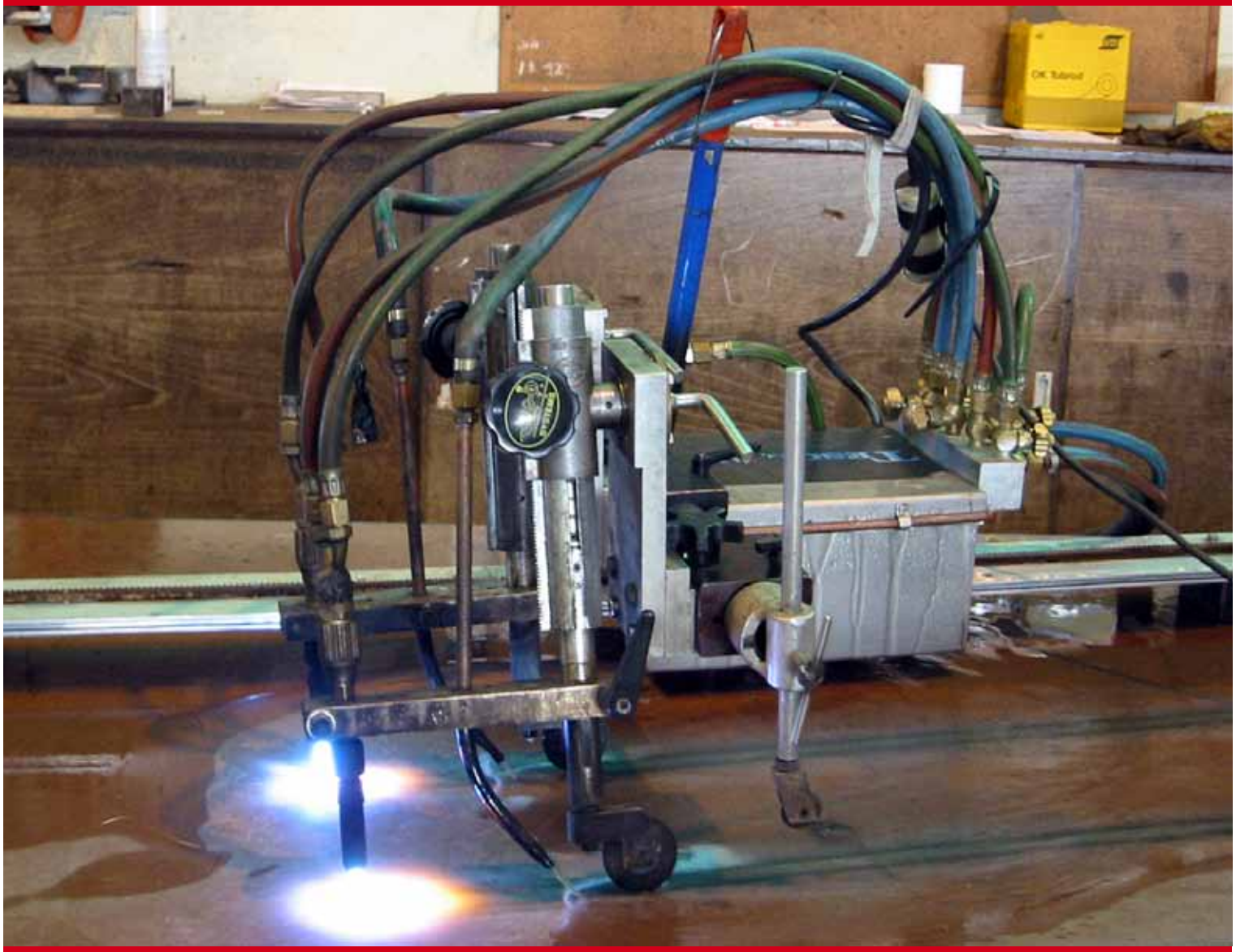
• INNOVATIONS

• Acknowledged by the Spanish Naval Engineer Association as one of the most remarkable vessels built in 2010.

• A pioneering vessel in fuel saving during operation owing to its hydrodynamic shape and the layout of its propelling system “father-son”. Great competitive advantages against similar vessels.

• Boasting acoustic and comfort systems complying well above the minimum thresholds set by international standards.

FACTORIAS VULCANO



PROCESS INNOVATION

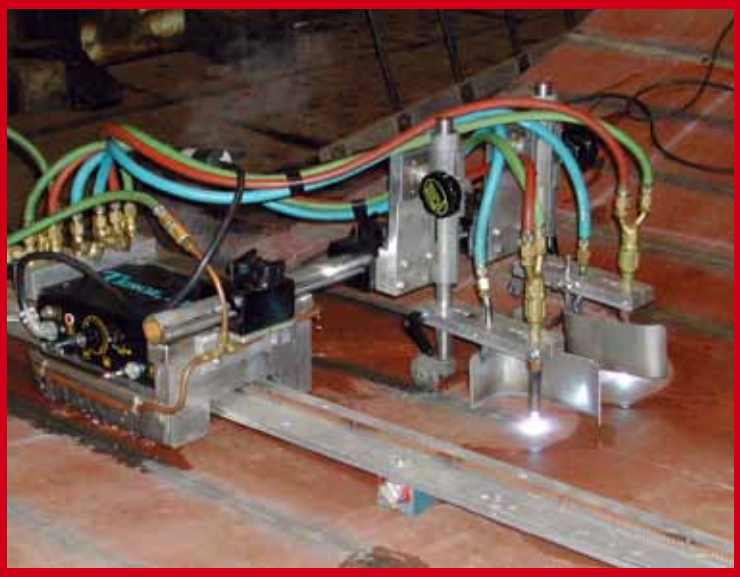
• Pioneering the welding of austenitic-ferritic (Duplex) grade stainless-steel tanks in Galicia.

• Providing training to 2,000 welders through specific courses for Duplex stainless steel works.

• First shipyard worldwide to use one-side only Duplex stainless steel welding.

• Development of innovation and patents, together with the AIMEN Technological Centre, for the design of a machine capable of welding corrugated bulkheads on assembly dry docks. Patent for invention no. 200931253.

FACTORIAS VULCANO



- **Innovation in the form of a hybrid Laser/MAG welding system for a new prefabricated panel system, thus far only achieved in lab conditions, to be developed at the Shipyard.**

- **R&D&i project, developed jointly with AIMEN and other shipyards and businesses of the shipbuilding ancillary industry of the Vigo area for metal casting through induction heating. Led by Factorías Vulcano, which has provided its profound**

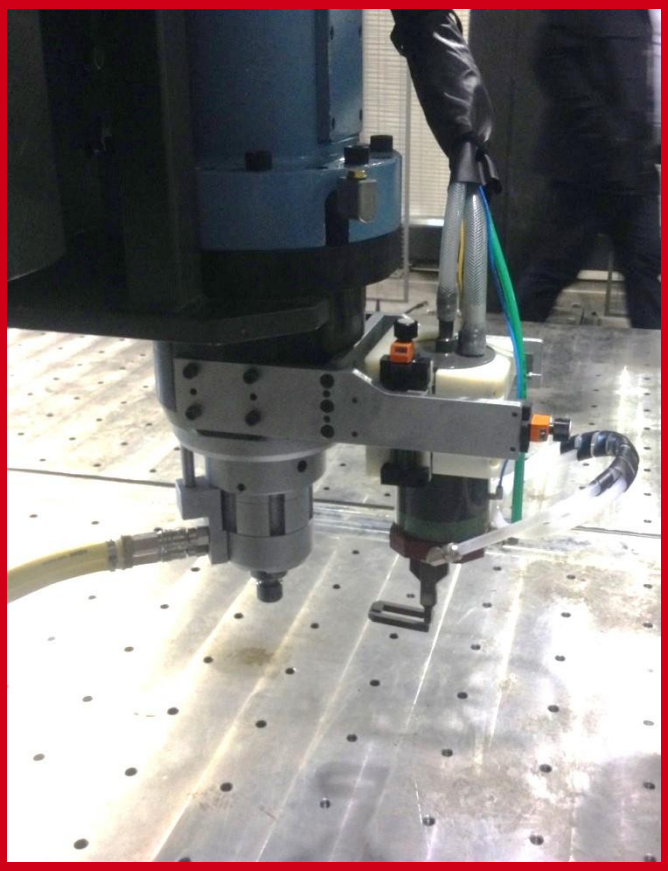
FACTORIAS VULCANO

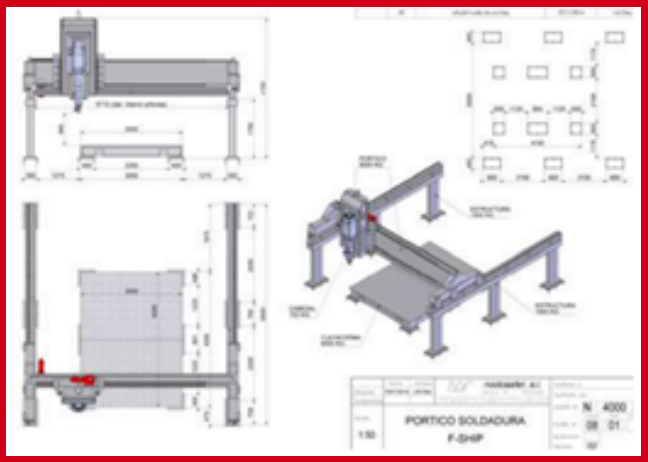
UNIÓN EUROPEA
Fondo Europeo de Desarrollo Regional (FEDER)
Una manera de hacer Europa

GOBIERNO DE ESPAÑA
MINISTERIO DE ECONOMIA Y COMPETITIVIDAD

CDTI Centro para el Desarrollo Tecnológico Industrial
Subvencionado por el CDTI

XUNTA DE GALICIA
axencia galega de Innovación





F-SIHP: development of welding advanced solution by Friction Stir Welding (FSW)

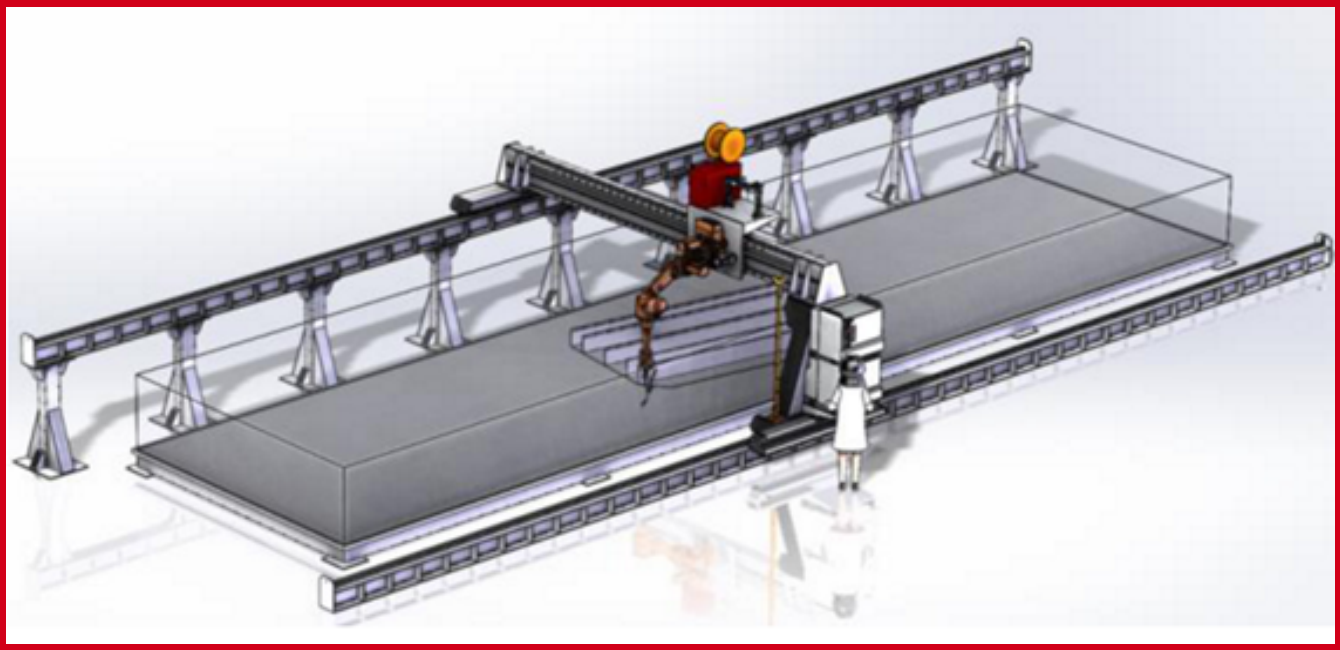
- A new concept of fabrication of naval structures, by means of FSW, based in the use of a preheating system of electromagnetic induction and the development of an adaptive process control system that allows the manufacture of lighter naval structures, better performance and less distortion, all with a manufacturing cost radically lower than the current

UMI AIMEN/FACTORIAS VULCANO

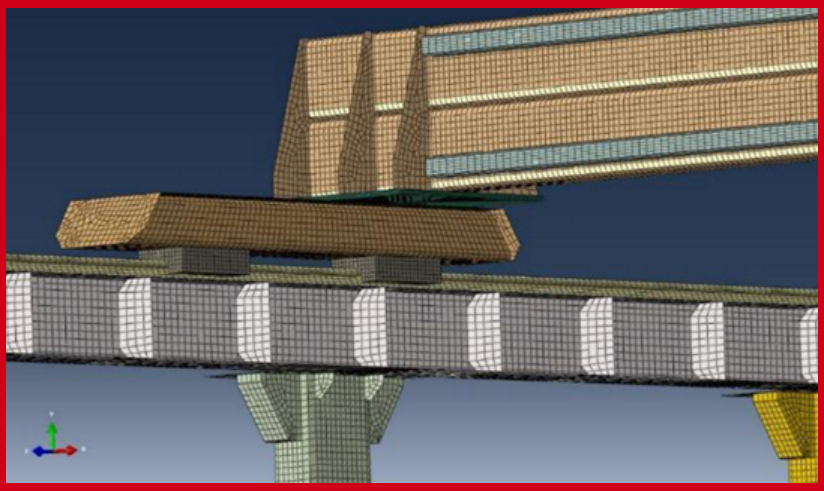
INNFLEXION

Desarrollo de tecnologías de fabricación inteligentes y flexibles de alta productividad para el sector de construcción naval

FACTORIAS VULCANO



FVSA is part of an Innflexion Mixed Unit, whose purpose is to develop flexible and low cost automated production solutions for the union and assembly of naval structures, which will also provide the shipyard with the degree of flexibility necessary to carry out the manufacture of structures of different typology through the implementation of simple changes in these systems.



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CDTI Centro para el Desarrollo Tecnológico Industrial
Subvencionado por el CDTI

XUNTA DE GALICIA

axencia galega de Innovación
gain

FACTORIAS VULCANO

ANNEX: FILLING CARDS

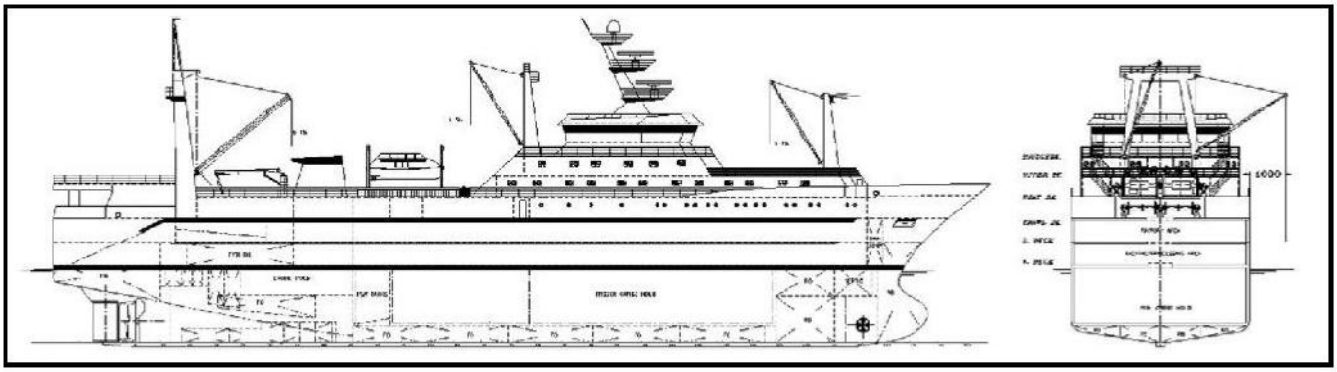
FACTORIAS VULCANO, S.A.

FISHING VESSELS FILING CARD

Name: (1º serie)	SOTRUDNICHESTVO	Owner / Broker:	BERGEN INDUSTRIES
Cargo Capacity:	5455 DWT	Country:	LIBERIA
Type:	STERN TRAWLER, FREEZING & FACTORY		

Old Refer.:	
Build nº	500 TO 507
Stud. no.	0
FILING CARD	Date: 01.12.99
	Rev.: 1
	Pag.: 1
Built date:	1991 TO 1994

REFERENCE: CBP0500 PAR



Survey:	D.N.V.	Classed:	.+ 1A1, EO, KMC	Ice:	ICE C (HULL 1B)

MAIN PARTICULARS (m)		TONNAGES (Tons)		CONSUMABLES (m3)		OUTPUT / SPEED / RANGE	
Length Overall	105,00	GT (IMO 69)	7805			Output (KW)	5920
Length B. Perp.	88,80	NT (IMO 69)		Heavy Fuel	1510	% MCR - % Sea	100%
Breadth mould.	20,00	TRB (IMO 67)		Diesel Oil	99	Speed trial Kn / Draft	15,5 / 6,8
Depth Main D.	9,2/11,8	DWT (d.Sum.)	5455	Lub Oil	34	% MCR - % Sea	0
Depth Upper D.	14,70	Displacement	10396	Fresh Water	445	Speed serv. (KN)	0
Summer draught	9,14	Lightweight	4941	Drink. Water	0	Range (nm)	9000
Total Crew	72	TPC/1	15	Ballast Water	89	Consumption t/day (F/D)	

CARGOE SPACES (m3)	
Total Pallets	0
Cargo Hold	4100
Fish Meal Hold	1170
Canning Hold	330
Cartoon Hold	0
Cargo Tanks	0
R.S.W. Tanks	450
Fish Oil Tanks	207
Cold Water	0

PROCESING CAPACITY		
Equipment	Uni	Total Capac.
Freezing Tunnel	0	0
Plate Freezing	10	150T/24H
Fish Fillets	0	198T/24H
Insulated Fish Tanks	0	0
Fish Meal Plant	1	150T/24H
Surimi Plant	0	0
Ice Plant	0	0
R.S.W Plant	4	450 M3

DECK MACHINERY				
Fishing Equipment	Uni	Dimensions	Capacity	Typ
Trawl winches	2	2,14 x 0,765 d.	3800 m (32 mm	H
Sweepline winches	4	1,2 x 0,38 d.	7,6 M3	H
Gilson winches	2	0,85 x 0,445 d.	0	H
Cop-en winches	1	0,85 x 0,38 d.	18 T. 44m/mir	H
Net sounding	2	1,00 x 0,44 d.	4000 m (12 mm	H
Net drums	2	3,6 x 0,56/0,84d	18 M3	H
Fish Crane	2	R.10/13 m.	4/ 5 T.	H
Windlass	2	17,2 T. at 12 m/min.		H
Cargo winches	4	0,85 x 0,5 d.	5 T. 50m/min	H

MACHINERY AND AUX. ENGINES		
Engine (Desing / Type)	WARTSILA	16V 32 D
Output (KW) / r.p.m.	5920	720
Gear Box (Desing / Type)	VOLDA "MEK" ///	ACG850 W/PF700/1
Reduction / Par	4,65:1	
Propeller (Desing / Type)	WARTSILA	VARIABLE
Blades Ø / r.p.m.	4000	155
Bowthruster Ø / kw	1000	440
Aux. Dies. Eng. (Des. - KW / Type)	(2) DEUTZ-MWM 1030 ///	BV6M 628
Altemator (Desing - KW / rpm)	(2) INDAR 1160 ///	1000
Aux. Dies. Eng. (Des. - KW / Type)		
Altemator (Desing - KW / rpm)		
Shaft Alter. (Desing - KW / rpm)	(1) INDAR 3090 ///	1500
Harbour/ Emerg. (Des. - KW / Type)	(1) DEUTZ 305	
Altemator (Desing - KW / rpm)	(1) INDAR 305 ///	1500

FISH SPECIAL EQUIP.	
Fish Pump	
Power Block	
Net Stacker	
Tuna Boat	
Ice Davit	X
Video Camera Control	X
Automatic Trawl.....	X
.....Winch Control	X
Fish Crane	X

ANOTHER EQUIPMENT	
Integrate Nav. Bridge	
Bridge Control System	X
Satellite Nav. System	X
Cargo Computers	
Bowthruster	X
Antiheeling System	
Passive Tank	X
Helicopter Deck	
Palletized Storage	
Palletized Discharge	

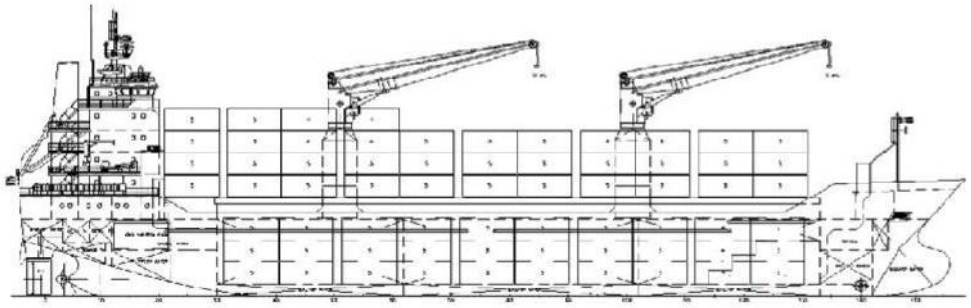
DOCUMENTACION		
Especificación	(Re/ Co -In/ Es)	R/C - I/E
Planos	(Dis/For/Mae/Hi)	D/F/M/H
Cálculos	(Cap/Est/Pot/Bal)	C/E/P/B

Fecha: 25-11-98 | Formato: V - 058 | Revisión: 0

FACTORIAS VULCANO, S.A.

CARGO VESSEL FILING CARD

Name: HILDE K / HELGOLAND	Owner / Broker: KREY/ BRIESE SCHIFFAHRTS	Old Refer.: 0	
		Build. no.: 460-461	Stud. no.: RT-96/15
Cargo Capacity: 6850 DWT	Country: GERMANY	Filing Card	Date: 6.05.99 Rev.: 1
REFERENCE: CBC0460 CMP	Type: MULTIPURPOSE CARGO VESSEL	Built date: 1997	Page: 1



Survey: G.L. Classed: + 100 A5 E3 G + MC E3 AUT Ice: E3

MAIN PARTICULARS (m)		TONNAGES (Tons)		CAPACITIES (m3)		OUTPUT / SPEED / RANGE	
Length Overall	105,00	GT (IMO.69)	4559	Hold Grain	7800	Output (Kw.)	1 x 3520
Length B. Perp.	97,10	TRB (IMO.67)	0	Heavy Fuel	447	% MCR - % Sea	100 / 0
Breadth mould.	16,20	DWT (d. Sum.)	6700	Diesel Oil	49	Speed trial (Kn.) / Draft	15.0 / 4.10
Depth mould.	9,00	DWT (d. Sct.)	6850	Lub Oil	22	% MCR - % Sea	0
Summer draught	7,25	Displacement	9200	Fresh Water	51	Speed serv. (Kn.) / Draft	0
Scantling draught	7,35	Lightweight	2500	Ballast Water	2794	Range (nm)	0
Crew- Passage	14 - 0	TPC/I	14.8	F/D.O. Cargo	0	Consumption t/day (F/D)	0

CONTAINERS CAPACITY		ANOTHER CAPACITIES		HOLD Nº & DIMENSIONS		CARGO INSTALLATION	
				(1) 66,95 x 12,80		Cranes	(2) 36 T./2,3 - 22 M.
TEU Total	304	Pallets (1x1.2)	0	0		Derricks	0
In Hold	141	Cars (Eur. std.)	0	Temperature	0	Winches	2 FORE / 2 AFT
On Deck	163	Trailers	0	Stack loads (mt. TEU / FEU)		Lifts	0
at 14 mt.	218	Lane meters	0	Tanktop	20/40	Cardecks	0
Reefer plugs	45	Hatch nº dimension & type		Hatch covers	30/40		
Lengths (ft)	20, 40	(1) 66,95 x 12,80 F		Permisible loads (mt / m2)		Ramps (fixed/movils)	0
Heights (ft)	8,5/ 9 /9,5	0		Tanktop	10,0	Doors (side / aft)	0
		0		Tweendeck	0		
		(F): Folding; (P): Pontoon		Hatch covers	1,60		

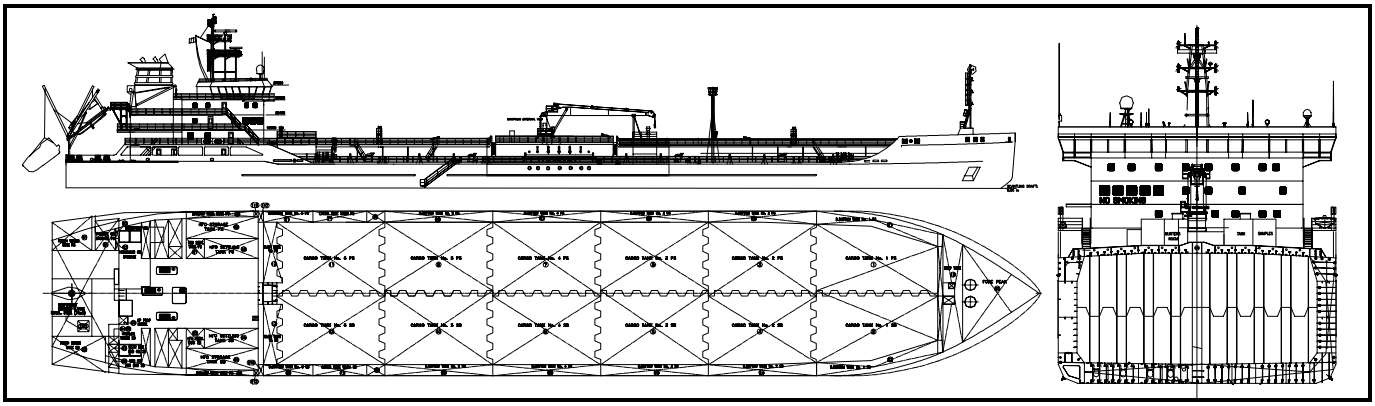
MACHINERY AND AUX. ENGINES				SPECIAL EQUIPMENT		ANOTHER EQUIPMENT
Engine (Desing / Type)	MAK	8M32				
Output (Kw.) / r.p.m.	1 x 3520		600	Integrate Nav. Bridge	0	
				Dynamic Position	0	
Gear Box (Desing / Type)	RENK	HUW-750		Satellite Nav. System	X	
Reduction / Par	3,529:1		0	Cargo Computers	0	
Propeller (Desing / Type)	(1) BERG	CONTROL.		Heavy Cargoes	X	
Blades Ø / r.p.m.	3800		170	Hazardous Cargoes	X	
Bowthruster Ø / Kw.	1300		360	Antiheeling System	0	
Aux.Dies.Eng.(Desing.-Kw./Typ)	(2) VOLVO	TAMD 162C				
Alternator (Desing.-Kw./ rpm)	(2) A.V.KAICK	330	1500			
Aux.Dies.Eng.(Desing.-Kw./Typ)	0		0			
Alternator (Desing.-Kw./ rpm)	0		0			
				DOCUMENTACION		
Shaft Alter. (Desing.-Kw./ rpm)	(1) A.V.KAICK	600	1500	Especificación	(Re/ Co -In/ Es)	C-I/E
	0		0	Planos	(Dis/For/Mae/Ili)	D/F/M/H
Harbour/Emer.(Des. Kw./Typ)	(1) VOLVO	TMD102A/KC		Cálculos	(Cap/Est/Pot/Bal)	C/E/P/B
Alternator (Des.-Kw./ rpm)	(1) A.V.KAICK	130	1500			

Fecha: 25 - 11 - 98 | Formato: V - 060 | Revisión: 0

FACTORIAS VULCANO, S.A.

CHEMICAL & OIL TANKER VESSEL- FILING CARD

Name: RN MURMANSK	Owner / Broker: AB SEA LIMITED	Nº IMO: 9384447	
		Build. no. 509	Stud. no.
Cargo Capacity: 35360	Country/ Flag: CYPRUS	Call sign /MMSI: /	Filing Card — Date: 2009-01-29, Rev.: 9
REFERENCE: CBTO4509 TQM	Type: CHEMICAL / OIL TANKER IMO 2 & 3	Built date: 2008	Page: 1



Survey: DnV

Classed: 1A1 double hull oil and chemical tanker f 2, Ship Type 2 , ESP,DAT(-30), EO, NAUTICUS(B¡NEW BUILDING), NAUT-AW, CCO, CSAI, COATI, PLUS 1, LCS-DC, ICS, VCS2, a2, V2, str0,1 k, OPP-F, TMON, DEICE, CLEAN

Ice: 1 A SUPER

MAIN PARTICULARS (m)		TONNAGES (Tons)		CAPACITIES 100% (m3)		OUTPUT / SPEED / RANGE	
Length Overall	176,10	GT (IMO 69)	19986	Cargo Tanks	34669	Output (KW)	10.500
Length B. Perp.	169,93	NT (IMO 69)	9194	Slop Tanks	691	% MCR - % Sea	100% / -
Breadth mould.	29,80	DWT (d. Design)	27433	Heavy Fuel	1282	Speed trial (KN) // Draft	/
Depth mould.	14,00	DWT (d. Sct.)	30720	Diesel Oil	195	% MCR - % Sea	
Design draught	9,20	Displacement (9,9)	40043	Lub Oil	120	Speed serv. (KN) // Draft	
Scantling draught	9,90	Lightweight	9323	Fresh Water	261	Range (nm)	8000 / 28 days
Crew- Passage	n.a.	TPC/I (9,90)	47,5	Ballast Water	15133	Consumption t/day (F/D)	F.O. (85%)

CARGO TANK CAPACITIES (100%)	Units	IMO	Cap.m3	Pres.bar	Gra.T/m3
Total (includ. Slop	14	2-3	35360	0,25	1,53
In Centre	n.a.	n.a.	n.a.	n.a.	n.a.
In Wing	14	2-3	35360	0,25	1,53
On deck	n.a.	n.a.	n.a.	n.a.	n.a.

SEGREGATIONS	
No. segregations	6+1
Cap.m3 Epoxy	
Cap.m3 Zinc	
Cap.m3 Poly	
Cap.m3 S/Steel	

CARGO HANDLING	Hydraulic:	Electric:
Pumps		
Total		12 500 m3/h
Slops		2 200 m3/h
D.Weel		
Ballast		
Drain		

SAFETY AND OTHER DETAILS	Units		m3/h		Pres.bar
Foam generators	1				
Tank washing machine		29	16,0	at	8
Tank washing pump		2	100	at	11

CARGO LIST	
1.-	crude oil & IMO 2 & 3
2.-	0
3.-	0
4.-	0

Heating system / Temperature ºC	THERM. OIL /
Midhships hose handling crane	100 kN - m.
Forward hose handling crane	
Provision Crane	3 t - 4 m.

MACHINERY AND AUX. ENGINES		
Engine (Desing / Type)	MAN B&W	9L48/60
Output (KW) / r.p.m.	10800	500
Gear Box (Desing / Type)	FLENDER / NAVILUX GUCK 1180	
Reduction / Par	500:110,5	17,54:1
Propeller (Desing / Type)	RR Kamewa Ulstein	164XF5/4 D-S
Blades Ø / r.p.m.	6,100 mm	110 r.p.m
Bowthruster dia. /r.p.m/ Kw	2000 mm	1000kW/1480 rpm
Aux.Dies.Eng.(Desing.-KW./Typ)	3xMAN B&W 6L21/31	1290kW/1000rpm
Alternator (Desing.-KW/rpm)	AVK	1225kW/1000rpm
Shaft Alter. (Desing.-KW/rpm)	AVK	1250kW/1000rpm
Harbour/Emer.(Desing.-KW./Typ)	MAN B&W	375kW/1500rpm
Alternator (Desing.-KW/rpm)	Newage HMC 534 E2	375kW/1500rpm
Exhaust Boiler (Desing/KW	Vulcano Sadeca	1450kW
Thermal oil heater (Desing/KW)	Vulcano Sadeca	2x5600kW

SPECIAL EQUIPMENT	
Integrate Nav. Bridge	
Bridge Control System	X
Joystick	
Radar Type Ullage	X
Central. Cargo Operation	X
Heavy Cargoes	
Hazardous Cargoes	X
Bowthruster	X
Antiheeling System	

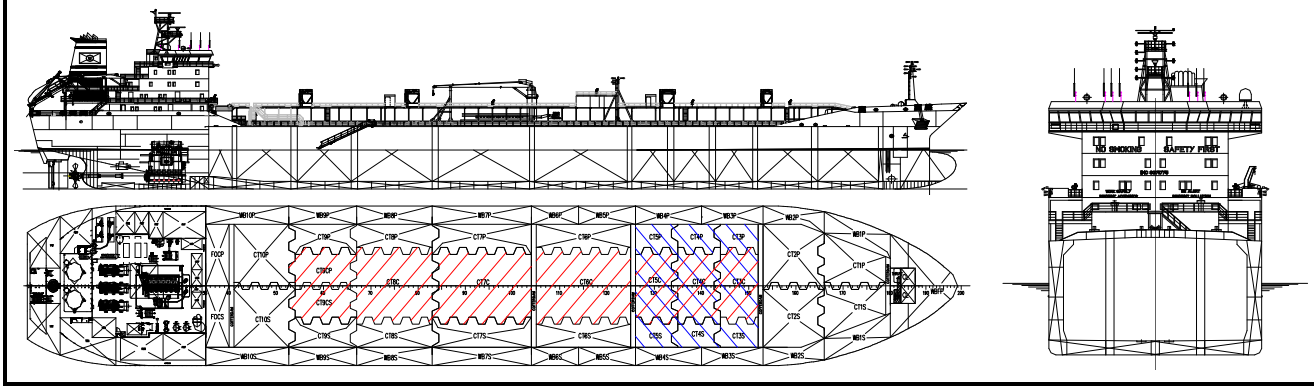
ANOTHER EQUIPMENT	
Iner Gas System	X
Steam Generator	X
Manifold center	X
Manifold aft	
PTO / PTI	X
Incinerator	X
Sewage plant	X

DOCUMENTACION		
Especificación	(Re/ Co -In/ Es)	C-I/E
Planos	(Dis/For/Mae/Hi)	D/F/M/H
Cálculos	(Cap/Est/Pot/Bal)	C/E/P/B

Fecha: 25 - 11 - 98 | Formato: V - 059 | Revisión: 0

FACTORIAS VULCANO, S.A.

VICUNA	KANATA SHIPPING CO / ULTRAGAS	489
23731 M3.	CYPRUS	5BAX2
CHEMICAL/OIL TANKER (Stainless st./Avesta 2205) IMO 1&2		2007



LR

Lloyd's R. ✠100A1 Double Hull Oil and Chemical Tanker, ESP
Ship Type 1, CR (s.stl), S.G. 1.85, LI, ICE CLASS 1B FS, SPM, ETA
Shipright (SDA FDA+ CM), *IWS, ✠LMC, UMS, NAV1, IGS, SCM
Descriptive note Pt(HT)

FACTORIAS VULCANO, S.A.

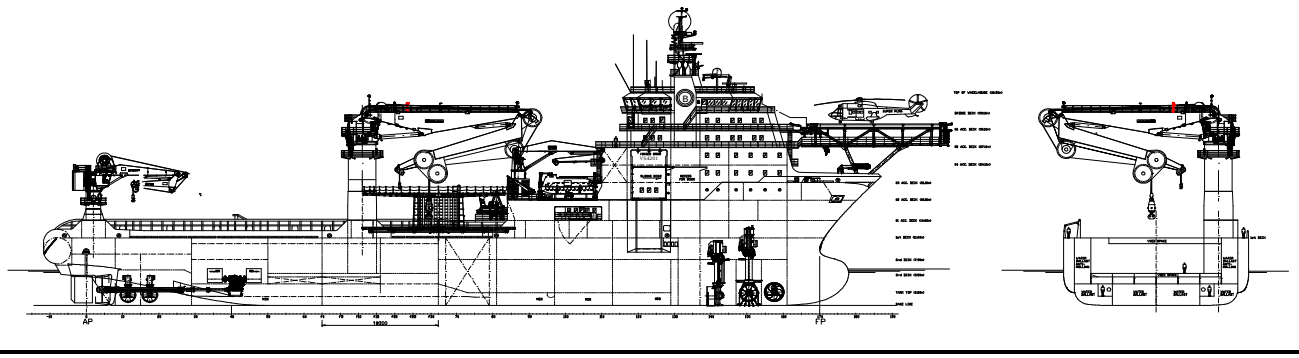
OFFSHORE VESSEL FILING CARD

Nº IMO : **9275153**

Name:	Owner / Broker:	Build. no.	Stud. no.
BOA SUB C	**BOA DEEP C II AS**	**521**	0

Cargo Capacity:	Flag:	Call sign:	Filing Card	Date 28/07/2007
12.000 dwt	**MALTA**	**9HUC8**		Rev. E

REFERENCE	Type:	Built date:	Page:
CBV0521 VOC	**OFFSHORE CONSTRUCTION / PIPELAYING VESSEL**	**2007**	1



Survey:	Classed:	Ice:
D.N.V.	**+ 1A1, , E0, Tug/Supply Vessel basic SF, Pipelaying, HELDK, Dynpos, AUTRO, CLEAN, Comf-V(3), Comf-C(3), register notations dk(+), and T-MON.**	**-**

MAIN PARTICULARS (m)		TONNAGES (Tons)		CAPACITIES (m3)		OUTPUT / SPEED / RANGE	
Length Overall	**138,50**	GT (IMO 69)	**13791**	Holds Chain	**1885**	Output (KW)	**2 x 6.600**
Length B. Perp.	**124,12**	TRB (IMO 67)	**4137**	Cargo Holds	**2770**	% MCR - % Sea	**100 - 0**
Breadth mould.	**30,06**	DWT (d. Sum.)	**12.036**	Heavy Fuel	**0**	Speed trial (KN) // Draft	**17,0 / 6,00 m**
Depth mould.	**11,60**	DWT (d. Sct.)	**12.036**	Diesel Oil	**3432**	% MCR - % Sea	**100 - 0**
Summer draught	**8,80**	Displacement	**24.018**	Lub Oil	**68**	Speed trial (KN) // Draft	**15,5 / 8,80 m**
Scantling draught	**8,80**	Lightweight	**13.405**	Fresh Water	**1426**	Range (nm)	**9500**
Crew - Scientific	**55 + 50**	TPC/I	**34**	Ballast Water	**11269**	Consumption t/day (F/D)	**130**

SPECIAL INSTALLATIONS	OTHER CHARACTERISTICS
Two separate engine room,switchboard and steering gears, acc. IMO DP3 requirements.	Free deck space: 1587 m^2
Propulsion mode: Diesel Electric with 2x3.300 bkW electric motors in each shaft	Main deck reinforced for 15 t/m^2
Dynamic positioning (Dynpos AUTRO), with remote joy-stick	Bollard pull : 225 tons at 100% MCR.
Integrate Navigation Bridge E0	Watertight remote controlled A60 doors.
IAS with 2565 I/A	Helideck designed for a Sikorski S92
ROV hangar std. & port side,and ROV control room	Total capacity: 140 pers. with 35 pullman beds (105+35)
Moon-pool off 7,20 x 7,20	
Anti-rolling and Anti-heel tanks with flow control for automatic operation	
Passive roll reduction tank	
Pipe lay spread system	

MACHINERY AND AUX. ENGINES		DECK MACHINERY	
Diesel engines (Desing / Type)	*see Aux. Diesel Engine*	CRANE	1 x Offshore crane 400 T at 12 m with A.H.C.
Output (KW) / r.p.m.	*see Aux. Diesel Engine*	CRANE	1 x Offshore crane 30 T at 18m with A.H.C.
Electrical AC motors (Desing / Type	4 x Siemens 1RN4560-6PM90/Z	CRANE	1 x Offshore/Marine crane- SWL 15 t at 20 m
Output (KW) / r.p.m.	4 x 3300 Kw / 0-900-1220 rpm	CRANE	1 x Telescopinc folding crane - SWL 5 t at 6 m
Gear Box (Desing / Type)	2 x Scana Volda EGACG/15/1080S	CRANE	1 x Telescopinc folding crane - SWL 0.5 t at 20 m
Reduction / Par	8.074 : 1	ROLLERS	2 off x 5 m length - 4.5 m diameter - Pull off 750 t Stern
Propeller (Desing / Type)	2 X Scana Volda CP NOZZLE	TOWING	Retractable Towing pins 330 tons
Blades Ø / r.p.m.	4400 mm / 111 - 135 rpm	TOWING	2 Forks
Side Thruster (Ø / Kw)	2x2250 + 1x2750 mm / 2x1425 + 1x1800 Kw		**TOWING, ANCHORING & MOORING WINCHES**
Retract. Azimuth Thruster (Ø / Kw	1 x 2600 mm + 1 x 2750mm / 2 x 2150 Kw	WINCH	1 off Towing / Anchor Handling offshore winch - 3 Drums
Aux.Dies.Eng.(Desing.-KW./Typ)	2 x Wartsilla 12V32 - 2 x 5760 Kw		Elec. driven - AH drum 600 t pull - Towing drum 500 t pull
Alternator (Desing.-KVA/ rpm)	x Siemens 1DK 4536-05 - 2 x 6150 KVA / 720 rp	WINCH	Two Windlass / Mooring winches
Aux.Dies.Eng.(Desing.-KW./Typ)	4 x Wartsilla 6L32 - 4 x 2880 Kw	WINCH	Two tugger winches pull 20 tons (01 Acc Deck)
Alternator (Desing.-KVA/ rpm)	x Siemens 1FJ4 805-10 - 4 x 3070 KVA / 720 rp	WINCH	Two guide winches pull 15 tons (1st Deck)
Shaft Alter. (Desing.-KW/ rpm)	-	CAPSTAN	Two Capstans - 15 tons with warping end head (1st Deck)
Harbour (Desing.-KVA./Typ)	Caterpillar 3508 + Siemens - 910 KVA	CAPSTAN	Two Capstans - 15 tons (03 Acc Deck)
Emergency (Desing.-KW./Typ)	*see Harbour*	REELS	Two storage rope reels - pull 5 ton

FACTORIAS VULCANO, S.A.

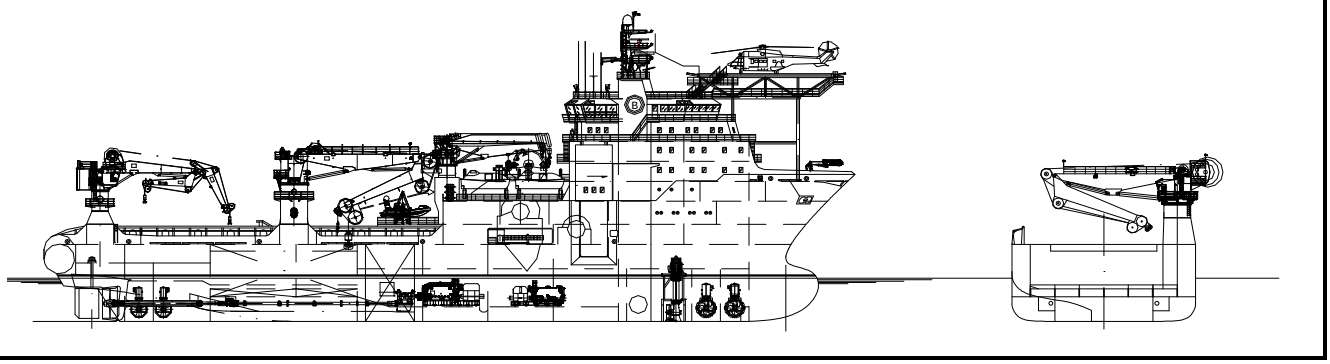
RESEARCH VESSEL FILING CARD

Nº IMO : **9265342**

Name:	Owner / Broker:	Build. no.	Stud. no.
BOA DEEP C	**BOA DEEP C. AS**	**485**	0

Cargo Capacity:	Country:	Filing Card	Date 26.07.06
8400 DWT	**NORWAY**		Rev. 5

REFERENCE	Type:	Built date:	Page:
CBV0485 VOC	**OFFSHORE CONSTRUCTION VESSEL - VS 4201**	**2003**	1



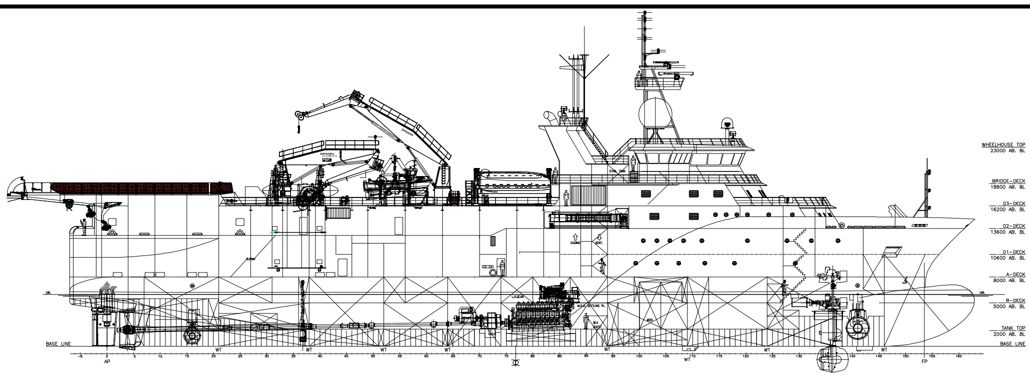
Survey:	Classed:	Ice:
D.N.V.	**+A1, Ice C, E0, Tug/ Supply vessel, SF, HELDK, Dynpos., AUTRO, CLEAN, Comfort Class rating 3, register notations dk(+), hl(p) and T-MON**	**C**

MAIN PARTICULARS (m)		TONNAGES (Tons)		CAPACITIES (m3)		OUTPUT / SPEED / RANGE	
Length Overall	**119,30**	GT (IMO 69)	**12741**	Holds Chain	**6x180**	Output (KW)	**6000 + 3000**
Length B. Perp.	**102,00**	NT (IMO 69)	**1322**	Cargo Holds	**2x1150**	% MCR - % Sea	**85 / 0**
Breadth mould.	**27,00**	DWT (d. Sum.)	**8590**	Heavy Fuel	**0**	Speed trial (KN) // Draft	**17,1 / 6,6**
Depth mould.	**11,60**	DWT (d. Sct.)	**8590**	Diesel Oil	**3500**	% MCR - % Sea	**80 -- 0**
Summer draught	**8,60**	Displacement	**18083**	Lub Oil	**58**	Speed trial (KN) // Draft	**13 / 8,8**
Scantling draught	**8,80**	Lightweight	**9493**	Fresh Water	**1400**	Range (nm)	**9500**
Crew - Scientific	**50+50**	TPC/I	**26,3**	Ballast Water	**4864**	Consumption t/day (F/D)	**130**

SPECIAL INSTALLATIONS	OTHER CHARACTERISTICS
Two separate engine room,switchboard and steering gears. AUTRO class requirements.	Free deck space: 1150 m2 (23x50)
Dynamic positioning (Dynpos AUTRO), with remote joy-stick	Main deck reinforced for 15 t/m2
Integrate Navigation Bridge E0	Bollard pull : 260 tons.
Pipe lay spread system	Watertight remote controlled A60 doors.
Helideck designed for a Super Puma S61	
ROV hangar std. & port side,and ROV control room	
Moon-pool off 7,20 x 7,20	
Anti-rolling and Anti-heel tanks.	
Propulsion modes: Diesel; Diesel Electric & Diesel with Electric Booster	
IAS with 2565 I/A	

MACHINERY AND AUX. ENGINES			DECK MACHINERY	
Diesel engines (Desing / Type)	**CATERPILAR**	**3616TA**	CRANE	Two off 15 tons at 20 m with Active Heave Compensation
Output (KW) / r.p.m.	**2 x 6000 KW**	**1000**	CRANE	One Telescopic folding off 1 ton at 16 m with A.H.C. systen
Electrical AC motors (Desing / Typ	**SIEMENS**	**1RN4 560-6PM90-Z**	CRANE	One telescopic folding crane off 5 ton at 6 m.
Output (KW) / r.p.m.	**2 x 3000 KW**	**1200**	CRANE	One offshore crane 250Tn with AHC winch hydraulic driver
Gear Box (Desing / Type)	**(2) SCANA VOLDA**	**ACG/1080**	CRANE	One offshore crane 30Tn at 15 m with AHC
Reduction / Par	**6,43:1**	**10,9:1**	ROLLERS	Two off 5 m length and dia. 4,5 m. Pull of 750 tons. at stern
Propeller (Desing / Type)	**(2) SCANA VOLDA**	**CP IN NOZZLE**		Towing Pins of 330 tons
Blades Ø / r.p.m.	**4x4400**	**140**		Two Forks
Side Thruster (Ø / Kw)	**(2+2) Aft&For.BRUNVOLL**	**2250 / 1425**		**ANCHORING & MOORING WINCH**
Retract. Azimuth Thruster (Ø / Kv	**(1) BRUNVOLL**	**2100 / 1200**	WINCH	Two Windlass/ Mooring Winches
Aux.Dies.Eng.(Desing.-KW./Typ)	**(2) CATERPILLAR 2530 KW**	**3608TA**	WINCH	Two Tugger Winches. Pull 20 tons
Alternator (Desing.-KW/ rpm)	**(2) SIEMENS 2420 KW**	**900**	WINCH	One Towing/ Anchor Handling Winch. 3 drums/ 500 tons.
Aux.Dies.Eng.(Desing.-KW./Typ)	**(2) CATERPILLAR 1900 KW**	**3606TA**	WINCH	Two Constan Tension. pull 15 tons wire 2500 m. 16 mm dia
Alternator (Desing.-KW/ rpm)	**(2) SIEMENS 1820 KW**	**900**		
Shaft Alter. (Desing.-KW/ rpm)	**(2) SIEMENS 4800 KW**	**900**	REELS	Two Rope Reels 50 tons. Wire 3500 m. 76 mm dia.
Harbourt (Desing.-KW./Typ)	**(1) CATERPILLAR 968 KW**	**3508TAB**	CAPSTAN	Two Capstans off 15 tons.
Emergency (Desing.-KW./Typ)	**(1) CATERPILLAR 183 KW**	**3306TA**		

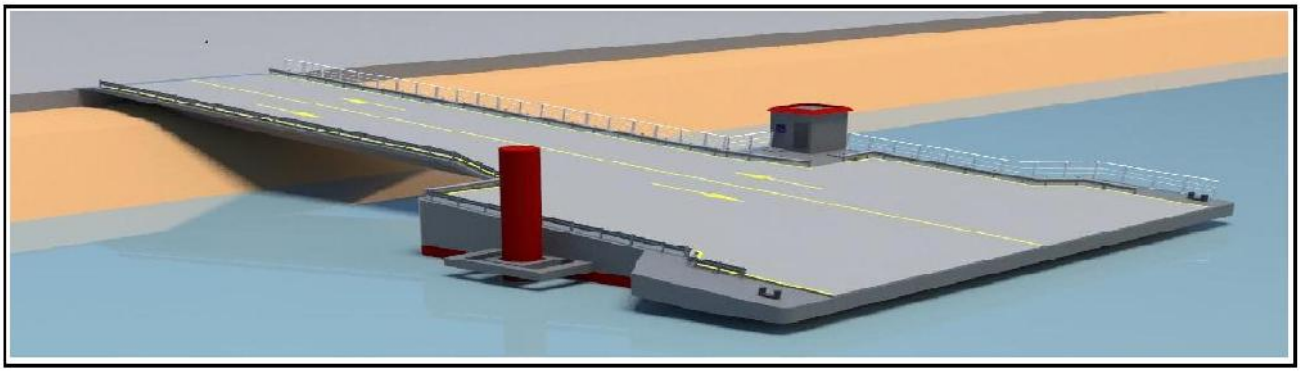
FACTORIAS VULCANO, S.A.



FACTORIAS VULCANO, S.A.

RAMP Ro-Ro FILING CARD

Name: RAMPA RORO BOUZAS	Owner: COMSA para A.P.V	IMO number: N/A	
		Build. no. 21001	Stud. no. 0
Cargo Capacity:	Country: ESPAÑA	Filing Card	Date 06-05-16 Rev. 1
REFERENCIA RT15-01	Type: RO-RO BOARDING RAMP	Built date: 2015	Page: 1



Survey: Client | Reglamentacion : LR for linkspans | Icc: No

DIMEN.PRINCIPALES (m)		TONNAGES (Tons)		CAPACITIES (m3)		OUTPUT / SPEED / RANGE	
Length Overall	52,08	GT (IMO 69)	799	Heavy Fuel	N.A.	Output (KW)	N.A.
Length B. Perp.	31,28	TRB (IMO 67)		Diesel Oil	N.A.	% MCR - % Sea	
Breadth mould.	32,00	DWT (d. Sum.)		Lub Oil	N.A.	Speed trial (KN) // Draft (m)	
Depth mould.	4,80	DWT (d. Sct.)		Fresh Water	N.A.	% MCR - % Sea	
Min. Draught	1,80	Displacement		Ballast Water	1.060	Speed serv. (KN) // Draft (m)	
Max. Draught	3,00	Lightweight		Passive anti-rolling tank	N.A.	Range (nm)	
		TPC/I				Consumption t/day (F/D)	

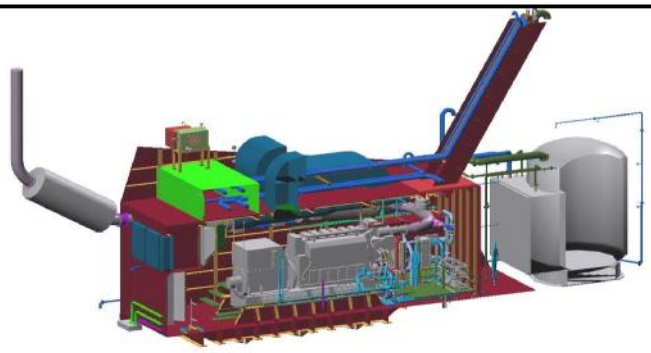
SPECIAL INSTALLATIONS	INSTRUMENT. EQUIPMENT	DECK MACHINERY & EQUIPMENT	
Ramp design for load & unload of vehicles	N.A.	1	Rubber Fenders
Ramp design for any local tide condition.		1	Fixed mooring equipment
Road surface 770 m2		1	Air conditioning to warehouse
Ramp for 3 tractor units w/trailer 3x120t & an uniform load 0,5t/m2		1	Electrical shore connection
Guardrail around of ramp that prevents from faling			

MACHINERY AND AUX. ENGINES		SPECIAL EQUIPMENT	
Father Engine (Desing / Type)	N.A.	2	Ballast pumps AZCUE of 180 m3/h @ 6 mwc
Output (KW) / r.p.m.		1	Remote ballast valves
Son Engine (Desing / Type)		1	Ballast tanks Sounding
Output (KW) / r.p.m.			
Gear Box (Desing / Type)			
Reduction ratio / PTO (Kw)			
Propeller (Desing / Type)			
Blades Ø (mm) / Speed (r.p.m.)			
Shaft Alter. (Desing / type)			
Output (kVA / rpm / V / Hz)			
Steering gear (Design / Torque)			
Rudder (Design / Area / Angle)			
Bow thruster (Design / Ø / Kw)			
Azimuth thruster (Design / Ø / Kw)			
Aft thruster (Design / Ø / Kw)			
Emerg. Genset (Desing.-KW/ rpm)			
Harbour Genset (Desing.-KW/ rpm)			

FACTORIAS VULCANO, S.A.

RESEARCH VESSEL FILING CARD

Name:	Owner / Broker:	IMO number:	9441130
ABEL MATUTES	GAS NATURAL	Build. no. 13101	Stud. no.
Cargo Capacity:	Country:	Filing Card	Date 10-05-16
	SPAIN		Rev. 0
REFERENCE	Type:	Built date:	Page:
	GAS RETROFIT (Harbour Genset)	2016	1



Survey: BV Classed: Ice: -

MAIN PARTICULARS (m)		TONNAGES (Tons)		CAPACITIES (m3)		OUTPUT / SPEED / RANGE	
Length Overall	24,00	GT (IMO 69)	-	Heavy Fuel	-	Output (KW)	-
Length B. Perp.	-	NT (IMO 69)	-	Diesel Oil	-	% MCR - % Sea	-
Breadth mould.	5,20	DWT (at 6,0 m)	-	Lub Oil	-	Speed trial (KN) // Draft (m)	-
Depth mould.	11,70			Lub Oil	-		-
Summer draught	-			Fresh Water	-		-
Scantling draught	-	TPC/I	-	Ballast Water	-	Range (nm)	-
Crew				LNG (98%)	29,45	Consumption t/day (MDO)	-

SPECIAL INSTALLATIONS	INSTRUMENT. EQUIPMENT	DECK MACHINERY & EQUIPMENT
• CO2 system • N2 system • Starting and Service Air systems • LNG cooling and vaporization systems • Oily water system • Lubricating Oil system • Exhaust gases sytem • Fresh air and firefighting systems • Engine room construction, installation, insulation and painting • Mounting onboard of Engine, LNG equip. outfitting and trials		

MACHINERY AND AUX. ENGINES		SPECIAL EQUIPMENT	
Aux Engine (Desing / Type)	One Rolls Royce C26:33L6AG, LNG fueled	1	Cryonorm LNG Storage Tank, Ø 3700
Output (KVA) / r.p.m.	1.943 KVA (1620 kW MCR) @ 1.000 rpm	1	Cryonorm LNG Cold Box
Max. continuous rating	1.620 (MCR) kW	1	Cryonorm Glycol Expansion module
Specific energy consumption	7.550 kJ/kWh	1	Cryonorm Glycol Heater
Gear Box (Desing / Type)	-	1	Wilhelmsen CO2 system
Reduction ratio / PTO (Kw)	-	1	Wilhelmsen N2 system
Propeller (Desing / Type)	-	6	Sound attenuators (passive noise control system for
Blades Ø (mm) / Speed (r.p.m.)	-		ventilation to fulfill extremely low noise requirements)
Shaft Alter. (Desing / type)	-	2	Zitron fans
Output (kVA / rpm / V / Hz)	-	1	Zitron NG extractor fan
Steering gear (Design / Torque)	-	2	Zitron Air locks impeller fans
Rudder (Design / Area / Angle)	-	2	Halton FDB2 ATEX Fire Dampers
Bow thruster (Design / Ø / Kw)	-	1	Zitron TCS extractor fan
Azimuth thruster (Design / Ø / Kw	-		
Aft thruster (Design / Ø / Kw)	-		
Emerg. Genset (Desing.-KW/ rpm)	-		
Harbour Genset (Desing.-KW/ rpm	-		

FACTORIAS VULCANO

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ISO 9001 = ISO 14001
OHSAS 18001

MGMT. SYS.
RvA C 024